

AUXIER & ASSOCIATES, INC.

PAP-KAN

**STANDARD LEVEL IV
REPORT OF ANALYSIS**

WORK ORDER #15-10063-OR

November 16, 2015

**Eberline Analytical
Oak Ridge Laboratory
OAK RIDGE, TN**

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**Eberline Services – Oak Ridge Laboratory
LABORATORY DATA SUPPORT CHECKLIST**

MP-001-3

Eberline Services Work Order # 15 - 10063

The checklist items listed below are to be initialed by appropriate staff upon completion/verification.

Date for Partial	Initials	Date	Initials	Checklist Items
		10-12-15	JEB	Sample Log-In
		11/3/15	JG	Data Compilation
		11-6-15	ntj	First Technical Data Review
		11/4/15	llg	Second Technical Data Review
		11/10/15		Data Entry/Electronic Deliverable
		11/10/15		Case Narrative
		11/11/15	ABJ	Electronic Deliverable Proof
		11/11/15	llg	Samples Analyzed within Holding Time Yes? <input checked="" type="checkbox"/> No? <input type="checkbox"/>
		11/11/15	llg	QA/QC Review
				Client in Possession of Data Electronic or Hard Copy
				Invoiced by Laboratory

Technical/Clerical Corrections, Signatures Needed, Problems, Etc	Date/Initials

Date package approved by:

Laboratory Manager

Date

Copy No. _____

Radiochemistry Services

SECTION I
CHAIN OF CUSTODY

Chain of Custody Record

No 7123

Eberline Services
601 Scarboro Road
Oak Ridge, TN 37830
(865) 481-0683 Phone • (865) 483-4621 Fax



Project Name: PAP / KAU		Project Number:					
Send Report To: Cecilia Greene		Sampler (Print Name): Ashley Jahr					
Address:		Sampler (Print Name):					
9821 Coadill Rd, Suite 1		Shipment Method: Fedex					
Knoxville, TN 37962		Airbill Number:					
Phone: 865-675-3669		Laboratory Receiving: Eberline					
Fax: cgreene@axxier.com							
Field Sample ID	Sample Date	Sample Time	Sample Matrix	Number of Containers	Analysis Requested	Comments, Special Instructions, etc.	Lab Sample ID (to be completed by lab)
CP0403S02-03	10/5/15	1320	S	1	X	21 Day Growth	
CP0403S04-05	10/5/15	1340	S	1	X		
CP0403S07-08	10/5/15	1345	S	1	X		
CP0403S09-10	10/5/15	1400	S	1	X		
CP0403S11-12	10/5/15	1410	S	1	X		
CP2107S02-03	10/6/15	1445	S	1	X		
CP2107S05-06	10/6/15	1455	S	1	X		
CP2107S09-10	10/6/15	1505	S	1	X		
CP2107S11-12	10/6/15	1510	S	1	X		
CP2107S14-15	10/6/15	1520	S	1	X		
CP2107S17-18	10/6/15	1530	S	1	X		
CP2107S19-20	10/6/15	1540	S	1	X		
CP5005S01-02	10/6/15	0900	S	1	X		
CP5005S04-05	10/6/15	0910	S	1	X		
CP5005S05-06	10/6/15	0920	S	1	X		
CP5005S09-10	10/6/15	0930	S	1	X		
CP5005S12-13	10/6/15	0940	S	1	X		

Analysis Requested
Isotope Uranium
Isotope Thorium
Gamma Spec

15-10003
REC'D OCT 12 2015
Purchase Order #:

Sample Custodian Remarks (Completed By Laboratory):

QA/QC Level	Level I <input type="checkbox"/>	Level II <input type="checkbox"/>	Level III <input type="checkbox"/>	Other <input type="checkbox"/>
Turnaround	Routine <input type="checkbox"/>	24 Hour <input type="checkbox"/>	1 Week <input type="checkbox"/>	Other <input type="checkbox"/>
Sample Receipt	Total # Containers Received?	COC Seals Present?	COC Seals Intact?	Received Containers Intact?
				Temperature?

Relinquished by: (Signature) _____ Date: 10/15/15 12:00

Received by: (Signature) _____ Date: 10/15/15 12:30

Relinquished by: (Signature) _____ Date: _____

Received by: (Signature) _____ Date: _____



EBERLINE
SERVICES
Oak Ridge Laboratory

Internal Chain of Custody

Work Order #

15-10063

Lab Deadline

11/3/2015

Analysis

UUISO - Level 4

Sample Matrix

Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
	04	34	I1.2
	05	38	I1.2
	06	34	I1.2
	07	36	I1.2
	08	37	I1.2
	09	35	I1.2
	10	36	I1.2
	11	35	I1.2
	12	36	I1.2
	13	34	I1.2
	14	39	I1.2
	15	41	I1.2
	16	36	I1.2
	17	34	I1.2
	18	39	I1.2
	19	37	I1.2
	20	33	I1.2

	Location (circle one)						Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	1330	Kenny Seis	10-12-15
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	0940	Kenny Seis	10-13-15
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	0940	J. Schulte	10-13-15
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		NOPE 10/15/15 OHL	
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		SM 10/16/15 OHL	
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		SM 10/20/15 OHL	
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room			
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		KB 10/20/15 1525	
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room			
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room			
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room			
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room			



EBERLINE
SERVICES
Oak Ridge Laboratory

Internal Chain of Custody

Work Order #

15-10063

Lab Deadline

11/3/2015

Analysis

ThISO - Level 4

Sample Matrix

Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
	04	34	I1.2
	05	38	I1.2
	06	34	I1.2
	07	36	I1.2
	08	37	I1.2
	09	35	I1.2
	10	36	I1.2
	11	35	I1.2
	12	36	I1.2
	13	34	I1.2
	14	39	I1.2
	15	41	I1.2
	16	36	I1.2
	17	34	I1.2
	18	39	I1.2
	19	37	I1.2
	20	33	I1.2

	Location (circle one)						Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	1330	Kemsey	10-12-15
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	0840	Kemsey	10-13-15
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	940	Pacheco	10-13-15
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		Wolpe	10/15/15
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		Wolpe	10/15/15
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		Wolpe	10/19/15
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		Wolpe	10/19/15
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		Wolpe	10/19/15
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room			
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room			
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room			
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room			
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room			
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room			



EBERLINE
SERVICES
Oak Ridge Laboratory

Internal Chain of Custody

Work Order #

15-10063

Lab Deadline

11/3/2015

Analysis

Gamma - Level 4

Sample Matrix


Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
21 day ingrowth: Report Ac228, Bi214, Pb212/214, Ra226 from Bi214, Ra228 from Ac228, Tl208, Th234 & positives.	04	34	I1.2
	05	38	I1.2
	06	34	I1.2
	07	36	I1.2
	08	37	I1.2
	09	35	I1.2
	10	36	I1.2
	11	35	I1.2
	12	36	I1.2
	13	34	I1.2
	14	39	I1.2
	15	41	I1.2
	16	36	I1.2
	17	34	I1.2
	18	39	I1.2
	19	37	I1.2
	20	33	I1.2

	Location (circle one)					Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	1330 Key scis	10-12-15
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	0955 Key scis	10-13-15
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	ICB	10/13/15 1000
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		11/3 1147
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		

SECTION II
SAMPLE ACKNOWLEDGEMENT

Client Name		Contract/PO		Project Type		Date Received		Required Turnaround Days		Eberline Services Work Order	
Auxier & Associates, Inc.		PAP-KAN		Environmental		10/12/2015		28		15-10063	
Project Name		Client W/O		Sample Disp.		Lab Deadline		Internal Deadline		Client Deadline	
PAP-KAN		PAP/KAN		H		11/03/2015		11/06/2015		11/09/2015	
Internal ID	Client ID	Sample Date	Matrix	Storage	Gamma	THSO	OSI	USI			
01	LCS	10/12/15	SO	II.2	X	X	X	X			
02	BLANK	10/12/15	SO	II.2	X	X	X	X			
03	DUP	10/12/15	SO	II.2	X	X	X	X			
04	CP0403S02-03	10/05/15 13:20	SO	II.2	X	X	X	X			
05	CP0403S04-05	10/05/15 13:40	SO	II.2	X	X	X	X			
06	CP0403S07-08	10/05/15 13:45	SO	II.2	X	X	X	X			
07	CP0403S09-10	10/05/15 14:00	SO	II.2	X	X	X	X			
08	CP0403S11-12	10/05/15 14:10	SO	II.2	X	X	X	X			
09	CP2107S02-03	10/06/15 14:45	SO	II.2	X	X	X	X			
10	CP2107S05-06	10/06/15 14:55	SO	II.2	X	X	X	X			
11	CP2107S09-10	10/06/15 15:05	SO	II.2	X	X	X	X			
12	CP2107S11-12	10/06/15 15:10	SO	II.2	X	X	X	X			
13	CP2107S14-15	10/06/15 15:20	SO	II.2	X	X	X	X			
14	CP2107S17-18	10/06/15 15:30	SO	II.2	X	X	X	X			
15	CP2107S19-20	10/06/15 15:40	SO	II.2	X	X	X	X			
16	CP5005S01-02	10/06/15 09:00	SO	II.2	X	X	X	X			
17	CP5005S04-05	10/06/15 09:10	SO	II.2	X	X	X	X			
18	CP5005S05-06	10/06/15 09:20	SO	II.2	X	X	X	X			
19	CP5005S09-10	10/06/15 09:30	SO	II.2	X	X	X	X			
20	CP5005S12-13	10/06/15 09:40	SO	II.2	X	X	X	X			
Totals Per Analysis (non QA samples)					17	17	17	17	0	0	0

 <p>EBERLINE SERVICES</p> <p>Sample Log In Report</p>	<p>Oak Ridge Laboratory 601 Scarborough Rd. Oak Ridge, TN 37830</p> <p>Voice: (865) 481-0683 Fax: (865) 483-4621</p>	<p>Invoice</p> <p>Accounts Payable Auxier & Associates, Inc. 9621 Cogdill Drive #1 Knoxville, TN 37932</p> <p>Voice 865-675-3669 Fax 865-675-3677</p>	<p>Report Data</p> <p>Cecilia Greene Auxier & Associates, Inc. 9821 Cogdill Road, Suite 1 Knoxville, TN 37830</p> <p>Voice 865-675-3669 Fax 865-675-3677</p>
	<p>Contact</p> <p>Harvey Cohen 301-718-6900 301-718-6906</p>		



Eberline Services – Oak Ridge Laboratory

SAMPLE RECEIPT CHECKLIST
MP-001-2

WORK ORDER # 15-10063

SAMPLE MATRIX/MATRICES:

(CIRCLE ONE OR BOTH)

AQUEOUS NON-AQUEOUS

(CIRCLE EITHER YES, NO, OR N/A)

WERE SAMPLES:

Received in good condition?	<u>Y</u>	N	
If aqueous, properly preserved	Y	N	<u>N/A</u>

WERE CHAIN OF CUSTODY SEALS:

Present on outside of package?	<u>Y</u>	N
Unbroken on outside of package?	<u>Y</u>	N
Present on samples?	<u>Y</u>	N
Unbroken on samples?	<u>Y</u>	N
Was chain of custody present upon sample receipt?	<u>Y</u>	N

IF THE RESPONSE TO ANY OF THE ABOVE IS NO, A DISCREPANT SAMPLE RECEIPT REPORT (DSR) HAS BEEN ISSUED.

REMARKS: _____

SIGNATURE: _____

DATE: 10-12-15

SECTION III
CASE NARRATIVE



EBERLINE ANALYTICAL CORPORATION
601 SCARBORO ROAD
OAK RIDGE, TENNESSEE 37830
PHONE (865) 481-0683
FAX (865) 483-4621

EBS-OR-39958

November 16, 2015

Cecilia Greene
Auxier & Associates, Inc.
9821 Cogdill Road #1
Knoxville, TN 37932

CASE NARRATIVE
Work Order # 15-10063-OR

SAMPLE RECEIPT

This work order contains seventeen soil samples received 10/12/2015. These samples were analyzed for Isotopic Uranium, Isotopic Thorium and by Gamma Spectroscopy.

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>CLIENT ID</u>	<u>LAB ID</u>
CP0403S02-03	15-10063-04	CP2107S14-15	15-10063-13
CP0403S04-05	15-10063-05	CP2107S17-18	15-10063-14
CP0403S07-08	15-10063-06	CP2107S19-20	15-10063-15
CP0403S09-10	15-10063-07	CP5005S01-02	15-10063-16
CP0403S11-12	15-10063-08	CP5005S04-05	15-10063-17
CP2107S02-03	15-10063-09	CP5005S05-06	15-10063-18
CP2107S05-06	15-10063-10	CP5005S09-10	15-10063-19
CP2107S09-10	15-10063-11	CP5005S12-13	15-10063-20
CP2107S11-12	15-10063-12		

ANALYTICAL METHODS

Isotopic Uranium was analyzed using Method EML U-02 Modified. Isotopic Thorium was analyzed using Method EML Th-01 Modified. Gamma Spectroscopy was performed using Method LANL ER-130 Modified.

ANALYTICAL RESULTS

Combined Standard Uncertainty is reported at 2-sigma value.

Minimum Detectable Activity (MDA) values for data represented in this report are sample-specific. MDA measurements are determined based on factors and conditions including instrument settings, aliquot size and matrix type.

ANALYTICAL RESULTS CONTINUED

ISOTOPIC URANIUM

Samples were prepared by removing representative aliquots followed by mixed acid digestions as appropriate. Uranium was selectively extracted by ion exchange. Uranium was eluted, micro-precipitated and mounted on micro-porous filter media. Sample activities were then determined by alpha spectroscopy using energy specific regions of interest for Uranium-234, Uranium-235 and Uranium-238. Chemical recovery was determined by the use of a Uranium-232 tracer. Activity of the Uranium-232 tracer was determined by alpha spectroscopy using an energy specific region of interest.

Samples demonstrated acceptable results for all Uranium analyses. Chemical recovery was acceptable for all samples. The Uranium-234, Uranium-235 and Uranium-238 method blank demonstrated acceptable results. Results for the Uranium-234 and Uranium-235 duplicate demonstrated a high relative percent difference; however, normalized difference is within acceptable limits for the analytical technique. Results for the Uranium-238 duplicate demonstrated an acceptable relative percent difference and normalized difference. Results for the Uranium-234 and Uranium-238 laboratory control sample demonstrated an acceptable percent recovery.

ISOTOPIC THORIUM

Samples were prepared by removing representative aliquots followed by mixed acid digestions as appropriate. Thorium was selectively extracted by ion exchange. Thorium was eluted, micro-precipitated and mounted on micro-porous filter media. Sample activities were then determined by alpha spectroscopy using energy specific regions of interest for Thorium-228, Thorium-230 and Thorium-232. Chemical recovery was determined by the use of a Thorium-229 tracer. Activity of the Thorium-229 tracer was determined by alpha spectroscopy using an energy specific region of interest.

Samples demonstrated acceptable results for all Thorium analyses. Due to an error, tracer addition for sample fraction -03 (Client ID: CP0403S02-03 DUP) was estimated. Chemical recovery was acceptable for all samples. The Thorium-228, Thorium-230 and Thorium-232 method blank demonstrated acceptable results. Results for the Thorium-228 and Thorium-230 duplicate demonstrated an acceptable relative percent difference and normalized difference. Results for the Thorium-232 duplicate demonstrated a high relative percent difference; however, normalized difference is within acceptable limits for the analytical technique. Results for the Thorium-228, Thorium-230 and Thorium-232 laboratory control sample demonstrated an acceptable percent recovery.

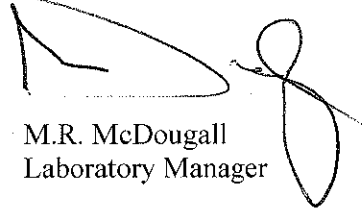
GAMMA SPECTROSCOPY

Samples were dried, homogenized and placed into appropriate gamma spectroscopy geometry containers. Samples were then sealed for 21 days to allow for ingrowth of Radon-222 and progeny. Samples were counted on High Purity Germanium (HPGe) gamma ray detectors. Energy lines from Lead-214 and Bismuth-214 were analyzed for determinations of Radium-226 activity.

Samples demonstrated acceptable results for all gamma-emitting radionuclides as reported. The method blank demonstrated acceptable results for all radionuclides as reported. Results for the Actinium-228, Bismuth-214 and Potassium-40 replicate demonstrated an acceptable relative percent difference and normalized difference. Results for the Cobalt-60 and Cesium-137 laboratory control sample demonstrated an acceptable percent recovery.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, 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 cognizant project manager or his/her designee to be accurate as verified by the following signature.



M.R. McDougall
Laboratory Manager

Date: 11/16/2015

Eberline Analytical wants and encourages your feedback regarding our performance providing radioanalytical services. Please visit <http://www.eberlineservices.com/client.htm> to provide us with feedback on our services.

SECTION IV
ANALYTICAL RESULTS SUMMARY

Eberline Analytical

Final Report of Analysis

Cecilia Greene
Auxier & Associates, Inc.
 9821 Cogdill Road, Suite 1
 Knoxville, TN 37932

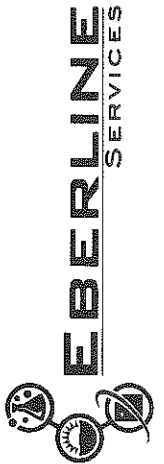
SDG: 15-10063
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Report To:

Work Order Details:

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10063-01	LCS	KNOWN	10/12/2015 00:00	10/12/2015	11/2/2015	15-10063	Cobalt-60	LANL ER-130 Modified	1.37E+02	5.48E+00	1.47E-01	2.40E-01	1.02E-01	pCi/g
15-10063-01	LCS	KNOWN	10/12/2015 00:00	10/12/2015	11/2/2015	15-10063	Cesium-137	LANL ER-130 Modified	8.69E+01	3.48E+00	7.94E-02	1.41E-01	8.34E-02	pCi/g
15-10063-01	LCS	SPIKE	10/12/2015 00:00	10/12/2015	11/2/2015	15-10063	Cobalt-60	LANL ER-130 Modified	1.34E+02	9.25E+00	1.15E+01	1.43E+00	1.40E+00	pCi/g
15-10063-01	LCS	SPIKE	10/12/2015 00:00	10/12/2015	11/2/2015	15-10063	Cesium-137	LANL ER-130 Modified	8.26E+01	8.01E+00	9.06E+00	2.51E+00	1.25E+00	pCi/g
15-10063-02	MBL	BLANK	10/12/2015 00:00	10/12/2015	11/2/2015	15-10063	Actinium-228	LANL ER-130 Modified	-1.93E-02	1.47E-01	1.47E-01	2.40E-01	1.02E-01	pCi/g
15-10063-02	MBL	BLANK	10/12/2015 00:00	10/12/2015	11/2/2015	15-10063	Bismuth-214	LANL ER-130 Modified	2.81E-02	7.93E-02	7.94E-02	1.41E-01	8.34E-02	pCi/g
15-10063-02	MBL	BLANK	10/12/2015 00:00	10/12/2015	11/2/2015	15-10063	Potassium-40	LANL ER-130 Modified	-1.60E-01	4.80E-01	4.80E-01	6.41E-01	2.48E-01	pCi/g
15-10063-02	MBL	BLANK	10/12/2015 00:00	10/12/2015	11/2/2015	15-10063	Lead-212	LANL ER-130 Modified	5.11E-02	5.97E-02	5.98E-02	1.03E-01	4.86E-02	pCi/g
15-10063-02	MBL	BLANK	10/12/2015 00:00	10/12/2015	11/2/2015	15-10063	Lead-214	LANL ER-130 Modified	-9.73E-03	7.13E-02	7.13E-02	1.15E-01	5.21E-02	pCi/g
15-10063-02	MBL	BLANK	10/12/2015 00:00	10/12/2015	11/2/2015	15-10063	Radium-226	LANL ER-130 Modified	2.81E-02	7.93E-02	7.94E-02	1.41E-01	6.03E-01	pCi/g
15-10063-02	MBL	BLANK	10/12/2015 00:00	10/12/2015	11/2/2015	15-10063	Radium-228	LANL ER-130 Modified	-1.93E-02	1.47E-01	1.47E-01	2.40E-01	1.02E-01	pCi/g
15-10063-02	MBL	BLANK	10/12/2015 00:00	10/12/2015	11/2/2015	15-10063	Thorium-234	LANL ER-130 Modified	4.97E-01	3.79E-01	3.80E-01	6.53E-01	3.12E-01	pCi/g
15-10063-02	MBL	BLANK	10/12/2015 00:00	10/12/2015	11/2/2015	15-10063	Thallium-208	LANL ER-130 Modified	7.97E-02	1.06E-01	1.06E-01	2.03E-01	9.11E-02	pCi/g
15-10063-03	DUP	CP0403S02-03	10/05/15 13:20	10/12/2015	11/3/2015	15-10063	Actinium-228	LANL ER-130 Modified	1.13E+00	2.01E-01	2.10E-01	3.18E-01	1.50E-01	pCi/g
15-10063-03	DUP	CP0403S02-03	10/05/15 13:20	10/12/2015	11/3/2015	15-10063	Bismuth-214	LANL ER-130 Modified	1.36E+00	1.51E-01	1.67E-01	1.83E-01	8.79E-02	pCi/g
15-10063-03	DUP	CP0403S02-03	10/05/15 13:20	10/12/2015	11/3/2015	15-10063	Potassium-40	LANL ER-130 Modified	1.18E+01	1.64E+00	1.74E+00	7.34E-01	3.35E-01	pCi/g
15-10063-03	DUP	CP0403S02-03	10/05/15 13:20	10/12/2015	11/3/2015	15-10063	Lead-212	LANL ER-130 Modified	1.27E+00	1.54E-01	1.67E-01	2.23E-01	1.10E-01	pCi/g
15-10063-03	DUP	CP0403S02-03	10/05/15 13:20	10/12/2015	11/3/2015	15-10063	Lead-214	LANL ER-130 Modified	1.44E+00	1.70E-01	1.85E-01	1.94E-01	9.37E-02	pCi/g
15-10063-03	DUP	CP0403S02-03	10/05/15 13:20	10/12/2015	11/3/2015	15-10063	Radium-226	LANL ER-130 Modified	1.36E+00	1.51E-01	1.67E-01	1.83E-01	1.59E+00	pCi/g
15-10063-03	DUP	CP0403S02-03	10/05/15 13:20	10/12/2015	11/3/2015	15-10063	Radium-228	LANL ER-130 Modified	1.13E+00	2.01E-01	2.10E-01	3.18E-01	1.50E-01	pCi/g
15-10063-03	DUP	CP0403S02-03	10/05/15 13:20	10/12/2015	11/3/2015	15-10063	Thorium-234	LANL ER-130 Modified	1.59E+00	8.36E-01	8.40E-01	1.36E+00	6.60E-01	pCi/g
15-10063-03	DUP	CP0403S02-03	10/05/15 13:20	10/12/2015	11/3/2015	15-10063	Thallium-208	LANL ER-130 Modified	9.55E-01	1.44E-01	1.53E-01	1.40E-01	1.36E-01	pCi/g
15-10063-04	DO	CP0403S02-03	10/05/15 13:20	10/12/2015	11/3/2015	15-10063	Actinium-228	LANL ER-130 Modified	1.26E+00	1.85E-01	1.96E-01	3.25E-01	1.54E-01	pCi/g
15-10063-04	DO	CP0403S02-03	10/05/15 13:20	10/12/2015	11/3/2015	15-10063	Bismuth-214	LANL ER-130 Modified	1.19E+00	1.59E-01	1.70E-01	1.95E-01	9.37E-02	pCi/g
15-10063-04	DO	CP0403S02-03	10/05/15 13:20	10/12/2015	11/3/2015	15-10063	Potassium-40	LANL ER-130 Modified	1.17E+01	1.62E+00	1.73E+00	7.04E-01	3.20E-01	pCi/g
15-10063-04	DO	CP0403S02-03	10/05/15 13:20	10/12/2015	11/3/2015	15-10063	Lead-212	LANL ER-130 Modified	1.07E+00	1.41E-01	1.51E-01	1.91E-01	9.34E-02	pCi/g
15-10063-04	DO	CP0403S02-03	10/05/15 13:20	10/12/2015	11/3/2015	15-10063	Lead-214	LANL ER-130 Modified	1.49E+00	1.56E-01	1.74E-01	1.84E-01	8.90E-02	pCi/g
15-10063-04	DO	CP0403S02-03	10/05/15 13:20	10/12/2015	11/3/2015	15-10063	Radium-226	LANL ER-130 Modified	1.19E+00	1.59E-01	1.70E-01	1.95E-01	1.13E+00	pCi/g
15-10063-04	DO	CP0403S02-03	10/05/15 13:20	10/12/2015	11/3/2015	15-10063	Radium-228	LANL ER-130 Modified	1.26E+00	1.85E-01	1.96E-01	3.25E-01	1.54E-01	pCi/g
15-10063-04	DO	CP0403S02-03	10/05/15 13:20	10/12/2015	11/3/2015	15-10063	Thorium-234	LANL ER-130 Modified	1.28E+00	8.04E-01	8.07E-01	1.30E+00	6.32E-01	pCi/g
15-10063-04	DO	CP0403S02-03	10/05/15 13:20	10/12/2015	11/3/2015	15-10063	Thallium-208	LANL ER-130 Modified	8.18E-01	1.29E-01	1.35E-01	9.79E-02	1.27E-01	pCi/g

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



EBERLINE ANALYTICAL CORPORATION

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Eberline Analytical

Final Report of Analysis

Cecilia Greene
Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932

Report To:

15-10063
PAP-KAN
ENVIRONMENTAL
SO

Work Order Details:

SDG: **15-10063**
 Project: **PAP-KAN**
 Analysis Category: **ENVIRONMENTAL**
 Sample Matrix: **SO**

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10063-05	TRG	CP0403S04-05	10/05/15 13:40	10/12/2015	11/3/2015	15-10063	Actinium-228	LANL_ER-130 Modified	1.43E+00	2.86E-01	2.95E-01	5.13E-01	2.43E-01	pCi/g
15-10063-05	TRG	CP0403S04-05	10/05/15 13:40	10/12/2015	11/3/2015	15-10063	Bismuth-214	LANL_ER-130 Modified	1.56E+00	2.11E-01	2.26E-01	2.15E-01	1.39E-01	pCi/g
15-10063-05	TRG	CP0403S04-05	10/05/15 13:40	10/12/2015	11/3/2015	15-10063	Potassium-40	LANL_ER-130 Modified	1.95E+01	2.48E+00	2.67E+00	1.44E+00	6.66E-01	pCi/g
15-10063-05	TRG	CP0403S04-05	10/05/15 13:40	10/12/2015	11/3/2015	15-10063	Lead-212	LANL_ER-130 Modified	1.59E+00	1.80E-01	1.98E-01	4.14E-01	2.04E-01	pCi/g
15-10063-05	TRG	CP0403S04-05	10/05/15 13:40	10/12/2015	11/3/2015	15-10063	Lead-214	LANL_ER-130 Modified	1.59E+00	1.75E-01	1.93E-01	2.78E-01	1.34E-01	pCi/g
15-10063-05	TRG	CP0403S04-05	10/05/15 13:40	10/12/2015	11/3/2015	15-10063	Radium-226	LANL_ER-130 Modified	1.56E+00	2.11E-01	2.26E-01	2.15E-01	1.46E+00	pCi/g
15-10063-05	TRG	CP0403S04-05	10/05/15 13:40	10/12/2015	11/3/2015	15-10063	Radium-228	LANL_ER-130 Modified	1.43E+00	2.86E-01	2.95E-01	5.13E-01	2.43E-01	pCi/g
15-10063-05	TRG	CP0403S04-05	10/05/15 13:40	10/12/2015	11/3/2015	15-10063	Thorium-234	LANL_ER-130 Modified	1.45E+00	1.54E+00	1.54E+00	2.57E+00	1.26E+00	pCi/g
15-10063-05	TRG	CP0403S04-05	10/05/15 13:40	10/12/2015	11/3/2015	15-10063	Thallium-208	LANL_ER-130 Modified	1.08E+00	2.25E-01	2.32E-01	3.00E-01	2.25E-01	pCi/g
15-10063-06	TRG	CP0403S07-08	10/05/15 13:45	10/12/2015	11/3/2015	15-10063	Actinium-228	LANL_ER-130 Modified	1.55E+00	4.57E-01	4.64E-01	1.11E+00	5.72E-01	pCi/g
15-10063-06	TRG	CP0403S07-08	10/05/15 13:45	10/12/2015	11/3/2015	15-10063	Bismuth-214	LANL_ER-130 Modified	7.81E-01	3.08E-01	3.10E-01	5.35E-01	2.58E-01	pCi/g
15-10063-06	TRG	CP0403S07-08	10/05/15 13:45	10/12/2015	11/3/2015	15-10063	Potassium-40	LANL_ER-130 Modified	1.90E+01	3.26E+00	3.40E+00	2.03E+00	9.26E-01	pCi/g
15-10063-06	TRG	CP0403S07-08	10/05/15 13:45	10/12/2015	11/3/2015	15-10063	Lead-212	LANL_ER-130 Modified	1.67E+00	2.68E-01	2.82E-01	6.71E-01	3.32E-01	pCi/g
15-10063-06	TRG	CP0403S07-08	10/05/15 13:45	10/12/2015	11/3/2015	15-10063	Lead-214	LANL_ER-130 Modified	8.69E-01	2.56E-01	2.60E-01	4.59E-01	2.23E-01	pCi/g
15-10063-06	TRG	CP0403S07-08	10/05/15 13:45	10/12/2015	11/3/2015	15-10063	Radium-226	LANL_ER-130 Modified	7.81E-01	3.08E-01	3.10E-01	5.35E-01	2.09E+00	pCi/g
15-10063-06	TRG	CP0403S07-08	10/05/15 13:45	10/12/2015	11/3/2015	15-10063	Radium-228	LANL_ER-130 Modified	1.55E+00	4.57E-01	4.64E-01	1.11E+00	5.72E-01	pCi/g
15-10063-06	TRG	CP0403S07-08	10/05/15 13:45	10/12/2015	11/3/2015	15-10063	Thorium-234	LANL_ER-130 Modified	1.50E+00	1.30E+00	1.30E+00	2.02E+00	9.90E-01	pCi/g
15-10063-06	TRG	CP0403S07-08	10/05/15 13:45	10/12/2015	11/3/2015	15-10063	Thallium-208	LANL_ER-130 Modified	1.41E+00	3.21E-01	3.29E-01	4.42E-01	2.88E-01	pCi/g
15-10063-07	TRG	CP0403S09-10	10/05/15 14:00	10/12/2015	11/3/2015	15-10063	Actinium-228	LANL_ER-130 Modified	1.34E+00	2.46E-01	2.56E-01	4.45E-01	2.12E-01	pCi/g
15-10063-07	TRG	CP0403S09-10	10/05/15 14:00	10/12/2015	11/3/2015	15-10063	Bismuth-214	LANL_ER-130 Modified	1.30E+00	1.68E-01	1.80E-01	2.13E-01	1.02E-01	pCi/g
15-10063-07	TRG	CP0403S09-10	10/05/15 14:00	10/12/2015	11/3/2015	15-10063	Potassium-40	LANL_ER-130 Modified	2.06E+01	2.36E+00	2.58E+00	9.10E-01	4.17E-01	pCi/g
15-10063-07	TRG	CP0403S09-10	10/05/15 14:00	10/12/2015	11/3/2015	15-10063	Lead-212	LANL_ER-130 Modified	1.55E+00	1.82E-01	1.98E-01	2.67E-01	1.31E-01	pCi/g
15-10063-07	TRG	CP0403S09-10	10/05/15 14:00	10/12/2015	11/3/2015	15-10063	Lead-214	LANL_ER-130 Modified	1.34E+00	1.75E-01	1.88E-01	2.50E-01	1.21E-01	pCi/g
15-10063-07	TRG	CP0403S09-10	10/05/15 14:00	10/12/2015	11/3/2015	15-10063	Radium-226	LANL_ER-130 Modified	1.30E+00	1.68E-01	1.80E-01	2.13E-01	1.44E+00	pCi/g
15-10063-07	TRG	CP0403S09-10	10/05/15 14:00	10/12/2015	11/3/2015	15-10063	Radium-228	LANL_ER-130 Modified	1.34E+00	2.46E-01	2.56E-01	4.45E-01	2.12E-01	pCi/g
15-10063-07	TRG	CP0403S09-10	10/05/15 14:00	10/12/2015	11/3/2015	15-10063	Thorium-234	LANL_ER-130 Modified	2.34E+00	1.92E+00	1.92E+00	3.19E+00	1.57E+00	pCi/g
15-10063-07	TRG	CP0403S09-10	10/05/15 14:00	10/12/2015	11/3/2015	15-10063	Thallium-208	LANL_ER-130 Modified	1.48E+00	2.03E-01	2.17E-01	1.57E-01	1.83E-01	pCi/g

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



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Eberline Analytical

Final Report of Analysis

Cecilia Greene
Auxier & Associates, Inc.
 9821 Cogdill Road, Suite 1
 Knoxville, TN 37932

SDG:
Project:
Analysis Category:
Sample Matrix:

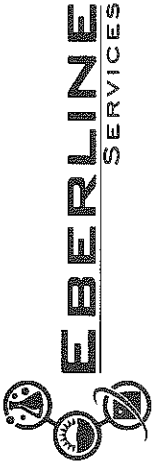
15-10063
PAP-KAN
ENVIRONMENTAL
SO

Report To:

Work Order Details:

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10063-08	TRG	CP0403S11-12	10/05/15 14:10	10/12/2015	11/3/2015	15-10063	Actinium-228	LANL ER-130 Modified	1.96E+00	3.69E-01	3.82E-01	7.34E-01	3.48E-01	pCi/g
15-10063-08	TRG	CP0403S11-12	10/05/15 14:10	10/12/2015	11/3/2015	15-10063	Bismuth-214	LANL ER-130 Modified	1.43E+00	2.94E-01	3.03E-01	4.08E-01	1.96E-01	pCi/g
15-10063-08	TRG	CP0403S11-12	10/05/15 14:10	10/12/2015	11/3/2015	15-10063	Potassium-40	LANL ER-130 Modified	2.52E+01	3.24E+00	3.49E+00	1.77E+00	8.11E-01	pCi/g
15-10063-08	TRG	CP0403S11-12	10/05/15 14:10	10/12/2015	11/3/2015	15-10063	Lead-212	LANL ER-130 Modified	2.24E+00	2.98E-01	2.83E-01	3.30E-01	1.61E-01	pCi/g
15-10063-08	TRG	CP0403S11-12	10/05/15 14:10	10/12/2015	11/3/2015	15-10063	Lead-214	LANL ER-130 Modified	2.01E+00	2.38E-01	2.60E-01	3.26E-01	1.57E-01	pCi/g
15-10063-08	TRG	CP0403S11-12	10/05/15 14:10	10/12/2015	11/3/2015	15-10063	Radium-228	LANL ER-130 Modified	1.43E+00	2.94E-01	3.03E-01	4.08E-01	3.42E+00	pCi/g
15-10063-08	TRG	CP0403S11-12	10/05/15 14:10	10/12/2015	11/3/2015	15-10063	Radium-226	LANL ER-130 Modified	1.96E+00	3.69E-01	3.82E-01	7.34E-01	3.48E-01	pCi/g
15-10063-08	TRG	CP0403S11-12	10/05/15 14:10	10/12/2015	11/3/2015	15-10063	Thorium-234	LANL ER-130 Modified	2.29E+00	2.28E+00	2.28E+00	3.02E+00	1.48E+00	pCi/g
15-10063-08	TRG	CP0403S11-12	10/05/15 14:10	10/12/2015	11/3/2015	15-10063	Thallium-208	LANL ER-130 Modified	1.64E+00	3.03E-01	3.14E-01	6.39E-02	3.04E-01	pCi/g
15-10063-09	TRG	CP2107S02-03	10/06/15 14:45	10/12/2015	11/3/2015	15-10063	Actinium-228	LANL ER-130 Modified	1.78E+00	4.15E-01	4.25E-01	6.44E-01	2.97E-01	pCi/g
15-10063-09	TRG	CP2107S02-03	10/06/15 14:45	10/12/2015	11/3/2015	15-10063	Bismuth-214	LANL ER-130 Modified	1.32E+00	3.66E-01	3.72E-01	5.64E-01	2.72E-01	pCi/g
15-10063-09	TRG	CP2107S02-03	10/06/15 14:45	10/12/2015	11/3/2015	15-10063	Potassium-40	LANL ER-130 Modified	1.99E+01	3.37E+00	3.52E+00	1.58E+00	6.81E-01	pCi/g
15-10063-09	TRG	CP2107S02-03	10/06/15 14:45	10/12/2015	11/3/2015	15-10063	Lead-212	LANL ER-130 Modified	2.08E+00	3.65E-01	3.80E-01	4.26E-01	2.90E-01	pCi/g
15-10063-09	TRG	CP2107S02-03	10/06/15 14:45	10/12/2015	11/3/2015	15-10063	Lead-214	LANL ER-130 Modified	1.24E+00	2.92E-01	2.99E-01	5.95E-01	2.80E-01	pCi/g
15-10063-09	TRG	CP2107S02-03	10/06/15 14:45	10/12/2015	11/3/2015	15-10063	Radium-226	LANL ER-130 Modified	1.32E+00	3.66E-01	3.72E-01	5.64E-01	1.92E+00	pCi/g
15-10063-09	TRG	CP2107S02-03	10/06/15 14:45	10/12/2015	11/3/2015	15-10063	Radium-228	LANL ER-130 Modified	1.78E+00	4.15E-01	4.25E-01	6.44E-01	2.97E-01	pCi/g
15-10063-09	TRG	CP2107S02-03	10/06/15 14:45	10/12/2015	11/3/2015	15-10063	Thorium-234	LANL ER-130 Modified	1.68E+00	1.79E+00	1.80E+00	3.00E+00	1.48E+00	pCi/g
15-10063-09	TRG	CP2107S02-03	10/06/15 14:45	10/12/2015	11/3/2015	15-10063	Thallium-208	LANL ER-130 Modified	1.58E+00	3.58E-01	3.67E-01	2.34E-01	3.49E-01	pCi/g
15-10063-10	TRG	CP2107S05-06	10/06/15 14:55	10/12/2015	11/3/2015	15-10063	Actinium-228	LANL ER-130 Modified	1.39E+00	2.16E-01	2.27E-01	3.16E-01	1.50E-01	pCi/g
15-10063-10	TRG	CP2107S05-06	10/06/15 14:55	10/12/2015	11/3/2015	15-10063	Bismuth-214	LANL ER-130 Modified	1.14E+00	1.68E-01	1.78E-01	2.16E-01	1.04E-01	pCi/g
15-10063-10	TRG	CP2107S05-06	10/06/15 14:55	10/12/2015	11/3/2015	15-10063	Potassium-40	LANL ER-130 Modified	1.79E+01	2.06E+00	2.25E+00	9.46E-01	4.41E-01	pCi/g
15-10063-10	TRG	CP2107S05-06	10/06/15 14:55	10/12/2015	11/3/2015	15-10063	Lead-212	LANL ER-130 Modified	1.63E+00	1.81E-01	1.99E-01	1.88E-01	9.20E-02	pCi/g
15-10063-10	TRG	CP2107S05-06	10/06/15 14:55	10/12/2015	11/3/2015	15-10063	Lead-214	LANL ER-130 Modified	1.29E+00	1.62E-01	1.74E-01	2.33E-01	1.13E-01	pCi/g
15-10063-10	TRG	CP2107S05-06	10/06/15 14:55	10/12/2015	11/3/2015	15-10063	Radium-226	LANL ER-130 Modified	1.14E+00	1.68E-01	1.78E-01	2.16E-01	1.27E+00	pCi/g
15-10063-10	TRG	CP2107S05-06	10/06/15 14:55	10/12/2015	11/3/2015	15-10063	Radium-228	LANL ER-130 Modified	1.39E+00	2.16E-01	2.27E-01	3.16E-01	1.50E-01	pCi/g
15-10063-10	TRG	CP2107S05-06	10/06/15 14:55	10/12/2015	11/3/2015	15-10063	Thorium-234	LANL ER-130 Modified	2.64E+00	1.64E+00	1.64E+00	2.69E+00	1.33E+00	pCi/g
15-10063-10	TRG	CP2107S05-06	10/06/15 14:55	10/12/2015	11/3/2015	15-10063	Thallium-208	LANL ER-130 Modified	1.20E+00	1.55E-01	1.67E-01	1.28E-01	1.54E-01	pCi/g

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



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Final Report of Analysis

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Work Order Details:

SDG:
Project:
Analysis Category:
Sample Matrix:

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10063-11	TRG	CP2107S09-10	10/06/15 15:05	10/12/2015	11/3/2015	15-10063	Actinium-228	LANL_ER-130 Modified	1.55E+00	2.16E-01	2.30E-01	2.96E-01	1.38E-01	pCi/g
15-10063-11	TRG	CP2107S09-10	10/06/15 15:05	10/12/2015	11/3/2015	15-10063	Bismuth-214	LANL_ER-130 Modified	1.28E+00	1.69E-01	1.81E-01	2.24E-01	1.08E-01	pCi/g
15-10063-11	TRG	CP2107S09-10	10/06/15 15:05	10/12/2015	11/3/2015	15-10063	Potassium-40	LANL_ER-130 Modified	1.96E+01	2.48E+00	2.67E+00	7.91E-01	3.59E-01	pCi/g
15-10063-11	TRG	CP2107S09-10	10/06/15 15:05	10/12/2015	11/3/2015	15-10063	Lead-212	LANL_ER-130 Modified	1.52E+00	1.54E-01	1.99E-01	2.88E-01	1.42E-01	pCi/g
15-10063-11	TRG	CP2107S09-10	10/06/15 15:05	10/12/2015	11/3/2015	15-10063	Lead-214	LANL_ER-130 Modified	1.34E+00	1.59E-01	1.73E-01	2.08E-01	1.00E-01	pCi/g
15-10063-11	TRG	CP2107S09-10	10/06/15 15:05	10/12/2015	11/3/2015	15-10063	Radium-226	LANL_ER-130 Modified	1.28E+00	1.69E-01	1.81E-01	2.24E-01	1.09E+00	pCi/g
15-10063-11	TRG	CP2107S09-10	10/06/15 15:05	10/12/2015	11/3/2015	15-10063	Radium-228	LANL_ER-130 Modified	1.55E+00	2.16E-01	2.30E-01	2.95E-01	1.38E-01	pCi/g
15-10063-11	TRG	CP2107S09-10	10/06/15 15:05	10/12/2015	11/3/2015	15-10063	Thorium-234	LANL_ER-130 Modified	1.62E+00	1.26E+00	1.26E+00	2.08E+00	1.02E+00	pCi/g
15-10063-11	TRG	CP2107S09-10	10/06/15 15:05	10/12/2015	11/3/2015	15-10063	Thallium-208	LANL_ER-130 Modified	1.19E+00	1.65E-01	1.76E-01	1.57E-01	1.37E-01	pCi/g
15-10063-12	TRG	CP2107S11-12	10/06/15 15:10	10/12/2015	11/3/2015	15-10063	Actinium-228	LANL_ER-130 Modified	1.69E+00	2.56E-01	2.70E-01	4.84E-01	2.30E-01	pCi/g
15-10063-12	TRG	CP2107S11-12	10/06/15 15:10	10/12/2015	11/3/2015	15-10063	Bismuth-214	LANL_ER-130 Modified	1.16E+00	1.74E-01	1.84E-01	2.52E-01	1.21E-01	pCi/g
15-10063-12	TRG	CP2107S11-12	10/06/15 15:10	10/12/2015	11/3/2015	15-10063	Potassium-40	LANL_ER-130 Modified	1.97E+01	2.41E+00	2.61E+00	1.37E+00	6.38E-01	pCi/g
15-10063-12	TRG	CP2107S11-12	10/06/15 15:10	10/12/2015	11/3/2015	15-10063	Lead-212	LANL_ER-130 Modified	1.46E+00	1.69E-01	1.85E-01	2.45E-01	1.20E-01	pCi/g
15-10063-12	TRG	CP2107S11-12	10/06/15 15:10	10/12/2015	11/3/2015	15-10063	Lead-214	LANL_ER-130 Modified	1.10E+00	1.59E-01	1.69E-01	2.88E-01	1.40E-01	pCi/g
15-10063-12	TRG	CP2107S11-12	10/06/15 15:10	10/12/2015	11/3/2015	15-10063	Radium-226	LANL_ER-130 Modified	1.16E+00	1.74E-01	1.84E-01	2.52E-01	8.47E-01	pCi/g
15-10063-12	TRG	CP2107S11-12	10/06/15 15:10	10/12/2015	11/3/2015	15-10063	Radium-228	LANL_ER-130 Modified	1.69E+00	2.56E-01	2.70E-01	4.84E-01	2.30E-01	pCi/g
15-10063-12	TRG	CP2107S11-12	10/06/15 15:10	10/12/2015	11/3/2015	15-10063	Thorium-234	LANL_ER-130 Modified	1.80E+00	1.90E+00	1.90E+00	3.17E+00	1.57E+00	pCi/g
15-10063-12	TRG	CP2107S11-12	10/06/15 15:10	10/12/2015	11/3/2015	15-10063	Thallium-208	LANL_ER-130 Modified	1.31E+00	2.02E-01	2.13E-01	1.73E-01	1.66E-01	pCi/g
15-10063-13	TRG	CP2107S14-15	10/06/15 15:20	10/12/2015	11/3/2015	15-10063	Actinium-228	LANL_ER-130 Modified	1.17E+00	4.47E-01	4.51E-01	8.88E-01	4.20E-01	pCi/g
15-10063-13	TRG	CP2107S14-15	10/06/15 15:20	10/12/2015	11/3/2015	15-10063	Bismuth-214	LANL_ER-130 Modified	9.25E-01	2.55E-01	2.60E-01	3.94E-01	1.88E-01	pCi/g
15-10063-13	TRG	CP2107S14-15	10/06/15 15:20	10/12/2015	11/3/2015	15-10063	Potassium-40	LANL_ER-130 Modified	1.81E+01	3.21E+00	3.34E+00	2.14E+00	9.76E-01	pCi/g
15-10063-13	TRG	CP2107S14-15	10/06/15 15:20	10/12/2015	11/3/2015	15-10063	Lead-212	LANL_ER-130 Modified	2.05E+00	3.44E-01	3.60E-01	3.83E-01	1.87E-01	pCi/g
15-10063-13	TRG	CP2107S14-15	10/06/15 15:20	10/12/2015	11/3/2015	15-10063	Lead-214	LANL_ER-130 Modified	1.03E+00	2.31E-01	2.37E-01	5.28E-01	2.57E-01	pCi/g
15-10063-13	TRG	CP2107S14-15	10/06/15 15:20	10/12/2015	11/3/2015	15-10063	Radium-226	LANL_ER-130 Modified	9.25E-01	2.55E-01	2.60E-01	3.94E-01	1.71E+00	pCi/g
15-10063-13	TRG	CP2107S14-15	10/06/15 15:20	10/12/2015	11/3/2015	15-10063	Radium-228	LANL_ER-130 Modified	1.17E+00	4.47E-01	4.51E-01	8.88E-01	4.20E-01	pCi/g
15-10063-13	TRG	CP2107S14-15	10/06/15 15:20	10/12/2015	11/3/2015	15-10063	Thorium-234	LANL_ER-130 Modified	1.89E+00	1.30E+00	1.30E+00	2.06E+00	1.01E+00	pCi/g
15-10063-13	TRG	CP2107S14-15	10/06/15 15:20	10/12/2015	11/3/2015	15-10063	Thallium-208	LANL_ER-130 Modified	1.44E+00	3.28E-01	3.36E-01	4.33E-01	2.88E-01	pCi/g

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



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Eberline Analytical

Final Report of Analysis

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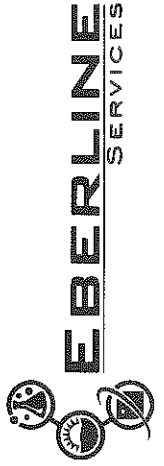
SDG: 15-10063
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Report To:

Work Order Details:

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10063-14	TRG	CP2107S17-18	10/06/15 15:30	10/12/2015	11/3/2015	15-10063	Actinium-228	LANL ER-130 Modified	1.44E+00	2.16E-01	2.29E-01	3.85E-01	1.84E-01	pCi/g
15-10063-14	TRG	CP2107S17-18	10/06/15 15:30	10/12/2015	11/3/2015	15-10063	Bismuth-214	LANL ER-130 Modified	1.16E+00	1.67E-01	1.78E-01	2.19E-01	1.06E-01	pCi/g
15-10063-14	TRG	CP2107S17-18	10/06/15 15:30	10/12/2015	11/3/2015	15-10063	Potassium-40	LANL ER-130 Modified	2.17E+01	2.40E+00	2.65E+00	9.59E-01	4.46E-01	pCi/g
15-10063-14	TRG	CP2107S17-18	10/06/15 15:30	10/12/2015	11/3/2015	15-10063	Lead-212	LANL ER-130 Modified	1.57E+00	1.78E-01	1.95E-01	2.22E-01	1.09E-01	pCi/g
15-10063-14	TRG	CP2107S17-18	10/06/15 15:30	10/12/2015	11/3/2015	15-10063	Lead-214	LANL ER-130 Modified	1.19E+00	1.59E-01	1.71E-01	2.42E-01	1.18E-01	pCi/g
15-10063-14	TRG	CP2107S17-18	10/06/15 15:30	10/12/2015	11/3/2015	15-10063	Radium-226	LANL ER-130 Modified	1.16E+00	1.67E-01	1.78E-01	2.19E-01	1.38E+00	pCi/g
15-10063-14	TRG	CP2107S17-18	10/06/15 15:30	10/12/2015	11/3/2015	15-10063	Radium-228	LANL ER-130 Modified	1.44E+00	2.16E-01	2.29E-01	3.85E-01	1.84E-01	pCi/g
15-10063-14	TRG	CP2107S17-18	10/06/15 15:30	10/12/2015	11/3/2015	15-10063	Thorium-234	LANL ER-130 Modified	1.65E+00	1.56E+00	1.56E+00	2.59E+00	1.28E+00	pCi/g
15-10063-14	TRG	CP2107S17-18	10/06/15 15:30	10/12/2015	11/3/2015	15-10063	Thallium-208	LANL ER-130 Modified	1.30E+00	2.03E-01	2.14E-01	1.51E-01	2.67E-01	pCi/g
15-10063-15	TRG	CP2107S19-20	10/06/15 15:40	10/12/2015	11/3/2015	15-10063	Actinium-228	LANL ER-130 Modified	1.26E+00	2.32E-01	2.41E-01	3.69E-01	1.75E-01	pCi/g
15-10063-15	TRG	CP2107S19-20	10/06/15 15:40	10/12/2015	11/3/2015	15-10063	Bismuth-214	LANL ER-130 Modified	1.02E+00	1.78E-01	1.86E-01	3.09E-01	1.50E-01	pCi/g
15-10063-15	TRG	CP2107S19-20	10/06/15 15:40	10/12/2015	11/3/2015	15-10063	Potassium-40	LANL ER-130 Modified	2.08E+01	2.59E+00	2.80E+00	1.17E+00	5.50E-01	pCi/g
15-10063-15	TRG	CP2107S19-20	10/06/15 15:40	10/12/2015	11/3/2015	15-10063	Lead-212	LANL ER-130 Modified	1.56E+00	1.84E-01	2.00E-01	2.86E-01	1.41E-01	pCi/g
15-10063-15	TRG	CP2107S19-20	10/06/15 15:40	10/12/2015	11/3/2015	15-10063	Lead-214	LANL ER-130 Modified	1.10E+00	1.52E-01	1.62E-01	2.11E-01	1.02E-01	pCi/g
15-10063-15	TRG	CP2107S19-20	10/06/15 15:40	10/12/2015	11/3/2015	15-10063	Radium-226	LANL ER-130 Modified	1.02E+00	1.78E-01	1.86E-01	3.09E-01	1.16E+00	pCi/g
15-10063-15	TRG	CP2107S19-20	10/06/15 15:40	10/12/2015	11/3/2015	15-10063	Radium-228	LANL ER-130 Modified	1.26E+00	2.32E-01	2.41E-01	3.69E-01	1.75E-01	pCi/g
15-10063-15	TRG	CP2107S19-20	10/06/15 15:40	10/12/2015	11/3/2015	15-10063	Thorium-234	LANL ER-130 Modified	1.61E+00	9.29E-01	9.33E-01	1.51E+00	7.34E-01	pCi/g
15-10063-15	TRG	CP2107S19-20	10/06/15 15:40	10/12/2015	11/3/2015	15-10063	Thallium-208	LANL ER-130 Modified	1.13E+00	1.63E-01	1.73E-01	1.55E-01	1.44E-01	pCi/g
15-10063-16	TRG	CP500S501-02	10/06/15 09:00	10/12/2015	11/3/2015	15-10063	Actinium-228	LANL ER-130 Modified	1.18E+00	2.54E-01	2.61E-01	4.85E-01	2.30E-01	pCi/g
15-10063-16	TRG	CP500S501-02	10/06/15 09:00	10/12/2015	11/3/2015	15-10063	Bismuth-214	LANL ER-130 Modified	1.32E+00	1.97E-01	2.08E-01	2.62E-01	1.26E-01	pCi/g
15-10063-16	TRG	CP500S501-02	10/06/15 09:00	10/12/2015	11/3/2015	15-10063	Potassium-40	LANL ER-130 Modified	1.74E+01	2.16E+00	2.33E+00	8.99E-01	4.02E-01	pCi/g
15-10063-16	TRG	CP500S501-02	10/06/15 09:00	10/12/2015	11/3/2015	15-10063	Lead-212	LANL ER-130 Modified	1.42E+00	1.70E-01	1.85E-01	4.09E-01	2.02E-01	pCi/g
15-10063-16	TRG	CP500S501-02	10/06/15 09:00	10/12/2015	11/3/2015	15-10063	Lead-214	LANL ER-130 Modified	1.43E+00	2.19E-01	2.31E-01	3.64E-01	1.78E-01	pCi/g
15-10063-16	TRG	CP500S501-02	10/06/15 09:00	10/12/2015	11/3/2015	15-10063	Radium-226	LANL ER-130 Modified	1.32E+00	1.97E-01	2.08E-01	2.62E-01	1.33E+00	pCi/g
15-10063-16	TRG	CP500S501-02	10/06/15 09:00	10/12/2015	11/3/2015	15-10063	Radium-228	LANL ER-130 Modified	1.18E+00	2.54E-01	2.61E-01	4.85E-01	2.30E-01	pCi/g
15-10063-16	TRG	CP500S501-02	10/06/15 09:00	10/12/2015	11/3/2015	15-10063	Thorium-234	LANL ER-130 Modified	2.54E+00	1.78E+00	1.79E+00	2.95E+00	1.45E+00	pCi/g
15-10063-16	TRG	CP500S501-02	10/06/15 09:00	10/12/2015	11/3/2015	15-10063	Thallium-208	LANL ER-130 Modified	1.27E+00	2.19E-01	2.28E-01	4.17E-02	2.05E-01	pCi/g

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



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Eberline Analytical

Final Report of Analysis

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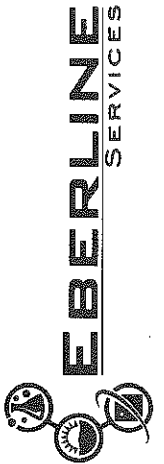
SDG: 15-10063
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Work Order Details:

Report To:

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10063-17	TRG	CP5005504-05	10/06/15 09:10	10/12/2015	11/3/2015	15-10063	Actinium-228	LANL ER-130 Modified	1.10E+00	4.66E-01	4.69E-01	8.95E-01	4.24E-01	pCi/g
15-10063-17	TRG	CP5005504-05	10/06/15 09:10	10/12/2015	11/3/2015	15-10063	Bismuth-214	LANL ER-130 Modified	1.22E+00	2.70E-01	2.77E-01	4.06E-01	1.94E-01	pCi/g
15-10063-17	TRG	CP5005504-05	10/06/15 09:10	10/12/2015	11/3/2015	15-10063	Potassium-40	LANL ER-130 Modified	1.72E+01	3.22E+00	3.34E+00	2.58E+00	1.20E+00	pCi/g
15-10063-17	TRG	CP5005504-05	10/06/15 09:10	10/12/2015	11/3/2015	15-10063	Lead-212	LANL ER-130 Modified	1.64E+00	3.06E-01	3.17E-01	3.69E-01	1.80E-01	pCi/g
15-10063-17	TRG	CP5005504-05	10/06/15 09:10	10/12/2015	11/3/2015	15-10063	Lead-214	LANL ER-130 Modified	1.32E+00	3.14E-01	3.21E-01	4.81E-01	2.33E-01	pCi/g
15-10063-17	TRG	CP5005504-05	10/06/15 09:10	10/12/2015	11/3/2015	15-10063	Radium-226	LANL ER-130 Modified	1.22E+00	2.70E-01	2.77E-01	4.06E-01	2.57E+00	pCi/g
15-10063-17	TRG	CP5005504-05	10/06/15 09:10	10/12/2015	11/3/2015	15-10063	Radium-228	LANL ER-130 Modified	1.10E+00	4.66E-01	4.69E-01	8.95E-01	4.24E-01	pCi/g
15-10063-17	TRG	CP5005504-05	10/06/15 09:10	10/12/2015	11/3/2015	15-10063	Thorium-234	LANL ER-130 Modified	1.47E+00	1.52E+00	1.52E+00	2.54E+00	1.25E+00	pCi/g
15-10063-17	TRG	CP5005504-05	10/06/15 09:10	10/12/2015	11/3/2015	15-10063	Thallium-208	LANL ER-130 Modified	1.25E+00	3.07E-01	3.13E-01	4.28E-01	2.85E-01	pCi/g
15-10063-18	TRG	CP5005505-06	10/06/15 09:20	10/12/2015	11/3/2015	15-10063	Actinium-228	LANL ER-130 Modified	1.76E+00	2.55E-01	2.70E-01	4.69E-01	2.23E-01	pCi/g
15-10063-18	TRG	CP5005505-06	10/06/15 09:20	10/12/2015	11/3/2015	15-10063	Bismuth-214	LANL ER-130 Modified	1.52E+00	1.85E-01	2.00E-01	6.31E-02	9.74E-02	pCi/g
15-10063-18	TRG	CP5005505-06	10/06/15 09:20	10/12/2015	11/3/2015	15-10063	Potassium-40	LANL ER-130 Modified	2.10E+01	2.42E+00	2.65E+00	1.15E+00	5.35E-01	pCi/g
15-10063-18	TRG	CP5005505-06	10/06/15 09:20	10/12/2015	11/3/2015	15-10063	Lead-212	LANL ER-130 Modified	1.94E+00	2.15E-01	2.37E-01	2.45E-01	1.20E-01	pCi/g
15-10063-18	TRG	CP5005505-06	10/06/15 09:20	10/12/2015	11/3/2015	15-10063	Lead-214	LANL ER-130 Modified	1.60E+00	2.03E-01	2.19E-01	2.62E-01	1.27E-01	pCi/g
15-10063-18	TRG	CP5005505-06	10/06/15 09:20	10/12/2015	11/3/2015	15-10063	Radium-226	LANL ER-130 Modified	1.52E+00	1.85E-01	2.00E-01	6.31E-02	1.56E-00	pCi/g
15-10063-18	TRG	CP5005505-06	10/06/15 09:20	10/12/2015	11/3/2015	15-10063	Radium-228	LANL ER-130 Modified	1.76E+00	2.55E-01	2.70E-01	4.69E-01	2.23E-01	pCi/g
15-10063-18	TRG	CP5005505-06	10/06/15 09:20	10/12/2015	11/3/2015	15-10063	Thorium-234	LANL ER-130 Modified	2.81E+00	1.84E+00	1.84E+00	3.03E+00	1.49E+00	pCi/g
15-10063-18	TRG	CP5005505-06	10/06/15 09:20	10/12/2015	11/3/2015	15-10063	Thallium-208	LANL ER-130 Modified	1.18E+00	1.99E-01	2.08E-01	1.75E-01	2.08E-01	pCi/g
15-10063-19	TRG	CP5005509-10	10/06/15 09:30	10/12/2015	11/3/2015	15-10063	Actinium-228	LANL ER-130 Modified	1.58E+00	2.80E-01	2.91E-01	4.75E-01	2.24E-01	pCi/g
15-10063-19	TRG	CP5005509-10	10/06/15 09:30	10/12/2015	11/3/2015	15-10063	Bismuth-214	LANL ER-130 Modified	1.90E+00	2.41E-01	2.60E-01	3.04E-01	1.46E-01	pCi/g
15-10063-19	TRG	CP5005509-10	10/06/15 09:30	10/12/2015	11/3/2015	15-10063	Potassium-40	LANL ER-130 Modified	2.58E+01	3.27E+00	3.53E+00	1.06E+00	4.83E-01	pCi/g
15-10063-19	TRG	CP5005509-10	10/06/15 09:30	10/12/2015	11/3/2015	15-10063	Lead-212	LANL ER-130 Modified	1.97E+00	2.39E-01	2.59E-01	3.17E-01	1.55E-01	pCi/g
15-10063-19	TRG	CP5005509-10	10/06/15 09:30	10/12/2015	11/3/2015	15-10063	Lead-214	LANL ER-130 Modified	1.98E+00	2.23E-01	2.45E-01	2.91E-01	1.41E-01	pCi/g
15-10063-19	TRG	CP5005509-10	10/06/15 09:30	10/12/2015	11/3/2015	15-10063	Radium-226	LANL ER-130 Modified	1.90E+00	2.41E-01	2.60E-01	3.04E-01	1.72E+00	pCi/g
15-10063-19	TRG	CP5005509-10	10/06/15 09:30	10/12/2015	11/3/2015	15-10063	Radium-228	LANL ER-130 Modified	1.58E+00	2.80E-01	2.91E-01	4.75E-01	2.24E-01	pCi/g
15-10063-19	TRG	CP5005509-10	10/06/15 09:30	10/12/2015	11/3/2015	15-10063	Thorium-234	LANL ER-130 Modified	2.17E+00	1.20E+00	1.20E+00	1.96E+00	9.52E-01	pCi/g
15-10063-19	TRG	CP5005509-10	10/06/15 09:30	10/12/2015	11/3/2015	15-10063	Thallium-208	LANL ER-130 Modified	1.34E+00	1.93E-01	2.05E-01	1.47E-01	1.62E-01	pCi/g

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



EBERLINE ANALYTICAL CORPORATION
 601 SCARBORO ROAD OAK RIDGE, TN 37830 865/481-0683 FAX 865/483-4621

Eberline Analytical

Final Report of Analysis

Cecilia Greene
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 9821 Cogdill Road, Suite 1
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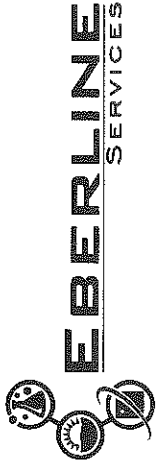
Work Order Details:

SDG: 15-10063
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Report To:

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10063-20	TRG	CP5005S12-13	10/06/15 09:40	10/12/2015	11/2/2015	15-10063	Actinium-228	LANL ER-130 Modified	1.78E+00	3.23E-01	3.35E-01	5.56E-01	2.60E-01	pCi/g
15-10063-20	TRG	CP5005S12-13	10/06/15 09:40	10/12/2015	11/2/2015	15-10063	Bismuth-214	LANL ER-130 Modified	1.56E+00	2.47E-01	2.60E-01	3.42E-01	1.64E-01	pCi/g
15-10063-20	TRG	CP5005S12-13	10/06/15 09:40	10/12/2015	11/2/2015	15-10063	Potassium-40	LANL ER-130 Modified	2.40E+01	3.06E+00	3.30E+00	1.71E+00	7.90E-01	pCi/g
15-10063-20	TRG	CP5005S12-13	10/06/15 09:40	10/12/2015	11/2/2015	15-10063	Lead-212	LANL ER-130 Modified	2.02E+00	2.33E-01	2.95E-01	3.75E-01	1.84E-01	pCi/g
15-10063-20	TRG	CP5005S12-13	10/06/15 09:40	10/12/2015	11/2/2015	15-10063	Lead-214	LANL ER-130 Modified	2.07E+00	2.59E-01	2.80E-01	3.74E-01	1.81E-01	pCi/g
15-10063-20	TRG	CP5005S12-13	10/06/15 09:40	10/12/2015	11/2/2015	15-10063	Radium-226	LANL ER-130 Modified	1.56E+00	2.47E-01	2.60E-01	3.42E-01	2.07E+00	pCi/g
15-10063-20	TRG	CP5005S12-13	10/06/15 09:40	10/12/2015	11/2/2015	15-10063	Radium-228	LANL ER-130 Modified	1.78E+00	3.23E-01	3.35E-01	5.56E-01	2.60E-01	pCi/g
15-10063-20	TRG	CP5005S12-13	10/06/15 09:40	10/12/2015	11/2/2015	15-10063	Thorium-234	LANL ER-130 Modified	3.98E+00	3.01E+00	3.01E+00	4.98E-00	2.46E+00	pCi/g
15-10063-20	TRG	CP5005S12-13	10/06/15 09:40	10/12/2015	11/2/2015	15-10063	Thallium-208	LANL ER-130 Modified	1.57E+00	2.54E-01	2.66E-01	2.68E-01	2.56E-01	pCi/g
15-10063-01	LCS	KNOWN	10/12/15 00:00	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	4.72E+00	1.70E-01				pCi/g
15-10063-01	LCS	SPIKE	10/12/15 00:00	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	5.36E+00	1.04E+00	1.16E+00	9.02E-02	5.39E-03	pCi/g
15-10063-02	MBL	BLANK	10/12/15 00:00	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	2.71E-02	4.46E-02	4.47E-02	7.79E-02	1.76E-02	pCi/g
15-10063-03	DUP	CP0403S02-03	10/05/15 13:20	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	4.86E-01	1.58E-01	1.64E-01	7.48E-02	1.42E-02	pCi/g
15-10063-04	DO	CP0403S02-03	10/05/15 13:20	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	4.24E-01	1.55E-01	1.60E-01	7.20E-02	1.37E-02	pCi/g
15-10063-05	TRG	CP0403S04-05	10/05/15 13:40	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	1.13E+00	2.88E-01	3.07E-01	4.96E-02	4.28E-02	pCi/g
15-10063-06	TRG	CP0403S07-08	10/05/15 13:45	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	1.60E+00	3.97E-01	4.25E-01	6.96E-02	1.06E-02	pCi/g
15-10063-07	TRG	CP0403S09-10	10/05/15 14:00	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	1.29E+00	3.16E-01	3.38E-01	7.23E-02	1.61E-02	pCi/g
15-10063-08	TRG	CP0403S11-12	10/05/15 14:10	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	1.30E+00	3.31E-01	3.53E-01	5.29E-02	4.56E-03	pCi/g
15-10063-09	TRG	CP2107S02-03	10/06/15 14:45	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	1.33E+00	3.50E-01	3.72E-01	7.23E-02	1.10E-02	pCi/g
15-10063-10	TRG	CP2107S05-06	10/06/15 14:55	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	1.34E+00	3.52E-01	3.74E-01	1.03E-01	3.57E-02	pCi/g
15-10063-11	TRG	CP2107S09-10	10/06/15 15:05	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	1.70E+00	4.66E-01	4.92E-01	1.05E-01	2.35E-02	pCi/g
15-10063-12	TRG	CP2107S11-12	10/06/15 15:10	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	1.34E+00	3.42E-01	3.65E-01	7.09E-02	1.22E-02	pCi/g
15-10063-13	TRG	CP2107S14-15	10/06/15 15:20	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	1.25E+00	3.05E-01	3.27E-01	6.94E-02	1.55E-02	pCi/g
15-10063-14	TRG	CP2107S17-18	10/06/15 15:30	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	1.51E+00	3.59E-01	3.86E-01	6.78E-02	1.29E-02	pCi/g
15-10063-15	TRG	CP2107S19-20	10/06/15 15:40	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	1.07E+00	2.77E-01	2.95E-01	4.33E-02	2.54E-03	pCi/g
15-10063-16	TRG	CP5005S01-02	10/06/15 09:00	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	1.57E+00	4.13E-01	4.38E-01	6.86E-02	7.62E-03	pCi/g
15-10063-17	TRG	CP5005S04-05	10/06/15 09:10	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	1.32E+00	3.47E-01	3.69E-01	7.85E-02	1.49E-02	pCi/g
15-10063-18	TRG	CP5005S05-06	10/06/15 09:20	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	1.48E+00	4.74E-01	4.94E-01	9.11E-02	7.88E-03	pCi/g
15-10063-19	TRG	CP5005S09-10	10/06/15 09:30	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	1.30E+00	3.95E-01	4.14E-01	1.12E-01	2.50E-02	pCi/g
15-10063-20	TRG	CP5005S12-13	10/06/15 09:40	10/12/2015	10/19/2015	15-10063	Thorium-228	EML Th-01 Modified	1.45E+00	4.13E-01	4.35E-01	9.35E-02	1.60E-02	pCi/g

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Eberline Analytical

Final Report of Analysis

Cecilia Greene
Auxier & Associates, Inc.
 9821 Cogdill Road, Suite 1
 Knoxville, TN 37932

Report To:

SDG: 15-10063
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Work Order Details:

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10063-01	LCS	KNOWN	10/12/15 00:00	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	5.36E+00	1.45E-01	1.38E+00	9.03E-02	1.15E-01	pCi/g
15-10063-01	LCS	SPIKE	10/12/15 00:00	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	6.12E+00	1.16E+00	5.93E-02	6.19E-02	6.39E-02	pCi/g
15-10063-02	MBL	BLANK	10/12/15 00:00	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	6.94E-02	5.87E-02	2.61E-01	5.36E-02	6.16E-02	pCi/g
15-10063-03	DUP	CP0403S02-03	10/05/15 13:20	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	9.72E-01	2.32E-01	3.28E-01	5.66E-02	6.12E-02	pCi/g
15-10063-04	DO	CP0403S02-03	10/05/15 13:20	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	1.14E+00	2.96E-01	2.69E-01	7.27E-02	6.83E-02	pCi/g
15-10063-05	TRG	CP0403S04-05	10/05/15 13:40	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	8.95E-01	2.45E-01	3.47E-01	6.47E-02	6.67E-02	pCi/g
15-10063-06	TRG	CP0403S07-08	10/05/15 13:45	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	1.18E+00	3.15E-01	3.02E-01	5.66E-02	5.84E-02	pCi/g
15-10063-07	TRG	CP0403S09-10	10/05/15 14:00	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	1.06E+00	2.72E-01	3.68E-01	5.22E-02	5.98E-02	pCi/g
15-10063-08	TRG	CP0403S11-12	10/05/15 14:10	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	1.31E+00	3.31E-01	3.61E-01	6.26E-02	6.73E-02	pCi/g
15-10063-09	TRG	CP2107S02-03	10/06/15 14:45	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	1.22E+00	3.28E-01	3.37E-01	1.03E-01	9.54E-02	pCi/g
15-10063-10	TRG	CP2107S05-06	10/06/15 14:55	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	1.12E+00	3.07E-01	4.07E-01	7.69E-02	8.27E-02	pCi/g
15-10063-11	TRG	CP2107S09-10	10/06/15 15:05	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	1.28E+00	3.75E-01	3.33E-01	6.66E-02	6.68E-02	pCi/g
15-10063-12	TRG	CP2107S11-12	10/06/15 15:10	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	1.14E+00	3.02E-01	3.33E-01	5.06E-02	5.45E-02	pCi/g
15-10063-13	TRG	CP2107S14-15	10/06/15 15:20	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	1.22E+00	2.97E-01	3.49E-01	6.09E-02	6.10E-02	pCi/g
15-10063-14	TRG	CP2107S17-18	10/06/15 15:30	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	1.26E+00	3.12E-01	3.65E-01	6.14E-02	5.26E-02	pCi/g
15-10063-15	TRG	CP2107S19-20	10/06/15 15:40	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	1.33E+00	3.26E-01	4.20E-01	7.31E-02	7.55E-02	pCi/g
15-10063-16	TRG	CP5005S01-02	10/06/15 09:00	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	1.42E+00	3.81E-01	4.33E-01	7.76E-02	7.45E-02	pCi/g
15-10063-17	TRG	CP5005S04-05	10/06/15 09:10	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	1.54E+00	3.89E-01	5.53E-01	9.00E-02	1.08E-01	pCi/g
15-10063-18	TRG	CP5005S05-06	10/06/15 09:20	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	1.65E+00	5.14E-01	3.18E-01	1.07E-01	1.01E-01	pCi/g
15-10063-19	TRG	CP5005S09-10	10/06/15 09:30	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	8.80E-01	2.99E-01	3.85E-01	7.01E-02	8.02E-02	pCi/g
15-10063-20	TRG	CP5005S12-13	10/06/15 09:40	10/12/2015	10/19/2015	15-10063	Thorium-230	EML Th-01 Modified	1.20E+00	3.55E-01	3.85E-01	7.01E-02	8.02E-02	pCi/g

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate Sample; DO=Duplicate Original; CV=Critical Value



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Eberline Analytical

Final Report of Analysis

Cecilia Greene
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Knoxville, TN 37932

SDG: 15-10063
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Report To:

Work Order Details:

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MBA	CV	Report Units
15-10063-01	LCS	KNOWN	10/12/2015 00:00	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	4.72E+00	1.70E-01				pCi/g
15-10063-01	LCS	SPIKE	10/12/15 00:00	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	5.50E+00	1.06E+00	1.17E+00	1.22E-01	1.82E-02	pCi/g
15-10063-02	MEL	BLANK	10/12/15 00:00	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	5.37E-03	2.24E-02	2.24E-02	5.75E-02	6.32E-03	pCi/g
15-10063-03	DUP	CP0403S02-03	10/05/15 13:20	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	4.23E-01	1.43E-01	1.48E-01	4.67E-02	2.86E-03	pCi/g
15-10063-04	DO	CP0403S02-03	10/05/15 13:20	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	5.81E-01	1.87E-01	1.94E-01	6.46E-02	7.27E-04	pCi/g
15-10063-05	TRG	CP0403S04-05	10/05/15 13:40	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	1.19E+00	2.99E-01	3.17E-01	5.36E-02	5.89E-03	pCi/g
15-10063-06	TRG	CP0403S07-08	10/05/15 13:45	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	1.55E+00	3.85E-01	4.08E-01	6.86E-02	7.70E-04	pCi/g
15-10063-07	TRG	CP0403S09-10	10/05/15 14:00	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	9.39E-01	2.50E-01	2.63E-01	4.79E-02	4.07E-03	pCi/g
15-10063-08	TRG	CP0403S11-12	10/05/15 14:10	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	1.09E+00	2.89E-01	3.04E-01	4.55E-02	2.58E-03	pCi/g
15-10063-09	TRG	CP2107S02-03	10/06/15 14:45	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	1.08E+00	2.99E-01	3.14E-01	5.69E-02	4.84E-03	pCi/g
15-10063-10	TRG	CP2107S05-06	10/06/15 14:55	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	1.30E+00	3.40E-01	3.59E-01	8.06E-02	1.82E-02	pCi/g
15-10063-11	TRG	CP2107S09-10	10/06/15 15:05	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	1.26E+00	3.70E-01	3.86E-01	8.77E-02	9.83E-04	pCi/g
15-10063-12	TRG	CP2107S11-12	10/06/15 15:10	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	1.39E+00	3.53E-01	3.73E-01	9.31E-02	2.91E-02	pCi/g
15-10063-13	TRG	CP2107S14-15	10/06/15 15:20	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	1.11E+00	2.77E-01	2.94E-01	5.09E-02	5.55E-03	pCi/g
15-10063-14	TRG	CP2107S17-18	10/06/15 15:30	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	1.10E+00	2.82E-01	2.98E-01	5.33E-02	5.86E-03	pCi/g
15-10063-15	TRG	CP2107S19-20	10/06/15 15:40	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	1.12E+00	2.87E-01	3.04E-01	6.13E-02	6.87E-04	pCi/g
15-10063-16	TRG	CP5006S01-02	10/06/15 09:30	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	1.44E+00	3.88E-01	4.09E-01	1.06E-01	3.17E-02	pCi/g
15-10063-17	TRG	CP5006S04-05	10/06/15 09:10	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	1.22E+00	3.28E-01	3.45E-01	8.90E-02	2.27E-02	pCi/g
15-10063-18	TRG	CP5006S05-06	10/06/15 09:20	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	1.43E+00	4.62E-01	4.78E-01	1.06E-01	1.41E-02	pCi/g
15-10063-19	TRG	CP5006S09-10	10/06/15 09:30	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	1.11E+00	3.52E-01	3.65E-01	1.02E-01	1.95E-02	pCi/g
15-10063-20	TRG	CP5006S12-13	10/06/15 09:40	10/12/2015	10/19/2015	15-10063	Thorium-232	EML Th-01 Modified	1.25E+00	3.67E-01	3.83E-01	8.26E-02	1.09E-02	pCi/g

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MBA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



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EBERLINE ANALYTICAL CORPORATION

601 SCARBORO ROAD OAK RIDGE, TN 37830 865/481-0683 FAX 865/483-4621

Eberline Analytical

Final Report of Analysis

Cecilia Greene
Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932

SDG: 15-10063
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Work Order Details:

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10063-01	LCS	KNOWN	10/12/15 00:00	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	8.12E+00	2.92E-01				pCi/g
15-10063-01	LCS	SPIKE	10/12/15 00:00	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	6.86E+00	1.02E+00	1.13E+00	1.04E-01	2.13E-02	pCi/g
15-10063-02	MBL	BLANK	10/12/15 00:00	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	9.82E-03	2.45E-02	2.45E-02	5.11E-02	8.67E-03	pCi/g
15-10063-03	DUP	CP0403S02-03	10/05/15 13:20	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	1.16E+00	2.40E-01	2.84E-01	6.49E-02	1.55E-02	pCi/g
15-10063-04	DO	CP0403S02-03	10/05/15 13:20	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	1.61E+00	2.79E-01	3.02E-01	5.32E-02	1.10E-02	pCi/g
15-10063-05	TRG	CP0403S04-05	10/05/15 13:40	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	1.02E+00	2.25E-01	2.36E-01	5.71E-02	9.65E-03	pCi/g
15-10063-06	TRG	CP0403S07-08	10/05/15 13:45	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	9.52E-01	2.16E-01	2.27E-01	8.86E-02	3.50E-02	pCi/g
15-10063-07	TRG	CP0403S09-10	10/05/15 14:00	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	1.12E+00	2.14E-01	2.28E-01	4.56E-02	7.72E-03	pCi/g
15-10063-08	TRG	CP0403S11-12	10/05/15 14:10	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	8.04E-01	2.01E-01	2.09E-01	5.72E-02	8.59E-03	pCi/g
15-10063-09	TRG	CP2107S02-03	10/06/15 14:45	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	1.28E+00	2.64E-01	2.79E-01	5.62E-02	8.40E-03	pCi/g
15-10063-10	TRG	CP2107S05-06	10/06/15 14:55	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	6.80E-01	1.77E-01	1.84E-01	4.07E-02	3.27E-03	pCi/g
15-10063-11	TRG	CP2107S09-10	10/06/15 15:05	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	8.28E-01	1.98E-01	2.07E-01	5.03E-02	6.45E-03	pCi/g
15-10063-12	TRG	CP2107S11-12	10/06/15 15:10	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	1.32E+00	2.86E-01	2.82E-01	4.00E-02	3.22E-03	pCi/g
15-10063-13	TRG	CP2107S14-15	10/06/15 15:20	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	1.18E+00	2.48E-01	2.62E-01	4.07E-02	3.27E-03	pCi/g
15-10063-14	TRG	CP2107S17-18	10/06/15 15:30	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	7.00E-01	1.83E-01	1.90E-01	7.45E-02	2.00E-02	pCi/g
15-10063-15	TRG	CP2107S19-20	10/06/15 15:40	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	1.28E+00	2.40E-01	2.56E-01	3.90E-02	4.11E-03	pCi/g
15-10063-16	TRG	CP5005S01-02	10/06/15 09:00	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	1.07E+00	2.44E-01	2.56E-01	6.39E-02	1.08E-02	pCi/g
15-10063-17	TRG	CP5005S04-05	10/06/15 09:10	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	9.96E-01	2.19E-01	2.31E-01	3.89E-02	3.13E-03	pCi/g
15-10063-18	TRG	CP5005S05-06	10/06/15 09:20	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	1.07E+00	2.30E-01	2.42E-01	5.59E-02	9.46E-03	pCi/g
15-10063-19	TRG	CP5005S09-10	10/06/15 09:30	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	1.02E+00	2.19E-01	2.31E-01	3.83E-02	3.07E-03	pCi/g
15-10063-20	TRG	CP5005S12-13	10/06/15 09:40	10/12/2015	10/20/2015	15-10063	Uranium-234	EML U-02 Modified	9.57E-01	1.99E-01	2.10E-01	4.56E-02	6.83E-03	pCi/g

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Eberline Analytical

Final Report of Analysis

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Auxier & Associates, Inc.
 9821 Cogdill Road, Suite 1
 Knoxville, TN 37932

SDG: 15-10063
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Report To:

Work Order Details:

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10063-01	LCS	SPIKE	10/12/15 00:00	10/12/2015	10/20/2015	15-10063	Uranium-235	EML U-02 Modified	3.67E-01	1.72E-01	1.74E-01	8.13E-02	3.73E-03	pCi/g
15-10063-02	MBL	BLANK	10/12/15 00:00	10/12/2015	10/20/2015	15-10063	Uranium-235	EML U-02 Modified	1.58E-03	2.21E-02	2.21E-02	6.31E-02	7.83E-03	pCi/g
15-10063-03	DUP	CP0403S02-03	10/05/15 13:20	10/12/2015	10/20/2015	15-10063	Uranium-235	EML U-02 Modified	1.30E-02	3.24E-02	3.24E-02	6.75E-02	8.36E-03	pCi/g
15-10063-04	DO	CP0403S02-03	10/05/15 13:20	10/12/2015	10/20/2015	15-10063	Uranium-235	EML U-02 Modified	7.63E-02	5.60E-02	5.63E-02	4.76E-02	3.29E-03	pCi/g
15-10063-05	TRG	CP0403S04-05	10/05/15 13:40	10/12/2015	10/20/2015	15-10063	Uranium-235	EML U-02 Modified	1.16E-01	7.41E-02	7.46E-02	4.91E-02	2.25E-03	pCi/g
15-10063-06	TRG	CP0403S07-08	10/05/15 13:45	10/12/2015	10/20/2015	15-10063	Uranium-235	EML U-02 Modified	9.44E-02	6.94E-02	6.97E-02	6.93E-02	8.60E-03	pCi/g
15-10063-07	TRG	CP0403S09-10	10/05/15 14:00	10/12/2015	10/20/2015	15-10063	Uranium-235	EML U-02 Modified	1.31E-01	7.25E-02	7.31E-02	5.63E-02	5.11E-04	pCi/g
15-10063-08	TRG	CP0403S11-12	10/05/15 14:10	10/12/2015	10/20/2015	15-10063	Uranium-235	EML U-02 Modified	4.79E-02	4.95E-02	4.96E-02	5.22E-02	2.41E-03	pCi/g
15-10063-09	TRG	CP2107S02-03	10/06/15 14:45	10/12/2015	10/20/2015	15-10063	Uranium-235	EML U-02 Modified	7.76E-02	6.48E-02	6.51E-02	6.93E-02	7.42E-03	pCi/g
15-10063-10	TRG	CP2107S05-06	10/06/15 14:55	10/12/2015	10/20/2015	15-10063	Uranium-235	EML U-02 Modified	1.79E-02	3.41E-02	3.41E-02	6.31E-02	5.61E-03	pCi/g
15-10063-11	TRG	CP2107S09-10	10/06/15 15:05	10/12/2015	10/20/2015	15-10063	Uranium-235	EML U-02 Modified	9.25E-02	6.64E-02	6.68E-02	4.93E-02	2.26E-03	pCi/g
15-10063-12	TRG	CP2107S11-12	10/06/15 15:10	10/12/2015	10/20/2015	15-10063	Uranium-235	EML U-02 Modified	8.66E-02	6.67E-02	6.70E-02	6.67E-02	7.15E-03	pCi/g
15-10063-13	TRG	CP2107S14-15	10/06/15 15:20	10/12/2015	10/20/2015	15-10063	Uranium-235	EML U-02 Modified	7.22E-02	6.29E-02	6.31E-02	7.22E-02	6.54E-04	pCi/g
15-10063-14	TRG	CP2107S17-18	10/06/15 15:30	10/12/2015	10/20/2015	15-10063	Uranium-235	EML U-02 Modified	4.01E-02	5.49E-02	5.50E-02	8.92E-02	1.74E-02	pCi/g
15-10063-15	TRG	CP2107S19-20	10/06/15 15:40	10/12/2015	10/20/2015	15-10063	Uranium-235	EML U-02 Modified	8.04E-02	5.97E-02	6.00E-02	6.03E-02	5.46E-04	pCi/g
15-10063-16	TRG	CP5005S01-02	10/06/15 08:00	10/12/2015	10/20/2015	15-10063	Uranium-235	EML U-02 Modified	1.14E-01	7.87E-02	7.92E-02	6.29E-02	4.34E-03	pCi/g
15-10063-17	TRG	CP5005S04-05	10/06/15 09:10	10/12/2015	10/20/2015	15-10063	Uranium-235	EML U-02 Modified	5.56E-02	5.09E-02	5.11E-02	4.80E-02	2.21E-03	pCi/g
15-10063-18	TRG	CP5005S05-06	10/06/15 09:20	10/12/2015	10/20/2015	15-10063	Uranium-235	EML U-02 Modified	5.56E-02	5.10E-02	5.11E-02	4.81E-02	2.21E-03	pCi/g
15-10063-19	TRG	CP5005S09-10	10/06/15 09:30	10/12/2015	10/20/2015	15-10063	Uranium-235	EML U-02 Modified	3.59E-02	4.45E-02	4.46E-02	6.78E-02	6.15E-04	pCi/g
15-10063-20	TRG	CP5005S12-13	10/06/15 09:40	10/12/2015	10/20/2015	15-10063	Uranium-235	EML U-02 Modified	3.82E-02	3.94E-02	3.95E-02	4.16E-02	1.92E-03	pCi/g

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



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Final Report of Analysis

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SDG: 15-10063

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Sample Matrix: SO

Work Order Details:

Report To:

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10063-01	LCS	KNOWN	10/12/2015 00:00	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	7.91E+00	2.85E-01				pCi/g
15-10063-01	LCS	SPIKE	10/12/2015 00:00	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	6.59E+00	9.84E-01	1.09E+00	9.41E-02	1.45E-02	pCi/g
15-10063-02	MBL	BLANK	10/12/2015 00:00	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	2.68E-02	3.41E-02	3.41E-02	5.09E-02	7.90E-03	pCi/g
15-10063-03	DUP	CP0403S02-03	10/05/15 13:20	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	1.31E+00	2.58E-01	2.74E-01	5.73E-02	9.99E-03	pCi/g
15-10063-04	DO	CP0403S02-03	10/05/15 13:20	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	1.16E+00	2.24E-01	2.39E-01	4.81E-02	7.47E-03	pCi/g
15-10063-05	TRG	CP0403S04-05	10/05/15 13:40	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	1.07E+00	2.30E-01	2.43E-01	3.96E-02	2.33E-03	pCi/g
15-10063-06	TRG	CP0403S07-08	10/05/15 13:45	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	7.49E-01	1.84E-01	1.92E-01	5.60E-02	8.67E-03	pCi/g
15-10063-07	TRG	CP0403S09-10	10/05/15 14:00	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	9.59E-01	1.94E-01	2.06E-01	3.16E-02	1.86E-03	pCi/g
15-10063-08	TRG	CP0403S11-12	10/05/15 14:10	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	8.36E-01	2.05E-01	2.13E-01	4.21E-02	2.49E-03	pCi/g
15-10063-09	TRG	CP2107S02-03	10/06/15 14:45	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	1.14E+00	2.46E-01	2.58E-01	5.95E-02	7.47E-04	pCi/g
15-10063-10	TRG	CP2107S05-06	10/06/15 14:55	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	9.78E-01	2.21E-01	2.32E-01	4.05E-02	2.38E-03	pCi/g
15-10063-11	TRG	CP2107S09-10	10/06/15 15:05	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	8.74E-01	2.04E-01	2.13E-01	4.56E-02	3.96E-03	pCi/g
15-10063-12	TRG	CP2107S11-12	10/06/15 15:10	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	1.12E+00	2.39E-01	2.52E-01	3.98E-02	2.35E-03	pCi/g
15-10063-13	TRG	CP2107S14-15	10/06/15 15:20	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	8.52E-01	2.02E-01	2.11E-01	4.64E-02	4.03E-03	pCi/g
15-10063-14	TRG	CP2107S17-18	10/06/15 15:30	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	8.16E-01	2.00E-01	2.08E-01	7.20E-02	1.75E-02	pCi/g
15-10063-15	TRG	CP2107S19-20	10/06/15 15:40	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	9.82E-01	2.03E-01	2.15E-01	4.86E-02	6.10E-04	pCi/g
15-10063-16	TRG	CP5006S01-02	10/06/15 09:00	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	9.64E-01	2.30E-01	2.40E-01	8.49E-02	2.44E-02	pCi/g
15-10063-17	TRG	CP5006S04-05	10/06/15 09:10	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	1.31E+00	2.61E-01	2.77E-01	3.88E-02	2.28E-03	pCi/g
15-10063-18	TRG	CP5006S05-06	10/06/15 09:20	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	1.12E+00	2.36E-01	2.49E-01	5.57E-02	7.00E-04	pCi/g
15-10063-19	TRG	CP5006S09-10	10/06/15 09:30	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	1.03E+00	2.21E-01	2.33E-01	4.36E-02	3.79E-03	pCi/g
15-10063-20	TRG	CP5006S12-13	10/06/15 09:40	10/12/2015	10/20/2015	15-10063	Uranium-238	EML U-02 Modified	8.56E-01	1.86E-01	1.96E-01	5.92E-02	1.43E-02	pCi/g

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



EBERLINE
 SERVICES

EBERLINE ANALYTICAL CORPORATION

601 SCARBORO ROAD OAK RIDGE, TN 37830 865/481-0683 FAX 865/483-4621

SECTION V
ANALYTICAL STANDARD

U-8

QA/QC REVIEWED
Date 1/16/95 Initials WA

CERTIFICATE OF CALIBRATION ALPHA STANDARD SOLUTION

Radionuclide: U-238NAT
Half Life: $(4.468 \pm 0.005) \times 10^9$ years
Catalog No.: 7338
Source No.: 479-50

Customer: TMA EBERLINE
P.O.No.: OR2778
Reference Date: January 1 1995 12:00 PST.
Contained Radioactivity: (Total U) 8.016 μ Ci
Contained Radioactivity: (Total U) 297 kBq

Description of Solution
a. Mass of solution: 65.2896 g in a 50 ml flame sealed ampoule
b. Chemical form: Uranyl Nitrate in H₂O
c. Carrier content: None
d. Density: Approximately 1.3202 g/ml @ 20°C.

Radioimpurities Refer to attached technical data sheet

Radioactive Daughters Refer to attached technical data sheet

Radionuclide Concentration (Total U) 0.1228 μ Ci/g.

Method of Calibration

Activity calculations are based upon known specific activity and mass.

Uncertainty of Measurement
a. Systematic uncertainty in instrument calibration: $\pm 3.0\%$
b. Random uncertainty in assay: $\pm 0.0\%$
c. Random uncertainty in weighing(s): $\pm 2.0\%$
d. Total uncertainty at the 99% confidence level: $\pm 3.6\%$

NIST Traceability
This calibration is implicitly traceable to the National Institute of Standards and Technology.

Leak Test(s)
See reverse side for Leak Test(s) applied to this source.

Notes
1. Nuclear data were taken from "Table of Radioactive Isotopes", edited by Virginia S. Shirley, 1986.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).


ERIC ALLAS
QUALITY CONTROL

29 DECEMBER 1994
Date Signed



ISOTOPE PRODUCTS LABORATORIES
3017 N. SAN FERNANDO BLVD.
BURBANK, CALIFORNIA 91504
818-843-7000 FAX 818-843-6168



QUALITY CONTROL PROGRAM
MP-009

Rev.8; 11/01/03
Title: Radioactive Reference Standards Solutions & Records

EBERLINE SERVICES - OAK RIDGE LABORATORY
RADIOACTIVE REFERENCE SOLUTIONS
PRIMARY DILUTION RECERTIFICATION
MP 009

SOLUTION REFERENCE # IPL 479-50 CURRENT DATE 10/1/2015 0:00
SOLUTION # U-8

Principal Radionuclide ^{234, 235, 238}U Half Life, Years 4.468E+09 Half Life, Days 1.632E+12

Radionuclide ^{234, 235, 238}U Reference Date 1/1/1995 0:00
Certified Activity 8.016E+00 μCi
Certified Concentration $\mu\text{Ci per gram}$

Ampoule /Solution Gross 97.6400 Weight, Grams
Empty Ampoule 32.5020 Weight, Grams
Solution Net 65.1380 Weight, Grams
Total Activity in Ampoule 8.0160 μCi

Chemical Composition of Standard Solution
Uranyl nitrate in dilute HNO₃

Dilution Instructions: Dilution Solvent Used 1M HNO₃

Dilute to a volume of 1000.00 milliliters

Certified Total Activity of 8.0160 μCi Which Equals 1.780E+07 dpm at the date listed above

And after dilution the activity of this solution is 1.77955E+04 dpm/ml
This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.

Expiration Date: July 27, 2016

Verified & Approved By [Signature]

Date: 10/1/2015 0:00

QC Approval [Signature]

Date: 10/1/15



QUALITY CONTROL PROGRAM
MP-009

Rev.8: 11/01/03
Title: Radioactive Reference Standards Solutions & Records

EBERLINE SERVICES - OAK RIDGE LABORATORY
RADIOACTIVE REFERENCE STANDARD SOLUTIONS
SECONDARY DILUTION RECERTIFICATION

Solution Reference # MP-009 Date 10/1/2015 0:00
IPL 479-50 Solution # U-8a

Principal Radionuclide 234, 235, 238 U Half Life, Years 4.468E+09 Half Life, Days 1.632E+12

Radionuclide of Interest 234, 235, 238 U Reference Date 1/1/1995 0:00
Parent Solution Conc. 1.7796E+04 dpm/ml

Chemical Composition of Standard Solution
Uranly Nitrate in 1M HNO₃

Dilution Instructions: Dilution Solvent Used 1M HNO₃

SECONDARY VOLUMETRIC DILUTION

Vol. Parent Solution: 4.0000 ml
Total Activity: 7.1182E+04 dpm Final Activity Concentration: 7.1182E+01 dpm/ml
Final Volume: 1000.00 ml

NOTES:

This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.

Isotopic Distribution as:
U-238 Atom % = 48.239 U-238 = 71.182 dpm/ml X 0.48249 = 34.345 dpm/ml
U-235 Atom % = 2.25 U-235 = 71.182 dpm/ml X 0.0225 = 1.602 dpm/ml
U-234 Atom % = 49.501 U-234 = 71.182 dpm/ml X 0.49501 = 35.236 dpm/ml
All values +/- 3.6%
Isotopic ratios from manufacturer's data sheet

Expiration Date: July 27, 2016

Verified & Approved By [Signature]

Date: 10/1/2015 0:00

QC Approval [Signature]

Date: 10/1/15

RECORD COPY

Tracer Solution for Environmental Analysis & Disequilibrium Studies

Product Description & Measurement Certificate

Description Principal radionuclide: **uranium 232 (U-232)** Product code: **UDP10050**
Daughter Nuclide: **Th-228** Batch Number: **92/232/67**

Measurement Reference date: **01 March 2000**
Radioactive concentration U-232 **6.739E+03 becquerels per gram of solution**
which is equivalent to **1.821E-01 microcuries per gram of solution**
Mass of solution **5.356 grams**
Volume of solution **5.035 millilitres**
Total activity of U-232 **3.61E+04 becquerels**
which is equivalent to **9.76E-01 microcuries**

Accuracy Method of measurement (see reverse of this certificate)
Random uncertainty is: $\pm 0.7\%$ Systematic uncertainty: $\pm 0.5\%$
Overall uncertainty in the radioactive concentration quoted above: $\pm 1.7\%$
Overall uncertainty is defined on the reverse of this certificate.

Radionuclidic Purity Any radioactive impurities measured are listed below, expressed as percentages of the activity of the principle radionuclide at the reference date .

Th-228 and daughter activity removed 2 Feb 2000
U-232 daughters activity will increase with time. By alpha 88% U-232, 12% daughters on 1/3/00

Isotopic Purity The isotopic composition, expressed as atom per cent at the reference date .

Not measured

Chemical Composition Calculated weight of U-232, 4.42E-08 grams, as 2M HNO₃ solution in a flame sealed glass vial.
This Tracer solution has been produced 'carrier free'.

Physical Data Recommended half life of uranium 232: 6.980E+01 years
Principle energies of alpha emissions (MeV): 5.263 31.7%, 5.320 68.0%
Branching ratio for alpha emission: 100%
Calculated specific activity of uranium 232: 8.167E+05 Bq per microgram U-232.

Remarks For safety information and notes to ensure correct usage by all persons handling this radioactive Tracer solution please read the instructions accompanying the package.

AEA Technology operates a quality management system which has been independently audited and approved to ISO 9001.

Approved
Signatory



Roger Wiltshire

Project Ref. AE2315

Prepared and characterised in the UK, for world wide distribution by **Isotrak, AEA Technology, QSA.**



QUALITY CONTROL PROGRAM
MP-009

Rev.8; 11/01/03
Title: Radioactive Reference Standards Solutions & Records

EBERLINE SERVICES - OAK RIDGE LABORATORY
RADIOACTIVE REFERENCE SOLUTIONS
PRIMARY DILUTION RECERTIFICATION
MP 009

CURRENT DATE 10/27/2015 0:00

SOLUTION REFERENCE # AEA/Amersham 92/232/67

SOLUTION # U-10

Principal Radionuclide

Half Life, Years

Half Life, Days

²³²U

7.200E+01

2.630E+04

Radionuclide

²³²U

Reference Date

3/1/2000 0:00

Certified Activity

9.760E-01 μCi

Certified Concentration

μCi per gram

Ampoule /Solution Gross

Weight, Grams

Empty Ampoule

Weight, Grams

Solution Net

Weight, Grams

Total Activity in Ampoule

0.9760 μCi

Chemical Composition of Standard Solution

²³²U(NO₃)₆ in 2M HNO₃

Dilution Instructions:

Dilution Solvent Used

2M HNO₃

Dilute to a volume of 1000.00 milliliters

Certified Total Activity of 0.9760 μCi

Which Equals 2.167E+06 dpm at the date listed above

And after dilution the activity of this solution is 2.167E+03 dpm/ml

This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.

Expiration Date: October 26, 2016

Verified & Approved By

Date: 10/27/2015 0:00

QC Approval

Date: 10/28/15



QUALITY CONTROL PROGRAM
MP-009



Rev.8; 11/01/03
Title: Radioactive Reference Standards Solutions & Records

EBERLINE SERVICES - OAK RIDGE LABORATORY
RADIOACTIVE REFERENCE STANDARD SOLUTIONS
SECONDARY DILUTION RECERTIFICATION

Solution Reference #		MP-009	Date	10/27/2015 0:00
AEA/Amersham 92/232/67		Solution #	U-10a	
Principal Radionuclide	Half Life, Years	Half Life, Days		
²³² U	7.200E+01	2.630E+04		
Radionuclide of Interest	²³² U	Reference Date	3/1/2000 0:00	
Parent Solution Conc.	2.167E+03 dpm/ml			
Chemical Composition of Standard Solution				
²³² U(NO ₃) ₆ in 2M HNO ₃				

Dilution Instructions:	Dilution Solvent Used	2M HNO ₃	
SECONDARY VOLUMETRIC DILUTION			
Vol. Parent Solution:	10.0000 ml	Final Activity Concentration:	2.1670E+01 dpm/ml
Total Activity:	2.1670E+04 dpm		
Final Volume:	1000.00 ml		
NOTES:	This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.		

Expiration Date: October 26, 2016

Verified & Approved By:  Date: 10/27/2015 0:00
QC Approval:  Date: 10/28/15

CERTIFICATE OF CALIBRATION ALPHA STANDARD SOLUTION

Radionuclide:	Th-232	Customer:	TMA EBERLINE
Half Life:	$(1.405 \pm 0.006) \times 10^{10}$ years	P.O.No.:	VH1632
Catalog No.:	7232	Reference Date:	November 1 1993 12:00 PST.
Source No.:	435-104-2	Contained Radioactivity:	(Th-232) 0.0933 μ Ci.
		Contained Radioactivity:	(Th-232) 3.45 kBq.

Description of Solution

- | | |
|----------------------|---|
| a. Mass of solution: | 11.9712 g (in a 10 ml flame sealed ampoule) |
| b. Chemical form: | Th(NO ₃) ₄ in water |
| c. Carrier content: | None added |
| d. Density: | Approx. 1.21 g/ml @ 20°C. |

Radioimpurities: None detected (other than daughters).

Radioactive Daughters

Ra-228, Ac-228, Th-228, Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Po-212, Tl-208

Radionuclide Concentration

(Th-232) 0.00779 μ Ci/g.

Method of Calibration

Activity calculations are based upon known specific activity and mass.

Uncertainty of Measurement

- | | |
|--|-------------|
| a. Systematic uncertainty in instrument calibration: | $\pm 3.0\%$ |
| b. Random uncertainty in assay: | $\pm 0.0\%$ |
| c. Random uncertainty in weighing(s): | $\pm 2.0\%$ |
| d. Total uncertainty at the 99% confidence level: | $\pm 3.6\%$ |

NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

Leak Test(s)

See reverse side for Leak Test(s) applied to this source.

Notes

- Nuclear data were taken from "Table of Radioactive Isotopes", edited by Virginia S. Shirley, 1986.
- IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).



ISOTOPE PRODUCTS LABORATORIES
1800 North Keystone Street
Burbank, California 91504
(818) 843 - 7000

Anna U. Khan
QUALITY CONTROL

Nov. 8, 1993
Date Signed



QUALITY CONTROL PROGRAM
MP-009

Rev.8; 1/10/03
Title: Radioactive Reference Standards Solutions & Records

EBERLINE SERVICES - OAK RIDGE LABORATORY
RADIOACTIVE REFERENCE SOLUTIONS
PRIMARY DILUTION RECERTIFICATION
MP 009

SOLUTION REFERENCE # IPL 435-104-2 CURRENT DATE 9/29/2015 0:00
SOLUTION # Th-8

Principal Radionuclide ²³²Th, ²²⁸Th Half Life, Years 1.405E+10 Half Life, Days 5.132E+12

Radionuclide ²³² & ²²⁸ Th Reference Date 11/1/1993 0:00
Certified Activity 9.330E-02 μ Ci
Certified Concentration μ Ci per gram

Ampoule /Solution Gross 18.8415 Weight, Grams
Empty Ampoule 6.9296 Weight, Grams
Solution Net 11.9119 Weight, Grams
Total Activity in Ampoule 0.0933 μ Ci

Chemical Composition of Standard Solution
Th(NO₃)₄ in H₂O

Dilution Instructions: Dilution Solvent Used 1% Nitric Acid

Dilute to a volume of 1000.00 milliliters

Certified Total Activity of 0.0933 μ Ci Which Equals 2.071E+05 dpm at the date listed above

And after dilution the activity of this solution is 2.071E+02 dpm/ml This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.

Expiration Date: August 25, 2016

Verified & Approved By [Signature] Date: 9/29/2015 0:00
QC Approval [Signature] Date: 9/30/15



QUALITY CONTROL PROGRAM
MP-009

Rev. 8; 1/10/03
Title: Radioactive Reference Standards Solutions & Records

EBERLINE SERVICES - OAK RIDGE LABORATORY
RADIOACTIVE REFERENCE STANDARD SOLUTIONS
SECONDARY DILUTION RECERTIFICATION

Solution Reference # MP-009 IPL 435-104-2 Date 9/29/2015 0:00
Solution # Th-8b

Principal Radionuclide ^{226 & 232}Th Half Life, Years 1.405E+10 Half Life, Days 5.132E+12

Radionuclide of Interest ^{226 & 232}Th Reference Date 11/1/1993 0:00
Parent Solution Conc. 2.07E+02 dpm/ml

Chemical Composition of Standard Solution
Th(NO₃)₄ in 1% HNO₃

Dilution Instructions: Dilution Solvent Used 1% Nitric Acid

SECONDARY VOLUMETRIC DILUTION

Vol. Parent Solution: 500.0000 ml
Total Activity: 1.0355E+05 dpm Final Activity Concentration: 1.0355E+02 dpm/ml
Final Volume: 1000.00 ml

NOTES:

This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.

Expiration Date: August 25, 2016

Verified & Approved By [Signature]
QC Approval [Signature]

Date: 9/29/2015 0:00

Date: 9/30/15

QA/QC REVIEWED

Date 10/14/91 Initials wt

CERTIFICATE OF CALIBRATION ALPHA STANDARD SOLUTION

Received
OCT 14 1991
TMA/Eberline
Oak Ridge Lab

Radionuclide: Th-230
Half Life: $(7.54 \pm 0.03) \times 10^4$ years
Catalog No.: 7230
Source No.: 388-116

Customer: TMA EBERLINE
P.O.No.: TT4944
Reference Date: November 1 1991 12:00 PST.
Contained Radioactivity: 1.036 μ Ci

Description of Solution

- a. Mass of solution: 5.0042 grams.
- b. Chemical form: Th(NO₃)₄ in 0.1N HNO₃
- c. Carrier content: None added
- d. Density: 1.0016 gram/ml @ 20°C.

Radioimpurities

See attached technical data sheet

Radioactive Daughters

See attached technical data sheet

Radionuclide Concentration

0.207 μ Ci/gram.

Method of Calibration

Weighed aliquots of the solution were assayed using a liquid scintillation counter.

Uncertainty of Measurement

- a. Systematic uncertainty in instrument calibration: $\pm 2.0\%$
- b. Random uncertainty in assay: $\pm 0.5\%$
- c. Random uncertainty in weighing(s): $\pm 0.2\%$
- d. Total uncertainty at the 99% confidence level: $\pm 2.7\%$

NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

Notes

1. Nuclear data were taken from "Table of Isotopes", Seventh Edition, edited by Virginia S. Shirley.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials. (As in NRC Regulatory Guide 4.15)



ISOPE PRODUCTS LABORATORIES
1800 No. Keystone Street.,
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[Signature]
QUALITY CONTROL



QUALITY CONTROL PROGRAM

MP-009

Rev.14; 10/10/2012

Title: Radioactive Reference Standards Solutions & Records

EBERLINE SERVICES - OAK RIDGE LABORATORY RADIOACTIVE REFERENCE SOLUTIONS PRIMARY DILUTION RECERTIFICATION MP 009

CURRENT DATE: 4/15/2015 0:00

SOLUTION REFERENCE #: IPL 388-116

SOLUTION #: Th-1

Principal Radionuclide	Half Life, Years	Half Life, Days
²³⁰ Th	7.540E+04	2.754E+07

Radionuclide	²³⁰ Thorium	Reference Date	11/1/1991 0:00
Certified Activity	1.036E+00 μ Ci		
Certified Concentration	μ Ci per gram		

Ampoule /Solution Gross	9.2660	Weight, Grams
Empty Ampoule	4.6218	Weight, Grams
Solution Net	4.6442	Weight, Grams
Total Activity in Ampoule	1.0360	μ Ci

Chemical Composition of Standard Solution

²³⁰Th(NO₃)₄ in 0.1N HNO₃

Dilution Instructions: Dilution Solvent Used: 0.1N HNO₃

Dilute to a volume of 1000.00 milliliters

Certified Total Activity of 1.0360 μ Ci Which Equals 2.300E+06 dpm at the date listed above

And after dilution the activity of this solution is 2.300E+03 dpm/ml

This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.

Expiration Date: February 12, 2016

Recertified By:

Date: 4/15/2015 0:00

QC Approval:

Date: 4/15/15



QUALITY CONTROL PROGRAM
MP-009

Rev. 14; 10/10/2012
Title: Radioactive Reference Standards Solutions & Records

EBERLINE SERVICES - OAK RIDGE LABORATORY
RADIOACTIVE REFERENCE STANDARD SOLUTIONS
SECONDARY DILUTION RECERTIFICATION

Solution Reference # MP-009 IPL 388-116 Date 4/15/2015 0:00
Solution # Th-1b

Principal Radionuclide ²³⁰Th Half Life, Years 7.540E+04 Half Life, Days 2.754E+07

Radionuclide of Interest ²³⁰Thorium Reference Date 11/1/1991 0:00
Parent Solution Conc. 2.30E+03 dpm/ml

Chemical Composition of Standard Solution
²³⁰Th(NO₃)₄ in 0.1N HNO₃

Dilution Instructions: Dilution Solvent Used 0.1N HNO₃

SECONDARY VOLUMETRIC DILUTION

Vol. Parent Solution: 10.0000 ml
Total Activity: 2.2999E+04 dpm Final Activity Concentration: 2.2999E+01 dpm/ml
Final Volume: 1000.00 ml

NOTES:

This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.

Expiration Date: February 12, 2016

Recertified By [Signature]

Date: 4/15/2015 0:00

QC Approval [Signature]

Date: 4/15/15



**Isotope Products
Laboratories**

An Eckert & Ziegler Company

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661•309•1010
Fax 661•257•8303

Th-18

CERTIFICATE OF CALIBRATION ALPHA STANDARD SOLUTION

Radionuclide: Th-229	Customer: EBERLINE SERVICES
Half-life: 7340 ± 160 years	P.O. No.: 00009633
Catalog No.: 7229	Reference Date: 15-Jan-02 12:00 PST
Source No.: 867-54	Contained Radioactivity: 1.013 μCi 37.48 kBq (Th-229 only)

Physical Description:

A. Mass of solution:	5.0147 g in 5 mL flame-sealed ampoule
B. Chemical form:	Th(NO ₃) ₄ in 0.1M HNO ₃
C. Carrier content:	10μg Th/mL
D. Density:	1.0016 g/mL @ 20°C.

Radioimpurities:

None detected (daughters in equilibrium)

Radionuclide Concentration: 0.2020 μCi/g, 7.474 kBq/g

Method of Calibration:

This source was prepared from a weighed aliquot of solution whose activity in μCi/g was determined using gamma ray spectrometry.

Peak energy used for integration:	193.5 keV
Branching ratio used:	0.0441 gammas per decay

Uncertainty of Measurement:

A. Type A (random) uncertainty:	± 0.7 %
B. Type B (systematic) uncertainty:	± 3.0 %
C. Uncertainty in aliquot weighing:	± 0.0 %
D. Total uncertainty at the 99% confidence level:	± 3.1 %

Notes:

- See reverse side for leak test(s) performed on this source.
- IPL participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).
- Nuclear data was taken from IAEA Technical Report Series No. 261.
- This solution has a working life of 5 years.

Am U Khan
Quality Control

9-Jan-02
Date Signed

IPL Ref. No.: 867-54

ISO 9001 CERTIFIED

Medical Imaging Laboratory
24937 Avenue Tibbitts Valencia, California 91355

Industrial Gauging Laboratory
1800 North Keystone Street Burbank, California 91504

: 00042



QUALITY CONTROL PROGRAM

MP-009

Rev.8; 1/10/03

Title: Radioactive Reference Standards Solutions & Records

EBERLINE SERVICES - OAK RIDGE LABORATORY RADIOACTIVE REFERENCE SOLUTIONS PRIMARY DILUTION RECERTIFICATION MP 009

SOLUTION REFERENCE # IPL 867-54 CURRENT DATE 9/29/2015 0:00
SOLUTION # Th-18

Principal Radionuclide ²²⁹Th Half Life, Years 7.340E+03 Half Life, Days 2.681E+06

Radionuclide ²²⁹Th Reference Date 1/15/2002 0:00
Certified Activity 1.013E+00 μCi
Certified Concentration $\mu\text{Ci per gram}$

Ampoule /Solution Gross 8.7752 Weight, Grams
Empty Ampoule 3.7591 Weight, Grams
Solution Net 5.0161 Weight, Grams
Total Activity in Ampoule 1.0130 μCi

Chemical Composition of Standard Solution

²²⁹Th(NO₃)₄ in 0.1M HNO₃

Dilution Instructions: Dilution Solvent Used 0.1 M HNO₃

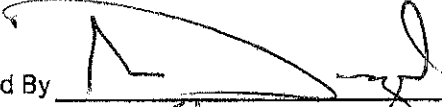
Dilute to a volume of 1000.00 milliliters

Certified Total Activity of 1.0130 μCi Which Equals 2.249E+06 dpm at the date listed above

And after dilution the activity of this solution is 2.249E+03 dpm/ml

This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.

Expiration Date: August 24, 2016

Verified & Approved By 

Date: 9/29/2015 0:00

QC Approval 

Date: 9/30/15



QUALITY CONTROL PROGRAM
MP-009

Rev.7; 9/29/99
Title: Radioactive Reference Standards Solutions & Records

EBERLINE SERVICES - OAK RIDGE LABORATORY
RADIOACTIVE REFERENCE STANDARD SOLUTIONS
SECONDARY DILUTION RECERTIFICATION

Solution Reference #		MP-009	Date	9/29/2015 0:00
Solution #		PL 867-54	Th-18a	
Principal Radionuclide	Half Life, Years	Half Life, Days		
²²⁹ Th	7.340E+03	2.681E+06		
Radionuclide of Interest	Parent Solution Conc.	Reference Date		
²²⁹ Th	2.25E+03 dpm/ml	1/15/2002 0:00		
Chemical Composition of Standard Solution				
TH(NO ₃) ₄ in 0.1M HNO ₃				

Dilution Instructions: Dilution Solvent Used 0.1M HNO₃

SECONDARY VOLUMETRIC DILUTION

Vol. Parent Solution: 10.0000 ml
Total Activity: 2.2490E+04 dpm
Final Volume: 1000.00 ml
Final Activity Concentration: 2.2490E+01 dpm/ml

NOTES:

This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.

Expiration Date: August 24, 2016

Verified & Approved By

Date: 9/29/2015 0:00

QC Approval

Date: 9/30/15

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

GAS-1402

98503

Sand in 16 Ounce PP Taral Jar Filled to Capacity

Customer: Eberline Analytical Corporation
P.O. No.: OR-1405030, Item 6 **Product Code:** 8401-EG-SAN
Reference Date: 01-Oct-2014 12:00 PM EST **Grams of Master Source:** 0.017608

This standard radionuclide source was prepared using aliquots measured gravimetrically from master radionuclide solutions. Additional radionuclides were added gravimetrically from solutions calibrated by gamma-ray spectrometry, ionization chamber, or liquid scintillation counting. Calibration and purity were checked using a germanium gamma spectrometer system. At the time of calibration no interfering gamma-ray emitting impurities were detected. The gamma-ray emission rates for the most intense gamma-ray lines are given. Eckert & Ziegler Analytics (EZA) maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Revision 2, July 2007, and compliance with ANSI N42.22-1995, "Traceability of Radioactive Sources to NIST." EZA is accredited by the Health Physics Society (HPS) for the production of NIST-traceable sources, and this source was produced in accordance with the HPS accreditation requirements. Customers may report any concerns with the accreditation program to the HPS Secretariat, 1313 Dolley Madison Blvd., Ste. 402, McLean, VA 22101.

Nuclide	Gamma-Ray Energy (keV)	Half-Life, Days	Master Source* yps/gram	This Source yps	Uncertainty*, %			Calibration Method*
					Type	u _A	u _B		U
Am-241	59.5	1.580E+05	—	2.030E+03	0.1	1.8	3.6	4π LS
Cd-109	88.0	4.614E+02	1.663E+05	2.929E+03	0.5	2.0	4.1	HPGe
Co-57	122.1	2.717E+02	8.913E+04	1.569E+03	0.4	1.7	3.5	HPGe
Ce-139	165.9	1.376E+02	1.241E+05	2.185E+03	0.4	1.7	3.5	HPGe
Hg-203	279.2	4.659E+01	2.675E+05	4.710E+03	0.3	1.7	3.5	HPGe
Sr-113	391.7	1.151E+02	1.796E+05	3.163E+03	0.4	1.9	3.9	HPGe
Cs-137	661.7	1.099E+04	1.111E+05	1.956E+03	0.7	1.9	4.0	HPGe
Y-88	898.0	1.066E+02	4.223E+05	7.435E+03	0.7	1.7	3.7	HPGe
Co-60	1173.2	1.925E+03	2.091E+05	3.683E+03	0.7	1.8	3.9	HPGe
Co-60	1332.5	1.925E+03	2.094E+05	3.687E+03	0.7	1.8	3.9	HPGe
Y-88	1836.1	1.066E+02	4.471E+05	7.872E+03	0.7	1.7	3.7	HPGe

* Master Source refers to Analytics' 8-isotope mixture which is calibrated quarterly.

Calibration Methods: 4π LS - 4 pi Liquid Scintillation Counting, HPGe - High Purity Germanium Gamma-Ray Spectrometer, IC - Ionization Chamber. **Uncertainty:** U - Relative expanded uncertainty, k = 2. See NIST Technical Note 1297, "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results."

(Certificate continued on reverse side)



SECTION VI
QUALITY CONTROL SAMPLE RESULTS SUMMARY

WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
15-10063	UUISO	1	pCi	g	Auxier & Associates, Inc.

Laboratory Control Sample

Analyte	LCS Measured	CSU Measured	LCS Expected	Uncert. Expected	Known	Known Error	Result	CSU	Standard ID	Standard ACT (dpm)	Standard Error	Standard Added (g)
U-234	84.56%	16.46%	100.00%	3.60%	8.12E+00	2.92E-01	6.86E+00	1.13E+00	U-8a	3.52E+01	3.60E+00	5.11E-01
U-238	83.27%	16.56%	100.00%	3.60%	7.91E+00	2.85E-01	6.59E+00	1.09E+00	U-8a	3.44E+01	3.60E+00	5.11E-01

Matrix Spike

Analyte	Normalized Difference	MS Actual % Rec	Expected MS Result	Expected MS Uncert	Actual MS Result	Actual MS CSU	Sample Result	Sample CSU	Sample Aliquot	Standard ID	Standard ACT (dpm)	Standard Error %	Standard Added (g)

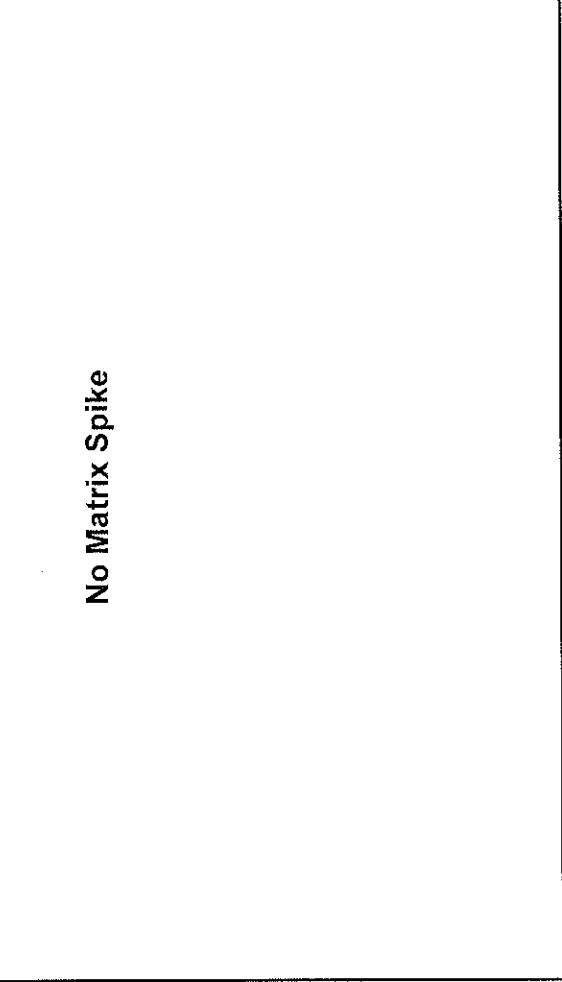
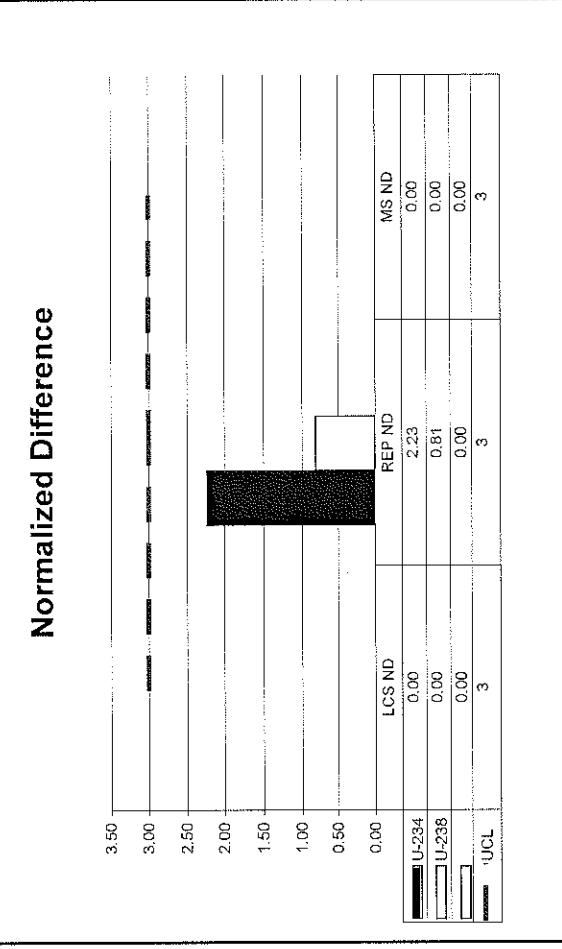
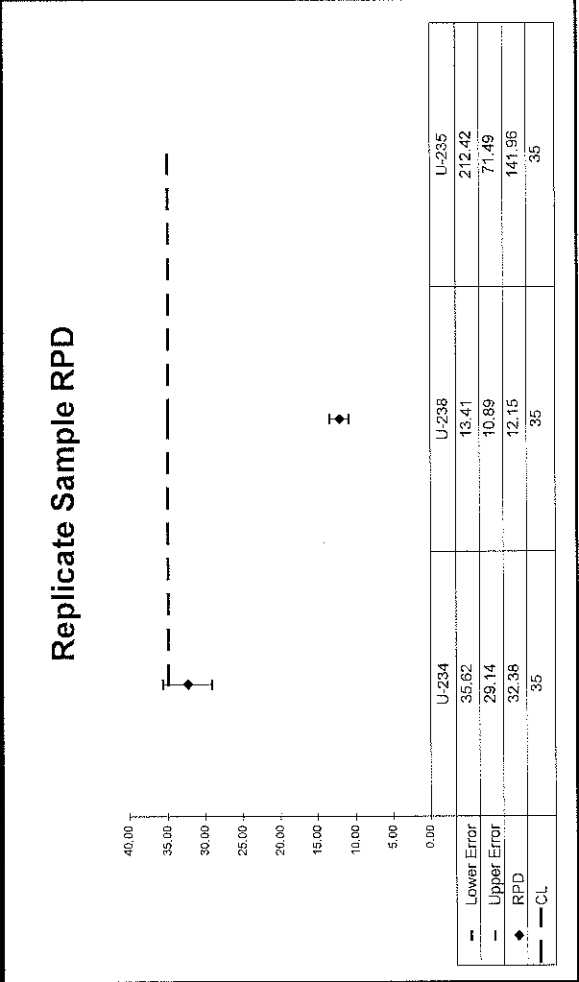
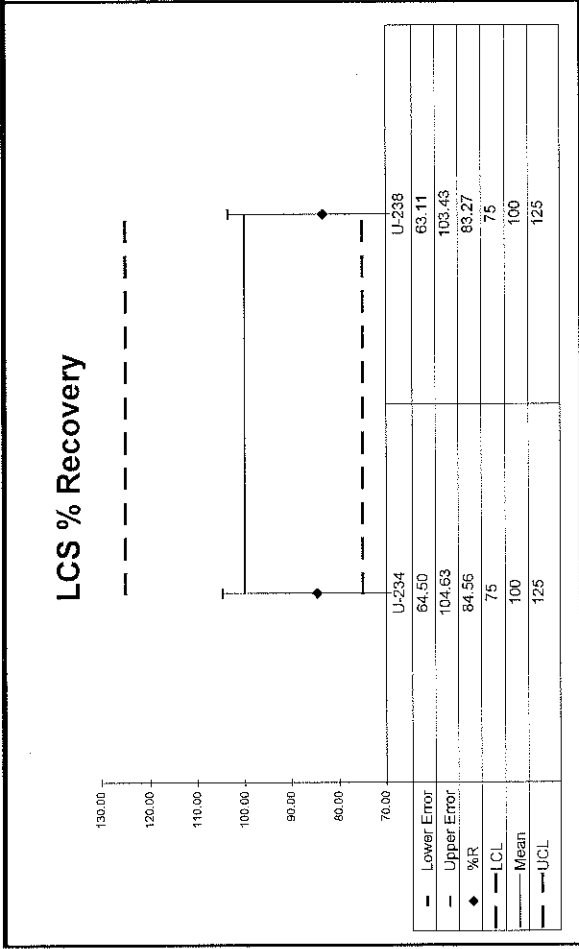
Replicate Sample

Analyte	Normalized Difference	RPD	Original Result	Original CSU	Replicate Result	Replicate CSU	LCS Relative Bias	LCS % R	MS % R	MS ND	Rep RPD	Rep ND
U-234	2.23	32.38	1.61E+00	3.02E-01	1.16E+00	2.54E-01	0.85	OK			INV	OK
U-238	0.81	12.15	1.16E+00	2.39E-01	1.31E+00	2.74E-01	0.83	OK			OK	OK
U-235	1.91	141.96	7.63E-02	5.63E-02	1.30E-02	3.24E-02		OK			NA	OK

QC Summary

Analyte	Normalized Difference	RPD	Original Result	Original CSU	Replicate Result	Replicate CSU	LCS Relative Bias	LCS % R	MS % R	MS ND	Rep RPD	Rep ND
U-234	2.23	32.38	1.61E+00	3.02E-01	1.16E+00	2.54E-01	0.85	OK			INV	OK
U-238	0.81	12.15	1.16E+00	2.39E-01	1.31E+00	2.74E-01	0.83	OK			OK	OK
U-235	1.91	141.96	7.63E-02	5.63E-02	1.30E-02	3.24E-02		OK			NA	OK

WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
15-10063	UUISO	1	pCi	g	Auxier & Associates, Inc.



WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
15-10063	ThISO	1	pCi	g	Auxier & Associates, Inc.

Laboratory Control Sample

Analyte	LCS Measured	CSU Measured	LCS Expected	Uncert. Expected	Known	Known Error	Result	CSU	Standard ID	Standard ACT (dpm)	Standard Error	Standard Added (g)
TH-228	113.63%	21.58%	100.00%	3.60%	4.72E+00	1.70E-01	5.36E+00	1.16E+00	Th-8b	1.04E+02	3.60E+00	1.01E-01
TH-230	114.17%	22.59%	100.00%	2.70%	5.36E+00	1.45E-01	6.12E+00	1.38E+00	Th-1b	2.35E+01	2.70E+00	5.06E-01
TH-232	116.53%	21.23%	100.00%	3.60%	4.72E+00	1.70E-01	5.50E+00	1.17E+00	Th-8b	1.04E+02	3.60E+00	1.01E-01

Matrix Spike

Analyte	Normalized Difference	MS Actual % Rec	Expected MS Result	Expected MS Uncert	Actual MS Result	Actual MS CSU	Sample Result	Sample CSU	Sample Aliquot	Standard ID	Standard ACT (dpm)	Standard Error %	Standard Added (g)

Replicate Sample

Analyte	Normalized Difference	RPD	Original Result	Original CSU	Replicate Result	Replicate CSU	LCS Relative Bias	LCS % R	MS % R	MS ND	Rep RPD	Rep ND
TH-228	0.53	13.66	4.24E-01	1.60E-01	4.86E-01	1.64E-01	1.14	OK			OK	OK
TH-230	0.78	15.75	1.14E+00	3.28E-01	9.72E-01	2.61E-01	1.14	OK			OK	OK
TH-232	1.27	31.44	5.81E-01	1.94E-01	4.23E-01	1.48E-01	1.17	OK			INV	OK

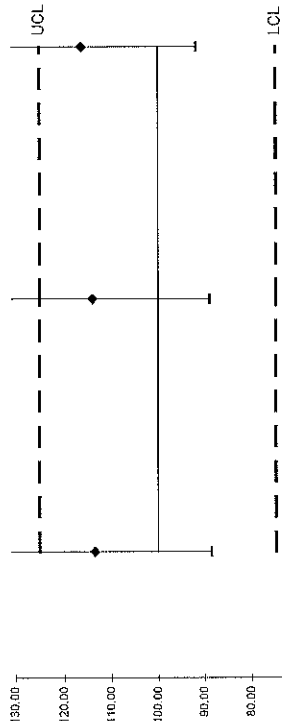
QC Summary

Analyte	Normalized Difference	RPD	Original Result	Original CSU	Replicate Result	Replicate CSU	LCS Relative Bias	LCS % R	MS % R	MS ND	Rep RPD	Rep ND
TH-228	0.53	13.66	4.24E-01	1.60E-01	4.86E-01	1.64E-01	1.14	OK			OK	OK
TH-230	0.78	15.75	1.14E+00	3.28E-01	9.72E-01	2.61E-01	1.14	OK			OK	OK
TH-232	1.27	31.44	5.81E-01	1.94E-01	4.23E-01	1.48E-01	1.17	OK			INV	OK



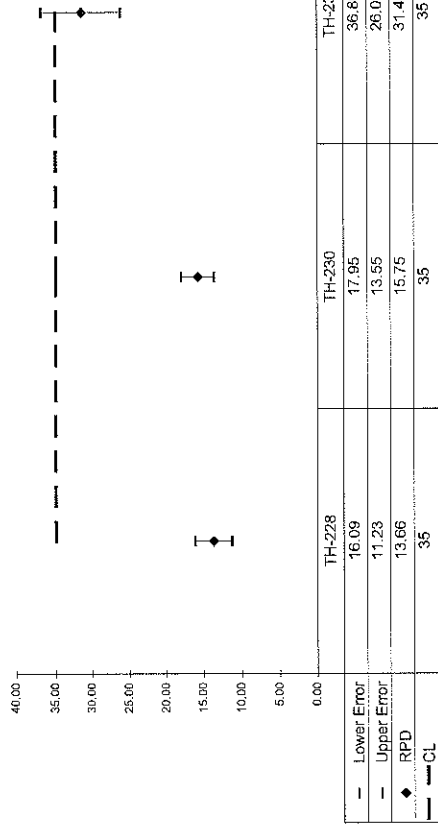
WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
15-10063	THISO	1	pCi	g	Auxier & Associates, Inc.

LCS % Recovery



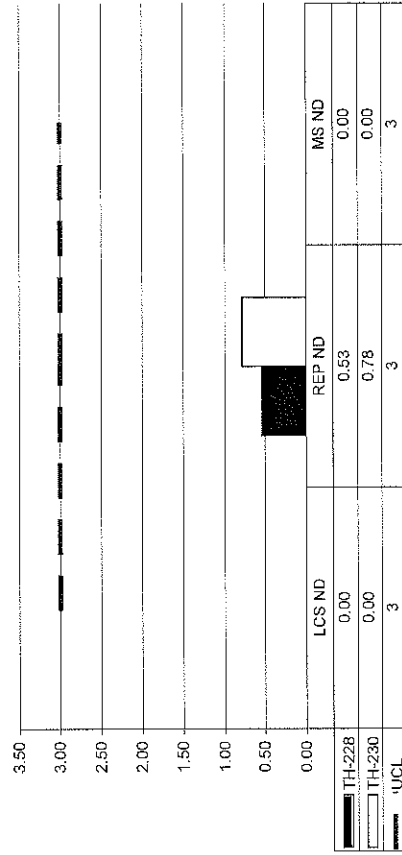
	TH-228	TH-230	TH-232
Lower Error	88.45	88.87	91.69
Upper Error	138.80	139.46	141.36
%R	113.63	114.17	116.53
LCL	75	75	75
Mean	100	100	100
UCL	125	125	125

Replicate Sample RPD



	TH-228	TH-230	TH-232
Lower Error	16.09	17.95	36.80
Upper Error	11.23	13.55	26.09
RPD	13.66	15.75	31.44
CL	35	35	35

Normalized Difference



	LCS ND	REP ND	MS ND
TH-228	0.00	0.53	0.00
TH-230	0.00	0.78	0.00
UCL	3	3	3

No Matrix Spike

WC	Analysis	Run	Activity Units	Aliquot Units	Client Name
15-10063	Gamma	1	pCi	g	Auxier & Associates, Inc.

Laboratory Control Sample

Analyte	LCS Measured	CSU Measured	LCS Expected	Uncert. Expected	Known	Known Error	Result	CSU	Standard ID	Standard ACT (dpm)	Standard Error	Standard Added (g)
CO-60	97.46%	8.62%	100.00%	4.00%	1.37E+02	5.48E+00	1.34E+02	1.15E+01	GAS-1302	1.37E+02	5.48E+00	7.36E+02
CS-137	95.03%	10.97%	100.00%	4.00%	8.69E+01	3.48E+00	8.26E+01	9.06E+00	GAS-1302	8.69E+01	3.48E+00	7.36E+02

Matrix Spike

Analyte	Normalized Difference	MS Actual % Rec	Expected MS Result	Expected MS Uncert	Actual MS Result	Actual MS CSU	Sample Result	Sample CSU	Sample Aliquot	Standard ID	Standard ACT (dpm)	Standard Error %	Standard Added (g)

Replicate Sample

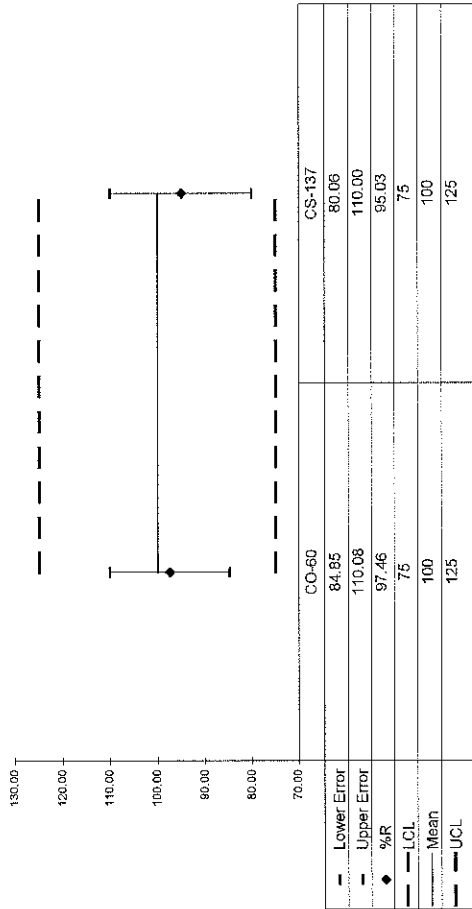
Analyte	Normalized Difference	RPD	Original Result	Original CSU	Replicate Result	Replicate CSU	LCS Relative Bias	LCS % R	MS % R	MS ND	Rep RPD	Rep ND
AC-228	0.83	10.19	1.26E+00	1.96E-01	1.13E+00	2.10E-01	0.97	OK	<CS-137	AC-228>	OK	
BI-214	1.41	13.44	1.19E+00	1.70E-01	1.36E+00	1.67E-01	0.95	OK	<CO-60	BI-214>	OK	OK
K-40	0.08	0.81	1.17E+01	1.73E+00	1.18E+01	1.74E+00				K-40>	OK	OK

QC Summary

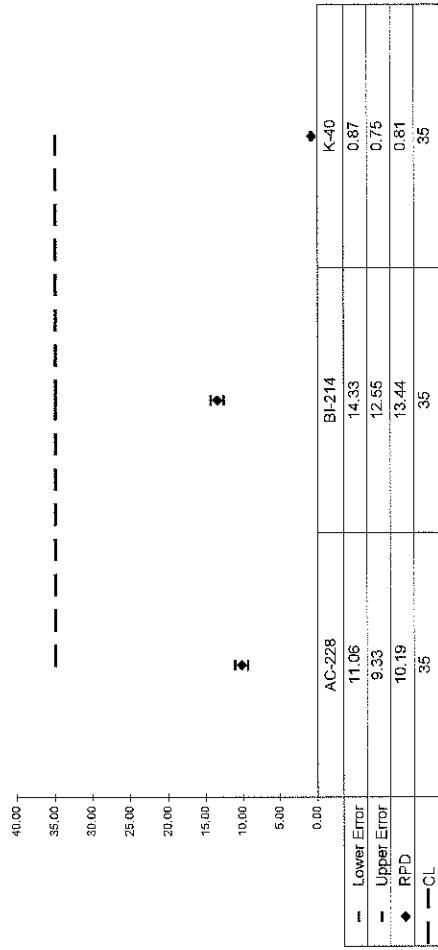
Analyte	Normalized Difference	RPD	Original Result	Original CSU	Replicate Result	Replicate CSU	LCS Relative Bias	LCS % R	MS % R	MS ND	Rep RPD	Rep ND
AC-228	0.83	10.19	1.26E+00	1.96E-01	1.13E+00	2.10E-01	0.97	OK	<CS-137	AC-228>	OK	
BI-214	1.41	13.44	1.19E+00	1.70E-01	1.36E+00	1.67E-01	0.95	OK	<CO-60	BI-214>	OK	OK
K-40	0.08	0.81	1.17E+01	1.73E+00	1.18E+01	1.74E+00				K-40>	OK	OK

WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
15-10063	Gamma	1	pCi	g	Auxier & Associates, Inc.

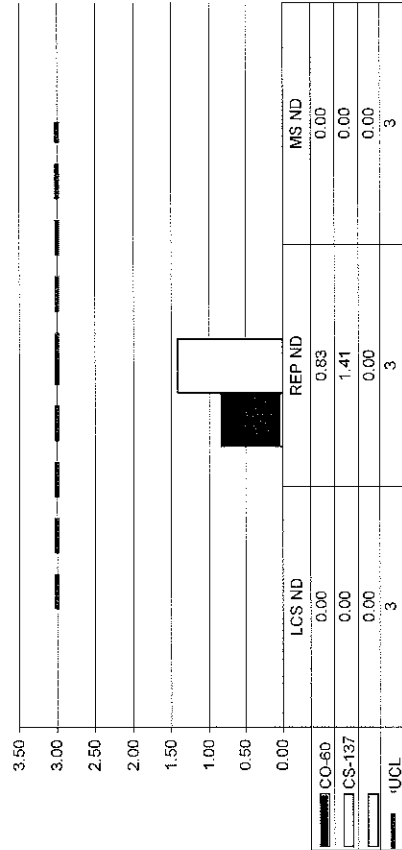
LCS % Recovery



Replicate Sample RPD




Normalized Difference




SECTION VII
LABORATORY TECHNICIAN'S NOTES
& RUN LOGS

ISO U NOTES

 EBERLINE <small>SERVICES</small> Work Order Analysis Notes	Oak Ridge Laboratory 601 Scarboro Rd. Oak Ridge, TN 37830 Voice: 865.481.0683 www.eberlineservices.com	Internal Work Order	15-10063
		Analysis Code	UUISO
		Run Number	1


#	Date	Dept	User	Notes
1	10/15/15 11:11	PREP	JPACHELLA	Samples were aliquoted, spiked and traced. Samples were digested with HF till dry. Samples were further digested in a mixed acid digestion till dry. Samples were submitted to separations.

10-15-15 JPachella

 EBERLINE <small>SERVICES</small> Work Order Analysis Notes	Oak Ridge Laboratory 601 Scarboro Rd. Oak Ridge, TN 37830 Voice: 865.481.0683 www.eberlineservices.com	Internal Work Order	15-10063
		Analysis Code	UUISO
		Run Number	1

#	Date	Dept	User	Notes
1	10/15/15 11:11	PREP	JPACHELLA	Samples were aliquoted, spiked and traced. Samples were digested with HF till dry. Samples were further digested in a mixed acid digestion till dry. Samples were submitted to separations.
2	10/19/15 17:57	CHEM	JDEMELAS	Added concentrated HCl to sample beakers and heated to dryness; Added 20 ml 8N HCL to samples and transferred to new, labeled C-Tubes, rinsing with 8N HCl to bring volume to ~35 ml; Preconditioned resin columns with 35 ml 8N HCl; Centrifuged samples and loaded onto columns; Rinsed C-Tubes with 20 ml 8N HCl, centrifuged as needed and loaded onto columns; Rinsed columns with 35 ml 8N HCl - 0.1N NH4I, 35 ml of 6.5N HCl - 0.04N HF, and 10 ml of 6.5N HCl; Eluted Uranium with 50 ml of 0.5N HCl into clean, labeled 100-ml beakers; Dried-down samples on hotplate; Dissolved samples in ~10 ml of concentrated HCl; Transferred to new, labeled C-Tubes with DI H2O. Set samples aside for later precipitation and filtering.

JDEMELAS
 10/19/15

 EBERLINE <small>SERVICES</small> Work Order Analysis Notes	Oak Ridge Laboratory 601 Scarboro Rd. Oak Ridge, TN 37830 Voice: 865.481.0683 www.eberlineservices.com	Internal Work Order	15-10063
		Analysis Code	UUISO
		Run Number	1

#	Date	Dept	User	Notes
1	10/15/15 11:11	PREP	JPACHELLA	Samples were aliquoted, spiked and traced. Samples were digested with HF till dry. Samples were further digested in a mixed acid digestion till dry. Samples were submitted to separations.
2	10/19/15 17:57	CHEM	JDEMELAS	Added concentrated HCl to sample beakers and heated to dryness; Added 20 ml 8N HCL to samples and transferred to new, labeled C-Tubes, rinsing with 8N HCl to bring volume to ~35 ml; Preconditioned resin columns with 35 ml 8N HCl; Centrifuged samples and loaded onto columns; Rinsed C-Tubes with 20 ml 8N HCl, centrifuged as needed and loaded onto columns; Rinsed columns with 35 ml 8N HCl - 0.1N NH4I, 35 ml of 6.5N HCl - 0.04N HF, and 10 ml of 6.5N HCl; Eluted Uranium with 50 ml of 0.5N HCl into clean, labeled 100-ml beakers; Dried-down samples on hotplate; Dissolved samples in ~10 ml of concentrated HCl; Transferred to new, labeled C-Tubes with DI H2O. Set samples aside for later precipitation and filtering.
3	10/20/15 05:04	CHEM	TSMITH	Followed steps 12.1.7 to 12.4.5 in AP-005 . (Precipitated and filtered samples for Uranium)

*10/20/15
TSM*



Reagents Used in an Analysis

Internal Work Order

15-10063

Analysis Code

Run

UUISO

1

Reagent ID	Reagent Name	Reagent Concentration	Analyst ID	Date Recorded
016569P	Hydrofluoric Acid	Reagent Grade	JPACHELLA	10/15/2015
016519P	Nitric Acid	Reagent Grade	JPACHELLA	10/15/2015
016679P	Sulfuric Acid	Reagent Grade	JPACHELLA	10/15/2015
016158P	Perchloric Acid	Reagent Grade	JPACHELLA	10/15/2015
016897S	HCl - HF	6.5N - 0.04N	JDEMELAS	10/19/2015
016745D03	Hydrochloric Acid	0.5N	JDEMELAS	10/19/2015
016803S	Hydrochloric Acid	6.5N	JDEMELAS	10/19/2015
016745P	Hydrochloric Acid	Reagent Grade	JDEMELAS	10/19/2015
016905S	Hydrochloric Acid	8N	JDEMELAS	10/19/2015
016917S	HCl - NH4I	8N - 0.1M	JDEMELAS	10/19/2015
016862P	Anion Exchange Resin	Reagent Grade	JDEMELAS	10/19/2015
016899S	Carbon substrate	Solution	TSMITH	10/20/2015
016569P	Hydrofluoric Acid	Reagent Grade	TSMITH	10/20/2015
016583S	Neodymium Carrier	1 mg/ml	TSMITH	10/20/2015
016514P	Reagent Alcohol	Reagent Grade	TSMITH	10/20/2015
016606P	Titanous Chloride	Reagent Grade	TSMITH	10/20/2015

Alpha #1

State	Sample #	Client	Address	CY Time	Analysis	Tests
10/19/15	15100540 (1-4)	USA	0959	2hr50-	ISO 91	KB
10/19/15	1510021A (1-3)	UCOR	1000	2hr50-	Am241	KB
10/20	Philly	USA	0515	1-	us	—
10/20	151006 7M (7)	AUSA	0909	2hr5-	US 730	—

Alpha #3

Date	Sample #	Client	Total Time	CTO/Time	Analysis	Test
10/16/15	Daily Pulser	Lab	0602	10min	NA	AG
10/16/15	EFF Check (38-48)	Lab	0622	2 1/2 HR	α	AG
10/16/15	EFF Check (49-60)	Lab	0914	2 1/2 HR	α	KB
10/16/15	1510031A (3,4,6)	UCOR	0922	2hr50-	ISO-TH	KB
10/16/15	1509101A (1-4)	DOE	0924	5hr35-	ISO-UU	KB
10/16/15	1509101A (1-4)	DOE	0926	5hr 35-	ISO-PU	KB
10/16/15	1510021A (1-4)	UCOR	0925	2hr50-	ISO-TH	KB
10/16/15	1510031A (1-4)	UCOR	1147	2hr50-	ISO-TH	KB
10/16/15	1510043A (1-8)	New York PE	1149	2hr50-	UU	KB
10/16/15	1510042A (1-7)	New York PE	1232	2hr50-	UU	KB
10/16/15	1510021A (4)	UCOR	1233	2hr50-	ISO-PU	KB
10/17/15	System Bkgd	Lab	1350	16hr40min	α	AC
10/17/15	Daily Pulser	Lab	1156	10min	NA	AG
10/18/15	Daily Pulser	Lab	1057	10min	NA	AG
10/18/15	1510031A (1,2)	UCOR	1110	2hr50min	TH	AG
10/19/15	Daily Pulser	Lab	0558	10min	NA	AG
10/19/15	1510021A (4)	UCOR	1000	2hr50-	Am ²⁴¹	KB
10/19/15	1510021A (1-4)	UCOR	1001	2hr50-	Am ²⁴³	KB
10/19/15	1510031A (1-4)	UCOR	1002	2hr50-	Am ²⁴¹	KB
10/19/15	1510031A (1-4)	UCOR	1002	2hr50-	Am ²⁴³	KB
10/19/15	1510040A (1-3,5)	Unitech	1003	2hr50-	UU	KB
10/19/15	1510040A (1-3,5)	Unitech	1004	2hr50-	ISO-PU	KB
10/19/15	1510040A (1-3,5)	Unitech	1005	2hr50-	ISO-TH	KB
10/19/15	1510063A (1-3)	Auxier	1008	2hr50-	ISO-TH	KB
10/19/15	1510063A (4-20)	Auxier	1302	2hr50-	ISO-TH	KB
10/19/15	1510031A (1-4)	UCOR	1612	2hr50-	Rele	KB
10/22	Pulser	LAB	0575	10min	NA	AG
10/22	1510067A (8-20)	Auxier	0809	2hr50-	44720	-
10/22	1510067A (1-4)	UCOR	0809	2hr50-	7hr30	-
10/22	1510067A (1-4)	UCOR	0810	2hr50-	44720	-
10/22	1510081A (1-4)	Parsons	0811	5hr25-	Pulser	-

Alphabet 3

Date ~~Month~~

Client

Invoice #

Charge

Book

10/20/15

1510040A (1-3,5)

Unitech

1212

2hr 50 =

Np

KB

10/20/15

1509101A (1-4)

DOE

1211

5hr 35 =

Am 241

KB

10/20/15

1510003A (1)

Austin


1232

2hr 00 =

ULL


KB

ISO-TH NOTES

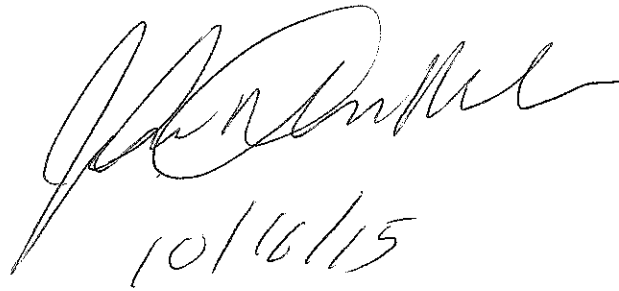
 EBERLINE <small>SERVICES</small> Work Order Analysis Notes	Oak Ridge Laboratory 601 Scarboro Rd. Oak Ridge, TN 37830 Voice: 865.481.0683 www.eberlineservices.com		Internal Work Order	15-10063
			Analysis Code	ThISO
			Run Number	1


#	Date	Dept	User	Notes
1	10/15/15 09:56	PREP	JPACHELLA	Samples were aliquoted, spiked and traced. Samples were digested with HF till dry. Samples were further digested in a mixed acid digestion till dry. Samples were submitted to separations.

10-15-15 JPACHELLA

 EBERLINE <small>SERVICES</small> Work Order Analysis Notes	Oak Ridge Laboratory 601 Scarboro Rd. Oak Ridge, TN 37830 Voice: 865.481.0683 www.eberlineservices.com	Internal Work Order	15-10063
		Analysis Code	ThISO
		Run Number	1

#	Date	Dept	User	Notes
1	10/15/15 09:56	PREP	JPACHELLA	Samples were aliquoted, spiked and traced. Samples were digested with HF till dry. Samples were further digested in a mixed acid digestion till dry. Samples were submitted to separations.
2	10/16/15 17:23	CHEM	JDEMELAS	Added concentrated HNO3 to sample beakers and heated to dryness; Added 20 ml 8N HNO3 to samples and transferred to new, labeled C-Tubes, adding 8N HNO3 to bring volume to ~35 ml; Preconditioned resin columns with 50 ml 8N HNO3; Centrifuged samples as needed, and passed through columns; Rinsed C-Tubes with 20 ml 8N HNO3; Centrifuged rinsates and loaded onto columns; Rinsed columns with 40 ml 8N HNO3; Eluted Thorium with 50 ml of 8N HCl into clean, labeled 100-ml beakers; Dried-down samples on hotplate; Dissolved samples in ~10 ml of concentrated HCl; Transferred to new, labeled C-Tubes with deionized water, bringing volume to ~15ml. Set samples aside for later precipitation and filtering.


 10/16/15

 EBERLINE <small>SERVICES</small> Work Order Analysis Notes	Oak Ridge Laboratory 601 Scarboro Rd. Oak Ridge, TN 37830 Voice: 865.481.0683 www.eberlineservices.com	Internal Work Order	15-10063
		Analysis Code	THISO
		Run Number	1

#	Date	Dept	User	Notes
1	10/15/15 09:58	PREP	JPACHELLA	Samples were aliquoted, spiked and traced. Samples were digested with HF till dry. Samples were further digested in a mixed acid digestion till dry. Samples were submitted to separations.
2	10/16/15 17:23	CHEM	JDEMELAS	Added concentrated HNO3 to sample beakers and heated to dryness; Added 20 ml 8N HNO3 to samples and transferred to new, labeled C-Tubes, adding 8N HNO3 to bring volume to ~35 ml; Preconditioned resin columns with 50 ml 8N HNO3; Centrifuged samples as needed, and passed through columns; Rinsed C-Tubes with 20 ml 8N HNO3; Centrifuged rinsates and loaded onto columns; Rinsed columns with 40 ml 8N HNO3; Eluted Thorium with 50 ml of 8N HCl into clean, labeled 100-ml beakers; Dried-down samples on hotplate; Dissolved samples in ~10 ml of concentrated HCl; Transferred to new, labeled C-Tubes with deionized water, bringing volume to ~15ml. Set samples aside for later precipitation and filtering.
3	10/19/15 05:11	CHEM	TSMITH	Followed steps 12.2.5 to 12.4.5 in AP-005 . (Precipitated and filtered samples for Thorium)

10-19-15
DM



Reagents Used in an Analysis

Internal Work Order

15-10063

Analysis Code

Run

ThISO

1

Reagent ID	Reagent Name	Reagent Concentration	Analyst ID	Date Recorded
016569P	Hydrofluoric Acid	Reagent Grade	JPACHELLA	10/15/2015
016519P	Nitric Acid	Reagent Grade	JPACHELLA	10/15/2015
016158P	Perchloric Acid	Reagent Grade	JPACHELLA	10/15/2015
016679P	Sulfuric Acid	Reagent Grade	JPACHELLA	10/15/2015
016745P	Hydrochloric Acid	Reagent Grade	JDEMELAS	10/16/2015
016519P	Nitric Acid	Reagent Grade	JDEMELAS	10/16/2015
016862P	Anion Exchange Resin	Reagent Grade	JDEMELAS	10/16/2015
016905S	Hydrochloric Acid	8N	JDEMELAS	10/16/2015
016903S	Nitric Acid	8N	JDEMELAS	10/16/2015
016899S	Carbon substrate	Solution	TSMITH	10/19/2015
016569P	Hydrofluoric Acid	Reagent Grade	TSMITH	10/19/2015
016514P	Reagent Alcohol	Reagent Grade	TSMITH	10/19/2015
016869S	Cerrium Carrier	0.1mg/ml	TSMITH	10/19/2015

Alpha #3

Date	Sample #	Client	Tool/Time	CT/Time	Method	Teach
10/14/15	Daily Pulser	Lab	0602	10 min	NA	AG
10/14/15	EFF Check (33-48)	Lab	0622	2 1/2 hr	α	AG
10/16/15	EFF Check (49-60)	Lab	0914	2 1/2 hr	α	KB
10/16/15	1510031A (3,4,6)	UCOR	0922	2hr50-	ISO-PU	KB
10/16/15	1509101A (1-4)	DOE	0924	5hr35-	ISO-UU	KB
10/16/15	1509101A (1-4)	DOE	0926	5hr 35-	ISO-PU	KB
10/16/15	1510021A (1-4)	UCOR	0925	2hr50-	ISO-TH	KB
10/16/15	1510031A (1-4)	UCOR	1147	2hr50-	ISO-TH	KB
10/16/15	1510043A (1-8)	New York PE	1149	2hr50-	UU	KB
10/16/15	1510042A (1-7)	New York PE	1232	2hr50-	UU	KB
10/16/15	1510021A (4)	UCOR	1233	2hr50-	ISO-PU	KB
10/17/15	System Bkgd	Lab	1350	16hr40min	α	AE
10/17/15	Daily Pulser	Lab	1156	10 min	NA	AG
10/18/15	Daily Pulser	Lab	1057	10 min	NA	AG
10/18/15	1510031A (1,2)	UCOR	1110	2hr50m	TH	AG
10/19/15	Daily Pulser	Lab	0558	10min	NA	AG
10/19/15	1510021A (4)	UCOR	1000	2hr50-	Am ²⁴¹	KB
10/19/15	1510021A (1-4)	UCOR	1001	2hr50-	Am ²⁴³	KB
10/19/15	1510031A (1-4)	UCOR	1002	2hr50-	Am ²⁴¹	KB
10/19/15	1510031A (1-4)	UCOR	1002	2hr50-	Am ²⁴³	KB
10/19/15	1510040A (1-3,5)	Unitech	1003	2hr50-	UU	KB
10/19/15	1510040A (4-3,8)	Unitech	1004	2hr50-	ISO-PU	KB
10/19/15	1510040A (1-3,5)	Unitech	1005	2hr50-	ISO-TH	KB
10/19/15	1510063A (1-3)	Auxien	1008	2hr50-	ISO-TH	KB

Alpha #3

97

Date	Sample #	Client	Total Time	CTD/IC	Analysis	Result
10/16/15	Daily Pulser	Lab	0602	10 min	NA	AG
10/16/15	EPA Check (33-48)	Lab	0622	2 1/2 hr	α	AG
10/16/15	EPA Check (49-60)	Lab	0914	2 1/2 hr	α	LB
10/16/15	1510031A (3,4,6)	UCOR	0922	2hr50-	ISO-TH	KB
10/16/15	1509101A (1-4)	DOE	0924	5hr35-	ISO-UU	KB
10/16/15	1509101A (1-4)	DOE	0926	5hr 35-	ISO-PU	KB
10/16/15	1510021A (1-4)	UCOR	0925	2hr50-	ISO-TH	KB
10/16/15	1510031A (1-4)	UCOR	1147	2hr50-	ISO-TH	KB
10/16/15	1510043A (1-8)	New York PE	1149	2hr50-	UU	KB
10/16/15	1510042A (1-7)	New York PE	1232	2hr50-	UU	KB
10/16/15	1510021A (4)	UCOR	1233	2hr50-	ISO-PU	KB
10/17/15	System Bkgd	Lab	1350	16hr40min	α	AC
10/17/15	Daily Pulser	Lab	1154	10 min	NA	AG
10/18/15	Daily Pulser	Lab	1051	10 min	NA	AG
10/18/15	1510031A (1,2)	UCOR	1110	2hr50min	TH	AG
10/19/15	Daily Pulser	Lab	0558	10min	NA	AG
10/19/15	1510021A (4)	UCOR	1000	2hr50-	Am241	KB
10/19/15	1510021A (1-4)	UCOR	1001	2hr50-	Am243	KB
10/19/15	1510031A (1-4)	UCOR	1002	2hr50-	Am241	KB
10/19/15	1510031A (1-4)	UCOR	1002	2hr50-	Am243	KB
10/19/15	1510040A (1-3,5)	Unitech	1003	2hr50-	UU	KB
10/19/15	1510040A (1-3,5)	Unitech	1004	2hr50-	ISO-PU	KB
10/19/15	1510040A (1-3,5)	Unitech	1005	2hr50-	ISO-TH	KB
10/19/15	1510063A (1-3)	Auxin	1008	2hr50-	ISO-TH	KB
10/19/15	1510063A (4-20)	Auxin	1302	2hr50-	ISO-TH	KB

GAMMA NOTES

DATE	SAMPLE #	Client	Lead Time	CT. Time	Analysis	Tech
11/2/15	1511004-03	Foxfire	1820	8 hrs	Y	KB
11/2	EA714	LAD	0517	15	✓	c
11/2	Pa/14R	W0	0546	15	✓	
7/17	1511001-10	Limbrell	0606	7L	✓	-
11/3	151006207	Auxier	0709	7L	✓	-
11/3	151006710	Auxier	0812	7L	✓	-
11/3	151006214	Auxier	0916	7L	✓	-
11/3	151006718	Auxier	1018	7L	✓	-

DATE	SAMPLE #	CLIENT	LOG TIME	CT TIME	ANALYSIS	TECH
10/17	ES1401	LAB	0525	15	✓	✓
10/17	Daily R	LAB	0550	15	✓	✓
10/17	1510172-02	UCON	0857	15	✓	✓
10/17	1510166-05	James R.	0951	7L	✓	✓
10/30/15	1510100-02	USACE	1257	15 mins	✓	KB
10/17	1510100-06	USACE	1710	15	✓	✓
10/17	1510174-03	Sol. Tech	1770	3h	✓	✓
10/30/15	1510174-04	Solution Tech	1430	1h	✓	KB
10/30/15	1510166-09	James R. Reed	1530	3 hrs	✓	KB
10/30/15	1510166-11	James R. Reed	1831	3 hrs	✓	KB
10/31/15	System Bkgd	Lab	0859	24 hrs	✓	KB
11/2	ES1401	LAB	0517	15	✓	✓
11/2	Daily R	LAB	0545	15	✓	✓
11/2	1510166-17	James R.	0610	7L	✓	✓
11/2	1510171-03	James R.	0915	7L	✓	✓
11/2/15	1510171-04	James R. Reed	1217	3h	✓	KB
11/2/15	1511001-05	Kimball	1518	1 h	✓	KB
11/2/15	1511001-06	Kimball	1619	1h	✓	KB
11/2/15	1511001-09	Kimball	1720	1h	✓	KB
11/2/15	1511004-05	Foxfire	1820	8 hrs	✓	KB
11/7	ES1401	LAB	0577	15	✓	✓
11/7	Daily R	LAB	0546	15	✓	✓
11/7	1510067-03	Aurier	0607	7L	✓	✓
11/7	1510067-04	Aurier	0709	7L	✓	✓
11/7	1510067-11	Aurier	0812	7L	✓	✓
11/7	1510067-15	Aurier	0916	7L	✓	✓
11/7	1510067-19	Aurier	1018	7L	✓	✓

DATE	SAMPLE #	CLIENT	LOAD TIME	CT. TIME	ANALYSIS	TECH
10/30/15	1510100-03	USACE	1212	15 min	Be	KB
10/30	1510100-26	USACE	1310	15	Be	-
10/30/15	1510166-09	James Reed	1631	3 hrs	Y	KB
10/31/15	System Bkgd	Lab	0859	24 hrs	Y	KB
11/2	GT81402	LAB	0517	15	Y	S
11/2	Dwyla	LAB	0545	15	Y	S
11/2	GT81402	LAB	0611	15	Y	-
11/2	1510166-14	James R.	0724	2h	Y	C
11/2	1510171-05	James R.	1129	2h	Y	-
11/2	Multiplex (1)	LAB	1027	2h	Y	-
11/2/15	1511003-02	Eden Foods	1429	2 hrs	Y	KB
11/2/15	1511003-04	Eden Foods	1630	2 hrs	Y	KB
11/2/15	1510171-07	James Reed	1831	3 hrs	Y	KB
11/3	GT81402	LAB	0517	15	Y	S
11/3	Dwyla	LAB	0546	15	Y	S
11/3	1510067-05	Auxier	0607	2L	Y	-
11/3	1510067-08	Auxier	0709	2L	Y	C
11/3	1510067-12	Auxier	0822	2L	Y	C
11/3	1510067-16	Auxier	0916	2L	Y	C
11/3	1510067-20	Auxier	1018	2L	Y	C

DATE	SAMPLE #	Client	Load Time	CT Time	Analysis	Tech
11/2/15	151100301	Eden Foods	1231	30mins	Y	KB
11/2/15	151100302	Eden Foods	1438	2 hr	Y	KB
11/2/15	151100101	Kimbrell	1707	30mins	Y	KB
	15110001					KB
11/2/15	1511001-02	Kimbrell	1337	1 hr	Y	KB
11/2/15	1511001-07	Kimbrell	1640	1 hr	Y	KB
11/2/15	1511004-01	Fox Fire	1741	30mins	Y	KB
11/2/15	1511004-02	Fox Fire	1815		Y	KB
11/7	GL214	LAB	0517	15	✓	—
11/7	Dalya	LAB	0514	15	✓	—
11/7	1510067-06	Audier	0607	2L	✓	—
11/7	1510067-09	Audier	0709	2L	✓	—
11/7	1510067-13	Audier	0812	2L	✓	—
11/7	1510067-17	Audier	0916	2L	✓	—
11/7						

DATE	SAMPLE #	Client	LabTime	CT Time	Analysis	Tech
10/28/15	1510096-04	Seency	1351	15mins	Ba	KB
10/28/15	1510096-03	Seency	1408	15mins	Ba	KB
10/28/15	1510161-01	USA	1422	30mins	✓	KB
10/29	Chw 14	LAB	0514	1R	✓	✓
10/29	Dwight	LAB	0546	1R	✓	✓
11/28	1510160-04	U70A Rad	0652	1R	Na	—
10/122	1510154-03	Catburg	1004	1R	Na	—
10/125	1510154-06	Catburg	1021	1R	Na	—
10/17	Chw 14	LAB	0715	1R	✓	✓
10/17	Dwight	LAB	0750	1R	✓	✓
10/170	1510172-04	Udon	0817	1R	Na	—
10/17	1510166-01	James R.	0952	7-	✓	✓
10/170	1510171-01	James R.	1023	7-	✓	—
10/30/15	1510161-01	USA	1202	15 mins	Ba	KB
10/30/15	1510161-02	USA	1218	15 mins	Ba	KB
10/30/15	1510161-03	USA	1236	15 mins	Ba	KB
10/30/15	1510161-04	USA	1252	15 mins	Ba	KB
10/30/15	1510161-05	USA	1710	15 mins	Ba	KB
10/30	1510174-02	Sol. Tech	1770	7L	✓	—
10/30/15	1510174-01	Solution Tech	1431	30mins	✓	KB
10/30/15	1510105-01	Test America	1507	15 mins	Ba	KB
10/30/15	1510105-02	Test America	1519	15 mins	Ba	KB
10/30/15	1510105-03	Test America	1535	15 mins	Ba	KB
10/30/15	1510105-04	Test America	1551	15 mins	Ba	KB
10/30/15	1510105-05	Test America	1606	15 min	Ba	KB
10/30/15	1510166-02	James R. Rad	1623	5hr	✓	KB
10/30/15	System Dkscd	Lab	0900	24 hrs	✓	KB
11/2	Chw 14	LAB	0513	1R	✓	✓
11/2	Dwight	LAB	0545	1R	✓	✓
11/2	1510067-02	Auxier	0615	2L	✓	✓
11/2	1510064-02	Auxier	0716	2L	✓	✓
11/2	1510067-01	Auxier	0818	7-	✓	✓
11/2	1510067-01	Auxier	0817	7-	✓	✓

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DATE	SAMPLE #	Client	LandTime	ct.Time	Analysis	Tech
10/28/15	1510096-04	Seany	1351	15mins	Ba	KB
10/28/15	1510096-03	Seany	1408	15mins	Ba	KB
10/28/15	1510141-01	USA	1422	30mins	Y	KB
10/29	Edw 14	LAB	0514	1R	V	C
10/29	Dwight	LAB	0546	1R	V	C
10/29	1510160-04	U70A Red	0652	1R	Na	—
10/29	1510154-03	Cutbury	1004	1R	Na	—
10/29	1510154-06	Cutbury	1021	1R	Na	—
10/29	Edw 14	LAB	0525	1R	V	C
10/29	Dwight	LAB	0550	1R	V	C
10/29	1510172-04	Udon	0815	1R	Na	—
10/29	1510166-01	James R.	0952	7-	V	C
10/29	1510171-01	James R.	1023	7-	V	—
10/30/15	1510161-01	USA	1202	15 mins	Ba	KB
10/30/15	1510161-02	USA	1218	15 mins	Ba	KB
10/30/15	1510161-03	USA	1236	15 mins	Ba	KB
10/30/15	1510161-04	USA	1252	15 mins	Ba	KB
10/30/15	1510161-05	USA	1710	15 mins	Ba	KB
10/30	1510174-02	Sol. Tech	1720	7L	V	—
10/30/15	1510174-01	Solvent Tech	1431	30mins	Y	KB
10/30/15	1510105-01	Test America	1507	15mins	Ba	KB
10/30/15	1510105-02	Test America	1519	15mins	Ba	KB
10/30/15	1510205-03	Test America	1535	15 mins	Ba	KB
10/30/15	1510205-04	Test America	1551	15 mins	Ba	KB
10/30/15	1510205-05	Test America	1606	15 min	Ba	KB
10/30/15	1510166-02	James R. Reed	1623	5hr	V	KB
10/30/15	System Dkcal	Lab	0900	24 hrs	Y	KB
11/2	Edw 14	LAB	0513	1R	V	C
11/2	Dwight	LAB	0545	1R	V	C
11/2	1510067-02	Auxier	0615	2h	V	C
11/2	1510064-02	Auxier	0716	2h	V	C
11/2	1510067-01	Auxier	0818	7-	V	C
11/2	1510067-01	Auxier		7-	V	C

ICC
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TO:

PAPER

SECTION VIII
ANALYTICAL DATA (ISOTOPIC URANIUM)

Work Order	15-10063
Analysis Code	UIISO
Run	1
Date Received	10/12/2015
Lab Deadline	11/3/2015
Client	Auxier & Associates, Inc.
Project	PAP-KAN
Report Level	4
Activity Units	pCi
Aliquot Units	g
Matrix	SO
Method	EML U-02 Modified
Instrument Type	Alpha Spectroscopy
Radiometric Tracer	U-232
Radiometric Sol#	U-10a
Tracer Act (dpm/g)	18.64
Carrier	
Carrier Conc (mg/ml)	

Internal Fraction	Sample Desc	Client ID	Login CPM	Sample Date	Sample Aliquot
01	LCS	LCS		10/12/15 00:00	1.0000E+00
02	MBL	BLANK		10/12/15 00:00	1.5000E+00
03	DUP	CP0403S02-03	34	10/05/15 13:20	1.5161E+00
04	DO	CP0403S02-03	34	10/05/15 13:20	1.5056E+00
05	TRG	CP0403S04-05	38	10/05/15 13:40	1.5107E+00
06	TRG	CP0403S07-08	34	10/05/15 13:45	1.5199E+00
07	TRG	CP0403S09-10	36	10/05/15 14:00	1.5146E+00
08	TRG	CP0403S11-12	37	10/05/15 14:10	1.5746E+00
09	TRG	CP2107S02-03	35	10/06/15 14:45	1.5199E+00
10	TRG	CP2107S05-06	36	10/06/15 14:55	1.5522E+00
11	TRG	CP2107S09-10	35	10/06/15 15:05	1.5124E+00
12	TRG	CP2107S11-12	36	10/06/15 15:10	1.5613E+00
13	TRG	CP2107S14-15	34	10/06/15 15:20	1.5362E+00
14	TRG	CP2107S17-18	39	10/06/15 15:30	1.5057E+00
15	TRG	CP2107S19-20	41	10/06/15 15:40	1.5120E+00
16	TRG	CP5005S01-02	36	10/06/15 09:00	1.5274E+00
17	TRG	CP5005S04-05	34	10/06/15 09:10	1.5864E+00
18	TRG	CP5005S05-06	39	10/06/15 09:20	1.5070E+00
19	TRG	CP5005S09-10	37	10/06/15 09:30	1.5458E+00
20	TRG	CP5005S12-13	33	10/06/15 09:40	1.5147E+00

* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ^ Indicates estimated SAF value.
** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.

Internal Fraction	Sample Desc	Tracer Aliquot (g)	Tracer Total ACT (dpm)	Radiometric Tracer (pCi)	Radiometric % Rec	Grav Carrier Added (ml)	Grav Filter Tare (g)	Grav Filter Final (g)	Grav Filter Net (g)	Grav % Rec	Mean % Rec	SAF 1*	SAF 2*
01	LCS	0.6553	12.2		0.00								
02	MBL	0.6599	12.3		0.00								
03	DUP	0.6526	12.2		0.00								
04	DO	0.6530	12.2		0.00								
05	TRG	0.6583	12.3		0.00								
06	TRG	0.6585	12.3		0.00								
07	TRG	0.6576	12.3		0.00								
08	TRG	0.6503	12.1		0.00								
09	TRG	0.6607	12.3		0.00								
10	TRG	0.6506	12.1		0.00								
11	TRG	0.6485	12.1		0.00								
12	TRG	0.6591	12.3		0.00								
13	TRG	0.6578	12.3		0.00								
14	TRG	0.6504	12.1		0.00								
15	TRG	0.6578	12.3		0.00								
16	TRG	0.6507	12.1		0.00								
17	TRG	0.6517	12.1		0.00								
18	TRG	0.6521	12.2		0.00								
19	TRG	0.6596	12.3		0.00								
20	TRG	0.6593	12.3		0.00								

* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ^ Indicates estimated SAF value.
** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.

15000

15-10063
UJISO
Run 1

Eberline Services
Oak Ridge Laboratory
Analysis Sheet

Internal Fraction	Sample Desc	Rough Prep Date	Rough Prep By	Prep Date	Prep By	Sep 10 Date/Time	Sep 10 By	Sep 11 Date/Time	Sep 11 By
01	LCS			10/15/15 11:08	JPACHELLA				
02	MBL			10/15/15 11:08	JPACHELLA				
03	DUP			10/15/15 11:08	JPACHELLA				
04	DO	10/13/15 07:27	KSALLINGS	10/15/15 11:08	JPACHELLA				
05	TRG	10/13/15 07:27	KSALLINGS	10/15/15 11:08	JPACHELLA				
06	TRG	10/13/15 07:27	KSALLINGS	10/15/15 11:08	JPACHELLA				
07	TRG	10/13/15 07:27	KSALLINGS	10/15/15 11:08	JPACHELLA				
08	TRG	10/13/15 07:27	KSALLINGS	10/15/15 11:08	JPACHELLA				
09	TRG	10/13/15 07:27	KSALLINGS	10/15/15 11:08	JPACHELLA				
10	TRG	10/13/15 07:27	KSALLINGS	10/15/15 11:08	JPACHELLA				
11	TRG	10/13/15 07:27	KSALLINGS	10/15/15 11:08	JPACHELLA				
12	TRG	10/13/15 07:27	KSALLINGS	10/15/15 11:08	JPACHELLA				
13	TRG	10/13/15 07:27	KSALLINGS	10/15/15 11:08	JPACHELLA				
14	TRG	10/13/15 07:27	KSALLINGS	10/15/15 11:08	JPACHELLA				
15	TRG	10/13/15 07:27	KSALLINGS	10/15/15 11:08	JPACHELLA				
16	TRG	10/13/15 07:27	KSALLINGS	10/15/15 11:08	JPACHELLA				
17	TRG	10/13/15 07:27	KSALLINGS	10/15/15 11:08	JPACHELLA				
18	TRG	10/13/15 07:27	KSALLINGS	10/15/15 11:08	JPACHELLA				
19	TRG	10/13/15 07:27	KSALLINGS	10/15/15 11:08	JPACHELLA				
20	TRG	10/13/15 07:27	KSALLINGS	10/15/15 11:08	JPACHELLA				

* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ^ Indicates estimated SAF value.
** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.

	Run	1
	Analysis Code	UISO
Eberline Services Work Order	15-10063	
Client	Auxier & Associates, Inc.	

Lab Fraction	Nuclide	Sample Desc	Client Identification	Activity Units	Results	Error Estimate	MDA	LCS Known	LCS %R	LCS Flag	RPD Flag	MDA Flag	Blank Flag
01	U-234	LCS	LCS	pCi/g	6.86E+00	1.02E+00	1.04E-01	8.12E+00	84.56	OK		OK	
02	U-234	MBL	BLANK	pCi/g	9.82E-03	2.45E-02	5.11E-02					OK	OK
03	U-234	DUP	CP0403S02-03	pCi/g	1.16E+00	2.40E-01	6.49E-02				INV	OK	
04	U-234	DO	CP0403S02-03	pCi/g	1.61E+00	2.79E-01	5.32E-02					OK	
05	U-234	TRG	CP0403S04-05	pCi/g	1.02E+00	2.25E-01	5.71E-02					OK	
06	U-234	TRG	CP0403S07-08	pCi/g	9.52E-01	2.16E-01	8.85E-02					OK	
07	U-234	TRG	CP0403S09-10	pCi/g	1.12E+00	2.14E-01	4.56E-02					OK	
08	U-234	TRG	CP0403S11-12	pCi/g	8.04E-01	2.01E-01	5.72E-02					OK	
09	U-234	TRG	CP2107S02-03	pCi/g	1.28E+00	2.64E-01	5.62E-02					OK	
10	U-234	TRG	CP2107S05-06	pCi/g	6.80E-01	1.77E-01	4.07E-02					OK	
11	U-234	TRG	CP2107S09-10	pCi/g	8.28E-01	1.98E-01	5.03E-02					OK	
12	U-234	TRG	CP2107S11-12	pCi/g	1.32E+00	2.66E-01	4.00E-02					OK	
13	U-234	TRG	CP2107S14-15	pCi/g	1.18E+00	2.48E-01	4.07E-02					OK	
14	U-234	TRG	CP2107S17-18	pCi/g	7.00E-01	1.83E-01	7.45E-02					OK	
15	U-234	TRG	CP2107S19-20	pCi/g	1.28E+00	2.40E-01	3.90E-02					OK	
16	U-234	TRG	CP5005S01-02	pCi/g	1.07E+00	2.44E-01	6.39E-02					OK	
17	U-234	TRG	CP5005S04-05	pCi/g	9.96E-01	2.19E-01	3.89E-02					OK	
18	U-234	TRG	CP5005S05-06	pCi/g	1.07E+00	2.30E-01	5.59E-02					OK	
19	U-234	TRG	CP5005S09-10	pCi/g	1.02E+00	2.19E-01	3.83E-02					OK	
20	U-234	TRG	CP5005S12-13	pCi/g	9.57E-01	1.99E-01	4.56E-02					OK	

	Run	1
Eberline Services Work Order	Analysis Code	UISO
Client	Auxier & Associates, Inc.	

Lab Fraction	Nuclide	Sample Desc	Sample Date	Sample Aliquot	Radiometric % Rec	Grav % Rec	Mean % Rec	SAF	Sep 10 Date/Time	Sep 11 Date/Time
01	U-234	LCS	10/12/15 00:00	1.00E+00	115.60	0.00	0.00			
02	U-234	MBL	10/12/15 00:00	1.50E+00	109.51	0.00	0.00			
03	U-234	DUP	10/05/15 13:20	1.52E+00	99.83	0.00	0.00			
04	U-234	DO	10/05/15 13:20	1.51E+00	108.94	0.00	0.00			
05	U-234	TRG	10/05/15 13:40	1.51E+00	95.18	0.00	0.00			
06	U-234	TRG	10/05/15 13:45	1.52E+00	101.12	0.00	0.00			
07	U-234	TRG	10/05/15 14:00	1.51E+00	98.05	0.00	0.00			
08	U-234	TRG	10/05/15 14:10	1.57E+00	92.16	0.00	0.00			
09	U-234	TRG	10/06/15 14:45	1.52E+00	98.07	0.00	0.00			
10	U-234	TRG	10/06/15 14:55	1.55E+00	106.54	0.00	0.00			
11	U-234	TRG	10/06/15 15:05	1.51E+00	101.50	0.00	0.00			
12	U-234	TRG	10/06/15 15:10	1.56E+00	103.80	0.00	0.00			
13	U-234	TRG	10/06/15 15:20	1.54E+00	109.67	0.00	0.00			
14	U-234	TRG	10/06/15 15:30	1.51E+00	92.62	0.00	0.00			
15	U-234	TRG	10/06/15 15:40	1.51E+00	116.15	0.00	0.00			
16	U-234	TRG	10/06/15 09:00	1.53E+00	87.00	0.00	0.00			
17	U-234	TRG	10/06/15 09:10	1.59E+00	103.29	0.00	0.00			
18	U-234	TRG	10/06/15 09:20	1.51E+00	94.47	0.00	0.00			
19	U-234	TRG	10/06/15 09:30	1.55E+00	102.00	0.00	0.00			
20	U-234	TRG	10/06/15 09:40	1.51E+00	123.14	0.00	0.00			

	Run	1
	Analysis Code	UUISO
Client	Auxier & Associates, Inc.	
Eberline Services Work Order	15-10063	

Lab Fraction	Nuclide	Sample Desc	Counting Date/Time	Half-life (days)	Detect	Carrier	Count Time	Counts	Bkg CPM	Eff
01	U-234	LCS	10/20/15 12:31		A_Spec	Alpha_053	170	4.35 E+02	7.00 E-03	14.6
02	U-234	MBL	10/20/15 09:09		A_Spec	Alpha_004	170.02	1.15 E+00	5.00 E-03	18.9
03	U-234	DUP	10/20/15 09:09		A_Spec	Alpha_010	170.02	1.27 E+02	9.00 E-03	19.2
04	U-234	DO	10/20/15 09:09		A_Spec	Alpha_011	170.02	2.00 E+02	7.00 E-03	20
05	U-234	TRG	10/20/15 09:09		A_Spec	Alpha_012	170.02	1.07 E+02	5.00 E-03	19.4
06	U-234	TRG	10/20/15 09:09		A_Spec	Alpha_014	170	1.01 E+02	2.10 E-02	18.4
07	U-234	TRG	10/20/15 09:09		A_Spec	Alpha_015	170.02	1.47 E+02	5.00 E-03	23.5
08	U-234	TRG	10/20/15 09:09		A_Spec	Alpha_033	170	7.93 E+01	4.00 E-03	18
09	U-234	TRG	10/20/15 09:09		A_Spec	Alpha_034	170	1.28 E+02	4.00 E-03	17.9
10	U-234	TRG	10/20/15 09:09		A_Spec	Alpha_035	170	6.98 E+01	1.00 E-03	16.5
11	U-234	TRG	10/20/15 09:09		A_Spec	Alpha_036	170	8.65 E+01	3.00 E-03	18.1
12	U-234	TRG	10/20/15 09:09		A_Spec	Alpha_037	170	1.38 E+02	1.00 E-03	17.1
13	U-234	TRG	10/20/15 09:09		A_Spec	Alpha_038	170	1.21 E+02	1.00 E-03	16.2
14	U-234	TRG	10/20/15 09:09		A_Spec	Alpha_039	170	7.11 E+01	1.10 E-02	19.3
15	U-234	TRG	10/20/15 09:09		A_Spec	Alpha_040	170	1.57 E+02	2.00 E-03	18.6
16	U-234	TRG	10/20/15 09:09		A_Spec	Alpha_041	170	1.00 E+02	5.00 E-03	18.7
17	U-234	TRG	10/20/15 09:09		A_Spec	Alpha_042	170	1.07 E+02	1.00 E-03	17.4
18	U-234	TRG	10/20/15 09:09		A_Spec	Alpha_043	170	1.15 E+02	5.00 E-03	20
19	U-234	TRG	10/20/15 09:09		A_Spec	Alpha_044	170	1.11 E+02	1.00 E-03	18.4
20	U-234	TRG	10/20/15 09:09		A_Spec	Alpha_045	170	1.18 E+02	4.00 E-03	17.6

	Run	1
	Analysis Code	UUISO
Eberline Services Work Order	15-10063	
Client	Auxier & Associates, Inc.	

Lab Fraction	Nuclide	Sample Desc	Client Identification	Activity Units	Results	Error Estimate	MDA	LCS Known	LCS %R	LCS Flag	RPD Flag	MDA Flag	Blank Flag
01	U-238	LCS	LCS	pCi/g	6.59E+00	9.84E-01	9.41E-02	7.91E+00	83.27	OK		OK	
02	U-238	IMBL	BLANK	pCi/g	2.68E-02	3.41E-02	5.09E-02					OK	OK
03	U-238	DUP	CP0403S02-03	pCi/g	1.31E+00	2.58E-01	5.73E-02				OK	OK	
04	U-238	DO	CP0403S02-03	pCi/g	1.16E+00	2.24E-01	4.81E-02					OK	
05	U-238	TRG	CP0403S04-05	pCi/g	1.07E+00	2.30E-01	3.96E-02					OK	
06	U-238	TRG	CP0403S07-08	pCi/g	7.49E-01	1.84E-01	5.60E-02					OK	
07	U-238	TRG	CP0403S09-10	pCi/g	9.69E-01	1.94E-01	3.16E-02					OK	
08	U-238	TRG	CP0403S11-12	pCi/g	8.36E-01	2.05E-01	4.21E-02					OK	
09	U-238	TRG	CP2107S02-03	pCi/g	1.14E+00	2.45E-01	5.95E-02					OK	
10	U-238	TRG	CP2107S05-06	pCi/g	9.78E-01	2.21E-01	4.05E-02					OK	
11	U-238	TRG	CP2107S09-10	pCi/g	8.74E-01	2.04E-01	4.56E-02					OK	
12	U-238	TRG	CP2107S11-12	pCi/g	1.12E+00	2.39E-01	3.98E-02					OK	
13	U-238	TRG	CP2107S14-15	pCi/g	8.52E-01	2.02E-01	4.64E-02					OK	
14	U-238	TRG	CP2107S17-18	pCi/g	8.16E-01	2.00E-01	7.20E-02					OK	
15	U-238	TRG	CP2107S19-20	pCi/g	9.82E-01	2.03E-01	4.86E-02					OK	
16	U-238	TRG	CP5005S01-02	pCi/g	9.64E-01	2.30E-01	8.49E-02					OK	
17	U-238	TRG	CP5005S04-05	pCi/g	1.31E+00	2.61E-01	3.88E-02					OK	
18	U-238	TRG	CP5005S05-06	pCi/g	1.12E+00	2.36E-01	5.57E-02					OK	
19	U-238	TRG	CP5005S09-10	pCi/g	1.03E+00	2.21E-01	4.36E-02					OK	
20	U-238	TRG	CP5005S12-13	pCi/g	8.56E-01	1.86E-01	5.92E-02					OK	

29902

	1 Run	UISO Analysis Code	15-10063 Eberline Services Work Order	Auxier & Associates, Inc. Client
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Lab Fraction	Nuclide	Sample Desc	Sample Date	Sample Aliquot	Radiometric % Rec	Grav % Rec	Mean % Rec	SAF	Sep 10 Date/Time	Sep 11 Date/Time
01	U-238	LCS	10/12/15 00:00	1.00E+00	115.60	0.00	0.00			
02	U-238	MBL	10/12/15 00:00	1.50E+00	109.51	0.00	0.00			
03	U-238	DUP	10/05/15 13:20	1.52E+00	99.83	0.00	0.00			
04	U-238	DO	10/05/15 13:20	1.51E+00	108.94	0.00	0.00			
05	U-238	TRG	10/05/15 13:40	1.51E+00	95.18	0.00	0.00			
06	U-238	TRG	10/05/15 13:45	1.52E+00	101.12	0.00	0.00			
07	U-238	TRG	10/05/15 14:00	1.51E+00	98.05	0.00	0.00			
08	U-238	TRG	10/05/15 14:10	1.57E+00	92.16	0.00	0.00			
09	U-238	TRG	10/06/15 14:45	1.52E+00	98.07	0.00	0.00			
10	U-238	TRG	10/06/15 14:55	1.55E+00	106.54	0.00	0.00			
11	U-238	TRG	10/06/15 15:05	1.51E+00	101.50	0.00	0.00			
12	U-238	TRG	10/06/15 15:10	1.56E+00	103.80	0.00	0.00			
13	U-238	TRG	10/06/15 15:20	1.54E+00	109.67	0.00	0.00			
14	U-238	TRG	10/06/15 15:30	1.51E+00	92.62	0.00	0.00			
15	U-238	TRG	10/06/15 15:40	1.51E+00	116.15	0.00	0.00			
16	U-238	TRG	10/06/15 09:00	1.53E+00	87.00	0.00	0.00			
17	U-238	TRG	10/06/15 09:10	1.59E+00	103.29	0.00	0.00			
18	U-238	TRG	10/06/15 09:20	1.51E+00	94.47	0.00	0.00			
19	U-238	TRG	10/06/15 09:30	1.55E+00	102.00	0.00	0.00			
20	U-238	TRG	10/06/15 09:40	1.51E+00	123.14	0.00	0.00			

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Preliminary Data Report & Analytical Calculations
Work Order: 15-10063-UISO-1

	Run	1
Eberline Services Work Order	Analysis Code	UISO
Client	Auxier & Associates, Inc.	

Lab Fraction	Nuclide	Sample Desc	Counting Date/Time	Half-life (days)	Detect	Carrier	Count Time	Counts	Bkg CPM	Eff
01	U-238	LCS	10/20/15 12:31		A_Spec	Alpha_053	170 4.19 E+02	5.00 E-03	5.00 E-03	14.6
02	U-238	MBL	10/20/15 09:09		A_Spec	Alpha_004	170.02 3.15 E+00	5.00 E-03	5.00 E-03	18.9
03	U-238	DUP	10/20/15 09:09		A_Spec	Alpha_010	170.02 1.44 E+02	6.00 E-03	6.00 E-03	19.2
04	U-238	DO	10/20/15 09:09		A_Spec	Alpha_011	170.02 1.44 E+02	5.00 E-03	5.00 E-03	20
05	U-238	TRG	10/20/15 09:09		A_Spec	Alpha_012	170.02 1.13 E+02	1.00 E-03	1.00 E-03	19.4
06	U-238	TRG	10/20/15 09:09		A_Spec	Alpha_014	170 8.02 E+01	5.00 E-03	5.00 E-03	18.4
07	U-238	TRG	10/20/15 09:09		A_Spec	Alpha_015	170.02 1.28 E+02	1.00 E-03	1.00 E-03	23.5
08	U-238	TRG	10/20/15 09:09		A_Spec	Alpha_033	170 8.28 E+01	1.00 E-03	1.00 E-03	18
09	U-238	TRG	10/20/15 09:09		A_Spec	Alpha_034	170 1.15 E+02	0.00 E+00	0.00 E+00	17.9
10	U-238	TRG	10/20/15 09:09		A_Spec	Alpha_035	170 1.01 E+02	1.00 E-03	1.00 E-03	16.5
11	U-238	TRG	10/20/15 09:09		A_Spec	Alpha_036	170 9.17 E+01	2.00 E-03	2.00 E-03	18.1
12	U-238	TRG	10/20/15 09:09		A_Spec	Alpha_037	170 1.18 E+02	1.00 E-03	1.00 E-03	17.1
13	U-238	TRG	10/20/15 09:09		A_Spec	Alpha_038	170 8.77 E+01	2.00 E-03	2.00 E-03	16.2
14	U-238	TRG	10/20/15 09:09		A_Spec	Alpha_039	170 8.33 E+01	1.00 E-02	1.00 E-02	19.3
15	U-238	TRG	10/20/15 09:09		A_Spec	Alpha_040	170 1.21 E+02	0.00 E+00	0.00 E+00	18.6
16	U-238	TRG	10/20/15 09:09		A_Spec	Alpha_041	170 9.08 E+01	1.30 E-02	1.30 E-02	18.7
17	U-238	TRG	10/20/15 09:09		A_Spec	Alpha_042	170 1.41 E+02	1.00 E-03	1.00 E-03	17.4
18	U-238	TRG	10/20/15 09:09		A_Spec	Alpha_043	170 1.21 E+02	0.00 E+00	0.00 E+00	20
19	U-238	TRG	10/20/15 09:09		A_Spec	Alpha_044	170 1.13 E+02	2.00 E-03	2.00 E-03	18.4
20	U-238	TRG	10/20/15 09:09		A_Spec	Alpha_045	170 1.06 E+02	1.00 E-02	1.00 E-02	17.6

Lab Fraction	Nuclide	Sample Desc	Client Identification	Activity Units	Results	Error Estimate	MDA	LCS Known	LCS %R	LCS Flag	RPD Flag	MDA Flag	Blank Flag
01	U-235	LCS	LCS	pCi/g	3.67E-01	1.72E-01	8.13E-02					OK	
02	U-235	MBL	BLANK	pCi/g	1.58E-03	2.21E-02	6.31E-02					OK	OK
03	U-235	DUP	CP0403S02-03	pCi/g	1.30E-02	3.24E-02	6.75E-02				NA	OK	
04	U-235	DO	CP0403S02-03	pCi/g	7.63E-02	5.60E-02	4.76E-02					OK	
05	U-235	TRG	CP0403S04-05	pCi/g	1.16E-01	7.41E-02	4.91E-02					OK	
06	U-235	TRG	CP0403S07-08	pCi/g	9.44E-02	6.94E-02	6.93E-02					OK	
07	U-235	TRG	CP0403S09-10	pCi/g	1.31E-01	7.25E-02	5.63E-02					OK	
08	U-235	TRG	CP0403S11-12	pCi/g	4.79E-02	4.95E-02	5.22E-02					OK	
09	U-235	TRG	CP2107S02-03	pCi/g	7.76E-02	6.48E-02	6.93E-02					OK	
10	U-235	TRG	CP2107S05-06	pCi/g	1.79E-02	3.41E-02	6.31E-02					OK	
11	U-235	TRG	CP2107S09-10	pCi/g	9.25E-02	6.64E-02	4.93E-02					OK	
12	U-235	TRG	CP2107S11-12	pCi/g	8.66E-02	6.67E-02	6.67E-02					OK	
13	U-235	TRG	CP2107S14-15	pCi/g	7.22E-02	6.29E-02	7.22E-02					OK	
14	U-235	TRG	CP2107S17-18	pCi/g	4.01E-02	5.49E-02	8.92E-02					OK	
15	U-235	TRG	CP2107S19-20	pCi/g	8.04E-02	5.97E-02	6.03E-02					OK	
16	U-235	TRG	CP5005S01-02	pCi/g	1.14E-01	7.87E-02	6.29E-02					OK	
17	U-235	TRG	CP5005S04-05	pCi/g	5.56E-02	5.09E-02	4.80E-02					OK	
18	U-235	TRG	CP5005S05-06	pCi/g	5.56E-02	5.10E-02	4.81E-02					OK	
19	U-235	TRG	CP5005S09-10	pCi/g	3.39E-02	4.45E-02	6.78E-02					OK	
20	U-235	TRG	CP5005S12-13	pCi/g	3.82E-02	3.94E-02	4.16E-02					OK	

	Run	1
	Analysis Code	UISO
Eberline Services Work Order		15-10063
Client		Auxier & Associates, Inc.

15-10063

	Run	1
Analysts Code	UISO	
Eberline Services Work Order	15-10063	
Client	Auxier & Associates, Inc.	

Lab Fraction	Nuclide	Sample Desc	Sample Date	Sample Aliquot	Radiometric % Rec	Grav % Rec	Mean % Rec	SAF	Sep 10 Date/Time	Sep 11 Date/Time
01	U-235	LCS	10/12/15 00:00	1.00E+00	115.60	0.00	0.00			
02	U-235	MBL	10/12/15 00:00	1.50E+00	109.51	0.00	0.00			
03	U-235	DUP	10/05/15 13:20	1.52E+00	99.83	0.00	0.00			
04	U-235	DO	10/05/15 13:20	1.51E+00	108.94	0.00	0.00			
05	U-235	TRG	10/05/15 13:40	1.51E+00	95.18	0.00	0.00			
06	U-235	TRG	10/05/15 13:45	1.52E+00	101.12	0.00	0.00			
07	U-235	TRG	10/05/15 14:00	1.51E+00	98.05	0.00	0.00			
08	U-235	TRG	10/05/15 14:10	1.57E+00	92.16	0.00	0.00			
09	U-235	TRG	10/06/15 14:45	1.52E+00	98.07	0.00	0.00			
10	U-235	TRG	10/06/15 14:55	1.55E+00	106.54	0.00	0.00			
11	U-235	TRG	10/06/15 15:05	1.51E+00	101.50	0.00	0.00			
12	U-235	TRG	10/06/15 15:10	1.56E+00	103.80	0.00	0.00			
13	U-235	TRG	10/06/15 15:20	1.54E+00	109.67	0.00	0.00			
14	U-235	TRG	10/06/15 15:30	1.51E+00	92.62	0.00	0.00			
15	U-235	TRG	10/06/15 15:40	1.51E+00	116.15	0.00	0.00			
16	U-235	TRG	10/06/15 09:00	1.53E+00	87.00	0.00	0.00			
17	U-235	TRG	10/06/15 09:10	1.59E+00	103.29	0.00	0.00			
18	U-235	TRG	10/06/15 09:20	1.51E+00	94.47	0.00	0.00			
19	U-235	TRG	10/06/15 09:30	1.55E+00	102.00	0.00	0.00			
20	U-235	TRG	10/06/15 09:40	1.51E+00	123.14	0.00	0.00			

98202

Preliminary Data Report & Analytical Calculations
Work Order: 15-10063-UUISO-1

		Run	1
Eberline Services Work Order		Analysis Code	UUISO
Client		Auxier & Associates, Inc.	

Lab Fraction	Nuclide	Sample Desc	Counting Date/Time	Half-life (days)	Detect	Carrier	Count Time	Counts	Bkg CPM	Eff
01	U-235	LCS	10/20/15 12:31		A_Spec	Alpha_053	170	1.88 E+01	1.00 E-03	14.6
02	U-235	MBL	10/20/15 09:09		A_Spec	Alpha_004	170.02	1.50 E-01	5.00 E-03	18.9
03	U-235	DUP	10/20/15 09:09		A_Spec	Alpha_010	170.02	1.15 E+00	5.00 E-03	19.2
04	U-235	DO	10/20/15 09:09		A_Spec	Alpha_011	170.02	7.66 E+00	2.00 E-03	20
05	U-235	TRG	10/20/15 09:09		A_Spec	Alpha_012	170.02	9.83 E+00	1.00 E-03	19.4
06	U-235	TRG	10/20/15 09:09		A_Spec	Alpha_014	170	8.15 E+00	5.00 E-03	18.4
07	U-235	TRG	10/20/15 09:09		A_Spec	Alpha_015	170.02	1.40 E+01	0.00 E+00	23.5
08	U-235	TRG	10/20/15 09:09		A_Spec	Alpha_033	170	3.83 E+00	1.00 E-03	18
09	U-235	TRG	10/20/15 09:09		A_Spec	Alpha_034	170	6.32 E+00	4.00 E-03	17.9
10	U-235	TRG	10/20/15 09:09		A_Spec	Alpha_035	170	1.49 E+00	3.00 E-03	16.5
11	U-235	TRG	10/20/15 09:09		A_Spec	Alpha_036	170	7.83 E+00	1.00 E-03	18.1
12	U-235	TRG	10/20/15 09:09		A_Spec	Alpha_037	170	7.32 E+00	4.00 E-03	17.1
13	U-235	TRG	10/20/15 09:09		A_Spec	Alpha_038	170	6.00 E+00	0.00 E+00	16.2
14	U-235	TRG	10/20/15 09:09		A_Spec	Alpha_039	170	3.30 E+00	1.00 E-02	19.3
15	U-235	TRG	10/20/15 09:09		A_Spec	Alpha_040	170	8.00 E+00	0.00 E+00	18.6
16	U-235	TRG	10/20/15 09:09		A_Spec	Alpha_041	170	8.66 E+00	2.00 E-03	18.7
17	U-235	TRG	10/20/15 09:09		A_Spec	Alpha_042	170	4.83 E+00	1.00 E-03	17.4
18	U-235	TRG	10/20/15 09:09		A_Spec	Alpha_043	170	4.83 E+00	1.00 E-03	20
19	U-235	TRG	10/20/15 09:09		A_Spec	Alpha_044	170	3.00 E+00	0.00 E+00	18.4
20	U-235	TRG	10/20/15 09:09		A_Spec	Alpha_045	170	3.83 E+00	1.00 E-03	17.6

10000

15-10063-UUIISO-1 (pCi/g) in SO
Tracer ID: U-10a

Count Room Report
Client: Auxier Associates, Inc.

Internal Fraction	Sample Desc	Client ID	Sample Date	Sample Aliquot	Tracer Aliquot (g)	Tracer ACT (dpm)	Radiometric Tracer (pCi)	Radiometric % Rec	SAF 1*	SAF 2*
01	LCS	LCS	10/12/15 00:00	1.0000	0.6553	12.2148		0.00		
02	MBL	BLANK	10/12/15 00:00	1.5000	0.6599	12.3005		0.00		
03	DUP	CP0403S02-03	10/05/15 13:20	1.5161	0.6526	12.1645		0.00		
04	DO	CP0403S02-03	10/05/15 13:20	1.5056	0.6530	12.1719		0.00		
05	TRG	CP0403S04-05	10/05/15 13:40	1.5107	0.6583	12.2707		0.00		
06	TRG	CP0403S07-08	10/05/15 13:45	1.5199	0.6585	12.2744		0.00		
07	TRG	CP0403S09-10	10/05/15 14:00	1.5146	0.6576	12.2577		0.00		
08	TRG	CP0403S11-12	10/05/15 14:10	1.5746	0.6503	12.1216		0.00		
09	TRG	CP2107S02-03	10/06/15 14:45	1.5199	0.6607	12.3154		0.00		
10	TRG	CP2107S05-06	10/06/15 14:55	1.5522	0.6506	12.1272		0.00		
11	TRG	CP2107S09-10	10/06/15 15:05	1.5124	0.6485	12.0880		0.00		
12	TRG	CP2107S11-12	10/06/15 15:10	1.5613	0.6591	12.2856		0.00		
13	TRG	CP2107S14-15	10/06/15 15:20	1.5362	0.6578	12.2614		0.00		
14	TRG	CP2107S17-18	10/06/15 15:30	1.5057	0.6504	12.1235		0.00		
15	TRG	CP2107S19-20	10/06/15 15:40	1.5120	0.6578	12.2614		0.00		
16	TRG	CP5005S01-02	10/06/15 09:00	1.5274	0.6507	12.1290		0.00		
17	TRG	CP5005S04-05	10/06/15 09:10	1.5864	0.6517	12.1477		0.00		
18	TRG	CP5005S05-06	10/06/15 09:20	1.5070	0.6521	12.1551		0.00		
19	TRG	CP5005S09-10	10/06/15 09:30	1.5458	0.6596	12.2949		0.00		
20	TRG	CP5005S12-13	10/06/15 09:40	1.5147	0.6593	12.2894		0.00		

Handwritten notes: 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

Internal Work Order		Run	Analysis Code	Date	Technician	Technician Initials	Witness Initials					
15-10063		1	UUISO	10/15/2015 10:56	JPACHELLA	<i>[Signature]</i>						
LCS & Matrix Spikes												
Isotope	Sol #	Activity dpm/g	Solution Date	Approx Addition	LCS Volume Used (g)	MS Volume Used (g)	LCS Volume Used (g)	MSD Volume Used (g)	LCS Known pCi	MS Added pCi	LCS Error Estimate	MSD Error Estimate
U-234	U-8a	35.240	10/15/2015	0.500	0.5113				8.12	0.00	0.292	0.000
U-238	U-8a	34.350	10/15/2015	0.500	0.5113				7.91	0.00	0.285	0.000

TC-99 MS C-2a 22043.638 7/5/2014 U-1

Tracers										Balance Printer Tapes			
fraction	isotope	Sol #	Activity dpm/g	Solution Date	Volume Used (g)	Approx Addition	Tracer	LCS	MS	MSD	LCS Error Estimate	MS Added pCi	MSD Error Estimate
01	U-232	U-10a	18.640	10/15/2015	0.6553	0.6500							
02	U-232	U-10a	18.640	10/15/2015	0.6599	0.6500							
03	U-232	U-10a	18.640	10/15/2015	0.6526	0.6500							
04	U-232	U-10a	18.640	10/15/2015	0.6530	0.6500							
05	U-232	U-10a	18.640	10/15/2015	0.6583	0.6500							
06	U-232	U-10a	18.640	10/15/2015	0.6585	0.6500							
07	U-232	U-10a	18.640	10/15/2015	0.6576	0.6500							
08	U-232	U-10a	18.640	10/15/2015	0.6503	0.6500							
09	U-232	U-10a	18.640	10/15/2015	0.6607	0.6500							
10	U-232	U-10a	18.640	10/15/2015	0.6506	0.6500							
11	U-232	U-10a	18.640	10/15/2015	0.6485	0.6500							
12	U-232	U-10a	18.640	10/15/2015	0.6591	0.6500							
13	U-232	U-10a	18.640	10/15/2015	0.6578	0.6500							
14	U-232	U-10a	18.640	10/15/2015	0.6504	0.6500							
15	U-232	U-10a	18.640	10/15/2015	0.6578	0.6500							
16	U-232	U-10a	18.640	10/15/2015	0.6507	0.6500							
17	U-232	U-10a	18.640	10/15/2015	0.6517	0.6500							
18	U-232	U-10a	18.640	10/15/2015	0.6521	0.6500							
19	U-232	U-10a	18.640	10/15/2015	0.6596	0.6500							
20	U-232	U-10a	18.640	10/15/2015	0.6593	0.6500							
										Matrix Spike			

Aliquot Worksheet

Work Order		Run	Analysis Code	Rpt Units	Lab Deadline	Technician	
15-10063		1	UUISO	grams	11/3/2015	JPACHELLA	

Lab Fraction	Auxier & Associates, Inc. Client ID	Sample Type	Muffle Data		Dilution Data			Aliquot Data		MS Aliquot Data		H-3 Solids Only	
			Ratio Post/Pre	No. of Dils	Dil. Factor	Ratio	Aliquot	Net Equiv	Aliquot	Net Equiv	Water Added (ml)	H3 Dist Aliq	
01	LCS	LCS						1.0000E+00	1.0000E+00				
02	BLANK	MBL						1.5000E+00	1.5000E+00				
03	CP0403S02-03	DUP						1.5161E+00	1.5161E+00				
04	CP0403S02-03	DO						1.5056E+00	1.5056E+00				
05	CP0403S04-05	TRG						1.5107E+00	1.5107E+00				
06	CP0403S07-08	TRG						1.5199E+00	1.5199E+00				
07	CP0403S09-10	TRG						1.5146E+00	1.5146E+00				
08	CP0403S11-12	TRG						1.5746E+00	1.5746E+00				
09	CP2107S02-03	TRG						1.5199E+00	1.5199E+00				
10	CP2107S05-06	TRG						1.5522E+00	1.5522E+00				
11	CP2107S09-10	TRG						1.5124E+00	1.5124E+00				
12	CP2107S11-12	TRG						1.5613E+00	1.5613E+00				
13	CP2107S14-15	TRG						1.5362E+00	1.5362E+00				
14	CP2107S17-18	TRG						1.5057E+00	1.5057E+00				
15	CP2107S19-20	TRG						1.5120E+00	1.5120E+00				
16	CP5005S01-02	TRG						1.5274E+00	1.5274E+00				
17	CP5005S04-05	TRG						1.5864E+00	1.5864E+00				
18	CP5005S05-06	TRG						1.5070E+00	1.5070E+00				
19	CP5005S09-10	TRG						1.5458E+00	1.5458E+00				
20	CP5005S12-13	TRG						1.5147E+00	1.5147E+00				

Comments

Technician: JPachella Date: 10/15/15

**Rough Sample Preparation
 Log Book**

Work Order	Lab Deadline	Date Received in Prep	Date Sealed	Date Returned	Technician
15-10063	11/3/2015	10/12/2015	10/13/2015	10/14/2015	KSALLINGS

Eberline Fraction	Auxier & Associates, Inc. Client ID	Tare (g)		Gross (g)		Net (g)		Percent		Gamma		Special Info
		Pan Wt	Dry Wt	Wet Wt.	Dry Wt.	Wet Wt.	Dry Wt.	Liquid	Solid	Dry Wt.	LEPS Wt.	
04	CP0403S02-03	14.5500	709.9700	796.7100	863.0400	782.1600	695.4200	11.09%	88.91%			
05	CP0403S04-05	14.5800	863.0400	1034.8800	723.4200	1020.3000	848.4600	16.84%	83.16%			
06	CP0403S07-08	14.6000	723.4200	885.3600	574.7300	870.7600	708.8200	18.60%	81.40%			
07	CP0403S09-10	14.6000	574.7300	731.6900	462.6800	717.0900	560.1300	21.89%	78.11%			
08	CP0403S11-12	14.5900	462.6800	596.5300	849.3000	581.9400	448.0900	23.00%	77.00%			
09	CP2107S02-03	14.5700	849.3000	1026.0800	668.3700	1011.5100	834.7300	17.48%	82.52%			
10	CP2107S05-06	14.5100	668.3700	819.8000	732.6500	805.2900	653.8600	18.80%	81.20%			
11	CP2107S09-10	14.5600	732.6500	903.9400	838.7800	889.3800	718.0900	19.26%	80.74%			
12	CP2107S11-12	14.5500	838.7800	1075.7200	897.1200	1061.1700	824.2300	22.33%	77.67%			
13	CP2107S14-15	14.5400	897.1200	1135.0200	729.1700	1120.4800	882.5800	21.23%	78.77%			
14	CP2107S17-18	14.5400	729.1700	946.8000	619.4000	932.2600	714.6300	23.34%	76.66%			
15	CP2107S19-20	14.5200	619.4000	819.1600	815.8600	804.6400	604.8800	24.83%	75.17%			
16	CP5005S01-02	14.5400	815.8600	982.8400	810.2000	988.3000	801.3200	17.24%	82.76%			
17	CP5005S04-05	14.5500	810.2000	999.6400	526.7700	985.0900	795.6500	19.23%	80.77%			
18	CP5005S05-06	14.4900	526.7700	659.2000	485.1300	644.7100	512.2800	20.54%	79.46%			
19	CP5005S09-10	14.4800	485.1300	613.8400	497.3000	599.3600	470.6500	21.47%	78.53%			
20	CP5005S12-13	14.5100	497.3000	641.0200		626.5100	482.7900	22.94%	77.06%			

Comments
Special Codes
H: Hot, O: Organic Hazard, P: PCB Hazard, R: Rush, T: Other (see comments)

Technician: *Kenny Sugg*

100001

KB
10/20/15

Apex-Alpha™

Sample Description: SPIKE
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001317
 Batch Identification: 1510063A-UU
 Sample Identification: 01
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_053
 Chamber Serial Number: 10006122A
 Detector Serial Number: 53
 Env. Background: System Bkgd 131889
 Reagent Blank: <not performed>

Sample Size: 1.000E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/20/2015 12:31:06 PM
 Acquisition Date/Time: 10/20/2015 12:31:06 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.655 mL
 Effective Efficiency: 0.1682 +/- 0.0098
 Counting Efficiency: 0.1455 +/- 0.0026 on 12/13/2014 2:39:33 PM
 Chem. Recovery Factor: 1.1560 +/- 0.0708

Control Certificate Name: NatU_U-8A
 Chem. Recov. of Control: U-238 0.811702 +/- 0.066506
 Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T 5.287	346.98	10.54	1.02	0.00E+000	6.4
U-234	4.742	434.81	9.41	1.19	0.00E+000	14.8
U-235	4.403	18.83	45.41	0.17	0.00E+000	7.4
U-238	4.165	419.15	9.58	0.85	0.00E+000	10.3

T = Tracer Peak used for Effective Efficiency

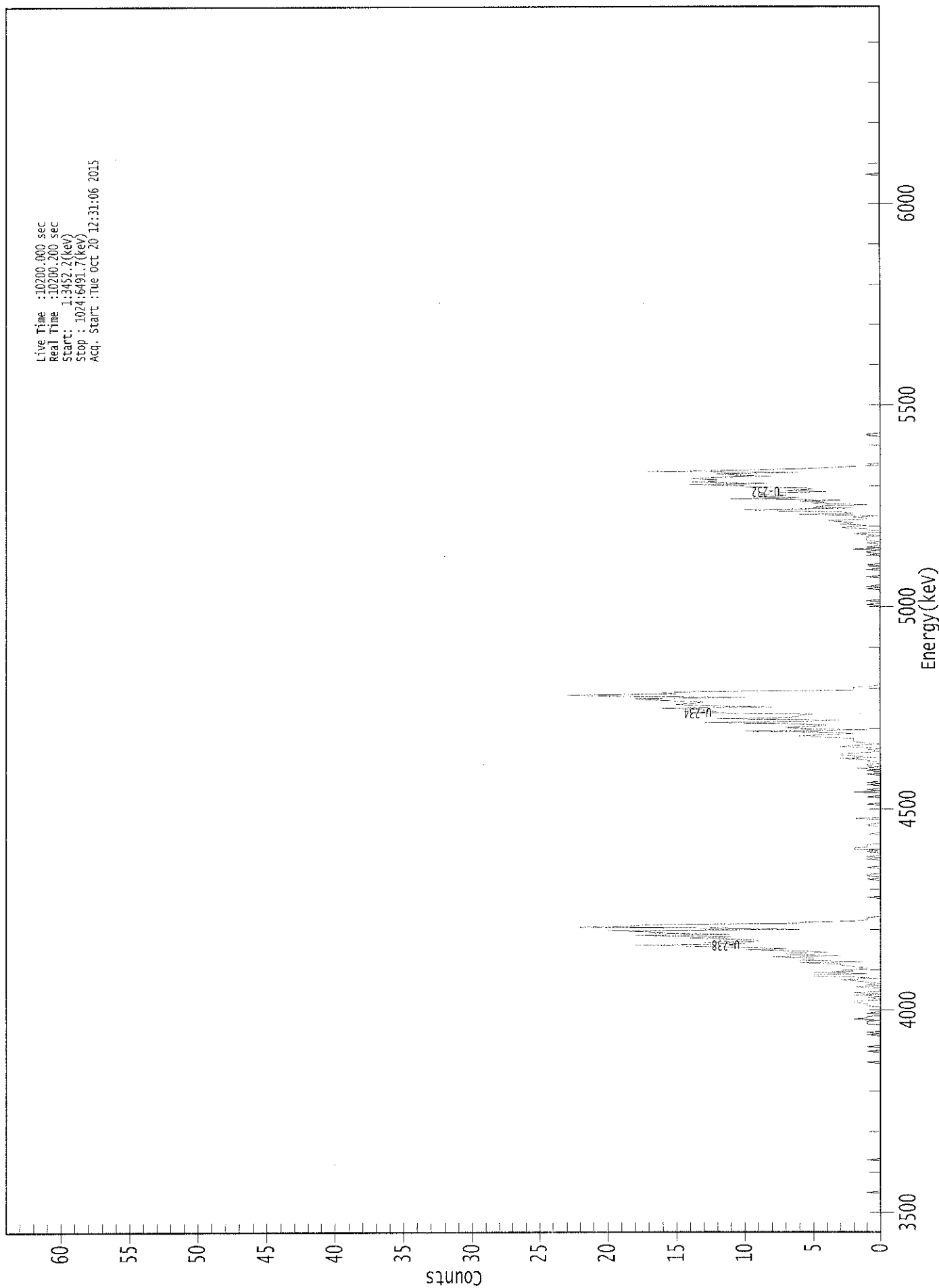
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.998	5302.50*	5.48E+000 +/- 6.28E-001	9.94E-002 +/- 1.14E-002
U-234	0.997	4761.50*	6.86E+000 +/- 1.02E+000	1.04E-001 +/- 1.19E-002
U-235	0.998	4385.50*	3.67E-001 +/- 1.72E-001	8.13E-002 +/- 9.32E-003
U-238	0.997	4184.40*	6.59E+000 +/- 9.84E-001	9.41E-002 +/- 1.08E-002

AG
10/21/15

0000131727.CNF

Live Time : 10200.000 sec
Real Time : 10200.200 sec
Start : 1:3452.2(keV)
Stop : 1024:6491.7(keV)
Acq. Start : Tue Oct 20 12:31:06 2015



ROI Type: 1

ROI Type: 3

***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 01

Elapsed Live time: 10200
Elapsed Real Time: 10200

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	0
33:	0	1	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	1	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0	0
121:	0	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0	0
137:	0	0	0	0	0	1	0	0	0
145:	0	0	0	0	0	0	1	0	0
153:	0	0	1	0	0	0	0	0	0
161:	0	0	0	0	1	0	1	0	0
169:	0	0	0	0	0	1	1	1	1
177:	0	2	1	1	0	0	1	0	0
185:	0	0	0	0	1	1	1	2	2
193:	2	0	0	1	0	2	0	2	2
201:	0	0	0	0	2	0	1	0	0
209:	1	2	3	0	2	5	5	1	1
217:	5	2	3	1	1	2	3	3	3
225:	6	1	6	5	5	8	3	7	7
233:	7	4	6	10	7	10	14	18	18
241:	10	13	9	9	11	14	11	18	18
249:	11	17	16	20	6	10	22	18	18
257:	17	6	6	2	1	1	1	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	1	1
281:	0	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	1	0	0
297:	0	1	1	0	0	0	0	0	0
305:	1	0	0	0	0	0	0	1	1
313:	0	1	0	0	0	1	0	2	2
321:	2	1	1	1	0	0	0	0	0
329:	0	0	0	0	1	0	0	0	0
337:	0	0	0	1	1	0	0	0	0
345:	0	2	0	0	0	0	0	0	0
353:	0	0	0	0	0	1	0	0	0
361:	0	0	0	1	0	0	0	2	2

369: 0 1 0 0 0 1 0 1

Sample Title: 01

Channel	1	2	3	4	5	6	7	8	9
377:	0	0	0	0	0	0	1	0	
385:	0	1	0	2	0	1	1	0	
393:	0	1	1	3	0	2	3	3	
401:	1	0	1	0	1	3	2	0	
409:	1	2	2	2	2	5	6	4	
417:	2	4	10	1	6	7	5	4	
425:	7	13	5	3	12	7	6	6	
433:	5	14	12	13	13	16	8	13	
441:	15	14	13	15	17	18	10	19	
449:	23	15	16	13	2	2	2	1	
457:	0	0	0	0	0	0	0	0	
465:	0	0	0	0	0	0	0	0	
473:	0	0	0	0	0	0	0	0	
481:	0	0	0	0	0	0	0	0	
489:	0	0	0	0	0	0	0	0	
497:	0	0	0	0	0	0	0	0	
505:	0	0	0	0	0	0	0	0	
513:	0	0	0	0	0	0	0	0	
521:	0	0	0	1	0	0	1	0	
529:	0	0	0	0	0	0	0	0	
537:	1	0	1	0	0	0	0	0	
545:	0	0	1	0	0	0	0	0	
553:	1	0	0	0	1	0	0	0	
561:	0	0	0	0	1	0	1	1	
569:	0	2	0	1	0	0	1	0	
577:	1	1	1	1	0	1	2	0	
585:	0	1	1	3	2	1	3	2	
593:	3	4	1	1	2	0	6	2	
601:	3	9	10	2	5	4	1	5	
609:	4	6	3	11	6	9	7	9	
617:	9	4	7	5	5	10	10	14	
625:	8	14	12	12	14	12	8	11	
633:	12	6	17	10	6	4	2	0	
641:	1	0	0	0	0	0	0	0	
649:	0	0	0	0	0	0	0	0	
657:	0	0	0	0	0	0	0	0	
665:	1	1	0	0	0	0	0	0	
673:	0	0	0	0	0	0	0	0	
681:	0	0	0	0	0	0	0	0	
689:	0	0	0	0	0	0	0	0	
697:	0	0	0	0	0	0	0	0	
705:	0	0	0	0	0	0	0	0	
713:	0	0	0	0	0	0	0	0	
721:	0	0	0	0	0	0	0	0	
729:	0	0	0	0	0	0	0	0	
737:	0	0	0	0	0	0	0	0	
745:	0	0	0	0	0	0	0	0	
753:	0	0	0	0	0	0	0	0	
761:	0	0	0	0	0	0	0	0	
769:	0	0	0	0	0	0	0	0	
777:	0	0	0	0	0	0	0	0	
785:	0	0	0	0	0	0	0	0	
793:	0	0	0	0	0	0	0	0	

801: 0 0 0 0 0 0 0 0

Sample Title: 01

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	1	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0



Apex-Alpha™

LB
10/20/15

Sample Description: BLANK
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-UU
 Sample Identification: 02
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_004
 Chamber Serial Number:
 Detector Serial Number: 4
 Env. Background: System Bkgd 131863
 Reagent Blank: <not performed>

Sample Size: 1.500E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/20/2015 6:49:45 AM
 Acquisition Date/Time: 10/20/2015 9:09:00 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.660 mL
 Effective Efficiency: 0.2072 +/- 0.0111
 Counting Efficiency: 0.1892 +/- 0.0033 on 10/25/2014 6:43:53 PM
 Chem. Recovery Factor: 1.0951 +/- 0.0616

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T 5.285	430.49	9.45	0.51	0.00E+000	23.1
U-234	4.698	1.15	249.60	0.85	0.00E+000	2.9
U-235	4.456	0.15	1398.5	0.85	0.00E+000	2.9
U-238	4.149	3.15	126.68	0.85	0.00E+000	2.9

T = Tracer Peak used for Effective Efficiency

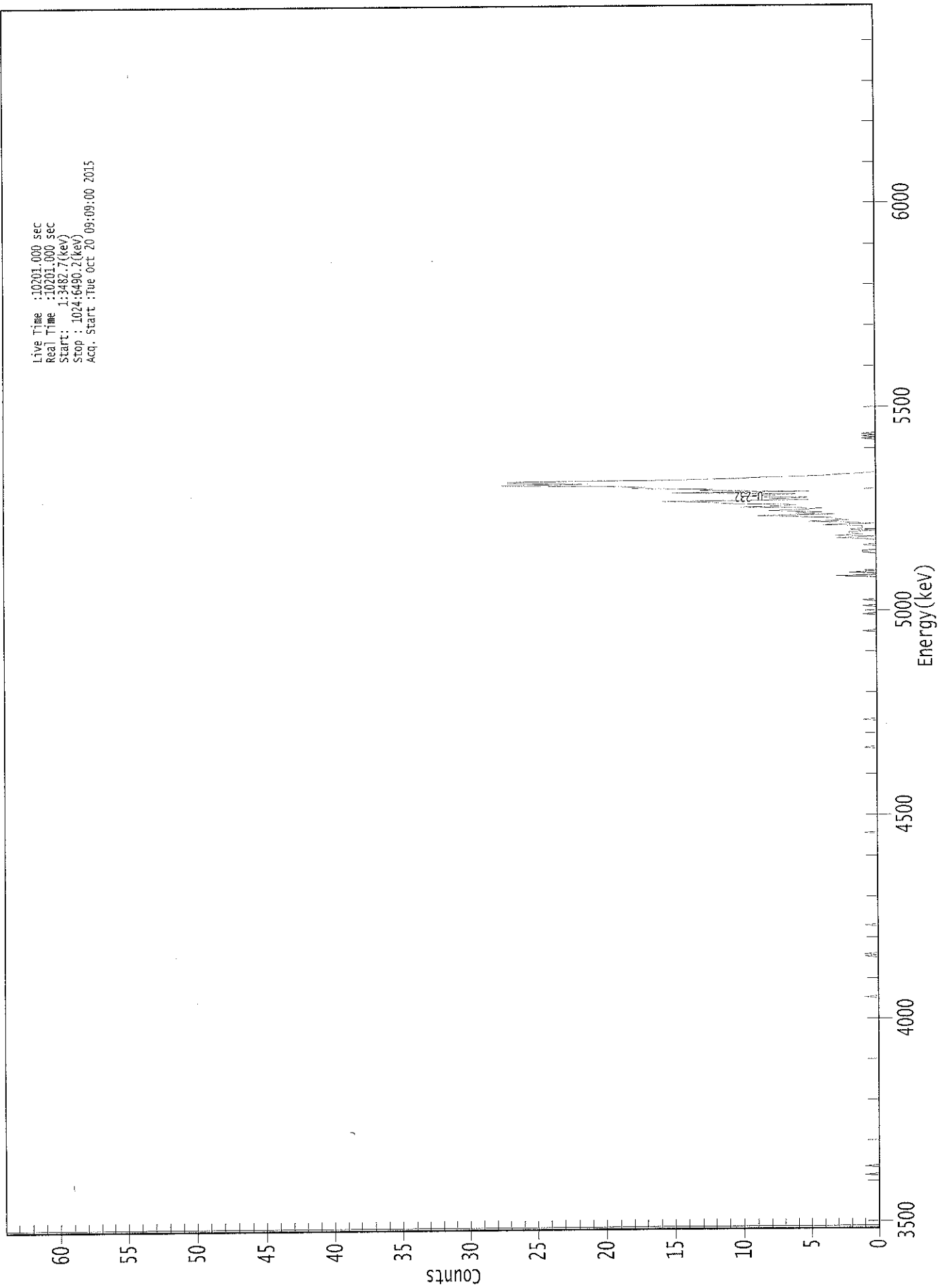
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.998	5302.50*	3.68E+000 +/- 3.85E-001	4.48E-002 +/- 4.69E-003
U-234	0.972	4761.50*	9.82E-003 +/- 2.45E-002	5.11E-002 +/- 5.36E-003
U-235	0.965	4385.50*	1.58E-003 +/- 2.21E-002	6.31E-002 +/- 6.61E-003
U-238	0.991	4184.40*	2.68E-002 +/- 3.41E-002	5.09E-002 +/- 5.33E-003

AG
10/21/15

0000131682.CNF

Live Time : 10201.000 sec
Real Time : 10201.000 sec
Start : 1:3482.7(keV)
Stop : 1024:6490.2(keV)
Acq. Start : Tue Oct 20 09:09:00 2015



ROI Type: 1

ROI Type: 3

86000 :

***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 02

Elapsed Live time: 10201
Elapsed Real Time: 10201

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	10201	10201	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	1	0	0
49:	0	0	0	0	1	0	0	0
57:	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0
121:	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0
137:	0	0	0	0	0	0	0	0
145:	0	0	0	0	0	0	0	0
153:	0	0	0	0	0	0	0	0
161:	0	0	0	0	0	0	0	0
169:	0	0	0	0	0	0	0	0
177:	0	0	0	0	0	0	0	0
185:	0	0	0	0	0	0	0	0
193:	0	0	1	0	0	0	0	0
201:	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0
217:	0	0	0	0	0	0	0	0
225:	0	0	0	0	1	0	1	0
233:	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	1	0
257:	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	0
297:	0	0	0	0	0	0	0	0
305:	0	0	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	0
321:	0	0	0	0	0	0	0	0
329:	0	0	0	1	0	0	0	0
337:	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	0
353:	0	0	0	0	0	0	0	0
361:	0	0	0	0	0	0	0	0

369: 0 0 0 0 0 0 0 0 0

Sample Title: 02

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	0	0	0	0	0	0	0	0
385:	0	0	0	0	0	0	0	0
393:	0	0	0	0	0	0	0	0
401:	0	0	1	0	0	0	0	0
409:	0	0	0	0	0	0	0	0
417:	0	0	0	0	0	0	0	0
425:	0	1	0	0	0	0	0	0
433:	0	0	0	0	0	0	0	0
441:	0	0	0	0	0	0	0	0
449:	0	0	0	0	0	0	0	0
457:	0	0	0	0	0	0	0	0
465:	0	0	0	0	0	0	0	0
473:	0	0	0	0	0	0	0	0
481:	0	0	0	0	0	0	0	0
489:	0	0	0	0	0	0	0	0
497:	0	0	0	1	0	0	0	0
505:	0	0	0	0	0	0	0	0
513:	0	1	0	0	0	0	0	0
521:	1	0	0	0	0	1	0	0
529:	0	0	0	0	0	0	0	0
537:	0	0	0	0	0	0	0	0
545:	0	3	0	0	2	0	0	0
553:	0	0	0	0	0	0	0	0
561:	0	0	0	0	0	1	1	0
569:	0	0	0	1	0	0	0	0
577:	1	3	0	3	1	2	2	0
585:	2	1	1	1	4	0	2	5
593:	2	3	3	6	9	3	6	4
601:	8	5	4	10	7	6	11	12
609:	16	5	8	5	10	8	6	15
617:	5	13	12	18	17	20	28	21
625:	27	27	15	10	9	4	3	1
633:	0	0	0	0	0	0	0	0
641:	0	0	0	0	0	0	0	0
649:	0	0	0	0	0	0	0	0
657:	0	0	0	0	1	0	1	0
665:	1	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	0
705:	0	0	0	0	0	0	0	0
713:	0	0	0	0	0	0	0	0
721:	0	0	0	0	0	0	0	0
729:	0	0	0	0	0	0	0	0
737:	0	0	0	0	0	0	0	0
745:	0	0	0	0	0	0	0	0
753:	0	0	0	0	0	0	0	0
761:	0	0	0	0	0	0	0	0
769:	0	0	0	0	0	0	0	0
777:	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	0	0

801: 0 0 0 0 0 0 0 0 0

Sample Title: 02

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

Apex-Alpha™

10/20/2015

Sample Description: CP0403S02-03-DUP
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-UU
 Sample Identification: 03
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_010
 Chamber Serial Number:
 Detector Serial Number: 10
 Env. Background: System Bkgd 131864
 Reagent Blank: <not performed>

Sample Size: 1.516E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/5/2015 6:49:45 AM
 Acquisition Date/Time: 10/20/2015 9:09:00 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.653 mL
 Effective Efficiency: 0.1917 +/- 0.0107
 Counting Efficiency: 0.1921 +/- 0.0033 on 10/25/2014 6:44:30 PM
 Chem. Recovery Factor: 0.9983 +/- 0.0581

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T 5.287	393.94	9.92	3.06	0.00E+000	24.9
U-234	4.744	127.47	17.48	1.53	0.00E+000	6.0
U-235	4.364	1.15	249.60	0.85	0.00E+000	2.9
U-238	4.162	143.98	16.40	1.02	0.00E+000	5.3

T = Tracer Peak used for Effective Efficiency

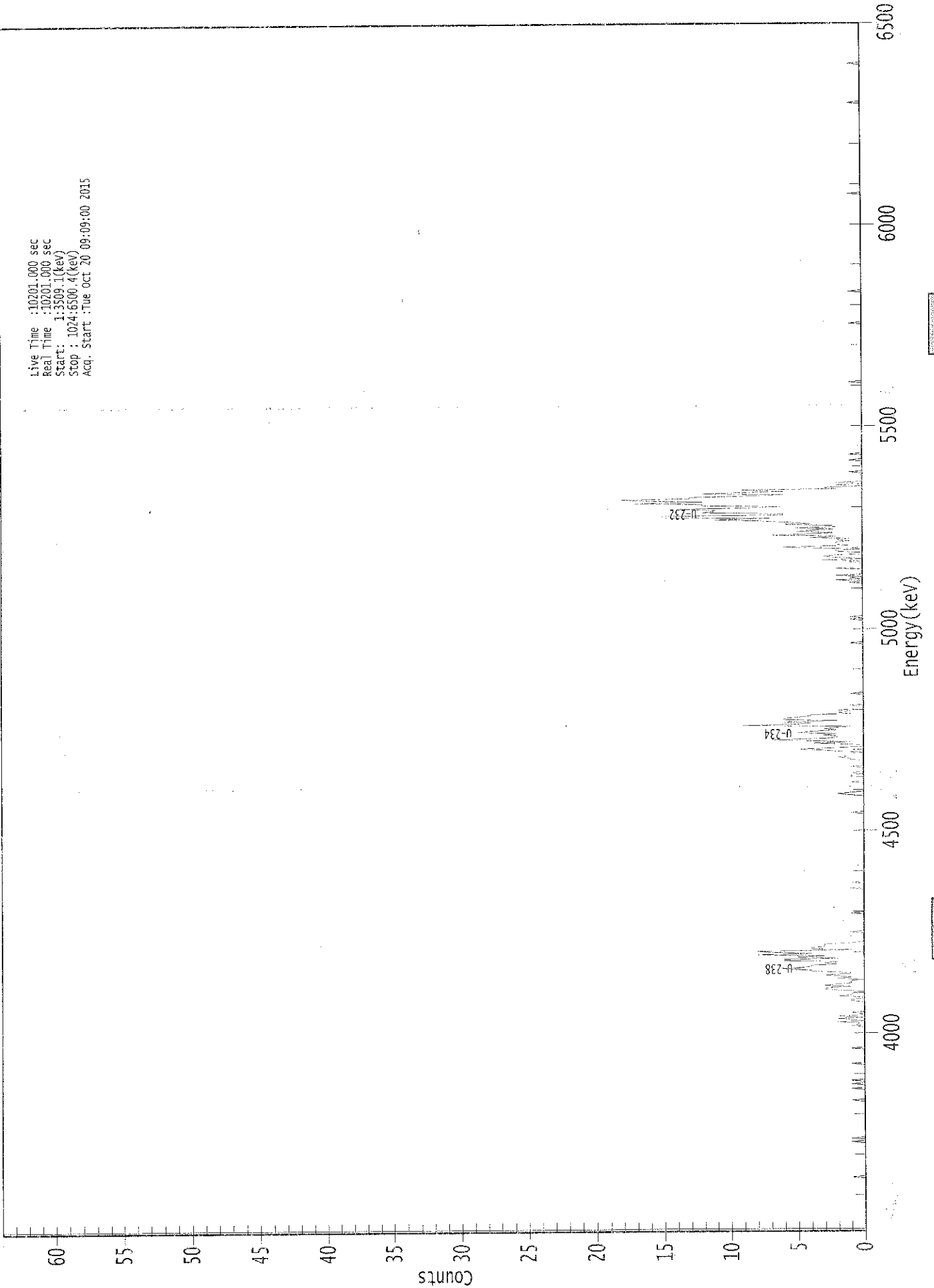
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.998	5302.50*	3.60E+000 +/- 3.92E-001	8.16E-002 +/- 8.89E-003
U-234	0.998	4761.50*	1.16E+000 +/- 2.40E-001	6.49E-002 +/- 7.07E-003
U-235	0.997	4385.50*	1.30E-002 +/- 3.24E-002	6.75E-002 +/- 7.35E-003
U-238	0.996	4184.40*	1.31E+000 +/- 2.58E-001	5.73E-002 +/- 6.24E-003

AG
 10/21/15

0000131683.CNF

Live Time :10201.000 sec
Real Time :10201.000 sec
Start : 1:3509.1(keV)
Stop : 1024:6500.4(keV)
Acq. Start :Tue Oct 20 09:09:00 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 03

Elapsed Live time: 10201
 Elapsed Real Time: 10201

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	10201	10201	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	1	0
49:	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0
73:	0	0	0	0	1	0	0	1
81:	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	1
113:	0	0	0	0	0	0	0	0
121:	0	1	0	0	0	1	0	0
129:	1	0	0	0	0	0	0	0
137:	0	0	0	0	0	0	1	0
145:	0	0	0	0	0	0	0	0
153:	0	0	0	1	0	0	0	0
161:	0	0	0	0	0	0	0	0
169:	0	0	0	0	0	0	1	0
177:	0	2	0	1	2	0	2	0
185:	0	1	0	0	0	0	0	0
193:	0	0	0	1	1	0	0	2
201:	1	1	0	0	2	3	3	1
209:	3	2	1	1	1	0	2	1
217:	2	3	1	1	4	4	6	5
225:	4	4	2	3	2	6	6	2
233:	5	3	8	4	7	8	1	4
241:	4	3	3	3	1	0	0	0
249:	0	0	0	0	0	1	0	0
257:	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	1	0	0
273:	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0
289:	0	0	1	0	0	0	0	1
297:	0	0	0	0	0	0	0	0
305:	0	0	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	0
321:	0	0	0	0	0	0	0	0
329:	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	0
353:	0	0	1	0	0	0	0	0
361:	0	0	0	0	0	0	0	0

369: 0 1 2 1 0 0 0 0

Sample Title: 03

Channel	1	2	3	4	5	6	7	8
377:	0	0	0	0	1	0	0	0
385:	0	1	1	0	1	0	0	0
393:	0	1	0	0	0	0	0	1
401:	1	2	1	1	1	0	2	3
409:	5	2	0	0	1	4	1	4
417:	7	3	2	2	3	2	5	4
425:	2	3	2	1	9	5	4	6
433:	2	6	6	5	4	4	1	2
441:	1	2	0	0	0	1	0	0
449:	0	0	0	0	0	0	0	1
457:	0	0	0	0	0	0	0	0
465:	0	0	0	0	0	0	0	0
473:	0	0	0	0	0	0	0	0
481:	0	0	0	0	0	0	0	0
489:	0	0	0	0	0	0	0	0
497:	0	0	1	0	0	0	0	0
505:	0	0	0	0	0	0	0	0
513:	0	0	0	0	0	0	1	0
521:	1	0	0	0	0	0	0	0
529:	0	0	0	0	0	0	0	0
537:	0	0	0	0	0	0	0	0
545:	0	0	0	0	0	1	0	2
553:	0	1	0	2	0	0	0	0
561:	0	2	0	0	0	0	1	0
569:	3	0	2	3	2	0	0	2
577:	2	0	4	6	1	2	2	2
585:	1	2	1	4	2	7	4	2
593:	5	4	2	5	2	2	6	4
601:	6	8	11	7	15	15	6	6
609:	12	11	11	14	9	6	12	12
617:	17	12	16	18	13	13	9	6
625:	12	9	6	9	2	3	0	2
633:	0	2	0	0	0	0	0	0
641:	0	0	1	0	0	0	0	0
649:	0	0	0	0	1	0	0	0
657:	0	1	0	0	0	0	0	0
665:	0	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	0
705:	0	0	0	0	0	0	0	0
713:	0	0	0	0	0	0	1	0
721:	0	0	0	0	0	0	0	0
729:	0	0	0	0	0	0	0	0
737:	0	0	0	0	0	0	0	0
745:	0	0	0	0	0	0	0	0
753:	0	0	0	0	0	0	0	0
761:	0	0	0	0	0	0	0	0
769:	1	0	0	0	0	0	0	0
777:	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	0	0	0
793:	0	0	0	1	0	0	0	0

801: 0 0 0 0 0 0 0 0 0

Sample Title: 03

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	1	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	1	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	1	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

KB
10/20/15

Apex-Alpha™

Sample Description: CP0403S02-03
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-UU
 Sample Identification: 04
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_011
 Chamber Serial Number:
 Detector Serial Number: 11
 Env. Background: System Bkgd 131865
 Reagent Blank: <not performed>

Sample Size: 1.506E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/5/2015 6:49:45 AM
 Acquisition Date/Time: 10/20/2015 9:09:02 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.653 mL
 Effective Efficiency: 0.2183 +/- 0.0115
 Counting Efficiency: 0.2004 +/- 0.0035 on 10/25/2014 6:44:33 PM
 Chem. Recovery Factor: 1.0894 +/- 0.0603

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T 5.280	448.81	9.27	1.19	0.00E+000	30.4
U-234	4.732	199.81	13.91	1.19	0.00E+000	4.2
U-235	4.393	7.66	72.63	0.34	0.00E+000	2.6
U-238	4.151	144.15	16.38	0.85	0.00E+000	4.4

T = Tracer Peak used for Effective Efficiency

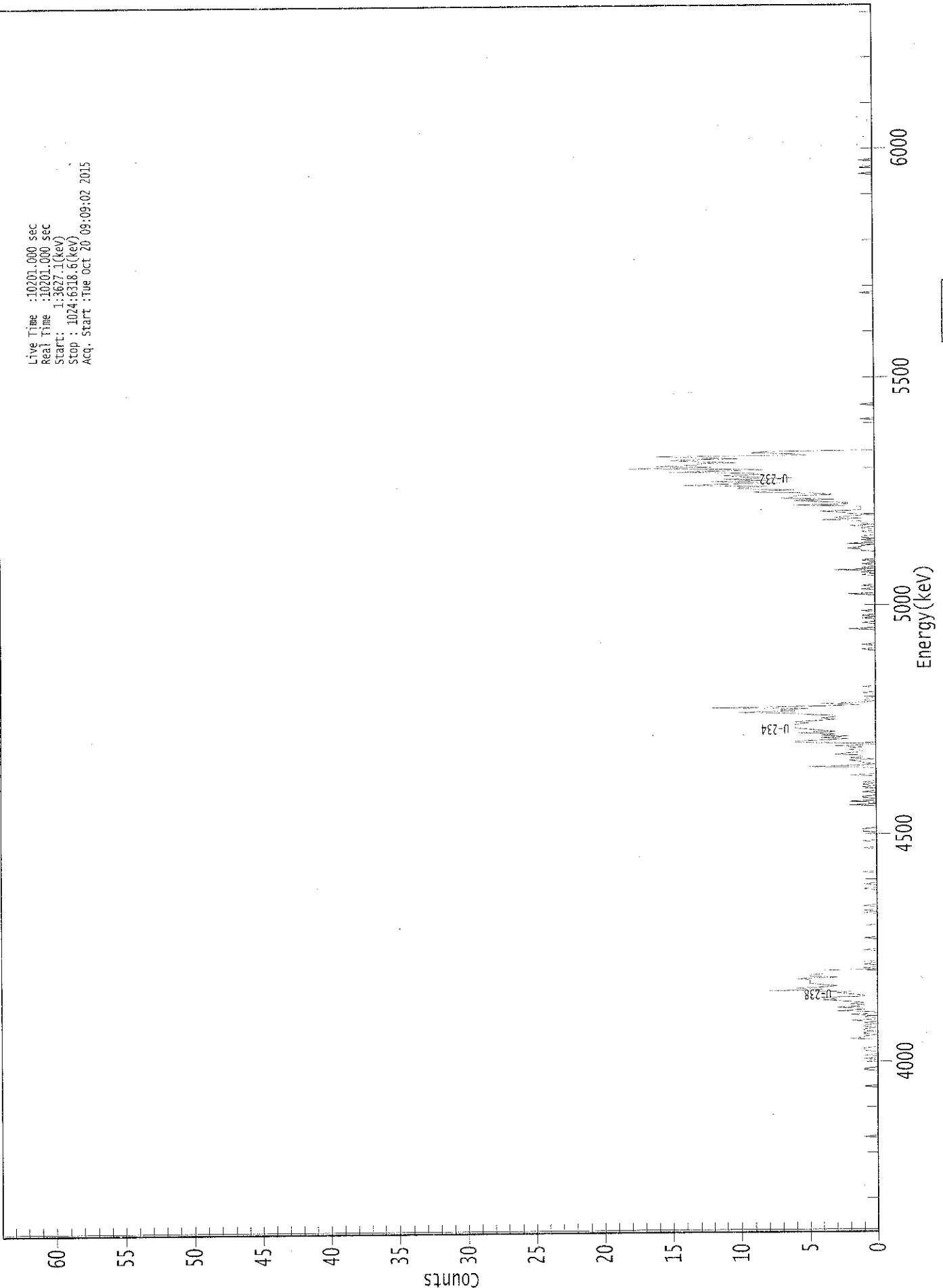
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.997	5302.50*	3.63E+000 +/- 3.74E-001	5.32E-002 +/- 5.49E-003
U-234	0.994	4761.50*	1.61E+000 +/- 2.79E-001	5.32E-002 +/- 5.48E-003
U-235	1.000	4385.50*	7.63E-002 +/- 5.60E-002	4.76E-002 +/- 4.91E-003
U-238	0.992	4184.40*	1.16E+000 +/- 2.24E-001	4.81E-002 +/- 4.96E-003

AG
10/21/15

0000131684.CNF

Live Time : 10201.000 sec
Real Time : 10201.000 sec
Start : 1:3627.1 (keV)
Stop : 1024:1618.6 (keV)
Acq. Start : Tue Oct 20 09:09:02 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 04

Elapsed Live time: 10201
 Elapsed Real Time: 10201

Channel	10201	10201	0	0	0	0	0	0	0
1:	10201	10201	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0	1
81:	0	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0	0
121:	0	1	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0	1
137:	1	0	0	0	0	0	0	0	0
145:	1	0	0	1	0	0	0	0	1
153:	1	1	0	0	0	0	0	0	0
161:	0	2	1	1	0	1	1	0	0
169:	1	1	0	1	1	0	1	0	0
177:	2	0	0	1	0	2	0	0	0
185:	3	1	1	3	1	1	2	1	1
193:	2	4	3	5	1	1	2	3	3
201:	2	8	4	6	4	3	4	5	5
209:	5	5	5	6	3	5	5	4	4
217:	4	4	4	0	1	0	0	1	1
225:	0	1	0	0	0	0	0	0	0
233:	0	0	0	1	0	0	0	0	0
241:	0	0	0	0	0	1	0	0	0
249:	0	0	0	0	0	0	0	0	0
257:	0	0	0	0	0	0	0	0	0
265:	0	0	1	0	1	0	0	0	0
273:	1	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	1	0	0
289:	0	0	1	0	0	0	0	0	0
297:	0	0	0	0	1	0	0	0	0
305:	0	0	0	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	0	0
321:	1	0	0	0	0	0	1	0	0
329:	0	0	0	0	0	0	1	1	1
337:	1	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	0	0
353:	0	0	0	0	2	0	0	2	2
361:	0	0	1	1	0	0	0	1	1

369: 0 0 0 1 0 1 0 1

Sample Title: 04

Channel	1	2	3	4	5	6	7	8	9
377:	0	0	0	0	0	2	0	0	
385:	0	0	0	0	5	1	0	1	
393:	1	2	0	2	1	1	3	2	
401:	1	1	2	2	1	3	0	1	
409:	6	6	4	2	4	2	4	3	
417:	6	3	4	5	6	6	6	6	
425:	5	6	4	3	4	3	3	5	
433:	6	10	6	7	5	12	4	1	
441:	4	1	0	1	1	0	0	0	
449:	0	1	0	0	0	0	1	0	
457:	0	0	0	0	0	0	0	0	
465:	0	0	0	0	0	0	0	0	
473:	0	0	0	0	0	0	0	0	
481:	0	0	0	0	0	1	0	0	
489:	0	1	0	0	0	0	0	0	
497:	0	0	0	0	0	0	2	0	
505:	0	0	0	1	0	0	0	1	
513:	0	1	0	0	0	1	0	0	
521:	0	0	0	0	0	0	0	0	
529:	0	0	0	2	0	0	0	1	
537:	0	0	1	0	0	0	0	0	
545:	0	0	0	1	0	1	0	3	
553:	0	1	0	0	1	0	0	1	
561:	0	0	0	0	0	0	0	1	
569:	1	2	1	1	0	2	0	0	
577:	1	0	1	1	0	0	0	1	
585:	0	0	1	0	2	0	1	1	
593:	1	4	1	3	2	0	2	2	
601:	4	1	1	1	1	6	2	2	
609:	4	6	3	7	6	6	3	4	
617:	9	8	6	10	10	8	14	11	
625:	7	12	8	11	6	10	11	8	
633:	9	15	11	8	18	12	16	13	
641:	13	10	14	15	10	13	16	5	
649:	6	9	8	0	0	0	0	0	
657:	0	0	0	0	0	0	0	0	
665:	0	0	0	0	0	0	0	0	
673:	0	0	0	0	0	1	0	0	
681:	0	0	0	0	0	0	0	0	
689:	0	1	0	0	0	0	0	0	
697:	0	0	0	0	0	0	0	0	
705:	0	0	0	0	0	0	0	0	
713:	0	0	0	0	0	0	0	0	
721:	0	0	0	0	0	0	0	0	
729:	0	0	0	0	0	0	0	0	
737:	0	0	0	0	0	0	0	0	
745:	0	0	0	0	0	0	0	0	
753:	0	0	0	0	0	0	0	0	
761:	0	0	0	0	0	0	0	0	
769:	0	0	0	0	0	0	0	0	
777:	0	0	0	0	0	0	1	0	
785:	0	0	0	0	0	0	0	0	
793:	0	0	0	0	0	0	0	0	

801: 0 0 0 0 0 0 0 0 0

Sample Title: 04

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	1	0	0	0	0	1	0
889:	0	0	0	0	1	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

Apex-Alpha™

10/20/15

Sample Description: CP0403S04-05
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-UU
 Sample Identification: 05
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_012
 Chamber Serial Number:
 Detector Serial Number: 12
 Env. Background: System Bkgd 131866
 Reagent Blank: <not performed>

Sample Size: 1.511E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/5/2015 6:49:45 AM
 Acquisition Date/Time: 10/20/2015 9:09:03 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.658 mL
 Effective Efficiency: 0.1843 +/- 0.0104
 Counting Efficiency: 0.1936 +/- 0.0034 on 10/25/2014 6:44:33 PM
 Chem. Recovery Factor: 0.9518 +/- 0.0560

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T 5.286	381.98	10.04	1.02	0.00E+000	33.3
U-234	4.740	107.15	19.02	0.85	0.00E+000	20.8
U-235	4.396	9.83	63.14	0.17	0.00E+000	3.0
U-238	4.162	112.83	18.47	0.17	0.00E+000	6.3

T = Tracer Peak used for Effective Efficiency

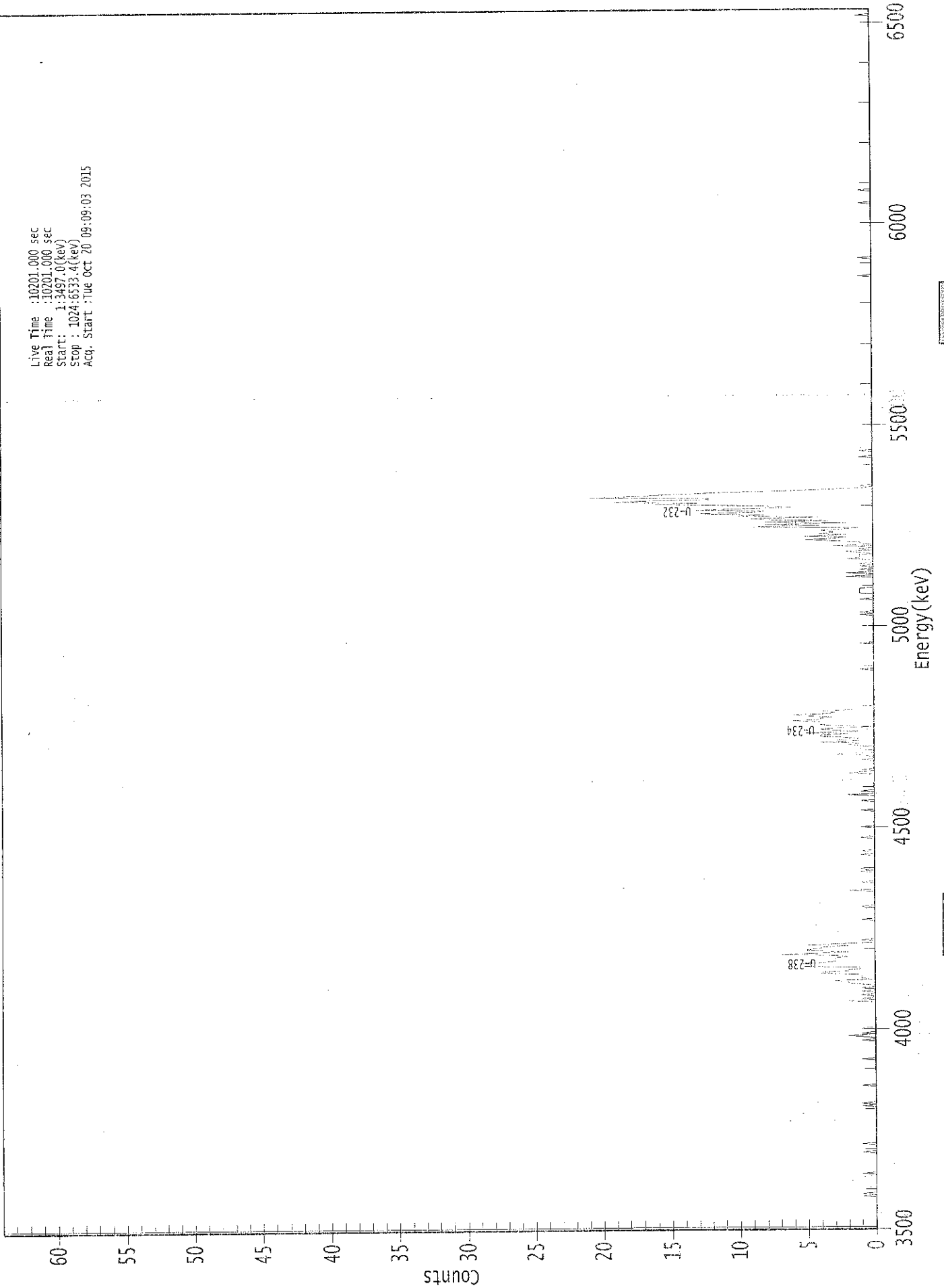
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.998	5302.50*	3.64E+000 +/- 4.01E-001	6.01E-002 +/- 6.62E-003
U-234	0.997	4761.50*	1.02E+000 +/- 2.25E-001	5.71E-002 +/- 6.29E-003
U-235	0.999	4385.50*	1.16E-001 +/- 7.41E-002	4.91E-002 +/- 5.40E-003
U-238	0.997	4184.40*	1.07E+000 +/- 2.30E-001	3.96E-002 +/- 4.36E-003

AG
 10/21/15

0000131685.CNF

Live Time : 10201.000 sec
Real Time : 10201.000 sec
Start : 1:3497.0(Rev)
Stop : 1024:6333.4(Rev)
Acq. Start : Tue Oct 20 09:09:03 2015



ROI Type: 3

ROI Type: 1

: 00113

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 05

Elapsed Live time: 10201
 Elapsed Real Time: 10201

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	10201	10201	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0
25:	0	0	0	0	1	0	1	0
33:	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	1
49:	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0
65:	0	1	0	0	0	0	0	0
73:	1	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0
105:	1	0	1	0	0	0	0	0
113:	0	0	0	0	0	0	0	0
121:	0	1	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0
137:	0	0	0	0	0	0	0	1
145:	0	0	0	0	0	0	0	0
153:	0	0	0	0	0	0	0	1
161:	0	0	1	2	0	1	0	0
169:	0	1	0	0	0	0	0	0
177:	0	0	0	0	0	0	0	0
185:	0	0	0	0	0	0	0	0
193:	2	0	1	0	0	1	0	0
201:	1	0	0	1	0	0	1	2
209:	2	3	0	1	1	1	1	4
217:	4	2	2	1	1	5	6	6
225:	4	3	3	3	3	2	3	7
233:	4	2	5	5	4	4	2	5
241:	2	0	0	1	0	0	0	0
249:	0	0	0	0	0	0	0	0
257:	0	0	0	0	1	0	0	0
265:	0	0	0	0	0	0	0	1
273:	0	0	0	0	0	0	0	0
281:	0	0	0	0	2	0	0	0
289:	0	0	0	1	0	0	0	0
297:	0	0	0	0	1	0	1	0
305:	0	0	0	0	0	0	0	0
313:	0	0	1	0	0	1	0	0
321:	0	0	0	0	0	0	0	0
329:	1	0	0	0	0	0	0	0
337:	0	1	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	1
353:	0	0	0	0	0	0	0	1
361:	0	0	0	0	2	0	0	1

369: 0 0 0 0 0 0 0 0 0

Sample Title: 05

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	0	0	0	0	0	0	2	1
385:	0	1	0	0	0	0	0	0
393:	0	1	0	0	0	1	3	0
401:	0	0	1	1	1	1	2	1
409:	4	1	3	1	2	4	4	2
417:	5	1	3	4	3	0	3	4
425:	4	4	6	4	4	3	5	6
433:	3	3	4	2	0	0	0	0
441:	0	0	0	0	0	0	0	0
449:	0	0	0	0	0	0	0	0
457:	0	0	0	0	0	0	0	0
465:	0	0	0	0	0	1	0	0
473:	0	0	0	0	0	0	0	0
481:	0	0	0	0	0	0	0	0
489:	0	0	0	1	0	0	0	0
497:	0	0	0	0	0	0	0	0
505:	0	0	0	0	0	0	0	0
513:	0	0	0	1	0	1	0	0
521:	0	0	0	0	0	0	0	0
529:	1	0	0	0	0	1	1	1
537:	1	1	0	0	0	0	0	0
545:	0	0	0	2	0	0	2	0
553:	0	1	0	0	1	0	1	0
561:	0	0	2	1	1	1	0	1
569:	2	0	1	0	1	3	0	1
577:	1	3	5	3	2	5	2	4
585:	3	3	4	2	1	9	4	8
593:	2	8	3	8	9	4	10	8
601:	13	9	8	13	10	6	7	11
609:	16	13	19	17	12	12	21	17
617:	16	13	11	6	4	1	0	1
625:	0	0	0	0	0	0	0	0
633:	0	0	0	0	0	0	0	0
641:	0	0	0	0	0	0	0	1
649:	0	0	0	0	1	0	0	0
657:	0	0	0	0	0	0	0	0
665:	0	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	0
705:	0	0	0	0	0	0	0	0
713:	0	0	0	0	0	0	0	0
721:	0	0	0	0	0	0	0	0
729:	0	0	0	0	0	0	0	0
737:	0	0	0	0	0	0	0	0
745:	0	0	0	0	0	0	0	0
753:	0	0	0	0	0	0	0	0
761:	0	0	0	0	0	0	0	0
769:	0	0	0	0	0	0	0	0
777:	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	1	0

801: 0 0 0 0 0 0 0 0 0

Sample Title: 05

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	0	0	0	0	1	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	1	0	0	0	0
865:	0	0	0	0	0	0	1	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	1	0	0	0	0	0	0

YB
10/20/15

Apex-Alpha™

Sample Description: CP040S07-08
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-UU
 Sample Identification: 06
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_014
 Chamber Serial Number:
 Detector Serial Number: 14
 Env. Background: System Bkgd 131867
 Reagent Blank: <not performed>

Sample Size: 1.520E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/5/2015 6:49:45 AM
 Acquisition Date/Time: 10/20/2015 9:09:04 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.659 mL
 Effective Efficiency: 0.1861 +/- 0.0104
 Counting Efficiency: 0.1840 +/- 0.0032 on 10/25/2014 6:45:28 PM
 Chem. Recovery Factor: 1.0112 +/- 0.0594

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T 5.281	385.77	10.03	3.23	0.00E+000	30.0
U-234	4.726	101.43	19.86	3.57	0.00E+000	3.5
U-235	4.364	8.15	72.72	0.85	0.00E+000	2.9
U-238	4.151	80.15	22.03	0.85	0.00E+000	3.4

T = Tracer Peak used for Effective Efficiency

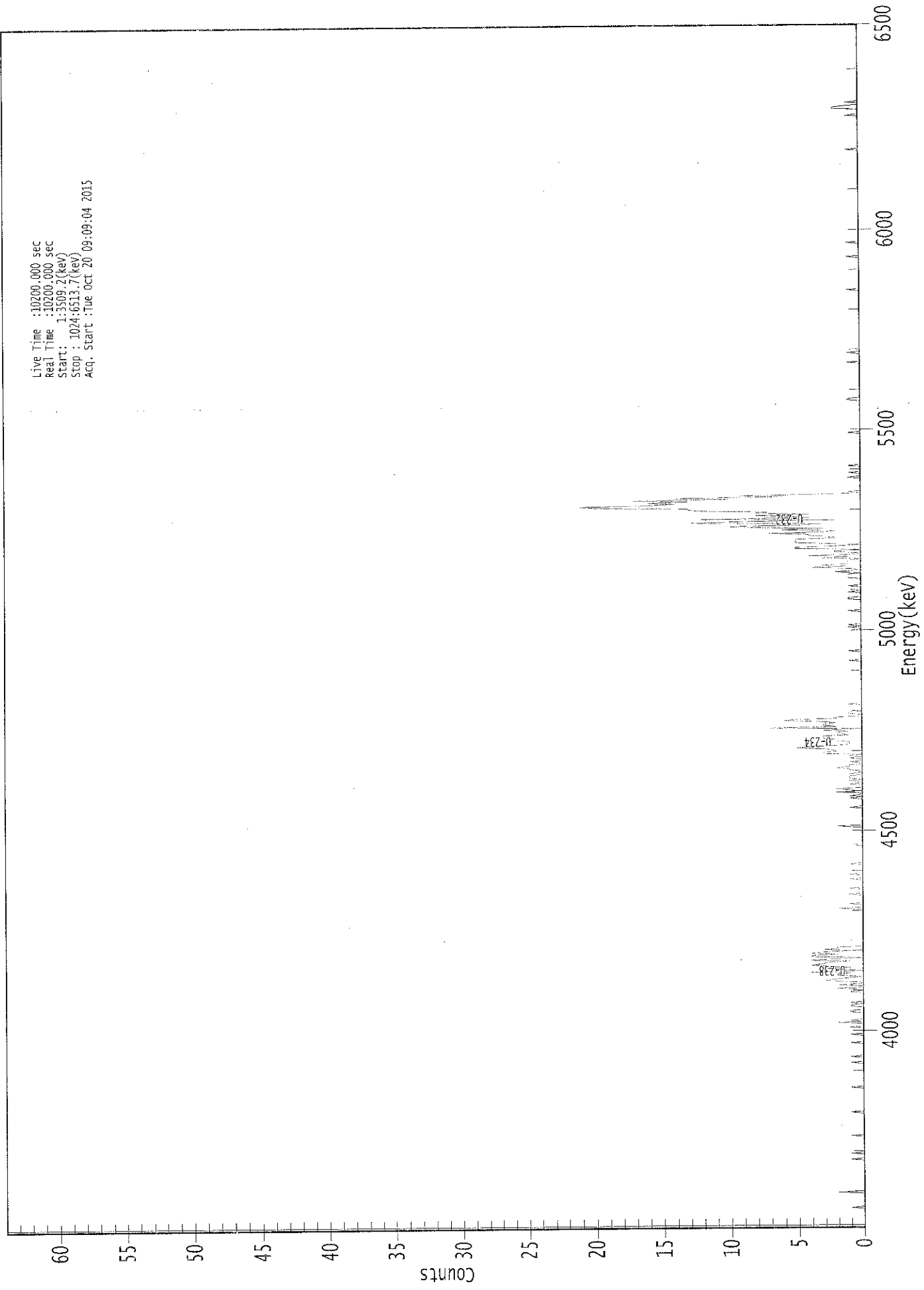
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.997	5302.50*	3.62E+000 +/- 3.98E-001	8.55E-002 +/- 9.40E-003
U-234	0.991	4761.50*	9.52E-001 +/- 2.16E-001	8.85E-002 +/- 9.73E-003
U-235	0.997	4385.50*	9.44E-002 +/- 6.94E-002	6.93E-002 +/- 7.62E-003
U-238	0.992	4184.40*	7.49E-001 +/- 1.84E-001	5.60E-002 +/- 6.15E-003

AG
10/21/15

0000131686.CNF

Live Time : 10200.000 sec
Real Time : 10200.000 sec
Start : 1:3509.2(keV)
Stop : 1024:6513.7(keV)
Acq. Start : Tue Oct 20 09:09:04 2015



ROI Type: 3

ROI Type: 1

***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 06

Elapsed Live time: 10200
Elapsed Real Time: 10200

Channel	1	2	3	4	5	6	7	8	9
1:	10200	10200	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0	0
17:	0	1	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	2	0
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	1	0	0	0	0	0	1
65:	0	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	1	0
81:	0	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0	0
97:	0	0	1	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0	1
121:	0	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0	0
137:	0	0	0	0	1	0	0	0	0
145:	0	1	0	0	0	0	0	0	0
153:	0	0	0	0	0	1	0	0	0
161:	0	0	0	0	1	0	0	0	0
169:	0	0	1	0	0	0	0	2	0
177:	1	0	0	0	0	0	0	0	1
185:	1	0	0	0	1	1	0	0	1
193:	0	0	0	0	0	0	0	0	0
201:	1	0	0	2	0	0	0	2	0
209:	0	2	3	2	1	0	0	2	2
217:	1	4	0	1	3	1	0	3	4
225:	3	3	1	4	2	0	0	4	4
233:	2	4	3	1	3	2	0	2	0
241:	0	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	0	0	0
257:	0	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0	2
273:	0	0	0	1	0	0	0	0	0
281:	0	0	0	1	0	0	0	0	0
289:	1	0	0	0	0	0	0	0	0
297:	1	0	0	0	1	0	0	0	0
305:	0	0	0	0	0	1	0	0	0
313:	0	0	0	0	0	0	0	0	0
321:	0	0	0	0	0	1	0	0	0
329:	0	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	2	0	0	0
345:	0	0	0	0	0	0	0	0	0
353:	0	0	0	0	0	1	0	0	0
361:	0	0	0	0	0	1	0	0	1

369: 0 0 2 0 1 2 0 0

Sample Title: 06

Channel	1	2	3	4	5	6	7	8
377:	0	1	0	0	1	0	1	1
385:	1	0	1	0	0	1	1	2
393:	1	1	0	0	1	0	0	1
401:	0	1	0	3	3	2	2	3
409:	5	4	2	1	1	1	2	2
417:	3	3	3	1	2	2	1	3
425:	0	7	2	3	3	2	3	6
433:	5	2	2	0	0	1	1	0
441:	0	0	0	0	0	1	0	0
449:	0	0	0	0	0	0	0	0
457:	0	0	0	0	0	0	0	0
465:	0	0	0	0	0	0	0	0
473:	0	0	0	0	0	0	0	0
481:	0	0	1	0	0	0	0	0
489:	0	0	1	0	0	0	0	0
497:	0	0	0	0	0	0	0	0
505:	0	0	0	0	0	0	1	0
513:	1	0	0	0	0	0	0	0
521:	0	0	0	0	1	0	0	0
529:	0	0	0	0	0	0	1	1
537:	0	0	0	0	1	0	0	0
545:	0	1	0	0	0	0	0	0
553:	1	1	1	1	0	2	1	0
561:	1	4	1	3	1	1	1	1
569:	0	3	1	4	0	0	2	2
577:	0	5	5	2	0	2	5	5
585:	5	5	2	2	4	4	7	3
593:	2	6	3	8	10	5	3	13
601:	9	2	12	4	5	8	4	8
609:	7	12	13	13	20	21	16	14
617:	16	13	17	10	14	6	9	3
625:	0	1	0	0	0	0	0	0
633:	0	0	0	0	0	1	0	0
641:	0	1	0	0	0	0	0	1
649:	0	0	0	0	0	0	0	0
657:	0	0	0	0	0	0	0	0
665:	0	0	0	0	0	0	0	0
673:	0	0	0	1	0	0	0	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	1
705:	1	0	0	0	0	0	0	0
713:	0	0	0	0	0	0	0	0
721:	0	0	0	0	0	0	0	0
729:	0	0	0	0	0	0	0	1
737:	0	0	0	0	0	0	0	1
745:	0	0	0	0	0	0	0	0
753:	0	0	0	0	0	0	0	0
761:	0	0	0	0	0	0	0	0
769:	0	0	0	0	0	0	0	0
777:	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	1	0	0

801: 0 0 0 0 0 0 0 0 0

Sample Title: 06

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	1	0	0	0	0	0	0
833:	0	0	0	0	0	1	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	1	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	1	0	0	0	0	0	2
953:	2	1	0	0	1	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0



RS
10/20/15

Sample Description: CP0403S09-10
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-UU
 Sample Identification: 07
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_015
 Chamber Serial Number:
 Detector Serial Number: 15
 Env. Background: System Bkgd 131868
 Reagent Blank: <not performed>

Sample Size: 1.515E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/5/2015 6:49:45 AM
 Acquisition Date/Time: 10/20/2015 9:09:05 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.658 mL
 Effective Efficiency: 0.2302 +/- 0.0118
 Counting Efficiency: 0.2348 +/- 0.0040 on 5/1/2015 2:28:00 PM
 Chem. Recovery Factor: 0.9805 +/- 0.0530

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T 5.283	476.66	8.98	0.34	0.00E+000	37.1
U-234	4.735	147.15	16.21	0.85	0.00E+000	8.6
U-235	4.399	14.00	54.22	0.00	0.00E+000	3.0
U-238	4.157	127.83	17.35	0.17	0.00E+000	7.0

T = Tracer Peak used for Effective Efficiency

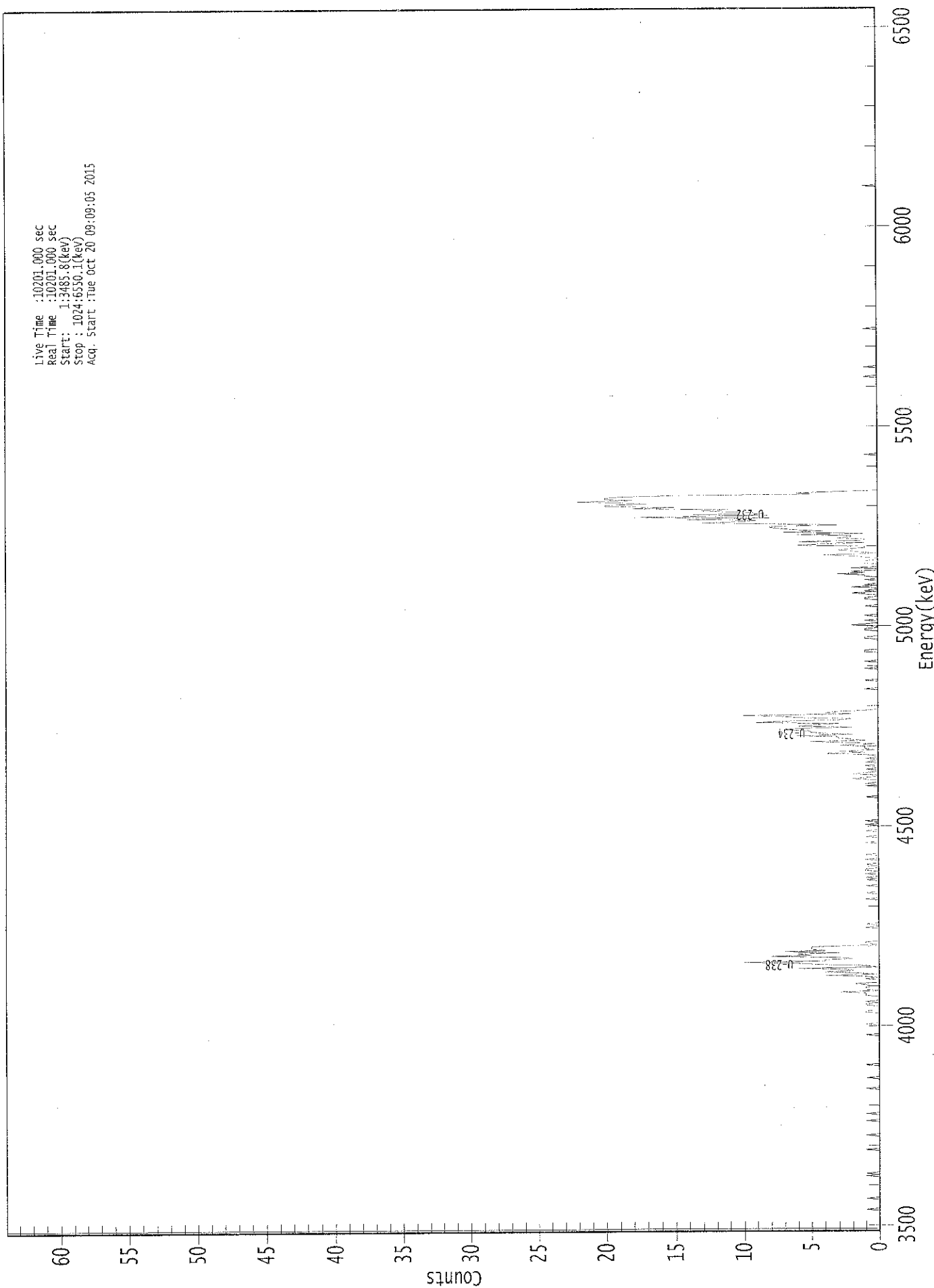
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.997	5302.50*	3.63E+000 +/- 3.65E-001	3.64E-002 +/- 3.66E-003
U-234	0.995	4761.50*	1.12E+000 +/- 2.14E-001	4.56E-002 +/- 4.58E-003
U-235	0.999	4385.50*	1.31E-001 +/- 7.25E-002	5.63E-002 +/- 5.66E-003
U-238	0.994	4184.40*	9.69E-001 +/- 1.94E-001	3.16E-002 +/- 3.18E-003

AG
10/21/15

0000131687.CNF

Live Time :10201.000 sec
Real Time :10201.000 sec
Start: 1:3485.8(kev)
Stop : 1024:6550.1(kev)
Acq. Start :Tue Oct 20 09:09:05 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 07

Elapsed Live time: 10201
 Elapsed Real Time: 10201

Channel	10201	10201	0	0	0	0	0	0	0
1:	10201	10201	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0	0
17:	0	0	1	0	0	0	0	0	0
25:	0	0	0	1	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	1	0
49:	1	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0	0
65:	0	0	0	0	1	0	0	0	0
73:	0	0	0	0	0	0	0	0	0
81:	1	0	0	0	0	0	0	0	0
89:	0	0	0	0	1	0	0	0	0
97:	0	0	1	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0	1
121:	0	0	0	0	0	0	0	0	0
129:	1	0	0	0	0	0	0	0	0
137:	0	0	0	1	0	0	0	0	0
145:	0	0	0	0	0	0	0	0	0
153:	0	0	0	0	0	0	0	0	0
161:	0	0	0	0	1	0	0	0	0
169:	0	0	0	0	0	1	0	0	0
177:	0	0	0	0	0	0	0	0	1
185:	1	0	0	0	0	1	1	1	0
193:	1	0	0	0	0	1	1	1	1
201:	3	0	1	1	1	0	1	1	2
209:	0	0	0	1	0	1	4	0	0
217:	2	4	2	2	6	0	1	4	4
225:	6	10	4	4	2	3	8	5	5
233:	6	3	7	4	5	5	5	2	2
241:	0	1	1	0	0	0	0	0	0
249:	0	0	0	0	0	0	1	0	0
257:	0	1	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	1	0	0
281:	0	0	0	1	0	0	0	0	0
289:	0	1	0	0	0	0	1	0	0
297:	1	0	0	1	0	0	1	1	1
305:	0	0	0	1	0	0	0	0	1
313:	0	0	0	1	0	0	0	0	0
321:	0	0	0	0	0	1	0	0	0
329:	0	0	1	0	0	0	0	0	1
337:	0	0	0	0	1	0	0	0	1
345:	0	0	0	0	0	0	0	0	0
353:	0	0	0	0	0	0	0	0	0
361:	0	0	0	1	0	0	0	0	0

369: 0 0 0 0 1 0 1 0

Sample Title: 07

Channel	1	2	3	4	5	6	7	8
377:	0	0	2	1	0	0	2	1
385:	0	0	1	0	0	1	0	0
393:	1	0	0	1	0	0	1	4
401:	1	3	0	1	1	1	3	0
409:	2	5	1	2	3	3	6	2
417:	4	5	5	7	6	2	6	5
425:	3	9	7	3	2	6	7	10
433:	2	4	3	1	0	0	0	0
441:	0	0	0	0	0	0	0	0
449:	0	0	0	0	0	1	0	0
457:	0	0	0	0	1	0	0	0
465:	0	0	0	0	0	0	1	0
473:	0	0	0	0	1	0	0	0
481:	0	0	0	0	1	1	0	0
489:	0	0	0	0	0	0	0	1
497:	0	0	0	0	0	0	1	1
505:	0	0	2	1	0	0	1	0
513:	0	0	1	0	0	0	0	0
521:	0	0	1	0	0	0	0	0
529:	1	1	0	0	1	2	0	1
537:	0	0	2	0	1	0	0	0
545:	1	0	0	1	1	3	1	2
553:	0	0	2	0	0	0	1	1
561:	1	0	0	1	2	4	0	1
569:	2	3	2	1	1	6	4	1
577:	6	1	1	3	2	2	6	1
585:	7	4	6	7	8	8	3	7
593:	13	10	9	14	8	18	8	14
601:	8	11	13	11	18	15	20	20
609:	17	19	22	18	20	20	19	15
617:	5	6	3	0	0	0	0	0
625:	0	0	0	0	0	0	0	0
633:	0	0	0	0	0	0	0	0
641:	0	0	0	0	0	0	0	0
649:	0	1	0	0	0	0	0	0
657:	0	0	0	0	0	0	0	0
665:	0	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	0
705:	0	0	0	0	0	0	0	0
713:	0	0	1	0	0	0	0	0
721:	0	0	1	0	0	0	0	0
729:	0	0	0	0	0	0	0	0
737:	0	0	0	0	0	0	0	0
745:	0	0	0	0	0	0	0	0
753:	0	0	1	0	0	0	0	0
761:	0	0	0	0	0	0	0	0
769:	0	0	0	0	0	0	0	0
777:	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	0	0

801: 0 0 0 0 0 0 0 0

Sample Title: 07

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	1	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

KB
10/20/15

Apex-Alpha™

Sample Description: CP0403S11-12
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-UU
 Sample Identification: 08
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_033
 Chamber Serial Number: 04026479A
 Detector Serial Number: 91132
 Env. Background: System Bkgd 131869
 Reagent Blank: <not performed>

Sample Size: 1.575E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/5/2015 6:49:45 AM
 Acquisition Date/Time: 10/20/2015 9:09:07 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.650 mL
 Effective Efficiency: 0.1663 +/- 0.0098
 Counting Efficiency: 0.1805 +/- 0.0032 on 10/25/2014 2:26:39 PM
 Chem. Recovery Factor: 0.9216 +/- 0.0567

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T 5.291	340.49	10.63	0.51	0.00E+000	17.9
U-234	4.745	79.32	22.12	0.68	0.00E+000	5.2
U-235	4.373	3.83	102.72	0.17	0.00E+000	3.0
U-238	4.161	82.83	21.56	0.17	0.00E+000	4.7

T = Tracer Peak used for Effective Efficiency

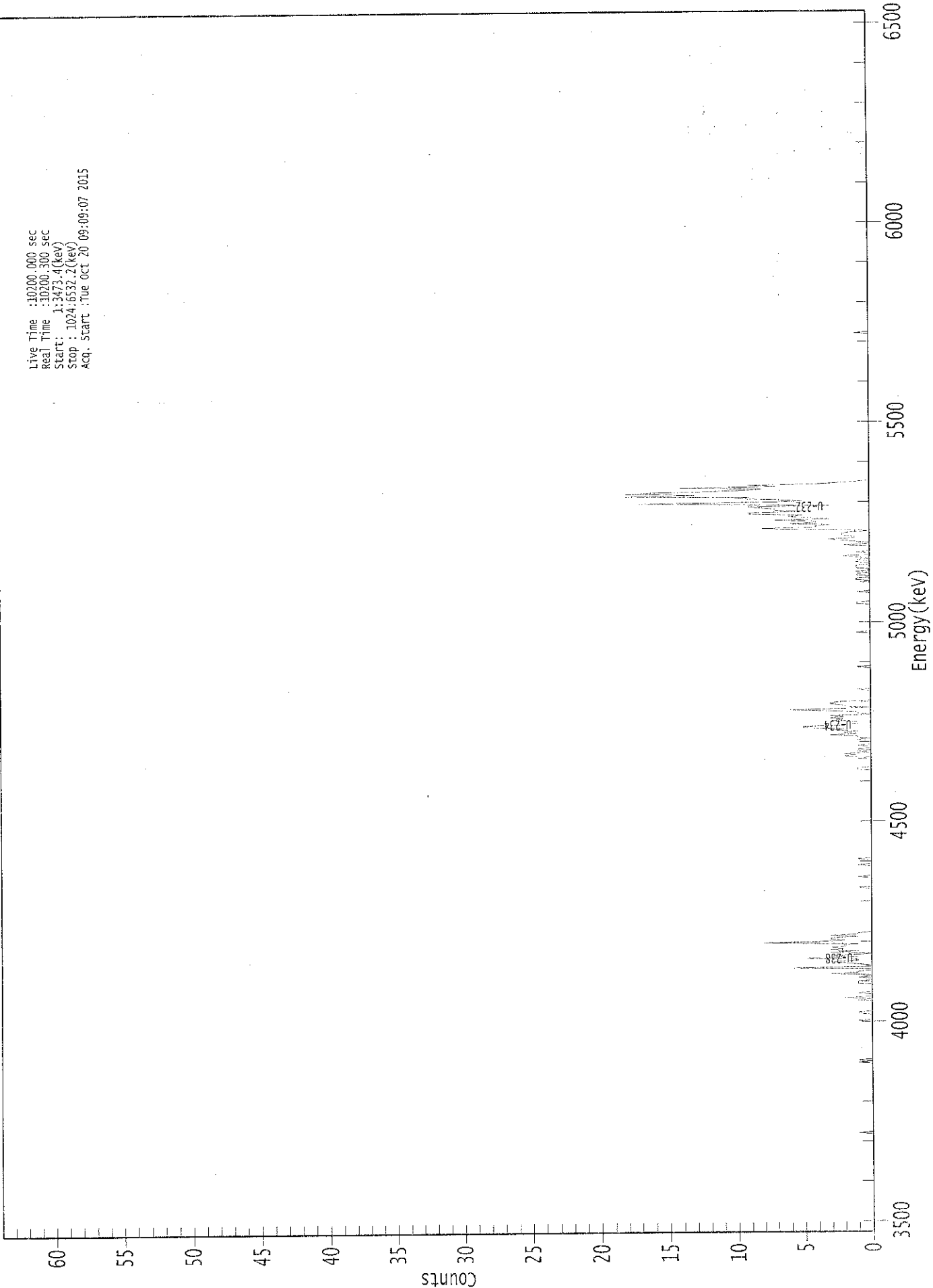
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.999	5302.50*	3.45E+000 +/- 3.99E-001	5.32E-002 +/- 6.15E-003
U-234	0.998	4761.50*	8.04E-001 +/- 2.01E-001	5.72E-002 +/- 6.60E-003
U-235	0.999	4385.50*	4.79E-002 +/- 4.95E-002	5.22E-002 +/- 6.03E-003
U-238	0.996	4184.40*	8.36E-001 +/- 2.05E-001	4.21E-002 +/- 4.87E-003

AG
10/21/15

0000131689.CNF

Live Time : 10200.000 sec
Real Time : 10200.300 sec
Start : 1:3473.4(keV)
Stop : 1024:6532.2(keV)
Acq. Start : Tue Oct 20 09:09:07 2015



ROI Type: 3

ROI Type: 1

: 00128

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 08

Elapsed Live time: 10200
 Elapsed Real Time: 10200

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0
81:	0	0	0	1	0	0	0	0
89:	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0
121:	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0
137:	0	0	0	0	0	0	1	0
145:	1	0	0	0	0	0	0	0
153:	0	0	0	0	0	0	0	0
161:	0	0	0	0	0	0	0	0
169:	0	0	0	0	0	0	0	0
177:	0	1	0	0	0	0	0	1
185:	1	0	0	0	0	0	0	0
193:	0	0	1	0	2	0	0	0
201:	1	0	0	0	0	0	0	0
209:	1	1	1	0	0	1	0	0
217:	3	1	1	0	0	6	0	0
225:	1	2	3	1	1	5	1	3
233:	1	0	3	1	3	2	3	2
241:	2	1	8	4	2	3	3	1
249:	3	1	1	0	0	0	0	0
257:	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0
289:	1	0	0	0	0	0	0	0
297:	0	1	0	0	0	0	0	0
305:	0	0	0	1	0	0	0	0
313:	1	0	0	0	0	0	0	0
321:	0	0	0	0	0	0	0	0
329:	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	0
353:	0	0	0	0	0	0	0	0
361:	0	0	0	0	0	0	0	0

369: 0 0 0 0 0 0 0 0 0

Sample Title: 08

Channel	1	2	3	4	5	6	7	8	9
377:	0	0	0	0	0	0	0	0	0
385:	0	0	0	1	1	0	0	0	0
393:	0	0	0	0	1	0	2	1	1
401:	2	0	1	0	1	0	0	1	1
409:	0	0	0	0	1	0	1	1	1
417:	3	1	2	1	3	2	5	5	5
425:	2	1	1	1	3	2	3	2	2
433:	3	0	1	1	3	6	2	0	0
441:	2	2	3	3	2	0	0	0	0
449:	0	0	0	0	0	0	1	0	0
457:	0	0	0	0	0	0	0	0	0
465:	0	0	0	0	0	0	0	0	0
473:	0	1	0	0	0	0	0	0	0
481:	0	0	0	0	0	0	0	0	0
489:	0	0	0	0	0	0	0	0	0
497:	0	0	0	0	0	0	1	0	0
505:	0	0	0	0	0	0	0	0	0
513:	0	0	0	0	0	0	0	0	0
521:	0	0	0	0	0	0	1	1	1
529:	0	0	0	0	0	0	0	0	0
537:	1	0	0	0	0	0	0	0	0
545:	0	0	1	1	0	0	1	1	1
553:	0	1	0	0	1	1	1	0	0
561:	0	1	0	1	0	1	2	0	0
569:	0	1	0	0	0	0	0	2	2
577:	0	0	1	2	3	1	1	2	2
585:	2	2	1	0	5	8	4	4	4
593:	3	6	4	4	7	3	5	6	6
601:	5	9	9	5	7	7	8	9	9
609:	3	11	17	7	5	7	10	9	9
617:	18	13	18	16	12	9	8	14	14
625:	7	9	4	2	1	0	0	0	0
633:	0	0	0	0	0	0	0	0	0
641:	0	0	0	0	0	0	0	0	0
649:	0	0	0	0	0	0	0	0	0
657:	0	0	0	0	0	0	0	0	0
665:	0	0	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	0	0
705:	0	0	0	0	0	0	0	0	0
713:	0	0	0	0	0	0	0	0	0
721:	0	0	0	0	0	0	0	0	0
729:	0	0	0	0	0	0	0	0	0
737:	0	0	0	0	0	0	0	0	0
745:	0	0	0	0	0	0	0	0	0
753:	1	0	0	0	0	0	0	0	0
761:	0	0	0	0	0	0	0	0	0
769:	0	0	0	0	0	0	0	0	0
777:	0	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	0	0	0

801: 0 0 0 0 0 0 0 0 0

Sample Title: 08

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

WB
10/20/15

Apex-Alpha™

Sample Description: CP2107S02-03
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-UU
 Sample Identification: 09
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_034
 Chamber Serial Number: 04026479B
 Detector Serial Number: 91136
 Env. Background: System Bkgd 131870
 Reagent Blank: <not performed>

Sample Size: 1.520E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 6:49:45 AM
 Acquisition Date/Time: 10/20/2015 9:09:08 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.661 mL
 Effective Efficiency: 0.1754 +/- 0.0100
 Counting Efficiency: 0.1789 +/- 0.0031 on 10/25/2014 2:30:05 PM
 Chem. Recovery Factor: 0.9807 +/- 0.0587

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T 5.285	364.83	10.26	0.17	0.00E+000	13.0
U-234	4.730	128.32	17.36	0.68	0.00E+000	4.2
U-235	4.385	6.32	82.73	0.68	0.00E+000	3.0
U-238	4.161	115.00	18.36	0.00	0.00E+000	4.4

T = Tracer Peak used for Effective Efficiency

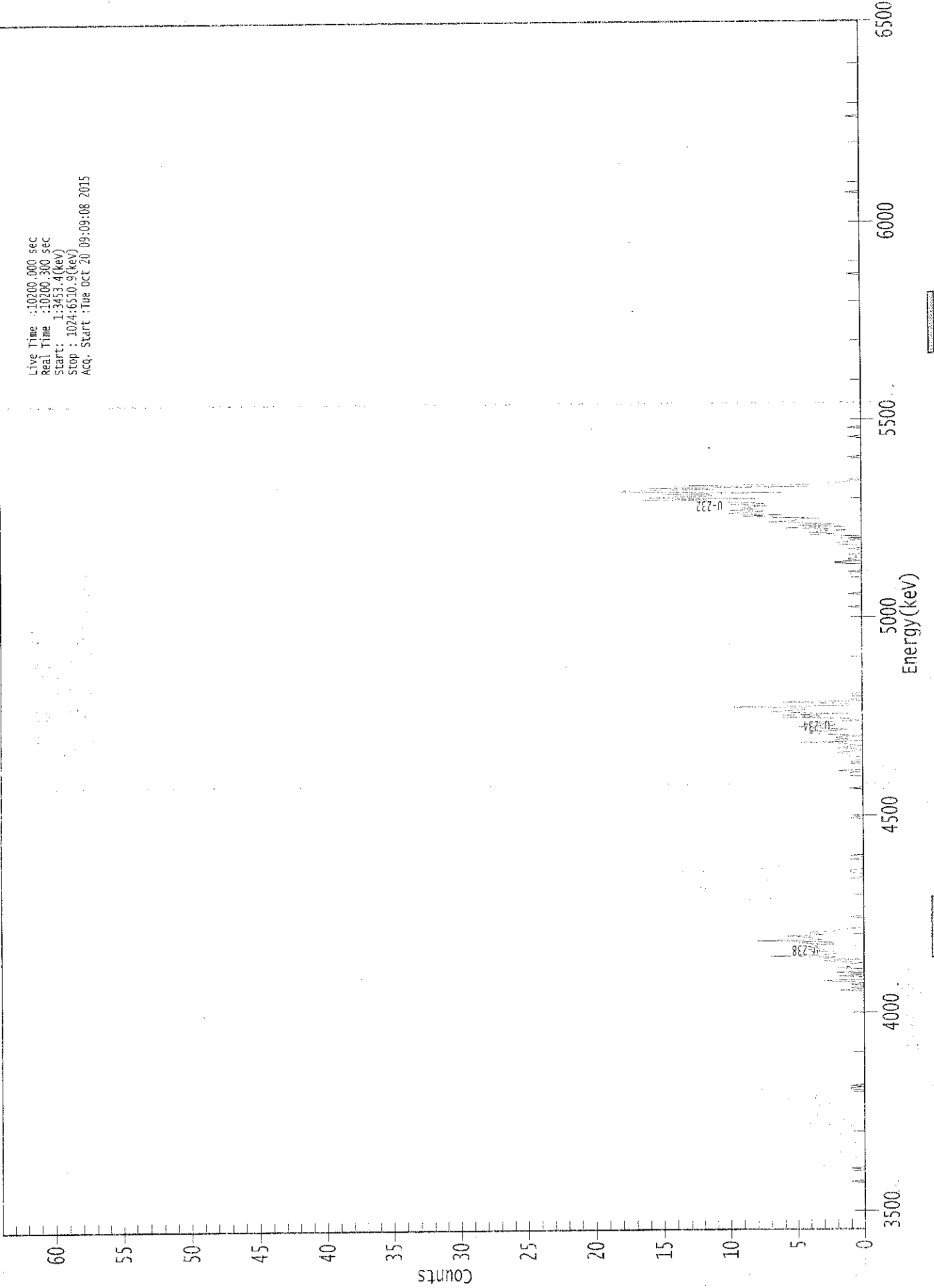
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.998	5302.50*	3.63E+000 +/- 4.08E-001	4.16E-002 +/- 4.66E-003
U-234	0.993	4761.50*	1.28E+000 +/- 2.64E-001	5.62E-002 +/- 6.30E-003
U-235	1.000	4385.50*	7.76E-002 +/- 6.48E-002	6.93E-002 +/- 7.77E-003
U-238	0.996	4184.40*	1.14E+000 +/- 2.45E-001	5.95E-002 +/- 6.67E-003

AG
10/21/15

0000131690.CNF

Live Time : 10200.000 sec
Real Time : 10200.300 sec
Start : 1:3453.4(keV)
Stop : 1024:6510.9(keV)
Acq. Start : Tue Oct 20 09:09:08 2015



ROI Type: 3

ROI Type: 1

001316

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 09

Elapsed Live time: 10200
 Elapsed Real Time: 10200

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0
41:	1	0	0	0	0	0	0	0
49:	0	0	0	1	0	0	0	0
57:	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	1	1
121:	0	1	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0
137:	0	0	0	0	0	0	0	0
145:	0	0	0	0	0	0	0	0
153:	0	0	0	0	0	0	0	0
161:	0	0	0	0	0	0	0	0
169:	0	0	0	0	0	0	0	0
177:	0	0	0	0	0	0	0	0
185:	0	0	0	0	0	0	0	0
193:	0	0	0	0	0	0	0	0
201:	0	0	2	0	1	0	0	1
209:	0	1	3	0	0	0	2	0
217:	0	2	0	0	0	2	1	1
225:	1	0	2	3	0	3	2	7
233:	3	2	2	4	3	3	4	4
241:	5	2	5	2	8	3	4	4
249:	6	3	4	4	2	2	1	0
257:	0	0	0	0	0	0	0	0
265:	1	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	0
297:	0	1	0	0	0	0	1	1
305:	1	0	0	0	0	0	0	0
313:	0	1	0	0	1	0	0	0
321:	0	0	0	0	0	0	0	0
329:	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0
345:	0	0	0	0	1	0	0	0
353:	0	0	0	0	0	0	0	0
361:	0	0	0	0	0	0	0	0

369: 0 0 0 0 0 1 0 0

Sample Title: 09

Channel	1	2	3	4	5	6	7	8
377:	0	0	0	0	0	0	0	0
385:	1	1	1	0	2	0	0	0
393:	0	0	1	0	1	0	0	0
401:	1	1	1	2	1	0	0	2
409:	1	0	1	1	5	0	2	1
417:	2	1	1	3	4	4	2	1
425:	4	5	2	2	4	3	0	1
433:	1	6	3	6	1	5	7	5
441:	4	4	10	1	1	2	6	0
449:	1	0	0	0	0	1	0	0
457:	0	0	0	0	0	0	0	0
465:	0	0	0	0	0	0	0	0
473:	0	0	0	0	0	0	0	0
481:	0	0	0	0	0	0	0	0
489:	0	0	0	0	0	0	0	0
497:	0	0	0	0	0	0	0	0
505:	0	0	0	0	0	0	0	0
513:	0	0	0	0	0	0	0	0
521:	0	0	0	0	0	0	1	0
529:	0	0	0	0	0	0	0	0
537:	0	1	0	0	0	0	0	0
545:	0	0	0	0	0	0	0	0
553:	0	0	0	0	1	0	0	0
561:	0	0	0	2	2	0	1	1
569:	0	0	1	0	0	0	0	1
577:	0	0	0	2	2	1	1	0
585:	1	0	0	4	2	4	3	1
593:	3	6	1	5	2	4	7	5
601:	5	3	7	9	6	10	9	7
609:	10	8	9	8	7	10	7	10
617:	11	17	7	16	12	11	15	6
625:	18	18	11	16	4	14	3	2
633:	1	0	1	0	0	0	0	0
641:	0	0	0	0	0	0	0	0
649:	0	0	0	0	0	1	0	0
657:	0	0	0	0	0	0	0	0
665:	0	0	0	0	0	0	1	0
673:	0	0	0	0	0	0	1	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	0
705:	0	0	0	0	0	0	0	0
713:	0	0	0	0	0	0	0	0
721:	0	0	0	0	0	0	0	0
729:	0	0	0	0	0	0	0	0
737:	0	0	0	0	0	0	0	0
745:	0	0	0	0	0	0	0	0
753:	0	0	0	0	0	0	0	0
761:	0	0	0	0	0	0	0	0
769:	0	0	0	0	0	0	0	0
777:	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	0	0

801: 0 0 0 0 0 0 0 0

Sample Title: 09

Channel								
809:	1	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	1	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	1	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

Apex-Alpha™

KB
10/20/15

Sample Description: CP2107S05-06
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-UU
 Sample Identification: 10
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_035
 Chamber Serial Number: 04026477A
 Detector Serial Number: 58771
 Env. Background: System Bkgd 131871
 Reagent Blank: <not performed>

Sample Size: 1.552E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 6:49:45 AM
 Acquisition Date/Time: 10/20/2015 9:09:10 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.651 mL
 Effective Efficiency: 0.1755 +/- 0.0101
 Counting Efficiency: 0.1647 +/- 0.0029 on 10/25/2014 2:34:10 PM
 Chem. Recovery Factor: 1.0654 +/- 0.0642

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T 5.287	359.49	10.35	0.51	0.00E+000	23.6
U-234	4.744	69.83	23.49	0.17	0.00E+000	9.5
U-235	4.391	1.49	190.02	0.51	0.00E+000	3.0
U-238	4.172	100.83	19.54	0.17	0.00E+000	4.2

T = Tracer Peak used for Effective Efficiency

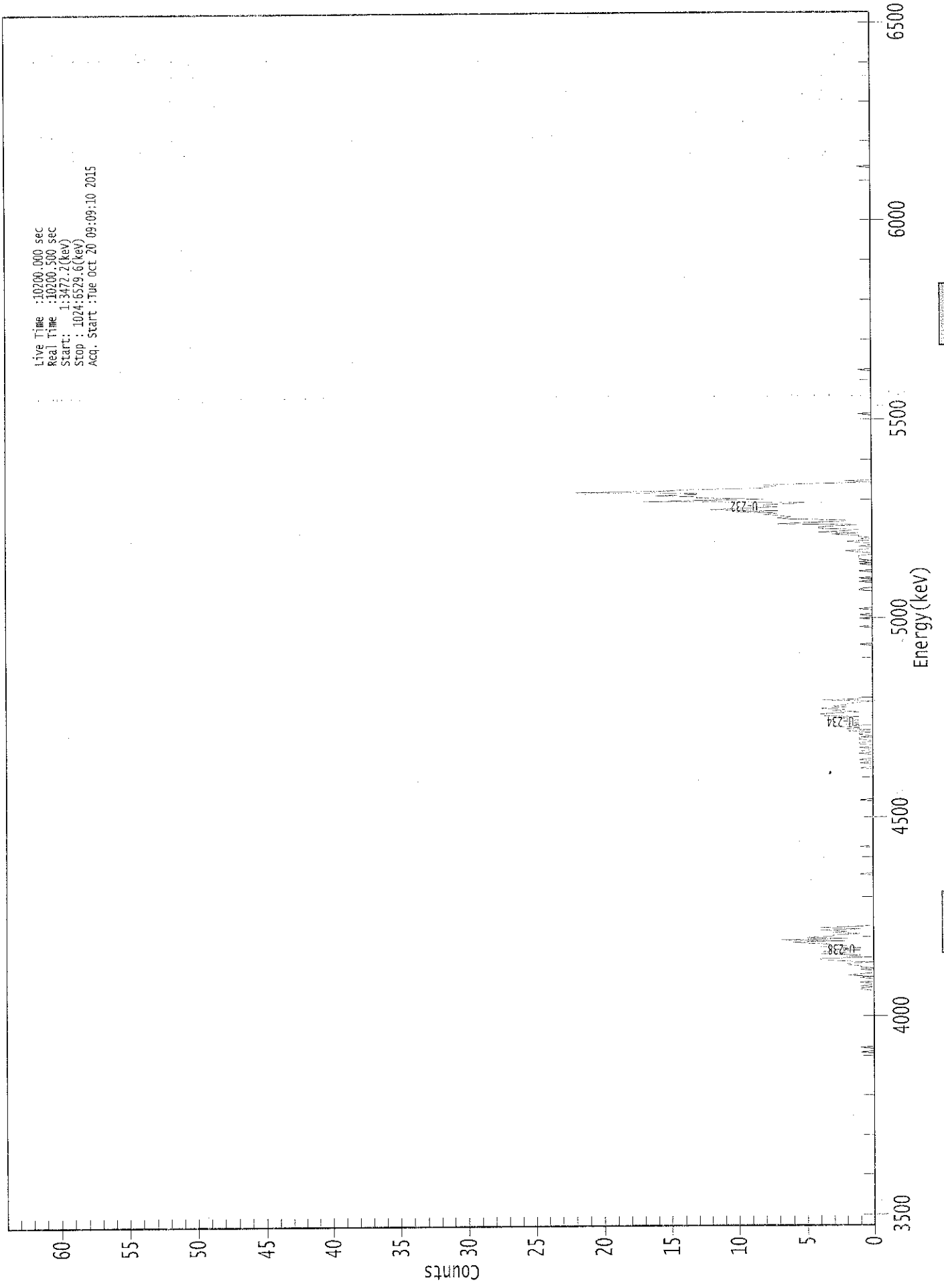
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.998	5302.50*	3.50E+000 +/- 3.96E-001	5.12E-002 +/- 5.77E-003
U-234	0.998	4761.50*	6.80E-001 +/- 1.77E-001	4.07E-002 +/- 4.59E-003
U-235	1.000	4385.50*	1.79E-002 +/- 3.41E-002	6.31E-002 +/- 7.12E-003
U-238	0.999	4184.40*	9.78E-001 +/- 2.21E-001	4.05E-002 +/- 4.57E-003

AG
10/21/15

0000131691.CNF

Live Time : 10200.000 sec
Real Time : 10200.500 sec
Start : 1:3472.7(Rev)
Stop : 1024:6529.6(keV)
Acq. Start : Tue Oct 20 09:09:10 2015



ROI Type: 3

ROI Type: 1

 ***** SPECTRAL DATA REPORT *****

Sample Title: 10

Elapsed Live time: 10200
 Elapsed Real Time: 10201

Channel	0	0	0	0	0	0	0	0
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0
121:	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0
137:	0	0	0	0	0	0	0	0
145:	0	0	1	0	0	0	1	0
153:	0	0	0	0	0	0	0	0
161:	0	0	0	0	0	0	0	0
169:	0	0	0	0	0	0	0	0
177:	0	0	0	0	0	0	0	0
185:	0	0	0	0	0	0	0	0
193:	0	0	0	0	0	0	0	1
201:	1	0	1	0	0	1	0	0
209:	0	1	0	2	1	0	0	0
217:	1	0	1	1	2	2	0	2
225:	4	4	0	2	1	4	2	4
233:	1	3	1	4	2	3	5	6
241:	2	7	2	5	3	3	1	3
249:	2	4	1	4	1	0	0	0
257:	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	0
297:	1	0	0	0	0	0	0	0
305:	0	0	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	1
321:	0	0	0	0	0	0	0	0
329:	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	0
353:	0	0	0	0	0	0	1	0
361:	0	0	0	0	0	0	0	0

369: 0 0 0 0 0 0 0 0 0

Sample Title: 10

Channel	1	2	3	4	5	6	7	8	9
377:	0	0	0	0	0	0	0	0	0
385:	0	1	0	0	0	0	1	0	0
393:	1	0	0	0	0	0	1	0	1
401:	0	0	1	0	0	0	1	1	0
409:	0	1	1	1	0	0	1	1	0
417:	2	0	2	1	3	0	0	2	1
425:	2	1	2	3	1	4	4	4	3
433:	1	3	2	4	2	3	2	2	2
441:	1	0	4	1	1	0	0	0	0
449:	0	0	0	0	0	0	0	0	0
457:	0	0	0	0	0	0	0	0	0
465:	0	0	0	0	0	0	0	0	0
473:	0	0	0	0	0	0	0	0	0
481:	0	0	0	0	0	0	0	0	0
489:	0	1	0	0	0	0	0	0	0
497:	0	0	0	0	0	0	0	0	0
505:	1	0	0	0	0	0	0	0	1
513:	0	0	1	0	0	0	0	0	1
521:	0	0	0	0	0	0	0	0	0
529:	0	0	0	0	0	0	0	0	1
537:	1	0	0	0	0	0	0	1	0
545:	0	1	0	0	0	0	0	0	1
553:	0	0	0	0	0	0	1	0	1
561:	0	1	1	1	1	0	0	0	1
569:	2	1	0	0	0	1	0	0	1
577:	2	0	0	0	0	1	1	3	1
585:	4	2	1	4	4	3	1	1	7
593:	5	2	2	6	7	6	7	7	8
601:	7	10	7	12	10	7	8	8	8
609:	6	5	17	12	8	13	13	13	16
617:	13	13	22	15	14	8	8	8	7
625:	8	4	0	2	0	0	0	0	0
633:	0	0	0	0	0	0	0	0	0
641:	0	0	0	0	0	0	0	0	0
649:	0	0	0	0	0	0	0	0	0
657:	0	0	0	0	0	0	0	0	0
665:	0	0	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0	0
681:	0	0	0	1	0	0	0	0	0
689:	0	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	0	0
705:	0	0	0	0	0	0	0	0	0
713:	0	0	0	0	0	0	0	0	0
721:	1	0	0	0	0	0	0	0	0
729:	0	0	0	0	0	0	0	0	0
737:	0	0	0	0	0	0	0	0	0
745:	0	0	0	0	0	0	0	0	0
753:	0	0	0	0	0	0	0	0	0
761:	0	0	0	0	0	0	0	0	0
769:	0	0	0	0	0	0	0	0	0
777:	0	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	0	0	0

801: 0 0 0 0 0 0 0 0 0

Sample Title: 10

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	1	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

KB
10/20/15

Sample Description: CP2107S09-10
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-UU
 Sample Identification: 11
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_036
 Chamber Serial Number: 04026477B
 Detector Serial Number: 84167
 Env. Background: System Bkgd 131872
 Reagent Blank: <not performed>

Sample Size: 1.512E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 6:49:45 AM
 Acquisition Date/Time: 10/20/2015 9:09:11 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.649 mL
 Effective Efficiency: 0.1833 +/- 0.0104
 Counting Efficiency: 0.1806 +/- 0.0032 on 10/25/2014 2:38:17 PM
 Chem. Recovery Factor: 1.0150 +/- 0.0602

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T 5.289	374.15	10.15	0.85	0.00E+000	29.7
U-234	4.737	86.49	21.15	0.51	0.00E+000	9.2
U-235	4.406	7.83	70.93	0.17	0.00E+000	3.0
U-238	4.161	91.66	20.52	0.34	0.00E+000	6.4

T = Tracer Peak used for Effective Efficiency

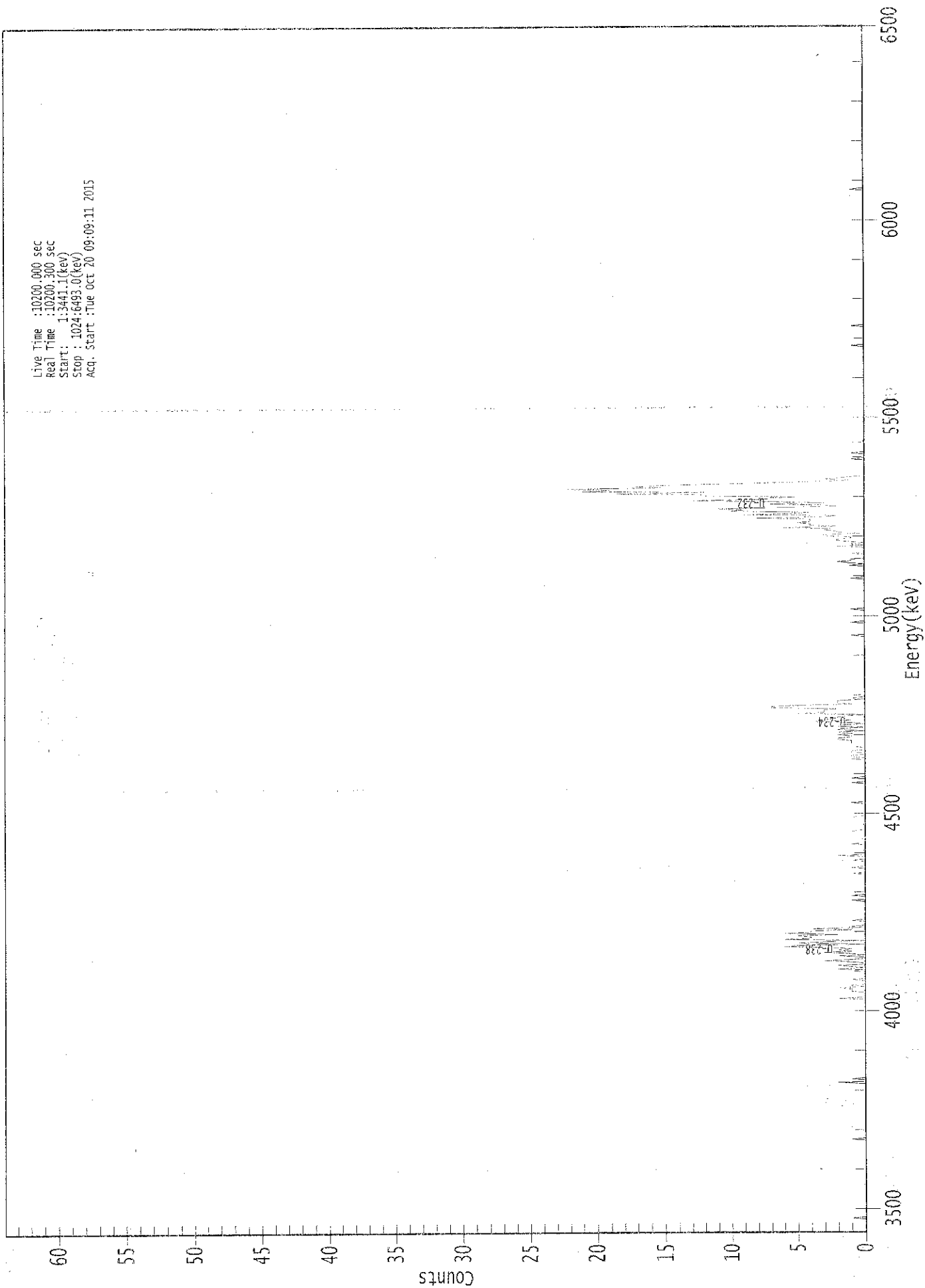
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.999	5302.50*	3.59E+000 +/- 3.98E-001	5.74E-002 +/- 6.37E-003
U-234	0.996	4761.50*	8.28E-001 +/- 1.98E-001	5.03E-002 +/- 5.58E-003
U-235	0.997	4385.50*	9.25E-002 +/- 6.64E-002	4.93E-002 +/- 5.48E-003
U-238	0.996	4184.40*	8.74E-001 +/- 2.04E-001	4.56E-002 +/- 5.06E-003

AG
10/21/15

0000131692.CNF

Live Time : 10200.000 sec
Real Time : 10200.300 sec
Start : 1:3441.1(kev)
Stop : 1024:6493.0(kev)
Acq. Start : Tue Oct 20 09:09:11 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 11

Elapsed Live time: 10200
 Elapsed Real Time: 10200

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	1	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0	1
81:	0	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0	0
121:	0	0	0	0	0	0	0	0	2
129:	0	0	1	0	0	0	0	0	0
137:	0	0	0	0	0	0	0	0	0
145:	0	0	0	0	0	0	0	0	0
153:	0	0	0	0	0	0	0	0	0
161:	0	0	0	0	0	0	0	0	0
169:	0	0	0	0	0	0	0	0	0
177:	0	0	0	0	0	0	0	0	0
185:	0	0	0	0	0	0	0	0	0
193:	0	0	0	0	0	0	0	2	0
201:	0	0	0	0	0	1	1	1	2
209:	0	1	0	0	0	0	0	1	0
217:	0	0	0	0	0	0	0	0	2
225:	0	1	2	0	0	0	1	3	1
233:	0	0	2	0	0	1	3	1	2
241:	1	2	6	5	0	0	5	3	0
249:	6	4	4	5	2	0	6	4	4
257:	1	4	0	1	0	0	0	0	0
265:	1	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0	0
281:	0	1	0	0	0	0	1	0	0
289:	0	0	0	0	0	0	0	0	0
297:	0	0	0	0	0	0	0	0	0
305:	1	0	0	0	0	0	1	0	0
313:	0	0	0	1	0	0	0	0	2
321:	0	0	0	0	0	0	0	0	0
329:	0	1	0	0	0	0	0	0	0
337:	0	0	0	0	0	1	0	0	0
345:	0	0	0	0	0	0	0	0	0
353:	1	0	0	0	0	0	0	0	0
361:	0	0	0	0	0	1	0	0	0

369: 0 0 0 0 0 0 0 0 0

Sample Title: 11

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	0	0	0	0	0	1	0	0
385:	0	1	0	0	0	0	0	0
393:	0	0	0	0	0	0	0	0
401:	0	1	0	1	1	0	0	1
409:	1	0	0	0	1	1	1	1
417:	1	1	2	2	1	1	2	1
425:	2	0	2	2	0	2	2	0
433:	1	4	1	3	2	2	1	0
441:	5	3	3	3	2	7	7	5
449:	1	2	2	2	0	1	0	0
457:	0	0	0	0	0	0	0	0
465:	0	0	0	0	0	0	0	0
473:	0	0	0	0	0	0	0	0
481:	0	0	0	0	0	0	0	0
489:	0	0	0	0	0	0	0	0
497:	0	0	0	0	0	0	0	0
505:	0	0	1	0	0	0	0	0
513:	0	0	0	0	0	1	0	0
521:	0	0	0	0	0	0	0	0
529:	1	0	0	0	0	0	0	0
537:	0	0	0	0	0	0	0	0
545:	0	0	0	0	0	0	0	0
553:	0	0	1	0	0	0	0	0
561:	0	0	0	0	0	1	0	1
569:	2	1	1	0	0	0	0	1
577:	0	0	0	0	0	2	0	1
585:	0	1	2	2	1	1	3	3
593:	0	2	2	3	2	6	2	4
601:	4	5	4	4	4	8	3	2
609:	9	5	4	10	9	11	7	2
617:	3	7	3	7	13	7	8	5
625:	12	12	19	12	21	19	23	15
633:	17	15	11	7	3	1	3	2
641:	1	0	0	0	0	0	0	0
649:	0	0	0	0	0	0	0	1
657:	0	0	0	0	1	0	0	0
665:	0	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	0
705:	0	0	0	0	0	0	0	0
713:	0	0	0	0	0	0	0	0
721:	0	0	0	0	0	0	0	0
729:	0	0	0	0	0	0	0	0
737:	0	0	0	0	0	0	0	0
745:	0	0	0	0	0	0	0	1
753:	0	0	0	0	0	0	0	0
761:	0	0	0	0	0	0	0	0
769:	1	0	0	0	0	0	0	0
777:	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	0	0

801: 0 0 0 0 0 0 0 0 0

Sample Title: 11

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	1	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

KCB
10/20/15

Apex-Alpha™

Sample Description: CP2107S11-12
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-UU
 Sample Identification: 12
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_037
 Chamber Serial Number: 04026478A
 Detector Serial Number: 91133
 Env. Background: System Bkgd 131873
 Reagent Blank: <not performed>

Sample Size: 1.561E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 6:49:45 AM
 Acquisition Date/Time: 10/20/2015 9:09:13 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.659 mL
 Effective Efficiency: 0.1774 +/- 0.0101
 Counting Efficiency: 0.1709 +/- 0.0030 on 10/25/2014 2:46:09 PM
 Chem. Recovery Factor: 1.0380 +/- 0.0620

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T 5.263	368.00	10.23	0.00	0.00E+000	41.6
U-234	4.713	137.83	16.71	0.17	0.00E+000	10.1
U-235	4.364	7.32	76.28	0.68	0.00E+000	3.0
U-238	4.144	117.83	18.07	0.17	0.00E+000	6.8

T = Tracer Peak used for Effective Efficiency

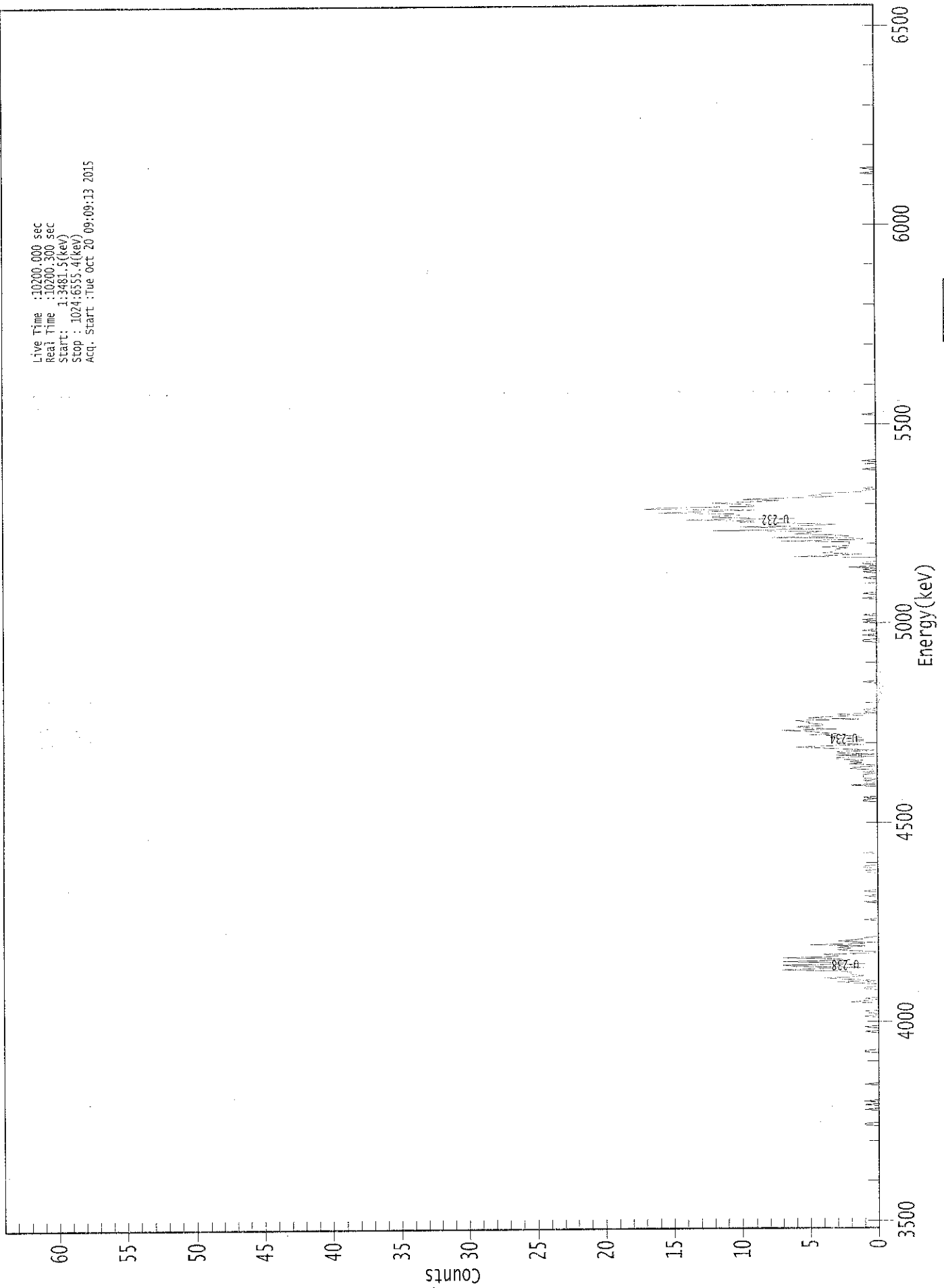
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.989	5302.50*	3.53E+000 +/- 3.95E-001	5.75E-002 +/- 6.43E-003
U-234	0.983	4761.50*	1.32E+000 +/- 2.66E-001	4.00E-002 +/- 4.47E-003
U-235	0.997	4385.50*	8.66E-002 +/- 6.67E-002	6.67E-002 +/- 7.46E-003
U-238	0.989	4184.40*	1.12E+000 +/- 2.39E-001	3.98E-002 +/- 4.45E-003

AG
10/21/15

0000131693.CNF

Live Time :10200.000 sec
Real Time :10200.300 sec
Start: 1:3481.5(kev)
Stop : 1024:6553.4(kev)
Acq. Start :Tue Oct 20 09:09:13 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 12

Elapsed Live time: 10200
 Elapsed Real Time: 10200

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	1	1
89:	0	0	0	0	0	0	0	0
97:	0	0	0	1	0	0	0	1
105:	0	0	1	0	0	0	0	0
113:	0	0	0	0	0	0	0	0
121:	1	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0
137:	0	0	0	0	0	0	0	0
145:	0	0	0	1	1	0	0	0
153:	0	0	0	0	0	0	0	0
161:	0	0	0	0	1	0	0	0
169:	1	0	0	0	0	0	0	0
177:	0	1	0	0	1	1	0	0
185:	0	0	0	0	0	2	1	0
193:	1	0	0	0	0	0	0	0
201:	1	1	0	0	0	2	3	0
209:	2	4	2	1	2	2	2	3
217:	7	5	1	6	7	1	4	7
225:	2	3	7	3	3	4	0	0
233:	2	3	2	3	1	5	1	1
241:	3	2	1	1	0	0	0	0
249:	0	0	0	0	0	0	0	0
257:	0	0	1	0	0	0	0	0
265:	0	0	0	0	0	0	0	0
273:	0	1	0	0	0	0	1	0
281:	0	0	1	0	0	0	0	0
289:	0	0	0	0	0	0	0	0
297:	0	0	1	1	0	0	1	1
305:	0	0	0	0	0	0	0	0
313:	0	0	1	0	0	0	0	0
321:	0	0	0	0	0	0	0	0
329:	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	0
353:	0	0	0	0	0	1	1	0
361:	1	0	0	0	0	0	0	0

369: 0 0 2 0 0 0 1 0

Sample Title: 12

Channel	1	2	3	4	5	6	7	8	9
377:	1	1	1	1	0	1	0	0	
385:	2	2	0	0	2	1	2	1	
393:	3	3	0	3	0	3	3	0	
401:	2	4	6	3	1	3	3	1	
409:	1	3	1	1	5	3	4	5	
417:	7	3	5	6	4	4	5	5	
425:	6	1	5	4	1	3	0	1	
433:	0	1	0	0	0	0	0	0	
441:	0	0	0	0	0	0	0	0	
449:	0	0	0	0	0	0	0	0	
457:	1	0	0	0	0	0	0	0	
465:	0	0	0	0	0	0	0	0	
473:	0	0	0	0	0	0	0	0	
481:	0	0	0	0	0	0	0	0	
489:	0	0	1	1	0	0	0	1	
497:	0	0	0	1	0	0	0	0	
505:	0	0	1	0	1	0	0	0	
513:	1	0	0	0	0	0	0	0	
521:	0	0	0	0	0	0	1	0	
529:	0	0	1	0	0	0	0	0	
537:	0	0	0	0	0	0	0	1	
545:	0	0	0	0	1	0	1	0	
553:	2	0	0	1	1	0	0	0	
561:	0	6	3	1	4	3	3	3	
569:	2	4	2	2	2	2	7	1	
577:	1	8	2	3	6	5	4	12	
585:	4	6	10	5	3	6	10	9	
593:	14	6	12	12	10	10	16	13	
601:	9	17	16	9	9	10	12	9	
609:	7	10	7	3	5	4	4	1	
617:	1	0	1	0	0	0	0	0	
625:	0	0	0	0	0	0	0	0	
633:	0	0	1	0	0	0	0	0	
641:	0	1	0	0	0	0	0	0	
649:	0	0	0	0	0	0	0	0	
657:	0	0	0	0	0	0	0	0	
665:	0	0	0	0	0	0	0	0	
673:	0	0	0	0	0	0	0	0	
681:	1	0	0	0	0	0	0	0	
689:	0	0	0	0	0	0	0	0	
697:	0	0	0	0	0	0	0	0	
705:	0	0	0	0	0	0	0	0	
713:	0	0	0	0	0	0	0	0	
721:	0	0	0	0	0	0	0	0	
729:	0	0	0	0	0	0	0	0	
737:	0	0	0	0	0	0	0	0	
745:	0	0	0	0	0	0	0	0	
753:	0	0	0	0	0	0	0	0	
761:	0	0	0	0	0	0	0	0	
769:	0	0	0	0	0	0	0	0	
777:	0	0	0	0	0	0	0	0	
785:	0	0	0	0	0	0	0	0	
793:	0	0	0	0	0	0	0	0	

801: 0 0 0 0 0 0 0 0 0

Sample Title: 12

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	1	0	0	0	1	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0



165
10/20/15

Sample Description: CP2107S14-15
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-UU
 Sample Identification: 13
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_038
 Chamber Serial Number: 04026478B
 Detector Serial Number: 91134
 Env. Background: System Bkgd 131874
 Reagent Blank: <not performed>

Sample Size: 1.536E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 6:49:45 AM
 Acquisition Date/Time: 10/20/2015 9:09:15 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.658 mL
 Effective Efficiency: 0.1772 +/- 0.0101
 Counting Efficiency: 0.1615 +/- 0.0029 on 10/25/2014 2:50:18 PM
 Chem. Recovery Factor: 1.0967 +/- 0.0655

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T 5.292	366.83	10.24	0.17	0.00E+000	19.0
U-234	4.746	120.83	17.85	0.17	0.00E+000	13.7
U-235	4.385	6.00	86.43	0.00	0.00E+000	3.0
U-238	4.173	87.66	20.98	0.34	0.00E+000	8.5

T = Tracer Peak used for Effective Efficiency

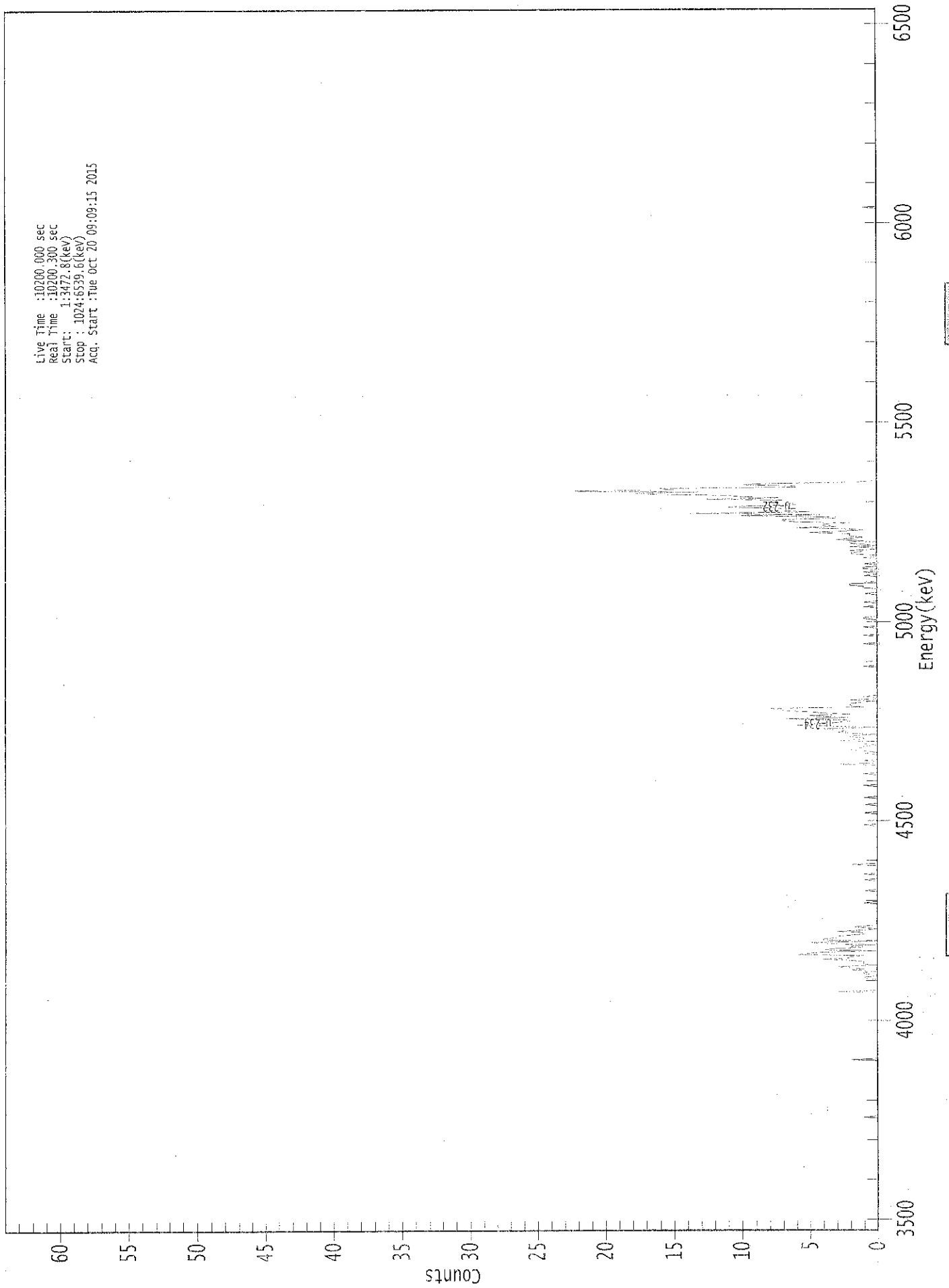
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.999	5302.50*	3.58E+000 +/- 4.00E-001	4.07E-002 +/- 4.56E-003
U-234	0.998	4761.50*	1.18E+000 +/- 2.48E-001	4.07E-002 +/- 4.55E-003
U-235	1.000	4385.50*	7.22E-002 +/- 6.29E-002	7.22E-002 +/- 8.07E-003
U-238	0.999	4184.40*	8.52E-001 +/- 2.02E-001	4.64E-002 +/- 5.20E-003

AG
 10/21/15

0000131694.CNF

Live Time :10200.000 sec
Real Time :10200.300 sec
Start : 1:3472.8(keV)
Stop : 1024:5539.6(keV)
Acq. Start :Tue Oct 20 09:09:15 2015



00153

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 13

Elapsed Live time: 10200

Elapsed Real Time: 10200

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0	1
97:	0	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0	0
121:	0	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0	0
137:	0	0	0	0	0	0	0	0	2
145:	0	0	0	0	0	0	0	0	0
153:	0	0	0	0	0	0	0	0	0
161:	0	0	0	0	0	0	0	0	0
169:	0	0	0	0	0	0	0	0	0
177:	0	0	0	0	0	0	0	0	0
185:	0	0	0	0	0	0	0	0	0
193:	0	0	0	0	0	0	0	0	0
201:	3	0	0	0	0	0	0	0	0
209:	0	0	0	1	1	0	0	0	1
217:	1	0	2	1	2	3	0	0	1
225:	1	1	2	4	2	2	1	0	6
233:	5	4	0	4	3	1	2	0	0
241:	4	5	0	4	4	3	3	0	2
249:	1	1	3	1	0	1	2	0	0
257:	0	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	0	1	0	0	0	0	0	0
281:	0	0	0	0	1	0	0	0	0
289:	0	0	0	0	0	1	0	0	0
297:	0	0	1	0	0	0	0	0	0
305:	0	0	2	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	0	0
321:	0	0	0	0	0	0	0	0	0
329:	0	0	0	0	0	0	0	0	0
337:	0	0	0	1	0	0	0	0	0
345:	0	0	0	0	0	1	0	0	0
353:	0	0	0	0	1	0	0	0	0
361:	0	0	1	0	0	0	0	0	0

369: 0 0 0 0 1 0 0 0

Sample Title: 13

Channel	1	2	3	4	5	6	7	8	9
377:	0	0	0	0	0	0	0	1	0
385:	0	0	0	0	0	0	0	3	0
393:	0	1	0	0	0	0	0	0	1
401:	0	1	2	2	1	1	0	0	1
409:	1	1	3	1	1	2	2	2	0
417:	2	3	2	3	4	0	3	6	
425:	4	3	2	2	7	2	4	5	
433:	2	4	5	7	7	8	1	2	
441:	2	2	1	0	2	0	0	1	
449:	0	0	0	0	0	0	0	0	
457:	0	0	0	0	0	0	0	0	
465:	0	0	0	0	0	0	0	0	
473:	1	0	0	0	0	0	0	0	
481:	0	0	0	0	0	0	0	0	
489:	0	0	0	1	0	0	0	0	
497:	0	0	1	0	0	0	0	0	
505:	0	1	0	0	0	0	0	0	
513:	1	1	0	0	0	0	0	0	
521:	0	0	1	0	0	0	1	0	
529:	0	0	0	0	0	1	0	0	
537:	0	0	1	1	2	2	0	0	
545:	0	0	0	0	1	0	0	1	
553:	0	0	1	1	0	0	1	0	
561:	0	0	0	1	0	0	2	2	
569:	1	2	0	0	2	0	1	2	
577:	2	1	3	2	1	2	2	2	
585:	5	3	1	2	6	3	4	4	
593:	2	6	7	7	3	3	10	4	
601:	14	5	7	7	6	11	10	6	
609:	6	8	8	7	13	7	10	11	
617:	16	18	13	23	15	16	6	6	
625:	10	8	2	0	0	0	0	0	
633:	0	0	0	0	0	0	0	0	
641:	0	0	0	0	0	0	0	0	
649:	0	0	0	0	0	0	0	0	
657:	0	0	0	0	0	0	0	0	
665:	0	0	0	0	0	0	0	0	
673:	0	0	0	0	0	0	0	0	
681:	0	0	0	0	0	0	0	0	
689:	0	0	0	0	0	0	0	0	
697:	0	0	0	0	0	0	0	0	
705:	0	0	0	0	0	0	0	0	
713:	0	0	0	0	0	0	0	0	
721:	0	0	0	0	0	0	0	0	
729:	0	0	0	0	0	0	0	0	
737:	0	0	0	0	0	0	0	0	
745:	0	0	0	0	0	0	0	0	
753:	0	0	0	0	0	0	0	0	
761:	0	0	0	0	0	0	0	0	
769:	0	0	0	0	0	0	0	0	
777:	0	0	0	0	0	0	0	0	
785:	0	0	0	0	0	0	0	0	
793:	0	0	0	0	0	0	0	0	

801: 0 0 0 0 0 0 0 0 0

Sample Title: 13

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	1	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

Apex-Alpha™

KB
10/20/15

Sample Description: CP2107S17-18
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-UU
 Sample Identification: 14
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_039
 Chamber Serial Number: 06027396A
 Detector Serial Number: 83109
 Env. Background: System Bkgd 131875
 Reagent Blank: <not performed>

Sample Size: 1.506E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 6:49:45 AM
 Acquisition Date/Time: 10/20/2015 9:09:17 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.650 mL
 Effective Efficiency: 0.1791 +/- 0.0103
 Counting Efficiency: 0.1934 +/- 0.0034 on 10/25/2014 2:53:34 PM
 Chem. Recovery Factor: 0.9262 +/- 0.0554

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	5.291	366.79	10.27	2.21	0.00E+000	27.8
U-234	4.746	71.13	23.59	1.87	0.00E+000	6.0
U-235	4.361	3.30	136.59	1.70	0.00E+000	3.0
U-238	4.167	83.30	21.73	1.70	0.00E+000	20.8

T = Tracer Peak used for Effective Efficiency

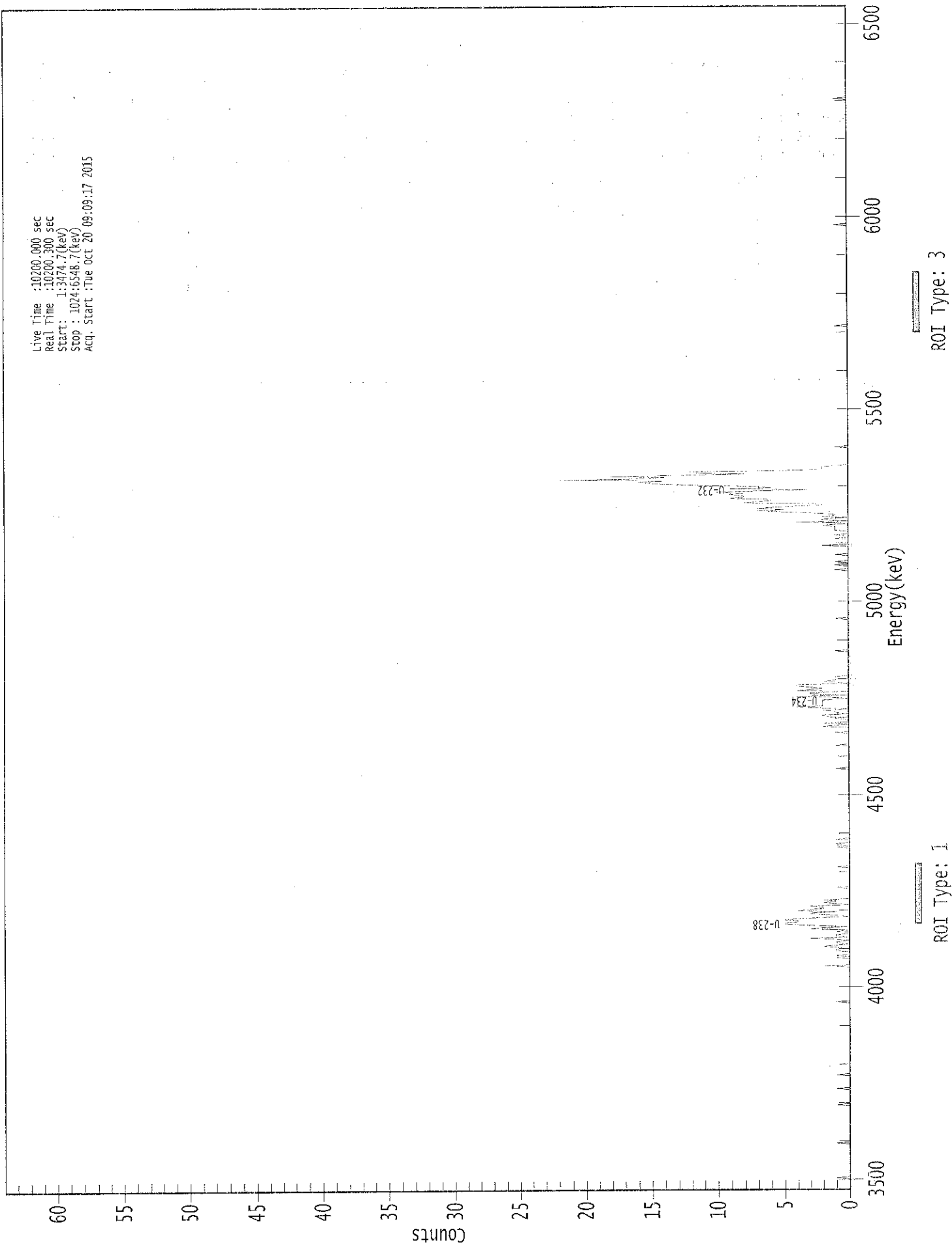
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.999	5302.50*	3.61E+000 +/- 4.05E-001	7.87E-002 +/- 8.83E-003
U-234	0.998	4761.50*	7.00E-001 +/- 1.83E-001	7.45E-002 +/- 8.36E-003
U-235	0.996	4385.50*	4.01E-002 +/- 5.49E-002	8.92E-002 +/- 1.00E-002
U-238	0.998	4184.40*	8.16E-001 +/- 2.00E-001	7.20E-002 +/- 8.08E-003

AG
10/21/15

0000131695.CNF

Live Time : 10200.000 sec
Real Time : 10200.300 sec
Start : 1:3474.7 (keV)
Stop : 1024:6548.7 (keV)
Acq. Start : Tue Oct 20 09:09:17 2015



: 00154

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 14

Elapsed Live time: 10200
 Elapsed Real Time: 10200

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	0	0	1	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	1	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	0	1	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0	1
89:	0	0	0	0	0	0	0	0	0
97:	0	0	0	1	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0	0
121:	0	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0	0
137:	0	0	0	0	0	0	0	0	0
145:	0	0	0	0	0	0	0	0	0
153:	0	0	0	0	0	0	0	0	0
161:	0	0	1	0	0	0	0	0	0
169:	0	0	0	0	0	0	0	0	0
177:	0	0	0	0	0	0	0	0	0
185:	0	0	0	0	0	0	0	0	0
193:	0	2	0	0	0	0	0	0	0
201:	1	0	1	0	0	0	1	1	1
209:	0	1	2	1	0	1	1	1	0
217:	1	3	0	1	1	0	0	0	1
225:	0	3	2	0	3	5	5	4	4
233:	4	5	4	2	0	1	3	3	3
241:	1	4	3	2	2	3	0	1	1
249:	2	1	2	0	0	0	0	0	0
257:	0	0	0	0	0	1	0	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0	1
281:	0	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	0	0
297:	1	0	1	1	0	0	0	0	1
305:	0	0	0	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	0	0
321:	0	0	0	0	0	0	0	0	0
329:	0	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	0	0
353:	0	0	0	0	0	0	0	0	0
361:	0	0	0	0	1	0	0	0	0

369: 0 0 0 0 0 0 0 0 0

Sample Title: 14

Channel	1	2	3	4	5	6	7	8	9
377:	0	0	0	0	0	0	0	0	0
385:	1	0	0	0	0	0	0	0	0
393:	0	0	0	1	0	0	0	0	0
401:	2	1	0	2	0	0	0	0	1
409:	1	2	2	0	1	1	2	2	0
417:	2	4	2	2	2	2	2	2	2
425:	0	1	4	0	3	3	0	4	4
433:	3	2	3	4	4	0	1	2	2
441:	1	1	1	1	0	0	0	0	0
449:	0	0	0	0	0	0	0	0	0
457:	0	0	0	0	0	0	0	0	0
465:	0	1	0	0	0	0	0	0	0
473:	0	0	0	0	0	0	0	0	0
481:	0	0	0	0	0	0	0	0	0
489:	0	0	0	0	0	1	0	0	0
497:	0	0	0	0	0	0	0	0	0
505:	0	0	0	0	0	0	0	0	0
513:	0	0	0	0	0	0	0	0	0
521:	0	0	0	0	0	0	0	0	0
529:	0	0	0	0	0	0	0	0	1
537:	0	0	0	1	0	0	1	0	0
545:	0	0	0	0	1	0	0	0	0
553:	0	0	0	0	2	0	1	0	0
561:	0	0	1	0	0	1	0	0	0
569:	0	1	1	1	1	2	1	0	0
577:	4	0	2	2	0	2	1	1	1
585:	3	5	7	5	7	6	4	2	2
593:	2	8	7	6	6	9	8	8	8
601:	9	8	10	7	3	9	6	7	7
609:	11	14	15	16	14	22	16	14	14
617:	18	12	8	12	12	4	2	2	2
625:	2	1	0	0	0	0	0	0	0
633:	0	0	0	0	0	0	0	0	0
641:	0	1	0	0	0	0	0	0	0
649:	0	0	0	0	0	0	0	0	0
657:	0	0	0	0	0	0	0	0	0
665:	0	0	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	0	0
705:	0	0	0	0	0	0	0	0	0
713:	0	0	0	0	0	0	0	0	0
721:	0	0	0	0	0	0	0	0	0
729:	0	0	0	0	0	0	0	0	0
737:	0	0	0	0	0	0	0	0	0
745:	0	0	1	0	0	0	0	0	0
753:	0	0	0	0	0	0	0	0	0
761:	0	0	0	0	0	0	0	0	0
769:	0	0	0	0	0	0	0	0	0
777:	0	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	0	0	0

801: 0 0 0 0 0 0 0 0 0

Sample Title: 14

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	1	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	1	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

LB
rebel

Apex-Alpha™

Sample Description: CP2107S19-20
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-UU
 Sample Identification: 15
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_040
 Chamber Serial Number: 06027396B
 Detector Serial Number: 91135
 Env. Background: System Bkgd 131876
 Reagent Blank: <not performed>

Sample Size: 1.512E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 6:49:45 AM
 Acquisition Date/Time: 10/20/2015 9:09:18 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.658 mL
 Effective Efficiency: 0.2155 +/- 0.0114
 Counting Efficiency: 0.1856 +/- 0.0032 on 10/25/2014 2:57:14 PM
 Chem. Recovery Factor: 1.1615 +/- 0.0644

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T 5.280	446.32	9.29	0.68	0.00E+000	20.9
U-234	4.732	156.66	15.68	0.34	0.00E+000	6.9
U-235	4.358	8.00	73.50	0.00	0.00E+000	3.0
U-238	4.151	121.00	17.89	0.00	0.00E+000	8.2

T = Tracer Peak used for Effective Efficiency

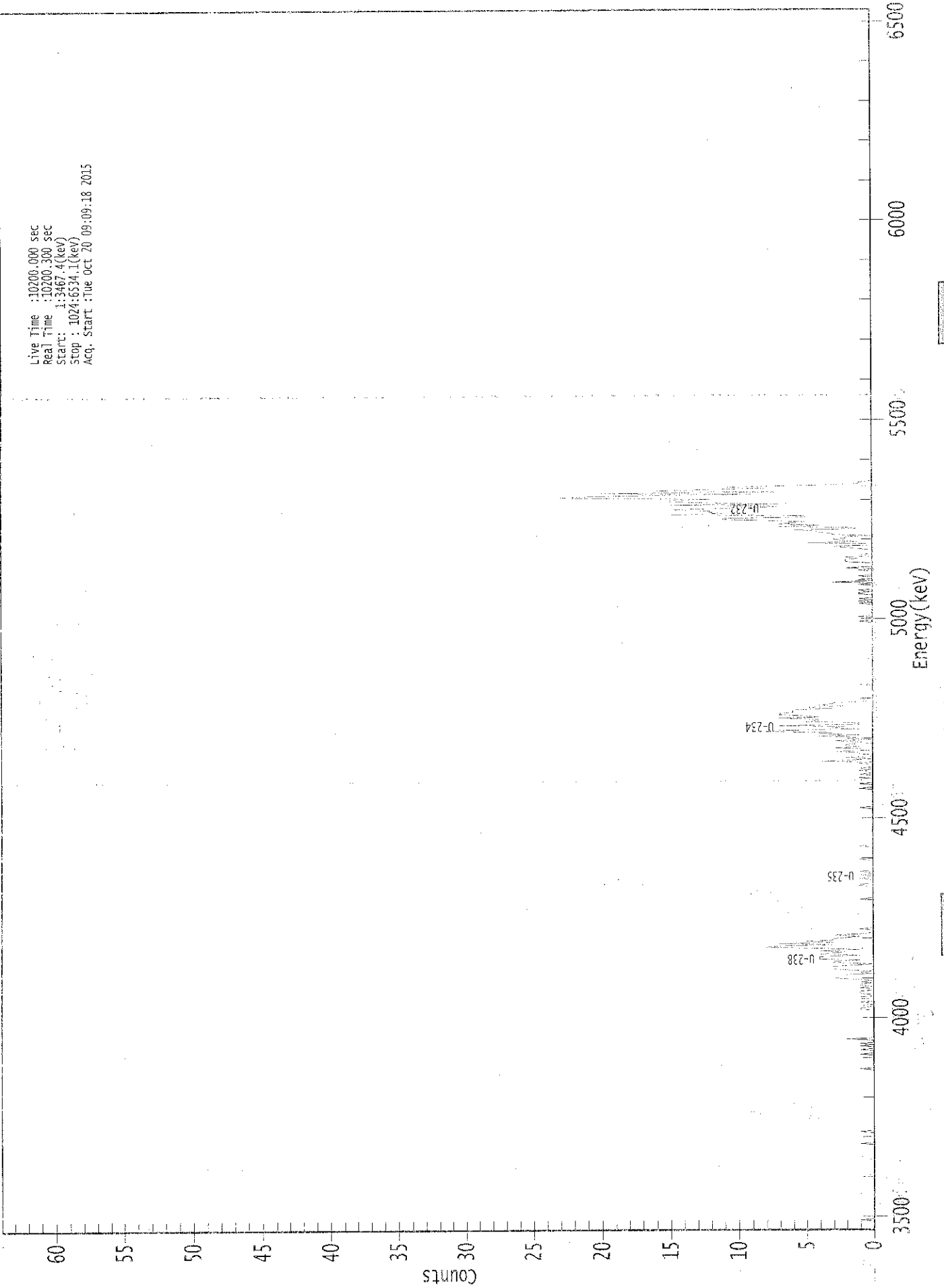
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.997	5302.50*	3.64E+000 +/- 3.76E-001	4.60E-002 +/- 4.75E-003
U-234	0.994	4761.50*	1.28E+000 +/- 2.40E-001	3.90E-002 +/- 4.02E-003
U-235	0.995	4385.50*	8.04E-002 +/- 5.97E-002	6.03E-002 +/- 6.22E-003
U-238	0.992	4184.40*	9.82E-001 +/- 2.03E-001	4.86E-002 +/- 5.02E-003

AG
10/21/15

0000131696.CNF

Live Time :10200.000 sec
Real Time :10200.300 sec
Start : 1:3467.4(kev)
Stop : 1024:6534.1(kev)
Acq. Start :Tue Oct 20 09:09:18 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 15

Elapsed Live time: 10200

Elapsed Real Time: 10200

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	1	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	1	0	0	0	0	0	0	0	0
81:	0	0	1	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0	0
121:	0	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0	1
137:	0	0	0	0	0	0	0	0	0
145:	0	0	0	1	0	0	0	0	1
153:	0	0	1	0	1	0	0	0	0
161:	2	0	0	0	0	0	0	0	0
169:	0	0	0	0	0	0	0	0	0
177:	0	0	0	0	0	0	0	0	0
185:	0	1	1	0	1	0	0	0	1
193:	0	0	1	1	0	0	1	1	1
201:	1	0	0	1	0	1	1	1	0
209:	1	0	1	3	2	2	2	2	0
217:	1	0	2	3	3	3	3	1	0
225:	3	3	1	4	4	4	4	1	4
233:	3	2	4	1	4	8	7	3	3
241:	7	3	5	3	3	2	1	3	3
249:	1	0	0	0	1	0	0	0	0
257:	0	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	1	0	0	0
281:	0	0	0	0	0	0	0	0	0
289:	1	1	0	0	0	0	1	0	0
297:	0	1	0	0	1	0	0	0	0
305:	0	0	0	0	0	0	1	0	0
313:	0	0	0	0	0	0	0	0	0
321:	0	1	0	0	0	0	0	0	0
329:	0	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	0	0
353:	0	1	0	0	0	0	0	0	0
361:	0	0	0	0	0	0	0	0	0

369: 0 1 0 0 0 1 0 0

Sample Title: 15

Channel	1	2	3	4	5	6	7	8	9
377:	0	0	1	0	0	1	0	0	
385:	1	0	1	0	0	0	1	0	
393:	4	1	0	2	0	0	1	1	
401:	3	0	0	3	1	2	2	0	
409:	1	3	0	2	1	4	1	4	
417:	3	8	7	1	3	2	7	1	
425:	1	5	4	4	7	4	5	7	
433:	7	6	6	6	3	5	2	4	
441:	3	3	0	0	1	0	0	0	
449:	0	0	0	0	0	0	0	0	
457:	1	0	0	0	0	0	0	0	
465:	0	0	0	0	0	0	0	0	
473:	0	0	0	0	0	0	0	0	
481:	0	0	0	0	0	0	0	0	
489:	0	0	0	0	0	0	0	0	
497:	0	0	0	0	0	0	0	0	
505:	0	0	0	0	0	1	0	0	
513:	0	1	0	0	0	0	0	0	
521:	0	0	0	0	1	0	1	0	
529:	1	0	0	0	1	1	0	1	
537:	0	0	0	0	1	0	3	0	
545:	1	0	0	1	0	0	0	0	
553:	1	0	2	0	0	0	0	2	
561:	2	2	1	2	0	1	0	0	
569:	0	0	1	2	3	0	0	5	
577:	1	2	3	2	2	0	3	3	
585:	4	4	6	1	2	7	4	7	
593:	6	5	8	11	11	5	5	15	
601:	11	12	12	15	12	8	7	15	
609:	7	13	15	15	12	22	23	18	
617:	9	20	7	16	13	8	11	7	
625:	3	1	1	0	0	0	0	0	
633:	0	0	0	0	0	0	0	0	
641:	0	0	0	0	0	0	0	0	
649:	0	0	0	0	0	0	0	0	
657:	0	0	0	0	0	0	0	0	
665:	0	0	0	0	0	0	0	0	
673:	0	0	0	0	0	0	0	0	
681:	0	0	0	0	0	0	0	0	
689:	0	0	0	0	0	0	0	0	
697:	0	0	0	0	0	0	0	0	
705:	0	0	0	0	0	0	0	0	
713:	0	0	0	0	0	0	0	0	
721:	0	0	0	0	0	0	0	0	
729:	0	0	0	0	0	0	0	0	
737:	0	0	0	0	0	0	0	0	
745:	0	0	0	0	0	0	0	0	
753:	0	0	0	0	0	0	0	0	
761:	0	0	0	0	0	0	0	0	
769:	0	0	0	0	0	0	0	0	
777:	0	0	0	0	0	0	0	0	
785:	0	0	0	0	0	0	0	0	
793:	0	0	0	0	0	0	0	0	

801: 0 0 0 0 0 0 0 0 0

Sample Title: 15

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

Apex-Alpha™

16
10/20/15

Sample Description: CP5005S01-02
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-UU
 Sample Identification: 16
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_041
 Chamber Serial Number: 05026930A
 Detector Serial Number: 91087
 Env. Background: System Bkgd 131877
 Reagent Blank: <not performed>

Sample Size: 1.527E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 6:49:45 AM
 Acquisition Date/Time: 10/20/2015 9:09:20 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.651 mL
 Effective Efficiency: 0.1630 +/- 0.0097
 Counting Efficiency: 0.1873 +/- 0.0033 on 10/25/2014 3:00:28 PM
 Chem. Recovery Factor: 0.8700 +/- 0.0538

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T 5.284	333.83	10.73	0.17	0.00E+000	22.0
U-234	4.739	100.15	19.68	0.85	0.00E+000	13.5
U-235	4.413	8.66	68.12	0.34	0.00E+000	3.0
U-238	4.162	90.79	20.86	2.21	0.00E+000	4.4

T = Tracer Peak used for Effective Efficiency

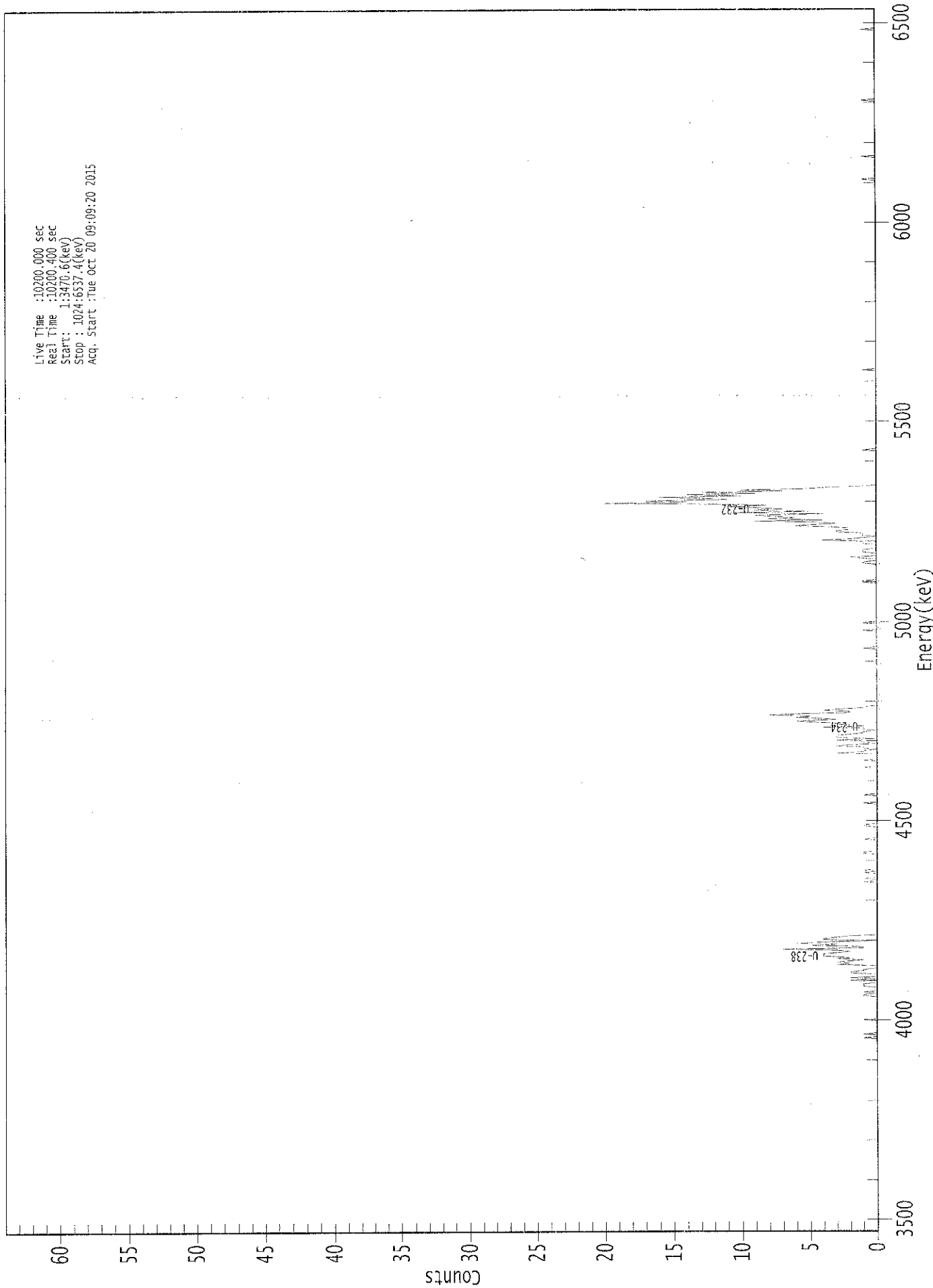
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.998	5302.50*	3.56E+000 +/- 4.15E-001	4.45E-002 +/- 5.18E-003
U-234	0.996	4761.50*	1.07E+000 +/- 2.44E-001	6.39E-002 +/- 7.43E-003
U-235	0.995	4385.50*	1.14E-001 +/- 7.87E-002	6.29E-002 +/- 7.32E-003
U-238	0.996	4184.40*	9.64E-001 +/- 2.30E-001	8.49E-002 +/- 9.89E-003

AG
10/21/15

0000131697.CNF

Live Time :10200.000 sec
Real Time :10200.400 sec
Start : 1:3470.6(kev)
Stop : 1024:6337.4(kev)
Acq. Start :Tue Oct 20 09:09:20 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 16

Elapsed Live time: 10200
 Elapsed Real Time: 10200

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0	0
121:	0	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0	0
137:	0	0	0	0	0	0	0	0	0
145:	0	0	0	0	0	0	0	0	0
153:	0	0	0	0	0	0	0	0	0
161:	0	0	1	0	0	1	0	0	0
169:	0	0	0	0	0	0	0	0	0
177:	0	1	0	0	0	0	0	0	0
185:	0	0	0	0	0	0	0	0	0
193:	0	0	0	0	0	1	1	0	0
201:	1	0	0	0	0	1	1	1	1
209:	0	0	2	0	2	0	0	0	0
217:	2	2	1	1	0	0	0	3	3
225:	2	3	2	1	3	2	4	4	4
233:	4	3	2	3	7	1	1	5	5
241:	3	6	4	0	4	4	3	2	2
249:	0	0	0	0	0	0	0	0	0
257:	0	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0	0
289:	0	0	0	0	1	0	0	1	1
297:	0	0	0	0	1	0	1	0	0
305:	0	0	0	0	0	0	0	0	0
313:	0	0	0	0	1	1	0	0	0
321:	0	0	0	0	0	0	0	0	0
329:	1	0	0	0	0	0	0	0	0
337:	0	0	0	1	1	0	0	0	0
345:	0	0	0	0	0	0	0	0	0
353:	0	0	0	0	0	0	1	0	0
361:	0	0	0	0	0	1	0	0	0

369: 0 0 0 0 0 0 0 0 0

Sample Title: 16

Channel	1	2	3	4	5	6	7	8	9
377:	0	0	0	0	0	0	0	0	0
385:	0	0	0	0	1	0	0	0	0
393:	0	0	1	0	0	0	0	0	0
401:	3	1	1	0	1	1	3	2	
409:	0	1	1	3	0	3	3	3	
417:	2	1	1	0	1	1	4	1	
425:	3	3	5	6	3	4	6	5	
433:	8	6	2	2	4	3	1	1	
441:	0	0	0	0	0	0	0	0	
449:	0	0	0	0	0	0	0	0	
457:	0	0	0	0	0	0	0	0	
465:	0	0	0	0	0	0	0	0	
473:	0	0	0	0	0	0	0	0	
481:	0	0	0	0	0	0	0	0	
489:	1	0	0	0	0	0	0	0	
497:	0	0	0	0	0	0	0	1	
505:	0	0	0	0	0	1	0	0	
513:	0	0	0	0	0	0	0	0	
521:	0	0	0	0	0	0	0	0	
529:	0	0	0	0	0	0	0	0	
537:	0	0	0	0	0	0	0	1	
545:	1	0	0	0	0	0	0	0	
553:	0	0	0	0	0	0	0	1	
561:	1	0	0	1	2	0	0	0	
569:	1	1	1	0	0	0	0	1	
577:	1	1	4	2	1	0	1	1	
585:	1	3	3	2	2	3	6	5	
593:	3	4	9	4	8	6	8	9	
601:	4	11	5	9	7	9	11	8	
609:	11	20	14	17	11	13	16	10	
617:	14	9	13	7	10	5	4	1	
625:	0	0	0	0	0	0	0	0	
633:	0	0	0	0	0	0	0	0	
641:	0	0	0	0	0	0	0	0	
649:	0	0	0	0	0	1	0	0	
657:	0	0	0	0	0	0	0	0	
665:	0	0	0	0	0	0	0	0	
673:	0	0	0	0	0	0	0	0	
681:	0	0	0	0	0	0	0	0	
689:	0	0	0	0	0	0	0	0	
697:	0	0	0	0	0	0	0	0	
705:	0	0	0	0	0	0	0	0	
713:	0	0	0	0	0	0	0	0	
721:	1	0	0	0	0	0	0	0	
729:	0	0	0	0	0	0	0	0	
737:	0	0	0	0	0	0	0	0	
745:	0	0	0	0	0	0	0	0	
753:	0	0	0	0	0	0	0	0	
761:	0	0	0	0	0	0	0	0	
769:	0	0	0	0	0	0	0	0	
777:	0	0	0	0	0	0	0	0	
785:	0	0	0	0	0	0	0	0	
793:	0	0	0	0	0	0	0	0	

801: 0 0 0 0 0 0 0 0 0

Sample Title: 16

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	1	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	1	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	1	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

KB
10/20/15

Apex-Alpha™

Sample Description: CP5005S04-05
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-UU
 Sample Identification: 17
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_042
 Chamber Serial Number: 05026930B
 Detector Serial Number: 84185
 Env. Background: System Bkgd 131878
 Reagent Blank: <not performed>

Sample Size: 1.586E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 6:49:45 AM
 Acquisition Date/Time: 10/20/2015 9:09:22 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.652 mL
 Effective Efficiency: 0.1795 +/- 0.0102
 Counting Efficiency: 0.1737 +/- 0.0030 on 10/25/2014 3:04:21 PM
 Chem. Recovery Factor: 1.0329 +/- 0.0616

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T 5.280	368.15	10.23	0.85	0.00E+000	24.4
U-234	4.733	106.83	18.98	0.17	0.00E+000	9.4
U-235	4.388	4.83	91.00	0.17	0.00E+000	3.0
U-238	4.154	140.83	16.53	0.17	0.00E+000	7.7

T = Tracer Peak used for Effective Efficiency

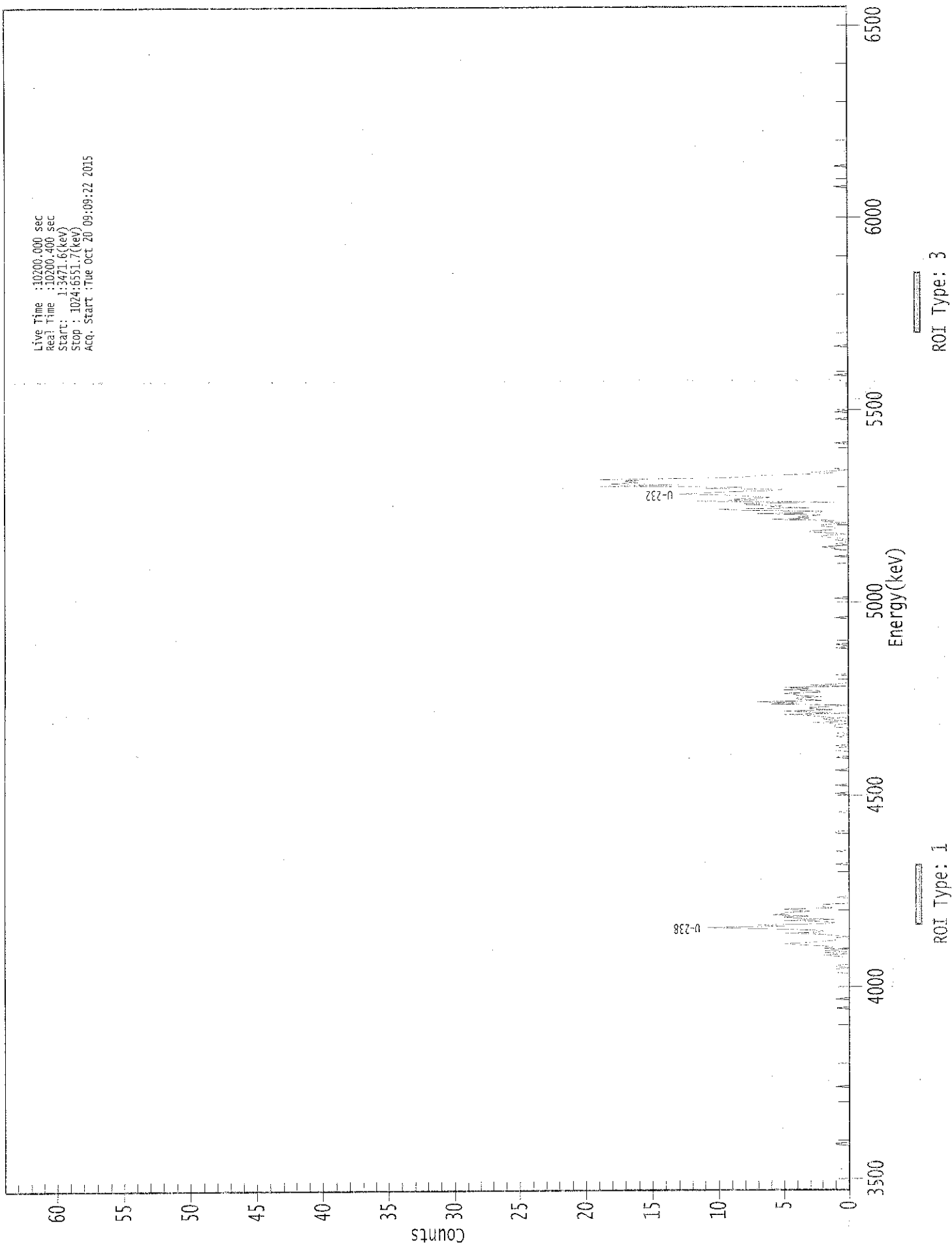
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.996	5302.50*	3.43E+000 +/- 3.84E-001	5.59E-002 +/- 6.24E-003
U-234	0.994	4761.50*	9.96E-001 +/- 2.19E-001	3.89E-002 +/- 4.35E-003
U-235	1.000	4385.50*	5.56E-002 +/- 5.09E-002	4.80E-002 +/- 5.37E-003
U-238	0.994	4184.40*	1.31E+000 +/- 2.61E-001	3.88E-002 +/- 4.33E-003

AG
10/21/15

0000131698.CNF

Live Time :10200.000 sec
Real Time :10200.400 sec
Start: 1:3471.6(kev)
Stop : 1024:6551.7(kev)
Acq. Start :Tue Oct 20 09:09:22 2015



00173

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 17

Elapsed Live time: 10200

Elapsed Real Time: 10200

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	1
41:	1	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0	0
89:	0	1	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0	0
121:	0	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0	0
137:	0	0	0	0	0	0	0	0	0
145:	0	0	0	0	0	0	0	0	0
153:	0	0	0	0	0	0	1	0	0
161:	0	0	0	0	0	0	1	0	0
169:	0	0	0	0	0	0	0	0	0
177:	0	0	0	0	0	0	0	0	0
185:	0	0	0	0	1	1	1	1	1
193:	0	1	1	0	0	0	0	0	0
201:	0	0	1	2	0	2	0	0	2
209:	0	2	1	2	4	5	3	2	2
217:	1	1	1	0	1	2	5	2	2
225:	2	4	8	11	5	7	2	1	1
233:	2	5	1	4	5	3	6	5	5
241:	5	3	4	5	1	2	2	2	2
249:	0	0	0	0	0	1	0	0	0
257:	0	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0	0
281:	0	0	1	0	0	0	0	0	0
289:	0	0	0	0	0	1	0	0	0
297:	0	0	0	0	0	0	0	0	0
305:	0	0	0	0	0	1	1	0	0
313:	0	0	0	0	0	0	0	0	0
321:	0	0	0	0	0	0	0	0	1
329:	0	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0	1
345:	0	0	0	0	0	0	1	0	0
353:	0	0	0	0	0	0	0	0	0
361:	0	0	0	1	0	0	0	0	0

369: 0 0 0 0 0 0 0 1 0

Sample Title: 17

Channel	1	2	3	4	5	6	7	8	9
377:	0	0	0	0	1	1	1	0	
385:	1	0	0	0	0	0	0	0	
393:	1	0	0	1	0	0	0	0	
401:	1	1	1	0	3	0	1	2	
409:	1	2	3	5	0	3	5	1	
417:	3	3	1	0	6	4	7	2	
425:	4	4	2	4	4	5	2	2	
433:	5	3	5	0	3	1	0	0	
441:	0	0	0	0	0	1	0	0	
449:	0	0	0	0	0	0	0	0	
457:	0	0	0	0	0	0	0	0	
465:	0	0	0	0	1	0	0	1	
473:	0	0	0	0	0	0	0	0	
481:	0	0	0	0	0	0	0	0	
489:	0	0	0	0	0	0	1	0	
497:	0	0	0	0	0	0	0	0	
505:	0	0	0	0	0	0	0	1	
513:	0	0	0	0	0	0	0	0	
521:	0	0	0	0	0	0	0	0	
529:	0	0	0	0	0	0	0	0	
537:	0	0	0	0	0	0	0	0	
545:	0	0	0	1	0	0	0	0	
553:	0	1	1	2	1	0	1	0	
561:	0	1	0	1	2	2	0	1	
569:	3	3	1	1	1	2	2	1	
577:	0	2	1	6	3	4	3	2	
585:	7	2	2	8	10	3	6	5	
593:	8	8	1	12	7	9	6	7	
601:	9	13	11	9	6	5	11	8	
609:	19	13	18	16	17	16	19	10	
617:	8	7	4	1	3	1	0	1	
625:	0	0	0	0	0	0	0	0	
633:	0	0	0	0	0	0	0	0	
641:	0	0	0	0	0	1	0	0	
649:	0	0	0	0	0	0	0	0	
657:	0	0	0	0	0	0	0	0	
665:	0	0	1	0	0	0	0	0	
673:	1	0	0	0	0	0	0	0	
681:	0	0	0	0	0	0	0	0	
689:	0	0	0	0	0	0	0	0	
697:	0	0	0	0	0	0	0	0	
705:	1	0	0	0	0	0	0	0	
713:	0	0	0	0	0	0	0	0	
721:	0	0	0	0	0	0	0	0	
729:	0	1	0	0	0	0	0	0	
737:	0	0	0	0	0	0	0	0	
745:	0	0	0	0	0	0	0	0	
753:	0	0	0	0	0	0	10	0	
761:	0	0	0	0	0	0	0	0	
769:	0	0	0	0	0	0	0	0	
777:	0	0	0	0	0	0	0	0	
785:	0	0	0	0	0	0	0	0	
793:	0	0	0	0	0	0	0	0	

801: 0 0 0 0 0 0 0 0 0

Sample Title: 17

Channel									
809:	0	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0	0
865:	0	0	1	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0	0
881:	0	0	0	0	1	0	0	0	0
889:	0	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0	0

Apex-Alpha™

*KB
10/20/15*

Sample Description: CP5005S05-06
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-UU
 Sample Identification: 18
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_043
 Chamber Serial Number: 04026481A
 Detector Serial Number: 91088
 Env. Background: System Bkgd 131879
 Reagent Blank: <not performed>

Sample Size: 1.507E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 6:49:45 AM
 Acquisition Date/Time: 10/20/2015 9:09:24 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.652 mL
 Effective Efficiency: 0.1888 +/- 0.0105
 Counting Efficiency: 0.1998 +/- 0.0035 on 10/25/2014 3:08:45 PM
 Chem. Recovery Factor: 0.9447 +/- 0.0552

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T 5.283	387.49	9.96	0.51	0.00E+000	17.7
U-234	4.735	115.15	18.34	0.85	0.00E+000	3.9
U-235	4.390	4.83	91.00	0.17	0.00E+000	3.0
U-238	4.157	121.00	17.89	0.00	0.00E+000	16.2

T = Tracer Peak used for Effective Efficiency

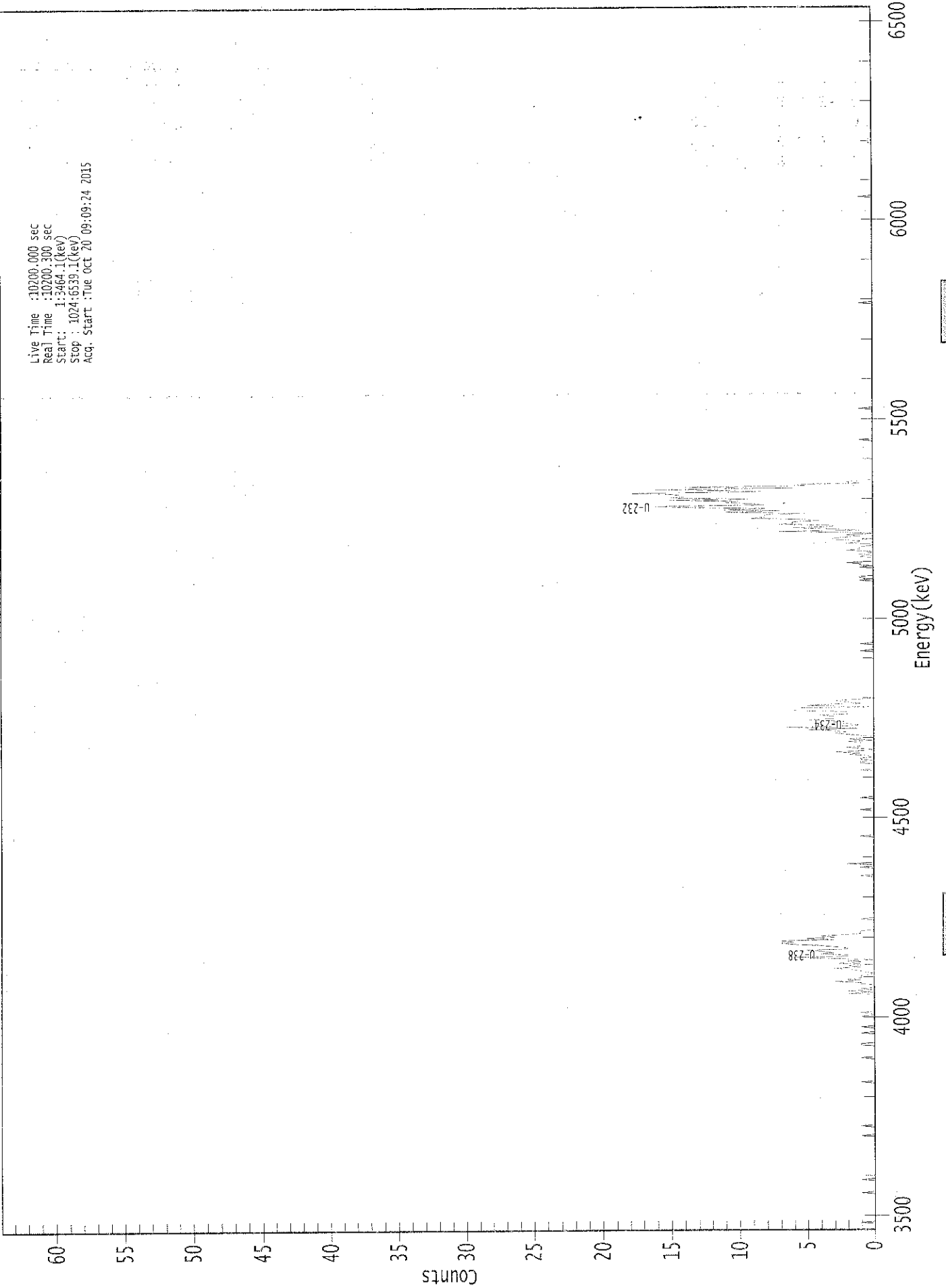
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.997	5302.50*	3.62E+000 +/- 3.96E-001	4.90E-002 +/- 5.36E-003
U-234	0.995	4761.50*	1.07E+000 +/- 2.30E-001	5.59E-002 +/- 6.11E-003
U-235	1.000	4385.50*	5.56E-002 +/- 5.10E-002	4.81E-002 +/- 5.26E-003
U-238	0.995	4184.40*	1.12E+000 +/- 2.36E-001	5.57E-002 +/- 6.10E-003

*AG
10/21/15*

0000131699.CNF

Live Time :10200.000 sec
Real Time :10200.300 sec
Start : 1:3464.1(keV)
Stop : 1024:6539.1(keV)
Acq. Start :Tue Oct 20 09:09:24 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 18

Elapsed Live time: 10200

Elapsed Real Time: 10200

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	1	0
9:	0	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	1
33:	0	0	0	0	0	0	0	0	0
41:	0	0	1	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0	1
81:	0	0	0	0	0	0	0	0	1
89:	0	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0	0
121:	0	0	0	0	1	0	0	0	0
129:	0	0	0	0	0	0	0	0	0
137:	0	0	0	0	0	0	0	0	0
145:	1	0	0	0	0	0	0	0	0
153:	0	0	0	1	1	0	0	0	0
161:	0	0	0	0	0	1	0	0	0
169:	0	0	1	0	0	0	0	0	0
177:	0	0	0	1	0	0	1	0	0
185:	0	0	0	0	0	0	0	0	0
193:	0	0	0	0	0	0	2	0	0
201:	2	0	1	0	0	0	1	1	0
209:	3	1	2	1	1	1	0	0	0
217:	1	1	2	3	1	2	0	3	0
225:	1	2	0	3	6	2	2	4	0
233:	3	4	5	2	2	3	4	6	0
241:	7	6	7	3	5	3	4	2	0
249:	1	1	1	0	0	0	0	0	0
257:	0	0	0	0	1	0	0	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	0	0
297:	1	0	0	0	0	0	0	1	0
305:	0	0	2	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	0	0
321:	0	0	0	0	0	0	0	0	0
329:	0	1	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	1	0
353:	0	0	0	0	0	0	0	0	0
361:	0	1	0	0	0	0	0	0	0

369: 0 0 0 0 0 0 0 0 0

Sample Title: 18

Channel	1	2	3	4	5	6	7	8	9
377:	0	0	0	0	0	0	0	0	0
385:	1	0	0	0	0	0	0	1	1
393:	0	1	1	0	0	0	2	1	3
401:	1	0	1	2	1	1	1	1	1
409:	2	0	2	0	0	1	2	2	3
417:	2	3	5	1	7	2	1	2	2
425:	3	2	5	3	3	3	4	2	2
433:	2	2	6	6	6	0	5	4	4
441:	1	2	3	2	0	0	0	0	0
449:	0	0	0	0	0	0	0	0	0
457:	0	0	0	0	0	0	0	0	0
465:	0	0	0	0	0	0	0	0	0
473:	0	0	0	0	0	0	0	0	0
481:	0	0	0	0	1	0	0	0	0
489:	0	0	1	0	0	0	0	0	0
497:	0	0	0	0	0	0	0	0	0
505:	0	0	0	0	0	0	0	0	0
513:	0	0	0	0	0	0	0	0	0
521:	0	0	0	0	0	0	0	0	0
529:	0	0	0	0	0	0	0	0	0
537:	0	0	0	0	0	0	0	0	1
545:	0	1	1	0	0	0	0	0	0
553:	0	0	1	0	1	1	2	0	0
561:	0	0	0	1	0	1	0	0	0
569:	2	1	1	1	0	0	2	1	1
577:	1	3	3	2	1	2	0	2	2
585:	7	1	3	6	3	3	7	6	6
593:	6	4	5	9	8	8	8	5	5
601:	11	7	11	8	14	16	8	9	9
609:	11	10	15	9	15	14	14	15	15
617:	18	8	11	16	6	14	5	6	6
625:	1	2	1	0	0	0	0	0	0
633:	0	0	0	0	0	0	0	0	0
641:	0	0	0	0	0	0	0	0	0
649:	0	0	0	0	0	0	0	0	0
657:	0	0	0	0	1	0	0	0	0
665:	0	0	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	1	0	0
689:	0	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	0	0
705:	0	0	0	0	0	0	0	0	0
713:	0	0	0	0	0	0	0	0	0
721:	0	0	0	0	0	0	0	0	0
729:	0	0	0	0	0	0	0	0	0
737:	0	0	0	0	0	0	0	0	0
745:	0	0	0	0	0	0	0	0	0
753:	0	0	0	0	0	0	0	0	0
761:	0	0	0	0	0	0	0	0	0
769:	0	0	0	0	0	0	1	0	0
777:	0	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	0	0	0

801: 0 0 0 0 0 0 0 0 0

Sample Title: 18

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	1
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

KB
10/20/15

Apex-Alpha™

Sample Description: CP5005S09-10
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001317
 Batch Identification: 1510063A-UU
 Sample Identification: 19
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_044
 Chamber Serial Number: 04026481B
 Detector Serial Number: 84168
 Env. Background: System Bkgd 131880
 Reagent Blank: <not performed>

Sample Size: 1.546E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 6:49:45 AM
 Acquisition Date/Time: 10/20/2015 9:09:25 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.660 mL
 Effective Efficiency: 0.1873 +/- 0.0104
 Counting Efficiency: 0.1837 +/- 0.0032 on 10/25/2014 3:13:11 PM
 Chem. Recovery Factor: 1.0200 +/- 0.0596

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T 5.290	389.00	9.95	0.00	0.00E+000	28.1
U-234	4.745	110.83	18.63	0.17	0.00E+000	14.0
U-235	4.376	3.00	130.67	0.00	0.00E+000	3.0
U-238	4.169	112.66	18.50	0.34	0.00E+000	8.5

T = Tracer Peak used for Effective Efficiency

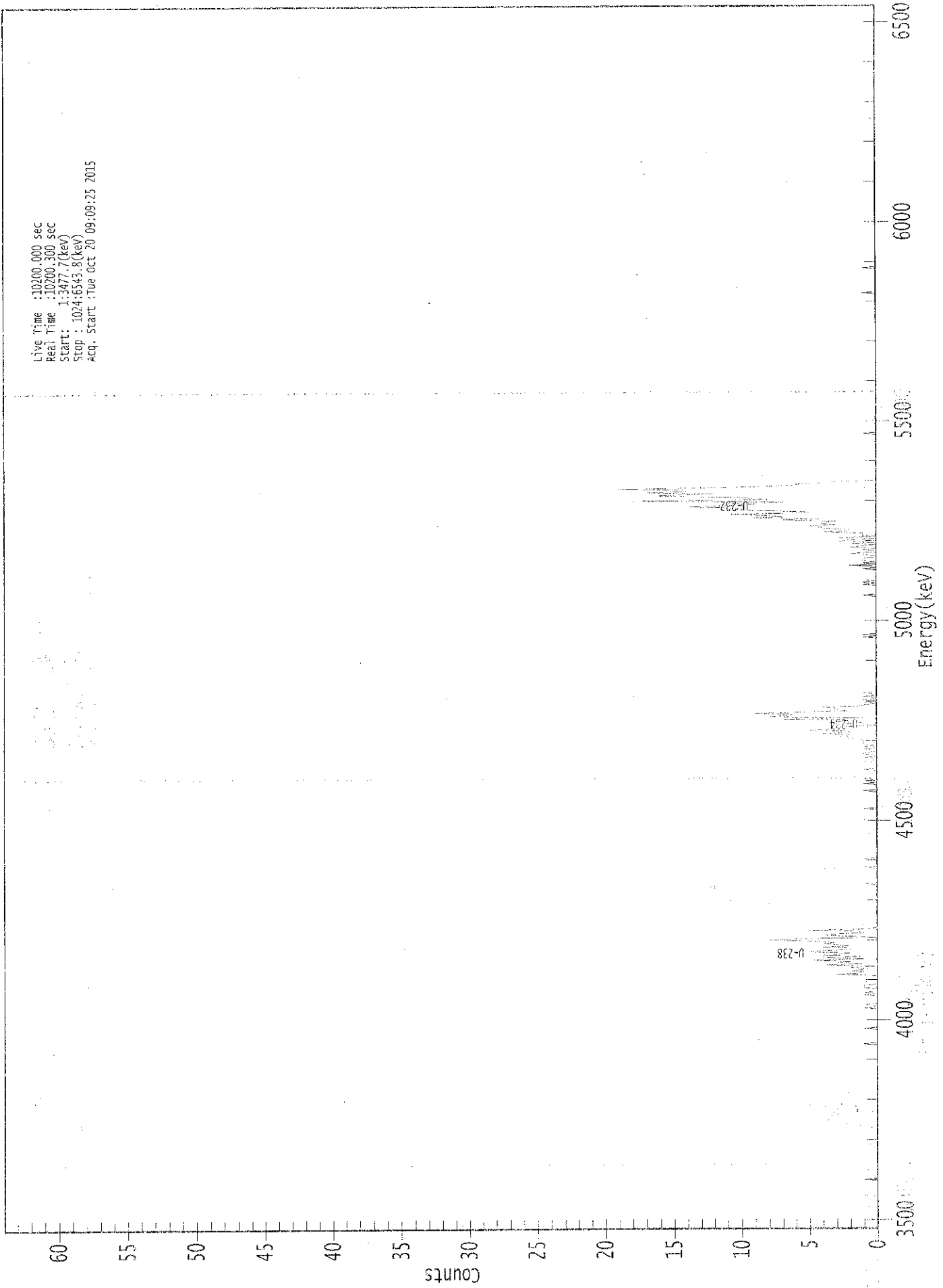
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.999	5302.50*	3.57E+000 +/- 3.90E-001	5.50E-002 +/- 6.01E-003
U-234	0.998	4761.50*	1.02E+000 +/- 2.19E-001	3.83E-002 +/- 4.18E-003
U-235	0.999	4385.50*	3.39E-002 +/- 4.45E-002	6.78E-002 +/- 7.41E-003
U-238	0.998	4184.40*	1.03E+000 +/- 2.21E-001	4.36E-002 +/- 4.77E-003

AG
10/21/15

0000131700.CNF

Live Time :10200.000 sec
Real Time :10200.300 sec
Start : 1:3477.7(Rev)
Stop : 1024:6343.8(kev)
Acq. Start :Tue Oct 20 09:09:25 2015



ROI Type: 3

ROI Type: 1

00180

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 19

Elapsed Live time: 10200
 Elapsed Real Time: 10200

Channel	1	0	0	0	0	0	0	0	0
1:	1	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	0	1	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0	0
121:	0	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0	0
137:	0	0	0	0	0	0	0	0	0
145:	0	0	0	0	0	0	0	0	0
153:	0	0	1	0	0	0	0	0	0
161:	0	0	0	0	0	0	0	0	1
169:	0	0	0	0	0	0	0	0	0
177:	0	0	0	0	0	0	0	0	0
185:	1	0	0	1	0	0	0	0	0
193:	0	0	0	1	0	1	0	0	0
201:	0	1	1	1	0	0	0	0	0
209:	0	0	0	0	3	1	1	2	2
217:	1	1	2	0	4	1	3	2	2
225:	5	1	4	1	4	3	2	5	5
233:	4	2	2	4	2	3	4	3	3
241:	5	8	6	0	2	4	3	1	1
249:	1	5	1	0	0	0	0	0	0
257:	0	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0	0
289:	1	0	0	0	0	0	0	0	0
297:	0	0	0	0	0	0	1	0	0
305:	0	0	0	0	0	1	0	0	0
313:	0	0	0	0	0	0	0	0	0
321:	0	0	0	0	0	0	0	0	0
329:	0	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	1	1
353:	0	0	0	0	0	0	0	0	0
361:	0	0	0	0	0	0	1	0	0

369: 0 0 0 0 1 0 0 0

Sample Title: 19

Channel	1	2	3	4	5	6	7	8	9
377:	1	0	0	0	0	0	0	0	0
385:	1	0	0	0	0	0	0	0	1
393:	0	0	1	0	0	1	1	1	0
401:	0	1	0	1	0	1	1	1	1
409:	1	1	2	3	2	2	4	2	2
417:	2	5	3	3	2	0	1	1	1
425:	3	2	7	1	8	7	6	9	9
433:	5	2	3	3	4	1	1	0	0
441:	1	0	1	0	0	1	0	0	0
449:	1	0	0	0	0	0	0	0	0
457:	0	0	0	0	0	0	0	0	0
465:	0	0	0	0	0	0	0	0	0
473:	0	0	0	0	0	0	0	0	0
481:	0	0	0	0	0	0	0	0	0
489:	0	0	0	0	0	0	1	0	0
497:	1	0	0	0	0	0	0	0	0
505:	0	0	0	0	0	0	0	0	0
513:	0	0	0	0	0	0	0	0	0
521:	0	0	0	0	0	0	0	0	0
529:	0	1	0	0	0	0	0	0	0
537:	0	0	1	0	1	0	0	0	0
545:	0	0	0	0	0	0	0	1	1
553:	0	0	2	0	1	0	1	1	1
561:	1	0	0	1	2	0	0	1	1
569:	0	2	1	0	2	0	3	2	2
577:	0	3	0	1	1	1	4	2	2
585:	2	4	4	5	3	4	4	3	3
593:	7	4	9	7	8	11	5	5	5
601:	9	11	10	14	11	9	11	6	6
609:	18	8	9	10	16	16	12	17	17
617:	14	14	19	13	9	6	6	4	4
625:	3	0	0	0	0	0	0	0	0
633:	0	0	0	0	0	0	0	0	0
641:	0	0	0	0	0	0	0	0	0
649:	0	0	0	0	0	0	0	0	0
657:	0	0	0	0	0	0	0	0	0
665:	1	0	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	0	0
705:	0	0	0	0	0	0	0	0	0
713:	0	0	0	0	0	0	0	0	0
721:	0	0	0	0	0	0	0	0	0
729:	0	0	0	0	0	0	0	0	0
737:	0	0	0	0	0	0	0	0	0
745:	0	0	0	0	0	0	0	0	0
753:	0	0	0	0	0	0	0	0	0
761:	0	0	0	0	0	0	0	0	0
769:	0	0	0	0	0	0	0	0	0
777:	0	0	0	0	0	0	1	0	0
785:	0	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	0	0	0

801: 0 0 0 1 0 0 0 0

Sample Title: 19

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

KB
10/20/15

Apex-Alpha™

Sample Description: CP5005S12-13
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001317
 Batch Identification: 1510063A-UU
 Sample Identification: 20
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_045
 Chamber Serial Number: 04026482A
 Detector Serial Number: 91131
 Env. Background: System Bkgd 131881
 Reagent Blank: <not performed>

Sample Size: 1.515E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 6:49:45 AM
 Acquisition Date/Time: 10/20/2015 9:09:27 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.659 mL
 Effective Efficiency: 0.2167 +/- 0.0114
 Counting Efficiency: 0.1760 +/- 0.0031 on 10/25/2014 3:16:42 PM
 Chem. Recovery Factor: 1.2314 +/- 0.0682

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T 5.300	449.83	9.24	0.17	0.00E+000	30.4
U-234	4.752	118.32	18.08	0.68	0.00E+000	3.8
U-235	4.358	3.83	102.72	0.17	0.00E+000	3.0
U-238	4.180	106.30	19.19	1.70	0.00E+000	6.0

T = Tracer Peak used for Effective Efficiency

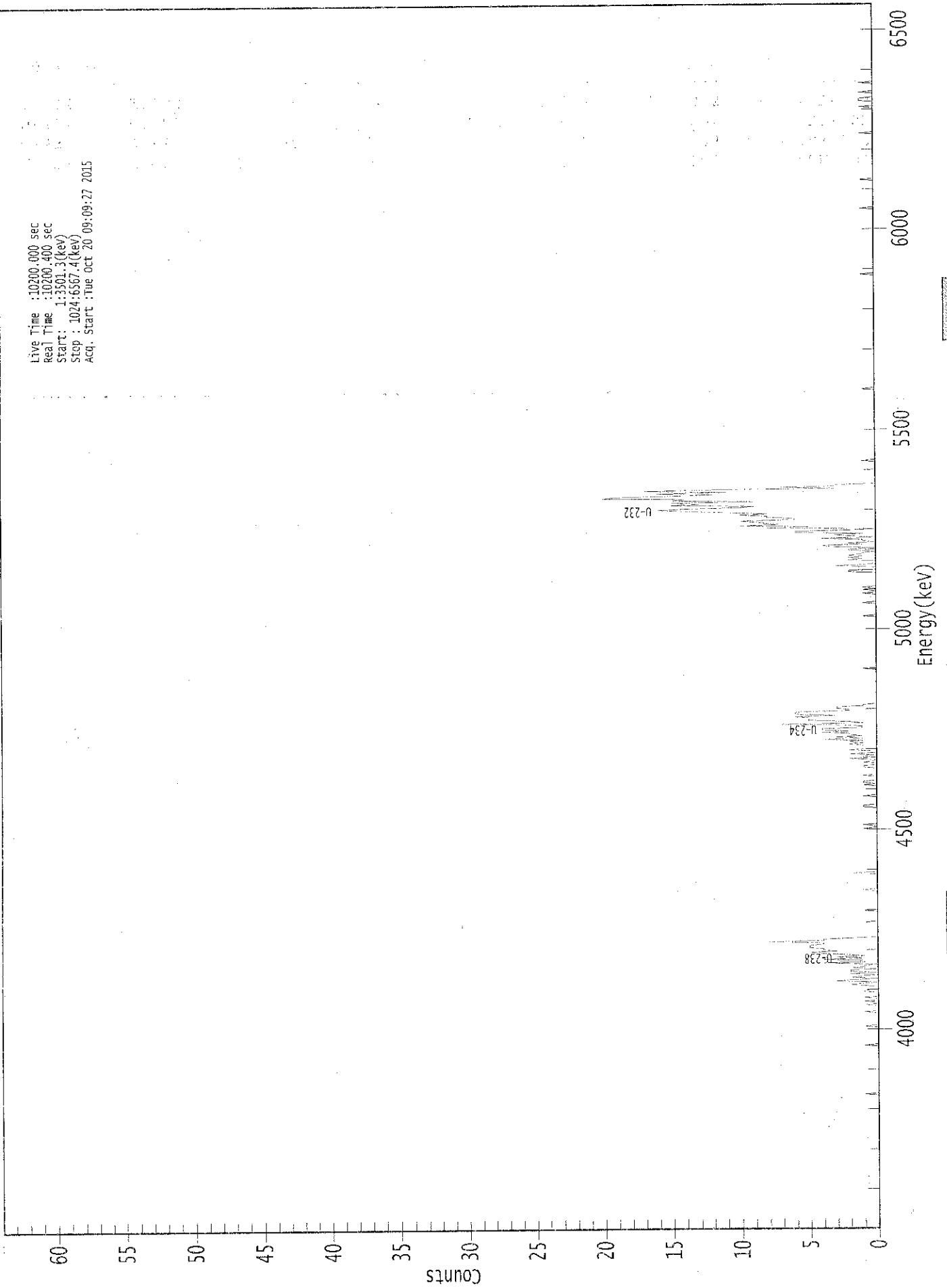
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	1.000	5302.50*	3.64E+000 +/- 3.74E-001	3.38E-002 +/- 3.47E-003
U-234	0.999	4761.50*	9.57E-001 +/- 1.99E-001	4.56E-002 +/- 4.69E-003
U-235	0.995	4385.50*	3.82E-002 +/- 3.94E-002	4.16E-002 +/- 4.28E-003
U-238	1.000	4184.40*	8.56E-001 +/- 1.86E-001	5.92E-002 +/- 6.08E-003

AG
10/21/15

0000131701.CNF

Live Time : 10200.000 sec
Real Time : 10200.400 sec
Start : 1:35:01.3 (rev)
Stop : 1024:6567.4 (kev)
Acq. Start : Tue Oct 20 09:09:27 2015



ROI Type: 1

ROI Type: 3

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 20

Elapsed Live time: 10200
 Elapsed Real Time: 10200

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0
113:	1	0	0	0	0	0	0	0
121:	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0
137:	0	0	0	0	0	0	0	0
145:	0	0	0	0	0	0	0	0
153:	0	1	0	0	0	0	0	0
161:	0	0	0	0	0	0	0	0
169:	0	1	0	0	0	0	0	0
177:	0	0	0	0	0	1	0	0
185:	0	0	0	1	0	0	1	0
193:	0	1	0	0	0	0	1	1
201:	0	0	0	1	2	1	0	3
209:	2	0	2	1	0	2	0	2
217:	2	0	2	1	1	0	4	1
225:	1	4	1	3	1	2	4	5
233:	3	4	4	5	5	5	4	4
241:	8	4	4	2	0	0	0	0
249:	0	0	0	0	0	0	0	0
257:	1	0	0	0	0	0	0	0
265:	0	0	1	0	0	0	0	0
273:	0	0	0	0	0	0	0	0
281:	0	0	0	1	0	0	0	0
289:	0	0	0	0	0	0	0	0
297:	0	2	0	0	0	0	0	0
305:	0	0	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	0
321:	0	0	0	0	0	0	0	0
329:	0	0	0	0	0	0	1	0
337:	0	1	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	0
353:	1	1	0	0	0	0	0	0
361:	0	1	0	0	0	0	0	0

369: 0 0 1 0 1 1 0 0

Sample Title: 20

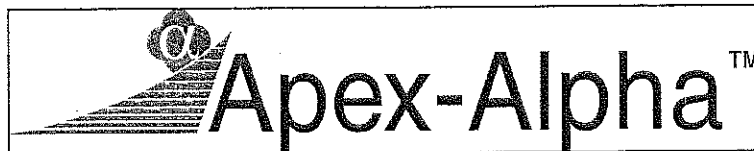
Channel	1	2	3	4	5	6	7	8	9
377:	0	0	1	0	0	0	0	0	0
385:	0	1	1	0	0	1	0	0	0
393:	2	0	1	0	2	0	0	0	2
401:	1	1	1	1	2	1	2	1	1
409:	4	1	3	1	2	2	4	2	2
417:	4	4	1	1	2	7	1	2	2
425:	5	5	5	6	3	6	6	6	6
433:	2	2	3	3	1	1	0	0	0
441:	0	0	0	0	0	0	0	0	0
449:	0	0	0	0	0	0	0	0	0
457:	0	0	0	0	0	0	0	0	0
465:	0	0	0	1	0	0	0	0	0
473:	0	0	0	0	0	0	0	0	0
481:	0	0	0	0	0	0	0	0	0
489:	0	0	0	0	0	0	0	0	0
497:	0	0	0	0	0	0	0	0	0
505:	0	0	0	0	0	0	0	0	1
513:	0	0	0	0	0	0	0	0	0
521:	0	0	1	0	0	0	0	0	0
529:	0	0	1	0	0	1	0	1	1
537:	0	0	0	0	0	0	0	0	0
545:	0	0	0	0	2	2	0	0	0
553:	0	3	1	0	0	0	2	1	1
561:	2	1	2	1	1	0	2	2	2
569:	0	3	4	1	2	0	1	1	1
577:	4	0	2	3	1	6	6	2	2
585:	0	8	5	10	7	8	9	10	10
593:	6	6	8	8	10	8	11	13	13
601:	16	14	10	9	15	13	15	9	9
609:	15	14	20	19	15	12	16	11	11
617:	17	13	3	7	3	3	0	0	0
625:	0	0	0	0	0	0	0	0	0
633:	0	0	0	0	0	0	0	0	0
641:	0	1	0	0	0	0	0	0	0
649:	0	0	0	0	0	0	0	0	0
657:	0	0	0	0	0	0	0	0	0
665:	0	0	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	1	0	0	0
705:	0	0	0	0	0	0	0	0	0
713:	0	0	0	0	0	0	0	0	0
721:	0	0	0	0	0	0	0	0	0
729:	0	0	0	0	0	0	0	0	0
737:	0	0	0	0	0	0	0	0	0
745:	0	0	0	0	0	0	0	0	0
753:	0	0	0	0	0	0	0	0	0
761:	0	0	0	0	0	0	0	0	0
769:	0	0	0	0	0	0	0	0	0
777:	0	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	0	0	0	0
793:	0	0	0	0	1	0	0	0	0

801: 0 0 0 0 0 0 0 0 0

Sample Title: 20

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	1	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	1	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	1	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	1	0	0	0	0	1	1	1
945:	0	0	0	0	1	0	0	0
953:	0	0	0	0	1	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

0190A




QA SUMMARY REPORT

Review Of QA Results - Pulser Check

Date : 10/20/2015
Time : 5:36:54 AM

CHAMBER	DEVICE	PARAMETER	FLAG	DATE
Alpha 001	21f	ALL	Not Done	
Alpha 002	21f	ALL	Not Done	
Alpha 003	21f	ALL	Passed	10/20/2015 5:15:32 AM
Alpha 004	21f	ALL	Passed	10/20/2015 5:15:32 AM
Alpha 005	21f	ALL	Not Done	
Alpha 006	21f	ALL	Not Done	
Alpha 007	21f	ALL	Not Done	
Alpha 008	21f	ALL	Not Done	
Alpha 009	21f	ALL	Not Done	
Alpha 010	21f	ALL	Passed	10/20/2015 5:15:33 AM
Alpha 011	21f	ALL	Passed	10/20/2015 5:15:34 AM
Alpha 012	21f	ALL	Passed	10/20/2015 5:15:35 AM
Alpha 013	21f	ALL	Not Done	
Alpha 014	21f	ALL	Passed	10/20/2015 5:15:36 AM
Alpha 015	21f	ALL	Passed	10/20/2015 5:15:37 AM
Alpha 016	21f	ALL	Not Done	
Alpha 033	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:15:38 AM
Alpha 034	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:15:39 AM
Alpha 035	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:15:41 AM
Alpha 036	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:15:42 AM
Alpha 037	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:15:44 AM
Alpha 038	Alpha Analyst100DC	Peak Energy <i>OK</i>	Action	10/20/2015 5:15:47 AM
Alpha 039	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:15:49 AM
Alpha 040	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:15:51 AM
Alpha 041	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:15:54 AM
Alpha 042	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:15:56 AM
Alpha 043	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:15:58 AM
Alpha 044	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:16:00 AM
Alpha 045	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:16:02 AM
Alpha 046	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:16:05 AM
Alpha 047	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:16:07 AM
Alpha 048	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:16:10 AM
Alpha 049	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:16:12 AM
Alpha 050	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:16:15 AM
Alpha 051	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:16:18 AM
Alpha 052	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:16:20 AM
Alpha 053	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:16:23 AM
Alpha 054	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:16:25 AM
Alpha 055	Alpha Analyst100DC	Peak FWHM	Action	10/20/2015 5:16:28 AM
Alpha 056	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:16:31 AM
Alpha 057	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:16:34 AM
Alpha 058	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:16:36 AM

CHAMBER	DEVICE	PARAMETER	FLAG	DATE
Alpha 059	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:16:38 AM
Alpha 060	Alpha Analyst100DC	ALL	Passed	10/20/2015 5:16:42 AM

APPROVED BY: 

APPROVAL DATE: 10/20

***** LIBRARY LISTING REPORT *****

Nuclide Library Title: Uranium

Nuclide Library Description: U-232, -234, -235, -238

Nuclide Name	Half-Life (Seconds)	Energy (keV)	Energy Uncert. (keV)	Yield (%)	Yield Uncert. (Abs.+)
U-232	2.174E+009	5302.500*	0.000	99.8000	0.0000
U-234	7.731E+012	4761.500*	0.000	99.8000	0.0000
U-235	2.221E+016	4385.500*	0.000	80.9000	0.0000
U-238	1.410E+017	4184.400*	0.000	100.2300	0.0000

* = key line

TOTALS: 4 Nuclides 4 Energy Lines

SECTION IX
ANALYTICAL DATA (ISOTOPIC THORIUM)

Work Order	15-10063
Analysis Code	ThISO
Run	1
Date Received	10/12/2015
Lab Deadline	11/3/2015
Client	Auxier & Associates, Inc.
Project	PAP-KAN
Report Level	4
Activity Units	pCi
Aliquot Units	g
Matrix	SO
Method	EML Th-01 Modified
Instrument Type	Alpha Spectroscopy
Radiometric Tracer	Th-229
Radiometric Sol#	Th-18a
Tracer Act (dpm/g)	22.46
Carrier	
Carrier Conc (mg/ml)	

Internal Fraction	Sample Desc	Client ID	Login CPM	Sample Date	Sample Aliquot
01	LCS	LCS		10/12/15 00:00	1.0000E+00
02	MBL	BLANK		10/12/15 00:00	1.5000E+00
03	DUP	CP0403S02-03	34	10/05/15 13:20	1.5229E+00
04	DO	CP0403S02-03	34	10/05/15 13:20	1.5089E+00
05	TRG	CP0403S04-05	38	10/05/15 13:40	1.5171E+00
06	TRG	CP0403S07-08	34	10/05/15 13:45	1.5172E+00
07	TRG	CP0403S09-10	36	10/05/15 14:00	1.5208E+00
08	TRG	CP0403S11-12	37	10/05/15 14:10	1.5287E+00
09	TRG	CP2107S02-03	35	10/06/15 14:45	1.5090E+00
10	TRG	CP2107S05-06	36	10/06/15 14:55	1.5705E+00
11	TRG	CP2107S09-10	35	10/06/15 15:05	1.5164E+00
12	TRG	CP2107S11-12	36	10/06/15 15:10	1.5501E+00
13	TRG	CP2107S14-15	34	10/06/15 15:20	1.5354E+00
14	TRG	CP2107S17-18	39	10/06/15 15:30	1.5137E+00
15	TRG	CP2107S19-20	41	10/06/15 15:40	1.5306E+00
16	TRG	CP5005S01-02	36	10/06/15 09:00	1.5272E+00
17	TRG	CP5005S04-05	34	10/06/15 09:10	1.5014E+00
18	TRG	CP5005S05-06	39	10/06/15 09:20	1.5407E+00
19	TRG	CP5005S09-10	37	10/06/15 09:30	1.5140E+00
20	TRG	CP5005S12-13	33	10/06/15 09:40	1.5084E+00

* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ^ Indicates estimated SAF value.
** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.

Internal Fraction	Sample Desc	Tracer Aliquot (g)	Tracer Total ACT (dpm)	Radiometric Tracer (pCi)	Radiometric % Rec	Grav Carrier Added (ml)	Grav Filter Tare (g)	Grav Filter Final (g)	Grav Filter Net (g)	Grav % Rec	Mean % Rec	SAF 1*	SAF 2*
01	LCS	0.4453	10.0		0.00								
02	MBL	0.2337	5.2		0.00								
03	DUP	0.2250	5.1		0.00								
04	DO	0.2256	5.1		0.00								
05	TRG	0.2252	5.1		0.00								
06	TRG	0.2249	5.1		0.00								
07	TRG	0.2250	5.1		0.00								
08	TRG	0.2255	5.1		0.00								
09	TRG	0.2249	5.1		0.00								
10	TRG	0.2256	5.1		0.00								
11	TRG	0.2255	5.1		0.00								
12	TRG	0.2256	5.1		0.00								
13	TRG	0.2247	5.0		0.00								
14	TRG	0.2249	5.1		0.00								
15	TRG	0.2256	5.1		0.00								
16	TRG	0.2259	5.1		0.00								
17	TRG	0.2253	5.1		0.00								
18	TRG	0.2247	5.0		0.00								
19	TRG	0.2252	5.1		0.00								
20	TRG	0.2277	5.1		0.00								

* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ^ Indicates estimated SAF value.
** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.

Internal Fraction	Sample Desc	Rough Prep Date	Rough Prep By	Prep Date	Prep By	Sep t0 Date/Time	Sep t0 By	Sep t1 Date/Time	Sep t1 By
01	LCS			10/15/15 09:49	JPACHELLA				
02	MBL			10/15/15 09:49	JPACHELLA				
03	DUP			10/15/15 09:49	JPACHELLA				
04	DO	10/13/15 07:27	KSALLINGS	10/15/15 09:49	JPACHELLA				
05	TRG	10/13/15 07:27	KSALLINGS	10/15/15 09:49	JPACHELLA				
06	TRG	10/13/15 07:27	KSALLINGS	10/15/15 09:49	JPACHELLA				
07	TRG	10/13/15 07:27	KSALLINGS	10/15/15 09:49	JPACHELLA				
08	TRG	10/13/15 07:27	KSALLINGS	10/15/15 09:49	JPACHELLA				
09	TRG	10/13/15 07:27	KSALLINGS	10/15/15 09:49	JPACHELLA				
10	TRG	10/13/15 07:27	KSALLINGS	10/15/15 09:49	JPACHELLA				
11	TRG	10/13/15 07:27	KSALLINGS	10/15/15 09:49	JPACHELLA				
12	TRG	10/13/15 07:27	KSALLINGS	10/15/15 09:49	JPACHELLA				
13	TRG	10/13/15 07:27	KSALLINGS	10/15/15 09:49	JPACHELLA				
14	TRG	10/13/15 07:27	KSALLINGS	10/15/15 09:49	JPACHELLA				
15	TRG	10/13/15 07:27	KSALLINGS	10/15/15 09:49	JPACHELLA				
16	TRG	10/13/15 07:27	KSALLINGS	10/15/15 09:49	JPACHELLA				
17	TRG	10/13/15 07:27	KSALLINGS	10/15/15 09:49	JPACHELLA				
18	TRG	10/13/15 07:27	KSALLINGS	10/15/15 09:49	JPACHELLA				
19	TRG	10/13/15 07:27	KSALLINGS	10/15/15 09:49	JPACHELLA				
20	TRG	10/13/15 07:27	KSALLINGS	10/15/15 09:49	JPACHELLA				

* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ^ Indicates estimated SAF value.
** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.

Lab Fraction	Nuclide	Sample Desc	Client Identification	Activity Units	Results	Error Estimate	MDA	LCS Known	LCS %R	LCS Flag	RPD Flag	MDA Flag	Blank Flag
01	TH-228	LCS	LCS	pCi/g	5.36E+00	1.04E+00	9.02E-02	4.72E+00	113.63	OK		OK	
02	TH-228	MBL	BLANK	pCi/g	2.71E-02	4.46E-02	7.79E-02					OK	OK
03	TH-228	DUP	CP0403S02-03	pCi/g	4.86E-01	1.58E-01	7.48E-02				OK	OK	
04	TH-228	DO	CP0403S02-03	pCi/g	4.24E-01	1.55E-01	7.20E-02					OK	
05	TH-228	TRG	CP0403S04-05	pCi/g	1.13E+00	2.88E-01	4.96E-02					OK	
06	TH-228	TRG	CP0403S07-08	pCi/g	1.60E+00	3.97E-01	6.96E-02					OK	
07	TH-228	TRG	CP0403S09-10	pCi/g	1.29E+00	3.16E-01	7.23E-02					OK	
08	TH-228	TRG	CP0403S11-12	pCi/g	1.30E+00	3.31E-01	5.29E-02					OK	
09	TH-228	TRG	CP2107S02-03	pCi/g	1.33E+00	3.50E-01	7.23E-02					OK	
10	TH-228	TRG	CP2107S05-06	pCi/g	1.34E+00	3.52E-01	1.03E-01					OK	
11	TH-228	TRG	CP2107S09-10	pCi/g	1.70E+00	4.66E-01	1.05E-01					OK	
12	TH-228	TRG	CP2107S11-12	pCi/g	1.34E+00	3.42E-01	7.09E-02					OK	
13	TH-228	TRG	CP2107S14-15	pCi/g	1.25E+00	3.05E-01	6.94E-02					OK	
14	TH-228	TRG	CP2107S17-18	pCi/g	1.51E+00	3.59E-01	6.78E-02					OK	
15	TH-228	TRG	CP2107S19-20	pCi/g	1.07E+00	2.77E-01	4.33E-02					OK	
16	TH-228	TRG	CP5005S01-02	pCi/g	1.57E+00	4.13E-01	6.88E-02					OK	
17	TH-228	TRG	CP5005S04-05	pCi/g	1.32E+00	3.47E-01	7.85E-02					OK	
18	TH-228	TRG	CP5005S05-06	pCi/g	1.48E+00	4.74E-01	9.11E-02					OK	
19	TH-228	TRG	CP5005S09-10	pCi/g	1.30E+00	3.95E-01	1.12E-01					OK	
20	TH-228	TRG	CP5005S12-13	pCi/g	1.45E+00	4.13E-01	9.35E-02					OK	

Client	Auxier & Associates, Inc.
Eberline Services Work Order	15-10063
Analysis Code	THISO
Run	1



95102

	Run	1
Eberline Services Work Order	Analysis Code	THISO
Client	Auxier & Associates, Inc.	

Lab Fraction	Nuclide	Sample Desc	Sample Date	Sample Aliquot	Radiometric % Rec	Grav % Rec	Mean % Rec	SAF	Sep 10 Date/Time	Sep 11 Date/Time
01	TH-228	LCS	10/12/15 00:00	1.00E+00	74.76	0.00	0.00			
02	TH-228	MBL	10/12/15 00:00	1.50E+00	93.87	0.00	0.00			
03	TH-228	DUP	10/05/15 13:20	1.52E+00	100.75	0.00	0.00			
04	TH-228	DO	10/05/15 13:20	1.51E+00	90.37	0.00	0.00			
05	TH-228	TRG	10/05/15 13:40	1.52E+00	95.58	0.00	0.00			
06	TH-228	TRG	10/05/15 13:45	1.52E+00	92.59	0.00	0.00			
07	TH-228	TRG	10/05/15 14:00	1.52E+00	96.25	0.00	0.00			
08	TH-228	TRG	10/05/15 14:10	1.53E+00	93.11	0.00	0.00			
09	TH-228	TRG	10/06/15 14:45	1.51E+00	91.31	0.00	0.00			
10	TH-228	TRG	10/06/15 14:55	1.57E+00	76.89	0.00	0.00			
11	TH-228	TRG	10/06/15 15:05	1.52E+00	64.36	0.00	0.00			
12	TH-228	TRG	10/06/15 15:10	1.55E+00	82.21	0.00	0.00			
13	TH-228	TRG	10/06/15 15:20	1.54E+00	103.20	0.00	0.00			
14	TH-228	TRG	10/06/15 15:30	1.51E+00	86.24	0.00	0.00			
15	TH-228	TRG	10/06/15 15:40	1.53E+00	92.17	0.00	0.00			
16	TH-228	TRG	10/06/15 09:00	1.53E+00	76.18	0.00	0.00			
17	TH-228	TRG	10/06/15 09:10	1.50E+00	84.51	0.00	0.00			
18	TH-228	TRG	10/06/15 09:20	1.54E+00	55.43	0.00	0.00			
19	TH-228	TRG	10/06/15 09:30	1.51E+00	66.36	0.00	0.00			
20	TH-228	TRG	10/06/15 09:40	1.51E+00	78.66	0.00	0.00			

	Run	1
Eberline Services Work Order	Analysis Code	THISO
Client	Auxier & Associates, Inc.	

Lab Fraction	Nuclide	Sample Desc	Counting Date/Time	Half-life (days)	Defect	Carrier	Count Time	Counts	Bkg CPM	EFF
01	TH-228	LCS	10/19/15 10:08		A_Spec	Alpha_058	170	2.48 E+02	1.00 E-03	16.4
02	TH-228	MBL	10/19/15 10:08		A_Spec	Alpha_059	170	2.47 E+00	9.00 E-03	17.2
03	TH-228	DUP	10/19/15 10:08		A_Spec	Alpha_060	170	4.28 E+01	7.00 E-03	15.4
04	TH-228	DO	10/19/15 13:00		A_Spec	Alpha_033	170	3.88 E+01	7.00 E-03	18
05	TH-228	TRG	10/19/15 13:00		A_Spec	Alpha_034	170	1.09 E+02	2.00 E-03	17.9
06	TH-228	TRG	10/19/15 13:00		A_Spec	Alpha_035	170	1.38 E+02	5.00 E-03	16.5
07	TH-228	TRG	10/19/15 13:00		A_Spec	Alpha_036	170	1.26 E+02	9.00 E-03	18.1
08	TH-228	TRG	10/19/15 13:00		A_Spec	Alpha_037	170	1.18 E+02	2.00 E-03	17.1
09	TH-228	TRG	10/19/15 13:00		A_Spec	Alpha_038	170	1.10 E+02	5.00 E-03	16.2
10	TH-228	TRG	10/19/15 13:00		A_Spec	Alpha_039	170	1.17 E+02	1.80 E-02	19.3
11	TH-228	TRG	10/19/15 13:00		A_Spec	Alpha_040	170	1.14 E+02	9.00 E-03	18.6
12	TH-228	TRG	10/19/15 13:00		A_Spec	Alpha_041	170	1.19 E+02	6.00 E-03	18.7
13	TH-228	TRG	10/19/15 13:00		A_Spec	Alpha_042	170	1.28 E+02	9.00 E-03	17.4
14	TH-228	TRG	10/19/15 13:00		A_Spec	Alpha_043	170	1.47 E+02	7.00 E-03	20
15	TH-228	TRG	10/19/15 13:00		A_Spec	Alpha_044	170	1.03 E+02	1.00 E-03	18.4
16	TH-228	TRG	10/19/15 13:00		A_Spec	Alpha_045	170	1.19 E+02	3.00 E-03	17.6
17	TH-228	TRG	10/19/15 13:00		A_Spec	Alpha_046	170	1.11 E+02	7.00 E-03	17.8
18	TH-228	TRG	10/19/15 13:00		A_Spec	Alpha_047	170	7.77 E+01	2.00 E-03	16.5
19	TH-228	TRG	10/19/15 13:00		A_Spec	Alpha_048	170	8.25 E+01	9.00 E-03	17
20	TH-228	TRG	10/19/15 13:00		A_Spec	Alpha_049	170	9.80 E+01	6.00 E-03	15.3

Lab Fraction	Nuclide	Sample Desc	Client Identification	Activity Units	Results	Error Estimate	MDA	LCS Known	LCS %R	LCS Flag	RPD Flag	MDA Flag	Blank Flag
01	TH-230	LCS	LCS	pCi/g	6.12E+00	1.16E+00	9.03E-02	5.36E+00	114.17	OK		OK	
02	TH-230	MBL	BLANK	pCi/g	6.94E-02	5.87E-02	6.19E-02					OK	OK
03	TH-230	DUP	CP0403S02-03	pCi/g	9.72E-01	2.32E-01	5.36E-02				OK	OK	
04	TH-230	DO	CP0403S02-03	pCi/g	1.14E+00	2.96E-01	5.66E-02					OK	
05	TH-230	TRG	CP0403S04-05	pCi/g	8.95E-01	2.45E-01	7.27E-02					OK	
06	TH-230	TRG	CP0403S07-08	pCi/g	1.18E+00	3.15E-01	6.47E-02					OK	
07	TH-230	TRG	CP0403S09-10	pCi/g	1.06E+00	2.72E-01	5.66E-02					OK	
08	TH-230	TRG	CP0403S11-12	pCi/g	1.31E+00	3.31E-01	5.22E-02					OK	
09	TH-230	TRG	CP2107S02-03	pCi/g	1.22E+00	3.28E-01	6.26E-02					OK	
10	TH-230	TRG	CP2107S05-06	pCi/g	1.12E+00	3.07E-01	1.03E-01					OK	
11	TH-230	TRG	CP2107S09-10	pCi/g	1.28E+00	3.75E-01	7.69E-02					OK	
12	TH-230	TRG	CP2107S11-12	pCi/g	1.14E+00	3.02E-01	6.66E-02					OK	
13	TH-230	TRG	CP2107S14-15	pCi/g	1.22E+00	2.97E-01	5.06E-02					OK	
14	TH-230	TRG	CP2107S17-18	pCi/g	1.26E+00	3.12E-01	6.09E-02					OK	
15	TH-230	TRG	CP2107S19-20	pCi/g	1.33E+00	3.26E-01	6.14E-02					OK	
16	TH-230	TRG	CP5005S01-02	pCi/g	1.42E+00	3.81E-01	7.31E-02					OK	
17	TH-230	TRG	CP5005S04-05	pCi/g	1.54E+00	3.89E-01	7.76E-02					OK	
18	TH-230	TRG	CP5005S05-06	pCi/g	1.65E+00	5.14E-01	9.00E-02					OK	
19	TH-230	TRG	CP5005S09-10	pCi/g	8.80E-01	2.99E-01	1.07E-01					OK	
20	TH-230	TRG	CP5005S12-13	pCi/g	1.20E+00	3.55E-01	7.01E-02					OK	

	1 Run	THISO Analysis Code	15-10063 Eberline Services Work Order	Auxier & Associates, Inc. Client
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	1 Run
Eberline Services Work Order 15-10063	Analysis Code THISO
Client Auxier & Associates, Inc.	

Lab Fraction	Nuclide	Sample Desc	Sample Date	Sample Aliquot	Radiometric % Rec	Grav % Rec	Mean % Rec	SAF	Sep 10 Date/Time	Sep 11 Date/Time
01	TH-230	LCS	10/12/15 00:00	1.00E+00	74.76	0.00	0.00			
02	TH-230	MIBL	10/12/15 00:00	1.50E+00	93.87	0.00	0.00			
03	TH-230	DUP	10/05/15 13:20	1.52E+00	100.75	0.00	0.00			
04	TH-230	DO	10/05/15 13:20	1.51E+00	90.37	0.00	0.00			
05	TH-230	TRG	10/05/15 13:40	1.52E+00	95.58	0.00	0.00			
06	TH-230	TRG	10/05/15 13:45	1.52E+00	92.59	0.00	0.00			
07	TH-230	TRG	10/05/15 14:00	1.52E+00	96.25	0.00	0.00			
08	TH-230	TRG	10/05/15 14:10	1.53E+00	93.11	0.00	0.00			
09	TH-230	TRG	10/06/15 14:45	1.51E+00	91.31	0.00	0.00			
10	TH-230	TRG	10/06/15 14:55	1.57E+00	76.89	0.00	0.00			
11	TH-230	TRG	10/06/15 15:05	1.52E+00	64.36	0.00	0.00			
12	TH-230	TRG	10/06/15 15:10	1.55E+00	82.21	0.00	0.00			
13	TH-230	TRG	10/06/15 15:20	1.54E+00	103.20	0.00	0.00			
14	TH-230	TRG	10/06/15 15:30	1.51E+00	86.24	0.00	0.00			
15	TH-230	TRG	10/06/15 15:40	1.53E+00	92.17	0.00	0.00			
16	TH-230	TRG	10/06/15 09:00	1.53E+00	76.18	0.00	0.00			
17	TH-230	TRG	10/06/15 09:10	1.50E+00	84.51	0.00	0.00			
18	TH-230	TRG	10/06/15 09:20	1.54E+00	55.43	0.00	0.00			
19	TH-230	TRG	10/06/15 09:30	1.51E+00	66.36	0.00	0.00			
20	TH-230	TRG	10/06/15 09:40	1.51E+00	78.66	0.00	0.00			

09202

Preliminary Data Report & Analytical Calculations
Work Order: 15-10063-THISO-1

	Run	1
	Analysts Code	THISO
Eberline Services Work Order	15-10063	
Client	Auxier & Associates, Inc.	

Lab Fraction	Nuclide	Sample Desc	Counting Date/Time	Half-life (days)	Detect	Carrier	Count Time	Counts	Bkg CPM	Eff
01	TH-230	LCS	10/19/15 10:08		A_Spec	Alpha_058	170	2.83 E+02	1.00 E-03	16.4
02	TH-230	MBL	10/19/15 10:08		A_Spec	Alpha_059	170	6.32 E+00	4.00 E-03	17.2
03	TH-230	DUP	10/19/15 10:08		A_Spec	Alpha_060	170	8.67 E+01	2.00 E-03	15.4
04	TH-230	DO	10/19/15 13:00		A_Spec	Alpha_033	170	1.05 E+02	3.00 E-03	18
05	TH-230	TRG	10/19/15 13:00		A_Spec	Alpha_034	170	8.75 E+01	9.00 E-03	17.9
06	TH-230	TRG	10/19/15 13:00		A_Spec	Alpha_035	170	1.03 E+02	4.00 E-03	16.5
07	TH-230	TRG	10/19/15 13:00		A_Spec	Alpha_036	170	1.05 E+02	4.00 E-03	18.1
08	TH-230	TRG	10/19/15 13:00		A_Spec	Alpha_037	170	1.20 E+02	2.00 E-03	17.1
09	TH-230	TRG	10/19/15 13:00		A_Spec	Alpha_038	170	1.02 E+02	3.00 E-03	16.2
10	TH-230	TRG	10/19/15 13:00		A_Spec	Alpha_039	170	9.88 E+01	1.90 E-02	19.3
11	TH-230	TRG	10/19/15 13:00		A_Spec	Alpha_040	170	8.75 E+01	3.00 E-03	18.6
12	TH-230	TRG	10/19/15 13:00		A_Spec	Alpha_041	170	1.02 E+02	5.00 E-03	18.7
13	TH-230	TRG	10/19/15 13:00		A_Spec	Alpha_042	170	1.26 E+02	3.00 E-03	17.4
14	TH-230	TRG	10/19/15 13:00		A_Spec	Alpha_043	170	1.24 E+02	5.00 E-03	20
15	TH-230	TRG	10/19/15 13:00		A_Spec	Alpha_044	170	1.30 E+02	0.00 E+00	18.4
16	TH-230	TRG	10/19/15 13:00		A_Spec	Alpha_045	170	1.09 E+02	4.00 E-03	17.6
17	TH-230	TRG	10/19/15 13:00		A_Spec	Alpha_046	170	1.31 E+02	7.00 E-03	17.8
18	TH-230	TRG	10/19/15 13:00		A_Spec	Alpha_047	170	8.77 E+01	2.00 E-03	16.5
19	TH-230	TRG	10/19/15 13:00		A_Spec	Alpha_048	170	5.66 E+01	8.00 E-03	17
20	TH-230	TRG	10/19/15 13:00		A_Spec	Alpha_049	170	8.17 E+01	2.00 E-03	15.3

	Run	1
Eberline Services Work Order	Analysts Code	THISO
Client	Auxier & Associates, Inc.	
	15-10063	

Lab Fraction	Nuclide	Sample Desc	Client Identification	Activity Units	Results	Error Estimate	MDA	LCS Known	LCS %R	LCS Flag	RPD Flag	MDA Flag	Blank Flag
01	TH-232	LCS	LCS	pCi/g	5.50E+00	1.06E+00	1.22E-01	4.72E+00	116.53	OK		OK	
02	TH-232	MBL	BLANK	pCi/g	5.37E-03	2.24E-02	5.75E-02					OK	OK
03	TH-232	DUP	CP0403S02-03	pCi/g	4.23E-01	1.43E-01	4.67E-02				INV	OK	
04	TH-232	DO	CP0403S02-03	pCi/g	5.81E-01	1.87E-01	6.46E-02					OK	
05	TH-232	TRG	CP0403S04-05	pCi/g	1.19E+00	2.99E-01	5.36E-02					OK	
06	TH-232	TRG	CP0403S07-08	pCi/g	1.55E+00	3.85E-01	6.86E-02					OK	
07	TH-232	TRG	CP0403S09-10	pCi/g	9.39E-01	2.50E-01	4.79E-02					OK	
08	TH-232	TRG	CP0403S11-12	pCi/g	1.09E+00	2.89E-01	4.55E-02					OK	
09	TH-232	TRG	CP2107S02-03	pCi/g	1.08E+00	2.99E-01	5.69E-02					OK	
10	TH-232	TRG	CP2107S05-06	pCi/g	1.30E+00	3.40E-01	8.06E-02					OK	
11	TH-232	TRG	CP2107S09-10	pCi/g	1.26E+00	3.70E-01	8.77E-02					OK	
12	TH-232	TRG	CP2107S11-12	pCi/g	1.39E+00	3.53E-01	9.31E-02					OK	
13	TH-232	TRG	CP2107S14-15	pCi/g	1.11E+00	2.77E-01	5.05E-02					OK	
14	TH-232	TRG	CP2107S17-18	pCi/g	1.10E+00	2.82E-01	5.33E-02					OK	
15	TH-232	TRG	CP2107S19-20	pCi/g	1.12E+00	2.87E-01	6.13E-02					OK	
16	TH-232	TRG	CP5005S01-02	pCi/g	1.44E+00	3.88E-01	1.06E-01					OK	
17	TH-232	TRG	CP5005S04-05	pCi/g	1.22E+00	3.28E-01	8.90E-02					OK	
18	TH-232	TRG	CP5005S05-06	pCi/g	1.43E+00	4.62E-01	1.06E-01					OK	
19	TH-232	TRG	CP5005S09-10	pCi/g	1.11E+00	3.52E-01	1.02E-01					OK	
20	TH-232	TRG	CP5005S12-13	pCi/g	1.25E+00	3.67E-01	8.26E-02					OK	

	Run	1
Eberline Services Work Order	Analysis Code	THISO
Client	Auxier & Associates, Inc.	

Lab Fraction	Nuclide	Sample Desc	Sample Date	Sample Aliquot	Radiometric % Rec	Grav % Rec	Mean % Rec	SAF	Sep 10 Date/Time	Sep 11 Date/Time
01	TH-232	LCS	10/12/15 00:00	1.00E+00	74.76	0.00	0.00			
02	TH-232	MBL	10/12/15 00:00	1.50E+00	93.87	0.00	0.00			
03	TH-232	DUP	10/05/15 13:20	1.52E+00	100.75	0.00	0.00			
04	TH-232	DO	10/05/15 13:20	1.51E+00	90.37	0.00	0.00			
05	TH-232	TRG	10/05/15 13:40	1.52E+00	95.58	0.00	0.00			
06	TH-232	TRG	10/05/15 13:45	1.52E+00	92.59	0.00	0.00			
07	TH-232	TRG	10/05/15 14:00	1.52E+00	96.25	0.00	0.00			
08	TH-232	TRG	10/05/15 14:10	1.53E+00	93.11	0.00	0.00			
09	TH-232	TRG	10/06/15 14:45	1.51E+00	91.31	0.00	0.00			
10	TH-232	TRG	10/06/15 14:55	1.57E+00	76.89	0.00	0.00			
11	TH-232	TRG	10/06/15 15:05	1.52E+00	64.36	0.00	0.00			
12	TH-232	TRG	10/06/15 15:10	1.55E+00	82.21	0.00	0.00			
13	TH-232	TRG	10/06/15 15:20	1.54E+00	103.20	0.00	0.00			
14	TH-232	TRG	10/06/15 15:30	1.51E+00	86.24	0.00	0.00			
15	TH-232	TRG	10/06/15 15:40	1.53E+00	92.17	0.00	0.00			
16	TH-232	TRG	10/06/15 09:00	1.53E+00	76.18	0.00	0.00			
17	TH-232	TRG	10/06/15 09:10	1.50E+00	84.51	0.00	0.00			
18	TH-232	TRG	10/06/15 09:20	1.54E+00	55.43	0.00	0.00			
19	TH-232	TRG	10/06/15 09:30	1.51E+00	66.36	0.00	0.00			
20	TH-232	TRG	10/06/15 09:40	1.51E+00	78.66	0.00	0.00			

Lab Fraction	Nuclide	Sample Desc	Counting Date/Time	Half-life (days)	Detect	Carrier	Count Time	Counts	Bkg CPM	Eff
01	TH-232	LCS	10/19/15 10:08		A_Spec	Alpha_058	170	2.54 E+02	4.00 E-03	16.4
02	TH-232	MBL	10/19/15 10:08		A_Spec	Alpha_059	170	4.90 E-01	3.00 E-03	17.2
03	TH-232	DUP	10/19/15 10:08		A_Spec	Alpha_060	170	3.78 E+01	1.00 E-03	15.4
04	TH-232	DO	10/19/15 13:00		A_Spec	Alpha_033	170	5.40 E+01	0.00 E+00	18
05	TH-232	TRG	10/19/15 13:00		A_Spec	Alpha_034	170	1.16 E+02	3.00 E-03	17.9
06	TH-232	TRG	10/19/15 13:00		A_Spec	Alpha_035	170	1.35 E+02	0.00 E+00	16.5
07	TH-232	TRG	10/19/15 13:00		A_Spec	Alpha_036	170	9.37 E+01	2.00 E-03	18.1
08	TH-232	TRG	10/19/15 13:00		A_Spec	Alpha_037	170	9.98 E+01	1.00 E-03	17.1
09	TH-232	TRG	10/19/15 13:00		A_Spec	Alpha_038	170	9.07 E+01	2.00 E-03	16.2
10	TH-232	TRG	10/19/15 13:00		A_Spec	Alpha_039	170	1.14 E+02	9.00 E-03	19.3
11	TH-232	TRG	10/19/15 13:00		A_Spec	Alpha_040	170	8.60 E+01	0.00 E+00	18.6
12	TH-232	TRG	10/19/15 13:00		A_Spec	Alpha_041	170	1.25 E+02	1.50 E-02	18.7
13	TH-232	TRG	10/19/15 13:00		A_Spec	Alpha_042	170	1.15 E+02	3.00 E-03	17.4
14	TH-232	TRG	10/19/15 13:00		A_Spec	Alpha_043	170	1.08 E+02	3.00 E-03	20
15	TH-232	TRG	10/19/15 13:00		A_Spec	Alpha_044	170	1.10 E+02	0.00 E+00	18.4
16	TH-232	TRG	10/19/15 13:00		A_Spec	Alpha_045	170	1.12 E+02	1.40 E-02	17.6
17	TH-232	TRG	10/19/15 13:00		A_Spec	Alpha_046	170	1.04 E+02	1.10 E-02	17.8
18	TH-232	TRG	10/19/15 13:00		A_Spec	Alpha_047	170	7.63 E+01	4.00 E-03	16.5
19	TH-232	TRG	10/19/15 13:00		A_Spec	Alpha_048	170	7.18 E+01	7.00 E-03	17
20	TH-232	TRG	10/19/15 13:00		A_Spec	Alpha_049	170	8.53 E+01	4.00 E-03	15.3

	Run	1
	Analysis Code	THISO
Eberline Services Work Order	15-10063	
Client	Auxier & Associates, Inc.	

02709

09-20

Internal Fraction	Sample Desc	Client ID	Sample Date	Sample Aliquot	Tracer Aliquot (g)	Tracer ACT (dpm)	Radiometric Tracer (pCi)	Radiometric % Rec	SAF 1*	SAF 2*
01	LCS	LCS	10/12/15 00:00	1.0000	0.4453	10.0014		0.00		
02	MBL	BLANK	10/12/15 00:00	1.5000	0.2337	5.2489		0.00		
03	DUP	CP0403S02-03	10/05/15 13:20	1.5229	0.2250	5.0535		0.00		
04	DO	CP0403S02-03	10/05/15 13:20	1.5089	0.2256	5.0670		0.00		
05	TRG	CP0403S04-05	10/05/15 13:40	1.5171	0.2252	5.0580		0.00		
06	TRG	CP0403S07-08	10/05/15 13:45	1.5172	0.2249	5.0513		0.00		
07	TRG	CP0403S09-10	10/05/15 14:00	1.5208	0.2250	5.0535		0.00		
08	TRG	CP0403S11-12	10/05/15 14:10	1.5287	0.2255	5.0647		0.00		
09	TRG	CP2107S02-03	10/06/15 14:45	1.5090	0.2249	5.0513		0.00		
10	TRG	CP2107S05-06	10/06/15 14:55	1.5705	0.2256	5.0670		0.00		
11	TRG	CP2107S09-10	10/06/15 15:05	1.5164	0.2255	5.0647		0.00		
12	TRG	CP2107S11-12	10/06/15 15:10	1.5501	0.2256	5.0670		0.00		
13	TRG	CP2107S14-15	10/06/15 15:20	1.5354	0.2247	5.0468		0.00		
14	TRG	CP2107S17-18	10/06/15 15:30	1.5137	0.2249	5.0513		0.00		
15	TRG	CP2107S19-20	10/06/15 15:40	1.5306	0.2256	5.0670		0.00		
16	TRG	CP5005S01-02	10/06/15 09:00	1.5272	0.2259	5.0737		0.00		
17	TRG	CP5005S04-05	10/06/15 09:10	1.5014	0.2253	5.0602		0.00		
18	TRG	CP5005S05-06	10/06/15 09:20	1.5407	0.2247	5.0468		0.00		
19	TRG	CP5005S09-10	10/06/15 09:30	1.5140	0.2252	5.0580		0.00		
20	TRG	CP5005S12-13	10/06/15 09:40	1.5084	0.2277	5.1141		0.00		

Internal Work Order		Run	Analysis Code		Date	Technician		Technician Initials		Witness Initials		
15-10063		1	THISO		10/15/2015 9:36	JPACHELLA		<i>[Signature]</i>				
LCS & Matrix Spikes												
Isotope	Sol #	Activity dpm/g	Solution Date	Approx Addition	LCS Volume Used (g)	MS Volume Used (g)	LCSD Volume Used (g)	MSD Volume Used (g)	LCS Known pCi	MS Added pCi	MSD Added pCi	Error Estimate
Th-228	Th-8b	103.560	10/15/2015	0.100	0.1011				4.72	0.00	0.00	0.000
Th-230	Th-1b	23.520	10/15/2015	0.500	0.5062				5.36	0.00	0.00	0.000
Th-232	Th-8b	103.560	10/15/2015	0.100	0.1011				4.72	0.00	0.00	0.000
TC-99 MS		22043.636	7/5/2014	0.1								

Tracers												
fraction	isotope	Sol #	Activity dpm/g	Solution Date	Volume Used (g)	Approx Addition	Tracer					LCS
01	Th-229	Th-18a	22.460	10/15/2015	0.4453	0.2200	<p><i>0.03 = 0.7425</i></p> <p><i>[Signature]</i></p>					
02	Th-229	Th-18a	22.460	10/15/2015	0.2337	0.2200						
03	Th-229	Th-18a	22.460	10/15/2015	0.2250	0.2200						
04	Th-229	Th-18a	22.460	10/15/2015	0.2256	0.2200						
05	Th-229	Th-18a	22.460	10/15/2015	0.2252	0.2200						
06	Th-229	Th-18a	22.460	10/15/2015	0.2249	0.2200						
07	Th-229	Th-18a	22.460	10/15/2015	0.2250	0.2200						
08	Th-229	Th-18a	22.460	10/15/2015	0.2255	0.2200						
09	Th-229	Th-18a	22.460	10/15/2015	0.2249	0.2200						
10	Th-229	Th-18a	22.460	10/15/2015	0.2256	0.2200						
11	Th-229	Th-18a	22.460	10/15/2015	0.2255	0.2200						
12	Th-229	Th-18a	22.460	10/15/2015	0.2256	0.2200						
13	Th-229	Th-18a	22.460	10/15/2015	0.2247	0.2200						
14	Th-229	Th-18a	22.460	10/15/2015	0.2249	0.2200						
15	Th-229	Th-18a	22.460	10/15/2015	0.2256	0.2200						
16	Th-229	Th-18a	22.460	10/15/2015	0.2259	0.2200						
17	Th-229	Th-18a	22.460	10/15/2015	0.2253	0.2200						
18	Th-229	Th-18a	22.460	10/15/2015	0.2247	0.2200						
19	Th-229	Th-18a	22.460	10/15/2015	0.2252	0.2200						
20	Th-229	Th-18a	22.460	10/15/2015	0.2277	0.2200						
Matrix Spike												

Aliquot Worksheet

Work Order	Run	Analysis Code	Rpt Units	Lab Deadline	Technician
15-10063	1	THISO	grams	11/3/2015	JPACHELLA

Lab Fraction	Client ID	Sample Type	Muffle Data		Dilution Data		Aliquot Data		MS Aliquot Data		H-3 Solids Only	
			Ratio Post/Pre	No of Dils	Dil Factor	Ratio	Aliquot	Net Equiv	Aliquot	Net Equiv	Water Added (ml)	H3 Dist Aliq
01	LCS	LCS						1.000E+00	1.000E+00			
02	BLANK	MBL						1.500E+00	1.500E+00			
03	CP0403S02-03	DUP						1.5229E+00	1.5229E+00			
04	CP0403S02-03	DO						1.5089E+00	1.5089E+00			
05	CP0403S04-05	TRG						1.5171E+00	1.5171E+00			
06	CP0403S07-08	TRG						1.5172E+00	1.5172E+00			
07	CP0403S09-10	TRG						1.5208E+00	1.5208E+00			
08	CP0403S11-12	TRG						1.5287E+00	1.5287E+00			
09	CP2107S02-03	TRG						1.5090E+00	1.5090E+00			
10	CP2107S05-06	TRG						1.5705E+00	1.5705E+00			
11	CP2107S09-10	TRG						1.5164E+00	1.5164E+00			
12	CP2107S11-12	TRG						1.5501E+00	1.5501E+00			
13	CP2107S14-15	TRG						1.5354E+00	1.5354E+00			
14	CP2107S17-18	TRG						1.5137E+00	1.5137E+00			
15	CP2107S19-20	TRG						1.5306E+00	1.5306E+00			
16	CP5005S01-02	TRG						1.5272E+00	1.5272E+00			
17	CP5005S04-05	TRG						1.5014E+00	1.5014E+00			
18	CP5005S05-06	TRG						1.5407E+00	1.5407E+00			
19	CP5005S09-10	TRG						1.5140E+00	1.5140E+00			
20	CP5005S12-13	TRG						1.5084E+00	1.5084E+00			

Comments

Technician: JPachella Date: 10/15/15

**Rough Sample Preparation
 Log Book**

Work Order	Lab Deadline	Date Received in Prep	Date Sealed	Date Returned	Technician
15-10063	11/3/2015	10/12/2015	10/13/2015	10/14/2015	KSALLINGS

Eberline Fraction	Auxier & Associates, Inc. Client ID	Tare (g)		Gross (g)		Net (g)		Percent		Gamma		Special Info
		Pan Wt	Wet Wt	Dry Wt	Wet Wt	Dry Wt	Wet Wt	Dry Wt	Liquid	Solid	Dry Wt		LEPS Wt
04	CP0403S02-03	14.5500	796.7100	709.9700	782.1600	695.4200	88.91%	11.09%	88.91%			
05	CP0403S04-05	14.5800	1034.8800	863.0400	1020.3000	848.4600	83.16%	16.84%	83.16%			
06	CP0403S07-08	14.6000	885.3600	723.4200	870.7600	708.8200	81.40%	18.60%	81.40%			
07	CP0403S09-10	14.6000	731.6900	574.7300	717.0900	560.1300	78.11%	21.89%	78.11%			
08	CP0403S11-12	14.5900	596.5300	462.6800	581.9400	448.0900	77.00%	23.00%	77.00%			
09	CP2107S02-03	14.5700	1026.0800	849.3000	1011.5100	834.7300	82.52%	17.48%	82.52%			
10	CP2107S05-06	14.5100	819.8000	668.3700	805.2900	653.8600	81.20%	18.80%	81.20%			
11	CP2107S09-10	14.5600	903.9400	732.6500	889.3800	718.0900	80.74%	19.26%	80.74%			
12	CP2107S11-12	14.5500	1075.7200	838.7800	1061.1700	824.2300	77.67%	22.33%	77.67%			
13	CP2107S14-15	14.5400	1135.0200	897.1200	1120.4800	882.5800	78.77%	21.23%	78.77%			
14	CP2107S17-18	14.5400	946.8000	729.1700	932.2600	714.6300	76.66%	23.34%	76.66%			
15	CP2107S19-20	14.5200	819.1600	619.4000	804.6400	604.8800	75.17%	24.83%	75.17%			
16	CP5005S01-02	14.5400	982.8400	815.8600	968.3000	801.3200	82.76%	17.24%	82.76%			
17	CP5005S04-05	14.5500	999.6400	810.2000	985.0900	795.6500	80.77%	19.23%	80.77%			
18	CP5005S05-06	14.4900	659.2000	526.7700	644.7100	512.2800	79.46%	20.54%	79.46%			
19	CP5005S09-10	14.4800	613.8400	485.1300	599.3600	470.6500	78.53%	21.47%	78.53%			
20	CP5005S12-13	14.5100	641.0200	497.3000	626.5100	482.7900	77.06%	22.94%	77.06%			

Comments
Special Codes
H: Hot, O: Organic Hazard, P: PCB Hazard, R: Rush, T: Other (see comments)

Technician: *Kerry Gaej*



Sample Description: SPIKE
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-TH
 Sample Identification: 01
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_058
 Chamber Serial Number: 01017326B
 Detector Serial Number: 58
 Env. Background: System Bkgd 131894
 Reagent Blank: <not performed>

Sample Size: 1.000E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/19/2015 9:31:05 AM
 Acquisition Date/Time: 10/19/2015 10:08:02 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.445 mL
 Effective Efficiency: 0.1226 +/- 0.0093
 Counting Efficiency: 0.1640 +/- 0.0029 on 12/13/2014 2:26:06 PM
 Chem. Recovery Factor: 0.7476 +/- 0.0583

Control Certificate Name: NatTh_Th-8
 Chem. Recov. of Control: TH-232 1.165279 +/- 0.120060
 Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227	5.759	14.49	52.54	0.51	0.00E+000	3.0
TH-228	5.382	247.83	12.46	0.17	0.00E+000	4.3
TH-229 T	4.865	208.49	13.59	0.51	0.00E+000	5.1
TH-230	4.646	282.83	11.66	0.17	0.00E+000	5.8
TH-232	3.955	254.32	12.31	0.68	0.00E+000	13.5

T = Tracer Peak used for Effective Efficiency

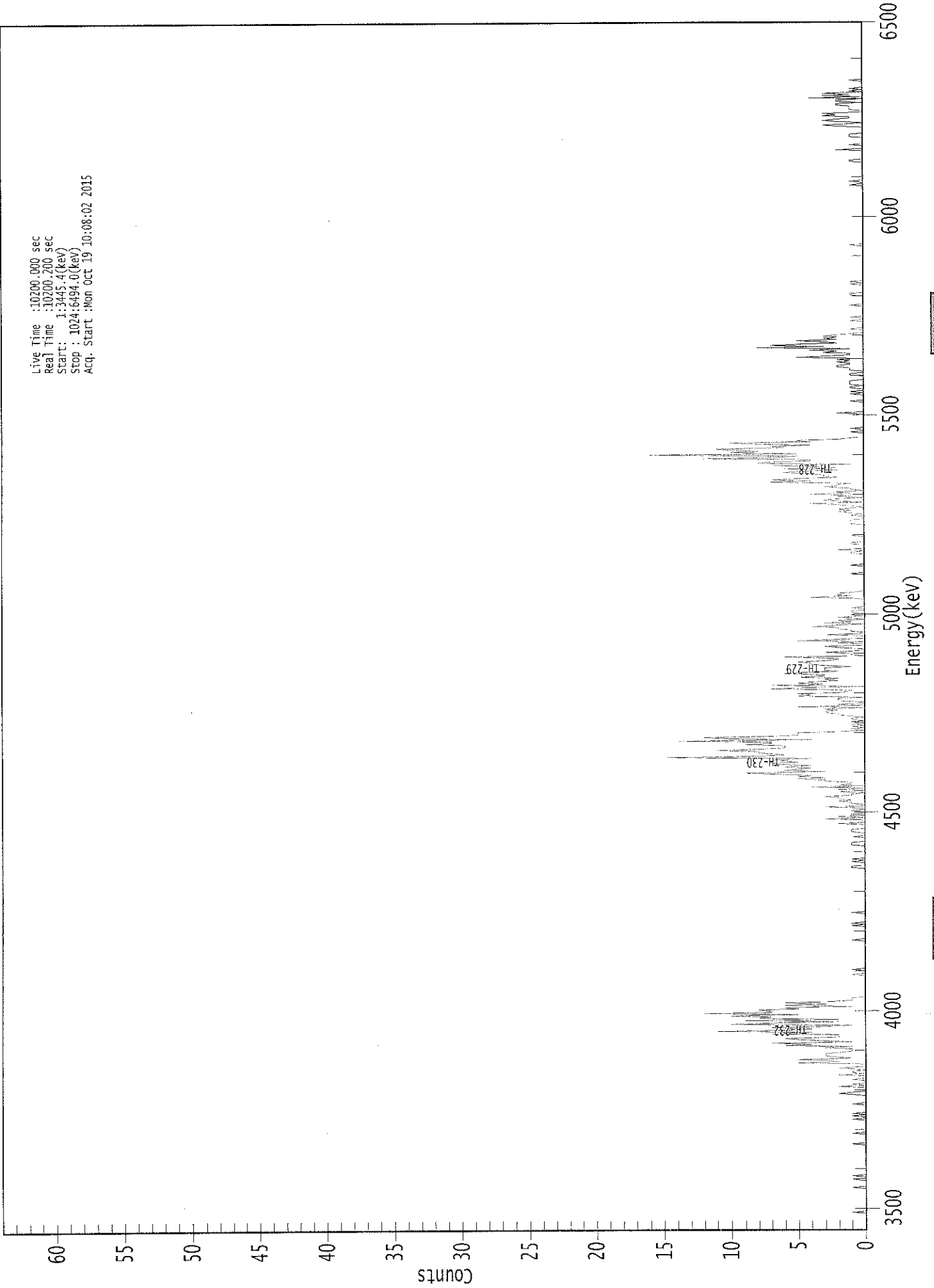
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.957	5850.00*	3.21E-001 +/- 1.75E-001	1.16E-001 +/- 1.73E-002
TH-228	0.998	5400.00*	5.36E+000 +/- 1.04E+000	9.02E-002 +/- 1.34E-002
TH-229	1.000	4872.00*	4.53E+000 +/- 6.74E-001	1.14E-001 +/- 1.70E-002
TH-230	0.996	4672.00*	6.12E+000 +/- 1.16E+000	9.03E-002 +/- 1.35E-002
TH-232	0.991	3997.00*	5.50E+000 +/- 1.06E+000	1.22E-001 +/- 1.81E-002

AG
 10/20/15

0000131611.CNF

Live Time :10200.000 sec
Real Time :10200.200 sec
Start : 1:3445.4(kev)
Stop : 1024:6494.0(kev)
Acq. Start :Mon Oct 19 10:08:02 2015



ROI Type: 1

ROI Type: 3

0000131611

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 01

Elapsed Live time: 10200
 Elapsed Real Time: 10200

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	1
17:	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0
33:	0	0	0	0	1	0	0	0
41:	0	0	0	1	0	0	1	0
49:	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0
73:	0	1	0	0	0	0	0	0
81:	0	0	1	0	0	0	0	0
89:	0	0	0	0	0	0	1	0
97:	0	1	0	1	0	0	0	0
105:	0	0	0	1	0	0	0	0
113:	0	0	0	1	2	1	0	0
121:	0	0	2	0	1	0	0	0
129:	1	0	0	0	2	0	1	1
137:	0	1	2	0	0	0	5	2
145:	3	5	1	2	3	3	3	2
153:	1	1	1	3	1	6	4	7
161:	1	3	5	6	2	2	2	7
169:	4	11	5	4	7	3	1	10
177:	7	2	9	2	8	7	10	5
185:	12	7	7	8	5	6	1	6
193:	3	6	3	1	1	1	0	0
201:	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0
217:	0	1	0	0	0	1	0	0
225:	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	1	0
249:	0	0	0	0	0	0	0	0
257:	0	0	1	0	1	0	0	0
265:	0	0	0	0	0	1	0	0
273:	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	0
297:	0	0	0	0	0	0	0	0
305:	0	0	0	1	1	0	0	0
313:	1	0	1	0	0	0	0	0
321:	0	0	0	0	0	0	1	1
329:	1	0	0	0	0	1	0	0
337:	0	1	1	1	0	0	0	0
345:	2	0	0	0	3	0	2	0
353:	1	0	0	1	0	0	3	0
361:	0	1	1	2	1	2	2	3

369: 1 1 0 2 0 2 0 4

Sample Title: 01

Channel	1	2	3	4	5	6	7	8
377:	0	2	1	1	3	3	5	3
385:	5	4	7	9	3	6	5	4
393:	6	4	6	7	5	6	7	4
401:	15	8	6	7	8	8	11	8
409:	6	6	6	9	7	7	14	4
417:	10	12	7	5	5	5	2	0
425:	1	0	1	0	1	0	1	0
433:	1	1	0	1	2	2	3	3
441:	2	3	0	5	0	2	0	0
449:	2	2	2	0	5	4	5	2
457:	1	1	7	4	0	7	3	5
465:	4	2	3	2	5	3	3	6
473:	5	2	3	3	3	1	3	4
481:	4	5	3	2	2	6	0	1
489:	1	3	1	0	0	2	3	0
497:	0	2	0	5	2	0	0	0
505:	3	0	0	1	1	2	2	4
513:	2	0	3	1	2	0	1	2
521:	0	1	0	1	1	0	0	1
529:	0	0	0	0	0	0	0	1
537:	4	1	2	2	1	0	0	0
545:	0	0	0	0	0	0	0	0
553:	0	0	0	0	1	0	0	0
561:	0	0	0	1	0	0	0	0
569:	0	0	0	0	0	1	1	0
577:	2	0	0	0	0	1	1	0
585:	0	0	0	0	1	0	0	0
593:	0	0	0	0	0	0	1	1
601:	1	1	0	0	0	1	0	1
609:	2	1	2	1	0	1	2	4
617:	0	2	3	2	0	2	1	4
625:	1	2	0	1	1	3	2	2
633:	1	7	4	7	5	2	3	3
641:	4	6	5	2	6	2	4	7
649:	1	8	7	4	4	12	6	5
657:	16	5	10	8	10	11	6	7
665:	4	8	10	4	5	2	1	0
673:	0	0	0	1	0	0	1	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	2	0	0	0	0
697:	0	0	0	0	0	1	0	0
705:	0	0	0	1	0	1	0	0
713:	1	1	0	1	1	1	1	0
721:	0	0	0	1	1	0	0	1
729:	1	1	2	2	1	1	2	1
737:	2	0	5	3	1	1	3	2
745:	4	1	8	3	7	5	2	3
753:	5	2	3	2	3	2	1	0
761:	0	0	1	0	0	0	0	0
769:	0	1	0	0	1	0	0	0
777:	0	0	0	0	0	0	1	0
785:	0	0	0	0	0	0	0	1
793:	1	0	0	0	0	0	0	0

801: 1 0 1 0 0 0 0 0

Sample Title: 01

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	1	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	1	0	0	1
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	1	1	0	0	0	0	0	0
913:	0	0	2	0	0	0	1	0
921:	0	0	0	0	0	1	1	1
929:	0	0	0	0	0	0	2	3
937:	1	0	2	3	2	1	1	3
945:	2	3	0	0	1	1	1	1
953:	2	2	0	2	2	0	4	0
961:	3	1	3	0	1	0	1	0
969:	0	0	0	0	0	1	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

KCS
10/19/15

Sample Description: BLANK
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-TH
 Sample Identification: 02
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_059
 Chamber Serial Number: 10006125A
 Detector Serial Number: 59
 Env. Background: System Bkgd 131895
 Reagent Blank: <not performed>

Sample Size: 1.500E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/19/2015 9:31:05 AM
 Acquisition Date/Time: 10/19/2015 10:08:04 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.234 mL
 Effective Efficiency: 0.1612 +/- 0.0143
 Counting Efficiency: 0.1717 +/- 0.0030 on 12/13/2014 2:24:23 PM
 Chem. Recovery Factor: 0.9387 +/- 0.0852

Peak Match Tolerance: 0.175 MeV

----- ----- PEAK AREA REPORT ----- -----						
Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227	5.815	6.32	82.73	0.68	0.00E+000	3.0
TH-228	5.276	2.47	163.78	1.53	0.00E+000	3.0
TH-229	T 4.867	143.83	16.35	0.17	0.00E+000	8.2
TH-230	4.651	6.32	82.73	0.68	0.00E+000	3.0
TH-232	4.069	0.49	416.98	0.51	0.00E+000	3.0

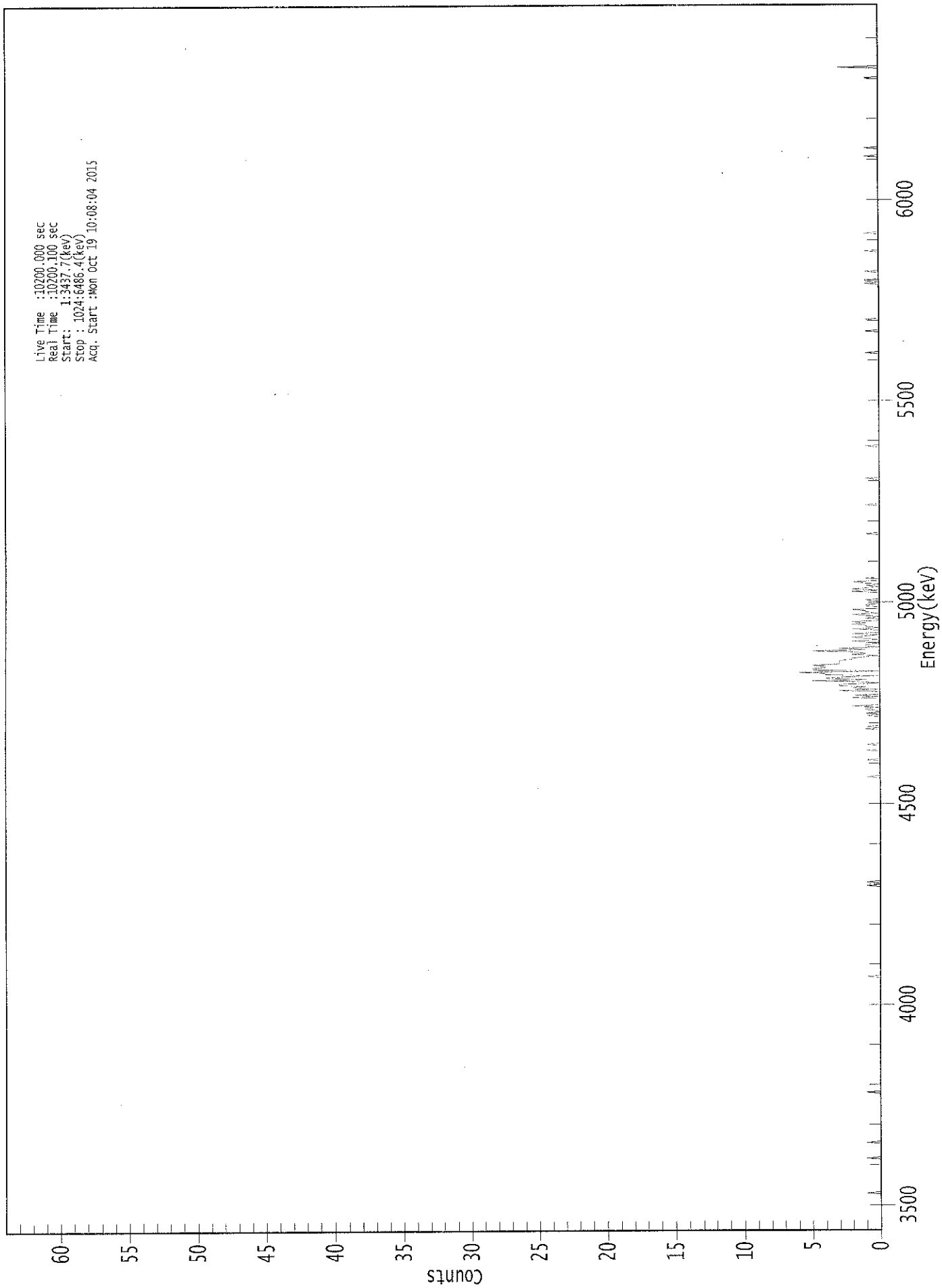
T = Tracer Peak used for Effective Efficiency

----- ----- NUCLIDE ANALYSIS RESULTS ----- -----						
Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)		
TH-227	0.994	5850.00*	7.10E-002 +/- 6.01E-002	6.34E-002 +/- 1.11E-002		
TH-228	0.922	5400.00*	2.71E-002 +/- 4.46E-002	7.79E-002 +/- 1.36E-002		
TH-229	1.000	4872.00*	1.58E+000 +/- 2.76E-001	4.60E-002 +/- 8.02E-003		
TH-230	0.998	4672.00*	6.94E-002 +/- 5.87E-002	6.19E-002 +/- 1.08E-002		
TH-232	0.973	3997.00*	5.37E-003 +/- 2.24E-002	5.75E-002 +/- 1.00E-002		

AG
10/20/15

0000131612.CNF

Live Time :10200.000 sec
Real Time :10200.100 sec
Start : 1:3437.7(kev)
Stop : 1024:6486.4(kev)
Acq. Start :Mon Oct 19 10:08:04 2015



00217

ROI Type: 1
ROI Type: 3

***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 02

Elapsed Live time: 10200
Elapsed Real Time: 10200

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	1
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	1	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	0	1	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	1	0	0	0	0	0
121:	0	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0	0
137:	0	0	0	0	0	0	0	0	0
145:	0	0	0	0	0	0	0	0	0
153:	0	0	0	0	0	0	0	0	0
161:	0	0	0	0	0	0	0	0	0
169:	0	0	0	0	0	0	0	0	0
177:	0	0	0	0	0	0	0	0	0
185:	0	0	0	0	0	0	0	0	0
193:	0	0	0	0	0	0	0	0	0
201:	0	0	0	0	0	0	0	0	0
209:	0	0	0	0	1	0	0	0	0
217:	0	0	0	0	0	0	0	0	0
225:	0	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	0	0	0
257:	0	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0	0
289:	1	0	0	1	0	0	0	0	0
297:	0	0	0	0	0	0	0	0	0
305:	0	0	0	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	0	0
321:	0	0	0	0	0	0	0	0	0
329:	0	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	0	0
353:	0	0	0	0	0	0	0	0	0
361:	0	0	0	0	0	0	0	0	0

369: 0 0 0 0 0 0 0 0 0

Sample Title: 02

Channel	1	2	3	4	5	6	7	8	9
377:	0	0	0	1	0	0	0	0	0
385:	0	0	0	0	0	0	0	0	0
393:	0	1	0	0	0	0	0	0	0
401:	0	1	0	0	0	0	1	0	0
409:	0	0	0	0	0	0	0	0	0
417:	0	0	0	1	0	1	0	0	0
425:	0	0	0	0	0	0	1	0	0
433:	1	0	0	1	1	0	2	0	0
441:	0	0	0	0	0	2	0	2	2
449:	0	0	0	3	0	2	1	3	3
457:	3	0	1	5	1	4	3	0	0
465:	4	4	6	0	5	5	4	4	4
473:	5	3	3	3	3	2	2	1	1
481:	0	2	1	2	5	1	3	0	0
489:	1	1	0	1	2	0	1	2	2
497:	1	0	2	0	0	0	2	0	0
505:	1	1	2	1	2	0	0	1	1
513:	0	1	2	0	1	1	2	0	0
521:	0	1	1	0	0	0	1	0	0
529:	0	0	0	0	0	2	0	2	2
537:	1	0	1	0	1	2	0	0	0
545:	1	0	0	0	0	0	0	0	0
553:	0	0	0	0	0	0	0	0	0
561:	0	0	0	0	0	0	0	0	0
569:	0	0	0	0	0	0	0	0	0
577:	0	0	0	0	0	1	0	0	0
585:	0	0	0	0	0	0	0	0	0
593:	0	0	0	0	0	0	0	0	0
601:	0	0	0	0	0	1	0	0	0
609:	0	0	0	0	0	0	0	0	0
617:	0	0	0	0	0	0	0	0	0
625:	0	0	0	1	0	0	0	0	0
633:	0	0	0	0	0	0	0	0	0
641:	0	0	0	0	0	0	0	0	0
649:	0	0	0	0	0	0	1	0	0
657:	0	0	0	0	0	0	0	0	0
665:	0	0	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	0	0
705:	0	0	0	0	0	0	0	0	0
713:	0	0	0	0	0	0	0	0	0
721:	0	0	0	0	0	0	0	0	0
729:	0	0	0	0	1	0	0	0	0
737:	0	0	0	0	0	0	0	0	0
745:	0	0	0	0	0	0	1	0	0
753:	0	0	0	0	0	0	0	0	0
761:	1	0	0	0	0	0	0	0	0
769:	0	0	0	0	0	0	0	0	0
777:	0	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	0	1	0	0
793:	1	1	0	0	0	0	0	0	0

801: 1 0 0 0 0 0 0 0

Sample Title: 02

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	1	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	1	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	1	0	0	0	0	0	0	1
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	1	0	0	0	0	0	0
969:	0	0	3	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0



Sample Description: CP0403S02-03 DUP
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-TH
 Sample Identification: 03
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_060
 Chamber Serial Number: 10006125B
 Detector Serial Number: 60
 Env. Background: System Bkgd 131896
 Reagent Blank: <not performed>

Sample Size: 1.523E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/5/2015 9:31:05 AM
 Acquisition Date/Time: 10/19/2015 10:08:07 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

*Tracer value changed
 to estimated addition
 AS
 10/20/15*

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.743 mL
 Effective Efficiency: 0.1554 +/- 0.0088
 Counting Efficiency: 0.1543 +/- 0.0028 on 12/13/2014 2:22:05 PM
 Chem. Recovery Factor: 1.0075 +/- 0.0601

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227	5.796	6.49	80.40	0.51	0.00E+000	3.0
TH-228	5.391	42.81	30.44	1.19	0.00E+000	4.3
TH-229 T	4.879	440.66	9.34	0.34	0.00E+000	37.2
TH-230	4.655	86.66	21.10	0.34	0.00E+000	8.8
TH-232	3.969	37.83	31.95	0.17	0.00E+000	3.0

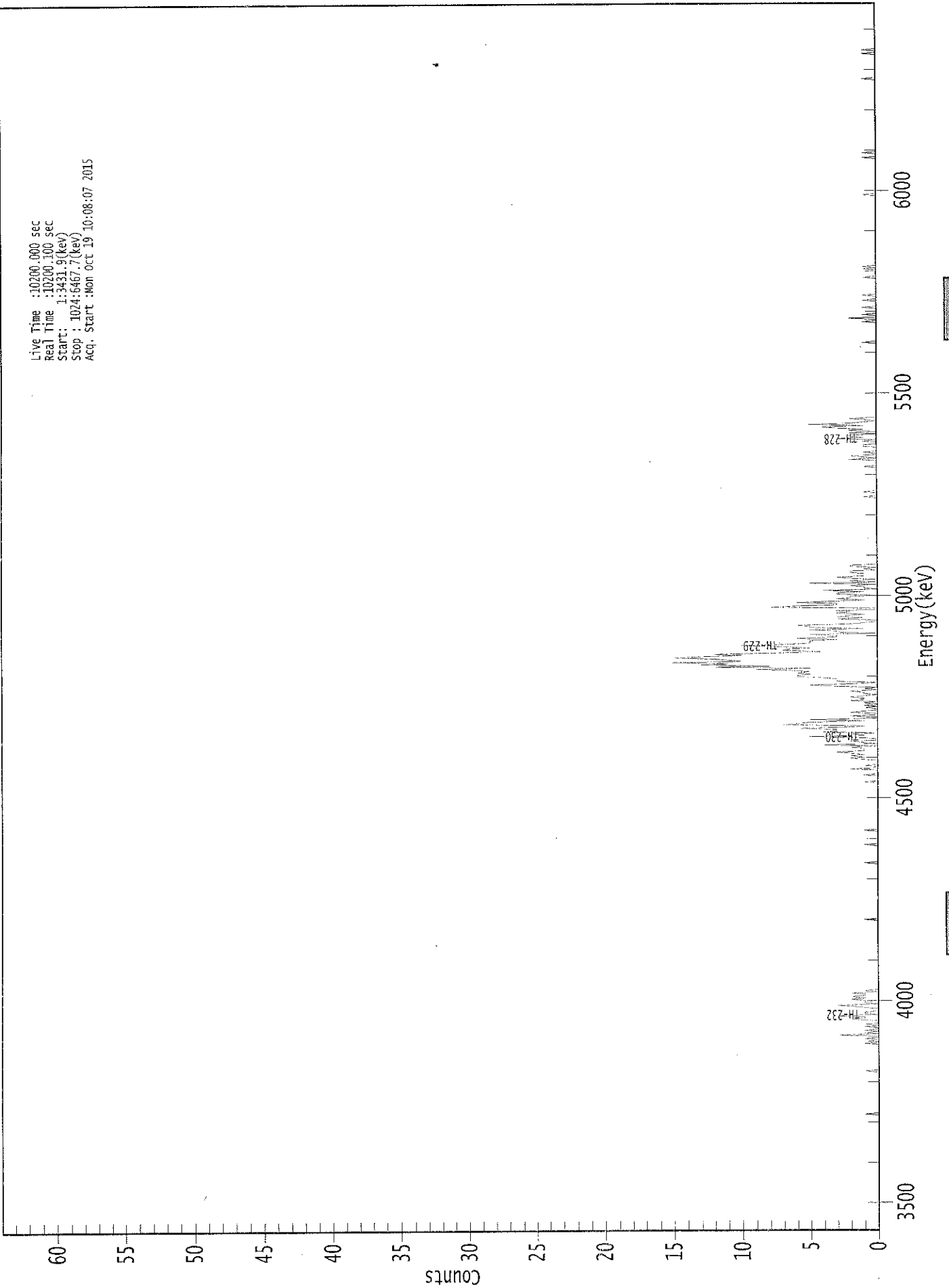
T = Tracer Peak used for Effective Efficiency

 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.985	5850.00*	7.46E-002 +/- 6.05E-002	6.03E-002 +/- 6.72E-003
TH-228	1.000	5400.00*	4.86E-001 +/- 1.58E-001	7.48E-002 +/- 8.34E-003
TH-229	1.000	4872.00*	4.96E+000 +/- 5.52E-001	5.38E-002 +/- 5.99E-003
TH-230	0.998	4672.00*	9.72E-001 +/- 2.32E-001	5.36E-002 +/- 5.97E-003
TH-232	0.996	3997.00*	4.23E-001 +/- 1.43E-001	4.67E-002 +/- 5.21E-003

0000131680.CNF

Live Time :10200.000 sec
Real Time :10200.100 sec
Start : 1:3431.9(keV)
Stop : 1024:6467.7(keV)
Acq. Start :Mon Oct 19 10:08:07 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 03

Elapsed Live time: 10200
 Elapsed Real Time: 10200

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0
97:	0	1	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0
121:	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	1	0	0
137:	0	0	0	0	0	0	0	0
145:	0	0	0	0	0	0	0	0
153:	0	0	0	0	1	0	0	0
161:	1	0	0	3	0	1	0	1
169:	0	0	1	0	1	0	0	0
177:	2	1	1	3	0	1	1	0
185:	0	0	1	2	3	0	1	1
193:	1	2	1	2	1	1	2	0
201:	1	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0
217:	0	0	0	0	0	0	0	0
225:	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	0	0
257:	0	0	0	1	0	0	0	0
265:	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	0
297:	0	0	0	0	0	0	0	0
305:	0	0	1	0	0	0	0	0
313:	0	0	0	0	0	0	0	0
321:	0	1	0	0	0	0	0	0
329:	0	0	0	0	0	1	0	0
337:	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	0
353:	0	0	0	0	0	0	0	0
361:	0	0	0	0	0	0	0	0

369: 0 0 0 0 0 1 0 0

Sample Title: 03

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	0	0	0	1	0	0	0	0
385:	2	0	0	1	0	0	0	0
393:	1	2	1	2	1	2	3	1
401:	1	1	2	0	4	0	1	2
409:	0	0	1	5	1	2	0	4
417:	3	3	6	2	1	7	6	5
425:	1	5	0	0	2	0	0	2
433:	1	0	0	1	0	1	0	1
441:	0	2	1	1	2	1	0	1
449:	1	2	0	1	0	3	5	2
457:	0	3	3	3	4	6	6	5
465:	6	5	6	9	5	12	8	13
473:	11	15	10	11	12	15	13	10
481:	12	7	4	7	7	5	7	10
489:	7	5	5	5	3	6	3	3
497:	5	0	3	3	5	1	5	5
505:	6	2	1	0	0	3	1	3
513:	2	1	3	2	3	0	0	8
521:	6	3	3	6	3	1	3	2
529:	2	0	3	3	1	4	0	1
537:	1	2	0	5	0	2	0	2
545:	3	1	1	1	2	2	0	1
553:	0	2	2	0	0	0	0	0
561:	0	0	0	0	0	0	0	0
569:	0	0	0	0	0	0	0	0
577:	0	0	0	0	0	0	0	0
585:	0	0	0	0	0	0	0	0
593:	0	0	0	0	0	0	0	0
601:	0	0	0	0	0	0	0	0
609:	0	0	0	1	0	0	0	1
617:	0	0	0	0	0	0	0	0
625:	0	0	0	0	0	0	0	0
633:	0	0	0	0	1	0	0	0
641:	0	0	2	0	1	2	0	0
649:	1	0	0	0	0	1	1	0
657:	0	1	0	3	1	2	2	0
665:	2	0	2	1	3	4	1	5
673:	2	1	0	1	2	0	0	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	0
705:	0	0	0	0	0	0	0	0
713:	0	0	0	0	0	0	0	0
721:	0	0	0	0	0	0	0	0
729:	0	0	0	0	0	0	0	0
737:	0	0	0	1	0	0	0	0
745:	0	0	0	0	0	0	0	0
753:	0	0	0	0	1	0	0	2
761:	0	0	1	0	0	0	0	0
769:	1	0	0	0	0	0	1	0
777:	0	0	1	0	0	0	0	0
785:	0	0	0	0	0	0	0	0
793:	0	1	0	0	0	0	0	0

801: 1 0 1 0 0 0 0 0

Sample Title: 03

Channel	1	2	3	4	5	6	7	8
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	1	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	1	0	0
897:	0	1	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	1
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	1	0	0	1
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

Apex-Alpha™

10/19/15

Sample Description: CP0403S02-03
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-TH
 Sample Identification: 04
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_033
 Chamber Serial Number: 04026479A
 Detector Serial Number: 91132
 Env. Background: System Bkgd 131869
 Reagent Blank: <not performed>

Sample Size: 1.509E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/5/2015 9:31:05 AM
 Acquisition Date/Time: 10/19/2015 1:00:04 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.1 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.226 mL
 Effective Efficiency: 0.1631 +/- 0.0147
 Counting Efficiency: 0.1805 +/- 0.0032 on 10/25/2014 2:26:39 PM
 Chem. Recovery Factor: 0.9037 +/- 0.0829

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227	5.774	4.66	94.59	0.34	0.00E+000	3.0
TH-228	5.387	38.81	32.02	1.19	0.00E+000	4.5
TH-229 T	4.883	140.49	16.57	0.51	0.00E+000	4.7
TH-230	4.645	105.49	19.14	0.51	0.00E+000	5.0
TH-232	3.967	54.00	26.92	0.00	0.00E+000	13.0

T = Tracer Peak used for Effective Efficiency

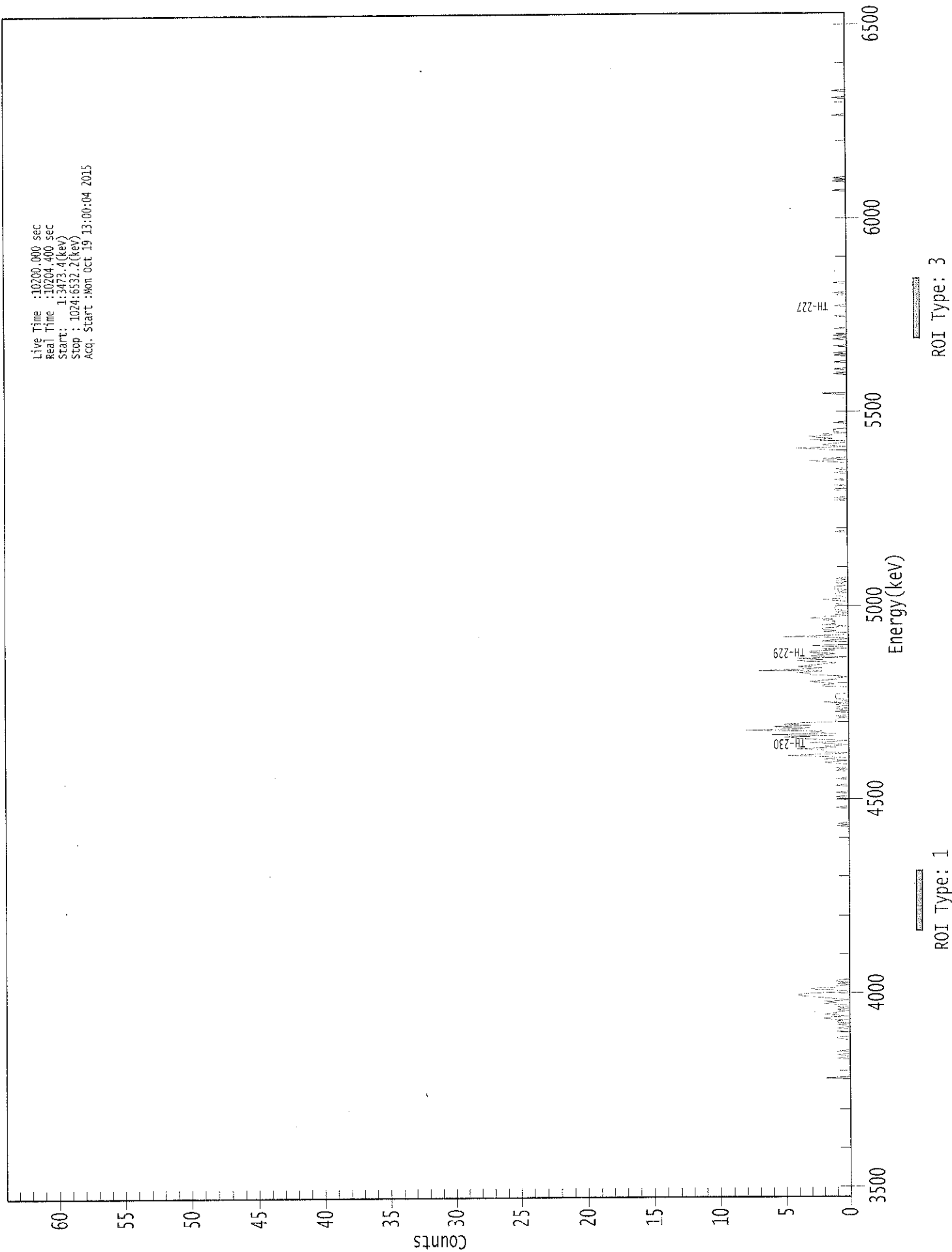
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.970	5850.00*	5.15E-002 +/- 4.96E-002	5.29E-002 +/- 9.33E-003
TH-228	0.999	5400.00*	4.24E-001 +/- 1.55E-001	7.20E-002 +/- 1.27E-002
TH-229	0.999	4872.00*	1.52E+000 +/- 2.68E-001	5.68E-002 +/- 1.00E-002
TH-230	0.996	4672.00*	1.14E+000 +/- 2.96E-001	5.66E-002 +/- 9.99E-003
TH-232	0.995	3997.00*	5.81E-001 +/- 1.87E-001	6.46E-002 +/- 1.14E-002

AG
 10/20/15

0000131625.CNF

Live Time :10200.000 sec
Real Time :10204.400 sec
Start: 1:3473.4(keV)
Stop : 1024:6532.2(keV)
Acq. Start :Mon Oct 19 13:00:04 2015



00226

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 04

Elapsed Live time: 10200

Elapsed Real Time: 10204

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0	2
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0	0
121:	1	0	0	1	0	0	1	0	0
129:	0	0	0	0	0	0	0	0	0
137:	0	1	1	0	0	0	0	0	1
145:	0	0	1	0	0	1	0	0	1
153:	1	0	2	2	0	1	2	1	1
161:	1	0	1	0	1	0	0	0	2
169:	1	2	0	1	2	3	4	4	4
177:	3	0	0	3	3	1	1	0	0
185:	1	0	1	1	0	0	0	0	0
193:	0	0	0	0	0	0	0	0	0
201:	0	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0	0
217:	0	0	0	0	0	0	0	0	0
225:	0	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	0	0	0
257:	0	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	0	0
297:	0	0	0	0	0	0	0	0	0
305:	0	0	0	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	0	0
321:	1	0	1	0	0	0	0	0	0
329:	0	0	0	0	0	0	0	0	0
337:	1	0	0	0	0	0	0	0	1
345:	0	1	0	0	0	1	0	0	0
353:	0	0	0	1	0	0	0	0	0
361:	0	1	0	0	0	0	0	0	0

369: 1 0 1 0 0 0 1 2

Sample Title: 04

Channel	1	2	3	4	5	6	7	8
377:	0	1	2	0	2	5	2	0
385:	2	2	2	4	1	2	0	1
393:	3	1	0	3	4	5	1	6
401:	1	3	2	8	4	3	6	3
409:	5	4	1	1	1	1	0	1
417:	0	0	0	1	0	1	0	1
425:	0	1	0	2	0	0	1	1
433:	1	1	1	0	0	0	0	0
441:	0	2	2	1	2	3	2	1
449:	1	0	1	3	3	4	2	7
457:	3	2	4	3	2	1	2	4
465:	2	4	0	3	2	1	3	3
473:	1	2	0	0	3	0	0	0
481:	2	1	0	1	5	1	0	0
489:	2	1	2	2	1	0	2	1
497:	1	1	2	1	3	2	0	1
505:	0	1	0	1	1	1	1	0
513:	1	0	0	1	2	0	0	1
521:	1	1	0	1	0	1	1	1
529:	0	0	1	0	1	0	1	0
537:	0	0	0	0	0	0	0	0
545:	0	0	0	0	0	0	0	0
553:	0	0	0	0	0	0	0	0
561:	0	0	0	0	0	0	0	0
569:	0	0	0	0	0	0	1	0
577:	0	0	0	0	0	0	0	0
585:	0	0	0	0	0	0	0	0
593:	0	0	0	0	0	0	0	0
601:	0	1	0	1	0	0	0	0
609:	0	0	1	1	0	0	1	0
617:	0	0	0	1	0	0	0	0
625:	0	1	0	0	1	0	0	0
633:	0	0	1	3	0	2	0	0
641:	0	0	0	0	1	2	4	0
649:	1	2	1	0	0	3	1	2
657:	3	1	2	0	1	1	1	0
665:	0	0	0	0	1	0	0	0
673:	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	2	0	0
697:	0	0	0	0	0	0	0	0
705:	0	0	0	0	0	0	1	0
713:	0	0	1	0	0	0	0	0
721:	1	0	0	0	0	0	1	0
729:	1	0	0	0	0	0	1	0
737:	0	0	0	0	1	0	0	1
745:	0	0	0	0	0	1	0	0
753:	0	0	0	0	0	0	0	0
761:	1	0	0	0	0	0	0	0
769:	0	1	0	0	0	0	0	0
777:	0	0	0	0	1	0	0	0
785:	0	0	0	0	0	1	0	0
793:	0	0	0	0	0	0	0	0

801: 0 0 0 0 0 0 0 0 0

Sample Title: 04

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	1	0	0
873:	0	0	0	0	0	1	0	0
881:	1	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	1	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	1	0	0
953:	0	0	0	1	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

KB
10/19/15

Apex-Alpha™

Sample Description: CP0403S04-05
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-TH
 Sample Identification: 05
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_034
 Chamber Serial Number: 04026479B
 Detector Serial Number: 91136
 Env. Background: System Bkgd 131870
 Reagent Blank: <not performed>

Sample Size: 1.517E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/5/2015 9:31:05 AM
 Acquisition Date/Time: 10/19/2015 1:00:06 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.1 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.1710 +/- 0.0151
 Counting Efficiency: 0.1789 +/- 0.0031 on 10/25/2014 2:30:05 PM
 Chem. Recovery Factor: 0.9558 +/- 0.0861

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227	5.834	7.15	78.23	0.85	0.00E+000	3.0
TH-228	5.358	108.66	18.84	0.34	0.00E+000	4.7
TH-229 T	4.848	147.00	16.22	0.00	0.00E+000	8.5
TH-230	4.619	87.47	21.17	1.53	0.00E+000	6.7
TH-232	3.941	116.49	18.21	0.51	0.00E+000	3.8

T = Tracer Peak used for Effective Efficiency

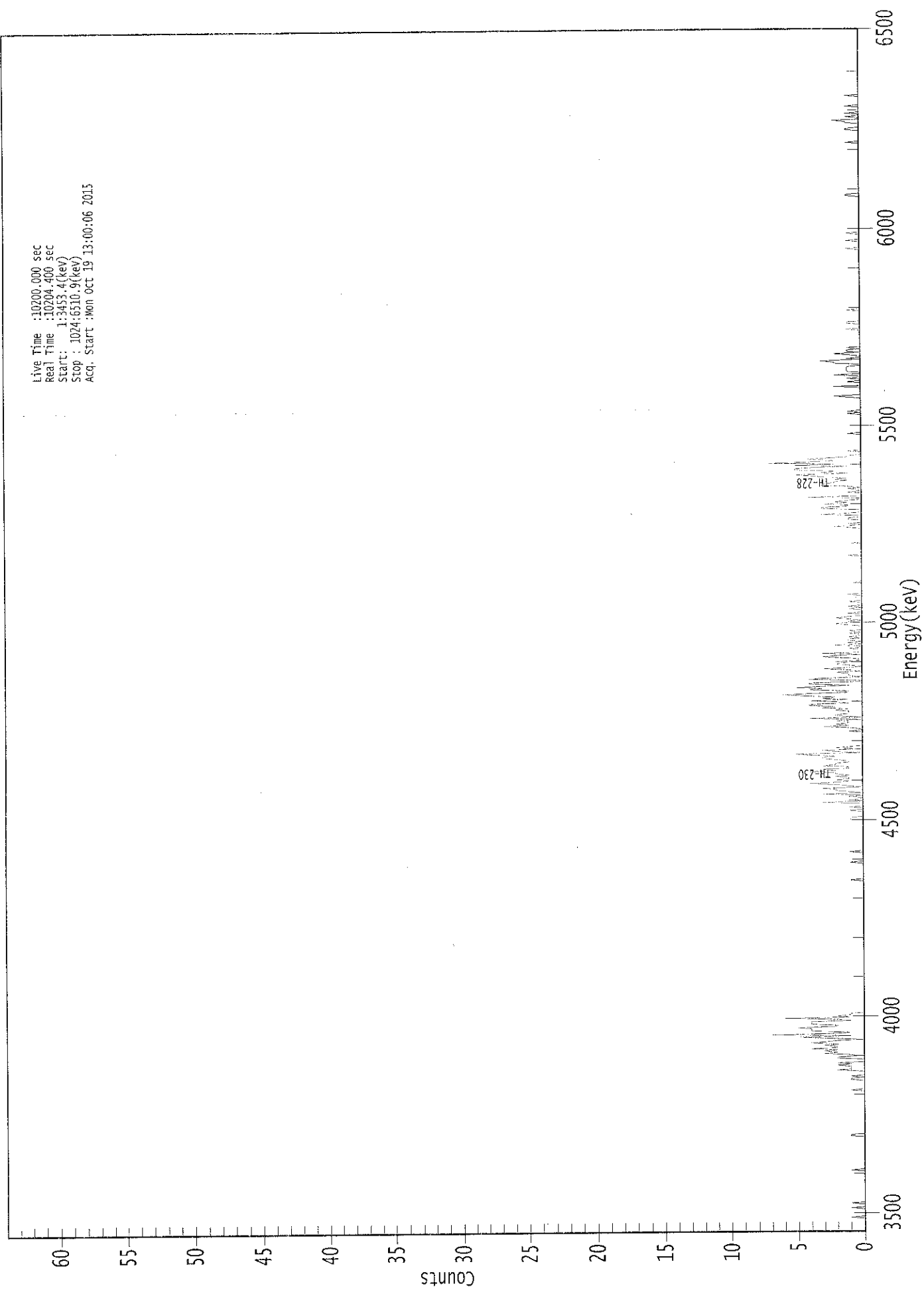
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.999	5850.00*	7.50E-002 +/- 6.01E-002	6.28E-002 +/- 1.09E-002
TH-228	0.991	5400.00*	1.13E+000 +/- 2.88E-001	4.96E-002 +/- 8.59E-003
TH-229	0.997	4872.00*	1.51E+000 +/- 2.61E-001	6.16E-002 +/- 1.07E-002
TH-230	0.986	4672.00*	8.95E-001 +/- 2.45E-001	7.27E-002 +/- 1.26E-002
TH-232	0.984	3997.00*	1.19E+000 +/- 2.99E-001	5.36E-002 +/- 9.29E-003

AG
 10/20/15

0000131626.CNF

Live Time :10200.000 sec
Real Time :10204.400 sec
Start: 1:3453.4(kev)
Stop : 1024:6510.9(kev)
Acq. Start :Mon Oct 19 13:00:06 2015



ROI Type: 1

ROI Type: 3

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 05

Elapsed Live time: 10200
 Elapsed Real Time: 10204

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	1	0	0	0
17:	0	0	0	0	0	1	0	0	0
25:	1	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	1	0	0	0
57:	0	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0	0
81:	0	1	1	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0	0
121:	1	0	0	0	0	0	0	0	0
129:	0	1	1	0	1	0	0	0	0
137:	0	2	1	1	1	2	1	2	2
145:	0	0	0	2	2	0	1	3	3
153:	2	3	2	4	2	2	3	2	2
161:	4	3	2	0	3	5	1	7	7
169:	2	1	4	4	4	5	2	2	2
177:	4	4	4	1	2	6	1	2	2
185:	1	1	0	0	0	0	0	0	0
193:	0	0	0	0	0	0	0	0	0
201:	0	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0	0
217:	0	0	0	0	0	0	0	0	0
225:	0	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	0	0	0
257:	0	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	0	0
297:	0	0	0	1	0	0	0	0	0
305:	0	0	0	0	0	0	0	0	0
313:	0	0	1	0	0	0	0	0	0
321:	0	0	0	1	0	0	0	0	0
329:	0	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	0	1
353:	1	0	0	0	0	0	1	0	0
361:	0	1	0	0	0	3	0	0	1

369: 0 0 1 0 3 0 1 2

Sample Title: 05

Channel	1	2	3	4	5	6	7	8
377:	2	3	0	1	2	4	2	1
385:	2	1	1	2	1	2	2	4
393:	2	3	1	1	3	2	2	1
401:	1	2	3	3	2	4	5	0
409:	2	3	0	2	1	0	0	0
417:	0	0	0	0	0	0	0	0
425:	0	1	0	0	1	3	1	2
433:	1	1	2	0	4	0	2	2
441:	1	1	1	2	1	3	2	4
449:	4	1	2	4	1	3	2	4
457:	6	4	1	1	4	3	5	3
465:	1	4	4	0	0	4	3	0
473:	1	1	1	2	0	1	3	1
481:	0	1	2	1	2	0	0	1
489:	3	2	0	3	0	0	0	1
497:	0	0	2	0	1	0	1	1
505:	0	1	0	0	1	0	1	0
513:	0	0	0	1	2	1	1	0
521:	1	2	1	0	0	1	0	0
529:	0	1	0	1	0	0	0	1
537:	0	0	0	0	0	1	0	0
545:	0	0	0	0	0	0	0	0
553:	0	0	0	0	0	0	0	0
561:	0	0	0	0	0	0	0	0
569:	0	0	0	0	0	0	1	0
577:	0	0	0	0	0	0	0	0
585:	0	0	0	0	0	0	0	0
593:	0	0	0	0	0	0	1	2
601:	0	1	0	0	0	1	1	0
609:	0	3	1	0	0	0	3	3
617:	1	1	3	1	2	1	0	0
625:	4	0	0	0	1	0	0	1
633:	0	1	3	3	2	2	1	2
641:	1	3	4	5	1	3	2	5
649:	5	4	1	5	2	7	3	2
657:	4	3	1	1	0	0	0	1
665:	0	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	1	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	1
697:	0	1	0	0	0	0	0	0
705:	0	0	0	0	0	1	2	0
713:	0	0	0	0	0	0	2	0
721:	0	0	1	0	0	1	0	0
729:	2	0	0	1	1	1	1	1
737:	0	0	2	2	3	0	1	0
745:	0	1	2	0	1	1	0	1
753:	0	0	0	0	0	0	0	0
761:	0	0	0	0	0	0	0	1
769:	0	0	0	0	1	1	0	0
777:	0	0	0	0	0	0	0	1
785:	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	0	0

801: 0 0 0 0 0 0 0 0 0

Sample Title: 05

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	1	0	0	0	0
841:	0	0	1	0	0	0	0	0
849:	1	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	1	1	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	1	0	0
929:	0	0	0	0	0	0	0	0
937:	1	1	0	0	0	0	1	1
945:	2	0	0	1	0	0	1	0
953:	0	0	0	0	1	0	0	0
961:	0	0	0	0	0	1	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0



ICB
10/19/15

Sample Description: CP0403S07-08
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-TH
 Sample Identification: 06
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_035
 Chamber Serial Number: 04026477A
 Detector Serial Number: 58771
 Env. Background: System Bkgd 131871
 Reagent Blank: <not performed>

Sample Size: 1.517E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/5/2015 9:31:05 AM
 Acquisition Date/Time: 10/19/2015 1:00:08 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.1 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.1525 +/- 0.0142
 Counting Efficiency: 0.1647 +/- 0.0029 on 10/25/2014 2:34:10 PM
 Chem. Recovery Factor: 0.9259 +/- 0.0877

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227	5.861	12.15	58.49	0.85	0.00E+000	3.0
TH-228	5.376	138.15	16.74	0.85	0.00E+000	19.4
TH-229 T	4.876	131.00	17.19	0.00	0.00E+000	4.4
TH-230	4.630	103.32	19.36	0.68	0.00E+000	7.6
TH-232	3.964	135.00	16.93	0.00	0.00E+000	12.7

T = Tracer Peak used for Effective Efficiency

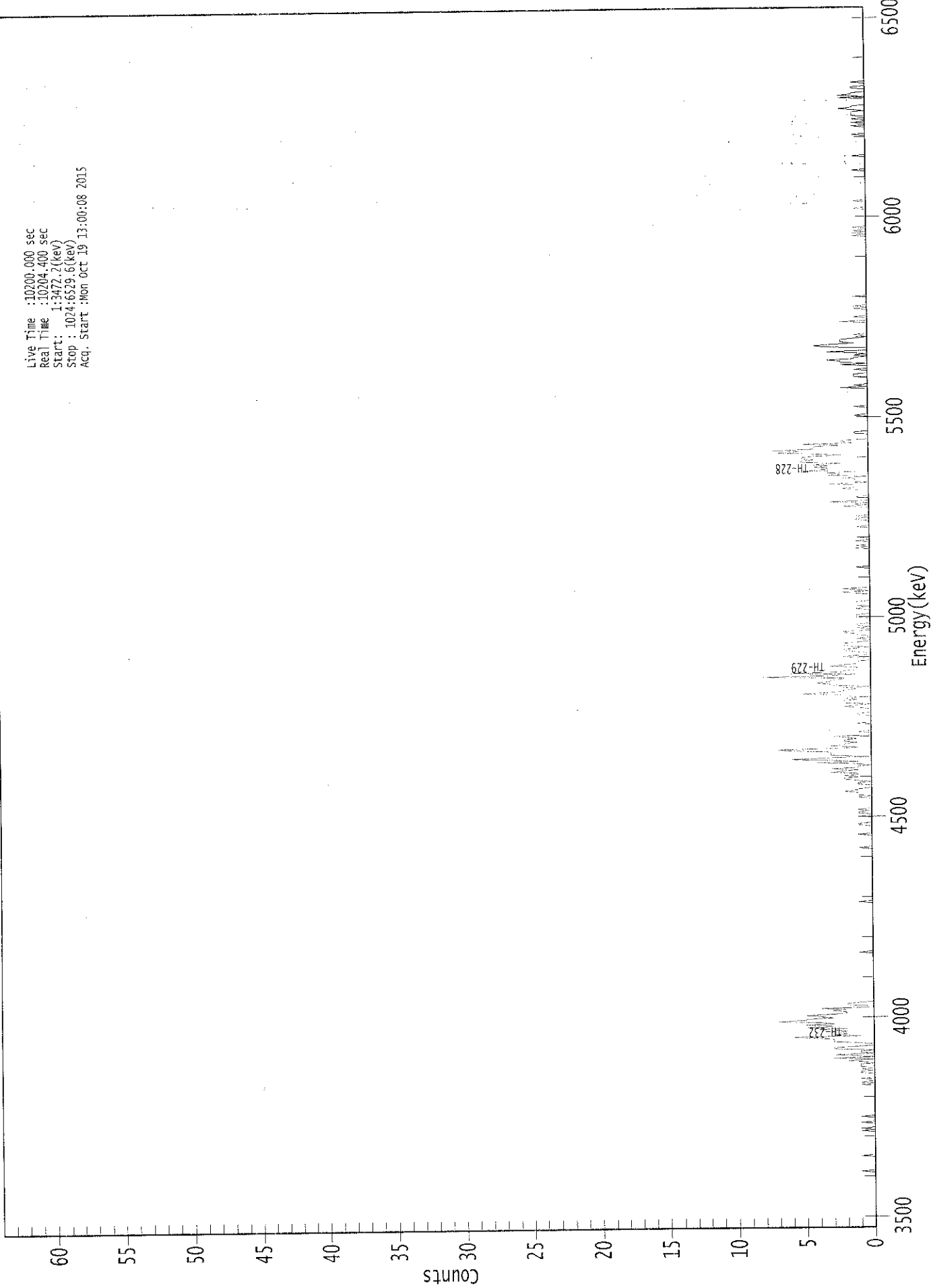
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.999	5850.00*	1.43E-001 +/- 8.75E-002	7.04E-002 +/- 1.28E-002
TH-228	0.997	5400.00*	1.60E+000 +/- 3.97E-001	6.96E-002 +/- 1.27E-002
TH-229	1.000	4872.00*	1.51E+000 +/- 2.75E-001	6.90E-002 +/- 1.26E-002
TH-230	0.991	4672.00*	1.18E+000 +/- 3.15E-001	6.47E-002 +/- 1.18E-002
TH-232	0.994	3997.00*	1.55E+000 +/- 3.85E-001	6.86E-002 +/- 1.25E-002

AG
10/20/15

0000131627.CNF

Live Time : 10200.000 sec
Real Time : 10204.400 sec
Start : 1:3472.7(kev)
Stop : 1024:6529.6(kev)
Acq. Start : Mon Oct 19 13:00:08 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 06

Elapsed Live time: 10200
 Elapsed Real Time: 10204

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0	1
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	1	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0	0
81:	0	1	0	1	0	0	0	0	0
89:	1	0	0	0	0	1	0	0	0
97:	0	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0	0
121:	1	0	1	0	0	1	0	0	0
129:	0	0	1	1	0	1	0	1	1
137:	1	1	0	1	2	0	3	0	0
145:	1	3	0	1	1	0	3	3	3
153:	1	0	0	1	3	3	3	3	4
161:	6	1	3	2	3	2	4	2	2
169:	5	3	5	3	4	7	5	5	5
177:	3	4	5	3	2	2	3	2	2
185:	4	0	0	2	2	1	0	0	0
193:	0	0	0	0	0	0	0	0	0
201:	0	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0	0
217:	0	0	0	0	0	0	0	0	0
225:	0	0	0	0	0	0	0	0	1
233:	0	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	0	0	0
257:	0	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	1	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	0	0
297:	0	0	0	0	0	0	0	0	0
305:	0	0	0	0	0	0	0	0	0
313:	0	0	0	0	0	0	1	0	0
321:	0	0	0	0	0	0	0	0	0
329:	0	1	0	0	0	0	0	0	0
337:	0	1	1	0	0	0	0	0	0
345:	1	0	0	1	1	0	1	0	0
353:	0	0	0	0	0	0	0	0	0
361:	1	0	1	1	1	2	1	1	1

369: 0 0 0 1 1 0 1 2

Sample Title: 06

Channel	1	2	3	4	5	6	7	8
377:	2	1	2	1	1	3	2	1
385:	3	1	1	0	1	4	1	3
393:	6	3	0	3	3	3	3	6
401:	7	2	1	3	2	2	1	2
409:	2	1	2	3	0	0	0	1
417:	0	0	0	0	0	0	1	0
425:	0	0	0	0	0	1	1	0
433:	0	0	0	1	2	1	0	2
441:	2	2	1	2	1	2	2	5
449:	3	2	2	1	2	0	3	3
457:	4	3	3	2	2	8	3	1
465:	6	2	2	1	1	1	3	2
473:	1	1	1	0	0	1	2	1
481:	0	0	1	2	2	1	0	2
489:	2	2	1	0	0	1	0	0
497:	1	1	2	2	0	0	1	0
505:	1	1	0	0	0	0	0	1
513:	1	1	0	0	0	0	1	1
521:	0	1	1	1	1	0	0	0
529:	0	0	0	1	2	0	1	2
537:	0	0	0	0	0	0	0	0
545:	0	0	0	0	0	0	0	0
553:	0	1	0	0	0	0	0	0
561:	0	0	0	0	0	0	0	0
569:	0	1	0	1	0	0	0	1
577:	0	0	1	0	0	0	0	0
585:	0	0	0	1	0	0	0	0
593:	0	1	1	0	1	0	0	0
601:	0	0	0	0	2	0	1	0
609:	3	0	0	0	1	0	0	0
617:	0	0	1	2	1	1	1	3
625:	0	1	1	1	2	0	3	2
633:	3	1	5	3	3	4	3	4
641:	2	5	5	4	5	5	4	2
649:	4	7	5	7	4	4	4	2
657:	5	1	2	2	0	0	0	0
665:	0	1	1	0	0	0	0	0
673:	0	0	0	0	0	0	0	0
681:	1	0	0	0	0	0	0	1
689:	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	2
705:	0	1	0	0	0	0	0	0
713:	1	1	1	0	0	0	1	0
721:	0	0	2	0	2	2	3	1
729:	1	0	1	0	1	3	0	0
737:	0	3	4	3	1	2	2	2
745:	1	0	0	1	0	0	0	0
753:	0	0	0	0	0	0	2	0
761:	0	0	1	0	0	0	0	0
769:	0	1	0	1	0	0	0	0
777:	0	0	0	1	0	0	0	0
785:	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	0	0

801: 0 0 0 0 0 0 0 0 0

Sample Title: 06

Channel	1	2	3	4	5	6	7	8	9
809:	0	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	1	0
833:	1	0	1	0	0	0	1	0	0
841:	0	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	1	0	0
857:	0	0	0	1	0	0	0	0	0
865:	0	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	1	0	0
889:	0	0	0	0	0	0	0	0	0
897:	0	1	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0	0
913:	0	0	0	1	0	0	0	0	0
921:	0	0	1	0	0	0	1	0	0
929:	1	0	0	1	1	1	1	1	0
937:	1	2	1	1	0	0	0	0	0
945:	0	0	2	0	2	1	1	1	0
953:	0	0	1	1	0	0	0	0	1
961:	0	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0	0

Apex-Alpha™

KS
10/19/15

Sample Description: CP0403S09-10
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-TH
 Sample Identification: 07
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_036
 Chamber Serial Number: 04026477B
 Detector Serial Number: 84167
 Env. Background: System Bkgd 131872
 Reagent Blank: <not performed>

Sample Size: 1.521E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/5/2015 9:31:05 AM
 Acquisition Date/Time: 10/19/2015 1:00:10 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.1 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.1738 +/- 0.0152
 Counting Efficiency: 0.1806 +/- 0.0032 on 10/25/2014 2:38:17 PM
 Chem. Recovery Factor: 0.9625 +/- 0.0861

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227	5.834	14.15	53.90	0.85	0.00E+000	3.0
TH-228	5.358	126.47	17.55	1.53	0.00E+000	4.1
TH-229 T	4.863	149.32	16.08	0.68	0.00E+000	4.5
TH-230	4.614	105.32	19.17	0.68	0.00E+000	6.2
TH-232	3.947	93.66	20.30	0.34	0.00E+000	4.4

T = Tracer Peak used for Effective Efficiency

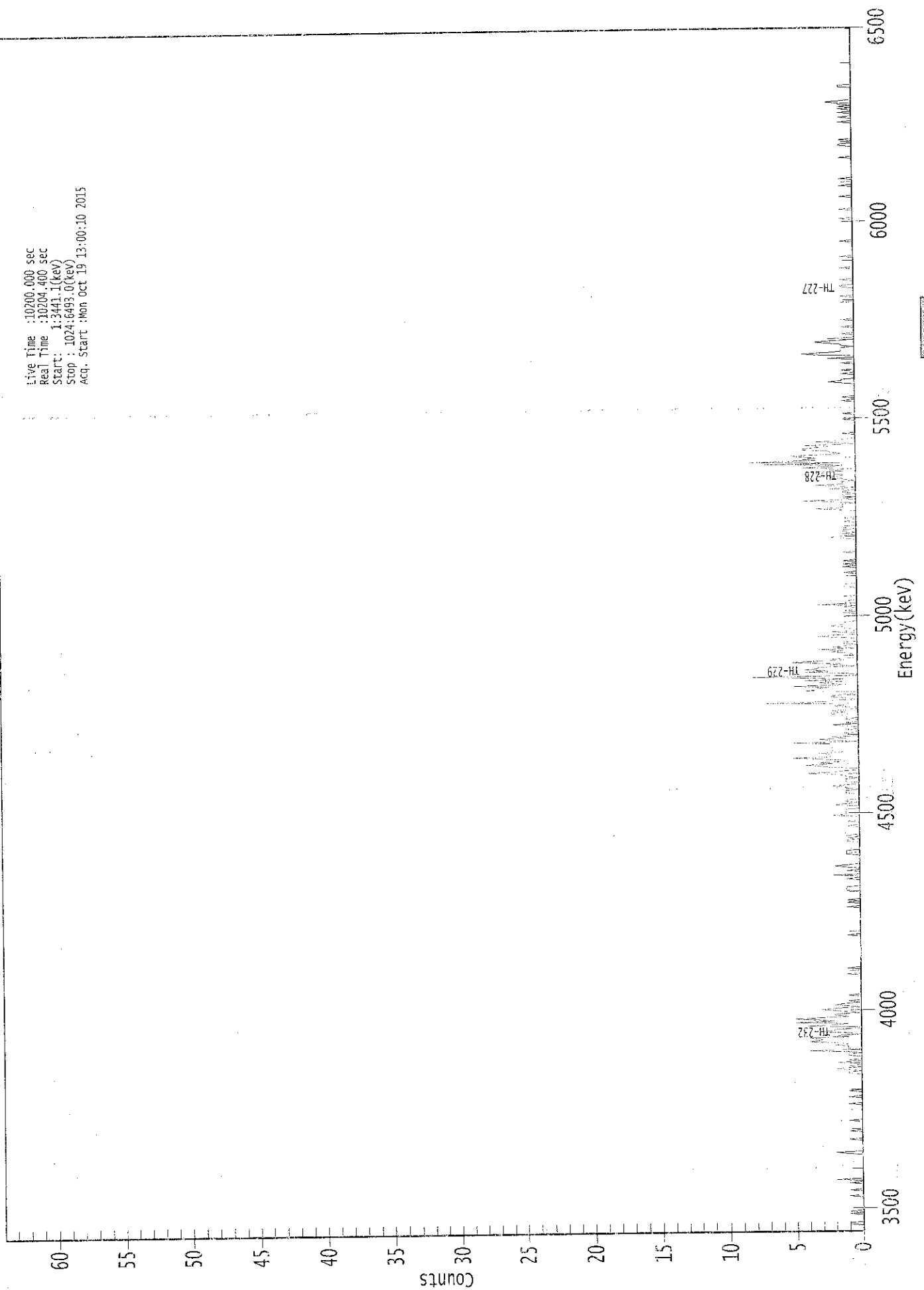
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.999	5850.00*	1.46E-001 +/- 8.24E-002	6.16E-002 +/- 1.06E-002
TH-228	0.991	5400.00*	1.29E+000 +/- 3.16E-001	7.23E-002 +/- 1.24E-002
TH-229	1.000	4872.00*	1.50E+000 +/- 2.59E-001	5.68E-002 +/- 9.77E-003
TH-230	0.983	4672.00*	1.06E+000 +/- 2.72E-001	5.66E-002 +/- 9.74E-003
TH-232	0.987	3997.00*	9.39E-001 +/- 2.50E-001	4.79E-002 +/- 8.24E-003

AG
10/20/15

0000131628.CNF

Live Time : 10200.000 sec
Real Time : 10204.400 sec
Start : 1:3441.1(keV)
Stop : 1024:6493.0(keV)
Acq. Start : Mon Oct 19 13:00:10 2015



ROI Type: 3

ROI Type: 1

11200

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 07

Elapsed Live time: 10200
 Elapsed Real Time: 10204

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	1	1
9:	0	0	0	0	0	0	0	0	1
17:	0	1	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	1	0
33:	0	0	0	1	0	0	0	0	0
41:	0	1	0	0	2	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0	0
65:	0	0	1	2	0	0	0	0	0
73:	0	0	0	0	0	0	1	0	0
81:	0	0	0	0	0	0	1	0	0
89:	0	0	0	0	0	0	0	1	0
97:	0	0	0	0	0	0	0	0	0
105:	0	0	0	0	1	0	0	0	0
113:	0	0	1	0	0	0	0	0	1
121:	0	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	1	1	1
137:	0	1	2	0	1	0	0	2	2
145:	0	1	0	0	0	1	1	0	0
153:	1	4	0	1	1	1	2	1	1
161:	2	4	3	3	4	1	2	0	0
169:	1	3	2	2	0	0	4	2	2
177:	1	5	2	3	5	3	1	2	2
185:	2	0	1	2	3	2	0	1	1
193:	2	1	0	1	0	0	0	0	0
201:	1	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0	0
217:	0	0	1	0	0	0	0	1	1
225:	0	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0	0
249:	0	0	0	1	0	0	0	0	0
257:	0	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	0	0	1	0	0	0	1	1
281:	0	1	0	0	0	0	0	0	0
289:	0	1	1	1	1	0	0	0	0
297:	0	0	0	1	0	0	2	0	0
305:	0	0	1	0	0	1	2	1	1
313:	0	0	0	0	0	0	0	0	0
321:	1	1	1	1	0	0	0	0	0
329:	0	0	0	1	1	0	1	0	0
337:	1	0	0	0	0	0	0	0	0
345:	1	0	0	0	1	0	0	0	0
353:	0	2	1	1	1	1	1	0	0
361:	0	0	2	1	0	1	1	0	0

369: 0 0 0 0 1 1 1 0

Sample Title: 07

Channel	1	2	3	4	5	6	7	8
377:	1	1	2	1	0	0	1	1
385:	1	0	1	1	2	4	2	1
393:	0	0	2	3	4	2	3	1
401:	1	3	5	2	2	2	3	1
409:	2	2	2	2	2	2	2	5
417:	0	2	3	1	2	0	0	1
425:	0	0	1	0	0	1	2	0
433:	1	0	0	1	0	1	1	2
441:	2	1	2	1	0	0	2	1
449:	2	7	2	2	0	1	2	2
457:	1	0	0	4	3	3	2	5
465:	1	2	3	1	4	1	4	8
473:	0	0	1	4	2	4	3	3
481:	0	2	1	5	4	1	2	0
489:	0	1	0	1	2	1	3	0
497:	2	1	0	1	1	0	0	0
505:	1	3	2	0	0	2	0	0
513:	1	1	2	1	1	1	0	0
521:	0	0	1	0	0	1	0	1
529:	0	0	1	0	3	0	1	1
537:	0	0	0	1	0	0	0	0
545:	0	0	0	1	1	1	0	0
553:	0	0	0	0	0	0	0	1
561:	0	0	0	0	1	0	1	0
569:	0	1	0	0	0	0	0	0
577:	1	0	0	0	0	0	0	0
585:	0	0	0	0	1	2	1	0
593:	1	0	1	1	0	1	1	0
601:	0	0	1	0	0	1	0	0
609:	0	0	0	0	1	3	1	1
617:	1	1	0	2	4	0	1	0
625:	1	1	0	1	1	0	2	0
633:	1	3	1	1	1	0	1	1
641:	3	1	1	3	3	1	2	0
649:	4	2	1	7	1	8	3	4
657:	3	4	5	2	1	2	2	4
665:	4	3	2	4	0	1	3	1
673:	1	0	0	0	0	1	0	0
681:	0	0	0	0	0	0	0	0
689:	0	1	0	0	0	0	1	0
697:	0	0	0	0	0	0	0	0
705:	0	1	0	0	1	0	0	0
713:	0	0	0	0	0	0	0	0
721:	1	2	1	1	0	0	0	0
729:	1	0	0	1	0	0	0	0
737:	0	1	0	0	0	2	0	0
745:	3	4	2	1	1	1	1	0
753:	1	1	2	3	2	0	2	0
761:	0	0	1	0	0	0	0	0
769:	1	0	0	0	0	0	1	0
777:	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	1	0	0
793:	0	0	1	0	0	0	0	0

801: 0 0 1 1 0 0 0 0

Sample Title: 07

Channel	1	2	3	4	5	6	7	8
809:	1	0	0	0	0	0	0	0
817:	0	0	1	0	0	0	0	0
825:	0	0	0	0	1	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	1	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	1	0	0	0
865:	0	0	0	0	1	0	0	0
873:	0	0	0	0	0	0	0	1
881:	0	0	0	0	0	0	0	0
889:	1	0	0	0	0	0	1	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	1	0	0	0	0	0	0	0
921:	0	0	1	1	0	0	0	1
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	1	0
945:	0	0	1	0	0	0	1	0
953:	0	1	0	1	0	1	1	2
961:	1	0	0	0	0	0	0	0
969:	0	0	0	0	1	1	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	1	0

Apex-Alpha™

KB
10/19/15

Sample Description: CP0403S11-12
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-TH
 Sample Identification: 08
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_037
 Chamber Serial Number: 04026478A
 Detector Serial Number: 91133
 Env. Background: System Bkgd 131873
 Reagent Blank: <not performed>

Sample Size: 1.529E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/5/2015 9:31:05 AM
 Acquisition Date/Time: 10/19/2015 1:00:12 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.1 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.226 mL
 Effective Efficiency: 0.1591 +/- 0.0145
 Counting Efficiency: 0.1709 +/- 0.0030 on 10/25/2014 2:46:09 PM
 Chem. Recovery Factor: 0.9311 +/- 0.0865

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227	5.833	9.49	65.59	0.51	0.00E+000	3.0
TH-228	5.367	117.66	18.10	0.34	0.00E+000	4.1
TH-229 T	4.887	137.00	16.81	0.00	0.00E+000	4.1
TH-230	4.619	119.66	17.95	0.34	0.00E+000	4.8
TH-232	3.971	99.83	19.64	0.17	0.00E+000	5.0

T = Tracer Peak used for Effective Efficiency

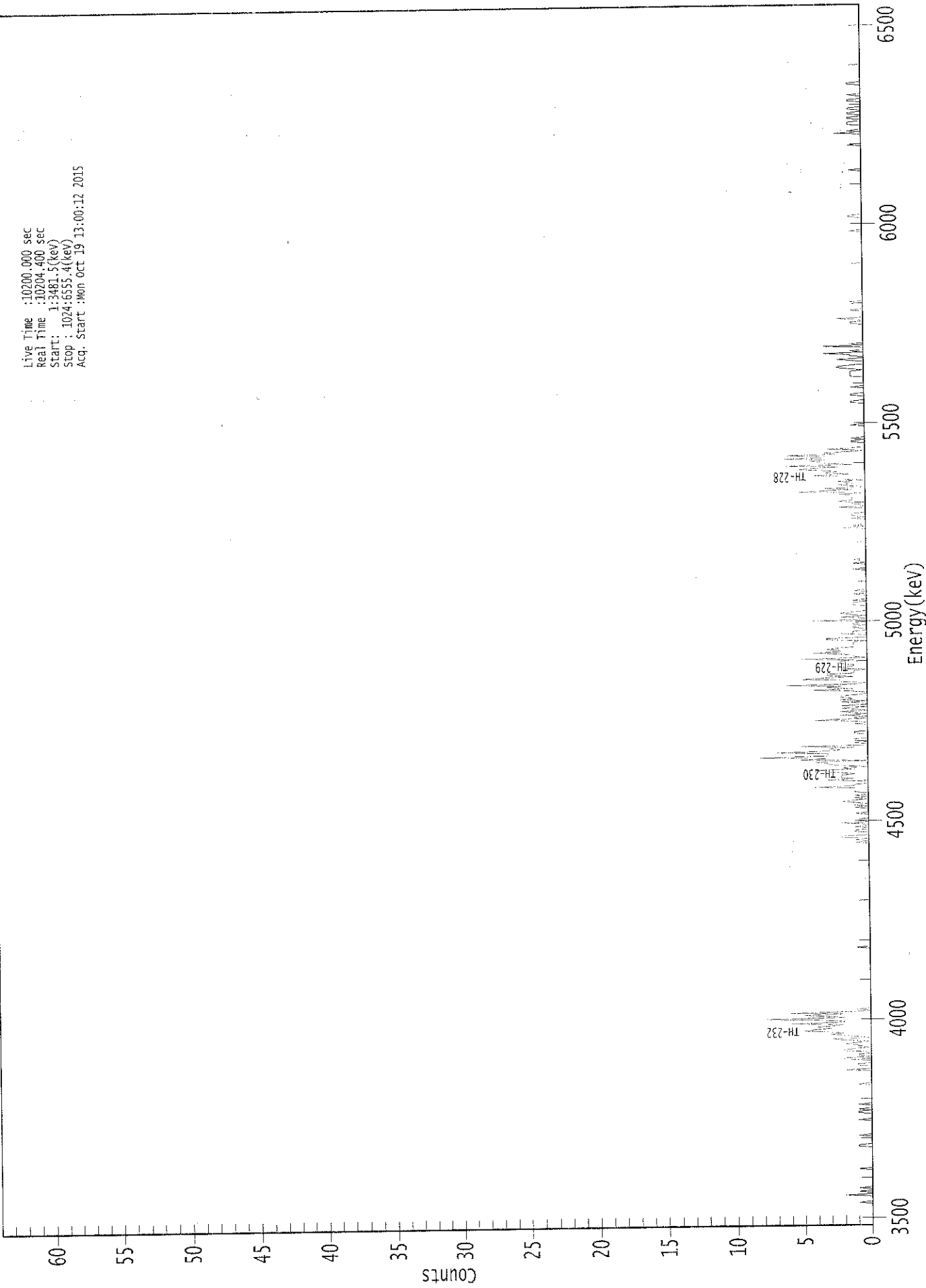
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.999	5850.00*	1.06E-001 +/- 7.22E-002	5.87E-002 +/- 1.05E-002
TH-228	0.994	5400.00*	1.30E+000 +/- 3.31E-001	5.29E-002 +/- 9.45E-003
TH-229	0.999	4872.00*	1.50E+000 +/- 2.68E-001	6.56E-002 +/- 1.17E-002
TH-230	0.986	4672.00*	1.31E+000 +/- 3.31E-001	5.22E-002 +/- 9.32E-003
TH-232	0.996	3997.00*	1.09E+000 +/- 2.89E-001	4.55E-002 +/- 8.12E-003

KG
10/20/15

0000131629.CNF

Live Time :10200.000 sec
Real Time :10204.400 sec
Start: 1:3481.5(keV)
Stop : 1024:6555.4(keV)
Acq. Start :Mon Oct 19 13:00:12 2015



: 00246

ROI Type: 1
ROI Type: 3

***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 08

Elapsed Live time: 10200
Elapsed Real Time: 10204

Channel									
1:	0	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0	0
17:	0	0	0	1	0	0	0	0	0
25:	0	2	0	0	1	0	0	0	1
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0	1
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0	0
65:	0	0	1	1	0	0	0	0	0
73:	0	0	0	1	0	0	0	0	0
81:	0	0	0	0	0	0	0	0	0
89:	1	0	0	0	0	0	1	0	1
97:	0	1	0	0	0	1	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	1	0	0
121:	0	0	0	0	0	0	0	0	0
129:	0	0	2	0	0	0	1	0	1
137:	0	0	0	2	2	0	1	0	1
145:	0	0	2	2	1	0	1	0	1
153:	2	1	0	2	3	0	1	0	2
161:	3	2	3	5	4	3	4	0	3
169:	2	6	2	2	4	8	2	0	3
177:	5	2	6	1	0	1	0	0	0
185:	0	0	0	0	0	0	0	0	0
193:	0	0	0	0	0	0	0	0	0
201:	0	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0	0
217:	0	0	0	0	0	0	0	0	0
225:	0	0	0	0	0	0	0	0	0
233:	0	1	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	0	0	0
257:	0	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	0	0
297:	0	0	0	0	0	0	0	0	0
305:	0	0	0	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	0	0
321:	0	1	0	1	0	2	2	0	0
329:	0	0	1	1	0	0	1	0	0
337:	0	2	0	1	1	0	0	0	0
345:	0	1	0	0	0	0	1	0	0
353:	1	0	1	2	1	0	1	0	0
361:	1	0	0	1	1	1	1	0	4

369: 1 1 0 0 1 3 1 2

Sample Title: 08

Channel	1	2	3	4	5	6	7	8
377:	2	2	1	2	4	4	1	2
385:	0	2	3	3	4	0	5	3
393:	8	3	3	3	7	3	2	3
401:	1	5	0	0	1	0	1	1
409:	0	0	0	0	1	1	0	0
417:	0	0	0	0	1	0	1	4
425:	0	1	0	2	0	1	2	0
433:	1	2	0	2	0	0	2	0
441:	2	1	2	2	1	0	0	1
449:	4	1	3	2	6	1	0	2
457:	2	5	3	1	3	3	1	1
465:	1	0	2	2	1	1	2	2
473:	2	1	5	0	1	1	2	4
481:	2	2	3	2	1	1	1	1
489:	1	0	3	3	0	0	0	2
497:	1	1	0	0	1	1	0	1
505:	1	0	4	0	0	2	0	1
513:	2	1	0	0	0	0	0	1
521:	1	1	0	1	0	0	0	0
529:	1	0	0	1	0	0	0	0
537:	0	0	0	0	0	0	0	0
545:	0	0	0	0	0	1	0	0
553:	0	0	1	0	0	1	0	0
561:	0	0	0	0	0	0	0	0
569:	0	0	0	0	0	0	0	0
577:	0	0	0	0	0	0	0	0
585:	2	0	1	0	0	0	0	0
593:	1	0	1	1	1	0	0	0
601:	0	2	0	0	1	1	2	1
609:	1	1	1	1	2	0	5	3
617:	1	3	0	1	2	1	1	2
625:	0	2	2	2	4	1	3	2
633:	3	5	4	2	6	1	3	3
641:	4	3	6	3	3	6	2	3
649:	1	0	3	1	0	0	0	0
657:	1	1	0	1	0	0	0	0
665:	0	0	0	0	0	0	1	0
673:	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0
689:	0	1	1	0	0	0	0	1
697:	1	0	0	0	0	0	1	0
705:	0	0	0	0	0	0	0	1
713:	1	1	1	1	0	1	2	2
721:	1	0	0	0	1	2	0	0
729:	1	1	3	0	1	0	0	0
737:	3	0	1	0	0	0	0	0
745:	0	0	0	0	0	0	0	0
753:	0	0	0	1	1	0	0	2
761:	0	0	0	0	0	0	1	0
769:	0	0	0	0	0	1	0	0
777:	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	0	0

801: 0 0 0 0 0 0 0 0 0

Sample Title: 08

Channel	1	2	3	4	5	6	7	8	9
809:	0	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0	0
833:	1	0	0	0	0	0	0	0	0
841:	0	0	0	0	1	1	0	0	0
849:	0	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0	0
881:	0	0	0	1	0	0	0	0	0
889:	0	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0	0
905:	1	0	0	0	0	0	0	0	0
913:	0	0	2	0	1	0	0	0	0
921:	0	1	1	1	0	0	1	1	1
929:	0	0	1	1	0	0	1	1	1
937:	0	0	0	0	0	1	1	0	0
945:	0	0	1	0	0	0	0	0	0
953:	0	0	0	1	1	0	0	0	0
961:	0	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0	0

KB
10/19/15

Apex-Alpha™

Sample Description: CP2107S02-03
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-TH
 Sample Identification: 09
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_038
 Chamber Serial Number: 04026478B
 Detector Serial Number: 91134
 Env. Background: System Bkgd 131874
 Reagent Blank: <not performed>

Sample Size: 1.509E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 9:31:05 AM
 Acquisition Date/Time: 10/19/2015 1:00:13 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.1 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.1475 +/- 0.0139
 Counting Efficiency: 0.1615 +/- 0.0029 on 10/25/2014 2:50:18 PM
 Chem. Recovery Factor: 0.9131 +/- 0.0876

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227	5.848	17.15	48.68	0.85	0.00E+000	4.5
TH-228	5.368	110.15	18.76	0.85	0.00E+000	7.7
TH-229 T	4.888	126.66	17.44	0.34	0.00E+000	4.0
TH-230	4.605	102.49	19.42	0.51	0.00E+000	3.7
TH-232	3.969	90.66	20.63	0.34	0.00E+000	3.0

T = Tracer Peak used for Effective Efficiency

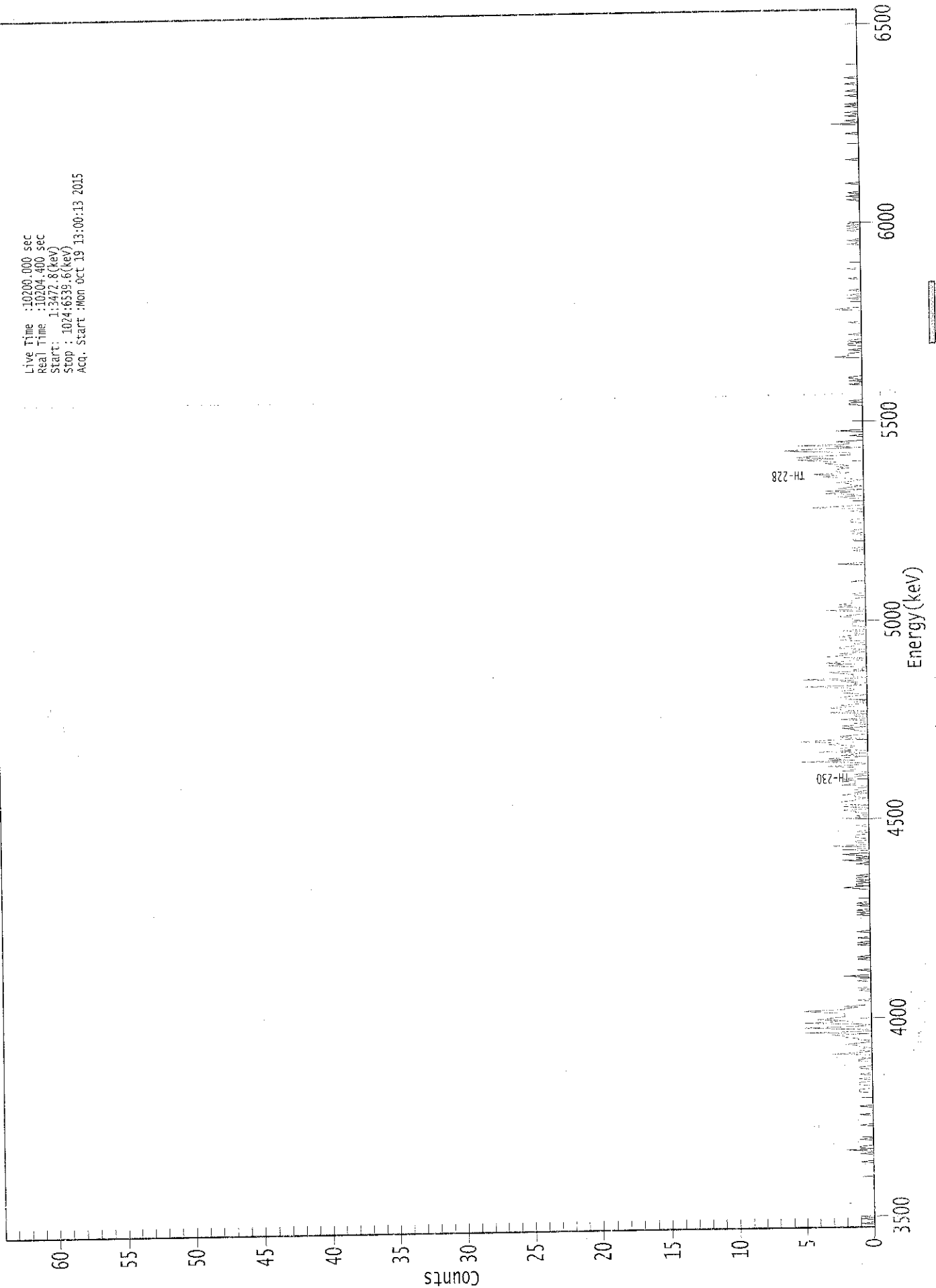
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	1.000	5850.00*	2.10E-001 +/- 1.09E-001	7.32E-002 +/- 1.35E-002
TH-228	0.995	5400.00*	1.33E+000 +/- 3.50E-001	7.23E-002 +/- 1.33E-002
TH-229	0.999	4872.00*	1.52E+000 +/- 2.80E-001	5.72E-002 +/- 1.06E-002
TH-230	0.977	4672.00*	1.22E+000 +/- 3.28E-001	6.26E-002 +/- 1.16E-002
TH-232	0.996	3997.00*	1.08E+000 +/- 2.99E-001	5.69E-002 +/- 1.05E-002

AG
10/20/15

0000131630.CNF

Live Time :10200.000 sec
Real Time :10204.400 sec
Start : 1:3472.8(kev)
Stop : 1024:6539.6(kev)
Acq. Start :Mon Oct 19 13:00:13 2015



ROI Type: 3

ROI Type: 1

1512051

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 09

Elapsed Live time: 10200

Elapsed Real Time: 10204

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	1	0	0	0	0	1
9:	0	1	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	1	0
57:	0	0	0	0	0	0	0	1	0
65:	0	2	0	1	1	0	0	0	0
73:	0	0	1	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	1	0
89:	0	0	0	0	0	0	0	0	1
97:	0	0	0	0	0	0	0	1	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	1	1	1	0	0	0	0
121:	1	1	1	0	0	0	1	0	0
129:	0	1	0	0	0	0	0	1	1
137:	0	0	0	0	1	1	1	0	0
145:	0	0	3	1	0	1	1	1	0
153:	1	1	2	1	0	0	0	1	1
161:	2	2	3	0	5	0	0	0	2
169:	5	1	0	1	5	3	2	2	4
177:	3	2	2	2	2	4	5	2	2
185:	2	1	2	0	0	0	0	0	1
193:	0	0	0	0	0	0	0	0	1
201:	0	1	0	0	0	0	0	0	1
209:	0	0	0	2	0	0	0	0	0
217:	1	0	0	0	0	0	0	0	0
225:	0	1	0	1	0	0	0	0	0
233:	0	0	0	0	0	0	1	0	1
241:	0	0	0	1	0	0	0	0	0
249:	1	0	0	0	0	0	0	0	0
257:	0	0	0	0	0	0	0	1	0
265:	1	0	1	0	0	0	0	1	0
273:	1	0	0	0	0	0	0	0	0
281:	0	0	0	0	1	2	0	0	1
289:	1	0	1	0	1	1	0	0	1
297:	0	0	0	0	0	0	0	0	0
305:	0	1	0	0	2	0	1	0	0
313:	1	2	0	0	0	2	0	0	0
321:	3	0	0	1	1	0	0	0	1
329:	1	1	0	0	1	0	0	0	0
337:	0	1	0	0	0	0	0	0	2
345:	0	1	0	0	1	1	2	0	0
353:	0	2	0	2	2	2	1	1	1
361:	0	1	1	2	0	1	0	1	1

369: 1 0 0 2 1 1 1 1

Sample Title: 09

Channel	1	2	3	4	5	6	7	8
377:	2	1	1	0	1	0	0	2
385:	1	1	1	3	1	0	1	5
393:	1	3	2	0	2	1	0	4
401:	0	2	2	1	1	3	2	3
409:	5	3	0	2	2	1	0	0
417:	0	1	1	2	0	2	0	1
425:	0	0	2	0	0	1	1	0
433:	3	0	2	2	3	1	2	1
441:	0	1	0	1	2	2	1	0
449:	1	2	2	1	1	2	5	0
457:	1	0	2	1	5	0	1	1
465:	1	2	3	0	1	0	0	2
473:	3	1	3	2	1	1	0	3
481:	2	1	2	0	1	0	2	2
489:	1	0	1	0	0	2	1	1
497:	2	1	0	1	0	2	0	0
505:	0	1	1	1	1	0	1	1
513:	1	2	1	0	0	0	3	0
521:	0	2	1	2	1	1	1	1
529:	1	0	0	1	1	0	0	0
537:	0	0	0	0	0	0	1	0
545:	0	0	0	0	0	0	0	0
553:	0	0	0	0	0	2	0	0
561:	0	0	0	0	0	0	0	0
569:	1	0	1	0	0	0	0	0
577:	0	1	0	0	0	0	1	0
585:	1	1	0	0	0	0	0	0
593:	1	1	1	0	0	0	0	0
601:	0	1	0	0	4	2	0	0
609:	0	0	0	0	1	2	0	1
617:	3	1	3	0	2	1	0	1
625:	1	2	1	0	1	2	3	2
633:	4	1	2	2	2	1	2	1
641:	2	3	2	3	5	2	5	4
649:	1	1	1	4	6	4	0	1
657:	5	1	1	2	0	0	0	0
665:	1	0	0	0	2	0	0	0
673:	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0
689:	0	0	1	1	0	1	0	0
697:	0	0	0	0	0	0	0	0
705:	0	0	0	1	0	0	1	0
713:	1	1	0	0	0	0	0	0
721:	0	0	0	0	0	0	0	0
729:	0	0	2	1	1	1	0	0
737:	1	0	0	0	1	1	0	1
745:	1	0	0	0	0	1	0	0
753:	0	0	0	0	0	0	0	1
761:	0	0	0	0	0	0	0	0
769:	0	0	2	1	0	0	0	0
777:	0	0	0	1	0	0	1	0
785:	0	0	1	0	0	0	0	0
793:	0	0	0	0	1	0	0	0

801: 0 0 0 0 1 0 0 0

Sample Title: 09

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	1	0	0	1	0	0	0
833:	0	0	0	0	1	0	1	0
841:	1	0	1	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	1	0
865:	0	1	0	0	1	0	0	0
873:	0	0	0	0	1	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	1	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	1	0
921:	0	0	0	0	0	0	2	0
929:	0	1	0	0	0	1	0	0
937:	1	0	0	0	0	1	0	1
945:	0	0	0	0	0	0	1	0
953:	0	0	1	0	0	0	0	0
961:	1	0	0	0	0	1	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0



KB
10/19/15

Sample Description: CP2107S05-06
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-TH
 Sample Identification: 10
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_039
 Chamber Serial Number: 06027396A
 Detector Serial Number: 83109
 Env. Background: System Bkgd 131875
 Reagent Blank: <not performed>

Sample Size: 1.571E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 9:31:05 AM
 Acquisition Date/Time: 10/19/2015 1:00:15 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.1 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.226 mL
 Effective Efficiency: 0.1487 +/- 0.0141
 Counting Efficiency: 0.1934 +/- 0.0034 on 10/25/2014 2:53:34 PM
 Chem. Recovery Factor: 0.7689 +/- 0.0740

Peak Match Tolerance: 0.175 MeV

 ----- PEAK AREA REPORT -----

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227	5.810	6.79	88.39	2.21	0.00E+000	3.0
TH-228	5.381	116.94	18.40	3.06	0.00E+000	5.8
TH-229 T	4.885	128.11	17.54	2.89	0.00E+000	5.3
TH-230	4.640	98.77	20.10	3.23	0.00E+000	4.1
TH-232	3.968	114.47	18.46	1.53	0.00E+000	6.6

T = Tracer Peak used for Effective Efficiency

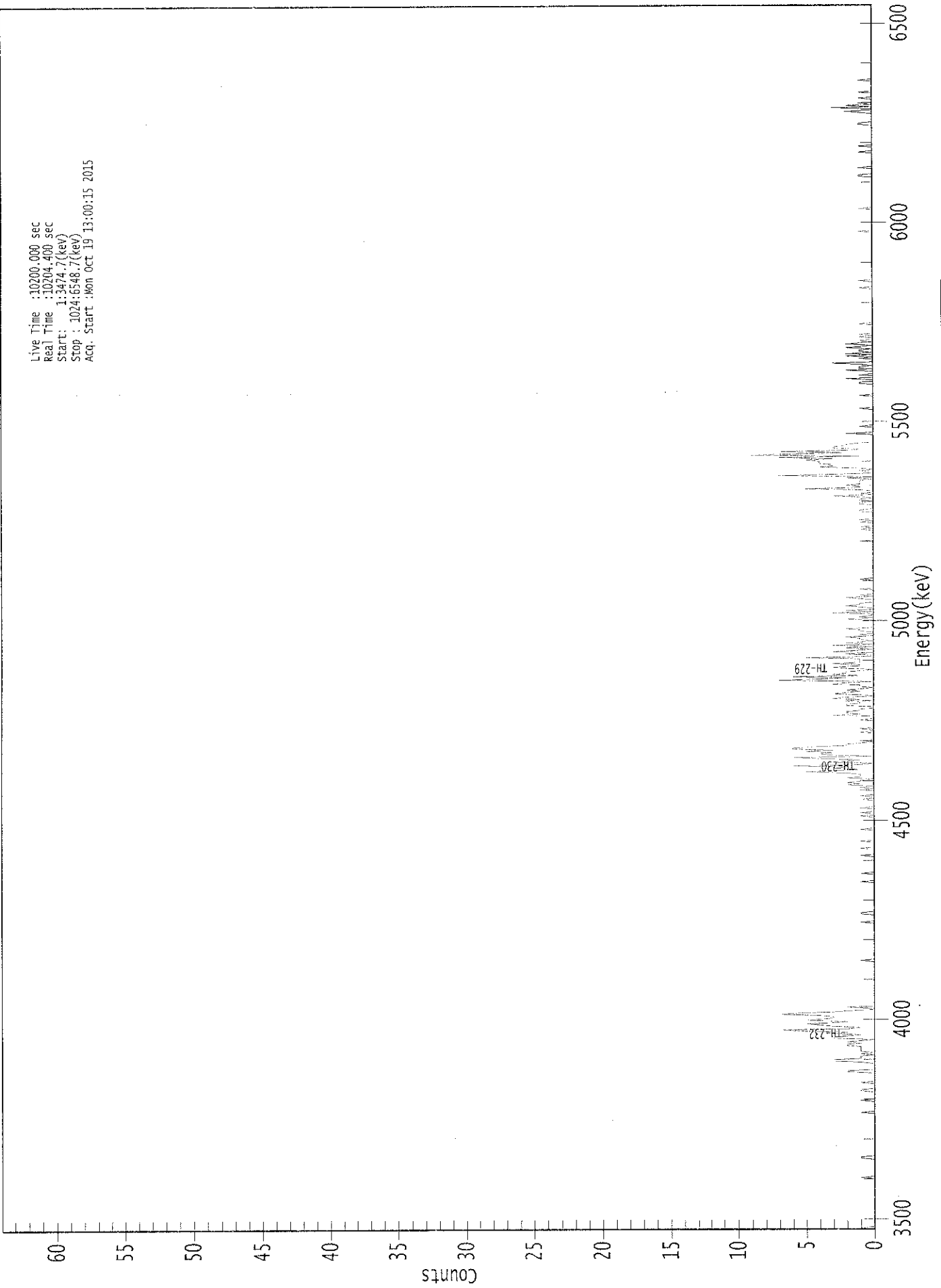
 ----- NUCLIDE ANALYSIS RESULTS -----

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.991	5850.00*	7.91E-002 +/- 7.14E-002	9.31E-002 +/- 1.73E-002
TH-228	0.998	5400.00*	1.34E+000 +/- 3.52E-001	1.03E-001 +/- 1.91E-002
TH-229	0.999	4872.00*	1.46E+000 +/- 2.71E-001	9.98E-002 +/- 1.85E-002
TH-230	0.995	4672.00*	1.12E+000 +/- 3.07E-001	1.03E-001 +/- 1.92E-002
TH-232	0.995	3997.00*	1.30E+000 +/- 3.40E-001	8.06E-002 +/- 1.50E-002

AG
10/20/15

0000131631.CNF

Live Time : 10200.000 sec
Real Time : 10204.400 sec
Start : 1:3474.7(keV)
Stop : 1024:6548.7(keV)
Acq. Start : Mon Oct 19 13:00:15 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 10

Elapsed Live time: 10200
 Elapsed Real Time: 10204

Channel	1	2	3	4	5	6	7	8	9
1:	0	1	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	1	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	1	1	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0	0
97:	0	1	0	0	0	0	0	0	0
105:	0	0	0	1	0	0	0	0	0
113:	0	0	0	1	1	0	0	0	0
121:	0	0	1	0	0	0	0	0	0
129:	0	0	0	2	2	0	0	0	0
137:	0	0	0	1	3	3	1	1	1
145:	1	0	1	0	1	1	1	1	1
153:	1	2	2	1	2	1	0	3	3
161:	3	2	1	3	2	5	7	2	2
169:	1	3	4	5	3	2	5	4	4
177:	3	3	4	7	6	3	2	0	0
185:	0	2	0	0	0	0	0	0	0
193:	0	0	0	0	0	0	0	0	0
201:	0	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0	0
217:	0	0	0	0	0	0	0	0	0
225:	1	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	0	0	0
257:	1	0	0	0	0	0	0	0	1
265:	1	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0	0
289:	0	0	1	0	0	0	0	0	0
297:	0	1	0	0	0	0	0	0	0
305:	0	0	0	0	0	0	0	0	0
313:	1	0	0	0	0	0	1	0	0
321:	0	0	0	0	1	0	0	0	0
329:	0	0	0	0	0	0	1	0	0
337:	0	0	0	0	0	0	0	0	0
345:	0	1	0	0	1	0	0	0	0
353:	1	0	0	0	0	0	0	0	1
361:	0	0	1	0	0	0	0	0	1

369: 0 1 0 2 1 2 1 1

Sample Title: 10

Channel	1	2	3	4	5	6	7	8
377:	0	2	1	1	1	2	5	3
385:	1	3	2	6	1	0	3	2
393:	1	4	6	0	3	4	3	5
401:	3	6	6	4	2	2	1	0
409:	1	0	0	0	0	0	0	1
417:	0	0	1	0	0	0	0	0
425:	0	1	0	0	0	3	1	2
433:	2	1	1	0	0	2	2	1
441:	1	2	1	3	2	0	1	3
449:	2	1	2	1	0	1	1	3
457:	2	0	7	4	2	6	1	3
465:	2	2	1	0	2	3	1	1
473:	3	1	1	1	1	5	0	0
481:	2	0	3	1	0	2	0	3
489:	0	2	1	0	1	1	2	0
497:	1	0	0	1	1	2	0	0
505:	0	0	0	0	0	2	0	1
513:	0	0	3	0	2	0	0	1
521:	2	1	1	0	0	0	1	2
529:	0	1	0	0	0	0	1	0
537:	0	0	0	0	0	0	1	0
545:	0	0	0	0	0	0	0	0
553:	0	0	0	0	0	0	0	0
561:	0	0	0	0	0	0	0	0
569:	0	0	0	0	0	0	1	0
577:	0	0	0	0	0	0	0	0
585:	1	0	1	0	0	0	1	0
593:	1	0	0	0	0	0	0	1
601:	1	0	0	0	0	1	1	0
609:	1	1	0	1	3	0	1	0
617:	0	1	5	1	1	2	1	1
625:	1	1	0	2	0	7	3	0
633:	0	1	0	1	4	3	3	4
641:	4	4	5	3	7	1	9	6
649:	2	7	2	1	3	3	2	2
657:	1	0	0	0	0	0	0	0
665:	2	0	0	0	0	0	1	0
673:	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	1	0	0
689:	0	0	0	0	0	0	0	0
697:	1	0	0	0	0	0	0	0
705:	0	0	1	1	0	0	2	0
713:	0	1	0	0	0	2	0	1
721:	1	0	1	3	0	0	0	1
729:	0	2	0	2	0	1	1	0
737:	2	1	0	2	1	0	1	0
745:	0	1	0	1	0	0	0	0
753:	0	0	0	0	1	0	0	0
761:	0	0	0	0	0	0	0	0
769:	0	0	0	0	0	0	0	0
777:	0	0	0	0	0	0	0	0
785:	0	0	1	0	0	0	0	0
793:	1	0	0	0	0	0	0	0

801: 0 0 0 0 0 0 0 0 0

Sample Title: 10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	1	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	1	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	1
881:	1	0	0	0	0	0	1	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	1	0	0	0	0
905:	1	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	1	1	0	0	0	0
929:	0	0	0	0	1	2	0	0
937:	3	0	2	0	1	0	0	0
945:	1	0	0	0	0	1	0	0
953:	0	0	0	0	0	0	0	1
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

KB
10/19/15

Apex-Alpha™

Sample Description: CP2107S09-10
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-TH
 Sample Identification: 11
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_040
 Chamber Serial Number: 06027396B
 Detector Serial Number: 91135
 Env. Background: System Bkgd 131876
 Reagent Blank: <not performed>

Sample Size: 1.516E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 9:31:05 AM
 Acquisition Date/Time: 10/19/2015 1:00:17 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.1 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.226 mL
 Effective Efficiency: 0.1194 +/- 0.0124
 Counting Efficiency: 0.1856 +/- 0.0032 on 10/25/2014 2:57:14 PM
 Chem. Recovery Factor: 0.6436 +/- 0.0675

Peak Match Tolerance: 0.175 MeV

 ----- PEAK AREA REPORT -----

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227	5.865	8.66	68.12	0.34	0.00E+000	3.0
TH-228	5.370	114.47	18.46	1.53	0.00E+000	12.7
TH-229 T	4.866	102.83	19.35	0.17	0.00E+000	17.0
TH-230	4.631	87.49	21.03	0.51	0.00E+000	6.3
TH-232	3.957	86.00	21.26	0.00	0.00E+000	5.2

T = Tracer Peak used for Effective Efficiency

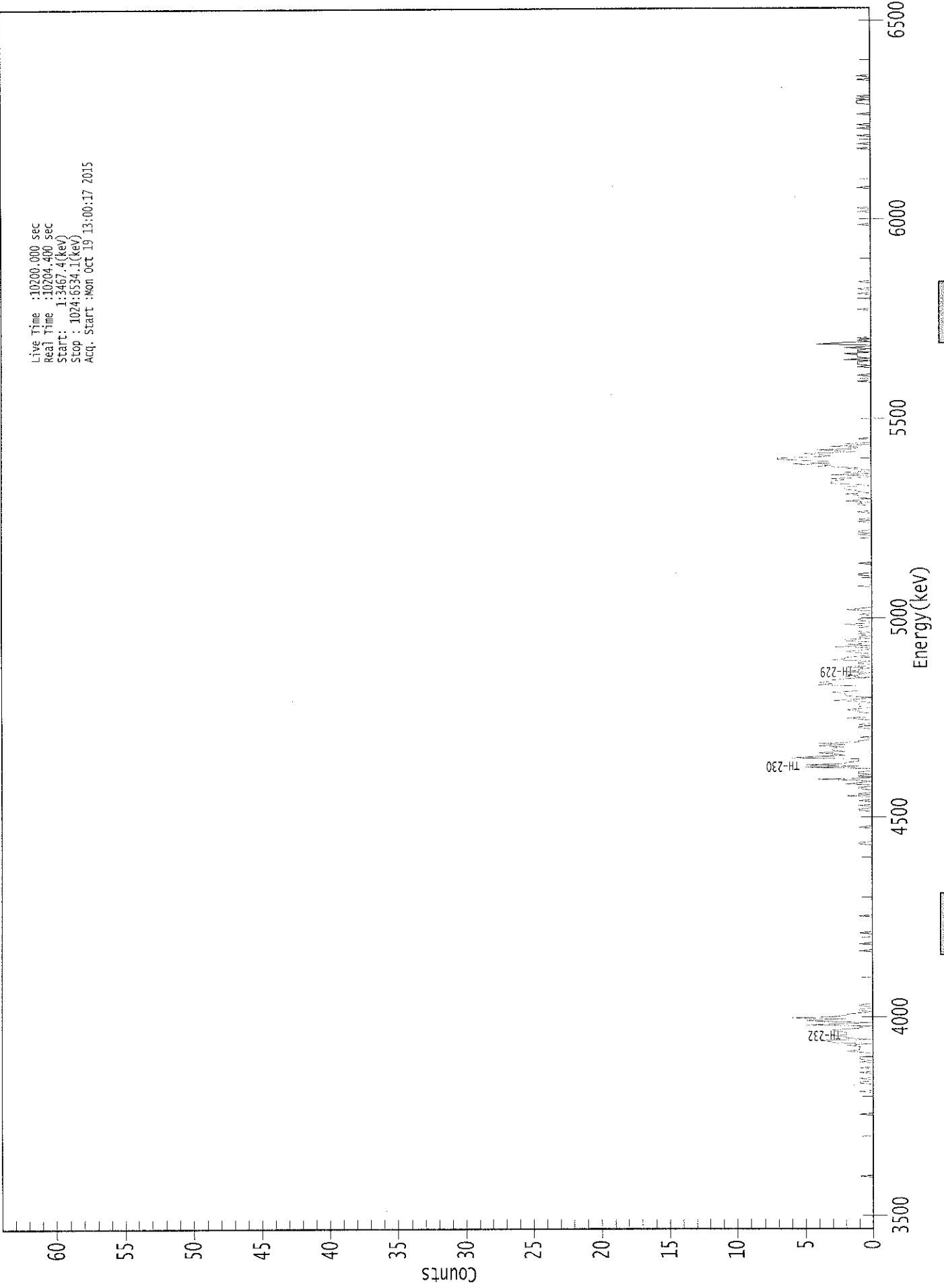
 ----- NUCLIDE ANALYSIS RESULTS -----

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.999	5850.00*	1.30E-001 +/- 9.25E-002	7.18E-002 +/- 1.46E-002
TH-228	0.995	5400.00*	1.70E+000 +/- 4.66E-001	1.05E-001 +/- 2.14E-002
TH-229	1.000	4872.00*	1.51E+000 +/- 3.07E-001	6.14E-002 +/- 1.24E-002
TH-230	0.991	4672.00*	1.28E+000 +/- 3.75E-001	7.69E-002 +/- 1.56E-002
TH-232	0.992	3997.00*	1.26E+000 +/- 3.70E-001	8.77E-002 +/- 1.78E-002

AG
10/20/15

0000131632.CNF

Live Time :10200.000 sec
Real Time :10204.400 sec
Start : 1:3467.4(keV)
Stop : 1024:5534.1(keV)
Acq. Start :Mon Oct 19 13:00:17 2015



ROI Type: 1

ROI Type: 3

102001

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 11

Elapsed Live time: 10200
 Elapsed Real Time: 10204

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	0	1	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0	0
97:	1	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	1	0	0	0	0	0
121:	0	0	1	1	0	0	1	0	0
129:	0	0	0	1	0	0	0	0	1
137:	0	0	0	0	1	0	1	1	1
145:	1	0	0	0	1	2	1	1	1
153:	1	1	2	0	3	3	4	0	0
161:	2	2	3	2	2	2	3	3	3
169:	1	1	0	5	2	0	4	5	5
177:	2	6	3	2	2	1	0	1	1
185:	1	0	0	1	1	0	0	0	0
193:	0	0	0	0	0	0	0	0	0
201:	0	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0	0
217:	0	0	0	0	0	0	0	0	0
225:	0	0	0	0	0	0	0	0	0
233:	0	1	0	0	0	0	0	0	1
241:	0	0	0	0	0	0	0	0	0
249:	1	0	0	0	0	0	0	0	0
257:	0	0	0	0	0	0	1	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	0	0
297:	0	0	0	0	0	0	0	0	0
305:	0	0	0	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	0	0
321:	0	0	1	1	0	0	0	0	0
329:	0	0	0	0	0	0	0	0	0
337:	1	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	1	1	1
353:	0	0	1	0	0	0	1	0	0
361:	0	0	2	0	1	0	0	0	0

369: 1 1 0 0 2 1 0 1

Sample Title: 11

Channel	1	2	3	4	5	6	7	8	9
377:	4	0	1	1	0	1	1	0	
385:	0	0	5	1	5	2	2	1	
393:	1	1	6	4	2	3	4	2	
401:	3	3	3	2	4	2	4	1	
409:	1	0	0	1	0	0	0	0	
417:	0	0	0	1	1	0	1	0	
425:	0	0	1	2	0	0	0	0	
433:	1	1	2	1	0	1	1	1	
441:	0	1	3	1	0	1	2	2	
449:	2	3	1	1	1	1	1	4	
457:	3	4	3	3	2	0	2	1	
465:	1	0	2	1	1	0	2	0	
473:	0	1	1	0	3	2	2	1	
481:	0	0	1	2	1	0	0	3	
489:	0	2	0	0	2	2	0	1	
497:	0	1	1	0	1	1	1	1	
505:	0	1	2	0	0	1	1	0	
513:	0	0	1	0	0	0	2	1	
521:	0	0	0	0	0	0	0	0	
529:	0	0	0	0	0	0	0	0	
537:	0	0	1	0	0	0	0	0	
545:	0	0	0	1	1	0	0	0	
553:	0	0	0	0	0	1	0	0	
561:	0	0	0	0	0	0	0	0	
569:	0	0	0	0	0	0	0	0	
577:	0	0	0	0	0	1	0	1	
585:	1	0	0	0	0	0	0	0	
593:	1	0	1	0	0	0	0	0	
601:	1	0	0	0	0	0	1	1	
609:	0	2	1	0	1	1	1	2	
617:	0	1	1	2	2	2	0	1	
625:	3	3	3	2	3	0	0	3	
633:	0	2	0	0	2	1	4	3	
641:	6	3	3	5	7	7	4	3	
649:	4	5	1	2	4	1	1	3	
657:	0	2	0	0	0	1	0	0	
665:	0	0	0	0	0	0	0	0	
673:	0	0	0	0	0	0	0	0	
681:	0	0	0	0	0	0	0	0	
689:	0	0	0	0	0	0	0	0	
697:	0	0	0	0	0	0	0	0	
705:	0	0	0	0	0	1	0	0	
713:	0	0	1	0	0	0	0	0	
721:	0	1	0	1	1	1	0	2	
729:	0	1	1	1	2	0	1	1	
737:	0	2	0	0	4	2	0	1	
745:	0	1	0	0	0	0	0	0	
753:	0	0	0	0	0	0	0	0	
761:	0	0	0	0	0	0	0	0	
769:	0	1	0	0	0	0	0	0	
777:	0	0	1	0	0	0	1	0	
785:	0	0	1	0	0	0	0	0	
793:	1	0	0	0	0	0	0	0	

801: 0 0 0 0 0 0 0 0 0

Sample Title: 11

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	1	0	0	0	0	0	0	0
849:	0	0	0	1	0	0	1	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	1
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	1	0	0	0	1	0	0	0
913:	0	0	0	1	0	0	0	0
921:	0	1	0	0	1	0	0	0
929:	0	0	0	0	0	1	0	0
937:	0	0	0	0	0	0	1	1
945:	1	0	1	0	1	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	1	0	0	1	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0



KB
10/19/15

Sample Description: CP2107S11-12
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-TH
 Sample Identification: 12
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_041
 Chamber Serial Number: 05026930A
 Detector Serial Number: 91087
 Env. Background: System Bkgd 131877
 Reagent Blank: <not performed>

Sample Size: 1.550E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 9:31:05 AM
 Acquisition Date/Time: 10/19/2015 1:00:19 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.1 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.226 mL
 Effective Efficiency: 0.1540 +/- 0.0142
 Counting Efficiency: 0.1873 +/- 0.0033 on 10/25/2014 3:00:28 PM
 Chem. Recovery Factor: 0.8221 +/- 0.0772

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227	5.839	11.49	59.30	0.51	0.00E+000	3.0
TH-228	5.372	118.98	18.06	1.02	0.00E+000	9.2
TH-229 T	4.863	132.66	17.04	0.34	0.00E+000	21.0
TH-230	4.631	102.15	19.49	0.85	0.00E+000	10.7
TH-232	3.953	125.45	17.71	2.55	0.00E+000	20.1

T = Tracer Peak used for Effective Efficiency

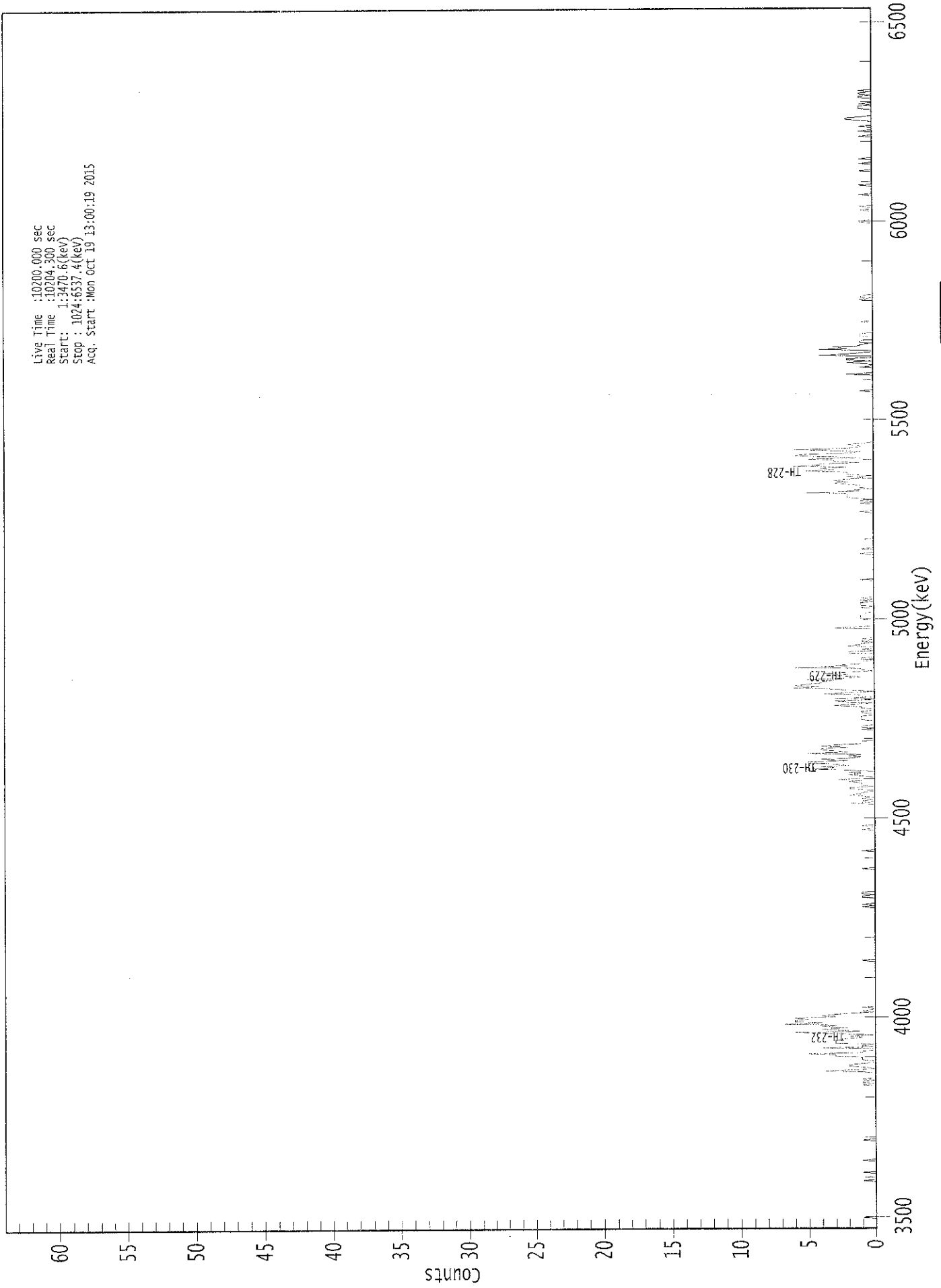
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.999	5850.00*	1.31E-001 +/- 8.12E-002	5.98E-002 +/- 1.08E-002
TH-228	0.996	5400.00*	1.34E+000 +/- 3.42E-001	7.09E-002 +/- 1.28E-002
TH-229	1.000	4872.00*	1.48E+000 +/- 2.68E-001	5.33E-002 +/- 9.65E-003
TH-230	0.991	4672.00*	1.14E+000 +/- 3.02E-001	6.66E-002 +/- 1.20E-002
TH-232	0.990	3997.00*	1.39E+000 +/- 3.53E-001	9.31E-002 +/- 1.68E-002

AG
10/20/15

0000131633.CNF

Live Time : 10200.000 sec
Real Time : 10204.300 sec
Start : 1:3470.6(keV)
Stop : 1024:6537.4(keV)
Acq. Start : Mon Oct 19 13:00:19 2015



002000

ROI Type: 1

ROI Type: 3

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 12

Elapsed Live time: 10200
 Elapsed Real Time: 10204

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	0	1	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	1	0	0	0	0	0	0	0	1
49:	0	0	0	0	0	0	0	0	0
57:	0	1	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	0	0	1	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0	0
121:	1	0	1	1	0	1	0	0	0
129:	0	0	0	1	4	1	0	1	1
137:	2	2	1	0	0	1	1	1	1
145:	3	3	5	1	1	0	0	4	4
153:	0	1	0	3	3	3	3	2	2
161:	1	2	0	3	6	1	3	4	4
169:	2	4	3	7	4	6	6	5	5
177:	6	3	4	3	2	0	1	0	0
185:	0	1	0	0	0	0	0	0	0
193:	0	0	0	0	0	0	0	0	0
201:	0	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0	0
217:	0	0	0	0	0	0	0	0	0
225:	1	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	0	0	0
257:	0	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	1	0	1	0
273:	0	0	0	0	0	1	1	0	0
281:	1	1	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	0	0
297:	0	0	0	0	0	1	0	0	0
305:	0	0	0	0	0	0	0	0	0
313:	0	0	0	0	1	0	0	0	0
321:	0	0	0	0	0	0	0	0	0
329:	0	0	0	0	0	0	1	0	0
337:	0	1	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	0	0
353:	0	0	0	0	2	0	1	0	0
361:	1	0	1	2	1	1	0	0	0

369: 2 2 0 1 1 1 2 1

Sample Title: 12

Channel	1	2	3	4	5	6	7	8
377:	3	1	0	1	2	1	2	0
385:	2	5	3	4	2	3	5	5
393:	2	4	2	1	2	1	5	2
401:	3	4	4	2	4	3	1	1
409:	1	0	0	0	0	0	0	0
417:	0	0	1	0	1	1	0	0
425:	0	0	1	1	1	1	0	0
433:	1	1	0	0	1	1	3	2
441:	0	2	3	0	3	0	1	1
449:	4	2	0	2	3	6	4	6
457:	5	4	4	3	5	2	1	3
465:	2	4	2	0	1	1	6	2
473:	3	1	1	1	0	1	1	0
481:	0	0	2	2	0	1	0	0
489:	2	1	1	0	1	0	1	0
497:	0	0	0	0	0	0	0	3
505:	1	0	0	0	0	0	0	1
513:	1	1	1	1	0	0	0	0
521:	1	0	1	1	1	0	1	0
529:	1	0	0	0	0	0	0	0
537:	0	0	0	0	0	0	0	1
545:	0	0	0	0	0	0	0	0
553:	0	0	0	0	0	0	0	0
561:	0	0	0	0	0	1	0	0
569:	0	1	0	0	0	0	0	0
577:	0	0	0	0	0	0	0	0
585:	0	0	0	0	0	0	0	0
593:	0	0	0	0	0	0	0	0
601:	1	0	0	0	0	0	0	1
609:	0	1	0	1	2	2	2	2
617:	5	1	2	0	1	1	1	2
625:	3	2	3	2	0	2	0	2
633:	2	2	5	3	4	2	6	4
641:	4	1	3	3	5	1	4	6
649:	5	2	1	3	6	2	1	1
657:	2	1	0	0	0	0	0	0
665:	0	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	1	0	0
705:	0	0	0	0	0	0	0	0
713:	0	0	0	2	0	0	0	0
721:	0	1	0	0	1	2	0	2
729:	2	0	0	4	2	1	0	0
737:	4	2	3	1	1	0	1	1
745:	0	0	0	1	1	1	0	0
753:	0	0	0	0	0	0	0	1
761:	0	0	0	0	0	0	0	0
769:	0	0	0	0	0	0	0	0
777:	0	0	1	0	1	1	0	0
785:	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	0	0

801: 0 0 0 0 0 0 0 0 0

Sample Title: 12

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	1	1	0	0	0
849:	0	0	0	0	0	1	0	0
857:	1	0	0	0	0	0	0	0
865:	0	0	1	0	0	0	0	0
873:	0	0	1	0	0	0	0	0
881:	0	0	0	0	0	0	1	0
889:	0	0	0	0	1	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	1	0	0	0	1
921:	0	0	0	1	0	0	0	0
929:	1	2	2	1	0	0	0	0
937:	0	0	1	1	1	0	1	0
945:	0	0	0	1	1	0	1	1
953:	0	1	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0



Apex-Alpha™

KB
10/19/15

Sample Description: CP2107S14-15
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-TH
 Sample Identification: 13
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_042
 Chamber Serial Number: 05026930B
 Detector Serial Number: 84185
 Env. Background: System Bkgd 131878
 Reagent Blank: <not performed>

Sample Size: 1.535E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 9:31:05 AM
 Acquisition Date/Time: 10/19/2015 1:00:21 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.1 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.1793 +/- 0.0155
 Counting Efficiency: 0.1737 +/- 0.0030 on 10/25/2014 3:04:21 PM
 Chem. Recovery Factor: 1.0320 +/- 0.0910

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227	5.885	14.83	51.24	0.17	0.00E+000	3.0
TH-228	5.363	128.47	17.41	1.53	0.00E+000	4.4
TH-229 T	4.869	153.83	15.81	0.17	0.00E+000	4.8
TH-230	4.627	126.49	17.47	0.51	0.00E+000	8.2
TH-232	3.957	115.49	18.29	0.51	0.00E+000	5.3

T = Tracer Peak used for Effective Efficiency

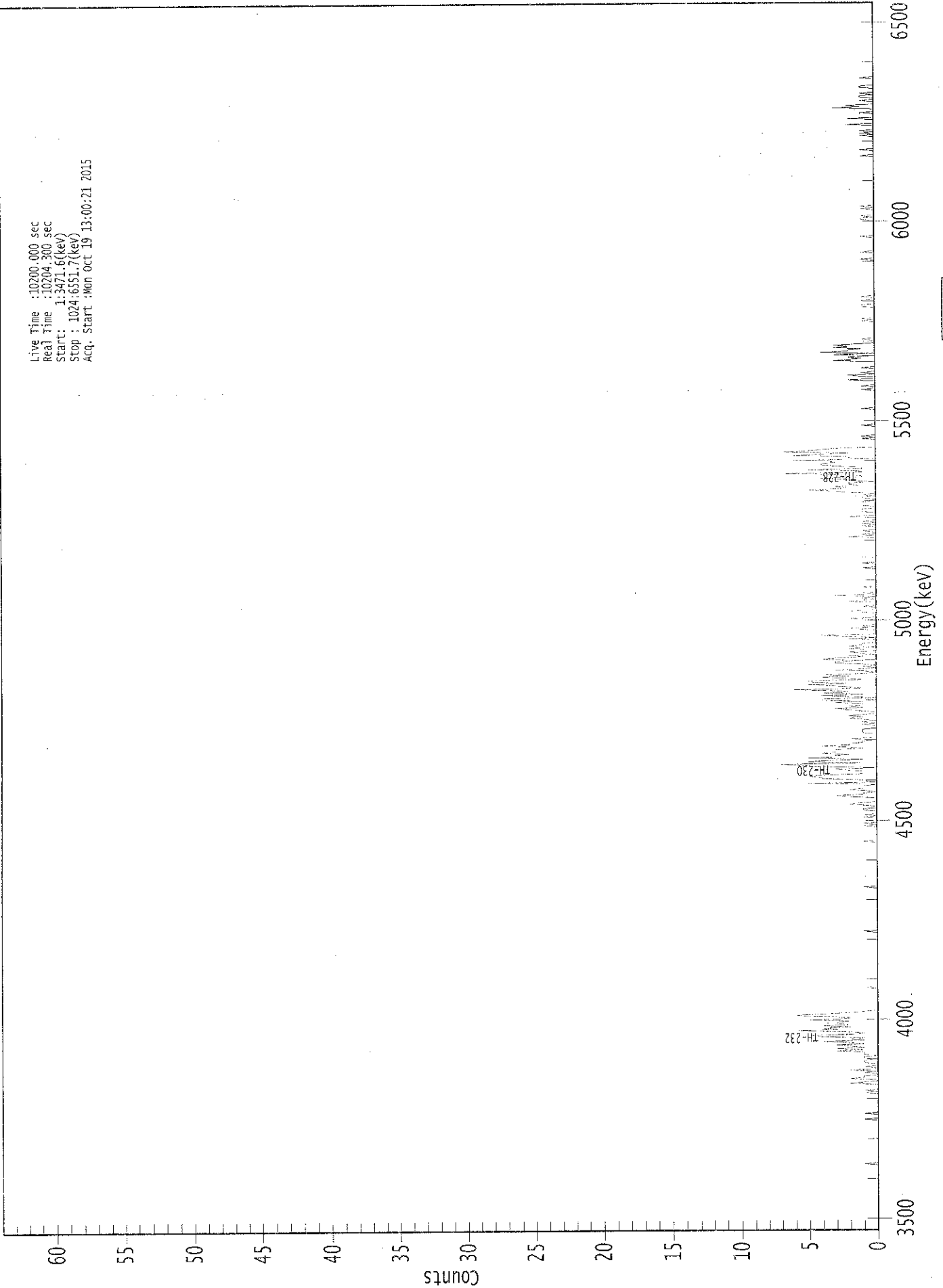
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.993	5850.00*	1.47E-001 +/- 7.91E-002	4.12E-002 +/- 6.99E-003
TH-228	0.993	5400.00*	1.25E+000 +/- 3.05E-001	6.94E-002 +/- 1.17E-002
TH-229	1.000	4872.00*	1.49E+000 +/- 2.52E-001	4.04E-002 +/- 6.84E-003
TH-230	0.990	4672.00*	1.22E+000 +/- 2.97E-001	5.06E-002 +/- 8.57E-003
TH-232	0.991	3997.00*	1.11E+000 +/- 2.77E-001	5.05E-002 +/- 8.56E-003

AG
10/20/15

0000131634.CNF

Live Time : 10200.000 sec
Real Time : 10204.300 sec
Start : 1:3471.6(keV)
Stop : 1024:6551.7(keV)
Acq. Start : Mon Oct 19 13:00:21 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 13

Elapsed Live time: 10200

Elapsed Real Time: 10204

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	1
57:	0	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	1	0	0	0
97:	0	1	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	1	0	1	0	0	0	0
121:	0	0	2	1	0	0	2	1	1
129:	1	0	0	1	0	2	0	0	0
137:	1	0	0	1	1	1	0	1	1
145:	1	0	1	1	1	3	1	3	3
153:	1	2	3	1	2	4	1	2	2
161:	1	4	5	2	1	2	6	3	3
169:	4	2	4	2	3	3	2	5	5
177:	2	2	5	6	4	2	1	0	0
185:	0	0	0	0	0	0	0	0	0
193:	0	0	0	0	0	0	0	0	0
201:	0	0	1	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0	0
217:	0	0	0	0	0	0	0	0	0
225:	0	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0	0
249:	0	1	0	0	0	0	0	0	0
257:	0	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	1	0	0
289:	0	0	0	0	0	0	0	0	0
297:	0	0	0	0	0	0	0	0	0
305:	0	0	0	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	0	0
321:	0	0	0	0	1	0	0	0	0
329:	0	0	0	0	0	0	0	0	0
337:	0	1	0	1	0	0	0	0	0
345:	1	0	1	0	0	0	1	1	1
353:	0	0	1	2	1	0	0	0	0
361:	0	2	3	1	1	0	1	2	2

369: 1 1 1 0 5 0 1 1

Sample Title: 13

Channel	1	2	3	4	5	6	7	8	9
377:	4	4	5	4	1	1	1	2	
385:	3	0	4	5	7	1	5	4	
393:	1	5	3	3	2	4	3	3	
401:	3	1	2	4	2	2	1	1	
409:	0	2	0	0	0	0	1	1	
417:	1	1	0	0	0	1	0	1	
425:	0	1	2	1	2	1	0	0	
433:	1	2	3	1	2	1	1	3	
441:	1	4	4	0	2	4	1	4	
449:	2	3	6	1	2	3	5	2	
457:	5	5	1	2	4	2	4	1	
465:	0	1	3	1	0	1	0	1	
473:	3	3	1	4	3	1	2	0	
481:	1	2	0	1	2	0	2	1	
489:	1	0	0	0	2	0	2	4	
497:	0	0	0	0	1	2	0	1	
505:	0	0	0	0	0	2	0	0	
513:	0	0	1	2	0	0	0	1	
521:	0	0	0	2	1	0	1	0	
529:	3	0	1	0	0	0	0	1	
537:	0	0	0	0	0	0	0	0	
545:	0	0	0	0	0	0	0	1	
553:	0	0	0	1	0	0	0	0	
561:	1	0	0	0	0	0	0	0	
569:	0	0	0	0	0	0	0	0	
577:	0	2	0	1	0	0	1	0	
585:	0	0	1	0	1	0	1	0	
593:	0	0	2	0	0	0	1	1	
601:	1	0	0	1	1	1	1	0	
609:	0	1	1	0	1	0	2	3	
617:	5	3	2	3	1	2	2	0	
625:	2	2	4	1	1	3	7	1	
633:	1	5	1	1	3	4	4	3	
641:	3	6	0	2	2	6	4	2	
649:	7	5	4	3	0	0	0	0	
657:	0	0	0	1	0	1	0	0	
665:	0	0	0	0	0	0	1	0	
673:	0	0	0	0	0	0	0	0	
681:	0	0	0	0	1	0	0	0	
689:	0	0	0	0	0	0	0	0	
697:	0	0	0	0	1	0	0	1	
705:	0	0	0	0	2	0	0	1	
713:	2	0	1	0	0	0	1	0	
721:	0	0	0	0	3	2	1	2	
729:	0	3	0	4	2	2	1	3	
737:	2	3	1	0	0	0	1	0	
745:	0	0	0	0	0	0	0	0	
753:	0	0	0	0	0	1	0	1	
761:	0	0	0	0	0	0	0	0	
769:	0	1	1	0	0	0	1	0	
777:	0	1	0	0	0	0	0	0	
785:	0	0	0	0	0	0	0	0	
793:	0	0	0	0	0	0	0	0	

801: 0 0 0 0 0 0 0 0 0

Sample Title: 13

Channel	1	0	0	0	0	0	1	0
809:	1	0	0	0	0	0	1	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	1	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	1	1	0	1	0	0	0
849:	0	0	1	0	1	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	1	0
897:	0	0	0	1	0	0	0	0
905:	0	0	0	0	0	0	0	1
913:	0	1	0	1	0	0	0	0
921:	2	0	0	0	0	2	0	0
929:	0	0	1	0	0	0	3	1
937:	2	0	0	0	1	0	0	1
945:	1	0	1	0	0	0	0	1
953:	1	0	0	0	0	0	0	1
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

LB
10/19/15

Sample Description: CP2107S17-18
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-TH
 Sample Identification: 14
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_043
 Chamber Serial Number: 04026481A
 Detector Serial Number: 91088
 Env. Background: System Bkgd 131879
 Reagent Blank: <not performed>

Sample Size: 1.514E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 9:31:05 AM
 Acquisition Date/Time: 10/19/2015 1:00:23 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.1 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.1723 +/- 0.0152
 Counting Efficiency: 0.1998 +/- 0.0035 on 10/25/2014 3:08:45 PM
 Chem. Recovery Factor: 0.8624 +/- 0.0775

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227	5.871	9.81	66.87	1.19	0.00E+000	3.0
TH-228	5.376	146.81	16.25	1.19	0.00E+000	7.7
TH-229 T	4.880	147.98	16.18	1.02	0.00E+000	3.6
TH-230	4.632	124.15	17.66	0.85	0.00E+000	12.2
TH-232	3.962	108.49	18.87	0.51	0.00E+000	3.4

T = Tracer Peak used for Effective Efficiency

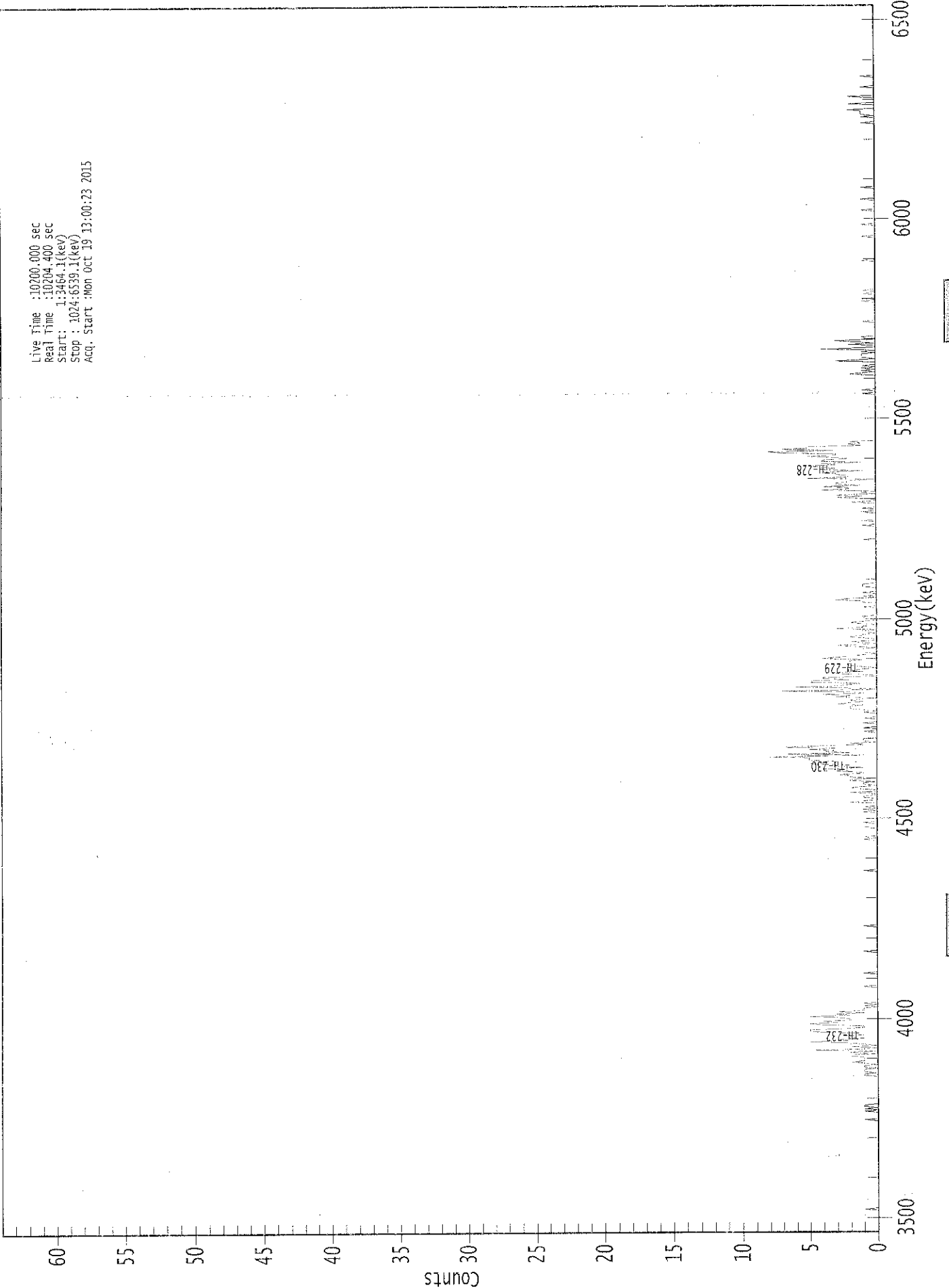
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.998	5850.00*	1.02E-001 +/- 7.07E-002	6.87E-002 +/- 1.19E-002
TH-228	0.997	5400.00*	1.51E+000 +/- 3.59E-001	6.78E-002 +/- 1.17E-002
TH-229	1.000	4872.00*	1.51E+000 +/- 2.61E-001	6.43E-002 +/- 1.11E-002
TH-230	0.992	4672.00*	1.26E+000 +/- 3.12E-001	6.09E-002 +/- 1.05E-002
TH-232	0.993	3997.00*	1.10E+000 +/- 2.82E-001	5.33E-002 +/- 9.21E-003

AG
10/20/15

0000131635.CNF

Live Time : 10260.400 sec
Real Time : 10264.400 sec
Start : 1:34:64.1(keV)
Stop : 1024:6539.1(keV)
Acq. Start : Mon Oct 19 13:00:23 2015



: 00276

ROI Type: 1
ROI Type: 3

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 14

Elapsed Live time: 10200
 Elapsed Real Time: 10204

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0	0
17:	0	0	0	1	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	1	0	0
97:	0	0	0	0	0	1	0	1	0
105:	0	1	1	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0	0
121:	0	0	0	0	0	0	0	0	0
129:	0	0	0	1	1	0	1	1	1
137:	1	0	1	1	0	1	2	1	1
145:	1	1	1	2	2	0	2	0	0
153:	5	1	0	2	0	1	2	5	0
161:	2	3	1	2	2	1	1	4	3
169:	5	5	2	1	1	4	5	3	1
177:	4	2	2	3	5	2	3	1	1
185:	3	1	1	1	0	1	0	1	0
193:	0	0	0	0	0	0	0	0	0
201:	0	0	0	0	0	1	0	0	0
209:	0	0	0	0	0	0	0	0	0
217:	1	0	0	0	0	0	0	0	0
225:	0	0	0	0	0	0	0	0	0
233:	0	0	1	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	0	1	0
257:	0	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	0	0
297:	0	0	0	0	0	1	0	0	0
305:	0	0	0	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	0	0
321:	0	0	0	0	0	0	0	1	0
329:	0	1	0	0	0	0	0	0	0
337:	0	1	0	0	0	1	0	0	0
345:	0	0	0	0	0	0	1	0	0
353:	1	0	1	0	0	0	2	1	0
361:	0	0	1	1	0	0	2	0	0

369: 0 1 2 1 0 1 1 0

Sample Title: 14

Channel	1	2	3	4	5	6	7	8
377:	2	2	0	2	2	3	1	1
385:	3	2	4	1	3	2	5	3
393:	3	5	5	5	8	1	7	2
401:	4	3	5	3	7	4	1	2
409:	0	1	1	1	0	0	0	0
417:	0	1	0	0	1	0	0	0
425:	1	0	0	0	1	0	0	0
433:	0	1	0	1	2	2	2	1
441:	3	2	1	2	1	1	3	2
449:	4	1	2	7	0	1	6	3
457:	2	1	5	5	2	4	4	0
465:	0	3	3	1	2	1	0	1
473:	2	2	2	2	2	1	4	3
481:	2	1	0	1	1	1	1	0
489:	2	3	0	1	2	0	0	1
497:	2	1	1	0	1	1	0	3
505:	1	1	0	1	2	1	0	0
513:	1	1	0	0	0	0	0	0
521:	0	1	0	0	0	1	1	3
529:	2	0	1	0	0	1	0	0
537:	0	0	1	1	1	0	0	0
545:	0	0	0	0	0	0	0	0
553:	0	0	0	0	0	0	0	0
561:	0	0	0	0	0	0	0	0
569:	0	0	0	0	0	0	0	0
577:	0	1	0	0	0	0	0	0
585:	0	0	0	0	0	1	0	0
593:	0	1	0	0	0	0	0	0
601:	1	0	0	1	0	0	0	0
609:	2	0	0	1	3	1	3	0
617:	1	0	4	2	2	4	1	3
625:	3	2	2	0	5	2	2	3
633:	3	4	1	4	3	4	5	3
641:	4	1	4	4	2	3	5	3
649:	3	7	8	3	7	5	5	1
657:	2	1	2	0	0	0	0	0
665:	0	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0
697:	0	0	1	0	0	1	0	0
705:	0	0	0	0	0	0	0	0
713:	0	0	2	1	0	1	0	1
721:	0	1	0	0	0	3	1	0
729:	1	1	1	1	0	1	0	4
737:	1	0	0	2	0	2	3	0
745:	0	1	0	0	0	0	0	0
753:	0	0	0	0	0	0	1	0
761:	0	0	0	0	0	0	0	0
769:	0	0	0	0	0	0	0	1
777:	0	1	0	0	0	1	0	0
785:	1	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	0	0

801: 0 0 0 0 0 0 0 0 0

Sample Title: 14

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	1	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	1	0	0
833:	0	0	0	0	0	0	0	1
841:	0	0	0	0	0	0	0	0
849:	0	0	0	1	0	0	0	0
857:	0	0	0	0	1	0	0	0
865:	0	0	0	0	0	0	1	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	1	0	0	0
929:	0	1	0	1	1	1	1	2
937:	0	0	0	0	2	0	0	0
945:	0	0	2	0	0	0	0	0
953:	0	0	1	0	0	0	0	0
961:	0	0	0	1	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

KB
10/19/15

Apex-Alpha™

Sample Description: CP2107S19-20
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-TH
 Sample Identification: 15
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_044
 Chamber Serial Number: 04026481B
 Detector Serial Number: 84168
 Env. Background: System Bkgd 131880
 Reagent Blank: <not performed>

Sample Size: 1.531E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 9:31:05 AM
 Acquisition Date/Time: 10/19/2015 1:00:25 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.1 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.226 mL
 Effective Efficiency: 0.1693 +/- 0.0150
 Counting Efficiency: 0.1837 +/- 0.0032 on 10/25/2014 3:13:11 PM
 Chem. Recovery Factor: 0.9217 +/- 0.0831

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227	5.777	12.83	55.14	0.17	0.00E+000	6.0
TH-228	5.381	102.83	19.35	0.17	0.00E+000	11.2
TH-229 T	4.884	145.83	16.24	0.17	0.00E+000	3.3
TH-230	4.640	130.00	17.26	0.00	0.00E+000	4.1
TH-232	3.974	110.00	18.77	0.00	0.00E+000	7.5

T = Tracer Peak used for Effective Efficiency

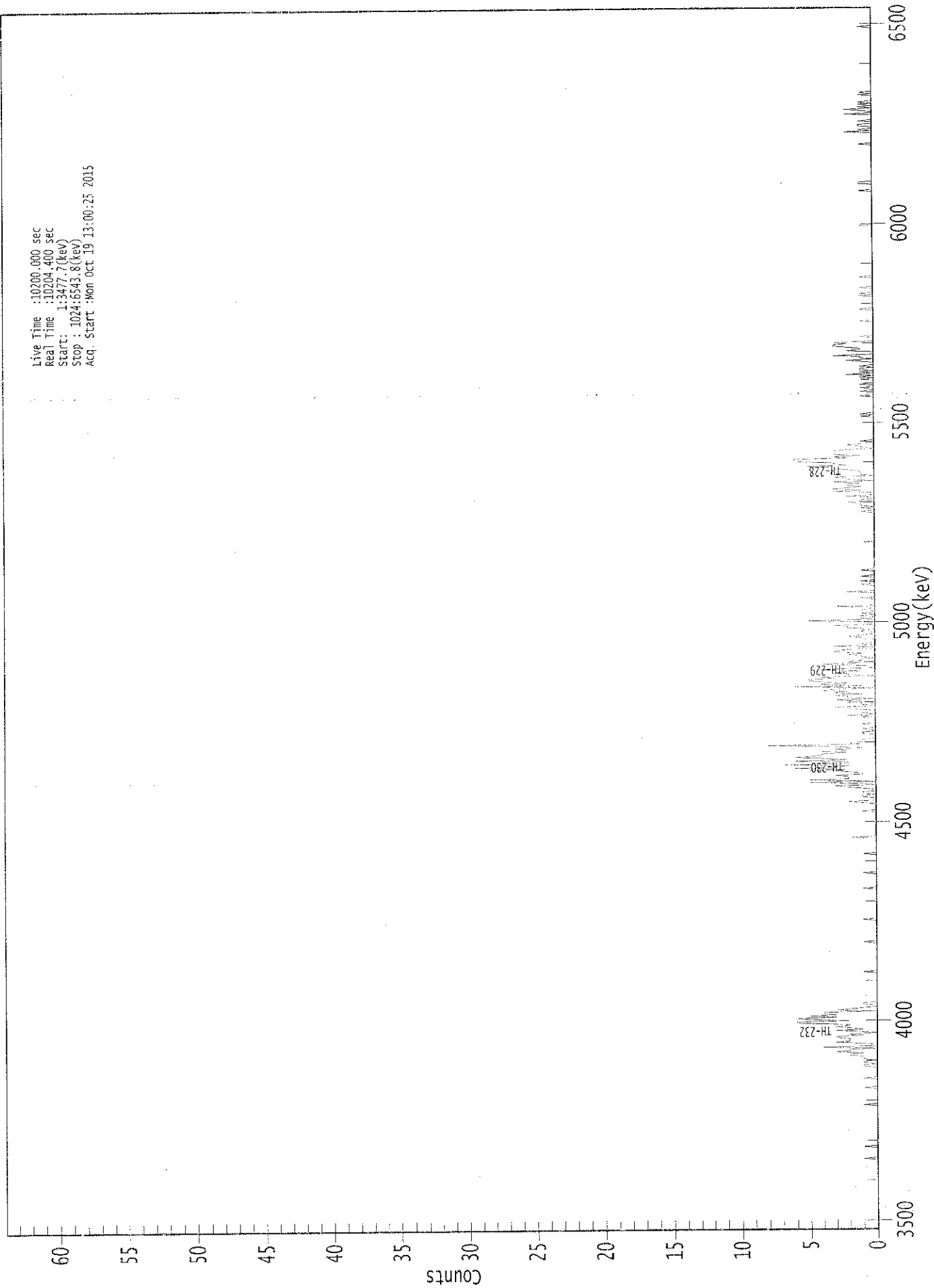
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.973	5850.00*	1.35E-001 +/- 7.79E-002	4.38E-002 +/- 7.60E-003
TH-228	0.998	5400.00*	1.07E+000 +/- 2.77E-001	4.33E-002 +/- 7.50E-003
TH-229	0.999	4872.00*	1.50E+000 +/- 2.60E-001	4.29E-002 +/- 7.44E-003
TH-230	0.995	4672.00*	1.33E+000 +/- 3.26E-001	6.14E-002 +/- 1.07E-002
TH-232	0.997	3997.00*	1.12E+000 +/- 2.87E-001	6.13E-002 +/- 1.06E-002

AG
10/20/15

0000131636.CNF

Live Time : 10200.000 sec
Real Time : 10204.400 sec
Start : 1:3477.7(keV)
Stop : 1024:6543.8(keV)
Acq. Start : Mon Oct 19 13:00:25 2015



ROI Type: 3

ROI Type: 1

: 00281

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 15

Elapsed Live time: 10200
 Elapsed Real Time: 10204

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	1	0	0	0	0	0
65:	0	0	0	0	0	1	0	0	0
73:	0	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0	0
105:	1	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	1	0
121:	0	0	0	0	0	0	0	1	0
129:	0	0	0	0	0	0	0	0	0
137:	1	1	0	1	1	0	1	1	1
145:	1	2	2	1	3	2	2	2	0
153:	4	0	0	1	3	2	2	2	2
161:	3	3	1	2	0	1	3	1	1
169:	2	3	2	2	6	6	2	2	5
177:	6	3	5	3	4	4	0	0	3
185:	2	1	0	0	1	1	0	0	0
193:	0	0	0	0	0	0	0	0	0
201:	0	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0	1
217:	0	0	0	0	0	0	0	0	0
225:	0	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0	0
241:	1	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	0	0	0
257:	0	0	0	1	0	0	0	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	1	0	0
289:	0	0	0	0	0	0	0	0	0
297:	0	0	1	0	0	0	0	0	0
305:	0	0	0	0	0	0	0	0	0
313:	0	0	1	0	0	0	0	0	0
321:	0	0	0	0	0	0	0	0	0
329:	2	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	1	0
353:	0	0	0	0	0	0	1	2	0
361:	0	0	1	1	0	1	1	1	0

369: 0 1 2 3 0 1 5 0

Sample Title: 15

Channel	1	2	3	4	5	6	7	8
377:	5	2	2	2	3	1	1	2
385:	5	2	6	3	2	7	2	2
393:	6	2	3	6	5	4	4	2
401:	4	2	3	1	3	8	1	2
409:	1	1	1	0	0	0	0	1
417:	1	0	0	1	0	0	0	1
425:	0	0	0	0	1	0	2	0
433:	1	0	0	1	2	3	0	1
441:	0	2	1	3	0	2	2	3
449:	1	3	2	4	3	0	6	1
457:	4	2	4	5	5	3	4	0
465:	2	2	3	1	4	2	0	0
473:	2	4	1	2	1	1	0	1
481:	1	2	1	3	3	2	0	0
489:	3	0	1	0	0	0	1	1
497:	2	1	0	0	1	1	0	2
505:	2	3	0	0	0	5	0	1
513:	0	1	0	1	0	0	1	0
521:	0	3	0	0	0	0	0	0
529:	1	0	0	0	0	2	0	0
537:	0	0	0	1	0	0	1	0
545:	0	0	1	0	0	0	0	1
553:	0	0	0	0	0	0	0	0
561:	0	0	0	0	0	0	0	0
569:	0	0	0	0	0	0	0	0
577:	0	0	0	0	0	0	0	0
585:	0	0	0	0	0	0	0	0
593:	0	0	0	0	0	0	0	0
601:	1	0	0	1	0	1	1	1
609:	2	0	1	0	0	2	0	0
617:	0	3	1	3	2	1	2	2
625:	1	3	0	2	2	3	0	1
633:	1	1	1	2	3	3	5	2
641:	3	3	6	6	6	2	3	1
649:	3	3	3	3	2	0	1	1
657:	2	1	0	1	0	0	0	0
665:	0	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0
681:	1	0	1	0	0	0	0	0
689:	0	0	0	0	0	0	0	0
697:	0	1	0	0	0	1	0	0
705:	1	0	0	1	0	0	0	1
713:	0	1	0	2	0	1	0	1
721:	1	0	1	0	0	0	1	2
729:	0	1	1	3	0	0	0	2
737:	1	1	2	3	3	2	3	0
745:	0	0	0	1	0	0	0	0
753:	0	0	0	0	0	0	0	0
761:	1	0	0	0	0	0	0	0
769:	0	0	1	0	0	0	0	0
777:	0	0	0	0	0	1	0	1
785:	0	0	0	0	1	0	0	0
793:	0	0	0	0	0	1	0	0

801: 0 0 0 0 0 0 0 0

Sample Title: 15

Channel	1	2	3	4	5	6	7	8
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	1	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	1	0	0
873:	0	0	0	1	1	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	1	0	0	0
913:	0	0	0	0	0	0	2	0
921:	1	0	0	1	1	0	0	1
929:	0	0	0	0	0	2	0	0
937:	1	2	0	1	0	1	0	1
945:	0	0	0	0	0	1	0	1
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	1	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0



100
10/19/15

Sample Description: CP5005S01-02
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-TH
 Sample Identification: 16
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_045
 Chamber Serial Number: 04026482A
 Detector Serial Number: 91131
 Env. Background: System Bkgd 131881
 Reagent Blank: <not performed>

Sample Size: 1.527E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 9:31:05 AM
 Acquisition Date/Time: 10/19/2015 1:00:27 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.226 mL
 Effective Efficiency: 0.1341 +/- 0.0132
 Counting Efficiency: 0.1760 +/- 0.0031 on 10/25/2014 3:16:42 PM
 Chem. Recovery Factor: 0.7618 +/- 0.0760

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227	5.782	16.49	49.13	0.51	0.00E+000	6.0
TH-228	5.399	119.49	17.98	0.51	0.00E+000	6.5
TH-229 T	4.889	115.66	18.26	0.34	0.00E+000	3.7
TH-230	4.660	109.32	18.81	0.68	0.00E+000	9.0
TH-232	3.985	111.62	18.78	2.38	0.00E+000	7.7

T = Tracer Peak used for Effective Efficiency

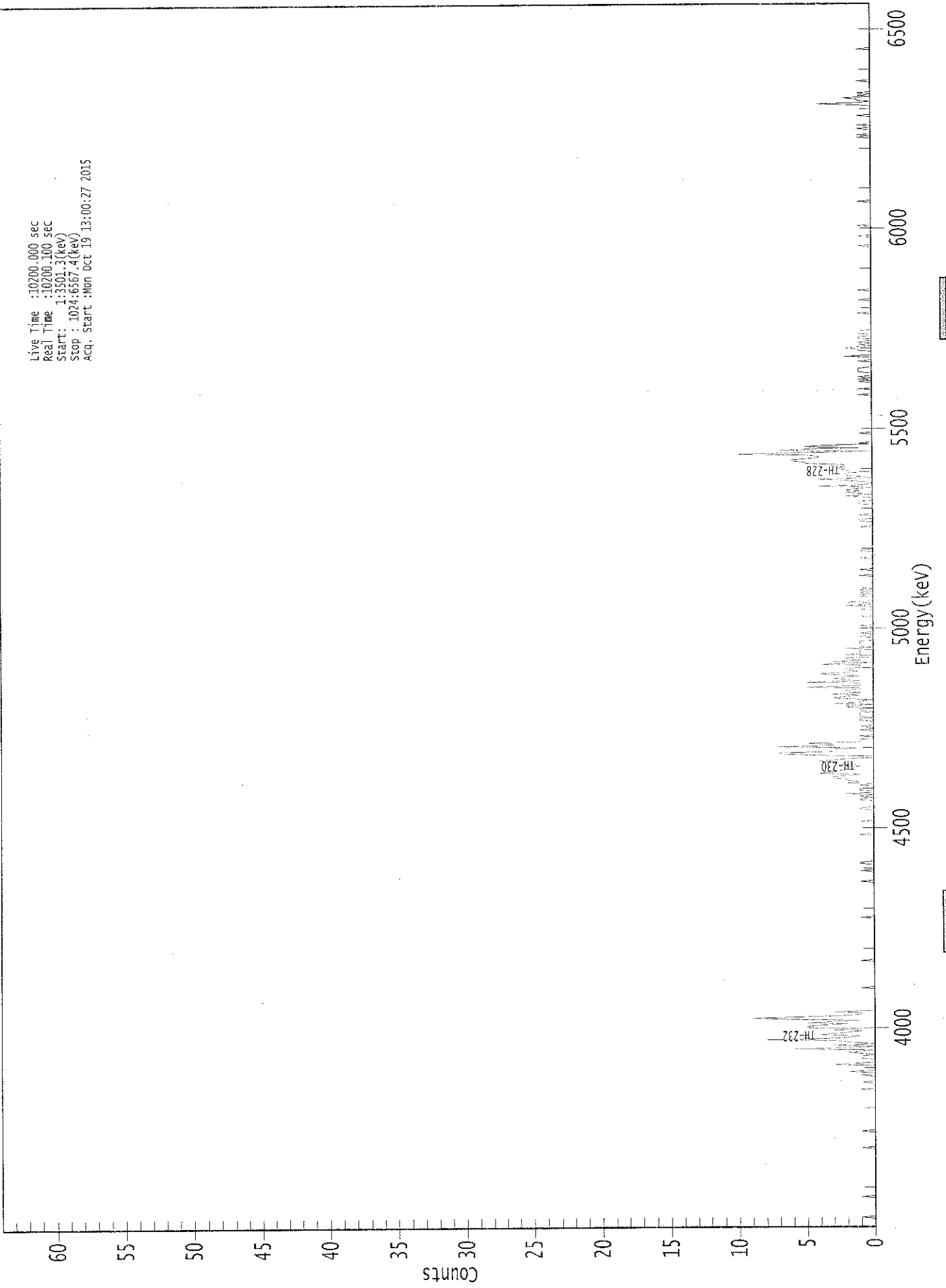
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.976	5850.00*	2.19E-001 +/- 1.16E-001	6.97E-002 +/- 1.34E-002
TH-228	1.000	5400.00*	1.57E+000 +/- 4.13E-001	6.88E-002 +/- 1.32E-002
TH-229	0.999	4872.00*	1.50E+000 +/- 2.89E-001	6.22E-002 +/- 1.20E-002
TH-230	0.999	4672.00*	1.42E+000 +/- 3.81E-001	7.31E-002 +/- 1.41E-002
TH-232	0.999	3997.00*	1.44E+000 +/- 3.88E-001	1.06E-001 +/- 2.04E-002

AG
10/20/15

0000131622.CNF

Live Time : 10200.000 sec
Real Time : 10200.100 sec
Start : 1:3501.3(keV)
Stop : 1024:6567.4(keV)
Acq. Start : Mon Oct 19 13:00:27 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 16

Elapsed Live time: 10200
 Elapsed Real Time: 10200

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	1	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	1	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0	0
65:	0	0	1	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0	0
81:	1	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	1	0	0	0	0	0
121:	0	1	0	0	0	0	0	0	1
129:	0	0	2	0	0	0	0	0	0
137:	3	1	0	0	0	1	1	1	1
145:	0	1	2	1	0	6	2	0	0
153:	3	0	1	2	3	8	3	2	2
161:	1	4	3	2	1	3	1	5	5
169:	5	4	2	5	3	1	7	9	9
177:	5	2	1	1	3	0	0	0	0
185:	0	0	0	0	0	0	0	0	0
193:	0	0	0	0	0	0	0	0	0
201:	1	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0	0
217:	0	0	0	0	0	0	0	0	1
225:	0	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	0	0	0
257:	0	0	0	1	0	0	0	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0	0
289:	0	1	0	0	0	0	0	0	0
297:	0	0	1	0	0	0	0	0	0
305:	1	1	0	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	0	0
321:	0	0	0	0	0	0	0	0	0
329:	1	0	0	0	0	0	0	0	0
337:	0	0	0	1	0	0	0	0	0
345:	0	0	0	0	0	1	1	0	0
353:	0	0	0	0	0	1	1	0	0
361:	1	0	2	0	0	1	1	0	0

369: 0 1 0 2 1 2 2 3

Sample Title: 16

Channel	1	2	3	4	5	6	7	8
377:	3	2	1	4	3	3	2	2
385:	2	1	1	3	3	4	3	2
393:	0	0	4	7	7	3	3	3
401:	1	7	3	3	5	1	1	1
409:	0	0	1	0	0	0	0	1
417:	0	0	1	0	0	0	0	1
425:	1	0	1	1	1	1	0	1
433:	1	0	2	2	0	3	1	1
441:	0	2	3	2	1	3	1	2
449:	2	1	1	5	1	1	1	5
457:	1	2	3	2	1	3	4	2
465:	1	2	2	1	1	1	4	0
473:	3	1	2	2	0	0	2	1
481:	1	1	0	2	0	1	1	1
489:	1	1	0	0	0	1	0	0
497:	1	0	0	0	1	0	1	0
505:	0	0	0	0	0	0	1	0
513:	0	0	0	0	1	1	0	2
521:	0	0	2	0	0	0	0	1
529:	1	0	1	0	1	0	0	0
537:	0	0	0	0	0	0	0	0
545:	1	0	0	0	0	1	0	0
553:	0	0	0	0	0	0	0	1
561:	0	0	0	0	0	1	0	0
569:	0	0	0	0	0	0	0	0
577:	0	0	0	0	0	0	0	0
585:	0	1	0	0	0	0	1	1
593:	0	0	0	1	0	0	0	0
601:	0	0	0	0	1	1	1	0
609:	0	0	1	2	0	1	2	1
617:	2	1	0	4	1	0	0	1
625:	2	4	0	1	2	2	2	0
633:	2	2	3	2	3	2	5	5
641:	6	6	5	4	4	5	10	6
649:	0	7	5	1	5	4	0	1
657:	0	0	0	0	0	0	0	1
665:	0	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	1
697:	0	0	0	0	1	0	0	0
705:	0	0	1	0	1	0	1	0
713:	0	0	1	1	1	1	0	0
721:	0	0	0	1	0	0	0	2
729:	0	0	0	0	1	1	2	1
737:	0	1	0	1	0	0	1	1
745:	0	0	1	1	1	0	0	0
753:	0	0	0	0	0	0	0	0
761:	0	0	0	1	0	0	0	0
769:	0	0	0	0	0	0	1	0
777:	0	0	0	0	0	0	1	0
785:	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	0	0

801: 0 0 0 0 0 0 0 0 0

Sample Title: 16

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	0	0	0	0	0	0	0
817:	0	0	0	1	0	0	0	0
825:	0	0	0	1	0	0	0	0
833:	0	0	0	0	1	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	1	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	1	0
913:	1	0	0	0	0	1	0	0
921:	1	0	0	0	0	0	0	0
929:	1	0	0	0	0	0	0	0
937:	0	1	4	1	0	1	1	2
945:	0	1	0	1	0	0	0	0
953:	0	0	0	0	0	1	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	1	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

Apex-Alpha™

ICB
10/19/15

Sample Description: CP5005S04-05
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-TH
 Sample Identification: 17
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_046
 Chamber Serial Number: 04026482B
 Detector Serial Number: 58762
 Env. Background: System Bkgd 131882
 Reagent Blank: <not performed>

Sample Size: 1.501E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 9:31:05 AM
 Acquisition Date/Time: 10/19/2015 1:00:29 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.1501 +/- 0.0141
 Counting Efficiency: 0.1776 +/- 0.0031 on 10/25/2014 3:20:08 PM
 Chem. Recovery Factor: 0.8451 +/- 0.0808

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227	5.867	9.81	66.87	1.19	0.00E+000	3.0
TH-228	5.356	110.81	18.74	1.19	0.00E+000	6.6
TH-229 T	4.858	129.13	17.39	1.87	0.00E+000	4.8
TH-230	4.621	130.81	17.23	1.19	0.00E+000	5.5
TH-232	3.934	104.13	19.41	1.87	0.00E+000	3.3

T = Tracer Peak used for Effective Efficiency

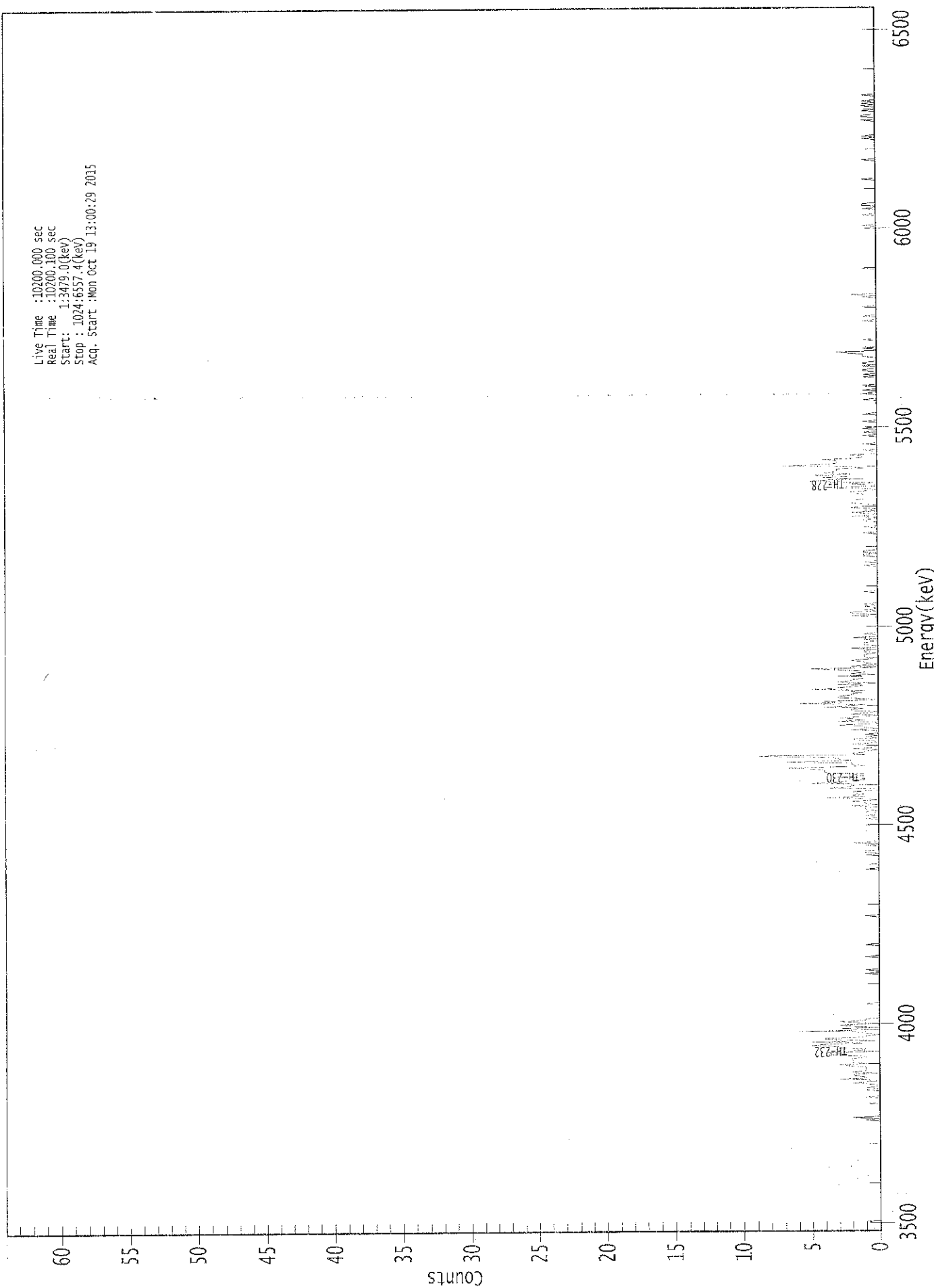
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.998	5850.00*	1.18E-001 +/- 8.21E-002	7.95E-002 +/- 1.47E-002
TH-228	0.990	5400.00*	1.32E+000 +/- 3.47E-001	7.85E-002 +/- 1.45E-002
TH-229	0.999	4872.00*	1.53E+000 +/- 2.81E-001	8.95E-002 +/- 1.65E-002
TH-230	0.987	4672.00*	1.54E+000 +/- 3.89E-001	7.76E-002 +/- 1.43E-002
TH-232	0.979	3997.00*	1.22E+000 +/- 3.28E-001	8.90E-002 +/- 1.64E-002

AG
10/20/15

0000131623.CNF

Live Time : 10200.000 sec
Real Time : 10200.100 sec
Start : 1:3479.0(kev)
Stop : 1024:6357.4(kev)
Acq. Start : Mon Oct 19 13:00:29 2015



ROI Type: 3

ROI Type: 1

16200 :

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 17

Elapsed Live time: 10200
 Elapsed Real Time: 10200

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	1	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	1	0	0	2
97:	0	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	1	0	0	0	0	0	1	0	0
121:	1	0	0	1	2	0	0	0	3
129:	1	1	2	2	0	2	1	1	1
137:	1	1	2	3	1	2	2	2	2
145:	2	1	1	4	3	4	0	0	2
153:	1	3	3	5	4	1	5	0	0
161:	4	4	1	1	0	1	1	1	6
169:	0	3	0	2	3	1	1	1	3
177:	1	1	0	0	0	0	0	0	0
185:	0	0	0	0	0	0	1	0	0
193:	0	0	0	0	0	0	0	0	0
201:	0	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0	1
217:	0	0	1	0	0	0	0	0	0
225:	0	0	0	0	0	1	0	0	0
233:	0	0	0	0	0	0	0	0	1
241:	0	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	0	0	0
257:	0	0	0	0	0	0	0	0	1
265:	0	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	0	0
297:	0	0	0	0	0	0	1	0	0
305:	0	0	0	0	0	0	0	0	0
313:	0	0	1	0	1	1	0	0	0
321:	0	0	1	0	2	0	0	0	0
329:	0	0	0	0	0	0	0	0	0
337:	0	0	0	1	0	0	0	0	0
345:	1	0	0	1	0	0	1	0	0
353:	1	1	0	2	0	1	1	2	2
361:	0	1	4	1	2	1	2	2	2

369: 0 0 4 2 2 0 5 3

Sample Title: 17

Channel	1	2	3	4	5	6	7	8	9
377:	2	1	1	3	1	2	1	4	
385:	4	4	5	7	2	1	2	2	
393:	7	2	3	3	5	9	1	2	
401:	1	1	0	2	0	0	1	2	
409:	0	0	1	2	0	1	0	1	
417:	0	0	0	2	0	1	1	3	
425:	0	0	3	1	2	3	1	0	
433:	2	1	0	2	2	1	4	2	
441:	1	6	3	4	0	1	3	3	
449:	2	2	1	2	1	5	3	2	
457:	1	3	0	3	2	2	1	1	
465:	3	0	2	1	1	3	5	0	
473:	2	1	0	1	1	2	1	0	
481:	1	1	1	0	1	1	0	2	
489:	0	0	1	1	1	0	1	0	
497:	2	0	0	1	0	0	0	0	
505:	0	0	0	0	0	0	0	0	
513:	0	0	2	0	2	2	0	1	
521:	0	0	1	0	1	0	0	0	
529:	0	0	0	0	0	0	1	0	
537:	0	0	0	0	0	0	0	0	
545:	0	0	0	0	0	0	0	0	
553:	0	0	0	0	1	0	0	1	
561:	0	0	0	0	1	1	0	1	
569:	1	0	0	0	0	0	0	0	
577:	0	0	0	0	0	0	0	1	
585:	0	0	0	0	1	0	0	0	
593:	0	1	1	0	0	2	0	0	
601:	2	0	1	0	2	1	0	1	
609:	2	2	2	1	1	1	1	1	
617:	2	2	1	0	1	4	0	0	
625:	2	0	5	4	1	4	2	5	
633:	2	4	3	3	3	1	2	7	
641:	4	3	3	3	4	2	1	1	
649:	2	0	0	0	1	0	0	0	
657:	0	1	0	0	0	0	0	0	
665:	1	0	0	1	0	0	1	0	
673:	0	0	0	0	1	0	0	0	
681:	0	0	1	0	0	0	0	0	
689:	0	0	0	0	0	0	1	0	
697:	0	0	0	1	0	0	1	0	
705:	0	0	1	0	0	0	0	0	
713:	0	1	0	1	0	0	1	1	
721:	0	0	1	0	1	1	0	0	
729:	0	0	1	1	1	2	3	0	
737:	0	1	0	0	0	0	0	0	
745:	1	0	0	0	0	0	0	0	
753:	0	0	0	0	0	0	0	0	
761:	1	0	0	0	1	0	0	0	
769:	0	0	0	0	1	0	0	0	
777:	0	0	0	0	1	0	2	0	
785:	0	0	0	0	0	0	0	0	
793:	0	0	0	0	0	0	0	0	

801: 0 0 0 0 1 0 0 0

Sample Title: 17

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	1	0	0	0	0	0	0	0
849:	0	1	0	0	0	0	1	0
857:	0	1	1	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	1
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	1
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	1	0	1	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	1	0	0	1	1	0	0	0
937:	1	0	0	0	1	0	1	0
945:	1	0	0	0	0	1	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0



KCB
10/20/15

Sample Description: CP5005S05-06
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-TH
 Sample Identification: 18
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_047
 Chamber Serial Number: 02030596A
 Detector Serial Number: 91086
 Env. Background: System Bkgd 131883
 Reagent Blank: <not performed>

Sample Size: 1.541E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 9:31:05 AM
 Acquisition Date/Time: 10/19/2015 1:00:31 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225, mL
 Effective Efficiency: 0.0915 +/- 0.0107
 Counting Efficiency: 0.1650 +/- 0.0029 on 10/25/2014 3:23:35 PM
 Chem. Recovery Factor: 0.5543 +/- 0.0658

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227	5.809	6.00	86.43	0.00	0.00E+000	3.0
TH-228	5.369	77.66	22.30	0.34	0.00E+000	5.9
TH-229 T	4.870	78.49	22.21	0.51	0.00E+000	4.0
TH-230	4.630	87.66	20.98	0.34	0.00E+000	7.0
TH-232	3.961	76.32	22.55	0.68	0.00E+000	3.5

T = Tracer Peak used for Effective Efficiency

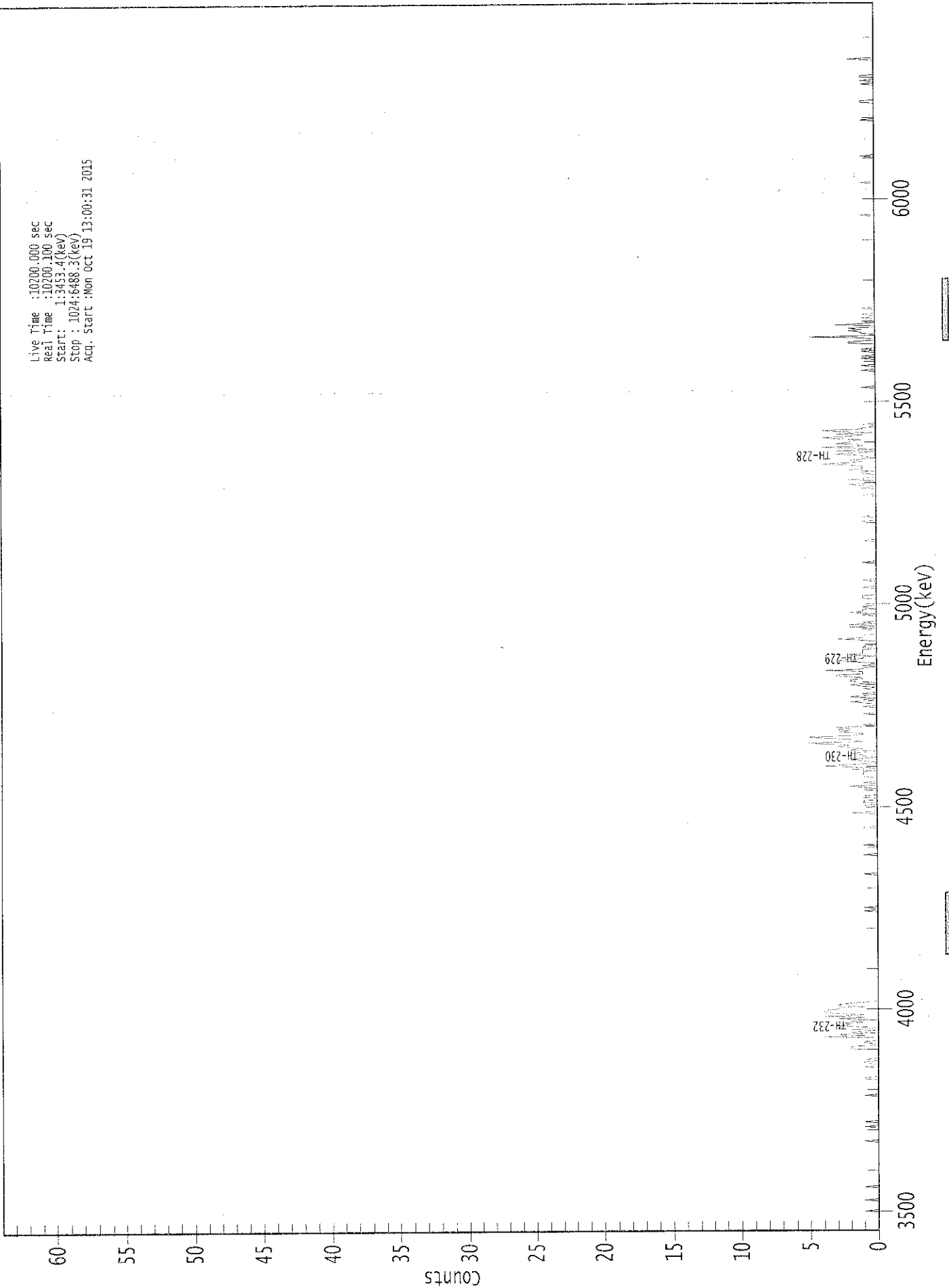
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.991	5850.00*	1.16E-001 +/- 1.04E-001	1.16E-001 +/- 2.66E-002
TH-228	0.995	5400.00*	1.48E+000 +/- 4.74E-001	9.11E-002 +/- 2.10E-002
TH-229	1.000	4872.00*	1.48E+000 +/- 3.41E-001	9.91E-002 +/- 2.28E-002
TH-230	0.991	4672.00*	1.65E+000 +/- 5.14E-001	9.00E-002 +/- 2.07E-002
TH-232	0.993	3997.00*	1.43E+000 +/- 4.62E-001	1.06E-001 +/- 2.44E-002

AG
10/20/15

0000131637.CNF

Live Time : 10200.000 sec
Real Time : 10200.100 sec
Start : 1:3453.4(kev)
Stop : 1024:6488.3(kev)
Acq. Start : Mon Oct 19 13:00:31 2015



: 00296

ROI Type: 1

ROI Type: 3

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 18

Elapsed Live time: 10200
 Elapsed Real Time: 10200

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0	0
17:	1	0	0	0	0	0	0	0	0
25:	0	1	0	0	0	0	0	0	0
33:	0	0	0	0	1	0	0	0	0
41:	0	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	0	0	1	0	0	0	0	0	0
81:	0	0	0	0	0	0	1	0	0
89:	0	0	1	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	1	0	0	0	0	0	0	0	0
121:	0	0	0	0	0	0	1	1	0
129:	0	0	0	0	0	0	0	0	0
137:	1	0	0	1	1	0	1	0	0
145:	0	0	0	0	0	0	0	2	0
153:	2	2	0	0	1	1	0	0	0
161:	0	4	1	3	0	2	0	2	0
169:	0	1	3	2	3	1	2	0	0
177:	3	1	4	1	2	4	4	4	0
185:	3	3	1	3	3	2	1	0	0
193:	0	0	0	0	0	0	0	0	0
201:	0	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0	0
217:	0	0	0	0	0	0	0	0	0
225:	0	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	0	0	0
257:	0	0	0	0	0	0	0	0	0
265:	0	0	1	0	0	1	0	0	0
273:	0	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	0	0
297:	0	1	0	0	0	0	0	0	0
305:	0	0	0	0	0	0	0	0	0
313:	0	1	0	0	0	0	0	0	0
321:	0	1	0	0	0	0	0	0	0
329:	0	0	0	0	0	0	0	0	0
337:	1	0	0	0	0	0	0	0	0
345:	0	0	0	0	2	0	0	0	0
353:	0	0	1	0	0	1	1	0	0
361:	0	1	1	0	0	0	0	1	0

369: 0 1 2 0 0 1 0 0

Sample Title: 18

Channel	1	2	3	4	5	6	7	8
377:	0	0	1	1	1	1	1	0
385:	2	0	2	4	2	0	0	1
393:	2	1	0	1	1	2	1	0
401:	2	1	2	3	2	4	5	1
409:	2	2	4	5	2	1	1	3
417:	2	3	2	3	0	1	0	0
425:	0	0	0	0	0	0	1	0
433:	0	0	0	0	1	0	0	1
441:	2	0	1	0	2	1	0	1
449:	0	0	0	1	0	1	2	1
457:	0	2	2	1	1	3	3	1
465:	1	1	4	1	1	0	1	0
473:	0	2	3	2	1	1	0	2
481:	1	1	1	1	0	1	1	0
489:	0	0	0	1	3	1	1	1
497:	0	0	0	0	1	0	2	0
505:	2	0	1	0	0	0	0	0
513:	1	0	2	1	1	0	1	1
521:	0	0	0	0	0	0	1	1
529:	1	0	0	0	0	0	0	1
537:	0	0	0	0	0	1	0	0
545:	0	0	0	0	0	0	0	0
553:	0	0	0	0	1	0	0	0
561:	0	0	0	0	0	0	0	0
569:	0	0	0	0	0	0	1	0
577:	0	0	0	0	0	0	0	0
585:	0	0	0	0	0	0	1	0
593:	0	0	1	0	0	0	0	0
601:	0	0	0	0	0	0	0	0
609:	0	0	0	0	1	0	0	0
617:	0	0	1	0	1	2	0	0
625:	0	2	1	0	0	0	1	1
633:	0	2	1	1	1	2	4	2
641:	1	2	1	0	1	1	3	2
649:	0	3	0	1	4	1	1	3
657:	2	2	1	3	4	2	1	3
665:	0	3	4	1	1	0	0	1
673:	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	1	0
705:	0	0	0	0	0	0	0	0
713:	0	0	0	0	1	0	0	0
721:	1	0	0	0	0	0	1	0
729:	1	0	0	0	1	0	1	0
737:	0	0	0	2	2	0	0	1
745:	5	0	0	1	1	2	1	2
753:	0	0	3	1	0	1	0	0
761:	1	0	0	1	0	0	0	0
769:	1	0	0	0	0	0	0	0
777:	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	0	0

801: 0 0 0 0 0 0 0 0 0

Sample Title: 18

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	1	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	1	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	1	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	1	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	1	1	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	1	0	0	1	0	0
961:	1	1	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	2
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

Apex-Alpha™

KB
10/19/15

Sample Description: CP5005S09-10
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-TH
 Sample Identification: 19
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_048
 Chamber Serial Number: 02030596B
 Detector Serial Number: 83111
 Env. Background: System Bkgd 131884
 Reagent Blank: <not performed>

Sample Size: 1.514E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 9:31:05 AM
 Acquisition Date/Time: 10/19/2015 1:00:33 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.220 mL
 Effective Efficiency: 0.1128 +/- 0.0123
 Counting Efficiency: 0.1700 +/- 0.0030 on 10/25/2014 3:27:02 PM
 Chem. Recovery Factor: 0.6636 +/- 0.0730

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227	5.846	7.81	76.13	1.19	0.00E+000	3.0
TH-228	5.375	82.47	21.82	1.53	0.00E+000	9.3
TH-229 T	4.894	94.79	20.40	2.21	0.00E+000	5.9
TH-230	4.635	56.64	26.41	1.36	0.00E+000	8.9
TH-232	3.968	71.81	23.35	1.19	0.00E+000	6.3

T = Tracer Peak used for Effective Efficiency

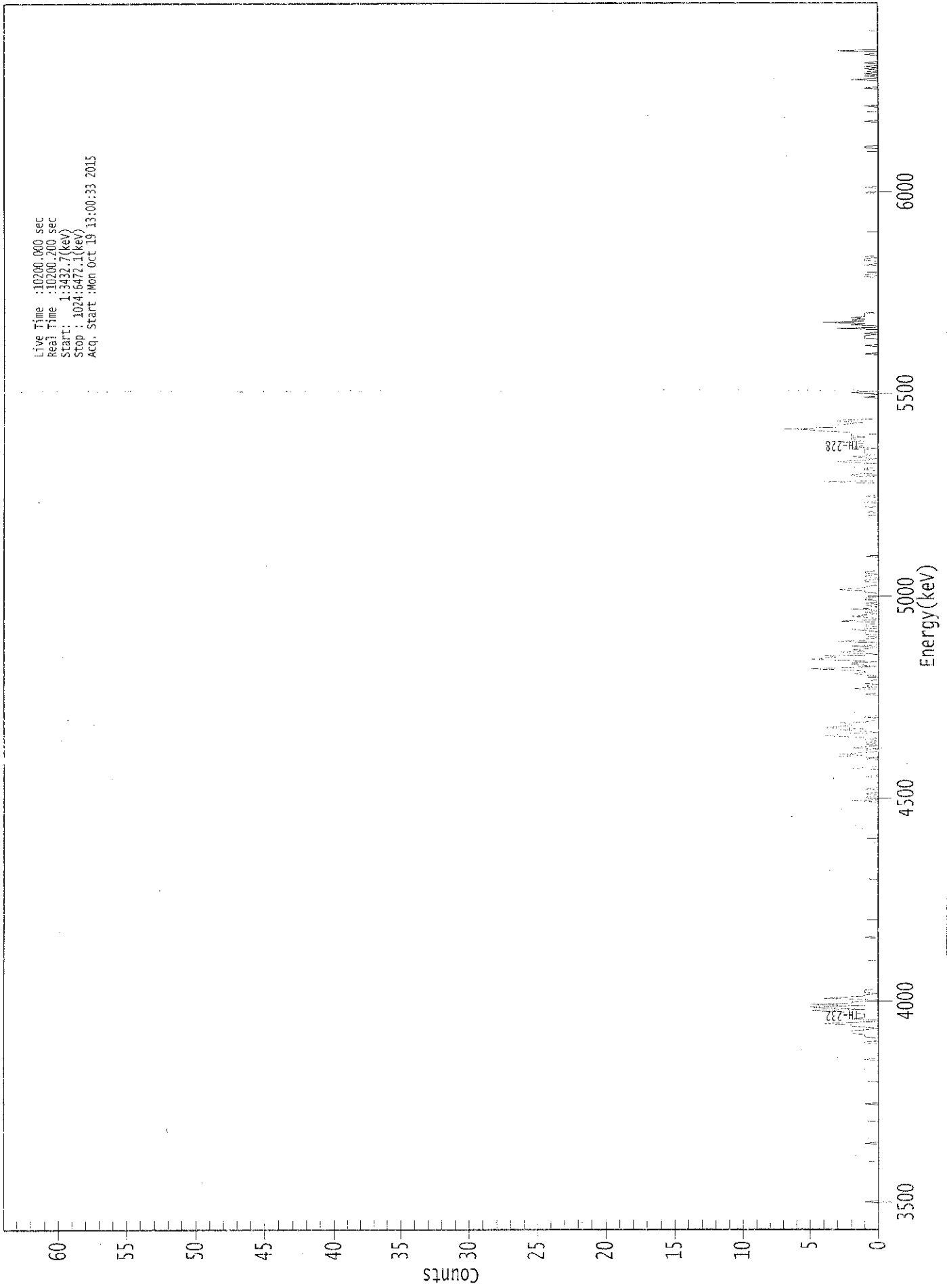
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	1.000	5850.00*	1.24E-001 +/- 9.83E-002	1.05E-001 +/- 2.23E-002
TH-228	0.997	5400.00*	1.30E+000 +/- 3.95E-001	1.12E-001 +/- 2.38E-002
TH-229	0.998	4872.00*	1.48E+000 +/- 3.15E-001	1.25E-001 +/- 2.65E-002
TH-230	0.993	4672.00*	8.80E-001 +/- 2.99E-001	1.07E-001 +/- 2.27E-002
TH-232	0.996	3997.00*	1.11E+000 +/- 3.52E-001	1.02E-001 +/- 2.18E-002

AG
 10/20/15

0000131638.CNF

Live Time :10200.000 sec
Real Time :10200.200 sec
Start: 1:3432.7(keV)
Stop : 1024:5472.1(keV)
Acq. Start :Mon Oct 19 13:00:33 2015



ROI Type: 1

ROI Type: 3

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 19

Elapsed Live time: 10200
 Elapsed Real Time: 10200

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	1
25:	0	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0	0
73:	1	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0	0
105:	0	1	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0	0
121:	0	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0	0
137:	0	0	0	0	0	0	1	0	0
145:	0	0	0	0	0	0	0	0	0
153:	0	0	0	0	1	1	0	0	0
161:	0	1	1	1	2	2	2	1	1
169:	0	1	2	2	4	2	0	0	0
177:	2	1	1	1	1	2	3	5	5
185:	1	4	5	1	5	2	2	1	1
193:	0	4	3	1	1	0	1	1	1
201:	1	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0	0
217:	0	0	0	0	0	0	0	0	0
225:	0	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0	0
241:	0	0	0	0	1	0	0	0	0
249:	0	0	0	0	0	0	0	0	0
257:	0	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	0	0
297:	0	0	0	0	0	0	0	0	0
305:	0	0	0	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	0	0
321:	0	0	0	0	0	0	0	0	0
329:	0	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	0	0
353:	0	0	0	0	0	2	0	0	0
361:	1	0	0	1	0	0	0	1	1

369: 0 0 0 0 0 0 0 0 0

Sample Title: 19

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	0	1	0	0	0	0	0	0
385:	2	1	0	0	0	0	0	0
393:	1	0	3	1	3	1	0	1
401:	0	2	1	0	1	0	1	0
409:	1	0	1	4	3	3	0	1
417:	3	1	4	3	2	2	3	1
425:	0	0	1	1	0	0	0	0
433:	0	0	0	0	0	0	0	0
441:	0	0	0	0	0	0	1	0
449:	0	0	0	2	0	1	0	1
457:	1	1	0	0	0	0	1	2
465:	1	1	2	5	3	0	1	2
473:	2	0	2	5	4	3	4	0
481:	1	3	1	2	1	0	2	0
489:	0	0	3	1	1	0	0	0
497:	1	1	0	1	2	0	0	1
505:	1	0	0	3	0	0	1	2
513:	1	0	1	0	0	2	0	0
521:	1	0	1	0	0	1	1	0
529:	0	0	0	1	1	3	2	1
537:	1	0	0	0	1	1	0	0
545:	1	1	0	1	1	0	0	0
553:	0	0	0	0	0	0	0	0
561:	0	1	0	0	0	0	0	0
569:	0	0	0	0	0	0	0	0
577:	0	0	0	0	0	0	0	0
585:	0	0	0	0	0	0	0	0
593:	0	0	0	0	0	0	1	0
601:	0	0	1	0	0	0	1	0
609:	0	0	0	1	0	0	0	0
617:	0	0	0	0	0	0	0	4
625:	0	0	0	0	2	2	0	0
633:	0	1	1	0	0	0	0	2
641:	3	1	0	1	2	0	1	1
649:	1	1	1	0	2	1	1	1
657:	3	1	2	2	1	2	2	2
665:	2	4	5	7	3	3	3	2
673:	1	3	3	0	0	0	0	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	1	0	0
697:	1	2	0	0	0	0	0	0
705:	0	0	0	0	0	0	0	0
713:	0	0	0	0	0	0	0	0
721:	0	0	0	0	0	0	0	0
729:	0	1	0	0	0	0	0	0
737:	1	0	0	0	0	0	1	1
745:	1	0	1	0	0	0	3	0
753:	0	2	1	4	1	2	1	2
761:	1	1	1	1	0	0	0	0
769:	0	0	0	0	0	0	0	0
777:	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	0	0	0
793:	0	1	0	1	0	0	0	0

801: 0 0 0 1 0 0 0 0 1

Sample Title: 19

Channel	1	2	3	4	5	6	7	8	9
809:	1	0	1	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0	1
865:	0	0	0	0	1	0	0	0	0
873:	0	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	1	1	0	0
905:	0	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0	0
921:	0	0	0	1	0	0	0	0	0
929:	0	0	0	0	0	0	0	0	0
937:	1	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0	1
953:	0	0	0	0	0	0	2	0	0
961:	0	1	0	1	0	0	0	1	0
969:	0	1	0	0	1	0	0	0	0
977:	0	0	0	1	0	0	3	0	0
985:	0	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0	0

Apex-Alpha™

WBS
10/19/15

Sample Description: CP5005S12-13
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001316
 Batch Identification: 1510063A-TH
 Sample Identification: 20
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_049
 Chamber Serial Number: 10006121A
 Detector Serial Number: 49
 Env. Background: System Bkgd 131885
 Reagent Blank: <not performed>

Sample Size: 1.508E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/6/2015 9:31:05 AM
 Acquisition Date/Time: 10/19/2015 1:00:50 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.228 mL
 Effective Efficiency: 0.1200 +/- 0.0124
 Counting Efficiency: 0.1525 +/- 0.0027 on 12/13/2014 2:45:02 PM
 Chem. Recovery Factor: 0.7866 +/- 0.0823

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

Nuclide	Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227	5.814	12.66	55.94	0.34	0.00E+000	4.4
TH-228	5.389	97.98	19.92	1.02	0.00E+000	10.1
TH-229 T	4.885	104.32	19.26	0.68	0.00E+000	9.3
TH-230	4.647	81.66	21.74	0.34	0.00E+000	4.3
TH-232	3.971	85.32	21.32	0.68	0.00E+000	10.1

T = Tracer Peak used for Effective Efficiency

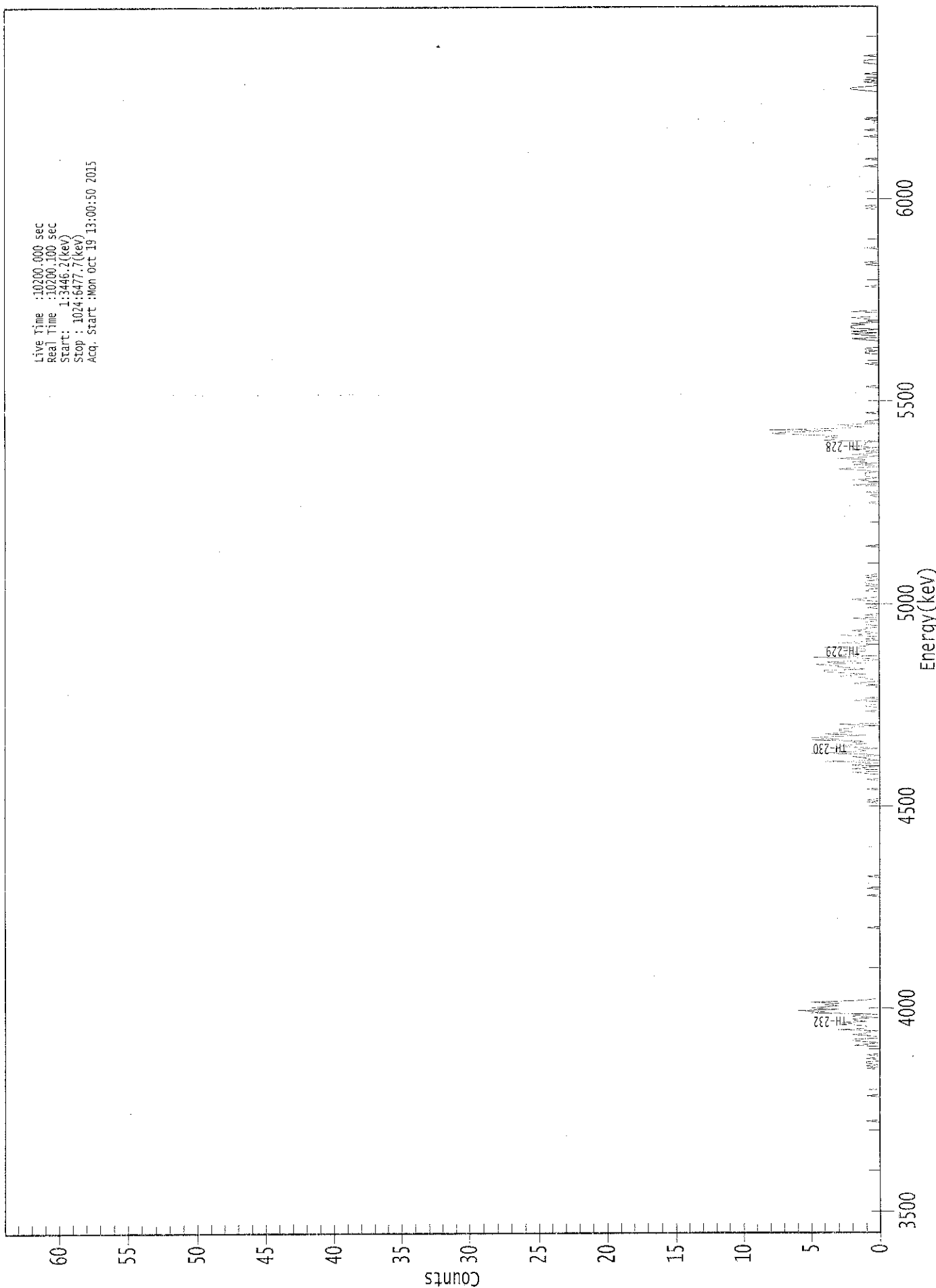
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.993	5850.00*	1.90E-001 +/- 1.13E-001	7.19E-002 +/- 1.45E-002
TH-228	0.999	5400.00*	1.45E+000 +/- 4.13E-001	9.35E-002 +/- 1.89E-002
TH-229	0.999	4872.00*	1.53E+000 +/- 3.10E-001	8.30E-002 +/- 1.68E-002
TH-230	0.997	4672.00*	1.20E+000 +/- 3.55E-001	7.01E-002 +/- 1.42E-002
TH-232	0.997	3997.00*	1.25E+000 +/- 3.67E-001	8.26E-002 +/- 1.67E-002

AG
10/20/15

0000131624.CNF

Live Time :10200.000 sec
Real Time :10200.100 sec
Start: 1:3446.2(keV)
Stop : 1024:6477.7(keV)
Acq. Start :Mon Oct 19 13:00:50 2015



ROI Type: 3

ROI Type: 1

00000000

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 20

Elapsed Live time: 10200

Elapsed Real Time: 10200

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	1	0	0
97:	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0
113:	0	0	1	0	0	0	0	0
121:	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0
137:	0	1	0	1	0	1	1	0
145:	0	1	0	0	1	0	0	0
153:	0	0	0	0	2	1	0	1
161:	2	2	0	0	1	2	1	1
169:	0	3	1	1	1	2	2	3
177:	1	2	2	0	2	2	0	5
185:	4	6	3	5	4	3	4	3
193:	5	2	1	0	0	0	0	0
201:	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0
217:	0	0	0	0	0	0	0	0
225:	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	1	0
257:	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0
281:	0	1	0	0	0	0	0	1
289:	0	0	0	0	0	0	0	0
297:	0	1	0	0	0	0	0	0
305:	0	0	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	0
321:	0	0	0	0	0	0	0	0
329:	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	0
353:	0	0	0	0	0	0	0	1
361:	0	1	0	0	0	0	0	0

369: 0 0 1 0 0 0 0 0 0

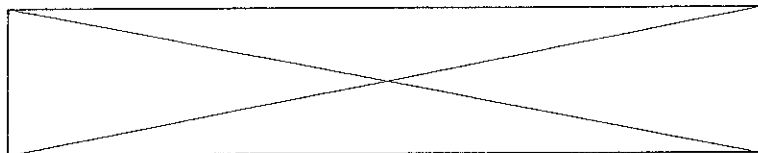
Sample Title: 20

Channel	1	2	3	4	5	6	7	8	9
377:	0	0	1	0	0	0	0	0	1
385:	2	0	0	2	1	0	2	1	1
393:	0	4	0	1	1	2	0	1	1
401:	5	2	1	2	0	2	3	2	2
409:	1	2	1	5	3	5	3	1	1
417:	4	3	2	3	3	2	2	0	0
425:	3	0	0	0	0	0	0	0	0
433:	0	0	0	1	0	0	0	1	1
441:	1	0	0	0	2	0	1	0	0
449:	0	0	0	0	0	0	0	0	0
457:	1	0	2	1	0	0	1	1	1
465:	3	2	1	3	4	4	1	2	2
473:	3	3	5	1	4	1	0	1	1
481:	5	0	3	2	2	1	1	1	1
489:	4	1	1	0	3	1	0	1	1
497:	0	0	3	1	0	1	2	1	1
505:	1	0	0	1	1	1	0	0	0
513:	2	0	0	1	0	0	0	0	0
521:	0	1	0	0	1	0	0	1	1
529:	2	1	0	0	0	0	0	1	1
537:	1	0	0	1	0	1	1	1	1
545:	0	0	1	0	1	0	0	0	0
553:	0	0	0	0	0	0	0	0	0
561:	0	0	0	0	0	0	0	0	0
569:	0	0	0	0	1	0	0	0	0
577:	0	0	0	0	0	0	0	0	0
585:	0	0	0	0	0	0	0	0	0
593:	0	0	0	0	0	0	0	0	0
601:	0	0	0	0	0	0	0	0	0
609:	1	0	0	0	0	0	1	0	0
617:	0	1	0	0	0	0	0	2	2
625:	0	0	0	2	1	0	1	1	1
633:	1	1	0	1	3	2	0	0	0
641:	2	0	2	1	1	3	1	0	0
649:	2	1	0	1	0	2	0	2	2
657:	1	1	1	0	4	3	3	4	4
665:	3	6	8	7	3	8	3	1	1
673:	2	3	0	1	1	0	0	0	0
681:	0	0	0	1	0	0	0	0	0
689:	0	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	0	0
705:	0	1	0	0	0	0	0	0	0
713:	0	0	0	0	0	0	0	0	0
721:	0	0	0	0	1	0	0	0	0
729:	0	0	0	0	0	1	1	0	0
737:	1	1	0	0	0	0	0	0	0
745:	1	2	0	0	1	2	0	2	2
753:	1	0	2	2	2	1	2	0	0
761:	1	0	1	2	0	0	0	0	0
769:	2	0	0	0	0	0	0	0	0
777:	0	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	1	0	0	0
793:	0	0	0	0	0	0	0	0	0

801: 0 0 0 0 0 0 0 0 1

Sample Title: 20

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	1	0	0	0	0	0	0
817:	0	0	0	0	0	1	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	1	0
857:	1	0	0	0	0	0	0	0
865:	0	0	0	0	1	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	1	0	0	0	0	0	1
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	1	0	0	0	0	1
921:	0	0	0	0	0	0	0	0
929:	1	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	1	2	2	1	0	0	0	1
961:	0	1	0	0	0	0	1	0
969:	0	0	0	0	0	0	0	1
977:	1	1	0	0	0	1	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0



QA SUMMARY REPORT

Review Of QA Results - Pulser Check

Date : 10/19/2015

Time : 6:10:50 AM

CHAMBER	DEVICE	PARAMETER	FLAG	DATE
Alpha 001	21f	ALL	Not Done	
Alpha 002	21f	ALL	Not Done	
Alpha 003	21f	Peak FWHM	Action	10/19/2015 5:56:36 AM
Alpha 004	21f	ALL	Passed	10/19/2015 5:56:37 AM
Alpha 005	21f	ALL	Not Done	
Alpha 006	21f	ALL	Not Done	
Alpha 007	21f	ALL	Not Done	
Alpha 008	21f	ALL	Not Done	
Alpha 009	21f	ALL	Not Done	
Alpha 010	21f	ALL	Passed	10/19/2015 5:56:37 AM
Alpha 011	21f	ALL	Passed	10/19/2015 5:56:38 AM
Alpha 012	21f	ALL	Passed	10/19/2015 5:56:39 AM
Alpha 013	21f	ALL	Not Done	
Alpha 014	21f	ALL	Passed	10/19/2015 5:56:40 AM
Alpha 015	21f	ALL	Passed	10/19/2015 5:56:41 AM
Alpha 016	21f	ALL	Not Done	
Alpha 033	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:56:42 AM
Alpha 034	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:56:44 AM
Alpha 035	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:56:46 AM
Alpha 036	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:56:48 AM
Alpha 037	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:56:49 AM
Alpha 038	Alpha Analyst100DC	Peak Energy	Action	10/19/2015 5:56:52 AM
Alpha 039	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:56:54 AM
Alpha 040	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:56:56 AM
Alpha 041	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:56:58 AM
Alpha 042	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:57:01 AM
Alpha 043	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:57:03 AM
Alpha 044	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:57:06 AM
Alpha 045	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:57:08 AM
Alpha 046	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:57:10 AM
Alpha 047	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:57:13 AM
Alpha 048	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:57:15 AM
Alpha 049	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:57:18 AM
Alpha 050	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:57:22 AM
Alpha 051	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:57:25 AM
Alpha 052	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:57:27 AM
Alpha 053	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:57:29 AM
Alpha 054	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:57:32 AM
Alpha 055	Alpha Analyst100DC	Peak FWHM	Action	10/19/2015 5:57:35 AM
Alpha 056	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:57:38 AM
Alpha 057	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:57:41 AM
Alpha 058	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:57:44 AM

CHAMBER	DEVICE	PARAMETER	FLAG	DATE
Alpha_059	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:57:46 AM
Alpha_060	Alpha Analyst100DC	ALL	Passed	10/19/2015 5:57:49 AM

APPROVED BY: AG

APPROVAL DATE: 10/19/15

***** LIBRARY LISTING REPORT *****

Nuclide Library Title: Thorium

Nuclide Library Description: Th-227,-228,-229,-230,-232

Nuclide Name	Half-Life (Seconds)	Energy (keV)	Energy Uncert. (keV)	Yield (%)	Yield Uncert.(Abs.+ -)
TH-227	6.873E+008	5850.000*	0.000	97.5000	0.0000
TH-228	6.034E+007	5400.000*	0.000	99.9400	0.0000
TH-229	2.487E+011	4872.000*	0.000	99.5200	0.0000
TH-230	2.379E+012	4672.000*	0.000	99.8200	0.0000
TH-232	4.434E+017	3997.000*	0.000	100.0000	0.0000

* = key line

TOTALS: 5 Nuclides 5 Energy Lines

SECTION X
ANALYTICAL DATA (GAMMA SPECTROSCOPY)

Work Order	15-10063
Analysis Code	Gamma
Run	1
Date Received	10/12/2015
Lab Deadline	11/3/2015
Client	Auxier & Associates, Inc.
Project	PAP-KAN
Report Level	4
Activity Units	pCi
Aliquot Units	g
Matrix	SO
Method	LANL ER-130 Modified
Instrument Type	Gamma Spectroscopy
Radiometric Tracer	
Radiometric Sol#	
Tracer Act (dpm/g)	
Carrier	
Carrier Conc (mg/ml)	

Internal Fraction	Sample Desc	Client ID	Login CPM	Sample Date	Sample Aliquot
01	LCS	LCS		10/12/15 00:00	1.0000E+00
02	MBL	BLANK		10/12/15 00:00	1.0000E+00
03	DUP	CP0403S02-03	34	10/05/15 13:20	6.3407E+02
04	DO	CP0403S02-03	34	10/05/15 13:20	6.3407E+02
05	TRG	CP0403S04-05	38	10/05/15 13:40	5.4918E+02
06	TRG	CP0403S07-08	34	10/05/15 13:45	6.2674E+02
07	TRG	CP0403S09-10	36	10/05/15 14:00	4.9997E+02
08	TRG	CP0403S11-12	37	10/05/15 14:10	3.9612E+02
09	TRG	CP2107S02-03	35	10/06/15 14:45	5.5798E+02
10	TRG	CP2107S05-06	36	10/06/15 14:55	5.9694E+02
11	TRG	CP2107S09-10	35	10/06/15 15:05	5.6870E+02
12	TRG	CP2107S11-12	36	10/06/15 15:10	6.3417E+02
13	TRG	CP2107S14-15	34	10/06/15 15:20	6.0266E+02
14	TRG	CP2107S17-18	39	10/06/15 15:30	5.7338E+02
15	TRG	CP2107S19-20	41	10/06/15 15:40	5.5425E+02
16	TRG	CP5005S01-02	36	10/06/15 09:00	6.0656E+02
17	TRG	CP5005S04-05	34	10/06/15 09:10	5.9976E+02
18	TRG	CP5005S05-06	39	10/06/15 09:20	4.6387E+02
19	TRG	CP5005S09-10	37	10/06/15 09:30	4.2262E+02
20	TRG	CP5005S12-13	33	10/06/15 09:40	4.3347E+02

* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ^ Indicates estimated SAF value.
** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.

Internal Fraction	Sample Desc	Tracer Aliquot (g)	Tracer Total ACT (dpm)	Radiometric Tracer (pCi)	Radiometric % Rec	Grav Carrier Added (ml)	Grav Filter Tare (g)	Grav Filter Final (g)	Grav Filter Net (g)	Grav % Rec	Mean % Rec	SAF 1*	SAF 2*
01	LCS				0.00								
02	MBL				0.00								
03	DUP				0.00								
04	DO				0.00								
05	TRG				0.00								
06	TRG				0.00								
07	TRG				0.00								
08	TRG				0.00								
09	TRG				0.00								
10	TRG				0.00								
11	TRG				0.00								
12	TRG				0.00								
13	TRG				0.00								
14	TRG				0.00								
15	TRG				0.00								
16	TRG				0.00								
17	TRG				0.00								
18	TRG				0.00								
19	TRG				0.00								
20	TRG				0.00								

* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ^ Indicates estimated SAF value.

** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.

100000

Internal Fraction	Sample Desc	Rough Prep Date	Rough Prep By	Prep Date	Prep By	Sep t0 Date/Time	Sep t0 By	Sep t1 Date/Time	Sep t1 By
01	LCS								
02	MBL								
03	DUP								
04	DO	10/13/15 07:27	KSALLINGS						
05	TRG	10/13/15 07:27	KSALLINGS						
06	TRG	10/13/15 07:27	KSALLINGS						
07	TRG	10/13/15 07:27	KSALLINGS						
08	TRG	10/13/15 07:27	KSALLINGS						
09	TRG	10/13/15 07:27	KSALLINGS						
10	TRG	10/13/15 07:27	KSALLINGS						
11	TRG	10/13/15 07:27	KSALLINGS						
12	TRG	10/13/15 07:27	KSALLINGS						
13	TRG	10/13/15 07:27	KSALLINGS						
14	TRG	10/13/15 07:27	KSALLINGS						
15	TRG	10/13/15 07:27	KSALLINGS						
16	TRG	10/13/15 07:27	KSALLINGS						
17	TRG	10/13/15 07:27	KSALLINGS						
18	TRG	10/13/15 07:27	KSALLINGS						
19	TRG	10/13/15 07:27	KSALLINGS						
20	TRG	10/13/15 07:27	KSALLINGS						

* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ^ Indicates estimated SAF value.

** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.

Preliminary Data Report & Analytical Calculations
Work Order: 15-10063-Gamma-1

Lab Fraction	Nuclide	Sample Desc	Client Identification	Activity Units	Results	Error Estimate	MDA	LSC Known	LCS %R	LCS Flag	RPD Flag	Sample Date	Sample Aliquot	Counting Date/Time	Identified
01	CO-60	LCS	LCS	pCi/g	1.34E+02	9.25E+00	1.43E+00	1.37E+02	97.46	OK		10/12/15 00:00	1.00E+00	11/02/15 08:18	YES
01	CS-137	LCS	LCS	pCi/g	8.26E+01	8.07E+00	2.51E+00	8.69E+01	95.03	OK		10/12/15 00:00	1.00E+00	11/02/15 08:18	YES
02	AC-228	MBL	BLANK	pCi/g	-1.93E-02	1.47E-01	2.40E-01					10/12/15 00:00	1.00E+00	11/02/15 06:15	NO
02	BI-214	MBL	BLANK	pCi/g	2.81E-02	7.93E-02	1.41E-01					10/12/15 00:00	1.00E+00	11/02/15 06:15	NO
02	K-40	MBL	BLANK	pCi/g	-1.60E-01	4.80E-01	6.41E-01					10/12/15 00:00	1.00E+00	11/02/15 06:15	NO
02	PB-212	MBL	BLANK	pCi/g	5.11E-02	5.97E-02	1.03E-01					10/12/15 00:00	1.00E+00	11/02/15 06:15	NO
02	PB-214	MBL	BLANK	pCi/g	-9.73E-03	7.13E-02	1.15E-01					10/12/15 00:00	1.00E+00	11/02/15 06:15	NO
02	RA-226	MBL	BLANK	pCi/g	2.81E-02	7.93E-02	1.41E-01					10/12/15 00:00	1.00E+00	11/02/15 06:15	NO
02	RA-228	MBL	BLANK	pCi/g	-1.93E-02	1.47E-01	2.40E-01					10/12/15 00:00	1.00E+00	11/02/15 06:15	NO
02	TH-234	MBL	BLANK	pCi/g	4.97E-01	3.79E-01	6.53E-01					10/12/15 00:00	1.00E+00	11/02/15 06:15	NO
02	TL-208	MBL	BLANK	pCi/g	7.97E-02	1.06E-01	2.03E-01					10/12/15 00:00	1.00E+00	11/02/15 06:15	NO
03	AC-228	DUP	CP0403S02-03	pCi/g	1.13E+00	2.01E-01	3.18E-01				OK	10/05/15 13:20	6.34E+02	11/03/15 06:07	YES
03	BI-214	DUP	CP0403S02-03	pCi/g	1.36E+00	1.51E-01	1.83E-01				OK	10/05/15 13:20	6.34E+02	11/03/15 06:07	YES
03	K-40	DUP	CP0403S02-03	pCi/g	1.18E+01	1.64E+00	7.34E-01				OK	10/05/15 13:20	6.34E+02	11/03/15 06:07	YES
03	PB-212	DUP	CP0403S02-03	pCi/g	1.27E+00	1.54E-01	2.23E-01					10/05/15 13:20	6.34E+02	11/03/15 06:07	YES
03	PB-214	DUP	CP0403S02-03	pCi/g	1.44E+00	1.70E-01	1.94E-01					10/05/15 13:20	6.34E+02	11/03/15 06:07	YES
03	RA-226	DUP	CP0403S02-03	pCi/g	1.36E+00	1.51E-01	1.83E-01					10/05/15 13:20	6.34E+02	11/03/15 06:07	YES
03	RA-228	DUP	CP0403S02-03	pCi/g	1.13E+00	2.01E-01	3.18E-01					10/05/15 13:20	6.34E+02	11/03/15 06:07	YES
03	TH-234	DUP	CP0403S02-03	pCi/g	1.59E+00	8.36E-01	1.36E+00					10/05/15 13:20	6.34E+02	11/03/15 06:07	NO
03	TL-208	DUP	CP0403S02-03	pCi/g	9.55E-01	1.44E-01	1.40E-01					10/05/15 13:20	6.34E+02	11/03/15 06:07	YES
04	AC-228	DO	CP0403S02-03	pCi/g	1.26E+00	1.85E-01	3.25E-01					10/05/15 13:20	6.34E+02	11/03/15 07:09	YES
04	BI-214	DO	CP0403S02-03	pCi/g	1.19E+00	1.59E-01	1.95E-01					10/05/15 13:20	6.34E+02	11/03/15 07:09	YES
04	K-40	DO	CP0403S02-03	pCi/g	1.17E+01	1.62E+00	7.04E-01					10/05/15 13:20	6.34E+02	11/03/15 07:09	YES
04	PB-212	DO	CP0403S02-03	pCi/g	1.07E+00	1.41E-01	1.91E-01					10/05/15 13:20	6.34E+02	11/03/15 07:09	YES
04	PB-214	DO	CP0403S02-03	pCi/g	1.49E+00	1.56E-01	1.84E-01					10/05/15 13:20	6.34E+02	11/03/15 07:09	YES
04	RA-226	DO	CP0403S02-03	pCi/g	1.19E+00	1.59E-01	1.95E-01					10/05/15 13:20	6.34E+02	11/03/15 07:09	YES
04	RA-228	DO	CP0403S02-03	pCi/g	1.26E+00	1.85E-01	3.25E-01					10/05/15 13:20	6.34E+02	11/03/15 07:09	YES
04	TH-234	DO	CP0403S02-03	pCi/g	1.26E+00	8.04E-01	1.30E+00					10/05/15 13:20	6.34E+02	11/03/15 07:09	NO
04	TL-208	DO	CP0403S02-03	pCi/g	8.18E-01	1.29E-01	9.79E-02					10/05/15 13:20	6.34E+02	11/03/15 07:09	YES
05	AC-228	TRG	CP0403S04-05	pCi/g	1.43E+00	2.86E-01	5.13E-01					10/05/15 13:40	5.49E+02	11/03/15 06:07	YES
05	BI-214	TRG	CP0403S04-05	pCi/g	1.56E+00	2.11E-01	2.16E-01					10/05/15 13:40	5.49E+02	11/03/15 06:07	YES
05	K-40	TRG	CP0403S04-05	pCi/g	1.95E+01	2.48E+00	1.44E+00					10/05/15 13:40	5.49E+02	11/03/15 06:07	YES
05	PB-212	TRG	CP0403S04-05	pCi/g	1.59E+00	1.80E-01	4.14E-01					10/05/15 13:40	5.49E+02	11/03/15 06:07	YES
05	PB-214	TRG	CP0403S04-05	pCi/g	1.59E+00	1.75E-01	2.78E-01					10/05/15 13:40	5.49E+02	11/03/15 06:07	YES
05	RA-226	TRG	CP0403S04-05	pCi/g	1.56E+00	2.11E-01	2.16E-01					10/05/15 13:40	5.49E+02	11/03/15 06:07	YES
05	RA-228	TRG	CP0403S04-05	pCi/g	1.43E+00	2.86E-01	5.13E-01					10/05/15 13:40	5.49E+02	11/03/15 06:07	YES
05	TH-234	TRG	CP0403S04-05	pCi/g	1.45E+00	1.54E+00	2.57E+00					10/05/15 13:40	5.49E+02	11/03/15 06:07	YES
05	TL-208	TRG	CP0403S04-05	pCi/g	1.08E+00	2.25E-01	3.00E-01					10/05/15 13:40	5.49E+02	11/03/15 06:07	YES

Lab Fraction	Nuclide	Sample Desc	Client Identification	Activity Units	Results	Error Estimate	MDA	LSC Known	LCS %R	LCS Flag	RPD Flag	Sample Date	Sample Aliquot	Counting Date/Time	Identified
06	AC-228	TRG	CP0403S07-08	pCi/g	1.55E+00	4.57E-01	1.11E+00					10/05/15 13:45	6.27E+02	11/03/15 06:07	YES
06	BI-214	TRG	CP0403S07-08	pCi/g	7.81E-01	3.08E-01	5.35E-01					10/05/15 13:45	6.27E+02	11/03/15 06:07	YES
06	K-40	TRG	CP0403S07-08	pCi/g	1.90E+01	3.26E+00	2.03E+00					10/05/15 13:45	6.27E+02	11/03/15 06:07	YES
06	PB-212	TRG	CP0403S07-08	pCi/g	1.67E+00	2.68E-01	6.71E-01					10/05/15 13:45	6.27E+02	11/03/15 06:07	YES
06	PB-214	TRG	CP0403S07-08	pCi/g	8.69E-01	2.56E-01	4.59E-01					10/05/15 13:45	6.27E+02	11/03/15 06:07	YES
06	RA-226	TRG	CP0403S07-08	pCi/g	7.81E-01	3.08E-01	5.35E-01					10/05/15 13:45	6.27E+02	11/03/15 06:07	YES
06	RA-228	TRG	CP0403S07-08	pCi/g	1.55E+00	4.57E-01	1.11E+00					10/05/15 13:45	6.27E+02	11/03/15 06:07	YES
06	TH-234	TRG	CP0403S07-08	pCi/g	1.50E+00	1.30E+00	2.02E+00					10/05/15 13:45	6.27E+02	11/03/15 06:07	NO
06	TL-208	TRG	CP0403S07-08	pCi/g	1.41E+00	3.21E-01	4.42E-01					10/05/15 13:45	6.27E+02	11/03/15 06:07	YES
07	AC-228	TRG	CP0403S09-10	pCi/g	1.34E+00	2.46E-01	4.45E-01					10/05/15 14:00	5.00E+02	11/03/15 07:09	YES
07	BI-214	TRG	CP0403S09-10	pCi/g	1.30E+00	1.68E-01	2.13E-01					10/05/15 14:00	5.00E+02	11/03/15 07:09	YES
07	K-40	TRG	CP0403S09-10	pCi/g	2.06E+01	2.36E+00	9.10E-01					10/05/15 14:00	5.00E+02	11/03/15 07:09	YES
07	PB-212	TRG	CP0403S09-10	pCi/g	1.55E+00	1.82E-01	2.67E-01					10/05/15 14:00	5.00E+02	11/03/15 07:09	YES
07	PB-214	TRG	CP0403S09-10	pCi/g	1.34E+00	1.75E-01	2.50E-01					10/05/15 14:00	5.00E+02	11/03/15 07:09	YES
07	RA-226	TRG	CP0403S09-10	pCi/g	1.30E+00	1.68E-01	2.13E-01					10/05/15 14:00	5.00E+02	11/03/15 07:09	YES
07	RA-228	TRG	CP0403S09-10	pCi/g	1.34E+00	2.46E-01	4.45E-01					10/05/15 14:00	5.00E+02	11/03/15 07:09	YES
07	TH-234	TRG	CP0403S09-10	pCi/g	2.34E+00	1.92E+00	3.19E+00					10/05/15 14:00	5.00E+02	11/03/15 07:09	YES
07	TL-208	TRG	CP0403S09-10	pCi/g	1.48E+00	2.03E-01	1.57E-01					10/05/15 14:00	5.00E+02	11/03/15 07:09	YES
08	AC-228	TRG	CP0403S11-12	pCi/g	1.96E+00	3.69E-01	7.34E-01					10/05/15 14:10	3.96E+02	11/03/15 07:09	YES
08	BI-214	TRG	CP0403S11-12	pCi/g	1.43E+00	2.94E-01	4.08E-01					10/05/15 14:10	3.96E+02	11/03/15 07:09	YES
08	K-40	TRG	CP0403S11-12	pCi/g	2.52E+01	3.24E+00	1.77E+00					10/05/15 14:10	3.96E+02	11/03/15 07:09	YES
08	PB-212	TRG	CP0403S11-12	pCi/g	2.24E+00	2.58E-01	3.30E-01					10/05/15 14:10	3.96E+02	11/03/15 07:09	YES
08	PB-214	TRG	CP0403S11-12	pCi/g	2.01E+00	2.38E-01	3.26E-01					10/05/15 14:10	3.96E+02	11/03/15 07:09	YES
08	RA-226	TRG	CP0403S11-12	pCi/g	1.43E+00	2.94E-01	4.08E-01					10/05/15 14:10	3.96E+02	11/03/15 07:09	YES
08	RA-228	TRG	CP0403S11-12	pCi/g	1.96E+00	3.69E-01	7.34E-01					10/05/15 14:10	3.96E+02	11/03/15 07:09	YES
08	TH-234	TRG	CP0403S11-12	pCi/g	2.29E+00	2.28E+00	3.02E+00					10/05/15 14:10	3.96E+02	11/03/15 07:09	NO
08	TL-208	TRG	CP0403S11-12	pCi/g	1.64E+00	3.03E-01	6.39E-02					10/05/15 14:10	3.96E+02	11/03/15 07:09	YES
09	AC-228	TRG	CP2107S02-03	pCi/g	1.78E+00	4.16E-01	6.44E-01					10/06/15 14:45	5.58E+02	11/03/15 07:09	YES
09	BI-214	TRG	CP2107S02-03	pCi/g	1.32E+00	3.66E-01	5.64E-01					10/06/15 14:45	5.58E+02	11/03/15 07:09	YES
09	K-40	TRG	CP2107S02-03	pCi/g	1.99E+01	3.37E+00	1.56E+00					10/06/15 14:45	5.58E+02	11/03/15 07:09	YES
09	PB-212	TRG	CP2107S02-03	pCi/g	2.08E+00	3.65E-01	4.26E-01					10/06/15 14:45	5.58E+02	11/03/15 07:09	YES
09	PB-214	TRG	CP2107S02-03	pCi/g	1.24E+00	2.92E-01	5.95E-01					10/06/15 14:45	5.58E+02	11/03/15 07:09	YES
09	RA-226	TRG	CP2107S02-03	pCi/g	1.32E+00	3.66E-01	5.64E-01					10/06/15 14:45	5.58E+02	11/03/15 07:09	YES
09	RA-228	TRG	CP2107S02-03	pCi/g	1.78E+00	4.15E-01	6.44E-01					10/06/15 14:45	5.58E+02	11/03/15 07:09	YES
09	TH-234	TRG	CP2107S02-03	pCi/g	1.68E+00	1.79E+00	3.00E+00					10/06/15 14:45	5.58E+02	11/03/15 07:09	YES
09	TL-208	TRG	CP2107S02-03	pCi/g	1.58E+00	3.58E-01	2.34E-01					10/06/15 14:45	5.58E+02	11/03/15 07:09	YES
10	AC-228	TRG	CP2107S05-06	pCi/g	1.39E+00	2.16E-01	3.16E-01					10/06/15 14:55	5.97E+02	11/03/15 08:12	YES
10	BI-214	TRG	CP2107S05-06	pCi/g	1.14E+00	1.68E-01	2.16E-01					10/06/15 14:55	5.97E+02	11/03/15 08:12	YES

Lab Fraction	Nuclide	Sample Desc	Client Identification	Activity Units	Results	Error Estimate	MDA	LSC Known	LCS %R	LCS Flag	RPD Flag	Sample Date	Sample Aliquot	Counting Date/Time	Identified
10	K-40	TRG	CP2107S05-06	pCi/g	1.79E+01	2.06E+00	9.46E-01					10/06/15 14:55	5.97E+02	11/03/15 08:12	YES
10	PB-212	TRG	CP2107S05-06	pCi/g	1.63E+00	1.81E-01	1.88E-01					10/06/15 14:55	5.97E+02	11/03/15 08:12	YES
10	PB-214	TRG	CP2107S05-06	pCi/g	1.23E+00	1.62E-01	2.33E-01					10/06/15 14:55	5.97E+02	11/03/15 08:12	YES
10	RA-226	TRG	CP2107S05-06	pCi/g	1.14E+00	1.68E-01	2.16E-01					10/06/15 14:55	5.97E+02	11/03/15 08:12	YES
10	RA-228	TRG	CP2107S05-06	pCi/g	1.39E+00	2.16E-01	3.16E-01					10/06/15 14:55	5.97E+02	11/03/15 08:12	YES
10	TH-234	TRG	CP2107S05-06	pCi/g	2.64E+00	1.64E+00	2.69E+00					10/06/15 14:55	5.97E+02	11/03/15 08:12	YES
10	TL-208	TRG	CP2107S05-06	pCi/g	1.20E+00	1.55E-01	1.28E-01					10/06/15 15:05	5.69E+02	11/03/15 08:12	YES
11	AC-228	TRG	CP2107S09-10	pCi/g	1.55E+00	2.16E-01	2.95E-01					10/06/15 15:05	5.69E+02	11/03/15 08:12	YES
11	BI-214	TRG	CP2107S09-10	pCi/g	1.28E+00	1.69E-01	2.24E-01					10/06/15 15:05	5.69E+02	11/03/15 08:12	YES
11	K-40	TRG	CP2107S09-10	pCi/g	1.96E+01	2.48E+00	7.91E-01					10/06/15 15:05	5.69E+02	11/03/15 08:12	YES
11	PB-212	TRG	CP2107S09-10	pCi/g	1.62E+00	1.84E-01	2.88E-01					10/06/15 15:05	5.69E+02	11/03/15 08:12	YES
11	PB-214	TRG	CP2107S09-10	pCi/g	1.34E+00	1.59E-01	2.08E-01					10/06/15 15:05	5.69E+02	11/03/15 08:12	YES
11	RA-226	TRG	CP2107S09-10	pCi/g	1.28E+00	1.69E-01	2.24E-01					10/06/15 15:05	5.69E+02	11/03/15 08:12	YES
11	RA-228	TRG	CP2107S09-10	pCi/g	1.55E+00	2.16E-01	2.95E-01					10/06/15 15:05	5.69E+02	11/03/15 08:12	YES
11	TH-234	TRG	CP2107S09-10	pCi/g	1.62E+00	1.26E+00	2.08E+00					10/06/15 15:05	5.69E+02	11/03/15 08:12	YES
11	TL-208	TRG	CP2107S09-10	pCi/g	1.19E+00	1.65E-01	1.87E-01					10/06/15 15:05	5.69E+02	11/03/15 08:12	YES
12	AC-228	TRG	CP2107S11-12	pCi/g	1.69E+00	2.56E-01	4.84E-01					10/06/15 15:10	6.34E+02	11/03/15 08:12	YES
12	BI-214	TRG	CP2107S11-12	pCi/g	1.16E+00	1.74E-01	2.52E-01					10/06/15 15:10	6.34E+02	11/03/15 08:12	YES
12	K-40	TRG	CP2107S11-12	pCi/g	1.97E+01	2.41E+00	1.37E+00					10/06/15 15:10	6.34E+02	11/03/15 08:12	YES
12	PB-212	TRG	CP2107S11-12	pCi/g	1.46E+00	1.69E-01	2.45E-01					10/06/15 15:10	6.34E+02	11/03/15 08:12	YES
12	PB-214	TRG	CP2107S11-12	pCi/g	1.10E+00	1.59E-01	2.88E-01					10/06/15 15:10	6.34E+02	11/03/15 08:12	YES
12	RA-226	TRG	CP2107S11-12	pCi/g	1.16E+00	1.74E-01	2.52E-01					10/06/15 15:10	6.34E+02	11/03/15 08:12	YES
12	RA-228	TRG	CP2107S11-12	pCi/g	1.69E+00	2.56E-01	4.84E-01					10/06/15 15:10	6.34E+02	11/03/15 08:12	YES
12	TH-234	TRG	CP2107S11-12	pCi/g	1.80E+00	1.90E+00	3.17E+00					10/06/15 15:10	6.34E+02	11/03/15 08:12	YES
12	TL-208	TRG	CP2107S11-12	pCi/g	1.31E+00	2.02E-01	1.73E-01					10/06/15 15:10	6.34E+02	11/03/15 08:12	YES
13	AC-228	TRG	CP2107S14-15	pCi/g	1.17E+00	4.47E-01	8.88E-01					10/06/15 15:20	6.03E+02	11/03/15 08:12	YES
13	BI-214	TRG	CP2107S14-15	pCi/g	9.25E-01	2.56E-01	3.94E-01					10/06/15 15:20	6.03E+02	11/03/15 08:12	YES
13	K-40	TRG	CP2107S14-15	pCi/g	1.81E+01	3.21E+00	2.14E+00					10/06/15 15:20	6.03E+02	11/03/15 08:12	YES
13	PB-212	TRG	CP2107S14-15	pCi/g	2.05E+00	3.44E-01	3.83E-01					10/06/15 15:20	6.03E+02	11/03/15 08:12	YES
13	PB-214	TRG	CP2107S14-15	pCi/g	1.03E+00	2.31E-01	5.29E-01					10/06/15 15:20	6.03E+02	11/03/15 08:12	YES
13	RA-226	TRG	CP2107S14-15	pCi/g	9.25E-01	2.56E-01	3.94E-01					10/06/15 15:20	6.03E+02	11/03/15 08:12	YES
13	RA-228	TRG	CP2107S14-15	pCi/g	1.17E+00	4.47E-01	8.88E-01					10/06/15 15:20	6.03E+02	11/03/15 08:12	YES
13	TH-234	TRG	CP2107S14-15	pCi/g	1.99E+00	1.30E+00	2.06E+00					10/06/15 15:20	6.03E+02	11/03/15 08:12	NO
13	TL-208	TRG	CP2107S14-15	pCi/g	1.44E+00	3.28E-01	4.33E-01					10/06/15 15:20	6.03E+02	11/03/15 08:12	YES
14	AC-228	TRG	CP2107S17-18	pCi/g	1.44E+00	2.16E-01	3.85E-01					10/06/15 15:30	5.73E+02	11/03/15 09:16	YES
14	BI-214	TRG	CP2107S17-18	pCi/g	1.16E+00	1.67E-01	2.19E-01					10/06/15 15:30	5.73E+02	11/03/15 09:16	YES
14	K-40	TRG	CP2107S17-18	pCi/g	2.17E+01	2.40E+00	9.59E-01					10/06/15 15:30	5.73E+02	11/03/15 09:16	YES
14	PB-212	TRG	CP2107S17-18	pCi/g	1.57E+00	1.78E-01	2.22E-01					10/06/15 15:30	5.73E+02	11/03/15 09:16	YES

Preliminary Data Report & Analytical Calculations
Work Order: 15-10063-Gamma-1

Lab Fraction	Nuclide	Sample Desc	Client Identification	Activity Units	Results	Error Estimate	MDA	LSC Known	LCS %R	LCS Flag	RPD Flag	Sample Date	Sample Aliquot	Counting Date/Time	Identified
14	PB-214	TRG	CP2107S17-18	pCi/g	1.19E+00	1.59E-01	2.42E-01					10/06/15 15:30	5.73E+02	11/03/15 09:16	YES
14	RA-226	TRG	CP2107S17-18	pCi/g	1.16E+00	1.67E-01	2.19E-01					10/06/15 15:30	5.73E+02	11/03/15 09:16	YES
14	RA-228	TRG	CP2107S17-18	pCi/g	1.44E+00	2.16E-01	3.89E-01					10/06/15 15:30	5.73E+02	11/03/15 09:16	YES
14	TH-234	TRG	CP2107S17-18	pCi/g	1.65E+00	1.56E+00	2.69E+00					10/06/15 15:30	5.73E+02	11/03/15 09:16	YES
14	TL-208	TRG	CP2107S17-18	pCi/g	1.30E+00	2.03E-01	1.51E-01					10/06/15 15:30	5.73E+02	11/03/15 09:16	YES
15	AC-228	TRG	CP2107S19-20	pCi/g	1.26E+00	2.32E-01	3.69E-01					10/06/15 15:40	5.54E+02	11/03/15 09:16	YES
15	BI-214	TRG	CP2107S19-20	pCi/g	1.02E+00	1.78E-01	3.09E-01					10/06/15 15:40	5.54E+02	11/03/15 09:16	YES
15	K-40	TRG	CP2107S19-20	pCi/g	2.08E+01	2.59E+00	1.17E+00					10/06/15 15:40	5.54E+02	11/03/15 09:16	YES
15	PB-212	TRG	CP2107S19-20	pCi/g	1.56E+00	1.84E-01	2.86E-01					10/06/15 15:40	5.54E+02	11/03/15 09:16	YES
15	PB-214	TRG	CP2107S19-20	pCi/g	1.10E+00	1.52E-01	2.11E-01					10/06/15 15:40	5.54E+02	11/03/15 09:16	YES
15	RA-226	TRG	CP2107S19-20	pCi/g	1.02E+00	1.78E-01	3.09E-01					10/06/15 15:40	5.54E+02	11/03/15 09:16	YES
15	RA-228	TRG	CP2107S19-20	pCi/g	1.26E+00	2.32E-01	3.69E-01					10/06/15 15:40	5.54E+02	11/03/15 09:16	YES
15	TH-234	TRG	CP2107S19-20	pCi/g	1.61E+00	9.29E-01	1.51E+00					10/06/15 15:40	5.54E+02	11/03/15 09:16	NO
15	TL-208	TRG	CP2107S19-20	pCi/g	1.13E+00	1.63E-01	1.55E-01					10/06/15 15:40	5.54E+02	11/03/15 09:16	YES
16	AC-228	TRG	CP5005S01-02	pCi/g	1.18E+00	2.54E-01	4.85E-01					10/06/15 09:00	6.07E+02	11/03/15 09:16	YES
16	BI-214	TRG	CP5005S01-02	pCi/g	1.32E+00	1.97E-01	2.62E-01					10/06/15 09:00	6.07E+02	11/03/15 09:16	YES
16	K-40	TRG	CP5005S01-02	pCi/g	1.74E+01	2.16E+00	8.99E-01					10/06/15 09:00	6.07E+02	11/03/15 09:16	YES
16	PB-212	TRG	CP5005S01-02	pCi/g	1.42E+00	1.70E-01	4.09E-01					10/06/15 09:00	6.07E+02	11/03/15 09:16	YES
16	PB-214	TRG	CP5005S01-02	pCi/g	1.43E+00	2.19E-01	3.64E-01					10/06/15 09:00	6.07E+02	11/03/15 09:16	YES
16	RA-226	TRG	CP5005S01-02	pCi/g	1.32E+00	1.97E-01	2.62E-01					10/06/15 09:00	6.07E+02	11/03/15 09:16	YES
16	RA-228	TRG	CP5005S01-02	pCi/g	1.18E+00	2.54E-01	4.85E-01					10/06/15 09:00	6.07E+02	11/03/15 09:16	YES
16	TH-234	TRG	CP5005S01-02	pCi/g	2.54E+00	1.78E+00	2.95E+00					10/06/15 09:00	6.07E+02	11/03/15 09:16	YES
16	TL-208	TRG	CP5005S01-02	pCi/g	1.27E+00	2.19E-01	4.17E-02					10/06/15 09:00	6.07E+02	11/03/15 09:16	YES
17	AC-228	TRG	CP5005S04-05	pCi/g	1.10E+00	4.66E-01	8.95E-01					10/06/15 09:10	6.00E+02	11/03/15 09:16	NO
17	BI-214	TRG	CP5005S04-05	pCi/g	1.22E+00	2.70E-01	4.06E-01					10/06/15 09:10	6.00E+02	11/03/15 09:16	YES
17	K-40	TRG	CP5005S04-05	pCi/g	1.72E+01	3.22E+00	2.68E+00					10/06/15 09:10	6.00E+02	11/03/15 09:16	YES
17	PB-212	TRG	CP5005S04-05	pCi/g	1.64E+00	3.06E-01	3.69E-01					10/06/15 09:10	6.00E+02	11/03/15 09:16	YES
17	PB-214	TRG	CP5005S04-05	pCi/g	1.32E+00	3.14E-01	4.81E-01					10/06/15 09:10	6.00E+02	11/03/15 09:16	YES
17	RA-226	TRG	CP5005S04-05	pCi/g	1.22E+00	2.70E-01	4.06E-01					10/06/15 09:10	6.00E+02	11/03/15 09:16	YES
17	RA-228	TRG	CP5005S04-05	pCi/g	1.10E+00	4.66E-01	8.95E-01					10/06/15 09:10	6.00E+02	11/03/15 09:16	NO
17	TH-234	TRG	CP5005S04-05	pCi/g	1.47E+00	1.52E+00	2.54E+00					10/06/15 09:10	6.00E+02	11/03/15 09:16	YES
17	TL-208	TRG	CP5005S04-05	pCi/g	1.25E+00	3.07E-01	4.28E-01					10/06/15 09:10	6.00E+02	11/03/15 09:16	YES
18	AC-228	TRG	CP5005S05-06	pCi/g	1.76E+00	2.55E-01	4.69E-01					10/06/15 09:20	4.64E+02	11/03/15 10:17	YES
18	BI-214	TRG	CP5005S05-06	pCi/g	1.52E+00	1.85E-01	6.31E-02					10/06/15 09:20	4.64E+02	11/03/15 10:17	YES
18	K-40	TRG	CP5005S05-06	pCi/g	2.10E+01	2.42E+00	1.15E+00					10/06/15 09:20	4.64E+02	11/03/15 10:17	YES
18	PB-212	TRG	CP5005S05-06	pCi/g	1.94E+00	2.15E-01	2.45E-01					10/06/15 09:20	4.64E+02	11/03/15 10:17	YES
18	PB-214	TRG	CP5005S05-06	pCi/g	1.60E+00	2.03E-01	2.62E-01					10/06/15 09:20	4.64E+02	11/03/15 10:17	YES
18	RA-226	TRG	CP5005S05-06	pCi/g	1.52E+00	1.85E-01	6.31E-02					10/06/15 09:20	4.64E+02	11/03/15 10:17	YES

Lab Fraction	Nuclide	Sample Desc	Client Identification	Activity Units	Results	Error Estimate	MDA	LSC Known	LCS %R	LCS Flag	RPD Flag	Sample Date	Sample Aliquot	Counting Date/Time	Identified
18	RA-228	TRG	CP5005S05-06	pCi/g	1.76E+00	2.56E-01	4.69E-01					10/06/15 09:20	4.64E+02	11/03/15 10:17	YES
18	TH-234	TRG	CP5005S05-06	pCi/g	2.61E+00	1.84E+00	3.03E+00					10/06/15 09:20	4.64E+02	11/03/15 10:17	YES
18	TL-208	TRG	CP5005S05-06	pCi/g	1.18E+00	1.99E-01	1.75E-01					10/06/15 09:20	4.64E+02	11/03/15 10:17	YES
19	AC-228	TRG	CP5005S09-10	pCi/g	1.58E+00	2.80E-01	4.75E-01					10/06/15 09:30	4.23E+02	11/03/15 10:18	YES
19	BI-214	TRG	CP5005S09-10	pCi/g	1.90E+00	2.41E-01	3.04E-01					10/06/15 09:30	4.23E+02	11/03/15 10:18	YES
19	K-40	TRG	CP5005S09-10	pCi/g	2.58E+01	3.27E+00	1.06E+00					10/06/15 09:30	4.23E+02	11/03/15 10:18	YES
19	PB-212	TRG	CP5005S09-10	pCi/g	1.97E+00	2.39E-01	3.17E-01					10/06/15 09:30	4.23E+02	11/03/15 10:18	YES
19	PB-214	TRG	CP5005S09-10	pCi/g	1.98E+00	2.23E-01	2.91E-01					10/06/15 09:30	4.23E+02	11/03/15 10:18	YES
19	RA-226	TRG	CP5005S09-10	pCi/g	1.90E+00	2.41E-01	3.04E-01					10/06/15 09:30	4.23E+02	11/03/15 10:18	YES
19	RA-228	TRG	CP5005S09-10	pCi/g	1.58E+00	2.80E-01	4.75E-01					10/06/15 09:30	4.23E+02	11/03/15 10:18	YES
19	TH-234	TRG	CP5005S09-10	pCi/g	2.17E+00	1.20E+00	1.96E+00					10/06/15 09:30	4.23E+02	11/03/15 10:18	NO
19	TL-208	TRG	CP5005S09-10	pCi/g	1.34E+00	1.93E-01	1.47E-01					10/06/15 09:30	4.23E+02	11/03/15 10:18	YES
20	AC-228	TRG	CP5005S12-13	pCi/g	1.78E+00	3.23E-01	5.56E-01					10/06/15 09:40	4.33E+02	11/03/15 10:18	YES
20	BI-214	TRG	CP5005S12-13	pCi/g	1.56E+00	2.47E-01	3.42E-01					10/06/15 09:40	4.33E+02	11/03/15 10:18	YES
20	K-40	TRG	CP5005S12-13	pCi/g	2.40E+01	3.06E+00	1.71E+00					10/06/15 09:40	4.33E+02	11/03/15 10:18	YES
20	PB-212	TRG	CP5005S12-13	pCi/g	2.02E+00	2.33E-01	3.75E-01					10/06/15 09:40	4.33E+02	11/03/15 10:18	YES
20	PB-214	TRG	CP5005S12-13	pCi/g	2.07E+00	2.59E-01	3.74E-01					10/06/15 09:40	4.33E+02	11/03/15 10:18	YES
20	RA-226	TRG	CP5005S12-13	pCi/g	1.56E+00	2.47E-01	3.42E-01					10/06/15 09:40	4.33E+02	11/03/15 10:18	YES
20	RA-228	TRG	CP5005S12-13	pCi/g	1.78E+00	3.23E-01	5.56E-01					10/06/15 09:40	4.33E+02	11/03/15 10:18	YES
20	TH-234	TRG	CP5005S12-13	pCi/g	3.98E+00	3.01E+00	4.98E+00					10/06/15 09:40	4.33E+02	11/03/15 10:18	YES
20	TL-208	TRG	CP5005S12-13	pCi/g	1.57E+00	2.54E-01	2.68E-01					10/06/15 09:40	4.33E+02	11/03/15 10:18	YES

Handwritten:
 10063

Internal Fraction	Sample Desc	Client ID	Sample Date	Sample Aliquot	Tracer Aliquot (g)	Tracer ACT (dpm)	Radiometric Tracer (pCi)	Radiometric % Rec	SAF 1*	SAF 2*
01	LCS	LCS	10/12/15 00:00	1.0000				0.00		
02	MBL	BLANK	10/12/15 00:00	1.0000				0.00		
03	DUP	CP0403S02-03	10/05/15 13:20	634.0700				0.00		
04	DO	CP0403S02-03	10/05/15 13:20	634.0700				0.00		
05	TRG	CP0403S04-05	10/05/15 13:40	549.1800				0.00		
06	TRG	CP0403S07-08	10/05/15 13:45	626.7400				0.00		
07	TRG	CP0403S09-10	10/05/15 14:00	499.9700				0.00		
08	TRG	CP0403S11-12	10/05/15 14:10	396.1200				0.00		
09	TRG	CP2107S02-03	10/06/15 14:45	557.9800				0.00		
10	TRG	CP2107S05-06	10/06/15 14:55	596.9400				0.00		
11	TRG	CP2107S09-10	10/06/15 15:05	568.7000				0.00		
12	TRG	CP2107S11-12	10/06/15 15:10	634.1700				0.00		
13	TRG	CP2107S14-15	10/06/15 15:20	602.6600				0.00		
14	TRG	CP2107S17-18	10/06/15 15:30	573.3800				0.00		
15	TRG	CP2107S19-20	10/06/15 15:40	554.2500				0.00		
16	TRG	CP5005S01-02	10/06/15 09:00	606.5600				0.00		
17	TRG	CP5005S04-05	10/06/15 09:10	599.7600				0.00		
18	TRG	CP5005S05-06	10/06/15 09:20	463.8700				0.00		
19	TRG	CP5005S09-10	10/06/15 09:30	422.6200				0.00		
20	TRG	CP5005S12-13	10/06/15 09:40	433.4700				0.00		

Aliquot Worksheet

Work Order		Run		Analysis Code		Rpt Units		Lab Deadline		Technician	
15-10063		1		Gamma		grams		11/3/2015		KSALLINGS	

Lab Fraction	Auxier & Associates, Inc.		Sample Type	Muffle Data		Dilution Data			Aliquot Data		MS Aliquot Data		H-3 Solids Only	
	Client ID			Ratio Post/Pre	No of Dils	Dil Factor	Ratio	Aliquot	Net Equiv	Aliquot	Net Equiv	Water Added (ml)	H3 Dist Aliq	
01	LCS		LCS						1.0000E+00	1.0000E+00				
02	BLANK		MBL						1.0000E+00	1.0000E+00				
03	CP0403S02-03		DUP						6.3407E+02	6.3407E+02				
04	CP0403S02-03		DO						6.3407E+02	6.3407E+02				
05	CP0403S04-05		TRG						5.4918E+02	5.4918E+02				
06	CP0403S07-08		TRG						6.2674E+02	6.2674E+02				
07	CP0403S09-10		TRG						4.9997E+02	4.9997E+02				
08	CP0403S11-12		TRG						3.9612E+02	3.9612E+02				
09	CP2107S02-03		TRG						5.5798E+02	5.5798E+02				
10	CP2107S05-06		TRG						5.9694E+02	5.9694E+02				
11	CP2107S09-10		TRG						5.6870E+02	5.6870E+02				
12	CP2107S11-12		TRG						6.3417E+02	6.3417E+02				
13	CP2107S14-15		TRG						6.0266E+02	6.0266E+02				
14	CP2107S17-18		TRG						5.7338E+02	5.7338E+02				
15	CP2107S19-20		TRG						5.5425E+02	5.5425E+02				
16	CP5005S01-02		TRG						6.0656E+02	6.0656E+02				
17	CP5005S04-05		TRG						5.9976E+02	5.9976E+02				
18	CP5005S05-06		TRG						4.6387E+02	4.6387E+02				
19	CP5005S09-10		TRG						4.2262E+02	4.2262E+02				
20	CP5005S12-13		TRG						4.3347E+02	4.3347E+02				

Comments

Technician: Kenny Seely Date: 10/13/15

**Rough Sample Preparation
 Log Book**

Work Order	Lab Deadline	Date Received in Prep	Date Sealed	Date Returned	Technician
15-10063	11/3/2015	10/12/2015	10/13/2015	10/14/2015	KSALLINGS

Eberline Fraction	Auxier & Associates, Inc. Client ID	Tare (g)		Gross (g)		Net (g)		Percent		Gamma		Special Info
		Pan Wt	Dry Wt	Wet Wt.	Dry Wt.	Wet Wt.	Dry Wt.	Liquid	Solid	Dry Wt.	LEPS Wt.	
04	CP0403S02-03	14.5500	709.9700	796.7100	709.9700	782.1600	695.4200	11.09%	88.91%			
05	CP0403S04-05	14.5800	863.0400	1034.8800	863.0400	1020.3000	848.4600	16.84%	83.16%			
06	CP0403S07-08	14.6000	723.4200	885.3600	723.4200	870.7600	708.8200	18.60%	81.40%			
07	CP0403S09-10	14.6000	574.7300	731.6900	574.7300	717.0900	560.1300	21.89%	78.11%			
08	CP0403S11-12	14.5900	462.6800	596.5300	462.6800	581.9400	448.0900	23.00%	77.00%			
09	CP2107S02-03	14.5700	849.3000	1026.0800	849.3000	1011.5100	834.7300	17.48%	82.52%			
10	CP2107S05-06	14.5100	668.3700	819.8000	668.3700	805.2900	653.8600	18.80%	81.20%			
11	CP2107S09-10	14.5600	732.6500	903.9400	732.6500	889.3800	718.0900	19.26%	80.74%			
12	CP2107S11-12	14.5500	838.7800	1075.7200	838.7800	1061.1700	824.2300	22.33%	77.67%			
13	CP2107S14-15	14.5400	897.1200	1135.0200	897.1200	1120.4800	882.5800	21.23%	78.77%			
14	CP2107S17-18	14.5400	729.1700	946.8000	729.1700	932.2600	714.6300	23.34%	76.66%			
15	CP2107S19-20	14.5200	619.4000	819.1600	619.4000	804.6400	604.8800	24.83%	75.17%			
16	CP5005S01-02	14.5400	815.8600	982.8400	815.8600	968.3000	801.3200	17.24%	82.76%			
17	CP5005S04-05	14.5500	810.2000	999.6400	810.2000	985.0900	795.6500	19.23%	80.77%			
18	CP5005S05-06	14.4900	526.7700	659.2000	526.7700	644.7100	512.2800	20.54%	79.46%			
19	CP5005S09-10	14.4800	485.1300	613.8400	485.1300	599.3600	470.6500	21.47%	78.53%			
20	CP5005S12-13	14.5100	497.3000	641.0200	497.3000	626.5100	482.7900	22.94%	77.06%			

Comments
Special Codes
H: Hot, O: Organic Hazard, P: PCB Hazard, R: Rush, T: Other (see comments)

Technician: *Kenny Saei*

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

GAS-1302

94268

Sand in 16 Ounce PP Taral Jar Filled to Top

Customer: Eberline Analytical Corporation
P.O. No.: 1304009, Item 7 **Product Code:** 8401-EG-SAN
Reference Date: 01-Jul-2013 12:00 PM EST **Grams of Master Source:** 0.017994

This standard radionuclide source was prepared using aliquots measured gravimetrically from master radionuclide solutions. Additional radionuclides were added gravimetrically from solutions calibrated by gamma-ray spectrometry, ionization chamber, or liquid scintillation counting. Calibration and purity were checked using a germanium gamma spectrometer system. At the time of calibration no interfering gamma-ray emitting impurities were detected. The gamma-ray emission rates for the most intense gamma-ray lines are given. Eckert & Ziegler Analytics (EZA) maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Revision 2, July 2007, and compliance with ANSI N42.22-1995, "Traceability of Radioactive Sources to NIST." EZA is accredited by the Health Physics Society (HPS) for the production of NIST-traceable sources, and this source was produced in accordance with the HPS accreditation requirements. Customers may report any concerns with the accreditation program to the HPS Secretariat, 1313 Dolley Madison Blvd., Ste. 402, McLean, VA 22101.

Nuclide	Gamma-Ray Energy (keV)	Half-Life, Days	Master Source* yps/gram	This Source yps	Uncertainty*, %			Calibration Method*
					u _A	u _B	U	
Am-241	59.5	1.580E+05	-----	2.094E+03	0.1	1.7	3.5	4π LS
Cd-109	88.0	4.626E+02	1.641E+05	2.952E+03	0.5	2.3	4.7	HPGe
Co-57	122.1	2.718E+02	8.865E+04	1.595E+03	0.4	2.0	4.1	HPGe
Ce-139	165.9	1.376E+02	1.243E+05	2.236E+03	0.4	1.9	3.9	HPGe
Hg-203	279.2	4.661E+01	2.627E+05	4.727E+03	0.3	1.9	3.8	HPGe
Sn-113	391.7	1.151E+02	1.736E+05	3.124E+03	0.4	1.9	3.9	HPGe
Cs-137	661.7	1.098E+04	1.120E+05	2.015E+03	0.7	1.9	4.0	HPGe
Y-88	898.0	1.066E+02	4.197E+05	7.553E+03	0.5	1.9	3.9	HPGe
Co-60	1173.2	1.925E+03	2.074E+05	3.732E+03	0.6	1.9	4.0	HPGe
Co-60	1332.5	1.925E+03	2.074E+05	3.732E+03	0.7	1.9	4.0	HPGe
Y-88	1836.1	1.066E+02	4.444E+05	7.996E+03	0.7	1.9	4.0	HPGe

* Master Source refers to Analytics' 8-isotope mixture which is calibrated quarterly.

Calibration Methods: 4π LS - 4 pi Liquid Scintillation Counting, HPGe - High Purity Germanium Gamma-Ray Spectrometer, IC - Ionization Chamber. **Uncertainty:** U - Relative expanded uncertainty, k = 2. See NIST Technical Note 1297, "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results."

(Certificate continued on reverse side)



Analysis Report for 1510063-01
GAS-1302

11/2

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510063-01
Sample Description : GAS-1302
Sample Type : SOIL

Sample Size : 7.360E+02 grams
Facility : Countroom

Sample Taken On : 7/1/2013 6:41:56AM
Acquisition Started : 11/2/2015 8:18:30AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE4
Geometry : GAS-1402
Live Time : 1800.0 seconds
Real Time : 1840.1 seconds

Dead Time : 2.18 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 14 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 11/8/2014
Efficiency Calibration Description :

Sample Number : 28963

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/3/15

Analysis Report for 1510063-01

GAS-1302

PEAK LOCATE REPORT

Peak Locate Performed on : 11/2/2015 8:49:13AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096
 Peak Search Sensitivity : 2.50

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
1	22.31	21.55	0.0000	0.00
2	31.75	31.00	0.0000	0.00
3	53.81	53.07	0.0000	0.00
4	59.35	58.61	0.0000	0.00
5	67.40	66.67	0.0000	0.00
6	87.76	87.03	0.0000	0.00
7	121.93	121.22	0.0000	0.00
8	136.69	135.99	0.0000	0.00
9	165.56	164.87	0.0000	0.00
10	361.61	361.00	0.0000	0.00
11	391.66	391.06	0.0000	0.00
12	511.10	510.56	0.0000	0.00
13	649.22	648.75	0.0000	0.00
14	661.64	661.17	0.0000	0.00
15	704.05	703.61	0.0000	0.00
16	819.73	819.34	0.0000	0.00
17	897.67	897.32	0.0000	0.00
18	948.91	948.59	0.0000	0.00
19	976.49	976.18	0.0000	0.00
20	1053.75	1053.49	0.0000	0.00
21	1173.22	1173.02	0.0000	0.00
22	1332.54	1332.43	0.0000	0.00
23	1524.28	1524.29	0.0000	0.00
24	1661.51	1661.61	0.0000	0.00
25	1729.44	1729.58	0.0000	0.00
26	1806.07	1806.26	0.0000	0.00
27	1835.82	1836.03	0.0000	0.00
28	1844.91	1845.13	0.0000	0.00
29	1925.43	1925.70	0.0000	0.00
30	2190.16	2190.62	0.0000	0.00
31	2251.86	2252.36	0.0000	0.00
32	2505.86	2506.55	0.0000	0.00
33	2613.85	2614.63	0.0000	0.00

? = Adjacent peak noted

Errors quoted at 2.000sigma

Analysis Report for 1510063-01

GAS-1302

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/2/2015 8:49:13AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
1	22.31	19 -	25	21.55	7.30E+04	781.47	5.89E+04	2.54
2	31.75	29 -	33	31.00	1.11E+03	206.44	8.56E+03	2.55
M 3	53.81	42 -	63	53.07	1.84E+04	992.53	5.52E+04	6.63
m 4	59.35	42 -	63	58.61	5.54E+04	599.32	1.89E+04	2.34
5	67.40	64 -	70	66.67	4.79E+02	336.99	2.04E+04	1.88
6	87.76	80 -	93	87.03	2.61E+04	627.44	3.15E+04	2.49
7	121.93	116 -	126	121.22	5.24E+03	377.99	1.62E+04	2.42
8	136.69	133 -	140	135.99	5.96E+02	256.98	1.06E+04	2.12
9	165.56	161 -	168	164.87	5.69E+02	242.31	9.41E+03	2.39
10	361.61	357 -	364	361.00	1.71E+02	172.39	4.84E+03	5.08
11	391.66	388 -	396	391.06	2.32E+02	190.55	5.44E+03	2.04
12	511.10	507 -	514	510.56	1.46E+02	148.24	3.54E+03	3.84
13	649.22	646 -	652	648.75	1.09E+02	115.18	2.34E+03	2.21
14	661.64	653 -	667	661.17	1.17E+04	304.31	4.85E+03	2.65
15	704.05	700 -	709	703.61	1.53E+02	139.70	2.71E+03	4.89
16	819.73	816 -	823	819.34	9.69E+01	118.81	2.30E+03	2.17
17	897.67	894 -	901	897.32	1.32E+02	132.73	2.86E+03	1.24
18	948.91	945 -	952	948.59	1.35E+02	140.85	3.21E+03	3.27
19	976.49	973 -	980	976.18	1.35E+02	120.83	2.35E+03	3.43
20	1053.75	1050 -	1057	1053.49	1.13E+02	114.37	2.11E+03	2.15
21	1173.22	1166 -	1179	1173.02	9.85E+03	235.27	1.77E+03	2.83
22	1332.54	1326 -	1338	1332.43	8.85E+03	196.19	3.60E+02	2.81
23	1524.28	1521 -	1531	1524.29	2.07E+01	18.37	3.65E+01	2.84
24	1661.51	1655 -	1667	1661.61	1.90E+01	18.74	3.21E+01	1.72
25	1729.44	1723 -	1735	1729.58	1.39E+01	18.20	3.21E+01	3.68
26	1806.07	1801 -	1811	1806.26	1.65E+01	12.19	1.10E+01	4.52
M 27	1835.82	1820 -	1849	1836.03	7.48E+01	21.88	1.66E+01	3.64
m 28	1844.91	1820 -	1849	1845.13	1.39E+01	13.44	1.72E+01	3.65
29	1925.43	1921 -	1932	1925.70	1.25E+01	13.86	1.69E+01	4.97
30	2190.16	2185 -	2200	2190.62	1.73E+01	17.66	2.54E+01	7.75
31	2251.86	2249 -	2256	2252.36	6.00E+00	8.49	8.00E+00	1.94
32	2505.86	2502 -	2510	2506.55	3.10E+01	11.14	0.00E+00	2.26
33	2613.85	2610 -	2617	2614.63	8.00E+00	5.66	0.00E+00	1.92

Analysis Report for 1510063-01

GAS-1302

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/2/2015 8:49:13AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
1	22.31	19 -	25	7.30E+04	781.47	5.89E+04	4.64E+02
2	31.75	29 -	33	1.11E+03	206.44	8.56E+03	1.61E+02
M 3	53.81	42 -	63	1.84E+04	992.53	5.52E+04	3.86E+02
m 4	59.35	42 -	63	5.54E+04	599.32	1.89E+04	2.26E+02
5	67.40	64 -	70	4.79E+02	336.99	2.04E+04	2.75E+02
6	87.76	80 -	93	2.61E+04	627.44	3.15E+04	4.42E+02
7	121.93	116 -	126	5.24E+03	377.99	1.62E+04	2.87E+02
8	136.69	133 -	140	5.96E+02	256.98	1.06E+04	2.07E+02
9	165.56	161 -	168	5.69E+02	242.31	9.41E+03	1.95E+02
10	361.61	357 -	364	1.71E+02	172.39	4.84E+03	1.40E+02
11	391.66	388 -	396	2.32E+02	190.55	5.44E+03	1.55E+02
12	511.10	507 -	514	1.46E+02	148.24	3.54E+03	1.20E+02
13	649.22	646 -	652	1.09E+02	115.18	2.34E+03	9.31E+01
14	661.64	653 -	667	1.17E+04	304.31	4.85E+03	1.76E+02
15	704.05	700 -	709	1.53E+02	139.70	2.71E+03	1.13E+02
16	819.73	816 -	823	9.69E+01	118.81	2.30E+03	9.63E+01
17	897.67	894 -	901	1.32E+02	132.73	2.86E+03	1.07E+02
18	948.91	945 -	952	1.35E+02	140.85	3.21E+03	1.14E+02
19	976.49	973 -	980	1.35E+02	120.83	2.35E+03	9.75E+01
20	1053.75	1050 -	1057	1.13E+02	114.37	2.11E+03	9.24E+01
21	1173.22	1166 -	1179	9.85E+03	235.27	1.77E+03	1.04E+02
22	1332.54	1326 -	1338	8.85E+03	196.19	3.60E+02	4.57E+01
23	1524.28	1521 -	1531	2.07E+01	18.37	3.65E+01	1.31E+01
24	1661.51	1655 -	1667	1.90E+01	18.74	3.21E+01	1.36E+01
25	1729.44	1723 -	1735	1.39E+01	18.20	3.21E+01	1.36E+01
26	1806.07	1801 -	1811	1.65E+01	12.19	1.10E+01	7.47E+00
M 27	1835.82	1820 -	1849	7.48E+01	21.88	1.66E+01	6.70E+00
m 28	1844.91	1820 -	1849	1.39E+01	13.44	1.72E+01	6.82E+00
29	1925.43	1921 -	1932	1.25E+01	13.86	1.69E+01	9.79E+00
30	2190.16	2185 -	2200	1.73E+01	17.66	2.54E+01	1.28E+01
31	2251.86	2249 -	2256	6.00E+00	8.49	8.00E+00	5.70E+00

Analysis Report for 1510063-01

GAS-1302

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
32	2505.86	2502 -	2510	3.10E+01	11.14	0.00E+00	0.00E+00
33	2613.85	2610 -	2617	8.00E+00	5.66	0.00E+00	0.00E+00

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

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/2/2015 8:49:13AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
1	22.31	19 -	25	21.55	7.30E+04	781.47	5.89E+04	.....
2	31.75	29 -	33	31.00	1.11E+03	206.44	8.56E+03	.....
M	3	42 -	63	53.07	1.84E+04	992.53	5.52E+04	.....
m	4	42 -	63	58.61	5.54E+04	599.32	1.89E+04	AM-241
5	67.40	64 -	70	66.67	4.79E+02	336.99	2.04E+04	TH-230 TA-182 TI-44 TM-171
6	87.76	80 -	93	87.03	2.61E+04	627.44	3.15E+04	SN-126 CD-109 LU-176
7	121.93	116 -	126	121.22	5.24E+03	377.99	1.62E+04	CO-57 EU-152 SE-75
8	136.69	133 -	140	135.99	5.96E+02	256.98	1.06E+04	CO-57 SE-75
9	165.56	161 -	168	164.87	5.69E+02	242.31	9.41E+03	CE-139
10	361.61	357 -	364	361.00	1.71E+02	172.39	4.84E+03	.....
11	391.66	388 -	396	391.06	2.32E+02	190.55	5.44E+03	SN-113
12	511.10	507 -	514	510.56	1.46E+02	148.24	3.54E+03	.....
13	649.22	646 -	652	648.75	1.09E+02	115.18	2.34E+03	.....
14	661.64	653 -	667	661.17	1.17E+04	304.31	4.85E+03	CS-137
15	704.05	700 -	709	703.61	1.53E+02	139.70	2.71E+03	.....
16	819.73	816 -	823	819.34	9.69E+01	118.81	2.30E+03	.....

Analysis Report for 1510063-01

GAS-1302

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
17	897.67	894 -	901	897.32	1.32E+02	132.73	2.86E+03	Y-88
18	948.91	945 -	952	948.59	1.35E+02	140.85	3.21E+03	.....
19	976.49	973 -	980	976.18	1.35E+02	120.83	2.35E+03	.....
20	1053.75	1050 -	1057	1053.49	1.13E+02	114.37	2.11E+03	.....
21	1173.22	1166 -	1179	1173.02	9.85E+03	235.27	1.77E+03	CO-60
22	1332.54	1326 -	1338	1332.43	8.85E+03	196.19	3.60E+02	CO-60
23	1524.28	1521 -	1531	1524.29	2.07E+01	18.37	3.65E+01	.....
24	1661.51	1655 -	1667	1661.61	1.90E+01	18.74	3.21E+01	.....
25	1729.44	1723 -	1735	1729.58	1.39E+01	18.20	3.21E+01	.....
26	1806.07	1801 -	1811	1806.26	1.65E+01	12.19	1.10E+01	.....
M 27	1835.82	1820 -	1849	1836.03	7.48E+01	21.88	1.66E+01	Y-88
m 28	1844.91	1820 -	1849	1845.13	1.39E+01	13.44	1.72E+01	.....
29	1925.43	1921 -	1932	1925.70	1.25E+01	13.86	1.69E+01	.....
30	2190.16	2185 -	2200	2190.62	1.73E+01	17.66	2.54E+01	.....
31	2251.86	2249 -	2256	2252.36	6.00E+00	8.49	8.00E+00	.....
32	2505.86	2502 -	2510	2506.55	3.10E+01	11.14	0.00E+00	.....
33	2613.85	2610 -	2617	2614.63	8.00E+00	5.66	0.00E+00	TL-208

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/2/2015 8:49:13AM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	22.31	7.30E+04	781.47	3.04E-02	1.78E-03
2	31.75	1.11E+03	206.44	2.91E-02	1.78E-03
M 3	53.81	1.84E+04	992.53	2.49E-02	1.78E-03
m 4	59.35	5.54E+04	599.32	2.39E-02	1.78E-03
5	67.40	4.79E+02	336.99	2.26E-02	1.74E-03
6	87.76	2.61E+04	627.44	1.96E-02	1.63E-03
7	121.93	5.24E+03	377.99	1.60E-02	1.53E-03
8	136.69	5.96E+02	256.98	1.47E-02	1.42E-03
9	165.56	5.69E+02	242.31	1.27E-02	1.22E-03
10	361.61	1.71E+02	172.39	6.44E-03	7.69E-04
11	391.66	2.32E+02	190.55	5.97E-03	7.36E-04
12	511.10	1.46E+02	148.24	4.61E-03	5.61E-04
13	649.22	1.09E+02	115.18	3.64E-03	3.59E-04

Analysis Report for 1510063-01

GAS-1302

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty	
14	661.64	1.17E+04	304.31	3.57E-03	3.40E-04	
15	704.05	1.53E+02	139.70	3.36E-03	3.17E-04	
16	819.73	9.69E+01	118.81	2.89E-03	2.52E-04	
17	897.67	1.32E+02	132.73	2.65E-03	2.08E-04	
18	948.91	1.35E+02	140.85	2.51E-03	2.01E-04	
19	976.49	1.35E+02	120.83	2.44E-03	1.98E-04	
20	1053.75	1.13E+02	114.37	2.27E-03	1.88E-04	
21	1173.22	9.85E+03	235.27	2.05E-03	1.73E-04	
22	1332.54	8.85E+03	196.19	1.83E-03	2.16E-04	
23	1524.28	2.07E+01	18.37	1.62E-03	1.76E-04	
24	1661.51	1.90E+01	18.74	1.51E-03	1.47E-04	
25	1729.44	1.39E+01	18.20	1.46E-03	1.33E-04	
26	1806.07	1.65E+01	12.19	1.41E-03	1.17E-04	
M	27	1835.82	7.48E+01	21.88	1.39E-03	1.11E-04
m	28	1844.91	1.39E+01	13.44	1.38E-03	1.11E-04
	29	1925.43	1.25E+01	13.86	1.34E-03	1.11E-04
	30	2190.16	1.73E+01	17.66	1.21E-03	1.11E-04
	31	2251.86	6.00E+00	8.49	1.19E-03	1.11E-04
	32	2505.86	3.10E+01	11.14	1.10E-03	1.11E-04
	33	2613.85	8.00E+00	5.66	1.07E-03	1.11E-04

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

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/2/2015 8:49:13AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
1	22.31	7.30E+04	781.47			7.30E+04	7.81E+02
2	31.75	1.11E+03	206.44			1.11E+03	2.06E+02
M	3	53.81	1.84E+04	992.53		1.84E+04	9.93E+02
m	4	59.35	5.54E+04	599.32		5.54E+04	5.99E+02
	5	67.40	4.79E+02	336.99		4.79E+02	3.37E+02
	6	87.76	2.61E+04	627.44		2.61E+04	6.27E+02
	7	121.93	5.24E+03	377.99		5.24E+03	3.78E+02
	8	136.69	5.96E+02	256.98		5.96E+02	2.57E+02
	9	165.56	5.69E+02	242.31		5.69E+02	2.42E+02
	10	361.61	1.71E+02	172.39		1.71E+02	1.72E+02

Analysis Report for 1510063-01

GAS-1302

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.	
11	391.66	2.32E+02	190.55			2.32E+02	1.91E+02	
12	511.10	1.46E+02	148.24	2.11E+01	2.46E+00	1.25E+02	1.48E+02	
13	649.22	1.09E+02	115.18			1.09E+02	1.15E+02	
14	661.64	1.17E+04	304.31			1.17E+04	3.04E+02	
15	704.05	1.53E+02	139.70			1.53E+02	1.40E+02	
16	819.73	9.69E+01	118.81			9.69E+01	1.19E+02	
17	897.67	1.32E+02	132.73			1.32E+02	1.33E+02	
18	948.91	1.35E+02	140.85			1.35E+02	1.41E+02	
19	976.49	1.35E+02	120.83			1.35E+02	1.21E+02	
20	1053.75	1.13E+02	114.37			1.13E+02	1.14E+02	
21	1173.22	9.85E+03	235.27			9.85E+03	2.35E+02	
22	1332.54	8.85E+03	196.19			8.85E+03	1.96E+02	
23	1524.28	2.07E+01	18.37			2.07E+01	1.84E+01	
24	1661.51	1.90E+01	18.74			1.90E+01	1.87E+01	
25	1729.44	1.39E+01	18.20			1.39E+01	1.82E+01	
26	1806.07	1.65E+01	12.19			1.65E+01	1.22E+01	
M	27	1835.82	7.48E+01	21.88		7.48E+01	2.19E+01	
m	28	1844.91	1.39E+01	13.44		1.39E+01	1.34E+01	
	29	1925.43	1.25E+01	13.86		1.25E+01	1.39E+01	
	30	2190.16	1.73E+01	17.66		1.73E+01	1.77E+01	
	31	2251.86	6.00E+00	8.49		6.00E+00	8.49E+00	
	32	2505.86	3.10E+01	11.14		3.10E+01	1.11E+01	
	33	2613.85	8.00E+00	5.66	6.02E-01	5.09E-01	7.40E+00	5.68E+00

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

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/2/2015 8:49:13AM
Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

Corrected Area is: Original * Peak Ratio - Background

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
1	22.31	7.30E+04	781.47			7.30E+04	7.81E+02
2	31.75	1.11E+03	206.44			1.11E+03	2.06E+02
M	3	53.81	1.84E+04	992.53		1.84E+04	9.93E+02
m	4	59.35	5.54E+04	599.32		5.54E+04	5.99E+02
	5	67.40	4.79E+02	336.99		4.79E+02	3.37E+02

: 00331

Analysis Report for 1510063-01

GAS-1302

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
6	87.76	2.61E+04	627.44			2.61E+04	6.27E+02
7	121.93	5.24E+03	377.99			5.24E+03	3.78E+02
8	136.69	5.96E+02	256.98			5.96E+02	2.57E+02
9	165.56	5.69E+02	242.31			5.69E+02	2.42E+02
10	361.61	1.71E+02	172.39			1.71E+02	1.72E+02
11	391.66	2.32E+02	190.55			2.32E+02	1.91E+02
12	511.10	1.46E+02	148.24	2.11E+01	2.46E+00	1.25E+02	1.48E+02
13	649.22	1.09E+02	115.18			1.09E+02	1.15E+02
14	661.64	1.17E+04	304.31			1.17E+04	3.04E+02
15	704.05	1.53E+02	139.70			1.53E+02	1.40E+02
16	819.73	9.69E+01	118.81			9.69E+01	1.19E+02
17	897.67	1.32E+02	132.73			1.32E+02	1.33E+02
18	948.91	1.35E+02	140.85			1.35E+02	1.41E+02
19	976.49	1.35E+02	120.83			1.35E+02	1.21E+02
20	1053.75	1.13E+02	114.37			1.13E+02	1.14E+02
21	1173.22	9.85E+03	235.27			9.85E+03	2.35E+02
22	1332.54	8.85E+03	196.19			8.85E+03	1.96E+02
23	1524.28	2.07E+01	18.37			2.07E+01	1.84E+01
24	1661.51	1.90E+01	18.74			1.90E+01	1.87E+01
25	1729.44	1.39E+01	18.20			1.39E+01	1.82E+01
26	1806.07	1.65E+01	12.19			1.65E+01	1.22E+01
M	27	1835.82	7.48E+01			7.48E+01	2.19E+01
m	28	1844.91	1.39E+01			1.39E+01	1.34E+01
	29	1925.43	1.25E+01			1.25E+01	1.39E+01
	30	2190.16	1.73E+01			1.73E+01	1.77E+01
	31	2251.86	6.00E+00			6.00E+00	8.49E+00
	32	2505.86	3.10E+01			3.10E+01	1.11E+01
	33	2613.85	8.00E+00	6.02E-01	5.09E-01	7.40E+00	5.68E+00

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
CO-57	0.948	122.06 *	85.51	6.96E+01	8.37E+00
		136.48 *	10.60	6.93E+01	3.07E+01
CO-60	0.999	1173.22 *	100.00	1.33E+02	1.16E+01

Analysis Report for 1510063-01

GAS-1302

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
CO-60	0.999	1332.49 *	100.00	1.34E+02	1.61E+01
Y-88	0.716	898.02 *	93.40	2.80E+02	2.83E+02
		1836.01 *	99.38	2.85E+02	8.65E+01
CD-109	0.972	88.03 *	3.72	2.61E+03	2.74E+02
SN-113	0.717	255.12	1.93		
		391.69 *	64.90	2.09E+02	1.74E+02
SN-126	0.994	87.57 *	37.00	7.32E+01	6.34E+00
CS-137	1.000	661.65 *	85.12	8.26E+01	8.17E+00
CE-139	0.814	165.85 *	80.35	8.36E+01	3.65E+01
TM-171	0.921	66.72 *	0.14	7.19E+02	5.09E+02
AM-241	0.994	59.54 *	35.90	1.32E+02	9.92E+00

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/2/2015 8:49:13AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
1	22.31	4.05281E+01	0.54		
2	31.75	6.17608E-01	9.28		
M 3	53.81	1.01957E+01	2.70		
10	361.61	9.52128E-02	50.30		
12	511.10	6.95721E-02	59.20		
13	649.22	6.06248E-02	52.77		
15	704.05	8.52069E-02	45.54		
16	819.73	5.38186E-02	61.32		
18	948.91	7.49673E-02	52.19		
19	976.49	7.50946E-02	44.70		
20	1053.75	6.27892E-02	50.60	Sum	
23	1524.28	1.15171E-02	44.31		
24	1661.51	1.05317E-02	49.43		
25	1729.44	7.75000E-03	65.23		
26	1806.07	9.16667E-03	36.93		
m 28	1844.91	7.73468E-03	48.28		
29	1925.43	6.97090E-03	55.22		
30	2190.16	9.61111E-03	51.05		

Analysis Report for 1510063-01

GAS-1302

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
31	2251.86	3.33333E-03	70.71		
32	2505.86	1.72222E-02	17.96	Sum	
33	2613.85	4.10985E-03	38.39	Tol.	TL-208

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
CO-57	0.94	122.06 *	85.51	6.96E+01	8.37E+00
		136.48 *	10.60	6.93E+01	3.07E+01
CO-60	0.99	1173.22 *	100.00	1.33E+02	1.16E+01
		1332.49 *	100.00	1.34E+02	1.61E+01
Y-88	0.71	898.02 *	93.40	2.80E+02	2.83E+02
		1836.01 *	99.38	2.85E+02	8.65E+01
CD-109	0.97	88.03 *	3.72	2.61E+03	2.74E+02
SN-113	0.71	255.12	1.93		
		391.69 *	64.90	2.09E+02	1.74E+02
SN-126	0.99	87.57 *	37.00	7.32E+01	6.34E+00
CS-137	1.00	661.65 *	85.12	8.26E+01	8.17E+00
CE-139	0.81	165.85 *	80.35	8.36E+01	3.65E+01
TM-171	0.92	66.72 *	0.14	7.19E+02	5.09E+02
AM-241	0.99	59.54 *	35.90	1.32E+02	9.92E+00

* = Energy line found in the spectrum.
- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 2.000sigma

Analysis Report for 1510063-01

GAS-1302

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
CO-57	0.948	6.96E+01	8.08E+00	
CO-60	0.999	1.34E+02	9.44E+00	
Y-88	0.716	2.85E+02	8.28E+01	
? CD-109	0.972	2.61E+03	2.74E+02	
SN-113	0.717	2.09E+02	1.74E+02	
? SN-126	0.994	7.32E+01	6.34E+00	
CS-137	1.000	8.26E+01	8.17E+00	
CE-139	0.814	8.36E+01	3.65E+01	
TM-171	0.921	7.19E+02	5.09E+02	
AM-241	0.994	1.32E+02	9.92E+00	

- ? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510063-01
 GAS-1302

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/2/2015 8:49:13AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
1	22.31	4.05281E+01	0.54		
2	31.75	6.17608E-01	9.28		
M 3	53.81	1.01957E+01	2.70		
10	361.61	9.52128E-02	50.30		
12	511.10	6.95721E-02	59.20		
13	649.22	6.06248E-02	52.77		
15	704.05	8.52069E-02	45.54		
16	819.73	5.38186E-02	61.32		
18	948.91	7.49673E-02	52.19		
19	976.49	7.50946E-02	44.70		
20	1053.75	6.27892E-02	50.60	Sum	
23	1524.28	1.15171E-02	44.31		
24	1661.51	1.05317E-02	49.43		
25	1729.44	7.75000E-03	65.23		
26	1806.07	9.16667E-03	36.93		
m 28	1844.91	7.73468E-03	48.28		
29	1925.43	6.97090E-03	55.22		
30	2190.16	9.61111E-03	51.05		
31	2251.86	3.33333E-03	70.71		
32	2505.86	1.72222E-02	17.96	Sum	
33	2613.85	4.10985E-03	38.39	Tol.	TL-208

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Analysis Report for 1510063-01

GAS-1302

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59	10.42	3.00E+04	6.17E+05	6.17E+05
+	NA-22	1274.54	99.94	2.51E-01	1.28E+00	1.28E+00
+	@ NA-24	1368.53	99.99	1.00E+26	1.00E+26	1.00E+26
	@	2754.09	99.86	0.00E+00		1.00E+26
+	AL-26	1808.65	99.76	7.27E-02	3.91E-01	3.91E-01
+	K-40	1460.81	10.67	8.26E-01	3.77E+00	3.77E+00
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	-1.28E+01	5.35E-01	5.35E-01
		78.34	96.00	-5.28E-03		5.81E-01
+	SC-46	889.25	99.98	2.20E+02	1.72E+03	1.73E+03
		1120.51	99.99	2.20E+02		1.72E+03
+	V-48	983.52	99.98	3.58E+15	8.89E+15	1.88E+16
		1312.10	97.50	1.97E+14		8.89E+15
+	CR-51	320.08	9.83	1.48E+10	1.49E+10	1.49E+10
+	MN-54	834.83	99.97	3.50E+00	8.71E+00	8.71E+00
+	CO-56	846.75	99.96	3.33E+02	1.52E+03	2.46E+03
		1037.75	14.03	7.47E+01		1.96E+04
		1238.25	67.00	1.39E+02		1.94E+03
		1771.40	15.51	-1.15E+03		4.62E+03
		2598.48	16.90	2.06E+02		1.52E+03
+	CO-57	122.06	* 85.51	6.96E+01	7.67E+00	7.67E+00
		136.48	* 10.60	6.93E+01		4.86E+01
+	CO-58	810.76	99.40	3.09E+03	5.23E+03	5.23E+03
+	FE-59	1099.22	56.50	8.64E+04	8.64E+05	1.62E+06
		1291.56	43.20	-2.09E+05		8.64E+05
+	CO-60	1173.22	* 100.00	1.33E+02	1.43E+00	2.84E+00
		1332.49	* 100.00	1.34E+02		1.43E+00
+	ZN-65	1115.52	50.75	-5.56E+00	3.38E+01	3.38E+01
+	@ GA-67	93.31	35.70	1.00E+26	1.00E+26	1.00E+26
	@	208.95	2.24	1.00E+26		1.00E+26
	@	300.22	16.00	1.00E+26		1.00E+26
+	SE-75	121.11	16.70	5.44E+03	1.24E+02	5.46E+02
		136.00	59.20	-4.10E+01		1.24E+02
		264.65	59.80	6.89E+01		1.63E+02
		279.53	25.20	2.21E+02		3.98E+02
		400.65	11.40	-1.81E+02		1.06E+03
+	RB-82	776.52	13.00	-2.95E+10	1.03E+11	1.03E+11
+	RB-83	520.41	46.00	-2.28E+02	1.95E+03	1.95E+03
		529.64	30.30	-1.73E+03		2.96E+03
		552.65	16.40	-3.56E+02		5.47E+03
+	KR-85	513.99	0.43	-9.36E-01	2.57E+02	2.57E+02
+	SR-85	513.99	99.27	-3.25E+01	8.91E+03	8.91E+03
+	Y-88	898.02	* 93.40	2.80E+02	1.77E+02	4.64E+02
		1836.01	* 99.38	2.85E+02		1.77E+02
+	NB-93M	16.57	9.43	-2.46E+02	6.29E+00	6.29E+00
+	NB-94	702.63	100.00	-1.54E-01	1.05E+00	1.05E+00
		871.10	100.00	5.17E-01		1.39E+00

Analysis Report for 1510063-01

GAS-1302

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	NB-95	765.79	99.81	1.74E+06	2.51E+07	2.51E+07
+	@ NB-95M	235.69	25.00	1.00E+26	1.00E+26	1.00E+26
+	ZR-95	724.18	43.70	3.13E+03	2.17E+04	2.50E+04
		756.72	55.30	1.63E+03		2.17E+04
+	@ MO-99	181.06	6.20	1.00E+26	1.00E+26	1.00E+26
	@	739.58	12.80	1.00E+26		1.00E+26
	@	778.00	4.50	1.00E+26		1.00E+26
+	RU-103	497.08	89.00	-8.14E+05	3.60E+06	3.60E+06
+	RU-106	621.84	9.80	-7.98E-01	5.03E+01	5.03E+01
+	AG-108M	433.93	89.90	5.71E-01	1.07E+00	1.07E+00
		614.37	90.40	-2.19E-01		1.10E+00
		722.95	90.50	4.53E-02		1.18E+00
+	CD-109	88.03	* 3.72	2.61E+03	8.87E+01	8.87E+01
+	AG-110M	657.75	93.14	2.62E+02	1.82E+01	2.85E+01
		677.61	10.53	1.97E+01		1.02E+02
		706.67	16.46	4.97E+01		6.94E+01
		763.93	21.98	-4.47E+00		5.61E+01
		884.67	71.63	4.58E+00		2.18E+01
		1384.27	23.94	1.42E+00		1.82E+01
+	CD-113M	263.70	0.02	7.80E+02	3.39E+03	3.39E+03
+	SN-113	255.12	1.93	7.40E+02	2.82E+02	6.21E+03
		391.69	* 64.90	2.09E+02		2.82E+02
+	TE123M	159.00	84.10	2.12E+01	9.01E+01	9.01E+01
+	SB-124	602.71	97.87	-1.59E+03	1.36E+04	1.85E+04
		645.85	7.26	-4.39E+04		2.71E+05
		722.78	11.10	-5.94E+04		1.76E+05
		1691.02	49.00	-6.27E+01		1.36E+04
+	I-125	35.49	6.49	-3.36E+05	9.46E+04	9.46E+04
+	SB-125	176.33	6.89	-4.51E+00	5.66E+00	1.47E+01
		427.89	29.33	-2.15E+00		5.66E+00
		463.38	10.35	5.55E+00		1.80E+01
		600.56	17.80	-1.64E+00		9.70E+00
		635.90	11.32	4.89E+00		1.60E+01
+	@ SB-126	414.70	83.30	1.00E+26	1.00E+26	1.00E+26
	@	666.33	99.60	1.00E+26		1.00E+26
	@	695.00	99.60	1.00E+26		1.00E+26
	@	720.50	53.80	1.00E+26		1.00E+26
+	SN-126	87.57	* 37.00	7.32E+01	2.49E+00	2.49E+00
+	@ SB-127	473.00	25.00	1.00E+26	1.00E+26	1.00E+26
	@	685.20	35.70	1.00E+26		1.00E+26
	@	783.80	14.70	1.00E+26		1.00E+26
+	I-129	29.78	57.00	-5.15E+00	7.22E-01	7.22E-01
		33.60	13.20	-2.92E+00		2.42E+00
		39.58	7.52	-1.83E+01		4.75E+00
+	@ I-131	284.30	6.05	1.00E+26	1.00E+26	1.00E+26
	@	364.48	81.20	1.00E+26		1.00E+26
	@	636.97	7.26	1.00E+26		1.00E+26
	@	722.89	1.80	1.00E+26		1.00E+26

Analysis Report for 1510063-01

GAS-1302

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	@ TE-132	49.72	13.10	1.00E+26	1.00E+26	1.00E+26
	@	228.16	88.00	1.00E+26		1.00E+26
+	BA-133	81.00	33.00	2.96E-01	1.53E+00	1.98E+00
		302.84	17.80	1.36E+00		4.80E+00
		356.01	60.00	-1.30E-01		1.53E+00
+	@ I-133	529.87	86.30	1.00E+26	1.00E+26	1.00E+26
+	@ XE-133	81.00	38.00	1.00E+26	1.00E+26	1.00E+26
+	CS-134	563.23	8.38	2.64E-01	2.23E+00	2.44E+01
		569.32	15.43	-6.62E-01		1.33E+01
		604.70	97.60	1.12E+00		2.23E+00
		795.84	85.40	1.42E-01		3.10E+00
		801.93	8.73	-2.23E+01		2.96E+01
+	CS-135	268.24	16.00	-1.63E+00	4.33E+00	4.33E+00
+	@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@	1260.41	28.60	1.00E+26		1.00E+26
	@	1678.03	9.54	1.00E+26		1.00E+26
+	CS-136	153.22	7.46	8.67E+19	4.25E+19	2.46E+20
		163.89	4.61	-3.30E+19		4.26E+20
		176.55	13.56	-4.39E+19		1.44E+20
		273.65	12.66	-1.55E+19		1.91E+20
		340.57	48.50	3.31E+19		5.60E+19
		818.50	99.70	-3.55E+18		4.25E+19
		1048.07	79.60	7.65E+18		6.49E+19
		1235.34	19.70	3.45E+19		1.30E+20
+	CS-137	661.65	* 85.12	8.26E+01	2.51E+00	2.51E+00
+	LA-138	788.74	34.00	-2.19E+00	6.26E-01	3.44E+00
		1435.80	66.00	6.04E-02		6.26E-01
+	CE-139	165.85	* 80.35	8.36E+01	5.78E+01	5.78E+01
+	@ BA-140	162.64	6.70	1.00E+26	1.00E+26	1.00E+26
	@	304.84	4.50	1.00E+26		1.00E+26
	@	423.70	3.20	1.00E+26		1.00E+26
	@	437.55	2.00	1.00E+26		1.00E+26
	@	537.32	25.00	1.00E+26		1.00E+26
+	@ LA-140	328.77	20.50	1.00E+26	1.00E+26	1.00E+26
	@	487.03	45.50	1.00E+26		1.00E+26
	@	815.85	23.50	1.00E+26		1.00E+26
	@	1596.49	95.49	1.00E+26		1.00E+26
+	CE-141	145.44	48.40	1.20E+06	8.75E+07	8.75E+07
+	@ CE-143	57.36	11.80	1.00E+26	1.00E+26	1.00E+26
	@	293.26	42.00	1.00E+26		1.00E+26
	@	664.55	5.20	1.00E+26		1.00E+26
+	CE-144	133.54	10.80	-1.22E+01	3.86E+01	3.86E+01
+	PM-144	476.78	42.00	1.24E+00	5.12E+00	1.22E+01
		618.01	98.60	8.03E-01		5.12E+00
		696.49	99.49	-1.27E+00		5.21E+00
+	PM-145	36.85	21.70	-8.39E+00	9.11E-01	1.65E+00
		37.36	39.70	-5.48E+00		9.11E-01
		42.30	15.10	-4.63E+00		2.98E+00

Analysis Report for 1510063-01

GAS-1302

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	PM-145	72.40	2.31	-9.54E+00	9.11E-01	2.46E+01
+	PM-146	453.90	39.94	-1.07E-01	3.36E+00	3.36E+00
		735.90	14.01	-7.30E+00		1.02E+01
		747.13	13.10	-8.47E+00		1.12E+01
+	@ ND-147	91.11	28.90	1.00E+26	1.00E+26	1.00E+26
	@	531.02	13.10	1.00E+26		1.00E+26
+	@ PM-149	285.90	3.10	1.00E+26	1.00E+26	1.00E+26
+	EU-152	121.78	20.50	3.62E+01	2.78E+00	3.58E+00
		244.69	5.40	-6.49E+00		1.44E+01
		344.27	19.13	-3.11E+00		4.58E+00
		778.89	9.20	-6.23E-01		1.42E+01
		964.01	10.40	3.48E+00		1.74E+01
		1085.78	7.22	-3.40E+00		2.42E+01
		1112.02	9.60	6.84E+00		1.83E+01
		1407.95	14.94	-6.19E-01		2.78E+00
+	GD-153	97.43	31.30	9.75E+00	1.62E+01	1.62E+01
		103.18	22.20	9.14E-01		2.35E+01
+	EU-154	123.07	40.50	1.93E+01	1.94E+00	1.94E+00
		723.30	19.70	2.47E-01		6.42E+00
		873.19	11.50	-6.02E+00		1.44E+01
		996.32	10.30	3.85E+00		1.75E+01
		1004.76	17.90	-3.70E+00		9.95E+00
		1274.45	35.50	4.55E-01		2.32E+00
+	EU-155	86.50	30.90	1.19E+02	3.03E+00	4.11E+00
		105.30	20.70	-2.48E+00		3.03E+00
+	EU-156	811.77	10.40	3.01E+17	7.30E+17	9.80E+17
		1153.47	7.20	2.23E+17		1.44E+18
		1230.71	8.90	-4.25E+16		7.30E+17
+	HO-166M	184.41	72.60	-1.33E-01	8.22E-01	8.22E-01
		280.45	29.60	9.67E-01		2.42E+00
		410.94	11.10	-9.66E-01		8.02E+00
		711.69	54.10	6.31E-01		1.94E+00
+	TM-171	66.72	* 0.14	7.19E+02	8.29E+02	8.29E+02
+	HF-172	81.75	4.52	7.04E-01	1.31E+01	3.05E+01
		125.81	11.30	1.42E+00		1.31E+01
+	@ LU-172	181.53	20.60	1.00E+26	1.00E+26	1.00E+26
	@	810.06	16.63	1.00E+26		1.00E+26
	@	912.12	15.25	1.00E+26		1.00E+26
	@	1093.66	62.50	1.00E+26		1.00E+26
+	LU-173	100.72	5.24	1.23E+01	1.08E+01	2.78E+01
		272.11	21.20	-2.91E+00		1.08E+01
+	HF-175	343.40	84.00	-1.04E+03	4.40E+03	4.40E+03
+	LU-176	88.34	13.30	1.95E+02	7.43E-01	6.81E+00
		201.83	86.00	-3.31E-02		7.43E-01
		306.78	94.00	4.45E-01		7.90E-01
+	TA-182	67.75	41.20	-5.03E+03	2.11E+02	2.11E+02
		1121.30	34.90	2.88E+01		7.34E+02
		1189.05	16.23	-3.96E+02		1.11E+03
		1221.41	26.98	-2.18E+02		5.33E+02

Analysis Report for 1510063-01

GAS-1302

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	TA-182	1231.02	11.44	-6.92E+01	2.11E+02	1.19E+03
+	IR-192	308.46	29.68	6.41E+02	6.43E+03	7.39E+03
		468.07	48.10	9.20E+02		6.43E+03
+	HG-203	279.19	77.30	1.69E+05	3.05E+05	3.05E+05
+	BI-207	569.67	97.72	-5.00E-02	1.01E+00	1.01E+00
		1063.62	74.90	3.44E-01		2.12E+00
+	TL-208	583.14	30.22	-1.59E-01	8.42E-01	3.22E+00
		860.37	4.48	-1.52E+01		2.97E+01
		2614.66	35.85	0.00E+00		8.42E-01
+	BI-210M	262.00	45.00	-3.21E-01	1.55E+00	1.55E+00
		300.00	23.00	-4.56E-01		3.16E+00
+	PB-210	46.50	4.25	1.76E+01	1.36E+01	1.36E+01
+	PB-211	404.84	2.90	1.12E+01	3.04E+01	3.04E+01
		831.96	2.90	-6.82E-01		4.48E+01
+	BI-212	727.17	11.80	2.43E+00	9.07E+00	9.07E+00
		1620.62	2.75	6.42E-01		1.25E+01
+	PB-212	238.63	44.60	9.72E-01	1.57E+00	1.57E+00
		300.09	3.41	-3.08E+00		2.13E+01
+	BI-214	609.31	46.30	2.20E-01	2.13E+00	2.13E+00
		1120.29	15.10	1.25E+00		9.75E+00
		1764.49	15.80	9.60E-01		2.50E+00
		2204.22	4.98	4.53E-01		5.39E+00
+	PB-214	295.21	19.19	-2.62E-01	2.13E+00	3.75E+00
		351.92	37.19	1.19E+00		2.13E+00
+	RN-219	401.80	6.50	-3.12E+00	1.33E+01	1.33E+01
+	RA-223	323.87	3.88	1.76E+00	1.98E+01	1.98E+01
+	RA-224	240.98	3.95	9.53E-01	1.76E+01	1.76E+01
+	RA-225	40.00	31.00	-1.05E+18	2.72E+17	2.72E+17
+	RA-226	186.21	3.28	7.39E+00	1.85E+01	1.85E+01
+	TH-227	50.10	8.40	1.48E+01	6.11E+00	7.39E+00
		236.00	11.50	2.67E+00		6.11E+00
		256.20	6.30	6.64E-01		1.11E+01
+	AC-228	338.32	11.40	3.84E+00	5.48E+00	6.89E+00
		911.07	27.70	-1.98E+00		5.48E+00
		969.11	16.60	2.68E-01		9.19E+00
+	TH-230	48.44	16.90	8.72E+00	3.50E+00	3.50E+00
		62.85	4.60	7.82E+02		2.20E+01
		67.67	0.37	-3.17E+03		1.33E+02
+	PA-231	283.67	1.60	-6.81E+00	3.18E+01	4.44E+01
		302.67	2.30	9.00E+00		3.18E+01
+	TH-231	25.64	14.70	-1.95E+01	6.25E+00	6.25E+00
		84.21	6.40	1.13E+02		1.26E+01
+	PA-233	311.98	38.60	1.25E+08	6.39E+09	6.39E+09
+	PA-234	131.20	20.40	-1.05E+00	2.44E+00	2.44E+00
		733.99	8.80	-1.31E+00		1.22E+01
		946.00	12.00	1.19E+00		1.42E+01
+	PA-234M	1001.03	0.92	5.56E+01	1.63E+02	1.63E+02

Analysis Report for 1510063-01

GAS-1302

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	TH-234	63.29	3.80	3.31E+02	2.23E+01	2.23E+01
+	U-235	143.76	10.50	-4.55E-01	4.93E+00	4.93E+00
		163.35	4.70	-9.38E-01		1.21E+01
		205.31	4.70	-9.23E+00		1.37E+01
+	NP-237	86.50	12.60	2.10E+02	7.27E+00	7.27E+00
+	@ NP-239	106.10	22.70	1.00E+26	1.00E+26	1.00E+26
	@	228.18	10.70	1.00E+26		1.00E+26
	@	277.60	14.10	1.00E+26		1.00E+26
+	AM-241	59.54	* 35.90	1.32E+02	3.29E+00	3.29E+00
+	AM-243	74.67	66.00	-1.15E-01	7.99E-01	7.99E-01
+	CM-243	209.75	3.29	-1.12E+01	5.41E+00	2.13E+01
		228.14	10.60	2.82E+00		7.04E+00
		277.60	14.00	3.24E+00		5.41E+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
- ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	BE-7	477.59	10.42	6.17E+05	6.17E+05	3.00E+04	3.05E+05
	NA-22	1274.54	99.94	1.28E+00	1.28E+00	2.51E-01	6.12E-01
@	NA-24	1368.53	99.99	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@		2754.09	99.86	1.00E+26		0.00E+00	1.00E+20
	AL-26	1808.65	99.76	3.91E-01	3.91E-01	7.27E-02	1.76E-01
	K-40	1460.81	10.67	3.77E+00	3.77E+00	8.26E-01	1.73E+00
@	AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
	TI-44	67.88	94.40	5.35E-01	5.35E-01	-1.28E+01	2.66E-01
		78.34	96.00	5.81E-01		-5.28E-03	2.89E-01

Analysis Report for 1510063-01

GAS-1302

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
SC-46	889.25	99.98	1.73E+03	1.72E+03	2.20E+02	8.52E+02
	1120.51	99.99	1.72E+03		2.20E+02	8.43E+02
V-48	983.52	99.98	1.88E+16	8.89E+15	3.58E+15	9.26E+15
	1312.10	97.50	8.89E+15		1.97E+14	4.25E+15
CR-51	320.08	9.83	1.49E+10	1.49E+10	1.48E+10	7.40E+09
MN-54	834.83	99.97	8.71E+00	8.71E+00	3.50E+00	4.29E+00
CO-56	846.75	99.96	2.46E+03	1.52E+03	3.33E+02	1.21E+03
	1037.75	14.03	1.96E+04		7.47E+01	9.62E+03
	1238.25	67.00	1.94E+03		1.39E+02	9.31E+02
	1771.40	15.51	4.62E+03		-1.15E+03	2.08E+03
	2598.48	16.90	1.52E+03		2.06E+02	4.80E+02
+ CO-57	122.06	* 85.51	7.67E+00	7.67E+00	6.96E+01	3.82E+00
	136.48	* 10.60	4.86E+01		6.93E+01	2.41E+01
CO-58	810.76	99.40	5.23E+03	5.23E+03	3.09E+03	2.57E+03
FE-59	1099.22	56.50	1.62E+06	8.64E+05	8.64E+04	7.99E+05
	1291.56	43.20	8.64E+05		-2.09E+05	4.13E+05
+ CO-60	1173.22	* 100.00	2.84E+00	1.43E+00	1.33E+02	1.40E+00
	1332.49	* 100.00	1.43E+00		1.34E+02	6.94E-01
ZN-65	1115.52	50.75	3.38E+01	3.38E+01	-5.56E+00	1.66E+01
@ GA-67	93.31	35.70	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	208.95	2.24	1.00E+26		1.00E+26	1.00E+20
@	300.22	16.00	1.00E+26		1.00E+26	1.00E+20
SE-75	121.11	16.70	5.46E+02	1.24E+02	5.44E+03	2.71E+02
	136.00	59.20	1.24E+02		-4.10E+01	6.16E+01
	264.65	59.80	1.63E+02		6.89E+01	8.08E+01
	279.53	25.20	3.98E+02		2.21E+02	1.97E+02
	400.65	11.40	1.06E+03		-1.81E+02	5.24E+02
RB-82	776.52	13.00	1.03E+11	1.03E+11	-2.95E+10	5.08E+10
RB-83	520.41	46.00	1.95E+03	1.95E+03	-2.28E+02	9.63E+02
	529.64	30.30	2.96E+03		-1.73E+03	1.46E+03
	552.65	16.40	5.47E+03		-3.56E+02	2.70E+03
KR-85	513.99	0.43	2.57E+02	2.57E+02	-9.36E-01	1.27E+02
SR-85	513.99	99.27	8.91E+03	8.91E+03	-3.25E+01	4.40E+03
+ Y-88	898.02	* 93.40	4.64E+02	1.77E+02	2.80E+02	2.29E+02
	1836.01	* 99.38	1.77E+02		2.85E+02	8.35E+01
NB-93M	16.57	9.43	6.29E+00	6.29E+00	-2.46E+02	3.13E+00
NB-94	702.63	100.00	1.05E+00	1.05E+00	-1.54E-01	5.17E-01
	871.10	100.00	1.39E+00		5.17E-01	6.84E-01
NB-95	765.79	99.81	2.51E+07	2.51E+07	1.74E+06	1.23E+07
@ NB-95M	235.69	25.00	1.00E+26	1.00E+26	1.00E+26	1.00E+20
ZR-95	724.18	43.70	2.50E+04	2.17E+04	3.13E+03	1.23E+04
	756.72	55.30	2.17E+04		1.63E+03	1.07E+04
@ MO-99	181.06	6.20	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	739.58	12.80	1.00E+26		1.00E+26	1.00E+20
@	778.00	4.50	1.00E+26		1.00E+26	1.00E+20
RU-103	497.08	89.00	3.60E+06	3.60E+06	-8.14E+05	1.78E+06
RU-106	621.84	9.80	5.03E+01	5.03E+01	-7.98E-01	2.48E+01
AG-108M	433.93	89.90	1.07E+00	1.07E+00	5.71E-01	5.28E-01
	614.37	90.40	1.10E+00		-2.19E-01	5.43E-01
	722.95	90.50	1.18E+00		4.53E-02	5.79E-01
+ CD-109	88.03	* 3.72	8.87E+01	8.87E+01	2.61E+03	4.42E+01
AG-110M	657.75	93.14	2.85E+01	1.82E+01	2.62E+02	1.42E+01
	677.61	10.53	1.02E+02		1.97E+01	5.03E+01

Analysis Report for 1510063-01

GAS-1302

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
AG-110M	706.67	16.46	6.94E+01	1.82E+01	4.97E+01	3.42E+01
	763.93	21.98	5.61E+01		-4.47E+00	2.76E+01
	884.67	71.63	2.18E+01		4.58E+00	1.07E+01
CD-113M	1384.27	23.94	1.82E+01	3.39E+03	1.42E+00	8.40E+00
	263.70	0.02	3.39E+03		7.80E+02	1.68E+03
+ SN-113	255.12	1.93	6.21E+03	2.82E+02	7.40E+02	3.08E+03
	391.69	*	2.82E+02		2.09E+02	1.40E+02
TE123M	159.00	84.10	9.01E+01	9.01E+01	2.12E+01	4.47E+01
SB-124	602.71	97.87	1.85E+04	1.36E+04	-1.59E+03	9.13E+03
	645.85	7.26	2.71E+05		-4.39E+04	1.33E+05
	722.78	11.10	1.76E+05		-5.94E+04	8.65E+04
I-125	1691.02	49.00	1.36E+04	9.46E+04	-6.27E+01	6.08E+03
	35.49	6.49	9.46E+04		-3.36E+05	4.70E+04
SB-125	176.33	6.89	1.47E+01	5.66E+00	-4.51E+00	7.32E+00
	427.89	29.33	5.66E+00		-2.15E+00	2.80E+00
	463.38	10.35	1.80E+01		5.55E+00	8.89E+00
600.56	600.56	17.80	9.70E+00	1.00E+26	-1.64E+00	4.78E+00
	635.90	11.32	1.60E+01		4.89E+00	7.87E+00
	414.70	83.30	1.00E+26		1.00E+26	1.00E+20
@ SB-126	666.33	99.60	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	695.00	99.60	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	720.50	53.80	1.00E+26	1.00E+26	1.00E+26	1.00E+20
+ SN-126	87.57	*	2.49E+00	2.49E+00	7.32E+01	1.24E+00
@ SB-127	473.00	25.00	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	685.20	35.70	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	783.80	14.70	1.00E+26	1.00E+26	1.00E+26	1.00E+20
I-129	29.78	57.00	7.22E-01	7.22E-01	-5.15E+00	3.59E-01
	33.60	13.20	2.42E+00		-2.92E+00	1.20E+00
	39.58	7.52	4.75E+00		-1.83E+01	2.36E+00
@ I-131	284.30	6.05	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	364.48	81.20	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	636.97	7.26	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	722.89	1.80	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@ TE-132	49.72	13.10	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	228.16	88.00	1.00E+26	1.00E+26	1.00E+26	1.00E+20
BA-133	81.00	33.00	1.98E+00	1.53E+00	2.96E-01	9.87E-01
	302.84	17.80	4.80E+00		1.36E+00	2.38E+00
	356.01	60.00	1.53E+00		-1.30E-01	7.58E-01
@ I-133	529.87	86.30	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@ XE-133	81.00	38.00	1.00E+26	1.00E+26	1.00E+26	1.00E+20
CS-134	563.23	8.38	2.44E+01	2.23E+00	2.64E-01	1.20E+01
	569.32	15.43	1.33E+01		-6.62E-01	6.57E+00
	604.70	97.60	2.23E+00		1.12E+00	1.10E+00
795.84	795.84	85.40	3.10E+00	4.33E+00	1.42E-01	1.53E+00
	801.93	8.73	2.96E+01		-2.23E+01	1.46E+01
	268.24	16.00	4.33E+00		-1.63E+00	2.14E+00
@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	1260.41	28.60	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	1678.03	9.54	1.00E+26	1.00E+26	1.00E+26	1.00E+20
CS-136	153.22	7.46	2.46E+20	4.25E+19	8.67E+19	1.22E+20
	163.89	4.61	4.26E+20		-3.30E+19	2.12E+20
	176.55	13.56	1.44E+20		-4.39E+19	7.13E+19
	273.65	12.66	1.91E+20		-1.55E+19	9.47E+19

Analysis Report for 1510063-01

GAS-1302

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)	
CS-136	340.57	48.50	5.60E+19	4.25E+19	3.31E+19	2.77E+19	
	818.50	99.70	4.25E+19		-3.55E+18	2.09E+19	
	1048.07	79.60	6.49E+19		7.65E+18	3.19E+19	
	1235.34	19.70	1.30E+20		3.45E+19	6.27E+19	
+ CS-137	661.65	* 85.12	2.51E+00	2.51E+00	8.26E+01	1.25E+00	
	LA-138	788.74	34.00	3.44E+00	6.26E-01	-2.19E+00	1.69E+00
+ CE-139	1435.80	66.00	6.26E-01	5.78E+01	6.04E-02	2.88E-01	
	165.85	* 80.35	5.78E+01		5.78E+01	8.36E+01	2.87E+01
@ BA-140	162.64	6.70	1.00E+26	1.00E+26	1.00E+26	1.00E+20	
@	304.84	4.50	1.00E+26		1.00E+26	1.00E+20	
@	423.70	3.20	1.00E+26		1.00E+26	1.00E+20	
@	437.55	2.00	1.00E+26		1.00E+26	1.00E+20	
@	537.32	25.00	1.00E+26		1.00E+26	1.00E+20	
@ LA-140	328.77	20.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20	
@	487.03	45.50	1.00E+26		1.00E+26	1.00E+20	
@	815.85	23.50	1.00E+26		1.00E+26	1.00E+20	
@	1596.49	95.49	1.00E+26		1.00E+26	1.00E+20	
CE-141	145.44	48.40	8.75E+07	8.75E+07	1.20E+06	4.34E+07	
@ CE-143	57.36	11.80	1.00E+26	1.00E+26	1.00E+26	1.00E+20	
@	293.26	42.00	1.00E+26		1.00E+26	1.00E+20	
@	664.55	5.20	1.00E+26		1.00E+26	1.00E+20	
CE-144	133.54	10.80	3.86E+01	3.86E+01	-1.22E+01	1.92E+01	
PM-144	476.78	42.00	1.22E+01	5.12E+00	1.24E+00	6.02E+00	
	618.01	98.60	5.12E+00		8.03E-01	2.52E+00	
	696.49	99.49	5.21E+00		-1.27E+00	2.57E+00	
PM-145	36.85	21.70	1.65E+00	9.11E-01	-8.39E+00	8.19E-01	
	37.36	39.70	9.11E-01		-5.48E+00	4.53E-01	
	42.30	15.10	2.98E+00		-4.63E+00	1.48E+00	
	72.40	2.31	2.46E+01		-9.54E+00	1.22E+01	
PM-146	453.90	39.94	3.36E+00	3.36E+00	-1.07E-01	1.66E+00	
	735.90	14.01	1.02E+01		-7.30E+00	5.00E+00	
	747.13	13.10	1.12E+01		-8.47E+00	5.53E+00	
@ ND-147	91.11	28.90	1.00E+26	1.00E+26	1.00E+26	1.00E+20	
@	531.02	13.10	1.00E+26		1.00E+26	1.00E+20	
@ PM-149	285.90	3.10	1.00E+26	1.00E+26	1.00E+26	1.00E+20	
EU-152	121.78	20.50	3.58E+00	2.78E+00	3.62E+01	1.78E+00	
	244.69	5.40	1.44E+01		-6.49E+00	7.14E+00	
	344.27	19.13	4.58E+00		-3.11E+00	2.27E+00	
	778.89	9.20	1.42E+01		-6.23E-01	7.01E+00	
	964.01	10.40	1.74E+01		3.48E+00	8.57E+00	
	1085.78	7.22	2.42E+01		-3.40E+00	1.19E+01	
	1112.02	9.60	1.83E+01		6.84E+00	9.02E+00	
	1407.95	14.94	2.78E+00		-6.19E-01	1.27E+00	
	GD-153	97.43	31.30	1.62E+01	1.62E+01	9.75E+00	8.06E+00
		103.18	22.20	2.35E+01		9.14E-01	1.17E+01
EU-154	123.07	40.50	1.94E+00	1.94E+00	1.93E+01	9.62E-01	
	723.30	19.70	6.42E+00		2.47E-01	3.16E+00	
	873.19	11.50	1.44E+01		-6.02E+00	7.12E+00	
	996.32	10.30	1.75E+01		3.85E+00	8.62E+00	
	1004.76	17.90	9.95E+00		-3.70E+00	4.90E+00	
	1274.45	35.50	2.32E+00		4.55E-01	1.11E+00	
EU-155	86.50	30.90	4.11E+00	3.03E+00	1.19E+02	2.05E+00	
	105.30	20.70	3.03E+00		-2.48E+00	1.50E+00	

Analysis Report for 1510063-01

GAS-1302

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
EU-156	811.77	10.40	9.80E+17	7.30E+17	3.01E+17	4.82E+17
	1153.47	7.20	1.44E+18		2.23E+17	7.06E+17
	1230.71	8.90	7.30E+17		-4.25E+16	3.52E+17
HO-166M	184.41	72.60	8.22E-01	8.22E-01	-1.33E-01	4.08E-01
	280.45	29.60	2.42E+00		9.67E-01	1.20E+00
	410.94	11.10	8.02E+00		-9.66E-01	3.97E+00
	711.69	54.10	1.94E+00		6.31E-01	9.56E-01
+ TM-171	66.72	* 0.14	8.29E+02	8.29E+02	7.19E+02	4.12E+02
HF-172	81.75	4.52	3.05E+01	1.31E+01	7.04E-01	1.52E+01
	125.81	11.30	1.31E+01		1.42E+00	6.54E+00
@ LU-172	181.53	20.60	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	810.06	16.63	1.00E+26		1.00E+26	1.00E+20
@	912.12	15.25	1.00E+26		1.00E+26	1.00E+20
@	1093.66	62.50	1.00E+26		1.00E+26	1.00E+20
LU-173	100.72	5.24	2.78E+01	1.08E+01	1.23E+01	1.38E+01
	272.11	21.20	1.08E+01		-2.91E+00	5.34E+00
HF-175	343.40	84.00	4.40E+03	4.40E+03	-1.04E+03	2.18E+03
LU-176	88.34	13.30	6.81E+00	7.43E-01	1.95E+02	3.39E+00
	201.83	86.00	7.43E-01		-3.31E-02	3.69E-01
	306.78	94.00	7.90E-01		4.45E-01	3.91E-01
TA-182	67.75	41.20	2.11E+02	2.11E+02	-5.03E+03	1.05E+02
	1121.30	34.90	7.34E+02		2.88E+01	3.61E+02
	1189.05	16.23	1.11E+03		-3.96E+02	5.40E+02
	1221.41	26.98	5.33E+02		-2.18E+02	2.57E+02
	1231.02	11.44	1.19E+03		-6.92E+01	5.73E+02
IR-192	308.46	29.68	7.39E+03	6.43E+03	6.41E+02	3.66E+03
	468.07	48.10	6.43E+03		9.20E+02	3.18E+03
HG-203	279.19	77.30	3.05E+05	3.05E+05	1.69E+05	1.51E+05
BI-207	569.67	97.72	1.01E+00	1.01E+00	-5.00E-02	4.97E-01
	1063.62	74.90	2.12E+00		3.44E-01	1.04E+00
TL-208	583.14	30.22	3.22E+00	8.42E-01	-1.59E-01	1.59E+00
	860.37	4.48	2.97E+01		-1.52E+01	1.46E+01
	2614.66	35.85	8.42E-01		0.00E+00	3.49E-01
BI-210M	262.00	45.00	1.55E+00	1.55E+00	-3.21E-01	7.66E-01
	300.00	23.00	3.16E+00		-4.56E-01	1.56E+00
PB-210	46.50	4.25	1.36E+01	1.36E+01	1.76E+01	6.76E+00
PB-211	404.84	2.90	3.04E+01	3.04E+01	1.12E+01	1.50E+01
	831.96	2.90	4.48E+01		-6.82E-01	2.21E+01
BI-212	727.17	11.80	9.07E+00	9.07E+00	2.43E+00	4.46E+00
	1620.62	2.75	1.25E+01		6.42E-01	5.60E+00
PB-212	238.63	44.60	1.57E+00	1.57E+00	9.72E-01	7.76E-01
	300.09	3.41	2.13E+01		-3.08E+00	1.05E+01
BI-214	609.31	46.30	2.13E+00	2.13E+00	2.20E-01	1.05E+00
	1120.29	15.10	9.75E+00		1.25E+00	4.79E+00
	1764.49	15.80	2.50E+00		9.60E-01	1.13E+00
	2204.22	4.98	5.39E+00		4.53E-01	2.24E+00
PB-214	295.21	19.19	3.75E+00	2.13E+00	-2.62E-01	1.86E+00
	351.92	37.19	2.13E+00		1.19E+00	1.05E+00
RN-219	401.80	6.50	1.33E+01	1.33E+01	-3.12E+00	6.58E+00
RA-223	323.87	3.88	1.98E+01	1.98E+01	1.76E+00	9.81E+00
RA-224	240.98	3.95	1.76E+01	1.76E+01	9.53E-01	8.72E+00
RA-225	40.00	31.00	2.72E+17	2.72E+17	-1.05E+18	1.35E+17
RA-226	186.21	3.28	1.85E+01	1.85E+01	7.39E+00	9.19E+00

Analysis Report for 1510063-01

GAS-1302

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
TH-227	50.10	8.40	7.39E+00	6.11E+00	1.48E+01	3.68E+00
	236.00	11.50	6.11E+00		2.67E+00	3.03E+00
	256.20	6.30	1.11E+01		6.64E-01	5.48E+00
AC-228	338.32	11.40	6.89E+00	5.48E+00	3.84E+00	3.41E+00
	911.07	27.70	5.48E+00		-1.98E+00	2.70E+00
	969.11	16.60	9.19E+00		2.68E-01	4.53E+00
TH-230	48.44	16.90	3.50E+00	3.50E+00	8.72E+00	1.74E+00
	62.85	4.60	2.20E+01		7.82E+02	1.10E+01
	67.67	0.37	1.33E+02		-3.17E+03	6.61E+01
PA-231	283.67	1.60	4.44E+01	3.18E+01	-6.81E+00	2.20E+01
	302.67	2.30	3.18E+01		9.00E+00	1.58E+01
TH-231	25.64	14.70	6.25E+00	6.25E+00	-1.95E+01	3.12E+00
	84.21	6.40	1.26E+01		1.13E+02	6.29E+00
PA-233	311.98	38.60	6.39E+09	6.39E+09	1.25E+08	3.16E+09
PA-234	131.20	20.40	2.44E+00	2.44E+00	-1.05E+00	1.21E+00
	733.99	8.80	1.22E+01		-1.31E+00	5.98E+00
	946.00	12.00	1.42E+01		1.19E+00	6.98E+00
PA-234M	1001.03	0.92	1.63E+02	1.63E+02	5.56E+01	8.03E+01
TH-234	63.29	3.80	2.23E+01	2.23E+01	3.31E+02	1.11E+01
U-235	143.76	10.50	4.93E+00	4.93E+00	-4.55E-01	2.45E+00
	163.35	4.70	1.21E+01		-9.38E-01	6.02E+00
	205.31	4.70	1.37E+01		-9.23E+00	6.81E+00
NP-237	86.50	12.60	7.27E+00	7.27E+00	2.10E+02	3.62E+00
@ NP-239	106.10	22.70	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	228.18	10.70	1.00E+26		1.00E+26	1.00E+20
@	277.60	14.10	1.00E+26		1.00E+26	1.00E+20
+ AM-241	59.54	* 35.90	3.29E+00	3.29E+00	1.32E+02	1.64E+00
AM-243	74.67	66.00	7.99E-01	7.99E-01	-1.15E-01	3.97E-01
CM-243	209.75	3.29	2.13E+01	5.41E+00	-1.12E+01	1.06E+01
	228.14	10.60	7.04E+00		2.82E+00	3.49E+00
	277.60	14.00	5.41E+00		3.24E+00	2.68E+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

No Action Level results available for reporting purposes.

: 00347

Analysis Report for 1510063-01
GAS-1302

DATA REVIEW COMMENTS REPORT

<i>Creation Date</i>	<i>Comment</i>	<i>User</i>
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No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: GAS-1302

Elapsed Live time: 1800
 Elapsed Real Time: 1840

Channel	----	----	----	----	----	----	----	----
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	3	516	1584
17:	1703	2012	5313	17663	29423	21595	11492	10125
25:	6769	2328	959	712	820	1105	1313	1234
33:	918	919	963	1027	974	1010	1053	1168
41:	1375	1471	1644	1750	1936	2169	2619	3178
49:	3585	3531	3509	3632	3747	3910	4062	4712
57:	9287	20428	22065	10108	2378	1256	1238	1387
65:	1416	1597	1557	1563	1590	1588	1564	1479
73:	1578	1526	1518	1624	1559	1633	1568	1535
81:	1583	1668	1646	1800	2460	6236	10656	8159
89:	2741	983	822	772	765	752	804	792
97:	783	856	788	842	793	762	793	724
105:	724	787	807	784	739	788	779	784
113:	835	848	802	781	811	832	934	1652
121:	2712	2318	1183	723	707	673	705	702
129:	709	716	663	666	678	708	814	909
137:	769	686	684	646	664	669	645	617
145:	685	643	642	640	647	650	643	603
153:	594	688	618	595	630	610	588	589
161:	581	588	629	736	841	744	592	563
169:	618	587	552	582	600	580	564	575
177:	567	541	583	556	568	591	586	619
185:	609	571	595	613	605	632	630	600
193:	575	572	609	622	568	619	595	573
201:	593	582	559	615	561	524	603	599
209:	574	620	605	608	593	637	623	617
217:	591	625	586	571	612	582	613	612
225:	556	586	560	560	569	584	558	552
233:	508	567	514	544	549	549	530	498
241:	488	481	495	458	469	501	507	517
249:	484	458	487	463	453	510	492	475
257:	411	464	425	441	435	437	456	458
265:	439	388	429	416	410	399	417	413
273:	420	421	424	392	454	422	457	399
281:	394	394	405	384	400	363	379	397
289:	403	359	373	412	382	391	343	381
297:	370	374	390	378	370	386	380	365
305:	382	351	367	356	381	416	349	339
313:	339	332	390	355	359	366	392	362
321:	367	370	407	328	367	356	337	378
329:	346	369	355	340	325	331	341	356
337:	372	346	378	368	336	326	340	323
345:	325	336	335	309	342	368	318	309
353:	355	320	322	312	296	306	348	336
361:	338	303	352	311	291	320	330	303

369: 301 325 318 300 332 276 313 329

Sample Title: GAS-1302

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	352	314	313	304	304	338	328	346
385:	319	330	289	320	290	397	368	343
393:	313	322	292	307	294	282	318	301
401:	322	309	323	302	307	318	321	314
409:	352	285	283	286	327	302	316	321
417:	308	333	304	309	340	325	322	312
425:	310	327	296	308	297	304	318	340
433:	313	301	333	328	314	286	301	296
441:	318	318	340	312	313	310	322	315
449:	313	342	339	314	328	353	311	313
457:	309	332	350	318	313	355	331	317
465:	335	319	365	319	325	347	332	301
473:	340	313	302	319	290	248	255	282
481:	248	265	267	245	250	246	262	252
489:	263	268	218	256	251	232	238	254
497:	241	240	211	236	235	240	255	224
505:	239	262	214	252	248	274	256	240
513:	238	196	222	221	192	202	204	212
521:	222	240	209	232	224	210	216	205
529:	185	195	227	216	192	237	217	195
537:	213	203	228	190	200	200	227	173
545:	206	184	188	166	206	188	195	182
553:	209	190	181	196	208	183	182	172
561:	188	186	181	186	194	182	165	177
569:	173	161	196	197	183	168	180	192
577:	180	181	185	193	189	183	182	198
585:	194	166	183	188	185	194	171	176
593:	149	175	175	152	173	182	153	179
601:	182	168	202	149	170	179	195	189
609:	164	175	165	174	167	179	174	167
617:	176	165	160	163	186	167	164	173
625:	163	171	175	150	156	175	170	169
633:	153	176	159	151	173	180	178	150
641:	163	174	168	184	158	160	176	203
649:	216	184	161	180	167	177	187	181
657:	164	225	764	2509	4360	3412	1222	286
665:	157	139	145	152	138	127	154	124
673:	129	154	141	158	147	150	158	148
681:	144	134	173	147	142	148	149	118
689:	130	184	151	152	146	154	148	154
697:	133	140	124	127	150	157	154	179
705:	153	163	139	145	143	145	141	151
713:	138	140	167	128	141	134	145	133
721:	119	131	148	138	158	155	147	144
729:	151	144	120	140	166	142	132	138
737:	151	145	118	160	146	166	129	152
745:	120	143	150	143	153	158	154	171
753:	138	172	149	169	148	163	151	149
761:	154	136	176	146	127	177	164	148
769:	160	161	144	150	163	154	130	137
777:	159	147	162	150	155	153	161	136
785:	150	125	152	150	175	147	158	134
793:	161	150	176	167	151	141	151	137

801: 173 141 148 142 136 137 146 166

Sample Title: GAS-1302

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	154	162	155	158	122	156	122	150
817:	139	151	167	178	155	149	156	143
825:	174	174	153	150	160	166	178	161
833:	173	171	166	152	164	165	158	162
841:	163	151	184	152	179	177	177	160
849:	166	171	175	172	162	184	178	151
857:	168	173	191	149	153	154	166	148
865:	159	182	167	177	172	159	154	194
873:	188	158	177	162	159	174	187	178
881:	185	175	188	186	190	186	187	185
889:	185	203	168	202	184	157	195	208
897:	184	246	200	180	190	180	173	184
905:	163	192	191	194	198	158	208	185
913:	196	191	175	200	203	225	182	185
921:	224	187	207	204	182	218	185	184
929:	243	212	198	194	189	203	217	215
937:	189	198	201	208	206	226	223	208
945:	204	217	230	232	232	205	211	209
953:	184	231	212	215	219	189	189	202
961:	221	183	192	186	189	183	181	162
969:	189	167	165	131	152	159	164	182
977:	179	175	143	156	146	154	171	151
985:	157	165	175	152	152	154	142	163
993:	147	154	151	137	175	150	160	154
1001:	160	145	148	129	158	146	146	146
1009:	175	139	136	144	136	148	145	144
1017:	157	149	140	151	155	138	136	166
1025:	143	160	149	152	136	141	161	145
1033:	142	158	147	158	116	124	155	150
1041:	122	145	128	133	139	140	150	147
1049:	131	130	147	144	159	169	139	136
1057:	142	123	147	134	134	144	137	134
1065:	129	126	165	122	154	137	163	120
1073:	134	141	139	128	138	134	142	126
1081:	151	131	156	138	134	128	131	152
1089:	139	146	141	159	132	132	142	147
1097:	146	126	160	144	146	137	150	139
1105:	148	148	119	136	144	153	126	129
1113:	141	137	127	129	127	120	118	119
1121:	118	126	101	107	99	107	100	99
1129:	91	106	78	100	70	89	87	72
1137:	75	88	86	85	71	92	80	78
1145:	88	81	85	78	68	92	84	69
1153:	96	88	71	62	72	76	72	67
1161:	71	75	76	82	78	52	87	80
1169:	70	164	787	2337	3438	2467	877	192
1177:	69	58	61	62	61	62	68	46
1185:	50	45	49	50	56	49	62	54
1193:	35	53	52	46	46	47	46	43
1201:	44	48	38	46	43	45	53	42
1209:	42	34	34	37	30	47	40	34
1217:	43	34	28	27	30	19	31	28
1225:	29	35	25	26	25	34	32	19

1233: 26 28 21 22 25 24 22 20

Sample Title: GAS-1302

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1241:	14	19	23	18	13	28	28	26
1249:	22	24	22	13	26	17	13	23
1257:	15	25	16	14	20	18	25	16
1265:	17	20	27	27	17	22	17	20
1273:	16	15	23	18	19	23	9	17
1281:	13	14	23	20	12	15	14	17
1289:	19	21	16	17	12	15	19	19
1297:	26	16	28	19	16	19	20	15
1305:	14	19	14	15	18	22	17	9
1313:	16	22	27	20	17	22	23	19
1321:	16	22	14	21	24	21	19	27
1329:	63	420	1421	2838	2582	1285	302	40
1337:	10	3	8	6	9	5	3	5
1345:	4	4	6	2	7	2	4	5
1353:	4	6	3	4	4	6	6	11
1361:	3	3	5	5	5	4	1	5
1369:	5	3	6	8	2	7	5	5
1377:	2	4	5	9	9	5	4	5
1385:	3	5	5	4	8	5	5	8
1393:	2	6	3	2	8	3	4	4
1401:	8	2	5	5	5	5	3	6
1409:	4	3	1	6	2	8	5	6
1417:	1	8	3	4	6	1	5	4
1425:	2	3	6	4	6	5	3	4
1433:	4	11	4	0	6	9	5	4
1441:	8	7	0	6	4	2	2	1
1449:	8	4	7	4	3	7	7	3
1457:	4	6	6	4	3	4	8	6
1465:	2	3	4	1	4	2	4	4
1473:	5	4	1	5	5	9	8	5
1481:	6	2	4	3	2	2	3	3
1489:	1	3	4	5	3	5	7	5
1497:	3	2	4	4	9	4	2	2
1505:	2	3	2	1	3	4	3	5
1513:	4	4	6	7	3	6	3	1
1521:	0	4	7	7	4	3	3	4
1529:	2	2	3	2	3	1	5	6
1537:	3	3	4	6	2	4	4	7
1545:	3	3	6	0	2	5	5	3
1553:	1	3	6	5	0	2	5	2
1561:	7	5	5	4	2	4	9	2
1569:	3	5	5	1	2	2	5	4
1577:	6	1	3	4	2	4	4	2
1585:	6	10	3	4	5	4	6	4
1593:	5	2	4	3	5	3	10	4
1601:	6	2	3	3	7	2	6	3
1609:	3	4	1	4	2	3	1	1
1617:	5	2	3	0	5	1	4	2
1625:	3	4	3	3	3	4	2	1
1633:	3	10	4	2	1	6	3	4
1641:	1	2	2	6	5	1	5	6
1649:	3	2	2	3	2	2	1	3
1657:	4	4	1	1	3	2	3	7

1665: 4 2 0 2 3 3 5 3

Sample Title: GAS-1302

Channel	1	2	3	4	5	6	7	8
1673:	2	3	3	3	3	2	2	3
1681:	2	2	2	2	5	5	6	2
1689:	2	3	2	2	1	6	1	2
1697:	1	3	4	5	2	4	1	1
1705:	3	4	1	5	1	4	6	2
1713:	3	1	5	3	1	3	4	1
1721:	3	1	2	1	2	0	1	6
1729:	4	4	4	2	2	2	0	2
1737:	1	3	4	5	1	3	2	1
1745:	3	3	3	4	1	2	2	1
1753:	4	1	4	2	3	1	0	2
1761:	2	3	2	0	6	3	1	3
1769:	4	3	1	1	4	2	0	0
1777:	9	1	5	4	2	3	2	1
1785:	2	3	1	2	3	1	2	3
1793:	4	2	1	0	4	1	1	0
1801:	1	1	1	1	4	5	3	2
1809:	3	1	0	1	2	5	0	1
1817:	1	3	1	0	2	4	3	4
1825:	1	1	1	3	1	2	4	3
1833:	3	9	16	23	23	8	4	3
1841:	1	5	1	6	5	4	3	5
1849:	0	2	2	2	2	0	1	4
1857:	2	1	5	1	1	5	3	5
1865:	2	0	3	2	3	4	2	5
1873:	4	4	0	3	3	4	0	2
1881:	0	0	0	2	2	4	0	3
1889:	4	2	1	1	2	0	3	3
1897:	2	1	1	1	3	3	2	2
1905:	0	2	2	4	2	1	3	0
1913:	0	0	0	3	0	1	2	2
1921:	0	4	0	3	0	6	3	1
1929:	2	1	1	0	1	5	0	3
1937:	3	1	2	2	2	2	4	2
1945:	1	2	1	0	1	3	2	3
1953:	1	3	0	3	6	1	2	6
1961:	2	1	0	1	0	4	2	3
1969:	2	4	1	1	1	3	3	3
1977:	1	2	0	0	2	2	1	3
1985:	1	3	1	0	2	1	1	2
1993:	1	2	2	2	1	2	1	3
2001:	5	6	4	0	2	1	2	2
2009:	2	1	0	1	1	2	5	2
2017:	1	1	1	0	2	3	0	2
2025:	1	4	2	2	2	3	0	1
2033:	1	0	2	0	0	3	1	1
2041:	1	1	1	0	0	2	3	3
2049:	0	1	2	3	0	5	3	0
2057:	1	1	0	2	1	1	1	2
2065:	2	2	2	1	0	0	0	2
2073:	1	0	0	1	0	0	0	0
2081:	1	1	0	1	1	0	2	0
2089:	0	1	0	1	2	1	0	1

2097: 2 2 1 1 0 2 3 2

Sample Title: GAS-1302

Channel	1	2	3	4	5	6	7	8
2105:	1	0	2	2	2	0	1	1
2113:	2	3	0	2	0	3	1	3
2121:	1	2	1	0	0	1	1	1
2129:	1	2	0	2	0	1	1	1
2137:	0	0	0	1	0	2	1	2
2145:	3	1	0	0	1	2	1	4
2153:	2	1	2	0	1	2	1	2
2161:	0	0	0	1	1	0	2	1
2169:	1	1	0	0	1	0	0	0
2177:	1	0	1	0	1	1	2	1
2185:	0	1	4	2	5	2	1	3
2193:	1	4	1	3	1	1	1	0
2201:	2	2	1	1	0	1	0	0
2209:	1	0	0	0	2	2	4	3
2217:	1	0	2	0	1	1	0	0
2225:	2	1	1	0	0	1	0	2
2233:	1	2	2	1	2	0	1	2
2241:	1	4	2	1	0	1	1	0
2249:	1	1	0	3	3	1	1	0
2257:	1	4	0	1	1	1	2	2
2265:	0	2	0	3	2	1	2	4
2273:	2	0	0	1	3	2	0	3
2281:	2	1	1	2	1	1	1	2
2289:	1	2	2	1	1	1	1	1
2297:	2	3	0	1	2	1	0	1
2305:	2	0	1	1	0	0	1	1
2313:	0	2	0	0	0	0	0	1
2321:	0	3	0	1	0	3	1	1
2329:	0	0	1	1	2	0	0	0
2337:	3	0	0	3	1	0	0	0
2345:	0	1	0	0	0	1	0	1
2353:	0	1	0	0	1	1	1	2
2361:	2	1	1	1	0	1	2	0
2369:	1	0	0	0	0	0	0	1
2377:	0	1	2	0	0	0	1	1
2385:	1	0	3	0	1	0	1	2
2393:	1	0	0	2	2	0	0	0
2401:	0	1	1	0	2	1	0	0
2409:	1	0	0	0	0	1	0	0
2417:	2	1	0	0	1	1	2	0
2425:	0	1	1	0	0	1	0	1
2433:	0	0	0	0	0	0	0	0
2441:	1	0	0	0	0	1	1	1
2449:	1	0	0	1	0	0	0	0
2457:	0	0	0	0	0	0	0	1
2465:	0	0	1	0	0	0	0	0
2473:	0	1	0	0	0	0	0	1
2481:	0	0	0	1	0	0	0	1
2489:	0	0	0	0	0	0	0	0
2497:	0	0	0	1	0	0	0	2
2505:	4	11	6	5	3	0	0	0
2513:	1	0	0	0	0	1	0	0
2521:	0	1	0	0	0	0	0	0

2529: 0 0 0 0 0 0 0 0 0

Sample Title: GAS-1302

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2537:	0	0	0	1	0	0	0	0
2545:	0	0	0	1	0	0	0	1
2553:	0	0	0	0	0	0	0	0
2561:	0	1	0	0	0	1	0	0
2569:	0	1	0	0	0	0	0	0
2577:	0	1	0	0	0	0	0	0
2585:	0	0	0	0	0	0	0	0
2593:	0	0	0	0	0	0	1	0
2601:	0	0	0	0	0	0	0	1
2609:	0	0	0	1	1	1	2	3
2617:	0	0	0	0	0	0	0	0
2625:	0	0	0	1	0	0	0	1
2633:	0	0	0	0	0	0	0	0
2641:	0	0	0	1	0	0	0	0
2649:	0	0	0	2	0	0	0	0
2657:	0	0	0	0	0	0	0	0
2665:	0	0	0	0	0	0	0	0
2673:	0	0	0	0	0	0	0	1
2681:	0	0	0	0	0	0	0	1
2689:	0	0	1	0	0	0	0	0
2697:	0	0	0	0	0	0	0	0
2705:	0	0	0	0	0	1	0	0
2713:	0	0	0	0	0	0	0	0
2721:	0	0	0	0	0	0	0	0
2729:	0	0	0	0	0	1	1	0
2737:	0	0	0	0	0	0	0	0
2745:	0	0	0	0	0	0	0	0
2753:	0	0	0	0	0	0	0	0
2761:	0	0	0	0	0	0	0	0
2769:	0	0	0	0	1	0	0	0
2777:	0	1	0	0	0	0	0	0
2785:	1	0	0	1	0	0	0	0
2793:	0	0	0	0	0	0	1	0
2801:	0	0	0	0	0	0	0	0
2809:	1	0	0	0	0	0	0	0
2817:	0	0	0	0	0	0	0	0
2825:	0	0	0	0	0	1	0	0
2833:	0	0	0	0	1	0	0	0
2841:	0	0	0	0	1	0	0	0
2849:	0	0	0	0	0	0	0	0
2857:	0	0	0	0	0	0	0	0
2865:	0	0	0	0	0	1	0	0
2873:	0	0	0	0	0	0	1	0
2881:	0	0	0	0	0	0	0	0
2889:	0	0	0	0	0	0	0	0
2897:	0	1	0	0	0	0	1	0
2905:	0	0	0	0	0	0	0	0
2913:	0	0	0	0	0	1	0	0
2921:	0	0	0	0	0	0	0	0
2929:	0	0	0	0	0	0	0	0
2937:	0	0	0	0	0	0	0	0
2945:	0	0	1	0	0	0	0	0
2953:	1	0	0	0	0	1	0	1

2961: 0 0 0 0 0 0 0 0 0

Sample Title: GAS-1302

Channel	1	2	3	4	5	6	7	8	9
2969:	0	0	0	0	0	0	0	1	0
2977:	0	0	0	0	0	0	0	0	0
2985:	0	0	1	0	0	0	0	0	0
2993:	1	1	0	0	0	0	0	0	0
3001:	0	0	0	0	0	0	0	0	0
3009:	0	0	0	0	0	0	0	0	0
3017:	0	0	0	0	0	0	0	0	0
3025:	0	0	0	0	0	0	0	0	0
3033:	0	0	0	1	0	0	0	0	0
3041:	0	0	0	1	0	0	0	0	0
3049:	0	1	1	0	0	0	0	0	0
3057:	0	0	0	0	0	0	0	0	0
3065:	0	0	0	0	0	0	0	0	0
3073:	0	0	1	0	0	0	0	0	0
3081:	0	0	0	0	0	0	0	0	0
3089:	0	0	0	0	0	0	0	0	0
3097:	0	0	1	1	0	0	0	0	2
3105:	0	0	0	0	0	0	0	0	0
3113:	0	0	0	0	0	0	0	1	0
3121:	0	0	0	0	0	0	0	0	0
3129:	0	0	0	2	0	0	0	0	0
3137:	0	0	0	0	0	0	0	0	0
3145:	0	0	0	0	0	0	0	0	0
3153:	0	0	0	0	0	0	0	0	0
3161:	0	0	0	0	0	0	0	0	0
3169:	0	0	0	0	0	0	0	0	0
3177:	0	0	0	0	0	0	0	0	1
3185:	0	0	0	1	0	0	0	0	0
3193:	0	0	0	0	0	0	0	0	0
3201:	0	0	0	0	0	0	0	0	0
3209:	0	0	0	0	0	0	0	0	1
3217:	0	0	0	0	0	0	0	0	0
3225:	0	0	0	0	0	0	0	0	0
3233:	0	0	0	0	0	0	0	0	0
3241:	0	1	0	0	0	0	0	0	0
3249:	0	0	0	0	0	0	0	0	0
3257:	0	0	0	0	0	0	0	1	0
3265:	0	0	0	0	0	0	0	0	0
3273:	0	0	0	0	0	0	0	0	0
3281:	0	0	0	0	0	1	0	1	0
3289:	0	0	0	0	0	1	0	0	0
3297:	0	0	0	0	0	0	0	0	0
3305:	0	1	0	0	0	0	0	0	0
3313:	0	0	0	0	0	0	1	0	0
3321:	0	0	0	0	0	0	0	0	0
3329:	0	0	0	0	0	0	0	0	0
3337:	0	0	0	1	0	0	0	0	0
3345:	0	0	0	0	0	0	0	0	0
3353:	1	0	0	0	0	0	0	0	0
3361:	0	0	0	0	0	0	0	0	0
3369:	0	0	0	0	0	0	0	0	0
3377:	0	0	0	1	0	0	0	0	0
3385:	0	0	0	0	0	0	0	0	0

3393: 1 0 0 0 0 0 0 0

Sample Title: GAS-1302

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3401:	0	0	0	0	0	0	0	0
3409:	0	0	0	0	0	0	0	1
3417:	0	0	0	1	0	0	0	1
3425:	0	0	0	0	0	0	0	0
3433:	0	0	1	0	0	0	0	0
3441:	0	0	0	0	0	0	0	0
3449:	0	0	0	0	0	0	0	0
3457:	0	0	0	0	0	0	0	0
3465:	0	0	0	0	0	0	0	0
3473:	0	0	0	0	0	0	0	0
3481:	0	0	0	0	0	0	0	0
3489:	0	0	1	0	0	0	0	0
3497:	0	0	0	0	0	0	0	0
3505:	0	0	0	0	0	1	0	0
3513:	0	0	0	0	0	0	0	1
3521:	0	0	0	1	0	0	0	0
3529:	0	0	1	0	0	0	0	0
3537:	0	0	0	0	0	1	0	0
3545:	0	0	0	0	0	0	0	0
3553:	0	0	0	0	0	0	0	0
3561:	0	0	0	1	0	0	0	0
3569:	0	0	0	0	0	0	0	1
3577:	0	0	0	0	0	0	0	0
3585:	0	0	0	0	0	0	0	0
3593:	0	0	0	0	0	0	0	0
3601:	0	0	0	0	0	0	0	0
3609:	1	0	0	0	0	0	0	0
3617:	1	0	0	0	0	0	0	0
3625:	0	0	0	0	0	0	0	0
3633:	0	0	0	0	0	0	0	0
3641:	0	0	0	0	0	0	0	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	0	0	0	1	0	0	0	0
3673:	0	0	0	0	0	0	0	0
3681:	0	0	0	0	0	0	0	1
3689:	0	0	1	0	0	0	0	0
3697:	0	0	0	0	0	1	0	0
3705:	0	0	0	0	0	0	0	0
3713:	0	1	0	1	0	0	0	0
3721:	0	0	0	0	0	0	0	0
3729:	0	0	0	0	0	0	1	1
3737:	0	0	0	0	0	1	0	0
3745:	0	0	0	0	0	0	0	0
3753:	0	0	0	0	0	0	1	0
3761:	0	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0
3777:	0	0	0	0	0	0	0	0
3785:	0	0	0	0	0	0	0	0
3793:	0	0	0	0	0	0	0	0
3801:	0	0	0	0	0	0	0	0
3809:	0	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0

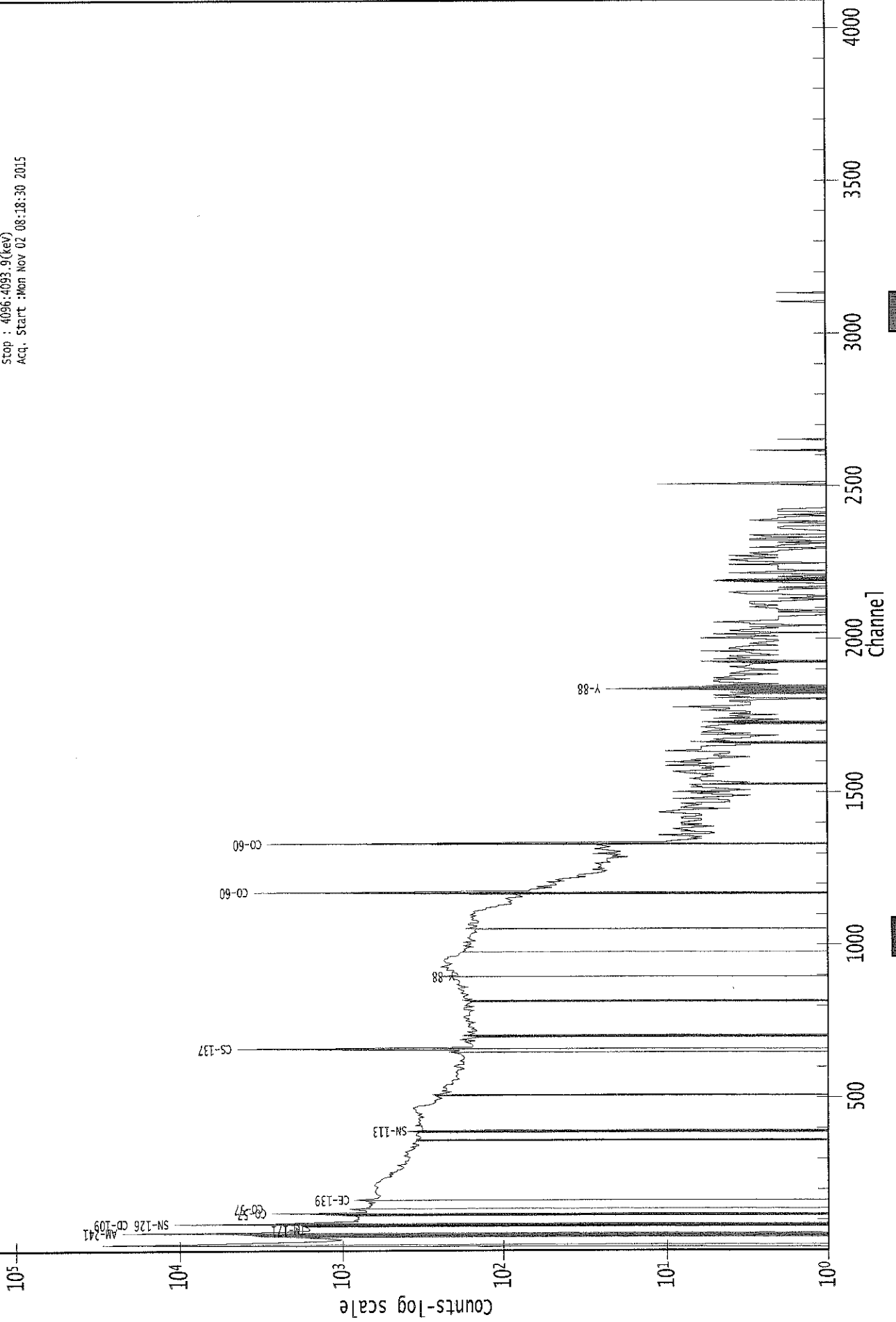
3825: 0 0 0 0 0 0 0 0 0

Sample Title: GAS-1302

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	0	0	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	0	0	1	0	0
3865:	0	0	0	0	0	0	0	0
3873:	0	0	0	0	0	0	0	0
3881:	0	0	0	0	0	0	0	1
3889:	0	0	0	0	0	0	0	0
3897:	0	0	0	0	0	0	0	0
3905:	0	0	0	0	0	0	0	0
3913:	0	0	0	0	0	0	0	0
3921:	0	0	0	0	0	0	0	0
3929:	0	0	0	0	0	0	0	0
3937:	0	0	0	0	1	0	0	0
3945:	0	0	0	0	0	0	1	0
3953:	0	0	0	0	0	0	0	1
3961:	0	0	0	0	0	0	0	0
3969:	0	0	0	0	0	1	0	0
3977:	0	0	0	0	0	0	0	0
3985:	1	0	0	0	0	0	0	0
3993:	0	0	0	0	0	0	0	0
4001:	1	0	0	0	0	0	0	0
4009:	0	0	0	0	1	0	0	0
4017:	0	0	0	0	0	0	0	0
4025:	0	0	0	0	0	0	0	0
4033:	0	0	0	0	0	0	0	0
4041:	0	0	0	0	0	0	0	0
4049:	0	0	0	0	1	0	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	0	0	0	0	0	0	0
4073:	0	0	0	0	0	0	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	1	0	0	0	0	0

0000028963.CNF

Live Time :1800.000 sec
Real Time :1840.090 sec
Start: 1: 1.8(keV)
Stop : 4096.4093.9(keV)
Acq. Start :Mon Nov 02 08:18:30 2015



Analysis Report for 1510063-02
BLANK

←
11/2

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510063-02
Sample Description : BLANK
Sample Type : SOIL

Sample Size : 7.834E+02 grams
Facility : Countroom

Sample Taken On : 11/2/2015 6:15:05AM
Acquisition Started : 11/2/2015 6:15:22AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE4
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3638.8 seconds

Dead Time : 1.07 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 15 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 11/8/2014
Efficiency Calibration Description :

Sample Number : 28959

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/3/15

Analysis Report for 1510063-02

BLANK

PEAK LOCATE REPORT

Peak Locate Performed on : 11/2/2015 7:16:02AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
1	46.68	45.93	0.0000	0.00
2	74.74	74.01	0.0000	0.00
3	184.23	183.54	0.0000	0.00
4	202.90	202.22	0.0000	0.00
5	674.28	673.82	0.0000	0.00
6	701.76	701.31	0.0000	0.00
7	751.65	751.22	0.0000	0.00
8	785.55	785.14	0.0000	0.00
9	837.04	836.66	0.0000	0.00
10	852.48	852.11	0.0000	0.00
11	874.84	874.48	0.0000	0.00
12	953.98	953.67	0.0000	0.00
13	961.95	961.63	0.0000	0.00
14	1015.46	1015.17	0.0000	0.00
15	1024.46	1024.18	0.0000	0.00
16	1047.96	1047.69	0.0000	0.00
17	1316.39	1316.28	0.0000	0.00
18	1430.47	1430.43	0.0000	0.00
19	1538.98	1539.00	0.0000	0.00
20	2134.58	2135.00	0.0000	0.00

? = Adjacent peak noted

Errors quoted at 2.000sigma

Analysis Report for 1510063-02

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PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/2/2015 7:16:02AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
1	46.68	41 -	51	45.93	6.94E+01	46.69	2.55E+02	2.05
2	74.74	70 -	78	74.01	4.15E+01	38.09	1.97E+02	4.20
3	184.23	178 -	189	183.54	5.23E+01	38.83	1.63E+02	6.30
4	202.90	195 -	210	202.22	5.97E+01	45.61	1.85E+02	13.43
5	674.28	666 -	681	673.82	2.40E+01	16.00	1.60E+01	9.26
6	701.76	698 -	705	701.31	1.58E+01	14.83	2.24E+01	5.51
7	751.65	748 -	754	751.22	7.50E+00	8.28	7.00E+00	3.53
8	785.55	782 -	788	785.14	5.50E+00	7.78	7.00E+00	1.75
9	837.04	831 -	842	836.66	1.24E+01	13.86	1.73E+01	1.32
10	852.48	847 -	856	852.11	1.35E+01	12.45	1.31E+01	3.32
11	874.84	870 -	878	874.48	1.35E+01	10.61	9.00E+00	3.82
12	953.98	951 -	956	953.67	9.00E+00	6.00	0.00E+00	3.70
13	961.95	959 -	964	961.63	5.36E+00	6.08	3.29E+00	3.29
14	1015.46	1009 -	1019	1015.17	1.11E+01	9.29	5.71E+00	2.55
15	1024.46	1021 -	1027	1024.18	8.27E+00	8.28	5.45E+00	1.50
16	1047.96	1045 -	1050	1047.69	8.75E+00	7.00	2.50E+00	1.12
17	1316.39	1312 -	1319	1316.28	7.17E+00	7.21	3.67E+00	2.87
18	1430.47	1426 -	1433	1430.43	7.00E+00	5.29	0.00E+00	1.33
19	1538.98	1535 -	1542	1539.00	8.00E+00	5.66	0.00E+00	1.16
20	2134.58	2131 -	2137	2135.00	5.00E+00	4.47	0.00E+00	1.50

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/2/2015 7:16:02AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

: 00362

Analysis Report for 1510063-02

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Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
1	46.68	41 -	51	6.94E+01	46.69	2.55E+02	3.58E+01
2	74.74	70 -	78	4.15E+01	38.09	1.97E+02	2.95E+01
3	184.23	178 -	189	5.23E+01	38.83	1.63E+02	2.96E+01
4	202.90	195 -	210	5.97E+01	45.61	1.85E+02	3.53E+01
5	674.28	666 -	681	2.40E+01	16.00	1.60E+01	1.04E+01
6	701.76	698 -	705	1.58E+01	14.83	2.24E+01	1.03E+01
7	751.65	748 -	754	7.50E+00	8.28	7.00E+00	5.10E+00
8	785.55	782 -	788	5.50E+00	7.78	7.00E+00	5.10E+00
9	837.04	831 -	842	1.24E+01	13.86	1.73E+01	9.82E+00
10	852.48	847 -	856	1.35E+01	12.45	1.31E+01	8.27E+00
11	874.84	870 -	878	1.35E+01	10.61	9.00E+00	6.29E+00
12	953.98	951 -	956	9.00E+00	6.00	0.00E+00	0.00E+00
13	961.95	959 -	964	5.36E+00	6.08	3.29E+00	3.24E+00
14	1015.46	1009 -	1019	1.11E+01	9.29	5.71E+00	5.31E+00
15	1024.46	1021 -	1027	8.27E+00	8.28	5.45E+00	4.89E+00
16	1047.96	1045 -	1050	8.75E+00	7.00	2.50E+00	3.08E+00
17	1316.39	1312 -	1319	7.17E+00	7.21	3.67E+00	3.97E+00
18	1430.47	1426 -	1433	7.00E+00	5.29	0.00E+00	0.00E+00
19	1538.98	1535 -	1542	8.00E+00	5.66	0.00E+00	0.00E+00
20	2134.58	2131 -	2137	5.00E+00	4.47	0.00E+00	0.00E+00

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

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/2/2015 7:16:02AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
1	46.68	41 -	51	45.93	6.94E+01	46.69	2.55E+02	PB-210
2	74.74	70 -	78	74.01	4.15E+01	38.09	1.97E+02	AM-243
3	184.23	178 -	189	183.54	5.23E+01	38.83	1.63E+02	HO-166M

: 00353

Analysis Report for 1510063-02

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Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
4	202.90	195 -	210	202.22	5.97E+01	45.61	1.85E+02	.....
5	674.28	666 -	681	673.82	2.40E+01	16.00	1.60E+01	.....
6	701.76	698 -	705	701.31	1.58E+01	14.83	2.24E+01	NB-94
7	751.65	748 -	754	751.22	7.50E+00	8.28	7.00E+00	.....
8	785.55	782 -	788	785.14	5.50E+00	7.78	7.00E+00	.....
9	837.04	831 -	842	836.66	1.24E+01	13.86	1.73E+01	.....
10	852.48	847 -	856	852.11	1.35E+01	12.45	1.31E+01	.....
11	874.84	870 -	878	874.48	1.35E+01	10.61	9.00E+00	.....
12	953.98	951 -	956	953.67	9.00E+00	6.00	0.00E+00	.....
13	961.95	959 -	964	961.63	5.36E+00	6.08	3.29E+00	.....
14	1015.46	1009 -	1019	1015.17	1.11E+01	9.29	5.71E+00	.....
15	1024.46	1021 -	1027	1024.18	8.27E+00	8.28	5.45E+00	.....
16	1047.96	1045 -	1050	1047.69	8.75E+00	7.00	2.50E+00	CS-136
17	1316.39	1312 -	1319	1316.28	7.17E+00	7.21	3.67E+00	.....
18	1430.47	1426 -	1433	1430.43	7.00E+00	5.29	0.00E+00	.....
19	1538.98	1535 -	1542	1539.00	8.00E+00	5.66	0.00E+00	.....
20	2134.58	2131 -	2137	2135.00	5.00E+00	4.47	0.00E+00	.....

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/2/2015 7:16:02AM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	46.68	6.94E+01	46.69	2.63E-02	1.78E-03
2	74.74	4.15E+01	38.09	2.15E-02	1.70E-03
3	184.23	5.23E+01	38.83	1.17E-02	1.16E-03
4	202.90	5.97E+01	45.61	1.08E-02	1.10E-03
5	674.28	2.40E+01	16.00	3.51E-03	3.33E-04
6	701.76	1.58E+01	14.83	3.37E-03	3.18E-04
7	751.65	7.50E+00	8.28	3.15E-03	2.90E-04
8	785.55	5.50E+00	7.78	3.02E-03	2.71E-04
9	837.04	1.24E+01	13.86	2.84E-03	2.42E-04
10	852.48	1.35E+01	12.45	2.78E-03	2.33E-04
11	874.84	1.35E+01	10.61	2.72E-03	2.21E-04
12	953.98	9.00E+00	6.00	2.50E-03	2.01E-04
13	961.95	5.36E+00	6.08	2.48E-03	2.00E-04

Analysis Report for 1510063-02

BLANK

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
14	1015.46	1.11E+01	9.29	2.35E-03	1.93E-04
15	1024.46	8.27E+00	8.28	2.33E-03	1.92E-04
16	1047.96	8.75E+00	7.00	2.28E-03	1.89E-04
17	1316.39	7.17E+00	7.21	1.85E-03	2.11E-04
18	1430.47	7.00E+00	5.29	1.72E-03	1.95E-04
19	1538.98	8.00E+00	5.66	1.61E-03	1.73E-04
20	2134.58	5.00E+00	4.47	1.24E-03	1.11E-04

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000 sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/2/2015 7:16:02AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
1	46.68	6.94E+01	46.69	2.00E+01	7.38E+00	4.94E+01	4.73E+01
2	74.74	4.15E+01	38.09			4.15E+01	3.81E+01
3	184.23	5.23E+01	38.83			5.23E+01	3.88E+01
4	202.90	5.97E+01	45.61			5.97E+01	4.56E+01
5	674.28	2.40E+01	16.00			2.40E+01	1.60E+01
6	701.76	1.58E+01	14.83			1.58E+01	1.48E+01
7	751.65	7.50E+00	8.28			7.50E+00	8.28E+00
8	785.55	5.50E+00	7.78			5.50E+00	7.78E+00
9	837.04	1.24E+01	13.86			1.24E+01	1.39E+01
10	852.48	1.35E+01	12.45			1.35E+01	1.24E+01
11	874.84	1.35E+01	10.61			1.35E+01	1.06E+01
12	953.98	9.00E+00	6.00			9.00E+00	6.00E+00
13	961.95	5.36E+00	6.08	1.55E-01	2.62E+00	5.20E+00	6.62E+00
14	1015.46	1.11E+01	9.29			1.11E+01	9.29E+00
15	1024.46	8.27E+00	8.28			8.27E+00	8.28E+00
16	1047.96	8.75E+00	7.00			8.75E+00	7.00E+00
17	1316.39	7.17E+00	7.21			7.17E+00	7.21E+00
18	1430.47	7.00E+00	5.29			7.00E+00	5.29E+00
19	1538.98	8.00E+00	5.66			8.00E+00	5.66E+00
20	2134.58	5.00E+00	4.47			5.00E+00	4.47E+00

Analysis Report for 1510063-02

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

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/2/2015 7:16:02AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

Corrected Area is: Original * Peak Ratio - Background

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
1	46.68	6.94E+01	46.69	2.00E+01	7.38E+00	4.94E+01	4.73E+01
2	74.74	4.15E+01	38.09			4.15E+01	3.81E+01
3	184.23	5.23E+01	38.83			5.23E+01	3.88E+01
4	202.90	5.97E+01	45.61			5.97E+01	4.56E+01
5	674.28	2.40E+01	16.00			2.40E+01	1.60E+01
6	701.76	1.58E+01	14.83			1.58E+01	1.48E+01
7	751.65	7.50E+00	8.28			7.50E+00	8.28E+00
8	785.55	5.50E+00	7.78			5.50E+00	7.78E+00
9	837.04	1.24E+01	13.86			1.24E+01	1.39E+01
10	852.48	1.35E+01	12.45			1.35E+01	1.24E+01
11	874.84	1.35E+01	10.61			1.35E+01	1.06E+01
12	953.98	9.00E+00	6.00			9.00E+00	6.00E+00
13	961.95	5.36E+00	6.08	1.55E-01	2.62E+00	5.20E+00	6.62E+00
14	1015.46	1.11E+01	9.29			1.11E+01	9.29E+00
15	1024.46	8.27E+00	8.28			8.27E+00	8.28E+00
16	1047.96	8.75E+00	7.00			8.75E+00	7.00E+00
17	1316.39	7.17E+00	7.21			7.17E+00	7.21E+00
18	1430.47	7.00E+00	5.29			7.00E+00	5.29E+00
19	1538.98	8.00E+00	5.66			8.00E+00	5.66E+00
20	2134.58	5.00E+00	4.47			5.00E+00	4.47E+00

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

Analysis Report for 1510063-02

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NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
PB-210	0.995	46.50 *	4.25	4.24E-01	4.07E-01
AM-243	0.999	74.67 *	66.00	2.81E-02	2.59E-02

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/2/2015 7:16:02AM

Peak Locate From Channel : 1

Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
3	184.23	1.45305E-02	37.12	Tol.	HO-166M
4	202.90	1.65789E-02	38.21		
5	674.28	6.66667E-03	33.33		
6	701.76	4.38272E-03	47.00	Tol.	NB-94
7	751.65	2.08333E-03	55.18		
8	785.55	1.52778E-03	70.71		
9	837.04	3.43254E-03	56.07		
10	852.48	3.74306E-03	46.20		
11	874.84	3.75000E-03	39.28		
12	953.98	2.50000E-03	33.33		
13	961.95	1.44501E-03	63.64		
14	1015.46	3.09524E-03	41.67		
15	1024.46	2.29798E-03	50.02		
16	1047.96	2.43056E-03	40.00	Tol.	CS-136
17	1316.39	1.99074E-03	50.31		

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Analysis Report for 1510063-02

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Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
18	1430.47	1.94444E-03	37.80		
19	1538.98	2.22222E-03	35.36		
20	2134.58	1.38889E-03	44.72		

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
PB-210	0.99	46.50 *	4.25	4.24E-01	4.07E-01
AM-243	0.99	74.67 *	66.00	2.81E-02	2.59E-02

* = Energy line found in the spectrum.
- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

Analysis Report for 1510063-02

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Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
PB-210	0.995	4.24E-01	4.07E-01	
AM-243	0.999	2.81E-02	2.59E-02	

- ? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510063-02

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UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/2/2015 7:16:02AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
3	184.23	1.45305E-02	37.12	Tol.	HO-166M
4	202.90	1.65789E-02	38.21		
5	674.28	6.66667E-03	33.33		
6	701.76	4.38272E-03	47.00	Tol.	NB-94
7	751.65	2.08333E-03	55.18		
8	785.55	1.52778E-03	70.71		
9	837.04	3.43254E-03	56.07		
10	852.48	3.74306E-03	46.20		
11	874.84	3.75000E-03	39.28		
12	953.98	2.50000E-03	33.33		
13	961.95	1.44501E-03	63.64		
14	1015.46	3.09524E-03	41.67		
15	1024.46	2.29798E-03	50.02		
16	1047.96	2.43056E-03	40.00	Tol.	CS-136
17	1316.39	1.99074E-03	50.31		
18	1430.47	1.94444E-03	37.80		
19	1538.98	2.22222E-03	35.36		
20	2134.58	1.38889E-03	44.72		

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
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Analysis Report for 1510063-02

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+	BE-7	477.59	10.42	2.46E-01	5.34E-01	5.34E-01
+	NA-22	1274.54	99.94	-1.51E-02	3.71E-02	3.71E-02
+	NA-24	1368.53	99.99	0.00E+00	2.56E-02	7.76E-02
		2754.09	99.86	0.00E+00		2.56E-02
+	AL-26	1808.65	99.76	-1.14E-02	6.35E-02	6.35E-02
+	K-40	1460.81	10.67	-1.60E-01	6.41E-01	6.41E-01
+	AR-41	1293.64	99.16	3.21E-02	1.08E-01	1.08E-01
+	TI-44	67.88	94.40	8.10E-03	2.55E-02	2.55E-02
		78.34	96.00	-5.35E-03		2.70E-02
+	SC-46	889.25	99.98	2.22E-02	4.15E-02	8.05E-02
		1120.51	99.99	-3.88E-02		4.15E-02
+	V-48	983.52	99.98	-9.49E-03	6.89E-02	6.89E-02
		1312.10	97.50	-1.77E-03		8.42E-02
+	CR-51	320.08	9.83	1.04E-01	4.53E-01	4.53E-01
+	MN-54	834.83	99.97	3.19E-02	7.57E-02	7.57E-02
+	CO-56	846.75	99.96	1.14E-03	4.48E-02	4.48E-02
		1037.75	14.03	-9.88E-03		4.18E-01
		1238.25	67.00	1.18E-02		1.03E-01
		1771.40	15.51	-9.72E-02		5.19E-01
		2598.48	16.90	5.27E-02		3.88E-01
+	CO-57	122.06	85.51	5.28E-03	3.39E-02	3.39E-02
		136.48	10.60	-6.16E-02		2.96E-01
+	CO-58	810.76	99.40	1.84E-02	7.22E-02	7.22E-02
+	FE-59	1099.22	56.50	-2.01E-02	1.23E-01	1.23E-01
		1291.56	43.20	2.36E-02		1.87E-01
+	CO-60	1173.22	100.00	-8.47E-03	7.78E-02	7.78E-02
		1332.49	100.00	-1.84E-02		8.32E-02
+	ZN-65	1115.52	50.75	-2.05E-02	1.05E-01	1.05E-01
+	GA-67	93.31	35.70	6.96E-02	8.46E-02	8.46E-02
		208.95	2.24	-7.06E-02		1.86E+00
		300.22	16.00	-1.53E-01		2.69E-01
+	SE-75	121.11	16.70	1.15E-02	5.49E-02	1.73E-01
		136.00	59.20	1.67E-02		5.49E-02
		264.65	59.80	-2.21E-02		7.06E-02
		279.53	25.20	2.20E-02		1.94E-01
		400.65	11.40	-1.36E-01		4.12E-01
+	RB-82	776.52	13.00	-1.21E-02	4.86E-01	4.86E-01
+	RB-83	520.41	46.00	-1.49E-02	1.20E-01	1.20E-01
		529.64	30.30	1.01E-02		1.74E-01
		552.65	16.40	-3.65E-03		3.22E-01
+	KR-85	513.99	0.43	1.01E+01	1.76E+01	1.76E+01
+	SR-85	513.99	99.27	4.43E-02	7.71E-02	7.71E-02
+	Y-88	898.02	93.40	-2.40E-02	6.75E-02	6.75E-02
		1836.01	99.38	-4.32E-02		7.47E-02
+	NB-93M	16.57	9.43	3.13E-01	2.17E-01	2.17E-01
+	NB-94	702.63	100.00	1.64E-02	7.28E-02	7.78E-02
		871.10	100.00	-5.86E-03		7.28E-02
+	NB-95	765.79	99.81	4.25E-02	8.21E-02	8.21E-02
+	NB-95M	235.69	25.00	-4.68E-02	1.73E-01	1.73E-01
+	ZR-95	724.18	43.70	3.64E-02	1.21E-01	1.22E-01
		756.72	55.30	-1.23E-03		1.21E-01

Analysis Report for 1510063-02

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	<i>Nuclide Name</i>	<i>Energy (keV)</i>	<i>Yield(%)</i>	<i>Activity (pCi/grams)</i>	<i>Nuclide MDA (pCi/grams)</i>	<i>Line MDA (pCi/grams)</i>
+	MO-99	181.06	6.20	-6.01E-02	4.87E-01	6.23E-01
		739.58	12.80	7.00E-02		4.87E-01
		778.00	4.50	3.59E-01		1.37E+00
+	RU-103	497.08	89.00	1.19E-02	6.21E-02	6.21E-02
+	RU-106	621.84	9.80	1.05E-01	5.92E-01	5.92E-01
+	AG-108M	433.93	89.90	-1.48E-02	5.03E-02	5.03E-02
		614.37	90.40	-1.79E-02		6.48E-02
		722.95	90.50	1.94E-03		5.64E-02
+	CD-109	88.03	3.72	-2.32E-01	7.32E-01	7.32E-01
+	AG-110M	657.75	93.14	1.46E-02	6.88E-02	6.88E-02
		677.61	10.53	-3.23E-01		5.56E-01
		706.67	16.46	-5.80E-03		3.90E-01
		763.93	21.98	-7.88E-03		3.45E-01
		884.67	71.63	7.71E-03		1.09E-01
		1384.27	23.94	-1.51E-02		2.97E-01
+	CD-113M	263.70	0.02	-4.56E+01	1.86E+02	1.86E+02
+	SN-113	255.12	1.93	2.72E-01	8.39E-02	2.17E+00
		391.69	64.90	1.99E-02		8.39E-02
+	TE123M	159.00	84.10	1.37E-02	4.10E-02	4.10E-02
+	SB-124	602.71	97.87	-2.67E-02	6.13E-02	6.13E-02
		645.85	7.26	-3.63E-01		7.48E-01
		722.78	11.10	-1.60E-01		4.40E-01
		1691.02	49.00	0.00E+00		1.42E-01
+	I-125	35.49	6.49	-2.42E-02	2.95E-01	2.95E-01
+	SB-125	176.33	6.89	9.49E-02	1.65E-01	5.23E-01
		427.89	29.33	2.29E-02		1.65E-01
		463.38	10.35	4.56E-02		5.45E-01
		600.56	17.80	1.67E-01		3.74E-01
		635.90	11.32	1.89E-01		5.11E-01
+	SB-126	414.70	83.30	1.33E-02	5.29E-02	6.32E-02
		666.33	99.60	-3.62E-03		5.29E-02
		695.00	99.60	1.24E-02		8.33E-02
		720.50	53.80	8.60E-03		1.02E-01
+	SN-126	87.57	37.00	-2.33E-02	7.34E-02	7.34E-02
+	SB-127	473.00	25.00	-1.02E-01	1.71E-01	1.90E-01
		685.20	35.70	-1.30E-02		1.71E-01
		783.80	14.70	7.70E-02		4.49E-01
+	I-129	29.78	57.00	-8.61E-04	3.55E-02	3.55E-02
		33.60	13.20	3.71E-02		1.49E-01
		39.58	7.52	-2.83E-02		2.41E-01
+	I-131	284.30	6.05	2.10E-01	5.94E-02	7.92E-01
		364.48	81.20	9.66E-03		5.94E-02
		636.97	7.26	3.57E-01		8.20E-01
		722.89	1.80	-9.90E-01		2.72E+00
+	TE-132	49.72	13.10	7.37E-03	4.59E-02	1.81E-01
		228.16	88.00	-1.53E-03		4.59E-02
+	BA-133	81.00	33.00	2.19E-02	7.19E-02	7.73E-02
		302.84	17.80	-8.40E-03		2.52E-01
		356.01	60.00	-2.75E-02		7.19E-02

Analysis Report for 1510063-02

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	I-133	529.87	86.30	3.62E-03	6.23E-02	6.23E-02
+	XE-133	81.00	38.00	1.91E-02	6.73E-02	6.73E-02
+	CS-134	563.23	8.38	3.28E-02	6.17E-02	6.42E-01
		569.32	15.43	-8.94E-02		3.60E-01
		604.70	97.60	-2.41E-02		6.17E-02
		795.84	85.40	4.55E-02		9.61E-02
		801.93	8.73	7.43E-02		9.29E-01
+	CS-135	268.24	16.00	1.01E-01	2.88E-01	2.88E-01
+	I-135	1131.51	22.50	4.23E-02	2.59E-01	3.84E-01
		1260.41	28.60	-3.47E-02		2.59E-01
		1678.03	9.54	-1.42E-01		5.21E-01
+	CS-136	153.22	7.46	1.29E-01	5.27E-02	4.64E-01
		163.89	4.61	3.81E-02		7.22E-01
		176.55	13.56	4.83E-02		2.66E-01
		273.65	12.66	-1.77E-01		3.52E-01
		340.57	48.50	1.06E-02		9.84E-02
		818.50	99.70	-2.17E-02		5.27E-02
		1048.07	79.60	-1.67E-02		9.20E-02
		1235.34	19.70	-2.36E-01		2.99E-01
+	CS-137	661.65	85.12	7.35E-03	6.72E-02	6.72E-02
+	LA-138	788.74	34.00	4.26E-02	7.89E-02	2.05E-01
		1435.80	66.00	-1.98E-02		7.89E-02
+	CE-139	165.85	80.35	-6.83E-03	4.10E-02	4.10E-02
+	BA-140	162.64	6.70	8.40E-02	2.23E-01	5.11E-01
		304.84	4.50	4.62E-01		1.02E+00
		423.70	3.20	1.46E-01		1.55E+00
		437.55	2.00	6.08E-02		2.36E+00
		537.32	25.00	2.60E-02		2.23E-01
+	LA-140	328.77	20.50	-1.42E-01	7.74E-02	2.08E-01
		487.03	45.50	-2.46E-02		1.17E-01
		815.85	23.50	-8.99E-02		2.45E-01
		1596.49	95.49	1.40E-02		7.74E-02
+	CE-141	145.44	48.40	1.87E-02	6.90E-02	6.90E-02
+	CE-143	57.36	11.80	-2.72E-01	1.03E-01	1.79E-01
		293.26	42.00	5.13E-03		1.03E-01
		664.55	5.20	1.15E-01		1.02E+00
+	CE-144	133.54	10.80	4.92E-02	2.92E-01	2.92E-01
+	PM-144	476.78	42.00	5.84E-02	5.42E-02	1.28E-01
		618.01	98.60	-1.83E-02		5.42E-02
		696.49	99.49	1.03E-02		8.58E-02
+	PM-145	36.85	21.70	-2.17E-02	4.63E-02	8.61E-02
		37.36	39.70	-9.23E-03		4.63E-02
		42.30	15.10	1.17E-02		1.42E-01
		72.40	2.31	1.14E-02		1.12E+00
+	PM-146	453.90	39.94	1.85E-02	1.27E-01	1.27E-01
		735.90	14.01	1.49E-01		4.14E-01
		747.13	13.10	1.15E-02		4.64E-01
+	ND-147	91.11	28.90	4.71E-04	9.87E-02	9.87E-02
		531.02	13.10	1.98E-01		4.21E-01

Analysis Report for 1510063-02

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	<i>Nuclide Name</i>	<i>Energy (keV)</i>	<i>Yield(%)</i>	<i>Activity (pCi/grams)</i>	<i>Nuclide MDA (pCi/grams)</i>	<i>Line MDA (pCi/grams)</i>
+	PM-149	285.90	3.10	4.52E-01	1.55E+00	1.55E+00
+	EU-152	121.78	20.50	2.20E-02	1.41E-01	1.41E-01
		244.69	5.40	-8.12E-02		7.97E-01
		344.27	19.13	-1.35E-01		2.21E-01
		778.89	9.20	1.75E-01		6.67E-01
		964.01	10.40	-1.06E-01		6.76E-01
		1085.78	7.22	4.84E-01		1.21E+00
		1112.02	9.60	-3.85E-02		6.52E-01
		1407.95	14.94	-1.84E-01		5.54E-01
+	GD-153	97.43	31.30	-1.93E-03	9.00E-02	9.00E-02
		103.18	22.20	-2.98E-02		1.23E-01
+	EU-154	123.07	40.50	-4.68E-03	6.95E-02	6.95E-02
		723.30	19.70	8.92E-03		2.59E-01
		873.19	11.50	3.98E-01		7.04E-01
		996.32	10.30	3.22E-01		8.28E-01
		1004.76	17.90	-2.25E-02		4.09E-01
		1274.45	35.50	-4.26E-02		1.04E-01
+	EU-155	86.50	30.90	-6.16E-02	8.44E-02	8.44E-02
		105.30	20.70	-3.62E-03		1.34E-01
+	EU-156	811.77	10.40	2.88E-01	6.73E-01	6.73E-01
		1153.47	7.20	1.85E-01		1.11E+00
		1230.71	8.90	2.76E-01		9.14E-01
+	HO-166M	184.41	72.60	6.08E-02	5.93E-02	5.93E-02
		280.45	29.60	4.33E-02		1.66E-01
		410.94	11.10	2.19E-01		4.75E-01
		711.69	54.10	5.33E-03		1.14E-01
+	TM-171	66.72	0.14	1.33E+01	1.81E+01	1.81E+01
+	HF-172	81.75	4.52	2.72E-01	2.48E-01	5.56E-01
		125.81	11.30	-1.15E-01		2.48E-01
+	LU-172	181.53	20.60	-3.22E-03	1.22E-01	1.90E-01
		810.06	16.63	1.10E-01		4.32E-01
		912.12	15.25	1.17E-02		4.38E-01
		1093.66	62.50	-2.85E-02		1.22E-01
+	LU-173	100.72	5.24	-2.90E-01	2.26E-01	5.05E-01
		272.11	21.20	7.14E-02		2.26E-01
+	HF-175	343.40	84.00	-1.80E-03	5.36E-02	5.36E-02
+	LU-176	88.34	13.30	-2.20E-02	4.60E-02	2.08E-01
		201.83	86.00	-6.62E-03		4.60E-02
		306.78	94.00	1.19E-02		4.79E-02
+	TA-182	67.75	41.20	1.85E-02	5.84E-02	5.84E-02
		1121.30	34.90	-1.50E-01		1.19E-01
		1189.05	16.23	8.01E-02		3.50E-01
		1221.41	26.98	5.91E-02		2.85E-01
		1231.02	11.44	2.15E-01		7.11E-01
+	IR-192	308.46	29.68	6.82E-02	1.10E-01	1.54E-01
		468.07	48.10	2.05E-03		1.10E-01
+	HG-203	279.19	77.30	7.17E-03	6.30E-02	6.30E-02
+	BI-207	569.67	97.72	-1.41E-02	5.69E-02	5.69E-02
		1063.62	74.90	3.03E-03		9.90E-02

Analysis Report for 1510063-02

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	TL-208	583.14	30.22	7.97E-02	2.03E-01	2.03E-01
		860.37	4.48	7.23E-02		1.70E+00
		2614.66	35.85	4.99E-02		2.32E-01
+	BI-210M	262.00	45.00	-5.61E-02	8.90E-02	8.90E-02
		300.00	23.00	-9.45E-02		1.84E-01
+	PB-210	46.50	* 4.25	4.24E-01	6.60E-01	6.60E-01
+	PB-211	404.84	2.90	-3.42E-02	1.71E+00	1.71E+00
		831.96	2.90	0.00E+00		2.18E+00
+	BI-212	727.17	11.80	-1.37E-01	3.96E-01	3.96E-01
		1620.62	2.75	1.58E+00		3.40E+00
+	PB-212	238.63	44.60	5.11E-02	1.03E-01	1.03E-01
		300.09	3.41	-6.38E-01		1.24E+00
+	BI-214	609.31	46.30	2.81E-02	1.41E-01	1.41E-01
		1120.29	15.10	-2.57E-01		2.75E-01
		1764.49	15.80	1.69E-01		5.08E-01
		2204.22	4.98	-5.32E-01		1.48E+00
+	PB-214	295.21	19.19	4.57E-02	1.15E-01	2.20E-01
		351.92	37.19	-9.73E-03		1.15E-01
+	RN-219	401.80	6.50	-1.77E-01	7.45E-01	7.45E-01
+	RA-223	323.87	3.88	5.06E-01	1.21E+00	1.21E+00
+	RA-224	240.98	3.95	8.67E-01	1.18E+00	1.18E+00
+	RA-225	40.00	31.00	-6.90E-03	5.86E-02	5.86E-02
+	RA-226	186.21	3.28	1.20E-02	1.27E+00	1.27E+00
+	TH-227	50.10	8.40	1.15E-02	2.82E-01	2.82E-01
		236.00	11.50	-1.01E-01		3.74E-01
		256.20	6.30	9.36E-02		6.66E-01
+	AC-228	338.32	11.40	1.48E-01	2.40E-01	4.32E-01
		911.07	27.70	-1.93E-02		2.40E-01
		969.11	16.60	-6.26E-02		4.26E-01
+	TH-230	48.44	16.90	1.14E-01	1.40E-01	1.40E-01
		62.85	4.60	6.31E-01		5.61E-01
		67.67	0.37	2.06E+00		6.50E+00
+	PA-231	283.67	1.60	1.27E+00	1.95E+00	3.09E+00
		302.67	2.30	-6.50E-02		1.95E+00
+	TH-231	25.64	14.70	-3.82E-02	1.48E-01	1.48E-01
		84.21	6.40	-1.24E-02		4.01E-01
+	PA-233	311.98	38.60	-3.64E-02	1.03E-01	1.03E-01
+	PA-234	131.20	20.40	2.97E-02	1.48E-01	1.48E-01
		733.99	8.80	-6.75E-02		5.88E-01
		946.00	12.00	-7.50E-02		5.75E-01
+	PA-234M	1001.03	0.92	-8.21E-01	7.92E+00	7.92E+00
+	TH-234	63.29	3.80	4.97E-01	6.53E-01	6.53E-01
+	U-235	143.76	10.50	-2.06E-02	3.18E-01	3.18E-01
		163.35	4.70	3.72E-02		7.06E-01
		205.31	4.70	2.08E-01		8.68E-01
+	NP-237	86.50	12.60	-1.51E-01	2.07E-01	2.07E-01
+	NP-239	106.10	22.70	-3.34E-03	1.24E-01	1.24E-01

Analysis Report for 1510063-02

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	NP-239	228.18	10.70	8.94E-02	1.24E-01	3.86E-01
		277.60	14.10	-1.12E-01		3.27E-01
+	AM-241	59.54	35.90	3.20E-02	6.75E-02	6.75E-02
+	AM-243	74.67 *	66.00	2.81E-02	4.17E-02	4.17E-02
+	CM-243	209.75	3.29	2.46E-01	3.27E-01	1.30E+00
		228.14	10.60	-1.26E-02		3.79E-01
		277.60	14.00	-1.12E-01		3.27E-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

? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
BE-7	477.59	10.42	5.34E-01	5.34E-01	2.46E-01	2.42E-01
NA-22	1274.54	99.94	3.71E-02	3.71E-02	-1.51E-02	1.17E-02
NA-24	1368.53	99.99	7.76E-02	2.56E-02	0.00E+00	3.13E-02
	2754.09	99.86	2.56E-02		0.00E+00	0.00E+00
AL-26	1808.65	99.76	6.35E-02	6.35E-02	-1.14E-02	2.25E-02
K-40	1460.81	10.67	6.41E-01	6.41E-01	-1.60E-01	2.48E-01
AR-41	1293.64	99.16	1.08E-01	1.08E-01	3.21E-02	4.57E-02
TI-44	67.88	94.40	2.55E-02	2.55E-02	8.10E-03	1.21E-02
	78.34	96.00	2.70E-02		-5.35E-03	1.28E-02
SC-46	889.25	99.98	8.05E-02	4.15E-02	2.22E-02	3.54E-02
	1120.51	99.99	4.15E-02		-3.88E-02	1.47E-02
V-48	983.52	99.98	6.89E-02	6.89E-02	-9.49E-03	2.91E-02
	1312.10	97.50	8.42E-02		-1.77E-03	3.49E-02
CR-51	320.08	9.83	4.53E-01	4.53E-01	1.04E-01	2.08E-01
MN-54	834.83	99.97	7.57E-02	7.57E-02	3.19E-02	3.33E-02
CO-56	846.75	99.96	4.48E-02	4.48E-02	1.14E-03	1.78E-02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
CO-56	1037.75	14.03	4.18E-01	4.48E-02	-9.88E-03	1.69E-01
	1238.25	67.00	1.03E-01		1.18E-02	4.17E-02
	1771.40	15.51	5.19E-01		-9.72E-02	2.01E-01
	2598.48	16.90	3.88E-01		5.27E-02	1.23E-01
CO-57	122.06	85.51	3.39E-02	3.39E-02	5.28E-03	1.60E-02
	136.48	10.60	2.96E-01		-6.16E-02	1.40E-01
CO-58	810.76	99.40	7.22E-02	7.22E-02	1.84E-02	3.16E-02
FE-59	1099.22	56.50	1.23E-01	1.23E-01	-2.01E-02	5.12E-02
	1291.56	43.20	1.87E-01		2.36E-02	7.77E-02
CO-60	1173.22	100.00	7.78E-02	7.78E-02	-8.47E-03	3.26E-02
	1332.49	100.00	8.32E-02		-1.84E-02	3.45E-02
ZN-65	1115.52	50.75	1.05E-01	1.05E-01	-2.05E-02	4.08E-02
GA-67	93.31	35.70	8.46E-02	8.46E-02	6.96E-02	4.04E-02
	208.95	2.24	1.86E+00		-7.06E-02	8.73E-01
	300.22	16.00	2.69E-01		-1.53E-01	1.24E-01
SE-75	121.11	16.70	1.73E-01	5.49E-02	1.15E-02	8.16E-02
	136.00	59.20	5.49E-02		1.67E-02	2.60E-02
	264.65	59.80	7.06E-02		-2.21E-02	3.28E-02
	279.53	25.20	1.94E-01		2.20E-02	9.05E-02
	400.65	11.40	4.12E-01		-1.36E-01	1.86E-01
RB-82	776.52	13.00	4.86E-01	4.86E-01	-1.21E-02	2.10E-01
RB-83	520.41	46.00	1.20E-01	1.20E-01	-1.49E-02	5.35E-02
	529.64	30.30	1.74E-01		1.01E-02	7.76E-02
	552.65	16.40	3.22E-01		-3.65E-03	1.42E-01
KR-85	513.99	0.43	1.76E+01	1.76E+01	1.01E+01	8.16E+00
SR-85	513.99	99.27	7.71E-02	7.71E-02	4.43E-02	3.57E-02
Y-88	898.02	93.40	6.75E-02	6.75E-02	-2.40E-02	2.85E-02
	1836.01	99.38	7.47E-02		-4.32E-02	2.80E-02
NB-93M	16.57	9.43	2.17E-01	2.17E-01	3.13E-01	1.04E-01
NB-94	702.63	100.00	7.78E-02	7.28E-02	1.64E-02	3.50E-02
	871.10	100.00	7.28E-02		-5.86E-03	3.17E-02
NB-95	765.79	99.81	8.21E-02	8.21E-02	4.25E-02	3.68E-02
NB-95M	235.69	25.00	1.73E-01	1.73E-01	-4.68E-02	8.09E-02
ZR-95	724.18	43.70	1.22E-01	1.21E-01	3.64E-02	5.18E-02
	756.72	55.30	1.21E-01		-1.23E-03	5.31E-02
MO-99	181.06	6.20	6.23E-01	4.87E-01	-6.01E-02	2.94E-01
	739.58	12.80	4.87E-01		7.00E-02	2.12E-01
	778.00	4.50	1.37E+00		3.59E-01	5.90E-01
RU-103	497.08	89.00	6.21E-02	6.21E-02	1.19E-02	2.80E-02
RU-106	621.84	9.80	5.92E-01	5.92E-01	1.05E-01	2.61E-01
AG-108M	433.93	89.90	5.03E-02	5.03E-02	-1.48E-02	2.25E-02
	614.37	90.40	6.48E-02		-1.79E-02	2.87E-02
	722.95	90.50	5.64E-02		1.94E-03	2.38E-02
CD-109	88.03	3.72	7.32E-01	7.32E-01	-2.32E-01	3.48E-01
AG-110M	657.75	93.14	6.88E-02	6.88E-02	1.46E-02	3.05E-02
	677.61	10.53	5.56E-01		-3.23E-01	2.43E-01
	706.67	16.46	3.90E-01		-5.80E-03	1.72E-01
	763.93	21.98	3.45E-01		-7.88E-03	1.53E-01
	884.67	71.63	1.09E-01		7.71E-03	4.78E-02
	1384.27	23.94	2.97E-01		-1.51E-02	1.18E-01
CD-113M	263.70	0.02	1.86E+02	1.86E+02	-4.56E+01	8.64E+01
SN-113	255.12	1.93	2.17E+00	8.39E-02	2.72E-01	1.01E+00
	391.69	64.90	8.39E-02		1.99E-02	3.86E-02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
TE123M	159.00	84.10	4.10E-02	4.10E-02	1.37E-02	1.93E-02
SB-124	602.71	97.87	6.13E-02	6.13E-02	-2.67E-02	2.73E-02
	645.85	7.26	7.48E-01		-3.63E-01	3.25E-01
	722.78	11.10	4.40E-01		-1.60E-01	1.84E-01
	1691.02	49.00	1.42E-01		0.00E+00	5.31E-02
I-125	35.49	6.49	2.95E-01	2.95E-01	-2.42E-02	1.40E-01
SB-125	176.33	6.89	5.23E-01	1.65E-01	9.49E-02	2.46E-01
	427.89	29.33	1.65E-01		2.29E-02	7.47E-02
	463.38	10.35	5.45E-01		4.56E-02	2.48E-01
	600.56	17.80	3.74E-01		1.67E-01	1.69E-01
	635.90	11.32	5.11E-01		1.89E-01	2.25E-01
SB-126	414.70	83.30	6.32E-02	5.29E-02	1.33E-02	2.88E-02
	666.33	99.60	5.29E-02		-3.62E-03	2.28E-02
	695.00	99.60	8.33E-02		1.24E-02	3.78E-02
	720.50	53.80	1.02E-01		8.60E-03	4.38E-02
SN-126	87.57	37.00	7.34E-02	7.34E-02	-2.33E-02	3.49E-02
SB-127	473.00	25.00	1.90E-01	1.71E-01	-1.02E-01	8.44E-02
	685.20	35.70	1.71E-01		-1.30E-02	7.49E-02
	783.80	14.70	4.49E-01		7.70E-02	1.95E-01
I-129	29.78	57.00	3.55E-02	3.55E-02	-8.61E-04	1.70E-02
	33.60	13.20	1.49E-01		3.71E-02	7.09E-02
	39.58	7.52	2.41E-01		-2.83E-02	1.14E-01
I-131	284.30	6.05	7.92E-01	5.94E-02	2.10E-01	3.69E-01
	364.48	81.20	5.94E-02		9.66E-03	2.72E-02
	636.97	7.26	8.20E-01		3.57E-01	3.62E-01
	722.89	1.80	2.72E+00		-9.90E-01	1.14E+00
TE-132	49.72	13.10	1.81E-01	4.59E-02	7.37E-03	8.68E-02
	228.16	88.00	4.59E-02		-1.53E-03	2.14E-02
BA-133	81.00	33.00	7.73E-02	7.19E-02	2.19E-02	3.67E-02
	302.84	17.80	2.52E-01		-8.40E-03	1.16E-01
	356.01	60.00	7.19E-02		-2.75E-02	3.26E-02
I-133	529.87	86.30	6.23E-02	6.23E-02	3.62E-03	2.77E-02
XE-133	81.00	38.00	6.73E-02	6.73E-02	1.91E-02	3.20E-02
CS-134	563.23	8.38	6.42E-01	6.17E-02	3.28E-02	2.84E-01
	569.32	15.43	3.60E-01		-8.94E-02	1.60E-01
	604.70	97.60	6.17E-02		-2.41E-02	2.74E-02
	795.84	85.40	9.61E-02		4.55E-02	4.29E-02
	801.93	8.73	9.29E-01		7.43E-02	4.14E-01
CS-135	268.24	16.00	2.88E-01	2.88E-01	1.01E-01	1.34E-01
I-135	1131.51	22.50	3.84E-01	2.59E-01	4.23E-02	1.63E-01
	1260.41	28.60	2.59E-01		-3.47E-02	1.05E-01
	1678.03	9.54	5.21E-01		-1.42E-01	1.65E-01
CS-136	153.22	7.46	4.64E-01	5.27E-02	1.29E-01	2.19E-01
	163.89	4.61	7.22E-01		3.81E-02	3.39E-01
	176.55	13.56	2.66E-01		4.83E-02	1.25E-01
	273.65	12.66	3.52E-01		-1.77E-01	1.64E-01
	340.57	48.50	9.84E-02		1.06E-02	4.53E-02
	818.50	99.70	5.27E-02		-2.17E-02	2.19E-02
	1048.07	79.60	9.20E-02		-1.67E-02	3.88E-02
	1235.34	19.70	2.99E-01		-2.36E-01	1.16E-01
CS-137	661.65	85.12	6.72E-02	6.72E-02	7.35E-03	2.93E-02
LA-138	788.74	34.00	2.05E-01	7.89E-02	4.26E-02	9.00E-02
	1435.80	66.00	7.89E-02		-1.98E-02	2.79E-02

Analysis Report for 1510063-02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
CE-139	165.85	80.35	4.10E-02	4.10E-02	-6.83E-03	1.93E-02
BA-140	162.64	6.70	5.11E-01	2.23E-01	8.40E-02	2.40E-01
	304.84	4.50	1.02E+00		4.62E-01	4.73E-01
	423.70	3.20	1.55E+00		1.46E-01	7.02E-01
	437.55	2.00	2.36E+00		6.08E-02	1.06E+00
	537.32	25.00	2.23E-01		2.60E-02	9.97E-02
LA-140	328.77	20.50	2.08E-01	7.74E-02	-1.42E-01	9.53E-02
	487.03	45.50	1.17E-01		-2.46E-02	5.28E-02
	815.85	23.50	2.45E-01		-8.99E-02	1.03E-01
	1596.49	95.49	7.74E-02		1.40E-02	3.00E-02
CE-141	145.44	48.40	6.90E-02	6.90E-02	1.87E-02	3.26E-02
CE-143	57.36	11.80	1.79E-01	1.03E-01	-2.72E-01	8.47E-02
	293.26	42.00	1.03E-01		5.13E-03	4.75E-02
	664.55	5.20	1.02E+00		1.15E-01	4.39E-01
CE-144	133.54	10.80	2.92E-01	2.92E-01	4.92E-02	1.38E-01
PM-144	476.78	42.00	1.28E-01	5.42E-02	5.84E-02	5.79E-02
	618.01	98.60	5.42E-02		-1.83E-02	2.37E-02
	696.49	99.49	8.58E-02		1.03E-02	3.90E-02
PM-145	36.85	21.70	8.61E-02	4.63E-02	-2.17E-02	4.09E-02
	37.36	39.70	4.63E-02		-9.23E-03	2.20E-02
	42.30	15.10	1.42E-01		1.17E-02	6.78E-02
	72.40	2.31	1.12E+00		1.14E-02	5.37E-01
PM-146	453.90	39.94	1.27E-01	1.27E-01	1.85E-02	5.71E-02
	735.90	14.01	4.14E-01		1.49E-01	1.78E-01
	747.13	13.10	4.64E-01		1.15E-02	2.01E-01
ND-147	91.11	28.90	9.87E-02	9.87E-02	4.71E-04	4.70E-02
	531.02	13.10	4.21E-01		1.98E-01	1.88E-01
PM-149	285.90	3.10	1.55E+00	1.55E+00	4.52E-01	7.23E-01
EU-152	121.78	20.50	1.41E-01	1.41E-01	2.20E-02	6.67E-02
	244.69	5.40	7.97E-01		-8.12E-02	3.72E-01
	344.27	19.13	2.21E-01		-1.35E-01	1.01E-01
	778.89	9.20	6.67E-01		1.75E-01	2.87E-01
	964.01	10.40	6.76E-01		-1.06E-01	2.88E-01
	1085.78	7.22	1.21E+00		4.84E-01	5.23E-01
	1112.02	9.60	6.52E-01		-3.85E-02	2.64E-01
	1407.95	14.94	5.54E-01		-1.84E-01	2.27E-01
GD-153	97.43	31.30	9.00E-02	9.00E-02	-1.93E-03	4.28E-02
	103.18	22.20	1.23E-01		-2.98E-02	5.80E-02
EU-154	123.07	40.50	6.95E-02	6.95E-02	-4.68E-03	3.27E-02
	723.30	19.70	2.59E-01		8.92E-03	1.09E-01
	873.19	11.50	7.04E-01		3.98E-01	3.11E-01
	996.32	10.30	8.28E-01		3.22E-01	3.61E-01
	1004.76	17.90	4.09E-01		-2.25E-02	1.74E-01
	1274.45	35.50	1.04E-01		-4.26E-02	3.30E-02
EU-155	86.50	30.90	8.44E-02	8.44E-02	-6.16E-02	4.01E-02
	105.30	20.70	1.34E-01		-3.62E-03	6.36E-02
EU-156	811.77	10.40	6.73E-01	6.73E-01	2.88E-01	2.94E-01
	1153.47	7.20	1.11E+00		1.85E-01	4.70E-01
	1230.71	8.90	9.14E-01		2.76E-01	3.83E-01
HO-166M	184.41	72.60	5.93E-02	5.93E-02	6.08E-02	2.81E-02
	280.45	29.60	1.66E-01		4.33E-02	7.78E-02
	410.94	11.10	4.75E-01		2.19E-01	2.17E-01
	711.69	54.10	1.14E-01		5.33E-03	4.96E-02

Analysis Report for 1510063-02

BLANK

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
TM-171	66.72	0.14	1.81E+01	1.81E+01	1.33E+01	8.65E+00
HF-172	81.75	4.52	5.56E-01	2.48E-01	2.72E-01	2.64E-01
	125.81	11.30	2.48E-01		-1.15E-01	1.16E-01
LU-172	181.53	20.60	1.90E-01	1.22E-01	-3.22E-03	8.97E-02
	810.06	16.63	4.32E-01		1.10E-01	1.89E-01
	912.12	15.25	4.38E-01		1.17E-02	1.86E-01
	1093.66	62.50	1.22E-01		-2.85E-02	5.16E-02
LU-173	100.72	5.24	5.05E-01	2.26E-01	-2.90E-01	2.39E-01
	272.11	21.20	2.26E-01		7.14E-02	1.06E-01
HF-175	343.40	84.00	5.36E-02	5.36E-02	-1.80E-03	2.45E-02
LU-176	88.34	13.30	2.08E-01	4.60E-02	-2.20E-02	9.91E-02
	201.83	86.00	4.60E-02		-6.62E-03	2.16E-02
	306.78	94.00	4.79E-02		1.19E-02	2.21E-02
TA-182	67.75	41.20	5.84E-02	5.84E-02	1.85E-02	2.78E-02
	1121.30	34.90	1.19E-01		-1.50E-01	4.22E-02
	1189.05	16.23	3.50E-01		8.01E-02	1.35E-01
	1221.41	26.98	2.85E-01		5.91E-02	1.18E-01
	1231.02	11.44	7.11E-01		2.15E-01	2.98E-01
IR-192	308.46	29.68	1.54E-01	1.10E-01	6.82E-02	7.11E-02
	468.07	48.10	1.10E-01		2.05E-03	4.97E-02
HG-203	279.19	77.30	6.30E-02	6.30E-02	7.17E-03	2.95E-02
BI-207	569.67	97.72	5.69E-02	5.69E-02	-1.41E-02	2.52E-02
	1063.62	74.90	9.90E-02		3.03E-03	4.18E-02
TL-208	583.14	30.22	2.03E-01	2.03E-01	7.97E-02	9.11E-02
	860.37	4.48	1.70E+00		7.23E-02	7.43E-01
	2614.66	35.85	2.32E-01		4.99E-02	8.21E-02
BI-210M	262.00	45.00	8.90E-02	8.90E-02	-5.61E-02	4.12E-02
	300.00	23.00	1.84E-01		-9.45E-02	8.48E-02
+ PB-210	46.50	* 4.25	6.60E-01	6.60E-01	4.24E-01	3.19E-01
PB-211	404.84	2.90	1.71E+00	1.71E+00	-3.42E-02	7.75E-01
	831.96	2.90	2.18E+00		0.00E+00	9.34E-01
BI-212	727.17	11.80	3.96E-01	3.96E-01	-1.37E-01	1.64E-01
	1620.62	2.75	3.40E+00		1.58E+00	1.39E+00
PB-212	238.63	44.60	1.03E-01	1.03E-01	5.11E-02	4.86E-02
	300.09	3.41	1.24E+00		-6.38E-01	5.72E-01
BI-214	609.31	46.30	1.41E-01	1.41E-01	2.81E-02	6.34E-02
	1120.29	15.10	2.75E-01		-2.57E-01	9.74E-02
	1764.49	15.80	5.08E-01		1.69E-01	1.97E-01
	2204.22	4.98	1.48E+00		-5.32E-01	5.25E-01
PB-214	295.21	19.19	2.20E-01	1.15E-01	4.57E-02	1.01E-01
	351.92	37.19	1.15E-01		-9.73E-03	5.21E-02
RN-219	401.80	6.50	7.45E-01	7.45E-01	-1.77E-01	3.38E-01
RA-223	323.87	3.88	1.21E+00	1.21E+00	5.06E-01	5.57E-01
RA-224	240.98	3.95	1.18E+00	1.18E+00	8.67E-01	5.57E-01
RA-225	40.00	31.00	5.86E-02	5.86E-02	-6.90E-03	2.78E-02
RA-226	186.21	3.28	1.27E+00	1.27E+00	1.20E-02	6.03E-01
TH-227	50.10	8.40	2.82E-01	2.82E-01	1.15E-02	1.35E-01
	236.00	11.50	3.74E-01		-1.01E-01	1.75E-01
	256.20	6.30	6.66E-01		9.36E-02	3.10E-01
AC-228	338.32	11.40	4.32E-01	2.40E-01	1.48E-01	2.00E-01
	911.07	27.70	2.40E-01		-1.93E-02	1.02E-01
	969.11	16.60	4.26E-01		-6.26E-02	1.81E-01
TH-230	48.44	16.90	1.40E-01	1.40E-01	1.14E-01	6.69E-02

Analysis Report for 1510063-02

BLANK

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
TH-230	62.85	4.60	5.61E-01	1.40E-01	6.31E-01	2.68E-01
	67.67	0.37	6.50E+00		2.06E+00	3.09E+00
PA-231	283.67	1.60	3.09E+00	1.95E+00	1.27E+00	1.44E+00
	302.67	2.30	1.95E+00		-6.50E-02	9.01E-01
TH-231	25.64	14.70	1.48E-01	1.48E-01	-3.82E-02	7.10E-02
	84.21	6.40	4.01E-01		-1.24E-02	1.90E-01
PA-233	311.98	38.60	1.03E-01	1.03E-01	-3.64E-02	4.69E-02
PA-234	131.20	20.40	1.48E-01	1.48E-01	2.97E-02	6.99E-02
	733.99	8.80	5.88E-01		-6.75E-02	2.48E-01
	946.00	12.00	5.75E-01		-7.50E-02	2.45E-01
PA-234M	1001.03	0.92	7.92E+00	7.92E+00	-8.21E-01	3.37E+00
TH-234	63.29	3.80	6.53E-01	6.53E-01	4.97E-01	3.12E-01
U-235	143.76	10.50	3.18E-01	3.18E-01	-2.06E-02	1.50E-01
	163.35	4.70	7.06E-01		3.72E-02	3.31E-01
	205.31	4.70	8.68E-01		2.08E-01	4.08E-01
NP-237	86.50	12.60	2.07E-01	2.07E-01	-1.51E-01	9.82E-02
NP-239	106.10	22.70	1.24E-01	1.24E-01	-3.34E-03	5.87E-02
	228.18	10.70	3.86E-01		8.94E-02	1.80E-01
	277.60	14.10	3.27E-01		-1.12E-01	1.52E-01
	59.54	35.90	6.75E-02		6.75E-02	3.20E-02	3.22E-02
+ AM-243	74.67 *	66.00	4.17E-02	4.17E-02	2.81E-02	2.00E-02
CM-243	209.75	3.29	1.30E+00	3.27E-01	2.46E-01	6.11E-01
	228.14	10.60	3.79E-01		-1.26E-02	1.77E-01
	277.60	14.00	3.27E-01		-1.12E-01	1.52E-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

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

Creation Date

Comment

User

Analysis Report for 1510063-02
BLANK

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: BLANK

Elapsed Live time: 3600
 Elapsed Real Time: 3639

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	8	42
17:	36	31	36	26	27	24	26	30
25:	24	16	12	20	19	24	18	16
33:	14	19	11	6	19	19	13	9
41:	11	14	11	20	24	34	17	20
49:	18	14	14	12	17	11	15	11
57:	5	22	11	10	14	27	39	19
65:	14	11	8	11	14	9	9	20
73:	19	27	18	20	10	8	13	16
81:	14	8	19	17	15	11	8	9
89:	18	16	17	23	22	13	17	14
97:	9	13	13	11	11	13	12	7
105:	12	14	12	18	9	13	9	14
113:	8	11	17	8	15	12	10	6
121:	13	15	7	10	8	8	11	6
129:	7	12	20	8	12	10	6	11
137:	14	8	15	12	6	15	11	12
145:	12	6	12	9	16	11	7	5
153:	14	11	16	6	12	12	9	8
161:	10	8	7	6	12	15	6	9
169:	5	9	7	12	12	9	11	9
177:	5	6	6	15	10	12	9	21
185:	12	15	9	12	7	9	7	17
193:	14	3	8	12	13	10	14	6
201:	4	8	7	11	9	11	7	16
209:	12	4	8	7	16	4	3	8
217:	5	7	5	7	10	10	6	10
225:	10	4	4	12	6	9	7	9
233:	4	7	5	12	9	12	9	15
241:	8	7	6	7	8	7	3	8
249:	5	6	10	9	7	5	5	5
257:	9	4	13	3	4	3	9	3
265:	4	8	12	11	7	9	3	10
273:	6	3	10	5	7	10	8	5
281:	8	7	10	11	5	8	8	3
289:	4	7	2	5	2	9	7	6
297:	6	4	5	3	6	3	5	8
305:	10	6	9	2	4	2	3	6
313:	4	0	6	3	4	3	6	4
321:	7	6	5	5	3	6	6	4
329:	3	5	3	3	8	4	9	4
337:	3	7	8	6	3	5	2	7
345:	2	5	1	3	6	4	7	2
353:	3	3	4	3	5	2	4	4
361:	7	5	6	1	2	9	4	2

369: 3 5 4 4 4 1 2 3

Sample Title: BLANK

Channel	1	2	3	4	5	6	7	8	9
377:	2	6	4	5	6	4	3	7	
385:	4	4	3	7	3	10	2	4	
393:	2	7	7	1	3	6	2	2	
401:	3	6	6	2	3	1	7	4	
409:	3	3	6	6	4	4	1	1	
417:	3	9	2	3	2	4	5	4	
425:	4	2	5	0	3	3	3	3	
433:	2	3	3	1	3	8	4	1	
441:	1	3	3	2	5	0	6	2	
449:	2	3	4	0	4	8	1	4	
457:	2	5	2	1	7	4	3	3	
465:	5	3	6	5	2	3	0	2	
473:	2	0	5	3	5	3	2	7	
481:	4	1	1	5	5	3	3	3	
489:	5	1	5	1	3	2	4	4	
497:	5	3	2	4	1	4	1	3	
505:	1	4	2	9	10	15	7	6	
513:	6	1	4	0	4	2	4	3	
521:	4	5	0	3	1	2	5	4	
529:	2	1	3	2	2	3	2	1	
537:	1	3	8	2	2	5	1	2	
545:	5	1	3	3	3	2	0	5	
553:	0	1	2	4	1	3	1	1	
561:	3	6	4	1	1	0	3	2	
569:	2	1	2	4	6	2	2	2	
577:	2	2	5	1	3	2	1	3	
585:	2	2	6	0	3	1	0	5	
593:	0	4	0	6	3	5	2	3	
601:	1	4	1	3	1	2	3	4	
609:	5	5	1	4	1	2	1	3	
617:	1	2	2	2	3	0	5	3	
625:	1	0	3	1	1	2	0	2	
633:	0	3	1	2	1	3	6	1	
641:	1	0	2	2	4	2	3	1	
649:	0	3	2	2	3	3	1	3	
657:	1	2	3	4	1	2	0	2	
665:	1	0	2	1	2	3	4	4	
673:	1	1	2	1	1	3	6	1	
681:	0	1	4	3	3	0	2	4	
689:	0	1	4	2	4	2	5	5	
697:	4	2	5	6	4	5	1	4	
705:	0	1	2	1	1	3	3	2	
713:	0	2	2	1	4	0	0	1	
721:	0	2	1	3	0	2	1	1	
729:	0	0	0	3	2	0	1	2	
737:	0	2	3	2	1	0	4	1	
745:	1	1	1	0	0	5	1	2	
753:	3	0	1	2	3	2	2	2	
761:	2	2	3	2	2	4	2	3	
769:	6	0	2	0	2	3	0	0	
777:	0	4	3	2	1	0	0	2	
785:	4	2	1	0	1	0	2	5	
793:	0	2	0	5	2	3	5	2	

801: 3 2 4 2 0 2 0 3

Sample Title: BLANK

Channel	1	2	3	4	5	6	7	8	9
809:	4	0	0	6	1	1	1	0	
817:	1	0	0	1	1	3	0	0	
825:	2	1	0	1	1	1	1	2	
833:	0	2	2	2	6	2	2	1	
841:	1	0	1	2	0	0	0	2	
849:	0	0	4	1	6	4	1	2	
857:	1	3	3	1	1	3	1	2	
865:	2	1	1	0	1	0	1	2	
873:	2	5	3	2	3	0	1	1	
881:	4	0	2	3	3	1	2	1	
889:	2	2	2	2	3	0	1	2	
897:	2	0	2	1	1	1	1	2	
905:	1	0	2	1	0	3	0	1	
913:	2	1	1	2	1	2	1	0	
921:	3	2	1	1	2	2	1	0	
929:	0	2	2	1	1	0	2	2	
937:	2	2	1	3	1	1	0	1	
945:	2	3	1	1	2	0	0	2	
953:	2	2	3	0	0	0	0	1	
961:	2	2	2	0	1	0	2	1	
969:	2	2	2	1	0	0	1	4	
977:	1	1	1	0	1	1	1	2	
985:	1	1	2	1	0	1	1	1	
993:	3	2	2	1	3	1	0	3	
1001:	3	0	0	1	0	2	2	0	
1009:	1	2	1	0	0	1	1	2	
1017:	3	3	0	0	2	1	1	2	
1025:	4	1	0	0	1	0	0	1	
1033:	1	1	0	1	1	0	0	0	
1041:	2	2	1	0	1	2	2	1	
1049:	4	0	0	0	2	1	1	2	
1057:	2	0	0	0	0	2	2	2	
1065:	1	2	1	1	1	0	3	0	
1073:	1	2	0	3	0	0	0	1	
1081:	0	3	0	0	1	1	3	3	
1089:	0	3	1	1	1	2	0	0	
1097:	2	1	2	0	0	1	2	2	
1105:	0	1	2	2	0	2	0	0	
1113:	1	1	0	0	1	0	1	0	
1121:	0	0	0	0	0	3	1	1	
1129:	1	2	1	0	1	2	2	1	
1137:	0	2	0	1	1	3	2	0	
1145:	0	1	1	1	2	2	1	0	
1153:	1	1	1	2	0	1	0	1	
1161:	2	0	0	1	2	2	1	0	
1169:	2	0	2	1	0	1	1	2	
1177:	0	2	0	2	1	1	0	0	
1185:	0	1	0	1	0	1	1	0	
1193:	0	0	0	0	1	0	1	4	
1201:	0	0	0	1	2	0	0	1	
1209:	0	1	2	1	1	0	0	1	
1217:	1	0	2	1	1	1	0	1	
1225:	1	0	1	1	2	3	0	1	

1233: 0 1 0 0 1 0 1 1

Sample Title: BLANK

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1241:	1	1	0	1	1	0	0	0
1249:	0	2	1	0	0	3	1	2
1257:	0	1	0	1	1	1	0	0
1265:	1	1	0	1	1	0	0	0
1273:	0	0	0	1	0	0	0	0
1281:	0	0	2	0	0	1	0	0
1289:	1	1	1	4	0	1	0	1
1297:	0	2	0	1	1	2	0	1
1305:	1	1	1	0	1	1	0	0
1313:	0	1	1	4	0	3	0	1
1321:	0	0	0	0	1	3	1	0
1329:	2	1	0	2	0	3	0	0
1337:	0	3	0	1	0	0	1	0
1345:	1	0	1	1	0	1	0	0
1353:	3	0	0	0	0	0	0	1
1361:	1	0	1	0	2	0	2	0
1369:	0	0	1	1	1	0	1	2
1377:	3	0	0	1	1	0	1	0
1385:	0	0	0	2	1	0	0	0
1393:	0	2	0	1	0	1	0	0
1401:	2	1	1	0	0	2	1	0
1409:	0	1	2	1	1	1	2	1
1417:	0	0	0	0	0	0	0	0
1425:	0	0	1	0	0	1	4	1
1433:	0	0	0	1	0	0	0	0
1441:	0	0	0	1	1	1	0	0
1449:	0	0	0	0	0	0	1	0
1457:	0	2	0	1	0	0	0	1
1465:	0	0	3	0	2	1	1	1
1473:	0	1	0	1	0	1	2	1
1481:	0	0	1	0	0	0	0	0
1489:	0	1	0	0	1	0	0	0
1497:	2	2	1	1	1	0	1	0
1505:	0	0	2	0	0	1	0	0
1513:	1	1	1	0	0	0	0	0
1521:	0	0	0	0	0	0	0	3
1529:	0	0	0	0	1	0	0	1
1537:	0	1	4	0	2	0	0	0
1545:	3	1	1	0	1	0	0	0
1553:	0	0	0	0	0	1	1	0
1561:	0	1	0	0	0	0	1	0
1569:	1	0	0	0	1	2	0	0
1577:	1	0	0	1	0	1	2	2
1585:	0	1	0	0	0	0	1	1
1593:	1	0	1	0	1	1	0	0
1601:	0	0	0	0	0	0	0	0
1609:	0	0	3	0	0	0	0	0
1617:	0	0	2	1	0	1	1	0
1625:	2	0	0	0	1	0	2	1
1633:	0	0	0	0	0	1	0	0
1641:	1	0	0	0	0	1	1	1
1649:	0	0	0	3	3	0	0	0
1657:	1	0	0	0	0	0	1	0

1665: 1 1 0 1 0 1 0 1

Sample Title: BLANK

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1673:	0	0	0	0	0	0	0	1
1681:	0	0	0	0	1	0	0	1
1689:	1	1	0	0	0	0	0	0
1697:	1	0	0	0	0	0	0	0
1705:	0	0	0	0	0	0	0	1
1713:	1	0	1	0	0	0	0	0
1721:	0	1	0	0	0	0	0	1
1729:	2	0	0	0	0	0	0	0
1737:	1	0	0	0	1	0	1	1
1745:	0	0	0	0	0	0	0	1
1753:	0	0	0	0	0	0	0	0
1761:	0	0	0	1	0	0	0	2
1769:	0	1	0	0	0	0	1	0
1777:	0	0	2	0	0	0	0	1
1785:	0	3	1	0	0	0	0	0
1793:	0	0	0	1	0	0	0	0
1801:	1	0	1	0	0	0	0	0
1809:	1	1	0	0	0	0	0	0
1817:	0	0	1	1	0	0	0	0
1825:	0	0	0	0	1	0	2	0
1833:	0	0	0	0	0	0	1	0
1841:	0	1	2	0	0	1	1	0
1849:	0	0	0	0	0	1	0	0
1857:	0	1	0	0	0	1	1	1
1865:	0	0	0	0	2	0	0	0
1873:	0	2	0	0	1	1	0	0
1881:	0	0	0	0	2	0	0	0
1889:	0	1	0	1	0	1	0	0
1897:	0	0	1	0	0	0	0	0
1905:	0	0	1	1	0	1	0	0
1913:	0	0	0	1	0	0	1	0
1921:	1	0	0	0	0	1	0	0
1929:	0	0	0	0	0	1	1	0
1937:	0	0	2	0	1	0	0	0
1945:	0	0	1	0	0	0	1	2
1953:	0	1	0	0	0	0	0	1
1961:	0	1	0	0	0	0	2	0
1969:	1	0	0	0	0	0	0	0
1977:	0	0	0	0	0	0	0	0
1985:	0	1	0	1	0	0	0	0
1993:	0	0	0	0	0	1	0	1
2001:	0	1	0	1	0	0	0	1
2009:	0	0	0	0	0	0	0	0
2017:	0	1	0	0	0	0	1	0
2025:	0	0	0	1	0	0	0	1
2033:	0	0	1	0	0	0	1	0
2041:	0	0	0	0	0	0	1	0
2049:	0	0	0	2	0	0	0	0
2057:	3	1	0	0	1	0	0	0
2065:	0	0	0	0	0	0	0	1
2073:	1	0	1	0	0	1	0	0
2081:	0	0	0	1	0	2	0	0
2089:	0	0	0	0	0	0	0	0

2097: 1 0 0 0 0 0 0 1 0

Sample Title: BLANK

Channel	1	2	3	4	5	6	7	8	9
2105:	0	1	0	0	0	0	0	0	0
2113:	0	0	1	0	0	0	0	1	0
2121:	1	0	0	0	0	0	1	0	0
2129:	0	0	0	0	0	0	1	3	1
2137:	0	0	0	0	0	0	0	0	1
2145:	1	0	0	1	0	0	0	0	0
2153:	0	0	0	0	1	1	0	0	0
2161:	0	0	1	0	0	0	0	1	0
2169:	0	0	0	0	0	0	0	1	0
2177:	2	2	0	0	0	0	0	1	0
2185:	0	0	0	1	0	0	0	0	0
2193:	0	0	1	0	0	0	1	0	0
2201:	0	0	0	0	1	0	0	1	0
2209:	0	0	1	1	0	0	0	0	0
2217:	1	1	0	0	0	0	0	0	0
2225:	0	0	1	0	3	0	0	0	0
2233:	0	1	1	1	0	0	0	2	1
2241:	1	0	0	0	0	0	0	0	0
2249:	0	1	1	0	0	0	0	1	0
2257:	0	0	0	0	0	0	0	0	0
2265:	1	0	0	0	0	0	0	0	0
2273:	0	0	0	0	0	0	0	0	0
2281:	0	0	0	0	0	0	1	1	0
2289:	0	0	0	0	0	0	0	0	0
2297:	0	0	0	1	1	0	0	0	0
2305:	0	0	0	0	0	0	0	0	0
2313:	0	0	1	0	1	0	0	0	0
2321:	0	1	0	0	1	0	0	0	0
2329:	1	1	1	0	0	0	0	0	0
2337:	0	0	1	0	0	0	0	0	0
2345:	1	0	0	0	0	0	0	0	0
2353:	1	0	0	0	0	0	1	0	1
2361:	0	0	0	0	0	0	0	0	0
2369:	0	0	0	0	0	0	0	0	0
2377:	0	1	0	0	0	0	0	0	1
2385:	0	1	2	0	1	0	0	0	1
2393:	1	0	0	0	0	0	0	0	1
2401:	0	0	0	0	0	0	0	1	0
2409:	0	0	0	1	0	0	0	0	0
2417:	2	1	0	0	0	0	1	0	1
2425:	0	1	0	1	0	0	0	0	0
2433:	0	0	0	0	1	0	0	1	1
2441:	0	0	0	0	0	0	0	0	0
2449:	0	0	0	0	1	1	0	0	0
2457:	0	0	0	0	0	0	0	0	0
2465:	1	0	0	0	0	1	0	0	0
2473:	0	0	0	0	1	0	0	0	2
2481:	0	0	0	2	0	0	0	1	0
2489:	1	0	1	0	0	0	0	0	0
2497:	1	0	0	0	0	0	0	1	1
2505:	0	0	0	0	0	0	0	1	0
2513:	0	0	1	1	2	0	0	0	2
2521:	1	1	0	1	0	0	0	0	1

2529: 0 0 0 0 0 0 0 0 0

Sample Title: BLANK

2537:	0	0	0	0	1	0	0	0
2545:	0	0	0	0	0	0	0	0
2553:	0	0	0	0	0	0	0	0
2561:	0	1	0	0	0	0	0	0
2569:	0	0	1	0	0	0	0	0
2577:	1	0	0	1	0	0	0	1
2585:	0	0	0	0	0	1	0	0
2593:	0	0	1	0	0	0	0	0
2601:	0	0	0	0	0	0	0	0
2609:	0	1	0	0	0	1	0	0
2617:	0	0	0	0	0	0	0	0
2625:	0	0	0	0	0	0	0	0
2633:	0	1	0	0	0	0	0	0
2641:	1	0	0	0	0	0	0	1
2649:	0	0	0	0	0	0	0	0
2657:	0	1	0	0	0	0	1	1
2665:	0	0	0	1	0	0	1	0
2673:	0	0	0	0	0	0	0	0
2681:	0	0	0	1	0	0	0	0
2689:	0	0	0	0	0	0	0	0
2697:	0	0	0	0	0	0	0	0
2705:	0	0	0	0	0	0	0	0
2713:	0	0	0	0	0	0	0	0
2721:	0	0	0	0	0	0	1	1
2729:	0	0	1	0	0	0	0	2
2737:	0	0	0	0	0	0	0	0
2745:	0	0	0	0	0	0	0	0
2753:	0	0	0	0	0	0	0	0
2761:	0	0	0	0	0	0	0	0
2769:	0	1	0	0	0	0	0	1
2777:	0	0	0	0	0	0	0	0
2785:	0	0	0	0	0	0	0	0
2793:	0	0	0	0	0	0	0	0
2801:	0	0	0	1	0	0	0	0
2809:	0	0	0	0	0	0	0	0
2817:	0	0	0	1	0	0	0	0
2825:	0	0	0	0	0	0	0	0
2833:	0	0	1	0	0	0	0	0
2841:	0	0	0	0	0	0	0	0
2849:	0	0	0	0	0	0	0	0
2857:	0	0	0	1	0	0	1	0
2865:	0	0	0	0	0	0	0	0
2873:	0	0	1	0	0	0	0	0
2881:	0	0	0	0	0	1	0	0
2889:	0	0	1	0	0	0	0	0
2897:	0	0	1	0	0	0	0	1
2905:	0	0	0	0	0	0	0	0
2913:	0	0	0	0	0	1	0	0
2921:	0	0	1	0	0	0	0	0
2929:	0	0	1	0	1	0	0	0
2937:	1	1	1	0	0	0	0	0
2945:	0	0	0	0	0	0	0	0
2953:	0	0	0	0	0	0	0	0

2961: 0 0 0 0 0 0 0 0 1

Sample Title: BLANK

Channel	1	0	0	0	0	0	0	0
2969:	1	0	0	0	0	0	0	0
2977:	0	0	0	0	0	0	0	0
2985:	0	0	0	0	0	0	0	0
2993:	0	0	0	0	1	0	0	0
3001:	0	0	0	0	0	0	0	1
3009:	0	1	0	1	0	0	0	0
3017:	0	0	0	0	1	1	0	0
3025:	0	0	0	0	0	0	0	0
3033:	0	0	1	0	0	0	0	0
3041:	1	1	0	0	0	1	0	0
3049:	0	0	0	0	0	0	1	0
3057:	0	1	0	0	0	0	0	0
3065:	0	0	0	0	0	0	0	1
3073:	0	0	0	0	0	0	0	0
3081:	0	0	0	0	0	0	0	0
3089:	2	0	0	0	0	0	1	0
3097:	0	0	0	0	0	0	0	0
3105:	0	0	0	0	0	0	0	1
3113:	0	0	1	0	0	0	1	0
3121:	1	0	0	0	0	0	0	0
3129:	0	0	0	0	1	0	1	0
3137:	0	0	0	0	1	0	0	0
3145:	0	0	0	0	0	0	0	0
3153:	0	0	0	0	0	1	0	0
3161:	0	0	0	1	0	0	1	0
3169:	1	0	1	0	1	0	0	1
3177:	1	0	0	0	0	0	1	0
3185:	0	0	0	0	0	0	0	0
3193:	0	0	0	0	0	0	0	0
3201:	0	0	0	0	0	0	0	0
3209:	0	0	0	0	0	0	0	0
3217:	0	0	0	0	0	0	0	0
3225:	0	0	0	0	0	0	0	0
3233:	1	0	1	0	0	1	0	0
3241:	0	0	0	0	0	1	0	0
3249:	0	0	0	0	1	0	0	0
3257:	0	0	0	0	0	0	1	0
3265:	0	0	0	0	0	0	0	1
3273:	0	0	0	0	0	0	0	0
3281:	0	0	0	0	0	0	0	0
3289:	0	0	0	0	0	0	0	0
3297:	0	0	0	0	1	0	0	0
3305:	0	0	0	0	0	0	0	0
3313:	0	0	0	0	1	0	0	0
3321:	0	0	0	0	0	0	0	0
3329:	0	0	0	0	0	0	0	0
3337:	0	0	0	0	1	0	1	0
3345:	0	0	0	0	0	0	0	0
3353:	0	0	0	0	0	0	1	0
3361:	0	0	0	0	0	0	0	1
3369:	0	0	0	0	0	0	0	0
3377:	0	1	0	0	0	0	0	0
3385:	0	0	0	0	0	0	0	0

3393: 0 1 1 0 0 0 0 0

Sample Title: BLANK

Channel	1	2	3	4	5	6	7	8
3401:	0	0	1	0	0	0	0	0
3409:	1	0	0	1	0	0	0	0
3417:	0	0	0	0	0	0	0	0
3425:	0	0	0	1	0	0	0	0
3433:	0	0	0	0	0	0	0	0
3441:	0	0	0	0	0	0	0	0
3449:	0	0	0	1	0	0	0	0
3457:	0	0	0	0	0	0	0	0
3465:	0	0	0	0	0	0	0	0
3473:	0	0	1	0	0	0	0	0
3481:	0	0	0	0	0	0	0	0
3489:	0	1	0	0	0	1	0	0
3497:	0	0	0	0	0	0	0	0
3505:	0	0	0	0	0	0	0	0
3513:	0	0	0	0	0	0	0	0
3521:	0	0	0	0	0	0	1	0
3529:	0	0	0	0	0	0	0	0
3537:	0	0	0	0	1	0	1	0
3545:	0	0	0	1	0	0	0	0
3553:	0	0	0	0	0	0	0	0
3561:	0	0	0	0	0	0	0	0
3569:	0	0	1	0	0	0	0	1
3577:	0	0	0	0	0	0	0	0
3585:	0	0	0	0	0	0	1	0
3593:	0	0	0	0	0	1	0	0
3601:	0	1	0	0	0	0	0	0
3609:	0	0	0	0	0	0	0	0
3617:	0	0	0	0	0	0	0	0
3625:	0	0	0	1	0	0	0	1
3633:	0	0	0	0	0	0	0	0
3641:	0	0	0	0	0	1	1	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	0	0	0	0	1	0	1	0
3673:	0	0	0	0	1	0	0	0
3681:	0	0	0	0	0	1	0	0
3689:	0	0	0	0	0	1	0	0
3697:	0	0	0	0	0	0	0	0
3705:	0	0	0	0	1	1	0	0
3713:	0	0	0	0	0	0	0	0
3721:	0	0	0	0	0	0	0	0
3729:	0	0	0	0	0	0	0	0
3737:	0	0	0	0	0	0	0	0
3745:	0	0	0	0	0	1	0	0
3753:	0	0	0	0	0	0	0	0
3761:	0	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0
3777:	0	0	0	0	0	0	0	0
3785:	0	0	0	0	0	0	0	0
3793:	0	0	1	0	0	1	1	0
3801:	0	0	1	0	0	0	0	0
3809:	1	0	0	0	0	0	0	0
3817:	0	0	1	0	0	0	0	0

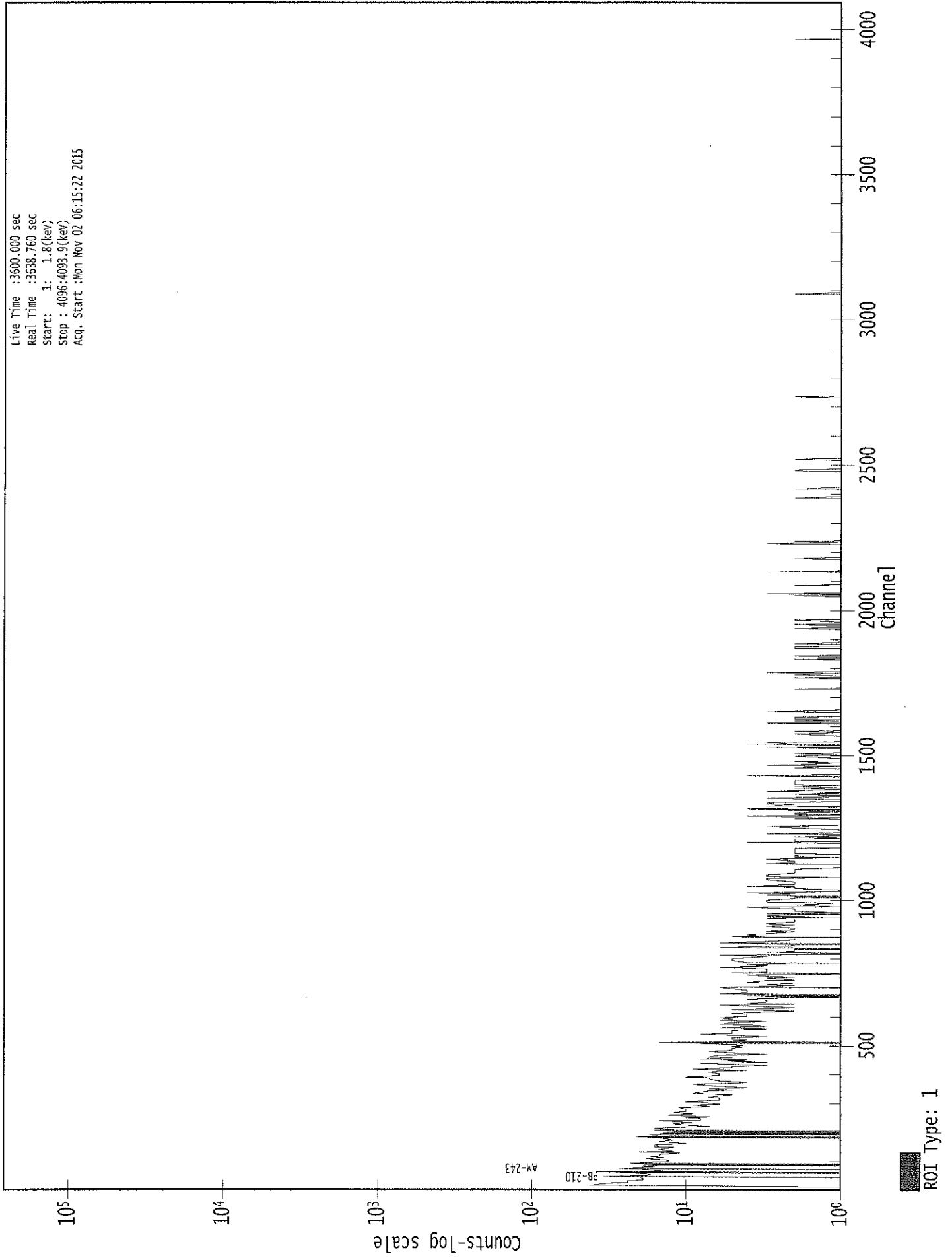
3825: 0 0 1 0 0 0 0 0 0

Sample Title: BLANK

Channel	1	2	3	4	5	6	7	8	9
3833:	0	0	0	0	0	0	0	0	0
3841:	0	0	0	0	0	0	0	0	0
3849:	0	0	0	0	0	0	0	0	0
3857:	0	0	0	0	1	0	0	0	0
3865:	0	0	0	0	0	0	0	0	0
3873:	0	0	0	0	0	0	0	0	0
3881:	0	1	0	1	1	0	0	0	0
3889:	0	1	0	0	0	0	0	0	0
3897:	0	0	0	0	1	0	0	0	0
3905:	0	0	0	1	0	0	0	0	1
3913:	0	1	0	0	1	0	0	0	0
3921:	0	0	0	0	0	0	0	0	0
3929:	0	0	0	0	0	0	1	0	0
3937:	0	1	0	0	0	0	0	0	0
3945:	0	0	0	0	0	0	0	0	0
3953:	0	0	0	0	0	0	0	0	0
3961:	0	0	0	0	0	2	0	0	0
3969:	0	0	0	0	0	1	0	0	0
3977:	0	0	0	0	0	1	0	0	0
3985:	0	0	0	0	0	0	0	0	0
3993:	1	0	0	0	0	0	0	0	0
4001:	0	0	0	0	0	1	0	0	0
4009:	0	0	0	0	0	0	0	0	0
4017:	0	0	0	0	0	0	1	0	0
4025:	0	1	0	0	0	0	0	0	0
4033:	0	0	0	0	0	0	0	0	0
4041:	1	0	0	1	0	0	0	0	0
4049:	1	0	1	0	0	0	0	0	0
4057:	0	0	1	0	0	0	0	0	0
4065:	0	0	0	0	0	0	0	0	0
4073:	0	0	0	1	0	0	0	0	1
4081:	0	0	1	0	0	0	0	0	0
4089:	0	1	0	0	0	0	0	0	0

0000028959.CNF

Live Time : 3600.000 sec
Real Time : 3638.760 sec
Start : 1: 1.8(keV)
Stop : 4096:4093.9(keV)
Acq. Start : Mon Nov 02 06:15:22 2015



Analysis Report for 1510063-03
CP0403S02-03

1117

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510063-03
Sample Description : CP0403S02-03
Sample Type : SOIL

Sample Size : 6.341E+02 grams
Facility : Countroom

Sample Taken On : 10/5/2015 6:58:34AM
Acquisition Started : 11/3/2015 6:07:37AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE2
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3601.2 seconds

Dead Time : 0.03 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 7 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 11/2/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29004

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

Ag
11/3/15

Analysis Report for 1510063-03
CP0403S02-03

PEAK LOCATE REPORT

Peak Locate Performed on : 11/3/2015 7:07:41AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	76.32	76.41	0.0000	0.00
2	84.25	84.33	0.0000	0.00
3	88.10	88.18	0.0000	0.00
4	93.26	93.34	0.0000	0.00
5	105.24	105.31	0.0000	0.00
6	129.02	129.08	0.0000	0.00
7	173.57	173.60	0.0000	0.00
8	180.37	180.39	0.0000	0.00
9	186.00	186.03	0.0000	0.00
10	196.50	196.52	0.0000	0.00
11	238.68	238.68	0.0000	0.00
12	241.91	241.91	0.0000	0.00
13	254.97	254.96	0.0000	0.00
14	273.34	273.31	0.0000	0.00
15	295.21	295.18	0.0000	0.00
16	300.31	300.27	0.0000	0.00
17	328.18	328.12	0.0000	0.00
18	338.31	338.25	0.0000	0.00
19	352.06	352.00	0.0000	0.00
20	364.91	364.84	0.0000	0.00
21	409.43	409.33	0.0000	0.00
22	415.78	415.69	0.0000	0.00
23	449.12	449.01	0.0000	0.00
24	462.79	462.67	0.0000	0.00
25	493.30	493.17	0.0000	0.00
26	511.13	510.99	0.0000	0.00
27	549.98	549.82	0.0000	0.00
28	583.61	583.43	0.0000	0.00
29	595.99	595.80	0.0000	0.00
30	609.38	609.19	0.0000	0.00
31	726.90	726.65	0.0000	0.00
32	768.47	768.21	0.0000	0.00
33	795.73	795.46	0.0000	0.00
34	840.60	840.30	0.0000	0.00
35	862.44	862.14	0.0000	0.00
36	911.32	911.00	0.0000	0.00
37	930.15	929.82	0.0000	0.00
38	934.69	934.35	0.0000	0.00
39	968.97	968.62	0.0000	0.00
40	1017.96	1017.59	0.0000	0.00
41	1068.66	1068.27	0.0000	0.00
42	1120.20	1119.79	0.0000	0.00

Analysis Report for 1510063-03
CP0403S02-03

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
43	1154.60	1154.18	0.0000	0.00
44	1161.27	1160.85	0.0000	0.00
45	1217.87	1217.42	0.0000	0.00
46	1238.29	1237.84	0.0000	0.00
47	1274.14	1273.68	0.0000	0.00
48	1313.59	1313.11	0.0000	0.00
49	1321.45	1320.97	0.0000	0.00
50	1378.15	1377.66	0.0000	0.00
51	1410.32	1409.81	0.0000	0.00
52	1460.87	1460.34	0.0000	0.00
53	1589.09	1588.53	0.0000	0.00
54	1636.59	1636.02	0.0000	0.00
55	1724.78	1724.18	0.0000	0.00
56	1729.47	1728.88	0.0000	0.00
57	1764.62	1764.02	0.0000	0.00
58	1819.87	1819.25	0.0000	0.00
59	1847.89	1847.27	0.0000	0.00
60	1887.46	1886.82	0.0000	0.00
61	1922.37	1921.73	0.0000	0.00
62	2104.47	2103.79	0.0000	0.00
63	2147.02	2146.33	0.0000	0.00
64	2163.02	2162.33	0.0000	0.00
65	2203.62	2202.93	0.0000	0.00
66	2292.81	2292.10	0.0000	0.00
67	2614.46	2613.72	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510063-03
CP0403S02-03

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 7:07:41AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	1	76.32	72 -	79	76.41	1.14E+03	126.13	1.89E+03	3.74
M	2	84.25	83 -	91	84.33	1.29E+02	38.11	3.96E+02	1.33
m	3	88.10	83 -	91	88.18	1.70E+02	66.03	8.72E+02	1.34
	4	93.26	91 -	96	93.34	1.66E+02	87.35	1.33E+03	1.14
	5	105.24	103 -	107	105.31	5.78E+01	57.78	6.94E+02	2.23
	6	129.02	126 -	131	129.08	6.28E+01	66.96	8.43E+02	1.67
	7	173.57	171 -	176	173.60	5.85E+01	56.84	6.03E+02	3.04
M	8	180.37	177 -	190	180.39	4.84E+01	52.78	5.41E+02	1.59
m	9	186.00	177 -	190	186.03	1.96E+02	57.84	5.62E+02	1.60
	10	196.50	193 -	200	196.52	7.97E+01	72.99	8.33E+02	4.86
M	11	238.68	235 -	248	238.68	8.92E+02	71.69	3.57E+02	1.64
m	12	241.91	235 -	248	241.91	2.75E+02	73.59	4.39E+02	2.07
	13	254.97	251 -	259	254.96	6.31E+01	63.02	5.74E+02	3.28
	14	273.34	266 -	283	273.31	2.04E+02	107.69	9.76E+02	8.60
	15	295.21	290 -	298	295.18	3.44E+02	70.10	5.44E+02	1.72
	16	300.31	299 -	304	300.27	4.58E+01	44.22	3.50E+02	1.46
	17	328.18	326 -	331	328.12	4.24E+01	40.35	2.97E+02	1.71
	18	338.31	334 -	341	338.25	1.49E+02	55.03	4.01E+02	1.99
	19	352.06	348 -	355	352.00	6.55E+02	70.31	3.86E+02	1.37
	20	364.91	362 -	369	364.84	4.50E+01	44.23	2.96E+02	2.07
	21	409.43	407 -	412	409.33	4.15E+01	31.27	1.63E+02	3.11
	22	415.78	413 -	420	415.69	5.17E+01	41.57	2.57E+02	3.62
	23	449.12	446 -	452	449.01	3.21E+01	31.87	1.62E+02	1.67
	24	462.79	459 -	466	462.67	7.37E+01	40.50	2.25E+02	1.59
	25	493.30	490 -	497	493.17	3.83E+01	32.50	1.47E+02	4.65
	26	511.13	505 -	518	510.99	1.84E+02	62.24	3.44E+02	2.63
	27	549.98	547 -	553	549.82	2.47E+01	30.24	1.51E+02	2.51
	28	583.61	579 -	592	583.43	3.28E+02	53.94	1.85E+02	1.83
	29	595.99	593 -	600	595.80	2.71E+01	32.06	1.56E+02	3.40
	30	609.38	605 -	613	609.19	4.63E+02	57.31	2.21E+02	1.63
	31	726.90	718 -	731	726.65	8.75E+01	50.59	2.47E+02	2.19
	32	768.47	765 -	771	768.21	4.64E+01	29.61	1.25E+02	1.46
	33	795.73	793 -	798	795.46	2.50E+01	20.22	5.99E+01	3.01
	34	840.60	833 -	848	840.30	5.33E+01	39.65	1.35E+02	11.74
	35	862.44	855 -	874	862.14	7.28E+01	51.73	1.92E+02	4.69
	36	911.32	906 -	915	911.00	1.88E+02	39.38	1.12E+02	1.71
M	37	930.15	928 -	941	929.82	1.15E+01	14.77	3.00E+01	3.50
m	38	934.69	928 -	941	934.35	2.50E+01	23.24	6.26E+01	2.62
	39	968.97	965 -	973	968.62	1.01E+02	42.86	2.00E+02	2.15
	40	1017.96	1013 -	1021	1017.59	2.79E+01	22.79	6.22E+01	5.33

Analysis Report for 1510063-03

CP0403S02-03

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1068.66	1064 -	1072	1068.27	2.10E+01	21.52	5.80E+01	3.68
42	1120.20	1116 -	1122	1119.79	1.10E+02	26.22	4.48E+01	2.52
43	1154.60	1149 -	1158	1154.18	3.60E+01	22.23	5.00E+01	3.01
44	1161.27	1159 -	1165	1160.85	1.41E+01	18.75	5.57E+01	1.81
45	1217.87	1214 -	1221	1217.42	2.77E+01	21.07	5.46E+01	5.06
46	1238.29	1234 -	1242	1237.84	2.82E+01	29.98	1.20E+02	1.65
47	1274.14	1262 -	1285	1273.68	4.71E+01	41.18	1.06E+02	15.89
48	1313.59	1309 -	1316	1313.11	1.74E+01	16.85	3.51E+01	3.50
49	1321.45	1318 -	1325	1320.97	1.60E+01	14.42	2.40E+01	1.25
50	1378.15	1373 -	1382	1377.66	1.85E+01	22.18	5.89E+01	1.32
51	1410.32	1405 -	1417	1409.81	2.84E+01	19.68	3.11E+01	4.54
52	1460.87	1453 -	1464	1460.34	5.09E+02	47.75	3.13E+01	2.28
53	1589.09	1584 -	1592	1588.53	2.32E+01	18.82	3.96E+01	1.77
54	1636.59	1634 -	1639	1636.02	8.84E+00	10.44	1.43E+01	1.71
M 55	1724.78	1723 -	1732	1724.18	9.00E+00	6.00	6.67E+00	2.71
m 56	1729.47	1723 -	1732	1728.88	2.49E+01	12.81	1.14E+01	2.71
57	1764.62	1758 -	1769	1764.02	8.82E+01	21.17	1.16E+01	2.54
58	1819.87	1817 -	1821	1819.25	4.50E+00	6.36	5.00E+00	1.18
59	1847.89	1842 -	1853	1847.27	2.10E+01	13.42	1.20E+01	2.63
60	1887.46	1884 -	1889	1886.82	8.70E+00	7.00	2.60E+00	2.48
61	1922.37	1920 -	1924	1921.73	6.14E+00	5.85	1.71E+00	2.48
62	2104.47	2097 -	2112	2103.79	3.06E+01	14.28	8.86E+00	4.37
63	2147.02	2143 -	2148	2146.33	6.00E+00	4.90	0.00E+00	1.92
64	2163.02	2158 -	2165	2162.33	4.25E+00	6.32	3.50E+00	1.09
65	2203.62	2197 -	2208	2202.93	4.30E+01	13.11	0.00E+00	3.35
66	2292.81	2287 -	2297	2292.10	2.00E+01	8.94	0.00E+00	1.24
67	2614.46	2609 -	2620	2613.72	1.01E+02	21.17	4.68E+00	3.40

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 7:07:41AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
1	76.32	72 -	79	1.14E+03	126.13	1.89E+03	8.76E+01

Analysis Report for 1510063-03

CP0403S02-03

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
M	2	84.25	83 -	91	1.29E+02	38.11	3.96E+02	3.27E+01
m	3	88.10	83 -	91	1.70E+02	66.03	8.72E+02	4.85E+01
	4	93.26	91 -	96	1.66E+02	87.35	1.33E+03	6.86E+01
	5	105.24	103 -	107	5.78E+01	57.78	6.94E+02	4.58E+01
	6	129.02	126 -	131	6.28E+01	66.96	8.43E+02	5.35E+01
	7	173.57	171 -	176	5.85E+01	56.84	6.03E+02	4.50E+01
M	8	180.37	177 -	190	4.84E+01	52.78	5.41E+02	3.82E+01
m	9	186.00	177 -	190	1.96E+02	57.84	5.62E+02	3.90E+01
	10	196.50	193 -	200	7.97E+01	72.99	8.33E+02	5.82E+01
M	11	238.68	235 -	248	8.92E+02	71.69	3.57E+02	3.10E+01
m	12	241.91	235 -	248	2.75E+02	73.59	4.39E+02	3.44E+01
	13	254.97	251 -	259	6.31E+01	63.02	5.74E+02	5.01E+01
	14	273.34	266 -	283	2.04E+02	107.69	9.76E+02	8.54E+01
	15	295.21	290 -	298	3.44E+02	70.10	5.44E+02	4.89E+01
	16	300.31	299 -	304	4.58E+01	44.22	3.50E+02	3.46E+01
	17	328.18	326 -	331	4.24E+01	40.35	2.97E+02	3.14E+01
	18	338.31	334 -	341	1.49E+02	55.03	4.01E+02	4.05E+01
	19	352.06	348 -	355	6.55E+02	70.31	3.86E+02	3.96E+01
	20	364.91	362 -	369	4.50E+01	44.23	2.96E+02	3.46E+01
	21	409.43	407 -	412	4.15E+01	31.27	1.63E+02	2.34E+01
	22	415.78	413 -	420	5.17E+01	41.57	2.57E+02	3.21E+01
	23	449.12	446 -	452	3.21E+01	31.87	1.62E+02	2.45E+01
	24	462.79	459 -	466	7.37E+01	40.50	2.25E+02	3.02E+01
	25	493.30	490 -	497	3.83E+01	32.50	1.47E+02	2.47E+01
	26	511.13	505 -	518	1.84E+02	62.24	3.44E+02	4.60E+01
	27	549.98	547 -	553	2.47E+01	30.24	1.51E+02	2.35E+01
	28	583.61	579 -	592	3.28E+02	53.94	1.85E+02	1.40E+01
	29	595.99	593 -	600	2.71E+01	32.06	1.56E+02	2.49E+01
	30	609.38	605 -	613	4.63E+02	57.31	2.21E+02	3.11E+01
	31	726.90	718 -	731	8.75E+01	50.59	2.47E+02	1.90E+01
	32	768.47	765 -	771	4.64E+01	29.61	1.25E+02	2.16E+01
	33	795.73	793 -	798	2.50E+01	20.22	5.99E+01	1.44E+01
	34	840.60	833 -	848	5.33E+01	39.65	1.35E+02	3.03E+01
	35	862.44	855 -	874	7.28E+01	51.73	1.92E+02	4.01E+01
	36	911.32	906 -	915	1.88E+02	39.38	1.12E+02	2.32E+01
M	37	930.15	928 -	941	1.15E+01	14.77	3.00E+01	9.01E+00
m	38	934.69	928 -	941	2.50E+01	23.24	6.26E+01	1.30E+01
	39	968.97	965 -	973	1.01E+02	42.86	2.00E+02	3.11E+01
	40	1017.96	1013 -	1021	2.79E+01	22.79	6.22E+01	1.66E+01
	41	1068.66	1064 -	1072	2.10E+01	21.52	5.80E+01	1.60E+01
	42	1120.20	1116 -	1122	1.10E+02	26.22	4.48E+01	1.30E+01
	43	1154.60	1149 -	1158	3.60E+01	22.23	5.00E+01	1.54E+01
	44	1161.27	1159 -	1165	1.41E+01	18.75	5.57E+01	1.41E+01
	45	1217.87	1214 -	1221	2.77E+01	21.07	5.46E+01	1.50E+01
	46	1238.29	1234 -	1242	2.82E+01	29.98	1.20E+02	2.30E+01
	47	1274.14	1262 -	1285	4.71E+01	41.18	1.06E+02	3.19E+01
	48	1313.59	1309 -	1316	1.74E+01	16.85	3.51E+01	1.20E+01
	49	1321.45	1318 -	1325	1.60E+01	14.42	2.40E+01	9.86E+00
	50	1378.15	1373 -	1382	1.85E+01	22.18	5.89E+01	1.68E+01
	51	1410.32	1405 -	1417	2.84E+01	19.68	3.11E+01	1.36E+01
	52	1460.87	1453 -	1464	5.09E+02	47.75	3.13E+01	1.28E+01

Analysis Report for 1510063-03

CP0403S02-03

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	53	1589.09	1584 - 1592	2.32E+01	18.82	3.96E+01	1.33E+01
	54	1636.59	1634 - 1639	8.84E+00	10.44	1.43E+01	7.05E+00
M	55	1724.78	1723 - 1732	9.00E+00	6.00	6.67E+00	4.24E+00
m	56	1729.47	1723 - 1732	2.49E+01	12.81	1.14E+01	5.55E+00
	57	1764.62	1758 - 1769	8.82E+01	21.17	1.16E+01	8.02E+00
	58	1819.87	1817 - 1821	4.50E+00	6.36	5.00E+00	3.90E+00
	59	1847.89	1842 - 1853	2.10E+01	13.42	1.20E+01	8.05E+00
	60	1887.46	1884 - 1889	8.70E+00	7.00	2.60E+00	3.10E+00
	61	1922.37	1920 - 1924	6.14E+00	5.85	1.71E+00	2.56E+00
	62	2104.47	2097 - 2112	3.06E+01	14.28	8.86E+00	7.43E+00
	63	2147.02	2143 - 2148	6.00E+00	4.90	0.00E+00	0.00E+00
	64	2163.02	2158 - 2165	4.25E+00	6.32	3.50E+00	3.94E+00
	65	2203.62	2197 - 2208	4.30E+01	13.11	0.00E+00	0.00E+00
	66	2292.81	2287 - 2297	2.00E+01	8.94	0.00E+00	0.00E+00
	67	2614.46	2609 - 2620	1.01E+02	21.17	4.68E+00	5.54E+00

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

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/3/2015 7:07:41AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB
 Peak Match Tolerance : 1.000 keV

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	1	76.32	72 - 79	76.41	1.14E+03	126.13	1.89E+03	.....
M	2	84.25	83 - 91	84.33	1.29E+02	38.11	3.96E+02	TH-231
m	3	88.10	83 - 91	88.18	1.70E+02	66.03	8.72E+02	CD-109 LU-176 SN-126
	4	93.26	91 - 96	93.34	1.66E+02	87.35	1.33E+03	GA-67
	5	105.24	103 - 107	105.31	5.78E+01	57.78	6.94E+02	EU-155 NP-239
	6	129.02	126 - 131	129.08	6.28E+01	66.96	8.43E+02	.....
	7	173.57	171 - 176	173.60	5.85E+01	56.84	6.03E+02	.....

Analysis Report for 1510063-03

CP0403S02-03

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
M	8	180.37	177 -	190	180.39	4.84E+01	52.78	5.41E+02	MO-99
m	9	186.00	177 -	190	186.03	1.96E+02	57.84	5.62E+02	RA-226
	10	196.50	193 -	200	196.52	7.97E+01	72.99	8.33E+02	.....
M	11	238.68	235 -	248	238.68	8.92E+02	71.69	3.57E+02	PB-212
m	12	241.91	235 -	248	241.91	2.75E+02	73.59	4.39E+02	RA-224
	13	254.97	251 -	259	254.96	6.31E+01	63.02	5.74E+02	SN-113
	14	273.34	266 -	283	273.31	2.04E+02	107.69	9.76E+02	CS-136
	15	295.21	290 -	298	295.18	3.44E+02	70.10	5.44E+02	PB-214
	16	300.31	299 -	304	300.27	4.58E+01	44.22	3.50E+02	GA-67
									PB-212
									BI-210M
	17	328.18	326 -	331	328.12	4.24E+01	40.35	2.97E+02	LA-140
	18	338.31	334 -	341	338.25	1.49E+02	55.03	4.01E+02	AC-228
	19	352.06	348 -	355	352.00	6.55E+02	70.31	3.86E+02	PB-214
	20	364.91	362 -	369	364.84	4.50E+01	44.23	2.96E+02	I-131
	21	409.43	407 -	412	409.33	4.15E+01	31.27	1.63E+02	.....
	22	415.78	413 -	420	415.69	5.17E+01	41.57	2.57E+02	.....
	23	449.12	446 -	452	449.01	3.21E+01	31.87	1.62E+02	.....
	24	462.79	459 -	466	462.67	7.37E+01	40.50	2.25E+02	SB-125
	25	493.30	490 -	497	493.17	3.83E+01	32.50	1.47E+02	.....
	26	511.13	505 -	518	510.99	1.84E+02	62.24	3.44E+02	.....
	27	549.98	547 -	553	549.82	2.47E+01	30.24	1.51E+02	.....
	28	583.61	579 -	592	583.43	3.28E+02	53.94	1.85E+02	TL-208
	29	595.99	593 -	600	595.80	2.71E+01	32.06	1.56E+02	.....
	30	609.38	605 -	613	609.19	4.63E+02	57.31	2.21E+02	BI-214
	31	726.90	718 -	731	726.65	8.75E+01	50.59	2.47E+02	BI-212
	32	768.47	765 -	771	768.21	4.64E+01	29.61	1.25E+02	.....
	33	795.73	793 -	798	795.46	2.50E+01	20.22	5.99E+01	CS-134
	34	840.60	833 -	848	840.30	5.33E+01	39.65	1.35E+02	.....
	35	862.44	855 -	874	862.14	7.28E+01	51.73	1.92E+02	.....
	36	911.32	906 -	915	911.00	1.88E+02	39.38	1.12E+02	AC-228
									LU-172
M	37	930.15	928 -	941	929.82	1.15E+01	14.77	3.00E+01	.....
m	38	934.69	928 -	941	934.35	2.50E+01	23.24	6.26E+01	.....
	39	968.97	965 -	973	968.62	1.01E+02	42.86	2.00E+02	AC-228
	40	1017.96	1013 -	1021	1017.59	2.79E+01	22.79	6.22E+01	.....
	41	1068.66	1064 -	1072	1068.27	2.10E+01	21.52	5.80E+01	.....
	42	1120.20	1116 -	1122	1119.79	1.10E+02	26.22	4.48E+01	BI-214
									SC-46
	43	1154.60	1149 -	1158	1154.18	3.60E+01	22.23	5.00E+01	.....
	44	1161.27	1159 -	1165	1160.85	1.41E+01	18.75	5.57E+01	.....
	45	1217.87	1214 -	1221	1217.42	2.77E+01	21.07	5.46E+01	.....
	46	1238.29	1234 -	1242	1237.84	2.82E+01	29.98	1.20E+02	CO-56
	47	1274.14	1262 -	1285	1273.68	4.71E+01	41.18	1.06E+02	EU-154
									NA-22
	48	1313.59	1309 -	1316	1313.11	1.74E+01	16.85	3.51E+01	.....
	49	1321.45	1318 -	1325	1320.97	1.60E+01	14.42	2.40E+01	.....
	50	1378.15	1373 -	1382	1377.66	1.85E+01	22.18	5.89E+01	.....
	51	1410.32	1405 -	1417	1409.81	2.84E+01	19.68	3.11E+01	.....
	52	1460.87	1453 -	1464	1460.34	5.09E+02	47.75	3.13E+01	K-40
	53	1589.09	1584 -	1592	1588.53	2.32E+01	18.82	3.96E+01	.....
	54	1636.59	1634 -	1639	1636.02	8.84E+00	10.44	1.43E+01	.....
M	55	1724.78	1723 -	1732	1724.18	9.00E+00	6.00	6.67E+00	.....
m	56	1729.47	1723 -	1732	1728.88	2.49E+01	12.81	1.14E+01	.....

Analysis Report for 1510063-03
 CP0403S02-03

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
57	1764.62	1758 -	1769	1764.02	8.82E+01	21.17	1.16E+01	BI-214
58	1819.87	1817 -	1821	1819.25	4.50E+00	6.36	5.00E+00	.....
59	1847.89	1842 -	1853	1847.27	2.10E+01	13.42	1.20E+01	.....
60	1887.46	1884 -	1889	1886.82	8.70E+00	7.00	2.60E+00	.....
61	1922.37	1920 -	1924	1921.73	6.14E+00	5.85	1.71E+00	.....
62	2104.47	2097 -	2112	2103.79	3.06E+01	14.28	8.86E+00	.....
63	2147.02	2143 -	2148	2146.33	6.00E+00	4.90	0.00E+00	.....
64	2163.02	2158 -	2165	2162.33	4.25E+00	6.32	3.50E+00	.....
65	2203.62	2197 -	2208	2202.93	4.30E+01	13.11	0.00E+00	BI-214
66	2292.81	2287 -	2297	2292.10	2.00E+01	8.94	0.00E+00	.....
67	2614.46	2609 -	2620	2613.72	1.01E+02	21.17	4.68E+00	TL-208

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/3/2015 7:07:41AM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	76.32	1.14E+03	126.13	2.74E-02	3.34E-03
M	2	84.25	1.29E+02	38.11	2.83E-02	4.13E-03
m	3	88.10	1.70E+02	66.03	2.84E-02	4.50E-03
	4	93.26	1.66E+02	87.35	2.85E-02	4.27E-03
	5	105.24	5.78E+01	57.78	2.80E-02	3.74E-03
	6	129.02	6.28E+01	66.96	2.60E-02	2.78E-03
	7	173.57	5.85E+01	56.84	2.20E-02	1.67E-03
M	8	180.37	4.84E+01	52.78	2.15E-02	1.66E-03
m	9	186.00	1.96E+02	57.84	2.11E-02	1.65E-03
	10	196.50	7.97E+01	72.99	2.03E-02	1.64E-03
M	11	238.68	8.92E+02	71.69	1.79E-02	1.60E-03
m	12	241.91	2.75E+02	73.59	1.77E-02	1.60E-03
	13	254.97	6.31E+01	63.02	1.71E-02	1.58E-03
	14	273.34	2.04E+02	107.69	1.63E-02	1.56E-03
	15	295.21	3.44E+02	70.10	1.55E-02	1.48E-03
	16	300.31	4.58E+01	44.22	1.53E-02	1.46E-03
	17	328.18	4.24E+01	40.35	1.44E-02	1.32E-03
	18	338.31	1.49E+02	55.03	1.41E-02	1.27E-03
	19	352.06	6.55E+02	70.31	1.37E-02	1.21E-03

Analysis Report for 1510063-03
CP0403S02-03

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty	
20	364.91	4.50E+01	44.23	1.34E-02	1.15E-03	
21	409.43	4.15E+01	31.27	1.24E-02	1.00E-03	
22	415.78	5.17E+01	41.57	1.22E-02	9.95E-04	
23	449.12	3.21E+01	31.87	1.16E-02	9.61E-04	
24	462.79	7.37E+01	40.50	1.13E-02	9.47E-04	
25	493.30	3.83E+01	32.50	1.08E-02	9.16E-04	
26	511.13	1.84E+02	62.24	1.06E-02	8.98E-04	
27	549.98	2.47E+01	30.24	1.00E-02	8.59E-04	
28	583.61	3.28E+02	53.94	9.58E-03	8.24E-04	
29	595.99	2.71E+01	32.06	9.43E-03	8.12E-04	
30	609.38	4.63E+02	57.31	9.27E-03	7.98E-04	
31	726.90	8.75E+01	50.59	8.09E-03	7.03E-04	
32	768.47	4.64E+01	29.61	7.74E-03	6.77E-04	
33	795.73	2.50E+01	20.22	7.53E-03	6.59E-04	
34	840.60	5.33E+01	39.65	7.20E-03	6.30E-04	
35	862.44	7.28E+01	51.73	7.05E-03	6.16E-04	
36	911.32	1.88E+02	39.38	6.74E-03	5.87E-04	
M	37	930.15	1.15E+01	14.77	6.63E-03	5.77E-04
m	38	934.69	2.50E+01	23.24	6.61E-03	5.75E-04
	39	968.97	1.01E+02	42.86	6.42E-03	5.57E-04
	40	1017.96	2.79E+01	22.79	6.16E-03	5.32E-04
	41	1068.66	2.10E+01	21.52	5.92E-03	5.06E-04
	42	1120.20	1.10E+02	26.22	5.70E-03	4.80E-04
	43	1154.60	3.60E+01	22.23	5.57E-03	4.62E-04
	44	1161.27	1.41E+01	18.75	5.54E-03	4.59E-04
	45	1217.87	2.77E+01	21.07	5.34E-03	4.73E-04
	46	1238.29	2.82E+01	29.98	5.27E-03	4.83E-04
	47	1274.14	4.71E+01	41.18	5.16E-03	4.99E-04
	48	1313.59	1.74E+01	16.85	5.04E-03	5.18E-04
	49	1321.45	1.60E+01	14.42	5.02E-03	5.21E-04
	50	1378.15	1.85E+01	22.18	4.87E-03	5.08E-04
	51	1410.32	2.84E+01	19.68	4.79E-03	4.94E-04
	52	1460.87	5.09E+02	47.75	4.67E-03	4.73E-04
	53	1589.09	2.32E+01	18.82	4.43E-03	4.20E-04
	54	1636.59	8.84E+00	10.44	4.35E-03	4.00E-04
M	55	1724.78	9.00E+00	6.00	4.23E-03	3.64E-04
m	56	1729.47	2.49E+01	12.81	4.23E-03	3.62E-04
	57	1764.62	8.82E+01	21.17	4.19E-03	3.47E-04
	58	1819.87	4.50E+00	6.36	4.13E-03	3.25E-04
	59	1847.89	2.10E+01	13.42	4.10E-03	3.18E-04
	60	1887.46	8.70E+00	7.00	4.07E-03	3.18E-04
	61	1922.37	6.14E+00	5.85	4.04E-03	3.18E-04
	62	2104.47	3.06E+01	14.28	3.95E-03	3.18E-04
	63	2147.02	6.00E+00	4.90	3.94E-03	3.18E-04
	64	2163.02	4.25E+00	6.32	3.94E-03	3.18E-04
	65	2203.62	4.30E+01	13.11	3.93E-03	3.18E-04
	66	2292.81	2.00E+01	8.94	3.93E-03	3.18E-04
	67	2614.46	1.01E+02	21.17	4.05E-03	3.18E-04

Analysis Report for 1510063-03

CP0403S02-03

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

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/3/2015 7:07:41AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	76.32	1.14E+03	126.13			1.14E+03	1.26E+02
M	2	84.25	1.29E+02	38.11			1.29E+02	3.81E+01
m	3	88.10	1.70E+02	66.03	1.46E+00	7.88E+00	1.69E+02	6.65E+01
	4	93.26	1.66E+02	87.35	5.70E+01	9.03E+00	1.10E+02	8.78E+01
	5	105.24	5.78E+01	57.78			5.78E+01	5.78E+01
	6	129.02	6.28E+01	66.96			6.28E+01	6.70E+01
	7	173.57	5.85E+01	56.84			5.85E+01	5.68E+01
M	8	180.37	4.84E+01	52.78			4.84E+01	5.28E+01
m	9	186.00	1.96E+02	57.84	4.72E+01	7.97E+00	1.49E+02	5.84E+01
	10	196.50	7.97E+01	72.99			7.97E+01	7.30E+01
M	11	238.68	8.92E+02	71.69	2.36E+01	1.35E+01	8.69E+02	7.29E+01
m	12	241.91	2.75E+02	73.59	6.38E+00	3.91E+00	2.69E+02	7.37E+01
	13	254.97	6.31E+01	63.02			6.31E+01	6.30E+01
	14	273.34	2.04E+02	107.69			2.04E+02	1.08E+02
	15	295.21	3.44E+02	70.10	8.57E+00	6.10E+00	3.36E+02	7.04E+01
	16	300.31	4.58E+01	44.22			4.58E+01	4.42E+01
	17	328.18	4.24E+01	40.35	0.00E+00	0.00E+00	4.24E+01	4.03E+01
	18	338.31	1.49E+02	55.03			1.49E+02	5.50E+01
	19	352.06	6.55E+02	70.31	1.40E+01	5.55E+00	6.41E+02	7.05E+01
	20	364.91	4.50E+01	44.23			4.50E+01	4.42E+01
	21	409.43	4.15E+01	31.27			4.15E+01	3.13E+01
	22	415.78	5.17E+01	41.57			5.17E+01	4.16E+01
	23	449.12	3.21E+01	31.87			3.21E+01	3.19E+01
	24	462.79	7.37E+01	40.50			7.37E+01	4.05E+01
	25	493.30	3.83E+01	32.50			3.83E+01	3.25E+01
	26	511.13	1.84E+02	62.24	8.41E+01	5.50E+00	9.98E+01	6.25E+01
	27	549.98	2.47E+01	30.24			2.47E+01	3.02E+01
	28	583.61	3.28E+02	53.94	7.32E+00	4.08E+00	3.21E+02	5.41E+01
	29	595.99	2.71E+01	32.06			2.71E+01	3.21E+01
	30	609.38	4.63E+02	57.31	1.30E+01	3.89E+00	4.50E+02	5.74E+01
	31	726.90	8.75E+01	50.59			8.75E+01	5.06E+01
	32	768.47	4.64E+01	29.61			4.64E+01	2.96E+01
	33	795.73	2.50E+01	20.22			2.50E+01	2.02E+01
	34	840.60	5.33E+01	39.65			5.33E+01	3.96E+01
	35	862.44	7.28E+01	51.73			7.28E+01	5.17E+01

Analysis Report for 1510063-03

CP0403S02-03

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	36	911.32	1.88E+02	39.38	5.60E+00	3.32E+00	1.82E+02	3.95E+01
M	37	930.15	1.15E+01	14.77			1.15E+01	1.48E+01
m	38	934.69	2.50E+01	23.24			2.50E+01	2.32E+01
	39	968.97	1.01E+02	42.86			1.01E+02	4.29E+01
	40	1017.96	2.79E+01	22.79			2.79E+01	2.28E+01
	41	1068.66	2.10E+01	21.52			2.10E+01	2.15E+01
	42	1120.20	1.10E+02	26.22	3.93E+00	2.96E+00	1.06E+02	2.64E+01
	43	1154.60	3.60E+01	22.23			3.60E+01	2.22E+01
	44	1161.27	1.41E+01	18.75			1.41E+01	1.88E+01
	45	1217.87	2.77E+01	21.07			2.77E+01	2.11E+01
	46	1238.29	2.82E+01	29.98			2.82E+01	3.00E+01
	47	1274.14	4.71E+01	41.18			4.71E+01	4.12E+01
	48	1313.59	1.74E+01	16.85			1.74E+01	1.69E+01
	49	1321.45	1.60E+01	14.42			1.60E+01	1.44E+01
	50	1378.15	1.85E+01	22.18			1.85E+01	2.22E+01
	51	1410.32	2.84E+01	19.68			2.84E+01	1.97E+01
	52	1460.87	5.09E+02	47.75	1.12E+01	2.55E+00	4.98E+02	4.78E+01
	53	1589.09	2.32E+01	18.82			2.32E+01	1.88E+01
	54	1636.59	8.84E+00	10.44			8.84E+00	1.04E+01
M	55	1724.78	9.00E+00	6.00			9.00E+00	6.00E+00
m	56	1729.47	2.49E+01	12.81			2.49E+01	1.28E+01
	57	1764.62	8.82E+01	21.17	4.23E+00	2.21E+00	8.40E+01	2.13E+01
	58	1819.87	4.50E+00	6.36			4.50E+00	6.36E+00
	59	1847.89	2.10E+01	13.42			2.10E+01	1.34E+01
	60	1887.46	8.70E+00	7.00			8.70E+00	7.00E+00
	61	1922.37	6.14E+00	5.85			6.14E+00	5.85E+00
	62	2104.47	3.06E+01	14.28			3.06E+01	1.43E+01
	63	2147.02	6.00E+00	4.90			6.00E+00	4.90E+00
	64	2163.02	4.25E+00	6.32			4.25E+00	6.32E+00
	65	2203.62	4.30E+01	13.11	5.94E-01	1.16E+00	4.24E+01	1.32E+01
	66	2292.81	2.00E+01	8.94			2.00E+01	8.94E+00
	67	2614.46	1.01E+02	21.17	7.38E+00	1.57E+00	9.33E+01	2.12E+01

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

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/3/2015 7:07:41AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

Corrected Area is: Original * Peak Ratio - Background

Analysis Report for 1510063-03

CP0403S02-03

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	1	76.32	1.14E+03	126.13			1.14E+03	1.26E+02
M	2	84.25	1.29E+02	38.11			1.29E+02	3.81E+01
m	3	88.10	1.70E+02	66.03	1.46E+00	7.88E+00	1.69E+02	6.65E+01
	4	93.26	1.66E+02	87.35	5.70E+01	9.03E+00	1.10E+02	8.78E+01
	5	105.24	5.78E+01	57.78			5.78E+01	5.78E+01
	6	129.02	6.28E+01	66.96			6.28E+01	6.70E+01
	7	173.57	5.85E+01	56.84			5.85E+01	5.68E+01
M	8	180.37	4.84E+01	52.78			4.84E+01	5.28E+01
m	9	186.00	1.96E+02	57.84	4.72E+01	7.97E+00	1.49E+02	5.84E+01
	10	196.50	7.97E+01	72.99			7.97E+01	7.30E+01
M	11	238.68	8.92E+02	71.69	2.36E+01	1.35E+01	8.69E+02	7.29E+01
m	12	241.91	2.75E+02	73.59	6.38E+00	3.91E+00	2.69E+02	7.37E+01
	13	254.97	6.31E+01	63.02			6.31E+01	6.30E+01
	14	273.34	2.04E+02	107.69			2.04E+02	1.08E+02
	15	295.21	3.44E+02	70.10	8.57E+00	6.10E+00	3.36E+02	7.04E+01
	16	300.31	4.58E+01	44.22			4.58E+01	4.42E+01
	17	328.18	4.24E+01	40.35	0.00E+00	0.00E+00	4.24E+01	4.03E+01
	18	338.31	1.49E+02	55.03			1.49E+02	5.50E+01
	19	352.06	6.55E+02	70.31	1.40E+01	5.55E+00	6.41E+02	7.05E+01
	20	364.91	4.50E+01	44.23			4.50E+01	4.42E+01
	21	409.43	4.15E+01	31.27			4.15E+01	3.13E+01
	22	415.78	5.17E+01	41.57			5.17E+01	4.16E+01
	23	449.12	3.21E+01	31.87			3.21E+01	3.19E+01
	24	462.79	7.37E+01	40.50			7.37E+01	4.05E+01
	25	493.30	3.83E+01	32.50			3.83E+01	3.25E+01
	26	511.13	1.84E+02	62.24	8.41E+01	5.50E+00	9.98E+01	6.25E+01
	27	549.98	2.47E+01	30.24			2.47E+01	3.02E+01
	28	583.61	3.28E+02	53.94	7.32E+00	4.08E+00	3.21E+02	5.41E+01
	29	595.99	2.71E+01	32.06			2.71E+01	3.21E+01
	30	609.38	4.63E+02	57.31	1.30E+01	3.89E+00	4.50E+02	5.74E+01
	31	726.90	8.75E+01	50.59			8.75E+01	5.06E+01
	32	768.47	4.64E+01	29.61			4.64E+01	2.96E+01
	33	795.73	2.50E+01	20.22			2.50E+01	2.02E+01
	34	840.60	5.33E+01	39.65			5.33E+01	3.96E+01
	35	862.44	7.28E+01	51.73			7.28E+01	5.17E+01
	36	911.32	1.88E+02	39.38	5.60E+00	3.32E+00	1.82E+02	3.95E+01
M	37	930.15	1.15E+01	14.77			1.15E+01	1.48E+01
m	38	934.69	2.50E+01	23.24			2.50E+01	2.32E+01
	39	968.97	1.01E+02	42.86			1.01E+02	4.29E+01
	40	1017.96	2.79E+01	22.79			2.79E+01	2.28E+01
	41	1068.66	2.10E+01	21.52			2.10E+01	2.15E+01
	42	1120.20	1.10E+02	26.22	3.93E+00	2.96E+00	1.06E+02	2.64E+01
	43	1154.60	3.60E+01	22.23			3.60E+01	2.22E+01
	44	1161.27	1.41E+01	18.75			1.41E+01	1.88E+01
	45	1217.87	2.77E+01	21.07			2.77E+01	2.11E+01
	46	1238.29	2.82E+01	29.98			2.82E+01	3.00E+01
	47	1274.14	4.71E+01	41.18			4.71E+01	4.12E+01
	48	1313.59	1.74E+01	16.85			1.74E+01	1.69E+01
	49	1321.45	1.60E+01	14.42			1.60E+01	1.44E+01
	50	1378.15	1.85E+01	22.18			1.85E+01	2.22E+01
	51	1410.32	2.84E+01	19.68			2.84E+01	1.97E+01
	52	1460.87	5.09E+02	47.75	1.12E+01	2.55E+00	4.98E+02	4.78E+01
	53	1589.09	2.32E+01	18.82			2.32E+01	1.88E+01
	54	1636.59	8.84E+00	10.44			8.84E+00	1.04E+01

Analysis Report for 1510063-03

CP0403S02-03

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
M	55	1724.78	9.00E+00	6.00			9.00E+00	6.00E+00
m	56	1729.47	2.49E+01	12.81			2.49E+01	1.28E+01
	57	1764.62	8.82E+01	21.17	4.23E+00	2.21E+00	8.40E+01	2.13E+01
	58	1819.87	4.50E+00	6.36			4.50E+00	6.36E+00
	59	1847.89	2.10E+01	13.42			2.10E+01	1.34E+01
	60	1887.46	8.70E+00	7.00			8.70E+00	7.00E+00
	61	1922.37	6.14E+00	5.85			6.14E+00	5.85E+00
	62	2104.47	3.06E+01	14.28			3.06E+01	1.43E+01
	63	2147.02	6.00E+00	4.90			6.00E+00	4.90E+00
	64	2163.02	4.25E+00	6.32			4.25E+00	6.32E+00
	65	2203.62	4.30E+01	13.11	5.94E-01	1.16E+00	4.24E+01	1.32E+01
	66	2292.81	2.00E+01	8.94			2.00E+01	8.94E+00
	67	2614.46	1.01E+02	21.17	7.38E+00	1.57E+00	9.33E+01	2.12E+01

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
NA-22	0.975	1274.54 *	99.94	1.11E-01	9.72E-02
K-40	1.000	1460.81 *	10.67	1.18E+01	1.67E+00
GA-67	0.633	93.31 *	35.70	6.04E+01	2.43E+02
		208.95	2.24		
		300.22 *	16.00	1.05E+02	4.26E+02
CD-109	0.999	88.03 *	3.72	1.97E+00	8.46E-01
SN-126	0.957	87.57 *	37.00	1.90E-01	8.06E-02
I-131	0.694	284.30 *	6.05		
		364.48 *	81.20	5.97E-01	5.89E-01
		636.97	7.26		
		722.89	1.80		
TL-208	0.874	583.14 *	30.22	1.31E+00	2.49E-01
		860.37	4.48		
		2614.66 *	35.85	7.60E-01	1.83E-01
BI-212	0.756	727.17 *	11.80	1.09E+00	6.35E-01
		1620.62	2.75		
PB-212	0.999	238.63 *	44.60	1.29E+00	1.58E-01
		300.09 *	3.41	1.04E+00	1.01E+00

: 00407

Analysis Report for 1510063-03
CP0403S02-03

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
BI-214	0.995	609.31 *	46.30	1.24E+00	1.91E-01
		1120.29 *	15.10	1.45E+00	3.83E-01
		1764.49 *	15.80	1.50E+00	4.01E-01
		2204.22 *	4.98	2.56E+00	8.23E-01
PB-214	0.998	295.21 *	19.19	1.34E+00	3.08E-01
		351.92 *	37.19	1.49E+00	2.10E-01
RA-224	0.871	240.98 *	3.95	4.55E+00	1.31E+00
RA-226	0.993	186.21 *	3.28	2.55E+00	4.78E+00
AC-228	0.994	338.32 *	11.40	1.10E+00	4.17E-01
		911.07 *	27.70	1.16E+00	2.70E-01
		969.11 *	16.60	1.12E+00	4.86E-01
TH-231	0.611	25.64	14.70		
		84.21 *	6.40	8.43E-01	2.78E-01

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 7:07:41AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
1	76.32	3.16417E-01	5.54		
5	105.24	1.60432E-02	50.02	Tol.	EU-155 NP-239
6	129.02	1.74306E-02	53.35		
7	173.57	1.62458E-02	48.60		
M 8	180.37	1.34437E-02	54.52	Sum	
10	196.50	2.21449E-02	45.78		
13	254.97	1.75298E-02	49.93	Tol.	SN-113
14	273.34	5.66506E-02	26.40	Sum	
17	328.18	1.17859E-02	47.55	Tol.	LA-140
21	409.43	1.15199E-02	37.70		
22	415.78	1.43681E-02	40.18		
23	449.12	8.91593E-03	49.64	Sum	
24	462.79	2.04585E-02	27.49	Tol.	SB-125
25	493.30	1.06324E-02	42.45		
26	511.13	2.77220E-02	31.31		

Analysis Report for 1510063-03

CP0403S02-03

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
27	549.98	6.86111E-03	61.22	Sum	
29	595.99	7.51587E-03	59.25	Sum	
32	768.47	1.28861E-02	31.92		
33	795.73	6.95707E-03	40.37	Sum	
34	840.60	1.48129E-02	37.18		
35	862.44	2.02186E-02	35.54		
M	37	930.15	3.20446E-03	64.03	
m	38	934.69	6.94409E-03	46.48	Sum
40	1017.96	7.75424E-03	40.82		
41	1068.66	5.83333E-03	51.25		
43	1154.60	1.00000E-02	30.87	Sum	
44	1161.27	3.92857E-03	66.31		
45	1217.87	7.69697E-03	38.02	Sum	
46	1238.29	7.84407E-03	53.08		
48	1313.59	4.84127E-03	48.35		
49	1321.45	4.44444E-03	45.07	Sum	
50	1378.15	5.15046E-03	59.81		
51	1410.32	7.90088E-03	34.59		
53	1589.09	6.44057E-03	40.59		
54	1636.59	2.45660E-03	59.03		
M	55	1724.78	2.50005E-03	33.33	
m	56	1729.47	6.92101E-03	25.70	Sum
58	1819.87	1.25000E-03	70.71		
59	1847.89	5.83333E-03	31.94	Sum	
60	1887.46	2.41667E-03	40.23		
61	1922.37	1.70635E-03	47.64		
62	2104.47	8.49206E-03	23.36		
63	2147.02	1.66667E-03	40.82		
64	2163.02	1.18056E-03	74.41		
66	2292.81	5.55556E-03	22.36		

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Analysis Report for 1510063-03

CP0403S02-03

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
NA-22	0.97	1274.54 *	99.94	1.11E-01	9.72E-02
K-40	1.00	1460.81 *	10.67	1.18E+01	1.67E+00
GA-67	0.63	93.31 *	35.70	6.04E+01	2.43E+02
		208.95	2.24		
		300.22 *	16.00	1.05E+02	4.26E+02
CD-109	0.99	88.03 *	3.72	1.97E+00	8.46E-01
SN-126	0.95	87.57 *	37.00	1.90E-01	8.06E-02
I-131	0.69	284.30	6.05		
		364.48 *	81.20	5.97E-01	5.89E-01
		636.97	7.26		
		722.89	1.80		
TL-208	0.87	583.14 *	30.22	1.31E+00	2.49E-01
		860.37	4.48		
		2614.66 *	35.85	7.60E-01	1.83E-01
BI-212	0.75	727.17 *	11.80	1.09E+00	6.35E-01
		1620.62	2.75		
PB-212	0.99	238.63 *	44.60	1.29E+00	1.58E-01
		300.09 *	3.41	1.04E+00	1.01E+00
BI-214	0.99	609.31 *	46.30	1.24E+00	1.91E-01
		1120.29 *	15.10	1.45E+00	3.83E-01
		1764.49 *	15.80	1.50E+00	4.01E-01
		2204.22 *	4.98	2.56E+00	8.23E-01
PB-214	0.99	295.21 *	19.19	1.34E+00	3.08E-01
		351.92 *	37.19	1.49E+00	2.10E-01
RA-224	0.87	240.98 *	3.95	4.55E+00	1.31E+00
RA-226	0.99	186.21 *	3.28	2.55E+00	4.78E+00
AC-228	0.99	338.32 *	11.40	1.10E+00	4.17E-01
		911.07 *	27.70	1.16E+00	2.70E-01
		969.11 *	16.60	1.12E+00	4.86E-01
TH-231	0.61	25.64	14.70		
		84.21 *	6.40	8.43E-01	2.78E-01

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

Analysis Report for 1510063-03

CP0403S02-03

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
NA-22	0.975	1.11E-01	9.72E-02	
K-40	1.000	1.18E+01	1.67E+00	
GA-67	0.633	4.45E+01	1.74E+02	
? CD-109	0.999	1.97E+00	8.46E-01	
? SN-126	0.957	1.90E-01	8.06E-02	
I-131	0.694	5.97E-01	5.89E-01	
TL-208	0.874	9.55E-01	1.47E-01	
BI-212	0.756	1.09E+00	6.35E-01	
PB-212	0.999	1.27E+00	1.57E-01	
BI-214	0.995	1.36E+00	1.54E-01	
PB-214	0.998	1.44E+00	1.73E-01	
RA-224	0.871	4.55E+00	1.31E+00	
RA-226	0.993	2.55E+00	4.78E+00	
AC-228	0.994	1.13E+00	2.05E-01	
TH-231	0.611	8.43E-01	2.78E-01	

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510063-03
CP0403S02-03

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 7:07:41AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
1	76.32	3.16417E-01	5.54		
5	105.24	1.60432E-02	50.02	Tol.	EU-155 NP-239
6	129.02	1.74306E-02	53.35		
7	173.57	1.62458E-02	48.60		
M 8	180.37	1.34437E-02	54.52	Sum	
10	196.50	2.21449E-02	45.78		
13	254.97	1.75298E-02	49.93	Tol.	SN-113
14	273.34	5.66506E-02	26.40	Sum	
17	328.18	1.17859E-02	47.55	Tol.	LA-140
21	409.43	1.15199E-02	37.70		
22	415.78	1.43681E-02	40.18		
23	449.12	8.91593E-03	49.64	Sum	
24	462.79	2.04585E-02	27.49	Tol.	SB-125
25	493.30	1.06324E-02	42.45		
26	511.13	2.77220E-02	31.31		
27	549.98	6.86111E-03	61.22	Sum	
29	595.99	7.51587E-03	59.25	Sum	
32	768.47	1.28861E-02	31.92		
33	795.73	6.95707E-03	40.37	Sum	
34	840.60	1.48129E-02	37.18		
35	862.44	2.02186E-02	35.54		
M 37	930.15	3.20446E-03	64.03		
m 38	934.69	6.94409E-03	46.48	Sum	
40	1017.96	7.75424E-03	40.82		
41	1068.66	5.83333E-03	51.25		
43	1154.60	1.00000E-02	30.87	Sum	
44	1161.27	3.92857E-03	66.31		
45	1217.87	7.69697E-03	38.02	Sum	
46	1238.29	7.84407E-03	53.08		
48	1313.59	4.84127E-03	48.35		
49	1321.45	4.44444E-03	45.07	Sum	
50	1378.15	5.15046E-03	59.81		
51	1410.32	7.90088E-03	34.59		
53	1589.09	6.44057E-03	40.59		

Analysis Report for 1510063-03
CP0403S02-03

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
M	54	1636.59	2.45660E-03	59.03	
m	55	1724.78	2.50005E-03	33.33	
	56	1729.47	6.92101E-03	25.70	Sum
	58	1819.87	1.25000E-03	70.71	
	59	1847.89	5.83333E-03	31.94	Sum
	60	1887.46	2.41667E-03	40.23	
	61	1922.37	1.70635E-03	47.64	
	62	2104.47	8.49206E-03	23.36	
	63	2147.02	1.66667E-03	40.82	
	64	2163.02	1.18056E-03	74.41	
	66	2292.81	5.55556E-03	22.36	

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59	10.42	-6.94E-02	6.65E-01	6.65E-01
+	NA-22	1274.54	* 99.94	1.11E-01	1.56E-01	1.56E-01
+	NA-24	1368.53	99.99	-1.34E+12	1.91E+12	5.20E+12
		2754.09	99.86	-1.21E+12		1.91E+12
+	AL-26	1808.65	99.76	0.00E+00	4.78E-02	4.78E-02
+	K-40	1460.81	* 10.67	1.18E+01	7.34E-01	7.34E-01
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	1.36E-02	4.56E-02	4.56E-02
		78.34	96.00	2.56E-01		6.65E-02
+	SC-46	889.25	99.98	9.87E-03	7.57E-02	7.57E-02
		1120.51	99.99	2.70E-01		1.48E-01
+	V-48	983.52	99.98	1.20E-01	2.28E-01	2.28E-01
		1312.10	97.50	1.38E-01		2.53E-01
+	CR-51	320.08	9.83	-3.93E-02	9.40E-01	9.40E-01
+	MN-54	834.83	99.97	1.04E-02	6.49E-02	6.49E-02
+	CO-56	846.75	99.96	7.47E-03	7.53E-02	7.53E-02
		1037.75	14.03	8.48E-02		5.96E-01

Analysis Report for 1510063-03
CP0403S02-03

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)	
	CO-56	1238.25	67.00	1.15E-01	7.53E-02	1.84E-01
		1771.40	15.51	7.08E-02		4.28E-01
		2598.48	16.90	-1.99E-02		2.41E-01
+	CO-57	122.06	85.51	-1.05E-02	4.98E-02	4.98E-02
		136.48	10.60	1.54E-02		4.57E-01
+	CO-58	810.76	99.40	1.52E-02	7.87E-02	7.87E-02
+	FE-59	1099.22	56.50	9.25E-03	1.94E-01	1.94E-01
		1291.56	43.20	6.96E-02		2.44E-01
+	CO-60	1173.22	100.00	0.00E+00	6.12E-02	6.58E-02
		1332.49	100.00	2.87E-02		6.12E-02
+	ZN-65	1115.52	50.75	-5.99E-03	1.34E-01	1.34E-01
+	GA-67	93.31	* 35.70	6.04E+01	7.89E+01	7.89E+01
		208.95	2.24	5.53E+02		1.10E+03
		300.22	* 16.00	1.05E+02		1.65E+02
+	SE-75	121.11	16.70	-1.25E-02	8.75E-02	2.77E-01
		136.00	59.20	3.80E-02		8.83E-02
		264.65	59.80	1.94E-02		8.75E-02
		279.53	25.20	-2.57E-02		2.17E-01
		400.65	11.40	-2.04E-01		4.82E-01
+	RB-82	776.52	13.00	2.44E-01	1.05E+00	1.05E+00
+	RB-83	520.41	46.00	-1.50E-02	1.16E-01	1.16E-01
		529.64	30.30	-4.20E-02		1.86E-01
		552.65	16.40	-1.62E-02		3.98E-01
+	KR-85	513.99	0.43	-4.82E+00	1.37E+01	1.37E+01
+	SR-85	513.99	99.27	-2.86E-02	8.10E-02	8.10E-02
+	Y-88	898.02	93.40	-5.05E-03	6.09E-02	8.13E-02
		1836.01	99.38	-7.70E-03		6.09E-02
+	NB-93M	16.57	9.43	-7.54E+03	4.82E+03	4.82E+03
+	NB-94	702.63	100.00	-2.11E-02	5.62E-02	5.93E-02
		871.10	100.00	-7.28E-04		5.62E-02
+	NB-95	765.79	99.81	2.44E-02	1.43E-01	1.43E-01
+	NB-95M	235.69	25.00	-3.99E+02	7.36E+01	7.36E+01
+	ZR-95	724.18	43.70	-2.04E-02	1.44E-01	2.40E-01
		756.72	55.30	-1.09E-02		1.44E-01
+	MO-99	181.06	6.20	5.65E+02	6.98E+02	1.19E+03
		739.58	12.80	2.58E+01		6.98E+02
		778.00	4.50	-7.62E+02		2.01E+03
+	RU-103	497.08	89.00	6.17E-04	7.78E-02	7.78E-02
+	RU-106	621.84	9.80	9.28E-02	5.82E-01	5.82E-01
+	AG-108M	433.93	89.90	-1.07E-02	5.01E-02	5.01E-02
		614.37	90.40	1.69E-02		7.07E-02
		722.95	90.50	-1.64E-01		7.27E-02
+	CD-109	88.03	* 3.72	1.97E+00	2.00E+00	2.00E+00
+	AG-110M	657.75	93.14	-4.18E-03	6.90E-02	6.90E-02
		677.61	10.53	2.01E-01		6.32E-01
		706.67	16.46	2.02E-01		4.23E-01
		763.93	21.98	7.44E-02		3.21E-01
		884.67	71.63	-3.56E-02		8.14E-02

Analysis Report for 1510063-03
CP0403S02-03

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	AG-110M	1384.27	23.94	4.22E-02	6.90E-02	2.60E-01
+	CD-113M	263.70	0.02	8.10E+01	1.93E+02	1.93E+02
+	SN-113	255.12	1.93	1.45E+00	8.93E-02	3.00E+00
		391.69	64.90	5.79E-02		8.93E-02
+	TE-123M	159.00	84.10	2.75E-02	6.32E-02	6.32E-02
+	SB-124	602.71	97.87	-4.04E-03	8.19E-02	8.19E-02
		645.85	7.26	8.42E-02		1.05E+00
		722.78	11.10	-1.87E+00		8.26E-01
		1691.02	49.00	-9.12E-03		1.68E-01
+	I-125	35.49	6.49	-4.72E+00	4.38E+00	4.38E+00
+	SB-125	176.33	6.89	-2.03E-01	1.63E-01	6.73E-01
		427.89	29.33	4.63E-03		1.63E-01
		463.38	10.35	6.96E-01		5.97E-01
		600.56	17.80	2.17E-02		3.39E-01
		635.90	11.32	2.59E-01		5.33E-01
+	SB-126	414.70	83.30	1.73E-01	3.14E-01	3.21E-01
		666.33	99.60	-4.09E-02		3.23E-01
		695.00	99.60	7.13E-02		3.14E-01
		720.50	53.80	3.35E-01		5.94E-01
+	SN-126	87.57	* 37.00	1.90E-01	1.93E-01	1.93E-01
+	SB-127	473.00	25.00	-4.51E-01	3.01E+01	3.45E+01
		685.20	35.70	2.21E+00		3.01E+01
		783.80	14.70	5.86E+00		8.29E+01
+	I-129	29.78	57.00	-6.33E-02	1.03E+00	1.03E+00
		33.60	13.20	-4.05E-01		2.07E+00
		39.58	7.52	-5.05E-01		1.84E+00
+	I-131	284.30	6.05	3.02E+00	9.55E-01	8.90E+00
		364.48	* 81.20	5.97E-01		9.55E-01
		636.97	7.26	4.46E+00		9.87E+00
		722.89	1.80	-1.00E+02		4.44E+01
+	TE-132	49.72	13.10	-7.07E+01	2.60E+01	2.31E+02
		228.16	88.00	-1.07E+00		2.60E+01
+	BA-133	81.00	33.00	8.07E-02	7.97E-02	1.16E-01
		302.84	17.80	-2.34E-01		2.67E-01
		356.01	60.00	1.95E-03		7.97E-02
+	I-133	529.87	86.30	-4.31E+08	5.65E+08	5.65E+08
+	XE-133	81.00	38.00	3.22E+00	4.61E+00	4.61E+00
+	CS-134	563.23	8.38	-1.15E-01	7.33E-02	6.18E-01
		569.32	15.43	-4.54E-02		3.20E-01
		604.70	97.60	-3.63E-03		7.64E-02
		795.84	85.40	-7.22E-03		7.33E-02
		801.93	8.73	1.49E-01		7.49E-01
+	CS-135	268.24	16.00	-2.52E-01	3.06E-01	3.06E-01
+	@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@	1260.41	28.60	1.00E+26		1.00E+26
	@	1678.03	9.54	1.00E+26		1.00E+26
+	CS-136	153.22	7.46	7.48E-01	2.81E-01	2.84E+00
		163.89	4.61	6.69E-01		4.44E+00
		176.55	13.56	-1.99E+00		1.52E+00

Analysis Report for 1510063-03
CP0403S02-03

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	CS-136	273.65	12.66	-3.27E+00	2.81E-01	1.71E+00
		340.57	48.50	9.73E-02		5.13E-01
		818.50	99.70	1.29E-01		2.81E-01
		1048.07	79.60	-4.30E-02		3.61E-01
		1235.34	19.70	-3.93E-02		2.18E+00
+	CS-137	661.65	85.12	-2.00E-02	7.38E-02	7.38E-02
+	LA-138	788.74	34.00	8.92E-02	8.72E-02	1.91E-01
		1435.80	66.00	-1.05E-02		8.72E-02
+	CE-139	165.85	80.35	-1.89E-02	6.45E-02	6.45E-02
+	BA-140	162.64	6.70	2.88E-01	9.26E-01	3.19E+00
		304.84	4.50	1.92E-01		4.78E+00
		423.70	3.20	-7.72E-01		6.95E+00
		437.55	2.00	3.46E+00		1.15E+01
		537.32	25.00	7.30E-03		9.26E-01
+	LA-140	328.77	20.50	6.78E-01	2.96E-01	1.25E+00
		487.03	45.50	2.66E-01		5.10E-01
		815.85	23.50	-2.19E-01		1.19E+00
		1596.49	95.49	-4.90E-02		2.96E-01
+	CE-141	145.44	48.40	4.16E-02	1.76E-01	1.76E-01
+	CE-143	57.36	11.80	1.03E+05	3.74E+05	8.25E+05
		293.26	42.00	-9.00E+04		3.74E+05
		664.55	5.20	2.51E+06		2.96E+06
+	CE-144	133.54	10.80	1.25E-01	4.26E-01	4.26E-01
+	PM-144	476.78	42.00	-1.25E-02	6.28E-02	1.20E-01
		618.01	98.60	1.60E-02		6.28E-02
		696.49	99.49	2.23E-02		6.55E-02
+	PM-145	36.85	21.70	3.27E-01	4.36E-01	8.48E-01
		37.36	39.70	1.68E-01		4.36E-01
		42.30	15.10	8.08E-03		7.23E-01
		72.40	2.31	-9.17E-01		1.81E+00
+	PM-146	453.90	39.94	6.27E-03	1.13E-01	1.13E-01
		735.90	14.01	2.17E-01		4.64E-01
		747.13	13.10	-1.83E-01		4.07E-01
+	ND-147	91.11	28.90	-9.31E-01	1.21E+00	1.21E+00
		531.02	13.10	-1.10E-01		2.17E+00
+	PM-149	285.90	3.10	2.37E+03	1.27E+04	1.27E+04
+	EU-152	121.78	20.50	-4.08E-02	1.94E-01	1.94E-01
		244.69	5.40	-1.87E+00		9.35E-01
		344.27	19.13	3.70E-02		2.48E-01
		778.89	9.20	3.66E-01		7.07E-01
		964.01	10.40	6.61E-02		7.82E-01
		1085.78	7.22	3.42E-01		8.73E-01
		1112.02	9.60	1.94E-01		6.69E-01
		1407.95	14.94	1.19E-03		4.54E-01
+	GD-153	97.43	31.30	3.66E-02	1.42E-01	1.42E-01
		103.18	22.20	-1.23E-02		1.90E-01
+	EU-154	123.07	40.50	-1.73E-02	9.91E-02	9.91E-02
		723.30	19.70	-7.58E-01		3.36E-01
		873.19	11.50	1.48E-02		4.98E-01

Analysis Report for 1510063-03
CP0403S02-03

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	EU-154	996.32	10.30	-1.98E-01	9.91E-02	5.86E-01
		1004.76	17.90	-2.11E-01		3.23E-01
		1274.45	35.50	-9.25E-02		1.56E-01
+	EU-155	86.50	30.90	-1.03E-01	1.85E-01	1.85E-01
		105.30	20.70	1.38E-01		1.99E-01
+	EU-156	811.77	10.40	-3.55E-01	2.05E+00	2.05E+00
		1153.47	7.20	3.93E+00		4.05E+00
		1230.71	8.90	-1.08E+00		2.89E+00
+	HO-166M	184.41	72.60	1.81E-02	7.87E-02	7.87E-02
		280.45	29.60	-1.86E-02		1.57E-01
		410.94	11.10	-3.02E-01		4.16E-01
		711.69	54.10	4.28E-02		1.17E-01
+	TM-171	66.72	0.14	2.36E+00	3.17E+01	3.17E+01
+	HF-172	81.75	4.52	4.79E-01	3.81E-01	8.30E-01
		125.81	11.30	1.22E-02		3.81E-01
+	LU-172	181.53	20.60	-1.30E+00	2.19E+00	4.86E+00
		810.06	16.63	1.37E+00		7.10E+00
		912.12	15.25	4.18E+01		1.65E+01
		1093.66	62.50	1.41E-01		2.19E+00
+	LU-173	100.72	5.24	1.88E-01	2.68E-01	7.75E-01
		272.11	21.20	2.91E-01		2.68E-01
+	HF-175	343.40	84.00	4.00E-02	7.28E-02	7.28E-02
+	LU-176	88.34	13.30	4.92E-01	4.91E-02	4.32E-01
		201.83	86.00	8.35E-03		5.44E-02
		306.78	94.00	-1.10E-03		4.91E-02
+	TA-182	67.75	41.20	3.72E-02	1.25E-01	1.25E-01
		1121.30	34.90	-5.87E-02		4.03E-01
		1189.05	16.23	1.19E-01		5.19E-01
		1221.41	26.98	-1.42E-02		3.23E-01
		1231.02	11.44	-4.64E-01		7.22E-01
+	IR-192	308.46	29.68	2.42E-02	1.23E-01	2.05E-01
		468.07	48.10	-5.26E-03		1.23E-01
+	HG-203	279.19	77.30	4.29E-02	9.83E-02	9.83E-02
+	BI-207	569.67	97.72	-6.99E-03	4.93E-02	4.93E-02
		1063.62	74.90	-3.42E-03		7.94E-02
+	TL-208	583.14	* 30.22	1.31E+00	1.40E-01	2.84E-01
		860.37	4.48	2.46E+00		1.81E+00
		2614.66	* 35.85	7.60E-01		1.40E-01
+	BI-210M	262.00	45.00	4.37E-04	9.80E-02	9.80E-02
		300.00	23.00	2.34E-01		2.29E-01
+	PB-210	46.50	4.25	2.76E+00	2.16E+00	2.16E+00
+	PB-211	404.84	2.90	8.03E-01	1.58E+00	1.58E+00
		831.96	2.90	2.90E-01		1.85E+00
+	BI-212	727.17	* 11.80	1.09E+00	9.93E-01	9.93E-01
		1620.62	2.75	1.25E-01		2.41E+00
+	PB-212	238.63	* 44.60	1.29E+00	2.23E-01	2.23E-01
		300.09	* 3.41	1.04E+00		1.63E+00
+	BI-214	609.31	* 46.30	1.24E+00	1.83E-01	1.83E-01

Analysis Report for 1510063-03
 CP0403S02-03

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	BI-214	1120.29	*	15.10	1.45E+00	1.83E-01	4.11E-01
		1764.49	*	15.80	1.50E+00		3.67E-01
		2204.22	*	4.98	2.56E+00		3.56E-01
+	PB-214	295.21	*	19.19	1.34E+00	1.94E-01	4.05E-01
		351.92	*	37.19	1.49E+00		1.94E-01
+	RN-219	401.80		6.50	3.49E-02	7.36E-01	7.36E-01
+	RA-223	323.87		3.88	4.44E-01	1.11E+00	1.11E+00
+	RA-224	240.98	*	3.95	4.55E+00	2.53E+00	2.53E+00
+	RA-225	40.00		31.00	-4.57E-01	1.67E+00	1.67E+00
+	RA-226	186.21	*	3.28	2.55E+00	3.16E+00	3.16E+00
+	TH-227	50.10		8.40	-2.27E-01	6.13E-01	7.42E-01
		236.00		11.50	-3.32E+00		6.13E-01
		256.20		6.30	3.05E-01		7.72E-01
+	AC-228	338.32	*	11.40	1.10E+00	3.18E-01	6.18E-01
		911.07	*	27.70	1.16E+00		3.18E-01
		969.11	*	16.60	1.12E+00		7.22E-01
+	TH-230	48.44		16.90	-4.15E-01	4.04E-01	4.04E-01
		62.85		4.60	1.32E+00		1.13E+00
		67.67		0.37	3.48E+00		1.16E+01
+	PA-231	283.67		1.60	9.37E-01	2.05E+00	2.76E+00
		302.67		2.30	-1.80E+00		2.05E+00
+	TH-231	25.64		14.70	2.60E+00	1.07E+00	1.32E+01
		84.21	*	6.40	8.43E-01		1.07E+00
+	PA-233	311.98		38.60	-1.29E-01	2.43E-01	2.43E-01
+	PA-234	131.20		20.40	4.70E-02	2.15E-01	2.15E-01
		733.99		8.80	3.33E-02		6.98E-01
		946.00		12.00	1.64E-01		5.32E-01
+	PA-234M	1001.03		0.92	4.22E+00	6.99E+00	6.99E+00
+	TH-234	63.29		3.80	1.59E+00	1.36E+00	1.36E+00
+	U-235	143.76		10.50	1.86E-01	4.44E-01	4.44E-01
		163.35		4.70	8.55E-02		9.48E-01
		205.31		4.70	6.61E-01		1.04E+00
+	NP-237	86.50		12.60	-2.49E-01	4.49E-01	4.49E-01
+	NP-239	106.10		22.70	3.21E+02	9.17E+02	9.17E+02
		228.18		10.70	-9.33E+01		2.28E+03
		277.60		14.10	9.12E+02		1.78E+03
+	AM-241	59.54		35.90	-9.25E-02	1.23E-01	1.23E-01
+	AM-243	74.67		66.00	-1.66E-01	9.12E-02	9.12E-02
+	CM-243	209.75		3.29	1.22E+00	3.55E-01	1.59E+00
		228.14		10.60	-1.86E-02		4.54E-01
		277.60		14.00	1.81E-01		3.55E-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
- ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

Analysis Report for 1510063-03
CP0403S02-03

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
BE-7	477.59	10.42	6.65E-01	6.65E-01	-6.94E-02	3.12E-01
+ NA-22	1274.54	* 99.94	1.56E-01	1.56E-01	1.11E-01	7.49E-02
NA-24	1368.53	99.99	5.20E+12	1.91E+12	-1.34E+12	2.30E+12
	2754.09	99.86	1.91E+12		-1.21E+12	6.05E+11
AL-26	1808.65	99.76	4.78E-02	4.78E-02	0.00E+00	2.00E-02
+ K-40	1460.81	* 10.67	7.34E-01	7.34E-01	1.18E+01	3.35E-01
@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
TI-44	67.88	94.40	4.56E-02	4.56E-02	1.36E-02	2.21E-02
	78.34	96.00	6.65E-02		2.56E-01	3.27E-02
SC-46	889.25	99.98	7.57E-02	7.57E-02	9.87E-03	3.49E-02
	1120.51	99.99	1.48E-01		2.70E-01	7.05E-02
V-48	983.52	99.98	2.28E-01	2.28E-01	1.20E-01	1.05E-01
	1312.10	97.50	2.53E-01		1.38E-01	1.15E-01
CR-51	320.08	9.83	9.40E-01	9.40E-01	-3.93E-02	4.47E-01
MN-54	834.83	99.97	6.49E-02	6.49E-02	1.04E-02	3.01E-02
CO-56	846.75	99.96	7.53E-02	7.53E-02	7.47E-03	3.48E-02
	1037.75	14.03	5.96E-01		8.48E-02	2.74E-01
	1238.25	67.00	1.84E-01		1.15E-01	8.60E-02
	1771.40	15.51	4.28E-01		7.08E-02	1.82E-01
	2598.48	16.90	2.41E-01		-1.99E-02	9.02E-02
CO-57	122.06	85.51	4.98E-02	4.98E-02	-1.05E-02	2.42E-02
	136.48	10.60	4.57E-01		1.54E-02	2.22E-01
CO-58	810.76	99.40	7.87E-02	7.87E-02	1.52E-02	3.65E-02
FE-59	1099.22	56.50	1.94E-01	1.94E-01	9.25E-03	8.96E-02
	1291.56	43.20	2.44E-01		6.96E-02	1.11E-01
CO-60	1173.22	100.00	6.58E-02	6.12E-02	0.00E+00	3.00E-02
	1332.49	100.00	6.12E-02		2.87E-02	2.73E-02
ZN-65	1115.52	50.75	1.34E-01	1.34E-01	-5.99E-03	6.09E-02
+ GA-67	93.31	* 35.70	7.89E+01	7.89E+01	6.04E+01	3.87E+01
	208.95	2.24	1.10E+03		5.53E+02	5.34E+02
	300.22	* 16.00	1.65E+02		1.05E+02	7.94E+01
SE-75	121.11	16.70	2.77E-01	8.75E-02	-1.25E-02	1.34E-01
	136.00	59.20	8.83E-02		3.80E-02	4.29E-02
	264.65	59.80	8.75E-02		1.94E-02	4.19E-02
	279.53	25.20	2.17E-01		-2.57E-02	1.04E-01
	400.65	11.40	4.82E-01		-2.04E-01	2.28E-01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
RB-82	776.52	13.00	1.05E+00	1.05E+00	2.44E-01	4.89E-01
RB-83	520.41	46.00	1.16E-01	1.16E-01	-1.50E-02	5.38E-02
	529.64	30.30	1.86E-01		-4.20E-02	8.64E-02
	552.65	16.40	3.98E-01		-1.62E-02	1.87E-01
KR-85	513.99	0.43	1.37E+01	1.37E+01	-4.82E+00	6.48E+00
SR-85	513.99	99.27	8.10E-02	8.10E-02	-2.86E-02	3.84E-02
Y-88	898.02	93.40	8.13E-02	6.09E-02	-5.05E-03	3.76E-02
	1836.01	99.38	6.09E-02		-7.70E-03	2.57E-02
NB-93M	16.57	9.43	4.82E+03	4.82E+03	-7.54E+03	2.34E+03
NB-94	702.63	100.00	5.93E-02	5.62E-02	-2.11E-02	2.77E-02
	871.10	100.00	5.62E-02		-7.28E-04	2.58E-02
NB-95	765.79	99.81	1.43E-01	1.43E-01	2.44E-02	6.79E-02
NB-95M	235.69	25.00	7.36E+01	7.36E+01	-3.99E+02	3.59E+01
ZR-95	724.18	43.70	2.40E-01	1.44E-01	-2.04E-02	1.14E-01
	756.72	55.30	1.44E-01		-1.09E-02	6.68E-02
MO-99	181.06	6.20	1.19E+03	6.98E+02	5.65E+02	5.78E+02
	739.58	12.80	6.98E+02		2.58E+01	3.26E+02
	778.00	4.50	2.01E+03		-7.62E+02	9.34E+02
RU-103	497.08	89.00	7.78E-02	7.78E-02	6.17E-04	3.61E-02
RU-106	621.84	9.80	5.82E-01	5.82E-01	9.28E-02	2.72E-01
AG-108M	433.93	89.90	5.01E-02	5.01E-02	-1.07E-02	2.35E-02
	614.37	90.40	7.07E-02		1.69E-02	3.34E-02
	722.95	90.50	7.27E-02		-1.64E-01	3.41E-02
+ CD-109	88.03	*	3.72	2.00E+00	2.00E+00	1.97E+00
AG-110M	657.75	93.14	6.90E-02	6.90E-02	-4.18E-03	3.24E-02
	677.61	10.53	6.32E-01		2.01E-01	2.97E-01
	706.67	16.46	4.23E-01		2.02E-01	1.99E-01
	763.93	21.98	3.21E-01		7.44E-02	1.50E-01
	884.67	71.63	8.14E-02		-3.56E-02	3.72E-02
	1384.27	23.94	2.60E-01		4.22E-02	1.15E-01
CD-113M	263.70	0.02	1.93E+02	1.93E+02	8.10E+01	9.22E+01
SN-113	255.12	1.93	3.00E+00	8.93E-02	1.45E+00	1.44E+00
	391.69	64.90	8.93E-02		5.79E-02	4.23E-02
TE123M	159.00	84.10	6.32E-02	6.32E-02	2.75E-02	3.06E-02
SB-124	602.71	97.87	8.19E-02	8.19E-02	-4.04E-03	3.85E-02
	645.85	7.26	1.05E+00		8.42E-02	4.93E-01
	722.78	11.10	8.26E-01		-1.87E+00	3.88E-01
	1691.02	49.00	1.68E-01		-9.12E-03	7.34E-02
I-125	35.49	6.49	4.38E+00	4.38E+00	-4.72E+00	2.12E+00
SB-125	176.33	6.89	6.73E-01	1.63E-01	-2.03E-01	3.25E-01
	427.89	29.33	1.63E-01		4.63E-03	7.67E-02
	463.38	10.35	5.97E-01		6.96E-01	2.85E-01
	600.56	17.80	3.39E-01		2.17E-02	1.60E-01
	635.90	11.32	5.33E-01		2.59E-01	2.50E-01
SB-126	414.70	83.30	3.21E-01	3.14E-01	1.73E-01	1.53E-01
	666.33	99.60	3.23E-01		-4.09E-02	1.52E-01
	695.00	99.60	3.14E-01		7.13E-02	1.47E-01
	720.50	53.80	5.94E-01		3.35E-01	2.79E-01
+ SN-126	87.57	*	37.00	1.93E-01	1.90E-01	9.47E-02
SB-127	473.00	25.00	3.45E+01	3.01E+01	-4.51E-01	1.62E+01
	685.20	35.70	3.01E+01		2.21E+00	1.41E+01
	783.80	14.70	8.29E+01		5.86E+00	3.88E+01
I-129	29.78	57.00	1.03E+00	1.03E+00	-6.33E-02	4.99E-01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
I-129	33.60	13.20	2.07E+00	1.03E+00	-4.05E-01	1.00E+00
	39.58	7.52	1.84E+00		-5.05E-01	8.93E-01
+ I-131	284.30	6.05	8.90E+00	9.55E-01	3.02E+00	4.25E+00
	364.48	* 81.20	9.55E-01		5.97E-01	4.60E-01
	636.97	7.26	9.87E+00		4.46E+00	4.64E+00
	722.89	1.80	4.44E+01		-1.00E+02	2.09E+01
TE-132	49.72	13.10	2.31E+02	2.60E+01	-7.07E+01	1.12E+02
	228.16	88.00	2.60E+01		-1.07E+00	1.25E+01
BA-133	81.00	33.00	1.16E-01	7.97E-02	8.07E-02	5.61E-02
	302.84	17.80	2.67E-01		-2.34E-01	1.27E-01
	356.01	60.00	7.97E-02		1.95E-03	3.79E-02
I-133	529.87	86.30	5.65E+08	5.65E+08	-4.31E+08	2.62E+08
XE-133	81.00	38.00	4.61E+00	4.61E+00	3.22E+00	2.24E+00
CS-134	563.23	8.38	6.18E-01	7.33E-02	-1.15E-01	2.89E-01
	569.32	15.43	3.20E-01		-4.54E-02	1.49E-01
	604.70	97.60	7.64E-02		-3.63E-03	3.64E-02
	795.84	85.40	7.33E-02		-7.22E-03	3.41E-02
	801.93	8.73	7.49E-01		1.49E-01	3.49E-01
CS-135	268.24	16.00	3.06E-01	3.06E-01	-2.52E-01	1.47E-01
@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	1260.41	28.60	1.00E+26		1.00E+26	1.00E+20
@	1678.03	9.54	1.00E+26		1.00E+26	1.00E+20
CS-136	153.22	7.46	2.84E+00	2.81E-01	7.48E-01	1.38E+00
	163.89	4.61	4.44E+00		6.69E-01	2.15E+00
	176.55	13.56	1.52E+00		-1.99E+00	7.35E-01
	273.65	12.66	1.71E+00		-3.27E+00	8.20E-01
	340.57	48.50	5.13E-01		9.73E-02	2.46E-01
	818.50	99.70	2.81E-01		1.29E-01	1.30E-01
	1048.07	79.60	3.61E-01		-4.30E-02	1.65E-01
	1235.34	19.70	2.18E+00		-3.93E-02	1.02E+00
CS-137	661.65	85.12	7.38E-02	7.38E-02	-2.00E-02	3.47E-02
LA-138	788.74	34.00	1.91E-01	8.72E-02	8.92E-02	8.94E-02
	1435.80	66.00	8.72E-02		-1.05E-02	3.85E-02
CE-139	165.85	80.35	6.45E-02	6.45E-02	-1.89E-02	3.12E-02
BA-140	162.64	6.70	3.19E+00	9.26E-01	2.88E-01	1.55E+00
	304.84	4.50	4.78E+00		1.92E-01	2.28E+00
	423.70	3.20	6.95E+00		-7.72E-01	3.27E+00
	437.55	2.00	1.15E+01		3.46E+00	5.45E+00
	537.32	25.00	9.26E-01		7.30E-03	4.33E-01
LA-140	328.77	20.50	1.25E+00	2.96E-01	6.78E-01	5.96E-01
	487.03	45.50	5.10E-01		2.66E-01	2.40E-01
	815.85	23.50	1.19E+00		-2.19E-01	5.51E-01
	1596.49	95.49	2.96E-01		-4.90E-02	1.30E-01
CE-141	145.44	48.40	1.76E-01	1.76E-01	4.16E-02	8.55E-02
CE-143	57.36	11.80	8.25E+05	3.74E+05	1.03E+05	3.98E+05
	293.26	42.00	3.74E+05		-9.00E+04	1.81E+05
	664.55	5.20	2.96E+06		2.51E+06	1.40E+06
CE-144	133.54	10.80	4.26E-01	4.26E-01	1.25E-01	2.07E-01
PM-144	476.78	42.00	1.20E-01	6.28E-02	-1.25E-02	5.62E-02
	618.01	98.60	6.28E-02		1.60E-02	2.95E-02
	696.49	99.49	6.55E-02		2.23E-02	3.07E-02
PM-145	36.85	21.70	8.48E-01	4.36E-01	3.27E-01	4.11E-01
	37.36	39.70	4.36E-01		1.68E-01	2.11E-01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)		
PM-145	42.30	15.10	7.23E-01	4.36E-01	8.08E-03	3.51E-01		
	72.40	2.31	1.81E+00		-9.17E-01	8.77E-01		
PM-146	453.90	39.94	1.13E-01	1.13E-01	6.27E-03	5.28E-02		
	735.90	14.01	4.64E-01		2.17E-01	2.18E-01		
ND-147	747.13	13.10	4.07E-01	1.21E+00	-1.83E-01	1.88E-01		
	91.11	28.90	1.21E+00		-9.31E-01	5.91E-01		
PM-149	531.02	13.10	2.17E+00	1.27E+04	-1.10E-01	1.01E+00		
	285.90	3.10	1.27E+04		2.37E+03	6.05E+03		
EU-152	121.78	20.50	1.94E-01	1.94E-01	-4.08E-02	9.38E-02		
	244.69	5.40	9.35E-01		-1.87E+00	4.51E-01		
	344.27	19.13	2.48E-01		3.70E-02	1.18E-01		
	778.89	9.20	7.07E-01		3.66E-01	3.31E-01		
	964.01	10.40	7.82E-01		6.61E-02	3.67E-01		
	1085.78	7.22	8.73E-01		3.42E-01	3.98E-01		
	1112.02	9.60	6.69E-01		1.94E-01	3.05E-01		
	1407.95	14.94	4.54E-01		1.19E-03	2.04E-01		
	GD-153	97.43	31.30		1.42E-01	1.42E-01	3.66E-02	6.93E-02
		103.18	22.20		1.90E-01		-1.23E-02	9.24E-02
EU-154	123.07	40.50	9.91E-02	9.91E-02	-1.73E-02	4.80E-02		
	723.30	19.70	3.36E-01		-7.58E-01	1.58E-01		
	873.19	11.50	4.98E-01		1.48E-02	2.29E-01		
	996.32	10.30	5.86E-01		-1.98E-01	2.68E-01		
	1004.76	17.90	3.23E-01		-2.11E-01	1.47E-01		
EU-155	1274.45	35.50	1.56E-01	1.85E-01	-9.25E-02	6.94E-02		
	86.50	30.90	1.85E-01		-1.03E-01	9.08E-02		
EU-156	105.30	20.70	1.99E-01	2.05E+00	1.38E-01	9.67E-02		
	811.77	10.40	2.05E+00		-3.55E-01	9.49E-01		
	1153.47	7.20	4.05E+00		3.93E+00	1.88E+00		
HO-166M	1230.71	8.90	2.89E+00	7.87E-02	-1.08E+00	1.32E+00		
	184.41	72.60	7.87E-02		1.81E-02	3.83E-02		
	280.45	29.60	1.57E-01		-1.86E-02	7.51E-02		
	410.94	11.10	4.16E-01		-3.02E-01	1.96E-01		
TM-171	711.69	54.10	1.17E-01	3.17E+01	4.28E-02	5.50E-02		
	66.72	0.14	3.17E+01		2.36E+00	1.54E+01		
HF-172	81.75	4.52	8.30E-01	3.81E-01	4.79E-01	4.02E-01		
	125.81	11.30	3.81E-01		1.22E-02	1.85E-01		
LU-172	181.53	20.60	4.86E+00	2.19E+00	-1.30E+00	2.36E+00		
	810.06	16.63	7.10E+00		1.37E+00	3.29E+00		
	912.12	15.25	1.65E+01		4.18E+01	7.92E+00		
	1093.66	62.50	2.19E+00		1.41E-01	1.01E+00		
LU-173	100.72	5.24	7.75E-01	2.68E-01	1.88E-01	3.76E-01		
	272.11	21.20	2.68E-01		2.91E-01	1.29E-01		
HF-175	343.40	84.00	7.28E-02	7.28E-02	4.00E-02	3.46E-02		
LU-176	88.34	13.30	4.32E-01	4.91E-02	4.92E-01	2.12E-01		
	201.83	86.00	5.44E-02		8.35E-03	2.63E-02		
	306.78	94.00	4.91E-02		-1.10E-03	2.34E-02		
TA-182	67.75	41.20	1.25E-01	1.25E-01	3.72E-02	6.04E-02		
	1121.30	34.90	4.03E-01		-5.87E-02	1.92E-01		
	1189.05	16.23	5.19E-01		1.19E-01	2.38E-01		
	1221.41	26.98	3.23E-01		-1.42E-02	1.48E-01		
	1231.02	11.44	7.22E-01		-4.64E-01	3.30E-01		
IR-192	308.46	29.68	2.05E-01	1.23E-01	2.42E-02	9.76E-02		
	468.07	48.10	1.23E-01		-5.26E-03	5.78E-02		

Analysis Report for 1510063-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
HG-203	279.19	77.30	9.83E-02	9.83E-02	4.29E-02	4.72E-02
BI-207	569.67	97.72	4.93E-02	4.93E-02	-6.99E-03	2.30E-02
	1063.62	74.90	7.94E-02		-3.42E-03	3.61E-02
+ TL-208	583.14 *	30.22	2.84E-01	1.40E-01	1.31E+00	1.36E-01
	860.37	4.48	1.81E+00		2.46E+00	8.52E-01
	2614.66 *	35.85	1.40E-01		7.60E-01	5.90E-02
BI-210M	262.00	45.00	9.80E-02	9.80E-02	4.37E-04	4.69E-02
	300.00	23.00	2.29E-01		2.34E-01	1.10E-01
PB-210	46.50	4.25	2.16E+00	2.16E+00	2.76E+00	1.05E+00
PB-211	404.84	2.90	1.58E+00	1.58E+00	8.03E-01	7.47E-01
	831.96	2.90	1.85E+00		2.90E-01	8.48E-01
+ BI-212	727.17 *	11.80	9.93E-01	9.93E-01	1.09E+00	4.79E-01
	1620.62	2.75	2.41E+00		1.25E-01	1.07E+00
+ PB-212	238.63 *	44.60	2.23E-01	2.23E-01	1.29E+00	1.10E-01
	300.09 *	3.41	1.63E+00		1.04E+00	7.86E-01
+ BI-214	609.31 *	46.30	1.83E-01	1.83E-01	1.24E+00	8.79E-02
	1120.29 *	15.10	4.11E-01		1.45E+00	1.87E-01
	1764.49 *	15.80	3.67E-01		1.50E+00	1.59E-01
	2204.22 *	4.98	3.56E-01		2.56E+00	9.60E-02
+ PB-214	295.21 *	19.19	4.05E-01	1.94E-01	1.34E+00	1.97E-01
	351.92 *	37.19	1.94E-01		1.49E+00	9.37E-02
RN-219	401.80	6.50	7.36E-01	7.36E-01	3.49E-02	3.48E-01
RA-223	323.87	3.88	1.11E+00	1.11E+00	4.44E-01	5.29E-01
+ RA-224	240.98 *	3.95	2.53E+00	2.53E+00	4.55E+00	1.24E+00
RA-225	40.00	31.00	1.67E+00	1.67E+00	-4.57E-01	8.08E-01
+ RA-226	186.21 *	3.28	3.16E+00	3.16E+00	2.55E+00	1.56E+00
TH-227	50.10	8.40	7.42E-01	6.13E-01	-2.27E-01	3.59E-01
	236.00	11.50	6.13E-01		-3.32E+00	2.99E-01
	256.20	6.30	7.72E-01		3.05E-01	3.71E-01
+ AC-228	338.32 *	11.40	6.18E-01	3.18E-01	1.10E+00	2.99E-01
	911.07 *	27.70	3.18E-01		1.16E+00	1.50E-01
	969.11 *	16.60	7.22E-01		1.12E+00	3.46E-01
TH-230	48.44	16.90	4.04E-01	4.04E-01	-4.15E-01	1.96E-01
	62.85	4.60	1.13E+00		1.32E+00	5.49E-01
	67.67	0.37	1.16E+01		3.48E+00	5.65E+00
PA-231	283.67	1.60	2.76E+00	2.05E+00	9.37E-01	1.32E+00
	302.67	2.30	2.05E+00		-1.80E+00	9.80E-01
+ TH-231	25.64	14.70	1.32E+01	1.07E+00	2.60E+00	6.39E+00
	84.21 *	6.40	1.07E+00		8.43E-01	5.24E-01
PA-233	311.98	38.60	2.43E-01	2.43E-01	-1.29E-01	1.16E-01
PA-234	131.20	20.40	2.15E-01	2.15E-01	4.70E-02	1.05E-01
	733.99	8.80	6.98E-01		3.33E-02	3.26E-01
	946.00	12.00	5.32E-01		1.64E-01	2.46E-01
PA-234M	1001.03	0.92	6.99E+00	6.99E+00	4.22E+00	3.21E+00
TH-234	63.29	3.80	1.36E+00	1.36E+00	1.59E+00	6.60E-01
U-235	143.76	10.50	4.44E-01	4.44E-01	1.86E-01	2.16E-01
	163.35	4.70	9.48E-01		8.55E-02	4.59E-01
	205.31	4.70	1.04E+00		6.61E-01	5.03E-01
NP-237	86.50	12.60	4.49E-01	4.49E-01	-2.49E-01	2.20E-01
NP-239	106.10	22.70	9.17E+02	9.17E+02	3.21E+02	4.46E+02
	228.18	10.70	2.28E+03		-9.33E+01	1.10E+03
	277.60	14.10	1.78E+03		9.12E+02	8.55E+02
AM-241	59.54	35.90	1.23E-01	1.23E-01	-9.25E-02	5.93E-02

Analysis Report for 1510063-03
 CP0403S02-03

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
AM-243	74.67	66.00	9.12E-02	9.12E-02	-1.66E-01	4.47E-02
CM-243	209.75	3.29	1.59E+00	3.55E-01	1.22E+00	7.71E-01
	228.14	10.60	4.54E-01		-1.86E-02	2.19E-01
	277.60	14.00	3.55E-01		1.81E-01	1.70E-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

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

Creation Date	Comment	User
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No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP0403S02-03

Elapsed Live time: 3600
Elapsed Real Time: 3601

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	1	200
9:	650	1146	1105	437	695	1615	301	128
17:	166	127	137	133	116	134	123	135
25:	113	125	115	100	95	101	129	116
33:	101	119	87	104	109	136	115	129
41:	121	127	120	119	121	155	201	112
49:	108	99	105	113	98	94	85	84
57:	67	106	81	105	103	123	153	191
65:	123	108	135	119	116	117	131	114
73:	136	156	451	236	496	382	114	114
81:	130	106	87	169	155	112	209	222
89:	119	185	126	109	265	148	102	82
97:	85	84	75	97	77	63	66	80
105:	86	98	75	71	81	78	83	67
113:	90	72	80	91	68	58	71	71
121:	57	69	72	76	74	74	78	74
129:	107	92	59	76	66	61	80	91
137:	77	82	73	92	91	81	69	106
145:	88	67	63	70	82	67	68	71
153:	68	89	75	71	74	69	67	65
161:	63	53	68	76	61	61	60	60
169:	69	46	47	58	70	72	66	47
177:	59	59	63	86	72	71	61	64
185:	83	179	102	63	57	55	60	63
193:	45	69	67	60	73	75	59	48
201:	53	46	61	61	55	60	51	48
209:	90	78	53	52	51	53	46	53
217:	44	49	50	48	47	54	50	38
225:	48	46	49	58	48	39	49	49
233:	50	38	32	44	55	336	521	104
241:	119	166	74	46	31	36	52	29
249:	45	29	32	37	35	49	41	47
257:	38	34	37	29	29	35	40	32
265:	30	27	35	35	41	61	70	34
273:	37	42	28	37	54	50	25	28
281:	34	30	24	28	26	40	25	30
289:	30	28	38	34	31	44	229	160
297:	28	24	39	60	40	35	24	23
305:	33	31	26	32	23	33	24	26
313:	24	25	38	30	29	22	29	22
321:	29	26	24	28	24	15	31	57
329:	43	23	22	35	34	27	33	27
337:	44	98	77	28	15	26	28	23
345:	30	22	30	25	28	33	140	440
353:	131	30	21	21	27	26	26	27
361:	21	16	23	33	38	23	21	20

369: 19 18 29 21 23 26 30 19

Sample Title: CP0403S02-03

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	21	14	11	17	21	19	13	19
385:	31	23	27	25	16	33	20	18
393:	27	16	16	20	24	23	19	19
401:	21	18	23	25	22	13	13	27
409:	24	23	20	16	12	29	29	29
417:	26	20	20	15	20	16	19	18
425:	17	21	23	18	9	21	22	15
433:	20	13	18	17	16	17	26	14
441:	17	24	10	14	13	9	13	19
449:	28	17	15	12	12	20	22	10
457:	17	16	11	19	20	30	49	23
465:	19	15	14	13	20	13	13	16
473:	16	20	14	14	17	22	14	18
481:	15	9	7	12	9	22	19	17
489:	14	8	18	19	16	19	15	11
497:	6	10	15	14	14	10	9	15
505:	13	18	12	22	27	67	63	41
513:	21	20	18	14	13	7	15	9
521:	12	12	12	18	11	14	16	10
529:	12	10	12	8	21	12	14	16
537:	12	15	12	14	10	14	14	11
545:	9	6	11	12	15	20	17	15
553:	10	15	19	15	13	10	13	16
561:	14	14	20	14	9	19	14	8
569:	9	13	19	15	12	14	12	11
577:	10	6	4	14	16	51	152	87
585:	22	12	15	12	8	15	7	6
593:	9	14	10	20	18	12	11	11
601:	12	14	12	9	15	11	7	69
609:	277	146	22	12	14	11	15	16
617:	12	9	9	14	9	6	12	12
625:	8	9	7	11	12	9	7	9
633:	12	17	8	9	19	8	9	11
641:	7	8	11	11	9	6	11	12
649:	8	10	11	6	8	12	6	15
657:	8	8	12	8	21	14	12	12
665:	20	13	15	8	9	15	7	11
673:	11	19	8	15	12	8	9	9
681:	9	8	13	9	9	8	14	9
689:	9	11	9	14	10	8	11	8
697:	10	17	13	6	7	8	16	9
705:	11	10	12	11	13	9	10	15
713:	12	9	4	11	13	7	9	11
721:	18	12	7	6	9	20	43	38
729:	13	11	7	8	14	9	14	7
737:	11	13	9	5	12	9	9	6
745:	6	6	9	5	10	7	9	10
753:	11	11	9	11	8	5	4	12
761:	5	12	12	14	5	12	14	38
769:	21	13	6	11	12	6	4	15
777:	8	7	13	7	8	13	12	5
785:	17	9	9	12	8	7	8	9
793:	4	11	16	11	10	3	5	10

801: 9 12 11 10 8 9 10 7

Sample Title: CP0403S02-03

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	8	7	11	3	8	6	5	9
817:	6	12	6	9	10	5	4	2
825:	10	7	8	7	7	8	5	6
833:	3	5	8	19	7	7	7	8
841:	7	6	10	6	8	5	12	3
849:	5	6	7	8	11	9	3	5
857:	20	3	14	21	28	7	3	6
865:	3	8	5	4	7	7	8	9
873:	6	2	6	6	7	5	4	9
881:	6	6	6	5	5	5	5	6
889:	10	5	10	6	6	8	5	5
897:	7	9	8	4	14	7	10	10
905:	7	9	8	10	12	48	95	37
913:	16	4	5	2	5	5	5	5
921:	8	11	4	6	9	4	2	3
929:	10	3	7	5	8	16	14	7
937:	7	11	11	8	6	6	11	6
945:	4	5	4	7	12	6	4	8
953:	7	6	6	10	5	1	2	5
961:	6	5	13	16	23	6	10	60
969:	60	27	5	5	5	7	6	6
977:	4	4	7	7	9	5	7	1
985:	5	13	5	1	8	7	3	10
993:	10	4	6	4	3	5	7	8
1001:	7	7	5	6	2	5	3	9
1009:	7	5	6	4	4	3	10	6
1017:	8	9	11	7	1	5	4	5
1025:	7	10	0	6	3	5	5	5
1033:	7	3	5	7	6	12	4	6
1041:	1	9	2	7	12	4	4	6
1049:	2	7	4	7	7	4	10	6
1057:	1	6	8	8	5	5	3	4
1065:	6	3	8	6	8	9	2	4
1073:	2	5	6	4	10	9	6	5
1081:	5	6	5	7	4	4	4	7
1089:	4	1	5	8	7	4	11	8
1097:	9	4	7	3	5	10	8	3
1105:	7	6	4	4	7	5	8	7
1113:	5	4	1	4	4	10	30	47
1121:	33	4	4	7	4	7	2	2
1129:	4	3	5	6	3	8	6	6
1137:	6	5	9	3	7	7	6	6
1145:	8	5	2	2	3	2	6	5
1153:	7	9	13	11	3	2	3	10
1161:	9	4	5	6	5	5	5	9
1169:	5	5	3	3	9	7	7	1
1177:	4	3	4	4	5	7	6	8
1185:	5	4	5	7	10	5	5	5
1193:	3	4	8	6	7	5	5	6
1201:	8	4	7	10	6	4	6	9
1209:	4	7	9	8	4	4	7	12
1217:	7	9	5	9	2	4	8	5
1225:	3	10	8	2	5	3	6	6

1233: 6 9 5 6 14 24 13 7

Sample Title: CP0403S02-03

Channel	1	2	3	4	5	6	7	8	9
1241:	4	6	6	5	3	11	6	5	
1249:	9	7	5	4	6	4	8	6	
1257:	6	7	6	10	5	1	5	2	
1265:	11	8	6	1	4	3	4	2	
1273:	6	2	2	1	4	6	6	7	
1281:	5	4	4	4	2	1	4	5	
1289:	6	5	5	1	4	6	5	3	
1297:	3	6	3	4	4	3	3	4	
1305:	5	3	2	5	1	4	3	7	
1313:	8	6	5	1	2	1	3	9	
1321:	3	5	4	2	1	2	3	1	
1329:	4	5	1	4	2	2	6	1	
1337:	2	6	6	4	5	1	3	2	
1345:	5	3	4	7	0	5	2	5	
1353:	3	3	3	1	2	0	4	3	
1361:	1	1	7	1	1	1	6	4	
1369:	4	2	2	4	3	6	0	3	
1377:	13	7	7	3	5	1	4	2	
1385:	2	5	1	1	2	2	1	2	
1393:	2	2	4	3	4	1	2	6	
1401:	7	8	2	2	1	5	6	7	
1409:	2	5	3	3	2	4	4	1	
1417:	1	1	2	2	0	2	2	1	
1425:	2	1	2	0	2	5	3	3	
1433:	3	4	3	0	2	4	3	2	
1441:	5	3	1	5	1	0	2	2	
1449:	2	0	2	2	1	3	2	4	
1457:	3	14	65	192	190	44	6	1	
1465:	1	2	3	1	1	4	1	2	
1473:	3	0	2	1	1	2	0	3	
1481:	2	3	1	2	6	1	2	3	
1489:	2	0	2	2	1	2	2	3	
1497:	2	2	1	3	1	3	1	1	
1505:	4	5	3	8	5	6	1	2	
1513:	1	1	2	1	4	4	0	2	
1521:	2	0	5	1	1	2	2	3	
1529:	1	1	1	3	1	1	0	0	
1537:	1	1	4	2	2	1	4	3	
1545:	2	4	1	1	3	1	1	1	
1553:	1	2	3	2	1	1	1	2	
1561:	1	2	0	3	1	1	0	2	
1569:	0	1	3	1	3	1	3	2	
1577:	2	1	2	1	2	3	4	2	
1585:	1	4	7	12	6	5	5	1	
1593:	2	3	2	2	0	1	2	4	
1601:	4	0	2	0	1	2	6	2	
1609:	0	3	1	2	1	2	4	0	
1617:	1	1	5	3	4	2	4	2	
1625:	0	3	2	2	1	6	10	1	
1633:	3	0	6	4	3	1	2	0	
1641:	1	1	1	2	0	2	0	2	
1649:	1	1	0	2	2	0	5	0	
1657:	3	4	2	4	3	1	0	1	

1665: 2 1 3 1 0 0 1 0

Sample Title: CP0403S02-03

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1673:	1	0	1	0	1	1	3	1
1681:	3	0	3	1	0	3	2	1
1689:	1	2	2	1	0	4	4	2
1697:	1	0	3	1	0	3	2	3
1705:	0	2	1	5	3	1	1	1
1713:	3	1	1	0	0	3	1	4
1721:	4	1	3	5	0	1	2	6
1729:	10	5	1	0	0	0	4	2
1737:	1	1	3	0	3	2	2	1
1745:	0	4	1	0	0	1	0	1
1753:	0	1	2	3	1	1	2	2
1761:	1	6	26	29	15	7	2	3
1769:	0	0	4	0	1	0	1	0
1777:	0	1	1	2	0	1	1	0
1785:	1	2	0	1	1	3	1	3
1793:	1	2	1	2	2	1	1	0
1801:	0	1	2	1	0	2	1	1
1809:	1	1	1	1	1	0	2	1
1817:	0	0	5	2	0	1	0	1
1825:	0	1	2	2	2	1	1	1
1833:	1	0	0	3	0	2	2	2
1841:	1	0	2	0	1	6	7	4
1849:	3	1	2	1	0	1	2	0
1857:	0	0	2	0	2	1	2	0
1865:	0	0	2	0	0	0	2	4
1873:	2	1	1	0	3	2	0	1
1881:	3	2	0	1	1	2	3	3
1889:	0	0	1	0	3	0	1	0
1897:	2	0	2	1	1	2	1	2
1905:	1	1	2	0	2	2	0	1
1913:	1	1	1	1	2	2	1	0
1921:	4	1	2	0	0	1	2	0
1929:	1	2	1	1	1	0	0	1
1937:	1	1	1	0	1	1	0	2
1945:	1	1	0	2	0	1	1	0
1953:	1	1	1	0	1	0	0	2
1961:	3	1	0	2	2	0	0	1
1969:	0	2	2	0	0	1	0	1
1977:	0	2	0	0	4	0	0	0
1985:	1	0	2	0	1	2	1	0
1993:	3	3	0	4	1	1	2	0
2001:	0	0	2	2	1	0	2	1
2009:	0	1	0	2	2	1	0	2
2017:	3	0	3	0	0	2	0	1
2025:	0	1	0	0	1	2	1	0
2033:	0	1	0	1	0	0	1	1
2041:	0	3	0	2	0	0	1	0
2049:	2	1	4	0	3	0	1	0
2057:	1	3	3	0	2	1	2	1
2065:	0	1	0	0	1	1	2	0
2073:	2	2	1	1	2	1	1	1
2081:	2	2	1	0	3	2	0	1
2089:	1	0	0	0	1	2	1	0

2097: 0 2 1 0 3 5 6 4

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Channel	1	2	3	4	5	6	7	8
2105:	4	2	2	1	2	2	1	0
2113:	1	0	0	0	1	3	0	1
2121:	1	2	2	2	1	1	1	2
2129:	1	0	1	2	2	3	1	1
2137:	0	1	1	1	0	0	0	0
2145:	1	2	3	0	0	1	0	0
2153:	0	1	1	1	0	0	0	0
2161:	0	4	1	1	0	1	1	1
2169:	1	2	0	0	1	0	1	2
2177:	0	1	1	1	1	2	0	2
2185:	0	0	0	0	1	1	0	1
2193:	1	3	0	0	0	2	2	2
2201:	0	10	8	11	5	2	1	0
2209:	0	1	0	1	0	1	0	0
2217:	2	0	0	0	0	1	2	0
2225:	0	0	1	0	2	3	1	1
2233:	0	1	0	0	1	1	0	1
2241:	1	0	1	2	0	4	1	0
2249:	0	0	1	2	1	2	2	1
2257:	0	2	0	2	4	0	2	1
2265:	1	0	0	1	1	0	1	0
2273:	1	1	1	0	2	2	1	0
2281:	0	2	1	0	0	0	0	0
2289:	4	0	2	8	1	2	1	2
2297:	0	0	1	0	1	1	1	3
2305:	1	2	0	1	4	2	0	1
2313:	1	1	0	0	2	0	0	0
2321:	1	1	2	0	0	1	1	2
2329:	2	1	0	2	1	0	2	1
2337:	2	0	3	0	0	1	0	1
2345:	1	1	0	1	0	0	3	1
2353:	3	0	2	0	1	1	2	2
2361:	2	1	1	2	1	2	0	1
2369:	2	2	3	0	1	2	1	2
2377:	2	1	0	1	1	2	0	1
2385:	0	1	1	0	1	0	0	2
2393:	1	0	1	0	0	0	1	3
2401:	0	0	1	2	0	0	4	1
2409:	1	1	0	2	1	2	0	2
2417:	1	1	0	0	1	0	0	0
2425:	1	1	0	0	3	2	0	1
2433:	0	0	0	1	2	1	1	0
2441:	0	1	3	1	1	2	2	3
2449:	0	2	0	0	0	3	0	0
2457:	3	0	0	1	0	1	3	0
2465:	1	2	1	0	0	0	0	0
2473:	0	0	0	1	0	0	1	0
2481:	0	1	1	0	1	1	0	0
2489:	1	1	0	2	0	0	0	1
2497:	0	1	0	1	1	1	0	0
2505:	0	2	0	0	1	0	0	0
2513:	0	0	1	0	0	2	0	0
2521:	0	0	1	0	0	0	1	0

2529: 0 0 0 0 0 0 0 1 0

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Channel	-----	-----	-----	-----	-----	-----	-----	-----
2537:	1	1	1	0	1	0	0	0
2545:	0	0	0	0	1	1	0	1
2553:	0	1	1	2	0	0	0	1
2561:	1	0	1	1	0	0	0	0
2569:	0	2	0	1	0	1	1	0
2577:	0	0	0	0	1	1	0	1
2585:	0	0	0	0	0	0	0	2
2593:	0	1	1	0	0	0	0	0
2601:	1	0	1	0	0	0	1	1
2609:	0	2	5	15	27	26	20	2
2617:	2	3	1	0	0	0	0	0
2625:	0	0	0	0	0	3	0	0
2633:	0	0	0	0	0	0	0	0
2641:	1	0	0	1	0	0	0	0
2649:	0	0	1	1	0	0	0	1
2657:	0	0	0	0	1	1	1	0
2665:	0	0	0	0	0	0	1	0
2673:	0	1	1	0	0	0	0	1
2681:	1	0	0	0	0	1	1	1
2689:	0	0	1	1	0	0	0	1
2697:	0	0	1	1	0	0	0	0
2705:	1	1	1	0	0	0	1	0
2713:	0	1	0	0	1	0	1	0
2721:	0	1	0	0	0	0	0	1
2729:	0	0	0	1	0	2	0	0
2737:	0	0	0	2	1	0	1	0
2745:	0	1	0	0	0	1	0	0
2753:	0	0	0	0	0	1	1	0
2761:	0	0	0	0	0	0	0	0
2769:	0	0	0	0	0	0	0	0
2777:	0	0	0	0	1	0	0	0
2785:	0	0	0	0	0	0	0	1
2793:	0	1	0	0	0	1	1	0
2801:	2	0	0	1	0	0	0	1
2809:	1	0	0	0	0	2	0	0
2817:	1	1	0	0	0	0	1	0
2825:	0	1	1	0	0	1	0	0
2833:	0	0	0	0	0	0	0	0
2841:	0	0	0	1	0	0	0	0
2849:	0	0	0	0	0	1	0	2
2857:	1	0	1	1	2	0	0	1
2865:	1	0	0	0	0	0	1	1
2873:	1	0	0	1	0	0	0	2
2881:	0	0	0	0	0	0	0	0
2889:	0	0	0	0	1	0	1	1
2897:	2	0	0	0	0	0	0	2
2905:	1	0	0	1	0	0	0	0
2913:	0	1	0	0	0	1	1	0
2921:	1	0	1	0	0	1	0	0
2929:	0	0	1	0	1	0	0	0
2937:	0	0	0	1	0	0	0	0
2945:	0	0	0	1	0	3	0	0
2953:	0	0	2	0	0	0	2	0

2961: 0 0 0 0 0 0 0 0 0

Sample Title: CP0403S02-03

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2969:	0	1	0	0	0	0	0	0
2977:	0	0	0	0	0	0	0	0
2985:	0	0	1	1	0	0	0	0
2993:	0	1	0	0	0	0	0	0
3001:	0	0	1	0	0	0	0	0
3009:	0	0	0	2	0	0	0	0
3017:	1	0	0	0	1	1	0	1
3025:	0	0	0	0	0	0	0	0
3033:	0	0	0	1	0	0	0	0
3041:	3	0	1	0	0	0	1	0
3049:	0	0	0	0	1	0	0	0
3057:	1	0	0	0	1	0	0	0
3065:	1	1	0	0	0	0	0	0
3073:	0	0	1	0	0	0	0	0
3081:	0	0	0	0	0	0	0	0
3089:	0	0	1	0	0	0	0	1
3097:	0	1	1	0	1	0	0	0
3105:	0	0	0	1	0	1	0	0
3113:	0	0	0	0	0	0	0	0
3121:	0	0	0	0	0	0	0	0
3129:	0	0	0	0	0	1	0	0
3137:	0	0	0	0	0	0	0	0
3145:	0	0	0	1	0	0	0	0
3153:	0	0	0	0	0	0	0	0
3161:	0	0	0	0	0	0	0	0
3169:	1	0	0	1	0	0	0	0
3177:	1	0	0	0	0	0	1	0
3185:	0	0	0	0	2	0	0	0
3193:	1	2	1	0	0	0	1	0
3201:	0	1	0	0	0	1	0	1
3209:	0	0	0	0	0	0	0	0
3217:	0	1	0	1	1	0	0	0
3225:	0	0	0	1	1	0	0	0
3233:	0	0	1	0	0	0	0	0
3241:	0	0	0	0	0	1	0	0
3249:	1	0	0	0	0	0	0	0
3257:	0	0	0	0	1	0	0	0
3265:	0	0	0	1	1	0	0	0
3273:	0	0	0	0	0	0	0	0
3281:	0	0	1	0	0	0	1	0
3289:	0	0	0	1	0	0	0	0
3297:	0	0	0	0	1	1	0	0
3305:	0	1	0	0	0	0	0	0
3313:	0	0	1	0	0	1	0	0
3321:	0	0	0	1	0	0	0	0
3329:	0	0	0	0	0	0	0	0
3337:	0	0	0	0	1	0	0	0
3345:	0	0	0	0	1	0	0	1
3353:	0	0	0	0	0	0	0	0
3361:	0	0	0	0	0	0	0	0
3369:	0	0	0	0	0	0	0	0
3377:	0	0	0	1	1	0	0	0
3385:	0	0	0	0	0	0	0	0

3393: 1 0 0 0 0 0 0 0 0

Sample Title: CP0403S02-03

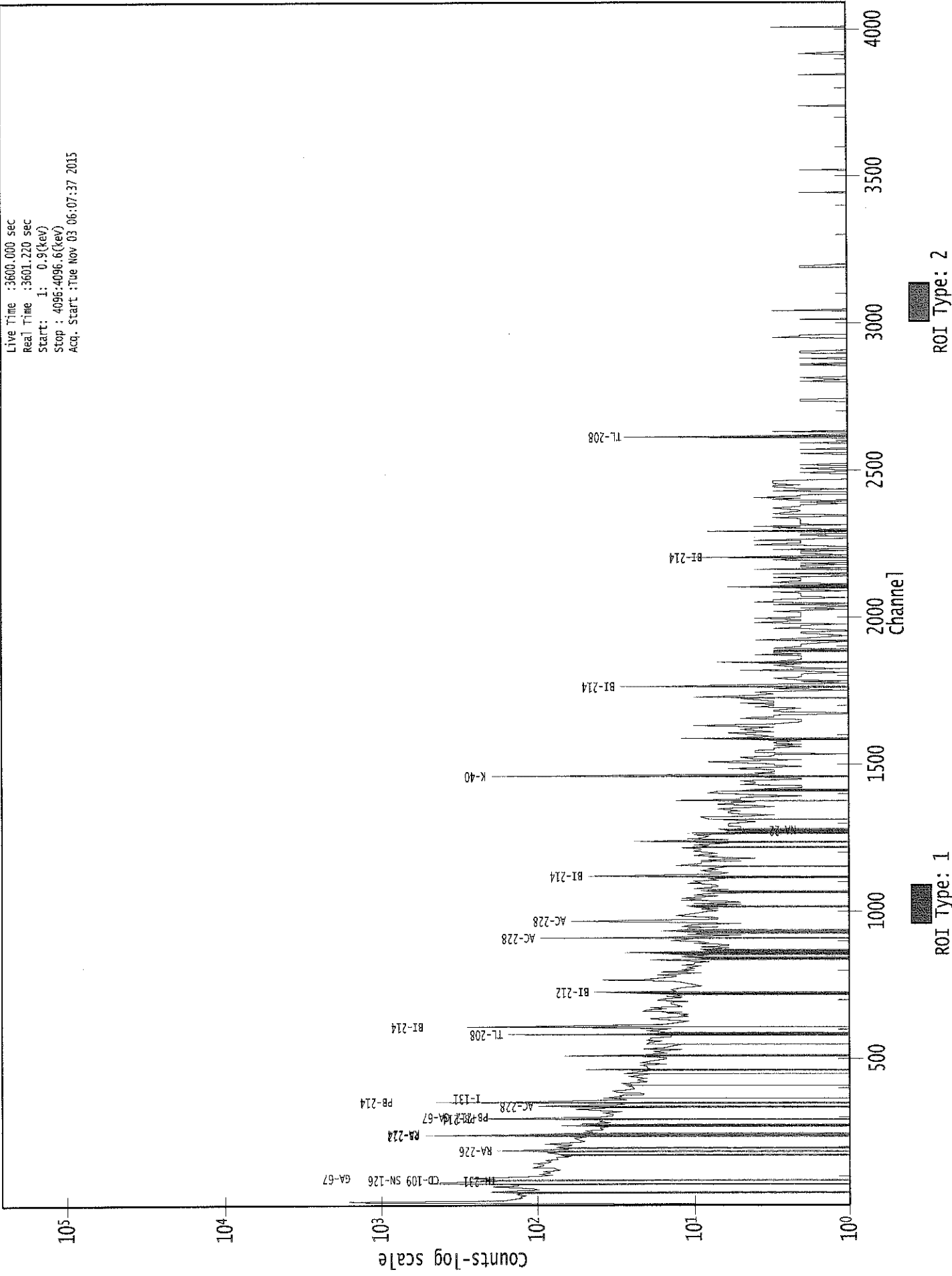
Channel	1	2	3	4	5	6	7	8	9
3401:	0	0	1	0	0	0	0	0	0
3409:	1	0	0	0	0	0	0	0	1
3417:	0	0	0	0	0	0	0	0	0
3425:	0	0	0	0	1	0	0	0	0
3433:	0	0	1	0	0	0	0	0	0
3441:	1	0	2	0	0	0	0	0	0
3449:	0	0	0	0	0	0	0	0	1
3457:	0	0	0	1	0	0	0	0	0
3465:	0	0	1	0	0	0	0	0	0
3473:	0	0	0	0	0	1	0	0	1
3481:	0	0	0	0	0	0	0	0	0
3489:	1	1	0	0	0	1	0	0	0
3497:	0	0	0	1	0	0	0	0	0
3505:	0	0	1	0	0	0	0	0	1
3513:	0	0	0	0	0	0	0	0	2
3521:	0	1	0	0	0	0	0	0	0
3529:	0	0	0	0	0	0	0	0	1
3537:	0	0	0	0	0	0	0	0	0
3545:	0	0	0	0	1	1	0	0	0
3553:	0	0	0	0	0	0	0	0	0
3561:	0	1	0	0	0	0	0	0	1
3569:	0	0	0	0	0	0	0	0	0
3577:	0	0	0	1	0	0	0	0	0
3585:	1	0	0	0	0	0	0	0	1
3593:	0	0	0	0	1	0	0	0	0
3601:	0	0	0	0	1	0	1	0	0
3609:	0	0	0	0	0	1	0	0	0
3617:	0	0	0	0	0	0	0	0	0
3625:	0	0	0	0	0	0	0	0	0
3633:	0	0	0	0	0	0	0	0	0
3641:	0	0	0	0	0	0	0	0	0
3649:	0	0	1	0	0	0	0	0	1
3657:	0	0	0	0	0	0	0	0	0
3665:	0	0	1	0	0	0	0	0	0
3673:	0	0	0	0	1	0	0	0	1
3681:	0	0	0	0	0	0	0	0	0
3689:	1	0	0	0	0	0	0	0	0
3697:	0	0	0	0	0	0	0	0	0
3705:	0	0	0	0	0	0	0	0	0
3713:	0	0	1	0	0	0	0	0	0
3721:	0	1	0	0	0	0	0	0	0
3729:	0	0	0	0	0	0	0	0	1
3737:	0	0	2	0	1	1	0	0	0
3745:	0	0	0	1	0	0	0	0	0
3753:	0	0	1	0	0	0	0	0	0
3761:	0	0	0	1	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0	1
3777:	0	0	0	0	0	0	0	0	0
3785:	0	0	0	0	0	0	0	0	0
3793:	0	0	0	0	0	1	0	0	0
3801:	1	0	0	1	0	0	0	0	0
3809:	0	0	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0	0

3825: 0 0 1 0 0 0 0 0 0

Sample Title: CP0403S02-03

Channel	1	2	3	4	5	6	7	8	9
3833:	0	1	0	0	0	0	0	0	0
3841:	0	0	0	0	2	0	1	0	0
3849:	0	0	0	0	0	0	0	0	0
3857:	1	0	0	0	0	0	0	0	0
3865:	0	0	0	0	0	0	0	0	1
3873:	1	0	0	0	0	1	0	0	0
3881:	1	0	0	1	0	0	0	0	0
3889:	0	0	0	1	0	0	1	0	0
3897:	0	1	0	0	0	0	0	1	0
3905:	0	0	0	0	0	0	0	0	0
3913:	1	0	0	0	2	0	0	0	1
3921:	0	1	0	1	0	0	0	0	0
3929:	0	0	1	0	0	0	0	0	0
3937:	0	0	1	0	0	0	0	0	0
3945:	0	0	0	0	0	0	0	0	1
3953:	0	0	0	0	0	1	0	0	0
3961:	0	0	0	0	0	0	0	0	0
3969:	1	0	0	0	0	0	0	0	0
3977:	0	0	0	0	0	0	0	0	0
3985:	0	0	0	0	0	0	0	0	0
3993:	0	0	0	0	0	0	0	0	0
4001:	0	0	0	0	0	0	3	0	0
4009:	0	0	0	0	0	0	1	0	0
4017:	0	0	0	1	0	1	0	0	0
4025:	0	0	0	0	0	0	0	0	0
4033:	0	0	0	0	0	0	0	0	0
4041:	0	0	1	0	0	0	0	0	0
4049:	1	0	0	0	0	0	1	0	0
4057:	0	0	0	0	1	0	0	0	0
4065:	0	0	0	1	0	0	0	0	0
4073:	0	0	0	0	0	1	0	0	0
4081:	0	1	0	0	0	0	0	0	0
4089:	0	0	0	0	0	0	1	0	0

0000029004.CNF



Analysis Report for 1510063-04
CP0403S02-03

1117

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510063-04
Sample Description : CP0403S02-03
Sample Type : SOIL

Sample Size : 6.341E+02 grams
Facility : Countroom

Sample Taken On : 10/5/2015 6:59:01AM
Acquisition Started : 11/3/2015 7:09:32AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE2
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3601.2 seconds

Dead Time : 0.03 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 6 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 11/2/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29008

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/3/15

Analysis Report for 1510063-04
CP0403S02-03

PEAK LOCATE REPORT

Peak Locate Performed on : 11/3/2015 8:09:49AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	76.45	76.54	0.0000	0.00
2	87.47	87.55	0.0000	0.00
3	93.47	93.55	0.0000	0.00
4	129.30	129.36	0.0000	0.00
5	186.30	186.32	0.0000	0.00
6	209.53	209.55	0.0000	0.00
7	238.81	238.80	0.0000	0.00
8	242.02	242.01	0.0000	0.00
9	274.48	274.45	0.0000	0.00
10	295.25	295.21	0.0000	0.00
11	299.75	299.71	0.0000	0.00
12	328.03	327.98	0.0000	0.00
13	338.56	338.50	0.0000	0.00
14	351.97	351.91	0.0000	0.00
15	421.82	421.72	0.0000	0.00
16	511.03	510.89	0.0000	0.00
17	583.33	583.15	0.0000	0.00
18	609.35	609.16	0.0000	0.00
19	683.36	683.13	0.0000	0.00
20	727.28	727.03	0.0000	0.00
21	754.01	753.75	0.0000	0.00
22	768.01	767.74	0.0000	0.00
23	784.72	784.45	0.0000	0.00
24	794.41	794.13	0.0000	0.00
25	805.85	805.57	0.0000	0.00
26	841.18	840.88	0.0000	0.00
27	846.10	845.80	0.0000	0.00
28	861.20	860.90	0.0000	0.00
29	911.22	910.89	0.0000	0.00
30	934.44	934.11	0.0000	0.00
31	964.61	964.26	0.0000	0.00
32	969.01	968.66	0.0000	0.00
33	982.62	982.26	0.0000	0.00
34	1023.04	1022.67	0.0000	0.00
35	1120.40	1119.99	0.0000	0.00
36	1157.13	1156.71	0.0000	0.00
37	1226.49	1226.04	0.0000	0.00
38	1238.33	1237.88	0.0000	0.00
39	1280.23	1279.77	0.0000	0.00
40	1377.58	1377.08	0.0000	0.00
41	1385.72	1385.22	0.0000	0.00
42	1421.98	1421.47	0.0000	0.00

Analysis Report for 1510063-04
CP0403S02-03

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
43	1426.02	1425.51	0.0000	0.00
44	1460.83	1460.31	0.0000	0.00
45	1548.14	1547.59	0.0000	0.00
46	1558.69	1558.14	0.0000	0.00
47	1657.93	1657.35	0.0000	0.00
48	1661.58	1661.00	0.0000	0.00
49	1729.80	1729.20	0.0000	0.00
50	1764.47	1763.86	0.0000	0.00
51	1781.88	1781.27	0.0000	0.00
52	1823.98	1823.36	0.0000	0.00
53	1847.56	1846.94	0.0000	0.00
54	1877.63	1877.00	0.0000	0.00
55	1902.14	1901.50	0.0000	0.00
56	2026.32	2025.66	0.0000	0.00
57	2103.16	2102.48	0.0000	0.00
58	2203.82	2203.13	0.0000	0.00
59	2226.96	2226.26	0.0000	0.00
60	2285.50	2284.80	0.0000	0.00
61	2448.67	2447.95	0.0000	0.00
62	2478.27	2477.55	0.0000	0.00
63	2613.91	2613.17	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510063-04

CP0403S02-03

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 8:09:49AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
1	76.45	72 -	82	76.54	1.07E+03	152.38	2.47E+03	3.77
2	87.47	86 -	89	87.55	5.89E+01	68.85	1.13E+03	1.47
3	93.47	91 -	96	93.55	2.21E+02	86.66	1.25E+03	1.33
4	129.30	127 -	132	129.36	6.88E+01	66.97	8.40E+02	1.89
5	186.30	183 -	190	186.32	2.12E+02	83.67	1.02E+03	1.67
6	209.53	208 -	213	209.55	1.03E+02	55.16	5.29E+02	1.84
M 7	238.81	235 -	245	238.80	7.60E+02	71.34	4.05E+02	1.55
m 8	242.02	235 -	245	242.01	2.30E+02	54.78	3.62E+02	1.56
9	274.48	266 -	282	274.45	1.86E+02	104.39	9.58E+02	8.97
M 10	295.25	292 -	303	295.21	4.01E+02	52.04	2.52E+02	1.65
m 11	299.75	292 -	303	299.71	3.48E+01	37.52	2.75E+02	1.66
12	328.03	324 -	331	327.98	4.54E+01	54.00	4.55E+02	1.49
13	338.56	336 -	342	338.50	1.82E+02	49.67	3.13E+02	1.89
14	351.97	348 -	355	351.91	6.34E+02	67.97	3.47E+02	1.28
15	421.82	419 -	425	421.72	4.24E+01	34.84	1.91E+02	3.28
16	511.03	505 -	517	510.89	1.82E+02	61.35	3.57E+02	2.37
17	583.33	579 -	587	583.15	2.59E+02	49.11	2.11E+02	1.59
18	609.35	605 -	613	609.16	4.27E+02	57.84	2.52E+02	1.64
19	683.36	680 -	687	683.13	2.60E+01	29.53	1.28E+02	3.81
20	727.28	723 -	731	727.03	5.34E+01	36.46	1.73E+02	2.11
21	754.01	750 -	757	753.75	2.21E+01	26.76	1.06E+02	2.89
22	768.01	763 -	772	767.74	5.64E+01	37.55	1.67E+02	2.02
23	784.72	780 -	789	784.45	4.85E+01	30.41	1.03E+02	2.00
M 24	794.41	790 -	813	794.13	3.35E+01	27.66	8.65E+01	3.00
m 25	805.85	790 -	813	805.57	2.66E+01	28.16	9.97E+01	3.01
M 26	841.18	834 -	849	840.88	3.52E+01	25.14	7.56E+01	2.78
m 27	846.10	834 -	849	845.80	2.21E+01	23.49	5.10E+01	2.78
28	861.20	856 -	864	860.90	2.93E+01	27.00	9.34E+01	1.88
29	911.22	906 -	915	910.89	1.92E+02	40.05	1.19E+02	1.95
30	934.44	930 -	938	934.11	2.95E+01	29.64	1.17E+02	2.92
M 31	964.61	957 -	975	964.26	6.59E+01	24.25	5.80E+01	2.65
m 32	969.01	957 -	975	968.66	1.19E+02	30.00	4.80E+01	2.65
33	982.62	976 -	989	982.26	5.22E+01	30.05	7.75E+01	8.34
34	1023.04	1020 -	1026	1022.67	1.99E+01	17.29	3.62E+01	4.02
35	1120.40	1115 -	1124	1119.99	1.16E+02	33.57	9.34E+01	2.12
36	1157.13	1152 -	1162	1156.71	4.19E+01	27.96	8.02E+01	2.14
37	1226.49	1222 -	1231	1226.04	2.10E+01	25.38	8.00E+01	7.34
38	1238.33	1234 -	1242	1237.88	3.55E+01	28.53	1.03E+02	2.77
39	1280.23	1276 -	1282	1279.77	1.94E+01	18.09	4.53E+01	2.82
40	1377.58	1372 -	1380	1377.08	4.64E+01	19.74	3.12E+01	2.60

Analysis Report for 1510063-04

CP0403S02-03

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	41	1385.72	1382 - 1391		1385.22	1.58E+01	15.52	2.64E+01	3.56
M	42	1421.98	1419 - 1433		1421.47	8.29E+00	8.67	1.45E+01	3.82
m	43	1426.02	1419 - 1433		1425.51	1.96E+01	16.52	2.59E+01	3.36
	44	1460.83	1457 - 1466		1460.31	5.05E+02	47.31	3.33E+01	2.38
	45	1548.14	1542 - 1553		1547.59	2.20E+01	9.38	0.00E+00	8.33
	46	1558.69	1554 - 1563		1558.14	2.10E+01	9.17	0.00E+00	2.33
M	47	1657.93	1655 - 1667		1657.35	1.18E+01	6.63	3.41E+00	3.91
m	48	1661.58	1655 - 1667		1661.00	1.51E+01	10.21	3.38E+00	2.43
	49	1729.80	1724 - 1734		1729.20	3.01E+01	14.16	9.89E+00	2.28
	50	1764.47	1757 - 1767		1763.86	6.03E+01	27.26	6.95E+01	2.41
	51	1781.88	1778 - 1783		1781.27	9.41E+00	7.28	3.18E+00	1.39
	52	1823.98	1819 - 1828		1823.36	1.40E+01	7.48	0.00E+00	1.10
	53	1847.56	1841 - 1852		1846.94	2.40E+01	13.86	1.20E+01	3.06
	54	1877.63	1872 - 1883		1877.00	1.17E+01	12.00	1.27E+01	1.49
	55	1902.14	1898 - 1904		1901.50	1.00E+01	6.32	0.00E+00	3.44
	56	2026.32	2021 - 2029		2025.66	1.09E+01	8.50	4.23E+00	3.30
	57	2103.16	2098 - 2106		2102.48	1.55E+01	10.98	9.00E+00	2.20
	58	2203.82	2199 - 2207		2203.13	2.71E+01	14.03	1.38E+01	4.07
	59	2226.96	2221 - 2230		2226.26	9.50E+00	8.54	5.00E+00	4.65
	60	2285.50	2282 - 2287		2284.80	6.69E+00	6.40	2.63E+00	2.89
	61	2448.67	2442 - 2453		2447.95	1.90E+01	8.72	0.00E+00	2.07
	62	2478.27	2472 - 2481		2477.55	1.10E+01	6.63	0.00E+00	3.88
	63	2613.91	2608 - 2618		2613.17	9.20E+01	19.18	0.00E+00	2.74

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.00sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 8:09:49AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
1	76.45	72 -	82	1.07E+03	152.38	2.47E+03	1.13E+02
2	87.47	86 -	89	5.89E+01	68.85	1.13E+03	5.52E+01
3	93.47	91 -	96	2.21E+02	86.66	1.25E+03	6.69E+01
4	129.30	127 -	132	6.88E+01	66.97	8.40E+02	5.33E+01
5	186.30	183 -	190	2.12E+02	83.67	1.02E+03	6.45E+01

Analysis Report for 1510063-04

CP0403S02-03

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	6	209.53	208 -	213	1.03E+02	55.16	5.29E+02	4.22E+01
M	7	238.81	235 -	245	7.60E+02	71.34	4.05E+02	3.31E+01
m	8	242.02	235 -	245	2.30E+02	54.78	3.62E+02	3.13E+01
	9	274.48	266 -	282	1.86E+02	104.39	9.58E+02	8.28E+01
M	10	295.25	292 -	303	4.01E+02	52.04	2.52E+02	2.61E+01
m	11	299.75	292 -	303	3.48E+01	37.52	2.75E+02	2.73E+01
	12	328.03	324 -	331	4.54E+01	54.00	4.55E+02	4.30E+01
	13	338.56	336 -	342	1.82E+02	49.67	3.13E+02	3.43E+01
	14	351.97	348 -	355	6.34E+02	67.97	3.47E+02	3.75E+01
	15	421.82	419 -	425	4.24E+01	34.84	1.91E+02	2.66E+01
	16	511.03	505 -	517	1.82E+02	61.35	3.57E+02	4.53E+01
	17	583.33	579 -	587	2.59E+02	49.11	2.11E+02	3.05E+01
	18	609.35	605 -	613	4.27E+02	57.84	2.52E+02	3.33E+01
	19	683.36	680 -	687	2.60E+01	29.53	1.28E+02	2.28E+01
	20	727.28	723 -	731	5.34E+01	36.46	1.73E+02	2.75E+01
	21	754.01	750 -	757	2.21E+01	26.76	1.06E+02	2.06E+01
	22	768.01	763 -	772	5.64E+01	37.55	1.67E+02	2.83E+01
	23	784.72	780 -	789	4.85E+01	30.41	1.03E+02	2.22E+01
M	24	794.41	790 -	813	3.35E+01	27.66	8.65E+01	1.53E+01
m	25	805.85	790 -	813	2.66E+01	28.16	9.97E+01	1.64E+01
M	26	841.18	834 -	849	3.52E+01	25.14	7.56E+01	1.43E+01
m	27	846.10	834 -	849	2.21E+01	23.49	5.10E+01	1.17E+01
	28	861.20	856 -	864	2.93E+01	27.00	9.34E+01	2.03E+01
	29	911.22	906 -	915	1.92E+02	40.05	1.19E+02	2.38E+01
	30	934.44	930 -	938	2.95E+01	29.64	1.17E+02	2.27E+01
M	31	964.61	957 -	975	6.59E+01	24.25	5.80E+01	1.25E+01
m	32	969.01	957 -	975	1.19E+02	30.00	4.80E+01	1.14E+01
	33	982.62	976 -	989	5.22E+01	30.05	7.75E+01	2.17E+01
	34	1023.04	1020 -	1026	1.99E+01	17.29	3.62E+01	1.22E+01
	35	1120.40	1115 -	1124	1.16E+02	33.57	9.34E+01	2.11E+01
	36	1157.13	1152 -	1162	4.19E+01	27.96	8.02E+01	2.04E+01
	37	1226.49	1222 -	1231	2.10E+01	25.38	8.00E+01	1.95E+01
	38	1238.33	1234 -	1242	3.55E+01	28.53	1.03E+02	2.13E+01
	39	1280.23	1276 -	1282	1.94E+01	18.09	4.53E+01	1.30E+01
	40	1377.58	1372 -	1380	4.64E+01	19.74	3.12E+01	1.17E+01
	41	1385.72	1382 -	1391	1.58E+01	15.52	2.64E+01	1.10E+01
M	42	1421.98	1419 -	1433	8.29E+00	8.67	1.45E+01	6.26E+00
m	43	1426.02	1419 -	1433	1.96E+01	16.52	2.59E+01	8.36E+00
	44	1460.83	1457 -	1466	5.05E+02	47.31	3.33E+01	1.21E+01
	45	1548.14	1542 -	1553	2.20E+01	9.38	0.00E+00	0.00E+00
	46	1558.69	1554 -	1563	2.10E+01	9.17	0.00E+00	0.00E+00
M	47	1657.93	1655 -	1667	1.18E+01	6.63	3.41E+00	3.04E+00
m	48	1661.58	1655 -	1667	1.51E+01	10.21	3.38E+00	3.02E+00
	49	1729.80	1724 -	1734	3.01E+01	14.16	9.89E+00	7.36E+00
	50	1764.47	1757 -	1767	6.03E+01	27.26	6.95E+01	1.84E+01
	51	1781.88	1778 -	1783	9.41E+00	7.28	3.18E+00	3.22E+00
	52	1823.98	1819 -	1828	1.40E+01	7.48	0.00E+00	0.00E+00
	53	1847.56	1841 -	1852	2.40E+01	13.86	1.20E+01	8.05E+00
	54	1877.63	1872 -	1883	1.17E+01	12.00	1.27E+01	8.11E+00
	55	1902.14	1898 -	1904	1.00E+01	6.32	0.00E+00	0.00E+00
	56	2026.32	2021 -	2029	1.09E+01	8.50	4.23E+00	4.40E+00

Analysis Report for 1510063-04

CP0403S02-03

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
57	2103.16	2098 -	2106	1.55E+01	10.98	9.00E+00	6.29E+00
58	2203.82	2199 -	2207	2.71E+01	14.03	1.38E+01	7.73E+00
59	2226.96	2221 -	2230	9.50E+00	8.54	5.00E+00	4.86E+00
60	2285.50	2282 -	2287	6.69E+00	6.40	2.63E+00	3.10E+00
61	2448.67	2442 -	2453	1.90E+01	8.72	0.00E+00	0.00E+00
62	2478.27	2472 -	2481	1.10E+01	6.63	0.00E+00	0.00E+00
63	2613.91	2608 -	2618	9.20E+01	19.18	0.00E+00	0.00E+00

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

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/3/2015 8:09:49AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
1	76.45	72 -	82	76.54	1.07E+03	152.38	2.47E+03	.....
2	87.47	86 -	89	87.55	5.89E+01	68.85	1.13E+03	SN-126 CD-109 LU-176 NP-237 EU-155
3	93.47	91 -	96	93.55	2.21E+02	86.66	1.25E+03	GA-67
4	129.30	127 -	132	129.36	6.88E+01	66.97	8.40E+02	.....
5	186.30	183 -	190	186.32	2.12E+02	83.67	1.02E+03	RA-226
6	209.53	208 -	213	209.55	1.03E+02	55.16	5.29E+02	CM-243 GA-67
M	7	238.81	235 -	245	238.80	71.34	4.05E+02	PB-212
m	8	242.02	235 -	245	242.01	54.78	3.62E+02	.....
	9	274.48	266 -	282	274.45	104.39	9.58E+02	CS-136
M	10	295.25	292 -	303	295.21	52.04	2.52E+02	PB-214
m	11	299.75	292 -	303	299.71	37.52	2.75E+02	BI-210M PB-212 GA-67
	12	328.03	324 -	331	327.98	54.00	4.55E+02	LA-140

: 00442

Analysis Report for 1510063-04

CP0403S02-03

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
13	338.56	336 -	342	338.50	1.82E+02	49.67	3.13E+02	AC-228
14	351.97	348 -	355	351.91	6.34E+02	67.97	3.47E+02	PB-214
15	421.82	419 -	425	421.72	4.24E+01	34.84	1.91E+02	.....
16	511.03	505 -	517	510.89	1.82E+02	61.35	3.57E+02	.....
17	583.33	579 -	587	583.15	2.59E+02	49.11	2.11E+02	TL-208
18	609.35	605 -	613	609.16	4.27E+02	57.84	2.52E+02	BI-214
19	683.36	680 -	687	683.13	2.60E+01	29.53	1.28E+02	.....
20	727.28	723 -	731	727.03	5.34E+01	36.46	1.73E+02	BI-212
21	754.01	750 -	757	753.75	2.21E+01	26.76	1.06E+02	.....
22	768.01	763 -	772	767.74	5.64E+01	37.55	1.67E+02	.....
23	784.72	780 -	789	784.45	4.85E+01	30.41	1.03E+02	SB-127
M 24	794.41	790 -	813	794.13	3.35E+01	27.66	8.65E+01	.....
m 25	805.85	790 -	813	805.57	2.66E+01	28.16	9.97E+01	.....
M 26	841.18	834 -	849	840.88	3.52E+01	25.14	7.56E+01	.....
m 27	846.10	834 -	849	845.80	2.21E+01	23.49	5.10E+01	CO-56
28	861.20	856 -	864	860.90	2.93E+01	27.00	9.34E+01	TL-208
29	911.22	906 -	915	910.89	1.92E+02	40.05	1.19E+02	AC-228 LU-172
30	934.44	930 -	938	934.11	2.95E+01	29.64	1.17E+02	.....
M 31	964.61	957 -	975	964.26	6.59E+01	24.25	5.80E+01	EU-152
m 32	969.01	957 -	975	968.66	1.19E+02	30.00	4.80E+01	AC-228
33	982.62	976 -	989	982.26	5.22E+01	30.05	7.75E+01	V-48
34	1023.04	1020 -	1026	1022.67	1.99E+01	17.29	3.62E+01	.....
35	1120.40	1115 -	1124	1119.99	1.16E+02	33.57	9.34E+01	SC-46 BI-214 TA-182
36	1157.13	1152 -	1162	1156.71	4.19E+01	27.96	8.02E+01	.....
37	1226.49	1222 -	1231	1226.04	2.10E+01	25.38	8.00E+01	.....
38	1238.33	1234 -	1242	1237.88	3.55E+01	28.53	1.03E+02	CO-56
39	1280.23	1276 -	1282	1279.77	1.94E+01	18.09	4.53E+01	.....
40	1377.58	1372 -	1380	1377.08	4.64E+01	19.74	3.12E+01	.....
41	1385.72	1382 -	1391	1385.22	1.58E+01	15.52	2.64E+01	.....
M 42	1421.98	1419 -	1433	1421.47	8.29E+00	8.67	1.45E+01	.....
m 43	1426.02	1419 -	1433	1425.51	1.96E+01	16.52	2.59E+01	.....
44	1460.83	1457 -	1466	1460.31	5.05E+02	47.31	3.33E+01	K-40
45	1548.14	1542 -	1553	1547.59	2.20E+01	9.38	0.00E+00	.....
46	1558.69	1554 -	1563	1558.14	2.10E+01	9.17	0.00E+00	.....
M 47	1657.93	1655 -	1667	1657.35	1.18E+01	6.63	3.41E+00	.....
m 48	1661.58	1655 -	1667	1661.00	1.51E+01	10.21	3.38E+00	.....
49	1729.80	1724 -	1734	1729.20	3.01E+01	14.16	9.89E+00	.....
50	1764.47	1757 -	1767	1763.86	6.03E+01	27.26	6.95E+01	BI-214
51	1781.88	1778 -	1783	1781.27	9.41E+00	7.28	3.18E+00	.....
52	1823.98	1819 -	1828	1823.36	1.40E+01	7.48	0.00E+00	.....
53	1847.56	1841 -	1852	1846.94	2.40E+01	13.86	1.20E+01	.....
54	1877.63	1872 -	1883	1877.00	1.17E+01	12.00	1.27E+01	.....
55	1902.14	1898 -	1904	1901.50	1.00E+01	6.32	0.00E+00	.....
56	2026.32	2021 -	2029	2025.66	1.09E+01	8.50	4.23E+00	.....
57	2103.16	2098 -	2106	2102.48	1.55E+01	10.98	9.00E+00	.....
58	2203.82	2199 -	2207	2203.13	2.71E+01	14.03	1.38E+01	BI-214
59	2226.96	2221 -	2230	2226.26	9.50E+00	8.54	5.00E+00	.....
60	2285.50	2282 -	2287	2284.80	6.69E+00	6.40	2.63E+00	.....
61	2448.67	2442 -	2453	2447.95	1.90E+01	8.72	0.00E+00	.....
62	2478.27	2472 -	2481	2477.55	1.10E+01	6.63	0.00E+00	.....
63	2613.91	2608 -	2618	2613.17	9.20E+01	19.18	0.00E+00	TL-208

Analysis Report for 1510063-04
CP0403S02-03

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/3/2015 8:09:49AM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	76.45	1.07E+03	152.38	2.74E-02	3.36E-03
	2	87.47	5.89E+01	68.85	2.84E-02	4.45E-03
	3	93.47	2.21E+02	86.66	2.85E-02	4.26E-03
	4	129.30	6.88E+01	66.97	2.60E-02	2.77E-03
	5	186.30	2.12E+02	83.67	2.11E-02	1.65E-03
	6	209.53	1.03E+02	55.16	1.95E-02	1.63E-03
M	7	238.81	7.60E+02	71.34	1.79E-02	1.60E-03
m	8	242.02	2.30E+02	54.78	1.77E-02	1.60E-03
	9	274.48	1.86E+02	104.39	1.63E-02	1.56E-03
M	10	295.25	4.01E+02	52.04	1.55E-02	1.48E-03
m	11	299.75	3.48E+01	37.52	1.53E-02	1.46E-03
	12	328.03	4.54E+01	54.00	1.44E-02	1.32E-03
	13	338.56	1.82E+02	49.67	1.41E-02	1.27E-03
	14	351.97	6.34E+02	67.97	1.37E-02	1.21E-03
	15	421.82	4.24E+01	34.84	1.21E-02	9.89E-04
	16	511.03	1.82E+02	61.35	1.06E-02	8.98E-04
	17	583.33	2.59E+02	49.11	9.58E-03	8.25E-04
	18	609.35	4.27E+02	57.84	9.27E-03	7.98E-04
	19	683.36	2.60E+01	29.53	8.49E-03	7.31E-04
	20	727.28	5.34E+01	36.46	8.09E-03	7.03E-04
	21	754.01	2.21E+01	26.76	7.86E-03	6.86E-04
	22	768.01	5.64E+01	37.55	7.74E-03	6.77E-04
	23	784.72	4.85E+01	30.41	7.61E-03	6.66E-04
M	24	794.41	3.35E+01	27.66	7.54E-03	6.60E-04
m	25	805.85	2.66E+01	28.16	7.45E-03	6.53E-04
M	26	841.18	3.52E+01	25.14	7.20E-03	6.30E-04
m	27	846.10	2.21E+01	23.49	7.16E-03	6.27E-04
	28	861.20	2.93E+01	27.00	7.06E-03	6.17E-04
	29	911.22	1.92E+02	40.05	6.75E-03	5.87E-04
	30	934.44	2.95E+01	29.64	6.61E-03	5.75E-04
M	31	964.61	6.59E+01	24.25	6.44E-03	5.59E-04
m	32	969.01	1.19E+02	30.00	6.42E-03	5.57E-04
	33	982.62	5.22E+01	30.05	6.34E-03	5.50E-04
	34	1023.04	1.99E+01	17.29	6.14E-03	5.29E-04

Analysis Report for 1510063-04
CP0403S02-03

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	35	1120.40	1.16E+02	33.57	5.70E-03	4.80E-04
	36	1157.13	4.19E+01	27.96	5.56E-03	4.61E-04
	37	1226.49	2.10E+01	25.38	5.31E-03	4.77E-04
	38	1238.33	3.55E+01	28.53	5.27E-03	4.83E-04
	39	1280.23	1.94E+01	18.09	5.14E-03	5.02E-04
	40	1377.58	4.64E+01	19.74	4.87E-03	5.08E-04
	41	1385.72	1.58E+01	15.52	4.85E-03	5.04E-04
M	42	1421.98	8.29E+00	8.67	4.76E-03	4.89E-04
m	43	1426.02	1.96E+01	16.52	4.75E-03	4.88E-04
	44	1460.83	5.05E+02	47.31	4.67E-03	4.73E-04
	45	1548.14	2.20E+01	9.38	4.50E-03	4.37E-04
	46	1558.69	2.10E+01	9.17	4.48E-03	4.33E-04
M	47	1657.93	1.18E+01	6.63	4.32E-03	3.92E-04
m	48	1661.58	1.51E+01	10.21	4.32E-03	3.90E-04
	49	1729.80	3.01E+01	14.16	4.23E-03	3.62E-04
	50	1764.47	6.03E+01	27.26	4.19E-03	3.48E-04
	51	1781.88	9.41E+00	7.28	4.17E-03	3.40E-04
	52	1823.98	1.40E+01	7.48	4.12E-03	3.23E-04
	53	1847.56	2.40E+01	13.86	4.10E-03	3.18E-04
	54	1877.63	1.17E+01	12.00	4.08E-03	3.18E-04
	55	1902.14	1.00E+01	6.32	4.06E-03	3.18E-04
	56	2026.32	1.09E+01	8.50	3.98E-03	3.18E-04
	57	2103.16	1.55E+01	10.98	3.95E-03	3.18E-04
	58	2203.82	2.71E+01	14.03	3.93E-03	3.18E-04
	59	2226.96	9.50E+00	8.54	3.93E-03	3.18E-04
	60	2285.50	6.69E+00	6.40	3.93E-03	3.18E-04
	61	2448.67	1.90E+01	8.72	3.96E-03	3.18E-04
	62	2478.27	1.10E+01	6.63	3.98E-03	3.18E-04
	63	2613.91	9.20E+01	19.18	4.05E-03	3.18E-04

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

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/3/2015 8:09:49AM
 Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
1	76.45	1.07E+03	152.38			1.07E+03	1.52E+02

Analysis Report for 1510063-04

CP0403S02-03

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
2	87.47	5.89E+01	68.85	1.46E+00	7.88E+00	5.74E+01	6.93E+01
3	93.47	2.21E+02	86.66	5.70E+01	9.03E+00	1.64E+02	8.71E+01
4	129.30	6.88E+01	66.97			6.88E+01	6.70E+01
5	186.30	2.12E+02	83.67	4.72E+01	7.97E+00	1.64E+02	8.40E+01
6	209.53	1.03E+02	55.16			1.03E+02	5.52E+01
M	7	238.81	7.60E+02	2.36E+01	1.35E+01	7.36E+02	7.26E+01
m	8	242.02	2.30E+02	6.38E+00	3.91E+00	2.24E+02	5.49E+01
	9	274.48	1.86E+02	104.39		1.86E+02	1.04E+02
M	10	295.25	4.01E+02	8.57E+00	6.10E+00	3.93E+02	5.24E+01
m	11	299.75	3.48E+01	37.52		3.48E+01	3.75E+01
	12	328.03	4.54E+01	54.00	0.00E+00	4.54E+01	5.40E+01
	13	338.56	1.82E+02	49.67		1.82E+02	4.97E+01
	14	351.97	6.34E+02	67.97	1.40E+01	5.55E+00	6.20E+02
	15	421.82	4.24E+01	34.84		4.24E+01	3.48E+01
	16	511.03	1.82E+02	61.35	8.41E+01	5.50E+00	9.74E+01
	17	583.33	2.59E+02	49.11	7.32E+00	4.08E+00	2.52E+02
	18	609.35	4.27E+02	57.84	1.30E+01	3.89E+00	4.14E+02
	19	683.36	2.60E+01	29.53		2.60E+01	2.95E+01
	20	727.28	5.34E+01	36.46		5.34E+01	3.65E+01
	21	754.01	2.21E+01	26.76		2.21E+01	2.68E+01
	22	768.01	5.64E+01	37.55		5.64E+01	3.75E+01
	23	784.72	4.85E+01	30.41		4.85E+01	3.04E+01
M	24	794.41	3.35E+01	27.66		3.35E+01	2.77E+01
m	25	805.85	2.66E+01	28.16		2.66E+01	2.82E+01
M	26	841.18	3.52E+01	25.14		3.52E+01	2.51E+01
m	27	846.10	2.21E+01	23.49		2.21E+01	2.35E+01
	28	861.20	2.93E+01	27.00		2.93E+01	2.70E+01
	29	911.22	1.92E+02	40.05	5.60E+00	3.32E+00	1.86E+02
	30	934.44	2.95E+01	29.64		2.95E+01	2.96E+01
M	31	964.61	6.59E+01	24.25		6.59E+01	2.42E+01
m	32	969.01	1.19E+02	30.00		1.19E+02	3.00E+01
	33	982.62	5.22E+01	30.05		5.22E+01	3.00E+01
	34	1023.04	1.99E+01	17.29		1.99E+01	1.73E+01
	35	1120.40	1.16E+02	33.57	3.93E+00	2.96E+00	1.12E+02
	36	1157.13	4.19E+01	27.96		4.19E+01	2.80E+01
	37	1226.49	2.10E+01	25.38		2.10E+01	2.54E+01
	38	1238.33	3.55E+01	28.53		3.55E+01	2.85E+01
	39	1280.23	1.94E+01	18.09		1.94E+01	1.81E+01
	40	1377.58	4.64E+01	19.74		4.64E+01	1.97E+01
	41	1385.72	1.58E+01	15.52		1.58E+01	1.55E+01
M	42	1421.98	8.29E+00	8.67		8.29E+00	8.67E+00
m	43	1426.02	1.96E+01	16.52		1.96E+01	1.65E+01
	44	1460.83	5.05E+02	47.31	1.12E+01	2.55E+00	4.94E+02
	45	1548.14	2.20E+01	9.38		2.20E+01	9.38E+00
	46	1558.69	2.10E+01	9.17		2.10E+01	9.17E+00
M	47	1657.93	1.18E+01	6.63		1.18E+01	6.63E+00
m	48	1661.58	1.51E+01	10.21		1.51E+01	1.02E+01
	49	1729.80	3.01E+01	14.16		3.01E+01	1.42E+01
	50	1764.47	6.03E+01	27.26	4.23E+00	2.21E+00	5.60E+01
	51	1781.88	9.41E+00	7.28		9.41E+00	7.28E+00
	52	1823.98	1.40E+01	7.48		1.40E+01	7.48E+00
	53	1847.56	2.40E+01	13.86		2.40E+01	1.39E+01
	54	1877.63	1.17E+01	12.00		1.17E+01	1.20E+01
	55	1902.14	1.00E+01	6.32		1.00E+01	6.32E+00

Analysis Report for 1510063-04

CP0403S02-03

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
56	2026.32	1.09E+01	8.50			1.09E+01	8.50E+00
57	2103.16	1.55E+01	10.98			1.55E+01	1.10E+01
58	2203.82	2.71E+01	14.03	5.94E-01	1.16E+00	2.65E+01	1.41E+01
59	2226.96	9.50E+00	8.54			9.50E+00	8.54E+00
60	2285.50	6.69E+00	6.40			6.69E+00	6.40E+00
61	2448.67	1.90E+01	8.72			1.90E+01	8.72E+00
62	2478.27	1.10E+01	6.63			1.10E+01	6.63E+00
63	2613.91	9.20E+01	19.18	7.38E+00	1.57E+00	8.46E+01	1.92E+01

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

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/3/2015 8:09:49AM
Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

Corrected Area is: Original * Peak Ratio - Background

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
1	76.45	1.07E+03	152.38			1.07E+03	1.52E+02
2	87.47	5.89E+01	68.85	1.46E+00	7.88E+00	5.74E+01	6.93E+01
3	93.47	2.21E+02	86.66	5.70E+01	9.03E+00	1.64E+02	8.71E+01
4	129.30	6.88E+01	66.97			6.88E+01	6.70E+01
5	186.30	2.12E+02	83.67	4.72E+01	7.97E+00	1.64E+02	8.40E+01
6	209.53	1.03E+02	55.16			1.03E+02	5.52E+01
M	7	238.81	7.60E+02	2.36E+01	1.35E+01	7.36E+02	7.26E+01
m	8	242.02	2.30E+02	6.38E+00	3.91E+00	2.24E+02	5.49E+01
	9	274.48	1.86E+02	104.39		1.86E+02	1.04E+02
M	10	295.25	4.01E+02	8.57E+00	6.10E+00	3.93E+02	5.24E+01
m	11	299.75	3.48E+01	37.52		3.48E+01	3.75E+01
	12	328.03	4.54E+01	54.00	0.00E+00	4.54E+01	5.40E+01
	13	338.56	1.82E+02	49.67		1.82E+02	4.97E+01
	14	351.97	6.34E+02	67.97	1.40E+01	6.20E+02	6.82E+01
	15	421.82	4.24E+01	34.84		4.24E+01	3.48E+01
	16	511.03	1.82E+02	61.35	8.41E+01	9.74E+01	6.16E+01
	17	583.33	2.59E+02	49.11	7.32E+00	2.52E+02	4.93E+01
	18	609.35	4.27E+02	57.84	1.30E+01	4.14E+02	5.80E+01
	19	683.36	2.60E+01	29.53		2.60E+01	2.95E+01
	20	727.28	5.34E+01	36.46		5.34E+01	3.65E+01

: 00447

Analysis Report for 1510063-04

CP0403S02-03

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	21	754.01	2.21E+01	26.76			2.21E+01	2.68E+01
	22	768.01	5.64E+01	37.55			5.64E+01	3.75E+01
	23	784.72	4.85E+01	30.41			4.85E+01	3.04E+01
M	24	794.41	3.35E+01	27.66			3.35E+01	2.77E+01
m	25	805.85	2.66E+01	28.16			2.66E+01	2.82E+01
M	26	841.18	3.52E+01	25.14			3.52E+01	2.51E+01
m	27	846.10	2.21E+01	23.49			2.21E+01	2.35E+01
	28	861.20	2.93E+01	27.00			2.93E+01	2.70E+01
	29	911.22	1.92E+02	40.05	5.60E+00	3.32E+00	1.86E+02	4.02E+01
	30	934.44	2.95E+01	29.64			2.95E+01	2.96E+01
M	31	964.61	6.59E+01	24.25			6.59E+01	2.42E+01
m	32	969.01	1.19E+02	30.00			1.19E+02	3.00E+01
	33	982.62	5.22E+01	30.05			5.22E+01	3.00E+01
	34	1023.04	1.99E+01	17.29			1.99E+01	1.73E+01
	35	1120.40	1.16E+02	33.57	3.93E+00	2.96E+00	1.12E+02	3.37E+01
	36	1157.13	4.19E+01	27.96			4.19E+01	2.80E+01
	37	1226.49	2.10E+01	25.38			2.10E+01	2.54E+01
	38	1238.33	3.55E+01	28.53			3.55E+01	2.85E+01
	39	1280.23	1.94E+01	18.09			1.94E+01	1.81E+01
	40	1377.58	4.64E+01	19.74			4.64E+01	1.97E+01
	41	1385.72	1.58E+01	15.52			1.58E+01	1.55E+01
M	42	1421.98	8.29E+00	8.67			8.29E+00	8.67E+00
m	43	1426.02	1.96E+01	16.52			1.96E+01	1.65E+01
	44	1460.83	5.05E+02	47.31	1.12E+01	2.55E+00	4.94E+02	4.74E+01
	45	1548.14	2.20E+01	9.38			2.20E+01	9.38E+00
	46	1558.69	2.10E+01	9.17			2.10E+01	9.17E+00
M	47	1657.93	1.18E+01	6.63			1.18E+01	6.63E+00
m	48	1661.58	1.51E+01	10.21			1.51E+01	1.02E+01
	49	1729.80	3.01E+01	14.16			3.01E+01	1.42E+01
	50	1764.47	6.03E+01	27.26	4.23E+00	2.21E+00	5.60E+01	2.73E+01
	51	1781.88	9.41E+00	7.28			9.41E+00	7.28E+00
	52	1823.98	1.40E+01	7.48			1.40E+01	7.48E+00
	53	1847.56	2.40E+01	13.86			2.40E+01	1.39E+01
	54	1877.63	1.17E+01	12.00			1.17E+01	1.20E+01
	55	1902.14	1.00E+01	6.32			1.00E+01	6.32E+00
	56	2026.32	1.09E+01	8.50			1.09E+01	8.50E+00
	57	2103.16	1.55E+01	10.98			1.55E+01	1.10E+01
	58	2203.82	2.71E+01	14.03	5.94E-01	1.16E+00	2.65E+01	1.41E+01
	59	2226.96	9.50E+00	8.54			9.50E+00	8.54E+00
	60	2285.50	6.69E+00	6.40			6.69E+00	6.40E+00
	61	2448.67	1.90E+01	8.72			1.90E+01	8.72E+00
	62	2478.27	1.10E+01	6.63			1.10E+01	6.63E+00
	63	2613.91	9.20E+01	19.18	7.38E+00	1.57E+00	8.46E+01	1.92E+01

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

Analysis Report for 1510063-04

CP0403S02-03

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	1.000	1460.81 *	10.67	1.17E+01	1.65E+00
CO-56	0.661	846.75 *	99.96	4.72E-02	5.03E-02
		1037.75	14.03		
		1238.25 *	67.00	1.54E-01	1.24E-01
		1771.40	15.51		
		2598.48	16.90		
GA-67	0.663	93.31 *	35.70	9.15E+01	3.64E+02
		208.95 *	2.24	1.33E+03	5.09E+03
		300.22 *	16.00	8.05E+01	3.29E+02
CD-109	0.950	88.03 *	3.72	6.72E-01	8.18E-01
SN-126	0.998	87.57 *	37.00	6.47E-02	7.87E-02
TL-208	0.947	583.14 *	30.22	1.03E+00	2.20E-01
		860.37 *	4.48	1.10E+00	1.02E+00
		2614.66 *	35.85	6.90E-01	1.66E-01
BI-212	0.764	727.17 *	11.80	6.62E-01	4.56E-01
		1620.62	2.75		
PB-212	0.994	238.63 *	44.60	1.09E+00	1.46E-01
		300.09 *	3.41	7.90E-01	8.54E-01
BI-214	0.998	609.31 *	46.30	1.14E+00	1.88E-01
		1120.29 *	15.10	1.55E+00	4.81E-01
		1764.49 *	15.80	1.00E+00	4.97E-01
		2204.22 *	4.98	1.60E+00	8.61E-01
PB-214	1.000	295.21 *	19.19	1.57E+00	2.57E-01
		351.92 *	37.19	1.44E+00	2.03E-01
RA-226	0.999	186.21 *	3.28	2.82E+00	5.36E+00
AC-228	0.996	338.32 *	11.40	1.34E+00	3.86E-01
		911.07 *	27.70	1.18E+00	2.75E-01
		969.11 *	16.60	1.32E+00	3.53E-01
NP-237	0.861	86.50 *	12.60	1.90E-01	2.31E-01

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510063-04
CP0403S02-03

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 8:09:49AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
1	76.45	2.98355E-01	7.09		
4	129.30	1.91022E-02	48.69		
m 8	242.02	6.22270E-02	12.26		
9	274.48	5.16042E-02	28.09	Sum	
12	328.03	1.26170E-02	59.44	Tol.	LA-140
15	421.82	1.17733E-02	41.09		
16	511.03	2.70567E-02	31.62		
19	683.36	7.22222E-03	56.79		
21	754.01	6.13333E-03	60.59		
22	768.01	1.56647E-02	33.29		
23	784.72	1.34694E-02	31.36		
M 24	794.41	9.31448E-03	41.25		
m 25	805.85	7.38849E-03	52.94		
M 26	841.18	9.76994E-03	35.74		
30	934.44	8.19444E-03	50.24	Sum	
M 31	964.61	1.83022E-02	18.40	Tol.	EU-152
33	982.62	1.45085E-02	28.77	Tol.	V-48
34	1023.04	5.53363E-03	43.40	Sum	
36	1157.13	1.16396E-02	33.36	Sum	
37	1226.49	5.83333E-03	60.42		
39	1280.23	5.37698E-03	46.73		
40	1377.58	1.28943E-02	21.26		
41	1385.72	4.39176E-03	49.09		
M 42	1421.98	2.30403E-03	52.29		
m 43	1426.02	5.43253E-03	42.24		
45	1548.14	6.11111E-03	21.32	Sum	
46	1558.69	5.83333E-03	21.82		
M 47	1657.93	3.28586E-03	28.04		
m 48	1661.58	4.18181E-03	33.91		
49	1729.80	8.34921E-03	23.55	Sum	
51	1781.88	2.61364E-03	38.69		
52	1823.98	3.88889E-03	26.73		
53	1847.56	6.66667E-03	28.87	Sum	
54	1877.63	3.24074E-03	51.43		
55	1902.14	2.77778E-03	31.62		
56	2026.32	3.02350E-03	39.05		
57	2103.16	4.30556E-03	35.41	S-Esc	
59	2226.96	2.63889E-03	44.97		
60	2285.50	1.85764E-03	47.87		
61	2448.67	5.27778E-03	22.94		
62	2478.27	3.05556E-03	30.15		

Analysis Report for 1510063-04

CP0403S02-03

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	1.00	1460.81 *	10.67	1.17E+01	1.65E+00
CO-56	0.66	846.75 *	99.96	4.72E-02	5.03E-02
		1037.75	14.03		
		1238.25 *	67.00	1.54E-01	1.24E-01
		1771.40	15.51		
		2598.48	16.90		
GA-67	0.66	93.31 *	35.70	9.15E+01	3.64E+02
		208.95 *	2.24	1.33E+03	5.09E+03
		300.22 *	16.00	8.05E+01	3.29E+02
CD-109	0.95	88.03 *	3.72	6.72E-01	8.18E-01
SN-126	0.99	87.57 *	37.00	6.47E-02	7.87E-02
TL-208	0.94	583.14 *	30.22	1.03E+00	2.20E-01
		860.37 *	4.48	1.10E+00	1.02E+00
		2614.66 *	35.85	6.90E-01	1.66E-01
BI-212	0.76	727.17 *	11.80	6.62E-01	4.56E-01
		1620.62	2.75		
PB-212	0.99	238.63 *	44.60	1.09E+00	1.46E-01
		300.09 *	3.41	7.90E-01	8.54E-01
BI-214	0.99	609.31 *	46.30	1.14E+00	1.88E-01
		1120.29 *	15.10	1.55E+00	4.81E-01
		1764.49 *	15.80	1.00E+00	4.97E-01
		2204.22 *	4.98	1.60E+00	8.61E-01
PB-214	1.00	295.21 *	19.19	1.57E+00	2.57E-01
		351.92 *	37.19	1.44E+00	2.03E-01
RA-226	0.99	186.21 *	3.28	2.82E+00	5.36E+00
AC-228	0.99	338.32 *	11.40	1.34E+00	3.86E-01
		911.07 *	27.70	1.18E+00	2.75E-01
		969.11 *	16.60	1.32E+00	3.53E-01
NP-237	0.86	86.50 *	12.60	1.90E-01	2.31E-01

Analysis Report for 1510063-04

CP0403S02-03

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	1.000	1.17E+01	1.65E+00	
CO-56	0.661	6.22E-02	4.66E-02	
GA-67	0.663	6.60E+01	2.54E+02	
? CD-109	0.950	6.72E-01	8.18E-01	
? SN-126	0.998	6.47E-02	7.87E-02	
TL-208	0.947	8.18E-01	1.31E-01	
BI-212	0.764	6.62E-01	4.56E-01	
PB-212	0.994	1.07E+00	1.44E-01	
BI-214	0.998	1.19E+00	1.62E-01	
PB-214	1.000	1.49E+00	1.59E-01	
RA-226	0.999	2.82E+00	5.36E+00	
AC-228	0.996	1.26E+00	1.89E-01	
? NP-237	0.861	1.90E-01	2.31E-01	

? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510063-04
CP0403S02-03

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 8:09:49AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
1	76.45	2.98355E-01	7.09		
4	129.30	1.91022E-02	48.69		
m 8	242.02	6.22270E-02	12.26		
9	274.48	5.16042E-02	28.09	Sum	
12	328.03	1.26170E-02	59.44	Tol.	LA-140
15	421.82	1.17733E-02	41.09		
16	511.03	2.70567E-02	31.62		
19	683.36	7.22222E-03	56.79		
21	754.01	6.13333E-03	60.59		
22	768.01	1.56647E-02	33.29		
23	784.72	1.34694E-02	31.36		
M 24	794.41	9.31448E-03	41.25		
m 25	805.85	7.38849E-03	52.94		
M 26	841.18	9.76994E-03	35.74		
30	934.44	8.19444E-03	50.24	Sum	
M 31	964.61	1.83022E-02	18.40	Tol.	EU-152
33	982.62	1.45085E-02	28.77	Tol.	V-48
34	1023.04	5.53363E-03	43.40	Sum	
36	1157.13	1.16396E-02	33.36	Sum	
37	1226.49	5.83333E-03	60.42		
39	1280.23	5.37698E-03	46.73		
40	1377.58	1.28943E-02	21.26		
41	1385.72	4.39176E-03	49.09		
M 42	1421.98	2.30403E-03	52.29		
m 43	1426.02	5.43253E-03	42.24		
45	1548.14	6.11111E-03	21.32	Sum	
46	1558.69	5.83333E-03	21.82		
M 47	1657.93	3.28586E-03	28.04		
m 48	1661.58	4.18181E-03	33.91		
49	1729.80	8.34921E-03	23.55	Sum	
51	1781.88	2.61364E-03	38.69		
52	1823.98	3.88889E-03	26.73		
53	1847.56	6.66667E-03	28.87	Sum	
54	1877.63	3.24074E-03	51.43		
55	1902.14	2.77778E-03	31.62		

Analysis Report for 1510063-04
CP0403S02-03

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
56	2026.32	3.02350E-03	39.05		
57	2103.16	4.30556E-03	35.41	S-Esc	
59	2226.96	2.63889E-03	44.97		
60	2285.50	1.85764E-03	47.87		
61	2448.67	5.27778E-03	22.94		
62	2478.27	3.05556E-03	30.15		

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59	10.42	1.31E-01	7.28E-01	7.28E-01
+	NA-22	1274.54	99.94	-8.21E-03	6.20E-02	6.20E-02
+	NA-24	1368.53	99.99	-1.48E+11	7.38E+11	6.44E+12
		2754.09	99.86	0.00E+00		7.38E+11
+	AL-26	1808.65	99.76	-2.87E-03	5.20E-02	5.20E-02
+	K-40	1460.81	* 10.67	1.17E+01	7.04E-01	7.04E-01
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	2.96E-03	4.52E-02	4.52E-02
		78.34	96.00	2.68E-01		6.60E-02
+	SC-46	889.25	99.98	-2.47E-02	7.57E-02	7.57E-02
		1120.51	99.99	3.25E-01		1.59E-01
+	V-48	983.52	99.98	1.53E-02	1.95E-01	2.39E-01
		1312.10	97.50	-5.16E-02		1.95E-01
+	CR-51	320.08	9.83	-1.47E-02	9.59E-01	9.59E-01
+	MN-54	834.83	99.97	1.74E-03	6.54E-02	6.54E-02
+	CO-56	846.75	* 99.96	4.72E-02	1.33E-01	1.33E-01
		1037.75	14.03	-1.18E-02		6.21E-01
		1238.25	* 67.00	1.54E-01		1.96E-01
		1771.40	15.51	-1.08E-01		3.54E-01
		2598.48	16.90	2.69E-02		2.93E-01
+	CO-57	122.06	85.51	7.95E-03	5.20E-02	5.20E-02
		136.48	10.60	4.70E-02		4.21E-01
+	CO-58	810.76	99.40	-2.44E-02	7.94E-02	7.94E-02

Analysis Report for 1510063-04

CP0403S02-03

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	FE-59	1099.22	56.50	4.75E-02	1.83E-01	1.83E-01
		1291.56	43.20	7.84E-02		2.45E-01
+	CO-60	1173.22	100.00	-3.10E-02	6.34E-02	6.66E-02
		1332.49	100.00	3.26E-02		6.34E-02
+	ZN-65	1115.52	50.75	-2.43E-02	1.45E-01	1.45E-01
+	GA-67	93.31	*	35.70	9.15E+01	7.78E+01
		208.95	*	2.24	1.33E+03	1.13E+03
		300.22	*	16.00	8.05E+01	2.54E+02
+	SE-75	121.11	16.70	-1.44E-01	8.09E-02	2.83E-01
		136.00	59.20	-3.73E-02		8.09E-02
		264.65	59.80	-1.70E-03		8.47E-02
		279.53	25.20	-2.86E-02		2.26E-01
		400.65	11.40	-1.81E-01		4.93E-01
+	RB-82	776.52	13.00	-2.48E-01	9.29E-01	9.29E-01
+	RB-83	520.41	46.00	-3.21E-02	1.25E-01	1.25E-01
		529.64	30.30	1.49E-02		1.84E-01
		552.65	16.40	6.73E-02		3.46E-01
+	KR-85	513.99	0.43	-1.19E+01	1.35E+01	1.35E+01
+	SR-85	513.99	99.27	-7.08E-02	8.00E-02	8.00E-02
+	Y-88	898.02	93.40	-2.98E-03	6.35E-02	7.76E-02
		1836.01	99.38	2.31E-02		6.35E-02
+	NB-93M	16.57	9.43	-7.65E+03	4.72E+03	4.72E+03
+	NB-94	702.63	100.00	-2.99E-02	5.91E-02	6.35E-02
		871.10	100.00	1.16E-02		5.91E-02
+	NB-95	765.79	99.81	1.17E-01	1.42E-01	1.42E-01
+	NB-95M	235.69	25.00	-4.98E+02	7.31E+01	7.31E+01
+	ZR-95	724.18	43.70	2.61E-02	1.61E-01	2.28E-01
		756.72	55.30	1.22E-02		1.61E-01
+	MO-99	181.06	6.20	-1.61E+02	7.15E+02	1.15E+03
		739.58	12.80	-2.31E+02		7.15E+02
		778.00	4.50	-1.91E+02		1.89E+03
+	RU-103	497.08	89.00	2.06E-03	8.28E-02	8.28E-02
+	RU-106	621.84	9.80	-1.77E-02	6.37E-01	6.37E-01
+	AG-108M	433.93	89.90	1.45E-02	5.12E-02	5.12E-02
		614.37	90.40	-1.69E-02		6.63E-02
		722.95	90.50	1.39E-02		7.06E-02
+	CD-109	88.03	*	3.72	6.72E-01	1.33E+00
+	AG-110M	657.75	93.14	-6.22E-03	6.86E-02	6.86E-02
		677.61	10.53	-1.95E-01		5.65E-01
		706.67	16.46	4.08E-02		4.25E-01
		763.93	21.98	-3.54E-02		3.35E-01
		884.67	71.63	1.10E-02		9.40E-02
		1384.27	23.94	8.49E-02		2.82E-01
+	CD-113M	263.70	0.02	2.32E+01	1.90E+02	1.90E+02
+	SN-113	255.12	1.93	7.48E-01	8.23E-02	2.71E+00
		391.69	64.90	-7.85E-02		8.23E-02
+	TE123M	159.00	84.10	7.89E-03	6.14E-02	6.14E-02

Analysis Report for 1510063-04
CP0403S02-03

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	SB-124	602.71	97.87	-1.91E-02	8.98E-02	8.98E-02
		645.85	7.26	8.99E-02		1.16E+00
		722.78	11.10	1.59E-01		8.03E-01
		1691.02	49.00	-1.71E-02		1.32E-01
+	I-125	35.49	6.49	2.91E+00	4.80E+00	4.80E+00
+	SB-125	176.33	6.89	1.23E-01	1.59E-01	6.76E-01
		427.89	29.33	5.29E-02		1.59E-01
		463.38	10.35	2.32E-01		5.33E-01
		600.56	17.80	9.07E-02		3.61E-01
		635.90	11.32	-2.62E-01		4.68E-01
+	SB-126	414.70	83.30	3.07E-02	2.87E-01	2.87E-01
		666.33	99.60	-5.26E-02		2.99E-01
		695.00	99.60	1.09E-01		3.31E-01
		720.50	53.80	2.11E-01		5.54E-01
+	SN-126	87.57	* 37.00	6.47E-02	1.28E-01	1.28E-01
+	SB-127	473.00	25.00	-1.93E+01	3.23E+01	3.44E+01
		685.20	35.70	3.77E+00		3.23E+01
		783.80	14.70	8.05E+01		8.77E+01
+	I-129	29.78	57.00	4.14E-02	1.07E+00	1.07E+00
		33.60	13.20	-1.31E+00		2.10E+00
		39.58	7.52	-2.44E-02		1.83E+00
+	I-131	284.30	6.05	4.42E+00	6.58E-01	8.90E+00
		364.48	81.20	-7.07E-02		6.58E-01
		636.97	7.26	-4.46E+00		8.74E+00
		722.89	1.80	8.56E+00		4.33E+01
+	TE-132	49.72	13.10	1.52E+02	2.49E+01	2.32E+02
		228.16	88.00	-1.74E+01		2.49E+01
+	BA-133	81.00	33.00	-5.95E-02	8.03E-02	1.04E-01
		302.84	17.80	4.09E-02		2.62E-01
		356.01	60.00	-9.54E-03		8.03E-02
+	I-133	529.87	86.30	-1.04E+08	6.10E+08	6.10E+08
+	XE-133	81.00	38.00	-2.38E+00	4.17E+00	4.17E+00
+	CS-134	563.23	8.38	7.10E-02	8.15E-02	6.23E-01
		569.32	15.43	5.26E-02		3.25E-01
		604.70	97.60	-2.72E-03		8.15E-02
		795.84	85.40	3.98E-02		8.29E-02
		801.93	8.73	-7.04E-02		7.65E-01
+	CS-135	268.24	16.00	-3.00E-01	3.03E-01	3.03E-01
+	@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@	1260.41	28.60	1.00E+26		1.00E+26
	@	1678.03	9.54	1.00E+26		1.00E+26
+	CS-136	153.22	7.46	1.63E+00	2.65E-01	2.97E+00
		163.89	4.61	-6.11E-01		4.39E+00
		176.55	13.56	4.82E-01		1.56E+00
		273.65	12.66	-3.49E+00		1.66E+00
		340.57	48.50	-6.62E-01		5.38E-01
		818.50	99.70	4.44E-02		2.65E-01
		1048.07	79.60	7.11E-02		3.75E-01
		1235.34	19.70	1.62E-01		2.16E+00

Analysis Report for 1510063-04
CP0403S02-03

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	CS-137	661.65	85.12	-1.19E-02	7.14E-02	7.14E-02
+	LA-138	788.74	34.00	-4.83E-02	8.31E-02	1.81E-01
		1435.80	66.00	-1.90E-03		8.31E-02
+	CE-139	165.85	80.35	1.19E-02	6.45E-02	6.45E-02
+	BA-140	162.64	6.70	-1.21E+00	8.62E-01	3.08E+00
		304.84	4.50	1.11E+00		4.78E+00
		423.70	3.20	7.55E-02		7.03E+00
		437.55	2.00	-1.82E+00		1.07E+01
		537.32	25.00	-1.49E-01		8.62E-01
+	LA-140	328.77	20.50	6.56E-01	3.11E-01	1.27E+00
		487.03	45.50	1.78E-01		5.18E-01
		815.85	23.50	-6.51E-03		1.15E+00
		1596.49	95.49	-5.27E-02		3.11E-01
+	CE-141	145.44	48.40	-7.95E-02	1.72E-01	1.72E-01
+	CE-143	57.36	11.80	1.89E+05	3.78E+05	8.88E+05
		293.26	42.00	-1.74E+05		3.78E+05
		664.55	5.20	4.46E+05		2.65E+06
+	CE-144	133.54	10.80	4.14E-02	4.06E-01	4.06E-01
+	PM-144	476.78	42.00	2.36E-02	6.55E-02	1.31E-01
		618.01	98.60	-2.03E-04		6.55E-02
		696.49	99.49	2.84E-02		7.04E-02
+	PM-145	36.85	21.70	1.03E-02	4.48E-01	8.73E-01
		37.36	39.70	5.31E-03		4.48E-01
		42.30	15.10	1.39E-01		7.26E-01
		72.40	2.31	-8.26E-01		1.85E+00
+	PM-146	453.90	39.94	-2.72E-02	1.26E-01	1.26E-01
		735.90	14.01	1.87E-02		4.61E-01
		747.13	13.10	-2.92E-02		4.18E-01
+	ND-147	91.11	28.90	-1.32E+00	1.21E+00	1.21E+00
		531.02	13.10	-1.26E+00		1.99E+00
+	PM-149	285.90	3.10	3.44E+03	1.35E+04	1.35E+04
+	EU-152	121.78	20.50	3.09E-02	2.02E-01	2.02E-01
		244.69	5.40	-1.36E-01		9.04E-01
		344.27	19.13	1.59E-01		2.47E-01
		778.89	9.20	3.09E-02		6.49E-01
		964.01	10.40	-2.05E+00		8.14E-01
		1085.78	7.22	-2.19E-01		8.51E-01
		1112.02	9.60	2.16E-01		7.40E-01
		1407.95	14.94	2.11E-02		4.39E-01
+	GD-153	97.43	31.30	1.30E-03	1.38E-01	1.38E-01
		103.18	22.20	-1.11E-01		1.90E-01
+	EU-154	123.07	40.50	-4.23E-02	1.02E-01	1.02E-01
		723.30	19.70	6.45E-02		3.26E-01
		873.19	11.50	-2.74E-01		4.77E-01
		996.32	10.30	-2.17E-01		6.13E-01
		1004.76	17.90	3.21E-02		3.87E-01
		1274.45	35.50	-2.28E-02		1.72E-01
+	EU-155	86.50	30.90	-1.47E-01	1.81E-01	1.81E-01
		105.30	20.70	2.10E-02		1.96E-01

Analysis Report for 1510063-04
CP0403S02-03

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	EU-156	811.77	10.40	-1.23E+00	2.08E+00	2.08E+00
		1153.47	7.20	-2.44E-01		4.13E+00
		1230.71	8.90	2.91E-01		2.97E+00
+	HO-166M	184.41	72.60	-1.51E-02	7.99E-02	7.99E-02
		280.45	29.60	-2.07E-02		1.63E-01
		410.94	11.10	2.18E-01		4.70E-01
		711.69	54.10	-5.08E-02		9.90E-02
+	TM-171	66.72	0.14	1.62E+01	3.23E+01	3.23E+01
+	HF-172	81.75	4.52	-1.14E+00	3.88E-01	7.89E-01
		125.81	11.30	2.10E-01		3.88E-01
+	LU-172	181.53	20.60	1.14E+00	2.18E+00	4.66E+00
		810.06	16.63	-2.21E+00		7.19E+00
		912.12	15.25	4.41E+01		1.70E+01
		1093.66	62.50	-6.12E-01		2.18E+00
+	LU-173	100.72	5.24	-3.29E-01	2.61E-01	7.72E-01
		272.11	21.20	1.99E-01		2.61E-01
+	HF-175	343.40	84.00	2.18E-02	7.48E-02	7.48E-02
+	LU-176	88.34	13.30	4.16E-01	4.74E-02	4.25E-01
		201.83	86.00	3.22E-02		5.67E-02
		306.78	94.00	-1.45E-02		4.74E-02
+	TA-182	67.75	41.20	8.10E-03	1.24E-01	1.24E-01
		1121.30	34.90	7.03E-01		4.14E-01
		1189.05	16.23	2.66E-02		5.59E-01
		1221.41	26.98	2.62E-02		3.23E-01
		1231.02	11.44	7.17E-02		7.31E-01
+	IR-192	308.46	29.68	4.50E-02	1.37E-01	1.99E-01
		468.07	48.10	2.48E-02		1.37E-01
+	HG-203	279.19	77.30	1.27E-01	1.04E-01	1.04E-01
+	BI-207	569.67	97.72	8.11E-03	5.01E-02	5.01E-02
		1063.62	74.90	-2.36E-02		8.75E-02
+	TL-208	583.14	* 30.22	1.03E+00	9.79E-02	2.65E-01
		860.37	* 4.48	1.10E+00		1.62E+00
		2614.66	* 35.85	6.90E-01		9.79E-02
+	BI-210M	262.00	45.00	-1.12E-02	9.83E-02	9.83E-02
		300.00	23.00	1.78E-01		2.24E-01
+	PB-210	46.50	4.25	2.13E+00	2.10E+00	2.10E+00
+	PB-211	404.84	2.90	3.68E-02	1.72E+00	1.72E+00
		831.96	2.90	4.39E-01		2.04E+00
+	BI-212	727.17	* 11.80	6.62E-01	7.15E-01	7.15E-01
		1620.62	2.75	2.20E+00		2.73E+00
+	PB-212	238.63	* 44.60	1.09E+00	1.91E-01	1.91E-01
		300.09	* 3.41	7.90E-01		2.50E+00
+	BI-214	609.31	* 46.30	1.14E+00	1.95E-01	1.95E-01
		1120.29	* 15.10	1.55E+00		6.30E-01
		1764.49	* 15.80	1.00E+00		7.23E-01
		2204.22	* 4.98	1.60E+00		1.12E+00
+	PB-214	295.21	* 19.19	1.57E+00	1.84E-01	4.40E-01
		351.92	* 37.19	1.44E+00		1.84E-01

Analysis Report for 1510063-04
CP0403S02-03

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	RN-219	401.80	6.50	1.16E-02	7.59E-01	7.59E-01
+	RA-223	323.87	3.88	-1.91E-01	1.22E+00	1.22E+00
+	RA-224	240.98	3.95	7.94E+00	2.51E+00	2.51E+00
+	RA-225	40.00	31.00	-2.22E-02	1.66E+00	1.66E+00
+	RA-226	186.21	* 3.28	2.82E+00	2.30E+00	2.30E+00
+	TH-227	50.10	8.40	4.84E-01	6.04E-01	7.40E-01
		236.00	11.50	-4.11E+00		6.04E-01
		256.20	6.30	-4.14E-01		6.63E-01
+	AC-228	338.32	* 11.40	1.34E+00	3.25E-01	5.26E-01
		911.07	* 27.70	1.18E+00		3.25E-01
		969.11	* 16.60	1.32E+00		6.82E-01
+	TH-230	48.44	16.90	-2.74E-01	4.03E-01	4.03E-01
		62.85	4.60	1.05E+00		1.08E+00
		67.67	0.37	7.58E-01		1.16E+01
+	PA-231	283.67	1.60	1.37E+00	2.01E+00	2.75E+00
		302.67	2.30	3.15E-01		2.01E+00
+	TH-231	25.64	14.70	-1.10E+00	6.44E-01	1.26E+01
		84.21	6.40	8.40E-01		6.44E-01
+	PA-233	311.98	38.60	-6.95E-02	2.37E-01	2.37E-01
+	PA-234	131.20	20.40	1.63E-01	2.19E-01	2.19E-01
		733.99	8.80	2.41E-01		7.47E-01
		946.00	12.00	-5.97E-02		5.22E-01
+	PA-234M	1001.03	0.92	3.26E+00	7.54E+00	7.54E+00
+	TH-234	63.29	3.80	1.26E+00	1.30E+00	1.30E+00
+	U-235	143.76	10.50	1.14E-01	4.24E-01	4.24E-01
		163.35	4.70	-3.58E-01		9.14E-01
		205.31	4.70	3.75E-01		9.89E-01
+	NP-237	86.50	* 12.60	1.90E-01	3.77E-01	3.77E-01
+	NP-239	106.10	22.70	2.75E+01	9.30E+02	9.30E+02
		228.18	10.70	-1.53E+03		2.19E+03
		277.60	14.10	2.01E+03		1.95E+03
+	AM-241	59.54	35.90	2.61E-02	1.29E-01	1.29E-01
+	AM-243	74.67	66.00	-1.74E-01	8.81E-02	8.81E-02
+	CM-243	209.75	3.29	1.76E+00	3.83E-01	1.60E+00
		228.14	10.60	-3.02E-01		4.31E-01
		277.60	14.00	3.95E-01		3.83E-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
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

Analysis Report for 1510063-04
CP0403S02-03

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
BE-7	477.59	10.42	7.28E-01	7.28E-01	1.31E-01	3.44E-01
NA-22	1274.54	99.94	6.20E-02	6.20E-02	-8.21E-03	2.78E-02
NA-24	1368.53	99.99	6.44E+12	7.38E+11	-1.48E+11	2.91E+12
	2754.09	99.86	7.38E+11		0.00E+00	0.00E+00
AL-26	1808.65	99.76	5.20E-02	5.20E-02	-2.87E-03	2.21E-02
+ K-40	1460.81	* 10.67	7.04E-01	7.04E-01	1.17E+01	3.20E-01
@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
TI-44	67.88	94.40	4.52E-02	4.52E-02	2.96E-03	2.19E-02
	78.34	96.00	6.60E-02		2.68E-01	3.24E-02
SC-46	889.25	99.98	7.57E-02	7.57E-02	-2.47E-02	3.49E-02
	1120.51	99.99	1.59E-01		3.25E-01	7.57E-02
V-48	983.52	99.98	2.39E-01	1.95E-01	1.53E-02	1.11E-01
	1312.10	97.50	1.95E-01		-5.16E-02	8.61E-02
CR-51	320.08	9.83	9.59E-01	9.59E-01	-1.47E-02	4.56E-01
MN-54	834.83	99.97	6.54E-02	6.54E-02	1.74E-03	3.04E-02
+ CO-56	846.75	* 99.96	1.33E-01	1.33E-01	4.72E-02	6.37E-02
	1037.75	14.03	6.21E-01		-1.18E-02	2.86E-01
	1238.25	* 67.00	1.96E-01		1.54E-01	9.23E-02
	1771.40	15.51	3.54E-01		-1.08E-01	1.45E-01
	2598.48	16.90	2.93E-01		2.69E-02	1.16E-01
CO-57	122.06	85.51	5.20E-02	5.20E-02	7.95E-03	2.52E-02
	136.48	10.60	4.21E-01		4.70E-02	2.04E-01
CO-58	810.76	99.40	7.94E-02	7.94E-02	-2.44E-02	3.68E-02
FE-59	1099.22	56.50	1.83E-01	1.83E-01	4.75E-02	8.36E-02
	1291.56	43.20	2.45E-01		7.84E-02	1.11E-01
CO-60	1173.22	100.00	6.66E-02	6.34E-02	-3.10E-02	3.04E-02
	1332.49	100.00	6.34E-02		3.26E-02	2.85E-02
ZN-65	1115.52	50.75	1.45E-01	1.45E-01	-2.43E-02	6.67E-02
+ GA-67	93.31	* 35.70	7.78E+01	7.78E+01	9.15E+01	3.81E+01
	208.95	* 2.24	1.13E+03		1.33E+03	5.47E+02
	300.22	* 16.00	2.54E+02		8.05E+01	1.24E+02
SE-75	121.11	16.70	2.83E-01	8.09E-02	-1.44E-01	1.37E-01
	136.00	59.20	8.09E-02		-3.73E-02	3.92E-02
	264.65	59.80	8.47E-02		-1.70E-03	4.04E-02
	279.53	25.20	2.26E-01		-2.86E-02	1.08E-01
	400.65	11.40	4.93E-01		-1.81E-01	2.33E-01
RB-82	776.52	13.00	9.29E-01	9.29E-01	-2.48E-01	4.29E-01
RB-83	520.41	46.00	1.25E-01	1.25E-01	-3.21E-02	5.85E-02
	529.64	30.30	1.84E-01		1.49E-02	8.57E-02
	552.65	16.40	3.46E-01		6.73E-02	1.61E-01

Analysis Report for 1510063-04
CP0403S02-03

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
KR-85	513.99	0.43	1.35E+01	1.35E+01	-1.19E+01	6.39E+00
SR-85	513.99	99.27	8.00E-02	8.00E-02	-7.08E-02	3.79E-02
Y-88	898.02	93.40	7.76E-02	6.35E-02	-2.98E-03	3.58E-02
	1836.01	99.38	6.35E-02		2.31E-02	2.70E-02
NB-93M	16.57	9.43	4.72E+03	4.72E+03	-7.65E+03	2.30E+03
NB-94	702.63	100.00	6.35E-02	5.91E-02	-2.99E-02	2.98E-02
	871.10	100.00	5.91E-02		1.16E-02	2.73E-02
NB-95	765.79	99.81	1.42E-01	1.42E-01	1.17E-01	6.71E-02
NB-95M	235.69	25.00	7.31E+01	7.31E+01	-4.98E+02	3.56E+01
ZR-95	724.18	43.70	2.28E-01	1.61E-01	2.61E-02	1.08E-01
	756.72	55.30	1.61E-01		1.22E-02	7.54E-02
MO-99	181.06	6.20	1.15E+03	7.15E+02	-1.61E+02	5.58E+02
	739.58	12.80	7.15E+02		-2.31E+02	3.34E+02
	778.00	4.50	1.89E+03		-1.91E+02	8.73E+02
RU-103	497.08	89.00	8.28E-02	8.28E-02	2.06E-03	3.86E-02
RU-106	621.84	9.80	6.37E-01	6.37E-01	-1.77E-02	3.00E-01
AG-108M	433.93	89.90	5.12E-02	5.12E-02	1.45E-02	2.41E-02
	614.37	90.40	6.63E-02		-1.69E-02	3.12E-02
	722.95	90.50	7.06E-02		1.39E-02	3.31E-02
+ CD-109	88.03	*	1.33E+00	1.33E+00	6.72E-01	6.51E-01
AG-110M	657.75	93.14	6.86E-02	6.86E-02	-6.22E-03	3.22E-02
	677.61	10.53	5.65E-01		-1.95E-01	2.63E-01
	706.67	16.46	4.25E-01		4.08E-02	2.00E-01
	763.93	21.98	3.35E-01		-3.54E-02	1.57E-01
	884.67	71.63	9.40E-02		1.10E-02	4.35E-02
	1384.27	23.94	2.82E-01		8.49E-02	1.26E-01
CD-113M	263.70	0.02	1.90E+02	1.90E+02	2.32E+01	9.08E+01
SN-113	255.12	1.93	2.71E+00	8.23E-02	7.48E-01	1.30E+00
	391.69	64.90	8.23E-02		-7.85E-02	3.89E-02
TE123M	159.00	84.10	6.14E-02	6.14E-02	7.89E-03	2.97E-02
SB-124	602.71	97.87	8.98E-02	8.98E-02	-1.91E-02	4.25E-02
	645.85	7.26	1.16E+00		8.99E-02	5.48E-01
	722.78	11.10	8.03E-01		1.59E-01	3.77E-01
	1691.02	49.00	1.32E-01		-1.71E-02	5.51E-02
I-125	35.49	6.49	4.80E+00	4.80E+00	2.91E+00	2.33E+00
SB-125	176.33	6.89	6.76E-01	1.59E-01	1.23E-01	3.27E-01
	427.89	29.33	1.59E-01		5.29E-02	7.50E-02
	463.38	10.35	5.33E-01		2.32E-01	2.52E-01
	600.56	17.80	3.61E-01		9.07E-02	1.71E-01
	635.90	11.32	4.68E-01		-2.62E-01	2.18E-01
SB-126	414.70	83.30	2.87E-01	2.87E-01	3.07E-02	1.35E-01
	666.33	99.60	2.99E-01		-5.26E-02	1.40E-01
	695.00	99.60	3.31E-01		1.09E-01	1.56E-01
	720.50	53.80	5.54E-01		2.11E-01	2.59E-01
+ SN-126	87.57	*	1.28E-01	1.28E-01	6.47E-02	6.26E-02
SB-127	473.00	25.00	3.44E+01	3.23E+01	-1.93E+01	1.61E+01
	685.20	35.70	3.23E+01		3.77E+00	1.52E+01
	783.80	14.70	8.77E+01		8.05E+01	4.12E+01
I-129	29.78	57.00	1.07E+00	1.07E+00	4.14E-02	5.17E-01
	33.60	13.20	2.10E+00		-1.31E+00	1.02E+00
	39.58	7.52	1.83E+00		-2.44E-02	8.88E-01
I-131	284.30	6.05	8.90E+00	6.58E-01	4.42E+00	4.25E+00
	364.48	81.20	6.58E-01		-7.07E-02	3.11E-01

Analysis Report for 1510063-04

CP0403S02-03

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
I-131	636.97	7.26	8.74E+00	6.58E-01	-4.46E+00	4.07E+00
	722.89	1.80	4.33E+01		8.56E+00	2.03E+01
TE-132	49.72	13.10	2.32E+02	2.49E+01	1.52E+02	1.12E+02
	228.16	88.00	2.49E+01		-1.74E+01	1.20E+01
BA-133	81.00	33.00	1.04E-01	8.03E-02	-5.95E-02	5.02E-02
	302.84	17.80	2.62E-01		4.09E-02	1.25E-01
	356.01	60.00	8.03E-02		-9.54E-03	3.82E-02
I-133	529.87	86.30	6.10E+08	6.10E+08	-1.04E+08	2.83E+08
XE-133	81.00	38.00	4.17E+00	4.17E+00	-2.38E+00	2.01E+00
CS-134	563.23	8.38	6.23E-01	8.15E-02	7.10E-02	2.91E-01
	569.32	15.43	3.25E-01		5.26E-02	1.52E-01
	604.70	97.60	8.15E-02		-2.72E-03	3.90E-02
	795.84	85.40	8.29E-02		3.98E-02	3.89E-02
	801.93	8.73	7.65E-01		-7.04E-02	3.57E-01
CS-135	268.24	16.00	3.03E-01	3.03E-01	-3.00E-01	1.46E-01
@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	1260.41	28.60	1.00E+26		1.00E+26	1.00E+20
@	1678.03	9.54	1.00E+26		1.00E+26	1.00E+20
CS-136	153.22	7.46	2.97E+00	2.65E-01	1.63E+00	1.44E+00
	163.89	4.61	4.39E+00		-6.11E-01	2.12E+00
	176.55	13.56	1.56E+00		4.82E-01	7.56E-01
	273.65	12.66	1.66E+00		-3.49E+00	7.96E-01
	340.57	48.50	5.38E-01		-6.62E-01	2.58E-01
	818.50	99.70	2.65E-01		4.44E-02	1.22E-01
	1048.07	79.60	3.75E-01		7.11E-02	1.72E-01
	1235.34	19.70	2.16E+00		1.62E-01	1.01E+00
CS-137	661.65	85.12	7.14E-02	7.14E-02	-1.19E-02	3.35E-02
LA-138	788.74	34.00	1.81E-01	8.31E-02	-4.83E-02	8.41E-02
	1435.80	66.00	8.31E-02		-1.90E-03	3.64E-02
CE-139	165.85	80.35	6.45E-02	6.45E-02	1.19E-02	3.12E-02
BA-140	162.64	6.70	3.08E+00	8.62E-01	-1.21E+00	1.49E+00
	304.84	4.50	4.78E+00		1.11E+00	2.27E+00
	423.70	3.20	7.03E+00		7.55E-02	3.32E+00
	437.55	2.00	1.07E+01		-1.82E+00	5.04E+00
	537.32	25.00	8.62E-01		-1.49E-01	4.01E-01
LA-140	328.77	20.50	1.27E+00	3.11E-01	6.56E-01	6.10E-01
	487.03	45.50	5.18E-01		1.78E-01	2.43E-01
	815.85	23.50	1.15E+00		-6.51E-03	5.31E-01
	1596.49	95.49	3.11E-01		-5.27E-02	1.37E-01
CE-141	145.44	48.40	1.72E-01	1.72E-01	-7.95E-02	8.33E-02
CE-143	57.36	11.80	8.88E+05	3.78E+05	1.89E+05	4.29E+05
	293.26	42.00	3.78E+05		-1.74E+05	1.83E+05
	664.55	5.20	2.65E+06		4.46E+05	1.24E+06
CE-144	133.54	10.80	4.06E-01	4.06E-01	4.14E-02	1.97E-01
PM-144	476.78	42.00	1.31E-01	6.55E-02	2.36E-02	6.18E-02
	618.01	98.60	6.55E-02		-2.03E-04	3.09E-02
	696.49	99.49	7.04E-02		2.84E-02	3.32E-02
PM-145	36.85	21.70	8.73E-01	4.48E-01	1.03E-02	4.23E-01
	37.36	39.70	4.48E-01		5.31E-03	2.17E-01
	42.30	15.10	7.26E-01		1.39E-01	3.52E-01
	72.40	2.31	1.85E+00		-8.26E-01	9.01E-01
PM-146	453.90	39.94	1.26E-01	1.26E-01	-2.72E-02	5.94E-02
	735.90	14.01	4.61E-01		1.87E-02	2.16E-01

Analysis Report for 1510063-04

CP0403S02-03

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
PM-146	747.13	13.10	4.18E-01	1.26E-01	-2.92E-02	1.93E-01
ND-147	91.11	28.90	1.21E+00	1.21E+00	-1.32E+00	5.91E-01
	531.02	13.10	1.99E+00		-1.26E+00	9.23E-01
PM-149	285.90	3.10	1.35E+04	1.35E+04	3.44E+03	6.45E+03
EU-152	121.78	20.50	2.02E-01	2.02E-01	3.09E-02	9.80E-02
	244.69	5.40	9.04E-01		-1.36E-01	4.35E-01
	344.27	19.13	2.47E-01		1.59E-01	1.17E-01
	778.89	9.20	6.49E-01		3.09E-02	3.02E-01
	964.01	10.40	8.14E-01		-2.05E+00	3.83E-01
	1085.78	7.22	8.51E-01		-2.19E-01	3.87E-01
	1112.02	9.60	7.40E-01		2.16E-01	3.41E-01
	1407.95	14.94	4.39E-01		2.11E-02	1.97E-01
GD-153	97.43	31.30	1.38E-01	1.38E-01	1.30E-03	6.69E-02
	103.18	22.20	1.90E-01		-1.11E-01	9.21E-02
EU-154	123.07	40.50	1.02E-01	1.02E-01	-4.23E-02	4.96E-02
	723.30	19.70	3.26E-01		6.45E-02	1.53E-01
	873.19	11.50	4.77E-01		-2.74E-01	2.18E-01
	996.32	10.30	6.13E-01		-2.17E-01	2.81E-01
	1004.76	17.90	3.87E-01		3.21E-02	1.79E-01
	1274.45	35.50	1.72E-01		-2.28E-02	7.72E-02
EU-155	86.50	30.90	1.81E-01	1.81E-01	-1.47E-01	8.89E-02
	105.30	20.70	1.96E-01		2.10E-02	9.50E-02
EU-156	811.77	10.40	2.08E+00	2.08E+00	-1.23E+00	9.60E-01
	1153.47	7.20	4.13E+00		-2.44E-01	1.91E+00
	1230.71	8.90	2.97E+00		2.91E-01	1.35E+00
HO-166M	184.41	72.60	7.99E-02	7.99E-02	-1.51E-02	3.89E-02
	280.45	29.60	1.63E-01		-2.07E-02	7.82E-02
	410.94	11.10	4.70E-01		2.18E-01	2.23E-01
	711.69	54.10	9.90E-02		-5.08E-02	4.59E-02
TM-171	66.72	0.14	3.23E+01	3.23E+01	1.62E+01	1.57E+01
HF-172	81.75	4.52	7.89E-01	3.88E-01	-1.14E+00	3.81E-01
	125.81	11.30	3.88E-01		2.10E-01	1.88E-01
LU-172	181.53	20.60	4.66E+00	2.18E+00	1.14E+00	2.26E+00
	810.06	16.63	7.19E+00		-2.21E+00	3.34E+00
	912.12	15.25	1.70E+01		4.41E+01	8.17E+00
	1093.66	62.50	2.18E+00		-6.12E-01	1.00E+00
LU-173	100.72	5.24	7.72E-01	2.61E-01	-3.29E-01	3.75E-01
	272.11	21.20	2.61E-01		1.99E-01	1.25E-01
HF-175	343.40	84.00	7.48E-02	7.48E-02	2.18E-02	3.56E-02
LU-176	88.34	13.30	4.25E-01	4.74E-02	4.16E-01	2.08E-01
	201.83	86.00	5.67E-02		3.22E-02	2.74E-02
	306.78	94.00	4.74E-02		-1.45E-02	2.26E-02
TA-182	67.75	41.20	1.24E-01	1.24E-01	8.10E-03	5.99E-02
	1121.30	34.90	4.14E-01		7.03E-01	1.97E-01
	1189.05	16.23	5.59E-01		2.66E-02	2.58E-01
	1221.41	26.98	3.23E-01		2.62E-02	1.48E-01
	1231.02	11.44	7.31E-01		7.17E-02	3.34E-01
IR-192	308.46	29.68	1.99E-01	1.37E-01	4.50E-02	9.49E-02
	468.07	48.10	1.37E-01		2.48E-02	6.44E-02
HG-203	279.19	77.30	1.04E-01	1.04E-01	1.27E-01	5.02E-02
BI-207	569.67	97.72	5.01E-02	5.01E-02	8.11E-03	2.33E-02
	1063.62	74.90	8.75E-02		-2.36E-02	4.01E-02
+ TL-208	583.14	* 30.22	2.65E-01	9.79E-02	1.03E+00	1.27E-01

Analysis Report for 1510063-04

CP0403S02-03

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
TL-208	860.37	*	4.48	1.62E+00	9.79E-02	1.10E+00	7.61E-01
	2614.66	*	35.85	9.79E-02		6.90E-01	3.79E-02
BI-210M	262.00		45.00	9.83E-02	9.83E-02	-1.12E-02	4.70E-02
	300.00		23.00	2.24E-01		1.78E-01	1.08E-01
PB-210	46.50		4.25	2.10E+00	2.10E+00	2.13E+00	1.02E+00
PB-211	404.84		2.90	1.72E+00	1.72E+00	3.68E-02	8.18E-01
	831.96		2.90	2.04E+00		4.39E-01	9.43E-01
+ BI-212	727.17	*	11.80	7.15E-01	7.15E-01	6.62E-01	3.41E-01
	1620.62		2.75	2.73E+00		2.20E+00	1.23E+00
+ PB-212	238.63	*	44.60	1.91E-01	1.91E-01	1.09E+00	9.34E-02
	300.09	*	3.41	2.50E+00		7.90E-01	1.22E+00
+ BI-214	609.31	*	46.30	1.95E-01	1.95E-01	1.14E+00	9.37E-02
	1120.29	*	15.10	6.30E-01		1.55E+00	2.96E-01
	1764.49	*	15.80	7.23E-01		1.00E+00	3.37E-01
	2204.22	*	4.98	1.12E+00		1.60E+00	4.77E-01
+ PB-214	295.21	*	19.19	4.40E-01	1.84E-01	1.57E+00	2.15E-01
	351.92	*	37.19	1.84E-01		1.44E+00	8.90E-02
RN-219	401.80		6.50	7.59E-01	7.59E-01	1.16E-02	3.60E-01
RA-223	323.87		3.88	1.22E+00	1.22E+00	-1.91E-01	5.82E-01
RA-224	240.98		3.95	2.51E+00	2.51E+00	7.94E+00	1.23E+00
RA-225	40.00		31.00	1.66E+00	1.66E+00	-2.22E-02	8.05E-01
+ RA-226	186.21	*	3.28	2.30E+00	2.30E+00	2.82E+00	1.13E+00
TH-227	50.10		8.40	7.40E-01	6.04E-01	4.84E-01	3.58E-01
	236.00		11.50	6.04E-01		-4.11E+00	2.94E-01
	256.20		6.30	6.63E-01		-4.14E-01	3.16E-01
+ AC-228	338.32	*	11.40	5.26E-01	3.25E-01	1.34E+00	2.53E-01
	911.07	*	27.70	3.25E-01		1.18E+00	1.54E-01
	969.11	*	16.60	6.82E-01		1.32E+00	3.26E-01
TH-230	48.44		16.90	4.03E-01	4.03E-01	-2.74E-01	1.95E-01
	62.85		4.60	1.08E+00		1.05E+00	5.27E-01
	67.67		0.37	1.16E+01		7.58E-01	5.60E+00
PA-231	283.67		1.60	2.75E+00	2.01E+00	1.37E+00	1.31E+00
	302.67		2.30	2.01E+00		3.15E-01	9.61E-01
TH-231	25.64		14.70	1.26E+01	6.44E-01	-1.10E+00	6.09E+00
	84.21		6.40	6.44E-01		8.40E-01	3.13E-01
PA-233	311.98		38.60	2.37E-01	2.37E-01	-6.95E-02	1.13E-01
PA-234	131.20		20.40	2.19E-01	2.19E-01	1.63E-01	1.07E-01
	733.99		8.80	7.47E-01		2.41E-01	3.51E-01
	946.00		12.00	5.22E-01		-5.97E-02	2.41E-01
PA-234M	1001.03		0.92	7.54E+00	7.54E+00	3.26E+00	3.49E+00
TH-234	63.29		3.80	1.30E+00	1.30E+00	1.26E+00	6.32E-01
U-235	143.76		10.50	4.24E-01	4.24E-01	1.14E-01	2.06E-01
	163.35		4.70	9.14E-01		-3.58E-01	4.42E-01
	205.31		4.70	9.89E-01		3.75E-01	4.77E-01
+ NP-237	86.50	*	12.60	3.77E-01	3.77E-01	1.90E-01	1.84E-01
NP-239	106.10		22.70	9.30E+02	9.30E+02	2.75E+01	4.52E+02
	228.18		10.70	2.19E+03		-1.53E+03	1.05E+03
	277.60		14.10	1.95E+03		2.01E+03	9.39E+02
AM-241	59.54		35.90	1.29E-01	1.29E-01	2.61E-02	6.23E-02
AM-243	74.67		66.00	8.81E-02	8.81E-02	-1.74E-01	4.32E-02
CM-243	209.75		3.29	1.60E+00	3.83E-01	1.76E+00	7.72E-01
	228.14		10.60	4.31E-01		-3.02E-01	2.07E-01
	277.60		14.00	3.83E-01		3.95E-01	1.85E-01

Analysis Report for 1510063-04

CP0403S02-03

-
- + = 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
-

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

Creation Date***Comment******User***

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP0403S02-03

Elapsed Live time: 3600
 Elapsed Real Time: 3601

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	2	3	197
9:	625	1143	1138	470	599	1658	261	140
17:	136	128	151	126	117	141	112	118
25:	116	100	104	105	128	105	116	120
33:	126	85	104	124	134	112	132	103
41:	126	125	120	125	115	155	188	100
49:	113	104	93	78	118	115	69	87
57:	109	90	100	111	108	106	156	167
65:	113	120	108	148	108	119	133	134
73:	135	163	403	219	468	401	107	100
81:	96	85	110	156	157	106	199	218
89:	103	193	123	111	268	164	100	81
97:	61	81	87	84	76	62	66	84
105:	81	85	75	86	92	73	71	80
113:	102	82	87	79	90	73	64	83
121:	67	72	69	85	78	81	62	84
129:	107	89	81	66	72	60	70	71
137:	66	59	74	70	71	71	72	73
145:	76	82	69	91	72	65	86	69
153:	81	95	74	74	84	55	57	69
161:	53	54	67	57	67	64	72	58
169:	56	61	50	53	57	56	55	56
177:	60	79	59	57	71	74	61	59
185:	92	187	127	64	72	60	62	59
193:	59	42	49	67	52	55	63	55
201:	65	57	54	62	40	57	46	39
209:	96	95	46	46	45	45	43	51
217:	40	34	44	47	49	38	55	49
225:	48	50	44	38	39	44	56	37
233:	63	51	36	50	51	301	522	103
241:	107	185	67	43	36	34	43	47
249:	25	42	38	38	44	30	32	31
257:	33	26	34	41	31	35	31	28
265:	35	30	29	29	39	68	69	36
273:	23	34	33	41	53	52	41	41
281:	29	18	31	37	28	33	29	38
289:	29	41	25	21	33	38	251	160
297:	34	40	32	51	34	32	23	34
305:	26	26	27	26	30	28	24	21
313:	23	29	27	28	25	22	30	25
321:	32	24	28	30	27	33	37	49
329:	33	36	28	28	35	29	26	23
337:	31	115	96	28	25	20	22	36
345:	26	24	17	29	25	28	140	442
353:	82	40	21	20	20	26	26	21
361:	20	24	22	20	16	19	22	31

369: 27 24 28 22 16 26 28 21

Sample Title: CP0403S02-03

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	19	30	10	23	20	21	16	20
385:	31	30	34	24	29	19	21	16
393:	19	21	28	13	23	15	23	22
401:	19	17	24	31	22	21	17	26
409:	33	22	24	29	15	20	17	26
417:	20	12	13	21	27	23	21	20
425:	13	16	14	17	21	20	14	12
433:	19	14	20	22	16	10	12	14
441:	22	14	18	15	18	19	14	22
449:	9	19	20	18	22	13	26	17
457:	21	24	10	19	15	14	42	25
465:	15	20	20	16	26	11	14	16
473:	15	19	13	15	28	24	18	20
481:	17	11	16	11	19	14	22	16
489:	12	12	15	17	18	16	21	7
497:	14	12	11	10	11	11	15	13
505:	15	12	14	10	24	81	79	45
513:	23	14	18	11	14	13	17	14
521:	12	9	18	15	12	14	12	15
529:	9	9	14	10	10	15	17	8
537:	11	13	10	12	15	12	8	13
545:	14	15	13	8	8	8	11	12
553:	11	15	15	8	15	20	16	9
561:	13	17	17	16	9	10	18	11
569:	7	20	9	14	12	16	13	13
577:	10	15	9	14	16	47	156	79
585:	19	13	12	11	12	8	12	4
593:	10	8	9	14	11	19	16	12
601:	16	15	14	14	14	17	10	73
609:	261	136	15	10	17	11	10	15
617:	11	13	18	13	12	17	8	12
625:	5	12	13	15	9	10	12	12
633:	12	10	6	7	13	8	6	12
641:	12	11	8	12	12	19	15	10
649:	8	12	11	9	8	14	8	12
657:	9	13	18	8	9	14	10	9
665:	15	13	11	8	9	8	16	13
673:	11	7	8	9	10	13	8	8
681:	14	15	11	17	9	12	4	12
689:	12	9	11	7	13	19	2	18
697:	11	17	10	11	11	15	14	9
705:	11	16	14	9	10	9	11	4
713:	7	5	6	10	9	10	9	11
721:	12	9	6	8	10	22	36	25
729:	12	12	9	14	9	9	19	16
737:	5	8	10	13	7	9	11	9
745:	4	7	13	9	5	5	9	8
753:	12	9	17	10	5	11	11	12
761:	8	11	9	15	2	13	23	33
769:	18	10	11	6	8	6	4	11
777:	11	6	4	8	9	10	12	8
785:	16	19	7	5	6	3	6	9
793:	12	16	20	7	7	5	11	6

801: 11 12 7 12 9 16 11 8

Sample Title: CP0403S02-03

Channel	1	2	3	4	5	6	7	8	9
809:	6	7	8	10	5	7	8	8	
817:	8	5	7	4	10	5	8	11	
825:	12	4	6	3	9	7	7	8	
833:	7	7	7	12	9	6	7	23	
841:	10	12	8	7	9	13	7	4	
849:	2	3	11	6	4	6	7	6	
857:	6	3	4	20	18	7	7	5	
865:	3	8	7	6	12	9	5	10	
873:	3	3	6	4	8	8	12	4	
881:	8	7	9	6	9	7	6	8	
889:	4	5	8	9	9	9	8	6	
897:	8	7	6	7	5	6	5	16	
905:	6	8	9	5	8	60	99	42	
913:	8	6	6	4	6	8	5	6	
921:	12	3	3	5	4	1	6	2	
929:	8	5	6	8	16	17	16	5	
937:	8	7	6	6	10	4	5	3	
945:	11	8	9	6	5	7	8	3	
953:	6	4	4	3	5	4	5	9	
961:	7	10	9	24	22	6	8	52	
969:	40	27	10	8	3	7	2	3	
977:	4	5	11	10	9	7	6	4	
985:	8	8	7	6	3	3	7	7	
993:	7	6	6	5	2	8	9	5	
1001:	12	9	4	6	9	4	8	6	
1009:	8	5	5	6	6	11	4	7	
1017:	5	3	6	3	10	7	6	7	
1025:	4	1	2	7	9	3	4	9	
1033:	11	6	11	7	10	4	6	3	
1041:	5	5	2	6	3	11	3	5	
1049:	7	7	6	9	3	6	7	4	
1057:	8	11	3	3	7	5	9	3	
1065:	8	7	8	7	6	8	7	5	
1073:	6	4	6	4	5	7	3	7	
1081:	3	5	4	7	4	2	7	6	
1089:	10	4	7	4	8	5	6	9	
1097:	9	5	3	6	3	5	4	4	
1105:	5	7	8	4	11	11	6	4	
1113:	2	8	4	6	10	8	30	57	
1121:	35	7	5	1	6	5	10	6	
1129:	9	3	3	2	4	10	2	6	
1137:	8	4	8	7	4	7	4	9	
1145:	6	8	6	9	6	4	6	3	
1153:	8	6	13	15	7	7	7	5	
1161:	7	4	2	7	6	8	7	6	
1169:	9	6	9	3	7	4	4	3	
1177:	6	8	8	3	4	5	5	5	
1185:	3	7	14	9	3	4	7	4	
1193:	9	7	2	6	7	6	6	3	
1201:	3	3	8	5	8	7	7	6	
1209:	4	3	5	3	6	9	6	10	
1217:	2	7	7	5	5	3	7	8	
1225:	10	8	4	6	3	9	3	5	

1233: 8 4 5 8 19 19 14 7

Sample Title: CP0403S02-03

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1241:	6	5	6	11	4	3	9	6
1249:	2	5	7	6	3	2	4	7
1257:	4	6	2	1	4	2	7	9
1265:	0	4	4	6	3	9	4	4
1273:	3	4	4	3	4	7	9	4
1281:	13	2	4	6	7	5	2	5
1289:	2	3	3	7	8	4	4	2
1297:	2	1	5	4	4	5	4	4
1305:	4	7	2	3	0	4	4	4
1313:	2	1	4	2	7	5	6	7
1321:	4	2	3	5	3	4	2	1
1329:	2	4	3	5	6	3	3	1
1337:	3	0	1	2	4	2	2	2
1345:	2	0	5	2	5	5	3	1
1353:	4	0	3	1	6	3	2	2
1361:	1	2	5	4	2	5	3	7
1369:	2	5	5	2	6	3	5	9
1377:	15	16	6	0	0	2	3	4
1385:	6	5	4	1	2	2	0	3
1393:	3	4	1	5	4	3	7	4
1401:	4	3	5	1	2	1	8	6
1409:	3	5	2	4	1	3	2	4
1417:	1	3	0	1	2	6	2	4
1425:	8	6	6	1	1	3	3	4
1433:	1	1	2	2	3	4	1	4
1441:	2	0	3	3	4	3	0	1
1449:	2	4	6	1	3	2	3	1
1457:	1	14	87	200	159	51	7	1
1465:	1	1	3	1	1	2	1	4
1473:	1	1	0	2	3	2	1	2
1481:	2	1	2	4	2	2	1	3
1489:	2	2	1	3	1	4	5	1
1497:	2	0	3	1	2	4	2	3
1505:	1	4	5	3	5	5	0	1
1513:	2	2	5	1	1	2	0	0
1521:	1	1	3	2	2	1	1	1
1529:	3	0	2	0	1	2	2	3
1537:	1	4	3	1	0	0	1	2
1545:	5	3	1	2	1	1	1	5
1553:	0	0	1	4	6	3	1	1
1561:	3	2	0	0	0	3	0	2
1569:	2	0	1	2	1	1	4	4
1577:	3	1	2	2	1	3	3	1
1585:	0	4	6	8	2	4	6	3
1593:	3	3	1	2	1	3	1	2
1601:	0	2	2	0	0	2	3	2
1609:	1	1	2	2	0	0	2	2
1617:	2	5	2	3	6	3	0	6
1625:	0	1	0	2	4	3	4	1
1633:	1	0	1	4	5	0	4	0
1641:	2	1	2	0	0	1	1	4
1649:	2	1	1	1	0	1	0	4
1657:	2	4	3	5	6	1	2	1

1665: 2 4 0 0 1 2 1 1

Sample Title: CP0403S02-03

Channel	1	2	3	4	5	6	7	8
1673:	3	0	0	1	0	2	0	1
1681:	2	2	1	1	4	1	2	2
1689:	0	1	0	1	2	0	0	1
1697:	0	1	0	3	2	2	2	2
1705:	2	2	3	1	0	0	0	0
1713:	2	0	3	2	2	1	1	2
1721:	1	0	2	0	3	1	2	5
1729:	10	10	1	2	1	0	0	0
1737:	1	1	0	1	1	1	3	3
1745:	1	1	1	1	0	2	1	2
1753:	1	0	1	4	4	1	1	1
1761:	1	8	27	30	15	7	0	4
1769:	1	0	1	0	0	1	0	1
1777:	1	0	2	0	3	6	0	0
1785:	0	0	0	1	2	0	1	2
1793:	0	0	0	2	3	0	0	0
1801:	2	1	1	1	1	1	2	2
1809:	1	2	1	0	1	1	2	0
1817:	2	0	0	1	2	0	6	1
1825:	2	1	1	0	0	1	0	2
1833:	0	2	1	1	1	2	2	1
1841:	0	1	1	1	3	7	7	5
1849:	1	2	2	0	1	1	1	2
1857:	1	1	0	0	0	1	4	0
1865:	1	0	1	0	2	2	0	0
1873:	1	2	1	1	2	5	2	1
1881:	2	1	0	2	0	1	1	1
1889:	3	0	0	1	0	1	1	1
1897:	0	0	0	2	3	3	2	0
1905:	0	0	0	1	2	1	0	0
1913:	2	1	1	1	0	1	1	1
1921:	2	3	1	0	2	1	0	0
1929:	1	1	1	0	2	0	2	1
1937:	1	2	2	0	2	1	1	1
1945:	1	2	1	0	2	1	1	2
1953:	0	1	1	1	2	6	0	3
1961:	1	0	0	1	0	1	0	1
1969:	0	2	0	1	0	3	0	1
1977:	0	1	0	2	0	2	0	1
1985:	1	1	0	1	0	1	0	1
1993:	0	1	0	2	0	1	0	0
2001:	2	0	1	1	2	1	2	1
2009:	1	2	0	0	0	0	0	1
2017:	0	1	2	0	0	1	0	1
2025:	4	2	3	2	0	1	0	1
2033:	1	0	0	1	2	1	1	1
2041:	0	0	1	1	0	0	0	0
2049:	1	1	1	4	1	0	1	1
2057:	0	0	2	0	2	0	2	1
2065:	0	1	3	1	2	0	0	1
2073:	0	1	0	2	1	0	2	0
2081:	1	1	1	0	1	0	0	2
2089:	0	0	0	3	1	1	0	0

2097: 1 0 2 1 3 3 4 6

Sample Title: CP0403S02-03

Channel	1	0	2	1	3	3	4	6
2105:	1	0	1	2	0	2	1	1
2113:	1	1	0	5	1	0	3	1
2121:	0	0	0	0	1	2	0	0
2129:	1	1	2	2	0	0	0	0
2137:	1	2	0	1	1	1	2	1
2145:	2	0	1	0	1	1	1	1
2153:	1	0	1	0	1	0	0	1
2161:	1	0	0	0	0	0	2	1
2169:	1	0	1	0	4	0	2	0
2177:	1	2	3	1	1	0	2	0
2185:	0	0	2	3	2	1	4	3
2193:	1	1	2	2	2	1	0	2
2201:	4	5	8	7	6	2	0	2
2209:	0	1	1	0	2	0	3	2
2217:	0	2	0	1	0	1	0	2
2225:	1	3	2	2	1	0	0	2
2233:	1	0	0	1	2	0	1	1
2241:	1	0	0	2	2	1	1	1
2249:	2	1	3	0	2	1	1	1
2257:	2	0	3	0	1	2	2	1
2265:	1	1	0	1	1	2	1	2
2273:	2	1	0	0	3	3	1	3
2281:	0	1	0	3	1	3	0	0
2289:	2	1	0	1	0	2	1	0
2297:	1	0	1	1	0	1	2	1
2305:	0	1	2	1	0	1	1	0
2313:	0	1	1	0	2	1	1	0
2321:	0	0	3	3	1	1	1	2
2329:	0	2	2	3	0	1	2	2
2337:	2	0	1	1	1	1	0	0
2345:	0	0	1	0	0	1	3	3
2353:	1	2	2	0	1	0	0	1
2361:	0	0	1	1	2	1	3	0
2369:	2	3	3	3	1	4	1	0
2377:	0	2	2	2	0	1	0	0
2385:	0	1	0	2	1	1	1	1
2393:	1	3	0	1	2	3	2	2
2401:	1	1	1	0	1	1	0	3
2409:	1	1	1	1	0	1	2	1
2417:	1	0	0	0	1	1	3	0
2425:	2	1	0	0	1	0	1	0
2433:	0	0	2	1	0	0	2	2
2441:	0	0	1	1	1	1	3	5
2449:	2	2	2	1	0	0	1	0
2457:	0	1	0	2	1	0	0	0
2465:	2	1	1	0	0	0	0	0
2473:	1	0	0	1	3	3	1	2
2481:	0	0	1	0	0	2	2	0
2489:	3	0	0	0	0	2	0	0
2497:	1	1	0	0	1	0	0	0
2505:	1	0	2	0	0	0	0	0
2513:	0	1	0	1	0	1	1	0
2521:	1	0	0	1	0	0	0	0

2529: 0 0 0 0 0 1 0 0

Sample Title: CP0403S02-03

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2537:	1	0	0	0	0	0	0	0
2545:	0	0	3	1	0	0	2	0
2553:	1	0	0	0	1	0	0	0
2561:	0	1	1	0	0	0	1	0
2569:	0	0	1	1	2	1	2	1
2577:	0	0	0	0	1	0	0	0
2585:	0	0	0	0	1	0	0	0
2593:	0	0	0	1	1	0	0	1
2601:	1	1	1	0	2	0	0	0
2609:	1	2	5	18	28	28	5	4
2617:	1	0	0	0	1	0	1	0
2625:	0	0	0	1	0	0	0	0
2633:	0	0	0	1	0	0	0	0
2641:	0	1	0	2	0	1	1	0
2649:	0	0	1	0	1	0	0	0
2657:	0	0	1	0	0	1	0	0
2665:	0	0	1	0	0	0	0	0
2673:	0	1	0	0	1	0	0	0
2681:	1	0	0	0	0	0	0	0
2689:	1	0	0	1	0	0	0	0
2697:	0	0	1	0	0	0	0	0
2705:	1	0	0	0	0	0	0	0
2713:	0	0	0	0	0	0	0	0
2721:	0	0	0	1	0	0	0	0
2729:	0	0	0	1	1	0	0	1
2737:	0	0	0	0	0	1	0	0
2745:	0	1	0	1	0	0	0	0
2753:	0	0	0	0	0	0	0	0
2761:	0	0	0	2	0	0	0	0
2769:	1	0	1	0	0	0	1	0
2777:	1	1	0	0	1	0	0	0
2785:	1	2	0	2	0	0	0	0
2793:	0	0	1	0	0	1	1	0
2801:	0	1	0	1	0	0	1	0
2809:	0	0	0	0	1	0	0	0
2817:	0	0	0	0	0	0	0	0
2825:	1	1	0	1	0	0	0	0
2833:	0	0	0	0	3	0	0	1
2841:	2	0	0	0	0	2	0	0
2849:	0	0	0	0	0	0	0	0
2857:	0	1	0	0	0	0	0	0
2865:	0	0	0	0	1	1	0	0
2873:	1	0	0	0	1	1	0	2
2881:	0	1	0	2	0	0	0	0
2889:	0	0	1	0	1	1	0	0
2897:	1	1	0	1	0	0	0	0
2905:	0	1	0	0	0	0	1	0
2913:	1	0	0	0	0	0	0	1
2921:	0	1	0	0	0	1	1	1
2929:	0	0	1	0	0	0	0	0
2937:	0	0	0	0	0	0	0	1
2945:	1	0	0	0	1	1	0	0
2953:	0	0	0	0	0	0	0	1

2961: 0 0 0 1 0 0 0 2

Sample Title: CP0403S02-03

Channel	1	2	3	4	5	6	7	8
2969:	0	0	1	0	0	0	1	1
2977:	1	1	1	0	0	0	0	0
2985:	0	0	0	0	1	1	1	0
2993:	0	1	0	0	1	0	0	0
3001:	1	2	1	0	0	2	0	0
3009:	0	0	1	1	0	1	0	1
3017:	1	0	0	0	0	0	1	1
3025:	0	1	0	1	0	0	0	0
3033:	1	0	0	0	0	0	0	0
3041:	2	0	0	0	0	1	0	0
3049:	2	0	0	0	0	0	0	0
3057:	0	0	0	1	0	0	0	0
3065:	0	0	0	0	0	0	0	0
3073:	1	0	0	0	0	2	1	0
3081:	0	0	0	1	0	1	0	0
3089:	0	1	0	0	0	0	0	0
3097:	0	0	0	0	0	0	0	0
3105:	1	0	0	0	0	0	0	0
3113:	0	0	0	0	0	0	0	0
3121:	0	0	0	1	0	0	0	0
3129:	0	1	0	0	0	2	0	0
3137:	0	0	0	0	0	0	1	0
3145:	0	1	0	0	0	0	0	0
3153:	0	0	0	0	0	1	0	1
3161:	0	0	1	0	1	0	1	0
3169:	1	0	0	1	0	0	0	0
3177:	0	0	0	0	1	0	1	1
3185:	0	1	0	1	0	0	0	0
3193:	0	0	0	0	0	0	1	0
3201:	0	2	0	0	0	1	0	0
3209:	0	0	0	0	1	0	0	0
3217:	0	0	1	0	0	0	0	0
3225:	0	0	0	0	0	0	0	1
3233:	0	0	1	0	0	0	0	0
3241:	0	1	1	0	0	0	0	0
3249:	0	0	0	0	0	0	0	0
3257:	0	0	0	1	0	0	0	0
3265:	0	1	0	0	0	0	0	0
3273:	0	0	0	0	1	0	0	0
3281:	0	0	1	0	0	0	0	1
3289:	0	1	1	0	0	0	0	0
3297:	0	0	0	1	0	0	0	0
3305:	0	0	0	0	0	0	0	0
3313:	0	0	1	0	0	0	0	1
3321:	0	0	0	0	0	1	0	0
3329:	0	0	0	0	0	0	0	0
3337:	0	0	0	0	0	0	0	0
3345:	0	0	0	0	0	1	0	0
3353:	0	0	0	0	0	0	0	0
3361:	1	0	0	0	0	0	0	0
3369:	1	0	0	0	0	0	0	0
3377:	0	0	0	0	0	0	0	0
3385:	0	1	0	0	0	0	1	0

3393: 0 0 0 0 1 0 0 0

Sample Title: CP0403S02-03

Channel	1	2	3	4	5	6	7	8
3401:	0	0	0	0	0	0	0	0
3409:	0	0	0	0	1	1	0	0
3417:	0	0	1	1	0	0	0	0
3425:	2	0	0	0	0	0	0	0
3433:	0	0	0	0	0	0	0	0
3441:	0	0	0	0	0	1	0	0
3449:	1	0	0	0	0	0	0	0
3457:	0	0	0	0	1	0	0	0
3465:	0	0	0	0	0	1	0	0
3473:	0	0	1	0	0	0	0	0
3481:	0	0	0	0	0	0	1	0
3489:	1	1	0	0	0	0	0	0
3497:	0	0	0	1	0	0	0	0
3505:	0	0	0	0	0	0	0	0
3513:	0	0	0	0	0	0	0	0
3521:	1	0	0	0	0	0	0	1
3529:	0	0	0	0	0	1	0	0
3537:	1	0	0	0	0	1	0	0
3545:	0	1	0	0	0	0	1	0
3553:	0	0	0	0	0	0	0	0
3561:	0	0	0	0	0	0	0	0
3569:	0	0	0	0	0	1	0	0
3577:	0	0	0	0	0	0	0	0
3585:	0	1	0	0	0	0	0	0
3593:	0	0	0	0	0	0	0	0
3601:	0	0	0	0	0	0	0	0
3609:	0	0	0	0	0	0	0	0
3617:	0	0	0	0	0	0	0	0
3625:	1	0	0	0	0	0	0	0
3633:	0	0	0	1	0	0	0	0
3641:	0	0	0	0	0	0	2	0
3649:	0	0	0	0	0	0	0	0
3657:	1	0	0	1	0	1	0	0
3665:	0	1	0	1	0	1	0	1
3673:	0	0	0	0	1	0	0	0
3681:	0	0	2	0	0	1	0	0
3689:	0	1	0	0	1	0	0	2
3697:	0	0	0	0	0	0	0	0
3705:	0	0	0	0	0	0	0	0
3713:	0	0	0	0	0	0	0	0
3721:	0	0	0	0	0	0	0	0
3729:	0	0	0	0	0	0	0	0
3737:	0	0	0	0	0	0	0	0
3745:	0	0	0	0	0	0	0	0
3753:	0	0	0	0	0	0	0	0
3761:	0	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	0	1
3777:	0	0	0	0	0	0	0	0
3785:	0	0	0	1	0	0	0	0
3793:	0	0	0	0	0	0	0	0
3801:	1	0	0	0	0	0	0	0
3809:	0	0	0	0	0	0	0	1
3817:	0	0	0	0	0	0	0	1

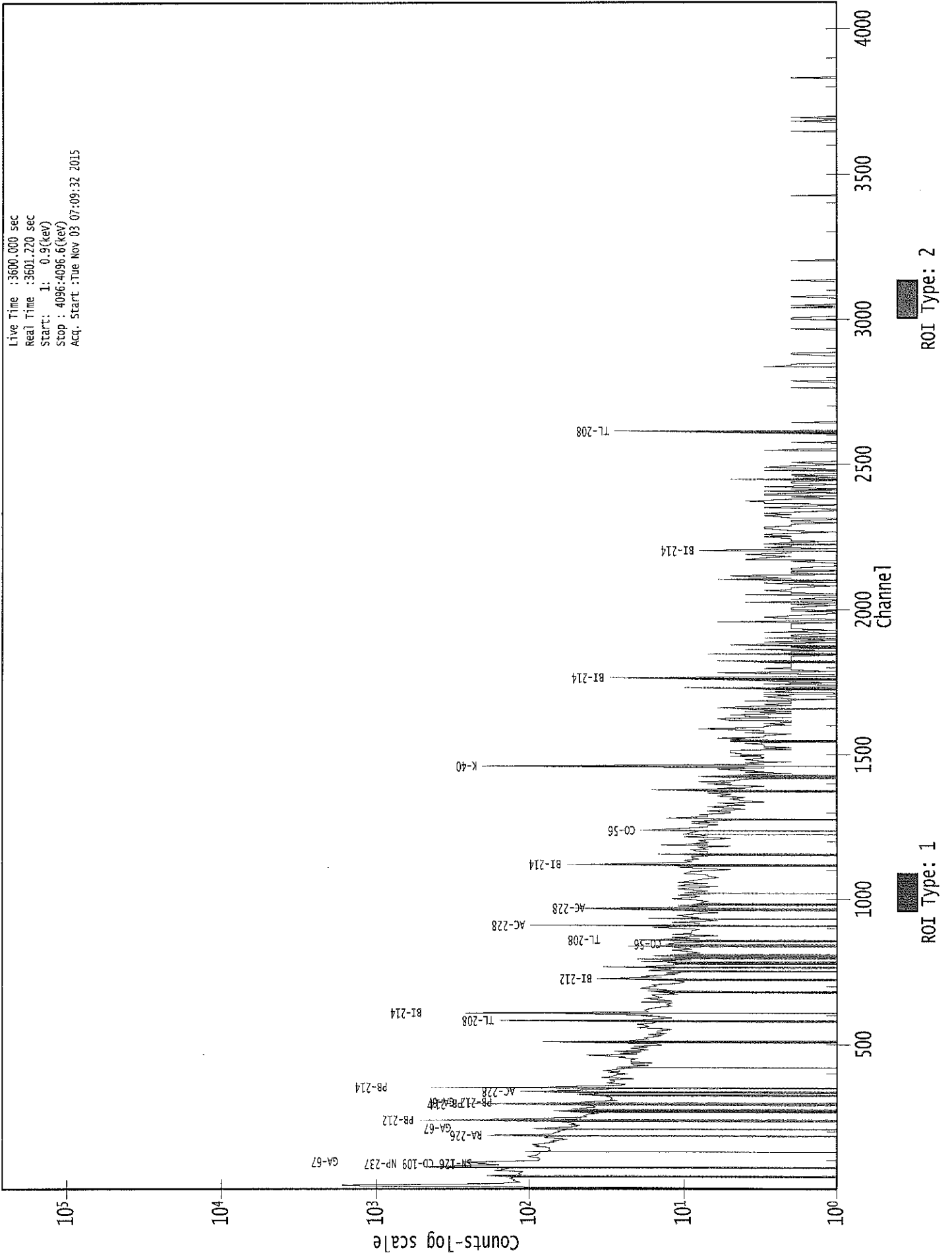
3825: 0 0 0 1 0 2 0 2

Sample Title: CP0403S02-03

Channel	1	2	3	4	5	6	7	8
3833:	0	0	1	0	0	0	0	1
3841:	1	0	0	0	0	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	0	0	0	0	0
3865:	0	0	1	0	0	0	0	1
3873:	0	0	0	0	0	0	0	0
3881:	1	0	0	0	0	0	1	0
3889:	0	0	0	0	0	0	0	0
3897:	0	0	1	0	0	0	0	0
3905:	0	0	1	0	0	0	0	0
3913:	0	1	0	0	0	0	0	0
3921:	0	0	0	1	0	0	0	0
3929:	0	1	0	0	0	0	0	0
3937:	1	0	1	0	1	1	0	0
3945:	0	0	1	0	0	0	0	0
3953:	0	0	0	0	0	0	1	0
3961:	0	0	0	0	0	0	0	0
3969:	0	0	0	0	0	0	0	1
3977:	0	0	0	0	0	0	0	1
3985:	1	1	0	0	0	0	0	0
3993:	0	0	0	0	0	0	0	0
4001:	0	0	0	0	0	0	0	0
4009:	0	0	0	0	0	0	1	0
4017:	0	0	0	0	0	1	0	0
4025:	1	0	0	0	0	0	0	1
4033:	0	0	0	0	0	0	0	1
4041:	0	1	0	0	0	0	0	0
4049:	0	0	0	1	0	0	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	0	0	0	0	0	0	0
4073:	0	0	0	0	0	0	0	0
4081:	0	1	0	0	0	1	0	0
4089:	0	0	0	0	0	0	1	1

0000029008.CNF

Live Time : 3600.000 sec
Real Time : 3601.720 sec
Start : 1: 0.9(keV)
Stop : 4096:4096.6(keV)
Acq. Start : Tue Nov 03 07:09:32 2015



Analysis Report for 1510063-05
CP0403S04-05

✓
1117

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510063-05
Sample Description : CP0403S04-05
Sample Type : SOIL

Sample Size : 5.492E+02 grams
Facility : Countroom

Sample Taken On : 10/5/2015 6:59:28AM
Acquisition Started : 11/3/2015 6:07:45AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE3
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3616.4 seconds

Dead Time : 0.45 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 9 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29005

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/3/15

Analysis Report for 1510063-05
CP0403S04-05

PEAK LOCATE REPORT

Peak Locate Performed on : 11/3/2015 7:08:03AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	63.57	63.79	0.0000	0.00
2	76.28	76.50	0.0000	0.00
3	88.21	88.42	0.0000	0.00
4	129.21	129.39	0.0000	0.00
5	182.72	182.87	0.0000	0.00
6	186.33	186.49	0.0000	0.00
7	209.24	209.38	0.0000	0.00
8	238.88	239.01	0.0000	0.00
9	242.00	242.12	0.0000	0.00
10	270.89	271.00	0.0000	0.00
11	295.39	295.49	0.0000	0.00
12	300.69	300.78	0.0000	0.00
13	328.17	328.26	0.0000	0.00
14	338.66	338.74	0.0000	0.00
15	349.09	349.16	0.0000	0.00
16	352.24	352.31	0.0000	0.00
17	462.92	462.94	0.0000	0.00
18	498.22	498.22	0.0000	0.00
19	510.92	510.91	0.0000	0.00
20	583.50	583.46	0.0000	0.00
21	609.73	609.68	0.0000	0.00
22	703.40	703.30	0.0000	0.00
23	727.16	727.05	0.0000	0.00
24	769.69	769.56	0.0000	0.00
25	805.95	805.80	0.0000	0.00
26	862.62	862.45	0.0000	0.00
27	911.57	911.38	0.0000	0.00
28	969.50	969.28	0.0000	0.00
29	987.84	987.61	0.0000	0.00
30	1044.69	1044.44	0.0000	0.00
31	1120.86	1120.57	0.0000	0.00
32	1407.99	1407.59	0.0000	0.00
33	1461.15	1460.73	0.0000	0.00
34	1528.65	1528.20	0.0000	0.00
35	1621.57	1621.09	0.0000	0.00
36	1631.32	1630.84	0.0000	0.00
37	1647.69	1647.20	0.0000	0.00
38	1717.90	1717.39	0.0000	0.00
39	1729.61	1729.09	0.0000	0.00
40	1764.88	1764.35	0.0000	0.00
41	1848.87	1848.31	0.0000	0.00
42	1907.18	1906.61	0.0000	0.00

Analysis Report for 1510063-05
CP0403S04-05

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
43	1914.11	1913.53	0.0000	0.00
44	1920.08	1919.50	0.0000	0.00
45	2104.13	2103.49	0.0000	0.00
46	2203.92	2203.25	0.0000	0.00
47	2381.61	2380.89	0.0000	0.00
48	2447.20	2446.47	0.0000	0.00
49	2614.68	2613.90	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510063-05
CP0403S04-05

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 7:08:03AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
1	63.57	61 -	66	63.79	1.42E+02	92.14	1.58E+03	1.69
2	76.28	71 -	81	76.50	1.26E+03	162.07	2.82E+03	3.92
3	88.21	86 -	91	88.42	1.51E+02	92.18	1.58E+03	1.57
4	129.21	126 -	132	129.39	6.58E+01	73.45	9.36E+02	1.81
M 5	182.72	181 -	190	182.87	3.44E+01	39.85	3.74E+02	1.90
m 6	186.33	181 -	190	186.49	1.97E+02	66.91	6.32E+02	2.21
7	209.24	206 -	213	209.38	7.38E+01	66.78	6.90E+02	1.77
M 8	238.88	234 -	253	239.01	8.00E+02	68.86	3.98E+02	1.71
m 9	242.00	234 -	253	242.12	2.25E+02	78.18	4.39E+02	2.29
10	270.89	268 -	274	271.00	5.42E+01	52.51	4.56E+02	1.50
11	295.39	292 -	298	295.49	3.09E+02	57.43	3.76E+02	1.93
12	300.69	299 -	304	300.78	6.07E+01	41.22	2.83E+02	2.02
13	328.17	325 -	331	328.26	4.09E+01	44.40	3.28E+02	1.30
14	338.66	335 -	343	338.74	1.39E+02	55.29	3.80E+02	1.87
M 15	349.09	348 -	359	349.16	2.43E+01	19.04	7.37E+01	1.71
m 16	352.24	348 -	359	352.31	4.69E+02	50.18	1.45E+02	1.78
17	462.92	461 -	466	462.94	3.34E+01	28.65	1.41E+02	2.61
18	498.22	495 -	501	498.22	2.60E+01	29.84	1.42E+02	3.44
19	510.92	507 -	515	510.91	1.19E+02	43.41	2.17E+02	2.76
20	583.50	577 -	588	583.46	2.12E+02	51.69	2.28E+02	2.01
21	609.73	605 -	614	609.68	3.62E+02	54.25	2.11E+02	1.97
22	703.40	699 -	707	703.30	4.11E+01	32.12	1.30E+02	3.02
23	727.16	723 -	731	727.05	6.20E+01	31.34	1.14E+02	1.43
24	769.69	764 -	775	769.56	5.64E+01	38.83	1.55E+02	2.08
25	805.95	801 -	811	805.80	3.25E+01	32.86	1.27E+02	2.41
26	862.62	856 -	870	862.45	7.24E+01	33.87	9.12E+01	7.49
27	911.57	907 -	917	911.38	1.67E+02	38.64	1.10E+02	2.21
28	969.50	966 -	972	969.28	5.18E+01	31.60	1.38E+02	1.34
29	987.84	984 -	990	987.61	1.55E+01	19.18	5.51E+01	3.06
30	1044.69	1041 -	1048	1044.44	1.95E+01	23.66	8.10E+01	1.80
31	1120.86	1116 -	1125	1120.57	7.25E+01	30.30	8.91E+01	2.04
32	1407.99	1405 -	1411	1407.59	1.05E+01	13.33	2.51E+01	2.24
33	1461.15	1455 -	1466	1460.73	5.01E+02	49.36	5.43E+01	2.16
34	1528.65	1526 -	1530	1528.20	5.00E+00	4.47	0.00E+00	2.75
35	1621.57	1615 -	1626	1621.09	1.53E+01	14.28	1.75E+01	3.42
36	1631.32	1627 -	1634	1630.84	1.20E+01	9.80	8.00E+00	1.96
37	1647.69	1643 -	1650	1647.20	8.17E+00	8.94	7.67E+00	1.63
38	1717.90	1712 -	1722	1717.39	1.45E+01	11.85	1.10E+01	2.10
39	1729.61	1724 -	1733	1729.09	1.55E+01	15.39	2.50E+01	1.49
40	1764.88	1760 -	1768	1764.35	5.40E+01	14.70	0.00E+00	2.84

Analysis Report for 1510063-05

CP0403S04-05

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1848.87	1843 - 1853		1848.31	1.55E+01	10.11	5.06E+00	4.86
42	1907.18	1903 - 1911		1906.61	1.04E+01	8.50	5.15E+00	2.94
43	1914.11	1911 - 1916		1913.53	5.79E+00	6.08	2.43E+00	2.15
44	1920.08	1917 - 1922		1919.50	6.00E+00	4.90	0.00E+00	1.16
45	2104.13	2099 - 2108		2103.49	1.60E+01	11.58	1.00E+01	3.27
46	2203.92	2198 - 2206		2203.25	1.60E+01	8.00	0.00E+00	2.80
47	2381.61	2377 - 2383		2380.89	9.00E+00	6.00	0.00E+00	1.47
48	2447.20	2441 - 2450		2446.47	1.50E+01	7.75	0.00E+00	3.08
49	2614.68	2608 - 2618		2613.90	5.35E+01	17.22	1.10E+01	2.87

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 7:08:03AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level	
1	63.57	61 -	66	1.42E+02	92.14	1.58E+03	7.32E+01	
2	76.28	71 -	81	1.26E+03	162.07	2.82E+03	1.20E+02	
3	88.21	86 -	91	1.51E+02	92.18	1.58E+03	7.30E+01	
4	129.21	126 -	132	6.58E+01	73.45	9.36E+02	5.89E+01	
M	5	182.72	181 -	190	3.44E+01	39.85	3.74E+02	3.18E+01
m	6	186.33	181 -	190	1.97E+02	66.91	6.32E+02	4.13E+01
7	209.24	206 -	213	7.38E+01	66.78	6.90E+02	5.30E+01	
M	8	238.88	234 -	253	8.00E+02	68.86	3.98E+02	3.28E+01
m	9	242.00	234 -	253	2.25E+02	78.18	4.39E+02	3.44E+01
10	270.89	268 -	274	5.42E+01	52.51	4.56E+02	4.14E+01	
11	295.39	292 -	298	3.09E+02	57.43	3.76E+02	3.73E+01	
12	300.69	299 -	304	6.07E+01	41.22	2.83E+02	3.14E+01	
13	328.17	325 -	331	4.09E+01	44.40	3.28E+02	3.50E+01	
14	338.66	335 -	343	1.39E+02	55.29	3.80E+02	4.11E+01	
M	15	349.09	348 -	359	2.43E+01	19.04	7.37E+01	1.41E+01
m	16	352.24	348 -	359	4.69E+02	50.18	1.45E+02	1.98E+01
17	462.92	461 -	466	3.34E+01	28.65	1.41E+02	2.16E+01	
18	498.22	495 -	501	2.60E+01	29.84	1.42E+02	2.30E+01	

: 00481

Analysis Report for 1510063-05

CP0403S04-05

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
19	510.92	507 -	515	1.19E+02	43.41	2.17E+02	3.08E+01
20	583.50	577 -	588	2.12E+02	51.69	2.28E+02	3.51E+01
21	609.73	605 -	614	3.62E+02	54.25	2.11E+02	3.18E+01
22	703.40	699 -	707	4.11E+01	32.12	1.30E+02	2.42E+01
23	727.16	723 -	731	6.20E+01	31.34	1.14E+02	9.27E+00
24	769.69	764 -	775	5.64E+01	38.83	1.55E+02	2.94E+01
25	805.95	801 -	811	3.25E+01	32.86	1.27E+02	2.53E+01
26	862.62	856 -	870	7.24E+01	33.87	9.12E+01	2.41E+01
27	911.57	907 -	917	1.67E+02	38.64	1.10E+02	2.36E+01
28	969.50	966 -	972	5.18E+01	31.60	1.38E+02	2.31E+01
29	987.84	984 -	990	1.55E+01	19.18	5.51E+01	1.44E+01
30	1044.69	1041 -	1048	1.95E+01	23.66	8.10E+01	1.80E+01
31	1120.86	1116 -	1125	7.25E+01	30.30	8.91E+01	2.06E+01
32	1407.99	1405 -	1411	1.05E+01	13.33	2.51E+01	9.58E+00
33	1461.15	1455 -	1466	5.01E+02	49.36	5.43E+01	1.71E+01
34	1528.65	1526 -	1530	5.00E+00	4.47	0.00E+00	0.00E+00
35	1621.57	1615 -	1626	1.53E+01	14.28	1.75E+01	9.83E+00
36	1631.32	1627 -	1634	1.20E+01	9.80	8.00E+00	5.70E+00
37	1647.69	1643 -	1650	8.17E+00	8.94	7.67E+00	5.66E+00
38	1717.90	1712 -	1722	1.45E+01	11.85	1.10E+01	7.47E+00
39	1729.61	1724 -	1733	1.55E+01	15.39	2.50E+01	1.09E+01
40	1764.88	1760 -	1768	5.40E+01	14.70	0.00E+00	0.00E+00
41	1848.87	1843 -	1853	1.55E+01	10.11	5.06E+00	5.22E+00
42	1907.18	1903 -	1911	1.04E+01	8.50	5.15E+00	4.54E+00
43	1914.11	1911 -	1916	5.79E+00	6.08	2.43E+00	3.06E+00
44	1920.08	1917 -	1922	6.00E+00	4.90	0.00E+00	0.00E+00
45	2104.13	2099 -	2108	1.60E+01	11.58	1.00E+01	6.88E+00
46	2203.92	2198 -	2206	1.60E+01	8.00	0.00E+00	0.00E+00
47	2381.61	2377 -	2383	9.00E+00	6.00	0.00E+00	0.00E+00
48	2447.20	2441 -	2450	1.50E+01	7.75	0.00E+00	0.00E+00
49	2614.68	2608 -	2618	5.35E+01	17.22	1.10E+01	7.47E+00

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

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/3/2015 7:08:03AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

: 00482

Analysis Report for 1510063-05

CP0403S04-05

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide	
1	63.57	61 -	66	63.79	1.42E+02	92.14	1.58E+03	TH-234 TH-230	
2	76.28	71 -	81	76.50	1.26E+03	162.07	2.82E+03	.....
3	88.21	86 -	91	88.42	1.51E+02	92.18	1.58E+03	LU-176 CD-109 SN-126	
M	4	129.21	126 -	132	129.39	6.58E+01	73.45	9.36E+02	.....
m	5	182.72	181 -	190	182.87	3.44E+01	39.85	3.74E+02	.....
	6	186.33	181 -	190	186.49	1.97E+02	66.91	6.32E+02	RA-226
	7	209.24	206 -	213	209.38	7.38E+01	66.78	6.90E+02	GA-67 CM-243
M	8	238.88	234 -	253	239.01	8.00E+02	68.86	3.98E+02	PB-212
m	9	242.00	234 -	253	242.12	2.25E+02	78.18	4.39E+02	.....
	10	270.89	268 -	274	271.00	5.42E+01	52.51	4.56E+02	.....
	11	295.39	292 -	298	295.49	3.09E+02	57.43	3.76E+02	PB-214
	12	300.69	299 -	304	300.78	6.07E+01	41.22	2.83E+02	GA-67 PB-212 BI-210M
	13	328.17	325 -	331	328.26	4.09E+01	44.40	3.28E+02	LA-140
	14	338.66	335 -	343	338.74	1.39E+02	55.29	3.80E+02	AC-228
M	15	349.09	348 -	359	349.16	2.43E+01	19.04	7.37E+01	.....
m	16	352.24	348 -	359	352.31	4.69E+02	50.18	1.45E+02	PB-214
	17	462.92	461 -	466	462.94	3.34E+01	28.65	1.41E+02	SB-125
	18	498.22	495 -	501	498.22	2.60E+01	29.84	1.42E+02	.....
	19	510.92	507 -	515	510.91	1.19E+02	43.41	2.17E+02	.....
	20	583.50	577 -	588	583.46	2.12E+02	51.69	2.28E+02	TL-208
	21	609.73	605 -	614	609.68	3.62E+02	54.25	2.11E+02	BI-214
	22	703.40	699 -	707	703.30	4.11E+01	32.12	1.30E+02	NB-94
	23	727.16	723 -	731	727.05	6.20E+01	31.34	1.14E+02	BI-212
	24	769.69	764 -	775	769.56	5.64E+01	38.83	1.55E+02	.....
	25	805.95	801 -	811	805.80	3.25E+01	32.86	1.27E+02	.....
	26	862.62	856 -	870	862.45	7.24E+01	33.87	9.12E+01	.....
	27	911.57	907 -	917	911.38	1.67E+02	38.64	1.10E+02	AC-228 LU-172
	28	969.50	966 -	972	969.28	5.18E+01	31.60	1.38E+02	AC-228
	29	987.84	984 -	990	987.61	1.55E+01	19.18	5.51E+01	.....
	30	1044.69	1041 -	1048	1044.44	1.95E+01	23.66	8.10E+01	.....
	31	1120.86	1116 -	1125	1120.57	7.25E+01	30.30	8.91E+01	SC-46 TA-182 BI-214
	32	1407.99	1405 -	1411	1407.59	1.05E+01	13.33	2.51E+01	EU-152
	33	1461.15	1455 -	1466	1460.73	5.01E+02	49.36	5.43E+01	K-40
	34	1528.65	1526 -	1530	1528.20	5.00E+00	4.47	0.00E+00	.....
	35	1621.57	1615 -	1626	1621.09	1.53E+01	14.28	1.75E+01	BI-212
	36	1631.32	1627 -	1634	1630.84	1.20E+01	9.80	8.00E+00	.....
	37	1647.69	1643 -	1650	1647.20	8.17E+00	8.94	7.67E+00	.....
	38	1717.90	1712 -	1722	1717.39	1.45E+01	11.85	1.10E+01	.....
	39	1729.61	1724 -	1733	1729.09	1.55E+01	15.39	2.50E+01	.....
	40	1764.88	1760 -	1768	1764.35	5.40E+01	14.70	0.00E+00	BI-214
	41	1848.87	1843 -	1853	1848.31	1.55E+01	10.11	5.06E+00	.....
	42	1907.18	1903 -	1911	1906.61	1.04E+01	8.50	5.15E+00	.....

Analysis Report for 1510063-05
 CP0403S04-05

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
43	1914.11	1911 -	1916	1913.53	5.79E+00	6.08	2.43E+00	.....
44	1920.08	1917 -	1922	1919.50	6.00E+00	4.90	0.00E+00	.....
45	2104.13	2099 -	2108	2103.49	1.60E+01	11.58	1.00E+01	.....
46	2203.92	2198 -	2206	2203.25	1.60E+01	8.00	0.00E+00	BI-214
47	2381.61	2377 -	2383	2380.89	9.00E+00	6.00	0.00E+00	.....
48	2447.20	2441 -	2450	2446.47	1.50E+01	7.75	0.00E+00	.....
49	2614.68	2608 -	2618	2613.90	5.35E+01	17.22	1.10E+01	TL-208

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/3/2015 7:08:03AM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty	
	1	63.57	1.42E+02	92.14	2.17E-02	1.72E-03
	2	76.28	1.26E+03	162.07	2.38E-02	2.14E-03
	3	88.21	1.51E+02	92.18	2.44E-02	2.52E-03
	4	129.21	6.58E+01	73.45	2.25E-02	1.70E-03
M	5	182.72	3.44E+01	39.85	1.85E-02	1.43E-03
m	6	186.33	1.97E+02	66.91	1.83E-02	1.42E-03
	7	209.24	7.38E+01	66.78	1.68E-02	1.31E-03
M	8	238.88	8.00E+02	68.86	1.52E-02	1.18E-03
m	9	242.00	2.25E+02	78.18	1.51E-02	1.17E-03
	10	270.89	5.42E+01	52.51	1.38E-02	1.03E-03
	11	295.39	3.09E+02	57.43	1.28E-02	9.74E-04
	12	300.69	6.07E+01	41.22	1.26E-02	9.66E-04
	13	328.17	4.09E+01	44.40	1.17E-02	9.27E-04
	14	338.66	1.39E+02	55.29	1.14E-02	9.12E-04
M	15	349.09	2.43E+01	19.04	1.11E-02	8.98E-04
m	16	352.24	4.69E+02	50.18	1.11E-02	8.93E-04
	17	462.92	3.34E+01	28.65	8.73E-03	7.66E-04
	18	498.22	2.60E+01	29.84	8.19E-03	7.31E-04
	19	510.92	1.19E+02	43.41	8.01E-03	7.18E-04
	20	583.50	2.12E+02	51.69	7.14E-03	6.46E-04
	21	609.73	3.62E+02	54.25	6.87E-03	6.20E-04
	22	703.40	4.11E+01	32.12	6.06E-03	5.34E-04
	23	727.16	6.20E+01	31.34	5.89E-03	5.14E-04

Analysis Report for 1510063-05
CP0403S04-05

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
24	769.69	5.64E+01	38.83	5.61E-03	4.80E-04
25	805.95	3.25E+01	32.86	5.39E-03	4.50E-04
26	862.62	7.24E+01	33.87	5.08E-03	4.04E-04
27	911.57	1.67E+02	38.64	4.85E-03	3.72E-04
28	969.50	5.18E+01	31.60	4.60E-03	3.61E-04
29	987.84	1.55E+01	19.18	4.53E-03	3.58E-04
30	1044.69	1.95E+01	23.66	4.32E-03	3.47E-04
31	1120.86	7.25E+01	30.30	4.08E-03	3.33E-04
32	1407.99	1.05E+01	13.33	3.39E-03	2.77E-04
33	1461.15	5.01E+02	49.36	3.29E-03	2.69E-04
34	1528.65	5.00E+00	4.47	3.18E-03	2.59E-04
35	1621.57	1.53E+01	14.28	3.04E-03	2.45E-04
36	1631.32	1.20E+01	9.80	3.03E-03	2.44E-04
37	1647.69	8.17E+00	8.94	3.00E-03	2.41E-04
38	1717.90	1.45E+01	11.85	2.91E-03	2.31E-04
39	1729.61	1.55E+01	15.39	2.90E-03	2.29E-04
40	1764.88	5.40E+01	14.70	2.86E-03	2.24E-04
41	1848.87	1.55E+01	10.11	2.76E-03	2.13E-04
42	1907.18	1.04E+01	8.50	2.71E-03	2.13E-04
43	1914.11	5.79E+00	6.08	2.70E-03	2.13E-04
44	1920.08	6.00E+00	4.90	2.69E-03	2.13E-04
45	2104.13	1.60E+01	11.58	2.54E-03	2.13E-04
46	2203.92	1.60E+01	8.00	2.46E-03	2.13E-04
47	2381.61	9.00E+00	6.00	2.35E-03	2.13E-04
48	2447.20	1.50E+01	7.75	2.32E-03	2.13E-04
49	2614.68	5.35E+01	17.22	2.24E-03	2.13E-04

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

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/3/2015 7:08:03AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
1	63.57	1.42E+02	92.14	5.52E+01	2.05E+01	8.71E+01	9.44E+01
2	76.28	1.26E+03	162.07			1.26E+03	1.62E+02
3	88.21	1.51E+02	92.18	1.52E+01	5.37E+00	1.36E+02	9.23E+01
4	129.21	6.58E+01	73.45			6.58E+01	7.34E+01

: 00485

Analysis Report for 1510063-05

CP0403S04-05

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	5	182.72	3.44E+01	39.85			3.44E+01	3.98E+01
m	6	186.33	1.97E+02	66.91	3.93E+01	6.56E+00	1.58E+02	6.72E+01
	7	209.24	7.38E+01	66.78			7.38E+01	6.68E+01
M	8	238.88	8.00E+02	68.86	1.34E+01	2.14E+00	7.87E+02	6.89E+01
m	9	242.00	2.25E+02	78.18	2.69E+00	1.46E+00	2.23E+02	7.82E+01
	10	270.89	5.42E+01	52.51			5.42E+01	5.25E+01
	11	295.39	3.09E+02	57.43			3.09E+02	5.74E+01
	12	300.69	6.07E+01	41.22			6.07E+01	4.12E+01
	13	328.17	4.09E+01	44.40			4.09E+01	4.44E+01
	14	338.66	1.39E+02	55.29			1.39E+02	5.53E+01
M	15	349.09	2.43E+01	19.04			2.43E+01	1.90E+01
m	16	352.24	4.69E+02	50.18	3.99E+00	4.73E+00	4.65E+02	5.04E+01
	17	462.92	3.34E+01	28.65			3.34E+01	2.87E+01
	18	498.22	2.60E+01	29.84			2.60E+01	2.98E+01
	19	510.92	1.19E+02	43.41	5.78E+01	4.60E+00	6.17E+01	4.36E+01
	20	583.50	2.12E+02	51.69	5.96E+00	3.46E+00	2.06E+02	5.18E+01
	21	609.73	3.62E+02	54.25	6.71E+00	3.44E+00	3.55E+02	5.44E+01
	22	703.40	4.11E+01	32.12			4.11E+01	3.21E+01
	23	727.16	6.20E+01	31.34			6.20E+01	3.13E+01
	24	769.69	5.64E+01	38.83			5.64E+01	3.88E+01
	25	805.95	3.25E+01	32.86			3.25E+01	3.29E+01
	26	862.62	7.24E+01	33.87			7.24E+01	3.39E+01
	27	911.57	1.67E+02	38.64	2.32E+00	2.73E+00	1.65E+02	3.87E+01
	28	969.50	5.18E+01	31.60			5.18E+01	3.16E+01
	29	987.84	1.55E+01	19.18			1.55E+01	1.92E+01
	30	1044.69	1.95E+01	23.66			1.95E+01	2.37E+01
	31	1120.86	7.25E+01	30.30	2.00E+00	2.20E+00	7.05E+01	3.04E+01
	32	1407.99	1.05E+01	13.33			1.05E+01	1.33E+01
	33	1461.15	5.01E+02	49.36			5.01E+02	4.94E+01
	34	1528.65	5.00E+00	4.47			5.00E+00	4.47E+00
	35	1621.57	1.53E+01	14.28			1.53E+01	1.43E+01
	36	1631.32	1.20E+01	9.80			1.20E+01	9.80E+00
	37	1647.69	8.17E+00	8.94			8.17E+00	8.94E+00
	38	1717.90	1.45E+01	11.85			1.45E+01	1.19E+01
	39	1729.61	1.55E+01	15.39			1.55E+01	1.54E+01
	40	1764.88	5.40E+01	14.70	1.45E+00	1.16E+00	5.25E+01	1.47E+01
	41	1848.87	1.55E+01	10.11			1.55E+01	1.01E+01
	42	1907.18	1.04E+01	8.50			1.04E+01	8.50E+00
	43	1914.11	5.79E+00	6.08			5.79E+00	6.08E+00
	44	1920.08	6.00E+00	4.90			6.00E+00	4.90E+00
	45	2104.13	1.60E+01	11.58			1.60E+01	1.16E+01
	46	2203.92	1.60E+01	8.00			1.60E+01	8.00E+00
	47	2381.61	9.00E+00	6.00			9.00E+00	6.00E+00
	48	2447.20	1.50E+01	7.75			1.50E+01	7.75E+00
	49	2614.68	5.35E+01	17.22			5.35E+01	1.72E+01

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

Analysis Report for 1510063-05

CP0403S04-05

AREA CORRECTION REPORT

REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/3/2015 7:08:03AM

Ref. Peak Energy : 0.00

Reference Date :

Peak Ratio : 0.00

Uncertainty : 0.00

Background File

: \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

Corrected Area is: Original * Peak Ratio - Background

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
1	63.57	1.42E+02	92.14	5.52E+01	2.05E+01	8.71E+01	9.44E+01
2	76.28	1.26E+03	162.07			1.26E+03	1.62E+02
3	88.21	1.51E+02	92.18	1.52E+01	5.37E+00	1.36E+02	9.23E+01
4	129.21	6.58E+01	73.45			6.58E+01	7.34E+01
M	5	182.72	3.44E+01	39.85		3.44E+01	3.98E+01
m	6	186.33	1.97E+02	66.91	3.93E+01	6.56E+00	1.58E+02
	7	209.24	7.38E+01	66.78		7.38E+01	6.68E+01
M	8	238.88	8.00E+02	68.86	1.34E+01	2.14E+00	7.87E+02
m	9	242.00	2.25E+02	78.18	2.69E+00	1.46E+00	2.23E+02
	10	270.89	5.42E+01	52.51		5.42E+01	5.25E+01
	11	295.39	3.09E+02	57.43		3.09E+02	5.74E+01
	12	300.69	6.07E+01	41.22		6.07E+01	4.12E+01
	13	328.17	4.09E+01	44.40		4.09E+01	4.44E+01
	14	338.66	1.39E+02	55.29		1.39E+02	5.53E+01
M	15	349.09	2.43E+01	19.04		2.43E+01	1.90E+01
m	16	352.24	4.69E+02	50.18	3.99E+00	4.73E+00	4.65E+02
	17	462.92	3.34E+01	28.65		3.34E+01	2.87E+01
	18	498.22	2.60E+01	29.84		2.60E+01	2.98E+01
	19	510.92	1.19E+02	43.41	5.78E+01	4.60E+00	6.17E+01
	20	583.50	2.12E+02	51.69	5.96E+00	3.46E+00	2.06E+02
	21	609.73	3.62E+02	54.25	6.71E+00	3.44E+00	3.55E+02
	22	703.40	4.11E+01	32.12		4.11E+01	3.21E+01
	23	727.16	6.20E+01	31.34		6.20E+01	3.13E+01
	24	769.69	5.64E+01	38.83		5.64E+01	3.88E+01
	25	805.95	3.25E+01	32.86		3.25E+01	3.29E+01
	26	862.62	7.24E+01	33.87		7.24E+01	3.39E+01
	27	911.57	1.67E+02	38.64	2.32E+00	2.73E+00	1.65E+02
	28	969.50	5.18E+01	31.60		5.18E+01	3.16E+01
	29	987.84	1.55E+01	19.18		1.55E+01	1.92E+01
	30	1044.69	1.95E+01	23.66		1.95E+01	2.37E+01
	31	1120.86	7.25E+01	30.30	2.00E+00	2.20E+00	7.05E+01
	32	1407.99	1.05E+01	13.33		1.05E+01	1.33E+01
	33	1461.15	5.01E+02	49.36		5.01E+02	4.94E+01
	34	1528.65	5.00E+00	4.47		5.00E+00	4.47E+00
	35	1621.57	1.53E+01	14.28		1.53E+01	1.43E+01
	36	1631.32	1.20E+01	9.80		1.20E+01	9.80E+00
	37	1647.69	8.17E+00	8.94		8.17E+00	8.94E+00
	38	1717.90	1.45E+01	11.85		1.45E+01	1.19E+01
	39	1729.61	1.55E+01	15.39		1.55E+01	1.54E+01

: 00487

Analysis Report for 1510063-05

CP0403S04-05

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
40	1764.88	5.40E+01	14.70	1.45E+00	1.16E+00	5.25E+01	1.47E+01
41	1848.87	1.55E+01	10.11			1.55E+01	1.01E+01
42	1907.18	1.04E+01	8.50			1.04E+01	8.50E+00
43	1914.11	5.79E+00	6.08			5.79E+00	6.08E+00
44	1920.08	6.00E+00	4.90			6.00E+00	4.90E+00
45	2104.13	1.60E+01	11.58			1.60E+01	1.16E+01
46	2203.92	1.60E+01	8.00			1.60E+01	8.00E+00
47	2381.61	9.00E+00	6.00			9.00E+00	6.00E+00
48	2447.20	1.50E+01	7.75			1.50E+01	7.75E+00
49	2614.68	5.35E+01	17.22			5.35E+01	1.72E+01

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.982	1460.81 *	10.67	1.95E+01	2.53E+00
CD-109	0.995	88.03 *	3.72	2.14E+00	1.47E+00
SN-126	0.936	87.57 *	37.00	2.06E-01	1.41E-01
TL-208	0.879	583.14 *	30.22	1.31E+00	3.49E-01
		860.37	4.48		
		2614.66 *	35.85	9.11E-01	3.06E-01
BI-212	0.973	727.17 *	11.80	1.22E+00	6.25E-01
		1620.62 *	2.75	2.50E+00	2.34E+00
PB-212	0.987	238.63 *	44.60	1.59E+00	1.86E-01
		300.09 *	3.41	1.93E+00	1.32E+00
BI-214	0.969	609.31 *	46.30	1.53E+00	2.71E-01
		1120.29 *	15.10	1.57E+00	6.87E-01
		1764.49 *	15.80	1.59E+00	4.64E-01
		2204.22 *	4.98	1.78E+00	9.05E-01
PB-214	0.988	295.21 *	19.19	1.72E+00	3.45E-01
		351.92 *	37.19	1.55E+00	2.09E-01
RA-226	0.998	186.21 *	3.28	3.60E+00	6.76E+00
AC-228	0.969	338.32 *	11.40	1.46E+00	5.92E-01
		911.07 *	27.70	1.68E+00	4.15E-01
		969.11 *	16.60	9.26E-01	5.70E-01
TH-234	0.988	63.29 *	3.80	1.45E+00	1.57E+00

: 00488

Analysis Report for 1510063-05
CP0403S04-05

* = Energy line found in the spectrum.
- = Manually added nuclide.
? = Manually edited nuclide.
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 7:08:03AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	2	76.28	3.50167E-01	6.43	
	4	129.21	1.82813E-02	55.80	
M	5	182.72	9.54892E-03	57.96	
	7	209.24	2.04879E-02	45.27	Tol. GA-67 CM-243
m	9	242.00	6.18347E-02	17.56	
	10	270.89	1.50453E-02	48.47	
	13	328.17	1.13713E-02	54.23	Tol. LA-140
M	15	349.09	6.76169E-03	39.11	
	17	462.92	9.27217E-03	42.92	Tol. SB-125
	18	498.22	7.23511E-03	57.28	
	19	510.92	1.71383E-02	35.37	
	22	703.40	1.14177E-02	39.07	Tol. NB-94
	24	769.69	1.56737E-02	34.41	Sum
	25	805.95	9.02054E-03	50.59	
	26	862.62	2.01177E-02	23.38	
	29	987.84	4.29264E-03	62.07	
	30	1044.69	5.42130E-03	60.63	
	32	1407.99	2.90459E-03	63.75	Tol. EU-152
	34	1528.65	1.38889E-03	44.72	
	36	1631.32	3.33333E-03	40.82	
	37	1647.69	2.26852E-03	54.76	Sum
	38	1717.90	4.02778E-03	40.87	
	39	1729.61	4.31052E-03	49.60	Sum
	41	1848.87	4.29784E-03	32.68	Sum
	42	1907.18	2.89530E-03	40.77	
	43	1914.11	1.60714E-03	52.57	
	44	1920.08	1.66667E-03	40.82	
	45	2104.13	4.44444E-03	36.17	S-Esc
	47	2381.61	2.50000E-03	33.33	
	48	2447.20	4.16667E-03	25.82	

Analysis Report for 1510063-05
CP0403S04-05

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.98	1460.81 *	10.67	1.95E+01	2.53E+00
CD-109	0.99	88.03 *	3.72	2.14E+00	1.47E+00
SN-126	0.93	87.57 *	37.00	2.06E-01	1.41E-01
TL-208	0.87	583.14 *	30.22	1.31E+00	3.49E-01
		860.37	4.48		
		2614.66 *	35.85	9.11E-01	3.06E-01
BI-212	0.97	727.17 *	11.80	1.22E+00	6.25E-01
		1620.62 *	2.75	2.50E+00	2.34E+00
PB-212	0.98	238.63 *	44.60	1.59E+00	1.86E-01
		300.09 *	3.41	1.93E+00	1.32E+00
BI-214	0.96	609.31 *	46.30	1.53E+00	2.71E-01
		1120.29 *	15.10	1.57E+00	6.87E-01
		1764.49 *	15.80	1.59E+00	4.64E-01
		2204.22 *	4.98	1.78E+00	9.05E-01
PB-214	0.98	295.21 *	19.19	1.72E+00	3.45E-01
		351.92 *	37.19	1.55E+00	2.09E-01
RA-226	0.99	186.21 *	3.28	3.60E+00	6.76E+00
AC-228	0.96	338.32 *	11.40	1.46E+00	5.92E-01
		911.07 *	27.70	1.68E+00	4.15E-01
		969.11 *	16.60	9.26E-01	5.70E-01
TH-234	0.98	63.29 *	3.80	1.45E+00	1.57E+00

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510063-05

CP0403S04-05

INTERFERENCE CORRECTED REPORT

<i>Nuclide Name</i>	<i>Nuclide Id Confidence</i>	<i>Wt mean Activity (pCi/grams)</i>	<i>Wt mean Activity Uncertainty</i>	<i>Comments</i>	
	K-40	0.982	1.95E+01	2.53E+00	
?	CD-109	0.995	2.14E+00	1.47E+00	
?	SN-126	0.936	2.06E-01	1.41E-01	
	TL-208	0.879	1.08E+00	2.30E-01	
	BI-212	0.973	1.30E+00	6.04E-01	
	PB-212	0.987	1.59E+00	1.84E-01	
	BI-214	0.969	1.56E+00	2.15E-01	
	PB-214	0.988	1.59E+00	1.79E-01	
	RA-226	0.998	3.60E+00	6.76E+00	
	AC-228	0.969	1.43E+00	2.92E-01	
	TH-234	0.988	1.45E+00	1.57E+00	

- ? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510063-05
CP0403S04-05

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 7:08:03AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	2	76.28	3.50167E-01		
	4	129.21	1.82813E-02		
M	5	182.72	9.54892E-03		
	7	209.24	2.04879E-02	Tol.	GA-67 CM-243
m	9	242.00	6.18347E-02		
	10	270.89	1.50453E-02		
	13	328.17	1.13713E-02	Tol.	LA-140
M	15	349.09	6.76169E-03		
	17	462.92	9.27217E-03	Tol.	SB-125
	18	498.22	7.23511E-03		
	19	510.92	1.71383E-02		
	22	703.40	1.14177E-02	Tol.	NB-94
	24	769.69	1.56737E-02	Sum	
	25	805.95	9.02054E-03		
	26	862.62	2.01177E-02		
	29	987.84	4.29264E-03		
	30	1044.69	5.42130E-03		
	32	1407.99	2.90459E-03	Tol.	EU-152
	34	1528.65	1.38889E-03		
	36	1631.32	3.33333E-03		
	37	1647.69	2.26852E-03	Sum	
	38	1717.90	4.02778E-03		
	39	1729.61	4.31052E-03	Sum	
	41	1848.87	4.29784E-03	Sum	
	42	1907.18	2.89530E-03		
	43	1914.11	1.60714E-03		
	44	1920.08	1.66667E-03		
	45	2104.13	4.44444E-03	S-Esc	
	47	2381.61	2.50000E-03		
	48	2447.20	4.16667E-03		

Analysis Report for 1510063-05
CP0403S04-05

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59	10.42	2.62E-01	1.13E+00	1.13E+00
+	NA-22	1274.54	99.94	-2.21E-02	1.25E-01	1.25E-01
+	NA-24	1368.53	99.99	6.59E+12	1.55E+12	1.07E+13
		2754.09	99.86	0.00E+00		1.55E+12
+	AL-26	1808.65	99.76	-1.95E-02	8.85E-02	8.85E-02
+	K-40	1460.81	* 10.67	1.95E+01	1.44E+00	1.44E+00
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	3.94E-02	8.07E-02	8.07E-02
		78.34	96.00	2.42E-01		1.02E-01
+	SC-46	889.25	99.98	-5.26E-03	1.09E-01	1.09E-01
		1120.51	99.99	2.74E-01		2.11E-01
+	V-48	983.52	99.98	-3.17E-02	3.11E-01	3.11E-01
		1312.10	97.50	3.40E-01		5.04E-01
+	CR-51	320.08	9.83	4.96E-01	1.57E+00	1.57E+00
+	MN-54	834.83	99.97	-6.67E-03	1.04E-01	1.04E-01
+	CO-56	846.75	99.96	1.49E-02	1.15E-01	1.15E-01
		1037.75	14.03	-6.59E-02		8.75E-01
		1238.25	67.00	7.36E-02		3.02E-01
		1771.40	15.51	-3.97E-01		5.99E-01
		2598.48	16.90	4.65E-02		3.42E-01
+	CO-57	122.06	85.51	3.94E-02	6.98E-02	6.98E-02
		136.48	10.60	1.99E-01		5.72E-01
+	CO-58	810.76	99.40	6.81E-03	1.17E-01	1.17E-01
+	FE-59	1099.22	56.50	-3.35E-02	2.42E-01	2.42E-01
		1291.56	43.20	9.91E-02		4.91E-01
+	CO-60	1173.22	100.00	3.67E-02	1.13E-01	1.13E-01
		1332.49	100.00	1.71E-02		1.27E-01
+	ZN-65	1115.52	50.75	4.17E-02	2.35E-01	2.35E-01
+	GA-67	93.31	35.70	1.64E+02	9.52E+01	9.52E+01
		208.95	2.24	9.84E+02		1.60E+03
		300.22	16.00	-9.83E+02		2.45E+02
+	SE-75	121.11	16.70	7.22E-02	1.11E-01	3.86E-01

Analysis Report for 1510063-05
CP0403S04-05

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	SE-75	136.00	59.20	1.39E-02	1.11E-01	1.11E-01
		264.65	59.80	5.85E-02		1.50E-01
		279.53	25.20	2.32E-01		3.70E-01
		400.65	11.40	-9.90E-02		8.39E-01
+	RB-82	776.52	13.00	1.24E-01	1.41E+00	1.41E+00
+	RB-83	520.41	46.00	3.00E-03	2.25E-01	2.25E-01
		529.64	30.30	-2.29E-01		3.40E-01
		552.65	16.40	-2.11E-02		6.45E-01
+	KR-85	513.99	0.43	-3.08E+00	2.47E+01	2.47E+01
+	SR-85	513.99	99.27	-1.83E-02	1.46E-01	1.46E-01
+	Y-88	898.02	93.40	1.78E-02	8.43E-02	1.27E-01
		1836.01	99.38	-5.31E-03		8.43E-02
+	NB-93M	16.57	9.43	-2.57E+01	8.70E+01	8.70E+01
+	NB-94	702.63	100.00	8.53E-02	8.41E-02	1.04E-01
		871.10	100.00	1.07E-02		8.41E-02
+	NB-95	765.79	99.81	9.66E-02	2.00E-01	2.00E-01
+	NB-95M	235.69	25.00	3.64E+02	1.33E+02	1.33E+02
+	ZR-95	724.18	43.70	-8.15E-03	2.10E-01	3.34E-01
		756.72	55.30	-7.11E-02		2.10E-01
+	MO-99	181.06	6.20	9.17E+01	1.08E+03	1.39E+03
		739.58	12.80	1.11E+02		1.08E+03
		778.00	4.50	-7.91E+02		2.61E+03
+	RU-103	497.08	89.00	8.73E-02	1.54E-01	1.54E-01
+	RU-106	621.84	9.80	2.82E-01	8.78E-01	8.78E-01
+	AG-108M	433.93	89.90	-2.38E-02	8.22E-02	8.22E-02
		614.37	90.40	9.80E-03		1.15E-01
		722.95	90.50	1.88E-02		1.01E-01
+	CD-109	88.03	* 3.72	2.14E+00	2.35E+00	2.35E+00
+	AG-110M	657.75	93.14	2.43E-02	1.02E-01	1.02E-01
		677.61	10.53	-6.55E-02		9.41E-01
		706.67	16.46	-1.84E-01		6.04E-01
		763.93	21.98	5.97E-02		4.59E-01
		884.67	71.63	-2.29E-02		1.30E-01
		1384.27	23.94	-7.73E-02		4.14E-01
+	CD-113M	263.70	0.02	5.63E+01	3.29E+02	3.29E+02
+	SN-113	255.12	1.93	-2.87E-01	1.45E-01	4.20E+00
		391.69	64.90	-2.34E-02		1.45E-01
+	TE123M	159.00	84.10	-1.69E-02	7.97E-02	7.97E-02
+	SB-124	602.71	97.87	1.78E-02	1.32E-01	1.32E-01
		645.85	7.26	2.68E-01		1.79E+00
		722.78	11.10	2.14E-01		1.15E+00
		1691.02	49.00	-7.93E-02		2.20E-01
+	I-125	35.49	6.49	1.24E+00	3.51E+00	3.51E+00
+	SB-125	176.33	6.89	-1.01E-01	2.83E-01	8.38E-01
		427.89	29.33	2.49E-02		2.83E-01
		463.38	10.35	2.56E-01		8.12E-01
		600.56	17.80	-3.06E-02		5.13E-01
		635.90	11.32	8.18E-02		7.90E-01

Analysis Report for 1510063-05
CP0403S04-05

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	SB-126	414.70	83.30	-2.28E-01	4.78E-01	4.95E-01
		666.33	99.60	1.30E-01		4.78E-01
		695.00	99.60	4.69E-02		4.81E-01
		720.50	53.80	1.17E-01		8.44E-01
+	SN-126	87.57	* 37.00	2.06E-01	2.27E-01	2.27E-01
+	SB-127	473.00	25.00	-1.62E+01	4.93E+01	5.77E+01
		685.20	35.70	2.05E+01		4.93E+01
		783.80	14.70	-4.13E+01		1.15E+02
+	I-129	29.78	57.00	3.55E-02	5.03E-01	5.03E-01
		33.60	13.20	-1.04E+00		1.43E+00
		39.58	7.52	-4.58E-01		1.64E+00
+	I-131	284.30	6.05	3.92E-01	1.11E+00	1.52E+01
		364.48	81.20	6.67E-01		1.11E+00
		636.97	7.26	-4.39E+00		1.44E+01
		722.89	1.80	1.15E+01		6.19E+01
+	TE-132	49.72	13.10	-5.21E+02	3.98E+01	3.29E+02
		228.16	88.00	-3.29E+00		3.98E+01
+	BA-133	81.00	33.00	-5.57E-02	1.76E-01	2.10E-01
		302.84	17.80	-7.53E-02		4.33E-01
		356.01	60.00	2.06E-02		1.76E-01
+	I-133	529.87	86.30	-7.43E+08	1.11E+09	1.11E+09
+	XE-133	81.00	38.00	-2.22E+00	8.35E+00	8.35E+00
+	CS-134	563.23	8.38	1.01E+00	1.11E-01	1.22E+00
		569.32	15.43	-6.87E-02		5.50E-01
		604.70	97.60	1.49E-02		1.11E-01
		795.84	85.40	1.04E-01		1.32E-01
		801.93	8.73	2.97E-02		1.09E+00
+	CS-135	268.24	16.00	8.35E-02	5.13E-01	5.13E-01
+	@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@	1260.41	28.60	1.00E+26		1.00E+26
	@	1678.03	9.54	1.00E+26		1.00E+26
+	CS-136	153.22	7.46	2.02E+00	4.07E-01	3.65E+00
		163.89	4.61	1.72E-03		5.73E+00
		176.55	13.56	-1.83E-01		1.89E+00
		273.65	12.66	-9.11E-01		2.86E+00
		340.57	48.50	9.81E-01		8.97E-01
		818.50	99.70	-1.05E-01		4.07E-01
		1048.07	79.60	3.62E-02		6.53E-01
		1235.34	19.70	7.43E-01		3.56E+00
+	CS-137	661.65	85.12	-3.56E-02	1.03E-01	1.03E-01
+	LA-138	788.74	34.00	-1.35E-01	1.75E-01	2.81E-01
		1435.80	66.00	4.66E-02		1.75E-01
+	CE-139	165.85	80.35	-1.85E-02	8.25E-02	8.25E-02
+	BA-140	162.64	6.70	6.90E-01	1.64E+00	4.14E+00
		304.84	4.50	0.00E+00		7.46E+00
		423.70	3.20	-5.62E+00		1.19E+01
		437.55	2.00	-4.18E+00		1.77E+01
		537.32	25.00	-1.15E-01		1.64E+00
+	LA-140	328.77	20.50	4.86E-01	6.68E-01	1.88E+00

Analysis Report for 1510063-05
CP0403S04-05

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)	
	LA-140	487.03	45.50	3.88E-01	6.68E-01	8.99E-01
		815.85	23.50	1.57E-01		1.82E+00
		1596.49	95.49	1.84E-01		6.68E-01
+	CE-141	145.44	48.40	8.14E-02	2.16E-01	2.16E-01
+	CE-143	57.36	11.80	7.79E+05	5.88E+05	1.56E+06
		293.26	42.00	3.32E+04		5.88E+05
		664.55	5.20	9.20E+05		3.96E+06
+	CE-144	133.54	10.80	-2.23E-01	5.37E-01	5.37E-01
+	PM-144	476.78	42.00	6.08E-02	8.87E-02	2.07E-01
		618.01	98.60	1.13E-03		8.87E-02
		696.49	99.49	2.24E-02		1.02E-01
+	PM-145	36.85	21.70	1.35E-02	3.58E-01	6.77E-01
		37.36	39.70	3.99E-02		3.58E-01
		42.30	15.10	-5.72E-01		7.38E-01
		72.40	2.31	-6.68E+00		3.88E+00
+	PM-146	453.90	39.94	1.42E-01	2.18E-01	2.18E-01
		735.90	14.01	-3.02E-04		6.34E-01
		747.13	13.10	-2.83E-01		6.70E-01
+	ND-147	91.11	28.90	1.56E-01	1.60E+00	1.60E+00
		531.02	13.10	-1.91E+00		3.85E+00
+	PM-149	285.90	3.10	4.20E+02	2.13E+04	2.13E+04
+	EU-152	121.78	20.50	1.53E-01	2.71E-01	2.71E-01
		244.69	5.40	-3.98E-01		1.64E+00
		344.27	19.13	-6.57E-02		3.71E-01
		778.89	9.20	4.65E-02		9.21E-01
		964.01	10.40	3.33E-01		1.20E+00
		1085.78	7.22	4.95E-02		1.54E+00
		1112.02	9.60	1.53E-01		1.13E+00
		1407.95	14.94	-1.49E-01		7.17E-01
+	GD-153	97.43	31.30	-2.76E-01	1.90E-01	1.90E-01
		103.18	22.20	-1.74E-01		2.64E-01
+	EU-154	123.07	40.50	5.28E-02	1.37E-01	1.37E-01
		723.30	19.70	8.68E-02		4.68E-01
		873.19	11.50	-1.87E-02		7.37E-01
		996.32	10.30	2.97E-02		9.97E-01
		1004.76	17.90	8.98E-02		5.72E-01
		1274.45	35.50	-6.14E-02		3.47E-01
+	EU-155	86.50	30.90	1.16E-01	2.44E-01	2.44E-01
		105.30	20.70	-7.97E-03		2.72E-01
+	EU-156	811.77	10.40	-8.25E-01	2.99E+00	2.99E+00
		1153.47	7.20	1.82E+00		6.55E+00
		1230.71	8.90	-1.76E+00		5.49E+00
+	HO-166M	184.41	72.60	1.25E-01	1.01E-01	1.01E-01
		280.45	29.60	7.44E-02		2.63E-01
		410.94	11.10	-1.94E-01		7.47E-01
		711.69	54.10	1.12E-01		1.88E-01
+	TM-171	66.72	0.14	2.17E+01	5.69E+01	5.69E+01
+	HF-172	81.75	4.52	-2.96E-02	4.87E-01	1.54E+00
		125.81	11.30	4.40E-02		4.87E-01

Analysis Report for 1510063-05
CP0403S04-05

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	LU-172	181.53	20.60	-9.13E+00	3.27E+00	5.65E+00
		810.06	16.63	1.24E+00		1.15E+01
		912.12	15.25	5.63E+01		2.52E+01
		1093.66	62.50	1.27E+00		3.27E+00
+	LU-173	100.72	5.24	5.87E-01	3.97E-01	1.11E+00
		272.11	21.20	2.52E-01		3.97E-01
+	HF-175	343.40	84.00	3.79E-02	1.21E-01	1.21E-01
+	LU-176	88.34	13.30	3.42E-01	7.36E-02	5.77E-01
		201.83	86.00	5.00E-02		8.65E-02
		306.78	94.00	2.57E-02		7.36E-02
+	TA-182	67.75	41.20	1.08E-01	2.20E-01	2.20E-01
		1121.30	34.90	9.47E-01		5.85E-01
		1189.05	16.23	1.59E-01		8.77E-01
		1221.41	26.98	1.88E-01		6.02E-01
		1231.02	11.44	-6.57E-01		1.37E+00
+	IR-192	308.46	29.68	-3.10E-02	2.09E-01	3.03E-01
		468.07	48.10	2.92E-02		2.09E-01
+	HG-203	279.19	77.30	8.33E-02	1.55E-01	1.55E-01
+	BI-207	569.67	97.72	-2.97E-02	8.11E-02	8.11E-02
		1063.62	74.90	-2.44E-02		1.38E-01
+	TL-208	583.14	* 30.22	1.31E+00	3.00E-01	4.67E-01
		860.37	4.48	2.04E+00		2.46E+00
		2614.66	* 35.85	9.11E-01		3.00E-01
+	BI-210M	262.00	45.00	-3.02E-02	1.66E-01	1.66E-01
		300.00	23.00	-1.44E+00		3.59E-01
+	PB-210	46.50	4.25	2.40E+00	2.53E+00	2.53E+00
+	PB-211	404.84	2.90	-6.19E-01	2.85E+00	2.85E+00
		831.96	2.90	-6.35E-01		3.23E+00
+	BI-212	727.17	* 11.80	1.22E+00	9.30E-01	9.30E-01
		1620.62	* 2.75	2.50E+00		3.66E+00
+	PB-212	238.63	* 44.60	1.59E+00	4.14E-01	4.14E-01
		300.09	* 3.41	1.93E+00		2.08E+00
+	BI-214	609.31	* 46.30	1.53E+00	2.15E-01	2.89E-01
		1120.29	* 15.10	1.57E+00		9.85E-01
		1764.49	* 15.80	1.59E+00		2.15E-01
		2204.22	* 4.98	1.78E+00		3.02E-01
+	PB-214	295.21	* 19.19	1.72E+00	2.78E-01	4.30E-01
		351.92	* 37.19	1.55E+00		2.78E-01
+	RN-219	401.80	6.50	-1.61E-01	1.26E+00	1.26E+00
+	RA-223	323.87	3.88	-3.42E-01	1.82E+00	1.82E+00
+	RA-224	240.98	3.95	2.11E+01	3.76E+00	3.76E+00
+	RA-225	40.00	31.00	-4.22E-01	1.51E+00	1.51E+00
+	RA-226	186.21	* 3.28	3.60E+00	2.97E+00	2.97E+00
+	TH-227	50.10	8.40	-1.69E+00	1.07E+00	1.07E+00
		236.00	11.50	3.04E+00		1.11E+00
		256.20	6.30	2.62E-01		1.10E+00
+	AC-228	338.32	* 11.40	1.46E+00	5.13E-01	8.92E-01
		911.07	* 27.70	1.68E+00		5.13E-01

Analysis Report for 1510063-05
CP0403S04-05

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	AC-228	969.11	*	16.60	9.26E-01	5.13E-01	8.76E-01
+	TH-230	48.44		16.90	4.43E-01	5.94E-01	5.94E-01
		62.85		4.60	1.99E+00		1.87E+00
		67.67		0.37	1.01E+01		2.06E+01
+	PA-231	283.67		1.60	1.22E-01	3.33E+00	4.72E+00
		302.67		2.30	-5.80E-01		3.33E+00
+	TH-231	25.64		14.70	2.34E+00	1.06E+00	3.67E+00
		84.21		6.40	4.01E-02		1.06E+00
+	PA-233	311.98		38.60	-2.68E-01	3.70E-01	3.70E-01
+	PA-234	131.20		20.40	2.23E-01	2.87E-01	2.87E-01
		733.99		8.80	-4.90E-01		9.29E-01
		946.00		12.00	-3.70E-01		8.22E-01
+	PA-234M	1001.03		0.92	1.90E+00	1.17E+01	1.17E+01
+	TH-234	63.29	*	3.80	1.45E+00	2.57E+00	2.57E+00
+	U-235	143.76		10.50	2.18E-01	5.42E-01	5.42E-01
		163.35		4.70	3.65E-04		1.22E+00
		205.31		4.70	2.41E-02		1.52E+00
+	NP-237	86.50		12.60	2.81E-01	5.92E-01	5.92E-01
+	NP-239	106.10		22.70	2.57E+02	1.27E+03	1.27E+03
		228.18		10.70	-2.88E+02		3.48E+03
		277.60		14.10	-8.86E+01		2.73E+03
+	AM-241	59.54		35.90	9.48E-02	2.27E-01	2.27E-01
+	AM-243	74.67		66.00	3.40E-01	1.62E-01	1.62E-01
+	CM-243	209.75		3.29	1.83E+00	5.42E-01	2.31E+00
		228.14		10.60	-5.75E-02		6.95E-01
		277.60		14.00	-1.76E-02		5.42E-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
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

: 00498

Analysis Report for 1510063-05
CP0403S04-05

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
BE-7	477.59	10.42	1.13E+00	1.13E+00	2.62E-01	5.36E-01
NA-22	1274.54	99.94	1.25E-01	1.25E-01	-2.21E-02	5.74E-02
NA-24	1368.53	99.99	1.07E+13	1.55E+12	6.59E+12	4.89E+12
	2754.09	99.86	1.55E+12		0.00E+00	0.00E+00
AL-26	1808.65	99.76	8.85E-02	8.85E-02	-1.95E-02	3.77E-02
+ K-40	1460.81	* 10.67	1.44E+00	1.44E+00	1.95E+01	6.66E-01
@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
TI-44	67.88	94.40	8.07E-02	8.07E-02	3.94E-02	3.95E-02
	78.34	96.00	1.02E-01		2.42E-01	5.03E-02
SC-46	889.25	99.98	1.09E-01	1.09E-01	-5.26E-03	4.96E-02
	1120.51	99.99	2.11E-01		2.74E-01	9.96E-02
V-48	983.52	99.98	3.11E-01	3.11E-01	-3.17E-02	1.41E-01
	1312.10	97.50	5.04E-01		3.40E-01	2.33E-01
CR-51	320.08	9.83	1.57E+00	1.57E+00	4.96E-01	7.54E-01
MN-54	834.83	99.97	1.04E-01	1.04E-01	-6.67E-03	4.81E-02
CO-56	846.75	99.96	1.15E-01	1.15E-01	1.49E-02	5.27E-02
	1037.75	14.03	8.75E-01		-6.59E-02	3.98E-01
	1238.25	67.00	3.02E-01		7.36E-02	1.41E-01
	1771.40	15.51	5.99E-01		-3.97E-01	2.46E-01
	2598.48	16.90	3.42E-01		4.65E-02	1.08E-01
CO-57	122.06	85.51	6.98E-02	6.98E-02	3.94E-02	3.39E-02
	136.48	10.60	5.72E-01		1.99E-01	2.77E-01
CO-58	810.76	99.40	1.17E-01	1.17E-01	6.81E-03	5.37E-02
FE-59	1099.22	56.50	2.42E-01	2.42E-01	-3.35E-02	1.09E-01
	1291.56	43.20	4.91E-01		9.91E-02	2.27E-01
CO-60	1173.22	100.00	1.13E-01	1.13E-01	3.67E-02	5.18E-02
	1332.49	100.00	1.27E-01		1.71E-02	5.81E-02
ZN-65	1115.52	50.75	2.35E-01	2.35E-01	4.17E-02	1.08E-01
GA-67	93.31	35.70	9.52E+01	9.52E+01	1.64E+02	4.66E+01
	208.95	2.24	1.60E+03		9.84E+02	7.77E+02
	300.22	16.00	2.45E+02		-9.83E+02	1.18E+02
SE-75	121.11	16.70	3.86E-01	1.11E-01	7.22E-02	1.87E-01
	136.00	59.20	1.11E-01		1.39E-02	5.39E-02
	264.65	59.80	1.50E-01		5.85E-02	7.22E-02
	279.53	25.20	3.70E-01		2.32E-01	1.79E-01
	400.65	11.40	8.39E-01		-9.90E-02	4.00E-01
RB-82	776.52	13.00	1.41E+00	1.41E+00	1.24E-01	6.47E-01
RB-83	520.41	46.00	2.25E-01	2.25E-01	3.00E-03	1.06E-01
	529.64	30.30	3.40E-01		-2.29E-01	1.60E-01
	552.65	16.40	6.45E-01		-2.11E-02	3.03E-01
KR-85	513.99	0.43	2.47E+01	2.47E+01	-3.08E+00	1.18E+01
SR-85	513.99	99.27	1.46E-01	1.46E-01	-1.83E-02	7.00E-02
Y-88	898.02	93.40	1.27E-01	8.43E-02	1.78E-02	5.86E-02
	1836.01	99.38	8.43E-02		-5.31E-03	3.41E-02
NB-93M	16.57	9.43	8.70E+01	8.70E+01	-2.57E+01	4.23E+01
NB-94	702.63	100.00	1.04E-01	8.41E-02	8.53E-02	4.92E-02
	871.10	100.00	8.41E-02		1.07E-02	3.84E-02
NB-95	765.79	99.81	2.00E-01	2.00E-01	9.66E-02	9.41E-02
NB-95M	235.69	25.00	1.33E+02	1.33E+02	3.64E+02	6.53E+01
ZR-95	724.18	43.70	3.34E-01	2.10E-01	-8.15E-03	1.57E-01
	756.72	55.30	2.10E-01		-7.11E-02	9.68E-02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
MO-99	181.06	6.20	1.39E+03	1.08E+03	9.17E+01	6.74E+02
	739.58	12.80	1.08E+03		1.11E+02	5.01E+02
	778.00	4.50	2.61E+03		-7.91E+02	1.19E+03
RU-103	497.08	89.00	1.54E-01	1.54E-01	8.73E-02	7.29E-02
RU-106	621.84	9.80	8.78E-01	8.78E-01	2.82E-01	4.09E-01
AG-108M	433.93	89.90	8.22E-02	8.22E-02	-2.38E-02	3.89E-02
	614.37	90.40	1.15E-01		9.80E-03	5.44E-02
	722.95	90.50	1.01E-01		1.88E-02	4.71E-02
+ CD-109	88.03	* 3.72	2.35E+00	2.35E+00	2.14E+00	1.16E+00
AG-110M	657.75	93.14	1.02E-01	1.02E-01	2.43E-02	4.78E-02
	677.61	10.53	9.41E-01		-6.55E-02	4.40E-01
	706.67	16.46	6.04E-01		-1.84E-01	2.82E-01
	763.93	21.98	4.59E-01		5.97E-02	2.13E-01
	884.67	71.63	1.30E-01		-2.29E-02	5.96E-02
1384.27	23.94	4.14E-01	-7.73E-02	1.83E-01		
CD-113M	263.70	0.02	3.29E+02	3.29E+02	5.63E+01	1.59E+02
SN-113	255.12	1.93	4.20E+00	1.45E-01	-2.87E-01	2.02E+00
	391.69	64.90	1.45E-01		-2.34E-02	6.91E-02
TE123M	159.00	84.10	7.97E-02	7.97E-02	-1.69E-02	3.86E-02
SB-124	602.71	97.87	1.32E-01	1.32E-01	1.78E-02	6.24E-02
	645.85	7.26	1.79E+00		2.68E-01	8.43E-01
	722.78	11.10	1.15E+00		2.14E-01	5.36E-01
	1691.02	49.00	2.20E-01		-7.93E-02	9.22E-02
I-125	35.49	6.49	3.51E+00	3.51E+00	1.24E+00	1.71E+00
SB-125	176.33	6.89	8.38E-01	2.83E-01	-1.01E-01	4.04E-01
	427.89	29.33	2.83E-01		2.49E-02	1.34E-01
	463.38	10.35	8.12E-01		2.56E-01	3.85E-01
	600.56	17.80	5.13E-01		-3.06E-02	2.41E-01
	635.90	11.32	7.90E-01		8.18E-02	3.70E-01
SB-126	414.70	83.30	4.95E-01	4.78E-01	-2.28E-01	2.36E-01
	666.33	99.60	4.78E-01		1.30E-01	2.24E-01
	695.00	99.60	4.81E-01		4.69E-02	2.25E-01
	720.50	53.80	8.44E-01		1.17E-01	3.93E-01
+ SN-126	87.57	* 37.00	2.27E-01	2.27E-01	2.06E-01	1.11E-01
SB-127	473.00	25.00	5.77E+01	4.93E+01	-1.62E+01	2.73E+01
	685.20	35.70	4.93E+01		2.05E+01	2.31E+01
	783.80	14.70	1.15E+02		-4.13E+01	5.32E+01
I-129	29.78	57.00	5.03E-01	5.03E-01	3.55E-02	2.44E-01
	33.60	13.20	1.43E+00		-1.04E+00	6.97E-01
	39.58	7.52	1.64E+00		-4.58E-01	7.96E-01
I-131	284.30	6.05	1.52E+01	1.11E+00	3.92E-01	7.33E+00
	364.48	81.20	1.11E+00		6.67E-01	5.29E-01
	636.97	7.26	1.44E+01		-4.39E+00	6.75E+00
	722.89	1.80	6.19E+01		1.15E+01	2.88E+01
TE-132	49.72	13.10	3.29E+02	3.98E+01	-5.21E+02	1.61E+02
	228.16	88.00	3.98E+01		-3.29E+00	1.93E+01
BA-133	81.00	33.00	2.10E-01	1.76E-01	-5.57E-02	1.02E-01
	302.84	17.80	4.33E-01		-7.53E-02	2.08E-01
	356.01	60.00	1.76E-01		2.06E-02	8.50E-02
I-133	529.87	86.30	1.11E+09	1.11E+09	-7.43E+08	5.21E+08
XE-133	81.00	38.00	8.35E+00	8.35E+00	-2.22E+00	4.08E+00
CS-134	563.23	8.38	1.22E+00	1.11E-01	1.01E+00	5.80E-01
	569.32	15.43	5.50E-01		-6.87E-02	2.58E-01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)	
CS-134	604.70	97.60	1.11E-01	1.11E-01	1.49E-02	5.26E-02	
	795.84	85.40	1.32E-01		1.04E-01	6.20E-02	
	801.93	8.73	1.09E+00		2.97E-02	5.03E-01	
CS-135	268.24	16.00	5.13E-01	5.13E-01	8.35E-02	2.48E-01	
	@ I-135	1131.51	22.50		1.00E+26	1.00E+26	1.00E+20
	@	1260.41	28.60		1.00E+26	1.00E+26	1.00E+20
@	1678.03	9.54	1.00E+26		1.00E+26	1.00E+20	
CS-136	153.22	7.46	3.65E+00	4.07E-01	2.02E+00	1.77E+00	
	163.89	4.61	5.73E+00		1.72E-03	2.77E+00	
	176.55	13.56	1.89E+00		-1.83E-01	9.14E-01	
	273.65	12.66	2.86E+00		-9.11E-01	1.38E+00	
	340.57	48.50	8.97E-01		9.81E-01	4.33E-01	
	818.50	99.70	4.07E-01		-1.05E-01	1.87E-01	
	1048.07	79.60	6.53E-01		3.62E-02	3.02E-01	
	1235.34	19.70	3.56E+00		7.43E-01	1.66E+00	
CS-137	661.65	85.12	1.03E-01	1.03E-01	-3.56E-02	4.83E-02	
LA-138	788.74	34.00	2.81E-01	1.75E-01	-1.35E-01	1.31E-01	
	1435.80	66.00	1.75E-01		4.66E-02	7.91E-02	
CE-139	165.85	80.35	8.25E-02	8.25E-02	-1.85E-02	3.99E-02	
BA-140	162.64	6.70	4.14E+00	1.64E+00	6.90E-01	2.01E+00	
	304.84	4.50	7.46E+00		0.00E+00	3.57E+00	
	423.70	3.20	1.19E+01		-5.62E+00	5.65E+00	
	437.55	2.00	1.77E+01		-4.18E+00	8.34E+00	
	537.32	25.00	1.64E+00		-1.15E-01	7.74E-01	
LA-140	328.77	20.50	1.88E+00	6.68E-01	4.86E-01	9.05E-01	
	487.03	45.50	8.99E-01		3.88E-01	4.26E-01	
	815.85	23.50	1.82E+00		1.57E-01	8.37E-01	
	1596.49	95.49	6.68E-01		1.84E-01	3.04E-01	
CE-141	145.44	48.40	2.16E-01	2.16E-01	8.14E-02	1.05E-01	
CE-143	57.36	11.80	1.56E+06	5.88E+05	7.79E+05	7.64E+05	
	293.26	42.00	5.88E+05		3.32E+04	2.86E+05	
	664.55	5.20	3.96E+06		9.20E+05	1.86E+06	
CE-144	133.54	10.80	5.37E-01	5.37E-01	-2.23E-01	2.60E-01	
PM-144	476.78	42.00	2.07E-01	8.87E-02	6.08E-02	9.82E-02	
	618.01	98.60	8.87E-02		1.13E-03	4.14E-02	
	696.49	99.49	1.02E-01		2.24E-02	4.78E-02	
PM-145	36.85	21.70	6.77E-01	3.58E-01	1.35E-02	3.29E-01	
	37.36	39.70	3.58E-01		3.99E-02	1.74E-01	
	42.30	15.10	7.38E-01		-5.72E-01	3.59E-01	
	72.40	2.31	3.88E+00		-6.68E+00	1.90E+00	
PM-146	453.90	39.94	2.18E-01	2.18E-01	1.42E-01	1.04E-01	
	735.90	14.01	6.34E-01		-3.02E-04	2.94E-01	
	747.13	13.10	6.70E-01		-2.83E-01	3.10E-01	
ND-147	91.11	28.90	1.60E+00	1.60E+00	1.56E-01	7.82E-01	
	531.02	13.10	3.85E+00		-1.91E+00	1.81E+00	
PM-149	285.90	3.10	2.13E+04	2.13E+04	4.20E+02	1.03E+04	
EU-152	121.78	20.50	2.71E-01	2.71E-01	1.53E-01	1.32E-01	
	244.69	5.40	1.64E+00		-3.98E-01	7.99E-01	
	344.27	19.13	3.71E-01		-6.57E-02	1.77E-01	
	778.89	9.20	9.21E-01		4.65E-02	4.24E-01	
	964.01	10.40	1.20E+00		3.33E-01	5.59E-01	
	1085.78	7.22	1.54E+00		4.95E-02	7.09E-01	
	1112.02	9.60	1.13E+00		1.53E-01	5.19E-01	

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Analysis Report for 1510063-05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)	
EU-152	1407.95	14.94	7.17E-01	2.71E-01	-1.49E-01	3.22E-01	
GD-153	97.43	31.30	1.90E-01	1.90E-01	-2.76E-01	9.22E-02	
	103.18	22.20	2.64E-01		-1.74E-01	1.28E-01	
EU-154	123.07	40.50	1.37E-01	1.37E-01	5.28E-02	6.64E-02	
	723.30	19.70	4.68E-01		8.68E-02	2.18E-01	
	873.19	11.50	7.37E-01		-1.87E-02	3.36E-01	
	996.32	10.30	9.97E-01		2.97E-02	4.58E-01	
	1004.76	17.90	5.72E-01		8.98E-02	2.63E-01	
	1274.45	35.50	3.47E-01		-6.14E-02	1.59E-01	
EU-155	86.50	30.90	2.44E-01	2.44E-01	1.16E-01	1.20E-01	
	105.30	20.70	2.72E-01		-7.97E-03	1.32E-01	
EU-156	811.77	10.40	2.99E+00	2.99E+00	-8.25E-01	1.37E+00	
	1153.47	7.20	6.55E+00		1.82E+00	3.03E+00	
	1230.71	8.90	5.49E+00		-1.76E+00	2.54E+00	
HO-166M	184.41	72.60	1.01E-01	1.01E-01	1.25E-01	4.89E-02	
	280.45	29.60	2.63E-01		7.44E-02	1.27E-01	
	410.94	11.10	7.47E-01		-1.94E-01	3.56E-01	
	711.69	54.10	1.88E-01		1.12E-01	8.81E-02	
TM-171	66.72	0.14	5.69E+01	5.69E+01	2.17E+01	2.79E+01	
HF-172	81.75	4.52	1.54E+00	4.87E-01	-2.96E-02	7.51E-01	
	125.81	11.30	4.87E-01		4.40E-02	2.36E-01	
LU-172	181.53	20.60	5.65E+00	3.27E+00	-9.13E+00	2.73E+00	
	810.06	16.63	1.15E+01		1.24E+00	5.35E+00	
	912.12	15.25	2.52E+01		5.63E+01	1.21E+01	
	1093.66	62.50	3.27E+00		1.27E+00	1.49E+00	
LU-173	100.72	5.24	1.11E+00	3.97E-01	5.87E-01	5.38E-01	
	272.11	21.20	3.97E-01		2.52E-01	1.92E-01	
HF-175	343.40	84.00	1.21E-01	1.21E-01	3.79E-02	5.81E-02	
LU-176	88.34	13.30	5.77E-01	7.36E-02	3.42E-01	2.83E-01	
	201.83	86.00	8.65E-02		5.00E-02	4.20E-02	
	306.78	94.00	7.36E-02		2.57E-02	3.52E-02	
TA-182	67.75	41.20	2.20E-01	2.20E-01	1.08E-01	1.08E-01	
	1121.30	34.90	5.85E-01		9.47E-01	2.77E-01	
	1189.05	16.23	8.77E-01		1.59E-01	4.04E-01	
	1221.41	26.98	6.02E-01		1.88E-01	2.79E-01	
	1231.02	11.44	1.37E+00		-6.57E-01	6.33E-01	
IR-192	308.46	29.68	3.03E-01	2.09E-01	-3.10E-02	1.45E-01	
	468.07	48.10	2.09E-01		2.92E-02	9.88E-02	
HG-203	279.19	77.30	1.55E-01	1.55E-01	8.33E-02	7.46E-02	
BI-207	569.67	97.72	8.11E-02	8.11E-02	-2.97E-02	3.80E-02	
	1063.62	74.90	1.38E-01		-2.44E-02	6.32E-02	
+ TL-208	583.14	*	30.22	4.67E-01	3.00E-01	1.31E+00	2.25E-01
	860.37		4.48	2.46E+00		2.04E+00	1.15E+00
	2614.66	*	35.85	3.00E-01		9.11E-01	1.27E-01
BI-210M	262.00		45.00	1.66E-01	1.66E-01	-3.02E-02	8.02E-02
	300.00		23.00	3.59E-01		-1.44E+00	1.73E-01
PB-210	46.50		4.25	2.53E+00	2.53E+00	2.40E+00	1.24E+00
PB-211	404.84		2.90	2.85E+00	2.85E+00	-6.19E-01	1.36E+00
	831.96		2.90	3.23E+00		-6.35E-01	1.49E+00
+ BI-212	727.17	*	11.80	9.30E-01	9.30E-01	1.22E+00	4.38E-01
	1620.62	*	2.75	3.66E+00		2.50E+00	1.61E+00
+ PB-212	238.63	*	44.60	4.14E-01	4.14E-01	1.59E+00	2.04E-01
	300.09	*	3.41	2.08E+00		1.93E+00	9.96E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
+	BI-214	609.31 *		46.30	2.89E-01	2.15E-01	1.53E+00	1.39E-01
		1120.29 *		15.10	9.85E-01		1.57E+00	4.63E-01
		1764.49 *		15.80	2.15E-01		1.59E+00	6.67E-02
		2204.22 *		4.98	3.02E-01		1.78E+00	0.00E+00
+	PB-214	295.21 *		19.19	4.30E-01	2.78E-01	1.72E+00	2.08E-01
		351.92 *		37.19	2.78E-01		1.55E+00	1.34E-01
	RN-219	401.80		6.50	1.26E+00	1.26E+00	-1.61E-01	6.01E-01
	RA-223	323.87		3.88	1.82E+00	1.82E+00	-3.42E-01	8.71E-01
	RA-224	240.98		3.95	3.76E+00	3.76E+00	2.11E+01	1.85E+00
	RA-225	40.00		31.00	1.51E+00	1.51E+00	-4.22E-01	7.33E-01
+	RA-226	186.21 *		3.28	2.97E+00	2.97E+00	3.60E+00	1.46E+00
	TH-227	50.10		8.40	1.07E+00	1.07E+00	-1.69E+00	5.20E-01
		236.00		11.50	1.11E+00		3.04E+00	5.44E-01
		256.20		6.30	1.10E+00		2.62E-01	5.30E-01
+	AC-228	338.32 *		11.40	8.92E-01	5.13E-01	1.46E+00	4.32E-01
		911.07 *		27.70	5.13E-01		1.68E+00	2.43E-01
		969.11 *		16.60	8.76E-01		9.26E-01	4.14E-01
	TH-230	48.44		16.90	5.94E-01	5.94E-01	4.43E-01	2.90E-01
		62.85		4.60	1.87E+00		1.99E+00	9.18E-01
		67.67		0.37	2.06E+01		1.01E+01	1.01E+01
	PA-231	283.67		1.60	4.72E+00	3.33E+00	1.22E-01	2.27E+00
		302.67		2.30	3.33E+00		-5.80E-01	1.60E+00
	TH-231	25.64		14.70	3.67E+00	1.06E+00	2.34E+00	1.79E+00
		84.21		6.40	1.06E+00		4.01E-02	5.18E-01
	PA-233	311.98		38.60	3.70E-01	3.70E-01	-2.68E-01	1.77E-01
	PA-234	131.20		20.40	2.87E-01	2.87E-01	2.23E-01	1.40E-01
		733.99		8.80	9.29E-01		-4.90E-01	4.28E-01
		946.00		12.00	8.22E-01		-3.70E-01	3.78E-01
	PA-234M	1001.03		0.92	1.17E+01	1.17E+01	1.90E+00	5.40E+00
+	TH-234	63.29 *		3.80	2.57E+00	2.57E+00	1.45E+00	1.26E+00
	U-235	143.76		10.50	5.42E-01	5.42E-01	2.18E-01	2.63E-01
		163.35		4.70	1.22E+00		3.65E-04	5.89E-01
		205.31		4.70	1.52E+00		2.41E-02	7.36E-01
	NP-237	86.50		12.60	5.92E-01	5.92E-01	2.81E-01	2.90E-01
	NP-239	106.10		22.70	1.27E+03	1.27E+03	2.57E+02	6.15E+02
		228.18		10.70	3.48E+03		-2.88E+02	1.69E+03
		277.60		14.10	2.73E+03		-8.86E+01	1.31E+03
	AM-241	59.54		35.90	2.27E-01	2.27E-01	9.48E-02	1.11E-01
	AM-243	74.67		66.00	1.62E-01	1.62E-01	3.40E-01	7.96E-02
	CM-243	209.75		3.29	2.31E+00	5.42E-01	1.83E+00	1.12E+00
		228.14		10.60	6.95E-01		-5.75E-02	3.36E-01
		277.60		14.00	5.42E-01		-1.76E-02	2.61E-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 1510063-05
CP0403S04-05

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

<i>Creation Date</i>	<i>Comment</i>	<i>User</i>
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No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP0403S04-05

Elapsed Live time: 3600
Elapsed Real Time: 3616

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	9	186	171	138	121	123	101	86
17:	96	74	97	80	67	96	80	73
25:	89	108	88	79	71	82	100	92
33:	80	82	82	81	96	85	77	85
41:	83	93	86	93	104	124	167	106
49:	112	105	120	93	126	132	109	107
57:	120	127	137	151	122	124	188	230
65:	148	120	136	160	146	137	135	146
73:	156	193	405	317	451	464	158	128
81:	119	124	123	135	155	106	173	211
89:	140	163	148	117	209	201	113	86
97:	72	70	92	93	88	68	85	69
105:	85	102	80	97	82	92	69	77
113:	72	68	90	79	68	69	69	72
121:	76	71	82	79	65	61	70	69
129:	93	101	67	73	67	63	63	68
137:	95	59	70	61	68	63	68	69
145:	80	65	63	57	64	50	70	62
153:	79	68	69	68	55	63	63	59
161:	64	59	64	55	65	57	57	61
169:	68	59	53	56	61	60	51	43
177:	51	60	52	53	42	54	70	49
185:	59	132	111	85	56	38	49	58
193:	52	66	43	49	53	45	65	45
201:	71	44	56	52	52	40	52	48
209:	72	81	40	45	41	41	43	56
217:	36	46	40	37	45	40	44	43
225:	45	42	40	34	49	50	51	38
233:	56	36	48	48	60	148	517	189
241:	88	132	86	44	34	36	34	41
249:	26	33	40	33	20	31	32	35
257:	27	43	40	41	31	28	37	46
265:	34	39	44	31	30	49	73	43
273:	31	25	33	28	33	52	39	25
281:	30	43	36	25	34	34	28	32
289:	34	29	27	22	23	55	144	184
297:	43	26	32	48	48	25	29	20
305:	21	21	22	34	26	23	13	23
313:	21	32	18	26	32	27	26	29
321:	18	23	28	21	27	21	21	51
329:	35	28	22	24	30	26	22	31
337:	29	61	84	36	21	26	19	19
345:	24	24	10	14	29	15	72	243
353:	180	29	17	23	23	15	18	16
361:	14	23	26	15	20	16	21	21

369: 16 15 24 14 27 18 22 27

Sample Title: CP0403S04-05

Channel	1	2	3	4	5	6	7	8
377:	15	24	19	18	17	20	16	15
385:	14	11	25	26	20	20	23	25
393:	13	18	24	19	19	15	23	15
401:	28	29	22	12	18	29	22	16
409:	21	27	24	21	21	15	19	23
417:	23	16	24	20	20	21	19	17
425:	13	19	15	23	19	19	21	12
433:	23	10	18	10	9	13	18	15
441:	17	16	15	18	15	18	10	18
449:	18	9	18	20	17	17	16	26
457:	17	15	12	11	6	24	27	23
465:	14	10	18	11	19	11	14	16
473:	12	17	15	14	14	20	17	12
481:	13	13	12	13	22	20	14	17
489:	13	13	15	11	12	12	10	12
497:	18	22	9	18	8	11	14	15
505:	20	8	15	15	15	42	53	45
513:	14	15	14	11	11	19	11	10
521:	7	15	19	9	18	19	16	17
529:	8	10	8	17	12	14	18	10
537:	9	19	16	8	12	15	15	9
545:	11	11	13	14	11	16	5	9
553:	17	11	12	16	14	11	16	20
561:	17	20	18	15	11	19	12	6
569:	11	11	10	10	12	11	10	12
577:	11	12	9	15	11	26	105	86
585:	23	11	7	10	5	8	9	7
593:	14	7	13	19	5	8	12	10
601:	11	19	12	13	13	13	17	31
609:	135	178	46	13	10	11	6	18
617:	7	9	7	10	11	10	8	7
625:	12	6	8	13	6	8	8	16
633:	7	11	6	15	15	12	7	4
641:	12	12	13	11	12	6	10	13
649:	16	10	9	9	5	9	6	13
657:	13	11	11	4	11	9	10	7
665:	16	12	11	10	12	10	8	10
673:	13	5	15	9	11	10	10	10
681:	6	11	12	11	10	9	11	12
689:	6	11	7	8	13	9	10	9
697:	15	9	10	11	12	15	15	17
705:	7	11	8	3	6	14	17	11
713:	10	12	11	8	11	8	7	15
721:	10	6	4	12	7	9	39	21
729:	11	10	6	9	4	9	7	5
737:	8	13	10	9	8	9	10	7
745:	7	7	12	3	9	8	10	10
753:	8	8	7	6	9	5	6	8
761:	8	9	8	10	3	8	13	20
769:	26	12	9	13	9	7	4	5
777:	10	5	5	5	6	10	8	6
785:	9	10	5	11	15	3	6	9
793:	9	18	13	18	5	7	8	5

801: 6 6 10 9 9 14 15 9

Sample Title: CP0403S04-05

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	6	5	7	5	9	5	4	7
817:	11	4	7	4	9	9	8	3
825:	15	9	4	10	6	7	6	8
833:	5	5	14	9	10	4	8	11
841:	11	4	9	6	4	6	8	10
849:	4	6	4	6	5	7	4	1
857:	7	7	5	13	17	11	8	6
865:	8	10	11	5	5	4	3	6
873:	5	9	7	3	8	5	6	11
881:	7	7	1	5	6	6	6	4
889:	5	4	7	5	4	7	5	5
897:	6	11	6	8	8	3	11	5
905:	5	7	3	8	12	26	68	65
913:	13	7	6	7	7	3	6	4
921:	5	2	4	8	10	9	9	7
929:	8	13	5	7	9	17	14	9
937:	3	10	4	9	6	8	7	4
945:	6	5	7	9	7	11	9	7
953:	11	7	5	6	9	4	5	8
961:	8	9	7	11	17	12	7	18
969:	46	20	10	8	5	4	9	7
977:	11	5	8	4	5	5	4	5
985:	4	6	10	7	9	2	5	5
993:	7	7	4	7	7	4	8	6
1001:	8	10	6	7	7	4	3	6
1009:	4	5	5	8	5	6	6	8
1017:	6	2	6	8	7	4	5	5
1025:	6	4	10	9	6	11	7	4
1033:	4	7	6	2	5	5	8	3
1041:	6	4	8	13	9	8	8	4
1049:	7	8	6	6	7	4	4	2
1057:	4	3	9	4	3	5	7	10
1065:	7	4	7	7	5	6	5	6
1073:	5	6	9	6	5	4	8	2
1081:	5	7	5	4	6	14	5	1
1089:	10	4	9	3	3	4	8	6
1097:	2	2	4	6	3	3	4	2
1105:	5	8	6	10	3	9	5	6
1113:	4	9	5	5	1	12	12	32
1121:	24	9	11	8	3	5	8	5
1129:	5	5	3	8	3	7	5	7
1137:	8	5	4	6	7	7	5	7
1145:	6	9	3	4	6	10	3	8
1153:	8	9	5	10	3	11	7	11
1161:	6	5	5	9	12	12	3	6
1169:	3	6	3	6	8	5	5	7
1177:	6	2	3	9	3	8	10	3
1185:	7	6	7	3	8	8	6	7
1193:	3	9	9	3	4	8	5	11
1201:	8	5	7	6	6	7	5	8
1209:	10	8	8	9	6	11	10	3
1217:	11	6	5	7	12	13	8	6
1225:	5	7	7	5	6	8	7	10

1233: 8 8 15 10 9 11 15 5

Sample Title: CP0403S04-05

Channel	10	11	9	7	8	9	8	10
1241:	10	11	9	7	8	9	8	10
1249:	8	8	5	3	9	5	3	6
1257:	8	5	8	3	3	0	5	6
1265:	6	8	4	4	6	9	5	4
1273:	4	3	5	5	6	1	5	6
1281:	7	8	6	2	8	3	7	4
1289:	10	10	6	4	4	4	2	5
1297:	4	3	6	8	5	5	1	8
1305:	2	3	5	4	5	11	5	6
1313:	5	7	7	3	3	2	2	5
1321:	3	5	3	4	1	4	6	6
1329:	2	2	2	4	6	3	7	9
1337:	2	4	0	5	4	1	3	4
1345:	3	3	4	2	0	6	4	6
1353:	2	2	4	2	4	2	5	3
1361:	4	1	1	4	3	1	4	5
1369:	3	4	2	8	1	4	3	6
1377:	8	5	2	3	2	1	2	3
1385:	5	1	2	0	3	1	0	2
1393:	1	1	0	2	2	4	5	3
1401:	6	3	4	1	2	3	4	6
1409:	4	2	2	2	2	5	0	2
1417:	3	2	0	3	1	0	1	1
1425:	0	4	3	3	3	2	2	2
1433:	6	4	4	5	3	2	2	4
1441:	1	2	5	1	1	2	2	2
1449:	1	3	3	2	1	2	2	2
1457:	6	7	39	146	216	88	14	3
1465:	2	3	2	1	2	1	0	3
1473:	1	1	2	1	3	3	2	1
1481:	1	5	1	1	0	3	2	2
1489:	2	1	2	1	2	3	0	4
1497:	4	0	0	1	2	2	2	2
1505:	4	1	2	2	3	6	2	2
1513:	2	1	1	2	0	1	0	0
1521:	7	0	0	0	0	0	2	0
1529:	3	0	0	0	3	1	0	1
1537:	1	2	1	4	1	3	1	4
1545:	2	1	1	0	0	0	2	0
1553:	2	1	3	0	3	1	1	2
1561:	4	2	0	2	0	1	1	2
1569:	4	0	2	0	1	2	1	1
1577:	2	2	2	2	1	2	1	2
1585:	2	0	4	6	1	3	6	6
1593:	12	1	1	2	3	1	4	4
1601:	2	2	1	2	3	1	2	0
1609:	0	1	3	2	1	1	1	1
1617:	1	1	3	5	4	4	1	2
1625:	1	0	1	1	0	5	4	2
1633:	2	1	0	3	2	2	1	0
1641:	3	0	2	0	0	1	3	5
1649:	1	0	0	0	0	1	2	0
1657:	2	1	1	2	1	2	2	0

1665: 0 2 3 1 0 1 1 0

Sample Title: CP0403S04-05

Channel	1	2	3	4	5	6	7	8
1673:	1	1	0	2	2	0	2	0
1681:	0	0	0	1	3	1	3	0
1689:	3	0	0	0	3	0	0	3
1697:	1	1	1	0	2	0	2	0
1705:	0	1	3	0	0	0	1	0
1713:	1	1	1	5	4	2	2	2
1721:	2	0	1	2	0	2	0	5
1729:	10	3	2	3	1	1	2	2
1737:	1	0	1	1	1	0	1	1
1745:	1	0	2	0	0	1	3	3
1753:	1	0	2	1	0	1	0	0
1761:	3	0	9	15	18	8	1	0
1769:	0	0	0	1	1	2	2	1
1777:	0	1	0	1	2	2	2	1
1785:	2	1	1	1	1	3	1	3
1793:	0	2	1	2	3	2	1	2
1801:	0	4	1	2	3	1	1	0
1809:	1	2	1	0	1	4	0	1
1817:	1	0	1	0	0	2	0	1
1825:	1	1	1	1	2	0	0	0
1833:	0	1	0	1	2	1	1	0
1841:	0	1	0	1	1	2	4	2
1849:	4	1	2	1	0	0	0	0
1857:	1	0	1	0	0	1	0	1
1865:	0	2	2	1	3	0	5	1
1873:	1	3	1	0	2	1	1	1
1881:	3	2	1	1	1	3	1	1
1889:	1	3	0	1	0	0	1	0
1897:	2	1	0	3	2	0	0	1
1905:	2	2	4	2	1	1	0	1
1913:	3	2	1	0	0	0	4	1
1921:	1	0	0	1	1	0	0	0
1929:	0	1	0	0	1	2	1	0
1937:	3	0	2	0	0	0	2	0
1945:	0	1	0	2	3	1	1	2
1953:	0	4	2	2	1	0	0	1
1961:	3	0	0	1	1	1	2	1
1969:	1	2	0	0	0	0	1	0
1977:	0	0	0	0	1	1	1	0
1985:	2	2	1	0	0	0	3	0
1993:	2	0	0	3	1	0	0	0
2001:	0	1	1	2	1	1	0	0
2009:	0	2	1	2	0	2	1	1
2017:	0	2	2	0	0	4	0	2
2025:	0	0	1	0	1	0	1	0
2033:	1	1	1	1	1	0	1	2
2041:	0	1	2	2	1	1	1	1
2049:	1	1	0	1	1	1	1	0
2057:	1	1	0	0	0	0	2	1
2065:	1	1	0	0	1	2	0	1
2073:	0	1	0	1	0	1	0	2
2081:	0	0	0	0	1	2	1	0
2089:	0	0	2	1	0	1	2	0

2097: 2 1 0 0 2 5 3 6

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Channel	-----	-----	-----	-----	-----	-----	-----	-----
2105:	2	1	2	0	1	1	0	0
2113:	1	1	1	2	1	1	1	4
2121:	1	1	1	0	1	0	2	0
2129:	0	2	0	1	2	0	0	2
2137:	1	0	2	0	1	2	0	0
2145:	1	0	0	2	0	1	0	1
2153:	2	3	0	1	0	2	0	0
2161:	2	1	1	2	0	0	0	2
2169:	1	0	0	1	0	0	0	1
2177:	1	2	1	0	1	0	0	1
2185:	2	1	0	0	0	1	1	0
2193:	1	0	1	0	0	0	2	0
2201:	0	2	3	4	5	0	0	3
2209:	1	3	1	1	0	0	0	2
2217:	0	0	0	0	1	3	1	0
2225:	1	0	1	0	0	0	0	0
2233:	1	1	1	0	2	0	1	2
2241:	0	1	1	0	1	0	2	2
2249:	0	2	1	4	1	0	1	0
2257:	1	0	0	0	0	2	0	0
2265:	0	0	1	0	3	0	0	3
2273:	2	0	2	0	1	2	0	0
2281:	1	0	0	0	0	1	2	1
2289:	0	0	1	1	1	0	0	3
2297:	1	0	1	0	2	0	2	0
2305:	1	1	1	0	0	0	1	1
2313:	0	1	1	1	2	1	2	0
2321:	2	1	1	0	2	0	0	0
2329:	0	2	3	1	1	3	1	0
2337:	0	3	2	0	1	2	1	1
2345:	2	1	4	0	2	1	1	2
2353:	1	0	0	1	2	1	0	2
2361:	2	0	2	3	0	1	1	0
2369:	3	2	1	2	1	0	0	0
2377:	0	0	2	1	2	4	0	0
2385:	1	1	0	1	0	1	2	1
2393:	0	0	0	2	1	0	2	1
2401:	0	1	1	1	0	1	0	0
2409:	1	1	0	0	1	1	4	0
2417:	1	2	2	1	0	0	4	2
2425:	0	1	0	0	0	1	1	1
2433:	3	0	3	2	0	2	2	0
2441:	0	0	1	1	3	1	5	2
2449:	2	0	0	0	0	1	0	0
2457:	0	0	0	1	1	1	0	2
2465:	1	0	0	0	0	0	2	0
2473:	0	0	0	1	0	0	1	0
2481:	1	1	0	1	0	0	1	0
2489:	0	0	0	0	1	1	1	1
2497:	1	0	1	1	0	0	0	0
2505:	0	0	0	0	0	0	0	0
2513:	0	1	0	0	0	0	0	1
2521:	1	0	1	0	0	1	1	0

2529: 0 0 0 0 0 0 0 0

Sample Title: CP0403S04-05

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2537:	0	0	0	0	2	2	0	0
2545:	0	2	0	0	0	0	1	1
2553:	2	0	0	0	1	0	0	1
2561:	0	0	0	0	0	0	3	0
2569:	0	1	0	0	0	0	1	1
2577:	0	0	1	2	0	0	0	1
2585:	0	1	0	0	0	1	0	0
2593:	0	0	0	0	0	0	0	1
2601:	0	0	0	0	0	0	1	0
2609:	1	2	1	7	10	17	15	3
2617:	3	0	1	0	0	0	0	0
2625:	0	1	0	0	0	0	0	0
2633:	0	0	0	0	0	0	1	1
2641:	0	0	0	0	1	0	0	1
2649:	0	0	0	2	0	0	0	0
2657:	1	0	0	0	1	0	0	1
2665:	1	0	0	0	0	0	0	0
2673:	1	0	0	1	1	0	0	0
2681:	0	2	1	0	1	1	0	0
2689:	0	0	0	2	0	0	0	0
2697:	0	1	0	0	0	0	0	0
2705:	0	2	0	0	0	0	0	1
2713:	0	0	0	0	0	1	1	0
2721:	0	0	0	0	0	0	0	0
2729:	0	0	0	0	0	1	0	1
2737:	1	0	0	1	0	0	0	0
2745:	0	0	0	0	0	0	0	0
2753:	0	0	0	0	0	1	0	0
2761:	0	0	0	1	1	0	0	1
2769:	0	0	0	0	0	0	0	0
2777:	0	0	0	1	0	0	0	0
2785:	0	0	1	0	0	0	0	0
2793:	1	0	0	0	0	0	0	0
2801:	0	0	0	1	0	1	1	1
2809:	0	0	0	1	0	0	0	0
2817:	0	1	0	0	1	0	0	0
2825:	0	0	0	1	0	0	1	0
2833:	0	0	0	0	0	0	0	2
2841:	0	0	0	0	1	0	0	0
2849:	1	0	0	1	0	1	0	0
2857:	0	0	0	1	0	0	0	0
2865:	0	0	0	0	1	0	0	0
2873:	0	0	0	0	0	0	0	0
2881:	0	0	0	0	1	0	0	0
2889:	0	0	0	1	0	0	1	0
2897:	2	0	0	0	0	0	0	1
2905:	0	0	0	0	0	0	0	0
2913:	0	0	1	1	0	0	0	0
2921:	0	0	1	0	0	0	0	0
2929:	0	0	0	1	0	0	0	0
2937:	0	0	1	0	1	0	0	0
2945:	0	0	0	1	0	0	0	0
2953:	0	0	0	0	0	0	0	0

2961: 0 0 0 0 0 0 0 0

Sample Title: CP0403S04-05

Channel	1	2	3	4	5	6	7	8
2969:	0	0	0	0	0	0	0	0
2977:	0	0	0	0	0	0	0	0
2985:	1	0	0	0	0	0	1	0
2993:	0	0	0	0	1	0	0	1
3001:	1	0	0	0	0	1	0	0
3009:	0	0	0	0	0	0	0	1
3017:	1	0	0	0	0	1	0	0
3025:	0	0	0	1	0	0	0	0
3033:	0	0	0	0	0	0	0	0
3041:	0	1	0	0	0	0	0	0
3049:	0	0	0	0	0	0	0	0
3057:	0	0	1	0	0	0	0	0
3065:	0	0	0	0	0	0	0	0
3073:	0	0	0	0	0	0	0	0
3081:	0	0	1	0	0	1	0	0
3089:	0	0	0	0	0	0	0	0
3097:	0	0	0	0	0	0	0	0
3105:	0	0	0	0	0	1	0	1
3113:	0	0	0	0	0	0	1	0
3121:	0	0	0	0	0	0	1	0
3129:	1	0	0	0	0	0	0	0
3137:	0	0	0	0	0	0	1	0
3145:	0	0	0	0	0	0	0	0
3153:	0	0	0	0	0	1	0	0
3161:	0	0	0	1	0	0	0	0
3169:	0	0	0	0	2	0	1	0
3177:	0	0	0	0	1	0	0	1
3185:	0	0	0	0	1	0	0	0
3193:	0	0	0	0	0	2	0	0
3201:	0	0	0	0	0	0	0	0
3209:	0	0	0	0	0	0	0	0
3217:	0	0	0	0	0	0	1	0
3225:	0	0	2	0	0	0	0	0
3233:	0	0	0	0	0	0	1	0
3241:	0	0	0	0	0	1	1	0
3249:	0	0	0	0	0	0	0	0
3257:	0	1	0	0	0	0	1	0
3265:	0	0	0	0	0	0	0	0
3273:	0	0	0	1	0	0	0	0
3281:	1	0	0	0	0	0	0	0
3289:	0	2	0	0	0	0	0	0
3297:	0	0	0	0	0	0	0	0
3305:	1	0	0	0	0	0	0	0
3313:	0	0	0	0	0	0	0	1
3321:	2	0	0	0	1	0	0	0
3329:	0	0	1	0	0	0	0	0
3337:	0	0	0	1	0	0	0	2
3345:	0	0	0	0	0	0	0	0
3353:	1	0	1	0	0	0	0	0
3361:	0	0	0	0	0	0	0	0
3369:	1	0	1	0	0	0	0	0
3377:	0	0	0	0	0	0	0	0
3385:	0	0	0	0	0	0	1	0

3393: 0 1 0 0 0 0 0 0

Sample Title: CP0403S04-05

Channel	0	0	0	1	0	0	0	0
3401:	0	0	0	1	0	0	0	0
3409:	1	1	0	1	0	0	0	0
3417:	0	0	0	0	0	0	0	0
3425:	0	0	0	1	0	0	0	0
3433:	0	0	1	0	0	0	0	0
3441:	0	0	1	0	0	1	1	0
3449:	0	0	0	0	0	0	0	0
3457:	0	0	1	0	0	0	1	0
3465:	1	1	1	1	0	0	0	0
3473:	0	0	1	0	0	0	0	0
3481:	0	0	0	1	0	0	0	1
3489:	0	1	0	1	0	0	0	0
3497:	0	0	0	0	0	1	0	0
3505:	0	1	0	0	0	0	0	0
3513:	1	1	0	1	0	0	0	0
3521:	0	0	0	0	0	0	0	0
3529:	0	0	0	0	0	0	0	0
3537:	0	0	0	0	0	0	0	0
3545:	0	0	0	0	0	0	1	0
3553:	0	0	1	0	1	0	0	1
3561:	0	0	0	0	0	0	0	0
3569:	0	0	0	0	0	0	0	1
3577:	0	0	0	1	0	0	0	0
3585:	0	0	0	0	1	0	0	0
3593:	0	0	0	0	0	0	0	1
3601:	0	0	0	1	0	0	0	0
3609:	0	0	0	0	0	0	0	0
3617:	0	0	0	0	0	0	0	0
3625:	0	1	0	0	0	0	0	0
3633:	0	0	0	0	0	0	0	0
3641:	0	0	1	1	0	1	0	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	1	0	1	0	1	0
3665:	0	0	0	0	0	1	0	0
3673:	0	0	0	0	0	0	0	0
3681:	0	0	0	0	1	0	0	0
3689:	0	0	0	0	0	0	0	0
3697:	0	0	0	0	0	0	0	0
3705:	0	0	1	0	0	0	0	0
3713:	0	0	0	0	0	0	0	0
3721:	0	0	0	0	0	0	0	0
3729:	0	0	0	0	0	0	0	0
3737:	0	0	0	0	0	0	1	0
3745:	0	0	0	0	0	0	0	1
3753:	0	0	0	0	0	0	0	0
3761:	1	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0
3777:	0	0	0	0	0	0	1	0
3785:	0	0	0	0	0	0	0	0
3793:	1	0	0	0	1	0	0	0
3801:	0	0	0	0	0	0	0	1
3809:	0	0	0	0	0	1	0	0
3817:	0	0	0	0	0	0	0	0

3825: 0 0 0 0 0 0 0 0 0

Sample Title: CP0403S04-05

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	0	0	0	0	0
3849:	0	0	0	0	0	1	0	0
3857:	0	0	0	0	0	0	0	0
3865:	0	0	0	0	0	0	0	1
3873:	0	1	0	0	0	0	0	0
3881:	0	0	0	0	0	0	0	0
3889:	0	0	0	0	0	0	0	0
3897:	0	0	0	0	0	0	0	0
3905:	1	0	0	0	0	0	0	0
3913:	0	0	0	0	0	0	0	0
3921:	1	0	0	0	0	0	0	0
3929:	0	0	0	0	0	0	0	1
3937:	1	0	0	0	0	0	1	0
3945:	1	0	0	0	0	0	0	0
3953:	1	0	1	0	0	0	0	0
3961:	0	0	0	0	0	0	1	0
3969:	0	0	0	0	0	0	0	0
3977:	0	0	0	0	1	0	0	0
3985:	0	0	0	0	0	0	0	1
3993:	0	0	0	0	0	0	0	0
4001:	0	0	0	0	0	0	0	0
4009:	0	0	0	0	0	0	0	0
4017:	1	0	0	0	0	0	0	0
4025:	0	0	0	0	0	0	0	0
4033:	0	0	0	0	0	1	0	1
4041:	0	0	0	0	0	0	0	1
4049:	0	0	0	0	0	0	0	0
4057:	0	0	0	0	0	0	0	0
4065:	1	0	0	0	0	0	0	0
4073:	0	0	0	0	0	0	0	0
4081:	0	0	0	0	0	0	0	0
4089:	1	0	0	0	0	0	0	0

Analysis Report for 1510063-06
CP0403S07-08

C
1113

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510063-06
Sample Description : CP0403S07-08
Sample Type : SOIL

Sample Size : 6.267E+02 grams
Facility : Countroom

Sample Taken On : 10/5/2015 6:59:59AM
Acquisition Started : 11/3/2015 6:07:52AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE4
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3639.5 seconds

Dead Time : 1.09 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 15 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 11/8/2014
Efficiency Calibration Description :

Sample Number : 29006

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/3/15

Analysis Report for 1510063-06
CP0403S07-08

PEAK LOCATE REPORT

Peak Locate Performed on : 11/3/2015 7:08:33AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	46.65	45.90	0.0000	0.00
2	76.16	75.43	0.0000	0.00
3	86.29	85.56	0.0000	0.00
4	92.95	92.22	0.0000	0.00
5	129.91	129.20	0.0000	0.00
6	185.49	184.80	0.0000	0.00
7	199.45	198.77	0.0000	0.00
8	208.71	208.04	0.0000	0.00
9	223.94	223.27	0.0000	0.00
10	238.86	238.20	0.0000	0.00
11	273.65	273.01	0.0000	0.00
12	295.23	294.59	0.0000	0.00
13	301.62	300.99	0.0000	0.00
14	328.90	328.28	0.0000	0.00
15	338.51	337.89	0.0000	0.00
16	351.87	351.26	0.0000	0.00
17	510.74	510.20	0.0000	0.00
18	583.49	582.98	0.0000	0.00
19	609.84	609.35	0.0000	0.00
20	645.99	645.51	0.0000	0.00
21	657.00	656.53	0.0000	0.00
22	806.46	806.07	0.0000	0.00
23	860.75	860.38	0.0000	0.00
24	911.82	911.48	0.0000	0.00
25	968.25	967.94	0.0000	0.00
26	1078.27	1078.02	0.0000	0.00
27	1117.59	1117.36	0.0000	0.00
28	1400.18	1400.12	0.0000	0.00
29	1435.66	1435.62	0.0000	0.00
30	1461.08	1461.05	0.0000	0.00
31	1496.66	1496.66	0.0000	0.00
32	1504.59	1504.59	0.0000	0.00
33	1567.25	1567.29	0.0000	0.00
34	1575.65	1575.69	0.0000	0.00
35	1765.01	1765.18	0.0000	0.00
36	1905.51	1905.77	0.0000	0.00
37	2099.94	2100.33	0.0000	0.00
38	2264.27	2264.78	0.0000	0.00
39	2331.69	2332.24	0.0000	0.00
40	2614.79	2615.57	0.0000	0.00

Analysis Report for 1510063-06
CP0403S07-08

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510063-06

CP0403S07-08

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 7:08:33AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
1	46.65	43 -	50	45.90	9.30E+01	80.67	1.03E+03	1.50
2	76.16	70 -	81	75.43	7.66E+02	147.84	2.32E+03	3.98
3	86.29	82 -	89	85.56	1.39E+02	98.51	1.53E+03	2.26
4	92.95	89 -	96	92.22	1.59E+02	96.44	1.41E+03	2.65
5	129.91	126 -	133	129.20	6.27E+01	73.57	8.61E+02	2.93
6	185.49	180 -	190	184.80	1.74E+02	84.72	8.66E+02	2.02
7	199.45	196 -	202	198.77	5.36E+01	53.20	4.75E+02	3.03
8	208.71	203 -	212	208.04	1.22E+02	69.16	6.10E+02	4.60
9	223.94	220 -	247	223.27	4.60E+01	45.83	3.71E+02	2.92
10	238.86	220 -	247	238.20	5.96E+02	73.40	4.24E+02	2.89
11	273.65	263 -	285	273.01	1.06E+02	119.68	9.99E+02	8.69
12	295.23	288 -	297	294.59	1.18E+02	56.91	3.95E+02	2.88
13	301.62	298 -	306	300.99	5.25E+01	47.68	3.13E+02	2.95
14	328.90	323 -	333	328.28	8.26E+01	56.21	3.71E+02	6.11
15	338.51	334 -	342	337.89	9.35E+01	46.51	2.77E+02	2.42
16	351.87	345 -	357	351.26	1.79E+02	61.28	3.58E+02	2.51
17	510.74	506 -	514	510.20	8.35E+01	39.12	1.83E+02	1.97
18	583.49	578 -	588	582.98	1.47E+02	43.19	1.70E+02	2.93
19	609.84	603 -	616	609.35	1.19E+02	51.60	2.36E+02	2.74
20	645.99	641 -	652	645.51	3.82E+01	33.41	1.22E+02	1.27
21	657.00	653 -	660	656.53	2.38E+01	25.46	9.25E+01	3.23
22	806.46	801 -	810	806.07	2.57E+01	24.29	6.85E+01	5.49
23	860.75	856 -	865	860.38	2.52E+01	25.61	7.77E+01	4.49
24	911.82	904 -	919	911.48	8.24E+01	45.61	1.71E+02	3.09
25	968.25	962 -	974	967.94	7.21E+01	33.37	9.58E+01	2.55
26	1078.27	1072 -	1084	1078.02	2.38E+01	23.11	5.03E+01	1.40
27	1117.59	1109 -	1127	1117.36	5.38E+01	40.41	1.22E+02	9.56
28	1400.18	1397 -	1404	1400.12	1.15E+01	13.86	2.51E+01	1.28
29	1435.66	1432 -	1438	1435.62	8.93E+00	9.63	1.01E+01	1.87
30	1461.08	1456 -	1470	1461.05	2.85E+02	37.75	3.00E+01	3.61
31	1496.66	1491 -	1500	1496.66	9.59E+00	11.96	1.48E+01	1.07
32	1504.59	1501 -	1509	1504.59	1.25E+01	8.96	5.07E+00	4.23
33	1567.25	1563 -	1570	1567.29	7.95E+00	7.48	4.10E+00	3.42
34	1575.65	1572 -	1579	1575.69	1.30E+01	7.21	0.00E+00	2.00
35	1765.01	1759 -	1770	1765.18	1.63E+01	12.65	1.15E+01	2.53
36	1905.51	1900 -	1910	1905.77	9.33E+00	8.85	5.33E+00	2.66
37	2099.94	2095 -	2102	2100.33	6.00E+00	4.90	0.00E+00	1.92
38	2264.27	2260 -	2268	2264.78	5.00E+00	6.95	4.00E+00	1.68
39	2331.69	2328 -	2335	2332.24	6.00E+00	6.93	4.00E+00	1.37
40	2614.79	2611 -	2621	2615.57	4.38E+01	14.77	6.32E+00	2.09

Analysis Report for 1510063-06

CP0403S07-08

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 7:08:33AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level	
1	46.65	43 -	50	9.30E+01	80.67	1.03E+03	6.44E+01	
2	76.16	70 -	81	7.66E+02	147.84	2.32E+03	1.13E+02	
3	86.29	82 -	89	1.39E+02	98.51	1.53E+03	7.86E+01	
4	92.95	89 -	96	1.59E+02	96.44	1.41E+03	7.65E+01	
5	129.91	126 -	133	6.27E+01	73.57	8.61E+02	5.91E+01	
6	185.49	180 -	190	1.74E+02	84.72	8.66E+02	6.62E+01	
7	199.45	196 -	202	5.36E+01	53.20	4.75E+02	4.20E+01	
8	208.71	203 -	212	1.22E+02	69.16	6.10E+02	5.39E+01	
M	9	223.94	220 -	247	4.60E+01	45.83	3.71E+02	3.17E+01
m	10	238.86	220 -	247	5.96E+02	73.40	4.24E+02	3.39E+01
11	273.65	263 -	285	1.06E+02	119.68	9.99E+02	9.69E+01	
12	295.23	288 -	297	1.18E+02	56.91	3.95E+02	4.32E+01	
13	301.62	298 -	306	5.25E+01	47.68	3.13E+02	3.73E+01	
14	328.90	323 -	333	8.26E+01	56.21	3.71E+02	4.37E+01	
15	338.51	334 -	342	9.35E+01	46.51	2.77E+02	3.48E+01	
16	351.87	345 -	357	1.79E+02	61.28	3.58E+02	4.53E+01	
17	510.74	506 -	514	8.35E+01	39.12	1.83E+02	2.84E+01	
18	583.49	578 -	588	1.47E+02	43.19	1.70E+02	2.94E+01	
19	609.84	603 -	616	1.19E+02	51.60	2.36E+02	3.84E+01	
20	645.99	641 -	652	3.82E+01	33.41	1.22E+02	2.55E+01	
21	657.00	653 -	660	2.38E+01	25.46	9.25E+01	1.93E+01	
22	806.46	801 -	810	2.57E+01	24.29	6.85E+01	1.81E+01	
23	860.75	856 -	865	2.52E+01	25.61	7.77E+01	1.94E+01	
24	911.82	904 -	919	8.24E+01	45.61	1.71E+02	3.44E+01	
25	968.25	962 -	974	7.21E+01	33.37	9.58E+01	2.36E+01	
26	1078.27	1072 -	1084	2.38E+01	23.11	5.03E+01	1.72E+01	
27	1117.59	1109 -	1127	5.38E+01	40.41	1.22E+02	3.10E+01	
28	1400.18	1397 -	1404	1.15E+01	13.86	2.51E+01	9.94E+00	
29	1435.66	1432 -	1438	8.93E+00	9.63	1.01E+01	6.21E+00	
30	1461.08	1456 -	1470	2.85E+02	37.75	3.00E+01	1.39E+01	
31	1496.66	1491 -	1500	9.59E+00	11.96	1.48E+01	8.41E+00	

Analysis Report for 1510063-06

CP0403S07-08

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
32	1504.59	1501 -	1509	1.25E+01	8.96	5.07E+00	4.53E+00
33	1567.25	1563 -	1570	7.95E+00	7.48	4.10E+00	4.04E+00
34	1575.65	1572 -	1579	1.30E+01	7.21	0.00E+00	0.00E+00
35	1765.01	1759 -	1770	1.63E+01	12.65	1.15E+01	8.01E+00
36	1905.51	1900 -	1910	9.33E+00	8.85	5.33E+00	5.26E+00
37	2099.94	2095 -	2102	6.00E+00	4.90	0.00E+00	0.00E+00
38	2264.27	2260 -	2268	5.00E+00	6.95	4.00E+00	4.37E+00
39	2331.69	2328 -	2335	6.00E+00	6.93	4.00E+00	4.03E+00
40	2614.79	2611 -	2621	4.38E+01	14.77	6.32E+00	5.38E+00

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/3/2015 7:08:33AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
1	46.65	43 -	50	45.90	9.30E+01	80.67	1.03E+03	PB-210
2	76.16	70 -	81	75.43	7.66E+02	147.84	2.32E+03	.....
3	86.29	82 -	89	85.56	1.39E+02	98.51	1.53E+03	EU-155 NP-237
4	92.95	89 -	96	92.22	1.59E+02	96.44	1.41E+03	GA-67
5	129.91	126 -	133	129.20	6.27E+01	73.57	8.61E+02	.....
6	185.49	180 -	190	184.80	1.74E+02	84.72	8.66E+02	RA-226
7	199.45	196 -	202	198.77	5.36E+01	53.20	4.75E+02	.....
8	208.71	203 -	212	208.04	1.22E+02	69.16	6.10E+02	GA-67
M	223.94	220 -	247	223.27	4.60E+01	45.83	3.71E+02	.....
m	238.86	220 -	247	238.20	5.96E+02	73.40	4.24E+02	PB-212
11	273.65	263 -	285	273.01	1.06E+02	119.68	9.99E+02	CS-136
12	295.23	288 -	297	294.59	1.18E+02	56.91	3.95E+02	PB-214
13	301.62	298 -	306	300.99	5.25E+01	47.68	3.13E+02	.....
14	328.90	323 -	333	328.28	8.26E+01	56.21	3.71E+02	LA-140
15	338.51	334 -	342	337.89	9.35E+01	46.51	2.77E+02	AC-228
16	351.87	345 -	357	351.26	1.79E+02	61.28	3.58E+02	PB-214

: 00521

Analysis Report for 1510063-06

CP0403S07-08

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
17	510.74	506 -	514	510.20	8.35E+01	39.12	1.83E+02	.....
18	583.49	578 -	588	582.98	1.47E+02	43.19	1.70E+02	TL-208
19	609.84	603 -	616	609.35	1.19E+02	51.60	2.36E+02	BI-214
20	645.99	641 -	652	645.51	3.82E+01	33.41	1.22E+02	SB-124
21	657.00	653 -	660	656.53	2.38E+01	25.46	9.25E+01	AG-110M
22	806.46	801 -	810	806.07	2.57E+01	24.29	6.85E+01	.....
23	860.75	856 -	865	860.38	2.52E+01	25.61	7.77E+01	TL-208
24	911.82	904 -	919	911.48	8.24E+01	45.61	1.71E+02	LU-172
								AC-228
25	968.25	962 -	974	967.94	7.21E+01	33.37	9.58E+01	AC-228
26	1078.27	1072 -	1084	1078.02	2.38E+01	23.11	5.03E+01	.....
27	1117.59	1109 -	1127	1117.36	5.38E+01	40.41	1.22E+02	.....
28	1400.18	1397 -	1404	1400.12	1.15E+01	13.86	2.51E+01	.....
29	1435.66	1432 -	1438	1435.62	8.93E+00	9.63	1.01E+01	LA-138
30	1461.08	1456 -	1470	1461.05	2.85E+02	37.75	3.00E+01	K-40
31	1496.66	1491 -	1500	1496.66	9.59E+00	11.96	1.48E+01	.....
32	1504.59	1501 -	1509	1504.59	1.25E+01	8.96	5.07E+00	.....
33	1567.25	1563 -	1570	1567.29	7.95E+00	7.48	4.10E+00	.....
34	1575.65	1572 -	1579	1575.69	1.30E+01	7.21	0.00E+00	.....
35	1765.01	1759 -	1770	1765.18	1.63E+01	12.65	1.15E+01	BI-214
36	1905.51	1900 -	1910	1905.77	9.33E+00	8.85	5.33E+00	.....
37	2099.94	2095 -	2102	2100.33	6.00E+00	4.90	0.00E+00	.....
38	2264.27	2260 -	2268	2264.78	5.00E+00	6.95	4.00E+00	.....
39	2331.69	2328 -	2335	2332.24	6.00E+00	6.93	4.00E+00	.....
40	2614.79	2611 -	2621	2615.57	4.38E+01	14.77	6.32E+00	TL-208

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/3/2015 7:08:33AM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	46.65	9.30E+01	80.67	2.63E-02	1.78E-03
2	76.16	7.66E+02	147.84	2.12E-02	1.69E-03
3	86.29	1.39E+02	98.51	1.98E-02	1.64E-03
4	92.95	1.59E+02	96.44	1.90E-02	1.62E-03
5	129.91	6.27E+01	73.57	1.53E-02	1.47E-03

: 00522

Analysis Report for 1510063-06
CP0403S07-08

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	6	185.49	1.74E+02	84.72	1.16E-02	1.15E-03
	7	199.45	5.36E+01	53.20	1.10E-02	1.11E-03
	8	208.71	1.22E+02	69.16	1.06E-02	1.08E-03
M	9	223.94	4.60E+01	45.83	9.95E-03	1.03E-03
m	10	238.86	5.96E+02	73.40	9.41E-03	9.86E-04
	11	273.65	1.06E+02	119.68	8.34E-03	8.78E-04
	12	295.23	1.18E+02	56.91	7.78E-03	8.43E-04
	13	301.62	5.25E+01	47.68	7.63E-03	8.36E-04
	14	328.90	8.26E+01	56.21	7.04E-03	8.06E-04
	15	338.51	9.35E+01	46.51	6.86E-03	7.95E-04
	16	351.87	1.79E+02	61.28	6.61E-03	7.80E-04
	17	510.74	8.35E+01	39.12	4.61E-03	5.62E-04
	18	583.49	1.47E+02	43.19	4.04E-03	4.55E-04
	19	609.84	1.19E+02	51.60	3.87E-03	4.16E-04
	20	645.99	3.82E+01	33.41	3.66E-03	3.63E-04
	21	657.00	2.38E+01	25.46	3.60E-03	3.47E-04
	22	806.46	2.57E+01	24.29	2.94E-03	2.59E-04
	23	860.75	2.52E+01	25.61	2.76E-03	2.29E-04
	24	911.82	8.24E+01	45.61	2.61E-03	2.06E-04
	25	968.25	7.21E+01	33.37	2.46E-03	1.99E-04
	26	1078.27	2.38E+01	23.11	2.22E-03	1.85E-04
	27	1117.59	5.38E+01	40.41	2.15E-03	1.80E-04
	28	1400.18	1.15E+01	13.86	1.75E-03	2.02E-04
	29	1435.66	8.93E+00	9.63	1.71E-03	1.94E-04
	30	1461.08	2.85E+02	37.75	1.68E-03	1.89E-04
	31	1496.66	9.59E+00	11.96	1.65E-03	1.82E-04
	32	1504.59	1.25E+01	8.96	1.64E-03	1.80E-04
	33	1567.25	7.95E+00	7.48	1.58E-03	1.67E-04
	34	1575.65	1.30E+01	7.21	1.58E-03	1.65E-04
	35	1765.01	1.63E+01	12.65	1.43E-03	1.26E-04
	36	1905.51	9.33E+00	8.85	1.35E-03	1.11E-04
	37	2099.94	6.00E+00	4.90	1.25E-03	1.11E-04
	38	2264.27	5.00E+00	6.95	1.18E-03	1.11E-04
	39	2331.69	6.00E+00	6.93	1.16E-03	1.11E-04
	40	2614.79	4.38E+01	14.77	1.07E-03	1.11E-04

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

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/3/2015 7:08:33AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

: 00523

Analysis Report for 1510063-06

CP0403S07-08

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
1	46.65	9.30E+01	80.67	2.00E+01	7.38E+00	7.29E+01	8.10E+01
2	76.16	7.66E+02	147.84			7.66E+02	1.48E+02
3	86.29	1.39E+02	98.51			1.39E+02	9.85E+01
4	92.95	1.59E+02	96.44	5.44E+01	8.36E+00	1.05E+02	9.68E+01
5	129.91	6.27E+01	73.57			6.27E+01	7.36E+01
6	185.49	1.74E+02	84.72	1.43E+01	7.33E+00	1.60E+02	8.50E+01
7	199.45	5.36E+01	53.20			5.36E+01	5.32E+01
8	208.71	1.22E+02	69.16			1.22E+02	6.92E+01
M	9	223.94	4.60E+01			4.60E+01	4.58E+01
m	10	238.86	5.96E+02	1.09E+01	6.39E+00	5.85E+02	7.37E+01
	11	273.65	1.06E+02			1.06E+02	1.20E+02
	12	295.23	1.18E+02			1.18E+02	5.69E+01
	13	301.62	5.25E+01	0.00E+00	0.00E+00	5.25E+01	4.77E+01
	14	328.90	8.26E+01			8.26E+01	5.62E+01
	15	338.51	9.35E+01			9.35E+01	4.65E+01
	16	351.87	1.79E+02	8.07E+00	5.01E+00	1.71E+02	6.15E+01
	17	510.74	8.35E+01	4.21E+01	4.92E+00	4.14E+01	3.94E+01
	18	583.49	1.47E+02			1.47E+02	4.32E+01
	19	609.84	1.19E+02	5.16E+00	1.63E+00	1.14E+02	5.16E+01
	20	645.99	3.82E+01			3.82E+01	3.34E+01
	21	657.00	2.38E+01			2.38E+01	2.55E+01
	22	806.46	2.57E+01			2.57E+01	2.43E+01
	23	860.75	2.52E+01			2.52E+01	2.56E+01
	24	911.82	8.24E+01	1.01E+00	2.85E+00	8.14E+01	4.57E+01
	25	968.25	7.21E+01			7.21E+01	3.34E+01
	26	1078.27	2.38E+01			2.38E+01	2.31E+01
	27	1117.59	5.38E+01			5.38E+01	4.04E+01
	28	1400.18	1.15E+01			1.15E+01	1.39E+01
	29	1435.66	8.93E+00			8.93E+00	9.63E+00
	30	1461.08	2.85E+02			2.85E+02	3.77E+01
	31	1496.66	9.59E+00			9.59E+00	1.20E+01
	32	1504.59	1.25E+01			1.25E+01	8.96E+00
	33	1567.25	7.95E+00			7.95E+00	7.48E+00
	34	1575.65	1.30E+01			1.30E+01	7.21E+00
	35	1765.01	1.63E+01	1.11E-01	9.77E-01	1.62E+01	1.27E+01
	36	1905.51	9.33E+00			9.33E+00	8.85E+00
	37	2099.94	6.00E+00			6.00E+00	4.90E+00
	38	2264.27	5.00E+00			5.00E+00	6.95E+00
	39	2331.69	6.00E+00			6.00E+00	6.93E+00
	40	2614.79	4.38E+01	1.20E+00	1.02E+00	4.26E+01	1.48E+01

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

Analysis Report for 1510063-06

CP0403S07-08

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/3/2015 7:08:33AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

Corrected Area is: Original * Peak Ratio - Background

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.	
1	46.65	9.30E+01	80.67	2.00E+01	7.38E+00	7.29E+01	8.10E+01	
2	76.16	7.66E+02	147.84			7.66E+02	1.48E+02	
3	86.29	1.39E+02	98.51			1.39E+02	9.85E+01	
4	92.95	1.59E+02	96.44	5.44E+01	8.36E+00	1.05E+02	9.68E+01	
5	129.91	6.27E+01	73.57			6.27E+01	7.36E+01	
6	185.49	1.74E+02	84.72	1.43E+01	7.33E+00	1.60E+02	8.50E+01	
7	199.45	5.36E+01	53.20			5.36E+01	5.32E+01	
8	208.71	1.22E+02	69.16			1.22E+02	6.92E+01	
M	9	223.94	4.60E+01	45.83		4.60E+01	4.58E+01	
m	10	238.86	5.96E+02	73.40	1.09E+01	6.39E+00	5.85E+02	7.37E+01
11	273.65	1.06E+02	119.68			1.06E+02	1.20E+02	
12	295.23	1.18E+02	56.91			1.18E+02	5.69E+01	
13	301.62	5.25E+01	47.68	0.00E+00	0.00E+00	5.25E+01	4.77E+01	
14	328.90	8.26E+01	56.21			8.26E+01	5.62E+01	
15	338.51	9.35E+01	46.51			9.35E+01	4.65E+01	
16	351.87	1.79E+02	61.28	8.07E+00	5.01E+00	1.71E+02	6.15E+01	
17	510.74	8.35E+01	39.12	4.21E+01	4.92E+00	4.14E+01	3.94E+01	
18	583.49	1.47E+02	43.19			1.47E+02	4.32E+01	
19	609.84	1.19E+02	51.60	5.16E+00	1.63E+00	1.14E+02	5.16E+01	
20	645.99	3.82E+01	33.41			3.82E+01	3.34E+01	
21	657.00	2.38E+01	25.46			2.38E+01	2.55E+01	
22	806.46	2.57E+01	24.29			2.57E+01	2.43E+01	
23	860.75	2.52E+01	25.61			2.52E+01	2.56E+01	
24	911.82	8.24E+01	45.61	1.01E+00	2.85E+00	8.14E+01	4.57E+01	
25	968.25	7.21E+01	33.37			7.21E+01	3.34E+01	
26	1078.27	2.38E+01	23.11			2.38E+01	2.31E+01	
27	1117.59	5.38E+01	40.41			5.38E+01	4.04E+01	
28	1400.18	1.15E+01	13.86			1.15E+01	1.39E+01	
29	1435.66	8.93E+00	9.63			8.93E+00	9.63E+00	
30	1461.08	2.85E+02	37.75			2.85E+02	3.77E+01	
31	1496.66	9.59E+00	11.96			9.59E+00	1.20E+01	
32	1504.59	1.25E+01	8.96			1.25E+01	8.96E+00	
33	1567.25	7.95E+00	7.48			7.95E+00	7.48E+00	
34	1575.65	1.30E+01	7.21			1.30E+01	7.21E+00	
35	1765.01	1.63E+01	12.65	1.11E-01	9.77E-01	1.62E+01	1.27E+01	
36	1905.51	9.33E+00	8.85			9.33E+00	8.85E+00	
37	2099.94	6.00E+00	4.90			6.00E+00	4.90E+00	
38	2264.27	5.00E+00	6.95			5.00E+00	6.95E+00	
39	2331.69	6.00E+00	6.93			6.00E+00	6.93E+00	
40	2614.79	4.38E+01	14.77	1.20E+00	1.02E+00	4.26E+01	1.48E+01	

Analysis Report for 1510063-06
CP0403S07-08

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.988	1460.81 *	10.67	1.90E+01	3.32E+00
LA-138	0.349	788.74	34.00		
		1435.80 *	66.00	9.48E-02	1.03E-01
EU-155	0.377	86.50 *	30.90	2.74E-01	1.96E-01
		105.30	20.70		
TL-208	0.989	583.14 *	30.22	1.44E+00	4.53E-01
		860.37 *	4.48	2.44E+00	2.49E+00
		2614.66 *	35.85	1.33E+00	4.82E-01
PB-210	0.997	46.50 *	4.25	7.84E-01	8.73E-01
PB-212	0.889	238.63 *	44.60	1.67E+00	2.74E-01
		300.09	3.41		
BI-214	0.647	609.31 *	46.30	7.60E-01	3.55E-01
		1120.29	15.10		
		1764.49 *	15.80	8.54E-01	6.75E-01
		2204.22	4.98		
PB-214	1.000	295.21 *	19.19	9.49E-01	4.68E-01
		351.92 *	37.19	8.32E-01	3.15E-01
RA-226	0.920	186.21 *	3.28	5.00E+00	9.55E+00
AC-228	0.922	338.32 *	11.40	1.43E+00	7.32E-01
		911.07 *	27.70	1.35E+00	7.65E-01
		969.11 *	16.60	2.11E+00	9.93E-01
NP-237	0.993	86.50 *	12.60	6.65E-01	4.75E-01

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510063-06

CP0403S07-08

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 7:08:33AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
2	76.16	2.12854E-01	9.65		
4	92.95	2.91016E-02	46.20	Sum	
5	129.91	1.74293E-02	58.62		
7	199.45	1.48783E-02	49.66		
8	208.71	3.39530E-02	28.29		
M 9	223.94	1.27691E-02	49.85		
11	273.65	2.93662E-02	56.60	Tol.	CS-136
13	301.62	1.45853E-02	45.41		
14	328.90	2.29555E-02	34.01	Tol.	LA-140
17	510.74	1.14868E-02	47.67		
20	645.99	1.05976E-02	43.78	Tol.	SB-124
21	657.00	6.59722E-03	53.59	Sum	
22	806.46	7.14815E-03	47.20		
26	1078.27	6.61848E-03	48.49		
27	1117.59	1.49360E-02	37.58		
28	1400.18	3.18287E-03	60.46		
31	1496.66	2.66340E-03	62.36		
32	1504.59	3.46296E-03	35.93		
33	1567.25	2.20833E-03	47.06		
34	1575.65	3.61111E-03	27.74		
36	1905.51	2.59259E-03	47.39		
37	2099.94	1.66667E-03	40.82		
38	2264.27	1.38889E-03	69.46		
39	2331.69	1.66667E-03	57.74		

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Analysis Report for 1510063-06
 CP0403S07-08

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.98	1460.81 *	10.67	1.90E+01	3.32E+00
LA-138	0.34	788.74	34.00		
		1435.80 *	66.00	9.48E-02	1.03E-01
EU-155	0.37	86.50 *	30.90	2.74E-01	1.96E-01
		105.30	20.70		
TL-208	0.98	583.14 *	30.22	1.44E+00	4.53E-01
		860.37 *	4.48	2.44E+00	2.49E+00
		2614.66 *	35.85	1.33E+00	4.82E-01
PB-210	0.99	46.50 *	4.25	7.84E-01	8.73E-01
PB-212	0.88	238.63 *	44.60	1.67E+00	2.74E-01
		300.09	3.41		
BI-214	0.64	609.31 *	46.30	7.60E-01	3.55E-01
		1120.29	15.10		
		1764.49 *	15.80	8.54E-01	6.75E-01
		2204.22	4.98		
PB-214	1.00	295.21 *	19.19	9.49E-01	4.68E-01
		351.92 *	37.19	8.32E-01	3.15E-01
RA-226	0.92	186.21 *	3.28	5.00E+00	9.55E+00
AC-228	0.92	338.32 *	11.40	1.43E+00	7.32E-01
		911.07 *	27.70	1.35E+00	7.65E-01
		969.11 *	16.60	2.11E+00	9.93E-01
NP-237	0.99	86.50 *	12.60	6.65E-01	4.75E-01

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40	0.988	1.90E+01	3.32E+00	
X	GA-67	0.434			
	LA-138	0.349	9.48E-02	1.03E-01	

Analysis Report for 1510063-06
CP0403S07-08

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
?	EU-155	0.377	2.74E-01	1.96E-01	
	TL-208	0.989	1.41E+00	3.27E-01	
	PB-210	0.997	7.84E-01	8.73E-01	
	PB-212	0.889	1.67E+00	2.74E-01	
	BI-214	0.647	7.81E-01	3.14E-01	
	PB-214	1.000	8.69E-01	2.61E-01	
	RA-226	0.920	5.00E+00	9.55E+00	
	AC-228	0.922	1.55E+00	4.67E-01	
?	NP-237	0.993	6.65E-01	4.75E-01	

- ? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510063-06
CP0403S07-08

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 7:08:33AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
2	76.16	2.12854E-01	9.65		
4	92.95	2.91016E-02	46.20	Sum	
5	129.91	1.74293E-02	58.62		
7	199.45	1.48783E-02	49.66		
8	208.71	3.39530E-02	28.29		
M 9	223.94	1.27691E-02	49.85		
11	273.65	2.93662E-02	56.60	Tol.	CS-136
13	301.62	1.45853E-02	45.41		
14	328.90	2.29555E-02	34.01	Tol.	LA-140
17	510.74	1.14868E-02	47.67		
20	645.99	1.05976E-02	43.78	Tol.	SB-124
21	657.00	6.59722E-03	53.59	Sum	
22	806.46	7.14815E-03	47.20		
26	1078.27	6.61848E-03	48.49		
27	1117.59	1.49360E-02	37.58		
28	1400.18	3.18287E-03	60.46		
31	1496.66	2.66340E-03	62.36		
32	1504.59	3.46296E-03	35.93		
33	1567.25	2.20833E-03	47.06		
34	1575.65	3.61111E-03	27.74		
36	1905.51	2.59259E-03	47.39		
37	2099.94	1.66667E-03	40.82		
38	2264.27	1.38889E-03	69.46		
39	2331.69	1.66667E-03	57.74		

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

Analysis Report for 1510063-06
CP0403S07-08

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59	10.42	7.52E-01	1.75E+00	1.75E+00
+	NA-22	1274.54	99.94	7.91E-02	2.07E-01	2.07E-01
+	NA-24	1368.53	99.99	-1.69E+12	7.77E+12	1.44E+13
		2754.09	99.86	1.06E+12		7.77E+12
+	AL-26	1808.65	99.76	1.92E-02	1.36E-01	1.36E-01
+	K-40	1460.81	* 10.67	1.90E+01	2.03E+00	2.03E+00
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	-7.76E-04	8.55E-02	8.55E-02
		78.34	96.00	2.58E-01		1.09E-01
+	SC-46	889.25	99.98	3.08E-02	1.74E-01	1.74E-01
		1120.51	99.99	1.46E-01		2.77E-01
+	V-48	983.52	99.98	-1.76E-01	5.65E-01	5.65E-01
		1312.10	97.50	2.33E-01		6.37E-01
+	CR-51	320.08	9.83	3.14E-01	2.41E+00	2.41E+00
+	MN-54	834.83	99.97	-8.67E-03	1.69E-01	1.69E-01
+	CO-56	846.75	99.96	-5.38E-02	1.71E-01	1.71E-01
		1037.75	14.03	1.13E+00		1.73E+00
		1238.25	67.00	1.89E-01		4.28E-01
		1771.40	15.51	2.79E-01		1.16E+00
		2598.48	16.90	1.13E-01		1.02E+00
+	CO-57	122.06	85.51	-2.94E-04	1.04E-01	1.04E-01
		136.48	10.60	3.19E-01		8.98E-01
+	CO-58	810.76	99.40	1.76E-02	1.95E-01	1.95E-01
+	FE-59	1099.22	56.50	-9.70E-02	4.78E-01	4.78E-01
		1291.56	43.20	-1.03E-03		6.52E-01
+	CO-60	1173.22	100.00	-6.85E-02	1.78E-01	1.87E-01
		1332.49	100.00	8.95E-02		1.78E-01
+	ZN-65	1115.52	50.75	1.26E-01	4.79E-01	4.79E-01
+	GA-67	93.31	* 35.70	8.77E+01	1.33E+02	1.33E+02
		208.95	* 2.24	2.93E+03		2.65E+03
		300.22	16.00	-1.68E+02		3.42E+02
+	SE-75	121.11	16.70	2.44E-01	1.77E-01	5.83E-01
		136.00	59.20	7.19E-02		1.77E-01
		264.65	59.80	3.42E-02		2.09E-01
		279.53	25.20	2.90E-01		4.83E-01
		400.65	11.40	2.89E-01		1.27E+00
+	RB-82	776.52	13.00	-9.36E-01	2.63E+00	2.63E+00
+	RB-83	520.41	46.00	1.19E-01	3.38E-01	3.38E-01
		529.64	30.30	1.14E-01		4.94E-01
		552.65	16.40	2.22E-01		9.80E-01
+	KR-85	513.99	0.43	-5.45E+00	3.81E+01	3.81E+01
+	SR-85	513.99	99.27	-3.23E-02	2.26E-01	2.26E-01

Analysis Report for 1510063-06
CP0403S07-08

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	Y-88	898.02	93.40	-7.36E-02	1.57E-01	1.86E-01
		1836.01	99.38	-8.03E-02		1.57E-01
+	NB-93M	16.57	9.43	9.88E-01	4.12E-01	4.12E-01
+	NB-94	702.63	100.00	-2.85E-02	1.47E-01	1.47E-01
		871.10	100.00	4.47E-02		1.61E-01
+	NB-95	765.79	99.81	1.26E-01	2.96E-01	2.96E-01
+	NB-95M	235.69	25.00	4.98E+02	1.74E+02	1.74E+02
+	ZR-95	724.18	43.70	1.49E-01	3.58E-01	5.18E-01
		756.72	55.30	-1.54E-02		3.58E-01
+	MO-99	181.06	6.20	-3.56E+02	1.62E+03	2.35E+03
		739.58	12.80	-2.41E+02		1.62E+03
		778.00	4.50	-7.05E+02		5.18E+03
+	RU-103	497.08	89.00	2.05E-02	2.29E-01	2.29E-01
+	RU-106	621.84	9.80	-3.55E-01	1.40E+00	1.40E+00
+	AG-108M	433.93	89.90	1.32E-02	1.30E-01	1.30E-01
		614.37	90.40	2.77E-02		1.78E-01
		722.95	90.50	-3.16E-02		1.76E-01
+	CD-109	88.03	3.72	1.29E+00	2.63E+00	2.63E+00
+	AG-110M	657.75	93.14	6.29E-02	1.69E-01	1.69E-01
		677.61	10.53	5.34E-02		1.43E+00
		706.67	16.46	9.16E-02		9.94E-01
		763.93	21.98	1.35E-01		7.93E-01
		884.67	71.63	-7.04E-02		1.90E-01
		1384.27	23.94	-1.58E-01		7.06E-01
+	CD-113M	263.70	0.02	4.77E+01	4.54E+02	4.54E+02
+	SN-113	255.12	1.93	9.01E-01	2.00E-01	6.01E+00
		391.69	64.90	-9.04E-02		2.00E-01
+	TE123M	159.00	84.10	-1.53E-02	1.35E-01	1.35E-01
+	SB-124	602.71	97.87	-1.93E-02	1.80E-01	1.80E-01
		645.85	7.26	1.61E+00		2.81E+00
		722.78	11.10	-1.72E+00		1.84E+00
		1691.02	49.00	-7.66E-03		4.00E-01
+	I-125	35.49	6.49	-1.28E-01	1.02E+00	1.02E+00
+	SB-125	176.33	6.89	2.30E-01	3.85E-01	1.41E+00
		427.89	29.33	-1.48E-01		3.85E-01
		463.38	10.35	4.65E-01		1.30E+00
		600.56	17.80	4.77E-02		7.69E-01
		635.90	11.32	-3.49E-02		1.17E+00
+	SB-126	414.70	83.30	-1.83E-01	7.04E-01	7.04E-01
		666.33	99.60	3.36E-01		7.28E-01
		695.00	99.60	-9.51E-02		7.34E-01
		720.50	53.80	-6.19E-01		1.37E+00
+	SN-126	87.57	37.00	1.24E-01	2.52E-01	2.52E-01
+	SB-127	473.00	25.00	-3.41E+01	7.01E+01	8.88E+01
		685.20	35.70	-1.44E+01		7.01E+01
		783.80	14.70	1.04E+02		1.99E+02
+	I-129	29.78	57.00	1.53E-02	8.08E-02	8.08E-02
		33.60	13.20	-2.25E-01		3.50E-01

Analysis Report for 1510063-06
CP0403S07-08

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	I-129	39.58	7.52	-1.23E-01	8.08E-02	6.60E-01
+	I-131	284.30	6.05	-3.99E-01	1.68E+00	1.93E+01
		364.48	81.20	3.29E-01		1.68E+00
		636.97	7.26	1.11E-01		2.18E+01
		722.89	1.80	-9.25E+01		9.88E+01
+	TE-132	49.72	13.10	8.05E+00	5.53E+01	2.14E+02
		228.16	88.00	-6.79E+00		5.53E+01
+	BA-133	81.00	33.00	-3.60E-01	2.45E-01	2.95E-01
		302.84	17.80	-2.85E-01		6.22E-01
		356.01	60.00	2.19E-03		2.45E-01
+	I-133	529.87	86.30	3.72E+08	1.61E+09	1.61E+09
+	XE-133	81.00	38.00	-1.44E+01	1.17E+01	1.17E+01
+	CS-134	563.23	8.38	5.96E-01	1.67E-01	1.58E+00
		569.32	15.43	-2.96E-01		8.32E-01
		604.70	97.60	-1.05E-02		1.70E-01
		795.84	85.40	2.27E-02		1.67E-01
		801.93	8.73	-5.78E-03		1.65E+00
+	CS-135	268.24	16.00	8.22E-01	7.36E-01	7.36E-01
+	@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@	1260.41	28.60	1.00E+26		1.00E+26
	@	1678.03	9.54	1.00E+26		1.00E+26
+	CS-136	153.22	7.46	3.09E+00	6.20E-01	5.81E+00
		163.89	4.61	6.79E+00		9.61E+00
		176.55	13.56	5.27E-01		3.23E+00
		273.65	12.66	3.90E+00		4.23E+00
		340.57	48.50	3.32E-02		1.25E+00
		818.50	99.70	-1.64E-01		6.20E-01
		1048.07	79.60	1.44E-01		9.64E-01
		1235.34	19.70	7.60E-01		4.95E+00
+	CS-137	661.65	85.12	-1.41E-03	1.71E-01	1.71E-01
+	LA-138	788.74	34.00	-8.38E-02	1.61E-01	4.36E-01
		1435.80	* 66.00	9.48E-02		1.61E-01
+	CE-139	165.85	80.35	-2.97E-02	1.35E-01	1.35E-01
+	BA-140	162.64	6.70	4.79E+00	2.25E+00	6.89E+00
		304.84	4.50	-9.94E-01		1.13E+01
		423.70	3.20	5.29E+00		1.78E+01
		437.55	2.00	-4.37E+00		2.75E+01
		537.32	25.00	8.00E-01		2.25E+00
+	LA-140	328.77	20.50	3.32E+00	7.78E-01	2.94E+00
		487.03	45.50	4.34E-01		1.31E+00
		815.85	23.50	-1.35E+00		2.65E+00
		1596.49	95.49	2.49E-01		7.78E-01
+	CE-141	145.44	48.40	-1.30E-01	3.36E-01	3.36E-01
+	CE-143	57.36	11.80	-1.34E+06	6.68E+05	1.22E+06
		293.26	42.00	6.09E+05		6.68E+05
		664.55	5.20	-3.08E+05		5.94E+06
+	CE-144	133.54	10.80	-2.31E-02	8.88E-01	8.88E-01
+	PM-144	476.78	42.00	1.83E-02	1.37E-01	3.08E-01
		618.01	98.60	-2.08E-02		1.37E-01

Analysis Report for 1510063-06

CP0403S07-08

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	PM-144	696.49	99.49	-3.12E-02	1.37E-01	1.56E-01
+	PM-145	36.85	21.70	1.67E-02	1.24E-01	2.24E-01
		37.36	39.70	5.52E-02		1.24E-01
		42.30	15.10	2.57E-02		3.57E-01
		72.40	2.31	4.66E-01		4.39E+00
+	PM-146	453.90	39.94	5.61E-02	3.00E-01	3.00E-01
		735.90	14.01	-2.10E-01		1.06E+00
		747.13	13.10	-2.49E-01		1.05E+00
+	ND-147	91.11	28.90	3.96E+00	2.11E+00	2.11E+00
		531.02	13.10	2.22E+00		5.69E+00
+	PM-149	285.90	3.10	-5.66E+02	2.77E+04	2.77E+04
+	EU-152	121.78	20.50	-1.14E-03	4.02E-01	4.02E-01
		244.69	5.40	-7.74E+00		2.18E+00
		344.27	19.13	1.85E-02		5.68E-01
		778.89	9.20	-2.33E-01		1.72E+00
		964.01	10.40	-9.35E-02		2.05E+00
		1085.78	7.22	2.00E-01		2.13E+00
		1112.02	9.60	-9.41E-01		2.09E+00
		1407.95	14.94	-2.72E-02		1.16E+00
+	GD-153	97.43	31.30	-3.83E-03	2.93E-01	2.93E-01
		103.18	22.20	1.04E-01		3.98E-01
+	EU-154	123.07	40.50	-2.37E-02	2.02E-01	2.02E-01
		723.30	19.70	-1.46E-01		8.14E-01
		873.19	11.50	7.22E-01		1.45E+00
		996.32	10.30	0.00E+00		1.61E+00
		1004.76	17.90	6.61E-02		9.21E-01
		1274.45	35.50	2.19E-01		5.73E-01
+	EU-155	86.50	30.90	2.74E-01	3.16E-01	3.16E-01
		105.30	20.70	2.09E-02		3.95E-01
+	EU-156	811.77	10.40	1.22E+00	5.32E+00	5.32E+00
		1153.47	7.20	-8.32E-01		1.00E+01
		1230.71	8.90	-3.78E+00		7.87E+00
+	HO-166M	184.41	72.60	2.67E-01	1.55E-01	1.55E-01
		280.45	29.60	2.38E-01		3.50E-01
		410.94	11.10	5.35E-01		1.11E+00
		711.69	54.10	-1.08E-02		2.64E-01
+	TM-171	66.72	0.14	2.68E+01	5.90E+01	5.90E+01
+	HF-172	81.75	4.52	-6.69E+00	7.73E-01	2.07E+00
		125.81	11.30	-1.64E-02		7.73E-01
+	LU-172	181.53	20.60	-2.26E+00	5.44E+00	1.01E+01
		810.06	16.63	1.59E+00		1.76E+01
		912.12	15.25	5.37E+01		3.39E+01
		1093.66	62.50	4.88E-01		5.44E+00
+	LU-173	100.72	5.24	-4.91E-01	5.56E-01	1.59E+00
		272.11	21.20	1.21E-01		5.56E-01
+	HF-175	343.40	84.00	5.59E-03	1.78E-01	1.78E-01
+	LU-176	88.34	13.30	9.11E-01	1.05E-01	7.17E-01
		201.83	86.00	-1.17E-02		1.19E-01
		306.78	94.00	-1.87E-02		1.05E-01

Analysis Report for 1510063-06
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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	TA-182	67.75	41.20	-2.11E-03	2.33E-01	2.33E-01
		1121.30	34.90	5.55E-01		7.57E-01
		1189.05	16.23	1.58E-01		1.41E+00
		1221.41	26.98	5.35E-02		9.26E-01
		1231.02	11.44	-9.34E-01		1.95E+00
+	IR-192	308.46	29.68	-1.58E-01	3.46E-01	4.42E-01
		468.07	48.10	-1.85E-02		3.46E-01
+	HG-203	279.19	77.30	1.23E-01	2.05E-01	2.05E-01
+	BI-207	569.67	97.72	-4.56E-02	1.28E-01	1.28E-01
		1063.62	74.90	-4.74E-02		2.29E-01
+	TL-208	583.14	* 30.22	1.44E+00	4.42E-01	6.03E-01
		860.37	* 4.48	2.44E+00		4.02E+00
		2614.66	* 35.85	1.33E+00		4.42E-01
+	BI-210M	262.00	45.00	-2.80E-02	2.23E-01	2.23E-01
		300.00	23.00	3.47E-01		5.45E-01
+	PB-210	46.50	* 4.25	7.84E-01	1.43E+00	1.43E+00
+	PB-211	404.84	2.90	-1.52E+00	4.14E+00	4.14E+00
		831.96	2.90	1.20E+00		5.57E+00
+	BI-212	727.17	11.80	6.51E-01	1.44E+00	1.44E+00
		1620.62	2.75	-1.92E+00		3.99E+00
+	PB-212	238.63	* 44.60	1.67E+00	6.71E-01	6.71E-01
		300.09	3.41	2.34E+00		3.68E+00
+	BI-214	609.31	* 46.30	7.60E-01	5.35E-01	5.35E-01
		1120.29	15.10	7.61E-01		1.44E+00
		1764.49	* 15.80	8.54E-01		9.97E-01
		2204.22	4.98	1.22E-01		2.81E+00
+	PB-214	295.21	* 19.19	9.49E-01	4.59E-01	7.15E-01
		351.92	* 37.19	8.32E-01		4.59E-01
+	RN-219	401.80	6.50	-2.39E-01	1.85E+00	1.85E+00
+	RA-223	323.87	3.88	4.60E-01	3.11E+00	3.11E+00
+	RA-224	240.98	3.95	1.97E+01	4.51E+00	4.51E+00
+	RA-225	40.00	31.00	-1.16E-01	6.24E-01	6.24E-01
+	RA-226	186.21	* 3.28	5.00E+00	4.27E+00	4.27E+00
+	TH-227	50.10	8.40	2.64E-02	7.02E-01	7.02E-01
		236.00	11.50	4.15E+00		1.45E+00
		256.20	6.30	-5.03E-01		1.53E+00
+	AC-228	338.32	* 11.40	1.43E+00	1.11E+00	1.11E+00
		911.07	* 27.70	1.35E+00		1.19E+00
		969.11	* 16.60	2.11E+00		1.46E+00
+	TH-230	48.44	16.90	-3.10E-02	3.39E-01	3.39E-01
		62.85	4.60	9.86E-01		1.64E+00
		67.67	0.37	-1.97E-01		2.18E+01
+	PA-231	283.67	1.60	-1.24E-01	4.79E+00	6.07E+00
		302.67	2.30	-2.19E+00		4.79E+00
+	TH-231	25.64	14.70	-6.29E-02	3.12E-01	3.12E-01
		84.21	6.40	-5.51E+00		1.35E+00
+	PA-233	311.98	38.60	-5.42E-02	5.66E-01	5.66E-01
+	PA-234	131.20	20.40	1.13E-01	4.33E-01	4.33E-01

Analysis Report for 1510063-06
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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	PA-234	733.99	8.80	-9.73E-01	4.33E-01	1.67E+00
		946.00	12.00	-5.89E-02		1.20E+00
+	PA-234M	1001.03	0.92	-3.48E+00	1.77E+01	1.77E+01
+	TH-234	63.29	3.80	1.50E+00	2.02E+00	2.02E+00
+	U-235	143.76	10.50	-4.92E-01	8.26E-01	8.26E-01
		163.35	4.70	1.44E+00		2.04E+00
		205.31	4.70	-1.24E-01		2.23E+00
+	NP-237	86.50	* 12.60	6.65E-01	7.67E-01	7.67E-01
+	NP-239	106.10	22.70	9.62E+01	1.81E+03	1.81E+03
		228.18	10.70	-2.21E+03		4.77E+03
		277.60	14.10	-3.10E+03		3.63E+03
+	AM-241	59.54	35.90	3.00E-02	1.95E-01	1.95E-01
+	AM-243	74.67	66.00	6.81E-01	1.64E-01	1.64E-01
+	CM-243	209.75	3.29	1.82E+00	7.22E-01	3.25E+00
		228.14	10.60	-1.19E-01		9.66E-01
		277.60	14.00	-6.18E-01		7.22E-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
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	BE-7	477.59	10.42	1.75E+00	1.75E+00	7.52E-01	8.29E-01
	NA-22	1274.54	99.94	2.07E-01	2.07E-01	7.91E-02	9.47E-02
	NA-24	1368.53	99.99	1.44E+13	7.77E+12	-1.69E+12	6.38E+12
		2754.09	99.86	7.77E+12		1.06E+12	2.46E+12
	AL-26	1808.65	99.76	1.36E-01	1.36E-01	1.92E-02	5.62E-02
+	K-40	1460.81	* 10.67	2.03E+00	2.03E+00	1.90E+01	9.26E-01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
TI-44	67.88	94.40	8.55E-02	8.55E-02	-7.76E-04	4.20E-02
	78.34	96.00	1.09E-01		2.58E-01	5.38E-02
SC-46	889.25	99.98	1.74E-01	1.74E-01	3.08E-02	7.95E-02
	1120.51	99.99	2.77E-01		1.46E-01	1.29E-01
V-48	983.52	99.98	5.65E-01	5.65E-01	-1.76E-01	2.59E-01
	1312.10	97.50	6.37E-01		2.33E-01	2.87E-01
CR-51	320.08	9.83	2.41E+00	2.41E+00	3.14E-01	1.16E+00
MN-54	834.83	99.97	1.69E-01	1.69E-01	-8.67E-03	7.83E-02
CO-56	846.75	99.96	1.71E-01	1.71E-01	-5.38E-02	7.81E-02
	1037.75	14.03	1.73E+00		1.13E+00	8.02E-01
	1238.25	67.00	4.28E-01		1.89E-01	1.98E-01
	1771.40	15.51	1.16E+00		2.79E-01	4.86E-01
	2598.48	16.90	1.02E+00		1.13E-01	3.95E-01
CO-57	122.06	85.51	1.04E-01	1.04E-01	-2.94E-04	5.05E-02
	136.48	10.60	8.98E-01		3.19E-01	4.38E-01
CO-58	810.76	99.40	1.95E-01	1.95E-01	1.76E-02	9.00E-02
FE-59	1099.22	56.50	4.78E-01	4.78E-01	-9.70E-02	2.19E-01
	1291.56	43.20	6.52E-01		-1.03E-03	2.95E-01
CO-60	1173.22	100.00	1.87E-01	1.78E-01	-6.85E-02	8.56E-02
	1332.49	100.00	1.78E-01		8.95E-02	8.01E-02
ZN-65	1115.52	50.75	4.79E-01	4.79E-01	1.26E-01	2.23E-01
GA-67	93.31	* 35.70	1.33E+02	1.33E+02	8.77E+01	6.51E+01
	208.95	* 2.24	2.65E+03		2.93E+03	1.29E+03
	300.22	16.00	3.42E+02		-1.68E+02	1.65E+02
SE-75	121.11	16.70	5.83E-01	1.77E-01	2.44E-01	2.84E-01
	136.00	59.20	1.77E-01		7.19E-02	8.65E-02
	264.65	59.80	2.09E-01		3.42E-02	1.01E-01
	279.53	25.20	4.83E-01		2.90E-01	2.32E-01
	400.65	11.40	1.27E+00		2.89E-01	6.04E-01
RB-82	776.52	13.00	2.63E+00	2.63E+00	-9.36E-01	1.22E+00
RB-83	520.41	46.00	3.38E-01	3.38E-01	1.19E-01	1.59E-01
	529.64	30.30	4.94E-01		1.14E-01	2.32E-01
	552.65	16.40	9.80E-01		2.22E-01	4.61E-01
KR-85	513.99	0.43	3.81E+01	3.81E+01	-5.45E+00	1.83E+01
SR-85	513.99	99.27	2.26E-01	2.26E-01	-3.23E-02	1.08E-01
Y-88	898.02	93.40	1.86E-01	1.57E-01	-7.36E-02	8.50E-02
	1836.01	99.38	1.57E-01		-8.03E-02	6.45E-02
NB-93M	16.57	9.43	4.12E-01	4.12E-01	9.88E-01	2.00E-01
NB-94	702.63	100.00	1.47E-01	1.47E-01	-2.85E-02	6.88E-02
	871.10	100.00	1.61E-01		4.47E-02	7.44E-02
NB-95	765.79	99.81	2.96E-01	2.96E-01	1.26E-01	1.39E-01
NB-95M	235.69	25.00	1.74E+02	1.74E+02	4.98E+02	8.53E+01
ZR-95	724.18	43.70	5.18E-01	3.58E-01	1.49E-01	2.43E-01
	756.72	55.30	3.58E-01		-1.54E-02	1.66E-01
MO-99	181.06	6.20	2.35E+03	1.62E+03	-3.56E+02	1.14E+03
	739.58	12.80	1.62E+03		-2.41E+02	7.49E+02
	778.00	4.50	5.18E+03		-7.05E+02	2.42E+03
RU-103	497.08	89.00	2.29E-01	2.29E-01	2.05E-02	1.08E-01
RU-106	621.84	9.80	1.40E+00	1.40E+00	-3.55E-01	6.52E-01
AG-108M	433.93	89.90	1.30E-01	1.30E-01	1.32E-02	6.15E-02
	614.37	90.40	1.78E-01		2.77E-02	8.45E-02
	722.95	90.50	1.76E-01		-3.16E-02	8.26E-02

Analysis Report for 1510063-06

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
CD-109	88.03	3.72	2.63E+00	2.63E+00	1.29E+00	1.29E+00
AG-110M	657.75	93.14	1.69E-01	1.69E-01	6.29E-02	7.92E-02
	677.61	10.53	1.43E+00		5.34E-02	6.68E-01
	706.67	16.46	9.94E-01		9.16E-02	4.65E-01
	763.93	21.98	7.93E-01		1.35E-01	3.71E-01
	884.67	71.63	1.90E-01		-7.04E-02	8.60E-02
	1384.27	23.94	7.06E-01		-1.58E-01	3.11E-01
CD-113M	263.70	0.02	4.54E+02	4.54E+02	4.77E+01	2.19E+02
SN-113	255.12	1.93	6.01E+00	2.00E-01	9.01E-01	2.89E+00
	391.69	64.90	2.00E-01		-9.04E-02	9.50E-02
TE123M	159.00	84.10	1.35E-01	1.35E-01	-1.53E-02	6.56E-02
SB-124	602.71	97.87	1.80E-01	1.80E-01	-1.93E-02	8.43E-02
	645.85	7.26	2.81E+00		1.61E+00	1.32E+00
	722.78	11.10	1.84E+00		-1.72E+00	8.56E-01
	1691.02	49.00	4.00E-01		-7.66E-03	1.69E-01
I-125	35.49	6.49	1.02E+00	1.02E+00	-1.28E-01	4.97E-01
SB-125	176.33	6.89	1.41E+00	3.85E-01	2.30E-01	6.85E-01
	427.89	29.33	3.85E-01		-1.48E-01	1.82E-01
	463.38	10.35	1.30E+00		4.65E-01	6.20E-01
	600.56	17.80	7.69E-01		4.77E-02	3.61E-01
	635.90	11.32	1.17E+00		-3.49E-02	5.45E-01
SB-126	414.70	83.30	7.04E-01	7.04E-01	-1.83E-01	3.35E-01
	666.33	99.60	7.28E-01		3.36E-01	3.41E-01
	695.00	99.60	7.34E-01		-9.51E-02	3.43E-01
	720.50	53.80	1.37E+00		-6.19E-01	6.38E-01
SN-126	87.57	37.00	2.52E-01	2.52E-01	1.24E-01	1.24E-01
SB-127	473.00	25.00	8.88E+01	7.01E+01	-3.41E+01	4.20E+01
	685.20	35.70	7.01E+01		-1.44E+01	3.26E+01
	783.80	14.70	1.99E+02		1.04E+02	9.26E+01
I-129	29.78	57.00	8.08E-02	8.08E-02	1.53E-02	3.94E-02
	33.60	13.20	3.50E-01		-2.25E-01	1.70E-01
	39.58	7.52	6.60E-01		-1.23E-01	3.22E-01
I-131	284.30	6.05	1.93E+01	1.68E+00	-3.99E-01	9.23E+00
	364.48	81.20	1.68E+00		3.29E-01	8.03E-01
	636.97	7.26	2.18E+01		1.11E-01	1.02E+01
	722.89	1.80	9.88E+01		-9.25E+01	4.60E+01
TE-132	49.72	13.10	2.14E+02	5.53E+01	8.05E+00	1.05E+02
	228.16	88.00	5.53E+01		-6.79E+00	2.68E+01
BA-133	81.00	33.00	2.95E-01	2.45E-01	-3.60E-01	1.45E-01
	302.84	17.80	6.22E-01		-2.85E-01	2.99E-01
	356.01	60.00	2.45E-01		2.19E-03	1.18E-01
I-133	529.87	86.30	1.61E+09	1.61E+09	3.72E+08	7.54E+08
XE-133	81.00	38.00	1.17E+01	1.17E+01	-1.44E+01	5.78E+00
CS-134	563.23	8.38	1.58E+00	1.67E-01	5.96E-01	7.43E-01
	569.32	15.43	8.32E-01		-2.96E-01	3.90E-01
	604.70	97.60	1.70E-01		-1.05E-02	8.05E-02
	795.84	85.40	1.67E-01		2.27E-02	7.71E-02
	801.93	8.73	1.65E+00		-5.78E-03	7.60E-01
CS-135	268.24	16.00	7.36E-01	7.36E-01	8.22E-01	3.56E-01
@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	1260.41	28.60	1.00E+26		1.00E+26	1.00E+20
@	1678.03	9.54	1.00E+26		1.00E+26	1.00E+20
CS-136	153.22	7.46	5.81E+00	6.20E-01	3.09E+00	2.83E+00

Analysis Report for 1510063-06

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)		
CS-136	163.89	4.61	9.61E+00	6.20E-01	6.79E+00	4.68E+00		
	176.55	13.56	3.23E+00		5.27E-01	1.57E+00		
	273.65	12.66	4.23E+00		3.90E+00	2.04E+00		
	340.57	48.50	1.25E+00		3.32E-02	6.04E-01		
	818.50	99.70	6.20E-01		-1.64E-01	2.84E-01		
	1048.07	79.60	9.64E-01		1.44E-01	4.41E-01		
CS-137	1235.34	19.70	4.95E+00	1.71E-01	7.60E-01	2.28E+00		
	661.65	85.12	1.71E-01		-1.41E-03	8.00E-02		
+ LA-138	788.74	34.00	4.36E-01	1.61E-01	-8.38E-02	2.02E-01		
	1435.80	* 66.00	1.61E-01		9.48E-02	6.59E-02		
CE-139	165.85	80.35	1.35E-01	1.35E-01	-2.97E-02	6.56E-02		
BA-140	162.64	6.70	6.89E+00	2.25E+00	4.79E+00	3.36E+00		
	304.84	4.50	1.13E+01		-9.94E-01	5.42E+00		
	423.70	3.20	1.78E+01		5.29E+00	8.46E+00		
	437.55	2.00	2.75E+01		-4.37E+00	1.30E+01		
	537.32	25.00	2.25E+00		8.00E-01	1.05E+00		
	328.77	20.50	2.94E+00		7.78E-01	3.32E+00	1.41E+00	
LA-140	487.03	45.50	1.31E+00	4.34E-01		6.19E-01		
	815.85	23.50	2.65E+00	-1.35E+00		1.21E+00		
	1596.49	95.49	7.78E-01	2.49E-01		3.37E-01		
CE-141	145.44	48.40	3.36E-01	3.36E-01		-1.30E-01	1.63E-01	
CE-143	57.36	11.80	1.22E+06	6.68E+05		-1.34E+06	5.96E+05	
	293.26	42.00	6.68E+05		6.09E+05	3.23E+05		
	664.55	5.20	5.94E+06		-3.08E+05	2.77E+06		
CE-144	133.54	10.80	8.88E-01	8.88E-01	-2.31E-02	4.33E-01		
PM-144	476.78	42.00	3.08E-01	1.37E-01	1.83E-02	1.46E-01		
	618.01	98.60	1.37E-01		-2.08E-02	6.40E-02		
	696.49	99.49	1.56E-01		-3.12E-02	7.29E-02		
PM-145	36.85	21.70	2.24E-01	1.24E-01	1.67E-02	1.09E-01		
	37.36	39.70	1.24E-01		5.52E-02	6.04E-02		
	42.30	15.10	3.57E-01		2.57E-02	1.74E-01		
	72.40	2.31	4.39E+00		4.66E-01	2.16E+00		
PM-146	453.90	39.94	3.00E-01	3.00E-01	5.61E-02	1.42E-01		
	735.90	14.01	1.06E+00		-2.10E-01	4.92E-01		
	747.13	13.10	1.05E+00		-2.49E-01	4.84E-01		
ND-147	91.11	28.90	2.11E+00	2.11E+00	3.96E+00	1.04E+00		
	531.02	13.10	5.69E+00		2.22E+00	2.67E+00		
PM-149	285.90	3.10	2.77E+04	2.77E+04	-5.66E+02	1.33E+04		
EU-152	121.78	20.50	4.02E-01	4.02E-01	-1.14E-03	1.96E-01		
	244.69	5.40	2.18E+00		-7.74E+00	1.06E+00		
	344.27	19.13	5.68E-01		1.85E-02	2.72E-01		
	778.89	9.20	1.72E+00		-2.33E-01	8.00E-01		
	964.01	10.40	2.05E+00		-9.35E-02	9.61E-01		
	1085.78	7.22	2.13E+00		2.00E-01	9.61E-01		
	1112.02	9.60	2.09E+00		-9.41E-01	9.64E-01		
	1407.95	14.94	1.16E+00		-2.72E-02	5.16E-01		
	GD-153	97.43	31.30		2.93E-01	2.93E-01	-3.83E-03	1.44E-01
		103.18	22.20		3.98E-01		1.04E-01	1.95E-01
EU-154	123.07	40.50	2.02E-01	2.02E-01	-2.37E-02	9.87E-02		
	723.30	19.70	8.14E-01		-1.46E-01	3.82E-01		
	873.19	11.50	1.45E+00		7.22E-01	6.71E-01		
	996.32	10.30	1.61E+00		0.00E+00	7.36E-01		
	1004.76	17.90	9.21E-01		6.61E-02	4.22E-01		

Analysis Report for 1510063-06

CP0403S07-08

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)	
	EU-154	1274.45	35.50	5.73E-01	2.02E-01	2.19E-01	2.63E-01
+	EU-155	86.50 *	30.90	3.16E-01	3.16E-01	2.74E-01	1.55E-01
		105.30	20.70	3.95E-01		2.09E-02	1.93E-01
	EU-156	811.77	10.40	5.32E+00	5.32E+00	1.22E+00	2.46E+00
		1153.47	7.20	1.00E+01		-8.32E-01	4.62E+00
		1230.71	8.90	7.87E+00		-3.78E+00	3.59E+00
	HO-166M	184.41	72.60	1.55E-01	1.55E-01	2.67E-01	7.55E-02
		280.45	29.60	3.50E-01		2.38E-01	1.68E-01
		410.94	11.10	1.11E+00		5.35E-01	5.30E-01
		711.69	54.10	2.64E-01		-1.08E-02	1.23E-01
	TM-171	66.72	0.14	5.90E+01	5.90E+01	2.68E+01	2.90E+01
	HF-172	81.75	4.52	2.07E+00	7.73E-01	-6.69E+00	1.02E+00
		125.81	11.30	7.73E-01		-1.64E-02	3.77E-01
	LU-172	181.53	20.60	1.01E+01	5.44E+00	-2.26E+00	4.93E+00
		810.06	16.63	1.76E+01		1.59E+00	8.12E+00
		912.12	15.25	3.39E+01		5.37E+01	1.61E+01
		1093.66	62.50	5.44E+00		4.88E-01	2.48E+00
	LU-173	100.72	5.24	1.59E+00	5.56E-01	-4.91E-01	7.76E-01
		272.11	21.20	5.56E-01		1.21E-01	2.69E-01
	HF-175	343.40	84.00	1.78E-01	1.78E-01	5.59E-03	8.50E-02
	LU-176	88.34	13.30	7.17E-01	1.05E-01	9.11E-01	3.52E-01
		201.83	86.00	1.19E-01		-1.17E-02	5.76E-02
		306.78	94.00	1.05E-01		-1.87E-02	5.01E-02
	TA-182	67.75	41.20	2.33E-01	2.33E-01	-2.11E-03	1.14E-01
		1121.30	34.90	7.57E-01		5.55E-01	3.53E-01
		1189.05	16.23	1.41E+00		1.58E-01	6.46E-01
		1221.41	26.98	9.26E-01		5.35E-02	4.27E-01
		1231.02	11.44	1.95E+00		-9.34E-01	8.87E-01
	IR-192	308.46	29.68	4.42E-01	3.46E-01	-1.58E-01	2.12E-01
		468.07	48.10	3.46E-01		-1.85E-02	1.64E-01
	HG-203	279.19	77.30	2.05E-01	2.05E-01	1.23E-01	9.84E-02
	BI-207	569.67	97.72	1.28E-01	1.28E-01	-4.56E-02	6.01E-02
		1063.62	74.90	2.29E-01		-4.74E-02	1.05E-01
+	TL-208	583.14 *	30.22	6.03E-01	4.42E-01	1.44E+00	2.88E-01
		860.37 *	4.48	4.02E+00		2.44E+00	1.88E+00
		2614.66 *	35.85	4.42E-01		1.33E+00	1.79E-01
	BI-210M	262.00	45.00	2.23E-01	2.23E-01	-2.80E-02	1.07E-01
		300.00	23.00	5.45E-01		3.47E-01	2.63E-01
+	PB-210	46.50 *	4.25	1.43E+00	1.43E+00	7.84E-01	7.00E-01
	PB-211	404.84	2.90	4.14E+00	4.14E+00	-1.52E+00	1.97E+00
		831.96	2.90	5.57E+00		1.20E+00	2.59E+00
	BI-212	727.17	11.80	1.44E+00	1.44E+00	6.51E-01	6.77E-01
		1620.62	2.75	3.99E+00		-1.92E+00	1.61E+00
+	PB-212	238.63 *	44.60	6.71E-01	6.71E-01	1.67E+00	3.32E-01
		300.09	3.41	3.68E+00		2.34E+00	1.78E+00
+	BI-214	609.31 *	46.30	5.35E-01	5.35E-01	7.60E-01	2.58E-01
		1120.29	15.10	1.44E+00		7.61E-01	6.72E-01
		1764.49 *	15.80	9.97E+00		8.54E-01	4.27E-01
		2204.22	4.98	2.81E+00		1.22E-01	1.14E+00
+	PB-214	295.21 *	19.19	7.15E-01	4.59E-01	9.49E-01	3.47E-01
		351.92 *	37.19	4.59E-01		8.32E-01	2.23E-01
	RN-219	401.80	6.50	1.85E+00	1.85E+00	-2.39E-01	8.80E-01
	RA-223	323.87	3.88	3.11E+00	3.11E+00	4.60E-01	1.49E+00

Analysis Report for 1510063-06
 CP0403S07-08

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	240.98	3.95	4.51E+00	4.51E+00	1.97E+01	2.21E+00
	40.00	31.00	6.24E-01	6.24E-01	-1.16E-01	3.05E-01
+	186.21 *	3.28	4.27E+00	4.27E+00	5.00E+00	2.09E+00
	50.10	8.40	7.02E-01	7.02E-01	2.64E-02	3.43E-01
	236.00	11.50	1.45E+00		4.15E+00	7.10E-01
	256.20	6.30	1.53E+00		-5.03E-01	7.38E-01
+	338.32 *	11.40	1.11E+00	1.11E+00	1.43E+00	5.33E-01
	911.07 *	27.70	1.19E+00		1.35E+00	5.72E-01
	969.11 *	16.60	1.46E+00		2.11E+00	6.93E-01
	48.44	16.90	3.39E-01	3.39E-01	-3.10E-02	1.66E-01
	62.85	4.60	1.64E+00		9.86E-01	8.05E-01
	67.67	0.37	2.18E+01		-1.97E-01	1.07E+01
	283.67	1.60	6.07E+00	4.79E+00	-1.24E-01	2.91E+00
	302.67	2.30	4.79E+00		-2.19E+00	2.30E+00
	25.64	14.70	3.12E-01	3.12E-01	-6.29E-02	1.52E-01
	84.21	6.40	1.35E+00		-5.51E+00	6.62E-01
	311.98	38.60	5.66E-01	5.66E-01	-5.42E-02	2.71E-01
	131.20	20.40	4.33E-01	4.33E-01	1.13E-01	2.11E-01
	733.99	8.80	1.67E+00		-9.73E-01	7.79E-01
	946.00	12.00	1.20E+00		-5.89E-02	5.46E-01
	1001.03	0.92	1.77E+01	1.77E+01	-3.48E+00	8.13E+00
	63.29	3.80	2.02E+00	2.02E+00	1.50E+00	9.90E-01
	143.76	10.50	8.26E-01	8.26E-01	-4.92E-01	4.02E-01
	163.35	4.70	2.04E+00		1.44E+00	9.95E-01
	205.31	4.70	2.23E+00		-1.24E-01	1.08E+00
+	86.50 *	12.60	7.67E-01	7.67E-01	6.65E-01	3.77E-01
	106.10	22.70	1.81E+03	1.81E+03	9.62E+01	8.86E+02
	228.18	10.70	4.77E+03		-2.21E+03	2.31E+03
	277.60	14.10	3.63E+03		-3.10E+03	1.74E+03
	59.54	35.90	1.95E-01	1.95E-01	3.00E-02	9.56E-02
	74.67	66.00	1.64E-01	1.64E-01	6.81E-01	8.08E-02
	209.75	3.29	3.25E+00	7.22E-01	1.82E+00	1.58E+00
	228.14	10.60	9.66E-01		-1.19E-01	4.67E-01
	277.60	14.00	7.22E-01		-6.18E-01	3.47E-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

No Action Level results available for reporting purposes.

Analysis Report for 1510063-06
CP0403S07-08

DATA REVIEW COMMENTS REPORT

<i>Creation Date</i>	<i>Comment</i>	<i>User</i>
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No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP0403S07-08

Elapsed Live time: 3600
Elapsed Real Time: 3640

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	17	86
17:	79	87	84	70	65	61	50	71
25:	64	63	73	61	75	51	53	65
33:	59	63	61	56	57	71	70	68
41:	74	50	70	62	75	112	84	72
49:	66	66	69	73	86	78	75	81
57:	77	74	97	99	99	138	127	122
65:	95	110	99	118	125	97	130	119
73:	174	209	259	286	263	148	78	87
81:	77	94	103	95	126	148	126	111
89:	103	106	129	140	146	92	75	74
97:	77	64	77	73	73	64	71	70
105:	94	61	62	66	60	64	75	59
113:	59	60	51	65	65	53	65	55
121:	58	59	60	54	57	50	50	75
129:	74	79	59	54	52	56	49	70
137:	56	67	64	51	45	58	54	59
145:	44	45	42	62	54	45	62	49
153:	63	62	57	47	58	39	53	53
161:	54	62	48	55	56	50	36	41
169:	31	50	54	52	46	56	44	51
177:	42	38	29	47	38	39	68	62
185:	100	77	47	51	36	42	39	43
193:	33	51	31	38	39	49	49	42
201:	41	33	34	42	44	37	52	44
209:	55	52	43	24	32	33	35	43
217:	33	31	25	29	28	30	43	41
225:	27	30	29	27	34	38	33	34
233:	46	37	35	48	145	230	169	79
241:	46	67	34	40	28	18	21	22
249:	26	23	28	27	28	25	24	28
257:	20	20	22	24	26	35	22	34
265:	23	30	25	29	43	51	44	22
273:	16	20	21	23	43	17	26	17
281:	22	18	24	22	13	20	20	20
289:	22	21	18	19	31	57	61	48
297:	19	20	33	35	30	22	10	17
305:	23	19	13	20	16	21	21	15
313:	26	19	23	26	20	15	28	31
321:	21	20	21	20	29	21	30	37
329:	26	27	26	16	15	13	12	26
337:	44	50	29	30	14	14	19	16
345:	10	24	13	17	19	36	65	70
353:	35	25	14	18	12	17	18	16
361:	20	18	18	11	25	18	14	11

369: 14 14 18 11 12 15 13 18

Sample Title: CP0403S07-08

Channel	1	2	3	4	5	6	7	8
377:	16	21	20	14	13	12	19	8
385:	22	16	11	12	13	16	12	15
393:	11	20	13	16	23	13	17	17
401:	14	16	18	15	10	20	16	15
409:	16	18	21	12	16	11	9	9
417:	18	11	11	21	14	19	13	9
425:	9	21	8	7	15	13	11	11
433:	9	12	18	16	10	12	13	12
441:	7	11	14	17	12	14	9	14
449:	12	12	10	11	20	7	10	16
457:	11	10	10	10	14	15	21	18
465:	17	10	16	14	11	12	11	9
473:	13	11	10	12	11	15	13	11
481:	14	9	11	7	8	16	12	13
489:	13	14	9	6	5	10	9	18
497:	3	18	12	9	12	10	13	9
505:	12	10	15	12	24	46	29	22
513:	7	10	9	7	14	12	11	16
521:	5	9	7	8	7	7	9	9
529:	12	8	7	10	10	8	7	7
537:	6	8	9	7	12	3	6	6
545:	6	11	7	12	7	11	10	6
553:	11	11	12	4	7	11	7	9
561:	6	11	7	10	14	8	11	13
569:	3	6	4	8	9	8	11	13
577:	8	8	8	16	19	43	52	37
585:	19	11	11	8	7	15	10	7
593:	7	12	7	11	11	9	8	6
601:	5	12	11	6	8	4	21	42
609:	53	35	16	6	11	8	11	5
617:	7	12	7	1	5	11	8	5
625:	12	9	8	11	9	9	3	5
633:	8	12	11	6	4	10	6	3
641:	6	7	9	9	18	6	10	8
649:	8	8	6	4	7	8	8	12
657:	8	14	8	5	7	7	7	8
665:	12	8	7	8	7	9	7	6
673:	3	6	7	9	8	9	7	7
681:	10	9	5	7	3	6	9	4
689:	8	7	10	6	8	9	13	7
697:	4	6	5	12	9	7	11	4
705:	8	7	11	10	6	8	7	6
713:	7	3	5	10	7	6	9	6
721:	7	8	4	7	5	12	19	15
729:	10	9	6	10	7	6	6	6
737:	8	5	8	4	6	5	7	8
745:	6	4	7	8	2	3	6	9
753:	5	9	10	6	3	3	6	6
761:	10	7	8	6	16	4	3	10
769:	11	9	8	5	9	12	9	5
777:	0	7	8	8	8	7	9	5
785:	10	5	4	5	7	4	7	8
793:	3	6	9	6	1	5	2	4

801: 5 4 0 14 8 5 6 7

Sample Title: CP0403S07-08

Channel	1	2	3	4	5	6	7	8
809:	9	2	3	7	5	6	6	0
817:	4	2	5	4	6	8	6	5
825:	7	4	10	7	4	4	7	6
833:	5	10	11	5	3	5	5	9
841:	4	7	5	3	4	3	6	1
849:	3	5	4	7	3	4	7	3
857:	2	9	11	11	6	10	3	6
865:	3	3	5	5	6	5	12	7
873:	5	3	5	8	5	3	6	3
881:	3	3	4	1	4	5	2	5
889:	3	4	6	2	5	2	3	7
897:	4	7	2	5	2	7	7	7
905:	7	4	4	4	15	23	31	29
913:	11	7	6	6	4	7	3	5
921:	5	5	6	4	4	9	4	5
929:	6	4	3	7	1	5	3	5
937:	1	1	4	2	5	5	5	2
945:	6	2	4	2	7	2	3	4
953:	6	5	3	6	4	7	4	2
961:	8	1	6	13	8	8	12	20
969:	22	10	4	6	7	3	3	8
977:	1	10	6	4	1	3	4	4
985:	3	8	8	3	8	4	2	3
993:	2	9	5	4	2	5	7	5
1001:	5	5	4	2	6	4	5	5
1009:	1	6	5	3	2	4	4	2
1017:	4	8	1	3	4	3	4	1
1025:	6	7	3	3	4	2	4	4
1033:	4	4	3	10	7	4	6	7
1041:	7	3	3	3	1	6	6	3
1049:	7	5	6	2	7	0	3	1
1057:	4	10	4	6	3	5	5	4
1065:	1	8	4	7	5	4	2	3
1073:	2	5	6	3	3	3	10	5
1081:	2	3	3	1	2	4	3	6
1089:	3	5	1	5	7	1	7	5
1097:	3	4	2	4	5	7	1	4
1105:	6	6	5	4	3	6	5	12
1113:	6	6	5	4	3	8	16	9
1121:	12	2	4	3	6	3	2	4
1129:	3	4	8	7	3	6	2	7
1137:	4	3	6	6	2	7	4	6
1145:	5	6	6	3	8	6	4	2
1153:	3	7	6	6	2	8	6	2
1161:	6	3	3	5	3	2	5	6
1169:	1	0	5	4	5	8	4	2
1177:	10	10	6	6	2	3	8	2
1185:	3	3	7	7	6	2	3	4
1193:	6	5	3	4	4	4	4	5
1201:	2	3	2	5	6	3	5	5
1209:	4	5	6	8	6	6	2	7
1217:	9	3	8	6	5	3	3	4
1225:	6	4	5	6	3	2	4	5

1233: 3 5 3 7 2 10 8 5

Sample Title: CP0403S07-08

Channel	1	2	3	4	5	6	7	8	9
1241:	8	4	5	6	1	0	3	5	
1249:	4	3	1	4	4	6	11	6	
1257:	3	5	2	3	3	3	1	2	
1265:	3	3	2	5	5	3	1	5	
1273:	2	6	5	3	10	5	1	3	
1281:	2	3	3	3	3	2	3	2	
1289:	3	4	2	1	8	3	4	5	
1297:	2	5	3	3	4	4	5	4	
1305:	2	1	3	3	2	4	3	1	
1313:	4	4	4	3	1	2	3	1	
1321:	5	0	6	2	3	2	0	4	
1329:	2	2	2	4	0	5	2	6	
1337:	1	0	3	4	0	5	1	2	
1345:	4	1	3	0	3	3	3	1	
1353:	1	3	2	2	1	2	1	4	
1361:	2	2	3	4	1	1	2	5	
1369:	2	2	0	3	1	4	3	2	
1377:	3	5	3	1	4	1	2	5	
1385:	1	3	1	1	3	2	1	3	
1393:	1	3	4	0	2	3	2	3	
1401:	8	3	1	2	2	2	2	4	
1409:	3	1	4	3	4	5	1	1	
1417:	0	1	1	1	3	3	1	0	
1425:	2	2	3	1	2	1	1	1	
1433:	2	2	2	3	4	0	1	0	
1441:	0	6	4	4	1	3	1	2	
1449:	3	2	2	2	2	1	1	1	
1457:	1	3	36	71	80	58	35	6	
1465:	2	2	3	1	1	0	2	0	
1473:	1	0	2	0	4	2	1	5	
1481:	2	1	1	2	1	4	1	0	
1489:	0	2	1	0	2	0	3	1	
1497:	8	1	1	0	0	3	0	3	
1505:	4	2	1	1	1	0	2	0	
1513:	4	2	1	3	0	1	0	0	
1521:	2	0	0	0	1	3	1	0	
1529:	1	1	4	0	2	1	1	0	
1537:	3	1	0	2	1	0	0	1	
1545:	0	1	1	0	2	1	3	2	
1553:	2	2	1	2	4	0	0	1	
1561:	0	1	0	1	0	2	3	2	
1569:	2	0	0	0	2	1	2	4	
1577:	2	2	0	0	1	3	0	3	
1585:	1	1	1	3	0	3	3	1	
1593:	5	3	1	1	0	2	1	0	
1601:	1	1	0	0	1	0	1	0	
1609:	0	1	1	0	0	1	2	2	
1617:	1	0	0	0	0	1	0	3	
1625:	1	2	1	0	3	1	4	2	
1633:	3	1	1	1	1	0	1	2	
1641:	0	0	3	0	0	1	4	0	
1649:	0	2	1	0	1	1	1	1	
1657:	1	0	4	1	1	0	2	1	

1665: 0 0 3 0 1 0 2 0

Sample Title: CP0403S07-08

Channel	1	2	3	4	5	6	7	8	9
1673:	0	1	1	0	1	0	0	0	0
1681:	1	0	2	1	2	1	2	2	0
1689:	1	0	2	2	2	0	1	1	1
1697:	0	2	0	0	1	0	2	2	0
1705:	1	1	1	0	1	1	1	1	1
1713:	0	1	1	0	0	0	1	1	1
1721:	1	1	2	1	1	1	0	1	1
1729:	4	2	1	0	1	1	0	0	0
1737:	3	1	0	0	0	0	2	2	2
1745:	2	0	0	0	1	3	1	1	1
1753:	0	0	2	1	1	2	0	1	1
1761:	0	1	2	6	6	3	1	1	1
1769:	1	0	0	0	3	1	1	1	1
1777:	0	0	0	0	0	1	0	0	0
1785:	1	0	0	0	0	0	1	0	0
1793:	2	3	0	3	0	3	0	1	1
1801:	0	1	0	0	2	1	1	1	1
1809:	0	0	0	1	1	1	1	1	1
1817:	0	1	0	0	1	0	1	0	0
1825:	1	2	1	1	2	1	2	0	0
1833:	1	0	1	1	0	0	1	0	0
1841:	1	1	0	3	0	1	0	3	3
1849:	1	1	0	0	2	0	1	0	0
1857:	1	0	1	1	0	0	0	0	0
1865:	1	0	0	3	0	1	1	0	0
1873:	3	0	0	0	2	0	1	1	1
1881:	0	0	0	1	0	3	1	0	0
1889:	0	0	2	1	0	0	0	1	1
1897:	0	2	0	1	0	1	1	0	0
1905:	2	3	2	1	1	0	0	0	0
1913:	0	1	1	1	1	0	1	1	1
1921:	0	0	1	1	3	1	1	0	0
1929:	0	1	0	0	4	0	1	1	1
1937:	0	1	0	1	0	0	1	1	1
1945:	2	0	1	0	0	3	1	1	1
1953:	0	0	2	0	1	0	1	0	0
1961:	1	0	1	0	1	2	2	1	1
1969:	0	0	0	0	0	0	0	3	3
1977:	0	1	0	0	0	1	1	0	0
1985:	0	0	0	1	1	1	0	0	0
1993:	1	1	1	0	2	0	0	1	1
2001:	0	1	1	0	0	2	0	2	2
2009:	1	1	1	0	0	0	0	0	0
2017:	0	0	0	1	2	3	1	2	2
2025:	1	0	0	0	2	0	1	0	0
2033:	0	0	0	0	0	0	1	0	0
2041:	0	1	2	2	1	1	1	0	0
2049:	2	0	0	0	1	0	0	0	0
2057:	2	1	0	0	0	0	0	2	2
2065:	0	1	1	1	0	0	0	1	1
2073:	1	1	0	0	1	0	0	1	1
2081:	0	0	0	0	1	0	0	0	0
2089:	1	1	0	1	1	0	0	0	0

2097: 0 0 1 2 3 0 0 2

Sample Title: CP0403S07-08

Channel	1	2	3	4	5	6	7	8
2105:	2	2	2	0	1	1	0	0
2113:	0	2	1	1	1	1	0	1
2121:	0	0	0	1	0	1	0	1
2129:	0	0	0	0	1	0	1	0
2137:	0	0	0	0	0	2	2	1
2145:	3	2	1	0	0	3	1	0
2153:	0	0	2	0	2	0	2	1
2161:	0	0	3	0	0	0	0	0
2169:	0	0	1	2	1	0	0	2
2177:	0	2	0	0	0	0	0	1
2185:	1	1	0	2	2	0	0	0
2193:	2	0	0	0	0	1	1	0
2201:	0	0	1	0	2	3	0	0
2209:	0	0	0	0	1	1	0	1
2217:	0	0	1	0	0	1	1	0
2225:	0	0	1	0	0	0	1	1
2233:	1	2	0	0	1	0	1	0
2241:	1	0	2	1	1	0	1	2
2249:	2	0	1	2	1	1	0	1
2257:	0	1	0	0	0	0	0	3
2265:	2	1	1	0	1	0	1	1
2273:	1	1	1	2	2	0	0	1
2281:	0	0	1	0	0	0	0	0
2289:	0	0	1	0	1	1	0	1
2297:	1	0	0	0	1	0	0	0
2305:	3	0	0	2	0	1	1	2
2313:	0	1	0	0	0	0	1	0
2321:	1	1	0	0	1	2	1	0
2329:	1	0	1	2	4	0	0	0
2337:	0	1	3	2	1	2	0	0
2345:	0	0	0	2	2	1	2	0
2353:	0	1	1	0	2	1	0	2
2361:	1	0	1	0	0	1	0	1
2369:	0	0	1	0	0	1	1	2
2377:	0	2	1	3	2	0	0	1
2385:	1	1	0	0	1	1	0	1
2393:	0	1	1	1	0	0	0	0
2401:	0	1	0	0	0	0	0	1
2409:	1	0	1	1	0	0	0	1
2417:	1	2	0	1	0	0	0	2
2425:	1	2	1	0	1	0	1	0
2433:	0	0	0	2	2	0	0	0
2441:	0	1	0	0	1	0	1	0
2449:	1	2	1	1	1	0	0	1
2457:	0	0	0	0	0	0	0	0
2465:	0	1	0	0	0	1	1	0
2473:	0	0	0	0	0	0	1	0
2481:	0	0	0	0	0	0	3	0
2489:	0	0	0	0	1	0	0	0
2497:	0	0	0	0	1	0	0	2
2505:	1	0	0	1	0	1	0	0
2513:	0	1	1	0	2	0	0	0
2521:	0	0	0	1	0	0	0	0

2529: 0 0 0 0 0 0 0 1 1

Sample Title: CP0403S07-08

Channel	1	2	3	4	5	6	7	8	9
2537:	0	1	1	0	0	0	1	0	
2545:	0	1	0	0	0	0	1	0	
2553:	0	1	0	0	1	0	0	0	
2561:	0	0	0	1	0	0	0	0	
2569:	1	1	0	0	1	0	1	0	
2577:	0	0	1	1	0	0	2	0	
2585:	0	2	0	0	0	0	0	0	
2593:	0	0	1	2	0	0	0	0	
2601:	1	0	0	0	0	0	1	0	
2609:	0	0	0	0	4	5	12	17	
2617:	4	2	1	2	0	1	0	0	
2625:	0	0	1	1	0	0	0	0	
2633:	1	0	1	0	0	0	0	0	
2641:	0	1	0	0	1	0	0	0	
2649:	0	0	0	0	0	0	0	0	
2657:	0	0	0	0	0	1	0	0	
2665:	0	0	0	0	0	0	0	0	
2673:	1	0	0	0	0	0	0	0	
2681:	0	0	1	0	0	0	0	1	
2689:	0	0	0	0	0	1	0	0	
2697:	0	0	0	0	0	0	0	0	
2705:	0	0	0	0	0	1	0	0	
2713:	0	0	0	1	0	0	0	0	
2721:	0	0	0	0	1	0	0	0	
2729:	0	1	0	0	0	0	0	0	
2737:	0	1	0	0	0	0	0	0	
2745:	0	1	0	0	0	0	0	1	
2753:	0	0	0	0	0	0	0	0	
2761:	0	0	0	0	1	1	1	1	
2769:	1	0	0	0	0	0	0	0	
2777:	0	0	1	0	1	0	0	0	
2785:	0	0	0	0	0	1	1	0	
2793:	0	0	0	0	0	0	0	0	
2801:	0	0	1	0	0	0	0	0	
2809:	0	0	0	0	1	0	2	0	
2817:	0	0	0	0	1	0	1	0	
2825:	0	0	1	0	0	0	0	0	
2833:	1	1	0	0	0	0	0	0	
2841:	0	0	0	0	0	0	1	0	
2849:	0	1	1	0	0	0	0	0	
2857:	0	0	0	0	0	1	0	0	
2865:	1	0	0	0	0	0	0	0	
2873:	0	0	0	0	0	0	0	1	
2881:	0	0	0	0	0	0	0	0	
2889:	0	0	0	0	0	0	0	0	
2897:	0	1	0	0	0	0	0	0	
2905:	0	1	0	0	0	0	0	0	
2913:	1	0	0	0	0	0	0	0	
2921:	0	1	0	0	0	0	0	0	
2929:	0	0	0	0	0	0	1	0	
2937:	2	0	0	0	0	0	0	0	
2945:	0	0	0	0	0	0	0	0	
2953:	1	0	1	0	0	0	0	2	

2961: 0 0 0 0 0 0 0 0 1

Sample Title: CP0403S07-08

Channel	1	2	3	4	5	6	7	8	9
2969:	0	0	0	1	0	0	0	1	
2977:	0	0	0	0	1	0	1	0	
2985:	0	0	0	1	0	0	0	0	
2993:	0	0	0	0	0	0	0	1	
3001:	0	0	0	0	0	0	0	0	
3009:	0	0	0	0	0	0	0	0	
3017:	0	0	0	0	0	0	0	0	
3025:	0	0	0	0	0	0	0	0	
3033:	1	0	0	0	0	0	0	0	
3041:	2	0	0	0	0	1	0	0	
3049:	0	0	0	0	0	0	1	0	
3057:	0	0	0	0	0	0	0	0	
3065:	0	0	0	0	1	0	0	0	
3073:	1	0	0	0	0	0	0	0	
3081:	0	0	0	0	0	0	0	0	
3089:	0	0	0	0	0	0	0	0	
3097:	0	0	0	0	0	0	0	0	
3105:	0	0	0	0	0	0	0	0	
3113:	0	0	1	0	1	0	0	0	
3121:	1	1	0	0	0	0	0	0	
3129:	2	0	0	0	0	0	0	0	
3137:	0	0	0	1	0	0	0	0	
3145:	0	0	0	0	0	0	0	0	
3153:	0	0	0	0	1	0	0	0	
3161:	1	0	0	0	0	0	0	0	
3169:	0	0	0	0	0	0	0	0	
3177:	0	0	0	0	0	0	0	0	
3185:	0	0	0	0	0	0	0	0	
3193:	0	0	1	0	0	0	0	0	
3201:	0	0	0	0	0	0	0	0	
3209:	0	0	0	0	0	0	0	0	
3217:	0	0	1	1	0	0	1	0	
3225:	0	0	0	1	0	1	0	1	
3233:	0	1	0	0	0	0	0	0	
3241:	0	0	0	0	0	0	0	0	
3249:	0	0	0	0	0	1	0	0	
3257:	0	1	0	0	0	0	0	0	
3265:	1	0	0	0	0	0	0	0	
3273:	0	0	0	0	0	0	0	0	
3281:	0	0	1	0	0	0	1	0	
3289:	0	0	0	0	0	0	0	0	
3297:	0	0	0	0	0	0	0	1	
3305:	0	0	0	0	0	1	0	0	
3313:	0	0	0	0	0	0	0	0	
3321:	0	0	1	0	0	0	0	0	
3329:	0	0	0	0	0	0	0	0	
3337:	0	0	0	0	0	0	0	0	
3345:	0	0	0	0	2	0	0	0	
3353:	0	0	0	0	0	2	0	0	
3361:	0	0	0	0	0	0	0	0	
3369:	0	0	0	0	0	0	0	0	
3377:	0	0	0	0	0	0	0	0	
3385:	0	1	0	0	0	0	0	0	

3393: 0 0 1 0 0 0 0 0

Sample Title: CP0403S07-08

Channel	1	0	0	1	1	0	0	0
3401:	1	0	0	1	1	0	0	0
3409:	1	0	1	0	0	0	0	0
3417:	0	0	0	0	0	0	0	0
3425:	0	0	0	0	0	0	1	0
3433:	0	0	0	0	0	0	0	0
3441:	0	0	0	1	0	0	0	0
3449:	0	0	0	0	1	0	0	0
3457:	1	1	0	0	0	2	0	0
3465:	0	0	0	0	0	1	0	0
3473:	0	1	0	0	0	0	0	0
3481:	0	1	0	0	1	0	0	0
3489:	0	0	0	0	1	0	0	0
3497:	0	0	0	0	0	0	0	1
3505:	0	0	1	0	0	0	0	1
3513:	0	0	0	0	0	0	0	0
3521:	0	0	0	0	0	0	0	0
3529:	0	0	0	0	0	0	0	1
3537:	0	0	0	1	0	0	0	0
3545:	0	0	0	0	0	0	0	0
3553:	0	0	0	0	0	1	0	0
3561:	0	0	0	0	0	0	0	0
3569:	0	0	0	0	0	0	0	0
3577:	0	0	0	0	0	0	0	1
3585:	0	0	0	0	0	0	0	1
3593:	0	0	1	0	0	0	0	0
3601:	0	0	0	0	0	0	1	1
3609:	0	0	0	0	0	0	0	0
3617:	1	0	0	0	0	0	0	0
3625:	0	0	0	0	0	0	0	0
3633:	0	0	1	0	0	0	0	0
3641:	1	0	0	0	0	1	0	0
3649:	1	0	0	0	0	0	0	0
3657:	0	0	1	0	0	0	0	0
3665:	0	0	0	0	0	0	0	0
3673:	0	0	0	0	0	0	0	0
3681:	0	0	0	0	0	0	0	0
3689:	0	1	0	0	0	0	0	0
3697:	1	0	0	0	0	0	0	1
3705:	0	0	1	0	0	0	0	0
3713:	0	0	1	0	0	0	1	0
3721:	0	0	0	1	0	0	0	0
3729:	0	0	0	0	0	0	0	0
3737:	1	0	0	0	0	0	0	0
3745:	0	0	0	0	0	0	0	0
3753:	0	0	0	0	0	0	0	0
3761:	0	0	1	0	0	0	0	0
3769:	0	0	0	0	0	1	0	0
3777:	0	0	0	0	0	0	0	0
3785:	0	0	0	0	0	1	1	0
3793:	0	0	0	0	0	0	0	0
3801:	0	0	0	0	0	0	0	0
3809:	1	0	0	0	0	1	0	0
3817:	0	0	0	0	1	0	1	0

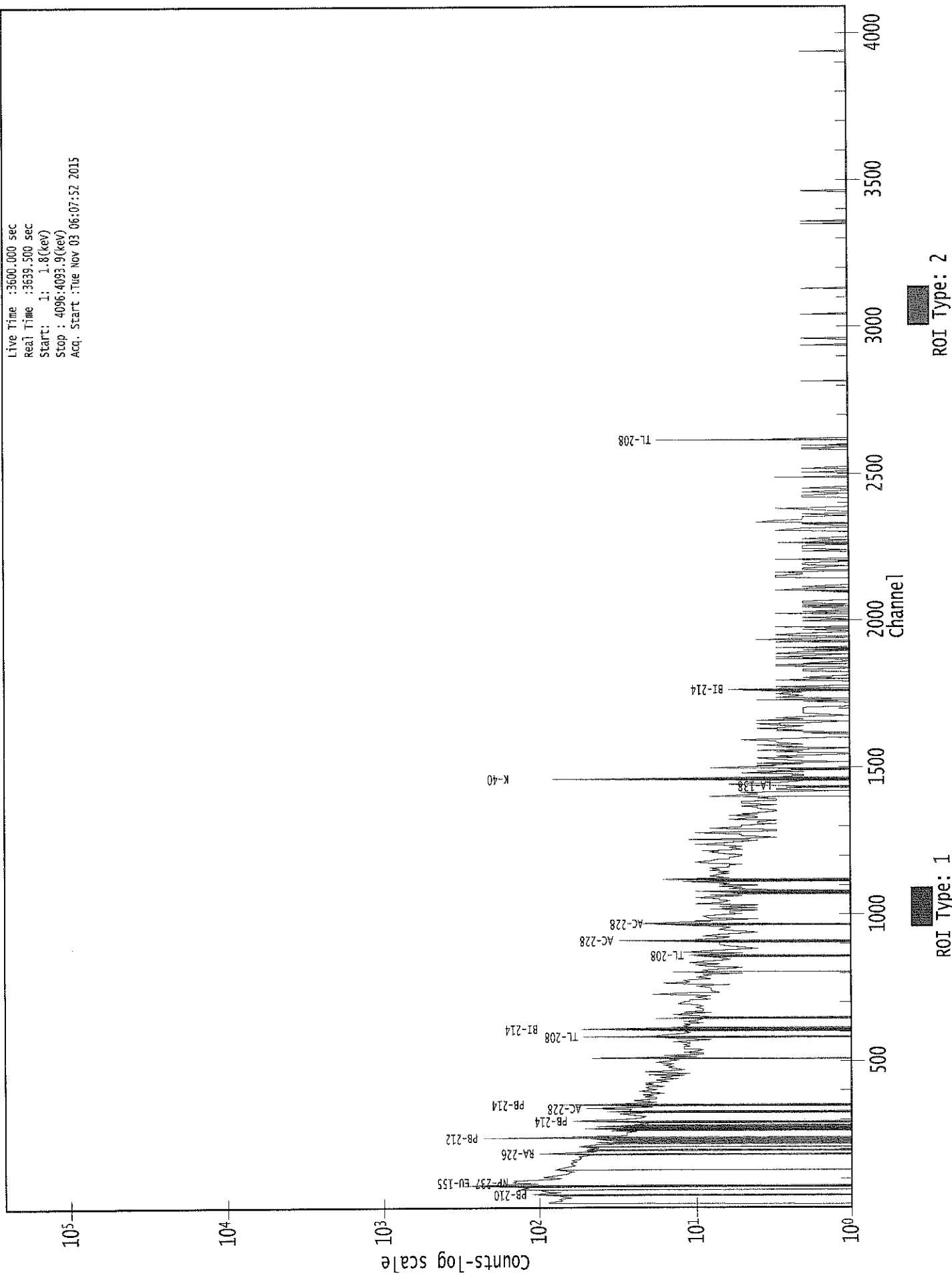
3825: 0 0 0 0 0 0 0 0

Sample Title: CP0403S07-08

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	0	0	0	0	0
3849:	0	1	0	0	0	0	0	0
3857:	0	1	0	0	0	0	0	0
3865:	0	0	0	0	0	0	0	0
3873:	0	0	0	0	0	0	0	0
3881:	0	0	0	0	0	0	0	0
3889:	1	1	0	0	0	0	0	0
3897:	0	0	0	1	0	0	0	0
3905:	0	0	0	0	0	0	0	0
3913:	0	0	0	0	0	0	0	0
3921:	0	0	0	0	1	0	0	0
3929:	0	0	0	0	0	0	0	1
3937:	2	0	1	0	0	0	0	0
3945:	0	0	0	0	0	0	1	0
3953:	0	0	0	1	1	0	0	0
3961:	0	0	0	0	0	0	0	0
3969:	0	0	1	0	0	0	0	0
3977:	0	0	0	0	0	0	0	1
3985:	0	0	0	1	1	1	0	0
3993:	0	0	0	0	0	1	0	0
4001:	1	0	0	0	0	0	0	1
4009:	0	0	0	0	0	0	0	1
4017:	0	0	0	0	0	0	0	0
4025:	0	0	1	1	0	0	0	0
4033:	0	1	0	0	0	0	0	0
4041:	0	0	0	0	0	0	0	0
4049:	0	0	0	0	0	0	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	0	0	0	0	0	0	0
4073:	0	0	0	0	1	0	0	0
4081:	0	1	0	0	0	0	0	0
4089:	0	0	0	0	0	0	0	0

0000029006.CNF

Live Time : 3600.000 sec
Real Time : 3639.500 sec
Start: 1: 1.8(keV)
Stop : 4096.4093.9(keV)
Acq. Start : Tue Nov 03 06:07:52 2015



Analysis Report for 1510063-07
CP0403S09-10

017

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510063-07
Sample Description : CP0403S09-10
Sample Type : SOIL

Sample Size : 5.000E+02 grams
Facility : Countroom

Sample Taken On : 10/5/2015 7:00:26AM
Acquisition Started : 11/3/2015 7:09:25AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE1
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3601.2 seconds

Dead Time : 0.03 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 19 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29007

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/3/15

Analysis Report for 1510063-07
CP0403S09-10

PEAK LOCATE REPORT

Peak Locate Performed on : 11/3/2015 8:09:29AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
1	46.54	46.89	0.0000	0.00
2	63.59	63.94	0.0000	0.00
3	74.79	75.13	0.0000	0.00
4	77.54	77.88	0.0000	0.00
5	90.66	91.00	0.0000	0.00
6	144.15	144.47	0.0000	0.00
7	185.99	186.29	0.0000	0.00
8	209.17	209.47	0.0000	0.00
9	238.82	239.11	0.0000	0.00
10	241.87	242.15	0.0000	0.00
11	270.57	270.84	0.0000	0.00
12	277.57	277.84	0.0000	0.00
13	295.39	295.66	0.0000	0.00
14	338.56	338.81	0.0000	0.00
15	352.11	352.36	0.0000	0.00
16	463.31	463.52	0.0000	0.00
17	510.90	511.10	0.0000	0.00
18	545.52	545.70	0.0000	0.00
19	563.06	563.24	0.0000	0.00
20	583.16	583.33	0.0000	0.00
21	609.56	609.72	0.0000	0.00
22	658.26	658.40	0.0000	0.00
23	727.46	727.58	0.0000	0.00
24	768.35	768.45	0.0000	0.00
25	786.95	787.05	0.0000	0.00
26	792.28	792.37	0.0000	0.00
27	795.30	795.40	0.0000	0.00
28	836.55	836.64	0.0000	0.00
29	840.81	840.89	0.0000	0.00
30	911.82	911.88	0.0000	0.00
31	922.81	922.86	0.0000	0.00
32	936.85	936.89	0.0000	0.00
33	969.40	969.44	0.0000	0.00
34	1001.61	1001.63	0.0000	0.00
35	1121.03	1121.01	0.0000	0.00
36	1135.23	1135.21	0.0000	0.00
37	1142.23	1142.21	0.0000	0.00
38	1155.74	1155.71	0.0000	0.00
39	1237.63	1237.57	0.0000	0.00
40	1321.41	1321.32	0.0000	0.00
41	1327.70	1327.61	0.0000	0.00
42	1378.94	1378.83	0.0000	0.00

Analysis Report for 1510063-07
CP0403S09-10

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
43	1408.81	1408.69	0.0000	0.00
44	1442.12	1441.99	0.0000	0.00
45	1461.33	1461.19	0.0000	0.00
46	1546.91	1546.74	0.0000	0.00
47	1589.72	1589.53	0.0000	0.00
48	1593.39	1593.20	0.0000	0.00
49	1622.96	1622.76	0.0000	0.00
50	1632.02	1631.81	0.0000	0.00
51	1638.14	1637.93	0.0000	0.00
52	1662.34	1662.12	0.0000	0.00
53	1730.63	1730.39	0.0000	0.00
54	1765.09	1764.83	0.0000	0.00
55	1826.02	1825.74	0.0000	0.00
56	1900.37	1900.06	0.0000	0.00
57	1994.34	1994.00	0.0000	0.00
58	2059.46	2059.09	0.0000	0.00
59	2118.27	2117.88	0.0000	0.00
60	2193.34	2192.92	0.0000	0.00
61	2205.04	2204.61	0.0000	0.00
62	2347.39	2346.91	0.0000	0.00
63	2615.43	2614.85	0.0000	0.00
64	3198.62	3197.80	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510063-07

CP0403S09-10

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 8:09:29AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
1	46.54	44 -	50	46.89	1.15E+02	77.41	1.01E+03	1.13
2	63.59	60 -	68	63.94	2.26E+02	122.72	2.19E+03	1.53
M 3	74.79	72 -	83	75.13	3.74E+02	76.18	9.49E+02	1.46
m 4	77.54	72 -	83	77.88	6.35E+02	85.21	9.63E+02	1.46
m 5	90.66	83 -	98	91.00	1.14E+02	64.25	8.03E+02	1.35
6	144.15	142 -	147	144.47	6.59E+01	62.65	7.28E+02	2.29
7	185.99	182 -	190	186.29	2.15E+02	89.00	1.09E+03	1.85
8	209.17	206 -	212	209.47	6.50E+01	64.55	7.10E+02	1.57
M 9	238.82	233 -	246	239.11	9.06E+02	74.19	3.78E+02	1.68
m 10	241.87	233 -	246	242.15	1.96E+02	59.23	3.55E+02	1.68
M 11	270.57	267 -	283	270.84	1.06E+02	44.24	3.43E+02	1.71
m 12	277.57	267 -	283	277.84	6.06E+01	41.34	3.20E+02	1.72
13	295.39	292 -	298	295.66	2.80E+02	60.51	4.62E+02	1.80
14	338.56	334 -	341	338.81	1.43E+02	57.31	4.51E+02	1.49
15	352.11	347 -	357	352.36	5.07E+02	69.79	3.79E+02	1.88
16	463.31	458 -	467	463.52	6.75E+01	48.96	3.01E+02	2.19
17	510.90	505 -	516	511.10	1.81E+02	56.71	3.10E+02	2.36
18	545.52	543 -	549	545.70	2.20E+01	28.02	1.28E+02	2.25
19	563.06	559 -	568	563.24	5.45E+01	39.74	1.93E+02	2.65
20	583.16	577 -	587	583.33	3.35E+02	54.29	2.14E+02	2.06
21	609.56	606 -	614	609.72	3.77E+02	53.74	2.15E+02	1.78
22	658.26	655 -	663	658.40	3.62E+01	35.57	1.76E+02	4.52
23	727.46	725 -	734	727.58	8.14E+01	37.18	1.53E+02	2.55
24	768.35	765 -	771	768.45	4.49E+01	30.16	1.32E+02	1.73
25	786.95	782 -	790	787.05	3.07E+01	30.51	1.21E+02	4.81
M 26	792.28	791 -	803	792.37	1.53E+01	12.21	2.53E+01	1.83
m 27	795.30	791 -	803	795.40	4.70E+01	25.87	6.82E+01	2.30
M 28	836.55	829 -	844	836.64	2.57E+01	27.13	9.58E+01	2.56
m 29	840.81	829 -	844	840.89	2.45E+01	27.20	9.12E+01	2.56
30	911.82	908 -	916	911.88	1.75E+02	42.87	1.64E+02	1.98
31	922.81	920 -	926	922.86	2.44E+01	20.40	5.53E+01	3.08
32	936.85	931 -	944	936.89	4.10E+01	36.03	1.26E+02	1.62
33	969.40	966 -	973	969.44	1.14E+02	38.73	1.61E+02	2.17
34	1001.61	999 -	1005	1001.63	2.47E+01	23.79	8.66E+01	1.90
M 35	1121.03	1114 -	1148	1121.01	7.61E+01	26.31	4.94E+01	2.26
m 36	1135.23	1114 -	1148	1135.21	1.51E+01	20.30	6.99E+01	2.27
m 37	1142.23	1114 -	1148	1142.21	1.61E+01	20.89	7.77E+01	2.27
38	1155.74	1152 -	1160	1155.71	3.46E+01	25.86	8.27E+01	1.69
39	1237.63	1233 -	1242	1237.57	3.63E+01	34.07	1.45E+02	2.54
40	1321.41	1319 -	1324	1321.32	9.75E+00	10.82	1.65E+01	1.59

Analysis Report for 1510063-07

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Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1327.70	1325 -	1331	1327.61	2.09E+01	16.07	3.22E+01	1.15
42	1378.94	1374 -	1383	1378.83	1.76E+01	20.35	4.69E+01	5.94
43	1408.81	1406 -	1412	1408.69	1.40E+01	13.92	2.60E+01	1.36
44	1442.12	1435 -	1447	1441.99	2.82E+01	16.70	1.95E+01	8.48
45	1461.33	1455 -	1466	1461.19	7.34E+02	56.78	3.63E+01	2.19
46	1546.91	1542 -	1553	1546.74	1.53E+01	15.75	2.14E+01	1.15
M 47	1589.72	1586 -	1596	1589.53	1.63E+01	10.39	8.63E+00	2.72
m 48	1593.39	1586 -	1596	1593.20	1.78E+01	14.14	1.89E+01	2.72
49	1622.96	1618 -	1627	1622.76	1.67E+01	10.05	4.58E+00	5.65
50	1632.02	1628 -	1636	1631.81	1.28E+01	11.86	1.44E+01	1.83
51	1638.14	1636 -	1640	1637.93	7.55E+00	7.92	6.91E+00	1.52
52	1662.34	1658 -	1666	1662.12	1.07E+01	12.53	1.67E+01	3.04
53	1730.63	1725 -	1733	1730.39	1.23E+01	11.69	1.34E+01	3.38
54	1765.09	1760 -	1767	1764.83	7.33E+01	19.80	1.73E+01	2.36
55	1826.02	1822 -	1830	1825.74	8.15E+00	7.76	3.70E+00	1.06
56	1900.37	1897 -	1903	1900.06	7.27E+00	8.28	7.45E+00	3.34
57	1994.34	1990 -	1997	1994.00	8.00E+00	5.66	0.00E+00	3.88
58	2059.46	2056 -	2061	2059.09	5.55E+00	8.19	8.90E+00	2.74
59	2118.27	2114 -	2122	2117.88	1.32E+01	10.61	9.67E+00	1.91
60	2193.34	2188 -	2196	2192.92	1.20E+01	6.93	0.00E+00	2.58
61	2205.04	2201 -	2208	2204.61	2.42E+01	10.95	3.54E+00	2.13
62	2347.39	2343 -	2351	2346.91	1.05E+01	10.02	9.00E+00	1.10
63	2615.43	2611 -	2620	2614.85	1.28E+02	23.35	3.83E+00	2.05
64	3198.62	3194 -	3200	3197.80	5.00E+00	4.47	0.00E+00	2.41

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 8:09:29AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
1	46.54	44 -	50	1.15E+02	77.41	1.01E+03	6.11E+01
2	63.59	60 -	68	2.26E+02	122.72	2.19E+03	9.78E+01
M 3	74.79	72 -	83	3.74E+02	76.18	9.49E+02	5.06E+01
m 4	77.54	72 -	83	6.35E+02	85.21	9.63E+02	5.10E+01

Analysis Report for 1510063-07

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	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
m	5	90.66	83 -	98	1.14E+02	64.25	8.03E+02	4.66E+01
	6	144.15	142 -	147	6.59E+01	62.65	7.28E+02	4.97E+01
	7	185.99	182 -	190	2.15E+02	89.00	1.09E+03	6.91E+01
	8	209.17	206 -	212	6.50E+01	64.55	7.10E+02	5.14E+01
M	9	238.82	233 -	246	9.06E+02	74.19	3.78E+02	3.20E+01
m	10	241.87	233 -	246	1.96E+02	59.23	3.55E+02	3.10E+01
M	11	270.57	267 -	283	1.06E+02	44.24	3.43E+02	3.04E+01
m	12	277.57	267 -	283	6.06E+01	41.34	3.20E+02	2.94E+01
	13	295.39	292 -	298	2.80E+02	60.51	4.62E+02	4.14E+01
	14	338.56	334 -	341	1.43E+02	57.31	4.51E+02	4.28E+01
	15	352.11	347 -	357	5.07E+02	69.79	3.79E+02	4.38E+01
	16	463.31	458 -	467	6.75E+01	48.96	3.01E+02	3.79E+01
	17	510.90	505 -	516	1.81E+02	56.71	3.10E+02	4.10E+01
	18	545.52	543 -	549	2.20E+01	28.02	1.28E+02	2.17E+01
	19	563.06	559 -	568	5.45E+01	39.74	1.93E+02	3.03E+01
	20	583.16	577 -	587	3.35E+02	54.29	2.14E+02	3.30E+01
	21	609.56	606 -	614	3.77E+02	53.74	2.15E+02	3.05E+01
	22	658.26	655 -	663	3.62E+01	35.57	1.76E+02	2.75E+01
	23	727.46	725 -	734	8.14E+01	37.18	1.53E+02	2.67E+01
	24	768.35	765 -	771	4.49E+01	30.16	1.32E+02	2.22E+01
	25	786.95	782 -	790	3.07E+01	30.51	1.21E+02	2.34E+01
M	26	792.28	791 -	803	1.53E+01	12.21	2.53E+01	8.26E+00
m	27	795.30	791 -	803	4.70E+01	25.87	6.82E+01	1.36E+01
M	28	836.55	829 -	844	2.57E+01	27.13	9.58E+01	1.61E+01
m	29	840.81	829 -	844	2.45E+01	27.20	9.12E+01	1.57E+01
	30	911.82	908 -	916	1.75E+02	42.87	1.64E+02	2.77E+01
	31	922.81	920 -	926	2.44E+01	20.40	5.53E+01	1.47E+01
	32	936.85	931 -	944	4.10E+01	36.03	1.26E+02	1.30E+01
	33	969.40	966 -	973	1.14E+02	38.73	1.61E+02	2.65E+01
	34	1001.61	999 -	1005	2.47E+01	23.79	8.66E+01	1.78E+01
M	35	1121.03	1114 -	1148	7.61E+01	26.31	4.94E+01	1.16E+01
m	36	1135.23	1114 -	1148	1.51E+01	20.30	6.99E+01	1.37E+01
m	37	1142.23	1114 -	1148	1.61E+01	20.89	7.77E+01	1.45E+01
	38	1155.74	1152 -	1160	3.46E+01	25.86	8.27E+01	1.89E+01
	39	1237.63	1233 -	1242	3.63E+01	34.07	1.45E+02	2.62E+01
	40	1321.41	1319 -	1324	9.75E+00	10.82	1.65E+01	7.26E+00
	41	1327.70	1325 -	1331	2.09E+01	16.07	3.22E+01	1.09E+01
	42	1378.94	1374 -	1383	1.76E+01	20.35	4.69E+01	1.52E+01
	43	1408.81	1406 -	1412	1.40E+01	13.92	2.60E+01	9.65E+00
	44	1442.12	1435 -	1447	2.82E+01	16.70	1.95E+01	1.06E+01
	45	1461.33	1455 -	1466	7.34E+02	56.78	3.63E+01	1.40E+01
	46	1546.91	1542 -	1553	1.53E+01	15.75	2.14E+01	1.12E+01
M	47	1589.72	1586 -	1596	1.63E+01	10.39	8.63E+00	4.83E+00
m	48	1593.39	1586 -	1596	1.78E+01	14.14	1.89E+01	7.16E+00
	49	1622.96	1618 -	1627	1.67E+01	10.05	4.58E+00	4.80E+00
	50	1632.02	1628 -	1636	1.28E+01	11.86	1.44E+01	7.78E+00
	51	1638.14	1636 -	1640	7.55E+00	7.92	6.91E+00	4.69E+00
	52	1662.34	1658 -	1666	1.07E+01	12.53	1.67E+01	8.79E+00
	53	1730.63	1725 -	1733	1.23E+01	11.69	1.34E+01	7.69E+00
	54	1765.09	1760 -	1767	7.33E+01	19.80	1.73E+01	8.16E+00
	55	1826.02	1822 -	1830	8.15E+00	7.76	3.70E+00	4.32E+00

Analysis Report for 1510063-07

CP0403S09-10

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
56	1900.37	1897 -	1903	7.27E+00	8.28	7.45E+00	5.16E+00
57	1994.34	1990 -	1997	8.00E+00	5.66	0.00E+00	0.00E+00
58	2059.46	2056 -	2061	5.55E+00	8.19	8.90E+00	5.50E+00
59	2118.27	2114 -	2122	1.32E+01	10.61	9.67E+00	6.36E+00
60	2193.34	2188 -	2196	1.20E+01	6.93	0.00E+00	0.00E+00
61	2205.04	2201 -	2208	2.42E+01	10.95	3.54E+00	3.95E+00
62	2347.39	2343 -	2351	1.05E+01	10.02	9.00E+00	6.29E+00
63	2615.43	2611 -	2620	1.28E+02	23.35	3.83E+00	4.70E+00
64	3198.62	3194 -	3200	5.00E+00	4.47	0.00E+00	0.00E+00

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

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/3/2015 8:09:29AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
1	46.54	44 -	50	46.89	1.15E+02	77.41	1.01E+03	PB-210
2	63.59	60 -	68	63.94	2.26E+02	122.72	2.19E+03	TH-234 TH-230
M 3	74.79	72 -	83	75.13	3.74E+02	76.18	9.49E+02	AM-243
m 4	77.54	72 -	83	77.88	6.35E+02	85.21	9.63E+02	TI-44
m 5	90.66	83 -	98	91.00	1.14E+02	64.25	8.03E+02	ND-147
6	144.15	142 -	147	144.47	6.59E+01	62.65	7.28E+02	U-235
7	185.99	182 -	190	186.29	2.15E+02	89.00	1.09E+03	RA-226
8	209.17	206 -	212	209.47	6.50E+01	64.55	7.10E+02	GA-67 CM-243
M 9	238.82	233 -	246	239.11	9.06E+02	74.19	3.78E+02	PB-212
m 10	241.87	233 -	246	242.15	1.96E+02	59.23	3.55E+02	RA-224
M 11	270.57	267 -	283	270.84	1.06E+02	44.24	3.43E+02	.....
m 12	277.57	267 -	283	277.84	6.06E+01	41.34	3.20E+02	CM-243 NP-239
13	295.39	292 -	298	295.66	2.80E+02	60.51	4.62E+02	PB-214
14	338.56	334 -	341	338.81	1.43E+02	57.31	4.51E+02	AC-228

Analysis Report for 1510063-07

CP0403S09-10

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	15	352.11	347 -	357	352.36	5.07E+02	69.79	3.79E+02	PB-214
	16	463.31	458 -	467	463.52	6.75E+01	48.96	3.01E+02	SB-125
	17	510.90	505 -	516	511.10	1.81E+02	56.71	3.10E+02	.....
	18	545.52	543 -	549	545.70	2.20E+01	28.02	1.28E+02	.....
	19	563.06	559 -	568	563.24	5.45E+01	39.74	1.93E+02	CS-134
	20	583.16	577 -	587	583.33	3.35E+02	54.29	2.14E+02	TL-208
	21	609.56	606 -	614	609.72	3.77E+02	53.74	2.15E+02	BI-214
	22	658.26	655 -	663	658.40	3.62E+01	35.57	1.76E+02	AG-110M
	23	727.46	725 -	734	727.58	8.14E+01	37.18	1.53E+02	BI-212
	24	768.35	765 -	771	768.45	4.49E+01	30.16	1.32E+02	.....
	25	786.95	782 -	790	787.05	3.07E+01	30.51	1.21E+02	.....
M	26	792.28	791 -	803	792.37	1.53E+01	12.21	2.53E+01	.....
m	27	795.30	791 -	803	795.40	4.70E+01	25.87	6.82E+01	CS-134
M	28	836.55	829 -	844	836.64	2.57E+01	27.13	9.58E+01	.....
m	29	840.81	829 -	844	840.89	2.45E+01	27.20	9.12E+01	.....
	30	911.82	908 -	916	911.88	1.75E+02	42.87	1.64E+02	LU-172 AC-228
	31	922.81	920 -	926	922.86	2.44E+01	20.40	5.53E+01	.....
	32	936.85	931 -	944	936.89	4.10E+01	36.03	1.26E+02	.....
	33	969.40	966 -	973	969.44	1.14E+02	38.73	1.61E+02	AC-228
	34	1001.61	999 -	1005	1001.63	2.47E+01	23.79	8.66E+01	PA-234M
M	35	1121.03	1114 -	1148	1121.01	7.61E+01	26.31	4.94E+01	TA-182 SC-46 BI-214
	36	1135.23	1114 -	1148	1135.21	1.51E+01	20.30	6.99E+01	.....
m	37	1142.23	1114 -	1148	1142.21	1.61E+01	20.89	7.77E+01	.....
m	38	1155.74	1152 -	1160	1155.71	3.46E+01	25.86	8.27E+01	.....
	39	1237.63	1233 -	1242	1237.57	3.63E+01	34.07	1.45E+02	CO-56
	40	1321.41	1319 -	1324	1321.32	9.75E+00	10.82	1.65E+01	.....
	41	1327.70	1325 -	1331	1327.61	2.09E+01	16.07	3.22E+01	.....
	42	1378.94	1374 -	1383	1378.83	1.76E+01	20.35	4.69E+01	.....
	43	1408.81	1406 -	1412	1408.69	1.40E+01	13.92	2.60E+01	EU-152
	44	1442.12	1435 -	1447	1441.99	2.82E+01	16.70	1.95E+01	.....
	45	1461.33	1455 -	1466	1461.19	7.34E+02	56.78	3.63E+01	K-40
	46	1546.91	1542 -	1553	1546.74	1.53E+01	15.75	2.14E+01	.....
M	47	1589.72	1586 -	1596	1589.53	1.63E+01	10.39	8.63E+00	.....
m	48	1593.39	1586 -	1596	1593.20	1.78E+01	14.14	1.89E+01	.....
	49	1622.96	1618 -	1627	1622.76	1.67E+01	10.05	4.58E+00	.....
	50	1632.02	1628 -	1636	1631.81	1.28E+01	11.86	1.44E+01	.....
	51	1638.14	1636 -	1640	1637.93	7.55E+00	7.92	6.91E+00	.....
	52	1662.34	1658 -	1666	1662.12	1.07E+01	12.53	1.67E+01	.....
	53	1730.63	1725 -	1733	1730.39	1.23E+01	11.69	1.34E+01	.....
	54	1765.09	1760 -	1767	1764.83	7.33E+01	19.80	1.73E+01	BI-214
	55	1826.02	1822 -	1830	1825.74	8.15E+00	7.76	3.70E+00	.....
	56	1900.37	1897 -	1903	1900.06	7.27E+00	8.28	7.45E+00	.....
	57	1994.34	1990 -	1997	1994.00	8.00E+00	5.66	0.00E+00	.....
	58	2059.46	2056 -	2061	2059.09	5.55E+00	8.19	8.90E+00	.....
	59	2118.27	2114 -	2122	2117.88	1.32E+01	10.61	9.67E+00	.....
	60	2193.34	2188 -	2196	2192.92	1.20E+01	6.93	0.00E+00	.....
	61	2205.04	2201 -	2208	2204.61	2.42E+01	10.95	3.54E+00	BI-214
	62	2347.39	2343 -	2351	2346.91	1.05E+01	10.02	9.00E+00	.....
	63	2615.43	2611 -	2620	2614.85	1.28E+02	23.35	3.83E+00	TL-208
	64	3198.62	3194 -	3200	3197.80	5.00E+00	4.47	0.00E+00	.....

Analysis Report for 1510063-07
CP0403S09-10

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/3/2015 8:09:29AM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	46.54	1.15E+02	77.41	1.68E-02	1.78E-03
	2	63.59	2.26E+02	122.72	2.50E-02	1.92E-03
M	3	74.79	3.74E+02	76.18	2.75E-02	2.30E-03
m	4	77.54	6.35E+02	85.21	2.78E-02	2.39E-03
m	5	90.66	1.14E+02	64.25	2.86E-02	2.69E-03
	6	144.15	6.59E+01	62.65	2.55E-02	2.12E-03
	7	185.99	2.15E+02	89.00	2.24E-02	2.03E-03
	8	209.17	6.50E+01	64.55	2.09E-02	1.86E-03
M	9	238.82	9.06E+02	74.19	1.92E-02	1.64E-03
m	10	241.87	1.96E+02	59.23	1.91E-02	1.61E-03
M	11	270.57	1.06E+02	44.24	1.77E-02	1.40E-03
m	12	277.57	6.06E+01	41.34	1.74E-02	1.35E-03
	13	295.39	2.80E+02	60.51	1.67E-02	1.31E-03
	14	338.56	1.43E+02	57.31	1.52E-02	1.22E-03
	15	352.11	5.07E+02	69.79	1.48E-02	1.19E-03
	16	463.31	6.75E+01	48.96	1.21E-02	1.04E-03
	17	510.90	1.81E+02	56.71	1.12E-02	9.90E-04
	18	545.52	2.20E+01	28.02	1.07E-02	9.55E-04
	19	563.06	5.45E+01	39.74	1.04E-02	9.36E-04
	20	583.16	3.35E+02	54.29	1.02E-02	9.16E-04
	21	609.56	3.77E+02	53.74	9.82E-03	8.88E-04
	22	658.26	3.62E+01	35.57	9.25E-03	8.38E-04
	23	727.46	8.14E+01	37.18	8.55E-03	7.75E-04
	24	768.35	4.49E+01	30.16	8.19E-03	7.39E-04
	25	786.95	3.07E+01	30.51	8.04E-03	7.22E-04
M	26	792.28	1.53E+01	12.21	7.99E-03	7.17E-04
m	27	795.30	4.70E+01	25.87	7.97E-03	7.14E-04
M	28	836.55	2.57E+01	27.13	7.65E-03	6.77E-04
m	29	840.81	2.45E+01	27.20	7.62E-03	6.74E-04
	30	911.82	1.75E+02	42.87	7.14E-03	6.15E-04
	31	922.81	2.44E+01	20.40	7.08E-03	6.09E-04
	32	936.85	4.10E+01	36.03	6.99E-03	6.02E-04
	33	969.40	1.14E+02	38.73	6.80E-03	5.85E-04
	34	1001.61	2.47E+01	23.79	6.63E-03	5.68E-04

Analysis Report for 1510063-07
CP0403S09-10

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
M	35	1121.03	7.61E+01	26.31	6.06E-03	5.06E-04
m	36	1135.23	1.51E+01	20.30	6.00E-03	4.99E-04
m	37	1142.23	1.61E+01	20.89	5.98E-03	4.95E-04
	38	1155.74	3.46E+01	25.86	5.92E-03	4.88E-04
	39	1237.63	3.63E+01	34.07	5.62E-03	4.68E-04
	40	1321.41	9.75E+00	10.82	5.35E-03	4.53E-04
	41	1327.70	2.09E+01	16.07	5.33E-03	4.52E-04
	42	1378.94	1.76E+01	20.35	5.18E-03	4.40E-04
	43	1408.81	1.40E+01	13.92	5.10E-03	4.32E-04
	44	1442.12	2.82E+01	16.70	5.02E-03	4.24E-04
	45	1461.33	7.34E+02	56.78	4.97E-03	4.19E-04
	46	1546.91	1.53E+01	15.75	4.78E-03	3.98E-04
M	47	1589.72	1.63E+01	10.39	4.69E-03	3.87E-04
m	48	1593.39	1.78E+01	14.14	4.68E-03	3.86E-04
	49	1622.96	1.67E+01	10.05	4.63E-03	3.79E-04
	50	1632.02	1.28E+01	11.86	4.61E-03	3.77E-04
	51	1638.14	7.55E+00	7.92	4.60E-03	3.75E-04
	52	1662.34	1.07E+01	12.53	4.56E-03	3.69E-04
	53	1730.63	1.23E+01	11.69	4.45E-03	3.52E-04
	54	1765.09	7.33E+01	19.80	4.39E-03	3.43E-04
	55	1826.02	8.15E+00	7.76	4.31E-03	3.28E-04
	56	1900.37	7.27E+00	8.28	4.22E-03	3.26E-04
	57	1994.34	8.00E+00	5.66	4.12E-03	3.26E-04
	58	2059.46	5.55E+00	8.19	4.06E-03	3.26E-04
	59	2118.27	1.32E+01	10.61	4.01E-03	3.26E-04
	60	2193.34	1.20E+01	6.93	3.96E-03	3.26E-04
	61	2205.04	2.42E+01	10.95	3.95E-03	3.26E-04
	62	2347.39	1.05E+01	10.02	3.87E-03	3.26E-04
	63	2615.43	1.28E+02	23.35	3.79E-03	3.26E-04
	64	3198.62	5.00E+00	4.47	3.88E-03	3.26E-04

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

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/3/2015 8:09:29AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028941.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
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Analysis Report for 1510063-07

CP0403S09-10

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	46.54	1.15E+02	77.41	4.50E+01	8.46E+00	6.97E+01	7.79E+01
	2	63.59	2.26E+02	122.72	7.80E+01	1.33E+01	1.48E+02	1.23E+02
M	3	74.79	3.74E+02	76.18	5.09E+00	4.37E+00	3.68E+02	7.63E+01
m	4	77.54	6.35E+02	85.21	9.75E+00	8.28E+00	6.26E+02	8.56E+01
m	5	90.66	1.14E+02	64.25			1.14E+02	6.42E+01
	6	144.15	6.59E+01	62.65	7.18E+00	7.25E+00	5.87E+01	6.31E+01
	7	185.99	2.15E+02	89.00	6.41E+01	7.38E+00	1.51E+02	8.93E+01
	8	209.17	6.50E+01	64.55			6.50E+01	6.46E+01
M	9	238.82	9.06E+02	74.19	2.34E+01	6.34E+00	8.83E+02	7.45E+01
m	10	241.87	1.96E+02	59.23			1.96E+02	5.92E+01
M	11	270.57	1.06E+02	44.24			1.06E+02	4.42E+01
m	12	277.57	6.06E+01	41.34			6.06E+01	4.13E+01
	13	295.39	2.80E+02	60.51	4.17E+00	5.50E+00	2.76E+02	6.08E+01
	14	338.56	1.43E+02	57.31	2.22E-01	4.54E+00	1.43E+02	5.75E+01
	15	352.11	5.07E+02	69.79	8.83E+00	4.91E+00	4.98E+02	7.00E+01
	16	463.31	6.75E+01	48.96			6.75E+01	4.90E+01
	17	510.90	1.81E+02	56.71	8.12E+01	5.49E+00	1.00E+02	5.70E+01
	18	545.52	2.20E+01	28.02			2.20E+01	2.80E+01
	19	563.06	5.45E+01	39.74			5.45E+01	3.97E+01
	20	583.16	3.35E+02	54.29	6.34E+00	3.74E+00	3.29E+02	5.44E+01
	21	609.56	3.77E+02	53.74	5.20E+00	3.69E+00	3.71E+02	5.39E+01
	22	658.26	3.62E+01	35.57			3.62E+01	3.56E+01
	23	727.46	8.14E+01	37.18			8.14E+01	3.72E+01
	24	768.35	4.49E+01	30.16			4.49E+01	3.02E+01
	25	786.95	3.07E+01	30.51			3.07E+01	3.05E+01
M	26	792.28	1.53E+01	12.21			1.53E+01	1.22E+01
m	27	795.30	4.70E+01	25.87			4.70E+01	2.59E+01
M	28	836.55	2.57E+01	27.13			2.57E+01	2.71E+01
m	29	840.81	2.45E+01	27.20			2.45E+01	2.72E+01
	30	911.82	1.75E+02	42.87	3.28E+00	2.53E+00	1.71E+02	4.29E+01
	31	922.81	2.44E+01	20.40			2.44E+01	2.04E+01
	32	936.85	4.10E+01	36.03			4.10E+01	3.60E+01
	33	969.40	1.14E+02	38.73			1.14E+02	3.87E+01
	34	1001.61	2.47E+01	23.79	4.17E+00	2.83E+00	2.05E+01	2.40E+01
M	35	1121.03	7.61E+01	26.31	2.28E+00	2.55E+00	7.38E+01	2.64E+01
m	36	1135.23	1.51E+01	20.30			1.51E+01	2.03E+01
m	37	1142.23	1.61E+01	20.89			1.61E+01	2.09E+01
	38	1155.74	3.46E+01	25.86			3.46E+01	2.59E+01
	39	1237.63	3.63E+01	34.07			3.63E+01	3.41E+01
	40	1321.41	9.75E+00	10.82			9.75E+00	1.08E+01
	41	1327.70	2.09E+01	16.07	1.22E+00	8.80E-01	1.97E+01	1.61E+01
	42	1378.94	1.76E+01	20.35			1.76E+01	2.03E+01
	43	1408.81	1.40E+01	13.92			1.40E+01	1.39E+01
	44	1442.12	2.82E+01	16.70			2.82E+01	1.67E+01
	45	1461.33	7.34E+02	56.78	6.46E+00	2.33E+00	7.27E+02	5.68E+01
	46	1546.91	1.53E+01	15.75			1.53E+01	1.57E+01
M	47	1589.72	1.63E+01	10.39			1.63E+01	1.04E+01
m	48	1593.39	1.78E+01	14.14			1.78E+01	1.41E+01
	49	1622.96	1.67E+01	10.05			1.67E+01	1.00E+01
	50	1632.02	1.28E+01	11.86			1.28E+01	1.19E+01
	51	1638.14	7.55E+00	7.92			7.55E+00	7.92E+00
	52	1662.34	1.07E+01	12.53			1.07E+01	1.25E+01
	53	1730.63	1.23E+01	11.69			1.23E+01	1.17E+01
	54	1765.09	7.33E+01	19.80			7.33E+01	1.98E+01

Analysis Report for 1510063-07

CP0403S09-10

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
55	1826.02	8.15E+00	7.76			8.15E+00	7.76E+00
56	1900.37	7.27E+00	8.28			7.27E+00	8.28E+00
57	1994.34	8.00E+00	5.66			8.00E+00	5.66E+00
58	2059.46	5.55E+00	8.19			5.55E+00	8.19E+00
59	2118.27	1.32E+01	10.61			1.32E+01	1.06E+01
60	2193.34	1.20E+01	6.93			1.20E+01	6.93E+00
61	2205.04	2.42E+01	10.95			2.42E+01	1.10E+01
62	2347.39	1.05E+01	10.02			1.05E+01	1.00E+01
63	2615.43	1.28E+02	23.35	3.47E+00	1.48E+00	1.25E+02	2.34E+01
64	3198.62	5.00E+00	4.47			5.00E+00	4.47E+00

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

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/3/2015 8:09:29AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028941.CNF

Corrected Area is: Original * Peak Ratio - Background

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.	
	1	46.54	1.15E+02	77.41	4.50E+01	8.46E+00	6.97E+01	7.79E+01
	2	63.59	2.26E+02	122.72	7.80E+01	1.33E+01	1.48E+02	1.23E+02
M	3	74.79	3.74E+02	76.18	5.09E+00	4.37E+00	3.68E+02	7.63E+01
m	4	77.54	6.35E+02	85.21	9.75E+00	8.28E+00	6.26E+02	8.56E+01
m	5	90.66	1.14E+02	64.25			1.14E+02	6.42E+01
	6	144.15	6.59E+01	62.65	7.18E+00	7.25E+00	5.87E+01	6.31E+01
	7	185.99	2.15E+02	89.00	6.41E+01	7.38E+00	1.51E+02	8.93E+01
	8	209.17	6.50E+01	64.55			6.50E+01	6.46E+01
M	9	238.82	9.06E+02	74.19	2.34E+01	6.34E+00	8.83E+02	7.45E+01
m	10	241.87	1.96E+02	59.23			1.96E+02	5.92E+01
M	11	270.57	1.06E+02	44.24			1.06E+02	4.42E+01
m	12	277.57	6.06E+01	41.34			6.06E+01	4.13E+01
	13	295.39	2.80E+02	60.51	4.17E+00	5.50E+00	2.76E+02	6.08E+01
	14	338.56	1.43E+02	57.31	2.22E-01	4.54E+00	1.43E+02	5.75E+01
	15	352.11	5.07E+02	69.79	8.83E+00	4.91E+00	4.98E+02	7.00E+01
	16	463.31	6.75E+01	48.96			6.75E+01	4.90E+01
	17	510.90	1.81E+02	56.71	8.12E+01	5.49E+00	1.00E+02	5.70E+01
	18	545.52	2.20E+01	28.02			2.20E+01	2.80E+01

Analysis Report for 1510063-07

CP0403S09-10

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
19	563.06	5.45E+01	39.74			5.45E+01	3.97E+01
20	583.16	3.35E+02	54.29	6.34E+00	3.74E+00	3.29E+02	5.44E+01
21	609.56	3.77E+02	53.74	5.20E+00	3.69E+00	3.71E+02	5.39E+01
22	658.26	3.62E+01	35.57			3.62E+01	3.56E+01
23	727.46	8.14E+01	37.18			8.14E+01	3.72E+01
24	768.35	4.49E+01	30.16			4.49E+01	3.02E+01
25	786.95	3.07E+01	30.51			3.07E+01	3.05E+01
M 26	792.28	1.53E+01	12.21			1.53E+01	1.22E+01
m 27	795.30	4.70E+01	25.87			4.70E+01	2.59E+01
M 28	836.55	2.57E+01	27.13			2.57E+01	2.71E+01
m 29	840.81	2.45E+01	27.20			2.45E+01	2.72E+01
30	911.82	1.75E+02	42.87	3.28E+00	2.53E+00	1.71E+02	4.29E+01
31	922.81	2.44E+01	20.40			2.44E+01	2.04E+01
32	936.85	4.10E+01	36.03			4.10E+01	3.60E+01
33	969.40	1.14E+02	38.73			1.14E+02	3.87E+01
34	1001.61	2.47E+01	23.79	4.17E+00	2.83E+00	2.05E+01	2.40E+01
M 35	1121.03	7.61E+01	26.31	2.28E+00	2.55E+00	7.38E+01	2.64E+01
m 36	1135.23	1.51E+01	20.30			1.51E+01	2.03E+01
m 37	1142.23	1.61E+01	20.89			1.61E+01	2.09E+01
38	1155.74	3.46E+01	25.86			3.46E+01	2.59E+01
39	1237.63	3.63E+01	34.07			3.63E+01	3.41E+01
40	1321.41	9.75E+00	10.82			9.75E+00	1.08E+01
41	1327.70	2.09E+01	16.07	1.22E+00	8.80E-01	1.97E+01	1.61E+01
42	1378.94	1.76E+01	20.35			1.76E+01	2.03E+01
43	1408.81	1.40E+01	13.92			1.40E+01	1.39E+01
44	1442.12	2.82E+01	16.70			2.82E+01	1.67E+01
45	1461.33	7.34E+02	56.78	6.46E+00	2.33E+00	7.27E+02	5.68E+01
46	1546.91	1.53E+01	15.75			1.53E+01	1.57E+01
M 47	1589.72	1.63E+01	10.39			1.63E+01	1.04E+01
m 48	1593.39	1.78E+01	14.14			1.78E+01	1.41E+01
49	1622.96	1.67E+01	10.05			1.67E+01	1.00E+01
50	1632.02	1.28E+01	11.86			1.28E+01	1.19E+01
51	1638.14	7.55E+00	7.92			7.55E+00	7.92E+00
52	1662.34	1.07E+01	12.53			1.07E+01	1.25E+01
53	1730.63	1.23E+01	11.69			1.23E+01	1.17E+01
54	1765.09	7.33E+01	19.80			7.33E+01	1.98E+01
55	1826.02	8.15E+00	7.76			8.15E+00	7.76E+00
56	1900.37	7.27E+00	8.28			7.27E+00	8.28E+00
57	1994.34	8.00E+00	5.66			8.00E+00	5.66E+00
58	2059.46	5.55E+00	8.19			5.55E+00	8.19E+00
59	2118.27	1.32E+01	10.61			1.32E+01	1.06E+01
60	2193.34	1.20E+01	6.93			1.20E+01	6.93E+00
61	2205.04	2.42E+01	10.95			2.42E+01	1.10E+01
62	2347.39	1.05E+01	10.02			1.05E+01	1.00E+01
63	2615.43	1.28E+02	23.35	3.47E+00	1.48E+00	1.25E+02	2.34E+01
64	3198.62	5.00E+00	4.47			5.00E+00	4.47E+00

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

Analysis Report for 1510063-07

CP0403S09-10

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.958	1460.81 *	10.67	2.06E+01	2.41E+00
ND-147	0.607	91.11 *	28.90	1.30E+00	7.41E-01
		531.02	13.10		
TL-208	0.843	583.14 *	30.22	1.61E+00	3.03E-01
		860.37	4.48		
		2614.66 *	35.85	1.38E+00	2.84E-01
PB-210	1.000	46.50 *	4.25	1.47E+00	1.65E+00
BI-212	0.755	727.17 *	11.80	1.21E+00	5.64E-01
		1620.62	2.75		
PB-212	0.889	238.63 *	44.60	1.55E+00	1.85E-01
		300.09	3.41		
BI-214	0.962	609.31 *	46.30	1.23E+00	2.10E-01
		1120.29 *	15.10	1.21E+00	4.45E-01
		1764.49 *	15.80	1.59E+00	4.46E-01
		2204.22 *	4.98	1.85E+00	8.50E-01
PB-214	0.995	295.21 *	19.19	1.29E+00	3.03E-01
		351.92 *	37.19	1.36E+00	2.21E-01
RA-224	0.882	240.98 *	3.95	3.92E+00	1.23E+00
RA-226	0.992	186.21 *	3.28	3.08E+00	5.92E+00
AC-228	0.950	338.32 *	11.40	1.24E+00	5.09E-01
		911.07 *	27.70	1.30E+00	3.45E-01
		969.11 *	16.60	1.52E+00	5.31E-01
PA-234M	0.947	1001.03 *	0.92	5.06E+00	5.92E+00
TH-234	0.986	63.29 *	3.80	2.34E+00	1.96E+00
AM-243	0.998	74.67 *	66.00	3.05E-01	6.82E-02
CM-243	0.368	209.75 *	3.29	1.42E+00	1.42E+00
		228.14	10.60		
		277.60 *	14.00	3.75E-01	2.57E-01

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510063-07
CP0403S09-10

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 8:09:29AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m 4	77.54	1.73815E-01	6.84		
6	144.15	1.63078E-02	53.71	Tol.	U-235
M 11	270.57	2.95330E-02	20.80		
16	463.31	1.87411E-02	36.28	Sum	
17	510.90	2.77755E-02	28.49		
18	545.52	6.10465E-03	63.74		
19	563.06	1.51453E-02	36.44	Tol.	CS-134
22	658.26	1.00515E-02	49.15	Sum	
24	768.35	1.24800E-02	33.56	Sum	
25	786.95	8.53785E-03	49.64		
M 26	792.28	4.25800E-03	39.82	Sum	
m 27	795.30	1.30597E-02	27.51	Sum	
M 28	836.55	7.12761E-03	52.86		
m 29	840.81	6.79504E-03	55.60		
31	922.81	6.76816E-03	41.87		
32	936.85	1.13889E-02	43.94	Sum	
m 36	1135.23	4.18698E-03	67.35		
m 37	1142.23	4.47152E-03	64.88		
38	1155.74	9.61988E-03	37.33	Sum	
39	1237.63	1.00828E-02	46.94		
40	1321.41	2.70833E-03	55.47	Sum	
41	1327.70	5.47236E-03	40.85		
42	1378.94	4.87805E-03	57.93		
43	1408.81	3.88889E-03	49.71	Tol.	EU-152
44	1442.12	7.84357E-03	29.56		
46	1546.91	4.25214E-03	51.44		
M 47	1589.72	4.53211E-03	31.85		
m 48	1593.39	4.94645E-03	39.71	D-Esc	
49	1622.96	4.64181E-03	30.07		
50	1632.02	3.55556E-03	46.34		
51	1638.14	2.09596E-03	52.49		
52	1662.34	2.96053E-03	58.78		
53	1730.63	3.41374E-03	47.58	Sum	
55	1826.02	2.26389E-03	47.62		
56	1900.37	2.02020E-03	56.90		
57	1994.34	2.22222E-03	35.36		
58	2059.46	1.54167E-03	73.74		
59	2118.27	3.65741E-03	40.28		
60	2193.34	3.33333E-03	28.87		
62	2347.39	2.91667E-03	47.74	Sum	
64	3198.62	1.38889E-03	44.72	Sum	

Analysis Report for 1510063-07
CP0403S09-10

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.95	1460.81 *	10.67	2.06E+01	2.41E+00
ND-147	0.60	91.11 *	28.90	1.30E+00	7.41E-01
		531.02	13.10		
TL-208	0.84	583.14 *	30.22	1.61E+00	3.03E-01
		860.37	4.48		
		2614.66 *	35.85	1.38E+00	2.84E-01
PB-210	1.00	46.50 *	4.25	1.47E+00	1.65E+00
BI-212	0.75	727.17 *	11.80	1.21E+00	5.64E-01
		1620.62	2.75		
PB-212	0.88	238.63 *	44.60	1.55E+00	1.85E-01
		300.09	3.41		
BI-214	0.96	609.31 *	46.30	1.23E+00	2.10E-01
		1120.29 *	15.10	1.21E+00	4.45E-01
		1764.49 *	15.80	1.59E+00	4.46E-01
		2204.22 *	4.98	1.85E+00	8.50E-01
PB-214	0.99	295.21 *	19.19	1.29E+00	3.03E-01
		351.92 *	37.19	1.36E+00	2.21E-01
RA-224	0.88	240.98 *	3.95	3.92E+00	1.23E+00
RA-226	0.99	186.21 *	3.28	3.08E+00	5.92E+00
AC-228	0.95	338.32 *	11.40	1.24E+00	5.09E-01
		911.07 *	27.70	1.30E+00	3.45E-01
		969.11 *	16.60	1.52E+00	5.31E-01
PA-234M	0.94	1001.03 *	0.92	5.06E+00	5.92E+00
TH-234	0.98	63.29 *	3.80	2.34E+00	1.96E+00
AM-243	0.99	74.67 *	66.00	3.05E-01	6.82E-02
CM-243	0.36	209.75 *	3.29	1.42E+00	1.42E+00
		228.14	10.60		
		277.60 *	14.00	3.75E-01	2.57E-01

Analysis Report for 1510063-07

CP0403S09-10

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.958	2.06E+01	2.41E+00	
ND-147	0.607	1.30E+00	7.41E-01	
TL-208	0.843	1.48E+00	2.07E-01	
PB-210	1.000	1.47E+00	1.65E+00	
BI-212	0.755	1.21E+00	5.64E-01	
PB-212	0.889	1.55E+00	1.85E-01	
BI-214	0.962	1.30E+00	1.71E-01	
PB-214	0.995	1.34E+00	1.78E-01	
RA-224	0.882	3.92E+00	1.23E+00	
RA-226	0.992	3.08E+00	5.92E+00	
AC-228	0.950	1.34E+00	2.51E-01	
PA-234M	0.947	5.06E+00	5.92E+00	
TH-234	0.986	2.34E+00	1.96E+00	
AM-243	0.998	3.05E-01	6.82E-02	
CM-243	0.368	4.08E-01	2.53E-01	

? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510063-07
CP0403S09-10

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 8:09:29AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m 4	77.54	1.73815E-01	6.84		
6	144.15	1.63078E-02	53.71	Tol.	U-235
M 11	270.57	2.95330E-02	20.80		
16	463.31	1.87411E-02	36.28	Sum	
17	510.90	2.77755E-02	28.49		
18	545.52	6.10465E-03	63.74		
19	563.06	1.51453E-02	36.44	Tol.	CS-134
22	658.26	1.00515E-02	49.15	Sum	
24	768.35	1.24800E-02	33.56	Sum	
25	786.95	8.53785E-03	49.64		
M 26	792.28	4.25800E-03	39.82	Sum	
m 27	795.30	1.30597E-02	27.51	Sum	
M 28	836.55	7.12761E-03	52.86		
m 29	840.81	6.79504E-03	55.60		
31	922.81	6.76816E-03	41.87		
32	936.85	1.13889E-02	43.94	Sum	
m 36	1135.23	4.18698E-03	67.35		
m 37	1142.23	4.47152E-03	64.88		
38	1155.74	9.61988E-03	37.33	Sum	
39	1237.63	1.00828E-02	46.94		
40	1321.41	2.70833E-03	55.47	Sum	
41	1327.70	5.47236E-03	40.85		
42	1378.94	4.87805E-03	57.93		
43	1408.81	3.88889E-03	49.71	Tol.	EU-152
44	1442.12	7.84357E-03	29.56		
46	1546.91	4.25214E-03	51.44		
M 47	1589.72	4.53211E-03	31.85		
m 48	1593.39	4.94645E-03	39.71	D-Esc	
49	1622.96	4.64181E-03	30.07		
50	1632.02	3.55556E-03	46.34		
51	1638.14	2.09596E-03	52.49		
52	1662.34	2.96053E-03	58.78		
53	1730.63	3.41374E-03	47.58	Sum	
55	1826.02	2.26389E-03	47.62		
56	1900.37	2.02020E-03	56.90		

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Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
57	1994.34	2.22222E-03	35.36		
58	2059.46	1.54167E-03	73.74		
59	2118.27	3.65741E-03	40.28		
60	2193.34	3.33333E-03	28.87		
62	2347.39	2.91667E-03	47.74	Sum	
64	3198.62	1.38889E-03	44.72	Sum	

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59	10.42	4.32E-02	9.03E-01	9.03E-01
+	NA-22	1274.54	99.94	-4.75E-02	7.99E-02	7.99E-02
+	NA-24	1368.53	99.99	-5.79E+11	4.57E+12	5.72E+12
		2754.09	99.86	-7.60E+11		4.57E+12
+	AL-26	1808.65	99.76	-1.74E-03	4.17E-02	4.17E-02
+	K-40	1460.81	* 10.67	2.06E+01	9.10E-01	9.10E-01
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	1.21E-02	7.43E-02	7.43E-02
		78.34	96.00	2.71E-01		9.65E-02
+	SC-46	889.25	99.98	-8.87E-04	1.03E-01	1.03E-01
		1120.51	99.99	1.72E-01		1.66E-01
+	V-48	983.52	99.98	-2.76E-02	2.59E-01	2.59E-01
		1312.10	97.50	-1.24E-01		2.76E-01
+	CR-51	320.08	9.83	-3.09E-01	1.06E+00	1.06E+00
+	MN-54	834.83	99.97	1.47E-02	9.37E-02	9.37E-02
+	CO-56	846.75	99.96	4.43E-02	9.91E-02	9.91E-02
		1037.75	14.03	-2.54E-01		7.12E-01
		1238.25	67.00	1.73E-01		2.36E-01
		1771.40	15.51	-7.41E-01		3.07E-01
		2598.48	16.90	3.83E-02		3.96E-01
+	CO-57	122.06	85.51	3.69E-02	6.42E-02	6.42E-02
		136.48	10.60	4.90E-02		5.27E-01
+	CO-58	810.76	99.40	3.62E-02	9.99E-02	9.99E-02

Analysis Report for 1510063-07
CP0403S09-10

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	FE-59	1099.22	56.50	1.46E-02	2.27E-01	2.27E-01
		1291.56	43.20	-7.07E-02		3.30E-01
+	CO-60	1173.22	100.00	-4.62E-03	7.15E-02	9.23E-02
		1332.49	100.00	-3.81E-03		7.15E-02
+	ZN-65	1115.52	50.75	-5.69E-01	1.73E-01	1.73E-01
+	GA-67	93.31	35.70	1.97E+02	9.70E+01	9.70E+01
		208.95	2.24	1.06E+03		1.32E+03
		300.22	16.00	7.59E+01		1.78E+02
+	SE-75	121.11	16.70	-6.23E-02	1.04E-01	3.59E-01
		136.00	59.20	4.06E-02		1.05E-01
		264.65	59.80	1.18E-02		1.04E-01
		279.53	25.20	1.83E-01		2.88E-01
		400.65	11.40	3.47E-02		6.17E-01
+	RB-82	776.52	13.00	-1.30E+00	1.06E+00	1.06E+00
+	RB-83	520.41	46.00	7.44E-03	1.64E-01	1.64E-01
		529.64	30.30	-6.19E-02		2.54E-01
		552.65	16.40	-9.02E-02		4.95E-01
+	KR-85	513.99	0.43	3.59E+01	2.22E+01	2.22E+01
+	SR-85	513.99	99.27	2.13E-01	1.32E-01	1.32E-01
+	Y-88	898.02	93.40	1.31E-02	5.10E-02	1.06E-01
		1836.01	99.38	5.84E-03		5.10E-02
+	NB-93M	16.57	9.43	-7.87E+01	7.38E+01	7.38E+01
+	NB-94	702.63	100.00	1.54E-02	7.08E-02	7.70E-02
		871.10	100.00	5.83E-03		7.08E-02
+	NB-95	765.79	99.81	-4.11E-03	1.67E-01	1.67E-01
+	NB-95M	235.69	25.00	-6.15E+02	7.07E+01	7.07E+01
+	ZR-95	724.18	43.70	-1.35E-02	1.85E-01	2.81E-01
		756.72	55.30	2.21E-02		1.85E-01
+	MO-99	181.06	6.20	3.68E+01	8.51E+02	1.30E+03
		739.58	12.80	-2.21E+02		8.51E+02
		778.00	4.50	-1.43E+03		2.20E+03
+	RU-103	497.08	89.00	-6.53E-02	1.06E-01	1.06E-01
+	RU-106	621.84	9.80	2.03E-01	7.41E-01	7.41E-01
+	AG-108M	433.93	89.90	-2.56E-02	6.87E-02	6.87E-02
		614.37	90.40	3.57E-03		7.59E-02
		722.95	90.50	-1.78E-02		8.61E-02
+	CD-109	88.03	3.72	-7.60E-02	2.04E+00	2.04E+00
+	AG-110M	657.75	93.14	5.96E-02	9.25E-02	9.25E-02
		677.61	10.53	3.37E-01		7.84E-01
		706.67	16.46	7.95E-02		5.07E-01
		763.93	21.98	2.65E-02		3.82E-01
		884.67	71.63	-4.11E-02		1.14E-01
		1384.27	23.94	4.99E-02		3.54E-01
+	CD-113M	263.70	0.02	1.11E+01	2.25E+02	2.25E+02
+	SN-113	255.12	1.93	5.90E-02	1.02E-01	3.33E+00
		391.69	64.90	-4.44E-03		1.02E-01
+	TE123M	159.00	84.10	-1.47E-02	7.53E-02	7.53E-02

Analysis Report for 1510063-07
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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	SB-124	602.71	97.87	6.72E-02	1.02E-01	1.02E-01
		645.85	7.26	6.36E-01		1.40E+00
		722.78	11.10	-2.02E-01		9.80E-01
		1691.02	49.00	-1.61E-02		1.24E-01
+	I-125	35.49	6.49	-1.91E+00	3.23E+00	3.23E+00
+	SB-125	176.33	6.89	2.91E-01	2.14E-01	8.17E-01
		427.89	29.33	-3.34E-02		2.14E-01
		463.38	10.35	9.57E-01		7.78E-01
		600.56	17.80	1.43E-01		4.18E-01
		635.90	11.32	8.53E-02		6.81E-01
+	SB-126	414.70	83.30	2.07E-01	3.86E-01	4.07E-01
		666.33	99.60	1.67E-02		3.86E-01
		695.00	99.60	-3.09E-03		3.93E-01
		720.50	53.80	1.97E-02		7.14E-01
+	SN-126	87.57	37.00	-7.32E-03	1.97E-01	1.97E-01
+	SB-127	473.00	25.00	2.58E+01	3.87E+01	4.87E+01
		685.20	35.70	7.51E+00		3.87E+01
		783.80	14.70	1.75E+01		1.01E+02
+	I-129	29.78	57.00	-2.78E-01	5.07E-01	5.07E-01
		33.60	13.20	2.56E-01		1.39E+00
		39.58	7.52	-4.95E-03		1.54E+00
+	I-131	284.30	6.05	-1.50E+00	8.21E-01	1.04E+01
		364.48	81.20	1.35E-01		8.21E-01
		636.97	7.26	7.52E+00		1.30E+01
		722.89	1.80	-1.09E+01		5.28E+01
+	TE-132	49.72	13.10	-6.68E+01	3.14E+01	2.76E+02
		228.16	88.00	8.15E+00		3.14E+01
+	BA-133	81.00	33.00	-8.85E-01	8.38E-02	1.93E-01
		302.84	17.80	4.33E-02		3.15E-01
		356.01	60.00	-6.73E-01		8.38E-02
+	I-133	529.87	86.30	-2.08E+08	8.52E+08	8.52E+08
+	XE-133	81.00	38.00	-3.55E+01	7.75E+00	7.75E+00
+	CS-134	563.23	8.38	5.68E-01	7.49E-02	9.23E-01
		569.32	15.43	-8.35E-03		4.40E-01
		604.70	97.60	2.44E-02		7.49E-02
		795.84	85.40	8.73E-02		1.11E-01
		801.93	8.73	1.05E-01		8.44E-01
+	CS-135	268.24	16.00	4.31E-01	4.14E-01	4.14E-01
+	@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@	1260.41	28.60	1.00E+26		1.00E+26
	@	1678.03	9.54	1.00E+26		1.00E+26
+	CS-136	153.22	7.46	1.32E+00	3.12E-01	3.29E+00
		163.89	4.61	3.05E+00		5.35E+00
		176.55	13.56	6.69E-01		1.88E+00
		273.65	12.66	-3.84E+00		2.13E+00
		340.57	48.50	-3.59E-02		7.35E-01
		818.50	99.70	-1.98E-01		3.12E-01
		1048.07	79.60	-2.81E-01		4.06E-01
		1235.34	19.70	1.24E+00		2.72E+00

Analysis Report for 1510063-07
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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	CS-137	661.65	85.12	7.23E-03	9.57E-02	9.57E-02
+	LA-138	788.74	34.00	-2.81E-02	1.04E-01	2.28E-01
		1435.80	66.00	1.66E-02		1.04E-01
+	CE-139	165.85	80.35	-3.87E-02	7.59E-02	7.59E-02
+	BA-140	162.64	6.70	-2.95E-01	1.16E+00	3.83E+00
		304.84	4.50	-2.83E+00		5.48E+00
		423.70	3.20	4.51E+00		9.44E+00
		437.55	2.00	6.27E+00		1.64E+01
		537.32	25.00	2.02E-02		1.16E+00
+	LA-140	328.77	20.50	6.61E-01	4.05E-01	1.39E+00
		487.03	45.50	-1.01E-01		6.94E-01
		815.85	23.50	2.67E-01		1.42E+00
		1596.49	95.49	4.05E-02		4.05E-01
+	CE-141	145.44	48.40	1.93E-02	2.08E-01	2.08E-01
+	CE-143	57.36	11.80	6.23E+05	4.78E+05	1.39E+06
		293.26	42.00	1.24E+06		4.78E+05
		664.55	5.20	-4.90E+05		3.28E+06
+	CE-144	133.54	10.80	2.56E-01	5.26E-01	5.26E-01
+	PM-144	476.78	42.00	1.91E-02	6.99E-02	1.62E-01
		618.01	98.60	-2.57E-02		6.99E-02
		696.49	99.49	-4.75E-03		8.08E-02
+	PM-145	36.85	21.70	-2.42E-01	3.38E-01	6.30E-01
		37.36	39.70	2.21E-02		3.38E-01
		42.30	15.10	8.93E-02		6.46E-01
		72.40	2.31	-9.35E-01		3.49E+00
+	PM-146	453.90	39.94	2.13E-02	1.68E-01	1.68E-01
		735.90	14.01	1.82E-01		5.06E-01
		747.13	13.10	2.80E-01		5.64E-01
+	ND-147	91.11	* 28.90	1.30E+00	3.14E+00	3.14E+00
		531.02	13.10	2.24E+00		3.17E+00
+	PM-149	285.90	3.10	-5.26E+02	1.51E+04	1.51E+04
+	EU-152	121.78	20.50	1.43E-01	2.49E-01	2.49E-01
		244.69	5.40	-5.59E-01		1.12E+00
		344.27	19.13	-4.22E-02		2.65E-01
		778.89	9.20	-4.09E-02		7.27E-01
		964.01	10.40	8.86E-02		9.01E-01
		1085.78	7.22	3.36E-01		1.21E+00
		1112.02	9.60	1.00E-01		8.27E-01
		1407.95	14.94	1.83E-01		5.14E-01
+	GD-153	97.43	31.30	1.30E-01	1.85E-01	1.85E-01
		103.18	22.20	7.24E-02		2.62E-01
+	EU-154	123.07	40.50	-8.00E-02	1.24E-01	1.24E-01
		723.30	19.70	-8.22E-02		3.98E-01
		873.19	11.50	-4.36E-02		5.96E-01
		996.32	10.30	-3.15E-02		7.55E-01
		1004.76	17.90	3.22E-02		5.21E-01
		1274.45	35.50	-1.32E-01		2.22E-01
+	EU-155	86.50	30.90	-1.75E-02	2.35E-01	2.35E-01
		105.30	20.70	-1.59E-01		2.58E-01

Analysis Report for 1510063-07
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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	EU-156	811.77	10.40	3.46E-01	2.62E+00	2.62E+00
		1153.47	7.20	-1.52E-01		4.92E+00
		1230.71	8.90	-7.48E-01		3.93E+00
+	HO-166M	184.41	72.60	1.97E-01	9.99E-02	9.99E-02
		280.45	29.60	-1.87E-02		1.87E-01
		410.94	11.10	2.11E-01		6.40E-01
		711.69	54.10	6.58E-02		1.38E-01
+	TM-171	66.72	0.14	-5.74E+01	5.35E+01	5.35E+01
+	HF-172	81.75	4.52	-1.21E+00	4.55E-01	1.46E+00
		125.81	11.30	-4.75E-01		4.55E-01
		181.53	20.60	-1.10E+00	2.49E+00	5.13E+00
+	LU-172	810.06	16.63	-1.66E+00		8.84E+00
		912.12	15.25	4.86E+01		2.07E+01
		1093.66	62.50	-5.76E-01		2.49E+00
+	LU-173	100.72	5.24	9.56E-01	3.44E-01	1.07E+00
		272.11	21.20	4.77E-01		3.44E-01
+	HF-175	343.40	84.00	-2.35E-02	8.34E-02	8.34E-02
+	LU-176	88.34	13.30	1.19E+00	5.50E-02	5.67E-01
		201.83	86.00	1.31E-02		6.47E-02
		306.78	94.00	2.96E-03		5.50E-02
+	TA-182	67.75	41.20	3.29E-02	2.03E-01	2.03E-01
		1121.30	34.90	5.80E-01		4.56E-01
		1189.05	16.23	1.47E-01		6.59E-01
		1221.41	26.98	1.65E-02		4.46E-01
		1231.02	11.44	-1.85E-01		9.70E-01
+	IR-192	308.46	29.68	-4.27E-02	1.75E-01	2.31E-01
		468.07	48.10	3.91E-03		1.75E-01
+	HG-203	279.19	77.30	8.48E-02	1.22E-01	1.22E-01
+	BI-207	569.67	97.72	4.01E-03	6.71E-02	6.71E-02
+	TL-208	1063.62	74.90	3.38E-02		1.07E-01
		583.14	* 30.22	1.61E+00	1.57E-01	3.40E-01
		860.37	4.48	8.19E-01		2.00E+00
+	BI-210M	2614.66	* 35.85	1.38E+00		1.57E-01
		262.00	45.00	-3.76E-02	1.13E-01	1.13E-01
+	PB-210	300.00	23.00	1.10E-01		2.59E-01
		46.50	* 4.25	1.47E+00	2.69E+00	2.69E+00
+	PB-211	404.84	2.90	-3.66E-01	2.01E+00	2.01E+00
		831.96	2.90	-1.53E+00		2.69E+00
+	BI-212	727.17	* 11.80	1.21E+00	8.36E-01	8.36E-01
		1620.62	2.75	1.77E-01		2.30E+00
+	PB-212	238.63	* 44.60	1.55E+00	2.67E-01	2.67E-01
		300.09	3.41	7.45E-01		1.75E+00
+	BI-214	609.31	* 46.30	1.23E+00	2.13E-01	2.13E-01
		1120.29	* 15.10	1.21E+00		2.01E+00
		1764.49	* 15.80	1.59E+00		4.12E-01
		2204.22	* 4.98	1.85E+00		8.10E-01
+	PB-214	295.21	* 19.19	1.29E+00	2.50E-01	4.05E-01
		351.92	* 37.19	1.36E+00		2.50E-01

Analysis Report for 1510063-07
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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	RN-219	401.80		6.50	-3.70E-02	9.09E-01	9.09E-01
+	RA-223	323.87		3.88	-6.70E-01	1.30E+00	1.30E+00
+	RA-224	240.98	*	3.95	3.92E+00	3.01E+00	3.01E+00
+	RA-225	40.00		31.00	-4.55E-03	1.42E+00	1.42E+00
+	RA-226	186.21	*	3.28	3.08E+00	2.94E+00	2.94E+00
+	TH-227	50.10		8.40	-2.14E-01	5.84E-01	8.84E-01
		236.00		11.50	-5.08E+00		5.84E-01
		256.20		6.30	-3.68E-01		8.30E-01
+	AC-228	338.32	*	11.40	1.24E+00	4.45E-01	7.70E-01
		911.07	*	27.70	1.30E+00		4.45E-01
		969.11	*	16.60	1.52E+00		7.42E-01
+	TH-230	48.44		16.90	1.23E-01	5.10E-01	5.10E-01
		62.85		4.60	2.51E+00		1.79E+00
		67.67		0.37	3.08E+00		1.90E+01
+	PA-231	283.67		1.60	-7.16E-01	2.42E+00	3.23E+00
		302.67		2.30	3.33E-01		2.42E+00
+	TH-231	25.64		14.70	-8.54E-01	1.05E+00	4.15E+00
		84.21		6.40	-1.56E+00		1.05E+00
+	PA-233	311.98		38.60	-6.64E-02	2.97E-01	2.97E-01
+	PA-234	131.20		20.40	-1.65E-01	2.54E-01	2.54E-01
		733.99		8.80	-4.88E-02		7.48E-01
		946.00		12.00	-1.20E-01		5.99E-01
+	PA-234M	1001.03	*	0.92	5.06E+00	9.65E+00	9.65E+00
+	TH-234	63.29	*	3.80	2.34E+00	3.19E+00	3.19E+00
+	U-235	143.76		10.50	3.53E-01	5.20E-01	5.20E-01
		163.35		4.70	6.47E-01		1.14E+00
		205.31		4.70	-2.24E-02		1.17E+00
+	NP-237	86.50		12.60	-4.26E-02	5.71E-01	5.71E-01
+	NP-239	106.10		22.70	-7.37E+02	1.20E+03	1.20E+03
		228.18		10.70	7.16E+02		2.76E+03
		277.60		14.10	1.48E+03		2.28E+03
+	AM-241	59.54		35.90	4.54E-02	2.03E-01	2.03E-01
+	AM-243	74.67	*	66.00	3.05E-01	1.91E-01	1.91E-01
+	CM-243	209.75	*	3.29	1.42E+00	5.43E-01	2.31E+00
		228.14		10.60	1.41E-01		5.43E-01
		277.60	*	14.00	3.75E-01		1.04E+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

? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

Analysis Report for 1510063-07
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NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
BE-7	477.59	10.42	9.03E-01	9.03E-01	4.32E-02	4.27E-01
NA-22	1274.54	99.94	7.99E-02	7.99E-02	-4.75E-02	3.62E-02
NA-24	1368.53	99.99	5.72E+12	4.57E+12	-5.79E+11	2.49E+12
	2754.09	99.86	4.57E+12		-7.60E+11	1.77E+12
AL-26	1808.65	99.76	4.17E-02	4.17E-02	-1.74E-03	1.62E-02
+ K-40	1460.81	* 10.67	9.10E-01	9.10E-01	2.06E+01	4.17E-01
@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
TI-44	67.88	94.40	7.43E-02	7.43E-02	1.21E-02	3.63E-02
	78.34	96.00	9.65E-02		2.71E-01	4.75E-02
SC-46	889.25	99.98	1.03E-01	1.03E-01	-8.87E-04	4.80E-02
	1120.51	99.99	1.66E-01		1.72E-01	7.89E-02
V-48	983.52	99.98	2.59E-01	2.59E-01	-2.76E-02	1.19E-01
	1312.10	97.50	2.76E-01		-1.24E-01	1.24E-01
CR-51	320.08	9.83	1.06E+00	1.06E+00	-3.09E-01	5.04E-01
MN-54	834.83	99.97	9.37E-02	9.37E-02	1.47E-02	4.40E-02
CO-56	846.75	99.96	9.91E-02	9.91E-02	4.43E-02	4.61E-02
	1037.75	14.03	7.12E-01		-2.54E-01	3.27E-01
	1238.25	67.00	2.36E-01		1.73E-01	1.11E-01
	1771.40	15.51	3.07E-01		-7.41E-01	1.15E-01
	2598.48	16.90	3.96E-01		3.83E-02	1.57E-01
CO-57	122.06	85.51	6.42E-02	6.42E-02	3.69E-02	3.12E-02
	136.48	10.60	5.27E-01		4.90E-02	2.55E-01
CO-58	810.76	99.40	9.99E-02	9.99E-02	3.62E-02	4.65E-02
FE-59	1099.22	56.50	2.27E-01	2.27E-01	1.46E-02	1.05E-01
	1291.56	43.20	3.30E-01		-7.07E-02	1.51E-01
CO-60	1173.22	100.00	9.23E-02	7.15E-02	-4.62E-03	4.27E-02
	1332.49	100.00	7.15E-02		-3.81E-03	3.19E-02
ZN-65	1115.52	50.75	1.73E-01	1.73E-01	-5.69E-01	7.96E-02
GA-67	93.31	35.70	9.70E+01	9.70E+01	1.97E+02	4.75E+01
	208.95	2.24	1.32E+03		1.06E+03	6.37E+02
	300.22	16.00	1.78E+02		7.59E+01	8.54E+01
SE-75	121.11	16.70	3.59E-01	1.04E-01	-6.23E-02	1.74E-01
	136.00	59.20	1.05E-01		4.06E-02	5.11E-02
	264.65	59.80	1.04E-01		1.18E-02	4.96E-02
	279.53	25.20	2.88E-01		1.83E-01	1.39E-01
	400.65	11.40	6.17E-01		3.47E-02	2.93E-01
RB-82	776.52	13.00	1.06E+00	1.06E+00	-1.30E+00	4.88E-01
RB-83	520.41	46.00	1.64E-01	1.64E-01	7.44E-03	7.69E-02
	529.64	30.30	2.54E-01		-6.19E-02	1.19E-01
	552.65	16.40	4.95E-01		-9.02E-02	2.33E-01

Analysis Report for 1510063-07

CP0403S09-10

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
KR-85	513.99	0.43	2.22E+01	2.22E+01	3.59E+01	1.07E+01
SR-85	513.99	99.27	1.32E-01	1.32E-01	2.13E-01	6.35E-02
Y-88	898.02	93.40	1.06E-01	5.10E-02	1.31E-02	4.92E-02
	1836.01	99.38	5.10E-02		5.84E-03	1.98E-02
NB-93M	16.57	9.43	7.38E+01	7.38E+01	-7.87E+01	3.42E+01
NB-94	702.63	100.00	7.70E-02	7.08E-02	1.54E-02	3.62E-02
	871.10	100.00	7.08E-02		5.83E-03	3.27E-02
NB-95	765.79	99.81	1.67E-01	1.67E-01	-4.11E-03	7.90E-02
NB-95M	235.69	25.00	7.07E+01	7.07E+01	-6.15E+02	3.42E+01
ZR-95	724.18	43.70	2.81E-01	1.85E-01	-1.35E-02	1.33E-01
	756.72	55.30	1.85E-01		2.21E-02	8.67E-02
MO-99	181.06	6.20	1.30E+03	8.51E+02	3.68E+01	6.27E+02
	739.58	12.80	8.51E+02		-2.21E+02	3.97E+02
	778.00	4.50	2.20E+03		-1.43E+03	1.02E+03
RU-103	497.08	89.00	1.06E-01	1.06E-01	-6.53E-02	4.97E-02
RU-106	621.84	9.80	7.41E-01	7.41E-01	2.03E-01	3.48E-01
AG-108M	433.93	89.90	6.87E-02	6.87E-02	-2.56E-02	3.25E-02
	614.37	90.40	7.59E-02		3.57E-03	3.56E-02
	722.95	90.50	8.61E-02		-1.78E-02	4.04E-02
CD-109	88.03	3.72	2.04E+00	2.04E+00	-7.60E-02	1.00E+00
AG-110M	657.75	93.14	9.25E-02	9.25E-02	5.96E-02	4.37E-02
	677.61	10.53	7.84E-01		3.37E-01	3.69E-01
	706.67	16.46	5.07E-01		7.95E-02	2.38E-01
	763.93	21.98	3.82E-01		2.65E-02	1.79E-01
	884.67	71.63	1.14E-01		-4.11E-02	5.26E-02
	1384.27	23.94	3.54E-01		4.99E-02	1.59E-01
CD-113M	263.70	0.02	2.25E+02	2.25E+02	1.11E+01	1.08E+02
SN-113	255.12	1.93	3.33E+00	1.02E-01	5.90E-02	1.60E+00
	391.69	64.90	1.02E-01		-4.44E-03	4.85E-02
TE123M	159.00	84.10	7.53E-02	7.53E-02	-1.47E-02	3.65E-02
SB-124	602.71	97.87	1.02E-01	1.02E-01	6.72E-02	4.80E-02
	645.85	7.26	1.40E+00		6.36E-01	6.56E-01
	722.78	11.10	9.80E-01		-2.02E-01	4.60E-01
	1691.02	49.00	1.24E-01		-1.61E-02	4.94E-02
I-125	35.49	6.49	3.23E+00	3.23E+00	-1.91E+00	1.57E+00
SB-125	176.33	6.89	8.17E-01	2.14E-01	2.91E-01	3.95E-01
	427.89	29.33	2.14E-01		-3.34E-02	1.02E-01
	463.38	10.35	7.78E-01		9.57E-01	3.72E-01
	600.56	17.80	4.18E-01		1.43E-01	1.97E-01
	635.90	11.32	6.81E-01		8.53E-02	3.21E-01
SB-126	414.70	83.30	4.07E-01	3.86E-01	2.07E-01	1.94E-01
	666.33	99.60	3.86E-01		1.67E-02	1.82E-01
	695.00	99.60	3.93E-01		-3.09E-03	1.85E-01
	720.50	53.80	7.14E-01		1.97E-02	3.35E-01
SN-126	87.57	37.00	1.97E-01	1.97E-01	-7.32E-03	9.65E-02
SB-127	473.00	25.00	4.87E+01	3.87E+01	2.58E+01	2.31E+01
	685.20	35.70	3.87E+01		7.51E+00	1.82E+01
	783.80	14.70	1.01E+02		1.75E+01	4.75E+01
I-129	29.78	57.00	5.07E-01	5.07E-01	-2.78E-01	2.46E-01
	33.60	13.20	1.39E+00		2.56E-01	6.76E-01
	39.58	7.52	1.54E+00		-4.95E-03	7.48E-01
I-131	284.30	6.05	1.04E+01	8.21E-01	-1.50E+00	4.94E+00
	364.48	81.20	8.21E-01		1.35E-01	3.89E-01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
I-131	636.97	7.26	1.30E+01	8.21E-01	7.52E+00	6.16E+00
	722.89	1.80	5.28E+01		-1.09E+01	2.48E+01
TE-132	49.72	13.10	2.76E+02	3.14E+01	-6.68E+01	1.34E+02
	228.16	88.00	3.14E+01		8.15E+00	1.51E+01
BA-133	81.00	33.00	1.93E-01	8.38E-02	-8.85E-01	9.44E-02
	302.84	17.80	3.15E-01		4.33E-02	1.50E-01
	356.01	60.00	8.38E-02		-6.73E-01	3.96E-02
I-133	529.87	86.30	8.52E+08	8.52E+08	-2.08E+08	4.00E+08
XE-133	81.00	38.00	7.75E+00	7.75E+00	-3.55E+01	3.78E+00
CS-134	563.23	8.38	9.23E-01	7.49E-02	5.68E-01	4.38E-01
	569.32	15.43	4.40E-01		-8.35E-03	2.07E-01
	604.70	97.60	7.49E-02		2.44E-02	3.53E-02
	795.84	85.40	1.11E-01		8.73E-02	5.22E-02
	801.93	8.73	8.44E-01		1.05E-01	3.92E-01
CS-135	268.24	16.00	4.14E-01	4.14E-01	4.31E-01	2.00E-01
@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	1260.41	28.60	1.00E+26		1.00E+26	1.00E+20
@	1678.03	9.54	1.00E+26		1.00E+26	1.00E+20
CS-136	153.22	7.46	3.29E+00	3.12E-01	1.32E+00	1.60E+00
	163.89	4.61	5.35E+00		3.05E+00	2.59E+00
	176.55	13.56	1.88E+00		6.69E-01	9.09E-01
	273.65	12.66	2.13E+00		-3.84E+00	1.02E+00
	340.57	48.50	7.35E-01		-3.59E-02	3.55E-01
	818.50	99.70	3.12E-01		-1.98E-01	1.44E-01
	1048.07	79.60	4.06E-01		-2.81E-01	1.85E-01
	1235.34	19.70	2.72E+00		1.24E+00	1.28E+00
CS-137	661.65	85.12	9.57E-02	9.57E-02	7.23E-03	4.53E-02
LA-138	788.74	34.00	2.28E-01	1.04E-01	-2.81E-02	1.06E-01
	1435.80	66.00	1.04E-01		1.66E-02	4.59E-02
CE-139	165.85	80.35	7.59E-02	7.59E-02	-3.87E-02	3.67E-02
BA-140	162.64	6.70	3.83E+00	1.16E+00	-2.95E-01	1.85E+00
	304.84	4.50	5.48E+00		-2.83E+00	2.60E+00
	423.70	3.20	9.44E+00		4.51E+00	4.48E+00
	437.55	2.00	1.64E+01		6.27E+00	7.81E+00
	537.32	25.00	1.16E+00		2.02E-02	5.43E-01
LA-140	328.77	20.50	1.39E+00	4.05E-01	6.61E-01	6.62E-01
	487.03	45.50	6.94E-01		-1.01E-01	3.29E-01
	815.85	23.50	1.42E+00		2.67E-01	6.56E-01
	1596.49	95.49	4.05E-01		4.05E-02	1.81E-01
CE-141	145.44	48.40	2.08E-01	2.08E-01	1.93E-02	1.01E-01
CE-143	57.36	11.80	1.39E+06	4.78E+05	6.23E+05	6.78E+05
	293.26	42.00	4.78E+05		1.24E+06	2.32E+05
	664.55	5.20	3.28E+06		-4.90E+05	1.54E+06
CE-144	133.54	10.80	5.26E-01	5.26E-01	2.56E-01	2.55E-01
PM-144	476.78	42.00	1.62E-01	6.99E-02	1.91E-02	7.64E-02
	618.01	98.60	6.99E-02		-2.57E-02	3.27E-02
	696.49	99.49	8.08E-02		-4.75E-03	3.80E-02
PM-145	36.85	21.70	6.30E-01	3.38E-01	-2.42E-01	3.05E-01
	37.36	39.70	3.38E-01		2.21E-02	1.64E-01
	42.30	15.10	6.46E-01		8.93E-02	3.13E-01
	72.40	2.31	3.49E+00		-9.35E-01	1.71E+00
PM-146	453.90	39.94	1.68E-01	1.68E-01	2.13E-02	7.98E-02
	735.90	14.01	5.06E-01		1.82E-01	2.36E-01

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	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	PM-146	747.13	13.10	5.64E-01	1.68E-01	2.80E-01	2.63E-01
+	ND-147	91.11 *	28.90	3.14E+00	3.14E+00	1.30E+00	1.56E+00
		531.02	13.10	3.17E+00		2.24E+00	1.50E+00
	PM-149	285.90	3.10	1.51E+04	1.51E+04	-5.26E+02	7.23E+03
	EU-152	121.78	20.50	2.49E-01	2.49E-01	1.43E-01	1.21E-01
		244.69	5.40	1.12E+00		-5.59E-01	5.42E-01
		344.27	19.13	2.65E-01		-4.22E-02	1.25E-01
		778.89	9.20	7.27E-01		-4.09E-02	3.36E-01
		964.01	10.40	9.01E-01		8.86E-02	4.22E-01
		1085.78	7.22	1.21E+00		3.36E-01	5.58E-01
		1112.02	9.60	8.27E-01		1.00E-01	3.79E-01
		1407.95	14.94	5.14E-01		1.83E-01	2.30E-01
	GD-153	97.43	31.30	1.85E-01	1.85E-01	1.30E-01	8.99E-02
		103.18	22.20	2.62E-01		7.24E-02	1.27E-01
	EU-154	123.07	40.50	1.24E-01	1.24E-01	-8.00E-02	6.01E-02
		723.30	19.70	3.98E-01		-8.22E-02	1.87E-01
		873.19	11.50	5.96E-01		-4.36E-02	2.74E-01
		996.32	10.30	7.55E-01		-3.15E-02	3.48E-01
		1004.76	17.90	5.21E-01		3.22E-02	2.43E-01
		1274.45	35.50	2.22E-01		-1.32E-01	1.00E-01
	EU-155	86.50	30.90	2.35E-01	2.35E-01	-1.75E-02	1.15E-01
		105.30	20.70	2.58E-01		-1.59E-01	1.26E-01
	EU-156	811.77	10.40	2.62E+00	2.62E+00	3.46E-01	1.22E+00
		1153.47	7.20	4.92E+00		-1.52E-01	2.28E+00
		1230.71	8.90	3.93E+00		-7.48E-01	1.81E+00
	HO-166M	184.41	72.60	9.99E-02	9.99E-02	1.97E-01	4.87E-02
		280.45	29.60	1.87E-01		-1.87E-02	8.96E-02
		410.94	11.10	6.40E-01		2.11E-01	3.06E-01
		711.69	54.10	1.38E-01		6.58E-02	6.47E-02
	TM-171	66.72	0.14	5.35E+01	5.35E+01	-5.74E+01	2.62E+01
	HF-172	81.75	4.52	1.46E+00	4.55E-01	-1.21E+00	7.13E-01
		125.81	11.30	4.55E-01		-4.75E-01	2.21E-01
	LU-172	181.53	20.60	5.13E+00	2.49E+00	-1.10E+00	2.48E+00
		810.06	16.63	8.84E+00		-1.66E+00	4.10E+00
		912.12	15.25	2.07E+01		4.86E+01	9.97E+00
		1093.66	62.50	2.49E+00		-5.76E-01	1.14E+00
	LU-173	100.72	5.24	1.07E+00	3.44E-01	9.56E-01	5.21E-01
		272.11	21.20	3.44E-01		4.77E-01	1.66E-01
	HF-175	343.40	84.00	8.34E-02	8.34E-02	-2.35E-02	3.96E-02
	LU-176	88.34	13.30	5.67E-01	5.50E-02	1.19E+00	2.78E-01
		201.83	86.00	6.47E-02		1.31E-02	3.12E-02
		306.78	94.00	5.50E-02		2.96E-03	2.62E-02
	TA-182	67.75	41.20	2.03E-01	2.03E-01	3.29E-02	9.92E-02
		1121.30	34.90	4.56E-01		5.80E-01	2.17E-01
		1189.05	16.23	6.59E-01		1.47E-01	3.04E-01
		1221.41	26.98	4.46E-01		1.65E-02	2.07E-01
		1231.02	11.44	9.70E-01		-1.85E-01	4.47E-01
	IR-192	308.46	29.68	2.31E-01	1.75E-01	-4.27E-02	1.10E-01
		468.07	48.10	1.75E-01		3.91E-03	8.29E-02
	HG-203	279.19	77.30	1.22E-01	1.22E-01	8.48E-02	5.89E-02
	BI-207	569.67	97.72	6.71E-02	6.71E-02	4.01E-03	3.15E-02
		1063.62	74.90	1.07E-01		3.38E-02	4.90E-02
+	TL-208	583.14 *	30.22	3.40E-01	1.57E-01	1.61E+00	1.63E-01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
TL-208	860.37	4.48	2.00E+00	1.57E-01	8.19E-01	9.38E-01
	2614.66 *	35.85	1.57E-01		1.38E+00	6.34E-02
BI-210M	262.00	45.00	1.13E-01	1.13E-01	-3.76E-02	5.41E-02
	300.00	23.00	2.59E-01		1.10E-01	1.24E-01
+ PB-210	46.50 *	4.25	2.69E+00	2.69E+00	1.47E+00	1.32E+00
PB-211	404.84	2.90	2.01E+00	2.01E+00	-3.66E-01	9.50E-01
	831.96	2.90	2.69E+00		-1.53E+00	1.25E+00
+ BI-212	727.17 *	11.80	8.36E-01	8.36E-01	1.21E+00	3.98E-01
	1620.62	2.75	2.30E+00		1.77E-01	9.89E-01
+ PB-212	238.63 *	44.60	2.67E-01	2.67E-01	1.55E+00	1.31E-01
	300.09	3.41	1.75E+00		7.45E-01	8.38E-01
+ BI-214	609.31 *	46.30	2.13E-01	2.13E-01	1.23E+00	1.02E-01
	1120.29 *	15.10	2.01E+00		1.21E+00	9.84E-01
	1764.49 *	15.80	4.12E-01		1.59E+00	1.77E-01
	2204.22 *	4.98	8.10E-01		1.85E+00	3.02E-01
+ PB-214	295.21 *	19.19	4.05E-01	2.50E-01	1.29E+00	1.96E-01
	351.92 *	37.19	2.50E-01		1.36E+00	1.21E-01
RN-219	401.80	6.50	9.09E-01	9.09E-01	-3.70E-02	4.31E-01
RA-223	323.87	3.88	1.30E+00	1.30E+00	-6.70E-01	6.14E-01
+ RA-224	240.98 *	3.95	3.01E+00	3.01E+00	3.92E+00	1.48E+00
RA-225	40.00	31.00	1.42E+00	1.42E+00	-4.55E-03	6.88E-01
+ RA-226	186.21 *	3.28	2.94E+00	2.94E+00	3.08E+00	1.44E+00
TH-227	50.10	8.40	8.84E-01	5.84E-01	-2.14E-01	4.29E-01
	236.00	11.50	5.84E-01		-5.08E+00	2.83E-01
	256.20	6.30	8.30E-01		-3.68E-01	3.97E-01
+ AC-228	338.32 *	11.40	7.70E-01	4.45E-01	1.24E+00	3.73E-01
	911.07 *	27.70	4.45E-01		1.30E+00	2.12E-01
	969.11 *	16.60	7.42E-01		1.52E+00	3.53E-01
TH-230	48.44	16.90	5.10E-01	5.10E-01	1.23E-01	2.48E-01
	62.85	4.60	1.79E+00		2.51E+00	8.75E-01
	67.67	0.37	1.90E+01		3.08E+00	9.27E+00
PA-231	283.67	1.60	3.23E+00	2.42E+00	-7.16E-01	1.54E+00
	302.67	2.30	2.42E+00		3.33E-01	1.16E+00
TH-231	25.64	14.70	4.15E+00	1.05E+00	-8.54E-01	2.01E+00
	84.21	6.40	1.05E+00		-1.56E+00	5.13E-01
PA-233	311.98	38.60	2.97E-01	2.97E-01	-6.64E-02	1.41E-01
PA-234	131.20	20.40	2.54E-01	2.54E-01	-1.65E-01	1.23E-01
	733.99	8.80	7.48E-01		-4.88E-02	3.47E-01
	946.00	12.00	5.99E-01		-1.20E-01	2.75E-01
+ PA-234M	1001.03 *	0.92	9.65E+00	9.65E+00	5.06E+00	4.49E+00
+ TH-234	63.29 *	3.80	3.19E+00	3.19E+00	2.34E+00	1.57E+00
U-235	143.76	10.50	5.20E-01	5.20E-01	3.53E-01	2.53E-01
	163.35	4.70	1.14E+00		6.47E-01	5.50E-01
	205.31	4.70	1.17E+00		-2.24E-02	5.65E-01
NP-237	86.50	12.60	5.71E-01	5.71E-01	-4.26E-02	2.80E-01
NP-239	106.10	22.70	1.20E+03	1.20E+03	-7.37E+02	5.82E+02
	228.18	10.70	2.76E+03		7.16E+02	1.33E+03
	277.60	14.10	2.28E+03		1.48E+03	1.10E+03
AM-241	59.54	35.90	2.03E-01	2.03E-01	4.54E-02	9.92E-02
+ AM-243	74.67 *	66.00	1.91E-01	1.91E-01	3.05E-01	9.44E-02
+ CM-243	209.75 *	3.29	2.31E+00	5.43E-01	1.42E+00	1.13E+00
	228.14	10.60	5.43E-01		1.41E-01	2.62E-01
	277.60 *	14.00	1.04E+00		3.75E-01	5.13E-01

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- + = 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
-

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

<i>Creation Date</i>	<i>Comment</i>	<i>User</i>
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No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP0403S09-10

Elapsed Live time: 3600

Elapsed Real Time: 3601

Channel	1	9	17	25	33	41	49	57	65	73	81	89	97	105	113	121	129	137	145	153	161	169	177	185	193	201	209	217	225	233	241	249	257	265	273	281	289	297	305	313	321	329	337	345	353	361																																																																																																																																																																																																																																																																																																																																																											
1:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																																																																																																																																																																																																																																																																																																																																								
9:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																																																																																																																																																																																																																																																																																																																																						
17:	0	0	56	96	80	97	77	71	57	69	77	63	67	56	65	72	72	64	65	62	63	67	76	80	41:	71	66	78	61	72	89	172	77	49:	73	75	73	89	99	94	85	104	57:	98	104	122	101	123	130	165	239	65:	158	144	133	127	133	121	114	121	73:	160	165	373	274	393	539	130	122	81:	140	131	100	144	159	117	191	219	89:	138	183	179	125	281	219	125	92	97:	77	68	108	102	70	84	92	76	105:	89	104	93	70	103	69	58	72	113:	100	69	83	74	54	77	74	75	121:	83	62	75	77	57	87	69	59	129:	97	83	62	70	79	71	77	79	137:	69	71	58	68	76	53	73	95	145:	86	70	53	63	71	71	59	58	153:	65	72	65	76	61	69	68	69	161:	60	64	52	71	68	61	49	54	169:	79	51	63	63	67	61	60	72	177:	61	51	67	53	52	59	53	54	185:	73	183	156	63	56	63	67	55	193:	45	39	52	43	48	61	56	49	201:	60	58	45	57	47	55	46	53	209:	73	93	54	46	55	51	43	40	217:	41	35	50	49	47	49	43	56	225:	40	45	59	40	64	38	44	43	233:	39	37	46	48	43	151	592	247	241:	107	143	102	42	36	36	33	23	249:	38	29	26	37	49	41	31	31	257:	34	36	44	33	30	30	27	39	265:	29	37	34	30	35	80	87	51	273:	31	43	30	44	37	68	42	34	281:	34	36	26	35	17	32	34	32	289:	32	28	31	34	31	35	139	189	297:	53	30	37	36	51	28	24	26	305:	27	23	29	25	27	30	22	28	313:	34	28	36	33	28	26	19	33	321:	17	22	21	27	15	29	22	39	329:	50	22	23	24	31	24	15	17	337:	26	77	137	45	28	30	20	23	345:	26	16	20	20	27	19	40	267	353:	221	25	26	14	17	16	22	20	361:	26	20	26	25	25	21	17	19

369: 21 27 18 20 19 11 16 29

Sample Title: CP0403S09-10

Channel	1	2	3	4	5	6	7	8
377:	15	25	17	21	24	24	23	23
385:	16	18	12	24	30	28	25	15
393:	21	18	18	20	25	21	22	21
401:	25	28	22	20	26	24	19	19
409:	26	31	22	22	25	20	25	15
417:	18	19	8	11	11	28	17	14
425:	24	12	15	18	15	20	11	17
433:	21	13	21	21	9	19	21	26
441:	20	11	21	11	11	14	20	18
449:	17	14	7	23	22	18	15	16
457:	22	15	20	12	18	21	43	38
465:	22	16	13	11	12	18	17	13
473:	15	16	16	17	11	14	15	17
481:	17	12	17	21	16	16	13	15
489:	15	11	15	20	16	9	10	13
497:	10	11	12	11	8	16	10	17
505:	13	12	17	14	29	44	82	64
513:	28	11	12	10	12	7	11	12
521:	12	14	12	11	11	11	5	13
529:	14	17	11	12	8	21	8	11
537:	19	8	9	10	11	9	7	12
545:	16	19	12	12	8	12	14	11
553:	13	10	11	13	22	9	12	14
561:	15	21	23	16	13	12	14	11
569:	7	13	14	14	10	14	6	14
577:	5	13	9	21	25	24	136	151
585:	41	12	5	15	12	12	15	17
593:	11	13	11	12	13	10	16	14
601:	17	14	14	11	16	5	8	22
609:	139	221	50	14	11	14	12	9
617:	10	11	8	9	13	13	12	11
625:	14	10	8	14	16	13	10	13
633:	11	11	14	13	15	13	17	16
641:	11	6	13	10	8	12	15	11
649:	15	11	8	16	8	5	7	12
657:	15	15	19	18	13	14	11	15
665:	13	13	11	10	15	14	11	12
673:	4	11	11	8	15	16	14	10
681:	12	12	10	9	10	10	11	18
689:	9	10	10	11	19	18	10	9
697:	7	11	15	12	10	10	9	15
705:	12	15	8	9	13	10	14	9
713:	8	12	10	4	11	7	16	6
721:	10	16	14	8	6	21	34	41
729:	21	8	9	7	6	5	11	10
737:	7	12	12	10	8	10	8	9
745:	14	7	8	12	5	12	7	3
753:	11	11	11	13	9	9	10	6
761:	10	11	9	10	10	10	13	34
769:	23	15	6	12	19	7	7	6
777:	4	6	8	7	12	8	8	7
785:	16	11	13	12	11	5	3	14
793:	9	11	28	27	10	7	6	10

801: 7 11 4 8 11 7 7 13

Sample Title: CP0403S09-10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	12	5	6	10	5	10	9	4
817:	7	7	9	5	5	11	10	11
825:	9	11	7	8	5	11	12	14
833:	5	9	8	19	13	14	10	10
841:	18	11	6	7	4	12	11	7
849:	7	12	8	3	9	6	9	14
857:	7	10	16	9	23	10	6	7
865:	7	6	8	4	12	6	4	5
873:	8	9	6	6	4	7	8	5
881:	8	8	6	4	9	10	6	10
889:	15	9	6	6	10	11	11	7
897:	9	6	13	11	5	8	5	8
905:	9	7	18	12	6	12	80	94
913:	28	11	7	7	3	12	7	4
921:	7	14	10	13	3	1	5	6
929:	7	6	3	7	4	12	19	7
937:	6	10	2	8	6	7	9	4
945:	5	5	6	6	8	11	5	5
953:	8	5	4	5	14	4	10	6
961:	7	4	7	11	22	12	10	31
969:	58	60	14	7	3	8	8	7
977:	8	4	8	5	6	4	9	5
985:	9	4	5	7	6	7	8	9
993:	10	5	9	7	6	5	4	9
1001:	12	18	10	8	7	8	9	7
1009:	4	10	11	6	12	6	6	6
1017:	4	9	7	7	7	6	11	5
1025:	4	12	8	11	7	6	7	9
1033:	9	6	8	8	9	9	3	2
1041:	4	8	8	4	5	8	4	5
1049:	1	6	5	11	7	7	7	11
1057:	7	9	6	4	2	3	6	8
1065:	9	7	9	5	4	9	9	6
1073:	7	5	5	3	8	6	8	9
1081:	12	2	8	9	7	3	7	9
1089:	8	4	6	5	8	7	6	5
1097:	2	9	5	9	8	6	3	8
1105:	6	10	6	8	7	6	6	9
1113:	3	2	7	9	6	4	11	34
1121:	39	15	7	11	8	7	9	8
1129:	7	6	5	8	11	5	12	5
1137:	7	3	7	6	8	13	8	8
1145:	7	3	10	3	9	7	3	4
1153:	7	8	16	10	8	10	6	7
1161:	4	4	5	5	7	8	6	6
1169:	11	5	11	2	9	9	5	9
1177:	9	4	4	9	5	5	8	3
1185:	6	8	4	11	2	5	8	9
1193:	5	8	7	6	4	9	7	11
1201:	6	11	5	7	8	8	8	8
1209:	5	6	7	4	9	7	7	9
1217:	10	11	6	7	9	7	7	11
1225:	7	7	10	3	12	4	5	9

1233: 5 10 12 8 15 18 19 5

Sample Title: CP0403S09-10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1241:	9	8	7	11	8	4	10	6
1249:	4	6	7	4	5	6	3	2
1257:	7	5	7	5	6	2	5	7
1265:	2	5	3	7	8	3	9	1
1273:	2	1	4	9	5	8	8	3
1281:	12	6	3	5	2	8	8	5
1289:	3	4	7	6	10	7	4	8
1297:	3	5	5	3	1	6	6	7
1305:	3	1	9	6	3	5	5	3
1313:	4	6	2	7	2	1	0	2
1321:	8	5	3	0	4	6	4	12
1329:	3	5	3	2	5	4	1	1
1337:	5	4	2	1	2	2	4	3
1345:	6	3	3	0	2	4	4	4
1353:	3	4	4	1	2	2	3	1
1361:	4	3	1	2	2	3	3	2
1369:	3	0	2	1	5	2	3	5
1377:	9	5	5	2	4	6	0	3
1385:	5	5	4	1	6	1	2	4
1393:	3	2	2	4	1	2	3	2
1401:	6	3	4	0	1	1	3	5
1409:	11	3	1	3	2	2	2	6
1417:	2	0	1	2	1	2	1	1
1425:	0	4	4	3	4	4	5	1
1433:	5	1	1	1	2	6	3	4
1441:	2	1	3	5	6	3	1	0
1449:	0	6	0	2	1	1	3	4
1457:	1	5	20	131	314	226	36	6
1465:	4	2	0	0	0	0	1	2
1473:	4	2	2	2	1	0	2	4
1481:	1	1	1	3	3	0	2	1
1489:	0	1	3	2	1	0	1	5
1497:	5	4	4	1	2	2	3	5
1505:	4	1	3	1	4	5	1	3
1513:	2	7	3	2	2	3	3	2
1521:	4	1	3	1	2	2	1	2
1529:	5	3	2	1	5	3	2	1
1537:	3	0	1	3	3	0	2	7
1545:	2	3	2	3	1	2	3	1
1553:	0	1	2	0	2	4	2	1
1561:	2	1	2	1	2	1	4	2
1569:	3	0	2	1	2	4	0	3
1577:	1	0	1	5	0	0	2	2
1585:	0	1	0	3	5	8	1	4
1593:	9	4	3	0	3	3	1	1
1601:	2	2	4	3	0	3	2	3
1609:	1	1	1	0	1	1	2	0
1617:	1	0	1	2	3	4	2	4
1625:	1	2	0	0	1	2	2	7
1633:	5	1	2	0	3	6	2	0
1641:	1	1	0	1	1	2	1	2
1649:	2	0	1	1	3	3	1	0
1657:	2	1	0	2	5	4	5	1

1665: 1 0 1 1 3 0 2 1

Sample Title: CP0403S09-10

Channel	1	2	3	4	5	6	7	8
1673:	2	0	1	1	1	4	1	2
1681:	3	1	2	3	2	3	0	1
1689:	1	0	0	1	1	1	0	1
1697:	3	2	0	1	2	1	3	1
1705:	1	1	1	2	1	1	0	3
1713:	2	0	1	2	2	1	1	1
1721:	1	2	0	2	1	1	2	1
1729:	3	5	2	4	0	0	2	1
1737:	0	1	2	1	0	0	0	0
1745:	2	1	0	0	1	1	1	2
1753:	1	1	4	3	0	1	2	1
1761:	1	1	6	22	33	18	0	1
1769:	0	0	0	1	1	0	0	1
1777:	1	0	0	1	1	1	2	1
1785:	0	1	0	0	0	0	1	0
1793:	0	2	0	0	1	2	1	0
1801:	2	2	0	0	0	0	1	1
1809:	0	1	1	0	3	0	1	3
1817:	1	0	3	0	1	0	0	4
1825:	1	2	1	1	1	0	0	0
1833:	0	0	0	0	0	3	1	1
1841:	2	1	3	1	1	0	7	1
1849:	4	1	0	1	3	0	0	2
1857:	1	2	0	1	0	0	2	0
1865:	3	3	0	2	1	1	0	0
1873:	2	1	1	0	0	1	1	0
1881:	1	0	3	1	1	3	3	1
1889:	0	2	1	0	1	2	1	0
1897:	0	2	0	4	3	2	0	2
1905:	3	0	4	1	1	1	0	1
1913:	0	3	0	1	2	3	0	3
1921:	2	0	3	1	1	1	3	1
1929:	2	0	1	3	2	0	0	0
1937:	1	0	0	0	3	2	1	1
1945:	3	0	2	1	0	4	0	1
1953:	2	3	4	1	0	1	1	1
1961:	4	0	1	0	2	1	0	0
1969:	1	0	0	1	4	1	1	2
1977:	1	0	0	2	0	1	1	2
1985:	1	2	2	2	0	0	0	1
1993:	2	2	2	1	0	0	1	2
2001:	0	1	3	0	2	1	0	0
2009:	6	0	0	2	0	0	0	2
2017:	1	2	2	0	1	1	0	1
2025:	3	0	2	0	0	1	0	0
2033:	1	3	0	1	3	0	1	1
2041:	1	1	1	0	2	0	1	1
2049:	0	0	2	2	1	1	1	0
2057:	0	4	1	5	0	2	0	1
2065:	1	0	0	1	0	0	2	1
2073:	2	0	0	2	0	0	0	0
2081:	1	0	2	0	0	2	2	1
2089:	1	0	0	0	3	1	2	2

2097: 1 2 0 0 0 3 1 1

Sample Title: CP0403S09-10

Channel	1	2	3	4	5	6	7	8
2105:	4	1	2	0	2	0	0	1
2113:	0	0	2	0	5	4	2	3
2121:	2	0	2	0	1	2	0	1
2129:	1	0	1	0	1	1	1	1
2137:	1	0	0	0	1	0	1	1
2145:	2	1	0	1	0	1	0	1
2153:	1	1	0	0	2	0	1	1
2161:	3	1	1	0	0	1	1	2
2169:	0	0	2	0	5	2	2	1
2177:	1	1	2	0	1	0	0	1
2185:	1	0	0	0	1	1	0	1
2193:	4	3	2	0	0	0	0	1
2201:	0	1	5	6	10	1	3	0
2209:	0	0	0	0	1	0	0	1
2217:	1	1	0	0	1	0	0	1
2225:	1	1	0	0	1	0	2	0
2233:	1	0	0	0	0	0	1	0
2241:	2	1	0	1	1	1	1	0
2249:	2	1	0	0	1	1	1	2
2257:	1	0	0	1	2	0	0	2
2265:	1	3	2	0	2	1	2	3
2273:	3	0	4	0	0	2	1	1
2281:	1	0	1	1	1	1	2	2
2289:	2	0	2	0	2	2	4	0
2297:	0	2	1	2	1	0	1	1
2305:	0	0	3	0	1	1	0	0
2313:	2	3	1	1	0	1	2	0
2321:	2	1	2	0	2	0	2	0
2329:	3	1	1	2	3	0	1	0
2337:	2	2	1	3	3	1	0	2
2345:	2	2	1	6	1	1	0	1
2353:	0	0	0	0	1	2	1	2
2361:	0	1	1	1	1	1	0	0
2369:	3	2	2	1	0	0	0	2
2377:	0	2	1	1	0	1	0	1
2385:	1	1	1	0	1	2	0	0
2393:	0	0	0	1	1	0	2	0
2401:	0	2	1	1	0	1	3	1
2409:	0	2	0	0	1	0	1	0
2417:	1	2	3	2	1	0	2	0
2425:	2	0	1	0	1	1	2	0
2433:	1	1	0	2	1	1	1	0
2441:	0	0	1	0	1	4	1	3
2449:	4	1	3	0	0	1	2	1
2457:	0	0	1	2	1	1	0	0
2465:	2	0	1	0	0	1	0	0
2473:	0	0	3	0	0	0	0	2
2481:	0	1	0	2	1	1	0	1
2489:	0	1	0	1	0	0	1	0
2497:	1	0	1	1	1	0	0	1
2505:	0	1	1	0	0	1	1	2
2513:	0	1	1	0	2	0	0	0
2521:	0	0	0	0	0	1	1	0

2529: 0 0 0 0 0 1 0 0

Sample Title: CP0403S09-10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2537:	0	0	1	0	0	0	0	0
2545:	0	0	0	0	1	1	0	0
2553:	0	2	0	1	0	0	1	0
2561:	1	1	0	0	0	1	0	0
2569:	0	3	1	0	1	0	1	0
2577:	0	0	0	0	0	1	0	1
2585:	0	0	0	0	1	0	0	0
2593:	0	1	1	0	1	0	1	0
2601:	0	1	0	1	1	0	1	0
2609:	1	1	0	1	12	34	55	20
2617:	6	1	1	0	0	0	0	1
2625:	0	0	2	1	0	0	0	1
2633:	0	0	0	1	0	0	2	0
2641:	1	0	0	0	1	0	1	1
2649:	0	0	1	0	0	0	0	0
2657:	0	1	0	1	0	0	0	1
2665:	0	1	0	0	0	1	1	1
2673:	0	1	2	0	0	1	0	0
2681:	0	1	0	0	0	0	0	0
2689:	1	0	2	1	1	0	0	0
2697:	0	0	0	0	0	0	1	0
2705:	0	0	0	0	0	0	0	0
2713:	0	0	1	0	0	0	0	0
2721:	0	0	0	1	1	0	0	1
2729:	1	1	0	1	0	0	1	0
2737:	1	0	0	1	0	2	0	0
2745:	0	0	2	0	0	0	1	3
2753:	0	0	0	0	0	0	1	1
2761:	0	0	1	0	0	1	0	1
2769:	0	0	0	1	0	1	0	0
2777:	0	0	1	0	0	0	0	0
2785:	1	0	0	0	1	0	1	0
2793:	0	0	0	0	0	0	2	0
2801:	0	0	0	1	0	0	0	0
2809:	1	0	0	0	0	1	0	0
2817:	0	0	0	0	0	0	0	0
2825:	0	0	0	0	0	0	0	0
2833:	0	0	0	0	0	0	0	0
2841:	0	0	0	1	0	1	0	0
2849:	0	2	0	0	0	0	0	0
2857:	0	2	0	0	0	0	0	0
2865:	1	1	0	0	0	1	1	0
2873:	0	2	0	0	0	0	0	0
2881:	3	0	1	1	0	0	0	0
2889:	0	0	2	0	0	0	0	0
2897:	0	0	0	1	0	0	0	1
2905:	0	0	0	0	0	1	0	0
2913:	0	0	1	0	0	0	0	0
2921:	0	1	1	0	0	0	0	0
2929:	0	0	0	0	0	0	0	0
2937:	0	0	1	0	0	1	0	0
2945:	0	0	0	0	0	1	0	0
2953:	0	1	1	0	0	0	0	0

2961: 0 1 1 0 0 0 0 0

Sample Title: CP0403S09-10

Channel	1	0	0	0	0	0	0	1
2969:	1	0	0	0	0	0	0	1
2977:	0	0	1	0	0	0	0	0
2985:	0	0	0	0	0	0	0	0
2993:	0	0	0	0	1	0	0	0
3001:	0	0	0	0	0	0	0	1
3009:	0	0	0	0	1	1	0	0
3017:	0	1	0	0	0	0	0	1
3025:	0	1	0	1	0	0	0	0
3033:	0	1	2	1	0	1	0	0
3041:	1	0	0	0	1	0	0	0
3049:	0	0	0	0	0	0	0	0
3057:	0	0	0	0	0	0	0	0
3065:	0	0	0	1	0	0	0	0
3073:	1	0	1	0	0	0	0	0
3081:	0	2	0	0	0	0	1	0
3089:	1	0	0	0	0	0	0	0
3097:	2	0	0	1	0	0	1	0
3105:	0	1	1	0	0	0	0	0
3113:	1	0	0	0	0	0	1	0
3121:	0	0	0	0	2	0	0	0
3129:	0	0	0	0	0	0	1	0
3137:	0	0	0	0	0	0	1	1
3145:	0	1	0	0	0	1	0	0
3153:	0	0	0	0	0	0	0	0
3161:	0	0	0	1	0	0	0	0
3169:	0	0	0	0	0	0	0	0
3177:	0	0	0	0	1	0	0	0
3185:	1	1	0	0	0	0	0	0
3193:	0	0	0	0	2	2	1	0
3201:	0	0	0	0	0	1	0	0
3209:	0	0	0	0	0	1	0	0
3217:	0	0	0	0	1	1	0	0
3225:	0	0	0	0	1	0	0	0
3233:	1	0	0	0	0	1	0	0
3241:	0	0	0	0	0	0	1	0
3249:	0	0	0	0	0	0	0	0
3257:	0	0	0	1	0	1	0	0
3265:	0	0	0	0	0	0	1	0
3273:	0	0	0	2	1	0	0	0
3281:	0	0	0	0	0	0	1	0
3289:	0	1	1	0	0	1	0	0
3297:	0	0	0	1	0	0	0	0
3305:	0	0	0	0	0	0	0	0
3313:	0	0	0	0	0	0	1	0
3321:	1	0	0	1	0	0	0	0
3329:	0	0	1	0	0	0	0	0
3337:	0	0	0	1	1	0	0	0
3345:	0	0	0	0	0	0	0	0
3353:	0	0	0	0	0	0	0	1
3361:	0	0	1	0	0	0	0	0
3369:	0	0	1	0	0	0	0	0
3377:	0	1	1	0	0	0	1	0
3385:	0	1	0	0	0	0	1	0

3393: 0 0 0 0 1 0 0 0

Sample Title: CP0403S09-10

3401:	0	0	3	0	0	0	0	0
3409:	1	0	0	0	0	1	0	0
3417:	0	0	0	0	0	0	0	0
3425:	1	0	0	0	0	0	0	0
3433:	0	0	0	0	0	0	0	0
3441:	0	0	0	0	0	0	0	0
3449:	0	0	1	0	0	0	0	1
3457:	0	0	0	0	0	0	0	0
3465:	0	0	0	0	0	0	0	1
3473:	0	0	0	0	0	0	0	0
3481:	0	0	1	1	0	0	0	0
3489:	1	0	0	0	0	0	0	0
3497:	0	0	0	0	0	0	0	0
3505:	0	0	1	0	0	1	0	0
3513:	0	0	0	0	0	0	0	0
3521:	0	0	0	0	1	0	0	0
3529:	0	0	0	0	0	0	0	0
3537:	0	1	0	0	0	0	0	0
3545:	0	0	0	0	1	0	0	0
3553:	0	0	0	0	0	0	0	0
3561:	0	0	0	0	0	0	1	0
3569:	1	1	0	0	0	0	0	0
3577:	0	0	0	0	0	0	0	1
3585:	0	0	0	0	0	0	0	0
3593:	0	0	0	1	0	0	1	0
3601:	0	0	0	0	0	0	0	0
3609:	1	0	0	0	0	0	0	0
3617:	0	0	1	0	0	0	0	0
3625:	0	0	0	0	0	0	0	1
3633:	0	0	0	0	0	0	0	0
3641:	0	0	0	0	0	0	0	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	0	0	1
3665:	0	0	0	0	0	0	1	0
3673:	0	0	0	0	0	0	0	0
3681:	0	0	0	0	0	0	0	0
3689:	0	0	1	1	0	0	0	0
3697:	0	0	0	0	0	0	0	0
3705:	1	0	0	0	0	0	0	0
3713:	1	0	1	1	1	0	0	0
3721:	0	1	0	0	0	0	0	0
3729:	0	0	0	0	0	0	0	0
3737:	0	1	0	0	0	0	1	0
3745:	0	1	0	0	0	0	0	0
3753:	0	0	0	0	1	0	0	0
3761:	1	1	0	0	0	0	0	0
3769:	0	0	0	0	0	0	0	1
3777:	0	0	0	1	0	0	0	0
3785:	0	0	0	0	1	0	0	0
3793:	0	0	0	0	0	0	0	0
3801:	0	0	0	0	0	0	0	0
3809:	0	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0

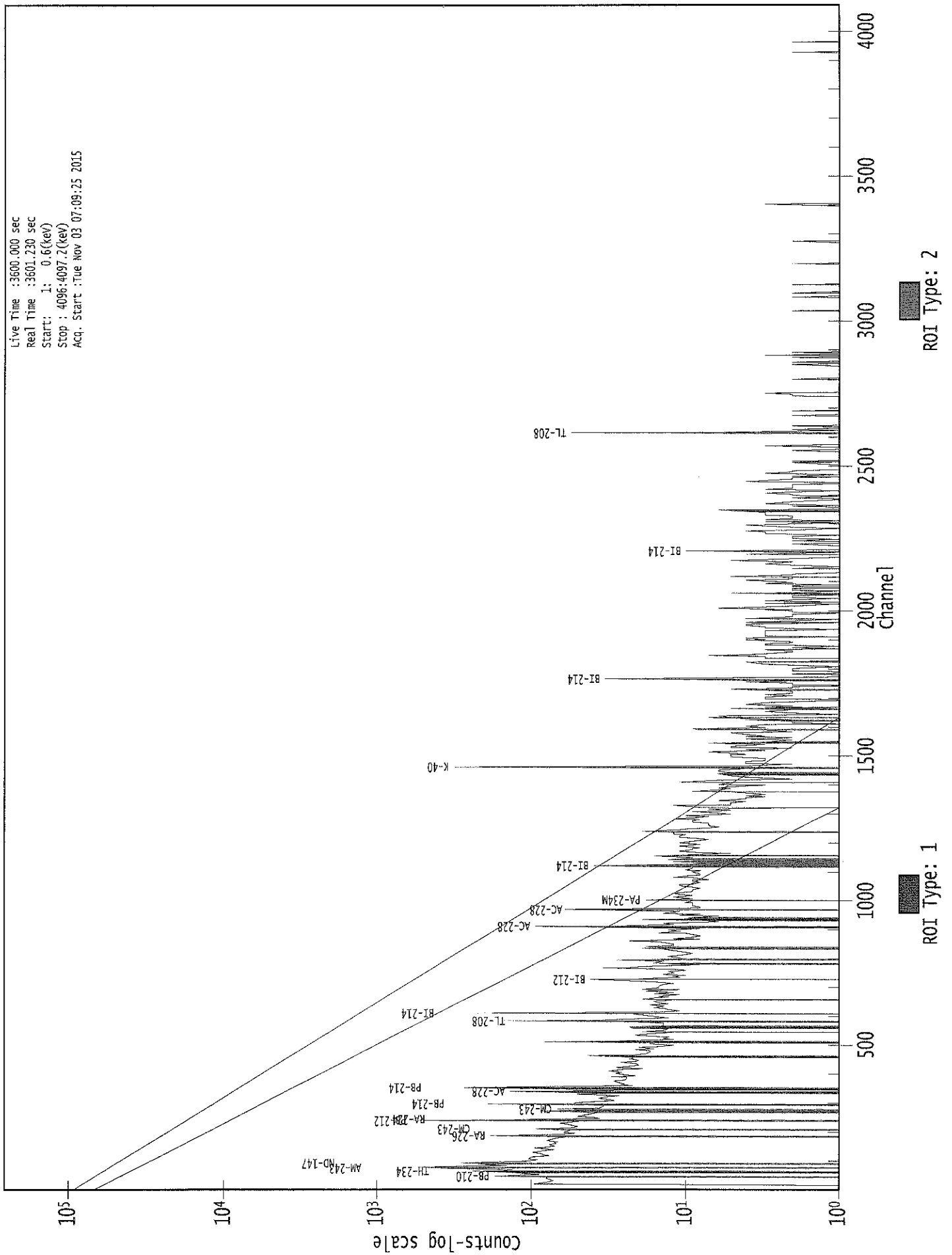
3825: 0 0 0 0 0 0 0 0 0

Sample Title: CP0403S09-10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3833:	0	0	0	0	0	0	1	0
3841:	0	0	0	1	0	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	0	0	0	1	0
3865:	0	0	0	0	0	0	0	0
3873:	0	0	0	0	0	0	0	0
3881:	0	1	0	0	0	0	0	1
3889:	0	0	0	0	0	0	0	0
3897:	0	0	0	0	1	0	0	0
3905:	0	1	0	0	0	0	0	0
3913:	0	0	0	0	0	0	1	0
3921:	0	0	0	0	0	0	0	2
3929:	0	0	0	0	0	0	0	1
3937:	1	0	0	0	0	0	0	0
3945:	0	0	0	0	0	0	0	0
3953:	0	0	0	0	0	0	0	0
3961:	2	0	2	0	0	0	0	0
3969:	0	0	1	0	0	0	0	0
3977:	0	0	0	0	0	0	0	0
3985:	0	0	0	0	0	0	0	0
3993:	1	0	0	0	0	0	0	0
4001:	1	0	0	0	0	0	0	0
4009:	0	0	0	0	0	1	0	0
4017:	0	0	1	0	0	0	0	0
4025:	0	0	1	0	0	1	0	0
4033:	0	0	0	1	0	0	0	0
4041:	0	0	0	0	0	0	1	0
4049:	0	0	0	0	0	0	0	0
4057:	0	0	0	0	0	0	0	1
4065:	1	0	0	0	0	0	0	0
4073:	0	0	0	0	0	0	0	1
4081:	0	0	0	0	0	0	1	0
4089:	0	0	1	0	0	0	1	0

0000029007.CNF

Live Time :3600.000 sec
Real Time :3601.230 sec
Start: 1: 0.6(keV)
Stop : 4096.4097.2(keV)
Acq. Start :Tue Nov 03 07:09:25 2015



Analysis Report for 1510063-08
CP0403S11-12

✓
1117

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510063-08
Sample Description : CP0403S11-12
Sample Type : SOIL

Sample Size : 3.961E+02 grams
Facility : Countroom

Sample Taken On : 10/5/2015 7:43:17AM
Acquisition Started : 11/3/2015 7:09:39AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE3
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3616.4 seconds

Dead Time : 0.45 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 9 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29009

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/3/15

Analysis Report for 1510063-08
CP0403S11-12

PEAK LOCATE REPORT

Peak Locate Performed on : 11/3/2015 8:10:05AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	46.86	47.09	0.0000	0.00
2	74.21	74.43	0.0000	0.00
3	77.30	77.52	0.0000	0.00
4	88.26	88.47	0.0000	0.00
5	127.23	127.42	0.0000	0.00
6	186.67	186.83	0.0000	0.00
7	209.46	209.60	0.0000	0.00
8	238.90	239.03	0.0000	0.00
9	242.05	242.17	0.0000	0.00
10	252.53	252.65	0.0000	0.00
11	270.24	270.36	0.0000	0.00
12	277.82	277.93	0.0000	0.00
13	295.39	295.49	0.0000	0.00
14	301.03	301.13	0.0000	0.00
15	328.19	328.28	0.0000	0.00
16	338.19	338.27	0.0000	0.00
17	352.18	352.25	0.0000	0.00
18	386.83	386.88	0.0000	0.00
19	410.11	410.15	0.0000	0.00
20	463.35	463.36	0.0000	0.00
21	474.68	474.69	0.0000	0.00
22	511.39	511.38	0.0000	0.00
23	583.60	583.55	0.0000	0.00
24	609.76	609.70	0.0000	0.00
25	655.08	655.00	0.0000	0.00
26	714.00	713.89	0.0000	0.00
27	727.85	727.74	0.0000	0.00
28	795.90	795.76	0.0000	0.00
29	860.44	860.27	0.0000	0.00
30	885.11	884.93	0.0000	0.00
31	911.81	911.62	0.0000	0.00
32	936.19	935.98	0.0000	0.00
33	965.00	964.78	0.0000	0.00
34	969.02	968.80	0.0000	0.00
35	1122.05	1121.76	0.0000	0.00
36	1168.86	1168.56	0.0000	0.00
37	1286.92	1286.56	0.0000	0.00
38	1378.21	1377.82	0.0000	0.00
39	1425.11	1424.71	0.0000	0.00
40	1461.22	1460.80	0.0000	0.00
41	1509.69	1509.26	0.0000	0.00
42	1515.69	1515.24	0.0000	0.00

Analysis Report for 1510063-08

CP0403S11-12

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
43	1579.46	1579.00	0.0000	0.00
44	1588.65	1588.18	0.0000	0.00
45	1630.57	1630.09	0.0000	0.00
46	1723.33	1722.81	0.0000	0.00
47	1730.72	1730.20	0.0000	0.00
48	1764.44	1763.91	0.0000	0.00
49	1863.96	1863.40	0.0000	0.00
50	2104.27	2103.63	0.0000	0.00
51	2203.23	2202.56	0.0000	0.00
52	2255.18	2254.50	0.0000	0.00
53	2292.27	2291.58	0.0000	0.00
54	2615.29	2614.51	0.0000	0.00

? = Adjacent peak noted

Errors quoted at 2.000sigma

Analysis Report for 1510063-08

CP0403S11-12

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 8:10:05AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	1	46.86	44 -	50	47.09	1.25E+02	85.94	1.26E+03	1.55
M	2	74.21	71 -	83	74.43	2.46E+02	114.15	1.85E+03	2.93
m	3	77.30	71 -	83	77.52	8.12E+02	108.40	1.47E+03	1.96
	4	88.26	86 -	91	88.47	1.68E+02	92.76	1.59E+03	1.50
	5	127.23	121 -	137	127.42	2.05E+02	145.62	1.96E+03	6.97
	6	186.67	180 -	196	186.83	2.55E+02	134.19	1.59E+03	1.93
	7	209.46	206 -	212	209.60	6.20E+01	60.97	6.32E+02	1.59
M	8	238.90	235 -	245	239.03	8.06E+02	72.70	4.08E+02	1.84
m	9	242.05	235 -	245	242.17	1.72E+02	72.04	3.78E+02	1.89
	10	252.53	249 -	256	252.65	4.51E+01	50.12	3.90E+02	3.39
	11	270.24	267 -	274	270.36	7.59E+01	53.55	4.26E+02	1.70
	12	277.82	275 -	281	277.93	5.35E+01	45.07	3.27E+02	3.07
M	13	295.39	292 -	305	295.49	2.76E+02	46.20	2.31E+02	1.84
m	14	301.03	292 -	305	301.13	7.98E+01	42.08	2.27E+02	2.36
	15	328.19	325 -	331	328.28	5.29E+01	43.66	3.02E+02	1.45
	16	338.19	333 -	342	338.27	1.69E+02	56.82	3.64E+02	2.14
	17	352.18	349 -	356	352.25	4.24E+02	58.00	2.81E+02	2.03
	18	386.83	384 -	391	386.88	3.73E+01	37.52	2.13E+02	3.66
	19	410.11	408 -	413	410.15	3.57E+01	31.43	1.71E+02	2.16
	20	463.35	460 -	467	463.36	4.65E+01	36.55	1.91E+02	1.88
	21	474.68	472 -	478	474.69	2.52E+01	29.77	1.42E+02	2.48
	22	511.39	507 -	516	511.38	1.36E+02	49.25	2.66E+02	2.09
	23	583.60	579 -	589	583.55	1.87E+02	49.78	2.29E+02	1.98
	24	609.76	605 -	615	609.70	2.61E+02	51.00	2.04E+02	1.98
	25	655.08	647 -	664	655.00	5.52E+01	59.07	2.98E+02	13.73
	26	714.00	712 -	717	713.89	1.88E+01	19.29	5.83E+01	3.14
	27	727.85	723 -	731	727.74	5.35E+01	31.15	1.15E+02	1.59
	28	795.90	791 -	800	795.76	3.57E+01	31.24	1.17E+02	5.09
	29	860.44	856 -	865	860.27	4.29E+01	30.15	1.06E+02	2.53
	30	885.11	879 -	889	884.93	2.63E+01	27.64	8.74E+01	4.72
	31	911.81	907 -	917	911.62	1.32E+02	37.81	1.17E+02	2.05
	32	936.19	931 -	940	935.98	2.69E+01	26.40	8.21E+01	4.70
M	33	965.00	960 -	973	964.78	3.45E+01	20.29	5.84E+01	2.42
m	34	969.02	960 -	973	968.80	7.30E+01	25.37	5.04E+01	2.42
	35	1122.05	1117 -	1130	1121.76	4.25E+01	40.74	1.57E+02	2.32
	36	1168.86	1159 -	1177	1168.56	4.13E+01	50.69	2.09E+02	11.59
	37	1286.92	1284 -	1291	1286.56	1.41E+01	18.65	4.98E+01	3.97
	38	1378.21	1371 -	1383	1377.82	2.38E+01	20.63	3.85E+01	5.72
	39	1425.11	1420 -	1427	1424.71	1.18E+01	9.80	8.50E+00	3.50
	40	1461.22	1455 -	1467	1460.80	4.68E+02	46.96	4.03E+01	2.35

: 00598

Analysis Report for 1510063-08

CP0403S11-12

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
M	41	1509.69	1506 -	1519	1509.26	1.54E+01	10.99	1.17E+01	3.57
m	42	1515.69	1506 -	1519	1515.24	8.79E+00	11.14	9.58E+00	2.68
M	43	1579.46	1576 -	1595	1579.00	1.03E+01	5.85	3.04E-01	2.46
m	44	1588.65	1576 -	1595	1588.18	1.93E+01	12.53	6.27E+00	3.28
	45	1630.57	1626 -	1635	1630.09	1.92E+01	10.63	5.64E+00	2.99
	46	1723.33	1718 -	1727	1722.81	1.05E+01	8.77	5.00E+00	3.91
	47	1730.72	1727 -	1735	1730.20	1.15E+01	10.22	9.00E+00	1.45
	48	1764.44	1758 -	1768	1763.91	2.26E+01	18.26	3.09E+01	2.15
	49	1863.96	1859 -	1865	1863.40	5.00E+00	4.47	0.00E+00	1.70
	50	2104.27	2100 -	2106	2103.63	1.28E+01	10.43	1.04E+01	2.52
	51	2203.23	2198 -	2205	2202.56	1.07E+01	9.59	8.53E+00	2.67
	52	2255.18	2252 -	2258	2254.50	5.50E+00	7.78	7.00E+00	2.83
	53	2292.27	2287 -	2295	2291.58	1.08E+01	10.02	8.40E+00	3.69
	54	2615.29	2609 -	2619	2614.51	6.90E+01	16.61	0.00E+00	2.10

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 8:10:05AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	1	46.86	44 -	50	1.25E+02	85.94	1.26E+03	6.82E+01
M	2	74.21	71 -	83	2.46E+02	114.15	1.85E+03	7.07E+01
m	3	77.30	71 -	83	8.12E+02	108.40	1.47E+03	6.30E+01
	4	88.26	86 -	91	1.68E+02	92.76	1.59E+03	7.32E+01
	5	127.23	121 -	137	2.05E+02	145.62	1.96E+03	1.17E+02
	6	186.67	180 -	196	2.55E+02	134.19	1.59E+03	4.09E+01
	7	209.46	206 -	212	6.20E+01	60.97	6.32E+02	4.84E+01
M	8	238.90	235 -	245	8.06E+02	72.70	4.08E+02	3.32E+01
m	9	242.05	235 -	245	1.72E+02	72.04	3.78E+02	3.20E+01
	10	252.53	249 -	256	4.51E+01	50.12	3.90E+02	3.97E+01
	11	270.24	267 -	274	7.59E+01	53.55	4.26E+02	4.16E+01
	12	277.82	275 -	281	5.35E+01	45.07	3.27E+02	3.50E+01
M	13	295.39	292 -	305	2.76E+02	46.20	2.31E+02	2.50E+01
m	14	301.03	292 -	305	7.98E+01	42.08	2.27E+02	2.48E+01

: 00599

Analysis Report for 1510063-08

CP0403S11-12

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level	
15	328.19	325 -	331	5.29E+01	43.66	3.02E+02	3.38E+01	
16	338.19	333 -	342	1.69E+02	56.82	3.64E+02	4.15E+01	
17	352.18	349 -	356	4.24E+02	58.00	2.81E+02	3.36E+01	
18	386.83	384 -	391	3.73E+01	37.52	2.13E+02	2.92E+01	
19	410.11	408 -	413	3.57E+01	31.43	1.71E+02	2.39E+01	
20	463.35	460 -	467	4.65E+01	36.55	1.91E+02	2.79E+01	
21	474.68	472 -	478	2.52E+01	29.77	1.42E+02	2.30E+01	
22	511.39	507 -	516	1.36E+02	49.25	2.66E+02	3.57E+01	
23	583.60	579 -	589	1.87E+02	49.78	2.29E+02	3.42E+01	
24	609.76	605 -	615	2.61E+02	51.00	2.04E+02	3.24E+01	
25	655.08	647 -	664	5.52E+01	59.07	2.98E+02	1.62E+01	
26	714.00	712 -	717	1.88E+01	19.29	5.83E+01	1.42E+01	
27	727.85	723 -	731	5.35E+01	31.15	1.15E+02	2.26E+01	
28	795.90	791 -	800	3.57E+01	31.24	1.17E+02	2.37E+01	
29	860.44	856 -	865	4.29E+01	30.15	1.06E+02	2.23E+01	
30	885.11	879 -	889	2.63E+01	27.64	8.74E+01	2.11E+01	
31	911.81	907 -	917	1.32E+02	37.81	1.17E+02	2.47E+01	
32	936.19	931 -	940	2.69E+01	26.40	8.21E+01	2.00E+01	
M	33	965.00	960 -	973	3.45E+01	20.29	5.84E+01	1.26E+01
m	34	969.02	960 -	973	7.30E+01	25.37	5.04E+01	1.17E+01
	35	1122.05	1117 -	1130	4.25E+01	40.74	1.57E+02	1.56E+01
	36	1168.86	1159 -	1177	4.13E+01	50.69	2.09E+02	4.03E+01
	37	1286.92	1284 -	1291	1.41E+01	18.65	4.98E+01	1.40E+01
	38	1378.21	1371 -	1383	2.38E+01	20.63	3.85E+01	1.49E+01
	39	1425.11	1420 -	1427	1.18E+01	9.80	8.50E+00	5.75E+00
	40	1461.22	1455 -	1467	4.68E+02	46.96	4.03E+01	1.50E+01
M	41	1509.69	1506 -	1519	1.54E+01	10.99	1.17E+01	5.62E+00
m	42	1515.69	1506 -	1519	8.79E+00	11.14	9.58E+00	5.09E+00
M	43	1579.46	1576 -	1595	1.03E+01	5.85	3.04E-01	9.06E-01
m	44	1588.65	1576 -	1595	1.93E+01	12.53	6.27E+00	4.12E+00
	45	1630.57	1626 -	1635	1.92E+01	10.63	5.64E+00	4.95E+00
	46	1723.33	1718 -	1727	1.05E+01	8.77	5.00E+00	4.86E+00
	47	1730.72	1727 -	1735	1.15E+01	10.22	9.00E+00	6.29E+00
	48	1764.44	1758 -	1768	2.26E+01	18.26	3.09E+01	1.28E+01
	49	1863.96	1859 -	1865	5.00E+00	4.47	0.00E+00	0.00E+00
	50	2104.27	2100 -	2106	1.28E+01	10.43	1.04E+01	6.23E+00
	51	2203.23	2198 -	2205	1.07E+01	9.59	8.53E+00	5.76E+00
	52	2255.18	2252 -	2258	5.50E+00	7.78	7.00E+00	5.10E+00
	53	2292.27	2287 -	2295	1.08E+01	10.02	8.40E+00	6.22E+00
	54	2615.29	2609 -	2619	6.90E+01	16.61	0.00E+00	0.00E+00

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

Analysis Report for 1510063-08

CP0403S11-12

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/3/2015 8:10:05AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
M	1	44 -	50	47.09	1.25E+02	85.94	1.26E+03	PB-210
m	2	71 -	83	74.43	2.46E+02	114.15	1.85E+03	AM-243
	3	71 -	83	77.52	8.12E+02	108.40	1.47E+03	.....
	4	86 -	91	88.47	1.68E+02	92.76	1.59E+03	LU-176 CD-109 SN-126
	5	121 -	137	127.42	2.05E+02	145.62	1.96E+03	.....
	6	180 -	196	186.83	2.55E+02	134.19	1.59E+03	RA-226
	7	206 -	212	209.60	6.20E+01	60.97	6.32E+02	CM-243 GA-67
M	8	235 -	245	239.03	8.06E+02	72.70	4.08E+02	PB-212
m	9	235 -	245	242.17	1.72E+02	72.04	3.78E+02	.....
	10	249 -	256	252.65	4.51E+01	50.12	3.90E+02	.....
	11	267 -	274	270.36	7.59E+01	53.55	4.26E+02	.....
	12	275 -	281	277.93	5.35E+01	45.07	3.27E+02	CM-243 NP-239
M	13	292 -	305	295.49	2.76E+02	46.20	2.31E+02	PB-214
m	14	292 -	305	301.13	7.98E+01	42.08	2.27E+02	GA-67 PB-212
	15	325 -	331	328.28	5.29E+01	43.66	3.02E+02	LA-140
	16	333 -	342	338.27	1.69E+02	56.82	3.64E+02	AC-228
	17	349 -	356	352.25	4.24E+02	58.00	2.81E+02	PB-214
	18	384 -	391	386.88	3.73E+01	37.52	2.13E+02	.....
	19	408 -	413	410.15	3.57E+01	31.43	1.71E+02	HO-166M
	20	460 -	467	463.36	4.65E+01	36.55	1.91E+02	SB-125
	21	472 -	478	474.69	2.52E+01	29.77	1.42E+02	.....
	22	507 -	516	511.38	1.36E+02	49.25	2.66E+02	.....
	23	579 -	589	583.55	1.87E+02	49.78	2.29E+02	TL-208
	24	605 -	615	609.70	2.61E+02	51.00	2.04E+02	BI-214
	25	647 -	664	655.00	5.52E+01	59.07	2.98E+02	.....
	26	712 -	717	713.89	1.88E+01	19.29	5.83E+01	.....
	27	723 -	731	727.74	5.35E+01	31.15	1.15E+02	BI-212
	28	791 -	800	795.76	3.57E+01	31.24	1.17E+02	CS-134
	29	856 -	865	860.27	4.29E+01	30.15	1.06E+02	TL-208
	30	879 -	889	884.93	2.63E+01	27.64	8.74E+01	AG-110M
	31	907 -	917	911.62	1.32E+02	37.81	1.17E+02	LU-172 AC-228
	32	931 -	940	935.98	2.69E+01	26.40	8.21E+01	.....
M	33	960 -	973	964.78	3.45E+01	20.29	5.84E+01	EU-152
m	34	960 -	973	968.80	7.30E+01	25.37	5.04E+01	AC-228
	35	1117 -	1130	1121.76	4.25E+01	40.74	1.57E+02	TA-182

: 00601

Analysis Report for 1510063-08

CP0403S11-12

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
36	1168.86	1159 -	1177	1168.56	4.13E+01	50.69	2.09E+02	.....
37	1286.92	1284 -	1291	1286.56	1.41E+01	18.65	4.98E+01	.....
38	1378.21	1371 -	1383	1377.82	2.38E+01	20.63	3.85E+01	.....
39	1425.11	1420 -	1427	1424.71	1.18E+01	9.80	8.50E+00	.....
40	1461.22	1455 -	1467	1460.80	4.68E+02	46.96	4.03E+01	K-40
M 41	1509.69	1506 -	1519	1509.26	1.54E+01	10.99	1.17E+01	.....
m 42	1515.69	1506 -	1519	1515.24	8.79E+00	11.14	9.58E+00	.....
M 43	1579.46	1576 -	1595	1579.00	1.03E+01	5.85	3.04E-01	.....
m 44	1588.65	1576 -	1595	1588.18	1.93E+01	12.53	6.27E+00	.....
45	1630.57	1626 -	1635	1630.09	1.92E+01	10.63	5.64E+00	.....
46	1723.33	1718 -	1727	1722.81	1.05E+01	8.77	5.00E+00	.....
47	1730.72	1727 -	1735	1730.20	1.15E+01	10.22	9.00E+00	.....
48	1764.44	1758 -	1768	1763.91	2.26E+01	18.26	3.09E+01	BI-214
49	1863.96	1859 -	1865	1863.40	5.00E+00	4.47	0.00E+00	.....
50	2104.27	2100 -	2106	2103.63	1.28E+01	10.43	1.04E+01	.....
51	2203.23	2198 -	2205	2202.56	1.07E+01	9.59	8.53E+00	BI-214
52	2255.18	2252 -	2258	2254.50	5.50E+00	7.78	7.00E+00	.....
53	2292.27	2287 -	2295	2291.58	1.08E+01	10.02	8.40E+00	.....
54	2615.29	2609 -	2619	2614.51	6.90E+01	16.61	0.00E+00	TL-208

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/3/2015 8:10:05AM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	46.86	1.25E+02	85.94	1.52E-02	1.58E-03
M 2	74.21	2.46E+02	114.15	2.36E-02	2.07E-03
m 3	77.30	8.12E+02	108.40	2.39E-02	2.17E-03
4	88.26	1.68E+02	92.76	2.44E-02	2.52E-03
5	127.23	2.05E+02	145.62	2.27E-02	1.71E-03
6	186.67	2.55E+02	134.19	1.82E-02	1.42E-03
7	209.46	6.20E+01	60.97	1.68E-02	1.31E-03
M 8	238.90	8.06E+02	72.70	1.52E-02	1.18E-03
m 9	242.05	1.72E+02	72.04	1.51E-02	1.17E-03
10	252.53	4.51E+01	50.12	1.46E-02	1.12E-03
11	270.24	7.59E+01	53.55	1.38E-02	1.04E-03

: 00602

Analysis Report for 1510063-08
CP0403S11-12

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	12	277.82	5.35E+01	45.07	1.35E-02	1.00E-03
M	13	295.39	2.76E+02	46.20	1.28E-02	9.74E-04
m	14	301.03	7.98E+01	42.08	1.26E-02	9.66E-04
	15	328.19	5.29E+01	43.66	1.17E-02	9.27E-04
	16	338.19	1.69E+02	56.82	1.14E-02	9.13E-04
	17	352.18	4.24E+02	58.00	1.11E-02	8.93E-04
	18	386.83	3.73E+01	37.52	1.02E-02	8.44E-04
	19	410.11	3.57E+01	31.43	9.70E-03	8.19E-04
	20	463.35	4.65E+01	36.55	8.72E-03	7.66E-04
	21	474.68	2.52E+01	29.77	8.54E-03	7.54E-04
	22	511.39	1.36E+02	49.25	8.01E-03	7.18E-04
	23	583.60	1.87E+02	49.78	7.13E-03	6.46E-04
	24	609.76	2.61E+02	51.00	6.87E-03	6.20E-04
	25	655.08	5.52E+01	59.07	6.45E-03	5.74E-04
	26	714.00	1.88E+01	19.29	5.99E-03	5.25E-04
	27	727.85	5.35E+01	31.15	5.89E-03	5.14E-04
	28	795.90	3.57E+01	31.24	5.45E-03	4.58E-04
	29	860.44	4.29E+01	30.15	5.10E-03	4.05E-04
	30	885.11	2.63E+01	27.64	4.97E-03	3.85E-04
	31	911.81	1.32E+02	37.81	4.85E-03	3.72E-04
	32	936.19	2.69E+01	26.40	4.74E-03	3.68E-04
M	33	965.00	3.45E+01	20.29	4.62E-03	3.62E-04
m	34	969.02	7.30E+01	25.37	4.60E-03	3.61E-04
	35	1122.05	4.25E+01	40.74	4.07E-03	3.33E-04
	36	1168.86	4.13E+01	50.69	3.94E-03	3.24E-04
	37	1286.92	1.41E+01	18.65	3.64E-03	2.99E-04
	38	1378.21	2.38E+01	20.63	3.45E-03	2.82E-04
	39	1425.11	1.18E+01	9.80	3.36E-03	2.75E-04
	40	1461.22	4.68E+02	46.96	3.29E-03	2.69E-04
M	41	1509.69	1.54E+01	10.99	3.21E-03	2.62E-04
m	42	1515.69	8.79E+00	11.14	3.20E-03	2.61E-04
M	43	1579.46	1.03E+01	5.85	3.10E-03	2.52E-04
m	44	1588.65	1.93E+01	12.53	3.09E-03	2.50E-04
	45	1630.57	1.92E+01	10.63	3.03E-03	2.44E-04
	46	1723.33	1.05E+01	8.77	2.91E-03	2.30E-04
	47	1730.72	1.15E+01	10.22	2.90E-03	2.29E-04
	48	1764.44	2.26E+01	18.26	2.86E-03	2.24E-04
	49	1863.96	5.00E+00	4.47	2.75E-03	2.13E-04
	50	2104.27	1.28E+01	10.43	2.54E-03	2.13E-04
	51	2203.23	1.07E+01	9.59	2.46E-03	2.13E-04
	52	2255.18	5.50E+00	7.78	2.43E-03	2.13E-04
	53	2292.27	1.08E+01	10.02	2.41E-03	2.13E-04
	54	2615.29	6.90E+01	16.61	2.24E-03	2.13E-04

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

Analysis Report for 1510063-08

CP0403S11-12

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/3/2015 8:10:05AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	46.86	1.25E+02	85.94	5.28E+01	1.09E+01	7.21E+01	8.66E+01
M	2	74.21	2.46E+02	114.15			2.46E+02	1.14E+02
m	3	77.30	8.12E+02	108.40			8.12E+02	1.08E+02
	4	88.26	1.68E+02	92.76	1.52E+01	5.37E+00	1.53E+02	9.29E+01
	5	127.23	2.05E+02	145.62			2.05E+02	1.46E+02
	6	186.67	2.55E+02	134.19	3.93E+01	6.56E+00	2.16E+02	1.34E+02
	7	209.46	6.20E+01	60.97			6.20E+01	6.10E+01
M	8	238.90	8.06E+02	72.70	1.34E+01	2.14E+00	7.93E+02	7.27E+01
m	9	242.05	1.72E+02	72.04	2.69E+00	1.46E+00	1.69E+02	7.21E+01
	10	252.53	4.51E+01	50.12			4.51E+01	5.01E+01
	11	270.24	7.59E+01	53.55			7.59E+01	5.36E+01
	12	277.82	5.35E+01	45.07			5.35E+01	4.51E+01
M	13	295.39	2.76E+02	46.20			2.76E+02	4.62E+01
m	14	301.03	7.98E+01	42.08			7.98E+01	4.21E+01
	15	328.19	5.29E+01	43.66			5.29E+01	4.37E+01
	16	338.19	1.69E+02	56.82			1.69E+02	5.68E+01
	17	352.18	4.24E+02	58.00	3.99E+00	4.73E+00	4.20E+02	5.82E+01
	18	386.83	3.73E+01	37.52			3.73E+01	3.75E+01
	19	410.11	3.57E+01	31.43			3.57E+01	3.14E+01
	20	463.35	4.65E+01	36.55			4.65E+01	3.66E+01
	21	474.68	2.52E+01	29.77			2.52E+01	2.98E+01
	22	511.39	1.36E+02	49.25	5.78E+01	4.60E+00	7.83E+01	4.95E+01
	23	583.60	1.87E+02	49.78	5.96E+00	3.46E+00	1.81E+02	4.99E+01
	24	609.76	2.61E+02	51.00	6.71E+00	3.44E+00	2.54E+02	5.11E+01
	25	655.08	5.52E+01	59.07			5.52E+01	5.91E+01
	26	714.00	1.88E+01	19.29			1.88E+01	1.93E+01
	27	727.85	5.35E+01	31.15			5.35E+01	3.12E+01
	28	795.90	3.57E+01	31.24			3.57E+01	3.12E+01
	29	860.44	4.29E+01	30.15			4.29E+01	3.01E+01
	30	885.11	2.63E+01	27.64			2.63E+01	2.76E+01
	31	911.81	1.32E+02	37.81			1.32E+02	3.78E+01
	32	936.19	2.69E+01	26.40			2.69E+01	2.64E+01
M	33	965.00	3.45E+01	20.29			3.45E+01	2.03E+01
m	34	969.02	7.30E+01	25.37			7.30E+01	2.54E+01
	35	1122.05	4.25E+01	40.74			4.25E+01	4.07E+01
	36	1168.86	4.13E+01	50.69			4.13E+01	5.07E+01
	37	1286.92	1.41E+01	18.65			1.41E+01	1.87E+01
	38	1378.21	2.38E+01	20.63			2.38E+01	2.06E+01
	39	1425.11	1.18E+01	9.80			1.18E+01	9.80E+00
	40	1461.22	4.68E+02	46.96			4.68E+02	4.70E+01
M	41	1509.69	1.54E+01	10.99			1.54E+01	1.10E+01
m	42	1515.69	8.79E+00	11.14			8.79E+00	1.11E+01
M	43	1579.46	1.03E+01	5.85			1.03E+01	5.85E+00
m	44	1588.65	1.93E+01	12.53			1.93E+01	1.25E+01

Analysis Report for 1510063-08

CP0403S11-12

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
45	1630.57	1.92E+01	10.63			1.92E+01	1.06E+01
46	1723.33	1.05E+01	8.77			1.05E+01	8.77E+00
47	1730.72	1.15E+01	10.22			1.15E+01	1.02E+01
48	1764.44	2.26E+01	18.26	1.45E+00	1.16E+00	2.11E+01	1.83E+01
49	1863.96	5.00E+00	4.47			5.00E+00	4.47E+00
50	2104.27	1.28E+01	10.43			1.28E+01	1.04E+01
51	2203.23	1.07E+01	9.59			1.07E+01	9.59E+00
52	2255.18	5.50E+00	7.78			5.50E+00	7.78E+00
53	2292.27	1.08E+01	10.02			1.08E+01	1.00E+01
54	2615.29	6.90E+01	16.61			6.90E+01	1.66E+01

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

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/3/2015 8:10:05AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

Corrected Area Is: Original * Peak Ratio - Background

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.	
M	1	46.86	1.25E+02	85.94	5.28E+01	1.09E+01	7.21E+01	8.66E+01
m	2	74.21	2.46E+02	114.15			2.46E+02	1.14E+02
m	3	77.30	8.12E+02	108.40			8.12E+02	1.08E+02
	4	88.26	1.68E+02	92.76	1.52E+01	5.37E+00	1.53E+02	9.29E+01
	5	127.23	2.05E+02	145.62			2.05E+02	1.46E+02
	6	186.67	2.55E+02	134.19	3.93E+01	6.56E+00	2.16E+02	1.34E+02
	7	209.46	6.20E+01	60.97			6.20E+01	6.10E+01
M	8	238.90	8.06E+02	72.70	1.34E+01	2.14E+00	7.93E+02	7.27E+01
m	9	242.05	1.72E+02	72.04	2.69E+00	1.46E+00	1.69E+02	7.21E+01
	10	252.53	4.51E+01	50.12			4.51E+01	5.01E+01
	11	270.24	7.59E+01	53.55			7.59E+01	5.36E+01
	12	277.82	5.35E+01	45.07			5.35E+01	4.51E+01
M	13	295.39	2.76E+02	46.20			2.76E+02	4.62E+01
m	14	301.03	7.98E+01	42.08			7.98E+01	4.21E+01
	15	328.19	5.29E+01	43.66			5.29E+01	4.37E+01
	16	338.19	1.69E+02	56.82			1.69E+02	5.68E+01
	17	352.18	4.24E+02	58.00	3.99E+00	4.73E+00	4.20E+02	5.82E+01
	18	386.83	3.73E+01	37.52			3.73E+01	3.75E+01

Analysis Report for 1510063-08

CP0403S11-12

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
19	410.11	3.57E+01	31.43			3.57E+01	3.14E+01
20	463.35	4.65E+01	36.55			4.65E+01	3.66E+01
21	474.68	2.52E+01	29.77			2.52E+01	2.98E+01
22	511.39	1.36E+02	49.25	5.78E+01	4.60E+00	7.83E+01	4.95E+01
23	583.60	1.87E+02	49.78	5.96E+00	3.46E+00	1.81E+02	4.99E+01
24	609.76	2.61E+02	51.00	6.71E+00	3.44E+00	2.54E+02	5.11E+01
25	655.08	5.52E+01	59.07			5.52E+01	5.91E+01
26	714.00	1.88E+01	19.29			1.88E+01	1.93E+01
27	727.85	5.35E+01	31.15			5.35E+01	3.12E+01
28	795.90	3.57E+01	31.24			3.57E+01	3.12E+01
29	860.44	4.29E+01	30.15			4.29E+01	3.01E+01
30	885.11	2.63E+01	27.64			2.63E+01	2.76E+01
31	911.81	1.32E+02	37.81			1.32E+02	3.78E+01
32	936.19	2.69E+01	26.40			2.69E+01	2.64E+01
M 33	965.00	3.45E+01	20.29			3.45E+01	2.03E+01
m 34	969.02	7.30E+01	25.37			7.30E+01	2.54E+01
35	1122.05	4.25E+01	40.74			4.25E+01	4.07E+01
36	1168.86	4.13E+01	50.69			4.13E+01	5.07E+01
37	1286.92	1.41E+01	18.65			1.41E+01	1.87E+01
38	1378.21	2.38E+01	20.63			2.38E+01	2.06E+01
39	1425.11	1.18E+01	9.80			1.18E+01	9.80E+00
40	1461.22	4.68E+02	46.96			4.68E+02	4.70E+01
M 41	1509.69	1.54E+01	10.99			1.54E+01	1.10E+01
m 42	1515.69	8.79E+00	11.14			8.79E+00	1.11E+01
M 43	1579.46	1.03E+01	5.85			1.03E+01	5.85E+00
m 44	1588.65	1.93E+01	12.53			1.93E+01	1.25E+01
45	1630.57	1.92E+01	10.63			1.92E+01	1.06E+01
46	1723.33	1.05E+01	8.77			1.05E+01	8.77E+00
47	1730.72	1.15E+01	10.22			1.15E+01	1.02E+01
48	1764.44	2.26E+01	18.26	1.45E+00	1.16E+00	2.11E+01	1.83E+01
49	1863.96	5.00E+00	4.47			5.00E+00	4.47E+00
50	2104.27	1.28E+01	10.43			1.28E+01	1.04E+01
51	2203.23	1.07E+01	9.59			1.07E+01	9.59E+00
52	2255.18	5.50E+00	7.78			5.50E+00	7.78E+00
53	2292.27	1.08E+01	10.02			1.08E+01	1.00E+01
54	2615.29	6.90E+01	16.61			6.90E+01	1.66E+01

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Analysis Report for 1510063-08
 CP0403S11-12

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.973	1460.81 *	10.67	2.52E+01	3.31E+00
CD-109	0.992	88.03 *	3.72	3.34E+00	2.06E+00
SN-126	0.927	87.57 *	37.00	3.21E-01	1.98E-01
TL-208	0.955	583.14 *	30.22	1.59E+00	4.62E-01
		860.37 *	4.48	3.56E+00	2.52E+00
		2614.66 *	35.85	1.63E+00	4.22E-01
PB-210	0.979	46.50 *	4.25	2.12E+00	2.56E+00
BI-212	0.712	727.17 *	11.80	1.46E+00	8.59E-01
		1620.62	2.75		
PB-212	0.979	238.63 *	44.60	2.22E+00	2.66E-01
		300.09 *	3.41	3.52E+00	1.87E+00
BI-214	0.711	609.31 *	46.30	1.52E+00	3.34E-01
		1120.29	15.10		
		1764.49 *	15.80	8.86E-01	7.71E-01
		2204.22 *	4.98	1.66E+00	1.49E+00
PB-214	0.991	295.21 *	19.19	2.13E+00	3.91E-01
		351.92 *	37.19	1.94E+00	3.11E-01
RA-226	0.967	186.21 *	3.28	6.83E+00	1.32E+01
AC-228	0.956	338.32 *	11.40	2.46E+00	8.49E-01
		911.07 *	27.70	1.87E+00	5.52E-01
		969.11 *	16.60	1.81E+00	6.45E-01
AM-243	0.967	74.67 *	66.00	3.00E-01	1.42E-01
CM-243	0.365	209.75 *	3.29	2.13E+00	2.10E+00
		228.14	10.60		
		277.60 *	14.00	5.38E-01	4.55E-01

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 8:10:05AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m 3	77.30	2.25461E-01	6.68		

Analysis Report for 1510063-08
 CP0403S11-12

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	5	127.23	5.70532E-02		
m	9	242.05	4.70794E-02		
	10	252.53	1.25174E-02		
	11	270.24	2.10770E-02		
	15	328.19	1.46998E-02	Tol.	LA-140
	18	386.83	1.03704E-02		
	19	410.11	9.91047E-03	Tol.	HO-166M
	20	463.35	1.29264E-02	Tol.	SB-125
	21	474.68	6.99653E-03		
	22	511.39	2.17553E-02	Sum	
	25	655.08	1.53391E-02		
	26	714.00	5.23148E-03		
	28	795.90	9.90544E-03	Sum	
	30	885.11	7.30952E-03	Sum	
	32	936.19	7.48162E-03	Sum	
M	33	965.00	9.58489E-03	Tol.	EU-152
	35	1122.05	1.18067E-02	Sum	
	36	1168.86	1.14593E-02		
	37	1286.92	3.91026E-03		
	38	1378.21	6.60207E-03		
	39	1425.11	3.26389E-03		
M	41	1509.69	4.26638E-03		
m	42	1515.69	2.44275E-03		
M	43	1579.46	2.86017E-03	Sum	
m	44	1588.65	5.35789E-03	Sum	
	45	1630.57	5.32828E-03		
	46	1723.33	2.91667E-03		
	47	1730.72	3.19444E-03		
	49	1863.96	1.38889E-03		
	50	2104.27	3.55710E-03	40.72	S-Esc
	52	2255.18	1.52778E-03	70.71	
	53	2292.27	3.00000E-03	46.41	Sum

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Analysis Report for 1510063-08
CP0403S11-12

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.97	1460.81 *	10.67	2.52E+01	3.31E+00
CD-109	0.99	88.03 *	3.72	3.34E+00	2.06E+00
SN-126	0.92	87.57 *	37.00	3.21E-01	1.98E-01
TL-208	0.95	583.14 *	30.22	1.59E+00	4.62E-01
		860.37 *	4.48	3.56E+00	2.52E+00
		2614.66 *	35.85	1.63E+00	4.22E-01
PB-210	0.97	46.50 *	4.25	2.12E+00	2.56E+00
BI-212	0.71	727.17 *	11.80	1.46E+00	8.59E-01
		1620.62	2.75		
PB-212	0.97	238.63 *	44.60	2.22E+00	2.66E-01
		300.09 *	3.41	3.52E+00	1.87E+00
BI-214	0.71	609.31 *	46.30	1.52E+00	3.34E-01
		1120.29	15.10		
		1764.49 *	15.80	8.86E-01	7.71E-01
		2204.22 *	4.98	1.66E+00	1.49E+00
PB-214	0.99	295.21 *	19.19	2.13E+00	3.91E-01
		351.92 *	37.19	1.94E+00	3.11E-01
RA-226	0.96	186.21 *	3.28	6.83E+00	1.32E+01
AC-228	0.95	338.32 *	11.40	2.46E+00	8.49E-01
		911.07 *	27.70	1.87E+00	5.52E-01
		969.11 *	16.60	1.81E+00	6.45E-01
AM-243	0.96	74.67 *	66.00	3.00E-01	1.42E-01
CM-243	0.36	209.75 *	3.29	2.13E+00	2.10E+00
		228.14	10.60		
		277.60 *	14.00	5.38E-01	4.55E-01

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
?	K-40 0.973	2.52E+01	3.31E+00	
	CD-109 0.992	3.34E+00	2.06E+00	

Analysis Report for 1510063-08

CP0403S11-12

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
?	SN-126	0.927	3.21E-01	1.98E-01	
	TL-208	0.955	1.64E+00	3.09E-01	
	PB-210	0.979	2.12E+00	2.56E+00	
	BI-212	0.712	1.46E+00	8.59E-01	
	PB-212	0.979	2.24E+00	2.64E-01	
	BI-214	0.711	1.43E+00	3.00E-01	
	PB-214	0.991	2.01E+00	2.43E-01	
	RA-226	0.967	6.83E+00	1.32E+01	
	AC-228	0.956	1.96E+00	3.76E-01	
	AM-243	0.967	3.00E-01	1.42E-01	
	CM-243	0.365	6.10E-01	4.45E-01	

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510063-08
CP0403S11-12

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 8:10:05AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m	3	77.30	2.25461E-01	6.68	
	5	127.23	5.70532E-02	35.45	
m	9	242.05	4.70794E-02	21.26	
	10	252.53	1.25174E-02	55.61	
	11	270.24	2.10770E-02	35.29	
	15	328.19	1.46998E-02	41.25	Tol. LA-140
	18	386.83	1.03704E-02	50.25	
	19	410.11	9.91047E-03	44.05	Tol. HO-166M
	20	463.35	1.29264E-02	39.27	Tol. SB-125
	21	474.68	6.99653E-03	59.10	
	22	511.39	2.17553E-02	31.58	Sum
	25	655.08	1.53391E-02	53.48	
	26	714.00	5.23148E-03	51.21	
	28	795.90	9.90544E-03	43.80	Sum
	30	885.11	7.30952E-03	52.52	Sum
	32	936.19	7.48162E-03	49.01	Sum
M	33	965.00	9.58489E-03	29.40	Tol. EU-152
	35	1122.05	1.18067E-02	47.93	Sum
	36	1168.86	1.14593E-02	61.44	
	37	1286.92	3.91026E-03	66.26	
	38	1378.21	6.60207E-03	43.39	
	39	1425.11	3.26389E-03	41.69	
M	41	1509.69	4.26638E-03	35.77	
m	42	1515.69	2.44275E-03	63.31	
M	43	1579.46	2.86017E-03	28.42	Sum
m	44	1588.65	5.35789E-03	32.48	Sum
	45	1630.57	5.32828E-03	27.71	
	46	1723.33	2.91667E-03	41.79	
	47	1730.72	3.19444E-03	44.45	
	49	1863.96	1.38889E-03	44.72	
	50	2104.27	3.55710E-03	40.72	S-Esc
	52	2255.18	1.52778E-03	70.71	
	53	2292.27	3.00000E-03	46.41	Sum

Analysis Report for 1510063-08
CP0403S11-12

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59	10.42	4.64E-02	1.48E+00	1.48E+00
+	NA-22	1274.54	99.94	-5.75E-02	1.68E-01	1.68E-01
+	NA-24	1368.53	99.99	3.61E+12	8.66E+12	1.24E+13
		2754.09	99.86	7.15E+11		8.66E+12
+	AL-26	1808.65	99.76	1.21E-02	1.23E-01	1.23E-01
+	K-40	1460.81	* 10.67	2.52E+01	1.77E+00	1.77E+00
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	-9.97E-03	1.10E-01	1.10E-01
		78.34	96.00	3.72E-01		1.38E-01
+	SC-46	889.25	99.98	-1.34E-02	1.63E-01	1.63E-01
		1120.51	99.99	2.81E-01		2.68E-01
+	V-48	983.52	99.98	-2.03E-01	4.93E-01	4.93E-01
		1312.10	97.50	-2.29E-01		5.85E-01
+	CR-51	320.08	9.83	-1.15E-01	2.08E+00	2.08E+00
+	MN-54	834.83	99.97	2.79E-02	1.43E-01	1.43E-01
+	CO-56	846.75	99.96	9.47E-03	1.76E-01	1.76E-01
		1037.75	14.03	2.91E-01		1.23E+00
		1238.25	67.00	2.81E-01		3.97E-01
		1771.40	15.51	-1.11E-02		8.78E-01
		2598.48	16.90	6.09E-02		9.09E-01
+	CO-57	122.06	85.51	-4.75E-02	8.77E-02	8.77E-02
		136.48	10.60	2.23E-01		7.72E-01
+	CO-58	810.76	99.40	6.21E-04	1.48E-01	1.48E-01
+	FE-59	1099.22	56.50	-1.33E-01	4.18E-01	4.18E-01
		1291.56	43.20	5.88E-02		5.88E-01
+	CO-60	1173.22	100.00	1.52E-01	1.59E-01	1.98E-01
		1332.49	100.00	3.25E-02		1.59E-01
+	ZN-65	1115.52	50.75	5.46E-02	3.36E-01	3.36E-01
+	GA-67	93.31	35.70	2.07E+02	1.31E+02	1.31E+02
		208.95	2.24	1.20E+03		2.22E+03
		300.22	16.00	-1.13E+03		3.24E+02
+	SE-75	121.11	16.70	3.57E-02	1.52E-01	4.77E-01

Analysis Report for 1510063-08

CP0403S11-12

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	SE-75	136.00	59.20	5.76E-02	1.52E-01	1.52E-01
		264.65	59.80	3.16E-02		1.88E-01
		279.53	25.20	3.70E-03		4.63E-01
		400.65	11.40	-3.26E-01		1.12E+00
+	RB-82	776.52	13.00	7.66E-01	2.35E+00	2.35E+00
+	RB-83	520.41	46.00	3.50E-02	2.96E-01	2.96E-01
		529.64	30.30	-5.83E-02		4.59E-01
		552.65	16.40	-3.41E-01		8.07E-01
+	KR-85	513.99	0.43	4.48E+01	3.77E+01	3.77E+01
+	SR-85	513.99	99.27	2.66E-01	2.24E-01	2.24E-01
+	Y-88	898.02	93.40	-3.91E-02	1.09E-01	1.62E-01
		1836.01	99.38	-5.47E-02		1.09E-01
+	NB-93M	16.57	9.43	5.18E+01	1.23E+02	1.23E+02
+	NB-94	702.63	100.00	4.13E-02	1.31E-01	1.38E-01
		871.10	100.00	2.17E-02		1.31E-01
+	NB-95	765.79	99.81	1.50E-01	2.67E-01	2.67E-01
+	NB-95M	235.69	25.00	1.13E+01	1.79E+02	1.79E+02
+	ZR-95	724.18	43.70	-3.01E-02	3.39E-01	4.37E-01
		756.72	55.30	7.03E-03		3.39E-01
+	MO-99	181.06	6.20	1.21E+02	1.46E+03	1.97E+03
		739.58	12.80	8.37E+01		1.46E+03
		778.00	4.50	-5.10E+01		4.44E+03
+	RU-103	497.08	89.00	3.06E-02	1.98E-01	1.98E-01
+	RU-106	621.84	9.80	7.05E-02	1.26E+00	1.26E+00
+	AG-108M	433.93	89.90	-5.00E-02	1.16E-01	1.16E-01
		614.37	90.40	1.15E-02		1.43E-01
		722.95	90.50	-4.13E-03		1.29E-01
+	CD-109	88.03	3.72	3.34E+00	3.27E+00	3.27E+00
+	AG-110M	657.75	93.14	-8.28E-02	1.46E-01	1.46E-01
		677.61	10.53	-7.26E-01		1.16E+00
		706.67	16.46	-3.52E-02		8.43E-01
		763.93	21.98	-5.26E-01		6.61E-01
		884.67	71.63	2.31E-02		1.97E-01
		1384.27	23.94	-2.00E-02		6.00E-01
+	CD-113M	263.70	0.02	8.87E+01	4.17E+02	4.17E+02
+	SN-113	255.12	1.93	4.74E-01	1.78E-01	5.82E+00
		391.69	64.90	-2.15E-02		1.78E-01
+	TE123M	159.00	84.10	-1.59E-02	1.07E-01	1.07E-01
+	SB-124	602.71	97.87	2.98E-03	1.62E-01	1.62E-01
		645.85	7.26	3.61E-01		2.32E+00
		722.78	11.10	-4.70E-02		1.47E+00
		1691.02	49.00	-1.30E-01		2.58E-01
+	I-125	35.49	6.49	7.85E-02	4.79E+00	4.79E+00
+	SB-125	176.33	6.89	-5.33E-01	3.75E-01	1.10E+00
		427.89	29.33	1.02E-01		3.75E-01
		463.38	10.35	9.80E-01		1.20E+00
		600.56	17.80	7.95E-02		6.63E-01
		635.90	11.32	-2.10E-01		1.04E+00

Analysis Report for 1510063-08

CP0403S11-12

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	SB-126	414.70	83.30	-3.28E-02	6.06E-01	6.06E-01
		666.33	99.60	9.84E-02		6.22E-01
		695.00	99.60	5.32E-02		6.63E-01
		720.50	53.80	7.07E-02		1.08E+00
+	SN-126	87.57	* 37.00	3.21E-01	3.15E-01	3.15E-01
+	SB-127	473.00	25.00	3.40E+00	6.09E+01	8.14E+01
		685.20	35.70	-1.74E+00		6.09E+01
		783.80	14.70	9.61E+01		1.81E+02
+	I-129	29.78	57.00	-4.00E-01	6.84E-01	6.84E-01
		33.60	13.20	-6.01E-01		2.01E+00
		39.58	7.52	-2.75E-01		2.28E+00
+	I-131	284.30	6.05	-9.48E-01	1.53E+00	1.88E+01
		364.48	81.20	2.67E-01		1.53E+00
		636.97	7.26	1.17E+01		2.11E+01
		722.89	1.80	-2.53E+00		7.92E+01
+	TE-132	49.72	13.10	-2.20E+02	5.33E+01	4.39E+02
		228.16	88.00	-3.12E+00		5.33E+01
+	BA-133	81.00	33.00	-1.63E+00	2.45E-01	2.73E-01
		302.84	17.80	5.13E-01		5.84E-01
		356.01	60.00	2.90E-02		2.45E-01
+	I-133	529.87	86.30	-1.92E+08	1.51E+09	1.51E+09
+	XE-133	81.00	38.00	-6.51E+01	1.09E+01	1.09E+01
+	CS-134	563.23	8.38	-4.26E-01	1.27E-01	1.41E+00
		569.32	15.43	3.16E-01		8.36E-01
		604.70	97.60	-1.79E-02		1.27E-01
		795.84	85.40	1.30E-01		1.78E-01
		801.93	8.73	-8.75E-02		1.44E+00
+	CS-135	268.24	16.00	-6.68E-02	6.69E-01	6.69E-01
+	@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@	1260.41	28.60	1.00E+26		1.00E+26
	@	1678.03	9.54	0.00E+00		1.00E+26
+	CS-136	153.22	7.46	3.97E+00	5.29E-01	4.97E+00
		163.89	4.61	2.38E+00		7.79E+00
		176.55	13.56	-4.44E-01		2.58E+00
		273.65	12.66	-1.18E+00		3.77E+00
		340.57	48.50	4.93E-02		1.25E+00
		818.50	99.70	-1.38E-01		5.29E-01
		1048.07	79.60	-3.66E-02		8.18E-01
		1235.34	19.70	1.75E-01		4.53E+00
+	CS-137	661.65	85.12	5.08E-02	1.52E-01	1.52E-01
+	LA-138	788.74	34.00	1.29E-01	1.78E-01	4.17E-01
		1435.80	66.00	3.44E-03		1.78E-01
+	CE-139	165.85	80.35	3.82E-02	1.10E-01	1.10E-01
+	BA-140	162.64	6.70	2.55E-01	2.22E+00	5.50E+00
		304.84	4.50	-2.89E+00		9.60E+00
		423.70	3.20	-7.56E-01		1.58E+01
		437.55	2.00	5.88E+00		2.63E+01
		537.32	25.00	4.81E-01		2.22E+00
+	LA-140	328.77	20.50	1.50E+00	6.44E-01	2.59E+00

Analysis Report for 1510063-08
CP0403S11-12

<i>Nuclide Name</i>	<i>Energy (keV)</i>	<i>Yield(%)</i>	<i>Activity (pCi/grams)</i>	<i>Nuclide MDA (pCi/grams)</i>	<i>Line MDA (pCi/grams)</i>	
	LA-140	487.03	45.50	4.01E-01	6.44E-01	1.22E+00
		815.85	23.50	8.66E-01		2.34E+00
		1596.49	95.49	3.11E-02		6.44E-01
+	CE-141	145.44	48.40	1.21E-01	3.06E-01	3.06E-01
+	CE-143	57.36	11.80	4.29E+05	7.24E+05	2.07E+06
		293.26	42.00	-4.71E+04		7.24E+05
		664.55	5.20	-5.56E+05		5.31E+06
+	CE-144	133.54	10.80	-1.86E-01	7.39E-01	7.39E-01
+	PM-144	476.78	42.00	7.81E-03	1.18E-01	2.77E-01
		618.01	98.60	-1.69E-02		1.18E-01
		696.49	99.49	6.38E-02		1.43E-01
+	PM-145	36.85	21.70	-1.91E-01	4.87E-01	9.16E-01
		37.36	39.70	-2.26E-01		4.87E-01
		42.30	15.10	2.90E-01		9.98E-01
		72.40	2.31	-5.35E+00		5.35E+00
+	PM-146	453.90	39.94	-1.44E-02	2.71E-01	2.71E-01
		735.90	14.01	7.84E-02		8.94E-01
		747.13	13.10	-4.08E-01		8.70E-01
+	ND-147	91.11	28.90	9.08E-01	2.25E+00	2.25E+00
		531.02	13.10	-1.45E-01		5.37E+00
+	PM-149	285.90	3.10	2.20E+04	2.76E+04	2.76E+04
+	EU-152	121.78	20.50	-1.85E-01	3.41E-01	3.41E-01
		244.69	5.40	5.24E-01		2.12E+00
		344.27	19.13	2.71E-01		5.20E-01
		778.89	9.20	5.42E-01		1.50E+00
		964.01	10.40	-2.37E+00		1.50E+00
		1085.78	7.22	9.09E-01		2.30E+00
		1112.02	9.60	-8.05E-03		1.59E+00
		1407.95	14.94	2.72E-01		1.12E+00
+	GD-153	97.43	31.30	-3.27E-01	2.53E-01	2.53E-01
		103.18	22.20	-1.48E-01		3.50E-01
+	EU-154	123.07	40.50	1.87E-02	1.81E-01	1.81E-01
		723.30	19.70	-1.91E-02		5.98E-01
		873.19	11.50	1.72E-01		1.09E+00
		996.32	10.30	-1.85E-01		1.23E+00
		1004.76	17.90	1.14E-01		7.75E-01
		1274.45	35.50	-1.59E-01		4.65E-01
+	EU-155	86.50	30.90	1.89E-01	3.39E-01	3.39E-01
		105.30	20.70	4.49E-03		3.58E-01
+	EU-156	811.77	10.40	4.89E-01	4.01E+00	4.01E+00
		1153.47	7.20	4.34E+00		9.55E+00
		1230.71	8.90	3.17E+00		7.40E+00
+	HO-166M	184.41	72.60	2.73E-01	1.47E-01	1.47E-01
		280.45	29.60	2.49E-02		3.33E-01
		410.94	11.10	1.98E-01		1.02E+00
		711.69	54.10	1.51E-03		2.36E-01
+	TM-171	66.72	0.14	-1.11E+02	7.64E+01	7.64E+01
+	HF-172	81.75	4.52	-7.40E+00	7.10E-01	2.03E+00
		125.81	11.30	-2.53E-01		7.10E-01

Analysis Report for 1510063-08
CP0403S11-12

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	LU-172	181.53	20.60	-1.27E+01	4.86E+00	8.12E+00
		810.06	16.63	-2.13E-01		1.29E+01
		912.12	15.25	7.13E+01		3.27E+01
		1093.66	62.50	9.19E-01		4.86E+00
+	LU-173	100.72	5.24	4.27E-01	5.27E-01	1.45E+00
		272.11	21.20	2.75E-01		5.27E-01
+	HF-175	343.40	84.00	6.89E-03	1.59E-01	1.59E-01
+	LU-176	88.34	13.30	3.85E-01	9.63E-02	8.09E-01
		201.83	86.00	5.59E-02		1.16E-01
		306.78	94.00	-4.39E-02		9.63E-02
+	TA-182	67.75	41.20	-2.72E-02	2.99E-01	2.99E-01
		1121.30	34.90	5.34E-01		7.21E-01
		1189.05	16.23	-6.55E-01		1.14E+00
		1221.41	26.98	3.23E-02		7.17E-01
		1231.02	11.44	1.35E-01		1.83E+00
+	IR-192	308.46	29.68	1.67E-01	2.83E-01	4.29E-01
		468.07	48.10	2.40E-02		2.83E-01
+	HG-203	279.19	77.30	3.32E-02	1.98E-01	1.98E-01
+	BI-207	569.67	97.72	5.45E-02	1.29E-01	1.29E-01
		1063.62	74.90	-3.87E-02		2.04E-01
+	TL-208	583.14	* 30.22	1.59E+00	6.39E-02	6.31E-01
		860.37	* 4.48	3.56E+00		3.93E+00
		2614.66	* 35.85	1.63E+00		6.39E-02
+	BI-210M	262.00	45.00	4.69E-02	2.10E-01	2.10E-01
		300.00	23.00	-1.66E+00		4.74E-01
+	PB-210	46.50	* 4.25	2.12E+00	4.19E+00	4.19E+00
+	PB-211	404.84	2.90	3.60E-01	3.73E+00	3.73E+00
		831.96	2.90	1.19E+00		4.64E+00
+	BI-212	727.17	* 11.80	1.46E+00	1.31E+00	1.31E+00
		1620.62	2.75	2.24E+00		5.33E+00
+	PB-212	238.63	* 44.60	2.22E+00	3.30E-01	3.30E-01
		300.09	* 3.41	3.52E+00		4.75E+00
+	BI-214	609.31	* 46.30	1.52E+00	4.08E-01	4.08E-01
		1120.29	15.10	1.46E+00		1.40E+00
		1764.49	* 15.80	8.86E-01		1.21E+00
		2204.22	* 4.98	1.66E+00		2.20E+00
+	PB-214	295.21	* 19.19	2.13E+00	3.26E-01	8.31E-01
		351.92	* 37.19	1.94E+00		3.26E-01
+	RN-219	401.80	6.50	1.19E-01	1.69E+00	1.69E+00
+	RA-223	323.87	3.88	7.08E-01	2.76E+00	2.76E+00
+	RA-224	240.98	3.95	2.92E+01	5.12E+00	5.12E+00
+	RA-225	40.00	31.00	-2.53E-01	2.10E+00	2.10E+00
+	RA-226	186.21	* 3.28	6.83E+00	6.92E+00	6.92E+00
+	TH-227	50.10	8.40	-7.10E-01	1.42E+00	1.42E+00
		236.00	11.50	9.42E-02		1.49E+00
		256.20	6.30	1.69E-01		1.47E+00
+	AC-228	338.32	* 11.40	2.46E+00	7.34E-01	1.25E+00
		911.07	* 27.70	1.87E+00		7.34E-01

Analysis Report for 1510063-08

CP0403S11-12

Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	AC-228	969.11	*	16.60	1.81E+00	7.34E-01
+	TH-230	48.44		16.90	1.08E-01	7.87E-01
		62.85		4.60	2.60E+00	2.53E+00
		67.67		0.37	-2.55E+00	2.80E+01
+	PA-231	283.67		1.60	-2.94E-01	4.49E+00
		302.67		2.30	3.95E+00	4.49E+00
+	TH-231	25.64		14.70	1.80E+00	1.42E+00
		84.21		6.40	2.10E-01	1.42E+00
+	PA-233	311.98		38.60	2.39E-01	5.42E-01
+	PA-234	131.20		20.40	1.84E-02	3.79E-01
		733.99		8.80	1.75E-01	1.36E+00
		946.00		12.00	8.60E-02	1.00E+00
+	PA-234M	1001.03		0.92	-1.84E+00	1.44E+01
+	TH-234	63.29		3.80	2.29E+00	3.02E+00
+	U-235	143.76		10.50	1.73E-01	7.44E-01
		163.35		4.70	5.05E-01	1.66E+00
		205.31		4.70	5.45E-01	2.06E+00
+	NP-237	86.50		12.60	4.59E-01	8.22E-01
+	NP-239	106.10		22.70	-3.05E+02	1.65E+03
		228.18		10.70	-2.73E+02	4.67E+03
		277.60		14.10	1.78E+03	3.61E+03
+	AM-241	59.54		35.90	-9.62E-02	3.11E-01
+	AM-243	74.67	*	66.00	3.00E-01	3.21E-01
+	CM-243	209.75	*	3.29	2.13E+00	7.33E-01
		228.14		10.60	-5.43E-02	9.28E-01
		277.60	*	14.00	5.38E-01	7.33E-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

? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

: 00617

Analysis Report for 1510063-08

CP0403S11-12

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
BE-7	477.59	10.42	1.48E+00	1.48E+00	4.64E-02	6.99E-01
NA-22	1274.54	99.94	1.68E-01	1.68E-01	-5.75E-02	7.67E-02
NA-24	1368.53	99.99	1.24E+13	8.66E+12	3.61E+12	5.53E+12
	2754.09	99.86	8.66E+12		7.15E+11	3.24E+12
AL-26	1808.65	99.76	1.23E-01	1.23E-01	1.21E-02	5.22E-02
+ K-40	1460.81	* 10.67	1.77E+00	1.77E+00	2.52E+01	8.11E-01
@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
TI-44	67.88	94.40	1.10E-01	1.10E-01	-9.97E-03	5.36E-02
	78.34	96.00	1.38E-01		3.72E-01	6.77E-02
SC-46	889.25	99.98	1.63E-01	1.63E-01	-1.34E-02	7.50E-02
	1120.51	99.99	2.68E-01		2.81E-01	1.26E-01
V-48	983.52	99.98	4.93E-01	4.93E-01	-2.03E-01	2.26E-01
	1312.10	97.50	5.85E-01		-2.29E-01	2.67E-01
CR-51	320.08	9.83	2.08E+00	2.08E+00	-1.15E-01	9.93E-01
MN-54	834.83	99.97	1.43E-01	1.43E-01	2.79E-02	6.61E-02
CO-56	846.75	99.96	1.76E-01	1.76E-01	9.47E-03	8.17E-02
	1037.75	14.03	1.23E+00		2.91E-01	5.60E-01
	1238.25	67.00	3.97E-01		2.81E-01	1.85E-01
	1771.40	15.51	8.78E-01		-1.11E-02	3.64E-01
	2598.48	16.90	9.09E-01		6.09E-02	3.67E-01
CO-57	122.06	85.51	8.77E-02	8.77E-02	-4.75E-02	4.24E-02
	136.48	10.60	7.72E-01		2.23E-01	3.74E-01
CO-58	810.76	99.40	1.48E-01	1.48E-01	6.21E-04	6.77E-02
FE-59	1099.22	56.50	4.18E-01	4.18E-01	-1.33E-01	1.92E-01
	1291.56	43.20	5.88E-01		5.88E-02	2.68E-01
CO-60	1173.22	100.00	1.98E-01	1.59E-01	1.52E-01	9.22E-02
	1332.49	100.00	1.59E-01		3.25E-02	7.23E-02
ZN-65	1115.52	50.75	3.36E-01	3.36E-01	5.46E-02	1.55E-01
GA-67	93.31	35.70	1.31E+02	1.31E+02	2.07E+02	6.41E+01
	208.95	2.24	2.22E+03		1.20E+03	1.08E+03
	300.22	16.00	3.24E+02		-1.13E+03	1.56E+02
SE-75	121.11	16.70	4.77E-01	1.52E-01	3.57E-02	2.31E-01
	136.00	59.20	1.52E-01		5.76E-02	7.38E-02
	264.65	59.80	1.88E-01		3.16E-02	9.03E-02
	279.53	25.20	4.63E-01		3.70E-03	2.23E-01
	400.65	11.40	1.12E+00		-3.26E-01	5.35E-01
RB-82	776.52	13.00	2.35E+00	2.35E+00	7.66E-01	1.10E+00
RB-83	520.41	46.00	2.96E-01	2.96E-01	3.50E-02	1.39E-01
	529.64	30.30	4.59E-01		-5.83E-02	2.16E-01
	552.65	16.40	8.07E-01		-3.41E-01	3.77E-01
KR-85	513.99	0.43	3.77E+01	3.77E+01	4.48E+01	1.81E+01
SR-85	513.99	99.27	2.24E-01	2.24E-01	2.66E-01	1.07E-01
Y-88	898.02	93.40	1.62E-01	1.09E-01	-3.91E-02	7.43E-02
	1836.01	99.38	1.09E-01		-5.47E-02	4.31E-02
NB-93M	16.57	9.43	1.23E+02	1.23E+02	5.18E+01	6.01E+01
NB-94	702.63	100.00	1.38E-01	1.31E-01	4.13E-02	6.46E-02
	871.10	100.00	1.31E-01		2.17E-02	6.06E-02
NB-95	765.79	99.81	2.67E-01	2.67E-01	1.50E-01	1.25E-01
NB-95M	235.69	25.00	1.79E+02	1.79E+02	1.13E+01	8.80E+01
ZR-95	724.18	43.70	4.37E-01	3.39E-01	-3.01E-02	2.05E-01
	756.72	55.30	3.39E-01		7.03E-03	1.58E-01

Analysis Report for 1510063-08

CP0403S11-12

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
MO-99	181.06	6.20	1.97E+03	1.46E+03	1.21E+02	9.54E+02
	739.58	12.80	1.46E+03		8.37E+01	6.79E+02
	778.00	4.50	4.44E+03		-5.10E+01	2.07E+03
RU-103	497.08	89.00	1.98E-01	1.98E-01	3.06E-02	9.33E-02
RU-106	621.84	9.80	1.26E+00	1.26E+00	7.05E-02	5.89E-01
AG-108M	433.93	89.90	1.16E-01	1.16E-01	-5.00E-02	5.50E-02
	614.37	90.40	1.43E-01		1.15E-02	6.71E-02
	722.95	90.50	1.29E-01		-4.13E-03	5.99E-02
+ CD-109	88.03	* 3.72	3.27E+00	3.27E+00	3.34E+00	1.61E+00
AG-110M	657.75	93.14	1.46E-01	1.46E-01	-8.28E-02	6.82E-02
	677.61	10.53	1.16E+00		-7.26E-01	5.37E-01
	706.67	16.46	8.43E-01		-3.52E-02	3.93E-01
	763.93	21.98	6.61E-01		-5.26E-01	3.08E-01
	884.67	71.63	1.97E-01		2.31E-02	9.09E-02
	1384.27	23.94	6.00E-01		-2.00E-02	2.66E-01
CD-113M	263.70	0.02	4.17E+02	4.17E+02	8.87E+01	2.01E+02
SN-113	255.12	1.93	5.82E+00	1.78E-01	4.74E-01	2.80E+00
	391.69	64.90	1.78E-01		-2.15E-02	8.45E-02
TE123M	159.00	84.10	1.07E-01	1.07E-01	-1.59E-02	5.19E-02
SB-124	602.71	97.87	1.62E-01	1.62E-01	2.98E-03	7.59E-02
	645.85	7.26	2.32E+00		3.61E-01	1.09E+00
	722.78	11.10	1.47E+00		-4.70E-02	6.82E-01
	1691.02	49.00	2.58E-01		-1.30E-01	1.04E-01
I-125	35.49	6.49	4.79E+00	4.79E+00	7.85E-02	2.33E+00
SB-125	176.33	6.89	1.10E+00	3.75E-01	-5.33E-01	5.29E-01
	427.89	29.33	3.75E-01		1.02E-01	1.78E-01
	463.38	10.35	1.20E+00		9.80E-01	5.70E-01
	600.56	17.80	6.63E-01		7.95E-02	3.10E-01
	635.90	11.32	1.04E+00		-2.10E-01	4.84E-01
	720.50	53.80	1.08E+00		7.07E-02	4.98E-01
+ SN-126	87.57	* 37.00	3.15E-01	3.15E-01	3.21E-01	1.55E-01
SB-127	473.00	25.00	8.14E+01	6.09E+01	3.40E+00	3.85E+01
	685.20	35.70	6.09E+01		-1.74E+00	2.83E+01
	783.80	14.70	1.81E+02		9.61E+01	8.47E+01
I-129	29.78	57.00	6.84E-01	6.84E-01	-4.00E-01	3.32E-01
	33.60	13.20	2.01E+00		-6.01E-01	9.76E-01
	39.58	7.52	2.28E+00		-2.75E-01	1.11E+00
I-131	284.30	6.05	1.88E+01	1.53E+00	-9.48E-01	9.03E+00
	364.48	81.20	1.53E+00		2.67E-01	7.29E-01
	636.97	7.26	2.11E+01		1.17E+01	9.88E+00
	722.89	1.80	7.92E+01		-2.53E+00	3.67E+01
TE-132	49.72	13.10	4.39E+02	5.33E+01	-2.20E+02	2.14E+02
	228.16	88.00	5.33E+01		-3.12E+00	2.58E+01
BA-133	81.00	33.00	2.73E-01	2.45E-01	-1.63E+00	1.33E-01
	302.84	17.80	5.84E-01		5.13E-01	2.81E-01
	356.01	60.00	2.45E-01		2.90E-02	1.18E-01
I-133	529.87	86.30	1.51E+09	1.51E+09	-1.92E+08	7.08E+08
XE-133	81.00	38.00	1.09E+01	1.09E+01	-6.51E+01	5.32E+00
CS-134	563.23	8.38	1.41E+00	1.27E-01	-4.26E-01	6.61E-01
	569.32	15.43	8.36E-01		3.16E-01	3.94E-01

Analysis Report for 1510063-08

CP0403S11-12

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
CS-134	604.70	97.60	1.27E-01	1.27E-01	-1.79E-02	5.96E-02
	795.84	85.40	1.78E-01		1.30E-01	8.31E-02
	801.93	8.73	1.44E+00		-8.75E-02	6.64E-01
CS-135	268.24	16.00	6.69E-01	6.69E-01	-6.68E-02	3.23E-01
	1131.51	22.50	1.00E+26		1.00E+26	1.00E+20
@ I-135	1260.41	28.60	1.00E+26		1.00E+26	1.00E+20
@	1678.03	9.54	1.00E+26		0.00E+00	1.00E+20
CS-136	153.22	7.46	4.97E+00	5.29E-01	3.97E+00	2.41E+00
	163.89	4.61	7.79E+00		2.38E+00	3.77E+00
	176.55	13.56	2.58E+00		-4.44E-01	1.25E+00
	273.65	12.66	3.77E+00		-1.18E+00	1.82E+00
	340.57	48.50	1.25E+00		4.93E-02	6.02E-01
	818.50	99.70	5.29E-01		-1.38E-01	2.42E-01
	1048.07	79.60	8.18E-01		-3.66E-02	3.74E-01
	1235.34	19.70	4.53E+00		1.75E-01	2.10E+00
CS-137	661.65	85.12	1.52E-01	1.52E-01	5.08E-02	7.12E-02
LA-138	788.74	34.00	4.17E-01	1.78E-01	1.29E-01	1.95E-01
	1435.80	66.00	1.78E-01		3.44E-03	7.75E-02
CE-139	165.85	80.35	1.10E-01	1.10E-01	3.82E-02	5.29E-02
BA-140	162.64	6.70	5.50E+00	2.22E+00	2.55E-01	2.66E+00
	304.84	4.50	9.60E+00		-2.89E+00	4.58E+00
	423.70	3.20	1.58E+01		-7.56E-01	7.48E+00
	437.55	2.00	2.63E+01		5.88E+00	1.25E+01
	537.32	25.00	2.22E+00		4.81E-01	1.04E+00
LA-140	328.77	20.50	2.59E+00	6.44E-01	1.50E+00	1.24E+00
	487.03	45.50	1.22E+00		4.01E-01	5.78E-01
	815.85	23.50	2.34E+00		8.66E-01	1.07E+00
	1596.49	95.49	6.44E-01		3.11E-02	2.80E-01
CE-141	145.44	48.40	3.06E-01	3.06E-01	1.21E-01	1.49E-01
CE-143	57.36	11.80	2.07E+06	7.24E+05	4.29E+05	1.01E+06
	293.26	42.00	7.24E+05		-4.71E+04	3.51E+05
	664.55	5.20	5.31E+06		-5.56E+05	2.48E+06
CE-144	133.54	10.80	7.39E-01	7.39E-01	-1.86E-01	3.58E-01
PM-144	476.78	42.00	2.77E-01	1.18E-01	7.81E-03	1.31E-01
	618.01	98.60	1.18E-01		-1.69E-02	5.48E-02
	696.49	99.49	1.43E-01		6.38E-02	6.72E-02
PM-145	36.85	21.70	9.16E-01	4.87E-01	-1.91E-01	4.45E-01
	37.36	39.70	4.87E-01		-2.26E-01	2.37E-01
	42.30	15.10	9.98E-01		2.90E-01	4.86E-01
	72.40	2.31	5.35E+00		-5.35E+00	2.63E+00
PM-146	453.90	39.94	2.71E-01	2.71E-01	-1.44E-02	1.28E-01
	735.90	14.01	8.94E-01		7.84E-02	4.15E-01
	747.13	13.10	8.70E-01		-4.08E-01	4.01E-01
ND-147	91.11	28.90	2.25E+00	2.25E+00	9.08E-01	1.10E+00
	531.02	13.10	5.37E+00		-1.45E-01	2.53E+00
PM-149	285.90	3.10	2.76E+04	2.76E+04	2.20E+04	1.32E+04
EU-152	121.78	20.50	3.41E-01	3.41E-01	-1.85E-01	1.65E-01
	244.69	5.40	2.12E+00		5.24E-01	1.03E+00
	344.27	19.13	5.20E-01		2.71E-01	2.48E-01
	778.89	9.20	1.50E+00		5.42E-01	6.99E-01
	964.01	10.40	1.50E+00		-2.37E+00	6.95E-01
	1085.78	7.22	2.30E+00		9.09E-01	1.07E+00
	1112.02	9.60	1.59E+00		-8.05E-03	7.29E-01

Analysis Report for 1510063-08
CP0403S11-12

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)	
EU-152	1407.95	14.94	1.12E+00	3.41E-01	2.72E-01	5.10E-01	
GD-153	97.43	31.30	2.53E-01	2.53E-01	-3.27E-01	1.23E-01	
	103.18	22.20	3.50E-01		-1.48E-01	1.70E-01	
EU-154	123.07	40.50	1.81E-01	1.81E-01	1.87E-02	8.76E-02	
	723.30	19.70	5.98E-01		-1.91E-02	2.77E-01	
	873.19	11.50	1.09E+00		1.72E-01	5.03E-01	
	996.32	10.30	1.23E+00		-1.85E-01	5.58E-01	
	1004.76	17.90	7.75E-01		1.14E-01	3.55E-01	
	1274.45	35.50	4.65E-01		-1.59E-01	2.13E-01	
EU-155	86.50	30.90	3.39E-01	3.39E-01	1.89E-01	1.66E-01	
	105.30	20.70	3.58E-01		4.49E-03	1.74E-01	
EU-156	811.77	10.40	4.01E+00	4.01E+00	4.89E-01	1.83E+00	
	1153.47	7.20	9.55E+00		4.34E+00	4.44E+00	
	1230.71	8.90	7.40E+00		3.17E+00	3.42E+00	
HO-166M	184.41	72.60	1.47E-01	1.47E-01	2.73E-01	7.14E-02	
	280.45	29.60	3.33E-01		2.49E-02	1.60E-01	
	410.94	11.10	1.02E+00		1.98E-01	4.87E-01	
	711.69	54.10	2.36E-01		1.51E-03	1.10E-01	
TM-171	66.72	0.14	7.64E+01	7.64E+01	-1.11E+02	3.73E+01	
HF-172	81.75	4.52	2.03E+00	7.10E-01	-7.40E+00	9.90E-01	
	125.81	11.30	7.10E-01		-2.53E-01	3.45E-01	
LU-172	181.53	20.60	8.12E+00	4.86E+00	-1.27E+01	3.92E+00	
	810.06	16.63	1.29E+01		-2.13E-01	5.87E+00	
	912.12	15.25	3.27E+01		7.13E+01	1.57E+01	
	1093.66	62.50	4.86E+00		9.19E-01	2.23E+00	
LU-173	100.72	5.24	1.45E+00	5.27E-01	4.27E-01	7.04E-01	
	272.11	21.20	5.27E-01		2.75E-01	2.54E-01	
HF-175	343.40	84.00	1.59E-01	1.59E-01	6.89E-03	7.61E-02	
LU-176	88.34	13.30	8.09E-01	9.63E-02	3.85E-01	3.97E-01	
	201.83	86.00	1.16E-01		5.59E-02	5.60E-02	
	306.78	94.00	9.63E-02		-4.39E-02	4.59E-02	
TA-182	67.75	41.20	2.99E-01	2.99E-01	-2.72E-02	1.46E-01	
	1121.30	34.90	7.21E-01		5.34E-01	3.39E-01	
	1189.05	16.23	1.14E+00		-6.55E-01	5.21E-01	
	1221.41	26.98	7.17E-01		3.23E-02	3.28E-01	
	1231.02	11.44	1.83E+00		1.35E-01	8.44E-01	
IR-192	308.46	29.68	4.29E-01	2.83E-01	1.67E-01	2.06E-01	
	468.07	48.10	2.83E-01		2.40E-02	1.33E-01	
HG-203	279.19	77.30	1.98E-01	1.98E-01	3.32E-02	9.50E-02	
BI-207	569.67	97.72	1.29E-01	1.29E-01	5.45E-02	6.08E-02	
	1063.62	74.90	2.04E-01		-3.87E-02	9.39E-02	
+ TL-208	583.14	*	30.22	6.31E-01	6.39E-02	1.59E+00	3.04E-01
	860.37	*	4.48	3.93E+00		3.56E+00	1.85E+00
	2614.66	*	35.85	6.39E-02		1.63E+00	0.00E+00
BI-210M	262.00		45.00	2.10E-01	2.10E-01	4.69E-02	1.01E-01
	300.00		23.00	4.74E-01		-1.66E+00	2.28E-01
+ PB-210	46.50	*	4.25	4.19E+00	4.19E+00	2.12E+00	2.05E+00
PB-211	404.84		2.90	3.73E+00	3.73E+00	3.60E-01	1.77E+00
	831.96		2.90	4.64E+00		1.19E+00	2.15E+00
+ BI-212	727.17	*	11.80	1.31E+00	1.31E+00	1.46E+00	6.17E-01
	1620.62		2.75	5.33E+00		2.24E+00	2.36E+00
+ PB-212	238.63	*	44.60	3.30E-01	3.30E-01	2.22E+00	1.61E-01
	300.09	*	3.41	4.75E+00		3.52E+00	2.31E+00

Analysis Report for: 1510063-08

CP0403S11-12

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
+	BI-214	609.31 *		46.30	4.08E-01	4.08E-01	1.52E+00	1.96E-01
		1120.29		15.10	1.40E+00		1.46E+00	6.56E-01
		1764.49 *		15.80	1.21E+00		8.86E-01	5.46E-01
		2204.22 *		4.98	2.20E+00		1.66E+00	8.90E-01
+	PB-214	295.21 *		19.19	8.31E-01	3.26E-01	2.13E+00	4.05E-01
		351.92 *		37.19	3.26E-01		1.94E+00	1.57E-01
	RN-219	401.80		6.50	1.69E+00	1.69E+00	1.19E-01	8.04E-01
	RA-223	323.87		3.88	2.76E+00	2.76E+00	7.08E-01	1.32E+00
	RA-224	240.98		3.95	5.12E+00	5.12E+00	2.92E+01	2.52E+00
	RA-225	40.00		31.00	2.10E+00	2.10E+00	-2.53E-01	1.02E+00
+	RA-226	186.21 *		3.28	6.92E+00	6.92E+00	6.83E+00	3.42E+00
	TH-227	50.10		8.40	1.42E+00	1.42E+00	-7.10E-01	6.91E-01
		236.00		11.50	1.49E+00		9.42E-02	7.31E-01
		256.20		6.30	1.47E+00		1.69E-01	7.06E-01
+	AC-228	338.32 *		11.40	1.25E+00	7.34E-01	2.46E+00	6.04E-01
		911.07 *		27.70	7.34E-01		1.87E+00	3.48E-01
		969.11 *		16.60	1.25E+00		1.81E+00	5.90E-01
	TH-230	48.44		16.90	7.87E-01	7.87E-01	1.08E-01	3.84E-01
		62.85		4.60	2.53E+00		2.60E+00	1.24E+00
		67.67		0.37	2.80E+01		-2.55E+00	1.37E+01
	PA-231	283.67		1.60	5.84E+00	4.49E+00	-2.94E-01	2.80E+00
		302.67		2.30	4.49E+00		3.95E+00	2.16E+00
	TH-231	25.64		14.70	5.05E+00	1.42E+00	1.80E+00	2.46E+00
		84.21		6.40	1.42E+00		2.10E-01	6.94E-01
	PA-233	311.98		38.60	5.42E-01	5.42E-01	2.39E-01	2.60E-01
	PA-234	131.20		20.40	3.79E-01	3.79E-01	1.84E-02	1.84E-01
		733.99		8.80	1.36E+00		1.75E-01	6.30E-01
		946.00		12.00	1.00E+00		8.60E-02	4.56E-01
	PA-234M	1001.03		0.92	1.44E+01	1.44E+01	-1.84E+00	6.59E+00
	TH-234	63.29		3.80	3.02E+00	3.02E+00	2.29E+00	1.48E+00
	U-235	143.76		10.50	7.44E-01	7.44E-01	1.73E-01	3.61E-01
		163.35		4.70	1.66E+00		5.05E-01	8.00E-01
		205.31		4.70	2.06E+00		5.45E-01	9.98E-01
	NP-237	86.50		12.60	8.22E-01	8.22E-01	4.59E-01	4.02E-01
	NP-239	106.10		22.70	1.65E+03	1.65E+03	-3.05E+02	8.01E+02
		228.18		10.70	4.67E+03		-2.73E+02	2.26E+03
		277.60		14.10	3.61E+03		1.78E+03	1.74E+03
	AM-241	59.54		35.90	3.11E-01	3.11E-01	-9.62E-02	1.52E-01
+	AM-243	74.67 *		66.00	3.21E-01	3.21E-01	3.00E-01	1.59E-01
+	CM-243	209.75 *		3.29	3.42E+00	7.33E-01	2.13E+00	1.66E+00
		228.14		10.60	9.28E-01		-5.43E-02	4.49E-01
		277.60 *		14.00	7.33E-01		5.38E-01	3.53E-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 1510063-08
CP0403S11-12

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

<i>Creation Date</i>	<i>Comment</i>	<i>User</i>
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No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP0403S11-12

Elapsed Live time: 3600
 Elapsed Real Time: 3616

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	9	168	159	146	130	100	98	102
17:	107	77	92	78	75	69	94	91
25:	88	78	84	89	69	71	97	82
33:	99	84	77	83	87	82	71	84
41:	99	90	88	82	78	122	166	109
49:	94	102	85	101	126	105	92	97
57:	95	120	122	142	125	135	165	205
65:	138	115	136	150	125	144	135	127
73:	176	174	411	253	432	448	141	114
81:	112	115	92	135	149	109	179	221
89:	128	166	160	110	240	184	96	82
97:	66	75	73	86	76	71	74	59
105:	82	90	71	77	75	93	65	72
113:	71	66	65	78	63	64	63	54
121:	44	62	68	82	81	74	69	76
129:	88	101	54	65	54	69	73	68
137:	55	75	65	60	52	61	65	78
145:	80	54	71	66	65	60	59	65
153:	57	76	77	44	47	62	64	58
161:	55	57	61	54	53	63	40	60
169:	41	42	62	46	64	44	51	56
177:	35	50	56	52	50	51	72	63
185:	66	146	120	56	62	43	59	42
193:	40	44	53	33	50	50	51	47
201:	56	43	55	56	48	39	42	46
209:	71	91	46	43	50	35	51	37
217:	40	43	51	51	40	35	36	43
225:	47	42	35	41	47	35	41	39
233:	48	40	33	46	45	164	481	211
241:	73	122	76	33	24	37	32	26
249:	20	25	32	39	32	42	24	26
257:	25	33	29	24	30	29	32	39
265:	30	23	32	26	32	53	68	26
273:	28	24	28	33	32	42	27	34
281:	21	22	30	30	20	29	29	24
289:	30	21	16	28	12	28	140	129
297:	40	18	28	40	50	26	25	29
305:	12	18	22	15	32	20	30	33
313:	22	20	18	26	19	15	23	19
321:	31	32	26	24	28	23	27	51
329:	33	27	15	22	18	23	27	20
337:	39	72	86	31	19	16	17	26
345:	23	19	26	19	11	26	69	215
353:	171	35	19	19	20	24	20	16
361:	19	18	12	23	15	20	35	17

369: 23 16 18 22 25 15 13 23

Sample Title: CP0403S11-12

Channel	13	19	14	16	18	24	11	7
377:	13	19	14	16	18	24	11	7
385:	19	24	13	31	19	14	17	17
393:	18	12	14	20	15	16	21	21
401:	20	17	21	18	19	30	13	13
409:	22	33	27	16	10	20	19	14
417:	13	14	15	22	21	11	17	12
425:	20	14	18	13	17	22	14	13
433:	17	11	18	14	20	20	15	14
441:	15	17	14	19	15	13	13	16
449:	17	19	14	14	14	14	16	14
457:	18	13	13	12	9	21	36	25
465:	12	16	11	12	15	14	12	10
473:	13	21	17	15	10	10	9	19
481:	13	17	13	7	24	19	21	14
489:	14	8	11	12	8	16	13	17
497:	12	13	7	8	11	13	15	12
505:	18	17	13	14	17	41	74	49
513:	18	16	19	8	16	11	15	13
521:	12	9	6	8	11	7	11	13
529:	20	10	10	12	7	15	15	15
537:	7	10	13	14	12	13	12	16
545:	10	6	14	13	14	10	11	8
553:	11	10	7	12	10	13	14	8
561:	10	16	12	14	12	9	14	13
569:	15	16	14	15	9	10	12	13
577:	14	14	8	10	11	29	84	99
585:	17	15	11	11	7	13	9	9
593:	8	5	8	13	7	12	10	16
601:	9	5	10	11	11	8	10	24
609:	113	129	25	15	11	11	6	10
617:	10	7	9	14	6	11	12	11
625:	7	11	10	6	10	11	10	6
633:	2	8	12	7	13	11	12	15
641:	11	11	9	7	12	12	4	9
649:	17	11	10	16	19	14	7	13
657:	5	11	9	17	11	17	6	8
665:	9	7	12	15	11	15	8	10
673:	15	5	6	14	5	7	9	9
681:	5	11	13	8	7	6	7	7
689:	9	10	5	8	15	9	9	13
697:	6	12	13	10	9	12	18	8
705:	10	12	3	11	12	11	4	7
713:	12	8	12	5	4	5	9	9
721:	8	7	9	9	6	5	33	21
729:	11	14	3	7	6	9	9	6
737:	14	7	7	10	10	5	5	10
745:	6	2	4	6	10	8	12	12
753:	10	7	11	11	10	11	7	11
761:	12	5	10	13	6	10	8	13
769:	21	9	6	11	11	8	7	10
777:	9	11	11	6	8	10	7	7
785:	8	20	11	6	5	10	5	11
793:	6	11	16	14	10	5	11	5

801: 4 6 10 8 4 9 3 2

Sample Title: CP0403S11-12

Channel	1	2	3	4	5	6	7	8
809:	8	12	3	3	4	6	2	8
817:	4	8	8	5	5	8	9	5
825:	8	8	2	4	7	8	10	9
833:	9	2	10	10	8	6	4	6
841:	3	2	8	5	11	8	9	7
849:	7	8	11	8	3	10	5	4
857:	4	10	13	20	16	6	8	9
865:	6	6	9	6	9	8	4	10
873:	4	7	4	6	4	4	5	7
881:	4	5	4	12	7	8	6	9
889:	3	4	7	7	9	6	3	7
897:	7	1	10	5	8	8	5	7
905:	6	7	6	7	8	24	46	62
913:	13	9	9	5	2	7	8	7
921:	6	3	5	5	6	6	10	5
929:	6	6	5	5	4	13	9	8
937:	7	9	4	4	2	4	5	8
945:	4	5	1	5	6	5	6	5
953:	6	5	10	6	7	3	5	4
961:	4	4	7	11	19	7	5	21
969:	35	18	10	7	1	5	4	6
977:	2	9	10	5	9	8	8	5
985:	5	4	9	6	4	8	5	6
993:	2	8	6	4	8	3	3	8
1001:	3	11	4	6	7	5	4	4
1009:	7	3	9	4	6	3	8	5
1017:	12	7	4	6	5	6	5	3
1025:	7	6	9	6	5	6	5	7
1033:	5	5	4	7	5	7	4	6
1041:	3	5	2	7	6	7	5	5
1049:	4	5	8	4	10	8	2	4
1057:	3	5	10	3	5	6	7	8
1065:	8	9	10	5	3	4	6	3
1073:	4	4	10	4	5	6	8	7
1081:	8	6	8	7	8	9	10	6
1089:	5	5	4	5	3	11	9	6
1097:	5	5	7	8	4	7	7	4
1105:	7	7	4	4	5	6	6	8
1113:	6	8	3	9	6	5	10	22
1121:	24	13	4	6	3	11	7	6
1129:	4	0	9	3	5	7	5	5
1137:	3	5	6	4	2	9	9	7
1145:	4	7	8	7	6	6	7	11
1153:	12	8	8	7	6	5	5	6
1161:	7	8	8	10	8	12	5	5
1169:	2	11	12	7	7	11	9	9
1177:	4	8	11	5	9	8	6	6
1185:	8	3	8	7	6	5	8	2
1193:	12	6	7	7	8	5	3	9
1201:	8	5	4	10	8	5	8	6
1209:	3	13	5	5	8	9	9	8
1217:	5	6	3	9	5	7	6	5
1225:	5	5	5	7	8	7	7	7

1233: 7 5 4 11 11 14 8 11

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Channel	1	2	3	4	5	6	7	8	9
1241:	8	4	6	5	7	6	5	4	
1249:	3	2	2	3	5	3	5	4	
1257:	4	6	6	7	5	3	7	4	
1265:	7	5	2	5	4	4	2	3	
1273:	7	4	7	1	6	5	4	9	
1281:	7	3	3	2	8	7	5	9	
1289:	4	1	3	4	4	4	3	2	
1297:	5	4	1	5	5	7	6	4	
1305:	3	5	7	3	2	2	1	5	
1313:	7	3	6	7	5	4	1	3	
1321:	4	2	7	2	4	2	4	3	
1329:	2	4	2	6	2	9	3	2	
1337:	1	5	2	3	1	4	3	2	
1345:	4	2	1	7	2	2	3	0	
1353:	2	1	2	3	2	2	1	0	
1361:	1	2	2	5	2	2	2	2	
1369:	4	2	2	1	4	0	4	5	
1377:	7	5	4	4	4	3	0	2	
1385:	1	0	1	6	3	3	1	2	
1393:	2	0	3	4	3	1	1	3	
1401:	3	6	1	3	4	2	4	3	
1409:	5	7	2	4	1	4	2	2	
1417:	3	3	2	0	1	1	3	3	
1425:	4	4	0	0	1	1	3	3	
1433:	1	1	1	2	1	1	2	3	
1441:	1	5	0	1	4	6	6	1	
1449:	3	2	3	2	3	2	0	4	
1457:	3	2	36	131	191	96	18	2	
1465:	1	1	3	1	1	1	1	1	
1473:	1	3	1	1	3	2	2	4	
1481:	2	1	5	2	2	3	2	2	
1489:	1	3	3	1	1	3	1	2	
1497:	2	4	3	1	2	4	0	3	
1505:	2	0	3	3	7	1	5	2	
1513:	3	1	4	1	1	2	0	1	
1521:	4	1	2	2	4	0	2	0	
1529:	2	0	1	3	1	1	0	1	
1537:	2	1	2	2	0	1	1	1	
1545:	0	1	2	1	0	1	1	1	
1553:	2	1	2	1	1	0	4	0	
1561:	2	2	1	1	1	2	0	1	
1569:	2	4	0	2	0	1	0	0	
1577:	2	0	4	1	6	4	2	4	
1585:	3	2	4	4	8	2	1	3	
1593:	4	2	0	1	1	1	1	2	
1601:	2	0	0	1	3	1	1	2	
1609:	1	2	4	1	0	4	1	3	
1617:	0	3	2	3	3	2	2	2	
1625:	0	0	2	2	5	4	3	2	
1633:	1	2	1	0	3	2	0	0	
1641:	1	1	0	2	1	2	0	1	
1649:	1	1	0	1	1	0	0	1	
1657:	0	2	0	2	1	1	0	0	

1665: 3 0 0 0 1 0 0 1

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Channel	-----	-----	-----	-----	-----	-----	-----	-----
1673:	1	1	1	2	1	0	1	1
1681:	0	2	0	2	0	0	2	0
1689:	1	0	0	0	1	2	0	3
1697:	1	2	0	3	2	1	3	2
1705:	0	0	0	0	0	0	2	1
1713:	0	2	0	1	0	0	1	1
1721:	2	0	2	4	2	1	0	1
1729:	6	3	2	1	2	1	0	1
1737:	1	1	2	0	1	0	0	1
1745:	4	0	1	4	1	1	1	1
1753:	2	2	0	2	0	1	1	1
1761:	1	2	4	11	11	3	2	1
1769:	4	0	1	0	0	0	0	1
1777:	0	1	0	1	0	3	2	0
1785:	1	2	0	0	3	1	0	0
1793:	1	2	0	1	1	0	0	0
1801:	2	2	2	1	2	1	2	1
1809:	1	1	0	2	0	1	0	1
1817:	1	2	1	2	1	0	1	1
1825:	0	3	1	1	1	0	0	1
1833:	1	0	2	0	1	0	0	1
1841:	2	2	1	1	1	2	2	2
1849:	1	1	1	1	0	1	0	1
1857:	1	0	0	0	0	0	3	2
1865:	0	0	0	2	2	1	0	0
1873:	2	1	0	0	0	2	0	1
1881:	0	1	1	2	1	2	1	1
1889:	0	1	2	1	0	1	2	0
1897:	2	1	0	2	1	0	1	0
1905:	2	0	0	0	2	0	2	1
1913:	1	0	1	0	1	1	1	3
1921:	0	2	0	1	0	0	0	1
1929:	0	1	0	0	0	0	3	0
1937:	1	2	0	0	0	1	0	1
1945:	0	0	1	1	1	2	0	2
1953:	1	0	3	1	1	0	0	0
1961:	1	1	2	0	2	0	0	1
1969:	0	0	1	0	0	0	0	0
1977:	0	1	2	1	2	1	0	0
1985:	6	0	2	0	2	0	2	1
1993:	0	1	1	0	1	2	1	1
2001:	0	3	0	0	0	1	0	0
2009:	0	1	0	1	1	1	0	0
2017:	1	0	0	0	3	2	3	0
2025:	1	1	1	1	2	0	1	1
2033:	0	0	2	2	0	1	0	1
2041:	0	2	0	2	0	1	0	0
2049:	0	0	0	1	1	0	1	2
2057:	0	1	1	0	1	4	0	0
2065:	1	0	0	1	1	2	0	3
2073:	1	1	0	1	1	1	1	0
2081:	1	2	2	0	0	1	1	0
2089:	0	0	1	1	0	2	1	1

2097: 0 2 1 0 3 0 4 5

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Channel	1	2	3	4	5	6	7	8
2105:	6	0	2	1	1	0	2	0
2113:	1	3	2	0	2	0	2	0
2121:	1	0	0	1	1	2	0	0
2129:	0	0	1	1	2	0	1	1
2137:	0	1	3	0	0	0	0	0
2145:	2	0	2	1	0	0	0	0
2153:	0	1	1	0	2	1	0	0
2161:	0	2	3	2	1	0	1	1
2169:	1	0	1	2	1	1	2	1
2177:	0	0	2	1	1	1	1	0
2185:	0	2	1	0	2	0	0	1
2193:	0	1	0	1	2	0	2	0
2201:	2	3	4	4	0	0	1	2
2209:	1	0	0	2	1	0	1	2
2217:	0	0	0	2	1	0	1	1
2225:	0	0	1	1	0	2	0	1
2233:	1	0	1	0	2	2	1	1
2241:	0	0	0	1	2	0	5	1
2249:	1	1	1	0	3	0	4	1
2257:	1	0	1	1	1	0	1	1
2265:	1	0	0	1	1	1	0	1
2273:	0	0	2	1	1	1	3	1
2281:	1	1	0	1	1	0	0	0
2289:	0	3	4	3	3	2	0	2
2297:	2	1	0	0	0	0	0	0
2305:	0	1	1	0	2	0	0	0
2313:	1	1	0	2	1	1	0	0
2321:	0	0	0	1	0	0	2	0
2329:	1	0	0	2	0	0	1	2
2337:	1	0	0	1	0	1	3	1
2345:	1	0	0	1	0	0	2	0
2353:	2	1	0	3	0	0	1	1
2361:	2	0	2	2	1	0	2	1
2369:	0	1	0	0	2	1	1	0
2377:	1	1	3	1	0	1	1	1
2385:	0	0	0	1	1	1	0	1
2393:	2	2	0	2	1	0	0	2
2401:	0	1	0	0	1	0	2	0
2409:	4	1	0	1	1	1	1	1
2417:	1	0	2	2	0	1	0	2
2425:	1	1	0	2	0	0	1	1
2433:	1	1	1	0	1	0	2	1
2441:	1	0	1	1	0	2	2	3
2449:	0	0	3	0	0	1	0	1
2457:	0	1	0	0	1	1	1	1
2465:	1	0	0	0	1	0	2	0
2473:	0	0	0	0	1	3	0	0
2481:	0	0	2	2	0	0	1	0
2489:	0	0	0	0	0	0	0	0
2497:	0	0	1	2	1	0	0	0
2505:	0	1	0	0	1	0	0	0
2513:	1	0	1	0	0	0	0	0
2521:	0	0	0	1	1	0	1	0

2529: 1 0 0 0 0 0 1 2

Sample Title: CP0403S11-12

Channel	1	2	3	4	5	6	7	8
2537:	0	0	0	0	0	0	0	0
2545:	0	1	1	0	0	0	0	1
2553:	1	1	0	1	1	1	0	0
2561:	0	0	0	0	0	0	0	0
2569:	0	0	1	0	0	1	0	0
2577:	0	1	0	0	0	0	0	0
2585:	0	0	0	0	1	0	0	1
2593:	0	2	1	0	0	1	0	2
2601:	0	0	0	1	1	1	1	0
2609:	0	2	2	1	7	19	26	6
2617:	4	2	0	0	0	0	0	0
2625:	0	1	0	0	0	0	0	0
2633:	1	0	0	1	1	0	0	0
2641:	0	0	0	0	0	0	0	0
2649:	0	0	0	0	0	0	0	0
2657:	0	0	0	0	0	0	0	0
2665:	0	1	1	0	0	1	0	1
2673:	0	0	0	1	1	1	0	0
2681:	0	0	1	0	0	0	0	1
2689:	0	0	0	0	0	0	0	0
2697:	0	2	0	0	2	0	0	0
2705:	0	0	0	0	0	0	0	0
2713:	0	0	0	1	0	0	0	0
2721:	1	0	0	0	1	1	0	0
2729:	2	0	0	0	1	0	0	0
2737:	0	0	1	0	0	0	0	0
2745:	0	0	1	0	0	0	0	0
2753:	0	0	2	1	0	0	0	0
2761:	0	0	0	0	0	0	0	0
2769:	0	0	0	0	1	0	0	0
2777:	0	0	0	1	0	0	0	0
2785:	0	0	0	1	2	0	1	0
2793:	0	0	0	0	0	0	0	0
2801:	0	0	1	1	0	0	0	0
2809:	0	0	0	0	1	0	0	0
2817:	0	0	0	0	0	1	0	0
2825:	0	0	0	0	0	0	0	0
2833:	0	0	0	0	0	0	1	1
2841:	0	0	0	0	0	0	0	0
2849:	0	2	0	0	0	0	0	0
2857:	1	0	1	0	1	0	0	0
2865:	0	0	0	0	0	0	0	0
2873:	1	0	0	0	0	0	0	0
2881:	0	0	0	0	0	0	0	0
2889:	0	0	0	0	1	0	0	0
2897:	1	0	0	0	0	0	1	0
2905:	0	0	0	0	0	1	0	0
2913:	0	0	0	0	0	1	0	0
2921:	0	1	0	0	0	0	0	0
2929:	1	0	0	1	1	0	0	0
2937:	0	0	1	0	1	0	1	0
2945:	0	0	0	0	0	1	0	0
2953:	0	0	0	0	0	0	1	0

2961: 1 0 0 0 0 0 0 0

Sample Title: CP0403S11-12

Channel	1	2	3	4	5	6	7	8
2969:	0	1	1	0	0	0	1	1
2977:	0	0	1	0	1	0	0	0
2985:	0	0	1	0	0	0	0	0
2993:	0	0	0	0	0	0	0	0
3001:	0	0	0	0	0	0	0	0
3009:	0	0	0	0	0	0	0	0
3017:	1	0	0	0	0	0	0	0
3025:	1	0	0	0	0	0	2	0
3033:	1	0	0	1	0	1	0	0
3041:	1	2	0	0	0	0	0	0
3049:	0	0	0	0	0	0	0	0
3057:	0	0	0	0	0	1	0	0
3065:	1	0	0	0	0	0	0	0
3073:	0	0	0	0	0	0	0	0
3081:	0	0	0	0	0	0	0	0
3089:	0	0	0	0	0	0	0	0
3097:	0	0	0	0	0	0	0	0
3105:	0	0	0	0	1	0	0	2
3113:	0	0	0	0	0	0	0	1
3121:	1	0	0	0	0	0	1	0
3129:	0	0	0	0	0	0	0	0
3137:	0	0	0	0	0	0	0	0
3145:	0	0	0	0	2	0	0	0
3153:	0	0	0	1	0	0	0	1
3161:	0	1	0	2	0	0	0	0
3169:	0	0	0	0	0	0	0	0
3177:	0	0	0	0	0	0	0	0
3185:	0	0	0	0	0	0	0	0
3193:	0	0	0	0	0	0	0	0
3201:	0	0	0	0	1	0	0	0
3209:	1	0	1	0	0	0	0	0
3217:	1	0	1	0	0	0	0	1
3225:	0	0	0	1	0	0	0	0
3233:	0	0	1	0	0	0	0	0
3241:	0	0	0	0	0	0	0	1
3249:	0	1	0	0	0	0	0	1
3257:	0	0	0	0	0	0	0	1
3265:	0	0	0	0	0	0	1	0
3273:	0	0	0	0	1	0	0	0
3281:	0	0	0	0	0	1	0	0
3289:	0	0	0	1	0	0	1	0
3297:	0	0	0	0	0	0	0	0
3305:	0	0	1	0	0	0	0	0
3313:	0	0	0	0	0	0	0	0
3321:	0	0	0	0	1	0	0	0
3329:	1	0	0	0	0	0	0	0
3337:	0	0	0	0	0	1	0	0
3345:	0	0	0	0	0	0	0	0
3353:	1	0	0	0	0	0	0	0
3361:	0	0	1	1	0	0	0	0
3369:	0	0	0	0	0	0	0	3
3377:	0	0	0	0	0	0	0	0
3385:	0	0	0	0	0	0	0	0

3393: 0 0 0 1 0 0 1 0

Sample Title: CP0403S11-12

Channel								
3401:	0	0	0	0	0	0	0	0
3409:	0	0	0	0	1	0	2	0
3417:	0	0	0	1	0	0	1	0
3425:	0	0	0	0	0	0	0	1
3433:	0	0	0	0	0	0	0	0
3441:	0	0	1	0	0	0	0	0
3449:	1	0	0	0	0	0	0	1
3457:	0	1	0	0	0	0	0	0
3465:	1	0	0	0	0	0	0	0
3473:	0	0	0	0	0	0	0	0
3481:	0	0	1	0	0	0	0	0
3489:	0	0	0	0	0	0	0	0
3497:	0	0	0	0	0	0	0	0
3505:	1	0	0	0	0	0	0	0
3513:	0	0	0	1	1	0	1	0
3521:	0	0	0	0	0	0	0	1
3529:	0	0	0	0	1	0	0	1
3537:	0	0	0	0	0	0	0	0
3545:	0	0	0	0	0	0	0	0
3553:	0	1	0	0	0	1	0	0
3561:	0	0	0	0	0	0	0	0
3569:	0	0	0	0	0	0	1	0
3577:	0	1	0	0	0	0	0	0
3585:	0	0	0	0	0	0	0	0
3593:	0	0	0	0	0	0	0	0
3601:	0	0	0	0	0	1	0	0
3609:	0	0	0	0	0	0	0	0
3617:	0	1	0	0	0	0	0	1
3625:	0	0	0	0	0	0	0	0
3633:	0	0	0	0	0	0	0	0
3641:	0	0	0	0	0	0	0	0
3649:	1	0	0	0	1	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	0	0	0	0	0	0	0	0
3673:	0	0	0	1	0	0	0	0
3681:	0	0	0	0	1	0	0	0
3689:	0	0	0	0	0	0	0	0
3697:	0	0	0	0	0	0	0	0
3705:	0	0	1	1	0	0	0	0
3713:	1	0	0	0	0	0	2	0
3721:	0	0	0	0	0	0	0	0
3729:	0	1	0	1	0	0	0	0
3737:	0	0	0	0	0	0	0	0
3745:	0	0	0	0	0	1	0	0
3753:	1	0	0	0	0	0	0	0
3761:	0	0	0	0	1	0	0	0
3769:	0	0	0	0	0	0	0	0
3777:	0	0	0	0	0	0	0	1
3785:	0	0	0	0	0	0	0	0
3793:	0	0	1	0	0	0	1	1
3801:	0	0	0	0	0	0	0	0
3809:	0	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	1

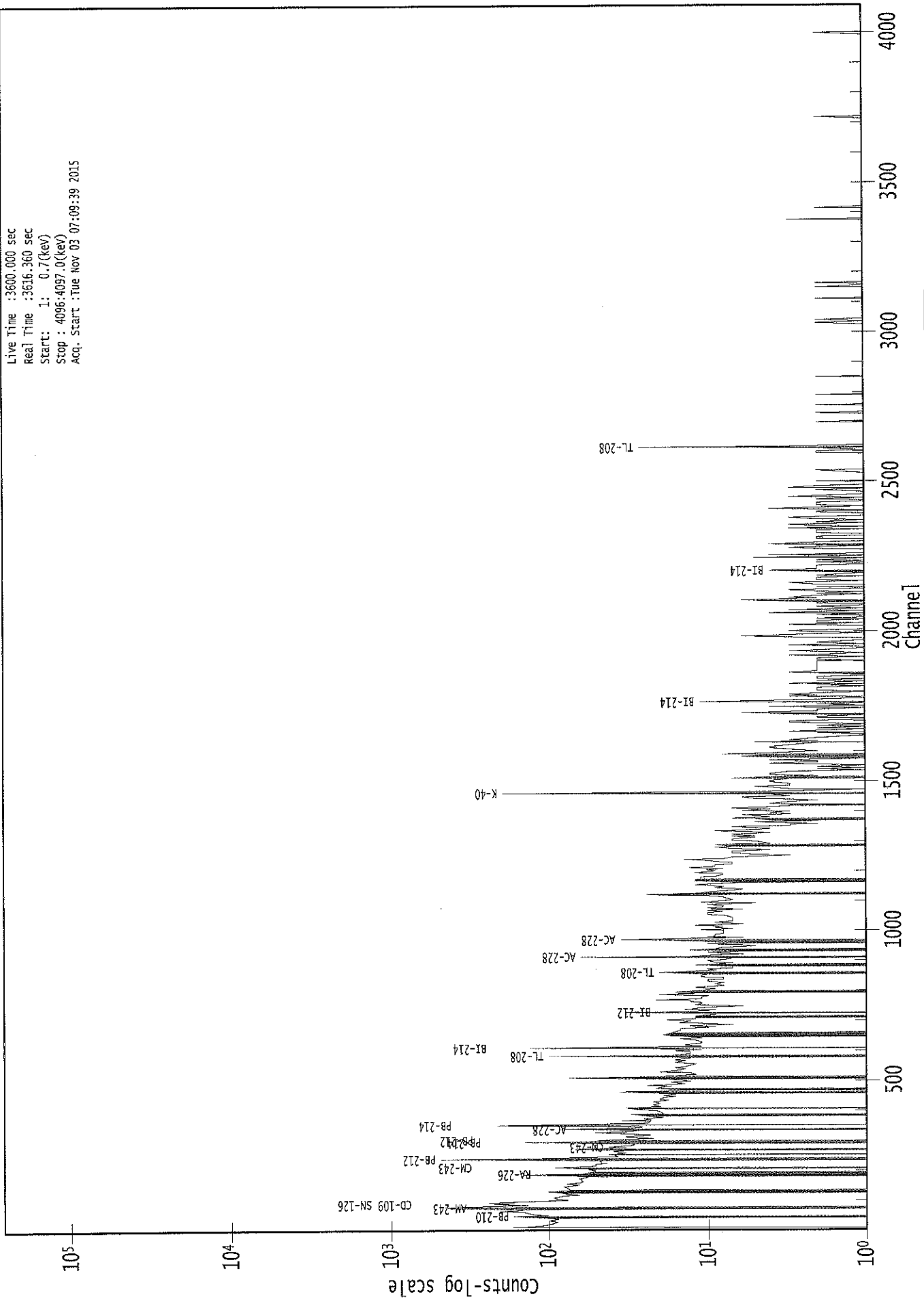
3825: 0 1 1 0 0 0 0 0

Sample Title: CP0403S11-12

Channel								
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	0	0	0	0	1
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	0	0	0	0	0
3865:	1	0	0	0	0	0	0	0
3873:	0	1	0	0	0	0	0	0
3881:	1	1	1	0	0	0	0	0
3889:	0	0	0	0	0	0	0	0
3897:	0	0	0	0	0	0	0	0
3905:	1	0	0	0	0	0	0	1
3913:	0	0	0	0	0	0	0	0
3921:	0	1	0	0	0	1	0	0
3929:	0	0	0	0	0	1	0	0
3937:	0	0	0	0	0	0	1	0
3945:	0	0	1	0	0	0	0	1
3953:	0	0	0	0	0	0	0	0
3961:	1	0	0	0	0	1	0	0
3969:	0	0	0	0	0	1	0	0
3977:	0	0	0	0	0	0	0	0
3985:	0	0	0	0	0	0	0	0
3993:	1	0	0	0	0	0	0	2
4001:	0	1	0	0	1	0	0	0
4009:	0	0	0	0	0	0	0	0
4017:	0	0	0	0	1	0	0	0
4025:	0	0	0	0	0	0	1	0
4033:	0	0	0	0	0	0	0	0
4041:	0	0	0	0	0	0	0	0
4049:	0	0	0	0	0	0	1	0
4057:	0	0	0	0	0	0	0	0
4065:	0	0	0	0	0	0	0	0
4073:	0	0	0	0	0	0	0	0
4081:	1	0	0	0	0	0	0	0
4089:	0	0	0	0	0	0	0	0

0000029009.CNF

Live Time : 3600.000 sec
Real Time : 3616.360 sec
Start : 1: 0.7(keV)
Stop : 4096.4097.0(keV)
Acq. Start : Tue Nov 03 07:09:39 2015



Analysis Report for 1510063-09
CP2107S02-03

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GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510063-09
Sample Description : CP2107S02-03
Sample Type : SOIL

Sample Size : 5.580E+02 grams
Facility : Countroom

Sample Taken On : 10/6/2015 7:43:49AM
Acquisition Started : 11/3/2015 7:09:47AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE4
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3644.3 seconds

Dead Time : 1.22 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 15 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 11/8/2014
Efficiency Calibration Description :

Sample Number : 29010

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

A_g
11/3/15

Analysis Report for 1510063-09
CP2107S02-03

PEAK LOCATE REPORT

Peak Locate Performed on : 11/3/2015 8:10:33AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	46.35	45.61	0.0000	0.00
2	64.12	63.38	0.0000	0.00
3	75.83	75.10	0.0000	0.00
4	87.86	87.13	0.0000	0.00
5	92.74	92.01	0.0000	0.00
6	186.25	185.57	0.0000	0.00
7	208.17	207.49	0.0000	0.00
8	239.37	238.71	0.0000	0.00
9	270.35	269.70	0.0000	0.00
10	295.15	294.51	0.0000	0.00
11	337.60	336.98	0.0000	0.00
12	352.21	351.60	0.0000	0.00
13	420.64	420.06	0.0000	0.00
14	492.82	492.27	0.0000	0.00
15	583.40	582.89	0.0000	0.00
16	609.40	608.91	0.0000	0.00
17	771.37	770.96	0.0000	0.00
18	790.54	790.14	0.0000	0.00
19	823.57	823.19	0.0000	0.00
20	911.73	911.39	0.0000	0.00
21	969.25	968.94	0.0000	0.00
22	1033.32	1033.05	0.0000	0.00
23	1120.09	1119.86	0.0000	0.00
24	1460.97	1460.94	0.0000	0.00
25	1509.50	1509.50	0.0000	0.00
26	1542.79	1542.81	0.0000	0.00
27	1629.49	1629.57	0.0000	0.00
28	1763.46	1763.62	0.0000	0.00
29	1932.21	1932.48	0.0000	0.00
30	2109.89	2110.29	0.0000	0.00
31	2130.41	2130.82	0.0000	0.00
32	2614.84	2615.61	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510063-09
CP2107S02-03

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 8:10:33AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
1	46.35	43 -	48	45.61	9.47E+01	62.19	7.01E+02	2.16
2	64.12	59 -	68	63.38	1.63E+02	118.90	1.93E+03	2.24
3	75.83	69 -	80	75.10	7.42E+02	144.42	2.23E+03	4.22
M 4	87.86	81 -	96	87.13	2.82E+02	118.78	1.70E+03	3.78
m 5	92.74	81 -	96	92.01	2.75E+02	109.05	1.33E+03	3.25
6	186.25	181 -	189	185.57	1.42E+02	69.46	6.51E+02	3.06
7	208.17	202 -	213	207.49	1.47E+02	81.31	7.43E+02	6.88
8	239.37	234 -	246	238.71	6.58E+02	93.67	7.25E+02	2.67
9	270.35	266 -	274	269.70	6.37E+01	55.68	4.31E+02	1.68
10	295.15	291 -	297	294.51	1.17E+02	44.17	2.70E+02	2.18
11	337.60	331 -	341	336.98	8.06E+01	57.36	3.95E+02	2.56
12	352.21	346 -	359	351.60	2.72E+02	71.98	4.54E+02	3.10
13	420.64	412 -	428	420.06	6.18E+01	64.49	3.66E+02	13.56
14	492.82	486 -	498	492.27	5.42E+01	46.16	2.18E+02	5.40
15	583.40	577 -	588	582.89	1.45E+02	45.48	1.85E+02	2.60
16	609.40	602 -	616	608.91	1.77E+02	51.25	1.99E+02	2.91
17	771.37	765 -	780	770.96	4.49E+01	39.04	1.28E+02	13.39
18	790.54	782 -	797	790.14	4.20E+01	35.89	1.12E+02	6.16
19	823.57	814 -	831	823.19	4.27E+01	40.68	1.35E+02	12.86
20	911.73	907 -	917	911.39	9.50E+01	27.28	4.59E+01	3.00
21	969.25	962 -	974	968.94	6.92E+01	29.68	6.95E+01	6.30
22	1033.32	1030 -	1035	1033.05	1.26E+01	13.60	2.67E+01	1.78
23	1120.09	1117 -	1125	1119.86	3.58E+01	21.88	5.64E+01	3.00
24	1460.97	1453 -	1466	1460.94	2.66E+02	34.44	1.21E+01	2.65
25	1509.50	1503 -	1516	1509.50	2.00E+01	16.34	2.01E+01	3.47
26	1542.79	1537 -	1548	1542.81	1.23E+01	9.80	5.33E+00	1.09
27	1629.49	1626 -	1632	1629.57	1.40E+01	7.48	0.00E+00	2.17
28	1763.46	1757 -	1767	1763.62	1.96E+01	14.24	1.69E+01	4.31
29	1932.21	1929 -	1936	1932.48	8.82E+00	7.75	4.36E+00	1.22
30	2109.89	2106 -	2113	2110.29	7.00E+00	5.29	0.00E+00	1.98
31	2130.41	2125 -	2134	2130.82	8.81E+00	11.79	1.44E+01	2.58
32	2614.84	2611 -	2619	2615.61	4.60E+01	13.56	0.00E+00	1.92

Analysis Report for 1510063-09
CP2107S02-03

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 8:10:33AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level	
1	46.35	43 -	48	9.47E+01	62.19	7.01E+02	4.86E+01	
2	64.12	59 -	68	1.63E+02	118.90	1.93E+03	9.54E+01	
3	75.83	69 -	80	7.42E+02	144.42	2.23E+03	1.10E+02	
M	4	87.86	81 -	96	2.82E+02	118.78	1.70E+03	6.78E+01
m	5	92.74	81 -	96	2.75E+02	109.05	1.33E+03	6.00E+01
6	186.25	181 -	189	1.42E+02	69.46	6.51E+02	5.36E+01	
7	208.17	202 -	213	1.47E+02	81.31	7.43E+02	6.38E+01	
8	239.37	234 -	246	6.58E+02	93.67	7.25E+02	6.44E+01	
9	270.35	266 -	274	6.37E+01	55.68	4.31E+02	4.39E+01	
10	295.15	291 -	297	1.17E+02	44.17	2.70E+02	3.17E+01	
11	337.60	331 -	341	8.06E+01	57.36	3.95E+02	4.48E+01	
12	352.21	346 -	359	2.72E+02	71.98	4.54E+02	5.26E+01	
13	420.64	412 -	428	6.18E+01	64.49	3.66E+02	5.14E+01	
14	492.82	486 -	498	5.42E+01	46.16	2.18E+02	3.60E+01	
15	583.40	577 -	588	1.45E+02	45.48	1.85E+02	3.17E+01	
16	609.40	602 -	616	1.77E+02	51.25	1.99E+02	3.60E+01	
17	771.37	765 -	780	4.49E+01	39.04	1.28E+02	3.01E+01	
18	790.54	782 -	797	4.20E+01	35.89	1.12E+02	2.75E+01	
19	823.57	814 -	831	4.27E+01	40.68	1.35E+02	3.17E+01	
20	911.73	907 -	917	9.50E+01	27.28	4.59E+01	1.57E+01	
21	969.25	962 -	974	6.92E+01	29.68	6.95E+01	2.02E+01	
22	1033.32	1030 -	1035	1.26E+01	13.60	2.67E+01	9.53E+00	
23	1120.09	1117 -	1125	3.58E+01	21.88	5.64E+01	1.51E+01	
24	1460.97	1453 -	1466	2.66E+02	34.44	1.21E+01	9.08E+00	
25	1509.50	1503 -	1516	2.00E+01	16.34	2.01E+01	1.12E+01	
26	1542.79	1537 -	1548	1.23E+01	9.80	5.33E+00	5.62E+00	
27	1629.49	1626 -	1632	1.40E+01	7.48	0.00E+00	0.00E+00	
28	1763.46	1757 -	1767	1.96E+01	14.24	1.69E+01	9.17E+00	
29	1932.21	1929 -	1936	8.82E+00	7.75	4.36E+00	4.09E+00	
30	2109.89	2106 -	2113	7.00E+00	5.29	0.00E+00	0.00E+00	
31	2130.41	2125 -	2134	8.81E+00	11.79	1.44E+01	8.37E+00	

Analysis Report for 1510063-09
CP2107S02-03

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
32	2614.84	2611 -	2619	4.60E+01	13.56	0.00E+00	0.00E+00

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

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/3/2015 8:10:33AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB
Peak Match Tolerance : 1.000 keV

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
1	46.35	43 -	48	45.61	9.47E+01	62.19	7.01E+02	PB-210
2	64.12	59 -	68	63.38	1.63E+02	118.90	1.93E+03	TH-234
3	75.83	69 -	80	75.10	7.42E+02	144.42	2.23E+03	.....
M 4	87.86	81 -	96	87.13	2.82E+02	118.78	1.70E+03	CD-109 SN-126 LU-176
m 5	92.74	81 -	96	92.01	2.75E+02	109.05	1.33E+03	GA-67
6	186.25	181 -	189	185.57	1.42E+02	69.46	6.51E+02	RA-226
7	208.17	202 -	213	207.49	1.47E+02	81.31	7.43E+02	GA-67
8	239.37	234 -	246	238.71	6.58E+02	93.67	7.25E+02	PB-212
9	270.35	266 -	274	269.70	6.37E+01	55.68	4.31E+02	.....
10	295.15	291 -	297	294.51	1.17E+02	44.17	2.70E+02	PB-214
11	337.60	331 -	341	336.98	8.06E+01	57.36	3.95E+02	AC-228
12	352.21	346 -	359	351.60	2.72E+02	71.98	4.54E+02	PB-214
13	420.64	412 -	428	420.06	6.18E+01	64.49	3.66E+02	.....
14	492.82	486 -	498	492.27	5.42E+01	46.16	2.18E+02	.....
15	583.40	577 -	588	582.89	1.45E+02	45.48	1.85E+02	TL-208
16	609.40	602 -	616	608.91	1.77E+02	51.25	1.99E+02	BI-214
17	771.37	765 -	780	770.96	4.49E+01	39.04	1.28E+02	.....
18	790.54	782 -	797	790.14	4.20E+01	35.89	1.12E+02	.....
19	823.57	814 -	831	823.19	4.27E+01	40.68	1.35E+02	.....
20	911.73	907 -	917	911.39	9.50E+01	27.28	4.59E+01	LU-172 AC-228
21	969.25	962 -	974	968.94	6.92E+01	29.68	6.95E+01	AC-228
22	1033.32	1030 -	1035	1033.05	1.26E+01	13.60	2.67E+01	.....

Analysis Report for 1510063-09
CP2107S02-03

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
23	1120.09	1117 -	1125	1119.86	3.58E+01	21.88	5.64E+01	BI-214 SC-46
24	1460.97	1453 -	1466	1460.94	2.66E+02	34.44	1.21E+01	K-40
25	1509.50	1503 -	1516	1509.50	2.00E+01	16.34	2.01E+01	.....
26	1542.79	1537 -	1548	1542.81	1.23E+01	9.80	5.33E+00	.....
27	1629.49	1626 -	1632	1629.57	1.40E+01	7.48	0.00E+00	.....
28	1763.46	1757 -	1767	1763.62	1.96E+01	14.24	1.69E+01	.....
29	1932.21	1929 -	1936	1932.48	8.82E+00	7.75	4.36E+00	.....
30	2109.89	2106 -	2113	2110.29	7.00E+00	5.29	0.00E+00	.....
31	2130.41	2125 -	2134	2130.82	8.81E+00	11.79	1.44E+01	.....
32	2614.84	2611 -	2619	2615.61	4.60E+01	13.56	0.00E+00	TL-208

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/3/2015 8:10:33AM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	46.35	9.47E+01	62.19	2.63E-02	1.78E-03
2	64.12	1.63E+02	118.90	2.31E-02	1.76E-03
3	75.83	7.42E+02	144.42	2.13E-02	1.70E-03
M	87.86	2.82E+02	118.78	1.96E-02	1.63E-03
m	92.74	2.75E+02	109.05	1.90E-02	1.62E-03
6	186.25	1.42E+02	69.46	1.16E-02	1.15E-03
7	208.17	1.47E+02	81.31	1.06E-02	1.08E-03
8	239.37	6.58E+02	93.67	9.39E-03	9.85E-04
9	270.35	6.37E+01	55.68	8.43E-03	8.88E-04
10	295.15	1.17E+02	44.17	7.79E-03	8.43E-04
11	337.60	8.06E+01	57.36	6.87E-03	7.96E-04
12	352.21	2.72E+02	71.98	6.60E-03	7.80E-04
13	420.64	6.18E+01	64.49	5.57E-03	6.94E-04
14	492.82	5.42E+01	46.16	4.78E-03	5.88E-04
15	583.40	1.45E+02	45.48	4.05E-03	4.55E-04
16	609.40	1.77E+02	51.25	3.87E-03	4.17E-04
17	771.37	4.49E+01	39.04	3.07E-03	2.79E-04
18	790.54	4.20E+01	35.89	3.00E-03	2.68E-04
19	823.57	4.27E+01	40.68	2.88E-03	2.50E-04

Analysis Report for 1510063-09
CP2107S02-03

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
20	911.73	9.50E+01	27.28	2.61E-03	2.06E-04
21	969.25	6.92E+01	29.68	2.46E-03	1.99E-04
22	1033.32	1.26E+01	13.60	2.31E-03	1.91E-04
23	1120.09	3.58E+01	21.88	2.14E-03	1.79E-04
24	1460.97	2.66E+02	34.44	1.68E-03	1.89E-04
25	1509.50	2.00E+01	16.34	1.64E-03	1.79E-04
26	1542.79	1.23E+01	9.80	1.61E-03	1.72E-04
27	1629.49	1.40E+01	7.48	1.53E-03	1.54E-04
28	1763.46	1.96E+01	14.24	1.44E-03	1.26E-04
29	1932.21	8.82E+00	7.75	1.33E-03	1.11E-04
30	2109.89	7.00E+00	5.29	1.25E-03	1.11E-04
31	2130.41	8.81E+00	11.79	1.24E-03	1.11E-04
32	2614.84	4.60E+01	13.56	1.07E-03	1.11E-04

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

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/3/2015 8:10:33AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
1	46.35	9.47E+01	62.19	2.00E+01	7.38E+00	7.46E+01	6.26E+01
2	64.12	1.63E+02	118.90	5.38E+01	9.34E+00	1.10E+02	1.19E+02
3	75.83	7.42E+02	144.42			7.42E+02	1.44E+02
M 4	87.86	2.82E+02	118.78			2.82E+02	1.19E+02
m 5	92.74	2.75E+02	109.05	5.44E+01	8.36E+00	2.21E+02	1.09E+02
6	186.25	1.42E+02	69.46	1.43E+01	7.33E+00	1.27E+02	6.98E+01
7	208.17	1.47E+02	81.31			1.47E+02	8.13E+01
8	239.37	6.58E+02	93.67	1.09E+01	6.39E+00	6.47E+02	9.39E+01
9	270.35	6.37E+01	55.68			6.37E+01	5.57E+01
10	295.15	1.17E+02	44.17			1.17E+02	4.42E+01
11	337.60	8.06E+01	57.36			8.06E+01	5.74E+01
12	352.21	2.72E+02	71.98	8.07E+00	5.01E+00	2.64E+02	7.22E+01
13	420.64	6.18E+01	64.49			6.18E+01	6.45E+01
14	492.82	5.42E+01	46.16			5.42E+01	4.62E+01
15	583.40	1.45E+02	45.48			1.45E+02	4.55E+01
16	609.40	1.77E+02	51.25	5.16E+00	1.63E+00	1.72E+02	5.13E+01
17	771.37	4.49E+01	39.04			4.49E+01	3.90E+01

Analysis Report for 1510063-09

CP2107S02-03

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
18	790.54	4.20E+01	35.89			4.20E+01	3.59E+01
19	823.57	4.27E+01	40.68			4.27E+01	4.07E+01
20	911.73	9.50E+01	27.28	1.01E+00	2.85E+00	9.40E+01	2.74E+01
21	969.25	6.92E+01	29.68			6.92E+01	2.97E+01
22	1033.32	1.26E+01	13.60			1.26E+01	1.36E+01
23	1120.09	3.58E+01	21.88			3.58E+01	2.19E+01
24	1460.97	2.66E+02	34.44			2.66E+02	3.44E+01
25	1509.50	2.00E+01	16.34			2.00E+01	1.63E+01
26	1542.79	1.23E+01	9.80			1.23E+01	9.80E+00
27	1629.49	1.40E+01	7.48			1.40E+01	7.48E+00
28	1763.46	1.96E+01	14.24	1.11E-01	9.77E-01	1.95E+01	1.43E+01
29	1932.21	8.82E+00	7.75			8.82E+00	7.75E+00
30	2109.89	7.00E+00	5.29			7.00E+00	5.29E+00
31	2130.41	8.81E+00	11.79			8.81E+00	1.18E+01
32	2614.84	4.60E+01	13.56	1.20E+00	1.02E+00	4.48E+01	1.36E+01

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

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/3/2015 8:10:33AM
Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

Corrected Area is: Original * Peak Ratio - Background

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
1	46.35	9.47E+01	62.19	2.00E+01	7.38E+00	7.46E+01	6.26E+01
2	64.12	1.63E+02	118.90	5.38E+01	9.34E+00	1.10E+02	1.19E+02
3	75.83	7.42E+02	144.42			7.42E+02	1.44E+02
M	4	87.86	2.82E+02	118.78		2.82E+02	1.19E+02
m	5	92.74	2.75E+02	109.05	5.44E+01	8.36E+00	2.21E+02
	6	186.25	1.42E+02	69.46	1.43E+01	7.33E+00	1.27E+02
	7	208.17	1.47E+02	81.31			1.47E+02
	8	239.37	6.58E+02	93.67	1.09E+01	6.39E+00	6.47E+02
	9	270.35	6.37E+01	55.68			6.37E+01
	10	295.15	1.17E+02	44.17			1.17E+02
	11	337.60	8.06E+01	57.36			8.06E+01
	12	352.21	2.72E+02	71.98	8.07E+00	5.01E+00	2.64E+02
	13	420.64	6.18E+01	64.49			6.18E+01

: 00642

Analysis Report for 1510063-09

CP2107S02-03

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
14	492.82	5.42E+01	46.16			5.42E+01	4.62E+01
15	583.40	1.45E+02	45.48			1.45E+02	4.55E+01
16	609.40	1.77E+02	51.25	5.16E+00	1.63E+00	1.72E+02	5.13E+01
17	771.37	4.49E+01	39.04			4.49E+01	3.90E+01
18	790.54	4.20E+01	35.89			4.20E+01	3.59E+01
19	823.57	4.27E+01	40.68			4.27E+01	4.07E+01
20	911.73	9.50E+01	27.28	1.01E+00	2.85E+00	9.40E+01	2.74E+01
21	969.25	6.92E+01	29.68			6.92E+01	2.97E+01
22	1033.32	1.26E+01	13.60			1.26E+01	1.36E+01
23	1120.09	3.58E+01	21.88			3.58E+01	2.19E+01
24	1460.97	2.66E+02	34.44			2.66E+02	3.44E+01
25	1509.50	2.00E+01	16.34			2.00E+01	1.63E+01
26	1542.79	1.23E+01	9.80			1.23E+01	9.80E+00
27	1629.49	1.40E+01	7.48			1.40E+01	7.48E+00
28	1763.46	1.96E+01	14.24	1.11E-01	9.77E-01	1.95E+01	1.43E+01
29	1932.21	8.82E+00	7.75			8.82E+00	7.75E+00
30	2109.89	7.00E+00	5.29			7.00E+00	5.29E+00
31	2130.41	8.81E+00	11.79			8.81E+00	1.18E+01
32	2614.84	4.60E+01	13.56	1.20E+00	1.02E+00	4.48E+01	1.36E+01

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.996	1460.81 *	10.67	1.99E+01	3.44E+00
GA-67	0.429	93.31 *	35.70	1.68E+02	6.46E+02
		208.95 *	2.24	3.21E+03	1.19E+04
		300.22	16.00		
CD-109	0.995	88.03 *	3.72	5.42E+00	2.35E+00
SN-126	0.987	87.57 *	37.00	5.22E-01	2.24E-01
TL-208	0.880	583.14 *	30.22	1.60E+00	5.32E-01
		860.37	4.48		
		2614.66 *	35.85	1.57E+00	5.03E-01
PB-210	0.996	46.50 *	4.25	9.00E-01	7.57E-01
PB-212	0.818	238.63 *	44.60	2.08E+00	3.72E-01
		300.09	3.41		

Analysis Report for 1510063-09
CP2107S02-03

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
BI-214	0.715	609.31 *	46.30	1.29E+00	4.09E-01
		1120.29 *	15.10	1.49E+00	9.18E-01
		1764.49	15.80		
		2204.22	4.98		
PB-214	0.991	295.21 *	19.19	1.05E+00	4.14E-01
		351.92 *	37.19	1.45E+00	4.31E-01
RA-226	1.000	186.21 *	3.28	4.50E+00	8.60E+00
AC-228	0.949	338.32 *	11.40	1.38E+00	9.98E-01
		911.07 *	27.70	1.75E+00	5.29E-01
		969.11 *	16.60	2.28E+00	9.95E-01
TH-234	0.895	63.29 *	3.80	1.68E+00	1.83E+00

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 8:10:33AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
3	75.83	2.05986E-01	9.74		
9	270.35	1.76961E-02	43.70		
13	420.64	1.71655E-02	52.18		
14	492.82	1.50537E-02	42.59		
17	771.37	1.24656E-02	43.50		
18	790.54	1.16667E-02	42.72		
19	823.57	1.18561E-02	47.66	Sum	
22	1033.32	3.50962E-03	53.83	Sum	
25	1509.50	5.54630E-03	40.92		
26	1542.79	3.42593E-03	39.72		
27	1629.49	3.88889E-03	26.73		
28	1763.46	5.40559E-03	36.67		
29	1932.21	2.44950E-03	43.92		
30	2109.89	1.94444E-03	37.80		
31	2130.41	2.44792E-03	66.89		

Analysis Report for 1510063-09
CP2107S02-03

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.99	1460.81 *	10.67	1.99E+01	3.44E+00
GA-67	0.42	93.31 *	35.70	1.68E+02	6.46E+02
		208.95 *	2.24	3.21E+03	1.19E+04
		300.22	16.00		
		88.03 *	3.72	5.42E+00	2.35E+00
SN-126	0.98	87.57 *	37.00	5.22E-01	2.24E-01
TL-208	0.88	583.14 *	30.22	1.60E+00	5.32E-01
		860.37	4.48		
		2614.66 *	35.85	1.57E+00	5.03E-01
		46.50 *	4.25	9.00E-01	7.57E-01
PB-210	0.99	238.63 *	44.60	2.08E+00	3.72E-01
		300.09	3.41		
BI-214	0.71	609.31 *	46.30	1.29E+00	4.09E-01
		1120.29 *	15.10	1.49E+00	9.18E-01
		1764.49	15.80		
		2204.22	4.98		
PB-214	0.99	295.21 *	19.19	1.05E+00	4.14E-01
		351.92 *	37.19	1.45E+00	4.31E-01
RA-226	1.00	186.21 *	3.28	4.50E+00	8.60E+00
AC-228	0.94	338.32 *	11.40	1.38E+00	9.98E-01
		911.07 *	27.70	1.75E+00	5.29E-01
		969.11 *	16.60	2.28E+00	9.95E-01
TH-234	0.89	63.29 *	3.80	1.68E+00	1.83E+00

Analysis Report for 1510063-09
CP2107S02-03

* = Energy line found in the spectrum.
- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.996	1.99E+01	3.44E+00	
GA-67	0.429	2.07E+02	7.83E+02	
? CD-109	0.995	5.42E+00	2.35E+00	
? SN-126	0.987	5.22E-01	2.24E-01	
TL-208	0.880	1.58E+00	3.66E-01	
PB-210	0.996	9.00E-01	7.57E-01	
PB-212	0.818	2.08E+00	3.72E-01	
BI-214	0.715	1.32E+00	3.74E-01	
PB-214	0.991	1.24E+00	2.98E-01	
RA-226	1.000	4.50E+00	8.60E+00	
AC-228	0.949	1.78E+00	4.23E-01	
TH-234	0.895	1.68E+00	1.83E+00	

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510063-09
 CP2107S02-03

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 8:10:33AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
3	75.83	2.05986E-01	9.74		
9	270.35	1.76961E-02	43.70		
13	420.64	1.71655E-02	52.18		
14	492.82	1.50537E-02	42.59		
17	771.37	1.24656E-02	43.50		
18	790.54	1.16667E-02	42.72		
19	823.57	1.18561E-02	47.66	Sum	
22	1033.32	3.50962E-03	53.83	Sum	
25	1509.50	5.54630E-03	40.92		
26	1542.79	3.42593E-03	39.72		
27	1629.49	3.88889E-03	26.73		
28	1763.46	5.40559E-03	36.67		
29	1932.21	2.44950E-03	43.92		
30	2109.89	1.94444E-03	37.80		
31	2130.41	2.44792E-03	66.89		

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59	10.42	-5.21E-01	1.90E+00	1.90E+00
+	NA-22	1274.54	99.94	-3.99E-02	1.88E-01	1.88E-01

Analysis Report for 1510063-09
CP2107S02-03

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	NA-24	1368.53	99.99	4.61E+11	4.27E+12	4.63E+12
		2754.09	99.86	1.19E+12		4.27E+12
+	AL-26	1808.65	99.76	-4.36E-02	1.52E-01	1.52E-01
+	K-40	1460.81	* 10.67	1.99E+01	1.56E+00	1.56E+00
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	-2.07E-01	9.55E-02	9.55E-02
		78.34	96.00	2.31E-01		1.20E-01
+	SC-46	889.25	99.98	1.17E-02	2.06E-01	2.06E-01
		1120.51	99.99	2.23E-01		3.16E-01
+	V-48	983.52	99.98	-4.68E-02	5.87E-01	5.87E-01
		1312.10	97.50	2.76E-01		6.97E-01
+	CR-51	320.08	9.83	1.66E-01	2.50E+00	2.50E+00
+	MN-54	834.83	99.97	-2.82E-02	1.73E-01	1.73E-01
+	CO-56	846.75	99.96	-1.09E-01	1.83E-01	1.83E-01
		1037.75	14.03	-1.41E-01		1.71E+00
		1238.25	67.00	2.06E-01		5.02E-01
		1771.40	15.51	-3.88E-02		1.46E+00
		2598.48	16.90	4.73E-01		1.24E+00
+	CO-57	122.06	85.51	-7.87E-02	1.14E-01	1.14E-01
		136.48	10.60	-7.83E-01		9.47E-01
+	CO-58	810.76	99.40	3.45E-02	2.13E-01	2.13E-01
+	FE-59	1099.22	56.50	1.19E-01	5.03E-01	5.03E-01
		1291.56	43.20	-1.44E-01		7.32E-01
+	CO-60	1173.22	100.00	-1.14E-02	1.93E-01	2.20E-01
		1332.49	100.00	3.96E-02		1.93E-01
+	ZN-65	1115.52	50.75	-1.36E-01	4.61E-01	4.61E-01
+	GA-67	93.31	* 35.70	1.68E+02	1.87E+02	1.87E+02
		208.95	* 2.24	3.21E+03		2.84E+03
		300.22	16.00	-4.89E+01		3.08E+02
+	SE-75	121.11	16.70	4.32E-03	1.87E-01	6.45E-01
		136.00	59.20	-1.66E-01		1.87E-01
		264.65	59.80	-2.74E-03		2.41E-01
		279.53	25.20	-1.15E-01		5.47E-01
		400.65	11.40	-2.11E-01		1.31E+00
+	RB-82	776.52	13.00	-1.66E-01	2.56E+00	2.56E+00
+	RB-83	520.41	46.00	-3.18E-01	3.54E-01	3.54E-01
		529.64	30.30	3.84E-01		5.89E-01
		552.65	16.40	-1.97E-02		1.05E+00
+	KR-85	513.99	0.43	5.82E+01	4.30E+01	4.30E+01
+	SR-85	513.99	99.27	3.41E-01	2.52E-01	2.52E-01
+	Y-88	898.02	93.40	-1.59E-02	1.40E-01	2.24E-01
		1836.01	99.38	-1.85E-02		1.40E-01
+	NB-93M	16.57	9.43	1.03E+00	4.53E-01	4.53E-01
+	NB-94	702.63	100.00	6.82E-02	1.82E-01	1.82E-01
		871.10	100.00	1.16E-02		1.88E-01
+	NB-95	765.79	99.81	-2.19E-02	3.13E-01	3.13E-01
+	NB-95M	235.69	25.00	-1.37E+01	1.60E+02	1.60E+02

Analysis Report for 1510063-09
CP2107S02-03

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	ZR-95	724.18	43.70	3.09E-01	3.78E-01	5.91E-01
		756.72	55.30	-9.43E-03		3.78E-01
+	MO-99	181.06	6.20	3.51E+02	1.37E+03	2.05E+03
		739.58	12.80	1.75E+02		1.37E+03
		778.00	4.50	-1.79E+03		3.70E+03
+	RU-103	497.08	89.00	-4.81E-02	2.37E-01	2.37E-01
+	RU-106	621.84	9.80	1.14E-01	1.54E+00	1.54E+00
+	AG-108M	433.93	89.90	-3.59E-02	1.35E-01	1.35E-01
		614.37	90.40	7.01E-03		2.05E-01
		722.95	90.50	1.33E-01		2.09E-01
+	CD-109	88.03	* 3.72	5.42E+00	4.77E+00	4.77E+00
+	AG-110M	657.75	93.14	1.65E-02	1.89E-01	1.89E-01
		677.61	10.53	2.78E-01		1.69E+00
		706.67	16.46	3.26E-01		1.22E+00
		763.93	21.98	1.03E-01		8.76E-01
		884.67	71.63	-6.05E-02		2.34E-01
		1384.27	23.94	-4.13E-01		7.53E-01
+	CD-113M	263.70	0.02	6.38E+01	5.36E+02	5.36E+02
+	SN-113	255.12	1.93	-5.54E-01	2.39E-01	7.07E+00
		391.69	64.90	1.05E-01		2.39E-01
+	TE123M	159.00	84.10	-2.41E-02	1.43E-01	1.43E-01
+	SB-124	602.71	97.87	1.36E-02	2.22E-01	2.22E-01
		645.85	7.26	2.66E-01		2.89E+00
		722.78	11.10	-4.13E-01		2.20E+00
		1691.02	49.00	-1.28E-02		3.60E-01
+	I-125	35.49	6.49	-3.20E-01	1.10E+00	1.10E+00
+	SB-125	176.33	6.89	-9.44E-02	4.34E-01	1.56E+00
		427.89	29.33	-5.28E-02		4.34E-01
		463.38	10.35	7.09E-02		1.40E+00
		600.56	17.80	-4.55E-02		8.64E-01
		635.90	11.32	2.41E-01		1.32E+00
+	SB-126	414.70	83.30	-6.33E-02	7.84E-01	7.84E-01
		666.33	99.60	4.88E-01		8.12E-01
		695.00	99.60	-1.85E-01		7.85E-01
		720.50	53.80	-1.80E+00		1.40E+00
+	SN-126	87.57	* 37.00	5.22E-01	4.60E-01	4.60E-01
+	SB-127	473.00	25.00	-2.56E+01	6.64E+01	8.47E+01
		685.20	35.70	-2.84E+01		6.64E+01
		783.80	14.70	-4.21E+01		1.59E+02
+	I-129	29.78	57.00	1.00E-02	8.84E-02	8.84E-02
		33.60	13.20	-1.03E-01		3.86E-01
		39.58	7.52	-5.13E-02		7.17E-01
+	I-131	284.30	6.05	4.30E+00	1.59E+00	2.17E+01
		364.48	81.20	4.40E-02		1.59E+00
		636.97	7.26	4.09E+00		2.25E+01
		722.89	1.80	-2.06E+01		1.10E+02
+	TE-132	49.72	13.10	-3.33E+01	4.90E+01	1.93E+02
		228.16	88.00	-2.51E+01		4.90E+01

Analysis Report for 1510063-09
CP2107S02-03

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BA-133	81.00	33.00	-5.60E-01	3.12E-01	3.24E-01
		302.84	17.80	-3.50E-01		6.94E-01
		356.01	60.00	5.75E-01		3.12E-01
+	I-133	529.87	86.30	5.71E+08	8.76E+08	8.76E+08
+	XE-133	81.00	38.00	-1.96E+01	1.13E+01	1.13E+01
+	CS-134	563.23	8.38	-1.38E+00	1.99E-01	1.57E+00
		569.32	15.43	2.72E-01		1.01E+00
		604.70	97.60	6.76E-03		2.06E-01
		795.84	85.40	-9.41E-03		1.99E-01
		801.93	8.73	2.36E-01		1.92E+00
+	CS-135	268.24	16.00	2.97E-02	8.21E-01	8.21E-01
+	@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@	1260.41	28.60	1.00E+26		1.00E+26
	@	1678.03	9.54	1.00E+26		1.00E+26
+	CS-136	153.22	7.46	2.23E+00	7.51E-01	6.14E+00
		163.89	4.61	-1.43E+00		9.54E+00
		176.55	13.56	-2.06E-01		3.40E+00
		273.65	12.66	3.34E-01		4.39E+00
		340.57	48.50	8.52E-02		1.31E+00
		818.50	99.70	5.30E-02		7.51E-01
		1048.07	79.60	2.27E-02		1.00E+00
		1235.34	19.70	3.84E-01		5.53E+00
+	CS-137	661.65	85.12	-5.07E-02	1.92E-01	1.92E-01
+	LA-138	788.74	34.00	1.60E-01	2.32E-01	5.14E-01
		1435.80	66.00	-3.64E-02		2.32E-01
+	CE-139	165.85	80.35	-9.78E-02	1.43E-01	1.43E-01
+	BA-140	162.64	6.70	3.21E-01	2.31E+00	6.85E+00
		304.84	4.50	2.55E+00		1.21E+01
		423.70	3.20	2.76E+00		1.90E+01
		437.55	2.00	-2.09E+00		2.86E+01
		537.32	25.00	-9.24E-01		2.31E+00
+	LA-140	328.77	20.50	2.84E-01	8.29E-01	2.85E+00
		487.03	45.50	1.92E-02		1.46E+00
		815.85	23.50	9.98E-03		3.20E+00
		1596.49	95.49	-1.29E-01		8.29E-01
+	CE-141	145.44	48.40	1.59E-01	3.87E-01	3.87E-01
+	CE-143	57.36	11.80	-3.19E+05	4.51E+05	8.31E+05
		293.26	42.00	-2.98E+04		4.51E+05
		664.55	5.20	-1.02E+06		4.19E+06
+	CE-144	133.54	10.80	1.58E-01	9.57E-01	9.57E-01
+	PM-144	476.78	42.00	-2.05E-01	1.43E-01	3.40E-01
		618.01	98.60	-6.44E-02		1.43E-01
		696.49	99.49	-3.00E-02		1.75E-01
+	PM-145	36.85	21.70	-3.39E-02	1.34E-01	2.42E-01
		37.36	39.70	-6.77E-03		1.34E-01
		42.30	15.10	-9.46E-03		3.93E-01
		72.40	2.31	7.86E+00		4.80E+00
+	PM-146	453.90	39.94	9.21E-02	3.43E-01	3.43E-01
		735.90	14.01	-9.10E-02		1.11E+00

Analysis Report for 1510063-09
CP2107S02-03

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	PM-146	747.13	13.10	-6.54E-02	3.43E-01	1.15E+00
+	ND-147	91.11	28.90	5.73E+00	2.27E+00	2.27E+00
		531.02	13.10	1.13E+00		6.14E+00
+	PM-149	285.90	3.10	6.61E+03	2.41E+04	2.41E+04
+	EU-152	121.78	20.50	-3.06E-01	4.44E-01	4.44E-01
		244.69	5.40	-2.96E-01		2.66E+00
		344.27	19.13	5.44E-02		6.34E-01
		778.89	9.20	-7.59E-01		1.57E+00
		964.01	10.40	8.75E-02		2.08E+00
		1085.78	7.22	8.29E-02		2.42E+00
		1112.02	9.60	-1.65E+00		1.92E+00
		1407.95	14.94	-8.66E-02		1.01E+00
+	GD-153	97.43	31.30	-3.83E-02	3.10E-01	3.10E-01
		103.18	22.20	1.29E-01		4.16E-01
+	EU-154	123.07	40.50	-3.72E-01	2.20E-01	2.20E-01
		723.30	19.70	6.14E-01		9.68E-01
		873.19	11.50	4.77E-01		1.62E+00
		996.32	10.30	5.42E-01		1.78E+00
		1004.76	17.90	-5.24E-01		8.97E-01
		1274.45	35.50	-1.11E-01		5.20E-01
+	EU-155	86.50	30.90	1.19E-01	3.44E-01	3.44E-01
		105.30	20.70	-1.94E-01		4.08E-01
+	EU-156	811.77	10.40	-2.59E-01	5.28E+00	5.28E+00
		1153.47	7.20	-2.39E+00		1.06E+01
		1230.71	8.90	-6.35E-01		9.65E+00
+	HO-166M	184.41	72.60	1.72E-01	1.64E-01	1.64E-01
		280.45	29.60	1.08E-01		4.05E-01
		410.94	11.10	1.03E-01		1.22E+00
		711.69	54.10	4.63E-02		3.26E-01
+	TM-171	66.72	0.14	-2.82E+01	6.64E+01	6.64E+01
+	HF-172	81.75	4.52	-8.88E+00	8.80E-01	2.28E+00
		125.81	11.30	5.52E-01		8.80E-01
+	LU-172	181.53	20.60	-1.05E+00	4.45E+00	9.87E+00
		810.06	16.63	2.84E+00		1.75E+01
		912.12	15.25	5.13E+01		3.24E+01
		1093.66	62.50	-1.69E+00		4.45E+00
+	LU-173	100.72	5.24	2.00E-01	6.25E-01	1.68E+00
		272.11	21.20	9.23E-02		6.25E-01
+	HF-175	343.40	84.00	1.62E-02	1.95E-01	1.95E-01
+	LU-176	88.34	13.30	1.52E+00	1.19E-01	8.29E-01
		201.83	86.00	-2.64E-02		1.33E-01
		306.78	94.00	-6.29E-02		1.19E-01
+	TA-182	67.75	41.20	-5.60E-01	2.59E-01	2.59E-01
		1121.30	34.90	5.41E-01		8.51E-01
		1189.05	16.23	4.29E-01		1.56E+00
		1221.41	26.98	-5.87E-01		9.26E-01
		1231.02	11.44	-1.63E-01		2.48E+00
+	IR-192	308.46	29.68	-2.43E-01	3.76E-01	4.76E-01
		468.07	48.10	1.85E-02		3.76E-01

Analysis Report for 1510063-09
CP2107S02-03

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	HG-203	279.19	77.30	-4.82E-02	2.30E-01	2.30E-01
+	BI-207	569.67	97.72	4.20E-02	1.55E-01	1.55E-01
		1063.62	74.90	-2.84E-02		2.38E-01
+	TL-208	583.14	* 30.22	1.60E+00	2.34E-01	7.28E-01
		860.37	4.48	-9.32E-01		3.73E+00
		2614.66	* 35.85	1.57E+00		2.34E-01
+	BI-210M	262.00	45.00	-8.62E-02	2.63E-01	2.63E-01
		300.00	23.00	-6.14E-02		6.10E-01
+	PB-210	46.50	* 4.25	9.00E-01	1.23E+00	1.23E+00
+	PB-211	404.84	2.90	-1.34E+00	4.36E+00	4.36E+00
		831.96	2.90	8.06E-01		5.90E+00
+	BI-212	727.17	11.80	1.47E+00	1.68E+00	1.68E+00
		1620.62	2.75	-1.04E+00		4.77E+00
+	PB-212	238.63	* 44.60	2.08E+00	4.26E-01	4.26E-01
		300.09	3.41	-4.14E-01		4.12E+00
+	BI-214	609.31	* 46.30	1.29E+00	5.64E-01	5.64E-01
		1120.29	* 15.10	1.49E+00		1.36E+00
		1764.49	15.80	1.61E-01		1.72E+00
		2204.22	4.98	-5.22E-01		3.16E+00
+	PB-214	295.21	* 19.19	1.05E+00	5.95E-01	5.95E-01
		351.92	* 37.19	1.45E+00		5.95E-01
+	RN-219	401.80	6.50	-1.13E-01	1.94E+00	1.94E+00
+	RA-223	323.87	3.88	9.01E-01	3.36E+00	3.36E+00
+	RA-224	240.98	3.95	2.26E+01	5.17E+00	5.17E+00
+	RA-225	40.00	31.00	-4.63E-02	6.48E-01	6.48E-01
+	RA-226	186.21	* 3.28	4.50E+00	3.94E+00	3.94E+00
+	TH-227	50.10	8.40	-1.35E-01	7.84E-01	7.84E-01
		236.00	11.50	-1.38E-01		1.61E+00
		256.20	6.30	3.53E-03		1.85E+00
+	AC-228	338.32	* 11.40	1.38E+00	6.44E-01	1.59E+00
		911.07	* 27.70	1.75E+00		6.44E-01
		969.11	* 16.60	2.28E+00		1.42E+00
+	TH-230	48.44	16.90	-2.65E-02	3.83E-01	3.83E-01
		62.85	4.60	2.69E+00		1.90E+00
		67.67	0.37	-5.26E+01		2.43E+01
+	PA-231	283.67	1.60	6.07E-01	5.34E+00	7.36E+00
		302.67	2.30	-2.69E+00		5.34E+00
+	TH-231	25.64	14.70	-1.42E-01	3.35E-01	3.35E-01
		84.21	6.40	-5.02E+00		1.55E+00
+	PA-233	311.98	38.60	-7.41E-02	5.92E-01	5.92E-01
+	PA-234	131.20	20.40	3.26E-01	4.86E-01	4.86E-01
		733.99	8.80	-4.84E-01		1.78E+00
		946.00	12.00	-7.92E-01		1.33E+00
+	PA-234M	1001.03	0.92	-3.02E+00	1.80E+01	1.80E+01
+	TH-234	63.29	* 3.80	1.68E+00	3.00E+00	3.00E+00
+	U-235	143.76	10.50	2.85E-01	9.60E-01	9.60E-01
		163.35	4.70	-3.21E-01		2.14E+00

Analysis Report for 1510063-09
CP2107S02-03

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	U-235	205.31	4.70	1.80E+00	9.60E-01	2.61E+00
+	NP-237	86.50	12.60	2.88E-01	8.36E-01	8.36E-01
+	NP-239	106.10	22.70	-6.67E+02	1.40E+03	1.40E+03
		228.18	10.70	-9.91E+02		4.00E+03
		277.60	14.10	5.88E+02		3.18E+03
+	AM-241	59.54	35.90	-3.18E-02	2.25E-01	2.25E-01
+	AM-243	74.67	66.00	6.78E-01	1.78E-01	1.78E-01
+	CM-243	209.75	3.29	1.52E+00	8.46E-01	3.69E+00
		228.14	10.60	-5.42E-01		1.06E+00
		277.60	14.00	1.56E-01		8.46E-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
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	BE-7	477.59	10.42	1.90E+00	1.90E+00	-5.21E-01	8.99E-01
	NA-22	1274.54	99.94	1.88E-01	1.88E-01	-3.99E-02	8.40E-02
	NA-24	1368.53	99.99	4.63E+12	4.27E+12	4.61E+11	2.00E+12
		2754.09	99.86	4.27E+12		1.19E+12	1.60E+12
	AL-26	1808.65	99.76	1.52E-01	1.52E-01	-4.36E-02	6.31E-02
+	K-40	1460.81	* 10.67	1.56E+00	1.56E+00	1.99E+01	6.81E-01
@	AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
	TI-44	67.88	94.40	9.55E-02	9.55E-02	-2.07E-01	4.69E-02
		78.34	96.00	1.20E-01		2.31E-01	5.89E-02
	SC-46	889.25	99.98	2.06E-01	2.06E-01	1.17E-02	9.45E-02
		1120.51	99.99	3.16E-01		2.23E-01	1.47E-01
	V-48	983.52	99.98	5.87E-01	5.87E-01	-4.68E-02	2.68E-01
		1312.10	97.50	6.97E-01		2.76E-01	3.14E-01

Analysis Report for 1510063-09
CP2107S02-03

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
CR-51	320.08	9.83	2.50E+00	2.50E+00	1.66E-01	1.20E+00
MN-54	834.83	99.97	1.73E-01	1.73E-01	-2.82E-02	7.95E-02
CO-56	846.75	99.96	1.83E-01	1.83E-01	-1.09E-01	8.33E-02
	1037.75	14.03	1.71E+00		-1.41E-01	7.83E-01
	1238.25	67.00	5.02E-01		2.06E-01	2.33E-01
	1771.40	15.51	1.46E+00		-3.88E-02	6.26E-01
	2598.48	16.90	1.24E+00		4.73E-01	4.92E-01
CO-57	122.06	85.51	1.14E-01	1.14E-01	-7.87E-02	5.56E-02
	136.48	10.60	9.47E-01		-7.83E-01	4.61E-01
CO-58	810.76	99.40	2.13E-01	2.13E-01	3.45E-02	9.81E-02
FE-59	1099.22	56.50	5.03E-01	5.03E-01	1.19E-01	2.29E-01
	1291.56	43.20	7.32E-01		-1.44E-01	3.31E-01
CO-60	1173.22	100.00	2.20E-01	1.93E-01	-1.14E-02	1.01E-01
	1332.49	100.00	1.93E-01		3.96E-02	8.65E-02
ZN-65	1115.52	50.75	4.61E-01	4.61E-01	-1.36E-01	2.13E-01
+ GA-67	93.31	* 35.70	1.87E+02	1.87E+02	1.68E+02	9.25E+01
	208.95	* 2.24	2.84E+03		3.21E+03	1.39E+03
	300.22	16.00	3.08E+02		-4.89E+01	1.48E+02
SE-75	121.11	16.70	6.45E-01	1.87E-01	4.32E-03	3.15E-01
	136.00	59.20	1.87E-01		-1.66E-01	9.10E-02
	264.65	59.80	2.41E-01		-2.74E-03	1.16E-01
	279.53	25.20	5.47E-01		-1.15E-01	2.63E-01
	400.65	11.40	1.31E+00		-2.11E-01	6.20E-01
RB-82	776.52	13.00	2.56E+00	2.56E+00	-1.66E-01	1.18E+00
RB-83	520.41	46.00	3.54E-01	3.54E-01	-3.18E-01	1.66E-01
	529.64	30.30	5.89E-01		3.84E-01	2.77E-01
	552.65	16.40	1.05E+00		-1.97E-02	4.95E-01
KR-85	513.99	0.43	4.30E+01	4.30E+01	5.82E+01	2.06E+01
SR-85	513.99	99.27	2.52E-01	2.52E-01	3.41E-01	1.21E-01
Y-88	898.02	93.40	2.24E-01	1.40E-01	-1.59E-02	1.03E-01
	1836.01	99.38	1.40E-01		-1.85E-02	5.44E-02
NB-93M	16.57	9.43	4.53E-01	4.53E-01	1.03E+00	2.20E-01
NB-94	702.63	100.00	1.82E-01	1.82E-01	6.82E-02	8.57E-02
	871.10	100.00	1.88E-01		1.16E-02	8.74E-02
NB-95	765.79	99.81	3.13E-01	3.13E-01	-2.19E-02	1.46E-01
NB-95M	235.69	25.00	1.60E+02	1.60E+02	-1.37E+01	7.82E+01
ZR-95	724.18	43.70	5.91E-01	3.78E-01	3.09E-01	2.78E-01
	756.72	55.30	3.78E-01		-9.43E-03	1.75E-01
MO-99	181.06	6.20	2.05E+03	1.37E+03	3.51E+02	9.95E+02
	739.58	12.80	1.37E+03		1.75E+02	6.32E+02
	778.00	4.50	3.70E+03		-1.79E+03	1.69E+03
RU-103	497.08	89.00	2.37E-01	2.37E-01	-4.81E-02	1.11E-01
RU-106	621.84	9.80	1.54E+00	1.54E+00	1.14E-01	7.20E-01
AG-108M	433.93	89.90	1.35E-01	1.35E-01	-3.59E-02	6.38E-02
	614.37	90.40	2.05E-01		7.01E-03	9.75E-02
	722.95	90.50	2.09E-01		1.33E-01	9.86E-02
+ CD-109	88.03	* 3.72	4.77E+00	4.77E+00	5.42E+00	2.36E+00
AG-110M	657.75	93.14	1.89E-01	1.89E-01	1.65E-02	8.87E-02
	677.61	10.53	1.69E+00		2.78E-01	7.92E-01
	706.67	16.46	1.22E+00		3.26E-01	5.73E-01
	763.93	21.98	8.76E-01		1.03E-01	4.09E-01
	884.67	71.63	2.34E-01		-6.05E-02	1.07E-01
	1384.27	23.94	7.53E-01		-4.13E-01	3.30E-01

Analysis Report for 1510063-09
CP2107S02-03

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
CD-113M	263.70	0.02	5.36E+02	5.36E+02	6.38E+01	2.59E+02
SN-113	255.12	1.93	7.07E+00	2.39E-01	-5.54E-01	3.41E+00
	391.69	64.90	2.39E-01		1.05E-01	1.14E-01
TE123M	159.00	84.10	1.43E-01	1.43E-01	-2.41E-02	6.93E-02
SB-124	602.71	97.87	2.22E-01	2.22E-01	1.36E-02	1.05E-01
	645.85	7.26	2.89E+00		2.66E-01	1.35E+00
	722.78	11.10	2.20E+00		-4.13E-01	1.03E+00
	1691.02	49.00	3.60E-01		-1.28E-02	1.45E-01
I-125	35.49	6.49	1.10E+00	1.10E+00	-3.20E-01	5.36E-01
SB-125	176.33	6.89	1.56E+00	4.34E-01	-9.44E-02	7.57E-01
	427.89	29.33	4.34E-01		-5.28E-02	2.05E-01
	463.38	10.35	1.40E+00		7.09E-02	6.63E-01
	600.56	17.80	8.64E-01		-4.55E-02	4.05E-01
	635.90	11.32	1.32E+00		2.41E-01	6.16E-01
SB-126	414.70	83.30	7.84E-01	7.84E-01	-6.33E-02	3.74E-01
	666.33	99.60	8.12E-01		4.88E-01	3.81E-01
	695.00	99.60	7.85E-01		-1.85E-01	3.67E-01
	720.50	53.80	1.40E+00		-1.80E+00	6.51E-01
+ SN-126	87.57	* 37.00	4.60E-01	4.60E-01	5.22E-01	2.27E-01
SB-127	473.00	25.00	8.47E+01	6.64E+01	-2.56E+01	4.01E+01
	685.20	35.70	6.64E+01		-2.84E+01	3.09E+01
	783.80	14.70	1.59E+02		-4.21E+01	7.30E+01
I-129	29.78	57.00	8.84E-02	8.84E-02	1.00E-02	4.31E-02
	33.60	13.20	3.86E-01		-1.03E-01	1.88E-01
	39.58	7.52	7.17E-01		-5.13E-02	3.50E-01
I-131	284.30	6.05	2.17E+01	1.59E+00	4.30E+00	1.04E+01
	364.48	81.20	1.59E+00		4.40E-02	7.53E-01
	636.97	7.26	2.25E+01		4.09E+00	1.05E+01
	722.89	1.80	1.10E+02		-2.06E+01	5.14E+01
TE-132	49.72	13.10	1.93E+02	4.90E+01	-3.33E+01	9.47E+01
	228.16	88.00	4.90E+01		-2.51E+01	2.37E+01
BA-133	81.00	33.00	3.24E-01	3.12E-01	-5.60E-01	1.59E-01
	302.84	17.80	6.94E-01		-3.50E-01	3.34E-01
	356.01	60.00	3.12E-01		5.75E-01	1.52E-01
I-133	529.87	86.30	8.76E+08	8.76E+08	5.71E+08	4.13E+08
XE-133	81.00	38.00	1.13E+01	1.13E+01	-1.96E+01	5.57E+00
CS-134	563.23	8.38	1.57E+00	1.99E-01	-1.38E+00	7.32E-01
	569.32	15.43	1.01E+00		2.72E-01	4.74E-01
	604.70	97.60	2.06E-01		6.76E-03	9.79E-02
	795.84	85.40	1.99E-01		-9.41E-03	9.19E-02
	801.93	8.73	1.92E+00		2.36E-01	8.89E-01
CS-135	268.24	16.00	8.21E-01	8.21E-01	2.97E-02	3.97E-01
@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	1260.41	28.60	1.00E+26		1.00E+26	1.00E+20
@	1678.03	9.54	1.00E+26		1.00E+26	1.00E+20
CS-136	153.22	7.46	6.14E+00	7.51E-01	2.23E+00	2.99E+00
	163.89	4.61	9.54E+00		-1.43E+00	4.64E+00
	176.55	13.56	3.40E+00		-2.06E-01	1.65E+00
	273.65	12.66	4.39E+00		3.34E-01	2.12E+00
	340.57	48.50	1.31E+00		8.52E-02	6.33E-01
	818.50	99.70	7.51E-01		5.30E-02	3.48E-01
	1048.07	79.60	1.00E+00		2.27E-02	4.58E-01
	1235.34	19.70	5.53E+00		3.84E-01	2.56E+00

Analysis Report for 1510063-09
CP2107S02-03

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
CS-137	661.65	85.12	1.92E-01	1.92E-01	-5.07E-02	8.99E-02
LA-138	788.74	34.00	5.14E-01	2.32E-01	1.60E-01	2.39E-01
	1435.80	66.00	2.32E-01		-3.64E-02	1.00E-01
CE-139	165.85	80.35	1.43E-01	1.43E-01	-9.78E-02	6.94E-02
BA-140	162.64	6.70	6.85E+00	2.31E+00	3.21E-01	3.33E+00
	304.84	4.50	1.21E+01		2.55E+00	5.80E+00
	423.70	3.20	1.90E+01		2.76E+00	9.05E+00
	437.55	2.00	2.86E+01		-2.09E+00	1.35E+01
	537.32	25.00	2.31E+00		-9.24E-01	1.08E+00
LA-140	328.77	20.50	2.85E+00	8.29E-01	2.84E-01	1.37E+00
	487.03	45.50	1.46E+00		1.92E-02	6.93E-01
	815.85	23.50	3.20E+00		9.98E-03	1.48E+00
	1596.49	95.49	8.29E-01		-1.29E-01	3.59E-01
CE-141	145.44	48.40	3.87E-01	3.87E-01	1.59E-01	1.89E-01
CE-143	57.36	11.80	8.31E+05	4.51E+05	-3.19E+05	4.07E+05
	293.26	42.00	4.51E+05		-2.98E+04	2.18E+05
	664.55	5.20	4.19E+06		-1.02E+06	1.96E+06
CE-144	133.54	10.80	9.57E-01	9.57E-01	1.58E-01	4.67E-01
PM-144	476.78	42.00	3.40E-01	1.43E-01	-2.05E-01	1.61E-01
	618.01	98.60	1.43E-01		-6.44E-02	6.62E-02
	696.49	99.49	1.75E-01		-3.00E-02	8.18E-02
PM-145	36.85	21.70	2.42E-01	1.34E-01	-3.39E-02	1.18E-01
	37.36	39.70	1.34E-01		-6.77E-03	6.53E-02
	42.30	15.10	3.93E-01		-9.46E-03	1.92E-01
	72.40	2.31	4.80E+00		7.86E+00	2.36E+00
PM-146	453.90	39.94	3.43E-01	3.43E-01	9.21E-02	1.63E-01
	735.90	14.01	1.11E+00		-9.10E-02	5.15E-01
	747.13	13.10	1.15E+00		-6.54E-02	5.33E-01
ND-147	91.11	28.90	2.27E+00	2.27E+00	5.73E+00	1.11E+00
	531.02	13.10	6.14E+00		1.13E+00	2.89E+00
PM-149	285.90	3.10	2.41E+04	2.41E+04	6.61E+03	1.16E+04
EU-152	121.78	20.50	4.44E-01	4.44E-01	-3.06E-01	2.16E-01
	244.69	5.40	2.66E+00		-2.96E-01	1.29E+00
	344.27	19.13	6.34E-01		5.44E-02	3.03E-01
	778.89	9.20	1.57E+00		-7.59E-01	7.19E-01
	964.01	10.40	2.08E+00		8.75E-02	9.70E-01
	1085.78	7.22	2.42E+00		8.29E-02	1.10E+00
	1112.02	9.60	1.92E+00		-1.65E+00	8.71E-01
	1407.95	14.94	1.01E+00		-8.66E-02	4.36E-01
GD-153	97.43	31.30	3.10E-01	3.10E-01	-3.83E-02	1.52E-01
	103.18	22.20	4.16E-01		1.29E-01	2.03E-01
EU-154	123.07	40.50	2.20E-01	2.20E-01	-3.72E-01	1.07E-01
	723.30	19.70	9.68E-01		6.14E-01	4.56E-01
	873.19	11.50	1.62E+00		4.77E-01	7.53E-01
	996.32	10.30	1.78E+00		5.42E-01	8.17E-01
	1004.76	17.90	8.97E-01		-5.24E-01	4.05E-01
	1274.45	35.50	5.20E-01		-1.11E-01	2.33E-01
EU-155	86.50	30.90	3.44E-01	3.44E-01	1.19E-01	1.69E-01
	105.30	20.70	4.08E-01		-1.94E-01	1.99E-01
EU-156	811.77	10.40	5.28E+00	5.28E+00	-2.59E-01	2.42E+00
	1153.47	7.20	1.06E+01		-2.39E+00	4.85E+00
	1230.71	8.90	9.65E+00		-6.35E-01	4.45E+00
HO-166M	184.41	72.60	1.64E-01	1.64E-01	1.72E-01	8.00E-02

Analysis Report for 1510063-09
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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)	
HO-166M	280.45	29.60	4.05E-01	1.64E-01	1.08E-01	1.95E-01	
	410.94	11.10	1.22E+00		1.03E-01	5.79E-01	
	711.69	54.10	3.26E-01		4.63E-02	1.53E-01	
TM-171	66.72	0.14	6.64E+01	6.64E+01	-2.82E+01	3.26E+01	
HF-172	81.75	4.52	2.28E+00	8.80E-01	-8.88E+00	1.12E+00	
	125.81	11.30	8.80E-01		5.52E-01	4.29E-01	
LU-172	181.53	20.60	9.87E+00	4.45E+00	-1.05E+00	4.80E+00	
	810.06	16.63	1.75E+01		2.84E+00	8.07E+00	
	912.12	15.25	3.24E+01		5.13E+01	1.54E+01	
LU-173	1093.66	62.50	4.45E+00	6.25E-01	-1.69E+00	1.98E+00	
	100.72	5.24	1.68E+00		2.00E-01	8.20E-01	
	272.11	21.20	6.25E-01		9.23E-02	3.02E-01	
HF-175	343.40	84.00	1.95E-01	1.95E-01	1.62E-02	9.31E-02	
LU-176	88.34	13.30	8.29E-01	1.19E-01	1.52E+00	4.08E-01	
	201.83	86.00	1.33E-01		-2.64E-02	6.45E-02	
	306.78	94.00	1.19E-01		-6.29E-02	5.69E-02	
TA-182	67.75	41.20	2.59E-01	2.59E-01	-5.60E-01	1.27E-01	
	1121.30	34.90	8.51E-01		5.41E-01	3.97E-01	
	1189.05	16.23	1.56E+00		4.29E-01	7.13E-01	
	1221.41	26.98	9.26E-01		-5.87E-01	4.23E-01	
IR-192	1231.02	11.44	2.48E+00	3.76E-01	-1.63E-01	1.14E+00	
	308.46	29.68	4.76E-01		-2.43E-01	2.28E-01	
	468.07	48.10	3.76E-01		1.85E-02	1.78E-01	
HG-203	279.19	77.30	2.30E-01	2.30E-01	-4.82E-02	1.10E-01	
BI-207	569.67	97.72	1.55E-01	1.55E-01	4.20E-02	7.31E-02	
	1063.62	74.90	2.38E-01		-2.84E-02	1.08E-01	
+ TL-208	583.14	*	30.22	2.34E-01	1.60E+00	3.49E-01	
	860.37		4.48		-9.32E-01	1.72E+00	
	2614.66	*	35.85		1.57E+00	6.97E-02	
BI-210M	262.00		2.63E-01	2.63E-01	-8.62E-02	1.27E-01	
	300.00		6.10E-01		-6.10E-02	2.95E-01	
+ PB-210	46.50	*	4.25	1.23E+00	9.44E-01	5.97E-01	
	404.84		2.90		4.36E+00	-1.34E+00	2.07E+00
PB-211	831.96		5.90E+00	4.36E+00	8.06E-01	2.73E+00	
	727.17		11.80		1.68E+00	1.47E+00	7.90E-01
BI-212	1620.62		2.75	1.68E+00	-1.04E+00	1.96E+00	
	238.63	*	44.60		4.26E-01	2.08E+00	2.08E-01
+ PB-212	300.09		3.41	4.26E-01	-4.14E-01	1.99E+00	
	609.31	*	46.30		5.64E-01	1.29E+00	2.72E-01
+ BI-214	1120.29	*	15.10	5.64E-01	1.49E+00	6.26E-01	
	1764.49		15.80		1.61E-01	7.81E-01	
	2204.22		4.98		3.16E+00	-5.22E-01	1.28E+00
+ PB-214	295.21	*	19.19	5.95E-01	1.05E+00	2.85E-01	
	351.92	*	37.19		5.95E-01	1.45E+00	2.90E-01
RN-219	401.80		1.94E+00	1.94E+00	-1.13E-01	9.24E-01	
RA-223	323.87		3.36E+00	3.36E+00	9.01E-01	1.61E+00	
RA-224	240.98		5.17E+00	5.17E+00	2.26E+01	2.53E+00	
RA-225	40.00		6.48E-01	6.48E-01	-4.63E-02	3.16E-01	
+ RA-226	186.21	*	3.28	3.94E+00	4.50E+00	1.92E+00	
	50.10		8.40		7.84E-01	-1.35E-01	3.83E-01
TH-227	236.00		11.50	7.84E-01	-1.38E-01	7.88E-01	
	256.20		6.30		1.85E+00	3.53E-03	8.93E-01
	338.32	*	11.40		1.59E+00	1.38E+00	7.69E-01
+ AC-228				6.44E-01			

Analysis Report for 1510063-09

CP2107S02-03

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
AC-228	911.07 *		27.70	6.44E-01	6.44E-01	1.75E+00	2.97E-01
	969.11 *		16.60	1.42E+00		2.28E+00	6.66E-01
TH-230	48.44		16.90	3.83E-01	3.83E-01	-2.65E-02	1.87E-01
	62.85		4.60	1.90E+00		2.69E+00	9.35E-01
	67.67		0.37	2.43E+01		-5.26E+01	1.19E+01
PA-231	283.67		1.60	7.36E+00	5.34E+00	6.07E-01	3.54E+00
	302.67		2.30	5.34E+00		-2.69E+00	2.57E+00
TH-231	25.64		14.70	3.35E-01	3.35E-01	-1.42E-01	1.63E-01
	84.21		6.40	1.55E+00		-5.02E+00	7.60E-01
PA-233	311.98		38.60	5.92E-01	5.92E-01	-7.41E-02	2.83E-01
PA-234	131.20		20.40	4.86E-01	4.86E-01	3.26E-01	2.37E-01
	733.99		8.80	1.78E+00		-4.84E-01	8.25E-01
	946.00		12.00	1.33E+00		-7.92E-01	6.04E-01
PA-234M	1001.03		0.92	1.80E+01	1.80E+01	-3.02E+00	8.20E+00
+ TH-234	63.29 *		3.80	3.00E+00	3.00E+00	1.68E+00	1.48E+00
U-235	143.76		10.50	9.60E-01	9.60E-01	2.85E-01	4.68E-01
	163.35		4.70	2.14E+00		-3.21E-01	1.04E+00
	205.31		4.70	2.61E+00		1.80E+00	1.27E+00
NP-237	86.50		12.60	8.36E-01	8.36E-01	2.88E-01	4.11E-01
NP-239	106.10		22.70	1.40E+03	1.40E+03	-6.67E+02	6.84E+02
	228.18		10.70	4.00E+03		-9.91E+02	1.94E+03
	277.60		14.10	3.18E+03		5.88E+02	1.53E+03
AM-241	59.54		35.90	2.25E-01	2.25E-01	-3.18E-02	1.10E-01
AM-243	74.67		66.00	1.78E-01	1.78E-01	6.78E-01	8.77E-02
CM-243	209.75		3.29	3.69E+00	8.46E-01	1.52E+00	1.79E+00
	228.14		10.60	1.06E+00		-5.42E-01	5.10E-01
	277.60		14.00	8.46E-01		1.56E-01	4.07E-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

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

Creation Date

Comment

User

: 00658

Analysis Report for 1510063-09
CP2107S02-03

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP2107S02-03

Elapsed Live time: 3600
 Elapsed Real Time: 3644

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	28	84
17:	88	68	66	71	60	53	55	63	63
25:	64	56	71	53	57	62	62	59	59
33:	50	57	54	65	55	68	54	64	64
41:	70	62	48	69	88	104	75	61	61
49:	61	70	70	90	76	65	73	90	90
57:	66	105	83	94	112	142	150	110	110
65:	124	108	111	94	103	96	115	122	122
73:	184	210	237	275	211	126	91	87	87
81:	89	100	96	103	131	134	146	140	140
89:	111	111	135	139	128	95	63	61	61
97:	58	77	75	54	56	61	51	78	78
105:	66	42	53	55	62	55	69	57	57
113:	58	67	64	60	74	49	59	48	48
121:	51	66	56	61	45	42	76	79	79
129:	78	61	48	57	50	58	60	44	44
137:	51	46	54	39	64	59	54	64	64
145:	59	62	41	50	58	58	48	62	62
153:	48	69	49	48	47	43	54	50	50
161:	32	42	55	41	49	42	38	50	50
169:	39	51	54	49	29	41	52	55	55
177:	37	46	43	41	39	42	43	62	62
185:	74	73	51	46	37	29	50	52	52
193:	32	47	43	35	38	39	40	35	35
201:	41	31	55	42	50	44	35	55	55
209:	64	41	42	36	24	30	39	41	41
217:	41	37	43	44	38	43	34	23	23
225:	22	38	28	46	29	28	37	41	41
233:	29	25	40	60	145	226	154	95	95
241:	76	59	40	36	32	33	24	25	25
249:	32	22	32	31	25	40	27	25	25
257:	25	22	32	26	30	28	25	35	35
265:	28	28	35	29	37	47	28	30	30
273:	24	21	21	29	31	24	22	29	29
281:	23	18	20	30	22	27	22	20	20
289:	20	17	20	13	29	67	70	33	33
297:	20	20	33	32	27	22	19	22	22
305:	17	14	20	18	15	18	17	13	13
313:	17	25	15	23	17	17	16	22	22
321:	30	23	19	17	28	18	31	29	29
329:	16	21	17	15	29	19	21	29	29
337:	43	48	31	12	14	20	20	17	17
345:	20	13	17	22	21	69	103	96	96
353:	58	15	14	14	19	26	12	20	20
361:	19	9	15	10	12	12	13	15	15

369: 13 8 9 23 21 16 14 18

Sample Title: CP2107S02-03

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	11	15	11	19	17	13	16	7
385:	13	16	16	24	11	14	13	13
393:	21	13	17	11	12	18	16	15
401:	10	15	17	12	10	12	18	14
409:	20	14	13	13	15	18	16	13
417:	17	19	18	18	9	13	8	17
425:	18	10	15	8	10	14	7	14
433:	13	12	10	7	11	14	12	14
441:	10	9	11	16	10	8	14	5
449:	6	21	11	9	11	19	12	10
457:	14	13	13	12	17	21	10	12
465:	15	9	10	12	16	12	16	10
473:	7	11	9	13	17	17	11	7
481:	13	11	20	10	9	14	12	14
489:	11	13	18	22	7	9	10	14
497:	13	6	6	8	11	8	15	12
505:	19	12	12	13	21	26	32	28
513:	20	11	12	10	9	7	12	4
521:	10	7	8	11	10	15	11	8
529:	10	9	12	10	6	3	11	2
537:	10	10	7	12	8	8	11	7
545:	8	10	11	6	15	4	10	6
553:	8	10	10	9	8	9	7	10
561:	5	10	7	6	7	7	5	13
569:	7	18	7	10	15	8	11	9
577:	8	8	11	5	26	40	61	39
585:	17	8	9	6	8	8	8	11
593:	7	8	8	7	6	7	10	8
601:	12	4	12	13	8	12	27	39
609:	59	44	18	12	8	5	10	6
617:	5	9	7	5	5	5	9	10
625:	11	6	9	6	6	6	5	3
633:	10	6	7	9	12	9	5	4
641:	10	7	4	6	5	11	7	12
649:	7	8	8	9	7	8	15	5
657:	12	13	7	8	2	4	6	14
665:	10	8	14	8	8	9	7	4
673:	8	10	7	10	10	9	5	10
681:	5	6	9	9	11	2	7	9
689:	4	8	8	12	9	8	2	7
697:	9	4	10	9	10	11	9	12
705:	9	11	11	12	4	8	7	9
713:	6	8	12	7	6	4	8	4
721:	9	6	7	8	10	19	16	9
729:	6	7	12	3	5	8	7	3
737:	2	9	5	10	1	6	8	5
745:	5	5	5	1	9	5	6	4
753:	9	4	7	4	5	5	2	11
761:	4	5	6	9	2	11	9	11
769:	12	8	7	4	11	8	5	4
777:	4	3	8	2	4	3	4	7
785:	6	7	4	2	11	11	6	7
793:	4	11	6	5	4	3	7	5

801: 6 8 4 6 4 8 2 6

Sample Title: CP2107S02-03

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	8	4	8	4	3	5	3	6
817:	6	12	3	9	3	7	3	10
825:	6	3	10	9	4	9	2	5
833:	5	5	9	4	2	5	6	6
841:	7	4	3	4	5	7	3	1
849:	5	2	5	6	5	6	4	5
857:	3	3	6	10	4	5	3	7
865:	6	9	6	6	10	4	9	7
873:	4	7	5	3	7	6	2	3
881:	3	7	4	6	6	2	4	2
889:	5	3	7	2	10	2	7	0
897:	7	6	4	4	7	9	3	4
905:	6	4	2	5	7	29	28	21
913:	11	6	3	6	0	3	7	3
921:	10	4	2	3	9	5	4	7
929:	2	6	4	6	5	8	7	5
937:	5	7	7	6	6	4	2	7
945:	6	0	4	5	3	3	6	5
953:	5	0	3	5	2	1	4	3
961:	6	3	3	7	7	6	12	16
969:	14	16	8	2	9	1	1	5
977:	8	1	4	4	4	5	1	3
985:	1	9	7	4	4	5	3	4
993:	5	6	3	3	2	9	5	4
1001:	2	6	1	0	4	2	5	6
1009:	6	7	2	5	5	4	2	5
1017:	3	2	9	6	2	5	4	5
1025:	3	4	1	2	2	3	2	4
1033:	9	6	2	2	2	6	4	5
1041:	4	4	3	2	2	6	7	5
1049:	3	6	4	2	6	4	3	4
1057:	5	3	4	2	2	3	3	8
1065:	7	1	4	4	6	3	2	4
1073:	6	2	9	5	6	2	4	4
1081:	5	5	2	5	6	2	3	1
1089:	3	4	2	4	2	1	2	3
1097:	2	4	6	4	5	3	5	3
1105:	5	3	8	4	4	0	7	3
1113:	7	3	4	1	1	7	14	14
1121:	10	7	5	5	1	8	1	7
1129:	10	4	1	5	8	5	5	4
1137:	5	3	1	14	4	4	6	6
1145:	7	3	7	7	7	2	4	1
1153:	2	8	7	9	2	6	5	5
1161:	7	5	5	3	11	7	3	2
1169:	5	6	6	6	3	2	5	6
1177:	4	8	4	5	2	4	6	8
1185:	4	7	3	2	3	5	8	4
1193:	4	2	1	1	7	1	8	2
1201:	5	3	5	4	3	5	4	6
1209:	6	6	8	9	2	2	10	9
1217:	4	4	0	5	10	1	4	3
1225:	6	5	6	6	4	7	5	3

1233: 2 9 6 8 8 3 8 3

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Channel	-----	-----	-----	-----	-----	-----	-----	-----
1241:	5	8	6	6	5	2	1	7
1249:	2	5	1	4	7	3	3	1
1257:	6	2	1	1	2	3	3	3
1265:	3	2	8	1	5	2	3	4
1273:	4	2	1	1	4	4	1	3
1281:	3	4	3	2	3	5	2	5
1289:	3	4	3	5	2	3	4	4
1297:	5	5	2	5	5	6	2	5
1305:	2	1	3	3	3	4	2	4
1313:	4	5	4	0	2	1	3	3
1321:	2	3	1	5	2	3	1	3
1329:	4	1	3	1	4	5	2	2
1337:	3	4	0	3	0	3	0	1
1345:	2	2	2	4	2	2	1	6
1353:	1	2	3	2	1	0	2	6
1361:	0	2	2	1	3	2	0	2
1369:	2	0	2	2	2	0	2	4
1377:	1	6	5	2	2	3	1	2
1385:	2	1	3	1	4	1	3	2
1393:	1	3	0	0	3	1	4	0
1401:	1	1	2	0	0	2	1	3
1409:	1	2	3	1	3	2	1	3
1417:	2	2	1	1	1	1	2	1
1425:	1	2	2	5	2	1	0	2
1433:	0	2	1	0	2	1	1	4
1441:	5	3	0	1	2	1	2	3
1449:	1	0	1	0	0	1	2	2
1457:	2	5	22	53	91	57	30	3
1465:	4	0	2	0	0	2	3	1
1473:	2	1	2	1	2	1	1	2
1481:	1	3	1	3	1	0	0	1
1489:	0	2	3	0	1	1	0	2
1497:	0	2	3	1	4	0	2	1
1505:	1	1	3	4	5	5	2	1
1513:	2	2	1	0	1	1	0	0
1521:	0	0	0	1	1	0	1	2
1529:	0	1	0	2	3	0	4	0
1537:	1	2	1	1	2	0	1	0
1545:	5	1	1	0	0	0	1	1
1553:	1	0	1	2	3	1	2	1
1561:	1	1	0	0	2	1	0	1
1569:	1	2	3	1	0	0	1	0
1577:	1	0	2	0	3	1	1	2
1585:	1	0	0	3	2	3	3	3
1593:	2	2	0	0	3	2	2	3
1601:	0	1	1	1	1	2	0	1
1609:	2	1	3	2	1	0	1	3
1617:	0	1	1	0	1	4	0	0
1625:	0	0	2	1	2	5	4	0
1633:	0	1	0	1	2	2	0	3
1641:	2	1	0	0	4	0	1	0
1649:	0	0	0	2	0	1	0	1
1657:	0	0	0	1	2	1	1	0

1665: 0 1 1 0 0 2 2 0

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1673:	2	1	2	0	0	0	0	2
1681:	0	1	2	1	2	0	2	2
1689:	1	0	0	1	0	0	0	2
1697:	0	0	2	3	1	0	1	1
1705:	0	0	1	2	1	1	1	0
1713:	1	0	1	1	1	0	0	0
1721:	1	0	1	1	0	1	1	1
1729:	1	1	1	3	2	1	1	0
1737:	5	0	1	2	1	0	0	0
1745:	0	0	0	0	2	1	1	1
1753:	1	1	0	1	1	1	1	2
1761:	3	3	4	5	3	5	0	1
1769:	4	2	1	1	0	2	0	1
1777:	0	2	0	0	1	1	0	0
1785:	0	2	0	0	0	0	3	1
1793:	0	3	1	0	0	0	1	0
1801:	1	1	1	0	1	0	1	0
1809:	1	1	0	2	0	2	3	1
1817:	0	0	1	0	0	2	0	0
1825:	0	0	4	0	1	0	1	0
1833:	0	0	1	0	0	0	1	1
1841:	0	0	1	1	1	1	1	0
1849:	1	0	0	0	0	2	2	1
1857:	0	2	1	1	0	0	0	2
1865:	2	2	1	1	1	2	0	1
1873:	2	0	3	0	0	0	0	0
1881:	0	0	1	0	1	0	0	3
1889:	1	0	1	0	3	0	1	1
1897:	1	1	1	0	0	1	0	0
1905:	1	0	0	0	0	1	0	1
1913:	0	1	0	1	0	0	2	0
1921:	2	2	0	0	0	1	2	0
1929:	0	2	1	0	5	2	1	0
1937:	1	1	1	2	0	2	2	2
1945:	3	1	1	0	2	0	1	1
1953:	0	3	0	1	2	0	0	0
1961:	0	1	0	0	0	0	1	0
1969:	1	0	0	0	2	0	0	0
1977:	0	0	0	0	0	1	1	2
1985:	0	0	1	0	0	1	2	0
1993:	2	1	0	0	1	0	0	1
2001:	0	1	0	1	1	0	0	1
2009:	1	0	0	1	2	1	0	0
2017:	0	1	0	0	0	0	0	1
2025:	2	1	1	1	0	0	0	1
2033:	0	2	1	2	1	0	1	0
2041:	3	0	2	1	0	0	0	0
2049:	1	0	1	1	1	1	1	0
2057:	0	0	0	0	0	1	0	1
2065:	0	0	0	0	0	1	0	1
2073:	1	0	0	0	2	1	0	0
2081:	0	0	0	0	0	0	0	1
2089:	0	2	0	0	0	0	0	0

2097: 0 0 0 2 1 0 1 0

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Channel	-----	-----	-----	-----	-----	-----	-----	-----
2105:	0	0	1	0	0	2	3	1
2113:	0	0	1	0	0	0	0	1
2121:	0	0	1	1	0	1	2	0
2129:	1	1	4	4	3	0	2	1
2137:	0	0	0	1	0	1	2	3
2145:	0	3	2	1	1	0	0	0
2153:	0	1	0	1	0	0	0	0
2161:	1	0	1	1	0	0	0	1
2169:	1	0	1	0	1	0	1	0
2177:	1	1	1	1	2	0	0	0
2185:	0	0	0	1	0	0	0	0
2193:	1	2	1	1	1	0	0	1
2201:	1	1	0	0	1	0	1	0
2209:	1	0	3	0	0	0	0	1
2217:	0	0	1	0	1	1	1	1
2225:	1	2	0	0	1	0	1	0
2233:	0	0	0	1	2	0	1	1
2241:	0	0	0	2	0	1	0	1
2249:	1	1	2	0	1	0	0	0
2257:	1	1	1	1	1	2	0	1
2265:	3	1	2	1	1	0	0	0
2273:	0	1	0	2	1	0	1	0
2281:	1	1	0	0	0	0	2	1
2289:	2	1	0	0	2	0	1	0
2297:	0	0	0	0	0	2	0	1
2305:	0	1	0	2	0	1	0	4
2313:	0	1	0	0	3	0	0	1
2321:	1	0	0	0	1	2	0	1
2329:	0	0	1	1	1	1	2	1
2337:	1	0	0	0	0	0	0	0
2345:	0	3	1	0	0	2	0	2
2353:	0	1	2	0	3	1	2	2
2361:	0	0	2	1	0	0	1	1
2369:	2	0	2	0	1	0	1	0
2377:	2	1	2	1	0	1	0	0
2385:	1	0	1	0	1	0	0	1
2393:	1	2	0	0	0	3	0	2
2401:	1	1	0	1	1	0	0	0
2409:	1	0	1	1	3	0	0	1
2417:	0	1	0	0	0	0	3	1
2425:	0	0	1	0	0	0	1	0
2433:	1	0	1	0	0	0	1	0
2441:	1	0	0	0	0	0	0	3
2449:	0	1	0	0	0	2	2	0
2457:	0	0	0	0	0	0	2	0
2465:	1	0	1	1	1	2	0	1
2473:	1	0	2	1	0	1	0	0
2481:	1	0	0	1	0	0	0	1
2489:	1	0	0	0	0	0	0	0
2497:	0	1	1	2	0	0	0	0
2505:	0	0	0	0	0	0	0	0
2513:	0	0	0	0	0	0	0	0
2521:	0	0	0	0	0	0	0	1

2529: 0 0 1 0 0 0 2 2

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Channel	-----	-----	-----	-----	-----	-----	-----	-----
2537:	0	1	0	0	0	2	0	0
2545:	0	0	0	0	0	0	0	1
2553:	1	0	0	0	1	1	0	1
2561:	0	1	0	1	0	1	0	1
2569:	0	1	0	0	0	0	0	0
2577:	0	0	0	0	1	0	0	0
2585:	0	0	0	1	0	0	0	0
2593:	0	0	0	0	1	2	1	0
2601:	0	0	1	0	0	0	0	0
2609:	0	0	0	0	3	6	10	18
2617:	5	4	0	0	2	1	0	0
2625:	0	0	0	1	0	1	0	0
2633:	0	0	0	0	0	0	0	1
2641:	0	0	0	0	0	0	0	0
2649:	0	0	0	0	0	0	0	0
2657:	0	1	0	0	0	0	0	0
2665:	0	0	0	0	0	0	0	0
2673:	1	0	0	0	0	0	1	1
2681:	0	0	0	0	0	0	1	0
2689:	1	0	0	0	0	0	0	0
2697:	0	0	0	1	1	0	0	0
2705:	0	0	0	0	0	0	0	0
2713:	0	0	0	0	0	0	0	0
2721:	0	0	0	0	0	0	0	0
2729:	1	0	0	0	0	0	0	0
2737:	0	2	1	0	0	1	0	0
2745:	0	0	0	0	0	0	0	1
2753:	0	0	0	0	0	0	0	2
2761:	0	0	0	0	0	0	0	0
2769:	0	0	0	0	0	1	0	0
2777:	0	0	0	0	0	0	0	2
2785:	1	0	0	0	0	0	0	1
2793:	0	0	0	0	0	0	0	1
2801:	1	1	0	1	0	0	0	1
2809:	0	0	0	0	0	3	0	0
2817:	0	0	1	0	1	0	0	0
2825:	0	0	0	0	0	0	1	0
2833:	0	0	0	0	0	0	0	0
2841:	0	0	1	0	0	0	0	0
2849:	0	0	0	1	1	0	1	0
2857:	0	0	0	0	0	0	2	0
2865:	0	1	0	0	0	0	0	0
2873:	0	0	0	0	1	0	1	0
2881:	0	0	0	0	0	0	0	0
2889:	0	0	0	1	0	0	0	1
2897:	0	0	0	0	0	0	0	1
2905:	0	0	0	0	0	0	0	1
2913:	0	0	0	1	0	0	0	0
2921:	0	0	0	0	1	0	0	0
2929:	1	0	0	0	0	0	0	0
2937:	0	0	0	1	0	0	1	0
2945:	0	0	0	0	1	0	0	0
2953:	0	0	0	0	0	0	0	0

2961: 0 0 0 0 0 0 1 1

Sample Title: CP2107S02-03

Channel	1	2	3	4	5	6	7	8
2969:	0	0	0	0	0	0	0	0
2977:	0	0	0	0	0	0	0	0
2985:	0	0	0	0	0	0	0	0
2993:	0	1	0	0	0	0	0	0
3001:	0	1	0	0	0	0	0	0
3009:	0	1	0	0	0	0	0	0
3017:	0	0	0	0	0	0	0	0
3025:	0	0	0	1	0	1	0	0
3033:	1	0	0	0	0	0	0	1
3041:	1	0	0	1	0	0	0	0
3049:	0	0	0	0	0	0	0	0
3057:	0	0	0	0	1	1	0	0
3065:	0	0	1	0	0	1	0	0
3073:	1	1	0	0	0	0	0	0
3081:	0	0	0	0	0	0	0	0
3089:	0	1	0	1	0	0	0	0
3097:	1	0	0	0	0	2	0	0
3105:	1	0	0	0	1	0	0	1
3113:	0	0	1	0	0	0	0	0
3121:	0	0	0	0	0	0	0	0
3129:	1	1	0	0	0	0	0	0
3137:	1	0	1	0	0	0	1	0
3145:	0	0	0	0	0	0	0	0
3153:	0	0	0	0	0	0	0	0
3161:	2	0	0	0	0	0	0	0
3169:	0	0	0	1	1	0	0	0
3177:	0	1	0	0	1	0	0	0
3185:	0	0	1	1	0	0	0	0
3193:	0	0	0	0	0	0	0	0
3201:	0	0	1	0	0	0	0	0
3209:	0	0	0	0	0	0	0	0
3217:	1	0	0	0	0	0	0	0
3225:	0	0	0	1	0	0	1	0
3233:	0	0	0	0	1	0	0	0
3241:	0	0	0	0	0	0	0	0
3249:	0	1	0	0	0	0	0	0
3257:	0	0	0	0	0	0	0	1
3265:	0	0	0	0	0	0	0	1
3273:	0	0	1	0	0	1	0	0
3281:	0	0	0	0	0	0	1	0
3289:	0	0	0	0	0	0	0	0
3297:	1	0	0	0	1	0	1	0
3305:	0	0	0	0	1	0	0	1
3313:	0	0	0	0	0	0	0	0
3321:	0	0	0	0	0	0	0	0
3329:	0	0	0	0	0	1	0	0
3337:	0	0	0	0	0	0	0	0
3345:	0	0	0	0	0	0	0	0
3353:	0	0	1	0	0	0	0	0
3361:	0	0	0	0	0	0	0	0
3369:	0	0	0	1	0	0	0	0
3377:	0	0	0	0	0	1	0	1
3385:	0	0	0	1	0	0	0	0

3393: 0 0 0 0 0 0 0 0

Sample Title: CP2107S02-03

Channel	1	2	3	4	5	6	7	8	9
3401:	0	1	0	0	0	0	0	1	0
3409:	0	0	0	0	0	0	0	0	0
3417:	0	0	0	0	0	0	0	0	0
3425:	1	0	0	0	0	0	1	0	0
3433:	0	0	0	0	0	0	0	0	0
3441:	2	0	0	0	0	0	0	0	0
3449:	0	0	0	0	0	0	0	0	1
3457:	0	0	0	0	0	0	0	0	0
3465:	0	0	0	0	0	0	0	0	0
3473:	1	0	1	0	0	0	0	1	0
3481:	0	1	0	0	0	0	0	1	0
3489:	0	0	1	0	0	0	0	1	0
3497:	0	0	0	0	0	1	0	0	0
3505:	0	0	0	0	0	0	0	0	0
3513:	0	0	0	0	0	0	0	0	0
3521:	0	0	0	0	0	1	0	0	0
3529:	0	0	0	0	0	0	0	0	1
3537:	0	0	0	0	0	0	0	0	0
3545:	0	0	0	0	0	0	0	0	1
3553:	0	0	0	0	0	1	0	0	0
3561:	0	0	1	0	0	0	0	0	1
3569:	0	0	0	0	0	0	0	0	0
3577:	1	0	1	1	0	0	0	0	0
3585:	0	0	0	1	0	0	1	0	0
3593:	0	1	0	0	0	1	0	1	0
3601:	0	1	0	0	0	0	0	0	0
3609:	0	0	0	0	0	0	0	1	1
3617:	0	0	0	0	0	0	0	0	0
3625:	0	0	0	0	0	0	0	0	0
3633:	0	0	0	0	0	2	0	0	0
3641:	0	0	0	0	0	0	0	0	0
3649:	0	0	0	0	0	0	0	2	0
3657:	0	0	1	0	0	1	0	0	0
3665:	0	0	0	0	0	0	0	0	0
3673:	0	0	0	0	0	0	0	0	0
3681:	0	0	0	1	0	0	0	0	1
3689:	1	0	0	0	0	0	0	0	0
3697:	0	0	0	0	0	0	0	0	0
3705:	0	0	0	0	0	0	0	0	0
3713:	0	0	0	0	0	0	0	0	0
3721:	0	0	0	0	0	0	0	0	0
3729:	0	0	0	0	0	0	0	0	0
3737:	0	0	0	0	0	0	0	0	0
3745:	0	0	0	0	0	0	0	0	1
3753:	0	0	0	0	0	1	0	0	0
3761:	0	0	0	1	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0	1
3777:	1	0	0	0	0	0	1	0	0
3785:	0	0	0	0	0	0	0	1	0
3793:	0	0	0	0	0	0	0	0	0
3801:	0	0	0	0	0	0	0	0	0
3809:	0	0	0	0	0	0	0	0	0
3817:	0	0	1	0	0	0	0	0	0

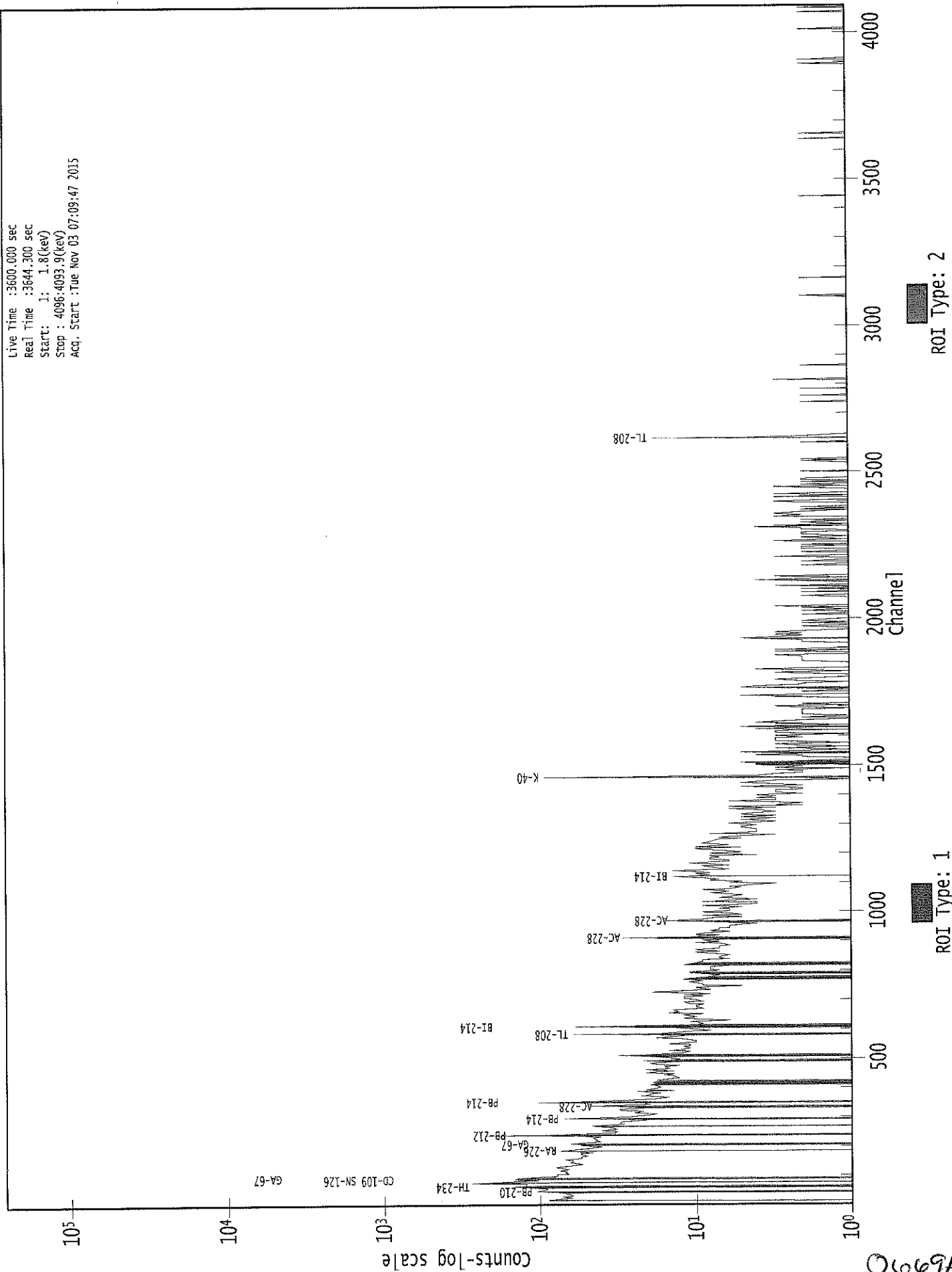
3825: 0 0 0 1 0 0 0 0

Sample Title: CP2107S02-03

Channel	1	2	3	4	5	6	7	8
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	0	0	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	0	0	0	0	0
3865:	0	0	0	1	0	0	0	0
3873:	0	0	0	0	0	0	0	0
3881:	0	0	0	0	0	0	0	0
3889:	0	1	0	0	0	2	0	0
3897:	0	0	0	0	0	0	0	0
3905:	1	0	2	0	0	0	0	1
3913:	0	0	0	0	0	0	0	0
3921:	0	0	0	0	0	0	0	0
3929:	0	0	0	0	0	0	0	0
3937:	0	0	0	0	0	0	0	0
3945:	0	0	0	0	1	0	0	0
3953:	0	0	0	1	0	0	0	0
3961:	1	0	0	0	1	0	1	0
3969:	0	0	0	0	0	0	0	0
3977:	0	0	0	0	0	0	0	0
3985:	0	0	0	0	0	0	0	0
3993:	0	1	0	0	0	0	0	0
4001:	0	0	0	0	0	0	0	0
4009:	0	0	2	0	0	0	1	0
4017:	0	0	0	0	0	0	0	0
4025:	0	0	0	0	0	0	0	0
4033:	0	0	1	0	0	0	0	0
4041:	0	0	0	0	0	0	0	0
4049:	0	0	0	0	0	0	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	0	0	1	2	0	0	0
4073:	0	0	0	0	0	0	0	0
4081:	0	0	0	2	0	0	0	0
4089:	0	0	0	0	0	0	0	0

0000029010.CNF

Live Time : 3600.000 sec
Real Time : 3644.300 sec
Start : 1: 1.8(keV)
Stop : 4096.4093.9(keV)
Acq. Start : Tue Nov 03 07:09:47 2015



Analysis Report for 1510063-10
CP2107S05-06

✓
1117

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510063-10
Sample Description : CP2107S05-06
Sample Type : SOIL

Sample Size : 5.969E+02 grams
Facility : Countroom

Sample Taken On : 10/6/2015 7:44:20AM
Acquisition Started : 11/3/2015 8:12:16AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE1
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3601.3 seconds

Dead Time : 0.04 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 18 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29011

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AC4
11/3/15

Analysis Report for 1510063-10
CP2107S05-06

PEAK LOCATE REPORT

Peak Locate Performed on : 11/3/2015 9:12:21AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
1	63.48	63.82	0.0000	0.00
2	74.86	75.21	0.0000	0.00
3	77.38	77.72	0.0000	0.00
4	88.10	88.44	0.0000	0.00
5	93.13	93.47	0.0000	0.00
6	99.27	99.60	0.0000	0.00
7	129.46	129.79	0.0000	0.00
8	154.77	155.09	0.0000	0.00
9	185.49	185.80	0.0000	0.00
10	209.22	209.52	0.0000	0.00
11	220.62	220.91	0.0000	0.00
12	238.79	239.08	0.0000	0.00
13	241.82	242.10	0.0000	0.00
14	270.22	270.50	0.0000	0.00
15	295.04	295.31	0.0000	0.00
16	300.24	300.50	0.0000	0.00
17	338.51	338.76	0.0000	0.00
18	351.90	352.15	0.0000	0.00
19	447.87	448.09	0.0000	0.00
20	463.15	463.36	0.0000	0.00
21	511.20	511.39	0.0000	0.00
22	562.68	562.85	0.0000	0.00
23	571.29	571.47	0.0000	0.00
24	580.42	580.59	0.0000	0.00
25	583.60	583.77	0.0000	0.00
26	609.57	609.73	0.0000	0.00
27	714.38	714.50	0.0000	0.00
28	727.32	727.44	0.0000	0.00
29	769.38	769.48	0.0000	0.00
30	795.45	795.55	0.0000	0.00
31	826.77	826.86	0.0000	0.00
32	903.02	903.08	0.0000	0.00
33	911.82	911.88	0.0000	0.00
34	934.80	934.85	0.0000	0.00
35	969.57	969.61	0.0000	0.00
36	1001.75	1001.77	0.0000	0.00
37	1036.10	1036.11	0.0000	0.00
38	1121.47	1121.45	0.0000	0.00
39	1154.39	1154.36	0.0000	0.00
40	1171.49	1171.45	0.0000	0.00
41	1281.49	1281.41	0.0000	0.00
42	1374.40	1374.28	0.0000	0.00

Analysis Report for 1510063-10
CP2107S05-06

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
43	1378.68	1378.57	0.0000	0.00
44	1385.70	1385.59	0.0000	0.00
45	1407.15	1407.03	0.0000	0.00
46	1438.38	1438.24	0.0000	0.00
47	1461.40	1461.26	0.0000	0.00
48	1498.86	1498.71	0.0000	0.00
49	1509.59	1509.43	0.0000	0.00
50	1516.31	1516.15	0.0000	0.00
51	1526.09	1525.92	0.0000	0.00
52	1536.17	1536.00	0.0000	0.00
53	1541.95	1541.78	0.0000	0.00
54	1581.26	1581.08	0.0000	0.00
55	1588.59	1588.40	0.0000	0.00
56	1593.58	1593.39	0.0000	0.00
57	1631.17	1630.96	0.0000	0.00
58	1697.24	1697.01	0.0000	0.00
59	1730.06	1729.82	0.0000	0.00
60	1760.48	1760.23	0.0000	0.00
61	1765.19	1764.93	0.0000	0.00
62	1847.35	1847.06	0.0000	0.00
63	1989.01	1988.67	0.0000	0.00
64	2104.12	2103.74	0.0000	0.00
65	2150.30	2149.89	0.0000	0.00
66	2204.97	2204.55	0.0000	0.00
67	2230.78	2230.34	0.0000	0.00
68	2245.03	2244.59	0.0000	0.00
69	2328.79	2328.32	0.0000	0.00
70	2337.25	2336.78	0.0000	0.00
71	2387.55	2387.05	0.0000	0.00
72	2406.25	2405.75	0.0000	0.00
73	2615.35	2614.76	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510063-10

CP2107S05-06

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 9:12:21AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	1	63.48	60 -	68	63.82	2.77E+02	124.40	2.22E+03	1.47
M	2	74.86	72 -	80	75.21	5.03E+02	99.75	1.49E+03	1.60
m	3	77.38	72 -	80	77.72	8.40E+02	108.01	1.38E+03	1.52
	4	88.10	86 -	91	88.44	2.02E+02	101.19	1.89E+03	1.17
	5	93.13	91 -	97	93.47	2.90E+02	105.49	1.66E+03	1.57
	6	99.27	98 -	102	99.60	7.15E+01	62.80	8.13E+02	3.98
	7	129.46	124 -	135	129.79	2.36E+02	121.80	1.73E+03	2.49
	8	154.77	153 -	157	155.09	5.79E+01	58.04	6.90E+02	2.56
	9	185.49	181 -	190	185.80	3.36E+02	95.70	1.12E+03	1.97
	10	209.22	206 -	213	209.52	8.90E+01	77.79	9.44E+02	1.74
	11	220.62	218 -	225	220.91	8.11E+01	67.29	7.02E+02	4.29
M	12	238.79	235 -	244	239.08	1.16E+03	82.32	4.73E+02	1.67
m	13	241.82	235 -	244	242.10	2.59E+02	63.88	3.95E+02	1.68
	14	270.22	267 -	273	270.50	9.43E+01	55.82	4.99E+02	2.31
	15	295.04	290 -	298	295.31	3.24E+02	70.79	5.71E+02	1.66
	16	300.24	299 -	304	300.50	3.92E+01	45.93	3.92E+02	1.76
	17	338.51	335 -	343	338.76	2.54E+02	59.65	3.91E+02	1.49
	18	351.90	347 -	357	352.15	5.43E+02	75.64	4.74E+02	1.89
	19	447.87	445 -	452	448.09	5.12E+01	40.45	2.36E+02	4.89
	20	463.15	460 -	466	463.36	6.10E+01	37.40	2.10E+02	1.86
	21	511.20	506 -	520	511.39	2.43E+02	66.18	3.54E+02	2.28
	22	562.68	559 -	567	562.85	3.97E+01	36.52	1.83E+02	2.21
	23	571.29	567 -	575	571.47	4.54E+01	36.19	1.69E+02	4.16
M	24	580.42	577 -	590	580.59	2.62E+01	36.79	1.12E+02	2.37
m	25	583.60	577 -	590	583.77	2.86E+02	43.05	1.13E+02	1.96
	26	609.57	604 -	615	609.73	4.34E+02	61.68	2.60E+02	1.95
	27	714.38	706 -	722	714.50	6.80E+01	53.40	2.42E+02	13.54
	28	727.32	724 -	731	727.44	8.63E+01	32.25	1.15E+02	2.11
	29	769.38	762 -	778	769.48	7.43E+01	62.21	3.41E+02	5.36
	30	795.45	792 -	800	795.55	4.88E+01	34.53	1.54E+02	1.82
	31	826.77	824 -	829	826.86	2.19E+01	19.49	5.62E+01	1.21
	32	903.02	901 -	907	903.08	1.99E+01	23.71	8.83E+01	2.58
	33	911.82	908 -	917	911.88	2.21E+02	41.02	1.12E+02	1.98
	34	934.80	931 -	939	934.85	2.85E+01	29.57	1.17E+02	1.76
	35	969.57	966 -	974	969.61	7.42E+01	45.65	2.46E+02	1.89
	36	1001.75	996 -	1006	1001.77	3.30E+01	30.94	1.10E+02	4.01
	37	1036.10	1030 -	1042	1036.11	3.20E+01	32.65	1.10E+02	3.81
	38	1121.47	1117 -	1130	1121.45	8.20E+01	45.74	1.96E+02	1.53
	39	1154.39	1151 -	1158	1154.36	2.94E+01	24.98	8.53E+01	1.98
	40	1171.49	1167 -	1176	1171.45	2.68E+01	30.18	1.14E+02	1.10

Analysis Report for 1510063-10

CP2107S05-06

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	41	1281.49	1277 - 1284		1281.41	1.88E+01	21.45	6.44E+01	1.77
M	42	1374.40	1372 - 1381		1374.28	1.04E+01	11.67	2.37E+01	2.88
m	43	1378.68	1372 - 1381		1378.57	1.57E+01	13.75	2.53E+01	2.58
	44	1385.70	1382 - 1389		1385.59	1.68E+01	16.85	3.64E+01	2.15
	45	1407.15	1400 - 1415		1407.03	3.14E+01	26.15	5.51E+01	7.11
	46	1438.38	1435 - 1442		1438.24	1.30E+01	13.86	2.19E+01	1.50
	47	1461.40	1455 - 1466		1461.26	7.62E+02	59.40	6.00E+01	2.14
	48	1498.86	1494 - 1503		1498.71	2.85E+01	13.49	8.97E+00	6.55
M	49	1509.59	1505 - 1521		1509.43	1.87E+01	12.21	3.08E+00	3.24
m	50	1516.31	1505 - 1521		1516.15	1.26E+01	12.04	7.21E+00	3.25
	51	1526.09	1522 - 1531		1525.92	1.31E+01	12.61	1.58E+01	3.11
M	52	1536.17	1535 - 1546		1536.00	6.35E+00	5.39	8.15E+00	2.22
m	53	1541.95	1535 - 1546		1541.78	1.23E+01	11.36	1.25E+01	2.45
	54	1581.26	1576 - 1585		1581.08	1.20E+01	10.86	1.00E+01	1.31
	55	1588.59	1586 - 1592		1588.40	1.31E+01	16.58	4.38E+01	1.78
	56	1593.58	1592 - 1596		1593.39	1.10E+01	10.07	1.00E+01	1.92
	57	1631.17	1628 - 1635		1630.96	9.44E+00	11.66	1.71E+01	1.80
	58	1697.24	1691 - 1703		1697.01	1.42E+01	14.92	1.97E+01	7.79
	59	1730.06	1724 - 1733		1729.82	1.80E+01	16.79	3.00E+01	2.63
M	60	1760.48	1759 - 1772		1760.23	6.05E+00	3.74	2.00E+00	2.54
m	61	1765.19	1759 - 1772		1764.93	5.59E+01	18.38	1.00E+01	3.38
	62	1847.35	1843 - 1849		1847.06	1.09E+01	11.72	1.62E+01	1.24
	63	1989.01	1985 - 1991		1988.67	6.50E+00	8.03	7.00E+00	1.02
	64	2104.12	2099 - 2108		2103.74	2.30E+01	9.59	0.00E+00	3.56
	65	2150.30	2146 - 2153		2149.89	8.00E+00	7.48	4.00E+00	2.79
	66	2204.97	2200 - 2207		2204.55	1.79E+01	15.49	2.82E+01	1.42
	67	2230.78	2226 - 2234		2230.34	1.35E+01	10.61	9.00E+00	1.16
	68	2245.03	2241 - 2247		2244.59	7.33E+00	6.95	3.33E+00	2.53
	69	2328.79	2325 - 2331		2328.32	8.20E+00	7.23	3.60E+00	1.38
	70	2337.25	2332 - 2341		2336.78	1.28E+01	9.22	4.47E+00	7.53
	71	2387.55	2382 - 2390		2387.05	1.45E+01	10.79	9.05E+00	4.48
	72	2406.25	2404 - 2408		2405.75	4.42E+00	5.50	3.17E+00	2.56
	73	2615.35	2610 - 2618		2614.76	1.41E+02	24.34	4.73E+00	3.23

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 9:12:21AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

: 00674

Analysis Report for 1510063-10

CP2107S05-06

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	1	63.48	60 -	68	2.77E+02	124.40	2.22E+03	9.85E+01
M	2	74.86	72 -	80	5.03E+02	99.75	1.49E+03	6.34E+01
m	3	77.38	72 -	80	8.40E+02	108.01	1.38E+03	6.10E+01
	4	88.10	86 -	91	2.02E+02	101.19	1.89E+03	7.98E+01
	5	93.13	91 -	97	2.90E+02	105.49	1.66E+03	8.21E+01
	6	99.27	98 -	102	7.15E+01	62.80	8.13E+02	4.97E+01
	7	129.46	124 -	135	2.36E+02	121.80	1.73E+03	9.69E+01
	8	154.77	153 -	157	5.79E+01	58.04	6.90E+02	4.60E+01
	9	185.49	181 -	190	3.36E+02	95.70	1.12E+03	7.27E+01
	10	209.22	206 -	213	8.90E+01	77.79	9.44E+02	6.20E+01
	11	220.62	218 -	225	8.11E+01	67.29	7.02E+02	5.33E+01
M	12	238.79	235 -	244	1.16E+03	82.32	4.73E+02	3.58E+01
m	13	241.82	235 -	244	2.59E+02	63.88	3.95E+02	3.27E+01
	14	270.22	267 -	273	9.43E+01	55.82	4.99E+02	4.30E+01
	15	295.04	290 -	298	3.24E+02	70.79	5.71E+02	5.01E+01
	16	300.24	299 -	304	3.92E+01	45.93	3.92E+02	3.63E+01
	17	338.51	335 -	343	2.54E+02	59.65	3.91E+02	4.15E+01
	18	351.90	347 -	357	5.43E+02	75.64	4.74E+02	4.90E+01
	19	447.87	445 -	452	5.12E+01	40.45	2.36E+02	3.11E+01
	20	463.15	460 -	466	6.10E+01	37.40	2.10E+02	2.79E+01
	21	511.20	506 -	520	2.43E+02	66.18	3.54E+02	2.29E+01
	22	562.68	559 -	567	3.97E+01	36.52	1.83E+02	2.82E+01
	23	571.29	567 -	575	4.54E+01	36.19	1.69E+02	2.76E+01
M	24	580.42	577 -	590	2.62E+01	36.79	1.12E+02	1.74E+01
m	25	583.60	577 -	590	2.86E+02	43.05	1.13E+02	1.75E+01
	26	609.57	604 -	615	4.34E+02	61.68	2.60E+02	3.74E+01
	27	714.38	706 -	722	6.80E+01	53.40	2.42E+02	4.17E+01
	28	727.32	724 -	731	8.63E+01	32.25	1.15E+02	2.17E+01
	29	769.38	762 -	778	7.43E+01	62.21	3.41E+02	4.91E+01
	30	795.45	792 -	800	4.88E+01	34.53	1.54E+02	2.60E+01
	31	826.77	824 -	829	2.19E+01	19.49	5.62E+01	1.41E+01
	32	903.02	901 -	907	1.99E+01	23.71	8.83E+01	1.81E+01
	33	911.82	908 -	917	2.21E+02	41.02	1.12E+02	2.32E+01
	34	934.80	931 -	939	2.85E+01	29.57	1.17E+02	2.27E+01
	35	969.57	966 -	974	7.42E+01	45.65	2.46E+02	3.48E+01
	36	1001.75	996 -	1006	3.30E+01	30.94	1.10E+02	1.27E+01
	37	1036.10	1030 -	1042	3.20E+01	32.65	1.10E+02	2.52E+01
	38	1121.47	1117 -	1130	8.20E+01	45.74	1.96E+02	1.63E+01
	39	1154.39	1151 -	1158	2.94E+01	24.98	8.53E+01	1.85E+01
	40	1171.49	1167 -	1176	2.68E+01	30.18	1.14E+02	2.33E+01
	41	1281.49	1277 -	1284	1.88E+01	21.45	6.44E+01	1.61E+01
M	42	1374.40	1372 -	1381	1.04E+01	11.67	2.37E+01	8.01E+00
m	43	1378.68	1372 -	1381	1.57E+01	13.75	2.53E+01	8.27E+00
	44	1385.70	1382 -	1389	1.68E+01	16.85	3.64E+01	1.21E+01
	45	1407.15	1400 -	1415	3.14E+01	26.15	5.51E+01	1.94E+01
	46	1438.38	1435 -	1442	1.30E+01	13.86	2.19E+01	9.72E+00
	47	1461.40	1455 -	1466	7.62E+02	59.40	6.00E+01	1.80E+01
	48	1498.86	1494 -	1503	2.85E+01	13.49	8.97E+00	6.78E+00
M	49	1509.59	1505 -	1521	1.87E+01	12.21	3.08E+00	2.88E+00
m	50	1516.31	1505 -	1521	1.26E+01	12.04	7.21E+00	4.41E+00
	51	1526.09	1522 -	1531	1.31E+01	12.61	1.58E+01	8.48E+00

Analysis Report for 1510063-10

CP2107S05-06

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
M	52	1536.17	1535 -	1546	6.35E+00	5.39	8.15E+00	4.69E+00
m	53	1541.95	1535 -	1546	1.23E+01	11.36	1.25E+01	5.82E+00
	54	1581.26	1576 -	1585	1.20E+01	10.86	1.00E+01	6.88E+00
	55	1588.59	1586 -	1592	1.31E+01	16.58	4.38E+01	1.23E+01
	56	1593.58	1592 -	1596	1.10E+01	10.07	1.00E+01	6.23E+00
	57	1631.17	1628 -	1635	9.44E+00	11.66	1.71E+01	8.15E+00
	58	1697.24	1691 -	1703	1.42E+01	14.92	1.97E+01	1.06E+01
	59	1730.06	1724 -	1733	1.80E+01	16.79	3.00E+01	1.19E+01
M	60	1760.48	1759 -	1772	6.05E+00	3.74	2.00E+00	2.33E+00
m	61	1765.19	1759 -	1772	5.59E+01	18.38	1.00E+01	5.20E+00
	62	1847.35	1843 -	1849	1.09E+01	11.72	1.62E+01	7.95E+00
	63	1989.01	1985 -	1991	6.50E+00	8.03	7.00E+00	5.10E+00
	64	2104.12	2099 -	2108	2.30E+01	9.59	0.00E+00	0.00E+00
	65	2150.30	2146 -	2153	8.00E+00	7.48	4.00E+00	4.03E+00
	66	2204.97	2200 -	2207	1.79E+01	15.49	2.82E+01	1.07E+01
	67	2230.78	2226 -	2234	1.35E+01	10.61	9.00E+00	6.29E+00
	68	2245.03	2241 -	2247	7.33E+00	6.95	3.33E+00	3.58E+00
	69	2328.79	2325 -	2331	8.20E+00	7.23	3.60E+00	3.63E+00
	70	2337.25	2332 -	2341	1.28E+01	9.22	4.47E+00	4.79E+00
	71	2387.55	2382 -	2390	1.45E+01	10.79	9.05E+00	6.29E+00
	72	2406.25	2404 -	2408	4.42E+00	5.50	3.17E+00	2.92E+00
	73	2615.35	2610 -	2618	1.41E+02	24.34	4.73E+00	4.48E+00

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

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/3/2015 9:12:21AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	1	63.48	60 -	68	63.82	2.77E+02	124.40	2.22E+03	TH-234 TH-230
M	2	74.86	72 -	80	75.21	5.03E+02	99.75	1.49E+03	AM-243

Analysis Report for 1510063-10

CP2107S05-06

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide	
m	3	77.38	72 -	80	77.72	8.40E+02	108.01	1.38E+03	TI-44	
	4	88.10	86 -	91	88.44	2.02E+02	101.19	1.89E+03	CD-109 LU-176 SN-126	
	5	93.13	91 -	97	93.47	2.90E+02	105.49	1.66E+03	GA-67	
	6	99.27	98 -	102	99.60	7.15E+01	62.80	8.13E+02	.....
	7	129.46	124 -	135	129.79	2.36E+02	121.80	1.73E+03	.....
	8	154.77	153 -	157	155.09	5.79E+01	58.04	6.90E+02	.....
	9	185.49	181 -	190	185.80	3.36E+02	95.70	1.12E+03	RA-226	
	10	209.22	206 -	213	209.52	8.90E+01	77.79	9.44E+02	GA-67 CM-243	
	M	11	220.62	218 -	225	220.91	8.11E+01	67.29	7.02E+02
		12	238.79	235 -	244	239.08	1.16E+03	82.32	4.73E+02	PB-212
13		241.82	235 -	244	242.10	2.59E+02	63.88	3.95E+02	RA-224	
14		270.22	267 -	273	270.50	9.43E+01	55.82	4.99E+02	.....
15		295.04	290 -	298	295.31	3.24E+02	70.79	5.71E+02	PB-214	
16		300.24	299 -	304	300.50	3.92E+01	45.93	3.92E+02	GA-67 PB-212 BI-210M	
17		338.51	335 -	343	338.76	2.54E+02	59.65	3.91E+02	AC-228	
18		351.90	347 -	357	352.15	5.43E+02	75.64	4.74E+02	PB-214	
19		447.87	445 -	452	448.09	5.12E+01	40.45	2.36E+02	.....
20		463.15	460 -	466	463.36	6.10E+01	37.40	2.10E+02	SB-125	
M	21	511.20	506 -	520	511.39	2.43E+02	66.18	3.54E+02	.....
	22	562.68	559 -	567	562.85	3.97E+01	36.52	1.83E+02	CS-134	
	23	571.29	567 -	575	571.47	4.54E+01	36.19	1.69E+02	.....
	24	580.42	577 -	590	580.59	2.62E+01	36.79	1.12E+02	.....
	25	583.60	577 -	590	583.77	2.86E+02	43.05	1.13E+02	TL-208	
	26	609.57	604 -	615	609.73	4.34E+02	61.68	2.60E+02	BI-214	
	27	714.38	706 -	722	714.50	6.80E+01	53.40	2.42E+02	.....
	28	727.32	724 -	731	727.44	8.63E+01	32.25	1.15E+02	BI-212	
	29	769.38	762 -	778	769.48	7.43E+01	62.21	3.41E+02	.....
	30	795.45	792 -	800	795.55	4.88E+01	34.53	1.54E+02	CS-134	
M	31	826.77	824 -	829	826.86	2.19E+01	19.49	5.62E+01	.....
	32	903.02	901 -	907	903.08	1.99E+01	23.71	8.83E+01	.....
	33	911.82	908 -	917	911.88	2.21E+02	41.02	1.12E+02	LU-172 AC-228	
	34	934.80	931 -	939	934.85	2.85E+01	29.57	1.17E+02	.....
	35	969.57	966 -	974	969.61	7.42E+01	45.65	2.46E+02	AC-228	
	36	1001.75	996 -	1006	1001.77	3.30E+01	30.94	1.10E+02	PA-234M	
	37	1036.10	1030 -	1042	1036.11	3.20E+01	32.65	1.10E+02	.....
	38	1121.47	1117 -	1130	1121.45	8.20E+01	45.74	1.96E+02	TA-182 SC-46	
	39	1154.39	1151 -	1158	1154.36	2.94E+01	24.98	8.53E+01	EU-156	
	40	1171.49	1167 -	1176	1171.45	2.68E+01	30.18	1.14E+02	.....
M	41	1281.49	1277 -	1284	1281.41	1.88E+01	21.45	6.44E+01	.....
	42	1374.40	1372 -	1381	1374.28	1.04E+01	11.67	2.37E+01	.....
	43	1378.68	1372 -	1381	1378.57	1.57E+01	13.75	2.53E+01	.....
	44	1385.70	1382 -	1389	1385.59	1.68E+01	16.85	3.64E+01	.....
	45	1407.15	1400 -	1415	1407.03	3.14E+01	26.15	5.51E+01	EU-152	
	46	1438.38	1435 -	1442	1438.24	1.30E+01	13.86	2.19E+01	.....
	47	1461.40	1455 -	1466	1461.26	7.62E+02	59.40	6.00E+01	K-40	
	48	1498.86	1494 -	1503	1498.71	2.85E+01	13.49	8.97E+00	.....
	49	1509.59	1505 -	1521	1509.43	1.87E+01	12.21	3.08E+00	.....

Analysis Report for 1510063-10

CP2107S05-06

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
m	50	1516.31	1505 -	1521	1516.15	1.26E+01	12.04	7.21E+00	.....
	51	1526.09	1522 -	1531	1525.92	1.31E+01	12.61	1.58E+01	.....
M	52	1536.17	1535 -	1546	1536.00	6.35E+00	5.39	8.15E+00	.....
m	53	1541.95	1535 -	1546	1541.78	1.23E+01	11.36	1.25E+01	.....
	54	1581.26	1576 -	1585	1581.08	1.20E+01	10.86	1.00E+01	.....
	55	1588.59	1586 -	1592	1588.40	1.31E+01	16.58	4.38E+01	.....
	56	1593.58	1592 -	1596	1593.39	1.10E+01	10.07	1.00E+01	.....
	57	1631.17	1628 -	1635	1630.96	9.44E+00	11.66	1.71E+01	.....
	58	1697.24	1691 -	1703	1697.01	1.42E+01	14.92	1.97E+01	.....
	59	1730.06	1724 -	1733	1729.82	1.80E+01	16.79	3.00E+01	.....
M	60	1760.48	1759 -	1772	1760.23	6.05E+00	3.74	2.00E+00	.....
m	61	1765.19	1759 -	1772	1764.93	5.59E+01	18.38	1.00E+01	BI-214
	62	1847.35	1843 -	1849	1847.06	1.09E+01	11.72	1.62E+01	.....
	63	1989.01	1985 -	1991	1988.67	6.50E+00	8.03	7.00E+00	.....
	64	2104.12	2099 -	2108	2103.74	2.30E+01	9.59	0.00E+00	.....
	65	2150.30	2146 -	2153	2149.89	8.00E+00	7.48	4.00E+00	.....
	66	2204.97	2200 -	2207	2204.55	1.79E+01	15.49	2.82E+01	BI-214
	67	2230.78	2226 -	2234	2230.34	1.35E+01	10.61	9.00E+00	.....
	68	2245.03	2241 -	2247	2244.59	7.33E+00	6.95	3.33E+00	.....
	69	2328.79	2325 -	2331	2328.32	8.20E+00	7.23	3.60E+00	.....
	70	2337.25	2332 -	2341	2336.78	1.28E+01	9.22	4.47E+00	.....
	71	2387.55	2382 -	2390	2387.05	1.45E+01	10.79	9.05E+00	.....
	72	2406.25	2404 -	2408	2405.75	4.42E+00	5.50	3.17E+00	.....
	73	2615.35	2610 -	2618	2614.76	1.41E+02	24.34	4.73E+00	TL-208

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/3/2015 9:12:21AM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	63.48	2.77E+02	124.40	2.50E-02	1.92E-03
M	2	74.86	5.03E+02	99.75	2.75E-02	2.30E-03
m	3	77.38	8.40E+02	108.01	2.78E-02	2.38E-03
	4	88.10	2.02E+02	101.19	2.85E-02	2.74E-03
	5	93.13	2.90E+02	105.49	2.86E-02	2.64E-03
	6	99.27	7.15E+01	62.80	2.85E-02	2.52E-03

Analysis Report for 1510063-10

CP2107S05-06

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	7	129.46	2.36E+02	121.80	2.67E-02	2.09E-03
	8	154.77	5.79E+01	58.04	2.47E-02	2.15E-03
	9	185.49	3.36E+02	95.70	2.24E-02	2.03E-03
	10	209.22	8.90E+01	77.79	2.09E-02	1.86E-03
	11	220.62	8.11E+01	67.29	2.02E-02	1.77E-03
M	12	238.79	1.16E+03	82.32	1.92E-02	1.64E-03
m	13	241.82	2.59E+02	63.88	1.91E-02	1.61E-03
	14	270.22	9.43E+01	55.82	1.77E-02	1.41E-03
	15	295.04	3.24E+02	70.79	1.67E-02	1.31E-03
	16	300.24	3.92E+01	45.93	1.65E-02	1.30E-03
	17	338.51	2.54E+02	59.65	1.52E-02	1.22E-03
	18	351.90	5.43E+02	75.64	1.48E-02	1.19E-03
	19	447.87	5.12E+01	40.45	1.24E-02	1.06E-03
	20	463.15	6.10E+01	37.40	1.21E-02	1.04E-03
	21	511.20	2.43E+02	66.18	1.12E-02	9.90E-04
	22	562.68	3.97E+01	36.52	1.04E-02	9.37E-04
	23	571.29	4.54E+01	36.19	1.03E-02	9.28E-04
M	24	580.42	2.62E+01	36.79	1.02E-02	9.18E-04
m	25	583.60	2.86E+02	43.05	1.02E-02	9.15E-04
	26	609.57	4.34E+02	61.68	9.82E-03	8.88E-04
	27	714.38	6.80E+01	53.40	8.68E-03	7.87E-04
	28	727.32	8.63E+01	32.25	8.55E-03	7.75E-04
	29	769.38	7.43E+01	62.21	8.18E-03	7.38E-04
	30	795.45	4.88E+01	34.53	7.97E-03	7.14E-04
	31	826.77	2.19E+01	19.49	7.73E-03	6.86E-04
	32	903.02	1.99E+01	23.71	7.20E-03	6.20E-04
	33	911.82	2.21E+02	41.02	7.14E-03	6.15E-04
	34	934.80	2.85E+01	29.57	7.00E-03	6.03E-04
	35	969.57	7.42E+01	45.65	6.80E-03	5.85E-04
	36	1001.75	3.30E+01	30.94	6.63E-03	5.68E-04
	37	1036.10	3.20E+01	32.65	6.45E-03	5.50E-04
	38	1121.47	8.20E+01	45.74	6.06E-03	5.06E-04
	39	1154.39	2.94E+01	24.98	5.93E-03	4.89E-04
	40	1171.49	2.68E+01	30.18	5.86E-03	4.80E-04
	41	1281.49	1.88E+01	21.45	5.47E-03	4.60E-04
M	42	1374.40	1.04E+01	11.67	5.19E-03	4.41E-04
m	43	1378.68	1.57E+01	13.75	5.18E-03	4.40E-04
	44	1385.70	1.68E+01	16.85	5.16E-03	4.38E-04
	45	1407.15	3.14E+01	26.15	5.11E-03	4.33E-04
	46	1438.38	1.30E+01	13.86	5.03E-03	4.25E-04
	47	1461.40	7.62E+02	59.40	4.97E-03	4.19E-04
	48	1498.86	2.85E+01	13.49	4.88E-03	4.10E-04
M	49	1509.59	1.87E+01	12.21	4.86E-03	4.07E-04
m	50	1516.31	1.26E+01	12.04	4.84E-03	4.05E-04
	51	1526.09	1.31E+01	12.61	4.82E-03	4.03E-04
M	52	1536.17	6.35E+00	5.39	4.80E-03	4.00E-04
m	53	1541.95	1.23E+01	11.36	4.79E-03	3.99E-04
	54	1581.26	1.20E+01	10.86	4.71E-03	3.89E-04
	55	1588.59	1.31E+01	16.58	4.69E-03	3.87E-04
	56	1593.58	1.10E+01	10.07	4.68E-03	3.86E-04
	57	1631.17	9.44E+00	11.66	4.61E-03	3.77E-04
	58	1697.24	1.42E+01	14.92	4.50E-03	3.60E-04
	59	1730.06	1.80E+01	16.79	4.45E-03	3.52E-04

Analysis Report for 1510063-10
 CP2107S05-06

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
M	60	1760.48	6.05E+00	3.74	4.40E-03	3.45E-04
m	61	1765.19	5.59E+01	18.38	4.39E-03	3.43E-04
	62	1847.35	1.09E+01	11.72	4.28E-03	3.26E-04
	63	1989.01	6.50E+00	8.03	4.12E-03	3.26E-04
	64	2104.12	2.30E+01	9.59	4.02E-03	3.26E-04
	65	2150.30	8.00E+00	7.48	3.99E-03	3.26E-04
	66	2204.97	1.79E+01	15.49	3.95E-03	3.26E-04
	67	2230.78	1.35E+01	10.61	3.93E-03	3.26E-04
	68	2245.03	7.33E+00	6.95	3.92E-03	3.26E-04
	69	2328.79	8.20E+00	7.23	3.88E-03	3.26E-04
	70	2337.25	1.28E+01	9.22	3.88E-03	3.26E-04
	71	2387.55	1.45E+01	10.79	3.85E-03	3.26E-04
	72	2406.25	4.42E+00	5.50	3.85E-03	3.26E-04
	73	2615.35	1.41E+02	24.34	3.79E-03	3.26E-04

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

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/3/2015 9:12:21AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028941.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	63.48	2.77E+02	124.40	7.80E+01	1.33E+01	2.00E+02	1.25E+02
M	2	74.86	5.03E+02	99.75	5.09E+00	4.37E+00	4.98E+02	9.98E+01
m	3	77.38	8.40E+02	108.01	9.75E+00	8.28E+00	8.31E+02	1.08E+02
	4	88.10	2.02E+02	101.19			2.02E+02	1.01E+02
	5	93.13	2.90E+02	105.49	1.34E+02	9.83E+00	1.56E+02	1.06E+02
	6	99.27	7.15E+01	62.80			7.15E+01	6.28E+01
	7	129.46	2.36E+02	121.80			2.36E+02	1.22E+02
	8	154.77	5.79E+01	58.04			5.79E+01	5.80E+01
	9	185.49	3.36E+02	95.70	6.41E+01	7.38E+00	2.72E+02	9.60E+01
	10	209.22	8.90E+01	77.79			8.90E+01	7.78E+01
	11	220.62	8.11E+01	67.29			8.11E+01	6.73E+01
M	12	238.79	1.16E+03	82.32	2.34E+01	6.34E+00	1.14E+03	8.26E+01
m	13	241.82	2.59E+02	63.88			2.59E+02	6.39E+01
	14	270.22	9.43E+01	55.82			9.43E+01	5.58E+01
	15	295.04	3.24E+02	70.79	4.17E+00	5.50E+00	3.20E+02	7.10E+01
	16	300.24	3.92E+01	45.93			3.92E+01	4.59E+01

Analysis Report for 1510063-10

CP2107S05-06

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
17	338.51	2.54E+02	59.65	2.22E-01	4.54E+00	2.53E+02	5.98E+01
18	351.90	5.43E+02	75.64	8.83E+00	4.91E+00	5.34E+02	7.58E+01
19	447.87	5.12E+01	40.45			5.12E+01	4.04E+01
20	463.15	6.10E+01	37.40			6.10E+01	3.74E+01
21	511.20	2.43E+02	66.18	8.12E+01	5.49E+00	1.62E+02	6.64E+01
22	562.68	3.97E+01	36.52			3.97E+01	3.65E+01
23	571.29	4.54E+01	36.19			4.54E+01	3.62E+01
M 24	580.42	2.62E+01	36.79			2.62E+01	3.68E+01
m 25	583.60	2.86E+02	43.05	6.34E+00	3.74E+00	2.80E+02	4.32E+01
26	609.57	4.34E+02	61.68	5.20E+00	3.69E+00	4.29E+02	6.18E+01
27	714.38	6.80E+01	53.40			6.80E+01	5.34E+01
28	727.32	8.63E+01	32.25			8.63E+01	3.22E+01
29	769.38	7.43E+01	62.21			7.43E+01	6.22E+01
30	795.45	4.88E+01	34.53			4.88E+01	3.45E+01
31	826.77	2.19E+01	19.49			2.19E+01	1.95E+01
32	903.02	1.99E+01	23.71			1.99E+01	2.37E+01
33	911.82	2.21E+02	41.02	3.28E+00	2.53E+00	2.18E+02	4.11E+01
34	934.80	2.85E+01	29.57			2.85E+01	2.96E+01
35	969.57	7.42E+01	45.65			7.42E+01	4.57E+01
36	1001.75	3.30E+01	30.94	4.17E+00	2.83E+00	2.88E+01	3.11E+01
37	1036.10	3.20E+01	32.65			3.20E+01	3.27E+01
38	1121.47	8.20E+01	45.74	2.28E+00	2.55E+00	7.97E+01	4.58E+01
39	1154.39	2.94E+01	24.98			2.94E+01	2.50E+01
40	1171.49	2.68E+01	30.18			2.68E+01	3.02E+01
41	1281.49	1.88E+01	21.45			1.88E+01	2.14E+01
M 42	1374.40	1.04E+01	11.67			1.04E+01	1.17E+01
m 43	1378.68	1.57E+01	13.75			1.57E+01	1.37E+01
44	1385.70	1.68E+01	16.85			1.68E+01	1.69E+01
45	1407.15	3.14E+01	26.15			3.14E+01	2.62E+01
46	1438.38	1.30E+01	13.86			1.30E+01	1.39E+01
47	1461.40	7.62E+02	59.40	6.46E+00	2.33E+00	7.56E+02	5.94E+01
48	1498.86	2.85E+01	13.49			2.85E+01	1.35E+01
M 49	1509.59	1.87E+01	12.21			1.87E+01	1.22E+01
m 50	1516.31	1.26E+01	12.04			1.26E+01	1.20E+01
51	1526.09	1.31E+01	12.61			1.31E+01	1.26E+01
M 52	1536.17	6.35E+00	5.39			6.35E+00	5.39E+00
m 53	1541.95	1.23E+01	11.36			1.23E+01	1.14E+01
54	1581.26	1.20E+01	10.86			1.20E+01	1.09E+01
55	1588.59	1.31E+01	16.58			1.31E+01	1.66E+01
56	1593.58	1.10E+01	10.07			1.10E+01	1.01E+01
57	1631.17	9.44E+00	11.66			9.44E+00	1.17E+01
58	1697.24	1.42E+01	14.92			1.42E+01	1.49E+01
59	1730.06	1.80E+01	16.79			1.80E+01	1.68E+01
M 60	1760.48	6.05E+00	3.74			6.05E+00	3.74E+00
m 61	1765.19	5.59E+01	18.38			5.59E+01	1.84E+01
62	1847.35	1.09E+01	11.72			1.09E+01	1.17E+01
63	1989.01	6.50E+00	8.03			6.50E+00	8.03E+00
64	2104.12	2.30E+01	9.59			2.30E+01	9.59E+00
65	2150.30	8.00E+00	7.48			8.00E+00	7.48E+00
66	2204.97	1.79E+01	15.49			1.79E+01	1.55E+01
67	2230.78	1.35E+01	10.61			1.35E+01	1.06E+01
68	2245.03	7.33E+00	6.95			7.33E+00	6.95E+00
69	2328.79	8.20E+00	7.23			8.20E+00	7.23E+00
70	2337.25	1.28E+01	9.22			1.28E+01	9.22E+00

Analysis Report for 1510063-10

CP2107S05-06

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
71	2387.55	1.45E+01	10.79			1.45E+01	1.08E+01
72	2406.25	4.42E+00	5.50			4.42E+00	5.50E+00
73	2615.35	1.41E+02	24.34	3.47E+00	1.48E+00	1.37E+02	2.44E+01

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

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/3/2015 9:12:21AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028941.CNF

Corrected Area is: Original * Peak Ratio - Background

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.	
M	1	63.48	2.77E+02	124.40	7.80E+01	1.33E+01	2.00E+02	1.25E+02
	2	74.86	5.03E+02	99.75	5.09E+00	4.37E+00	4.98E+02	9.98E+01
m	3	77.38	8.40E+02	108.01	9.75E+00	8.28E+00	8.31E+02	1.08E+02
	4	88.10	2.02E+02	101.19			2.02E+02	1.01E+02
	5	93.13	2.90E+02	105.49	1.34E+02	9.83E+00	1.56E+02	1.06E+02
	6	99.27	7.15E+01	62.80			7.15E+01	6.28E+01
	7	129.46	2.36E+02	121.80			2.36E+02	1.22E+02
	8	154.77	5.79E+01	58.04			5.79E+01	5.80E+01
	9	185.49	3.36E+02	95.70	6.41E+01	7.38E+00	2.72E+02	9.60E+01
	10	209.22	8.90E+01	77.79			8.90E+01	7.78E+01
	11	220.62	8.11E+01	67.29			8.11E+01	6.73E+01
M	12	238.79	1.16E+03	82.32	2.34E+01	6.34E+00	1.14E+03	8.26E+01
m	13	241.82	2.59E+02	63.88			2.59E+02	6.39E+01
	14	270.22	9.43E+01	55.82			9.43E+01	5.58E+01
	15	295.04	3.24E+02	70.79	4.17E+00	5.50E+00	3.20E+02	7.10E+01
	16	300.24	3.92E+01	45.93			3.92E+01	4.59E+01
	17	338.51	2.54E+02	59.65	2.22E-01	4.54E+00	2.53E+02	5.98E+01
	18	351.90	5.43E+02	75.64	8.83E+00	4.91E+00	5.34E+02	7.58E+01
	19	447.87	5.12E+01	40.45			5.12E+01	4.04E+01
	20	463.15	6.10E+01	37.40			6.10E+01	3.74E+01
	21	511.20	2.43E+02	66.18	8.12E+01	5.49E+00	1.62E+02	6.64E+01
	22	562.68	3.97E+01	36.52			3.97E+01	3.65E+01
	23	571.29	4.54E+01	36.19			4.54E+01	3.62E+01
M	24	580.42	2.62E+01	36.79			2.62E+01	3.68E+01
m	25	583.60	2.86E+02	43.05	6.34E+00	3.74E+00	2.80E+02	4.32E+01

Analysis Report for 1510063-10

CP2107S05-06

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
26	609.57	4.34E+02	61.68	5.20E+00	3.69E+00	4.29E+02	6.18E+01
27	714.38	6.80E+01	53.40			6.80E+01	5.34E+01
28	727.32	8.63E+01	32.25			8.63E+01	3.22E+01
29	769.38	7.43E+01	62.21			7.43E+01	6.22E+01
30	795.45	4.88E+01	34.53			4.88E+01	3.45E+01
31	826.77	2.19E+01	19.49			2.19E+01	1.95E+01
32	903.02	1.99E+01	23.71			1.99E+01	2.37E+01
33	911.82	2.21E+02	41.02	3.28E+00	2.53E+00	2.18E+02	4.11E+01
34	934.80	2.85E+01	29.57			2.85E+01	2.96E+01
35	969.57	7.42E+01	45.65			7.42E+01	4.57E+01
36	1001.75	3.30E+01	30.94	4.17E+00	2.83E+00	2.88E+01	3.11E+01
37	1036.10	3.20E+01	32.65			3.20E+01	3.27E+01
38	1121.47	8.20E+01	45.74	2.28E+00	2.55E+00	7.97E+01	4.58E+01
39	1154.39	2.94E+01	24.98			2.94E+01	2.50E+01
40	1171.49	2.68E+01	30.18			2.68E+01	3.02E+01
41	1281.49	1.88E+01	21.45			1.88E+01	2.14E+01
M 42	1374.40	1.04E+01	11.67			1.04E+01	1.17E+01
m 43	1378.68	1.57E+01	13.75			1.57E+01	1.37E+01
44	1385.70	1.68E+01	16.85			1.68E+01	1.69E+01
45	1407.15	3.14E+01	26.15			3.14E+01	2.62E+01
46	1438.38	1.30E+01	13.86			1.30E+01	1.39E+01
47	1461.40	7.62E+02	59.40	6.46E+00	2.33E+00	7.56E+02	5.94E+01
48	1498.86	2.85E+01	13.49			2.85E+01	1.35E+01
M 49	1509.59	1.87E+01	12.21			1.87E+01	1.22E+01
m 50	1516.31	1.26E+01	12.04			1.26E+01	1.20E+01
51	1526.09	1.31E+01	12.61			1.31E+01	1.26E+01
M 52	1536.17	6.35E+00	5.39			6.35E+00	5.39E+00
m 53	1541.95	1.23E+01	11.36			1.23E+01	1.14E+01
54	1581.26	1.20E+01	10.86			1.20E+01	1.09E+01
55	1588.59	1.31E+01	16.58			1.31E+01	1.66E+01
56	1593.58	1.10E+01	10.07			1.10E+01	1.01E+01
57	1631.17	9.44E+00	11.66			9.44E+00	1.17E+01
58	1697.24	1.42E+01	14.92			1.42E+01	1.49E+01
59	1730.06	1.80E+01	16.79			1.80E+01	1.68E+01
M 60	1760.48	6.05E+00	3.74			6.05E+00	3.74E+00
m 61	1765.19	5.59E+01	18.38			5.59E+01	1.84E+01
62	1847.35	1.09E+01	11.72			1.09E+01	1.17E+01
63	1989.01	6.50E+00	8.03			6.50E+00	8.03E+00
64	2104.12	2.30E+01	9.59			2.30E+01	9.59E+00
65	2150.30	8.00E+00	7.48			8.00E+00	7.48E+00
66	2204.97	1.79E+01	15.49			1.79E+01	1.55E+01
67	2230.78	1.35E+01	10.61			1.35E+01	1.06E+01
68	2245.03	7.33E+00	6.95			7.33E+00	6.95E+00
69	2328.79	8.20E+00	7.23			8.20E+00	7.23E+00
70	2337.25	1.28E+01	9.22			1.28E+01	9.22E+00
71	2387.55	1.45E+01	10.79			1.45E+01	1.08E+01
72	2406.25	4.42E+00	5.50			4.42E+00	5.50E+00
73	2615.35	1.41E+02	24.34	3.47E+00	1.48E+00	1.37E+02	2.44E+01

Analysis Report for 1510063-10
CP2107S05-06

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.946	1460.81 *	10.67	1.79E+01	2.10E+00
GA-67	0.689	93.31 *	35.70	7.47E+01	2.90E+02
		208.95 *	2.24	9.28E+02	3.49E+03
		300.22 *	16.00	7.24E+01	2.90E+02
CD-109	0.999	88.03 *	3.72	2.50E+00	1.28E+00
SN-126	0.956	87.57 *	37.00	2.41E-01	1.23E-01
TL-208	0.839	583.14 *	30.22	1.15E+00	2.05E-01
		860.37	4.48		
		2614.66 *	35.85	1.27E+00	2.50E-01
BI-212	0.763	727.17 *	11.80	1.07E+00	4.13E-01
		1620.62	2.75		
PB-212	0.996	238.63 *	44.60	1.67E+00	1.87E-01
		300.09 *	3.41	8.76E-01	1.03E+00
BI-214	0.710	609.31 *	46.30	1.19E+00	2.02E-01
		1120.29	15.10		
		1764.49 *	15.80	1.01E+00	3.42E-01
		2204.22 *	4.98	1.14E+00	9.95E-01
PB-214	0.998	295.21 *	19.19	1.26E+00	2.96E-01
		351.92 *	37.19	1.22E+00	2.00E-01
RA-224	0.894	240.98 *	3.95	4.32E+00	1.13E+00
RA-226	0.920	186.21 *	3.28	4.65E+00	8.68E+00
AC-228	0.945	338.32 *	11.40	1.84E+00	4.59E-01
		911.07 *	27.70	1.38E+00	2.87E-01
		969.11 *	16.60	8.26E-01	5.13E-01
PA-234M	0.921	1001.03 *	0.92	5.95E+00	6.43E+00
TH-234	0.994	63.29 *	3.80	2.64E+00	1.67E+00
AM-243	0.994	74.67 *	66.00	3.45E-01	7.51E-02

Analysis Report for 1510063-10
CP2107S05-06

* = Energy line found in the spectrum.
- = Manually added nuclide.
? = Manually edited nuclide.
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 9:12:21AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide	
m	3	77.38	2.30760E-01	6.52	Tol.	TI-44
	6	99.27	1.98521E-02	43.93		
	7	129.46	6.54211E-02	25.86		
	8	154.77	1.60753E-02	50.14		
	11	220.62	2.25154E-02	41.51		
	14	270.22	2.61919E-02	29.60		
	19	447.87	1.42127E-02	39.53	Sum	
	20	463.15	1.69444E-02	30.66	Tol.	SB-125
	21	511.20	4.49904E-02	20.50		
	22	562.68	1.10358E-02	45.97	Tol.	CS-134
	23	571.29	1.26175E-02	39.84		
M	24	580.42	7.28940E-03	70.09	Sum	
	27	714.38	1.88940E-02	39.25		
	29	769.38	2.06321E-02	41.88	Sum	
	30	795.45	1.35604E-02	35.37	Sum	
	31	826.77	6.08889E-03	44.47		
	32	903.02	5.51649E-03	59.70		
	34	934.80	7.91667E-03	51.88	Sum	
	37	1036.10	8.89687E-03	50.98		
	38	1121.47	2.21437E-02	28.73	Sum	
	39	1154.39	8.15394E-03	42.55	Sum	
	40	1171.49	7.45040E-03	56.27		
	41	1281.49	5.22876E-03	56.97		
M	42	1374.40	2.87943E-03	56.30		
m	43	1378.68	4.35999E-03	43.79		
	44	1385.70	4.67063E-03	50.11		
	45	1407.15	8.73117E-03	41.60	Tol.	EU-152
	46	1438.38	3.62269E-03	53.12		
	48	1498.86	7.92088E-03	23.66		
M	49	1509.59	5.20330E-03	32.58		
m	50	1516.31	3.49665E-03	47.83		
	51	1526.09	3.64418E-03	48.06		
M	52	1536.17	1.76295E-03	42.43	Sum	

Analysis Report for 1510063-10
 CP2107S05-06

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m 53	1541.95	3.41929E-03	46.13		
54	1581.26	3.33333E-03	45.26		
55	1588.59	3.64286E-03	63.20		
56	1593.58	3.05556E-03	45.79	D-Esc	
57	1631.17	2.62346E-03	61.74		
58	1697.24	3.93518E-03	52.68	Sum	
59	1730.06	5.00000E-03	46.65	Sum	
M 60	1760.48	1.67981E-03	30.94		
62	1847.35	3.03363E-03	53.64		
63	1989.01	1.80556E-03	61.78		
64	2104.12	6.38889E-03	20.85	S-Esc	
65	2150.30	2.22222E-03	46.77		
67	2230.78	3.75000E-03	39.28		
68	2245.03	2.03704E-03	47.36		
69	2328.79	2.27778E-03	44.08		
70	2337.25	3.54630E-03	36.11		
71	2387.55	4.02047E-03	37.29		
72	2406.25	1.22685E-03	62.26		

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.94	1460.81 *	10.67	1.79E+01	2.10E+00
GA-67	0.68	93.31 *	35.70	7.47E+01	2.90E+02
		208.95 *	2.24	9.28E+02	3.49E+03
		300.22 *	16.00	7.24E+01	2.90E+02
CD-109	0.99	88.03 *	3.72	2.50E+00	1.28E+00
SN-126	0.95	87.57 *	37.00	2.41E-01	1.23E-01
TL-208	0.83	583.14 *	30.22	1.15E+00	2.05E-01
		860.37	4.48		
BI-212	0.76	2614.66 *	35.85	1.27E+00	2.50E-01
		727.17 *	11.80	1.07E+00	4.13E-01

Analysis Report for 1510063-10
CP2107S05-06

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
BI-212	0.76	1620.62	2.75		
PB-212	0.99	238.63 *	44.60	1.67E+00	1.87E-01
		300.09 *	3.41	8.76E-01	1.03E+00
BI-214	0.71	609.31 *	46.30	1.19E+00	2.02E-01
		1120.29	15.10		
		1764.49 *	15.80	1.01E+00	3.42E-01
		2204.22 *	4.98	1.14E+00	9.95E-01
PB-214	0.99	295.21 *	19.19	1.26E+00	2.96E-01
		351.92 *	37.19	1.22E+00	2.00E-01
RA-224	0.89	240.98 *	3.95	4.32E+00	1.13E+00
RA-226	0.92	186.21 *	3.28	4.65E+00	8.68E+00
AC-228	0.94	338.32 *	11.40	1.84E+00	4.59E-01
		911.07 *	27.70	1.38E+00	2.87E-01
		969.11 *	16.60	8.26E-01	5.13E-01
PA-234M	0.92	1001.03 *	0.92	5.95E+00	6.43E+00
TH-234	0.99	63.29 *	3.80	2.64E+00	1.67E+00
AM-243	0.99	74.67 *	66.00	3.45E-01	7.51E-02

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.946	1.79E+01	2.10E+00	
GA-67	0.689	4.09E+01	1.56E+02	
? CD-109	0.999	2.50E+00	1.28E+00	
? SN-126	0.956	2.41E-01	1.23E-01	
TL-208	0.839	1.20E+00	1.59E-01	
BI-212	0.763	1.07E+00	4.13E-01	
PB-212	0.996	1.63E+00	1.85E-01	
BI-214	0.710	1.14E+00	1.71E-01	
PB-214	0.998	1.23E+00	1.66E-01	
RA-224	0.894	4.32E+00	1.13E+00	

Analysis Report for 1510063-10
CP2107S05-06

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
RA-226	0.920	4.65E+00	8.68E+00	
AC-228	0.945	1.39E+00	2.20E-01	
PA-234M	0.921	5.95E+00	6.43E+00	
TH-234	0.994	2.64E+00	1.67E+00	
AM-243	0.994	3.45E-01	7.51E-02	

- ? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510063-10
CP2107S05-06

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 9:12:21AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide	
m	3	77.38	2.30760E-01	6.52	Tol.	TI-44
	6	99.27	1.98521E-02	43.93		
	7	129.46	6.54211E-02	25.86		
	8	154.77	1.60753E-02	50.14		
	11	220.62	2.25154E-02	41.51		
	14	270.22	2.61919E-02	29.60		
	19	447.87	1.42127E-02	39.53	Sum	
	20	463.15	1.69444E-02	30.66	Tol.	SB-125
	21	511.20	4.49904E-02	20.50		
	22	562.68	1.10358E-02	45.97	Tol.	CS-134
	23	571.29	1.26175E-02	39.84		
M	24	580.42	7.28940E-03	70.09	Sum	
	27	714.38	1.88940E-02	39.25		
	29	769.38	2.06321E-02	41.88	Sum	
	30	795.45	1.35604E-02	35.37	Sum	
	31	826.77	6.08889E-03	44.47		
	32	903.02	5.51649E-03	59.70		
	34	934.80	7.91667E-03	51.88	Sum	
	37	1036.10	8.89687E-03	50.98		
	38	1121.47	2.21437E-02	28.73	Sum	
	39	1154.39	8.15394E-03	42.55	Sum	
	40	1171.49	7.45040E-03	56.27		
	41	1281.49	5.22876E-03	56.97		
M	42	1374.40	2.87943E-03	56.30		
m	43	1378.68	4.35999E-03	43.79		
	44	1385.70	4.67063E-03	50.11		
	45	1407.15	8.73117E-03	41.60	Tol.	EU-152
	46	1438.38	3.62269E-03	53.12		
	48	1498.86	7.92088E-03	23.66		
M	49	1509.59	5.20330E-03	32.58		
m	50	1516.31	3.49665E-03	47.83		
	51	1526.09	3.64418E-03	48.06		
M	52	1536.17	1.76295E-03	42.43	Sum	
m	53	1541.95	3.41929E-03	46.13		

Analysis Report for 1510063-10
 CP2107S05-06

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
54	1581.26	3.33333E-03	45.26		
55	1588.59	3.64286E-03	63.20		
56	1593.58	3.05556E-03	45.79	D-Esc	
57	1631.17	2.62346E-03	61.74		
58	1697.24	3.93518E-03	52.68	Sum	
59	1730.06	5.00000E-03	46.65	Sum	
M 60	1760.48	1.67981E-03	30.94		
62	1847.35	3.03363E-03	53.64		
63	1989.01	1.80556E-03	61.78		
64	2104.12	6.38889E-03	20.85	S-Esc	
65	2150.30	2.22222E-03	46.77		
67	2230.78	3.75000E-03	39.28		
68	2245.03	2.03704E-03	47.36		
69	2328.79	2.27778E-03	44.08		
70	2337.25	3.54630E-03	36.11		
71	2387.55	4.02047E-03	37.29		
72	2406.25	1.22685E-03	62.26		

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59	10.42	2.00E-01	8.48E-01	8.48E-01
+	NA-22	1274.54	99.94	1.56E-02	6.88E-02	6.88E-02
+	NA-24	1368.53	99.99	-3.72E+11	2.88E+11	1.74E+12
		2754.09	99.86	0.00E+00		2.88E+11
+	AL-26	1808.65	99.76	0.00E+00	4.37E-02	4.37E-02
+	K-40	1460.81	* 10.67	1.79E+01	9.46E-01	9.46E-01
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	-1.38E-02	6.37E-02	6.37E-02
		78.34	96.00	2.69E-01		8.50E-02
+	SC-46	889.25	99.98	-1.41E-02	7.75E-02	7.75E-02
		1120.51	99.99	2.15E-01		1.45E-01

Analysis Report for 1510063-10
CP2107S05-06

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	V-48	983.52	99.98	-2.05E-02	2.21E-01	2.21E-01
		1312.10	97.50	4.88E-02		2.35E-01
+	CR-51	320.08	9.83	4.31E-01	1.03E+00	1.03E+00
+	MN-54	834.83	99.97	-4.04E-03	7.78E-02	7.78E-02
+	CO-56	846.75	99.96	-1.30E-02	7.63E-02	7.63E-02
		1037.75	14.03	1.31E-01		6.46E-01
		1238.25	67.00	1.92E-01		2.06E-01
		1771.40	15.51	2.37E-02		4.29E-01
		2598.48	16.90	-1.51E-01		2.33E-01
+	CO-57	122.06	85.51	-1.84E-03	5.55E-02	5.55E-02
		136.48	10.60	6.46E-02		4.42E-01
+	CO-58	810.76	99.40	-2.72E-02	8.09E-02	8.09E-02
+	FE-59	1099.22	56.50	-5.08E-02	1.82E-01	1.82E-01
		1291.56	43.20	2.08E-02		2.57E-01
+	CO-60	1173.22	100.00	1.29E-02	7.04E-02	8.48E-02
		1332.49	100.00	2.00E-02		7.04E-02
+	ZN-65	1115.52	50.75	1.66E-02	1.58E-01	1.58E-01
+	GA-67	93.31	* 35.70	7.47E+01	8.23E+01	8.23E+01
		208.95	* 2.24	9.28E+02		1.32E+03
		300.22	* 16.00	7.24E+01		1.39E+02
+	SE-75	121.11	16.70	-7.02E-02	8.65E-02	3.15E-01
		136.00	59.20	1.07E-02		8.75E-02
		264.65	59.80	-1.68E-02		8.65E-02
		279.53	25.20	1.97E-01		2.45E-01
		400.65	11.40	1.29E-01		5.22E-01
+	RB-82	776.52	13.00	-2.15E-01	1.06E+00	1.06E+00
+	RB-83	520.41	46.00	1.16E-02	1.41E-01	1.41E-01
		529.64	30.30	-7.59E-02		2.24E-01
		552.65	16.40	1.77E-01		4.53E-01
+	KR-85	513.99	0.43	4.05E+01	2.06E+01	2.06E+01
+	SR-85	513.99	99.27	2.38E-01	1.21E-01	1.21E-01
+	Y-88	898.02	93.40	-3.64E-02	5.61E-02	8.17E-02
		1836.01	99.38	1.10E-02		5.61E-02
+	NB-93M	16.57	9.43	-9.89E+01	6.18E+01	6.18E+01
+	NB-94	702.63	100.00	2.61E-02	5.82E-02	6.38E-02
		871.10	100.00	-1.10E-02		5.82E-02
+	NB-95	765.79	99.81	7.91E-02	1.42E-01	1.42E-01
+	NB-95M	235.69	25.00	-5.36E+02	5.59E+01	5.59E+01
+	ZR-95	724.18	43.70	-1.45E-01	1.69E-01	2.23E-01
		756.72	55.30	7.41E-02		1.69E-01
+	MO-99	181.06	6.20	-4.37E+01	5.82E+02	8.84E+02
		739.58	12.80	-6.26E+01		5.82E+02
		778.00	4.50	-5.66E+02		1.60E+03
+	RU-103	497.08	89.00	-3.11E-02	9.70E-02	9.70E-02
+	RU-106	621.84	9.80	1.53E-02	6.27E-01	6.27E-01
+	AG-108M	433.93	89.90	1.10E-02	6.12E-02	6.12E-02
		614.37	90.40	-7.31E-03		6.92E-02

Analysis Report for 1510063-10
CP2107S05-06

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	AG-108M	722.95		90.50	-1.97E-01	6.12E-02	6.64E-02
+	CD-109	88.03	*	3.72	2.50E+00	2.01E+00	2.01E+00
+	AG-110M	657.75		93.14	1.10E-02	6.86E-02	6.86E-02
		677.61		10.53	1.12E-01		6.10E-01
		706.67		16.46	2.87E-02		4.30E-01
		763.93		21.98	-4.18E-01		3.39E-01
		884.67		71.63	-2.20E-02		8.80E-02
		1384.27		23.94	2.30E-02		3.14E-01
+	CD-113M	263.70		0.02	-2.93E+01	1.99E+02	1.99E+02
+	SN-113	255.12		1.93	1.72E-01	8.60E-02	2.93E+00
		391.69		64.90	2.78E-03		8.60E-02
+	TE123M	159.00		84.10	2.68E-02	6.27E-02	6.27E-02
+	SB-124	602.71		97.87	-1.43E-02	7.70E-02	7.70E-02
		645.85		7.26	4.32E-01		1.14E+00
		722.78		11.10	-2.22E+00		7.48E-01
		1691.02		49.00	2.65E-02		1.31E-01
+	I-125	35.49		6.49	1.93E+00	2.81E+00	2.81E+00
+	SB-125	176.33		6.89	3.95E-01	1.88E-01	6.85E-01
		427.89		29.33	2.17E-02		1.88E-01
		463.38		10.35	5.91E-01		6.43E-01
		600.56		17.80	-5.02E-02		3.25E-01
		635.90		11.32	-3.13E-02		5.15E-01
+	SB-126	414.70		83.30	-4.58E-02	2.79E-01	3.29E-01
		666.33		99.60	-5.05E-02		2.79E-01
		695.00		99.60	-3.73E-02		3.06E-01
		720.50		53.80	-1.89E-01		5.34E-01
+	SN-126	87.57	*	37.00	2.41E-01	1.94E-01	1.94E-01
+	SB-127	473.00		25.00	2.12E+01	2.70E+01	3.93E+01
		685.20		35.70	-7.41E+00		2.70E+01
		783.80		14.70	3.91E+01		7.90E+01
+	I-129	29.78		57.00	1.36E-01	4.51E-01	4.51E-01
		33.60		13.20	7.03E-01		1.19E+00
		39.58		7.52	5.48E-01		1.36E+00
+	I-131	284.30		6.05	-1.56E-01	6.37E-01	8.33E+00
		364.48		81.20	1.72E-01		6.37E-01
		636.97		7.26	6.22E+00		9.33E+00
		722.89		1.80	-1.11E+02		3.74E+01
+	TE-132	49.72		13.10	-5.28E+02	2.10E+01	2.02E+02
		228.16		88.00	1.69E+00		2.10E+01
+	BA-133	81.00		33.00	-4.86E-02	7.78E-02	1.70E-01
		302.84		17.80	6.71E-02		2.85E-01
		356.01		60.00	-5.80E-01		7.78E-02
+	I-133	529.87		86.30	-1.17E+08	3.44E+08	3.44E+08
+	XE-133	81.00		38.00	-1.71E+00	5.97E+00	5.97E+00
+	CS-134	563.23		8.38	5.87E-01	6.27E-02	7.63E-01
		569.32		15.43	6.06E-02		4.14E-01
		604.70		97.60	3.04E-04		6.27E-02
		795.84		85.40	9.46E-02		9.77E-02
		801.93		8.73	-9.87E-02		7.56E-01

Analysis Report for 1510063-10
CP2107S05-06

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	CS-135	268.24	16.00	2.82E-01	3.42E-01	3.42E-01
+	@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@	1260.41	28.60	1.00E+26		1.00E+26
	@	1678.03	9.54	1.00E+26		1.00E+26
+	CS-136	153.22	7.46	2.00E+00	2.83E-01	2.94E+00
		163.89	4.61	1.42E+00		4.39E+00
		176.55	13.56	8.63E-01		1.50E+00
		273.65	12.66	-9.67E-01		1.69E+00
		340.57	48.50	8.80E-01		6.01E-01
		818.50	99.70	8.05E-02		2.83E-01
		1048.07	79.60	-1.57E-01		3.40E-01
		1235.34	19.70	-9.38E-01		2.12E+00
+	CS-137	661.65	85.12	-3.54E-02	6.78E-02	6.78E-02
+	LA-138	788.74	34.00	8.65E-02	9.29E-02	2.07E-01
		1435.80	66.00	-1.20E-02		9.29E-02
+	CE-139	165.85	80.35	-7.76E-03	6.65E-02	6.65E-02
+	BA-140	162.64	6.70	-1.08E+00	1.04E+00	3.08E+00
		304.84	4.50	9.60E-01		4.70E+00
		423.70	3.20	7.07E+00		8.33E+00
		437.55	2.00	-8.52E+00		1.27E+01
		537.32	25.00	-3.10E-01		1.04E+00
+	LA-140	328.77	20.50	9.05E-01	2.82E-01	1.25E+00
		487.03	45.50	1.41E-01		5.86E-01
		815.85	23.50	2.51E-01		1.25E+00
		1596.49	95.49	3.22E-03		2.82E-01
+	CE-141	145.44	48.40	5.39E-02	1.75E-01	1.75E-01
+	CE-143	57.36	11.80	2.46E+05	2.54E+05	7.19E+05
		293.26	42.00	7.22E+05		2.54E+05
		664.55	5.20	3.93E+05		1.63E+06
+	CE-144	133.54	10.80	6.80E-02	4.54E-01	4.54E-01
+	PM-144	476.78	42.00	3.86E-03	6.28E-02	1.55E-01
		618.01	98.60	-2.69E-02		6.28E-02
		696.49	99.49	-1.52E-03		6.79E-02
+	PM-145	36.85	21.70	-1.67E-01	2.86E-01	5.35E-01
		37.36	39.70	-3.11E-01		2.86E-01
		42.30	15.10	-1.57E-01		5.84E-01
		72.40	2.31	-8.51E-01		3.24E+00
+	PM-146	453.90	39.94	4.74E-02	1.45E-01	1.45E-01
		735.90	14.01	2.00E-01		4.80E-01
		747.13	13.10	1.78E-01		4.48E-01
+	ND-147	91.11	28.90	-2.21E+00	1.34E+00	1.34E+00
		531.02	13.10	9.28E-02		2.53E+00
+	PM-149	285.90	3.10	-2.00E+03	9.34E+03	9.34E+03
+	EU-152	121.78	20.50	-7.18E-03	2.16E-01	2.16E-01
		244.69	5.40	-2.94E-01		1.00E+00
		344.27	19.13	-1.46E-02		2.28E-01
		778.89	9.20	2.03E-01		7.29E-01
		964.01	10.40	6.83E-02		8.15E-01
		1085.78	7.22	-9.49E-02		1.05E+00

Analysis Report for 1510063-10
CP2107S05-06

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	EU-152	1112.02	9.60	-2.83E-01	2.16E-01	7.00E-01
		1407.95	14.94	1.53E-02		4.45E-01
+	GD-153	97.43	31.30	-1.09E-01	1.56E-01	1.56E-01
		103.18	22.20	6.85E-02		2.21E-01
+	EU-154	123.07	40.50	-1.36E-02	1.09E-01	1.09E-01
		723.30	19.70	-9.11E-01		3.07E-01
		873.19	11.50	2.38E-01		5.35E-01
		996.32	10.30	-1.10E-02		6.13E-01
		1004.76	17.90	1.99E-02		4.08E-01
		1274.45	35.50	4.34E-02		1.91E-01
+	EU-155	86.50	30.90	5.47E-02	2.11E-01	2.11E-01
		105.30	20.70	-4.03E-02		2.25E-01
+	EU-156	811.77	10.40	-6.90E-01	2.08E+00	2.08E+00
		1153.47	7.20	1.93E+00		4.23E+00
		1230.71	8.90	9.14E-01		3.77E+00
+	HO-166M	184.41	72.60	1.73E-01	8.91E-02	8.91E-02
		280.45	29.60	-6.41E-02		1.64E-01
		410.94	11.10	-2.35E-02		5.30E-01
		711.69	54.10	-3.74E-02		1.16E-01
+	TM-171	66.72	0.14	-9.91E+01	4.47E+01	4.47E+01
+	HF-172	81.75	4.52	-9.37E-01	4.26E-01	1.24E+00
		125.81	11.30	-3.74E-01		4.26E-01
+	LU-172	181.53	20.60	-3.89E+00	2.05E+00	4.22E+00
		810.06	16.63	3.17E-01		6.84E+00
		912.12	15.25	4.57E+01		1.63E+01
		1093.66	62.50	-3.26E-01		2.05E+00
+	LU-173	100.72	5.24	2.79E-01	2.75E-01	9.04E-01
		272.11	21.20	2.64E-01		2.75E-01
+	HF-175	343.40	84.00	-4.38E-03	6.80E-02	6.80E-02
+	LU-176	88.34	13.30	7.36E-01	4.87E-02	5.03E-01
		201.83	86.00	-1.54E-02		5.73E-02
		306.78	94.00	-6.23E-03		4.87E-02
+	TA-182	67.75	41.20	-3.75E-02	1.73E-01	1.73E-01
		1121.30	34.90	5.07E-01		3.91E-01
		1189.05	16.23	2.48E-01		6.00E-01
		1221.41	26.98	7.88E-03		4.00E-01
		1231.02	11.44	2.34E-01		9.68E-01
+	IR-192	308.46	29.68	-1.63E-02	1.45E-01	2.01E-01
		468.07	48.10	-4.93E-02		1.45E-01
+	HG-203	279.19	77.30	6.73E-02	1.03E-01	1.03E-01
+	BI-207	569.67	97.72	2.59E-02	6.39E-02	6.39E-02
		1063.62	74.90	5.79E-02		1.05E-01
+	TL-208	583.14	* 30.22	1.15E+00	1.28E-01	3.18E-01
		860.37	4.48	1.12E+00		1.79E+00
		2614.66	* 35.85	1.27E+00		1.28E-01
+	BI-210M	262.00	45.00	3.02E-02	1.06E-01	1.06E-01
		300.00	23.00	-4.50E-01		2.31E-01
+	PB-210	46.50	4.25	2.18E+00	1.93E+00	1.93E+00
+	PB-211	404.84	2.90	-3.68E-01	1.68E+00	1.68E+00

Analysis Report for 1510063-10
CP2107S05-06

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	PB-211	831.96		2.90	-5.73E-01	1.68E+00	2.15E+00
+	BI-212	727.17	*	11.80	1.07E+00	5.74E-01	5.74E-01
		1620.62		2.75	3.79E-01		2.10E+00
+	PB-212	238.63	*	44.60	1.67E+00	1.88E-01	1.88E-01
		300.09	*	3.41	8.76E-01		1.69E+00
+	BI-214	609.31	*	46.30	1.19E+00	2.16E-01	2.16E-01
		1120.29		15.10	1.13E+00		7.60E-01
		1764.49	*	15.80	1.01E+00		3.73E-01
		2204.22	*	4.98	1.14E+00		1.54E+00
+	PB-214	295.21	*	19.19	1.26E+00	2.33E-01	4.07E-01
		351.92	*	37.19	1.22E+00		2.33E-01
+	RN-219	401.80		6.50	4.54E-01	8.03E-01	8.03E-01
+	RA-223	323.87		3.88	-1.10E+00	1.19E+00	1.19E+00
+	RA-224	240.98	*	3.95	4.32E+00	2.09E+00	2.09E+00
+	RA-225	40.00		31.00	4.81E-01	1.20E+00	1.20E+00
+	RA-226	186.21	*	3.28	4.65E+00	2.58E+00	2.58E+00
+	TH-227	50.10		8.40	-2.09E+00	5.58E-01	8.01E-01
		236.00		11.50	-5.35E+00		5.58E-01
		256.20		6.30	-1.42E-01		7.58E-01
+	AC-228	338.32	*	11.40	1.84E+00	3.16E-01	6.25E-01
		911.07	*	27.70	1.38E+00		3.16E-01
		969.11	*	16.60	8.26E-01		8.05E-01
+	TH-230	48.44		16.90	4.15E-01	4.61E-01	4.61E-01
		62.85		4.60	2.74E+00		1.54E+00
		67.67		0.37	-3.53E+00		1.63E+01
+	PA-231	283.67		1.60	9.17E-01	2.19E+00	2.90E+00
		302.67		2.30	5.17E-01		2.19E+00
+	TH-231	25.64		14.70	4.32E-01	9.17E-01	3.78E+00
		84.21		6.40	5.94E-01		9.17E-01
+	PA-233	311.98		38.60	1.33E-02	2.50E-01	2.50E-01
+	PA-234	131.20		20.40	1.13E-01	2.41E-01	2.41E-01
		733.99		8.80	1.04E-01		7.15E-01
		946.00		12.00	-9.78E-02		5.43E-01
+	PA-234M	1001.03	*	0.92	5.95E+00	1.04E+01	1.04E+01
+	TH-234	63.29	*	3.80	2.64E+00	2.69E+00	2.69E+00
+	U-235	143.76		10.50	-1.17E-01	4.37E-01	4.37E-01
		163.35		4.70	3.17E-01		9.81E-01
		205.31		4.70	1.52E-01		1.07E+00
+	NP-237	86.50		12.60	1.33E-01	5.13E-01	5.13E-01
+	NP-239	106.10		22.70	-1.40E+02	7.79E+02	7.79E+02
		228.18		10.70	1.37E+02		1.71E+03
		277.60		14.10	4.70E+02		1.41E+03
+	AM-241	59.54		35.90	1.64E-02	1.74E-01	1.74E-01
+	AM-243	74.67	*	66.00	3.45E-01	1.40E-01	1.40E-01
+	CM-243	209.75		3.29	1.89E+00	3.69E-01	1.73E+00
		228.14		10.60	3.61E-02		4.49E-01
		277.60		14.00	1.23E-01		3.69E-01

Analysis Report for 1510063-10
CP2107S05-06

- + = 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
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
BE-7	477.59	10.42	8.48E-01	8.48E-01	2.00E-01	4.04E-01
NA-22	1274.54	99.94	6.88E-02	6.88E-02	1.56E-02	3.13E-02
NA-24	1368.53	99.99	1.74E+12	2.88E+11	-3.72E+11	7.63E+11
	2754.09	99.86	2.88E+11		0.00E+00	0.00E+00
AL-26	1808.65	99.76	4.37E-02	4.37E-02	0.00E+00	1.79E-02
+ K-40	1460.81	* 10.67	9.46E-01	9.46E-01	1.79E+01	4.41E-01
@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
TI-44	67.88	94.40	6.37E-02	6.37E-02	-1.38E-02	3.12E-02
	78.34	96.00	8.50E-02		2.69E-01	4.19E-02
SC-46	889.25	99.98	7.75E-02	7.75E-02	-1.41E-02	3.58E-02
	1120.51	99.99	1.45E-01		2.15E-01	6.88E-02
V-48	983.52	99.98	2.21E-01	2.21E-01	-2.05E-02	1.02E-01
	1312.10	97.50	2.35E-01		4.88E-02	1.07E-01
CR-51	320.08	9.83	1.03E+00	1.03E+00	4.31E-01	4.94E-01
MN-54	834.83	99.97	7.78E-02	7.78E-02	-4.04E-03	3.66E-02
CO-56	846.75	99.96	7.63E-02	7.63E-02	-1.30E-02	3.53E-02
	1037.75	14.03	6.46E-01		1.31E-01	2.99E-01
	1238.25	67.00	2.06E-01		1.92E-01	9.70E-02
	1771.40	15.51	4.29E-01		2.37E-02	1.83E-01
	2598.48	16.90	2.33E-01		-1.51E-01	8.25E-02
CO-57	122.06	85.51	5.55E-02	5.55E-02	-1.84E-03	2.70E-02
	136.48	10.60	4.42E-01		6.46E-02	2.15E-01
CO-58	810.76	99.40	8.09E-02	8.09E-02	-2.72E-02	3.76E-02
FE-59	1099.22	56.50	1.82E-01	1.82E-01	-5.08E-02	8.32E-02
	1291.56	43.20	2.57E-01		2.08E-02	1.17E-01
CO-60	1173.22	100.00	8.48E-02	7.04E-02	1.29E-02	3.94E-02
	1332.49	100.00	7.04E-02		2.00E-02	3.20E-02
ZN-65	1115.52	50.75	1.58E-01	1.58E-01	1.66E-02	7.32E-02
+ GA-67	93.31	* 35.70	8.23E+01	8.23E+01	7.47E+01	4.05E+01

Analysis Report for 1510063-10
CP2107S05-06

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
GA-67	208.95	*	2.24	1.32E+03	8.23E+01	9.28E+02	6.47E+02
	300.22	*	16.00	1.39E+02		7.24E+01	6.72E+01
SE-75	121.11		16.70	3.15E-01	8.65E-02	-7.02E-02	1.53E-01
	136.00		59.20	8.75E-02		1.07E-02	4.25E-02
	264.65		59.80	8.65E-02		-1.68E-02	4.14E-02
	279.53		25.20	2.45E-01		1.97E-01	1.18E-01
	400.65		11.40	5.22E-01		1.29E-01	2.48E-01
RB-82	776.52		13.00	1.06E+00	1.06E+00	-2.15E-01	4.96E-01
RB-83	520.41		46.00	1.41E-01	1.41E-01	1.16E-02	6.63E-02
	529.64		30.30	2.24E-01		-7.59E-02	1.05E-01
	552.65		16.40	4.53E-01		1.77E-01	2.14E-01
KR-85	513.99		0.43	2.06E+01	2.06E+01	4.05E+01	9.95E+00
SR-85	513.99		99.27	1.21E-01	1.21E-01	2.38E-01	5.84E-02
Y-88	898.02		93.40	8.17E-02	5.61E-02	-3.64E-02	3.78E-02
	1836.01		99.38	5.61E-02		1.10E-02	2.33E-02
NB-93M	16.57		9.43	6.18E+01	6.18E+01	-9.89E+01	2.87E+01
NB-94	702.63		100.00	6.38E-02	5.82E-02	2.61E-02	3.00E-02
	871.10		100.00	5.82E-02		-1.10E-02	2.68E-02
NB-95	765.79		99.81	1.42E-01	1.42E-01	7.91E-02	6.72E-02
NB-95M	235.69		25.00	5.59E+01	5.59E+01	-5.36E+02	2.72E+01
ZR-95	724.18		43.70	2.23E-01	1.69E-01	-1.45E-01	1.05E-01
	756.72		55.30	1.69E-01		7.41E-02	7.97E-02
MO-99	181.06		6.20	8.84E+02	5.82E+02	-4.37E+01	4.28E+02
	739.58		12.80	5.82E+02		-6.26E+01	2.73E+02
	778.00		4.50	1.60E+03		-5.66E+02	7.45E+02
RU-103	497.08		89.00	9.70E-02	9.70E-02	-3.11E-02	4.57E-02
RU-106	621.84		9.80	6.27E-01	6.27E-01	1.53E-02	2.95E-01
AG-108M	433.93		89.90	6.12E-02	6.12E-02	1.10E-02	2.91E-02
	614.37		90.40	6.92E-02		-7.31E-03	3.27E-02
	722.95		90.50	6.64E-02		-1.97E-01	3.10E-02
+ CD-109	88.03	*	3.72	2.01E+00	2.01E+00	2.50E+00	9.88E-01
AG-110M	657.75		93.14	6.86E-02	6.86E-02	1.10E-02	3.22E-02
	677.61		10.53	6.10E-01		1.12E-01	2.86E-01
	706.67		16.46	4.30E-01		2.87E-02	2.02E-01
	763.93		21.98	3.39E-01		-4.18E-01	1.59E-01
	884.67		71.63	8.80E-02		-2.20E-02	4.05E-02
	1384.27		23.94	3.14E-01		2.30E-02	1.42E-01
CD-113M	263.70		0.02	1.99E+02	1.99E+02	-2.93E+01	9.51E+01
SN-113	255.12		1.93	2.93E+00	8.60E-02	1.72E-01	1.41E+00
	391.69		64.90	8.60E-02		2.78E-03	4.07E-02
TE123M	159.00		84.10	6.27E-02	6.27E-02	2.68E-02	3.04E-02
SB-124	602.71		97.87	7.70E-02	7.70E-02	-1.43E-02	3.61E-02
	645.85		7.26	1.14E+00		4.32E-01	5.37E-01
	722.78		11.10	7.48E-01		-2.22E+00	3.49E-01
	1691.02		49.00	1.31E-01		2.65E-02	5.49E-02
	I-125	35.49		6.49	2.81E+00	2.81E+00	1.93E+00	1.36E+00
SB-125	176.33		6.89	6.85E-01	1.88E-01	3.95E-01	3.31E-01
	427.89		29.33	1.88E-01		2.17E-02	8.93E-02
	463.38		10.35	6.43E-01		5.91E-01	3.08E-01
	600.56		17.80	3.25E-01		-5.02E-02	1.53E-01
	635.90		11.32	5.15E-01		-3.13E-02	2.42E-01
	SB-126	414.70		83.30	3.29E-01	2.79E-01	-4.58E-02	1.57E-01
	666.33		99.60	2.79E-01		-5.05E-02	1.30E-01

Analysis Report for 1510063-10
CP2107S05-06

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
SB-126	695.00	99.60	3.06E-01	2.79E-01	-3.73E-02	1.44E-01
	720.50	53.80	5.34E-01		-1.89E-01	2.49E-01
+ SN-126	87.57 *	37.00	1.94E-01	1.94E-01	2.41E-01	9.53E-02
SB-127	473.00	25.00	3.93E+01	2.70E+01	2.12E+01	1.87E+01
	685.20	35.70	2.70E+01		-7.41E+00	1.27E+01
	783.80	14.70	7.90E+01		3.91E+01	3.73E+01
I-129	29.78	57.00	4.51E-01	4.51E-01	1.36E-01	2.19E-01
	33.60	13.20	1.19E+00		7.03E-01	5.78E-01
	39.58	7.52	1.36E+00		5.48E-01	6.63E-01
I-131	284.30	6.05	8.33E+00	6.37E-01	-1.56E-01	3.98E+00
	364.48	81.20	6.37E-01		1.72E-01	3.02E-01
	636.97	7.26	9.33E+00		6.22E+00	4.39E+00
	722.89	1.80	3.74E+01		-1.11E+02	1.75E+01
TE-132	49.72	13.10	2.02E+02	2.10E+01	-5.28E+02	9.85E+01
	228.16	88.00	2.10E+01		1.69E+00	1.01E+01
BA-133	81.00	33.00	1.70E-01	7.78E-02	-4.86E-02	8.30E-02
	302.84	17.80	2.85E-01		6.71E-02	1.37E-01
	356.01	60.00	7.78E-02		-5.80E-01	3.70E-02
I-133	529.87	86.30	3.44E+08	3.44E+08	-1.17E+08	1.62E+08
XE-133	81.00	38.00	5.97E+00	5.97E+00	-1.71E+00	2.92E+00
CS-134	563.23	8.38	7.63E-01	6.27E-02	5.87E-01	3.62E-01
	569.32	15.43	4.14E-01		6.06E-02	1.96E-01
	604.70	97.60	6.27E-02		3.04E-04	2.95E-02
	795.84	85.40	9.77E-02		9.46E-02	4.63E-02
	801.93	8.73	7.56E-01		-9.87E-02	3.53E-01
CS-135	268.24	16.00	3.42E-01	3.42E-01	2.82E-01	1.65E-01
@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	1260.41	28.60	1.00E+26		1.00E+26	1.00E+20
@	1678.03	9.54	1.00E+26		1.00E+26	1.00E+20
CS-136	153.22	7.46	2.94E+00	2.83E-01	2.00E+00	1.43E+00
	163.89	4.61	4.39E+00		1.42E+00	2.13E+00
	176.55	13.56	1.50E+00		8.63E-01	7.24E-01
	273.65	12.66	1.69E+00		-9.67E-01	8.11E-01
	340.57	48.50	6.01E-01		8.80E-01	2.90E-01
	818.50	99.70	2.83E-01		8.05E-02	1.32E-01
	1048.07	79.60	3.40E-01		-1.57E-01	1.55E-01
	1235.34	19.70	2.12E+00		-9.38E-01	9.95E-01
CS-137	661.65	85.12	6.78E-02	6.78E-02	-3.54E-02	3.17E-02
LA-138	788.74	34.00	2.07E-01	9.29E-02	8.65E-02	9.71E-02
	1435.80	66.00	9.29E-02		-1.20E-02	4.13E-02
CE-139	165.85	80.35	6.65E-02	6.65E-02	-7.76E-03	3.22E-02
BA-140	162.64	6.70	3.08E+00	1.04E+00	-1.08E+00	1.49E+00
	304.84	4.50	4.70E+00		9.60E-01	2.24E+00
	423.70	3.20	8.33E+00		7.07E+00	3.98E+00
	437.55	2.00	1.27E+01		-8.52E+00	6.07E+00
	537.32	25.00	1.04E+00		-3.10E-01	4.92E-01
LA-140	328.77	20.50	1.25E+00	2.82E-01	9.05E-01	6.03E-01
	487.03	45.50	5.86E-01		1.41E-01	2.79E-01
	815.85	23.50	1.25E+00		2.51E-01	5.83E-01
	1596.49	95.49	2.82E-01		3.22E-03	1.23E-01
CE-141	145.44	48.40	1.75E-01	1.75E-01	5.39E-02	8.51E-02
CE-143	57.36	11.80	7.19E+05	2.54E+05	2.46E+05	3.51E+05
	293.26	42.00	2.54E+05		7.22E+05	1.24E+05

Analysis Report for 1510063-10
CP2107S05-06

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
CE-143	664.55	5.20	1.63E+06	2.54E+05	3.93E+05	7.64E+05
CE-144	133.54	10.80	4.54E-01	4.54E-01	6.80E-02	2.21E-01
PM-144	476.78	42.00	1.55E-01	6.28E-02	3.86E-03	7.37E-02
	618.01	98.60	6.28E-02		-2.69E-02	2.95E-02
	696.49	99.49	6.79E-02		-1.52E-03	3.19E-02
PM-145	36.85	21.70	5.35E-01	2.86E-01	-1.67E-01	2.59E-01
	37.36	39.70	2.86E-01		-3.11E-01	1.39E-01
	42.30	15.10	5.84E-01		-1.57E-01	2.84E-01
	72.40	2.31	3.24E+00		-8.51E-01	1.59E+00
PM-146	453.90	39.94	1.45E-01	1.45E-01	4.74E-02	6.92E-02
	735.90	14.01	4.80E-01		2.00E-01	2.25E-01
	747.13	13.10	4.48E-01		1.78E-01	2.09E-01
ND-147	91.11	28.90	1.34E+00	1.34E+00	-2.21E+00	6.59E-01
	531.02	13.10	2.53E+00		9.28E-02	1.19E+00
PM-149	285.90	3.10	9.34E+03	9.34E+03	-2.00E+03	4.46E+03
EU-152	121.78	20.50	2.16E-01	2.16E-01	-7.18E-03	1.05E-01
	244.69	5.40	1.00E+00		-2.94E-01	4.84E-01
	344.27	19.13	2.28E-01		-1.46E-02	1.08E-01
	778.89	9.20	7.29E-01		2.03E-01	3.41E-01
	964.01	10.40	8.15E-01		6.83E-02	3.83E-01
	1085.78	7.22	1.05E+00		-9.49E-02	4.85E-01
	1112.02	9.60	7.00E-01		-2.83E-01	3.21E-01
	1407.95	14.94	4.45E-01		1.53E-02	2.00E-01
GD-153	97.43	31.30	1.56E-01	1.56E-01	-1.09E-01	7.59E-02
	103.18	22.20	2.21E-01		6.85E-02	1.07E-01
EU-154	123.07	40.50	1.09E-01	1.09E-01	-1.36E-02	5.32E-02
	723.30	19.70	3.07E-01		-9.11E-01	1.43E-01
	873.19	11.50	5.35E-01		2.38E-01	2.47E-01
	996.32	10.30	6.13E-01		-1.10E-02	2.82E-01
	1004.76	17.90	4.08E-01		1.99E-02	1.89E-01
	1274.45	35.50	1.91E-01		4.34E-02	8.67E-02
EU-155	86.50	30.90	2.11E-01	2.11E-01	5.47E-02	1.04E-01
	105.30	20.70	2.25E-01		-4.03E-02	1.09E-01
EU-156	811.77	10.40	2.08E+00	2.08E+00	-6.90E-01	9.65E-01
	1153.47	7.20	4.23E+00		1.93E+00	1.97E+00
	1230.71	8.90	3.77E+00		9.14E-01	1.77E+00
HO-166M	184.41	72.60	8.91E-02	8.91E-02	1.73E-01	4.35E-02
	280.45	29.60	1.64E-01		-6.41E-02	7.84E-02
	410.94	11.10	5.30E-01		-2.35E-02	2.53E-01
	711.69	54.10	1.16E-01		-3.74E-02	5.45E-02
TM-171	66.72	0.14	4.47E+01	4.47E+01	-9.91E+01	2.19E+01
HF-172	81.75	4.52	1.24E+00	4.26E-01	-9.37E-01	6.05E-01
	125.81	11.30	4.26E-01		-3.74E-01	2.07E-01
LU-172	181.53	20.60	4.22E+00	2.05E+00	-3.89E+00	2.04E+00
	810.06	16.63	6.84E+00		3.17E-01	3.18E+00
	912.12	15.25	1.63E+01		4.57E+01	7.86E+00
	1093.66	62.50	2.05E+00		-3.26E-01	9.44E-01
LU-173	100.72	5.24	9.04E-01	2.75E-01	2.79E-01	4.40E-01
	272.11	21.20	2.75E-01		2.64E-01	1.33E-01
HF-175	343.40	84.00	6.80E-02	6.80E-02	-4.38E-03	3.22E-02
LU-176	88.34	13.30	5.03E-01	4.87E-02	7.36E-01	2.47E-01
	201.83	86.00	5.73E-02		-1.54E-02	2.77E-02
	306.78	94.00	4.87E-02		-6.23E-03	2.32E-02

Analysis Report for 1510063-10
CP2107S05-06

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
TA-182	67.75	41.20	1.73E-01	1.73E-01	-3.75E-02	8.47E-02
	1121.30	34.90	3.91E-01		5.07E-01	1.86E-01
	1189.05	16.23	6.00E-01		2.48E-01	2.79E-01
	1221.41	26.98	4.00E-01		7.88E-03	1.87E-01
	1231.02	11.44	9.68E-01		2.34E-01	4.53E-01
IR-192	308.46	29.68	2.01E-01	1.45E-01	-1.63E-02	9.57E-02
	468.07	48.10	1.45E-01		-4.93E-02	6.88E-02
HG-203	279.19	77.30	1.03E-01	1.03E-01	6.73E-02	4.97E-02
BI-207	569.67	97.72	6.39E-02	6.39E-02	2.59E-02	3.03E-02
	1063.62	74.90	1.05E-01		5.79E-02	4.87E-02
+ TL-208	583.14	*	30.22	1.28E-01	1.15E+00	1.54E-01
	860.37		4.48	1.79E+00	1.12E+00	8.46E-01
	2614.66	*	35.85	1.28E-01	1.27E+00	5.15E-02
BI-210M	262.00	45.00	1.06E-01	1.06E-01	3.02E-02	5.08E-02
	300.00	23.00	2.31E-01		-4.50E-01	1.11E-01
PB-210	46.50	4.25	1.93E+00	1.93E+00	2.18E+00	9.39E-01
PB-211	404.84	2.90	1.68E+00	1.68E+00	-3.68E-01	7.96E-01
	831.96	2.90	2.15E+00		-5.73E-01	1.00E+00
+ BI-212	727.17	*	11.80	5.74E-01	1.07E+00	2.70E-01
	1620.62		2.75	2.10E+00	3.79E-01	9.19E-01
+ PB-212	238.63	*	44.60	1.88E-01	1.67E+00	9.20E-02
	300.09	*	3.41	1.69E+00	8.76E-01	8.13E-01
+ BI-214	609.31	*	46.30	2.16E-01	1.19E+00	1.04E-01
	1120.29		15.10	7.60E-01	1.13E+00	3.61E-01
	1764.49	*	15.80	3.73E-01	1.01E+00	1.62E-01
	2204.22	*	4.98	1.54E+00	1.14E+00	6.83E-01
+ PB-214	295.21	*	19.19	4.07E-01	1.26E+00	1.98E-01
	351.92	*	37.19	2.33E-01	1.22E+00	1.13E-01
RN-219	401.80	6.50	8.03E-01	8.03E-01	4.54E-01	3.82E-01
RA-223	323.87	3.88	1.19E+00	1.19E+00	-1.10E+00	5.68E-01
+ RA-224	240.98	*	3.95	2.09E+00	4.32E+00	1.02E+00
RA-225	40.00	31.00	1.20E+00	1.20E+00	4.81E-01	5.82E-01
+ RA-226	186.21	*	3.28	2.58E+00	4.65E+00	1.27E+00
TH-227	50.10	8.40	8.01E-01	5.58E-01	-2.09E+00	3.90E-01
	236.00	11.50	5.58E-01		-5.35E+00	2.71E-01
	256.20	6.30	7.58E-01		-1.42E-01	3.64E-01
+ AC-228	338.32	*	11.40	6.25E-01	1.84E+00	3.03E-01
	911.07	*	27.70	3.16E-01	1.38E+00	1.50E-01
	969.11	*	16.60	8.05E-01	8.26E-01	3.87E-01
TH-230	48.44	16.90	4.61E-01	4.61E-01	4.15E-01	2.25E-01
	62.85	4.60	1.54E+00		2.74E+00	7.55E-01
	67.67	0.37	1.63E+01		-3.53E+00	7.96E+00
PA-231	283.67	1.60	2.90E+00	2.19E+00	9.17E-01	1.39E+00
	302.67	2.30	2.19E+00		5.17E-01	1.05E+00
TH-231	25.64	14.70	3.78E+00	9.17E-01	4.32E-01	1.84E+00
	84.21	6.40	9.17E-01		5.94E-01	4.49E-01
PA-233	311.98	38.60	2.50E-01	2.50E-01	1.33E-02	1.19E-01
PA-234	131.20	20.40	2.41E-01	2.41E-01	1.13E-01	1.17E-01
	733.99	8.80	7.15E-01		1.04E-01	3.34E-01
	946.00	12.00	5.43E-01		-9.78E-02	2.51E-01
+ PA-234M	1001.03	*	0.92	1.04E+01	5.95E+00	4.95E+00
+ TH-234	63.29	*	3.80	2.69E+00	2.64E+00	1.33E+00
U-235	143.76	10.50	4.37E-01	4.37E-01	-1.17E-01	2.12E-01

Analysis Report for 1510063-10
CP2107S05-06

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
U-235	163.35	4.70	9.81E-01	4.37E-01	3.17E-01	4.75E-01
	205.31	4.70	1.07E+00		1.52E-01	5.19E-01
NP-237	86.50	12.60	5.13E-01	5.13E-01	1.33E-01	2.52E-01
NP-239	106.10	22.70	7.79E+02	7.79E+02	-1.40E+02	3.79E+02
	228.18	10.70	1.71E+03		1.37E+02	8.22E+02
	277.60	14.10	1.41E+03		4.70E+02	6.76E+02
AM-241	59.54	35.90	1.74E-01	1.74E-01	1.64E-02	8.50E-02
+ AM-243	74.67 *	66.00	1.40E-01	1.40E-01	3.45E-01	6.92E-02
CM-243	209.75	3.29	1.73E+00	3.69E-01	1.89E+00	8.42E-01
	228.14	10.60	4.49E-01		3.61E-02	2.17E-01
	277.60	14.00	3.69E-01		1.23E-01	1.78E-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

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

Creation Date	Comment	User
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No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP2107S05-06

Elapsed Live time: 3600

Elapsed Real Time: 3601

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0	0
17:	0	1	55	114	112	90	89	113	
25:	79	72	62	75	72	82	63	73	
33:	71	60	70	76	57	91	49	83	
41:	105	75	84	72	72	89	185	94	
49:	82	85	103	90	116	91	85	105	
57:	105	110	117	109	140	131	177	262	
65:	154	134	142	139	125	152	157	168	
73:	174	186	470	331	425	608	181	118	
81:	134	127	126	152	183	124	190	293	
89:	160	205	175	146	315	214	118	88	
97:	66	96	95	111	96	80	83	81	
105:	91	120	90	86	107	95	92	77	
113:	91	81	101	104	64	102	89	90	
121:	82	71	79	77	86	86	94	97	
129:	125	118	86	95	91	83	61	73	
137:	73	76	75	77	76	76	73	76	
145:	80	74	84	74	71	91	89	85	
153:	67	91	93	92	60	69	70	64	
161:	64	56	74	56	75	76	60	69	
169:	66	52	66	85	62	58	69	49	
177:	69	62	63	49	57	69	72	75	
185:	94	198	151	77	61	42	75	87	
193:	54	57	55	57	51	59	60	72	
201:	52	60	58	60	68	58	59	65	
209:	103	118	53	49	56	56	57	57	
217:	39	47	62	54	59	70	56	39	
225:	45	44	50	55	44	47	59	41	
233:	57	66	48	67	56	189	755	282	
241:	117	171	118	37	38	48	42	33	
249:	40	45	42	47	46	55	35	41	
257:	32	44	34	51	38	45	38	28	
265:	34	35	32	36	48	66	76	50	
273:	36	39	45	28	39	68	46	37	
281:	35	38	32	34	39	26	27	25	
289:	33	30	38	45	36	49	133	206	
297:	42	31	33	57	60	27	31	27	
305:	39	26	29	30	23	29	35	21	
313:	36	31	35	29	19	36	44	39	
321:	23	27	28	34	30	20	34	52	
329:	60	30	29	30	39	20	24	25	
337:	33	91	164	32	38	23	19	24	
345:	26	19	23	28	31	34	66	285	
353:	215	33	23	22	20	24	24	19	
361:	26	16	35	20	23	19	19	22	

369: 18 23 16 22 13 18 23 27

Sample Title: CP2107S05-06

Channel	1	2	3	4	5	6	7	8
377:	24	21	24	22	26	33	23	23
385:	29	19	28	22	34	22	26	21
393:	22	18	21	14	23	21	16	22
401:	27	34	23	24	19	22	23	14
409:	27	38	24	23	20	15	22	26
417:	21	23	12	20	32	14	21	17
425:	14	19	34	11	15	19	15	13
433:	19	28	21	15	18	18	16	19
441:	24	29	20	16	17	30	17	28
449:	23	24	16	14	13	27	21	18
457:	23	19	17	13	18	18	44	45
465:	12	16	14	14	18	15	20	27
473:	21	23	17	27	16	19	15	24
481:	22	12	18	15	16	21	14	27
489:	18	11	14	18	13	15	7	14
497:	13	17	12	17	15	17	14	10
505:	17	9	17	23	19	53	101	71
513:	31	24	10	12	21	10	11	8
521:	14	17	13	12	10	20	10	18
529:	6	19	12	11	15	18	13	13
537:	13	16	14	11	19	14	18	9
545:	12	16	15	13	18	19	16	15
553:	14	8	15	16	12	7	10	11
561:	13	20	23	14	15	15	10	13
569:	19	11	23	18	15	14	7	7
577:	8	14	10	21	17	33	122	161
585:	35	12	21	16	14	9	13	9
593:	16	8	9	20	15	14	17	8
601:	13	12	10	8	14	10	10	26
609:	159	218	58	11	17	18	15	10
617:	11	15	11	13	9	16	11	12
625:	10	11	10	15	14	17	9	14
633:	7	12	9	10	16	9	13	16
641:	6	5	11	10	13	16	11	15
649:	6	11	13	8	11	9	16	10
657:	8	10	11	8	14	15	5	9
665:	10	23	10	10	5	14	4	7
673:	9	11	8	11	10	10	14	10
681:	11	12	6	15	10	14	10	12
689:	11	19	10	9	12	13	14	12
697:	15	7	11	11	17	9	14	12
705:	11	7	12	14	11	18	16	6
713:	5	10	11	15	11	8	14	11
721:	14	6	5	10	11	11	42	36
729:	18	9	7	7	17	9	7	13
737:	13	13	10	11	10	8	9	9
745:	15	5	10	5	6	10	5	5
753:	13	13	10	17	14	9	10	12
761:	13	6	14	14	15	11	10	23
769:	30	18	13	19	21	16	8	13
777:	8	6	15	4	9	20	13	8
785:	12	12	20	12	9	13	7	9
793:	8	15	24	33	9	9	12	7

801: 11 10 9 11 6 9 13 10

Sample Title: CP2107S05-06

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	8	9	8	8	5	10	8	11
817:	6	13	11	4	12	7	5	8
825:	8	9	9	15	1	6	9	10
833:	9	11	12	18	10	11	12	19
841:	14	7	7	5	10	7	9	7
849:	7	6	4	14	12	7	12	11
857:	16	4	5	16	26	14	13	6
865:	8	7	8	5	5	6	3	10
873:	9	8	10	5	2	8	6	9
881:	8	9	3	9	5	3	9	7
889:	8	6	10	7	5	13	10	7
897:	9	8	7	6	6	17	7	12
905:	9	7	6	7	5	19	73	108
913:	36	9	9	9	2	8	5	13
921:	4	3	4	5	10	6	11	9
929:	10	5	8	5	7	21	17	6
937:	8	11	4	9	6	4	5	7
945:	6	11	6	6	10	8	14	4
953:	8	5	4	5	5	7	7	6
961:	4	6	8	9	28	21	10	18
969:	62	51	17	9	6	3	12	9
977:	8	7	7	7	14	7	4	6
985:	4	6	7	7	8	5	6	3
993:	6	5	5	5	7	5	10	2
1001:	15	15	5	15	7	2	8	6
1009:	4	9	7	9	7	6	6	5
1017:	6	5	12	9	6	6	6	8
1025:	9	5	7	11	6	3	4	6
1033:	7	13	8	10	9	4	8	6
1041:	7	2	6	7	6	4	2	3
1049:	8	6	9	6	11	5	11	3
1057:	8	9	6	4	4	8	8	11
1065:	9	8	14	8	5	4	6	9
1073:	6	7	9	11	5	15	7	10
1081:	13	8	5	7	10	10	4	10
1089:	9	6	7	5	7	7	6	10
1097:	5	6	9	4	3	4	5	10
1105:	10	4	6	11	1	7	7	5
1113:	7	8	6	8	6	7	9	24
1121:	52	21	9	7	5	13	8	8
1129:	5	6	8	4	6	11	3	5
1137:	10	5	9	6	5	11	7	8
1145:	7	5	12	10	4	4	5	7
1153:	8	13	18	9	6	6	6	8
1161:	6	9	10	9	9	6	6	8
1169:	9	18	4	5	10	11	9	4
1177:	7	8	7	8	7	6	13	9
1185:	6	4	10	4	13	9	8	9
1193:	2	7	5	5	14	13	5	5
1201:	6	4	10	10	8	12	11	6
1209:	11	7	4	9	8	12	4	8
1217:	10	14	9	7	10	13	4	11
1225:	10	10	8	16	10	9	9	7

1233: 11 9 11 6 8 22 21 14

Sample Title: CP2107S05-06

Channel	1	2	3	4	5	6	7	8	9
1241:	13	4	5	7	11	6	12	3	
1249:	5	11	7	10	7	7	10	9	
1257:	2	11	9	6	5	6	3	5	
1265:	5	3	12	10	2	3	5	7	
1273:	4	2	8	3	4	5	6	6	
1281:	6	10	12	2	7	6	7	5	
1289:	8	6	7	4	3	4	3	5	
1297:	5	7	6	5	8	6	6	8	
1305:	3	9	5	3	6	1	5	8	
1313:	4	4	4	3	4	5	6	5	
1321:	10	7	5	4	0	8	3	2	
1329:	2	6	3	6	4	5	7	2	
1337:	7	6	2	5	5	2	3	7	
1345:	5	3	5	6	2	7	3	5	
1353:	5	1	4	0	3	2	2	4	
1361:	2	2	4	2	2	1	3	3	
1369:	3	3	3	2	5	4	7	2	
1377:	4	10	8	3	0	4	1	4	
1385:	5	8	9	2	2	3	4	3	
1393:	5	1	4	3	8	2	3	1	
1401:	4	7	6	2	1	5	1	10	
1409:	5	2	3	5	2	4	1	2	
1417:	2	4	2	2	4	2	3	3	
1425:	3	2	4	6	2	2	2	5	
1433:	2	1	3	3	2	7	4	3	
1441:	2	0	2	2	4	1	0	6	
1449:	4	1	3	2	2	1	4	3	
1457:	2	3	20	122	332	237	55	6	
1465:	5	3	2	2	2	2	3	3	
1473:	5	1	1	2	1	2	2	1	
1481:	1	4	1	2	1	3	3	6	
1489:	4	1	2	3	1	1	0	5	
1497:	7	7	3	2	2	6	0	0	
1505:	0	2	2	3	8	6	4	1	
1513:	3	2	4	3	6	2	4	1	
1521:	1	0	1	4	2	6	3	1	
1529:	3	1	0	2	0	2	1	4	
1537:	0	1	3	4	1	6	3	2	
1545:	1	0	1	1	0	1	1	2	
1553:	0	0	0	2	2	0	1	2	
1561:	0	0	1	3	2	1	0	1	
1569:	2	1	3	0	1	1	1	0	
1577:	1	2	2	2	2	2	5	1	
1585:	0	1	2	11	14	2	2	3	
1593:	7	5	1	0	1	0	3	2	
1601:	2	1	1	1	3	3	0	1	
1609:	1	1	1	1	1	3	0	2	
1617:	0	1	5	1	3	5	1	3	
1625:	2	0	1	0	1	4	7	3	
1633:	0	1	2	1	0	4	1	1	
1641:	1	1	1	2	2	2	0	1	
1649:	1	1	2	2	1	0	2	3	
1657:	0	0	5	4	4	4	1	2	

1665: 0 3 2 2 5 3 2 2

Sample Title: CP2107S05-06

Channel	1	2	3	4	5	6	7	8
1673:	3	0	1	1	3	3	3	2
1681:	1	1	1	1	4	1	0	0
1689:	3	1	0	0	4	1	4	1
1697:	1	3	3	3	2	2	0	2
1705:	1	1	1	1	0	1	1	1
1713:	3	0	1	1	3	0	1	1
1721:	1	0	2	1	2	0	2	1
1729:	9	9	6	3	0	3	0	1
1737:	0	0	2	1	0	1	2	2
1745:	2	1	4	3	1	1	2	1
1753:	2	1	1	0	3	1	0	3
1761:	1	0	8	13	21	18	3	2
1769:	3	1	2	0	1	2	1	1
1777:	0	3	1	1	0	0	0	2
1785:	1	2	0	0	2	0	1	0
1793:	0	0	3	0	0	1	0	2
1801:	4	0	1	1	2	2	1	1
1809:	0	0	1	1	1	1	1	1
1817:	2	1	3	1	0	2	1	1
1825:	0	2	3	3	1	0	1	1
1833:	4	0	0	0	1	0	3	1
1841:	0	1	0	1	1	1	11	5
1849:	0	4	1	1	1	0	1	0
1857:	2	0	0	0	1	3	1	0
1865:	1	2	0	4	0	0	1	1
1873:	3	3	0	2	2	0	0	2
1881:	0	0	1	3	3	1	1	2
1889:	1	2	3	2	2	1	0	4
1897:	2	0	1	1	0	2	0	1
1905:	1	2	0	1	0	1	3	1
1913:	0	4	0	0	0	2	0	2
1921:	3	0	0	0	1	0	0	1
1929:	0	1	1	1	1	0	0	1
1937:	0	2	2	1	0	1	2	0
1945:	2	0	1	3	1	2	1	0
1953:	1	0	3	1	2	1	2	0
1961:	0	0	1	1	2	0	1	1
1969:	2	3	0	2	1	3	0	0
1977:	1	1	2	1	1	1	1	1
1985:	0	1	2	2	1	4	0	1
1993:	0	1	0	1	0	0	2	2
2001:	1	2	1	2	2	2	1	4
2009:	1	1	1	2	0	2	1	1
2017:	1	0	0	1	1	1	1	0
2025:	2	1	0	1	0	0	0	1
2033:	2	1	0	0	0	0	0	2
2041:	0	0	1	1	2	0	3	1
2049:	0	2	0	2	2	1	0	0
2057:	1	0	4	1	0	1	0	1
2065:	0	0	1	0	0	0	0	1
2073:	0	1	0	2	1	5	1	1
2081:	0	3	0	2	0	1	0	1
2089:	1	1	2	1	0	1	2	1

2097: 0 0 0 2 2 1 6 3

Sample Title: CP2107S05-06

Channel	1	2	3	4	5	6	7	8
2105:	4	3	2	0	0	2	3	1
2113:	2	0	0	3	0	2	2	1
2121:	2	0	2	0	2	1	0	0
2129:	2	0	0	0	2	1	0	0
2137:	1	0	0	1	1	0	2	1
2145:	0	0	1	1	1	3	2	2
2153:	0	1	0	1	1	0	1	1
2161:	1	0	3	0	1	1	0	1
2169:	1	2	0	0	0	1	2	2
2177:	0	0	1	2	2	0	3	2
2185:	2	0	1	1	0	0	1	2
2193:	0	2	0	0	2	0	3	1
2201:	0	2	5	7	14	3	0	3
2209:	3	1	0	0	0	0	0	1
2217:	1	3	0	0	2	0	2	1
2225:	0	1	2	0	2	2	8	1
2233:	2	0	1	1	0	2	0	0
2241:	1	0	1	2	3	2	0	0
2249:	0	1	0	3	0	1	2	2
2257:	1	1	0	1	3	0	1	1
2265:	1	0	2	1	1	3	1	3
2273:	1	2	0	0	0	1	0	0
2281:	0	1	1	0	0	3	1	3
2289:	0	3	2	2	2	1	1	0
2297:	3	2	3	0	1	1	0	0
2305:	0	1	1	0	1	2	0	1
2313:	3	1	0	1	0	2	4	2
2321:	0	2	0	0	0	1	1	2
2329:	5	1	0	1	2	2	2	0
2337:	1	2	2	3	0	0	1	1
2345:	0	0	1	0	1	4	2	1
2353:	4	2	2	1	0	3	1	3
2361:	0	4	5	2	3	1	2	2
2369:	3	3	2	1	0	2	0	1
2377:	2	0	2	0	1	1	2	0
2385:	3	2	3	4	4	0	0	1
2393:	0	0	1	0	1	2	2	1
2401:	2	1	0	0	3	1	2	0
2409:	1	0	0	2	1	2	0	0
2417:	1	2	0	0	0	1	1	0
2425:	0	0	0	1	2	0	0	1
2433:	1	1	1	1	2	1	4	0
2441:	2	0	2	3	1	2	0	2
2449:	1	0	1	1	1	0	1	1
2457:	0	2	0	0	3	0	1	2
2465:	1	1	0	0	1	0	3	1
2473:	0	1	0	0	0	4	0	1
2481:	1	0	0	0	1	1	0	0
2489:	0	0	0	1	0	0	1	2
2497:	0	2	2	0	0	1	0	1
2505:	1	1	0	1	0	0	1	0
2513:	0	0	0	1	0	0	0	2
2521:	0	1	0	0	0	0	0	1

2529: 0 0 0 0 0 0 0 0 0

Sample Title: CP2107S05-06

Channel	1	2	3	4	5	6	7	8	9
2537:	1	0	0	0	0	0	0	0	1
2545:	0	0	0	0	1	0	0	0	0
2553:	1	1	0	0	0	1	0	0	0
2561:	0	0	0	0	0	0	0	0	0
2569:	0	0	2	0	1	0	0	0	1
2577:	0	0	0	0	0	0	1	1	1
2585:	0	2	0	0	1	1	0	0	0
2593:	1	1	0	0	0	0	0	0	0
2601:	0	1	1	0	3	0	0	0	1
2609:	1	0	1	4	17	36	43	36	36
2617:	6	0	0	0	0	0	0	0	0
2625:	0	1	0	0	0	0	0	0	0
2633:	0	0	0	0	0	0	0	0	0
2641:	0	1	0	1	0	0	0	0	0
2649:	1	0	0	0	0	0	0	0	0
2657:	1	0	1	0	0	0	1	0	0
2665:	0	0	0	1	0	0	0	0	0
2673:	1	0	1	0	0	0	0	0	0
2681:	1	0	0	0	0	0	1	1	1
2689:	0	0	1	0	0	1	0	0	0
2697:	0	0	1	0	0	0	2	0	0
2705:	0	0	0	0	0	0	0	0	1
2713:	0	0	0	0	0	1	0	0	0
2721:	1	0	0	1	0	0	1	1	1
2729:	0	0	0	1	0	1	0	0	0
2737:	0	1	0	0	0	0	0	0	0
2745:	0	0	0	0	0	0	0	0	0
2753:	0	0	0	0	0	0	0	0	0
2761:	1	0	1	0	0	0	1	0	0
2769:	0	0	0	1	1	0	0	0	0
2777:	0	0	0	0	1	0	0	0	1
2785:	0	1	1	0	1	0	0	0	1
2793:	1	0	0	0	1	0	1	0	0
2801:	0	1	1	0	0	0	0	0	1
2809:	0	0	1	1	0	0	0	0	0
2817:	0	0	0	0	0	1	0	0	0
2825:	0	0	0	0	1	0	0	0	1
2833:	0	0	0	0	1	0	0	0	0
2841:	0	0	1	0	1	0	0	0	0
2849:	0	0	1	0	0	0	1	1	1
2857:	0	0	0	0	0	0	0	0	0
2865:	0	0	0	0	0	0	0	0	0
2873:	0	0	0	0	0	0	0	0	1
2881:	1	1	1	0	0	1	0	0	0
2889:	0	0	0	0	1	0	0	0	1
2897:	0	0	0	1	0	0	0	0	1
2905:	0	0	0	0	0	1	0	0	0
2913:	0	0	0	1	0	0	0	0	0
2921:	0	0	0	0	0	0	0	0	0
2929:	0	0	1	1	0	0	0	0	0
2937:	0	0	1	0	0	0	0	0	0
2945:	0	0	0	0	0	0	1	0	0
2953:	0	0	0	0	1	0	0	0	0

2961: 0 1 1 0 0 1 0 0

Sample Title: CP2107S05-06

Channel	1	0	2	0	1	0	1	0
2969:	1	0	0	0	0	1	1	0
2977:	1	0	0	0	0	1	0	0
2985:	0	0	0	0	0	0	0	0
2993:	0	0	2	0	0	0	0	1
3001:	0	0	1	0	1	1	1	0
3009:	0	0	1	0	1	0	1	0
3017:	0	1	2	0	0	0	0	0
3025:	0	1	0	0	1	0	0	0
3033:	0	0	0	1	1	0	0	2
3041:	1	0	0	0	0	1	2	0
3049:	0	0	0	0	0	0	0	0
3057:	0	1	0	0	0	0	0	0
3065:	0	1	0	1	0	0	0	0
3073:	0	1	0	1	0	0	0	0
3081:	0	0	0	0	0	0	1	0
3089:	0	1	0	0	0	1	1	0
3097:	0	0	0	1	0	0	0	0
3105:	0	0	0	0	0	1	0	0
3113:	0	0	0	1	1	0	0	0
3121:	0	1	1	0	0	1	0	0
3129:	0	0	0	0	1	0	0	1
3137:	0	0	0	1	0	0	1	0
3145:	0	0	1	0	0	1	0	0
3153:	0	1	1	0	0	0	1	0
3161:	0	1	0	1	0	0	0	0
3169:	1	0	0	0	0	0	0	1
3177:	1	0	0	0	0	0	0	0
3185:	2	1	0	0	0	0	0	0
3193:	0	0	0	0	1	0	2	1
3201:	0	1	0	1	1	0	0	0
3209:	0	0	0	0	0	0	0	0
3217:	0	0	0	0	0	0	0	0
3225:	0	0	0	0	0	0	1	1
3233:	1	0	0	0	0	0	0	0
3241:	0	0	0	0	0	0	0	0
3249:	0	0	0	0	1	0	0	0
3257:	0	0	1	0	0	0	1	0
3265:	0	0	0	0	0	1	2	0
3273:	1	2	0	0	0	0	0	0
3281:	0	0	1	0	0	0	0	0
3289:	0	1	0	0	0	0	1	0
3297:	0	0	0	0	0	0	0	0
3305:	0	0	0	0	0	0	0	1
3313:	0	0	0	1	1	1	1	1
3321:	0	0	0	0	1	0	0	0
3329:	1	0	0	0	0	0	0	1
3337:	0	1	0	0	0	0	0	0
3345:	0	0	0	1	0	0	0	0
3353:	0	0	0	0	1	0	0	0
3361:	0	0	0	0	0	0	0	0
3369:	0	0	0	0	0	0	0	1
3377:	0	0	0	0	0	0	0	0
3385:	0	0	0	0	0	0	0	0

3393: 0 1 1 0 0 0 0 0

Sample Title: CP2107S05-06

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3401:	0	0	0	0	0	0	1	0
3409:	0	0	0	0	0	0	0	0
3417:	0	0	0	0	0	0	0	0
3425:	0	0	1	0	0	0	0	0
3433:	0	0	0	0	0	1	0	0
3441:	1	0	0	0	0	0	0	0
3449:	0	0	0	0	0	0	0	0
3457:	0	1	0	0	0	1	0	0
3465:	0	0	0	0	0	0	0	1
3473:	0	1	1	0	0	1	0	0
3481:	0	0	0	1	0	0	0	0
3489:	0	0	0	0	0	0	0	0
3497:	0	1	1	0	0	0	0	0
3505:	0	0	0	0	0	0	0	0
3513:	0	1	0	1	0	0	0	1
3521:	0	0	0	0	1	0	0	1
3529:	1	0	0	0	0	0	0	0
3537:	0	0	0	0	0	0	1	0
3545:	0	1	1	1	0	0	0	1
3553:	0	1	0	0	0	0	0	0
3561:	1	0	0	0	0	0	0	0
3569:	0	0	0	0	0	0	0	0
3577:	0	0	0	0	0	0	0	0
3585:	0	0	0	0	0	0	0	0
3593:	0	0	0	0	0	0	0	1
3601:	0	1	1	0	0	0	0	0
3609:	1	0	0	0	0	0	0	0
3617:	0	0	0	0	0	0	0	0
3625:	1	0	0	0	0	0	0	1
3633:	0	0	0	0	0	0	0	0
3641:	0	0	0	0	0	0	2	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	0	0	2	0	0	0	0	0
3673:	0	0	0	0	1	1	0	1
3681:	0	0	0	0	0	0	0	1
3689:	0	0	0	0	0	0	0	0
3697:	0	1	0	0	1	0	1	0
3705:	0	0	0	0	0	0	0	0
3713:	0	0	0	0	0	1	0	0
3721:	1	0	0	0	1	0	0	0
3729:	0	0	0	0	0	0	0	0
3737:	0	0	0	0	0	0	0	0
3745:	0	0	1	0	0	1	0	0
3753:	0	0	0	0	0	0	0	0
3761:	0	0	0	0	0	0	0	0
3769:	0	1	0	0	0	0	0	0
3777:	0	0	1	1	0	0	0	2
3785:	0	0	0	0	0	0	0	0
3793:	0	0	0	0	0	0	0	0
3801:	0	0	0	0	0	0	0	0
3809:	0	0	0	0	0	0	0	0
3817:	0	0	1	0	0	0	0	0

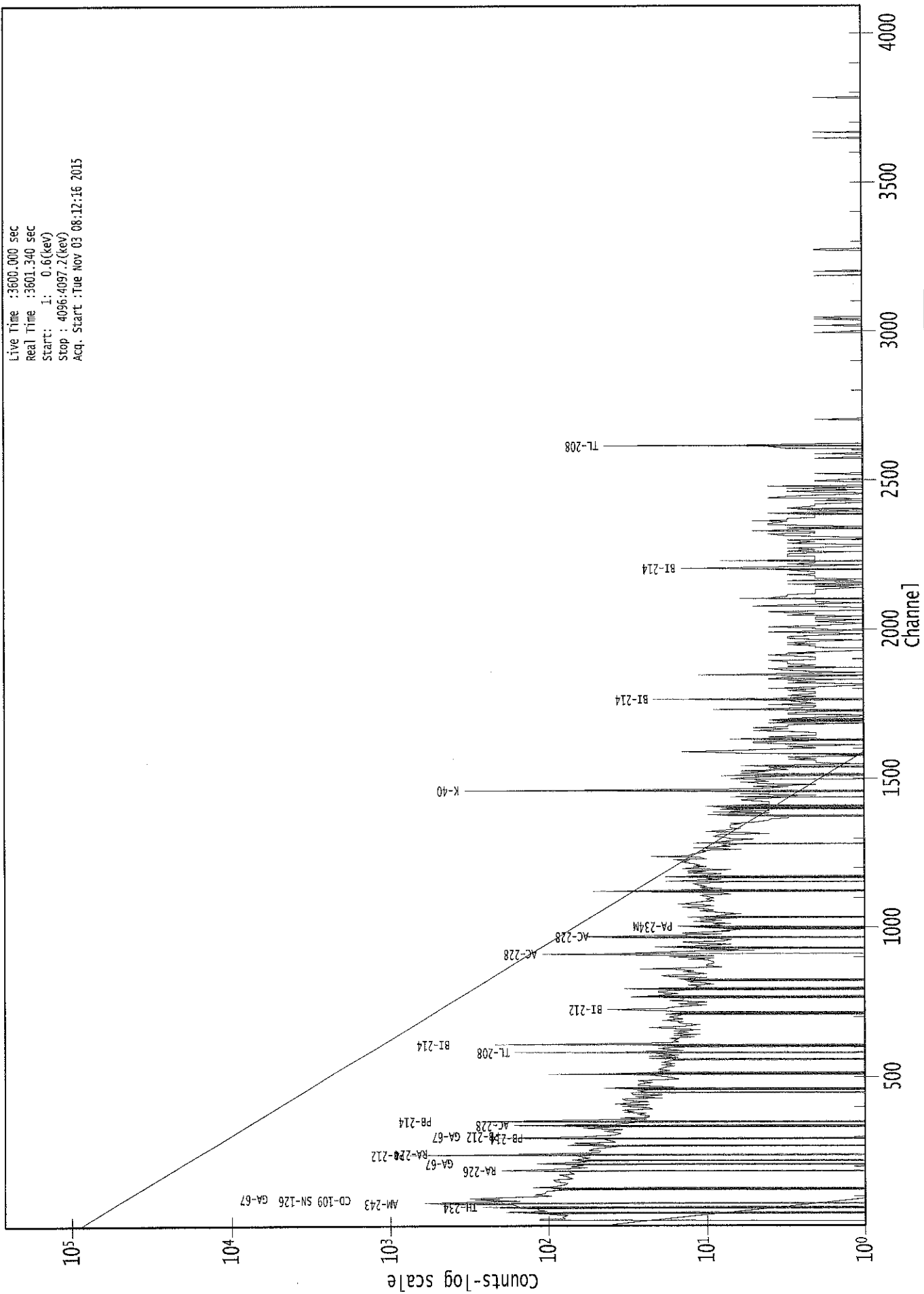
3825: 0 0 0 0 0 0 0 0 0

Sample Title: CP2107S05-06

Channel	1	2	3	4	5	6	7	8	9
3833:	0	0	0	0	0	0	0	0	0
3841:	0	0	1	0	1	1	0	0	0
3849:	0	0	0	0	1	0	0	0	0
3857:	1	1	1	0	0	0	0	0	0
3865:	0	1	0	0	1	0	0	0	1
3873:	0	0	0	0	0	0	1	0	0
3881:	0	0	0	1	0	0	0	0	0
3889:	0	0	0	0	1	0	0	0	0
3897:	0	1	0	0	0	0	0	0	1
3905:	0	0	0	0	0	0	0	0	0
3913:	0	0	0	0	0	0	0	0	0
3921:	0	0	0	0	0	0	0	0	0
3929:	0	1	0	0	0	0	1	0	0
3937:	0	0	0	0	0	0	1	0	0
3945:	0	0	0	0	0	1	0	0	0
3953:	0	0	0	0	0	0	0	0	0
3961:	0	0	0	0	0	0	0	0	0
3969:	0	0	0	0	0	0	0	0	1
3977:	0	0	0	1	0	0	0	0	0
3985:	0	0	0	0	0	1	1	0	0
3993:	0	0	0	0	0	0	0	1	0
4001:	0	0	0	0	0	0	0	0	0
4009:	1	0	1	1	0	0	0	1	0
4017:	0	1	0	0	0	0	1	0	0
4025:	0	0	0	0	0	0	0	0	0
4033:	0	0	1	0	0	0	0	0	0
4041:	0	0	0	1	0	1	0	0	0
4049:	0	0	0	0	0	0	0	1	0
4057:	0	0	0	0	0	0	1	0	0
4065:	0	0	0	0	0	0	0	0	0
4073:	0	0	0	0	0	0	0	0	0
4081:	0	0	0	0	0	0	0	0	0
4089:	0	0	0	0	1	0	0	0	0

0000029011.CNF

Live Time : 3600.000 sec
Real Time : 3601.340 sec
Start : 1: 0.6(keV)
Stop : 4096:4097.2(keV)
Acq. Start : Tue Nov 03 08:12:16 2015



ROI Type: 2

ROI Type: 1

Analysis Report for 1510063-11
CP2107S09-10

1117

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510063-11
Sample Description : CP2107S09-10
Sample Type : SOIL

Sample Size : 5.687E+02 grams
Facility : Countroom

Sample Taken On : 10/6/2015 7:44:55AM
Acquisition Started : 11/3/2015 8:12:23AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE2
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3601.3 seconds

Dead Time : 0.03 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 8 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 11/2/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29012

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/3/15

Analysis Report for 1510063-11
CP2107S09-10

PEAK LOCATE REPORT

Peak Locate Performed on : 11/3/2015 9:12:41AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	46.42	46.52	0.0000	0.00
2	63.31	63.41	0.0000	0.00
3	76.26	76.35	0.0000	0.00
4	88.19	88.27	0.0000	0.00
5	93.40	93.48	0.0000	0.00
6	163.26	163.30	0.0000	0.00
7	186.14	186.17	0.0000	0.00
8	209.34	209.35	0.0000	0.00
9	238.81	238.81	0.0000	0.00
10	241.94	241.94	0.0000	0.00
11	250.24	250.23	0.0000	0.00
12	270.71	270.69	0.0000	0.00
13	277.10	277.08	0.0000	0.00
14	295.14	295.10	0.0000	0.00
15	300.88	300.84	0.0000	0.00
16	328.20	328.15	0.0000	0.00
17	338.36	338.31	0.0000	0.00
18	351.90	351.83	0.0000	0.00
19	409.56	409.47	0.0000	0.00
20	453.32	453.21	0.0000	0.00
21	462.90	462.78	0.0000	0.00
22	468.39	468.26	0.0000	0.00
23	510.81	510.67	0.0000	0.00
24	583.19	583.01	0.0000	0.00
25	609.37	609.18	0.0000	0.00
26	726.92	726.68	0.0000	0.00
27	755.24	754.98	0.0000	0.00
28	767.88	767.61	0.0000	0.00
29	795.06	794.78	0.0000	0.00
30	838.32	838.03	0.0000	0.00
31	860.52	860.22	0.0000	0.00
32	897.98	897.66	0.0000	0.00
33	903.67	903.35	0.0000	0.00
34	911.15	910.82	0.0000	0.00
35	934.14	933.80	0.0000	0.00
36	937.53	937.20	0.0000	0.00
37	964.93	964.58	0.0000	0.00
38	969.15	968.80	0.0000	0.00
39	1065.16	1064.77	0.0000	0.00
40	1120.14	1119.73	0.0000	0.00
41	1138.98	1138.57	0.0000	0.00
42	1377.74	1377.25	0.0000	0.00

Analysis Report for 1510063-11
CP2107S09-10

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
43	1450.45	1449.93	0.0000	0.00
44	1460.89	1460.36	0.0000	0.00
45	1520.65	1520.11	0.0000	0.00
46	1588.06	1587.50	0.0000	0.00
47	1592.66	1592.10	0.0000	0.00
48	1619.55	1618.98	0.0000	0.00
49	1630.34	1629.77	0.0000	0.00
50	1643.02	1642.44	0.0000	0.00
51	1662.13	1661.55	0.0000	0.00
52	1729.44	1728.84	0.0000	0.00
53	1764.52	1763.92	0.0000	0.00
54	1847.78	1847.16	0.0000	0.00
55	1901.99	1901.35	0.0000	0.00
56	1965.40	1964.75	0.0000	0.00
57	1976.78	1976.12	0.0000	0.00
58	1995.06	1994.40	0.0000	0.00
59	2103.82	2103.14	0.0000	0.00
60	2109.41	2108.73	0.0000	0.00
61	2204.79	2204.10	0.0000	0.00
62	2304.23	2303.52	0.0000	0.00
63	2369.47	2368.76	0.0000	0.00
64	2614.23	2613.49	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510063-11
CP2107S09-10

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 9:12:41AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
1	46.42	44 -	50	46.52	1.69E+02	98.41	1.64E+03	1.17
2	63.31	60 -	65	63.41	1.54E+02	86.62	1.38E+03	1.72
3	76.26	72 -	80	76.35	1.20E+03	136.87	2.19E+03	3.66
4	88.19	86 -	91	88.27	2.51E+02	91.62	1.49E+03	3.71
5	93.40	91 -	96	93.48	2.07E+02	92.17	1.46E+03	1.43
6	163.26	160 -	166	163.30	6.89E+01	66.56	7.54E+02	3.44
7	186.14	183 -	189	186.17	2.32E+02	74.27	8.35E+02	1.24
8	209.34	205 -	213	209.35	8.71E+01	82.68	9.96E+02	1.94
M	9	234 -	248	238.81	9.46E+02	78.00	4.48E+02	1.55
m	10	234 -	248	241.94	2.12E+02	57.03	3.71E+02	1.56
11	250.24	248 -	253	250.23	3.84E+01	45.84	3.93E+02	2.86
12	270.71	267 -	273	270.69	7.91E+01	52.61	4.42E+02	2.23
13	277.10	274 -	281	277.08	7.48E+01	56.00	4.74E+02	2.46
14	295.14	292 -	297	295.10	3.13E+02	51.59	2.82E+02	1.78
15	300.88	299 -	304	300.84	7.68E+01	42.34	2.88E+02	1.30
16	328.20	324 -	332	328.15	6.61E+01	58.78	4.92E+02	1.40
17	338.36	334 -	342	338.31	1.46E+02	63.98	5.39E+02	1.51
18	351.90	348 -	355	351.83	5.28E+02	65.21	3.59E+02	1.33
19	409.56	406 -	412	409.47	3.94E+01	39.01	2.47E+02	2.28
20	453.32	448 -	457	453.21	4.54E+01	44.35	2.55E+02	3.91
M	21	458 -	471	462.78	6.60E+01	38.36	2.04E+02	2.28
m	22	458 -	471	468.26	2.93E+01	36.43	2.33E+02	2.29
23	510.81	506 -	516	510.67	1.67E+02	57.18	3.48E+02	1.94
24	583.19	578 -	587	583.01	3.10E+02	50.37	1.85E+02	1.50
25	609.37	604 -	613	609.18	3.92E+02	57.60	2.50E+02	1.78
26	726.92	721 -	732	726.68	9.68E+01	45.87	2.10E+02	3.12
27	755.24	751 -	758	754.98	2.64E+01	29.19	1.25E+02	1.19
28	767.88	765 -	771	767.61	2.71E+01	30.83	1.58E+02	2.34
29	795.06	791 -	799	794.78	5.59E+01	28.51	9.22E+01	1.70
30	838.32	833 -	843	838.03	6.15E+01	32.04	1.03E+02	6.49
31	860.52	856 -	864	860.22	5.19E+01	32.98	1.36E+02	1.52
32	897.98	896 -	901	897.66	1.80E+01	19.49	6.40E+01	1.87
33	903.67	901 -	906	903.35	2.06E+01	18.60	5.09E+01	1.44
34	911.15	907 -	915	910.82	2.39E+02	38.58	8.34E+01	1.83
M	35	931 -	954	933.80	3.22E+01	19.18	3.98E+01	2.16
m	36	931 -	954	937.20	1.51E+01	18.33	4.33E+01	2.17
M	37	960 -	971	964.58	6.04E+01	26.79	8.07E+01	2.27
m	38	960 -	971	968.80	1.27E+02	29.36	6.33E+01	1.87
39	1065.16	1060 -	1069	1064.77	3.91E+01	25.90	6.97E+01	7.21
40	1120.14	1114 -	1124	1119.73	1.00E+02	35.60	1.16E+02	2.57

Analysis Report for 1510063-11

CP2107S09-10

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1138.98	1135 -	1142	1138.57	2.78E+01	23.58	7.04E+01	3.27
42	1377.74	1373 -	1382	1377.25	2.62E+01	20.52	4.57E+01	1.83
43	1450.45	1445 -	1453	1449.93	1.15E+01	14.88	2.70E+01	3.74
44	1460.89	1454 -	1466	1460.36	7.53E+02	56.86	2.60E+01	2.33
45	1520.65	1517 -	1522	1520.11	8.65E+00	8.89	8.69E+00	2.75
M 46	1588.06	1581 -	1596	1587.50	3.18E+01	17.83	3.52E+01	2.89
m 47	1592.66	1581 -	1596	1592.10	1.54E+01	17.26	1.66E+01	2.89
48	1619.55	1614 -	1622	1618.98	1.44E+01	17.84	3.93E+01	1.45
49	1630.34	1627 -	1632	1629.77	7.57E+00	10.05	1.29E+01	2.57
50	1643.02	1640 -	1644	1642.44	5.67E+00	7.40	6.67E+00	1.67
51	1662.13	1658 -	1665	1661.55	9.00E+00	9.17	8.00E+00	3.25
52	1729.44	1723 -	1734	1728.84	2.25E+01	13.56	1.10E+01	3.04
53	1764.52	1760 -	1770	1763.92	8.35E+01	19.45	7.00E+00	2.32
54	1847.78	1844 -	1850	1847.16	1.43E+01	9.82	7.44E+00	1.97
55	1901.99	1898 -	1904	1901.35	9.50E+00	8.75	7.00E+00	2.64
56	1965.40	1959 -	1970	1964.75	1.50E+01	10.39	6.00E+00	4.51
57	1976.78	1971 -	1979	1976.12	7.65E+00	7.76	4.70E+00	3.10
58	1995.06	1992 -	1996	1994.40	6.50E+00	6.96	5.00E+00	1.88
M 59	2103.82	2098 -	2112	2103.14	2.51E+01	10.39	0.00E+00	2.92
m 60	2109.41	2098 -	2112	2108.73	8.37E+00	8.94	0.00E+00	2.93
61	2204.79	2199 -	2210	2204.10	2.87E+01	17.20	1.85E+01	3.38
62	2304.23	2300 -	2305	2303.52	4.88E+00	7.07	6.25E+00	0.94
63	2369.47	2362 -	2374	2368.76	1.10E+01	12.35	1.20E+01	7.51
64	2614.23	2608 -	2619	2613.49	1.20E+02	22.98	5.45E+00	3.48

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 9:12:41AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
1	46.42	44 -	50	1.69E+02	98.41	1.64E+03	7.80E+01
2	63.31	60 -	65	1.54E+02	86.62	1.38E+03	6.82E+01
3	76.26	72 -	80	1.20E+03	136.87	2.19E+03	1.56E+02
4	88.19	86 -	91	2.51E+02	91.62	1.49E+03	7.07E+01

Analysis Report for 1510063-11

CP2107S09-10

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	5	93.40	91 -	96	2.07E+02	92.17	1.46E+03	7.20E+01
	6	163.26	160 -	166	6.89E+01	66.56	7.54E+02	5.30E+01
	7	186.14	183 -	189	2.32E+02	74.27	8.35E+02	5.57E+01
	8	209.34	205 -	213	8.71E+01	82.68	9.96E+02	6.62E+01
M	9	238.81	234 -	248	9.46E+02	78.00	4.48E+02	3.48E+01
m	10	241.94	234 -	248	2.12E+02	57.03	3.71E+02	3.17E+01
	11	250.24	248 -	253	3.84E+01	45.84	3.93E+02	3.63E+01
	12	270.71	267 -	273	7.91E+01	52.61	4.42E+02	4.07E+01
	13	277.10	274 -	281	7.48E+01	56.00	4.74E+02	4.38E+01
	14	295.14	292 -	297	3.13E+02	51.59	2.82E+02	3.09E+01
	15	300.88	299 -	304	7.68E+01	42.34	2.88E+02	3.17E+01
	16	328.20	324 -	332	6.61E+01	58.78	4.92E+02	4.64E+01
	17	338.36	334 -	342	1.46E+02	63.98	5.39E+02	4.87E+01
	18	351.90	348 -	355	5.28E+02	65.21	3.59E+02	3.80E+01
	19	409.56	406 -	412	3.94E+01	39.01	2.47E+02	3.04E+01
	20	453.32	448 -	457	4.54E+01	44.35	2.55E+02	3.47E+01
M	21	462.90	458 -	471	6.60E+01	38.36	2.04E+02	2.35E+01
m	22	468.39	458 -	471	2.93E+01	36.43	2.33E+02	2.51E+01
	23	510.81	506 -	516	1.67E+02	57.18	3.48E+02	4.19E+01
	24	583.19	578 -	587	3.10E+02	50.37	1.85E+02	2.96E+01
	25	609.37	604 -	613	3.92E+02	57.60	2.50E+02	3.44E+01
	26	726.92	721 -	732	9.68E+01	45.87	2.10E+02	3.41E+01
	27	755.24	751 -	758	2.64E+01	29.19	1.25E+02	2.25E+01
	28	767.88	765 -	771	2.71E+01	30.83	1.58E+02	2.39E+01
	29	795.06	791 -	799	5.59E+01	28.51	9.22E+01	2.00E+01
	30	838.32	833 -	843	6.15E+01	32.04	1.03E+02	2.30E+01
	31	860.52	856 -	864	5.19E+01	32.98	1.36E+02	2.44E+01
	32	897.98	896 -	901	1.80E+01	19.49	6.40E+01	1.44E+01
	33	903.67	901 -	906	2.06E+01	18.60	5.09E+01	1.33E+01
	34	911.15	907 -	915	2.39E+02	38.58	8.34E+01	1.89E+01
M	35	934.14	931 -	954	3.22E+01	19.18	3.98E+01	1.04E+01
m	36	937.53	931 -	954	1.51E+01	18.33	4.33E+01	1.08E+01
M	37	964.93	960 -	971	6.04E+01	26.79	8.07E+01	1.48E+01
m	38	969.15	960 -	971	1.27E+02	29.36	6.33E+01	1.31E+01
	39	1065.16	1060 -	1069	3.91E+01	25.90	6.97E+01	1.86E+01
	40	1120.14	1114 -	1124	1.00E+02	35.60	1.16E+02	2.42E+01
	41	1138.98	1135 -	1142	2.78E+01	23.58	7.04E+01	1.73E+01
	42	1377.74	1373 -	1382	2.62E+01	20.52	4.57E+01	1.46E+01
	43	1450.45	1445 -	1453	1.15E+01	14.88	2.70E+01	1.09E+01
	44	1460.89	1454 -	1466	7.53E+02	56.86	2.60E+01	1.22E+01
	45	1520.65	1517 -	1522	8.65E+00	8.89	8.69E+00	5.48E+00
M	46	1588.06	1581 -	1596	3.18E+01	17.83	3.52E+01	9.76E+00
m	47	1592.66	1581 -	1596	1.54E+01	17.26	1.66E+01	6.70E+00
	48	1619.55	1614 -	1622	1.44E+01	17.84	3.93E+01	1.33E+01
	49	1630.34	1627 -	1632	7.57E+00	10.05	1.29E+01	6.91E+00
	50	1643.02	1640 -	1644	5.67E+00	7.40	6.67E+00	4.66E+00
	51	1662.13	1658 -	1665	9.00E+00	9.17	8.00E+00	5.70E+00
	52	1729.44	1723 -	1734	2.25E+01	13.56	1.10E+01	7.97E+00
	53	1764.52	1760 -	1770	8.35E+01	19.45	7.00E+00	5.47E+00
	54	1847.78	1844 -	1850	1.43E+01	9.82	7.44E+00	5.16E+00
	55	1901.99	1898 -	1904	9.50E+00	8.75	7.00E+00	5.10E+00

Analysis Report for 1510063-11

CP2107S09-10

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
56	1965.40	1959 -	1970	1.50E+01	10.39	6.00E+00	5.70E+00
57	1976.78	1971 -	1979	7.65E+00	7.76	4.70E+00	4.48E+00
58	1995.06	1992 -	1996	6.50E+00	6.96	5.00E+00	3.90E+00
M 59	2103.82	2098 -	2112	2.51E+01	10.39	0.00E+00	0.00E+00
m 60	2109.41	2098 -	2112	8.37E+00	8.94	0.00E+00	0.00E+00
61	2204.79	2199 -	2210	2.87E+01	17.20	1.85E+01	1.11E+01
62	2304.23	2300 -	2305	4.88E+00	7.07	6.25E+00	4.54E+00
63	2369.47	2362 -	2374	1.10E+01	12.35	1.20E+01	8.56E+00
64	2614.23	2608 -	2619	1.20E+02	22.98	5.45E+00	5.63E+00

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/3/2015 9:12:41AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
1	46.42	44 -	50	46.52	1.69E+02	98.41	1.64E+03	PB-210
2	63.31	60 -	65	63.41	1.54E+02	86.62	1.38E+03	TH-234 TH-230
3	76.26	72 -	80	76.35	1.20E+03	136.87	2.19E+03	.....
4	88.19	86 -	91	88.27	2.51E+02	91.62	1.49E+03	LU-176 CD-109 SN-126
5	93.40	91 -	96	93.48	2.07E+02	92.17	1.46E+03	GA-67
6	163.26	160 -	166	163.30	6.89E+01	66.56	7.54E+02	U-235 BA-140 CS-136
7	186.14	183 -	189	186.17	2.32E+02	74.27	8.35E+02	RA-226
8	209.34	205 -	213	209.35	8.71E+01	82.68	9.96E+02	GA-67 CM-243
M 9	238.81	234 -	248	238.81	9.46E+02	78.00	4.48E+02	PB-212
m 10	241.94	234 -	248	241.94	2.12E+02	57.03	3.71E+02	RA-224
11	250.24	248 -	253	250.23	3.84E+01	45.84	3.93E+02	.....

: 00719

Analysis Report for 1510063-11

CP2107S09-10

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
12	270.71	267 -	273	270.69	7.91E+01	52.61	4.42E+02	.....
13	277.10	274 -	281	277.08	7.48E+01	56.00	4.74E+02	CM-243 NP-239
14	295.14	292 -	297	295.10	3.13E+02	51.59	2.82E+02	PB-214
15	300.88	299 -	304	300.84	7.68E+01	42.34	2.88E+02	GA-67 PB-212 BI-210M
16	328.20	324 -	332	328.15	6.61E+01	58.78	4.92E+02	LA-140
17	338.36	334 -	342	338.31	1.46E+02	63.98	5.39E+02	AC-228
18	351.90	348 -	355	351.83	5.28E+02	65.21	3.59E+02	PB-214
19	409.56	406 -	412	409.47	3.94E+01	39.01	2.47E+02	.....
20	453.32	448 -	457	453.21	4.54E+01	44.35	2.55E+02	PM-146
M 21	462.90	458 -	471	462.78	6.60E+01	38.36	2.04E+02	SB-125
m 22	468.39	458 -	471	468.26	2.93E+01	36.43	2.33E+02	IR-192
23	510.81	506 -	516	510.67	1.67E+02	57.18	3.48E+02	.....
24	583.19	578 -	587	583.01	3.10E+02	50.37	1.85E+02	TL-208
25	609.37	604 -	613	609.18	3.92E+02	57.60	2.50E+02	BI-214
26	726.92	721 -	732	726.68	9.68E+01	45.87	2.10E+02	BI-212
27	755.24	751 -	758	754.98	2.64E+01	29.19	1.25E+02	.....
28	767.88	765 -	771	767.61	2.71E+01	30.83	1.58E+02	.....
29	795.06	791 -	799	794.78	5.59E+01	28.51	9.22E+01	CS-134
30	838.32	833 -	843	838.03	6.15E+01	32.04	1.03E+02	.....
31	860.52	856 -	864	860.22	5.19E+01	32.98	1.36E+02	TL-208
32	897.98	896 -	901	897.66	1.80E+01	19.49	6.40E+01	Y-88
33	903.67	901 -	906	903.35	2.06E+01	18.60	5.09E+01	.....
34	911.15	907 -	915	910.82	2.39E+02	38.58	8.34E+01	AC-228 LU-172
M 35	934.14	931 -	954	933.80	3.22E+01	19.18	3.98E+01	.....
m 36	937.53	931 -	954	937.20	1.51E+01	18.33	4.33E+01	.....
M 37	964.93	960 -	971	964.58	6.04E+01	26.79	8.07E+01	EU-152
m 38	969.15	960 -	971	968.80	1.27E+02	29.36	6.33E+01	AC-228
39	1065.16	1060 -	1069	1064.77	3.91E+01	25.90	6.97E+01	.....
40	1120.14	1114 -	1124	1119.73	1.00E+02	35.60	1.16E+02	BI-214 SC-46
41	1138.98	1135 -	1142	1138.57	2.78E+01	23.58	7.04E+01	.....
42	1377.74	1373 -	1382	1377.25	2.62E+01	20.52	4.57E+01	.....
43	1450.45	1445 -	1453	1449.93	1.15E+01	14.88	2.70E+01	.....
44	1460.89	1454 -	1466	1460.36	7.53E+02	56.86	2.60E+01	K-40
45	1520.65	1517 -	1522	1520.11	8.65E+00	8.89	8.69E+00	.....
M 46	1588.06	1581 -	1596	1587.50	3.18E+01	17.83	3.52E+01	.....
m 47	1592.66	1581 -	1596	1592.10	1.54E+01	17.26	1.66E+01	.....
48	1619.55	1614 -	1622	1618.98	1.44E+01	17.84	3.93E+01	.....
49	1630.34	1627 -	1632	1629.77	7.57E+00	10.05	1.29E+01	.....
50	1643.02	1640 -	1644	1642.44	5.67E+00	7.40	6.67E+00	.....
51	1662.13	1658 -	1665	1661.55	9.00E+00	9.17	8.00E+00	.....
52	1729.44	1723 -	1734	1728.84	2.25E+01	13.56	1.10E+01	.....
53	1764.52	1760 -	1770	1763.92	8.35E+01	19.45	7.00E+00	BI-214
54	1847.78	1844 -	1850	1847.16	1.43E+01	9.82	7.44E+00	.....
55	1901.99	1898 -	1904	1901.35	9.50E+00	8.75	7.00E+00	.....
56	1965.40	1959 -	1970	1964.75	1.50E+01	10.39	6.00E+00	.....
57	1976.78	1971 -	1979	1976.12	7.65E+00	7.76	4.70E+00	.....
58	1995.06	1992 -	1996	1994.40	6.50E+00	6.96	5.00E+00	.....
M 59	2103.82	2098 -	2112	2103.14	2.51E+01	10.39	0.00E+00	.....
m 60	2109.41	2098 -	2112	2108.73	8.37E+00	8.94	0.00E+00	.....

Analysis Report for 1510063-11

CP2107S09-10

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
61	2204.79	2199 -	2210	2204.10	2.87E+01	17.20	1.85E+01	BI-214
62	2304.23	2300 -	2305	2303.52	4.88E+00	7.07	6.25E+00	.....
63	2369.47	2362 -	2374	2368.76	1.10E+01	12.35	1.20E+01	.....
64	2614.23	2608 -	2619	2613.49	1.20E+02	22.98	5.45E+00	TL-208

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/3/2015 9:12:41AM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	46.42	1.69E+02	98.41	1.33E-02	1.68E-03
2	63.31	1.54E+02	86.62	2.37E-02	2.05E-03
3	76.26	1.20E+03	136.87	2.74E-02	3.34E-03
4	88.19	2.51E+02	91.62	2.84E-02	4.50E-03
5	93.40	2.07E+02	92.17	2.85E-02	4.27E-03
6	163.26	6.89E+01	66.56	2.29E-02	1.75E-03
7	186.14	2.32E+02	74.27	2.11E-02	1.65E-03
8	209.34	8.71E+01	82.68	1.95E-02	1.63E-03
M 9	238.81	9.46E+02	78.00	1.79E-02	1.60E-03
m 10	241.94	2.12E+02	57.03	1.77E-02	1.60E-03
11	250.24	3.84E+01	45.84	1.73E-02	1.59E-03
12	270.71	7.91E+01	52.61	1.64E-02	1.57E-03
13	277.10	7.48E+01	56.00	1.62E-02	1.56E-03
14	295.14	3.13E+02	51.59	1.55E-02	1.48E-03
15	300.88	7.68E+01	42.34	1.53E-02	1.45E-03
16	328.20	6.61E+01	58.78	1.44E-02	1.32E-03
17	338.36	1.46E+02	63.98	1.41E-02	1.27E-03
18	351.90	5.28E+02	65.21	1.37E-02	1.21E-03
19	409.56	3.94E+01	39.01	1.24E-02	1.00E-03
20	453.32	4.54E+01	44.35	1.15E-02	9.57E-04
M 21	462.90	6.60E+01	38.36	1.13E-02	9.47E-04
m 22	468.39	2.93E+01	36.43	1.12E-02	9.42E-04
23	510.81	1.67E+02	57.18	1.06E-02	8.98E-04
24	583.19	3.10E+02	50.37	9.58E-03	8.25E-04
25	609.37	3.92E+02	57.60	9.27E-03	7.98E-04
26	726.92	9.68E+01	45.87	8.09E-03	7.03E-04

Analysis Report for 1510063-11
CP2107S09-10

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	27	755.24	2.64E+01	29.19	7.85E-03	6.85E-04
	28	767.88	2.71E+01	30.83	7.75E-03	6.77E-04
	29	795.06	5.59E+01	28.51	7.53E-03	6.59E-04
	30	838.32	6.15E+01	32.04	7.22E-03	6.32E-04
	31	860.52	5.19E+01	32.98	7.07E-03	6.17E-04
	32	897.98	1.80E+01	19.49	6.83E-03	5.93E-04
	33	903.67	2.06E+01	18.60	6.79E-03	5.90E-04
	34	911.15	2.39E+02	38.58	6.75E-03	5.87E-04
M	35	934.14	3.22E+01	19.18	6.61E-03	5.75E-04
m	36	937.53	1.51E+01	18.33	6.59E-03	5.73E-04
M	37	964.93	6.04E+01	26.79	6.44E-03	5.59E-04
m	38	969.15	1.27E+02	29.36	6.41E-03	5.57E-04
	39	1065.16	3.91E+01	25.90	5.94E-03	5.08E-04
	40	1120.14	1.00E+02	35.60	5.70E-03	4.80E-04
	41	1138.98	2.78E+01	23.58	5.63E-03	4.70E-04
	42	1377.74	2.62E+01	20.52	4.87E-03	5.08E-04
	43	1450.45	1.15E+01	14.88	4.70E-03	4.78E-04
	44	1460.89	7.53E+02	56.86	4.67E-03	4.73E-04
	45	1520.65	8.65E+00	8.89	4.55E-03	4.48E-04
M	46	1588.06	3.18E+01	17.83	4.43E-03	4.21E-04
m	47	1592.66	1.54E+01	17.26	4.42E-03	4.19E-04
	48	1619.55	1.44E+01	17.84	4.38E-03	4.08E-04
	49	1630.34	7.57E+00	10.05	4.36E-03	4.03E-04
	50	1643.02	5.67E+00	7.40	4.34E-03	3.98E-04
	51	1662.13	9.00E+00	9.17	4.32E-03	3.90E-04
	52	1729.44	2.25E+01	13.56	4.23E-03	3.62E-04
	53	1764.52	8.35E+01	19.45	4.19E-03	3.47E-04
	54	1847.78	1.43E+01	9.82	4.10E-03	3.18E-04
	55	1901.99	9.50E+00	8.75	4.06E-03	3.18E-04
	56	1965.40	1.50E+01	10.39	4.01E-03	3.18E-04
	57	1976.78	7.65E+00	7.76	4.01E-03	3.18E-04
	58	1995.06	6.50E+00	6.96	4.00E-03	3.18E-04
M	59	2103.82	2.51E+01	10.39	3.95E-03	3.18E-04
m	60	2109.41	8.37E+00	8.94	3.95E-03	3.18E-04
	61	2204.79	2.87E+01	17.20	3.93E-03	3.18E-04
	62	2304.23	4.88E+00	7.07	3.93E-03	3.18E-04
	63	2369.47	1.10E+01	12.35	3.94E-03	3.18E-04
	64	2614.23	1.20E+02	22.98	4.05E-03	3.18E-04

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

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/3/2015 9:12:41AM

: 00722

Analysis Report for 1510063-11

CP2107S09-10

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
1	46.42	1.69E+02	98.41	6.46E+01	1.16E+01	1.04E+02	9.91E+01
2	63.31	1.54E+02	86.62	4.34E+01	1.15E+01	1.11E+02	8.74E+01
3	76.26	1.20E+03	136.87			1.20E+03	1.37E+02
4	88.19	2.51E+02	91.62	1.46E+00	7.88E+00	2.49E+02	9.20E+01
5	93.40	2.07E+02	92.17	5.70E+01	9.03E+00	1.50E+02	9.26E+01
6	163.26	6.89E+01	66.56			6.89E+01	6.66E+01
7	186.14	2.32E+02	74.27	4.72E+01	7.97E+00	1.85E+02	7.47E+01
8	209.34	8.71E+01	82.68			8.71E+01	8.27E+01
M	9	238.81	9.46E+02	2.36E+01	1.35E+01	9.22E+02	7.92E+01
m	10	241.94	2.12E+02	57.03	6.38E+00	3.91E+00	2.06E+02
	11	250.24	3.84E+01	45.84		3.84E+01	4.58E+01
	12	270.71	7.91E+01	52.61		7.91E+01	5.26E+01
	13	277.10	7.48E+01	56.00		7.48E+01	5.60E+01
	14	295.14	3.13E+02	51.59	8.57E+00	6.10E+00	3.04E+02
	15	300.88	7.68E+01	42.34		7.68E+01	4.23E+01
	16	328.20	6.61E+01	58.78	0.00E+00	0.00E+00	6.61E+01
	17	338.36	1.46E+02	63.98		1.46E+02	6.40E+01
	18	351.90	5.28E+02	65.21	1.40E+01	5.55E+00	5.14E+02
	19	409.56	3.94E+01	39.01		3.94E+01	3.90E+01
	20	453.32	4.54E+01	44.35		4.54E+01	4.44E+01
M	21	462.90	6.60E+01	38.36		6.60E+01	3.84E+01
m	22	468.39	2.93E+01	36.43		2.93E+01	3.64E+01
	23	510.81	1.67E+02	57.18	8.41E+01	5.50E+00	8.27E+01
	24	583.19	3.10E+02	50.37	7.32E+00	4.08E+00	3.03E+02
	25	609.37	3.92E+02	57.60	1.30E+01	3.89E+00	3.79E+02
	26	726.92	9.68E+01	45.87		9.68E+01	4.59E+01
	27	755.24	2.64E+01	29.19		2.64E+01	2.92E+01
	28	767.88	2.71E+01	30.83		2.71E+01	3.08E+01
	29	795.06	5.59E+01	28.51		5.59E+01	2.85E+01
	30	838.32	6.15E+01	32.04		6.15E+01	3.20E+01
	31	860.52	5.19E+01	32.98		5.19E+01	3.30E+01
	32	897.98	1.80E+01	19.49		1.80E+01	1.95E+01
	33	903.67	2.06E+01	18.60		2.06E+01	1.86E+01
	34	911.15	2.39E+02	38.58	5.60E+00	3.32E+00	2.34E+02
M	35	934.14	3.22E+01	19.18		3.22E+01	1.92E+01
m	36	937.53	1.51E+01	18.33		1.51E+01	1.83E+01
M	37	964.93	6.04E+01	26.79		6.04E+01	2.68E+01
m	38	969.15	1.27E+02	29.36		1.27E+02	2.94E+01
	39	1065.16	3.91E+01	25.90		3.91E+01	2.59E+01
	40	1120.14	1.00E+02	35.60	3.93E+00	2.96E+00	9.63E+01
	41	1138.98	2.78E+01	23.58		2.78E+01	2.36E+01
	42	1377.74	2.62E+01	20.52		2.62E+01	2.05E+01
	43	1450.45	1.15E+01	14.88		1.15E+01	1.49E+01
	44	1460.89	7.53E+02	56.86	1.12E+01	2.55E+00	7.42E+02
	45	1520.65	8.65E+00	8.89		8.65E+00	8.89E+00
M	46	1588.06	3.18E+01	17.83		3.18E+01	1.78E+01
m	47	1592.66	1.54E+01	17.26		1.54E+01	1.73E+01
	48	1619.55	1.44E+01	17.84		1.44E+01	1.78E+01
	49	1630.34	7.57E+00	10.05		7.57E+00	1.00E+01

Analysis Report for 1510063-11

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Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
50	1643.02	5.67E+00	7.40			5.67E+00	7.40E+00
51	1662.13	9.00E+00	9.17			9.00E+00	9.17E+00
52	1729.44	2.25E+01	13.56			2.25E+01	1.36E+01
53	1764.52	8.35E+01	19.45	4.23E+00	2.21E+00	7.93E+01	1.96E+01
54	1847.78	1.43E+01	9.82			1.43E+01	9.82E+00
55	1901.99	9.50E+00	8.75			9.50E+00	8.75E+00
56	1965.40	1.50E+01	10.39			1.50E+01	1.04E+01
57	1976.78	7.65E+00	7.76			7.65E+00	7.76E+00
58	1995.06	6.50E+00	6.96			6.50E+00	6.96E+00
M 59	2103.82	2.51E+01	10.39			2.51E+01	1.04E+01
m 60	2109.41	8.37E+00	8.94			8.37E+00	8.94E+00
61	2204.79	2.87E+01	17.20	5.94E-01	1.16E+00	2.81E+01	1.72E+01
62	2304.23	4.88E+00	7.07			4.88E+00	7.07E+00
63	2369.47	1.10E+01	12.35			1.10E+01	1.23E+01
64	2614.23	1.20E+02	22.98	7.38E+00	1.57E+00	1.13E+02	2.30E+01

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

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/3/2015 9:12:41AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

Corrected Area is: Original * Peak Ratio - Background

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
1	46.42	1.69E+02	98.41	6.46E+01	1.16E+01	1.04E+02	9.91E+01
2	63.31	1.54E+02	86.62	4.34E+01	1.15E+01	1.11E+02	8.74E+01
3	76.26	1.20E+03	136.87			1.20E+03	1.37E+02
4	88.19	2.51E+02	91.62	1.46E+00	7.88E+00	2.49E+02	9.20E+01
5	93.40	2.07E+02	92.17	5.70E+01	9.03E+00	1.50E+02	9.26E+01
6	163.26	6.89E+01	66.56			6.89E+01	6.66E+01
7	186.14	2.32E+02	74.27	4.72E+01	7.97E+00	1.85E+02	7.47E+01
8	209.34	8.71E+01	82.68			8.71E+01	8.27E+01
M 9	238.81	9.46E+02	78.00	2.36E+01	1.35E+01	9.22E+02	7.92E+01
m 10	241.94	2.12E+02	57.03	6.38E+00	3.91E+00	2.06E+02	5.72E+01
11	250.24	3.84E+01	45.84			3.84E+01	4.58E+01
12	270.71	7.91E+01	52.61			7.91E+01	5.26E+01
13	277.10	7.48E+01	56.00			7.48E+01	5.60E+01

Analysis Report for 1510063-11

CP2107S09-10

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
14	295.14	3.13E+02	51.59	8.57E+00	6.10E+00	3.04E+02	5.20E+01
15	300.88	7.68E+01	42.34			7.68E+01	4.23E+01
16	328.20	6.61E+01	58.78	0.00E+00	0.00E+00	6.61E+01	5.88E+01
17	338.36	1.46E+02	63.98			1.46E+02	6.40E+01
18	351.90	5.28E+02	65.21	1.40E+01	5.55E+00	5.14E+02	6.54E+01
19	409.56	3.94E+01	39.01			3.94E+01	3.90E+01
20	453.32	4.54E+01	44.35			4.54E+01	4.44E+01
M	21	462.90	6.60E+01			6.60E+01	3.84E+01
m	22	468.39	2.93E+01			2.93E+01	3.64E+01
23	510.81	1.67E+02	57.18	8.41E+01	5.50E+00	8.27E+01	5.74E+01
24	583.19	3.10E+02	50.37	7.32E+00	4.08E+00	3.03E+02	5.05E+01
25	609.37	3.92E+02	57.60	1.30E+01	3.89E+00	3.79E+02	5.77E+01
26	726.92	9.68E+01	45.87			9.68E+01	4.59E+01
27	755.24	2.64E+01	29.19			2.64E+01	2.92E+01
28	767.88	2.71E+01	30.83			2.71E+01	3.08E+01
29	795.06	5.59E+01	28.51			5.59E+01	2.85E+01
30	838.32	6.15E+01	32.04			6.15E+01	3.20E+01
31	860.52	5.19E+01	32.98			5.19E+01	3.30E+01
32	897.98	1.80E+01	19.49			1.80E+01	1.95E+01
33	903.67	2.06E+01	18.60			2.06E+01	1.86E+01
34	911.15	2.39E+02	38.58	5.60E+00	3.32E+00	2.34E+02	3.87E+01
M	35	934.14	3.22E+01			3.22E+01	1.92E+01
m	36	937.53	1.51E+01			1.51E+01	1.83E+01
M	37	964.93	6.04E+01			6.04E+01	2.68E+01
m	38	969.15	1.27E+02			1.27E+02	2.94E+01
39	1065.16	3.91E+01	25.90			3.91E+01	2.59E+01
40	1120.14	1.00E+02	35.60	3.93E+00	2.96E+00	9.63E+01	3.57E+01
41	1138.98	2.78E+01	23.58			2.78E+01	2.36E+01
42	1377.74	2.62E+01	20.52			2.62E+01	2.05E+01
43	1450.45	1.15E+01	14.88			1.15E+01	1.49E+01
44	1460.89	7.53E+02	56.86	1.12E+01	2.55E+00	7.42E+02	5.69E+01
45	1520.65	8.65E+00	8.89			8.65E+00	8.89E+00
M	46	1588.06	3.18E+01			3.18E+01	1.78E+01
m	47	1592.66	1.54E+01			1.54E+01	1.73E+01
48	1619.55	1.44E+01	17.84			1.44E+01	1.78E+01
49	1630.34	7.57E+00	10.05			7.57E+00	1.00E+01
50	1643.02	5.67E+00	7.40			5.67E+00	7.40E+00
51	1662.13	9.00E+00	9.17			9.00E+00	9.17E+00
52	1729.44	2.25E+01	13.56			2.25E+01	1.36E+01
53	1764.52	8.35E+01	19.45	4.23E+00	2.21E+00	7.93E+01	1.96E+01
54	1847.78	1.43E+01	9.82			1.43E+01	9.82E+00
55	1901.99	9.50E+00	8.75			9.50E+00	8.75E+00
56	1965.40	1.50E+01	10.39			1.50E+01	1.04E+01
57	1976.78	7.65E+00	7.76			7.65E+00	7.76E+00
58	1995.06	6.50E+00	6.96			6.50E+00	6.96E+00
M	59	2103.82	2.51E+01			2.51E+01	1.04E+01
m	60	2109.41	8.37E+00			8.37E+00	8.94E+00
61	2204.79	2.87E+01	17.20	5.94E-01	1.16E+00	2.81E+01	1.72E+01
62	2304.23	4.88E+00	7.07			4.88E+00	7.07E+00
63	2369.47	1.10E+01	12.35			1.10E+01	1.23E+01
64	2614.23	1.20E+02	22.98	7.38E+00	1.57E+00	1.13E+02	2.30E+01

Analysis Report for 1510063-11
CP2107S09-10

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.999	1460.81 *	10.67	1.96E+01	2.53E+00
GA-67	0.676	93.31 *	35.70	7.53E+01	2.92E+02
		208.95 *	2.24	1.02E+03	3.85E+03
		300.22 *	16.00	1.61E+02	6.21E+02
CD-109	0.996	88.03 *	3.72	3.24E+00	1.32E+00
SN-126	0.941	87.57 *	37.00	3.13E-01	1.26E-01
PM-146	0.391	453.90 *	39.94	1.32E-01	1.29E-01
		735.90	14.01		
		747.13	13.10		
IR-192	0.324	308.46	29.68		
		468.07 *	48.10	9.30E-02	1.16E-01
TL-208	0.985	583.14 *	30.22	1.38E+00	2.59E-01
		860.37 *	4.48	2.17E+00	1.39E+00
		2614.66 *	35.85	1.03E+00	2.24E-01
PB-210	0.999	46.50 *	4.25	2.44E+00	2.34E+00
BI-212	0.758	727.17 *	11.80	1.34E+00	6.45E-01
		1620.62	2.75		
PB-212	0.988	238.63 *	44.60	1.53E+00	1.90E-01
		300.09 *	3.41	1.95E+00	1.09E+00
BI-214	0.996	609.31 *	46.30	1.17E+00	2.04E-01
		1120.29 *	15.10	1.48E+00	5.61E-01
		1764.49 *	15.80	1.58E+00	4.12E-01
		2204.22 *	4.98	1.90E+00	1.17E+00
PB-214	1.000	295.21 *	19.19	1.35E+00	2.65E-01
		351.92 *	37.19	1.33E+00	2.06E-01
RA-224	0.863	240.98 *	3.95	3.88E+00	1.13E+00
RA-226	0.999	186.21 *	3.28	3.54E+00	6.63E+00
AC-228	0.999	338.32 *	11.40	1.20E+00	5.37E-01
		911.07 *	27.70	1.65E+00	3.09E-01
		969.11 *	16.60	1.58E+00	3.89E-01
TH-234	1.000	63.29 *	3.80	1.62E+00	1.29E+00
CM-243	0.351	209.75 *	3.29	1.79E+00	1.71E+00
		228.14	10.60		
		277.60 *	14.00	4.37E-01	3.30E-01

Analysis Report for 1510063-11
 CP2107S09-10

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 9:12:41AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
3	76.26	3.32249E-01	5.72		
6	163.26	1.91517E-02	48.27	Tol.	CS-136 BA-140 U-235
11	250.24	1.06678E-02	59.68	Sum	
12	270.71	2.19796E-02	33.25		
16	328.20	1.83614E-02	44.46	Tol.	LA-140
19	409.56	1.09518E-02	49.47		
M 21	462.90	1.83403E-02	29.05	Sum	
23	510.81	2.29768E-02	34.72	Sum	
27	755.24	7.32834E-03	55.32		
28	767.88	7.53931E-03	56.80		
29	795.06	1.55338E-02	25.49	Sum	
30	838.32	1.70760E-02	26.06		
32	897.98	5.00556E-03	54.09		
33	903.67	5.71256E-03	45.22	Sum	
M 35	934.14	8.94419E-03	29.79	Sum	
m 36	937.53	4.18966E-03	60.77	Sum	
M 37	964.93	1.67653E-02	22.19	Sum	
39	1065.16	1.08746E-02	33.08	Sum	
41	1138.98	7.71605E-03	42.44		
42	1377.74	7.26757E-03	39.21		
43	1450.45	3.18889E-03	64.82		
45	1520.65	2.40385E-03	51.35	Sum	
M 46	1588.06	8.83780E-03	28.01	Sum	
m 47	1592.66	4.26711E-03	56.16	D-Esc	
48	1619.55	3.99101E-03	62.08		
49	1630.34	2.10317E-03	66.37		
50	1643.02	1.57407E-03	65.29		
51	1662.13	2.50000E-03	50.92		
52	1729.44	6.25000E-03	30.14	Sum	
54	1847.78	3.96605E-03	34.40	Sum	
55	1901.99	2.63889E-03	46.03		
56	1965.40	4.16667E-03	34.64		

Analysis Report for 1510063-11
CP2107S09-10

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	57	1976.78	2.12500E-03	50.73	
	58	1995.06	1.80556E-03	53.57	
M	59	2103.82	6.97120E-03	20.70	S-Esc
m	60	2109.41	2.32631E-03	53.40	
	62	2304.23	1.35417E-03	72.52	
	63	2369.47	3.05556E-03	56.13	

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.99	1460.81 *	10.67	1.96E+01	2.53E+00
GA-67	0.67	93.31 *	35.70	7.53E+01	2.92E+02
		208.95 *	2.24	1.02E+03	3.85E+03
		300.22 *	16.00	1.61E+02	6.21E+02
CD-109	0.99	88.03 *	3.72	3.24E+00	1.32E+00
SN-126	0.94	87.57 *	37.00	3.13E-01	1.26E-01
PM-146	0.39	453.90 *	39.94	1.32E-01	1.29E-01
		735.90	14.01		
		747.13	13.10		
IR-192	0.32	308.46	29.68		
		468.07 *	48.10	9.30E-02	1.16E-01
TL-208	0.98	583.14 *	30.22	1.38E+00	2.59E-01
		860.37 *	4.48	2.17E+00	1.39E+00
		2614.66 *	35.85	1.03E+00	2.24E-01
PB-210	0.99	46.50 *	4.25	2.44E+00	2.34E+00
BI-212	0.75	727.17 *	11.80	1.34E+00	6.45E-01
		1620.62	2.75		
PB-212	0.98	238.63 *	44.60	1.53E+00	1.90E-01
		300.09 *	3.41	1.95E+00	1.09E+00
BI-214	0.99	609.31 *	46.30	1.17E+00	2.04E-01
		1120.29 *	15.10	1.48E+00	5.61E-01
		1764.49 *	15.80	1.58E+00	4.12E-01

Analysis Report for 1510063-11

CP2107S09-10

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
BI-214	0.99	2204.22 *	4.98	1.90E+00	1.17E+00
PB-214	1.00	295.21 *	19.19	1.35E+00	2.65E-01
		351.92 *	37.19	1.33E+00	2.06E-01
RA-224	0.86	240.98 *	3.95	3.88E+00	1.13E+00
RA-226	0.99	186.21 *	3.28	3.54E+00	6.63E+00
AC-228	0.99	338.32 *	11.40	1.20E+00	5.37E-01
		911.07 *	27.70	1.65E+00	3.09E-01
		969.11 *	16.60	1.58E+00	3.89E-01
TH-234	1.00	63.29 *	3.80	1.62E+00	1.29E+00
CM-243	0.35	209.75 *	3.29	1.79E+00	1.71E+00
		228.14 *	10.60		
		277.60 *	14.00	4.37E-01	3.30E-01

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.999	1.96E+01	2.53E+00	
GA-67	0.676	6.78E+01	2.51E+02	
? CD-109	0.996	3.24E+00	1.32E+00	
? SN-126	0.941	3.13E-01	1.26E-01	
PM-146	0.391	1.32E-01	1.29E-01	
IR-192	0.324	9.30E-02	1.16E-01	
TL-208	0.985	1.19E+00	1.68E-01	
PB-210	0.999	2.44E+00	2.34E+00	
BI-212	0.758	1.34E+00	6.45E-01	
PB-212	0.988	1.52E+00	1.87E-01	
BI-214	0.996	1.28E+00	1.72E-01	
PB-214	1.000	1.34E+00	1.63E-01	
RA-224	0.863	3.88E+00	1.13E+00	
RA-226	0.999	3.54E+00	6.63E+00	
AC-228	0.999	1.55E+00	2.21E-01	

Analysis Report for 1510063-11

CP2107S09-10

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
TH-234	1.000	1.62E+00	1.29E+00	
CM-243	0.351	4.82E-01	3.24E-01	

- ? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510063-11
CP2107S09-10

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 9:12:41AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
3	76.26	3.32249E-01	5.72		
6	163.26	1.91517E-02	48.27	Tol.	CS-136 BA-140 U-235
11	250.24	1.06678E-02	59.68	Sum	
12	270.71	2.19796E-02	33.25		
16	328.20	1.83614E-02	44.46	Tol.	LA-140
19	409.56	1.09518E-02	49.47		
M 21	462.90	1.83403E-02	29.05	Sum	
23	510.81	2.29768E-02	34.72	Sum	
27	755.24	7.32834E-03	55.32		
28	767.88	7.53931E-03	56.80		
29	795.06	1.55338E-02	25.49	Sum	
30	838.32	1.70760E-02	26.06		
32	897.98	5.00556E-03	54.09		
33	903.67	5.71256E-03	45.22	Sum	
M 35	934.14	8.94419E-03	29.79	Sum	
m 36	937.53	4.18966E-03	60.77	Sum	
M 37	964.93	1.67653E-02	22.19	Sum	
39	1065.16	1.08746E-02	33.08	Sum	
41	1138.98	7.71605E-03	42.44		
42	1377.74	7.26757E-03	39.21		
43	1450.45	3.18889E-03	64.82		
45	1520.65	2.40385E-03	51.35	Sum	
M 46	1588.06	8.83780E-03	28.01	Sum	
m 47	1592.66	4.26711E-03	56.16	D-Esc	
48	1619.55	3.99101E-03	62.08		
49	1630.34	2.10317E-03	66.37		
50	1643.02	1.57407E-03	65.29		
51	1662.13	2.50000E-03	50.92		
52	1729.44	6.25000E-03	30.14	Sum	
54	1847.78	3.96605E-03	34.40	Sum	
55	1901.99	2.63889E-03	46.03		
56	1965.40	4.16667E-03	34.64		
57	1976.78	2.12500E-03	50.73		

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Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	58	1995.06	1.80556E-03	53.57	
M	59	2103.82	6.97120E-03	20.70	S-Esc
m	60	2109.41	2.32631E-03	53.40	
	62	2304.23	1.35417E-03	72.52	
	63	2369.47	3.05556E-03	56.13	

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59	10.42	-4.32E-01	7.07E-01	7.07E-01
+	NA-22	1274.54	99.94	7.26E-02	8.40E-02	8.40E-02
+	NA-24	1368.53	99.99	-3.05E+11	2.75E+11	1.84E+12
		2754.09	99.86	0.00E+00		2.75E+11
+	AL-26	1808.65	99.76	-4.16E-02	5.07E-02	5.07E-02
+	K-40	1460.81	* 10.67	1.96E+01	7.91E-01	7.91E-01
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	4.13E-02	5.35E-02	5.35E-02
		78.34	96.00	3.10E-01		7.58E-02
+	SC-46	889.25	99.98	-4.29E-02	8.29E-02	8.29E-02
		1120.51	99.99	2.62E-01		1.65E-01
+	V-48	983.52	99.98	-7.73E-03	2.75E-01	2.75E-01
		1312.10	97.50	1.35E-01		2.91E-01
+	CR-51	320.08	9.83	-2.96E-01	1.02E+00	1.02E+00
+	MN-54	834.83	99.97	-5.31E-02	7.91E-02	7.91E-02
+	CO-56	846.75	99.96	9.00E-03	8.33E-02	8.33E-02
		1037.75	14.03	3.17E-01		7.45E-01
		1238.25	67.00	1.44E-01		2.21E-01
		1771.40	15.51	-3.04E-02		3.68E-01
		2598.48	16.90	9.90E-02		2.97E-01
+	CO-57	122.06	85.51	-8.03E-03	5.85E-02	5.85E-02
		136.48	10.60	-2.35E-02		5.07E-01
+	CO-58	810.76	99.40	-4.45E-02	8.08E-02	8.08E-02
+	FE-59	1099.22	56.50	7.90E-02	2.34E-01	2.34E-01

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	FE-59	1291.56	43.20	8.73E-02	2.34E-01	2.72E-01
+	CO-60	1173.22	100.00	5.21E-02	7.31E-02	9.40E-02
		1332.49	100.00	5.68E-03		7.31E-02
+	ZN-65	1115.52	50.75	-1.15E-02	1.75E-01	1.75E-01
+	GA-67	93.31	* 35.70	7.53E+01	7.53E+01	7.53E+01
		208.95	* 2.24	1.02E+03		1.58E+03
		300.22	* 16.00	1.61E+02		1.38E+02
+	SE-75	121.11	16.70	6.51E-02	9.83E-02	3.27E-01
		136.00	59.20	-1.57E-02		9.83E-02
		264.65	59.80	7.89E-03		1.00E-01
		279.53	25.20	-2.52E-02		2.51E-01
		400.65	11.40	6.87E-02		5.42E-01
+	RB-82	776.52	13.00	-4.49E-01	1.15E+00	1.15E+00
+	RB-83	520.41	46.00	-3.28E-02	1.46E-01	1.46E-01
		529.64	30.30	8.21E-02		2.27E-01
		552.65	16.40	-1.32E-01		4.10E-01
+	KR-85	513.99	0.43	-2.46E+01	1.42E+01	1.42E+01
+	SR-85	513.99	99.27	-1.44E-01	8.32E-02	8.32E-02
+	Y-88	898.02	93.40	-5.70E-02	7.30E-02	9.25E-02
		1836.01	99.38	1.64E-02		7.30E-02
+	NB-93M	16.57	9.43	-2.95E+03	5.45E+03	5.45E+03
+	NB-94	702.63	100.00	-2.46E-02	6.66E-02	6.92E-02
		871.10	100.00	-1.98E-02		6.66E-02
+	NB-95	765.79	99.81	8.33E-03	1.51E-01	1.51E-01
+	NB-95M	235.69	25.00	-5.35E+02	7.35E+01	7.35E+01
+	ZR-95	724.18	43.70	1.60E-01	1.90E-01	2.88E-01
		756.72	55.30	1.09E-01		1.90E-01
+	MO-99	181.06	6.20	2.91E+02	6.98E+02	9.36E+02
		739.58	12.80	3.85E+02		6.98E+02
		778.00	4.50	-1.10E+02		1.82E+03
+	RU-103	497.08	89.00	1.69E-02	1.00E-01	1.00E-01
+	RU-106	621.84	9.80	-4.55E-01	7.01E-01	7.01E-01
+	AG-108M	433.93	89.90	1.20E-02	5.61E-02	5.61E-02
		614.37	90.40	-2.65E-02		7.07E-02
		722.95	90.50	-5.49E-02		9.37E-02
+	CD-109	88.03	* 3.72	3.24E+00	1.88E+00	1.88E+00
+	AG-110M	657.75	93.14	2.34E-03	7.99E-02	7.99E-02
		677.61	10.53	4.81E-02		6.90E-01
		706.67	16.46	1.84E-01		4.73E-01
		763.93	21.98	-4.80E-03		3.72E-01
		884.67	71.63	-1.27E-02		9.88E-02
		1384.27	23.94	-5.90E-02		2.47E-01
+	CD-113M	263.70	0.02	8.24E+01	2.26E+02	2.26E+02
+	SN-113	255.12	1.93	1.73E-01	9.73E-02	3.14E+00
		391.69	64.90	-3.30E-02		9.73E-02
+	TE123M	159.00	84.10	-2.18E-03	6.50E-02	6.50E-02
+	SB-124	602.71	97.87	2.31E-04	1.00E-01	1.00E-01
		645.85	7.26	-6.45E-01		1.16E+00

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	SB-124	722.78	11.10	-6.17E-01	1.00E-01	1.05E+00
		1691.02	49.00	4.35E-03		1.14E-01
+	I-125	35.49	6.49	-2.00E+00	5.08E+00	5.08E+00
+	SB-125	176.33	6.89	1.56E-01	1.94E-01	7.42E-01
		427.89	29.33	6.53E-02		1.94E-01
		463.38	10.35	6.31E-01		6.74E-01
		600.56	17.80	9.44E-02		4.06E-01
		635.90	11.32	6.77E-02		5.70E-01
+	SB-126	414.70	83.30	1.05E-01	3.10E-01	3.10E-01
		666.33	99.60	1.04E-01		3.91E-01
		695.00	99.60	-6.46E-02		3.53E-01
		720.50	53.80	7.22E-02		6.40E-01
+	SN-126	87.57	* 37.00	3.13E-01	1.82E-01	1.82E-01
+	SB-127	473.00	25.00	1.53E+00	2.83E+01	3.45E+01
		685.20	35.70	-7.21E+00		2.83E+01
		783.80	14.70	4.40E+01		8.42E+01
+	I-129	29.78	57.00	4.01E-01	1.19E+00	1.19E+00
		33.60	13.20	9.89E-01		2.45E+00
		39.58	7.52	-2.90E-01		2.06E+00
+	I-131	284.30	6.05	8.59E-01	7.16E-01	9.23E+00
		364.48	81.20	3.19E-01		7.16E-01
		636.97	7.26	-7.22E+00		9.35E+00
		722.89	1.80	-3.09E+01		5.28E+01
+	TE-132	49.72	13.10	7.46E+01	2.26E+01	2.20E+02
		228.16	88.00	-1.59E+00		2.26E+01
+	BA-133	81.00	33.00	4.96E-02	8.40E-02	1.31E-01
		302.84	17.80	-2.24E-01		2.90E-01
		356.01	60.00	1.64E-02		8.40E-02
+	I-133	529.87	86.30	-6.20E+07	3.40E+08	3.40E+08
+	XE-133	81.00	38.00	1.75E+00	4.60E+00	4.60E+00
+	CS-134	563.23	8.38	4.40E-01	8.68E-02	7.58E-01
		569.32	15.43	7.39E-02		3.72E-01
		604.70	97.60	-4.81E-03		8.68E-02
		795.84	85.40	8.69E-02		9.82E-02
		801.93	8.73	1.05E-01		7.65E-01
+	CS-135	268.24	16.00	-2.14E-01	3.46E-01	3.46E-01
+	@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@	1260.41	28.60	1.00E+26		1.00E+26
	@	1678.03	9.54	1.00E+26		1.00E+26
+	CS-136	153.22	7.46	1.44E+00	2.96E-01	3.06E+00
		163.89	4.61	3.58E+00		4.82E+00
		176.55	13.56	-8.96E-01		1.57E+00
		273.65	12.66	-3.13E+00		1.83E+00
		340.57	48.50	-8.19E-01		5.76E-01
		818.50	99.70	-6.04E-02		2.96E-01
		1048.07	79.60	-7.90E-02		3.97E-01
		1235.34	19.70	1.06E+00		2.53E+00
+	CS-137	661.65	85.12	-4.39E-02	8.58E-02	8.58E-02
+	LA-138	788.74	34.00	1.11E-01	9.26E-02	2.16E-01

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	LA-138	1435.80	66.00	-1.37E-02	9.26E-02	9.26E-02
+	CE-139	165.85	80.35	-1.70E-02	6.79E-02	6.79E-02
+	BA-140	162.64	6.70	2.46E+00	9.60E-01	3.46E+00
		304.84	4.50	1.10E-01		4.85E+00
		423.70	3.20	-2.51E+00		7.55E+00
		437.55	2.00	2.73E+00		1.14E+01
		537.32	25.00	-6.47E-02		9.60E-01
+	LA-140	328.77	20.50	1.11E+00	3.58E-01	1.39E+00
		487.03	45.50	6.46E-02		5.38E-01
		815.85	23.50	2.31E-01		1.32E+00
		1596.49	95.49	3.85E-02		3.58E-01
+	CE-141	145.44	48.40	-3.90E-02	1.86E-01	1.86E-01
+	CE-143	57.36	11.80	-3.05E+05	2.39E+05	5.94E+05
		293.26	42.00	-6.82E+04		2.39E+05
		664.55	5.20	1.19E+06		2.18E+06
+	CE-144	133.54	10.80	-1.79E-02	4.91E-01	4.91E-01
+	PM-144	476.78	42.00	-7.85E-02	7.10E-02	1.28E-01
		618.01	98.60	7.20E-03		7.10E-02
		696.49	99.49	2.68E-02		7.88E-02
+	PM-145	36.85	21.70	-3.89E-02	4.78E-01	9.31E-01
		37.36	39.70	-2.00E-02		4.78E-01
		42.30	15.10	3.86E-01		8.21E-01
		72.40	2.31	-1.48E+00		2.08E+00
+	PM-146	453.90	* 39.94	1.32E-01	2.09E-01	2.09E-01
		735.90	14.01	1.81E-01		5.26E-01
		747.13	13.10	1.02E-01		5.32E-01
+	ND-147	91.11	28.90	-1.24E+00	1.32E+00	1.32E+00
		531.02	13.10	-2.84E-01		2.35E+00
+	PM-149	285.90	3.10	-2.44E+03	1.08E+04	1.08E+04
+	EU-152	121.78	20.50	-3.13E-02	2.28E-01	2.28E-01
		244.69	5.40	-1.73E+00		1.01E+00
		344.27	19.13	1.05E-01		2.82E-01
		778.89	9.20	-1.88E-02		7.78E-01
		964.01	10.40	-2.14E+00		1.03E+00
		1085.78	7.22	-4.91E-01		9.85E-01
		1112.02	9.60	-8.13E-02		8.72E-01
		1407.95	14.94	8.75E-02		5.30E-01
+	GD-153	97.43	31.30	1.06E-01	1.62E-01	1.62E-01
		103.18	22.20	-8.20E-02		2.14E-01
+	EU-154	123.07	40.50	2.17E-02	1.19E-01	1.19E-01
		723.30	19.70	-2.54E-01		4.33E-01
		873.19	11.50	2.87E-01		6.26E-01
		996.32	10.30	-1.62E-01		7.84E-01
		1004.76	17.90	9.47E-02		4.69E-01
		1274.45	35.50	2.01E-01		2.33E-01
+	EU-155	86.50	30.90	-2.80E-01	2.01E-01	2.01E-01
		105.30	20.70	-9.40E-02		2.17E-01
+	EU-156	811.77	10.40	-8.49E-01	2.07E+00	2.07E+00
		1153.47	7.20	9.92E-01		4.99E+00

Analysis Report for 1510063-11
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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	EU-156	1230.71	8.90	1.06E-01	2.07E+00	3.93E+00
+	HO-166M	184.41	72.60	9.92E-02	8.98E-02	8.98E-02
		280.45	29.60	-1.83E-02		1.82E-01
		410.94	11.10	2.14E-01		5.24E-01
		711.69	54.10	-3.56E-02		1.20E-01
+	TM-171	66.72	0.14	-5.10E+00	3.65E+01	3.65E+01
+	HF-172	81.75	4.52	-6.44E-01	4.45E-01	9.75E-01
		125.81	11.30	-5.96E-01		4.45E-01
+	LU-172	181.53	20.60	1.80E+00	2.50E+00	4.47E+00
		810.06	16.63	-3.68E+00		6.67E+00
		912.12	15.25	5.10E+01		1.84E+01
		1093.66	62.50	8.42E-01		2.50E+00
+	LU-173	100.72	5.24	3.01E-01	2.91E-01	8.84E-01
		272.11	21.20	2.11E-01		2.91E-01
+	HF-175	343.40	84.00	1.88E-03	8.50E-02	8.50E-02
+	LU-176	88.34	13.30	6.81E-01	5.27E-02	4.86E-01
		201.83	86.00	-9.53E-03		6.39E-02
		306.78	94.00	2.38E-02		5.27E-02
+	TA-182	67.75	41.20	1.12E-01	1.45E-01	1.45E-01
		1121.30	34.90	7.69E-01		4.45E-01
		1189.05	16.23	1.88E-01		6.13E-01
		1221.41	26.98	1.01E-02		4.18E-01
		1231.02	11.44	-2.09E-02		9.85E-01
+	IR-192	308.46	29.68	6.20E-02	2.19E-01	2.19E-01
		468.07	* 48.10	9.30E-02		3.15E-01
+	HG-203	279.19	77.30	2.04E-02	1.10E-01	1.10E-01
+	BI-207	569.67	97.72	1.14E-02	5.74E-02	5.74E-02
		1063.62	74.90	1.43E-02		1.10E-01
+	TL-208	583.14	* 30.22	1.38E+00	1.57E-01	2.87E-01
		860.37	* 4.48	2.17E+00		2.15E+00
		2614.66	* 35.85	1.03E+00		1.57E-01
+	BI-210M	262.00	45.00	3.92E-02	1.15E-01	1.15E-01
		300.00	23.00	2.19E-01		2.54E-01
+	PB-210	46.50	* 4.25	2.44E+00	3.79E+00	3.79E+00
+	PB-211	404.84	2.90	3.33E-01	1.83E+00	1.83E+00
		831.96	2.90	9.31E-01		2.56E+00
+	BI-212	727.17	* 11.80	1.34E+00	9.80E-01	9.80E-01
		1620.62	2.75	2.67E-01		3.32E+00
+	PB-212	238.63	* 44.60	1.53E+00	2.88E-01	2.88E-01
		300.09	* 3.41	1.95E+00		1.68E+00
+	BI-214	609.31	* 46.30	1.17E+00	2.24E-01	2.24E-01
		1120.29	* 15.10	1.48E+00		7.94E-01
		1764.49	* 15.80	1.58E+00		3.21E-01
		2204.22	* 4.98	1.90E+00		1.69E+00
+	PB-214	295.21	* 19.19	1.35E+00	2.08E-01	2.94E-01
		351.92	* 37.19	1.33E+00		2.08E-01
+	RN-219	401.80	6.50	2.61E-01	8.17E-01	8.17E-01
+	RA-223	323.87	3.88	-1.39E-01	1.35E+00	1.35E+00

Analysis Report for 1510063-11
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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	RA-224	240.98	*	3.95	3.88E+00	3.22E+00	3.22E+00
+	RA-225	40.00		31.00	-2.51E-01	1.78E+00	1.78E+00
+	RA-226	186.21	*	3.28	3.54E+00	2.24E+00	2.24E+00
+	TH-227	50.10		8.40	2.93E-01	7.34E-01	8.66E-01
		236.00		11.50	-5.35E+00		7.34E-01
		256.20		6.30	-8.25E-02		8.20E-01
+	AC-228	338.32	*	11.40	1.20E+00	2.95E-01	8.23E-01
		911.07	*	27.70	1.65E+00		2.95E-01
		969.11	*	16.60	1.58E+00		6.52E-01
+	TH-230	48.44		16.90	-5.66E-01	4.75E-01	4.75E-01
		62.85		4.60	1.81E+00		1.30E+00
		67.67		0.37	1.06E+01		1.37E+01
+	PA-231	283.67		1.60	2.89E-01	2.23E+00	3.11E+00
		302.67		2.30	-1.72E+00		2.23E+00
+	TH-231	25.64		14.70	1.98E+00	6.94E-01	1.49E+01
		84.21		6.40	5.25E-01		6.94E-01
+	PA-233	311.98		38.60	-1.64E-01	2.58E-01	2.58E-01
+	PA-234	131.20		20.40	2.64E-01	2.63E-01	2.63E-01
		733.99		8.80	-1.68E-01		7.73E-01
		946.00		12.00	1.20E-03		6.67E-01
+	PA-234M	1001.03		0.92	3.22E+00	9.50E+00	9.50E+00
+	TH-234	63.29	*	3.80	1.62E+00	2.08E+00	2.08E+00
+	U-235	143.76		10.50	1.94E-01	4.76E-01	4.76E-01
		163.35		4.70	7.70E-01		1.08E+00
		205.31		4.70	-1.91E-01		1.14E+00
+	NP-237	86.50		12.60	-6.79E-01	4.87E-01	4.87E-01
+	NP-239	106.10		22.70	-5.04E+01	7.72E+02	7.72E+02
		228.18		10.70	-1.29E+02		1.83E+03
		277.60		14.10	1.38E+03		1.57E+03
+	AM-241	59.54		35.90	2.35E-02	1.50E-01	1.50E-01
+	AM-243	74.67		66.00	-2.32E-01	1.03E-01	1.03E-01
+	CM-243	209.75	*	3.29	1.79E+00	4.83E-01	2.79E+00
		228.14		10.60	-3.40E-02		4.83E-01
		277.60	*	14.00	4.37E-01		5.28E-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
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

Analysis Report for 1510063-11
CP2107S09-10

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
BE-7	477.59	10.42	7.07E-01	7.07E-01	-4.32E-01	3.31E-01
NA-22	1274.54	99.94	8.40E-02	8.40E-02	7.26E-02	3.85E-02
NA-24	1368.53	99.99	1.84E+12	2.75E+11	-3.05E+11	8.04E+11
	2754.09	99.86	2.75E+11		0.00E+00	0.00E+00
AL-26	1808.65	99.76	5.07E-02	5.07E-02	-4.16E-02	2.10E-02
+ K-40	1460.81	* 10.67	7.91E-01	7.91E-01	1.96E+01	3.59E-01
@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
TI-44	67.88	94.40	5.35E-02	5.35E-02	4.13E-02	2.60E-02
	78.34	96.00	7.58E-02		3.10E-01	3.72E-02
SC-46	889.25	99.98	8.29E-02	8.29E-02	-4.29E-02	3.82E-02
	1120.51	99.99	1.65E-01		2.62E-01	7.83E-02
V-48	983.52	99.98	2.75E-01	2.75E-01	-7.73E-03	1.28E-01
	1312.10	97.50	2.91E-01		1.35E-01	1.33E-01
CR-51	320.08	9.83	1.02E+00	1.02E+00	-2.96E-01	4.83E-01
MN-54	834.83	99.97	7.91E-02	7.91E-02	-5.31E-02	3.69E-02
CO-56	846.75	99.96	8.33E-02	8.33E-02	9.00E-03	3.84E-02
	1037.75	14.03	7.45E-01		3.17E-01	3.46E-01
	1238.25	67.00	2.21E-01		1.44E-01	1.04E-01
	1771.40	15.51	3.68E-01		-3.04E-02	1.49E-01
	2598.48	16.90	2.97E-01		9.90E-02	1.15E-01
CO-57	122.06	85.51	5.85E-02	5.85E-02	-8.03E-03	2.84E-02
	136.48	10.60	5.07E-01		-2.35E-02	2.47E-01
CO-58	810.76	99.40	8.08E-02	8.08E-02	-4.45E-02	3.72E-02
FE-59	1099.22	56.50	2.34E-01	2.34E-01	7.90E-02	1.09E-01
	1291.56	43.20	2.72E-01		8.73E-02	1.24E-01
CO-60	1173.22	100.00	9.40E-02	7.31E-02	5.21E-02	4.37E-02
	1332.49	100.00	7.31E-02		5.68E-03	3.29E-02
ZN-65	1115.52	50.75	1.75E-01	1.75E-01	-1.15E-02	8.10E-02
+ GA-67	93.31	* 35.70	7.53E+01	7.53E+01	7.53E+01	3.70E+01
	208.95	* 2.24	1.58E+03		1.02E+03	7.76E+02
	300.22	* 16.00	1.38E+02		1.61E+02	6.64E+01
SE-75	121.11	16.70	3.27E-01	9.83E-02	6.51E-02	1.59E-01
	136.00	59.20	9.83E-02		-1.57E-02	4.78E-02
	264.65	59.80	1.00E-01		7.89E-03	4.80E-02
	279.53	25.20	2.51E-01		-2.52E-02	1.20E-01
	400.65	11.40	5.42E-01		6.87E-02	2.56E-01
RB-82	776.52	13.00	1.15E+00	1.15E+00	-4.49E-01	5.35E-01
RB-83	520.41	46.00	1.46E-01	1.46E-01	-3.28E-02	6.86E-02
	529.64	30.30	2.27E-01		8.21E-02	1.06E-01
	552.65	16.40	4.10E-01		-1.32E-01	1.91E-01
KR-85	513.99	0.43	1.42E+01	1.42E+01	-2.46E+01	6.69E+00
SR-85	513.99	99.27	8.32E-02	8.32E-02	-1.44E-01	3.93E-02

Analysis Report for 1510063-11
CP2107S09-10

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
Y-88	898.02	93.40	9.25E-02	7.30E-02	-5.70E-02	4.29E-02
	1836.01	99.38	7.30E-02		1.64E-02	3.12E-02
NB-93M	16.57	9.43	5.45E+03	5.45E+03	-2.95E+03	2.65E+03
NB-94	702.63	100.00	6.92E-02	6.66E-02	-2.46E-02	3.24E-02
	871.10	100.00	6.66E-02		-1.98E-02	3.07E-02
NB-95	765.79	99.81	1.51E-01	1.51E-01	8.33E-03	7.17E-02
NB-95M	235.69	25.00	7.35E+01	7.35E+01	-5.35E+02	3.59E+01
ZR-95	724.18	43.70	2.88E-01	1.90E-01	1.60E-01	1.37E-01
	756.72	55.30	1.90E-01		1.09E-01	8.96E-02
MO-99	181.06	6.20	9.36E+02	6.98E+02	2.91E+02	4.52E+02
	739.58	12.80	6.98E+02		3.85E+02	3.28E+02
	778.00	4.50	1.82E+03		-1.10E+02	8.47E+02
RU-103	497.08	89.00	1.00E-01	1.00E-01	1.69E-02	4.69E-02
RU-106	621.84	9.80	7.01E-01	7.01E-01	-4.55E-01	3.30E-01
AG-108M	433.93	89.90	5.61E-02	5.61E-02	1.20E-02	2.64E-02
	614.37	90.40	7.07E-02		-2.65E-02	3.32E-02
	722.95	90.50	9.37E-02		-5.49E-02	4.44E-02
+ CD-109	88.03	*	1.88E+00	1.88E+00	3.24E+00	9.24E-01
AG-110M	657.75	93.14	7.99E-02	7.99E-02	2.34E-03	3.76E-02
	677.61	10.53	6.90E-01		4.81E-02	3.24E-01
	706.67	16.46	4.73E-01		1.84E-01	2.22E-01
	763.93	21.98	3.72E-01		-4.80E-03	1.75E-01
	884.67	71.63	9.88E-02		-1.27E-02	4.55E-02
	1384.27	23.94	2.47E-01		-5.90E-02	1.07E-01
CD-113M	263.70	0.02	2.26E+02	2.26E+02	8.24E+01	1.08E+02
SN-113	255.12	1.93	3.14E+00	9.73E-02	1.73E-01	1.50E+00
	391.69	64.90	9.73E-02		-3.30E-02	4.61E-02
TE123M	159.00	84.10	6.50E-02	6.50E-02	-2.18E-03	3.14E-02
SB-124	602.71	97.87	1.00E-01	1.00E-01	2.31E-04	4.73E-02
	645.85	7.26	1.16E+00		-6.45E-01	5.43E-01
	722.78	11.10	1.05E+00		-6.17E-01	5.00E-01
	1691.02	49.00	1.14E-01		4.35E-03	4.53E-02
I-125	35.49	6.49	5.08E+00	5.08E+00	-2.00E+00	2.46E+00
SB-125	176.33	6.89	7.42E-01	1.94E-01	1.56E-01	3.59E-01
	427.89	29.33	1.94E-01		6.53E-02	9.17E-02
	463.38	10.35	6.74E-01		6.31E-01	3.21E-01
	600.56	17.80	4.06E-01		9.44E-02	1.92E-01
	635.90	11.32	5.70E-01		6.77E-02	2.67E-01
SB-126	414.70	83.30	3.10E-01	3.10E-01	1.05E-01	1.46E-01
	666.33	99.60	3.91E-01		1.04E-01	1.85E-01
	695.00	99.60	3.53E-01		-6.46E-02	1.66E-01
	720.50	53.80	6.40E-01		7.22E-02	3.00E-01
+ SN-126	87.57	*	1.82E-01	1.82E-01	3.13E-01	8.91E-02
SB-127	473.00	25.00	3.45E+01	2.83E+01	1.53E+00	1.63E+01
	685.20	35.70	2.83E+01		-7.21E+00	1.32E+01
	783.80	14.70	8.42E+01		4.40E+01	3.96E+01
I-129	29.78	57.00	1.19E+00	1.19E+00	4.01E-01	5.75E-01
	33.60	13.20	2.45E+00		9.89E-01	1.19E+00
	39.58	7.52	2.06E+00		-2.90E-01	9.98E-01
I-131	284.30	6.05	9.23E+00	7.16E-01	8.59E-01	4.41E+00
	364.48	81.20	7.16E-01		3.19E-01	3.40E-01
	636.97	7.26	9.35E+00		-7.22E+00	4.37E+00
	722.89	1.80	5.28E+01		-3.09E+01	2.50E+01

Analysis Report for 1510063-11
CP2107S09-10

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
TE-132	49.72	13.10	2.20E+02	2.26E+01	7.46E+01	1.07E+02
	228.16	88.00	2.26E+01		-1.59E+00	1.09E+01
BA-133	81.00	33.00	1.31E-01	8.40E-02	4.96E-02	6.34E-02
	302.84	17.80	2.90E-01		-2.24E-01	1.38E-01
	356.01	60.00	8.40E-02		1.64E-02	3.98E-02
I-133	529.87	86.30	3.40E+08	3.40E+08	-6.20E+07	1.59E+08
XE-133	81.00	38.00	4.60E+00	4.60E+00	1.75E+00	2.23E+00
CS-134	563.23	8.38	7.58E-01	8.68E-02	4.40E-01	3.57E-01
	569.32	15.43	3.72E-01		7.39E-02	1.74E-01
	604.70	97.60	8.68E-02		-4.81E-03	4.14E-02
	795.84	85.40	9.82E-02		8.69E-02	4.63E-02
	801.93	8.73	7.65E-01		1.05E-01	3.55E-01
CS-135	268.24	16.00	3.46E-01	3.46E-01	-2.14E-01	1.66E-01
@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	1260.41	28.60	1.00E+26		1.00E+26	1.00E+20
@	1678.03	9.54	1.00E+26		1.00E+26	1.00E+20
CS-136	153.22	7.46	3.06E+00	2.96E-01	1.44E+00	1.49E+00
	163.89	4.61	4.82E+00		3.58E+00	2.34E+00
	176.55	13.56	1.57E+00		-8.96E-01	7.59E-01
	273.65	12.66	1.83E+00		-3.13E+00	8.77E-01
	340.57	48.50	5.76E-01		-8.19E-01	2.77E-01
	818.50	99.70	2.96E-01		-6.04E-02	1.37E-01
	1048.07	79.60	3.97E-01		-7.90E-02	1.82E-01
	1235.34	19.70	2.53E+00		1.06E+00	1.19E+00
CS-137	661.65	85.12	8.58E-02	8.58E-02	-4.39E-02	4.05E-02
LA-138	788.74	34.00	2.16E-01	9.26E-02	1.11E-01	1.01E-01
	1435.80	66.00	9.26E-02		-1.37E-02	4.06E-02
CE-139	165.85	80.35	6.79E-02	6.79E-02	-1.70E-02	3.28E-02
BA-140	162.64	6.70	3.46E+00	9.60E-01	2.46E+00	1.67E+00
	304.84	4.50	4.85E+00		1.10E-01	2.30E+00
	423.70	3.20	7.55E+00		-2.51E+00	3.56E+00
	437.55	2.00	1.14E+01		2.73E+00	5.35E+00
	537.32	25.00	9.60E-01		-6.47E-02	4.48E-01
LA-140	328.77	20.50	1.39E+00	3.58E-01	1.11E+00	6.67E-01
	487.03	45.50	5.38E-01		6.46E-02	2.52E-01
	815.85	23.50	1.32E+00		2.31E-01	6.11E-01
	1596.49	95.49	3.58E-01		3.85E-02	1.60E-01
CE-141	145.44	48.40	1.86E-01	1.86E-01	-3.90E-02	9.01E-02
CE-143	57.36	11.80	5.94E+05	2.39E+05	-3.05E+05	2.87E+05
	293.26	42.00	2.39E+05		-6.82E+04	1.15E+05
	664.55	5.20	2.18E+06		1.19E+06	1.04E+06
CE-144	133.54	10.80	4.91E-01	4.91E-01	-1.79E-02	2.39E-01
PM-144	476.78	42.00	1.28E-01	7.10E-02	-7.85E-02	6.02E-02
	618.01	98.60	7.10E-02		7.20E-03	3.34E-02
	696.49	99.49	7.88E-02		2.68E-02	3.71E-02
PM-145	36.85	21.70	9.31E-01	4.78E-01	-3.89E-02	4.51E-01
	37.36	39.70	4.78E-01		-2.00E-02	2.32E-01
	42.30	15.10	8.21E-01		3.86E-01	3.99E-01
	72.40	2.31	2.08E+00		-1.48E+00	1.01E+00
+ PM-146	453.90	* 39.94	2.09E-01	2.09E-01	1.32E-01	1.01E-01
	735.90	14.01	5.26E-01		1.81E-01	2.47E-01
	747.13	13.10	5.32E-01		1.02E-01	2.48E-01
ND-147	91.11	28.90	1.32E+00	1.32E+00	-1.24E+00	6.48E-01

Analysis Report for 1510063-11
CP2107S09-10

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
ND-147	531.02	13.10	2.35E+00	1.32E+00	-2.84E-01	1.10E+00
PM-149	285.90	3.10	1.08E+04	1.08E+04	-2.44E+03	5.15E+03
EU-152	121.78	20.50	2.28E-01	2.28E-01	-3.13E-02	1.11E-01
	244.69	5.40	1.01E+00		-1.73E+00	4.87E-01
	344.27	19.13	2.82E-01		1.05E-01	1.34E-01
	778.89	9.20	7.78E-01		-1.88E-02	3.64E-01
	964.01	10.40	1.03E+00		-2.14E+00	4.87E-01
	1085.78	7.22	9.85E-01		-4.91E-01	4.50E-01
	1112.02	9.60	8.72E-01		-8.13E-02	4.04E-01
	1407.95	14.94	5.30E-01		8.75E-02	2.40E-01
GD-153	97.43	31.30	1.62E-01	1.62E-01	1.06E-01	7.89E-02
	103.18	22.20	2.14E-01		-8.20E-02	1.04E-01
EU-154	123.07	40.50	1.19E-01	1.19E-01	2.17E-02	5.76E-02
	723.30	19.70	4.33E-01		-2.54E-01	2.05E-01
	873.19	11.50	6.26E-01		2.87E-01	2.90E-01
	996.32	10.30	7.84E-01		-1.62E-01	3.64E-01
	1004.76	17.90	4.69E-01		9.47E-02	2.18E-01
	1274.45	35.50	2.33E-01		2.01E-01	1.07E-01
EU-155	86.50	30.90	2.01E-01	2.01E-01	-2.80E-01	9.84E-02
	105.30	20.70	2.17E-01		-9.40E-02	1.05E-01
EU-156	811.77	10.40	2.07E+00	2.07E+00	-8.49E-01	9.51E-01
	1153.47	7.20	4.99E+00		9.92E-01	2.34E+00
	1230.71	8.90	3.93E+00		1.06E-01	1.83E+00
HO-166M	184.41	72.60	8.98E-02	8.98E-02	9.92E-02	4.38E-02
	280.45	29.60	1.82E-01		-1.83E-02	8.71E-02
	410.94	11.10	5.24E-01		2.14E-01	2.49E-01
	711.69	54.10	1.20E-01		-3.56E-02	5.61E-02
TM-171	66.72	0.14	3.65E+01	3.65E+01	-5.10E+00	1.77E+01
HF-172	81.75	4.52	9.75E-01	4.45E-01	-6.44E-01	4.73E-01
	125.81	11.30	4.45E-01		-5.96E-01	2.16E-01
LU-172	181.53	20.60	4.47E+00	2.50E+00	1.80E+00	2.16E+00
	810.06	16.63	6.67E+00		-3.68E+00	3.07E+00
	912.12	15.25	1.84E+01		5.10E+01	8.86E+00
	1093.66	62.50	2.50E+00		8.42E-01	1.16E+00
LU-173	100.72	5.24	8.84E-01	2.91E-01	3.01E-01	4.30E-01
	272.11	21.20	2.91E-01		2.11E-01	1.40E-01
HF-175	343.40	84.00	8.50E-02	8.50E-02	1.88E-03	4.05E-02
LU-176	88.34	13.30	4.86E-01	5.27E-02	6.81E-01	2.38E-01
	201.83	86.00	6.39E-02		-9.53E-03	3.09E-02
	306.78	94.00	5.27E-02		2.38E-02	2.51E-02
TA-182	67.75	41.20	1.45E-01	1.45E-01	1.12E-01	7.07E-02
	1121.30	34.90	4.45E-01		7.69E-01	2.12E-01
	1189.05	16.23	6.13E-01		1.88E-01	2.83E-01
	1221.41	26.98	4.18E-01		1.01E-02	1.95E-01
	1231.02	11.44	9.85E-01		-2.09E-02	4.58E-01
+ IR-192	308.46	29.68	2.19E-01	2.19E-01	6.20E-02	1.04E-01
	468.07	*	48.10		9.30E-02	1.53E-01
HG-203	279.19	77.30	1.10E-01	1.10E-01	2.04E-02	5.28E-02
BI-207	569.67	97.72	5.74E-02	5.74E-02	1.14E-02	2.68E-02
	1063.62	74.90	1.10E-01		1.43E-02	5.12E-02
+ TL-208	583.14	*	30.22	1.57E-01	1.38E+00	1.37E-01
	860.37	*	4.48		2.17E+00	1.02E+00
	2614.66	*	35.85	1.57E-01	1.03E+00	6.64E-02

Analysis Report for 1510063-11
CP2107S09-10

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
BI-210M	262.00	45.00	1.15E-01	1.15E-01	3.92E-02	5.53E-02
	300.00	23.00	2.54E-01		2.19E-01	1.22E-01
+ PB-210	46.50 *	4.25	3.79E+00	3.79E+00	2.44E+00	1.87E+00
PB-211	404.84	2.90	1.83E+00	1.83E+00	3.33E-01	8.67E-01
	831.96	2.90	2.56E+00		9.31E-01	1.19E+00
+ BI-212	727.17 *	11.80	9.80E-01	9.80E-01	1.34E+00	4.71E-01
	1620.62	2.75	3.32E+00		2.67E-01	1.51E+00
+ PB-212	238.63 *	44.60	2.88E-01	2.88E-01	1.53E+00	1.42E-01
	300.09 *	3.41	1.68E+00		1.95E+00	8.04E-01
+ BI-214	609.31 *	46.30	2.24E-01	2.24E-01	1.17E+00	1.08E-01
	1120.29 *	15.10	7.94E-01		1.48E+00	3.76E-01
	1764.49 *	15.80	3.21E-01		1.58E+00	1.33E-01
	2204.22 *	4.98	1.69E+00		1.90E+00	7.54E-01
+ PB-214	295.21 *	19.19	2.94E-01	2.08E-01	1.35E+00	1.41E-01
	351.92 *	37.19	2.08E-01		1.33E+00	1.00E-01
RN-219	401.80	6.50	8.17E-01	8.17E-01	2.61E-01	3.87E-01
RA-223	323.87	3.88	1.35E+00	1.35E+00	-1.39E-01	6.45E-01
+ RA-224	240.98 *	3.95	3.22E+00	3.22E+00	3.88E+00	1.58E+00
RA-225	40.00	31.00	1.78E+00	1.78E+00	-2.51E-01	8.64E-01
+ RA-226	186.21 *	3.28	2.24E+00	2.24E+00	3.54E+00	1.09E+00
TH-227	50.10	8.40	8.66E-01	7.34E-01	2.93E-01	4.20E-01
	236.00	11.50	7.34E-01		-5.35E+00	3.58E-01
	256.20	6.30	8.20E-01		-8.25E-02	3.93E-01
+ AC-228	338.32 *	11.40	8.23E-01	2.95E-01	1.20E+00	4.00E-01
	911.07 *	27.70	2.95E-01		1.65E+00	1.38E-01
	969.11 *	16.60	6.52E-01		1.58E+00	3.09E-01
TH-230	48.44	16.90	4.75E-01	4.75E-01	-5.66E-01	2.30E-01
	62.85	4.60	1.30E+00		1.81E+00	6.34E-01
	67.67	0.37	1.37E+01		1.06E+01	6.65E+00
PA-231	283.67	1.60	3.11E+00	2.23E+00	2.89E-01	1.48E+00
	302.67	2.30	2.23E+00		-1.72E+00	1.06E+00
TH-231	25.64	14.70	1.49E+01	6.94E-01	1.98E+00	7.24E+00
	84.21	6.40	6.94E-01		5.25E-01	3.37E-01
PA-233	311.98	38.60	2.58E-01	2.58E-01	-1.64E-01	1.23E-01
PA-234	131.20	20.40	2.63E-01	2.63E-01	2.64E-01	1.28E-01
	733.99	8.80	7.73E-01		-1.68E-01	3.61E-01
	946.00	12.00	6.67E-01		1.20E-03	3.11E-01
PA-234M	1001.03	0.92	9.50E+00	9.50E+00	3.22E+00	4.44E+00
+ TH-234	63.29 *	3.80	2.08E+00	2.08E+00	1.62E+00	1.02E+00
U-235	143.76	10.50	4.76E-01	4.76E-01	1.94E-01	2.31E-01
	163.35	4.70	1.08E+00		7.70E-01	5.24E-01
	205.31	4.70	1.14E+00		-1.91E-01	5.52E-01
NP-237	86.50	12.60	4.87E-01	4.87E-01	-6.79E-01	2.39E-01
NP-239	106.10	22.70	7.72E+02	7.72E+02	-5.04E+01	3.75E+02
	228.18	10.70	1.83E+03		-1.29E+02	8.81E+02
	277.60	14.10	1.57E+03		1.38E+03	7.56E+02
AM-241	59.54	35.90	1.50E-01	1.50E-01	2.35E-02	7.27E-02
AM-243	74.67	66.00	1.03E-01	1.03E-01	-2.32E-01	5.03E-02
+ CM-243	209.75 *	3.29	2.79E+00	4.83E-01	1.79E+00	1.36E+00
	228.14	10.60	4.83E-01		-3.40E-02	2.32E-01
	277.60 *	14.00	5.28E-01		4.37E-01	2.56E-01

Analysis Report for 1510063-11
CP2107S09-10

-
- + = 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
-

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

<i>Creation Date</i>	<i>Comment</i>	<i>User</i>
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No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP2107S09-10

Elapsed Live time: 3600

Elapsed Real Time: 3601

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	165
9:	559	1199	1072	437	643	1596	288	139
17:	153	141	99	148	102	114	123	123
25:	109	111	144	114	127	101	120	102
33:	112	115	121	105	107	126	110	135
41:	122	127	133	101	159	138	234	130
49:	109	117	117	91	122	127	78	94
57:	93	92	121	107	122	122	174	204
65:	114	117	141	128	143	110	120	127
73:	159	186	421	251	520	384	133	108
81:	118	134	109	156	129	93	220	219
89:	111	217	136	132	278	186	117	87
97:	88	83	94	92	64	76	71	67
105:	104	77	68	92	91	87	77	78
113:	79	81	88	58	69	67	79	62
121:	80	84	81	78	80	87	89	80
129:	128	105	70	97	83	73	79	71
137:	88	83	81	87	77	75	66	92
145:	75	70	62	78	83	71	78	75
153:	68	96	67	66	58	66	53	57
161:	55	69	77	67	68	53	53	45
169:	61	56	64	57	70	66	58	52
177:	70	51	47	64	53	65	51	59
185:	85	221	97	76	61	61	58	65
193:	49	65	56	67	53	58	74	65
201:	59	70	46	59	55	64	55	55
209:	97	100	61	48	50	58	50	51
217:	47	58	36	52	49	53	46	40
225:	45	43	41	44	46	43	44	50
233:	53	49	62	62	46	365	648	133
241:	119	170	79	45	33	36	32	25
249:	44	42	51	38	35	37	34	40
257:	40	38	42	37	31	39	44	34
265:	26	39	32	39	33	61	68	46
273:	21	36	37	41	52	44	35	41
281:	26	35	29	28	32	27	31	39
289:	38	33	14	33	32	51	188	129
297:	21	26	33	63	36	37	32	20
305:	22	26	25	26	35	23	25	27
313:	32	18	30	29	33	24	22	21
321:	32	27	25	28	31	29	27	63
329:	44	31	31	28	28	33	30	19
337:	30	136	85	26	26	31	28	27
345:	25	24	15	23	30	33	113	366
353:	100	17	25	26	18	25	17	26
361:	17	25	33	24	14	19	19	21

369: 25 20 19 24 26 24 21 25

Sample Title: CP2107S09-10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	21	31	22	21	36	19	21	20
385:	20	23	20	30	30	17	20	22
393:	28	23	22	17	26	21	16	18
401:	23	19	27	18	19	18	22	19
409:	33	32	24	15	19	18	22	17
417:	27	15	16	25	24	23	15	16
425:	22	20	27	15	24	20	11	23
433:	15	17	13	16	14	15	23	13
441:	12	20	12	17	12	12	14	11
449:	13	12	23	16	25	26	16	17
457:	14	12	20	16	20	33	46	25
465:	21	20	16	29	20	23	16	19
473:	16	17	22	13	21	12	7	33
481:	11	12	18	17	20	6	18	14
489:	22	14	12	13	15	14	19	16
497:	17	13	15	15	14	14	18	13
505:	20	10	12	17	27	72	105	41
513:	16	14	11	16	17	14	16	19
521:	7	17	11	22	13	11	13	17
529:	14	14	16	9	14	21	7	12
537:	14	19	14	13	8	19	15	12
545:	19	14	15	18	11	20	12	9
553:	15	10	19	14	6	16	8	13
561:	21	16	17	16	17	12	14	14
569:	10	15	16	9	12	20	9	13
577:	5	9	9	10	12	55	191	83
585:	13	14	7	16	11	6	14	6
593:	18	8	14	9	23	12	14	15
601:	15	14	12	15	14	19	23	46
609:	217	140	18	11	14	9	7	10
617:	12	17	12	15	14	12	12	11
625:	7	17	17	15	12	11	10	5
633:	15	11	13	10	7	10	9	8
641:	15	19	9	7	10	8	11	13
649:	10	10	9	18	8	9	9	12
657:	13	12	10	9	20	16	14	14
665:	27	15	16	20	12	14	11	9
673:	15	16	7	11	8	8	17	10
681:	9	10	7	10	16	10	9	8
689:	10	16	14	8	17	8	14	15
697:	7	20	10	16	5	12	12	10
705:	12	13	13	10	13	11	9	8
713:	8	7	10	10	11	12	10	12
721:	10	10	15	17	22	27	36	26
729:	14	7	12	6	8	9	8	13
737:	13	12	17	9	10	13	8	10
745:	14	7	9	11	10	8	5	10
753:	9	10	24	11	15	5	13	11
761:	8	11	13	8	6	12	23	27
769:	19	9	10	19	7	12	8	8
777:	11	13	7	8	11	11	9	11
785:	17	18	9	11	9	3	5	8
793:	8	14	32	18	4	8	5	7

801: 7 5 14 6 10 5 11 6

Sample Title: CP2107S09-10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	4	5	5	7	8	9	12	5
817:	9	7	7	9	7	13	6	10
825:	5	10	9	8	9	9	12	9
833:	2	7	19	14	10	6	16	16
841:	11	6	6	2	9	10	4	10
849:	8	13	1	7	13	10	9	3
857:	9	9	9	37	23	15	9	6
865:	12	10	7	7	2	13	3	11
873:	4	9	9	8	6	7	9	9
881:	8	5	6	8	8	10	1	4
889:	8	9	9	5	11	9	5	2
897:	15	13	9	6	5	8	16	8
905:	7	2	5	10	11	62	122	53
913:	6	5	7	4	9	6	8	2
921:	7	8	5	12	5	4	7	4
929:	9	4	2	8	15	18	9	4
937:	11	3	3	6	5	8	11	8
945:	8	4	11	9	12	13	9	8
953:	9	5	5	9	7	10	8	4
961:	9	6	10	28	35	13	11	45
969:	66	27	4	6	9	7	11	8
977:	7	9	7	8	11	10	8	7
985:	6	11	12	7	6	10	6	9
993:	9	9	3	9	9	8	11	10
1001:	12	11	7	10	7	7	8	5
1009:	7	4	16	6	7	8	6	5
1017:	5	14	4	5	11	6	9	9
1025:	5	4	6	4	3	3	12	5
1033:	7	6	9	7	12	6	9	7
1041:	5	6	1	5	10	6	4	6
1049:	4	4	8	10	9	7	6	5
1057:	9	5	6	5	11	7	8	6
1065:	10	8	11	6	2	2	11	4
1073:	8	12	9	4	8	9	6	5
1081:	11	7	7	11	3	3	5	2
1089:	9	6	11	6	9	7	6	12
1097:	8	6	10	8	5	7	8	4
1105:	12	7	8	10	6	7	11	10
1113:	3	7	8	6	3	13	28	42
1121:	27	15	5	4	7	4	6	12
1129:	6	7	4	11	4	8	5	6
1137:	13	10	14	8	5	2	4	3
1145:	9	5	8	10	6	8	13	8
1153:	6	14	11	12	12	8	9	5
1161:	7	7	5	8	7	11	10	5
1169:	6	9	12	7	11	9	7	5
1177:	4	7	6	13	9	10	12	3
1185:	8	8	7	7	8	7	4	6
1193:	5	5	13	8	12	8	7	6
1201:	4	7	11	9	7	14	14	9
1209:	8	10	10	12	10	6	12	4
1217:	5	9	9	6	7	5	11	12
1225:	13	10	9	9	5	6	10	10

1233: 12 6 6 9 18 24 14 8

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Channel	1	2	3	4	5	6	7	8
1241:	8	7	8	8	9	4	6	6
1249:	7	3	4	7	7	4	5	8
1257:	5	11	8	4	4	5	2	11
1265:	8	8	5	7	5	5	7	11
1273:	5	5	4	2	6	0	0	9
1281:	7	3	3	6	6	6	3	8
1289:	2	5	3	4	3	8	1	4
1297:	3	6	5	5	4	6	3	3
1305:	8	6	3	3	9	4	3	7
1313:	6	4	7	5	3	3	3	4
1321:	6	1	5	3	7	4	7	2
1329:	1	3	6	6	6	2	4	3
1337:	3	4	4	5	4	4	5	1
1345:	0	4	1	1	1	3	7	3
1353:	4	2	2	4	2	4	2	6
1361:	5	3	2	5	0	2	3	3
1369:	1	4	3	2	2	3	3	5
1377:	15	10	4	3	3	1	4	1
1385:	1	1	3	3	4	5	5	1
1393:	3	3	3	2	5	6	2	6
1401:	2	2	5	4	0	2	8	7
1409:	9	1	4	4	2	2	2	3
1417:	3	4	4	5	1	4	2	3
1425:	1	3	3	2	2	1	1	4
1433:	3	8	0	1	0	1	5	2
1441:	2	3	2	1	3	0	1	3
1449:	5	3	5	3	2	0	3	4
1457:	2	14	114	296	236	81	12	1
1465:	3	0	2	3	1	2	1	3
1473:	1	2	2	4	0	0	3	1
1481:	2	5	1	2	3	3	3	1
1489:	5	3	0	3	1	1	4	3
1497:	2	0	1	3	6	3	3	3
1505:	1	4	3	4	4	2	5	6
1513:	3	1	3	1	1	1	4	2
1521:	5	0	1	1	3	1	2	0
1529:	0	0	0	1	3	4	1	3
1537:	2	1	0	0	0	3	3	2
1545:	2	2	3	3	4	2	4	1
1553:	2	4	0	0	1	0	1	2
1561:	3	0	3	2	2	2	0	0
1569:	3	1	2	0	0	3	1	2
1577:	3	1	0	5	1	5	2	1
1585:	3	1	13	9	10	1	4	7
1593:	3	3	2	0	1	4	2	1
1601:	2	1	2	0	0	2	2	2
1609:	1	1	0	1	1	5	2	5
1617:	2	3	2	6	9	0	3	5
1625:	2	2	2	1	5	3	3	0
1633:	1	0	1	3	2	0	3	0
1641:	2	3	4	0	0	0	1	1
1649:	1	1	0	0	0	2	1	0
1657:	1	0	1	2	4	2	3	1

1665: 0 1 1 2 3 0 0 1

Sample Title: CP2107S09-10

Channel	1	2	3	4	5	6	7	8
1673:	4	1	1	2	1	0	1	1
1681:	0	1	3	0	1	0	2	0
1689:	1	0	1	0	0	1	0	1
1697:	1	1	1	2	1	1	2	2
1705:	1	2	2	0	2	0	1	2
1713:	0	0	0	0	1	0	0	0
1721:	2	2	0	3	2	2	0	4
1729:	6	6	3	1	1	0	0	1
1737:	1	1	1	5	2	1	2	1
1745:	2	1	2	2	1	0	0	1
1753:	0	0	0	4	0	1	0	0
1761:	3	2	29	28	14	8	1	1
1769:	1	0	1	1	0	0	1	2
1777:	0	0	0	3	2	0	1	1
1785:	4	0	0	2	1	0	1	1
1793:	1	1	2	0	1	1	1	0
1801:	2	1	4	0	1	2	0	2
1809:	0	2	0	1	5	1	1	1
1817:	0	3	1	0	3	4	1	0
1825:	2	2	1	1	0	1	1	2
1833:	2	2	1	1	0	1	2	1
1841:	1	1	0	0	1	3	5	8
1849:	1	0	2	3	0	0	3	2
1857:	1	3	1	3	1	0	1	1
1865:	3	2	1	1	0	1	3	2
1873:	0	4	2	0	2	1	0	0
1881:	1	2	0	1	0	1	5	2
1889:	4	0	4	2	4	3	1	0
1897:	0	1	1	1	5	2	3	0
1905:	1	0	1	0	1	0	1	2
1913:	0	1	2	3	1	0	0	0
1921:	2	0	0	0	0	1	3	1
1929:	2	2	0	1	0	2	0	1
1937:	2	1	1	1	2	0	3	3
1945:	0	0	1	1	1	2	0	2
1953:	2	0	2	1	0	0	0	1
1961:	1	0	2	3	4	1	4	1
1969:	1	0	1	1	0	0	1	3
1977:	1	3	0	0	3	1	1	1
1985:	2	1	1	2	2	2	1	0
1993:	1	4	4	0	1	0	1	0
2001:	2	1	2	0	1	0	1	3
2009:	0	1	0	0	1	0	1	0
2017:	1	0	3	0	0	1	2	2
2025:	1	2	3	1	2	0	0	2
2033:	1	0	0	2	2	0	1	0
2041:	1	0	0	2	0	2	1	1
2049:	2	2	0	0	1	1	0	1
2057:	0	2	0	2	2	1	0	1
2065:	0	0	1	0	1	1	2	2
2073:	1	0	3	0	0	1	0	1
2081:	1	0	0	1	1	1	2	1
2089:	1	2	1	0	2	0	0	1

2097: 0 0 1 0 2 3 9 7

Sample Title: CP2107S09-10

Channel	1	2	3	4	5	6	7	8	9
2105:	2	1	2	2	3	2	1	0	
2113:	0	1	6	0	3	2	2	4	
2121:	0	0	2	1	1	0	0	1	
2129:	0	1	0	1	4	2	1	2	
2137:	0	2	2	1	2	0	0	1	
2145:	1	0	0	0	3	0	0	1	
2153:	3	0	0	1	0	1	0	1	
2161:	3	2	1	0	1	0	0	1	
2169:	0	2	1	0	2	0	2	1	
2177:	2	0	0	2	1	3	1	0	
2185:	0	1	1	1	1	0	0	0	
2193:	1	1	0	2	0	3	1	3	
2201:	1	7	8	7	4	2	2	1	
2209:	2	0	0	3	1	3	1	2	
2217:	3	0	1	2	0	0	0	1	
2225:	0	1	0	1	0	0	0	1	
2233:	0	0	0	2	0	1	0	2	
2241:	1	0	1	0	1	1	1	2	
2249:	1	2	0	2	2	2	2	0	
2257:	0	0	2	0	2	0	0	3	
2265:	0	2	1	2	0	2	0	0	
2273:	1	0	1	1	0	0	2	0	
2281:	1	3	2	3	3	1	2	2	
2289:	0	0	1	3	0	1	1	2	
2297:	1	0	2	0	1	2	0	5	
2305:	0	0	0	0	0	0	0	1	
2313:	0	1	1	1	1	2	1	0	
2321:	1	1	0	1	0	1	3	3	
2329:	3	1	2	1	0	3	3	1	
2337:	1	1	1	1	1	0	3	0	
2345:	0	2	3	0	4	2	0	1	
2353:	1	0	1	1	2	1	0	1	
2361:	2	0	1	2	3	1	0	1	
2369:	2	2	3	1	1	0	0	3	
2377:	0	1	0	0	2	3	0	1	
2385:	2	1	1	0	1	2	0	0	
2393:	1	0	1	1	0	0	2	0	
2401:	1	1	1	2	1	1	1	1	
2409:	1	1	0	1	2	1	1	0	
2417:	1	1	1	0	0	1	2	0	
2425:	1	0	1	0	1	1	0	1	
2433:	0	0	0	1	0	2	0	2	
2441:	1	2	2	1	1	3	1	3	
2449:	0	1	1	2	1	2	0	0	
2457:	0	1	1	1	2	1	1	2	
2465:	2	0	1	1	0	0	0	0	
2473:	1	1	0	2	1	1	0	1	
2481:	2	0	0	3	1	0	1	1	
2489:	2	0	0	1	0	0	0	0	
2497:	0	0	1	0	0	2	1	0	
2505:	0	0	0	0	0	1	0	0	
2513:	0	0	1	0	1	0	2	1	
2521:	0	1	0	0	0	0	0	0	

2529: 3 0 0 0 0 1 0 0

Sample Title: CP2107S09-10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2537:	0	0	0	0	0	2	0	0
2545:	0	0	0	0	1	1	0	0
2553:	1	1	0	0	0	0	0	0
2561:	0	0	1	1	0	0	1	0
2569:	0	1	0	1	1	0	1	0
2577:	0	1	0	0	0	0	0	1
2585:	1	0	0	1	0	0	0	0
2593:	0	0	0	1	0	0	0	1
2601:	1	1	0	0	0	0	1	0
2609:	1	2	6	24	33	30	18	3
2617:	4	2	0	0	1	2	1	0
2625:	0	0	0	0	0	0	0	0
2633:	1	0	1	0	0	0	0	0
2641:	0	2	0	0	0	0	1	0
2649:	0	1	0	1	0	0	0	1
2657:	1	0	1	2	1	0	0	0
2665:	1	0	0	2	1	1	1	1
2673:	0	1	0	0	0	1	1	0
2681:	0	0	0	0	0	1	0	0
2689:	0	0	0	0	0	0	0	1
2697:	0	1	0	1	0	0	1	0
2705:	1	1	1	0	0	0	0	0
2713:	0	0	0	0	0	0	0	0
2721:	0	0	0	2	1	0	0	1
2729:	0	1	0	2	0	0	0	0
2737:	2	0	0	1	1	0	0	1
2745:	0	0	0	0	0	0	0	0
2753:	0	0	0	0	0	1	0	0
2761:	0	0	1	0	1	1	0	0
2769:	1	1	0	0	0	0	0	0
2777:	1	0	0	0	1	0	0	1
2785:	0	0	0	1	1	0	0	0
2793:	0	0	1	0	0	0	1	0
2801:	0	0	0	0	0	0	0	0
2809:	0	1	0	0	0	1	0	0
2817:	0	0	0	0	0	0	0	0
2825:	0	0	0	0	0	0	0	0
2833:	0	0	0	0	0	0	0	0
2841:	1	1	0	1	0	0	0	1
2849:	0	0	0	1	0	0	0	0
2857:	0	0	0	0	0	0	0	1
2865:	0	0	0	0	0	0	0	1
2873:	0	1	0	1	0	0	0	0
2881:	0	0	0	0	0	1	0	0
2889:	0	0	0	0	0	1	0	0
2897:	1	0	0	0	0	0	0	0
2905:	0	1	0	1	1	0	0	0
2913:	0	2	0	0	0	0	0	0
2921:	0	1	0	0	2	0	0	0
2929:	2	0	1	0	0	0	0	1
2937:	1	0	0	0	0	1	0	0
2945:	0	0	1	0	0	0	0	1
2953:	0	0	0	0	0	0	0	0

2961: 0 0 1 0 0 0 1 0

Sample Title: CP2107S09-10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2969:	0	0	0	0	0	1	0	0
2977:	0	0	0	0	0	0	0	0
2985:	0	0	0	0	0	1	1	0
2993:	0	0	0	0	0	0	0	0
3001:	0	1	0	1	2	0	2	0
3009:	0	0	0	1	0	0	0	0
3017:	0	0	1	0	1	1	0	1
3025:	0	1	0	0	0	2	0	0
3033:	0	0	0	0	0	0	0	0
3041:	0	0	0	0	1	0	0	0
3049:	0	0	1	0	0	0	0	0
3057:	0	2	0	0	0	1	0	0
3065:	0	0	0	0	1	1	1	0
3073:	1	0	0	0	0	2	2	0
3081:	0	0	0	0	0	0	0	0
3089:	1	0	0	0	0	0	0	0
3097:	0	0	0	0	0	0	0	0
3105:	1	0	0	0	0	2	0	0
3113:	1	1	1	0	0	0	0	1
3121:	0	0	0	0	0	1	0	0
3129:	0	0	1	0	0	0	2	0
3137:	0	0	0	0	0	0	0	0
3145:	1	0	0	0	0	0	1	0
3153:	0	0	0	0	0	0	0	0
3161:	0	0	0	0	0	0	0	0
3169:	0	0	0	1	0	1	0	0
3177:	0	0	0	0	0	0	0	0
3185:	0	2	0	0	1	0	0	1
3193:	0	0	0	0	0	1	0	0
3201:	0	0	0	0	0	0	1	0
3209:	1	0	0	0	2	0	0	0
3217:	0	0	0	0	0	0	0	0
3225:	0	1	0	0	0	0	0	0
3233:	0	0	0	0	0	0	0	0
3241:	0	0	0	1	0	0	0	0
3249:	0	0	0	0	0	0	0	0
3257:	0	1	0	0	0	0	1	0
3265:	0	0	1	0	0	0	0	0
3273:	0	1	0	0	0	0	0	0
3281:	0	0	0	0	0	0	1	0
3289:	0	0	0	0	0	0	0	1
3297:	0	0	1	0	1	0	0	0
3305:	0	0	0	0	0	0	1	0
3313:	0	0	0	0	0	0	0	0
3321:	0	0	0	0	0	1	0	0
3329:	0	0	0	0	0	0	0	1
3337:	0	0	0	0	0	0	1	0
3345:	0	0	0	1	0	0	0	0
3353:	0	0	1	0	0	0	2	0
3361:	1	1	0	0	0	0	0	0
3369:	0	0	0	1	0	0	0	0
3377:	0	0	0	0	0	0	1	0
3385:	0	0	0	0	0	0	0	0

3393: 1 0 1 0 0 0 0 0

Sample Title: CP2107S09-10

Channel	1	0	0	0	1	1	0	1
3401:	1	0	0	0	1	1	0	1
3409:	0	0	0	0	0	0	0	0
3417:	1	0	0	0	0	0	0	1
3425:	0	1	1	0	0	1	0	0
3433:	0	0	1	0	0	0	1	0
3441:	0	0	0	0	0	0	0	0
3449:	0	1	1	0	0	0	1	0
3457:	0	0	0	0	0	0	0	1
3465:	0	0	0	0	0	0	0	0
3473:	0	1	0	0	0	0	0	0
3481:	0	0	0	0	0	0	1	0
3489:	0	0	0	0	0	0	0	0
3497:	0	2	0	0	0	0	0	0
3505:	1	0	1	0	0	1	0	0
3513:	0	0	0	0	0	0	0	0
3521:	0	0	0	0	0	0	0	0
3529:	0	0	1	0	0	0	0	0
3537:	0	0	0	0	0	1	0	1
3545:	1	0	0	0	0	0	0	0
3553:	0	0	0	0	0	0	1	0
3561:	0	0	0	0	0	0	0	0
3569:	0	0	0	0	0	0	1	0
3577:	0	0	0	0	0	0	0	1
3585:	0	0	0	0	0	0	0	0
3593:	0	1	0	0	0	0	0	0
3601:	0	0	0	0	0	0	1	1
3609:	0	0	0	0	0	0	0	0
3617:	1	0	0	0	0	0	0	0
3625:	0	0	0	0	1	0	0	0
3633:	0	0	0	0	0	0	0	1
3641:	0	0	0	0	0	1	0	0
3649:	0	0	0	0	0	0	0	1
3657:	0	0	0	0	0	0	0	0
3665:	0	1	0	0	0	0	0	0
3673:	0	0	0	1	1	0	0	0
3681:	1	0	1	0	0	0	0	0
3689:	0	0	0	1	0	0	0	0
3697:	0	0	0	0	0	0	0	0
3705:	0	0	0	0	0	0	0	0
3713:	0	0	0	0	0	0	0	0
3721:	0	1	0	0	0	0	0	1
3729:	0	0	0	0	0	0	1	0
3737:	0	0	0	1	0	0	0	0
3745:	0	0	0	0	0	0	0	0
3753:	0	0	0	0	0	0	0	1
3761:	0	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0
3777:	0	1	0	0	0	0	0	0
3785:	0	1	0	0	0	0	0	0
3793:	0	0	0	0	0	0	0	1
3801:	0	1	0	0	0	1	0	0
3809:	1	0	0	0	1	0	0	0
3817:	0	0	0	0	0	3	0	0

3825: 1 0 0 0 0 0 0 0

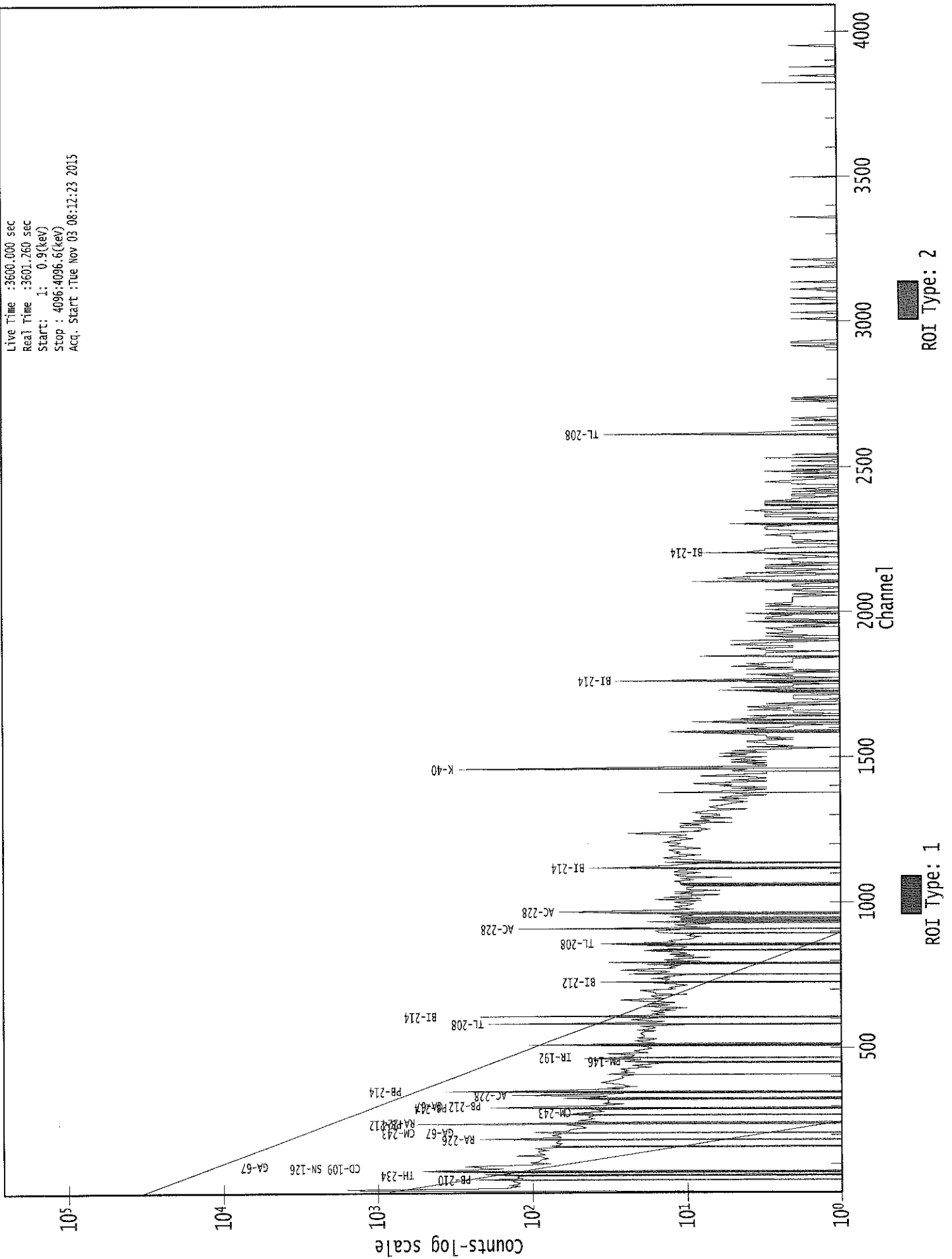
Sample Title: CP2107S09-10

Channel								
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	1	0	2	0	0
3849:	0	0	1	0	0	0	0	0
3857:	0	0	0	0	1	0	0	1
3865:	0	0	0	1	0	0	0	0
3873:	0	0	0	0	2	0	0	0
3881:	0	0	0	0	0	0	0	0
3889:	0	0	0	0	0	0	0	0
3897:	0	0	1	0	0	0	1	0
3905:	1	0	0	0	0	0	0	0
3913:	0	0	0	0	0	0	0	0
3921:	0	0	0	0	0	0	0	0
3929:	0	0	0	0	0	0	1	0
3937:	0	0	0	0	0	0	0	0
3945:	1	0	0	0	0	0	2	0
3953:	0	0	0	0	0	0	0	0
3961:	0	1	0	0	0	0	0	0
3969:	0	0	0	0	0	0	0	0
3977:	0	0	0	0	0	0	1	0
3985:	0	0	1	0	0	0	0	0
3993:	0	0	0	0	0	0	0	0
4001:	0	0	0	0	0	0	0	0
4009:	0	0	0	1	1	0	0	0
4017:	0	0	0	0	0	0	0	0
4025:	0	0	0	0	0	1	0	0
4033:	0	0	0	0	0	0	0	0
4041:	1	0	0	0	0	0	0	0
4049:	0	0	1	0	0	0	0	0
4057:	0	0	0	1	0	0	0	0
4065:	1	0	0	1	1	0	0	0
4073:	0	0	0	0	0	0	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	0	0	1	0	0

0752A

0000029012.CNF

Live Time : 3600.000 sec
Real Time : 3601.260 sec
Start : 1: 0.9(keV)
Stop : 4096:4096.6(keV)
Acq. Start : Tue Nov 03 08:12:23 2015



Analysis Report for 1510063-12
CP2107S11-12

←
1117

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510063-12
Sample Description : CP2107S11-12
Sample Type : SOIL

Sample Size : 6.342E+02 grams
Facility : Countroom

Sample Taken On : 10/6/2015 7:48:16AM
Acquisition Started : 11/3/2015 8:12:30AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE3
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3616.5 seconds

Dead Time : 0.46 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 9 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29013

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/3/15

Analysis Report for 1510063-12
CP2107S11-12

PEAK LOCATE REPORT

Peak Locate Performed on : 11/3/2015 9:12:58AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
1	63.17	63.39	0.0000	0.00
2	76.45	76.67	0.0000	0.00
3	84.50	84.71	0.0000	0.00
4	87.63	87.84	0.0000	0.00
5	92.79	92.99	0.0000	0.00
6	100.10	100.30	0.0000	0.00
7	128.79	128.97	0.0000	0.00
8	154.42	154.59	0.0000	0.00
9	164.85	165.02	0.0000	0.00
10	186.15	186.31	0.0000	0.00
11	238.90	239.02	0.0000	0.00
12	241.95	242.08	0.0000	0.00
13	270.70	270.81	0.0000	0.00
14	278.35	278.46	0.0000	0.00
15	295.52	295.62	0.0000	0.00
16	300.38	300.48	0.0000	0.00
17	328.14	328.23	0.0000	0.00
18	330.63	330.71	0.0000	0.00
19	338.81	338.89	0.0000	0.00
20	352.22	352.29	0.0000	0.00
21	407.62	407.66	0.0000	0.00
22	464.63	464.64	0.0000	0.00
23	511.41	511.40	0.0000	0.00
24	583.36	583.31	0.0000	0.00
25	609.85	609.79	0.0000	0.00
26	619.82	619.76	0.0000	0.00
27	719.80	719.69	0.0000	0.00
28	727.52	727.40	0.0000	0.00
29	769.51	769.38	0.0000	0.00
30	778.52	778.39	0.0000	0.00
31	795.13	794.99	0.0000	0.00
32	860.35	860.18	0.0000	0.00
33	911.26	911.06	0.0000	0.00
34	964.95	964.73	0.0000	0.00
35	969.54	969.32	0.0000	0.00
36	1117.72	1117.44	0.0000	0.00
37	1120.75	1120.46	0.0000	0.00
38	1388.64	1388.25	0.0000	0.00
39	1393.17	1392.77	0.0000	0.00
40	1399.78	1399.38	0.0000	0.00
41	1407.91	1407.51	0.0000	0.00
42	1461.21	1460.79	0.0000	0.00

Analysis Report for 1510063-12
CP2107S11-12

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1508.70	1508.26	0.0000	0.00
44	1520.98	1520.54	0.0000	0.00
45	1542.08	1541.63	0.0000	0.00
46	1553.56	1553.10	0.0000	0.00
47	1588.56	1588.09	0.0000	0.00
48	1594.24	1593.77	0.0000	0.00
49	1622.42	1621.94	0.0000	0.00
50	1730.15	1729.64	0.0000	0.00
51	1752.53	1752.00	0.0000	0.00
52	1764.98	1764.45	0.0000	0.00
53	1918.81	1918.22	0.0000	0.00
54	1927.11	1926.52	0.0000	0.00
55	2093.04	2092.40	0.0000	0.00
56	2103.25	2102.61	0.0000	0.00
57	2204.86	2204.19	0.0000	0.00
58	2338.41	2337.71	0.0000	0.00
59	2614.93	2614.15	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510063-12
CP2107S11-12

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 9:12:58AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
1	63.17	59 -	67	63.39	1.80E+02	132.09	2.57E+03	1.73
2	76.45	72 -	81	76.67	1.21E+03	153.81	2.65E+03	3.84
M 3	84.50	82 -	97	84.71	1.56E+02	72.14	1.08E+03	2.23
m 4	87.63	82 -	97	87.84	3.05E+02	98.80	1.41E+03	2.24
m 5	92.79	82 -	97	92.99	3.60E+02	96.98	1.21E+03	2.25
6	100.10	98 -	103	100.30	9.68E+01	70.32	9.06E+02	3.26
7	128.79	125 -	133	128.97	1.21E+02	94.85	1.31E+03	2.26
8	154.42	151 -	158	154.59	9.35E+01	81.93	1.05E+03	5.01
9	164.85	162 -	167	165.02	6.38E+01	63.17	7.38E+02	2.53
10	186.15	184 -	188	186.31	2.12E+02	58.03	5.59E+02	2.00
M 11	238.90	235 -	245	239.02	8.64E+02	74.38	5.08E+02	1.69
m 12	241.95	235 -	245	242.08	1.57E+02	78.92	5.40E+02	1.89
13	270.70	267 -	274	270.81	7.47E+01	59.77	5.41E+02	1.37
14	278.35	275 -	283	278.46	5.22E+01	58.65	4.92E+02	1.86
M 15	295.52	290 -	303	295.62	2.29E+02	46.30	2.91E+02	1.61
m 16	300.38	290 -	303	300.48	4.18E+01	49.12	4.21E+02	2.29
M 17	328.14	326 -	334	328.23	8.45E+01	29.87	1.40E+02	1.86
m 18	330.63	326 -	334	330.71	3.95E+01	42.96	2.45E+02	2.18
19	338.81	335 -	344	338.89	2.27E+02	59.80	3.85E+02	1.99
20	352.22	347 -	357	352.29	3.86E+02	70.77	4.62E+02	1.86
21	407.62	401 -	413	407.66	6.98E+01	61.71	4.12E+02	7.80
22	464.63	460 -	470	464.64	5.85E+01	50.46	3.09E+02	1.91
23	511.41	507 -	516	511.40	1.43E+02	48.79	2.53E+02	2.71
24	583.36	580 -	588	583.31	2.56E+02	48.32	2.11E+02	2.00
25	609.85	605 -	615	609.79	2.95E+02	51.99	2.03E+02	1.96
26	619.82	616 -	623	619.76	5.61E+01	30.20	1.12E+02	4.84
27	719.80	717 -	722	719.69	2.57E+01	23.17	8.65E+01	2.17
28	727.52	723 -	731	727.40	6.36E+01	35.79	1.59E+02	1.72
29	769.51	765 -	774	769.38	5.34E+01	33.26	1.21E+02	4.86
30	778.52	776 -	781	778.39	2.18E+01	20.54	6.85E+01	3.22
31	795.13	792 -	798	794.99	2.71E+01	25.11	9.59E+01	2.01
32	860.35	857 -	862	860.18	4.51E+01	23.52	7.38E+01	1.79
33	911.26	905 -	915	911.06	1.68E+02	40.82	1.33E+02	2.19
M 34	964.95	959 -	974	964.73	3.86E+01	28.58	8.79E+01	2.92
m 35	969.54	959 -	974	969.32	1.16E+02	28.79	6.53E+01	2.48
M 36	1117.72	1116 -	1123	1117.44	1.07E+01	9.06	2.13E+01	2.00
m 37	1120.75	1116 -	1123	1120.46	6.33E+01	25.31	6.00E+01	2.27
M 38	1388.64	1387 -	1396	1388.25	6.81E+00	6.08	6.00E+00	3.05
m 39	1393.17	1387 -	1396	1392.77	1.48E+01	14.46	1.80E+01	2.89
40	1399.78	1397 -	1403	1399.38	1.20E+01	11.18	1.40E+01	4.88

Analysis Report for 1510063-12

CP2107S11-12

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1407.91	1405 -	1411	1407.51	1.28E+01	15.70	3.63E+01	2.96
42	1461.21	1455 -	1466	1460.79	5.85E+02	53.55	6.66E+01	2.14
43	1508.70	1503 -	1512	1508.26	1.80E+01	11.92	1.00E+01	2.87
44	1520.98	1516 -	1524	1520.54	1.75E+01	11.34	9.00E+00	2.80
45	1542.08	1538 -	1545	1541.63	1.28E+01	11.14	1.23E+01	4.12
46	1553.56	1550 -	1555	1553.10	6.50E+00	6.40	3.00E+00	1.37
47	1588.56	1585 -	1590	1588.09	1.67E+01	12.92	1.87E+01	2.54
48	1594.24	1591 -	1598	1593.77	1.17E+01	14.00	2.66E+01	1.66
49	1622.42	1616 -	1627	1621.94	2.12E+01	17.78	2.56E+01	5.55
50	1730.15	1726 -	1733	1729.64	1.00E+01	9.38	8.00E+00	2.13
51	1752.53	1748 -	1755	1752.00	8.00E+00	5.66	0.00E+00	3.00
52	1764.98	1760 -	1769	1764.45	5.00E+01	16.43	1.00E+01	2.39
53	1918.81	1914 -	1923	1918.22	1.13E+01	9.00	5.36E+00	3.44
54	1927.11	1924 -	1928	1926.52	4.75E+00	5.50	2.50E+00	1.79
55	2093.04	2087 -	2097	2092.40	1.05E+01	9.07	4.92E+00	6.97
56	2103.25	2098 -	2108	2102.61	1.80E+01	8.49	0.00E+00	1.40
57	2204.86	2199 -	2208	2204.19	2.10E+01	9.17	0.00E+00	1.80
58	2338.41	2334 -	2341	2337.71	6.60E+00	8.49	6.80E+00	3.08
59	2614.93	2610 -	2618	2614.15	8.06E+01	18.77	4.82E+00	2.52

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 9:12:58AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
1	63.17	59 -	67	1.80E+02	132.09	2.57E+03	1.06E+02
2	76.45	72 -	81	1.21E+03	153.81	2.65E+03	1.13E+02
M 3	84.50	82 -	97	1.56E+02	72.14	1.08E+03	5.40E+01
m 4	87.63	82 -	97	3.05E+02	98.80	1.41E+03	6.18E+01
m 5	92.79	82 -	97	3.60E+02	96.98	1.21E+03	5.73E+01
6	100.10	98 -	103	9.68E+01	70.32	9.06E+02	5.55E+01
7	128.79	125 -	133	1.21E+02	94.85	1.31E+03	7.58E+01
8	154.42	151 -	158	9.35E+01	81.93	1.05E+03	6.54E+01
9	164.85	162 -	167	6.38E+01	63.17	7.38E+02	5.02E+01

Analysis Report for 1510063-12

CP2107S11-12

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	10	186.15	184 -	188	2.12E+02	58.03	5.59E+02	4.13E+01
M	11	238.90	235 -	245	8.64E+02	74.38	5.08E+02	3.71E+01
m	12	241.95	235 -	245	1.57E+02	78.92	5.40E+02	3.82E+01
	13	270.70	267 -	274	7.47E+01	59.77	5.41E+02	4.70E+01
	14	278.35	275 -	283	5.22E+01	58.65	4.92E+02	4.67E+01
M	15	295.52	290 -	303	2.29E+02	46.30	2.91E+02	2.80E+01
m	16	300.38	290 -	303	4.18E+01	49.12	4.21E+02	3.37E+01
M	17	328.14	326 -	334	8.45E+01	29.87	1.40E+02	1.95E+01
m	18	330.63	326 -	334	3.95E+01	42.96	2.45E+02	2.57E+01
	19	338.81	335 -	344	2.27E+02	59.80	3.85E+02	4.25E+01
	20	352.22	347 -	357	3.86E+02	70.77	4.62E+02	4.84E+01
	21	407.62	401 -	413	6.98E+01	61.71	4.12E+02	4.88E+01
	22	464.63	460 -	470	5.85E+01	50.46	3.09E+02	3.95E+01
	23	511.41	507 -	516	1.43E+02	48.79	2.53E+02	3.49E+01
	24	583.36	580 -	588	2.56E+02	48.32	2.11E+02	2.98E+01
	25	609.85	605 -	615	2.95E+02	51.99	2.03E+02	3.21E+01
	26	619.82	616 -	623	5.61E+01	30.20	1.12E+02	2.16E+01
	27	719.80	717 -	722	2.57E+01	23.17	8.65E+01	1.71E+01
	28	727.52	723 -	731	6.36E+01	35.79	1.59E+02	2.63E+01
	29	769.51	765 -	774	5.34E+01	33.26	1.21E+02	2.46E+01
	30	778.52	776 -	781	2.18E+01	20.54	6.85E+01	1.50E+01
	31	795.13	792 -	798	2.71E+01	25.11	9.59E+01	1.88E+01
	32	860.35	857 -	862	4.51E+01	23.52	7.38E+01	1.59E+01
	33	911.26	905 -	915	1.68E+02	40.82	1.33E+02	2.59E+01
M	34	964.95	959 -	974	3.86E+01	28.58	8.79E+01	1.54E+01
m	35	969.54	959 -	974	1.16E+02	28.79	6.53E+01	1.33E+01
M	36	1117.72	1116 -	1123	1.07E+01	9.06	2.13E+01	7.58E+00
m	37	1120.75	1116 -	1123	6.33E+01	25.31	6.00E+01	1.27E+01
M	38	1388.64	1387 -	1396	6.81E+00	6.08	6.00E+00	4.03E+00
m	39	1393.17	1387 -	1396	1.48E+01	14.46	1.80E+01	6.97E+00
	40	1399.78	1397 -	1403	1.20E+01	11.18	1.40E+01	7.21E+00
	41	1407.91	1405 -	1411	1.28E+01	15.70	3.63E+01	1.15E+01
	42	1461.21	1455 -	1466	5.85E+02	53.55	6.66E+01	1.89E+01
	43	1508.70	1503 -	1512	1.80E+01	11.92	1.00E+01	6.88E+00
	44	1520.98	1516 -	1524	1.75E+01	11.34	9.00E+00	6.29E+00
	45	1542.08	1538 -	1545	1.28E+01	11.14	1.23E+01	7.01E+00
	46	1553.56	1550 -	1555	6.50E+00	6.40	3.00E+00	3.18E+00
	47	1588.56	1585 -	1590	1.67E+01	12.92	1.87E+01	8.24E+00
	48	1594.24	1591 -	1598	1.17E+01	14.00	2.66E+01	1.00E+01
	49	1622.42	1616 -	1627	2.12E+01	17.78	2.56E+01	1.25E+01
	50	1730.15	1726 -	1733	1.00E+01	9.38	8.00E+00	5.70E+00
	51	1752.53	1748 -	1755	8.00E+00	5.66	0.00E+00	0.00E+00
	52	1764.98	1760 -	1769	5.00E+01	16.43	1.00E+01	6.88E+00
	53	1918.81	1914 -	1923	1.13E+01	9.00	5.36E+00	4.91E+00
	54	1927.11	1924 -	1928	4.75E+00	5.50	2.50E+00	2.76E+00
	55	2093.04	2087 -	2097	1.05E+01	9.07	4.92E+00	5.21E+00
	56	2103.25	2098 -	2108	1.80E+01	8.49	0.00E+00	0.00E+00
	57	2204.86	2199 -	2208	2.10E+01	9.17	0.00E+00	0.00E+00
	58	2338.41	2334 -	2341	6.60E+00	8.49	6.80E+00	5.55E+00
	59	2614.93	2610 -	2618	8.06E+01	18.77	4.82E+00	4.49E+00

Analysis Report for 1510063-12
CP2107S11-12

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

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/3/2015 9:12:58AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB
Peak Match Tolerance : 1.000 keV

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
1	63.17	59 -	67	63.39	1.80E+02	132.09	2.57E+03	TH-234 TH-230
M	2	76.45	72 -	81	1.21E+03	153.81	2.65E+03	.....
m	3	84.50	82 -	97	1.56E+02	72.14	1.08E+03	TH-231
	4	87.63	82 -	97	3.05E+02	98.80	1.41E+03	SN-126 CD-109 LU-176
m	5	92.79	82 -	97	3.60E+02	96.98	1.21E+03	GA-67
	6	100.10	98 -	103	9.68E+01	70.32	9.06E+02	LU-173
	7	128.79	125 -	133	1.21E+02	94.85	1.31E+03	.....
	8	154.42	151 -	158	9.35E+01	81.93	1.05E+03	.....
	9	164.85	162 -	167	6.38E+01	63.17	7.38E+02	CS-136 CE-139
M	10	186.15	184 -	188	2.12E+02	58.03	5.59E+02	RA-226
m	11	238.90	235 -	245	8.64E+02	74.38	5.08E+02	PB-212
	12	241.95	235 -	245	1.57E+02	78.92	5.40E+02	RA-224
	13	270.70	267 -	274	7.47E+01	59.77	5.41E+02	.....
	14	278.35	275 -	283	5.22E+01	58.65	4.92E+02	CM-243 NP-239 HG-203
M	15	295.52	290 -	303	2.29E+02	46.30	2.91E+02	PB-214
m	16	300.38	290 -	303	4.18E+01	49.12	4.21E+02	GA-67 PB-212 BI-210M
M	17	328.14	326 -	334	8.45E+01	29.87	1.40E+02	LA-140
m	18	330.63	326 -	334	3.95E+01	42.96	2.45E+02	.....
	19	338.81	335 -	344	3.38E+02	59.80	3.85E+02	AC-228
	20	352.22	347 -	357	3.86E+02	70.77	4.62E+02	PB-214
	21	407.62	401 -	413	6.98E+01	61.71	4.12E+02	.....
	22	464.63	460 -	470	5.85E+01	50.46	3.09E+02	.....

Analysis Report for 1510063-12

CP2107S11-12

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	23	511.41	507 -	516	511.40	1.43E+02	48.79	2.53E+02	.....
	24	583.36	580 -	588	583.31	2.56E+02	48.32	2.11E+02	TL-208
	25	609.85	605 -	615	609.79	2.95E+02	51.99	2.03E+02	BI-214
	26	619.82	616 -	623	619.76	5.61E+01	30.20	1.12E+02	.....
	27	719.80	717 -	722	719.69	2.57E+01	23.17	8.65E+01	SB-126
	28	727.52	723 -	731	727.40	6.36E+01	35.79	1.59E+02	BI-212
	29	769.51	765 -	774	769.38	5.34E+01	33.26	1.21E+02	.....
	30	778.52	776 -	781	778.39	2.18E+01	20.54	6.85E+01	EU-152 MO-99
	31	795.13	792 -	798	794.99	2.71E+01	25.11	9.59E+01	CS-134
	32	860.35	857 -	862	860.18	4.51E+01	23.52	7.38E+01	TL-208
	33	911.26	905 -	915	911.06	1.68E+02	40.82	1.33E+02	AC-228 LU-172
M	34	964.95	959 -	974	964.73	3.86E+01	28.58	8.79E+01	EU-152
m	35	969.54	959 -	974	969.32	1.16E+02	28.79	6.53E+01	AC-228
M	36	1117.72	1116 -	1123	1117.44	1.07E+01	9.06	2.13E+01	.....
m	37	1120.75	1116 -	1123	1120.46	6.33E+01	25.31	6.00E+01	SC-46 BI-214 TA-182
M	38	1388.64	1387 -	1396	1388.25	6.81E+00	6.08	6.00E+00	.....
m	39	1393.17	1387 -	1396	1392.77	1.48E+01	14.46	1.80E+01	.....
	40	1399.78	1397 -	1403	1399.38	1.20E+01	11.18	1.40E+01	.....
	41	1407.91	1405 -	1411	1407.51	1.28E+01	15.70	3.63E+01	EU-152
	42	1461.21	1455 -	1466	1460.79	5.85E+02	53.55	6.66E+01	K-40
	43	1508.70	1503 -	1512	1508.26	1.80E+01	11.92	1.00E+01	.....
	44	1520.98	1516 -	1524	1520.54	1.75E+01	11.34	9.00E+00	.....
	45	1542.08	1538 -	1545	1541.63	1.28E+01	11.14	1.23E+01	.....
	46	1553.56	1550 -	1555	1553.10	6.50E+00	6.40	3.00E+00	.....
	47	1588.56	1585 -	1590	1588.09	1.67E+01	12.92	1.87E+01	.....
	48	1594.24	1591 -	1598	1593.77	1.17E+01	14.00	2.66E+01	.....
	49	1622.42	1616 -	1627	1621.94	2.12E+01	17.78	2.56E+01	.....
	50	1730.15	1726 -	1733	1729.64	1.00E+01	9.38	8.00E+00	.....
	51	1752.53	1748 -	1755	1752.00	8.00E+00	5.66	0.00E+00	.....
	52	1764.98	1760 -	1769	1764.45	5.00E+01	16.43	1.00E+01	BI-214
	53	1918.81	1914 -	1923	1918.22	1.13E+01	9.00	5.36E+00	.....
	54	1927.11	1924 -	1928	1926.52	4.75E+00	5.50	2.50E+00	.....
	55	2093.04	2087 -	2097	2092.40	1.05E+01	9.07	4.92E+00	.....
	56	2103.25	2098 -	2108	2102.61	1.80E+01	8.49	0.00E+00	.....
	57	2204.86	2199 -	2208	2204.19	2.10E+01	9.17	0.00E+00	BI-214
	58	2338.41	2334 -	2341	2337.71	6.60E+00	8.49	6.80E+00	.....
	59	2614.93	2610 -	2618	2614.15	8.06E+01	18.77	4.82E+00	TL-208

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

Analysis Report for 1510063-12
CP2107S11-12

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/3/2015 9:12:58AM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	63.17	1.80E+02	132.09	2.16E-02	1.70E-03
	2	76.45	1.21E+03	153.81	2.38E-02	2.14E-03
M	3	84.50	1.56E+02	72.14	2.43E-02	2.41E-03
m	4	87.63	3.05E+02	98.80	2.44E-02	2.51E-03
m	5	92.79	3.60E+02	96.98	2.44E-02	2.41E-03
	6	100.10	9.68E+01	70.32	2.43E-02	2.24E-03
	7	128.79	1.21E+02	94.85	2.25E-02	1.70E-03
	8	154.42	9.35E+01	81.93	2.06E-02	1.57E-03
	9	164.85	6.38E+01	63.17	1.98E-02	1.52E-03
	10	186.15	2.12E+02	58.03	1.83E-02	1.42E-03
M	11	238.90	8.64E+02	74.38	1.52E-02	1.18E-03
m	12	241.95	1.57E+02	78.92	1.51E-02	1.17E-03
	13	270.70	7.47E+01	59.77	1.38E-02	1.04E-03
	14	278.35	5.22E+01	58.65	1.35E-02	1.00E-03
M	15	295.52	2.29E+02	46.30	1.28E-02	9.74E-04
m	16	300.38	4.18E+01	49.12	1.26E-02	9.67E-04
M	17	328.14	8.45E+01	29.87	1.17E-02	9.27E-04
m	18	330.63	3.95E+01	42.96	1.17E-02	9.24E-04
	19	338.81	2.27E+02	59.80	1.14E-02	9.12E-04
	20	352.22	3.86E+02	70.77	1.11E-02	8.93E-04
	21	407.62	6.98E+01	61.71	9.75E-03	8.21E-04
	22	464.63	5.85E+01	50.46	8.70E-03	7.64E-04
	23	511.41	1.43E+02	48.79	8.01E-03	7.18E-04
	24	583.36	2.56E+02	48.32	7.14E-03	6.46E-04
	25	609.85	2.95E+02	51.99	6.87E-03	6.20E-04
	26	619.82	5.61E+01	30.20	6.77E-03	6.10E-04
	27	719.80	2.57E+01	23.17	5.94E-03	5.20E-04
	28	727.52	6.36E+01	35.79	5.89E-03	5.14E-04
	29	769.51	5.34E+01	33.26	5.61E-03	4.80E-04
	30	778.52	2.18E+01	20.54	5.55E-03	4.72E-04
	31	795.13	2.71E+01	25.11	5.45E-03	4.59E-04
	32	860.35	4.51E+01	23.52	5.10E-03	4.05E-04
	33	911.26	1.68E+02	40.82	4.85E-03	3.72E-04
M	34	964.95	3.86E+01	28.58	4.62E-03	3.62E-04
m	35	969.54	1.16E+02	28.79	4.60E-03	3.61E-04
M	36	1117.72	1.07E+01	9.06	4.08E-03	3.34E-04
m	37	1120.75	6.33E+01	25.31	4.08E-03	3.33E-04
M	38	1388.64	6.81E+00	6.08	3.43E-03	2.80E-04
m	39	1393.17	1.48E+01	14.46	3.42E-03	2.79E-04
	40	1399.78	1.20E+01	11.18	3.40E-03	2.78E-04
	41	1407.91	1.28E+01	15.70	3.39E-03	2.77E-04
	42	1461.21	5.85E+02	53.55	3.29E-03	2.69E-04
	43	1508.70	1.80E+01	11.92	3.21E-03	2.62E-04
	44	1520.98	1.75E+01	11.34	3.19E-03	2.60E-04
	45	1542.08	1.28E+01	11.14	3.16E-03	2.57E-04

Analysis Report for 1510063-12
CP2107S11-12

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
46	1553.56	6.50E+00	6.40	3.14E-03	2.55E-04
47	1588.56	1.67E+01	12.92	3.09E-03	2.50E-04
48	1594.24	1.17E+01	14.00	3.08E-03	2.49E-04
49	1622.42	2.12E+01	17.78	3.04E-03	2.45E-04
50	1730.15	1.00E+01	9.38	2.90E-03	2.29E-04
51	1752.53	8.00E+00	5.66	2.87E-03	2.26E-04
52	1764.98	5.00E+01	16.43	2.86E-03	2.24E-04
53	1918.81	1.13E+01	9.00	2.69E-03	2.13E-04
54	1927.11	4.75E+00	5.50	2.69E-03	2.13E-04
55	2093.04	1.05E+01	9.07	2.54E-03	2.13E-04
56	2103.25	1.80E+01	8.49	2.54E-03	2.13E-04
57	2204.86	2.10E+01	9.17	2.46E-03	2.13E-04
58	2338.41	6.60E+00	8.49	2.38E-03	2.13E-04
59	2614.93	8.06E+01	18.77	2.24E-03	2.13E-04

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

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/3/2015 9:12:58AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.	
	1	63.17	1.80E+02	132.09	5.52E+01	2.05E+01	1.25E+02	1.34E+02
	2	76.45	1.21E+03	153.81			1.21E+03	1.54E+02
M	3	84.50	1.56E+02	72.14	8.68E+00	4.43E+00	1.47E+02	7.23E+01
m	4	87.63	3.05E+02	98.80	1.52E+01	5.37E+00	2.90E+02	9.89E+01
m	5	92.79	3.60E+02	96.98	9.04E+01	2.62E+01	2.69E+02	1.00E+02
	6	100.10	9.68E+01	70.32			9.68E+01	7.03E+01
	7	128.79	1.21E+02	94.85			1.21E+02	9.49E+01
	8	154.42	9.35E+01	81.93			9.35E+01	8.19E+01
	9	164.85	6.38E+01	63.17			6.38E+01	6.32E+01
	10	186.15	2.12E+02	58.03	3.93E+01	6.56E+00	1.73E+02	5.84E+01
M	11	238.90	8.64E+02	74.38	1.34E+01	2.14E+00	8.50E+02	7.44E+01
m	12	241.95	1.57E+02	78.92	2.69E+00	1.46E+00	1.55E+02	7.89E+01
	13	270.70	7.47E+01	59.77			7.47E+01	5.98E+01
	14	278.35	5.22E+01	58.65			5.22E+01	5.86E+01
M	15	295.52	2.29E+02	46.30			2.29E+02	4.63E+01
m	16	300.38	4.18E+01	49.12			4.18E+01	4.91E+01

Analysis Report for 1510063-12

CP2107S11-12

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	17	328.14	8.45E+01	29.87			8.45E+01	2.99E+01
m	18	330.63	3.95E+01	42.96			3.95E+01	4.30E+01
	19	338.81	2.27E+02	59.80			2.27E+02	5.98E+01
	20	352.22	3.86E+02	70.77	3.99E+00	4.73E+00	3.82E+02	7.09E+01
	21	407.62	6.98E+01	61.71			6.98E+01	6.17E+01
	22	464.63	5.85E+01	50.46			5.85E+01	5.05E+01
	23	511.41	1.43E+02	48.79	5.78E+01	4.60E+00	8.55E+01	4.90E+01
	24	583.36	2.56E+02	48.32	5.96E+00	3.46E+00	2.50E+02	4.84E+01
	25	609.85	2.95E+02	51.99	6.71E+00	3.44E+00	2.88E+02	5.21E+01
	26	619.82	5.61E+01	30.20			5.61E+01	3.02E+01
	27	719.80	2.57E+01	23.17			2.57E+01	2.32E+01
	28	727.52	6.36E+01	35.79			6.36E+01	3.58E+01
	29	769.51	5.34E+01	33.26			5.34E+01	3.33E+01
	30	778.52	2.18E+01	20.54			2.18E+01	2.05E+01
	31	795.13	2.71E+01	25.11			2.71E+01	2.51E+01
	32	860.35	4.51E+01	23.52			4.51E+01	2.35E+01
	33	911.26	1.68E+02	40.82	2.32E+00	2.73E+00	1.66E+02	4.09E+01
M	34	964.95	3.86E+01	28.58			3.86E+01	2.86E+01
m	35	969.54	1.16E+02	28.79			1.16E+02	2.88E+01
M	36	1117.72	1.07E+01	9.06			1.07E+01	9.06E+00
m	37	1120.75	6.33E+01	25.31	2.00E+00	2.20E+00	6.13E+01	2.54E+01
M	38	1388.64	6.81E+00	6.08			6.81E+00	6.08E+00
m	39	1393.17	1.48E+01	14.46			1.48E+01	1.45E+01
	40	1399.78	1.20E+01	11.18			1.20E+01	1.12E+01
	41	1407.91	1.28E+01	15.70			1.28E+01	1.57E+01
	42	1461.21	5.85E+02	53.55			5.85E+02	5.36E+01
	43	1508.70	1.80E+01	11.92			1.80E+01	1.19E+01
	44	1520.98	1.75E+01	11.34			1.75E+01	1.13E+01
	45	1542.08	1.28E+01	11.14			1.28E+01	1.11E+01
	46	1553.56	6.50E+00	6.40			6.50E+00	6.40E+00
	47	1588.56	1.67E+01	12.92			1.67E+01	1.29E+01
	48	1594.24	1.17E+01	14.00			1.17E+01	1.40E+01
	49	1622.42	2.12E+01	17.78			2.12E+01	1.78E+01
	50	1730.15	1.00E+01	9.38			1.00E+01	9.38E+00
	51	1752.53	8.00E+00	5.66			8.00E+00	5.66E+00
	52	1764.98	5.00E+01	16.43	1.45E+00	1.16E+00	4.85E+01	1.65E+01
	53	1918.81	1.13E+01	9.00			1.13E+01	9.00E+00
	54	1927.11	4.75E+00	5.50			4.75E+00	5.50E+00
	55	2093.04	1.05E+01	9.07			1.05E+01	9.07E+00
	56	2103.25	1.80E+01	8.49			1.80E+01	8.49E+00
	57	2204.86	2.10E+01	9.17			2.10E+01	9.17E+00
	58	2338.41	6.60E+00	8.49			6.60E+00	8.49E+00
	59	2614.93	8.06E+01	18.77			8.06E+01	1.88E+01

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

Analysis Report for 1510063-12
CP2107S11-12

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/3/2015 9:12:58AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

Corrected Area is: Original * Peak Ratio - Background

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	1	1.80E+02	132.09	5.52E+01	2.05E+01	1.25E+02	1.34E+02
	2	1.21E+03	153.81			1.21E+03	1.54E+02
M	3	1.56E+02	72.14	8.68E+00	4.43E+00	1.47E+02	7.23E+01
m	4	3.05E+02	98.80	1.52E+01	5.37E+00	2.90E+02	9.89E+01
m	5	3.60E+02	96.98	9.04E+01	2.62E+01	2.69E+02	1.00E+02
	6	9.68E+01	70.32			9.68E+01	7.03E+01
	7	1.21E+02	94.85			1.21E+02	9.49E+01
	8	9.35E+01	81.93			9.35E+01	8.19E+01
	9	6.38E+01	63.17			6.38E+01	6.32E+01
	10	2.12E+02	58.03	3.93E+01	6.56E+00	1.73E+02	5.84E+01
M	11	8.64E+02	74.38	1.34E+01	2.14E+00	8.50E+02	7.44E+01
m	12	1.57E+02	78.92	2.69E+00	1.46E+00	1.55E+02	7.89E+01
	13	7.47E+01	59.77			7.47E+01	5.98E+01
	14	5.22E+01	58.65			5.22E+01	5.86E+01
M	15	2.29E+02	46.30			2.29E+02	4.63E+01
m	16	4.18E+01	49.12			4.18E+01	4.91E+01
M	17	8.45E+01	29.87			8.45E+01	2.99E+01
m	18	3.95E+01	42.96			3.95E+01	4.30E+01
	19	2.27E+02	59.80			2.27E+02	5.98E+01
	20	3.86E+02	70.77	3.99E+00	4.73E+00	3.82E+02	7.09E+01
	21	6.98E+01	61.71			6.98E+01	6.17E+01
	22	5.85E+01	50.46			5.85E+01	5.05E+01
	23	1.43E+02	48.79	5.78E+01	4.60E+00	8.55E+01	4.90E+01
	24	2.56E+02	48.32	5.96E+00	3.46E+00	2.50E+02	4.84E+01
	25	2.95E+02	51.99	6.71E+00	3.44E+00	2.88E+02	5.21E+01
	26	5.61E+01	30.20			5.61E+01	3.02E+01
	27	2.57E+01	23.17			2.57E+01	2.32E+01
	28	6.36E+01	35.79			6.36E+01	3.58E+01
	29	5.34E+01	33.26			5.34E+01	3.33E+01
	30	2.18E+01	20.54			2.18E+01	2.05E+01
	31	2.71E+01	25.11			2.71E+01	2.51E+01
	32	4.51E+01	23.52			4.51E+01	2.35E+01
	33	1.68E+02	40.82	2.32E+00	2.73E+00	1.66E+02	4.09E+01
M	34	3.86E+01	28.58			3.86E+01	2.86E+01
m	35	1.16E+02	28.79			1.16E+02	2.88E+01
M	36	1.07E+01	9.06			1.07E+01	9.06E+00
m	37	6.33E+01	25.31	2.00E+00	2.20E+00	6.13E+01	2.54E+01
M	38	6.81E+00	6.08			6.81E+00	6.08E+00
m	39	1.48E+01	14.46			1.48E+01	1.45E+01
	40	1.20E+01	11.18			1.20E+01	1.12E+01
	41	1.28E+01	15.70			1.28E+01	1.57E+01

Analysis Report for 1510063-12

CP2107S11-12

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
42	1461.21	5.85E+02	53.55			5.85E+02	5.36E+01
43	1508.70	1.80E+01	11.92			1.80E+01	1.19E+01
44	1520.98	1.75E+01	11.34			1.75E+01	1.13E+01
45	1542.08	1.28E+01	11.14			1.28E+01	1.11E+01
46	1553.56	6.50E+00	6.40			6.50E+00	6.40E+00
47	1588.56	1.67E+01	12.92			1.67E+01	1.29E+01
48	1594.24	1.17E+01	14.00			1.17E+01	1.40E+01
49	1622.42	2.12E+01	17.78			2.12E+01	1.78E+01
50	1730.15	1.00E+01	9.38			1.00E+01	9.38E+00
51	1752.53	8.00E+00	5.66			8.00E+00	5.66E+00
52	1764.98	5.00E+01	16.43	1.45E+00	1.16E+00	4.85E+01	1.65E+01
53	1918.81	1.13E+01	9.00			1.13E+01	9.00E+00
54	1927.11	4.75E+00	5.50			4.75E+00	5.50E+00
55	2093.04	1.05E+01	9.07			1.05E+01	9.07E+00
56	2103.25	1.80E+01	8.49			1.80E+01	8.49E+00
57	2204.86	2.10E+01	9.17			2.10E+01	9.17E+00
58	2338.41	6.60E+00	8.49			6.60E+00	8.49E+00
59	2614.93	8.06E+01	18.77			8.06E+01	1.88E+01

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.974	1460.81 *	10.67	1.97E+01	2.45E+00
GA-67	0.629	93.31 *	35.70	1.42E+02	5.44E+02
		208.95	2.24		
		300.22 *	16.00	9.47E+01	3.79E+02
CD-109	0.974	88.03 *	3.72	3.94E+00	1.42E+00
SN-126	0.999	87.57 *	37.00	3.80E-01	1.35E-01
CE-139	0.853	165.85 *	80.35	5.47E-02	5.43E-02
HG-203	0.892	279.19 *	77.30	9.02E-02	1.02E-01
TL-208	0.991	583.14 *	30.22	1.37E+00	2.93E-01
		860.37 *	4.48	2.34E+00	1.23E+00
		2614.66 *	35.85	1.19E+00	2.99E-01
BI-212	0.755	727.17 *	11.80	1.08E+00	6.17E-01
		1620.62	2.75		

Analysis Report for 1510063-12
 CP2107S11-12

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
PB-212	0.989	238.63 *	44.60	1.48E+00	1.74E-01
		300.09 *	3.41	1.15E+00	1.35E+00
BI-214	0.957	609.31 *	46.30	1.07E+00	2.17E-01
		1120.29 *	15.10	1.18E+00	4.98E-01
		1764.49 *	15.80	1.27E+00	4.43E-01
		2204.22 *	4.98	2.03E+00	9.02E-01
PB-214	0.986	295.21 *	19.19	1.10E+00	2.38E-01
		351.92 *	37.19	1.10E+00	2.23E-01
RA-224	0.860	240.98 *	3.95	3.08E+00	1.59E+00
RA-226	0.999	186.21 *	3.28	3.42E+00	6.36E+00
AC-228	0.981	338.32 *	11.40	2.06E+00	5.68E-01
		911.07 *	27.70	1.46E+00	3.77E-01
		969.11 *	16.60	1.79E+00	4.68E-01
TH-231	0.315	25.64	14.70		
		84.21 *	6.40	1.12E+00	5.61E-01
TH-234	0.998	63.29 *	3.80	1.80E+00	1.94E+00

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 9:12:58AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
2	76.45	3.35300E-01	6.37		
6	100.10	2.68914E-02	36.32	Tol.	LU-173
7	128.79	3.37470E-02	39.04		
8	154.42	2.59859E-02	43.79		
13	270.70	2.07428E-02	40.02	Sum	
M 17	328.14	2.34640E-02	17.68		
m 18	330.63	1.09805E-02	54.34	Sum	
21	407.62	1.93760E-02	44.23	Sum	
22	464.63	1.62604E-02	43.10	Sum	
23	511.41	2.37521E-02	28.65		
26	619.82	1.55816E-02	26.92		
27	719.80	7.14775E-03	45.03		
29	769.51	1.48294E-02	31.15	Sum	

Analysis Report for 1510063-12
 CP2107S11-12

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
30	778.52	6.04663E-03	47.19	Tol.	MO-99 EU-152
31	795.13	7.51667E-03	46.41	Sum	
M 34	964.95	1.07283E-02	37.00	Tol.	EU-152
M 36	1117.72	2.97510E-03	42.27		
M 38	1388.64	1.89240E-03	44.64		
m 39	1393.17	4.11077E-03	48.84		
40	1399.78	3.33333E-03	46.58	Sum	
41	1407.91	3.56631E-03	61.14	Tol.	EU-152
43	1508.70	5.00000E-03	33.10		
44	1520.98	4.86111E-03	32.39	Sum	
45	1542.08	3.56725E-03	43.36		
46	1553.56	1.80556E-03	49.25	Sum	
47	1588.56	4.62607E-03	38.80	Sum	
48	1594.24	3.25556E-03	59.73		
49	1622.42	5.89052E-03	41.91		
50	1730.15	2.77778E-03	46.90	Sum	
51	1752.53	2.22222E-03	35.36		
53	1918.81	3.14484E-03	39.75		
54	1927.11	1.31944E-03	57.89		
55	2093.04	2.92735E-03	43.03		
56	2103.25	5.00000E-03	23.57	S-Esc	
58	2338.41	1.83333E-03	64.28		

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.97	1460.81 *	10.67	1.97E+01	2.45E+00
GA-67	0.62	93.31 *	35.70	1.42E+02	5.44E+02
		208.95	2.24		
CD-109	0.97	300.22 *	16.00	9.47E+01	3.79E+02
		88.03 *	3.72			3.94E+00	1.42E+00

Analysis Report for 1510063-12

CP2107S11-12

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
SN-126	0.99	87.57 *	37.00	3.80E-01	1.35E-01
CE-139	0.85	165.85 *	80.35	5.47E-02	5.43E-02
HG-203	0.89	279.19 *	77.30	9.02E-02	1.02E-01
TL-208	0.99	583.14 *	30.22	1.37E+00	2.93E-01
		860.37 *	4.48	2.34E+00	1.23E+00
		2614.66 *	35.85	1.19E+00	2.99E-01
BI-212	0.75	727.17 *	11.80	1.08E+00	6.17E-01
		1620.62	2.75		
PB-212	0.98	238.63 *	44.60	1.48E+00	1.74E-01
		300.09 *	3.41	1.15E+00	1.35E+00
BI-214	0.95	609.31 *	46.30	1.07E+00	2.17E-01
		1120.29 *	15.10	1.18E+00	4.98E-01
		1764.49 *	15.80	1.27E+00	4.43E-01
		2204.22 *	4.98	2.03E+00	9.02E-01
PB-214	0.98	295.21 *	19.19	1.10E+00	2.38E-01
		351.92 *	37.19	1.10E+00	2.23E-01
RA-224	0.86	240.98 *	3.95	3.08E+00	1.59E+00
RA-226	0.99	186.21 *	3.28	3.42E+00	6.36E+00
AC-228	0.98	338.32 *	11.40	2.06E+00	5.68E-01
		911.07 *	27.70	1.46E+00	3.77E-01
		969.11 *	16.60	1.79E+00	4.68E-01
TH-231	0.31	25.64	14.70		
		84.21 *	6.40	1.12E+00	5.61E-01
TH-234	0.99	63.29 *	3.80	1.80E+00	1.94E+00

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.974	1.97E+01	2.45E+00	
GA-67	0.629	1.09E+02	4.03E+02	
? CD-109	0.974	3.94E+00	1.42E+00	

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	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
?	SN-126	0.999	3.80E-01	1.35E-01	
	CE-139	0.853	5.47E-02	5.43E-02	
	HG-203	0.892	9.02E-02	1.02E-01	
	TL-208	0.991	1.31E+00	2.06E-01	
	BI-212	0.755	1.08E+00	6.17E-01	
	PB-212	0.989	1.46E+00	1.72E-01	
	BI-214	0.957	1.16E+00	1.78E-01	
	PB-214	0.986	1.10E+00	1.63E-01	
	RA-224	0.860	3.08E+00	1.59E+00	
	RA-226	0.999	3.42E+00	6.36E+00	
	AC-228	0.981	1.69E+00	2.61E-01	
	TH-231	0.315	1.12E+00	5.61E-01	
	TH-234	0.998	1.80E+00	1.94E+00	

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

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UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 9:12:58AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide	
2	76.45	3.35300E-01	6.37			
6	100.10	2.68914E-02	36.32	Tol.	LU-173	
7	128.79	3.37470E-02	39.04			
8	154.42	2.59859E-02	43.79			
13	270.70	2.07428E-02	40.02	Sum		
M	17	328.14	2.34640E-02	17.68		
m	18	330.63	1.09805E-02	54.34	Sum	
21	407.62	1.93760E-02	44.23	Sum		
22	464.63	1.62604E-02	43.10	Sum		
23	511.41	2.37521E-02	28.65			
26	619.82	1.55816E-02	26.92			
27	719.80	7.14775E-03	45.03			
29	769.51	1.48294E-02	31.15	Sum		
30	778.52	6.04663E-03	47.19	Tol.	MO-99 EU-152	
31	795.13	7.51667E-03	46.41	Sum		
M	34	964.95	1.07283E-02	37.00	Tol.	EU-152
M	36	1117.72	2.97510E-03	42.27		
M	38	1388.64	1.89240E-03	44.64		
m	39	1393.17	4.11077E-03	48.84		
40	1399.78	3.33333E-03	46.58	Sum		
41	1407.91	3.56631E-03	61.14	Tol.	EU-152	
43	1508.70	5.00000E-03	33.10			
44	1520.98	4.86111E-03	32.39	Sum		
45	1542.08	3.56725E-03	43.36			
46	1553.56	1.80556E-03	49.25	Sum		
47	1588.56	4.62607E-03	38.80	Sum		
48	1594.24	3.25556E-03	59.73			
49	1622.42	5.89052E-03	41.91			
50	1730.15	2.77778E-03	46.90	Sum		
51	1752.53	2.22222E-03	35.36			
53	1918.81	3.14484E-03	39.75			
54	1927.11	1.31944E-03	57.89			
55	2093.04	2.92735E-03	43.03			
56	2103.25	5.00000E-03	23.57	S-Esc		

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Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
58	2338.41	1.83333E-03	64.28		

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59	10.42	1.83E-01	1.02E+00	1.02E+00
+	NA-22	1274.54	99.94	1.99E-02	1.11E-01	1.11E-01
+	NA-24	1368.53	99.99	-3.50E+11	1.61E+12	2.68E+12
		2754.09	99.86	3.47E+11		1.61E+12
+	AL-26	1808.65	99.76	2.11E-02	6.71E-02	6.71E-02
+	K-40	1460.81	* 10.67	1.97E+01	1.37E+00	1.37E+00
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	-2.22E-03	7.23E-02	7.23E-02
		78.34	96.00	2.39E-01		8.89E-02
+	SC-46	889.25	99.98	1.97E-02	1.05E-01	1.05E-01
		1120.51	99.99	2.59E-01		1.85E-01
+	V-48	983.52	99.98	6.54E-02	3.13E-01	3.13E-01
		1312.10	97.50	-1.11E-02		3.59E-01
+	CR-51	320.08	9.83	-2.70E-03	1.32E+00	1.32E+00
+	MN-54	834.83	99.97	-3.10E-02	1.00E-01	1.00E-01
+	CO-56	846.75	99.96	2.00E-02	9.75E-02	9.75E-02
		1037.75	14.03	-1.27E-01		8.34E-01
		1238.25	67.00	9.73E-02		2.24E-01
		1771.40	15.51	1.52E-02		5.97E-01
		2598.48	16.90	0.00E+00		1.08E-01
+	CO-57	122.06	85.51	2.14E-02	6.05E-02	6.05E-02
		136.48	10.60	8.20E-03		5.00E-01
+	CO-58	810.76	99.40	-8.30E-03	1.01E-01	1.01E-01
+	FE-59	1099.22	56.50	-4.34E-02	2.62E-01	2.62E-01
		1291.56	43.20	3.99E-02		3.84E-01
+	CO-60	1173.22	100.00	4.70E-02	1.15E-01	1.15E-01
		1332.49	100.00	2.84E-02		1.16E-01
+	ZN-65	1115.52	50.75	-1.52E-02	2.26E-01	2.26E-01

Analysis Report for 1510063-12
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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	GA-67	93.31	*	35.70	1.42E+02	1.47E+02	1.47E+02
		208.95		2.24	1.08E+03		1.23E+03
		300.22	*	16.00	9.47E+01		3.09E+02
+	SE-75	121.11		16.70	2.68E-02	9.77E-02	3.31E-01
		136.00		59.20	-1.45E-02		9.77E-02
		264.65		59.80	5.22E-02		1.31E-01
		279.53		25.20	2.72E-01		3.09E-01
		400.65		11.40	2.04E-01		7.48E-01
+	RB-82	776.52		13.00	-2.71E-01	1.32E+00	1.32E+00
+	RB-83	520.41		46.00	1.13E-02	1.85E-01	1.85E-01
		529.64		30.30	-7.73E-02		2.76E-01
		552.65		16.40	1.15E-01		5.92E-01
+	KR-85	513.99		0.43	2.08E+01	2.32E+01	2.32E+01
+	SR-85	513.99		99.27	1.22E-01	1.36E-01	1.36E-01
+	Y-88	898.02		93.40	5.63E-03	8.96E-02	1.04E-01
		1836.01		99.38	-2.21E-02		8.96E-02
+	NB-93M	16.57		9.43	-3.50E+00	8.12E+01	8.12E+01
+	NB-94	702.63		100.00	2.01E-02	8.51E-02	9.04E-02
		871.10		100.00	-1.49E-03		8.51E-02
+	NB-95	765.79		99.81	1.37E-02	1.73E-01	1.73E-01
+	NB-95M	235.69		25.00	5.37E+00	1.02E+02	1.02E+02
+	ZR-95	724.18		43.70	-4.63E-01	2.28E-01	2.85E-01
		756.72		55.30	1.18E-03		2.28E-01
		181.06		6.20	3.27E+02	7.50E+02	1.06E+03
+	MO-99	739.58		12.80	1.22E+02		7.50E+02
		778.00		4.50	-1.38E+02		2.13E+03
		497.08		89.00	-4.53E-03	1.34E-01	1.34E-01
+	RU-106	621.84		9.80	0.00E+00	8.97E-01	8.97E-01
+	AG-108M	433.93		89.90	-3.70E-02	7.41E-02	7.41E-02
		614.37		90.40	-4.89E-01		9.93E-02
		722.95		90.50	-2.07E-01		9.74E-02
+	CD-109	88.03	*	3.72	3.94E+00	3.75E+00	3.75E+00
+	AG-110M	657.75		93.14	-3.93E-02	9.19E-02	9.19E-02
		677.61		10.53	2.05E-01		7.86E-01
		706.67		16.46	2.53E-01		6.25E-01
		763.93		21.98	9.84E-02		4.52E-01
		884.67		71.63	-6.36E-03		1.21E-01
		1384.27		23.94	-1.15E-01		3.41E-01
+	CD-113M	263.70		0.02	2.69E+01	2.86E+02	2.86E+02
+	SN-113	255.12		1.93	-9.79E-02	1.29E-01	3.97E+00
		391.69		64.90	4.72E-02		1.29E-01
+	TE123M	159.00		84.10	-3.74E-03	7.18E-02	7.18E-02
+	SB-124	602.71		97.87	5.76E-03	1.09E-01	1.09E-01
		645.85		7.26	4.63E-02		1.52E+00
		722.78		11.10	-2.33E+00		1.10E+00
		1691.02		49.00	1.13E-01		2.54E-01
+	I-125	35.49		6.49	-7.13E-01	2.95E+00	2.95E+00
+	SB-125	176.33		6.89	-5.20E-01	2.22E-01	7.57E-01

Analysis Report for 1510063-12
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Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
SB-125	427.89	29.33	-8.33E-02	2.22E-01	2.22E-01
	463.38	10.35	3.84E-01		
	600.56	17.80	-1.32E-02		
	635.90	11.32	2.48E-01		
+ SB-126	414.70	83.30	-9.07E-02	3.66E-01	3.72E-01
	666.33	99.60	-1.61E-01		
	695.00	99.60	-2.10E-01		
	720.50	53.80	2.92E-01		
+ SN-126	87.57	* 37.00	3.80E-01	3.62E-01	3.62E-01
+ SB-127	473.00	25.00	-3.10E+01	3.42E+01	4.33E+01
	685.20	35.70	-2.06E+00		
	783.80	14.70	3.71E+01		
+ I-129	29.78	57.00	-4.87E-02	4.46E-01	4.46E-01
	33.60	13.20	-5.10E-01		
	39.58	7.52	-6.60E-01		
+ I-131	284.30	6.05	-9.32E-01	8.98E-01	1.13E+01
	364.48	81.20	-1.46E-01		
	636.97	7.26	-1.69E+00		
	722.89	1.80	-1.17E+02		
+ TE-132	49.72	13.10	-3.59E+02	2.81E+01	2.25E+02
	228.16	88.00	-1.40E+01		
+ BA-133	81.00	33.00	-1.12E+00	1.47E-01	1.79E-01
	302.84	17.80	7.24E-02		
	356.01	60.00	2.72E-03		
+ I-133	529.87	86.30	-1.19E+08	4.24E+08	4.24E+08
+ XE-133	81.00	38.00	-3.95E+01	6.29E+00	6.29E+00
+ CS-134	563.23	8.38	3.85E-01	8.21E-02	9.37E-01
	569.32	15.43	5.86E-02		
	604.70	97.60	7.20E-04		
	795.84	85.40	9.62E-02		
	801.93	8.73	6.07E-02		
+ CS-135	268.24	16.00	1.26E-01	4.63E-01	4.63E-01
+ @ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@ 1260.41	28.60	1.00E+26		
	@ 1678.03	9.54	1.00E+26		
+ CS-136	153.22	7.46	1.26E-01	3.45E-01	3.24E+00
	163.89	4.61	4.71E+00		
	176.55	13.56	-2.73E-01		
	273.65	12.66	6.32E-02		
	340.57	48.50	1.97E+00		
	818.50	99.70	-1.90E-02		
	1048.07	79.60	-6.11E-02		
	1235.34	19.70	2.09E+00		
	+ CS-137	661.65	85.12			3.83E-02	1.00E-01	1.00E-01
+ LA-138	788.74	34.00	2.31E-02	1.40E-01	2.36E-01
	1435.80	66.00	-1.88E-02		
+ CE-139	165.85	* 80.35	5.47E-02	8.86E-02	8.86E-02
+ BA-140	162.64	6.70	1.08E+00	1.35E+00	3.69E+00
	304.84	4.50	1.83E+00		

Analysis Report for 1510063-12
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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	BA-140	423.70	3.20	-7.45E-01	1.35E+00	9.32E+00
		437.55	2.00	-5.01E+00		1.59E+01
		537.32	25.00	4.39E-01		1.35E+00
+	LA-140	328.77	20.50	2.32E+00	5.19E-01	1.69E+00
		487.03	45.50	6.91E-02		7.46E-01
		815.85	23.50	2.92E-01		1.58E+00
		1596.49	95.49	9.82E-02		5.19E-01
+	CE-141	145.44	48.40	-9.22E-02	1.92E-01	1.92E-01
+	CE-143	57.36	11.80	-1.86E+05	2.91E+05	8.45E+05
		293.26	42.00	5.40E+05		2.91E+05
		664.55	5.20	1.41E+06		2.31E+06
+	CE-144	133.54	10.80	1.10E-01	4.89E-01	4.89E-01
+	PM-144	476.78	42.00	1.01E-01	8.49E-02	1.85E-01
		618.01	98.60	2.88E-02		9.23E-02
		696.49	99.49	-2.58E-02		8.49E-02
+	PM-145	36.85	21.70	-2.07E-01	3.16E-01	5.81E-01
		37.36	39.70	2.80E-01		3.16E-01
		42.30	15.10	-8.37E-01		6.21E-01
		72.40	2.31	-4.11E+00		3.45E+00
+	PM-146	453.90	39.94	-3.92E-02	1.76E-01	1.76E-01
		735.90	14.01	-1.98E-01		5.76E-01
		747.13	13.10	-3.15E-02		6.60E-01
+	ND-147	91.11	28.90	-2.21E-01	1.42E+00	1.42E+00
		531.02	13.10	-1.68E+00		2.98E+00
+	PM-149	285.90	3.10	3.01E+03	1.31E+04	1.31E+04
+	EU-152	121.78	20.50	8.31E-02	2.36E-01	2.36E-01
		244.69	5.40	4.07E-01		1.44E+00
		344.27	19.13	-4.73E-03		3.39E-01
		778.89	9.20	1.42E-01		9.29E-01
		964.01	10.40	-1.63E+00		1.12E+00
		1085.78	7.22	-9.52E-01		1.22E+00
		1112.02	9.60	4.15E-02		1.05E+00
		1407.95	14.94	2.73E-01		7.28E-01
+	GD-153	97.43	31.30	-2.50E-01	1.69E-01	1.69E-01
		103.18	22.20	-7.71E-02		2.32E-01
+	EU-154	123.07	40.50	5.57E-02	1.21E-01	1.21E-01
		723.30	19.70	-9.57E-01		4.50E-01
		873.19	11.50	-2.47E-02		6.98E-01
		996.32	10.30	4.91E-02		9.65E-01
		1004.76	17.90	2.13E-01		5.16E-01
		1274.45	35.50	5.53E-02		3.07E-01
+	EU-155	86.50	30.90	7.60E-02	2.25E-01	2.25E-01
		105.30	20.70	1.61E-02		2.34E-01
+	EU-156	811.77	10.40	-5.23E-01	2.64E+00	2.64E+00
		1153.47	7.20	5.20E-01		5.89E+00
		1230.71	8.90	-3.31E+00		3.83E+00
+	HO-166M	184.41	72.60	1.69E-01	9.45E-02	9.45E-02
		280.45	29.60	3.90E-02		2.14E-01
		410.94	11.10	4.66E-01		6.64E-01

Analysis Report for 1510063-12

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	HO-166M	711.69	54.10	9.58E-02	9.45E-02	1.69E-01
+	TM-171	66.72	0.14	1.39E+01	5.06E+01	5.06E+01
+	HF-172	81.75	4.52	-5.25E+00	4.54E-01	1.34E+00
		125.81	11.30	-3.93E-01		4.54E-01
+	LU-172	181.53	20.60	2.73E-01	2.81E+00	4.80E+00
		810.06	16.63	4.55E-01		8.75E+00
		912.12	15.25	4.62E+01		2.00E+01
		1093.66	62.50	-6.44E-02		2.81E+00
+	LU-173	100.72	5.24	8.07E-01	3.58E-01	9.96E-01
		272.11	21.20	2.50E-01		3.58E-01
+	HF-175	343.40	84.00	-1.41E-03	1.09E-01	1.09E-01
+	LU-176	88.34	13.30	2.34E-01	7.11E-02	5.40E-01
		201.83	86.00	7.10E-03		7.58E-02
		306.78	94.00	-2.90E-03		7.11E-02
+	TA-182	67.75	41.20	-6.04E-03	1.96E-01	1.96E-01
		1121.30	34.90	4.96E-01		4.79E-01
		1189.05	16.23	-8.30E-02		8.29E-01
		1221.41	26.98	-8.18E-02		5.10E-01
		1231.02	11.44	-3.67E-01		1.06E+00
+	IR-192	308.46	29.68	-1.23E-01	1.90E-01	2.85E-01
		468.07	48.10	-1.71E-01		1.90E-01
+	HG-203	279.19	* 77.30	9.02E-02	1.66E-01	1.66E-01
+	BI-207	569.67	97.72	2.15E-02	7.72E-02	7.72E-02
		1063.62	74.90	5.69E-02		1.38E-01
+	TL-208	583.14	* 30.22	1.37E+00	1.73E-01	3.46E-01
		860.37	* 4.48	2.34E+00		1.79E+00
		2614.66	* 35.85	1.19E+00		1.73E-01
+	BI-210M	262.00	45.00	-8.53E-03	1.46E-01	1.46E-01
		300.00	23.00	-1.25E+00		3.07E-01
+	PB-210	46.50	4.25	2.79E+00	2.16E+00	2.16E+00
+	PB-211	404.84	2.90	-2.30E+00	2.42E+00	2.42E+00
		831.96	2.90	-1.21E+00		3.02E+00
+	BI-212	727.17	* 11.80	1.08E+00	9.44E-01	9.44E-01
		1620.62	2.75	1.70E+00		3.99E+00
+	PB-212	238.63	* 44.60	1.48E+00	2.45E-01	2.45E-01
		300.09	* 3.41	1.15E+00		3.74E+00
+	BI-214	609.31	* 46.30	1.07E+00	2.52E-01	2.52E-01
		1120.29	* 15.10	1.18E+00		7.01E-01
		1764.49	* 15.80	1.27E+00		4.50E-01
		2204.22	* 4.98	2.03E+00		2.61E-01
+	PB-214	295.21	* 19.19	1.10E+00	2.88E-01	6.42E-01
		351.92	* 37.19	1.10E+00		2.88E-01
+	RN-219	401.80	6.50	1.64E-01	1.11E+00	1.11E+00
+	RA-223	323.87	3.88	4.69E-01	1.67E+00	1.67E+00
+	RA-224	240.98	* 3.95	3.08E+00	2.80E+00	2.80E+00
+	RA-225	40.00	31.00	-5.81E-01	1.24E+00	1.24E+00
+	RA-226	186.21	* 3.28	3.42E+00	1.75E+00	1.75E+00
+	TH-227	50.10	8.40	-1.42E+00	8.91E-01	8.91E-01

Analysis Report for 1510063-12
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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	TH-227	236.00		11.50	5.36E-02	8.91E-01	1.01E+00
		256.20		6.30	7.76E-01		1.06E+00
+	AC-228	338.32	*	11.40	2.06E+00	4.84E-01	7.97E-01
		911.07	*	27.70	1.46E+00		4.84E-01
		969.11	*	16.60	1.79E+00		9.77E-01
+	TH-230	48.44		16.90	-5.65E-02	4.95E-01	4.95E-01
		62.85		4.60	1.92E+00		1.70E+00
		67.67		0.37	-5.68E-01		1.85E+01
+	PA-231	283.67		1.60	-3.14E-01	3.16E+00	3.82E+00
		302.67		2.30	5.57E-01		3.16E+00
+	TH-231	25.64		14.70	-9.24E-01	2.07E+00	3.28E+00
		84.21	*	6.40	1.12E+00		2.07E+00
+	PA-233	311.98		38.60	-7.72E-02	3.54E-01	3.54E-01
+	PA-234	131.20		20.40	1.93E-01	2.65E-01	2.65E-01
		733.99		8.80	4.86E-02		9.39E-01
		946.00		12.00	-1.58E-01		7.05E-01
+	PA-234M	1001.03		0.92	7.76E+00	1.13E+01	1.13E+01
+	TH-234	63.29	*	3.80	1.80E+00	3.17E+00	3.17E+00
+	U-235	143.76		10.50	7.05E-02	4.92E-01	4.92E-01
		163.35		4.70	1.05E+00		1.18E+00
		205.31		4.70	-2.37E+00		1.37E+00
+	NP-237	86.50		12.60	1.84E-01	5.47E-01	5.47E-01
+	NP-239	106.10		22.70	1.22E+02	8.09E+02	8.09E+02
		228.18		10.70	-1.14E+03		2.28E+03
		277.60		14.10	1.20E+03		1.81E+03
+	AM-241	59.54		35.90	-6.81E-02	2.09E-01	2.09E-01
+	AM-243	74.67		66.00	2.02E-01	1.38E-01	1.38E-01
+	CM-243	209.75		3.29	4.82E-01	4.77E-01	2.11E+00
		228.14		10.60	-3.00E-01		6.00E-01
		277.60		14.00	3.16E-01		4.77E-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
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

Analysis Report for 1510063-12
CP2107S11-12

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
BE-7	477.59	10.42	1.02E+00	1.02E+00	1.83E-01	4.84E-01
NA-22	1274.54	99.94	1.11E-01	1.11E-01	1.99E-02	5.09E-02
NA-24	1368.53	99.99	2.68E+12	1.61E+12	-3.50E+11	1.19E+12
	2754.09	99.86	1.61E+12		3.47E+11	5.70E+11
AL-26	1808.65	99.76	6.71E-02	6.71E-02	2.11E-02	2.78E-02
+ K-40	1460.81	*	1.37E+00	1.37E+00	1.97E+01	6.38E-01
@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
TI-44	67.88	94.40	7.23E-02	7.23E-02	-2.22E-03	3.54E-02
	78.34	96.00	8.89E-02		2.39E-01	4.37E-02
SC-46	889.25	99.98	1.05E-01	1.05E-01	1.97E-02	4.86E-02
	1120.51	99.99	1.85E-01		2.59E-01	8.73E-02
V-48	983.52	99.98	3.13E-01	3.13E-01	6.54E-02	1.45E-01
	1312.10	97.50	3.59E-01		-1.11E-02	1.64E-01
CR-51	320.08	9.83	1.32E+00	1.32E+00	-2.70E-03	6.33E-01
MN-54	834.83	99.97	1.00E-01	1.00E-01	-3.10E-02	4.69E-02
CO-56	846.75	99.96	9.75E-02	9.75E-02	2.00E-02	4.48E-02
	1037.75	14.03	8.34E-01		-1.27E-01	3.83E-01
	1238.25	67.00	2.24E-01		9.73E-02	1.04E-01
	1771.40	15.51	5.97E-01		1.52E-02	2.52E-01
	2598.48	16.90	1.08E-01		0.00E+00	0.00E+00
CO-57	122.06	85.51	6.05E-02	6.05E-02	2.14E-02	2.94E-02
	136.48	10.60	5.00E-01		8.20E-03	2.43E-01
CO-58	810.76	99.40	1.01E-01	1.01E-01	-8.30E-03	4.66E-02
FE-59	1099.22	56.50	2.62E-01	2.62E-01	-4.34E-02	1.21E-01
	1291.56	43.20	3.84E-01		3.99E-02	1.76E-01
CO-60	1173.22	100.00	1.15E-01	1.15E-01	4.70E-02	5.35E-02
	1332.49	100.00	1.16E-01		2.84E-02	5.33E-02
ZN-65	1115.52	50.75	2.26E-01	2.26E-01	-1.52E-02	1.05E-01
+ GA-67	93.31	*	1.47E+02	1.47E+02	1.42E+02	7.26E+01
	208.95	2.24	1.23E+03		1.08E+03	5.98E+02
	300.22	*	3.09E+02		9.47E+01	1.51E+02
SE-75	121.11	16.70	3.31E-01	9.77E-02	2.68E-02	1.61E-01
	136.00	59.20	9.77E-02		-1.45E-02	4.74E-02
	264.65	59.80	1.31E-01		5.22E-02	6.31E-02
	279.53	25.20	3.09E-01		2.72E-01	1.49E-01
	400.65	11.40	7.48E-01		2.04E-01	3.57E-01
RB-82	776.52	13.00	1.32E+00	1.32E+00	-2.71E-01	6.15E-01
RB-83	520.41	46.00	1.85E-01	1.85E-01	1.13E-02	8.72E-02
	529.64	30.30	2.76E-01		-7.73E-02	1.30E-01
	552.65	16.40	5.92E-01		1.15E-01	2.80E-01
KR-85	513.99	0.43	2.32E+01	2.32E+01	2.08E+01	1.11E+01
SR-85	513.99	99.27	1.36E-01	1.36E-01	1.22E-01	6.53E-02
Y-88	898.02	93.40	1.04E-01	8.96E-02	5.63E-03	4.78E-02
	1836.01	99.38	8.96E-02		-2.21E-02	3.79E-02
NB-93M	16.57	9.43	8.12E+01	8.12E+01	-3.50E+00	3.96E+01

Analysis Report for 1510063-12
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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
NB-94	702.63	100.00	9.04E-02	8.51E-02	2.01E-02	4.26E-02
	871.10	100.00	8.51E-02		-1.49E-03	3.94E-02
NB-95	765.79	99.81	1.73E-01	1.73E-01	1.37E-02	8.18E-02
NB-95M	235.69	25.00	1.02E+02	1.02E+02	5.37E+00	4.99E+01
ZR-95	724.18	43.70	2.85E-01	2.28E-01	-4.63E-01	1.34E-01
	756.72	55.30	2.28E-01		1.18E-03	1.07E-01
MO-99	181.06	6.20	1.06E+03	7.50E+02	3.27E+02	5.12E+02
	739.58	12.80	7.50E+02		1.22E+02	3.50E+02
	778.00	4.50	2.13E+03		-1.38E+02	9.90E+02
RU-103	497.08	89.00	1.34E-01	1.34E-01	-4.53E-03	6.33E-02
RU-106	621.84	9.80	8.97E-01	8.97E-01	0.00E+00	4.23E-01
AG-108M	433.93	89.90	7.41E-02	7.41E-02	-3.70E-02	3.51E-02
	614.37	90.40	9.93E-02		-4.89E-01	4.71E-02
	722.95	90.50	9.74E-02		-2.07E-01	4.57E-02
+ CD-109	88.03	* 3.72	3.75E+00	3.75E+00	3.94E+00	1.86E+00
AG-110M	657.75	93.14	9.19E-02	9.19E-02	-3.93E-02	4.31E-02
	677.61	10.53	7.86E-01		2.05E-01	3.67E-01
	706.67	16.46	6.25E-01		2.53E-01	2.95E-01
	763.93	21.98	4.52E-01		9.84E-02	2.12E-01
	884.67	71.63	1.21E-01		-6.36E-03	5.54E-02
	1384.27	23.94	3.41E-01		-1.15E-01	1.49E-01
CD-113M	263.70	0.02	2.86E+02	2.86E+02	2.69E+01	1.38E+02
SN-113	255.12	1.93	3.97E+00	1.29E-01	-9.79E-02	1.92E+00
	391.69	64.90	1.29E-01		4.72E-02	6.16E-02
TE123M	159.00	84.10	7.18E-02	7.18E-02	-3.74E-03	3.48E-02
SB-124	602.71	97.87	1.09E-01	1.09E-01	5.76E-03	5.10E-02
	645.85	7.26	1.52E+00		4.63E-02	7.13E-01
	722.78	11.10	1.10E+00		-2.33E+00	5.14E-01
	1691.02	49.00	2.54E-01		1.13E-01	1.12E-01
I-125	35.49	6.49	2.95E+00	2.95E+00	-7.13E-01	1.44E+00
SB-125	176.33	6.89	7.57E-01	2.22E-01	-5.20E-01	3.66E-01
	427.89	29.33	2.22E-01		-8.33E-02	1.05E-01
	463.38	10.35	7.85E-01		3.84E-01	3.74E-01
	600.56	17.80	4.49E-01		-1.32E-02	2.11E-01
	635.90	11.32	7.05E-01		2.48E-01	3.31E-01
SB-126	414.70	83.30	3.72E-01	3.66E-01	-9.07E-02	1.76E-01
	666.33	99.60	3.97E-01		-1.61E-01	1.87E-01
	695.00	99.60	3.66E-01		-2.10E-01	1.70E-01
	720.50	53.80	7.78E-01		2.92E-01	3.65E-01
+ SN-126	87.57	* 37.00	3.62E-01	3.62E-01	3.80E-01	1.79E-01
SB-127	473.00	25.00	4.33E+01	3.42E+01	-3.10E+01	2.05E+01
	685.20	35.70	3.42E+01		-2.06E+00	1.60E+01
	783.80	14.70	9.33E+01		3.71E+01	4.36E+01
I-129	29.78	57.00	4.46E-01	4.46E-01	-4.87E-02	2.17E-01
	33.60	13.20	1.25E+00		-5.10E-01	6.10E-01
	39.58	7.52	1.40E+00		-6.60E-01	6.82E-01
I-131	284.30	6.05	1.13E+01	8.98E-01	-9.32E-01	5.44E+00
	364.48	81.20	8.98E-01		-1.46E-01	4.28E-01
	636.97	7.26	1.18E+01		-1.69E+00	5.54E+00
	722.89	1.80	5.49E+01		-1.17E+02	2.58E+01
TE-132	49.72	13.10	2.25E+02	2.81E+01	-3.59E+02	1.10E+02
	228.16	88.00	2.81E+01		-1.40E+01	1.36E+01
BA-133	81.00	33.00	1.79E-01	1.47E-01	-1.12E+00	8.73E-02

Analysis Report for 1510063-12
CP2107S11-12

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)	
BA-133	302.84	17.80	4.10E-01	1.47E-01	7.24E-02	1.98E-01	
	356.01	60.00	1.47E-01		2.72E-03	7.10E-02	
I-133	529.87	86.30	4.24E+08	4.24E+08	-1.19E+08	1.99E+08	
XE-133	81.00	38.00	6.29E+00	6.29E+00	-3.95E+01	3.07E+00	
CS-134	563.23	8.38	9.37E-01	8.21E-02	3.85E-01	4.42E-01	
	569.32	15.43	4.98E-01		5.86E-02	2.34E-01	
	604.70	97.60	8.21E-02		7.20E-04	3.86E-02	
	795.84	85.40	1.16E-01		9.62E-02	5.47E-02	
	801.93	8.73	9.72E-01		6.07E-02	4.51E-01	
CS-135	268.24	16.00	4.63E-01	4.63E-01	1.26E-01	2.24E-01	
@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20	
@	1260.41	28.60	1.00E+26		1.00E+26	1.00E+20	
@	1678.03	9.54	1.00E+26		1.00E+26	1.00E+20	
CS-136	153.22	7.46	3.24E+00	3.45E-01	1.26E-01	1.58E+00	
	163.89	4.61	5.29E+00		4.71E+00	2.57E+00	
	176.55	13.56	1.71E+00		-2.73E-01	8.27E-01	
	273.65	12.66	2.46E+00		6.32E-02	1.19E+00	
	340.57	48.50	8.52E-01		1.97E+00	4.13E-01	
	818.50	99.70	3.45E-01		-1.90E-02	1.59E-01	
	1048.07	79.60	4.63E-01		-6.11E-02	2.11E-01	
	1235.34	19.70	2.77E+00		2.09E+00	1.29E+00	
	CS-137	661.65	85.12	1.00E-01	1.00E-01	3.83E-02	4.73E-02
	LA-138	788.74	34.00	2.36E-01	1.40E-01	2.31E-02	1.09E-01
1435.80		66.00	1.40E-01		-1.88E-02	6.25E-02	
+ CE-139	165.85	* 80.35	8.86E-02	8.86E-02	5.47E-02	4.31E-02	
BA-140	162.64	6.70	3.69E+00	1.35E+00	1.08E+00	1.79E+00	
	304.84	4.50	6.85E+00		1.83E+00	3.29E+00	
	423.70	3.20	9.32E+00		-7.45E-01	4.42E+00	
	437.55	2.00	1.59E+01		-5.01E+00	7.55E+00	
	537.32	25.00	1.35E+00		4.39E-01	6.37E-01	
LA-140	328.77	20.50	1.69E+00	5.19E-01	2.32E+00	8.15E-01	
	487.03	45.50	7.46E-01		6.91E-02	3.54E-01	
	815.85	23.50	1.58E+00		2.92E-01	7.31E-01	
	1596.49	95.49	5.19E-01		9.82E-02	2.35E-01	
CE-141	145.44	48.40	1.92E-01	1.92E-01	-9.22E-02	9.33E-02	
CE-143	57.36	11.80	8.45E+05	2.91E+05	-1.86E+05	4.13E+05	
	293.26	42.00	2.91E+05		5.40E+05	1.41E+05	
	664.55	5.20	2.31E+06		1.41E+06	1.09E+06	
CE-144	133.54	10.80	4.89E-01	4.89E-01	1.10E-01	2.37E-01	
PM-144	476.78	42.00	1.85E-01	8.49E-02	1.01E-01	8.79E-02	
	618.01	98.60	9.23E-02		2.88E-02	4.36E-02	
	696.49	99.49	8.49E-02		-2.58E-02	3.97E-02	
PM-145	36.85	21.70	5.81E-01	3.16E-01	-2.07E-01	2.82E-01	
	37.36	39.70	3.16E-01		2.80E-01	1.54E-01	
	42.30	15.10	6.21E-01		-8.37E-01	3.02E-01	
	72.40	2.31	3.45E+00		-4.11E+00	1.70E+00	
PM-146	453.90	39.94	1.76E-01	1.76E-01	-3.92E-02	8.33E-02	
	735.90	14.01	5.76E-01		-1.98E-01	2.68E-01	
	747.13	13.10	6.60E-01		-3.15E-02	3.09E-01	
ND-147	91.11	28.90	1.42E+00	1.42E+00	-2.21E-01	6.95E-01	
	531.02	13.10	2.98E+00		-1.68E+00	1.40E+00	
PM-149	285.90	3.10	1.31E+04	1.31E+04	3.01E+03	6.28E+03	
EU-152	121.78	20.50	2.36E-01	2.36E-01	8.31E-02	1.14E-01	

Analysis Report for 1510063-12
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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
EU-152	244.69	5.40	1.44E+00	2.36E-01	4.07E-01	6.98E-01
	344.27	19.13	3.39E-01		-4.73E-03	1.62E-01
	778.89	9.20	9.29E-01		1.42E-01	4.33E-01
	964.01	10.40	1.12E+00		-1.63E+00	5.27E-01
	1085.78	7.22	1.22E+00		-9.52E-01	5.57E-01
	1112.02	9.60	1.05E+00		4.15E-02	4.86E-01
	1407.95	14.94	7.28E-01		2.73E-01	3.32E-01
GD-153	97.43	31.30	1.69E-01	1.69E-01	-2.50E-01	8.21E-02
	103.18	22.20	2.32E-01		-7.71E-02	1.13E-01
EU-154	123.07	40.50	1.21E-01	1.21E-01	5.57E-02	5.89E-02
	723.30	19.70	4.50E-01		-9.57E-01	2.11E-01
	873.19	11.50	6.98E-01		-2.47E-02	3.21E-01
	996.32	10.30	9.65E-01		4.91E-02	4.48E-01
	1004.76	17.90	5.16E-01		2.13E-01	2.38E-01
EU-155	1274.45	35.50	3.07E-01	2.25E-01	5.53E-02	1.41E-01
	86.50	30.90	2.25E-01		7.60E-02	1.11E-01
EU-156	105.30	20.70	2.34E-01	2.64E+00	1.61E-02	1.14E-01
	811.77	10.40	2.64E+00		-5.23E-01	1.22E+00
HO-166M	1153.47	7.20	5.89E+00	9.45E-02	5.20E-01	2.74E+00
	1230.71	8.90	3.83E+00		-3.31E+00	1.74E+00
	184.41	72.60	9.45E-02		1.69E-01	4.60E-02
	280.45	29.60	2.14E-01		3.90E-02	1.03E-01
TM-171	410.94	11.10	6.64E-01	5.06E+01	4.66E-01	3.17E-01
	711.69	54.10	1.69E-01		9.58E-02	7.96E-02
	66.72	0.14	5.06E+01		1.39E+01	2.48E+01
HF-172	81.75	4.52	1.34E+00	4.54E-01	-5.25E+00	6.57E-01
	125.81	11.30	4.54E-01		-3.93E-01	2.21E-01
LU-172	181.53	20.60	4.80E+00	2.81E+00	2.73E-01	2.32E+00
	810.06	16.63	8.75E+00		4.55E-01	4.05E+00
	912.12	15.25	2.00E+01		4.62E+01	9.63E+00
	1093.66	62.50	2.81E+00		-6.44E-02	1.29E+00
LU-173	100.72	5.24	9.96E-01	3.58E-01	8.07E-01	4.85E-01
	272.11	21.20	3.58E-01		2.50E-01	1.73E-01
HF-175	343.40	84.00	1.09E-01	1.09E-01	-1.41E-03	5.21E-02
LU-176	88.34	13.30	5.40E-01	7.11E-02	2.34E-01	2.65E-01
	201.83	86.00	7.58E-02		7.10E-03	3.68E-02
	306.78	94.00	7.11E-02		-2.90E-03	3.42E-02
TA-182	67.75	41.20	1.96E-01	1.96E-01	-6.04E-03	9.61E-02
	1121.30	34.90	4.79E-01		4.96E-01	2.26E-01
	1189.05	16.23	8.29E-01		-8.30E-02	3.84E-01
	1221.41	26.98	5.10E-01		-8.18E-02	2.36E-01
	1231.02	11.44	1.06E+00		-3.67E-01	4.84E-01
IR-192	308.46	29.68	2.85E-01	1.90E-01	-1.23E-01	1.37E-01
	468.07	48.10	1.90E-01		-1.71E-01	8.99E-02
+ HG-203	279.19	*	77.30	1.66E-01	9.02E-02	8.07E-02
	BI-207	569.67	97.72		7.72E-02	2.15E-02	3.63E-02
+ TL-208	1063.62		74.90	1.73E-01	5.69E-02	6.42E-02
	583.14	*	30.22		1.37E+00	1.66E-01
	860.37	*	4.48		2.34E+00	8.23E-01
BI-210M	2614.66	*	35.85	1.46E-01	1.19E+00	6.63E-02
	262.00		45.00		1.46E-01	-8.53E-03	7.06E-02
PB-210	300.00		23.00	2.16E+00	-1.25E+00	1.48E-01
	46.50		4.25		2.16E+00	2.79E+00	1.06E+00

Analysis Report for 1510063-12
CP2107S11-12

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
PB-211	404.84	2.90	2.42E+00	2.42E+00	-2.30E+00	1.15E+00
	831.96	2.90	3.02E+00		-1.21E+00	1.40E+00
+ BI-212	727.17 *	11.80	9.44E-01	9.44E-01	1.08E+00	4.49E-01
	1620.62	2.75	3.99E+00		1.70E+00	1.80E+00
+ PB-212	238.63 *	44.60	2.45E-01	2.45E-01	1.48E+00	1.20E-01
	300.09 *	3.41	3.74E+00		1.15E+00	1.83E+00
+ BI-214	609.31 *	46.30	2.52E-01	2.52E-01	1.07E+00	1.21E-01
	1120.29 *	15.10	7.01E-01		1.18E+00	3.25E-01
	1764.49 *	15.80	4.50E-01		1.27E+00	1.89E-01
	2204.22 *	4.98	2.61E-01		2.03E+00	0.00E+00
+ PB-214	295.21 *	19.19	6.42E-01	2.88E-01	1.10E+00	3.15E-01
	351.92 *	37.19	2.88E-01		1.10E+00	1.40E-01
RN-219	401.80	6.50	1.11E+00	1.11E+00	1.64E-01	5.29E-01
RA-223	323.87	3.88	1.67E+00	1.67E+00	4.69E-01	7.98E-01
+ RA-224	240.98 *	3.95	2.80E+00	2.80E+00	3.08E+00	1.37E+00
RA-225	40.00	31.00	1.24E+00	1.24E+00	-5.81E-01	6.01E-01
+ RA-226	186.21 *	3.28	1.75E+00	1.75E+00	3.42E+00	8.47E-01
TH-227	50.10	8.40	8.91E-01	8.91E-01	-1.42E+00	4.34E-01
	236.00	11.50	1.01E+00		5.36E-02	4.98E-01
	256.20	6.30	1.06E+00		7.76E-01	5.12E-01
+ AC-228	338.32 *	11.40	7.97E-01	4.84E-01	2.06E+00	3.86E-01
	911.07 *	27.70	4.84E-01		1.46E+00	2.30E-01
	969.11 *	16.60	9.77E-01		1.79E+00	4.68E-01
TH-230	48.44	16.90	4.95E-01	4.95E-01	-5.65E-02	2.41E-01
	62.85	4.60	1.70E+00		1.92E+00	8.32E-01
	67.67	0.37	1.85E+01		-5.68E-01	9.03E+00
PA-231	283.67	1.60	3.82E+00	3.16E+00	-3.14E-01	1.83E+00
	302.67	2.30	3.16E+00		5.57E-01	1.52E+00
+ TH-231	25.64	14.70	3.28E+00	2.07E+00	-9.24E-01	1.59E+00
	84.21 *	6.40	2.07E+00		1.12E+00	1.03E+00
PA-233	311.98	38.60	3.54E-01	3.54E-01	-7.72E-02	1.70E-01
PA-234	131.20	20.40	2.65E-01	2.65E-01	1.93E-01	1.29E-01
	733.99	8.80	9.39E-01		4.86E-02	4.38E-01
	946.00	12.00	7.05E-01		-1.58E-01	3.24E-01
PA-234M	1001.03	0.92	1.13E+01	1.13E+01	7.76E+00	5.26E+00
+ TH-234	63.29 *	3.80	3.17E+00	3.17E+00	1.80E+00	1.57E+00
U-235	143.76	10.50	4.92E-01	4.92E-01	7.05E-02	2.39E-01
	163.35	4.70	1.18E+00		1.05E+00	5.74E-01
	205.31	4.70	1.37E+00		-2.37E+00	6.64E-01
NP-237	86.50	12.60	5.47E-01	5.47E-01	1.84E-01	2.68E-01
NP-239	106.10	22.70	8.09E+02	8.09E+02	1.22E+02	3.93E+02
	228.18	10.70	2.28E+03		-1.14E+03	1.10E+03
	277.60	14.10	1.81E+03		1.20E+03	8.75E+02
AM-241	59.54	35.90	2.09E-01	2.09E-01	-6.81E-02	1.03E-01
AM-243	74.67	66.00	1.38E-01	1.38E-01	2.02E-01	6.82E-02
CM-243	209.75	3.29	2.11E+00	4.77E-01	4.82E-01	1.02E+00
	228.14	10.60	6.00E-01		-3.00E-01	2.90E-01
	277.60	14.00	4.77E-01		3.16E-01	2.30E-01

Analysis Report for 1510063-12
CP2107S11-12

- + = 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
-

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

<i>Creation Date</i>	<i>Comment</i>	<i>User</i>
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No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP2107S11-12

Elapsed Live time: 3600
 Elapsed Real Time: 3617

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	7	166	193	131	121	111	105	106
17:	116	108	94	104	69	86	105	109
25:	88	93	87	88	95	85	84	93
33:	94	80	70	89	99	73	82	96
41:	70	93	87	92	91	126	177	110
49:	91	87	99	110	104	115	117	110
57:	107	149	139	145	147	173	196	234
65:	141	147	144	140	178	140	159	156
73:	174	192	414	265	442	497	153	131
81:	109	117	122	164	158	137	229	233
89:	138	199	177	133	273	200	109	78
97:	73	87	107	94	92	87	83	62
105:	85	102	81	82	74	77	83	83
113:	78	88	97	74	82	58	64	57
121:	89	76	80	81	65	88	79	89
129:	119	102	90	70	74	71	73	84
137:	58	77	72	83	62	85	73	84
145:	79	58	87	60	95	74	68	77
153:	88	90	83	73	82	57	66	60
161:	69	71	59	81	82	87	53	58
169:	66	57	49	74	59	53	67	62
177:	59	49	73	69	72	62	60	53
185:	80	159	146	54	57	62	52	52
193:	49	54	43	51	49	52	61	65
201:	66	55	43	60	44	69	47	55
209:	81	88	64	43	42	59	55	58
217:	46	54	49	52	36	47	47	44
225:	52	41	45	51	32	42	46	56
233:	51	59	51	51	49	204	556	217
241:	100	124	85	34	39	47	45	40
249:	29	39	32	27	44	40	39	39
257:	40	39	43	39	29	35	36	37
265:	47	45	31	36	49	44	75	45
273:	35	30	31	26	48	45	31	31
281:	36	27	23	27	19	31	36	33
289:	33	23	35	31	26	27	126	140
297:	34	30	26	52	44	32	27	34
305:	42	24	28	29	28	25	31	31
313:	19	36	32	31	35	18	13	26
321:	25	32	31	24	18	17	31	55
329:	50	30	38	21	22	16	19	24
337:	19	97	117	43	28	27	22	23
345:	18	24	18	24	22	26	69	214
353:	139	40	23	16	26	16	24	18
361:	19	26	29	20	21	13	19	18

369: 24 25 18 25 23 18 22 16

Sample Title: CP2107S11-12

Channel	1	2	3	4	5	6	7	8
377:	16	28	23	22	17	22	27	25
385:	20	19	21	22	17	24	20	23
393:	25	24	20	14	19	22	21	23
401:	13	20	29	27	19	11	20	16
409:	32	37	22	18	12	16	19	13
417:	13	23	24	21	17	16	17	14
425:	9	19	20	11	13	12	21	17
433:	22	12	15	14	11	22	26	16
441:	17	22	22	17	16	14	16	20
449:	14	17	19	17	11	17	17	15
457:	17	21	18	9	16	14	37	36
465:	16	17	13	15	19	21	8	10
473:	14	13	22	17	14	26	13	12
481:	13	13	20	19	16	16	27	9
489:	12	15	19	11	17	22	10	16
497:	24	12	10	11	21	11	13	13
505:	19	21	10	12	20	48	65	46
513:	27	20	14	8	13	12	16	13
521:	10	10	10	11	13	14	15	9
529:	11	14	10	12	7	14	11	18
537:	10	10	19	12	14	11	14	9
545:	17	14	12	12	10	14	21	12
553:	11	16	11	14	15	13	13	10
561:	12	14	17	17	9	14	4	13
569:	9	21	16	10	15	6	14	7
577:	20	11	7	8	15	31	132	122
585:	20	10	11	12	17	11	16	12
593:	14	9	6	19	11	11	15	14
601:	12	16	10	9	10	12	11	17
609:	117	139	31	21	19	10	9	9
617:	12	18	18	20	15	16	4	7
625:	13	11	9	11	7	11	9	11
633:	9	10	10	9	13	13	14	5
641:	11	14	8	12	13	14	9	12
649:	11	8	12	12	8	14	14	12
657:	11	5	10	9	14	14	16	11
665:	13	18	5	10	7	21	7	12
673:	10	7	8	14	7	11	7	11
681:	8	8	7	15	12	7	9	10
689:	10	11	5	7	9	9	15	8
697:	7	7	14	16	16	12	8	11
705:	12	13	13	10	22	16	14	10
713:	9	9	8	9	6	8	20	18
721:	12	5	9	7	11	17	25	40
729:	15	6	13	8	11	5	10	11
737:	9	8	8	5	17	7	13	5
745:	16	9	9	12	11	8	8	13
753:	8	14	13	10	13	10	9	13
761:	11	14	15	7	11	6	14	23
769:	16	9	7	13	10	5	3	5
777:	9	13	12	11	6	8	12	11
785:	12	13	6	6	8	10	8	4
793:	7	14	23	16	6	5	10	4

801: 9 10 11 5 8 8 11 7

Sample Title: CP2107S11-12

Channel	1	2	3	4	5	6	7	8
809:	4	6	5	7	12	6	7	3
817:	10	13	2	8	6	7	5	9
825:	9	7	5	6	6	10	11	10
833:	2	10	11	19	11	7	19	7
841:	12	7	5	6	3	11	2	7
849:	9	5	5	4	8	10	11	7
857:	8	10	12	20	27	5	5	8
865:	5	10	11	8	10	8	7	5
873:	4	10	9	2	5	5	7	5
881:	1	9	8	5	8	8	5	8
889:	6	8	7	6	7	4	4	7
897:	7	4	5	9	8	6	7	12
905:	3	15	4	11	9	33	75	54
913:	18	10	3	6	5	6	6	8
921:	6	8	3	7	7	6	7	8
929:	4	5	6	8	1	12	12	6
937:	10	9	4	5	5	7	7	5
945:	5	8	5	3	11	7	10	12
953:	5	9	8	8	3	3	7	4
961:	4	8	6	22	23	13	8	20
969:	54	35	10	9	6	7	2	6
977:	13	6	5	8	7	6	6	11
985:	6	6	8	5	4	9	9	7
993:	9	8	6	7	3	13	10	5
1001:	10	13	6	5	6	4	6	7
1009:	5	1	7	6	2	7	6	7
1017:	8	7	1	4	10	2	7	7
1025:	9	5	13	7	4	8	7	5
1033:	8	8	12	6	8	3	6	3
1041:	6	7	6	6	3	5	7	5
1049:	8	3	5	4	7	9	6	5
1057:	6	9	8	13	9	6	6	7
1065:	8	6	7	1	4	4	4	5
1073:	12	4	7	5	11	4	3	3
1081:	6	5	8	10	2	5	4	2
1089:	6	10	11	0	7	6	7	4
1097:	7	9	8	4	7	5	10	5
1105:	6	4	7	3	6	5	9	5
1113:	10	6	7	4	12	9	13	35
1121:	23	10	3	4	5	7	6	6
1129:	8	11	7	8	5	4	7	12
1137:	6	7	4	8	4	5	6	4
1145:	6	8	11	8	9	8	11	5
1153:	9	13	6	11	7	10	8	6
1161:	7	4	6	12	9	4	8	10
1169:	7	9	7	6	12	6	9	8
1177:	4	4	8	7	5	17	9	6
1185:	8	7	7	10	6	9	6	10
1193:	6	13	5	4	7	10	11	7
1201:	4	5	8	17	9	10	5	8
1209:	11	9	7	7	12	11	11	9
1217:	6	7	9	9	12	5	9	4
1225:	10	9	4	5	2	6	4	8

1233: 6 10 6 11 9 13 6 3

Sample Title: CP2107S11-12

Channel	1	2	3	4	5	6	7	8	9
1241:	7	7	1	5	7	6	9	7	
1249:	5	8	4	5	8	5	7	6	
1257:	7	7	8	6	4	4	6	3	
1265:	1	6	8	4	2	8	5	6	
1273:	3	6	4	4	3	5	2	8	
1281:	5	3	9	7	2	6	6	2	
1289:	5	11	0	6	2	6	4	6	
1297:	3	7	6	4	4	8	12	11	
1305:	6	7	4	4	6	4	6	2	
1313:	4	6	2	4	2	5	1	4	
1321:	5	5	4	7	3	5	5	4	
1329:	2	4	7	9	10	4	2	4	
1337:	1	6	2	2	9	6	5	2	
1345:	2	3	5	2	5	4	4	2	
1353:	2	3	6	4	5	3	6	4	
1361:	3	2	1	4	1	2	1	2	
1369:	2	3	5	2	5	3	6	1	
1377:	4	4	2	0	2	0	3	3	
1385:	2	2	0	5	2	2	6	3	
1393:	7	6	1	0	2	5	4	3	
1401:	1	4	0	2	2	8	2	9	
1409:	3	5	2	4	2	5	1	0	
1417:	4	4	0	2	5	2	2	4	
1425:	2	5	3	1	2	5	4	5	
1433:	3	3	3	2	3	1	1	6	
1441:	0	2	1	3	0	1	2	1	
1449:	1	3	3	1	2	2	2	3	
1457:	3	8	31	179	257	104	22	4	
1465:	3	2	5	3	2	1	2	1	
1473:	1	3	3	4	4	2	2	0	
1481:	1	1	1	3	2	1	0	0	
1489:	1	3	3	0	0	4	2	4	
1497:	3	1	3	1	0	1	0	1	
1505:	2	1	2	6	6	4	1	0	
1513:	1	3	1	0	1	3	1	5	
1521:	6	4	2	0	1	3	1	2	
1529:	2	1	0	2	1	0	1	2	
1537:	1	0	2	4	1	5	5	2	
1545:	0	2	3	0	1	0	2	0	
1553:	2	4	0	0	0	0	0	1	
1561:	2	2	1	2	0	0	0	2	
1569:	2	0	1	0	1	2	0	1	
1577:	0	1	1	3	0	4	4	3	
1585:	3	2	6	8	7	0	1	1	
1593:	8	6	1	4	3	1	4	2	
1601:	0	0	2	2	2	2	2	1	
1609:	3	1	2	1	1	1	3	2	
1617:	1	1	5	7	4	4	2	4	
1625:	2	2	0	0	0	1	1	4	
1633:	0	1	1	0	0	1	2	0	
1641:	1	0	0	1	2	3	0	2	
1649:	3	0	1	3	1	1	0	0	
1657:	0	0	3	0	0	2	1	0	

1665: 0 1 3 1 0 2 0 0

Sample Title: CP2107S11-12

Channel	1	2	3	4	5	6	7	8	9
1673:	2	2	1	1	2	0	2	0	
1681:	1	0	3	1	0	0	0	5	
1689:	0	2	4	1	4	0	2	3	
1697:	1	0	2	3	1	4	1	1	
1705:	0	0	1	1	1	1	2	0	
1713:	3	1	2	1	1	1	0	0	
1721:	3	1	3	1	0	1	0	1	
1729:	4	5	2	1	0	1	0	0	
1737:	2	1	1	1	2	1	1	0	
1745:	1	3	0	0	1	0	2	1	
1753:	3	1	0	0	1	1	1	0	
1761:	2	2	7	19	13	8	3	1	
1769:	0	1	0	2	2	1	0	2	
1777:	0	0	1	1	1	2	3	1	
1785:	1	1	3	2	0	1	0	0	
1793:	2	2	0	1	0	1	0	1	
1801:	1	0	0	1	0	2	2	1	
1809:	0	0	1	1	0	1	0	1	
1817:	3	0	2	2	0	1	2	2	
1825:	1	0	1	0	0	3	2	1	
1833:	1	0	2	0	3	0	1	1	
1841:	4	1	0	0	0	2	2	2	
1849:	0	2	2	0	0	1	0	0	
1857:	1	0	0	0	2	1	1	2	
1865:	2	1	2	0	2	2	0	0	
1873:	0	1	1	1	0	1	2	0	
1881:	0	2	0	0	0	0	0	0	
1889:	2	0	0	1	2	0	0	1	
1897:	3	0	1	1	1	1	1	0	
1905:	3	2	0	0	1	0	1	0	
1913:	0	0	0	2	3	3	2	1	
1921:	1	1	1	0	0	3	3	0	
1929:	0	0	0	4	1	2	2	1	
1937:	1	0	3	0	1	1	1	2	
1945:	1	1	1	0	0	0	3	1	
1953:	0	0	1	1	2	1	1	0	
1961:	1	0	2	4	0	2	1	4	
1969:	1	0	1	0	2	1	0	0	
1977:	1	0	2	1	1	0	1	1	
1985:	0	1	1	1	0	0	3	0	
1993:	1	3	4	2	1	3	2	1	
2001:	0	0	1	0	1	0	0	0	
2009:	1	1	0	0	1	2	2	1	
2017:	1	2	0	0	3	0	0	1	
2025:	0	1	1	3	1	1	0	1	
2033:	0	1	0	0	1	0	0	0	
2041:	1	0	1	1	0	1	0	1	
2049:	1	0	1	0	3	0	2	0	
2057:	2	2	0	0	0	2	1	2	
2065:	1	1	1	1	0	1	2	1	
2073:	1	1	0	0	5	1	0	1	
2081:	0	0	2	1	1	0	1	1	
2089:	1	3	1	0	0	2	2	2	

2097: 0 0 1 1 2 7 2 2

Sample Title: CP2107S11-12

Channel	1	2	3	4	5	6	7	8
2105:	1	1	1	0	0	0	1	1
2113:	0	0	0	1	1	0	1	1
2121:	1	1	3	0	0	2	0	0
2129:	0	0	1	0	0	3	0	0
2137:	0	1	1	0	1	0	1	2
2145:	1	3	0	0	1	1	0	0
2153:	0	0	1	1	0	0	0	0
2161:	0	0	0	1	1	2	0	0
2169:	0	2	1	0	1	0	1	1
2177:	2	1	1	3	1	0	1	0
2185:	0	0	1	1	1	0	1	2
2193:	0	0	0	1	0	0	0	1
2201:	0	1	3	8	4	3	1	0
2209:	0	0	0	2	0	0	0	3
2217:	0	0	0	1	0	1	0	1
2225:	2	1	2	0	3	1	0	1
2233:	1	1	1	0	0	1	0	0
2241:	1	1	3	0	0	1	1	1
2249:	0	0	1	1	2	1	0	1
2257:	2	0	0	0	1	2	1	0
2265:	2	2	1	0	3	0	0	0
2273:	0	1	0	0	0	1	1	1
2281:	1	2	0	2	2	1	1	0
2289:	0	1	1	1	1	1	0	0
2297:	1	0	2	0	1	1	1	1
2305:	1	1	0	2	3	1	2	2
2313:	1	0	1	1	0	3	1	1
2321:	1	1	2	0	1	2	1	2
2329:	0	1	0	2	0	2	0	0
2337:	3	1	3	1	0	0	0	0
2345:	2	2	0	0	2	0	2	1
2353:	1	3	0	1	0	3	1	2
2361:	1	4	1	1	0	0	1	0
2369:	1	4	0	1	0	2	1	0
2377:	1	0	1	2	2	1	0	1
2385:	0	2	0	0	2	0	1	1
2393:	1	2	0	1	2	0	0	0
2401:	1	0	3	1	0	0	1	1
2409:	1	0	2	1	0	0	0	2
2417:	0	0	2	0	2	1	1	3
2425:	0	2	0	1	1	1	1	1
2433:	2	1	1	0	0	2	1	2
2441:	0	1	0	1	2	3	2	2
2449:	1	0	1	1	1	0	1	2
2457:	0	0	1	1	2	1	0	1
2465:	1	0	1	0	0	2	0	0
2473:	0	1	0	3	1	1	0	0
2481:	0	1	0	0	0	0	1	0
2489:	3	1	1	1	0	2	1	0
2497:	0	0	1	0	1	1	0	0
2505:	0	0	0	0	0	1	0	1
2513:	1	0	0	0	0	0	0	1
2521:	0	0	0	0	0	2	0	0

2529: 0 0 0 0 0 0 0 0 0

Sample Title: CP2107S11-12

Channel	1	2	3	4	5	6	7	8	9
2537:	1	0	0	0	0	0	0	1	0
2545:	0	0	0	0	0	0	0	0	1
2553:	0	1	0	0	0	0	0	2	1
2561:	1	0	0	0	0	0	0	2	0
2569:	0	0	0	0	0	0	1	0	1
2577:	0	0	0	0	0	0	0	1	0
2585:	0	0	0	0	2	1	1	1	0
2593:	1	0	0	0	0	0	0	0	0
2601:	0	0	0	0	0	0	0	0	1
2609:	0	0	3	6	12	27	24	9	9
2617:	2	0	1	0	1	2	0	0	0
2625:	0	0	0	0	0	0	0	0	1
2633:	0	0	1	0	0	0	0	0	0
2641:	1	0	0	0	0	1	0	0	0
2649:	0	0	0	0	0	1	0	0	0
2657:	0	0	0	1	0	0	0	0	0
2665:	0	0	0	0	0	0	1	0	0
2673:	0	0	0	0	0	1	0	0	0
2681:	0	0	2	0	0	0	0	0	2
2689:	0	2	0	0	0	0	0	0	0
2697:	0	0	0	0	0	0	0	0	1
2705:	0	0	0	0	0	1	0	0	0
2713:	0	0	1	0	0	1	0	0	0
2721:	0	0	0	1	0	0	0	0	0
2729:	1	0	0	0	0	0	0	0	0
2737:	0	0	1	0	1	0	0	0	0
2745:	1	0	0	0	0	0	0	0	1
2753:	0	0	1	0	0	0	0	0	0
2761:	0	0	1	0	0	0	0	0	1
2769:	0	0	0	1	0	0	0	0	0
2777:	1	1	0	0	0	0	1	0	0
2785:	0	0	0	0	0	0	0	0	0
2793:	0	0	1	0	0	0	0	0	0
2801:	0	0	1	0	1	0	0	0	0
2809:	0	2	0	0	0	0	1	0	0
2817:	0	0	0	0	0	0	0	0	0
2825:	0	0	0	0	0	0	0	0	0
2833:	1	0	0	0	0	0	0	0	0
2841:	0	0	0	1	0	0	0	0	0
2849:	0	0	0	0	0	0	0	0	0
2857:	0	0	0	0	0	1	0	0	0
2865:	0	0	0	0	0	0	0	0	1
2873:	1	0	0	0	0	0	0	0	0
2881:	0	0	1	0	0	0	1	0	0
2889:	0	1	0	0	1	0	0	0	0
2897:	1	0	0	0	0	1	1	1	1
2905:	0	1	1	1	0	1	0	0	0
2913:	0	0	0	0	0	1	0	0	0
2921:	0	0	0	0	0	0	0	0	1
2929:	1	0	0	0	0	0	0	0	0
2937:	0	1	0	0	1	0	0	0	0
2945:	0	0	0	0	0	0	1	0	0
2953:	1	0	0	0	0	0	0	0	1

2961: 0 1 0 0 0 0 0 0

Sample Title: CP2107S11-12

Channel	1	2	3	4	5	6	7	8
2969:	0	0	1	0	0	0	0	0
2977:	0	0	1	0	0	0	0	1
2985:	0	2	0	0	0	1	0	0
2993:	0	0	0	0	0	0	0	1
3001:	0	0	0	0	0	0	0	0
3009:	0	0	1	0	0	2	0	0
3017:	0	1	0	0	0	0	0	2
3025:	0	0	0	1	0	0	0	0
3033:	0	0	0	0	0	0	0	0
3041:	0	0	1	0	0	0	0	0
3049:	0	0	0	0	0	0	0	0
3057:	0	0	0	0	1	0	0	0
3065:	0	0	0	0	0	0	0	0
3073:	0	1	0	0	0	1	0	0
3081:	0	0	0	0	0	0	0	0
3089:	0	0	0	0	0	0	0	0
3097:	0	0	0	1	0	0	0	0
3105:	0	0	0	0	1	0	0	0
3113:	0	1	0	0	0	0	1	0
3121:	0	0	0	0	0	0	2	0
3129:	1	0	0	0	0	0	0	0
3137:	0	0	0	1	0	0	0	0
3145:	1	0	0	0	0	0	0	1
3153:	0	0	0	0	0	0	0	0
3161:	0	0	0	0	0	0	0	0
3169:	0	0	0	0	0	0	0	0
3177:	0	1	0	0	1	0	0	0
3185:	0	0	0	0	0	0	0	0
3193:	0	0	0	0	0	1	0	0
3201:	0	0	0	1	0	0	0	0
3209:	0	1	0	1	0	0	1	0
3217:	0	1	0	0	0	0	0	0
3225:	0	0	0	0	0	0	0	0
3233:	0	0	0	0	0	0	0	0
3241:	1	0	0	0	0	0	0	1
3249:	0	0	0	0	0	0	0	0
3257:	0	0	0	0	0	0	0	0
3265:	0	0	0	0	0	1	0	0
3273:	0	0	0	1	0	0	0	0
3281:	0	0	0	0	0	0	1	1
3289:	0	0	0	0	1	0	0	0
3297:	0	0	0	0	0	0	0	0
3305:	0	0	0	0	0	0	0	0
3313:	0	0	0	0	0	0	0	0
3321:	0	0	0	0	0	0	0	0
3329:	0	0	1	1	0	0	0	1
3337:	0	0	0	0	0	0	0	0
3345:	0	1	0	0	0	0	0	0
3353:	0	1	0	0	0	0	0	0
3361:	1	0	0	1	0	0	0	0
3369:	0	0	0	0	0	0	1	1
3377:	0	1	1	2	0	0	0	0
3385:	0	0	0	0	1	0	0	0

3393: 0 0 0 0 0 0 0 0

Sample Title: CP2107S11-12

Channel	1	2	3	4	5	6	7	8
3401:	0	0	0	0	0	0	1	0
3409:	0	0	0	1	0	0	0	0
3417:	0	0	0	0	0	0	1	0
3425:	0	0	0	0	0	0	0	0
3433:	0	0	0	0	0	0	0	0
3441:	0	0	0	0	0	0	0	0
3449:	0	0	0	0	0	0	0	0
3457:	1	0	1	0	0	1	0	1
3465:	1	0	0	0	0	0	0	0
3473:	0	1	0	0	0	0	0	0
3481:	1	0	0	0	0	0	0	0
3489:	0	1	0	0	0	0	0	1
3497:	0	1	0	0	1	0	0	0
3505:	0	0	0	0	0	0	0	0
3513:	0	0	0	1	0	0	0	1
3521:	0	0	1	0	0	1	0	0
3529:	0	0	0	2	1	0	0	0
3537:	1	0	1	0	0	0	0	0
3545:	0	0	0	0	0	0	0	0
3553:	0	0	0	0	0	0	0	0
3561:	0	0	0	0	0	0	0	0
3569:	0	0	0	0	0	0	0	0
3577:	0	0	0	0	0	0	0	0
3585:	0	0	0	0	1	0	0	1
3593:	1	0	0	1	0	1	0	0
3601:	0	1	0	0	0	0	0	0
3609:	0	3	0	0	0	0	1	0
3617:	0	0	0	0	0	0	0	0
3625:	0	0	0	0	0	0	0	0
3633:	0	0	0	1	0	0	0	0
3641:	0	0	0	0	0	0	0	0
3649:	0	0	0	0	1	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	0	0	0	0	0	0	0	0
3673:	0	0	0	0	0	0	0	0
3681:	0	0	0	0	0	0	0	0
3689:	0	0	0	0	0	0	0	0
3697:	0	0	1	1	0	0	0	0
3705:	0	1	0	0	0	0	0	0
3713:	0	0	0	0	0	0	1	0
3721:	0	0	0	1	0	0	0	1
3729:	0	1	0	1	0	0	1	0
3737:	0	1	0	1	0	0	0	0
3745:	1	0	0	0	0	0	0	0
3753:	0	1	0	0	1	1	0	0
3761:	0	0	0	0	0	1	0	0
3769:	0	0	0	0	0	0	0	0
3777:	0	0	1	0	0	0	0	0
3785:	0	1	0	0	0	0	0	0
3793:	1	0	0	0	0	0	0	0
3801:	0	0	0	0	0	1	0	0
3809:	0	0	0	0	0	0	0	1
3817:	0	0	0	0	1	0	0	0

3825: 1 0 0 0 0 0 0 0 0

Sample Title: CP2107S11-12

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3833:	0	0	0	0	0	1	0	0
3841:	0	0	0	0	0	0	1	0
3849:	0	0	0	2	0	0	0	0
3857:	1	0	0	0	0	0	0	0
3865:	0	1	0	0	0	0	1	0
3873:	0	0	1	0	0	1	0	0
3881:	0	1	0	0	0	0	0	0
3889:	0	0	0	0	0	0	0	0
3897:	0	0	0	0	0	1	0	0
3905:	0	0	0	1	0	0	0	0
3913:	0	0	0	0	0	0	0	0
3921:	0	1	0	0	0	0	0	0
3929:	0	0	1	0	0	0	0	0
3937:	0	0	0	0	0	0	0	0
3945:	0	0	0	0	0	0	0	0
3953:	0	0	0	0	0	1	0	0
3961:	0	0	0	0	0	0	0	0
3969:	0	1	0	0	1	0	0	0
3977:	0	0	1	0	0	0	0	0
3985:	0	1	0	0	0	0	1	0
3993:	0	1	0	0	0	0	0	0
4001:	0	0	0	0	0	1	0	0
4009:	0	0	0	0	0	0	0	0
4017:	0	0	0	0	0	0	0	0
4025:	1	0	0	0	0	1	0	0
4033:	0	0	0	0	0	1	0	0
4041:	0	0	1	0	0	0	0	0
4049:	0	0	1	0	0	0	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	0	0	0	0	0	0	1
4073:	0	0	0	0	0	0	0	0
4081:	0	0	1	1	0	1	0	0
4089:	0	0	1	0	0	0	0	0

Analysis Report for 1510063-13
CP2107S14-15

✓
[117]

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510063-13
Sample Description : CP2107S14-15
Sample Type : SOIL

Sample Size : 6.027E+02 grams
Facility : Countroom

Sample Taken On : 10/6/2015 7:48:46AM
Acquisition Started : 11/3/2015 8:12:38AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE4
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3639.4 seconds

Dead Time : 1.08 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 15 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 11/8/2014
Efficiency Calibration Description :

Sample Number : 29014

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/3/15

Analysis Report for 1510063-13
CP2107S14-15

PEAK LOCATE REPORT

Peak Locate Performed on : 11/3/2015 9:13:18AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096
 Peak Search Sensitivity : 2.50

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	46.67	45.93	0.0000	0.00
2	75.66	74.93	0.0000	0.00
3	87.50	86.77	0.0000	0.00
4	92.79	92.07	0.0000	0.00
5	187.26	186.57	0.0000	0.00
6	209.31	208.64	0.0000	0.00
7	239.17	238.51	0.0000	0.00
8	295.15	294.51	0.0000	0.00
9	300.77	300.13	0.0000	0.00
10	338.45	337.83	0.0000	0.00
11	351.88	351.27	0.0000	0.00
12	358.34	357.73	0.0000	0.00
13	511.14	510.60	0.0000	0.00
14	570.19	569.68	0.0000	0.00
15	583.60	583.09	0.0000	0.00
16	609.21	608.72	0.0000	0.00
17	786.69	786.28	0.0000	0.00
18	794.12	793.72	0.0000	0.00
19	810.63	810.24	0.0000	0.00
20	897.34	896.99	0.0000	0.00
21	911.28	910.94	0.0000	0.00
22	967.94	967.63	0.0000	0.00
23	1013.63	1013.34	0.0000	0.00
24	1030.28	1030.00	0.0000	0.00
25	1119.72	1119.49	0.0000	0.00
26	1157.81	1157.61	0.0000	0.00
27	1376.92	1376.84	0.0000	0.00
28	1461.12	1461.09	0.0000	0.00
29	1560.86	1560.89	0.0000	0.00
30	1568.34	1568.38	0.0000	0.00
31	1593.74	1593.80	0.0000	0.00
32	1764.79	1764.95	0.0000	0.00
33	1905.47	1905.73	0.0000	0.00
34	2204.45	2204.91	0.0000	0.00
35	2227.19	2227.67	0.0000	0.00
36	2342.15	2342.72	0.0000	0.00
37	2357.42	2358.00	0.0000	0.00
38	2614.62	2615.39	0.0000	0.00

? = Adjacent peak noted
 Errors quoted at 2.000sigma

Analysis Report for 1510063-13
CP2107S14-15

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 9:13:18AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
1	46.67	43 -	48	45.93	7.72E+01	64.54	7.68E+02	2.29
2	75.66	69 -	81	74.93	8.37E+02	153.76	2.39E+03	4.48
M 3	87.50	81 -	96	86.77	1.93E+02	109.69	1.55E+03	3.44
m 4	92.79	81 -	96	92.07	3.29E+02	108.48	1.28E+03	3.19
5	187.26	180 -	193	186.57	1.60E+02	102.49	1.09E+03	2.51
6	209.31	205 -	212	208.64	6.92E+01	58.58	5.22E+02	2.00
7	239.17	231 -	244	238.51	7.27E+02	93.30	6.44E+02	2.75
8	295.15	290 -	298	294.51	8.16E+01	54.69	4.11E+02	2.24
9	300.77	298 -	304	300.13	3.44E+01	38.80	2.49E+02	2.07
10	338.45	334 -	341	337.83	9.48E+01	45.52	2.78E+02	1.82
M 11	351.88	345 -	360	351.27	2.36E+02	46.65	2.15E+02	2.78
m 12	358.34	345 -	360	357.73	3.09E+01	33.18	1.55E+02	2.98
13	511.14	505 -	517	510.60	8.81E+01	52.16	2.76E+02	2.86
14	570.19	565 -	574	569.68	3.13E+01	32.03	1.25E+02	6.96
15	583.60	579 -	589	583.09	1.50E+02	42.16	1.50E+02	2.81
16	609.21	605 -	614	608.72	1.29E+02	39.67	1.54E+02	2.91
M 17	786.69	783 -	800	786.28	2.38E+01	20.89	6.99E+01	3.11
m 18	794.12	783 -	800	793.72	2.07E+01	24.83	7.47E+01	3.11
19	810.63	806 -	814	810.24	1.83E+01	21.62	5.53E+01	1.82
20	897.34	891 -	903	896.99	3.54E+01	22.89	4.33E+01	10.24
21	911.28	906 -	916	910.94	5.68E+01	33.09	1.16E+02	1.85
22	967.94	961 -	973	967.63	5.26E+01	32.09	9.29E+01	2.54
23	1013.63	1010 -	1018	1013.34	1.62E+01	20.27	5.17E+01	2.07
24	1030.28	1018 -	1043	1030.00	5.75E+01	44.55	1.17E+02	21.27
25	1119.72	1115 -	1123	1119.49	2.44E+01	24.42	7.72E+01	1.98
26	1157.81	1154 -	1162	1157.61	2.75E+01	20.06	4.50E+01	2.25
27	1376.92	1372 -	1380	1376.84	1.05E+01	10.02	9.00E+00	3.46
28	1461.12	1455 -	1465	1461.09	2.62E+02	36.60	4.07E+01	2.95
29	1560.86	1558 -	1563	1560.89	6.44E+00	7.35	5.11E+00	2.61
30	1568.34	1565 -	1572	1568.38	5.81E+00	6.93	4.38E+00	3.00
31	1593.74	1588 -	1598	1593.80	1.94E+01	14.10	1.51E+01	4.42
32	1764.79	1760 -	1770	1764.95	2.06E+01	14.38	1.68E+01	1.88
33	1905.47	1902 -	1909	1905.73	6.25E+00	6.93	3.50E+00	1.09
34	2204.45	2199 -	2210	2204.91	1.42E+01	10.20	5.65E+00	8.58
35	2227.19	2224 -	2230	2227.67	5.29E+00	6.34	3.43E+00	2.73
36	2342.15	2337 -	2347	2342.72	9.29E+00	8.85	5.42E+00	7.56
37	2357.42	2355 -	2360	2358.00	6.00E+00	4.90	0.00E+00	1.33
38	2614.62	2611 -	2620	2615.39	4.22E+01	14.32	5.53E+00	3.48

Analysis Report for 1510063-13
CP2107S14-15

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 9:13:18AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	1	46.67	43 - 48	7.72E+01	64.54	7.68E+02	5.11E+01
	2	75.66	69 - 81	8.37E+02	153.76	2.39E+03	1.17E+02
M	3	87.50	81 - 96	1.93E+02	109.69	1.55E+03	6.48E+01
m	4	92.79	81 - 96	3.29E+02	108.48	1.28E+03	5.88E+01
	5	187.26	180 - 193	1.60E+02	102.49	1.09E+03	8.16E+01
	6	209.31	205 - 212	6.92E+01	58.58	5.22E+02	4.62E+01
	7	239.17	231 - 244	7.27E+02	93.30	6.44E+02	6.26E+01
	8	295.15	290 - 298	8.16E+01	54.69	4.11E+02	4.24E+01
	9	300.77	298 - 304	3.44E+01	38.80	2.49E+02	3.04E+01
	10	338.45	334 - 341	9.48E+01	45.52	2.78E+02	3.38E+01
M	11	351.88	345 - 360	2.36E+02	46.65	2.15E+02	2.41E+01
m	12	358.34	345 - 360	3.09E+01	33.18	1.55E+02	2.05E+01
	13	511.14	505 - 517	8.81E+01	52.16	2.76E+02	4.00E+01
	14	570.19	565 - 574	3.13E+01	32.03	1.25E+02	2.47E+01
	15	583.60	579 - 589	1.50E+02	42.16	1.50E+02	2.82E+01
	16	609.21	605 - 614	1.29E+02	39.67	1.54E+02	2.67E+01
M	17	786.69	783 - 800	2.38E+01	20.89	6.99E+01	1.37E+01
m	18	794.12	783 - 800	2.07E+01	24.83	7.47E+01	1.42E+01
	19	810.63	806 - 814	1.83E+01	21.62	5.53E+01	1.63E+01
	20	897.34	891 - 903	3.54E+01	22.89	4.33E+01	1.61E+01
	21	911.28	906 - 916	5.68E+01	33.09	1.16E+02	2.42E+01
	22	967.94	961 - 973	5.26E+01	32.09	9.29E+01	2.35E+01
	23	1013.63	1010 - 1018	1.62E+01	20.27	5.17E+01	1.53E+01
	24	1030.28	1018 - 1043	5.75E+01	44.55	1.17E+02	3.44E+01
	25	1119.72	1115 - 1123	2.44E+01	24.42	7.72E+01	1.84E+01
	26	1157.81	1154 - 1162	2.75E+01	20.06	4.50E+01	1.41E+01
	27	1376.92	1372 - 1380	1.05E+01	10.02	9.00E+00	6.29E+00
	28	1461.12	1455 - 1465	2.62E+02	36.60	4.07E+01	1.41E+01
	29	1560.86	1558 - 1563	6.44E+00	7.35	5.11E+00	4.37E+00
	30	1568.34	1565 - 1572	5.81E+00	6.93	4.38E+00	4.09E+00
	31	1593.74	1588 - 1598	1.94E+01	14.10	1.51E+01	9.04E+00

Analysis Report for 1510063-13
CP2107S14-15

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
32	1764.79	1760 -	1770	2.06E+01	14.38	1.68E+01	9.16E+00
33	1905.47	1902 -	1909	6.25E+00	6.93	3.50E+00	3.94E+00
34	2204.45	2199 -	2210	1.42E+01	10.20	5.65E+00	5.65E+00
35	2227.19	2224 -	2230	5.29E+00	6.34	3.43E+00	3.59E+00
36	2342.15	2337 -	2347	9.29E+00	8.85	5.42E+00	5.27E+00
37	2357.42	2355 -	2360	6.00E+00	4.90	0.00E+00	0.00E+00
38	2614.62	2611 -	2620	4.22E+01	14.32	5.53E+00	4.94E+00

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

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/3/2015 9:13:18AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB
Peak Match Tolerance : 1.000 keV

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	1	43 -	48	45.93	7.72E+01	64.54	7.68E+02	PB-210
	2	69 -	81	74.93	8.37E+02	153.76	2.39E+03	AM-243
M	3	81 -	96	86.77	1.93E+02	109.69	1.55E+03	SN-126 CD-109 LU-176 NP-237
m	4	81 -	96	92.07	3.29E+02	108.48	1.28E+03	GA-67
	5	180 -	193	186.57	1.60E+02	102.49	1.09E+03	.....
	6	205 -	212	208.64	6.92E+01	58.58	5.22E+02	GA-67 CM-243
	7	231 -	244	238.51	7.27E+02	93.30	6.44E+02	PB-212
	8	290 -	298	294.51	8.16E+01	54.69	4.11E+02	PB-214
	9	298 -	304	300.13	3.44E+01	38.80	2.49E+02	GA-67 PB-212 BI-210M
M	10	334 -	341	337.83	9.48E+01	45.52	2.78E+02	AC-228
	11	345 -	360	351.27	2.36E+02	46.65	2.15E+02	PB-214
m	12	345 -	360	357.73	3.09E+01	33.18	1.55E+02	.....
	13	505 -	517	510.60	8.81E+01	52.16	2.76E+02	.....

Analysis Report for 1510063-13
CP2107S14-15

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
14	570.19	565 -	574	569.68	3.13E+01	32.03	1.25E+02	BI-207 CS-134
15	583.60	579 -	589	583.09	1.50E+02	42.16	1.50E+02	TL-208
16	609.21	605 -	614	608.72	1.29E+02	39.67	1.54E+02	BI-214
M 17	786.69	783 -	800	786.28	2.38E+01	20.89	6.99E+01	.....
m 18	794.12	783 -	800	793.72	2.07E+01	24.83	7.47E+01	.....
19	810.63	806 -	814	810.24	1.83E+01	21.62	5.53E+01	CO-58 LU-172
20	897.34	891 -	903	896.99	3.54E+01	22.89	4.33E+01	Y-88
21	911.28	906 -	916	910.94	5.68E+01	33.09	1.16E+02	AC-228 LU-172
22	967.94	961 -	973	967.63	5.26E+01	32.09	9.29E+01	.....
23	1013.63	1010 -	1018	1013.34	1.62E+01	20.27	5.17E+01	.....
24	1030.28	1018 -	1043	1030.00	5.75E+01	44.55	1.17E+02	.....
25	1119.72	1115 -	1123	1119.49	2.44E+01	24.42	7.72E+01	BI-214 SC-46
26	1157.81	1154 -	1162	1157.61	2.75E+01	20.06	4.50E+01	.....
27	1376.92	1372 -	1380	1376.84	1.05E+01	10.02	9.00E+00	.....
28	1461.12	1455 -	1465	1461.09	2.62E+02	36.60	4.07E+01	K-40
29	1560.86	1558 -	1563	1560.89	6.44E+00	7.35	5.11E+00	.....
30	1568.34	1565 -	1572	1568.38	5.81E+00	6.93	4.38E+00	.....
31	1593.74	1588 -	1598	1593.80	1.94E+01	14.10	1.51E+01	.....
32	1764.79	1760 -	1770	1764.95	2.06E+01	14.38	1.68E+01	BI-214
33	1905.47	1902 -	1909	1905.73	6.25E+00	6.93	3.50E+00	.....
34	2204.45	2199 -	2210	2204.91	1.42E+01	10.20	5.65E+00	BI-214
35	2227.19	2224 -	2230	2227.67	5.29E+00	6.34	3.43E+00	.....
36	2342.15	2337 -	2347	2342.72	9.29E+00	8.85	5.42E+00	.....
37	2357.42	2355 -	2360	2358.00	6.00E+00	4.90	0.00E+00	.....
38	2614.62	2611 -	2620	2615.39	4.22E+01	14.32	5.53E+00	TL-208

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/3/2015 9:13:18AM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	46.67	7.72E+01	64.54	2.63E-02	1.78E-03

Analysis Report for 1510063-13
CP2107S14-15

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	2	75.66	8.37E+02	153.76	2.13E-02	1.70E-03
M	3	87.50	1.93E+02	109.69	1.97E-02	1.63E-03
m	4	92.79	3.29E+02	108.48	1.90E-02	1.62E-03
	5	187.26	1.60E+02	102.49	1.16E-02	1.15E-03
	6	209.31	6.92E+01	58.58	1.05E-02	1.08E-03
	7	239.17	7.27E+02	93.30	9.40E-03	9.85E-04
	8	295.15	8.16E+01	54.69	7.79E-03	8.43E-04
	9	300.77	3.44E+01	38.80	7.65E-03	8.37E-04
	10	338.45	9.48E+01	45.52	6.86E-03	7.95E-04
M	11	351.88	2.36E+02	46.65	6.61E-03	7.80E-04
m	12	358.34	3.09E+01	33.18	6.50E-03	7.73E-04
	13	511.14	8.81E+01	52.16	4.61E-03	5.61E-04
	14	570.19	3.13E+01	32.03	4.14E-03	4.74E-04
	15	583.60	1.50E+02	42.16	4.04E-03	4.55E-04
	16	609.21	1.29E+02	39.67	3.88E-03	4.17E-04
M	17	786.69	2.38E+01	20.89	3.01E-03	2.70E-04
m	18	794.12	2.07E+01	24.83	2.98E-03	2.66E-04
	19	810.63	1.83E+01	21.62	2.93E-03	2.57E-04
	20	897.34	3.54E+01	22.89	2.65E-03	2.08E-04
	21	911.28	5.68E+01	33.09	2.61E-03	2.06E-04
	22	967.94	5.26E+01	32.09	2.46E-03	1.99E-04
	23	1013.63	1.62E+01	20.27	2.36E-03	1.93E-04
	24	1030.28	5.75E+01	44.55	2.32E-03	1.91E-04
	25	1119.72	2.44E+01	24.42	2.14E-03	1.79E-04
	26	1157.81	2.75E+01	20.06	2.08E-03	1.75E-04
	27	1376.92	1.05E+01	10.02	1.77E-03	2.06E-04
	28	1461.12	2.62E+02	36.60	1.68E-03	1.89E-04
	29	1560.86	6.44E+00	7.35	1.59E-03	1.68E-04
	30	1568.34	5.81E+00	6.93	1.58E-03	1.67E-04
	31	1593.74	1.94E+01	14.10	1.56E-03	1.61E-04
	32	1764.79	2.06E+01	14.38	1.43E-03	1.26E-04
	33	1905.47	6.25E+00	6.93	1.35E-03	1.11E-04
	34	2204.45	1.42E+01	10.20	1.21E-03	1.11E-04
	35	2227.19	5.29E+00	6.34	1.20E-03	1.11E-04
	36	2342.15	9.29E+00	8.85	1.16E-03	1.11E-04
	37	2357.42	6.00E+00	4.90	1.15E-03	1.11E-04
	38	2614.62	4.22E+01	14.32	1.07E-03	1.11E-04

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

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/3/2015 9:13:18AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

: 00801

Analysis Report for 1510063-13

CP2107S14-15

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	46.67	7.72E+01	64.54	2.00E+01	7.38E+00	5.72E+01	6.50E+01
	2	75.66	8.37E+02	153.76			8.37E+02	1.54E+02
M	3	87.50	1.93E+02	109.69			1.93E+02	1.10E+02
m	4	92.79	3.29E+02	108.48	5.44E+01	8.36E+00	2.74E+02	1.09E+02
	5	187.26	1.60E+02	102.49			1.60E+02	1.02E+02
	6	209.31	6.92E+01	58.58			6.92E+01	5.86E+01
	7	239.17	7.27E+02	93.30	1.09E+01	6.39E+00	7.16E+02	9.35E+01
	8	295.15	8.16E+01	54.69			8.16E+01	5.47E+01
	9	300.77	3.44E+01	38.80			3.44E+01	3.88E+01
	10	338.45	9.48E+01	45.52			9.48E+01	4.55E+01
M	11	351.88	2.36E+02	46.65	8.07E+00	5.01E+00	2.28E+02	4.69E+01
m	12	358.34	3.09E+01	33.18			3.09E+01	3.32E+01
	13	511.14	8.81E+01	52.16	4.21E+01	4.92E+00	4.60E+01	5.24E+01
	14	570.19	3.13E+01	32.03			3.13E+01	3.20E+01
	15	583.60	1.50E+02	42.16			1.50E+02	4.22E+01
	16	609.21	1.29E+02	39.67	5.16E+00	1.63E+00	1.24E+02	3.97E+01
M	17	786.69	2.38E+01	20.89			2.38E+01	2.09E+01
m	18	794.12	2.07E+01	24.83			2.07E+01	2.48E+01
	19	810.63	1.83E+01	21.62			1.83E+01	2.16E+01
	20	897.34	3.54E+01	22.89			3.54E+01	2.29E+01
	21	911.28	5.68E+01	33.09	1.01E+00	2.85E+00	5.58E+01	3.32E+01
	22	967.94	5.26E+01	32.09			5.26E+01	3.21E+01
	23	1013.63	1.62E+01	20.27			1.62E+01	2.03E+01
	24	1030.28	5.75E+01	44.55			5.75E+01	4.46E+01
	25	1119.72	2.44E+01	24.42			2.44E+01	2.44E+01
	26	1157.81	2.75E+01	20.06			2.75E+01	2.01E+01
	27	1376.92	1.05E+01	10.02			1.05E+01	1.00E+01
	28	1461.12	2.62E+02	36.60			2.62E+02	3.66E+01
	29	1560.86	6.44E+00	7.35			6.44E+00	7.35E+00
	30	1568.34	5.81E+00	6.93			5.81E+00	6.93E+00
	31	1593.74	1.94E+01	14.10			1.94E+01	1.41E+01
	32	1764.79	2.06E+01	14.38	1.11E-01	9.77E-01	2.05E+01	1.44E+01
	33	1905.47	6.25E+00	6.93			6.25E+00	6.93E+00
	34	2204.45	1.42E+01	10.20			1.42E+01	1.02E+01
	35	2227.19	5.29E+00	6.34			5.29E+00	6.34E+00
	36	2342.15	9.29E+00	8.85			9.29E+00	8.85E+00
	37	2357.42	6.00E+00	4.90			6.00E+00	4.90E+00
	38	2614.62	4.22E+01	14.32	1.20E+00	1.02E+00	4.10E+01	1.44E+01

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

Analysis Report for 1510063-13

CP2107S14-15

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/3/2015 9:13:18AM

Ref. Peak Energy : 0.00 Reference Date :

Peak Ratio : 0.00 Uncertainty : 0.00

Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

Corrected Area is: Original * Peak Ratio - Background

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.	
	1	46.67	7.72E+01	64.54	2.00E+01	7.38E+00	5.72E+01	6.50E+01
	2	75.66	8.37E+02	153.76			8.37E+02	1.54E+02
M	3	87.50	1.93E+02	109.69			1.93E+02	1.10E+02
m	4	92.79	3.29E+02	108.48	5.44E+01	8.36E+00	2.74E+02	1.09E+02
	5	187.26	1.60E+02	102.49			1.60E+02	1.02E+02
	6	209.31	6.92E+01	58.58			6.92E+01	5.86E+01
	7	239.17	7.27E+02	93.30	1.09E+01	6.39E+00	7.16E+02	9.35E+01
	8	295.15	8.16E+01	54.69			8.16E+01	5.47E+01
	9	300.77	3.44E+01	38.80			3.44E+01	3.88E+01
	10	338.45	9.48E+01	45.52			9.48E+01	4.55E+01
M	11	351.88	2.36E+02	46.65	8.07E+00	5.01E+00	2.28E+02	4.69E+01
m	12	358.34	3.09E+01	33.18			3.09E+01	3.32E+01
	13	511.14	8.81E+01	52.16	4.21E+01	4.92E+00	4.60E+01	5.24E+01
	14	570.19	3.13E+01	32.03			3.13E+01	3.20E+01
	15	583.60	1.50E+02	42.16			1.50E+02	4.22E+01
	16	609.21	1.29E+02	39.67	5.16E+00	1.63E+00	1.24E+02	3.97E+01
M	17	786.69	2.38E+01	20.89			2.38E+01	2.09E+01
m	18	794.12	2.07E+01	24.83			2.07E+01	2.48E+01
	19	810.63	1.83E+01	21.62			1.83E+01	2.16E+01
	20	897.34	3.54E+01	22.89			3.54E+01	2.29E+01
	21	911.28	5.68E+01	33.09	1.01E+00	2.85E+00	5.58E+01	3.32E+01
	22	967.94	5.26E+01	32.09			5.26E+01	3.21E+01
	23	1013.63	1.62E+01	20.27			1.62E+01	2.03E+01
	24	1030.28	5.75E+01	44.55			5.75E+01	4.46E+01
	25	1119.72	2.44E+01	24.42			2.44E+01	2.44E+01
	26	1157.81	2.75E+01	20.06			2.75E+01	2.01E+01
	27	1376.92	1.05E+01	10.02			1.05E+01	1.00E+01
	28	1461.12	2.62E+02	36.60			2.62E+02	3.66E+01
	29	1560.86	6.44E+00	7.35			6.44E+00	7.35E+00
	30	1568.34	5.81E+00	6.93			5.81E+00	6.93E+00
	31	1593.74	1.94E+01	14.10			1.94E+01	1.41E+01
	32	1764.79	2.06E+01	14.38	1.11E-01	9.77E-01	2.05E+01	1.44E+01
	33	1905.47	6.25E+00	6.93			6.25E+00	6.93E+00
	34	2204.45	1.42E+01	10.20			1.42E+01	1.02E+01
	35	2227.19	5.29E+00	6.34			5.29E+00	6.34E+00
	36	2342.15	9.29E+00	8.85			9.29E+00	8.85E+00
	37	2357.42	6.00E+00	4.90			6.00E+00	4.90E+00
	38	2614.62	4.22E+01	14.32	1.20E+00	1.02E+00	4.10E+01	1.44E+01

Analysis Report for 1510063-13
CP2107S14-15

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

<i>Nuclide Name</i>	<i>Id Confidence</i>	<i>Energy (keV)</i>	<i>Yield(%)</i>	<i>Activity (pCi/grams)</i>	<i>Activity Uncertainty</i>
K-40	0.985	1460.81 *	10.67	1.81E+01	3.28E+00
CO-58	0.997	810.76 *	99.40	1.03E-01	1.22E-01
GA-67	0.662	93.31 *	35.70	1.95E+02	7.49E+02
		208.95 *	2.24	1.42E+03	5.31E+03
		300.22 *	16.00	1.35E+02	5.40E+02
CD-109	0.956	88.03 *	3.72	3.43E+00	1.98E+00
SN-126	0.999	87.57 *	37.00	3.30E-01	1.90E-01
BI-207	0.398	569.67 *	97.72	9.67E-02	9.95E-02
		1063.62 *	74.90		
TL-208	0.872	583.14 *	30.22	1.53E+00	4.63E-01
		860.37 *	4.48		
		2614.66 *	35.85	1.33E+00	4.85E-01
PB-210	0.995	46.50 *	4.25	6.40E-01	7.28E-01
PB-212	0.953	238.63 *	44.60	2.13E+00	3.56E-01
		300.09 *	3.41	1.64E+00	1.86E+00
BI-214	0.986	609.31 *	46.30	8.60E-01	2.91E-01
		1120.29 *	15.10	9.39E-01	9.43E-01
		1764.49 *	15.80	1.13E+00	7.98E-01
		2204.22 *	4.98	2.94E+00	2.13E+00
PB-214	1.000	295.21 *	19.19	6.81E-01	4.62E-01
		351.92 *	37.19	1.15E+00	2.74E-01
AC-228	0.582	338.32 *	11.40	1.51E+00	7.46E-01
		911.07 *	27.70	9.61E-01	5.77E-01
		969.11 *	16.60		
NP-237	0.853	86.50 *	12.60	9.70E-01	5.57E-01
AM-243	0.856	74.67 *	66.00	7.41E-01	1.48E-01

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510063-13
CP2107S14-15

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 9:13:18AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	5	187.26	4.45646E-02	31.94	
m	12	358.34	8.58992E-03	53.65	
	13	511.14	1.27723E-02	56.97	
M	17	786.69	6.62280E-03	43.81	
m	18	794.12	5.74209E-03	60.06	
	20	897.34	9.82456E-03	32.35	Sum
	22	967.94	1.46016E-02	30.52	
	23	1013.63	4.49074E-03	62.70	
	24	1030.28	1.59758E-02	38.73	
	26	1157.81	7.63889E-03	36.48	
	27	1376.92	2.91667E-03	47.74	
	29	1560.86	1.79012E-03	57.01	
	30	1568.34	1.61458E-03	59.60	
	31	1593.74	5.40123E-03	36.25	
	33	1905.47	1.73611E-03	55.43	
	35	2227.19	1.46825E-03	60.01	
	36	2342.15	2.58102E-03	47.60	
	37	2357.42	1.66667E-03	40.82	

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Analysis Report for 1510063-13
CP2107S14-15

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.98	1460.81 *	10.67	1.81E+01	3.28E+00
CO-58	0.99	810.76 *	99.40	1.03E-01	1.22E-01
GA-67	0.66	93.31 *	35.70	1.95E+02	7.49E+02
		208.95 *	2.24	1.42E+03	5.31E+03
		300.22 *	16.00	1.35E+02	5.40E+02
CD-109	0.95	88.03 *	3.72	3.43E+00	1.98E+00
SN-126	0.99	87.57 *	37.00	3.30E-01	1.90E-01
BI-207	0.39	569.67 *	97.72	9.67E-02	9.95E-02
		1063.62 *	74.90		
TL-208	0.87	583.14 *	30.22	1.53E+00	4.63E-01
		860.37 *	4.48		
		2614.66 *	35.85	1.33E+00	4.85E-01
PB-210	0.99	46.50 *	4.25	6.40E-01	7.28E-01
PB-212	0.95	238.63 *	44.60	2.13E+00	3.56E-01
		300.09 *	3.41	1.64E+00	1.86E+00
BI-214	0.98	609.31 *	46.30	8.60E-01	2.91E-01
		1120.29 *	15.10	9.39E-01	9.43E-01
		1764.49 *	15.80	1.13E+00	7.98E-01
		2204.22 *	4.98	2.94E+00	2.13E+00
PB-214	1.00	295.21 *	19.19	6.81E-01	4.62E-01
		351.92 *	37.19	1.15E+00	2.74E-01
AC-228	0.58	338.32 *	11.40	1.51E+00	7.46E-01
		911.07 *	27.70	9.61E-01	5.77E-01
		969.11 *	16.60		
NP-237	0.85	86.50 *	12.60	9.70E-01	5.57E-01
AM-243	0.85	74.67 *	66.00	7.41E-01	1.48E-01

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.985	1.81E+01	3.28E+00	

Analysis Report for 1510063-13
CP2107S14-15

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
CO-58	0.997	1.03E-01	1.22E-01	
GA-67	0.662	1.51E+02	5.58E+02	
? CD-109	0.956	3.43E+00	1.98E+00	
? SN-126	0.999	3.30E-01	1.90E-01	
BI-207	0.398	9.67E-02	9.95E-02	
TL-208	0.872	1.44E+00	3.35E-01	
PB-210	0.995	6.40E-01	7.28E-01	
PB-212	0.953	2.05E+00	3.51E-01	
BI-214	0.986	9.25E-01	2.60E-01	
PB-214	1.000	1.03E+00	2.36E-01	
AC-228	0.582	1.17E+00	4.57E-01	
? NP-237	0.853	9.70E-01	5.57E-01	
AM-243	0.856	7.41E-01	1.48E-01	

- ? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510063-13
 CP2107S14-15

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 9:13:18AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	5	187.26	4.45646E-02		
m	12	358.34	8.58992E-03		
	13	511.14	1.27723E-02		
M	17	786.69	6.62280E-03		
m	18	794.12	5.74209E-03		
	20	897.34	9.82456E-03		Sum
	22	967.94	1.46016E-02		
	23	1013.63	4.49074E-03		
	24	1030.28	1.59758E-02		
	26	1157.81	7.63889E-03		
	27	1376.92	2.91667E-03		
	29	1560.86	1.79012E-03		
	30	1568.34	1.61458E-03		
	31	1593.74	5.40123E-03		
	33	1905.47	1.73611E-03		
	35	2227.19	1.46825E-03		
	36	2342.15	2.58102E-03		
	37	2357.42	1.66667E-03		

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
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Analysis Report for 1510063-13
CP2107S14-15

+	BE-7	477.59	10.42	-4.46E-01	1.66E+00	1.66E+00
+	NA-22	1274.54	99.94	5.28E-02	2.07E-01	2.07E-01
+	NA-24	1368.53	99.99	2.34E+12	4.61E+12	5.00E+12
		2754.09	99.86	7.36E+11		4.61E+12
+	AL-26	1808.65	99.76	-3.43E-02	1.16E-01	1.16E-01
+	K-40	1460.81	*	10.67	1.81E+01	2.14E+00
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	-2.09E-03	8.48E-02	8.48E-02
		78.34	96.00	2.78E-01		1.14E-01
+	SC-46	889.25	99.98	-2.21E-02	1.75E-01	1.75E-01
		1120.51	99.99	2.24E-01		2.99E-01
+	V-48	983.52	99.98	-2.95E-01	5.31E-01	5.31E-01
		1312.10	97.50	-5.43E-02		6.26E-01
+	CR-51	320.08	9.83	-1.00E+00	2.21E+00	2.21E+00
+	MN-54	834.83	99.97	4.21E-02	1.90E-01	1.90E-01
+	CO-56	846.75	99.96	-7.69E-02	1.85E-01	1.85E-01
		1037.75	14.03	3.97E-01		1.67E+00
		1238.25	67.00	1.52E-01		4.26E-01
		1771.40	15.51	1.49E-01		1.25E+00
		2598.48	16.90	2.63E-01		9.44E-01
+	CO-57	122.06	85.51	-5.63E-02	1.09E-01	1.09E-01
		136.48	10.60	-7.13E-01		9.00E-01
+	CO-58	810.76	*	99.40	1.03E-01	1.99E-01
+	FE-59	1099.22	56.50	1.04E-01	5.24E-01	5.24E-01
		1291.56	43.20	1.75E-01		6.98E-01
+	CO-60	1173.22	100.00	5.43E-03	1.72E-01	2.12E-01
		1332.49	100.00	-2.82E-02		1.72E-01
+	ZN-65	1115.52	50.75	-7.88E-02	4.01E-01	4.01E-01
+	GA-67	93.31	*	35.70	1.95E+02	1.75E+02
		208.95	*	2.24	1.42E+03	1.94E+03
		300.22	*	16.00	1.35E+02	2.51E+02
+	SE-75	121.11	16.70	-4.64E-01	1.80E-01	6.01E-01
		136.00	59.20	-4.33E-02		1.80E-01
		264.65	59.80	-1.86E-01		2.02E-01
		279.53	25.20	-7.82E-02		5.20E-01
		400.65	11.40	-6.77E-01		1.14E+00
+	RB-82	776.52	13.00	-1.12E-01	2.66E+00	2.66E+00
+	RB-83	520.41	46.00	2.19E-03	3.57E-01	3.57E-01
		529.64	30.30	4.15E-02		5.34E-01
		552.65	16.40	-2.81E-01		9.41E-01
+	KR-85	513.99	0.43	6.57E+01	4.16E+01	4.16E+01
+	SR-85	513.99	99.27	3.86E-01	2.44E-01	2.44E-01
+	Y-88	898.02	93.40	8.99E-02	1.63E-01	2.03E-01
		1836.01	99.38	4.69E-02		1.63E-01
+	NB-93M	16.57	9.43	7.70E-01	4.17E-01	4.17E-01
+	NB-94	702.63	100.00	-1.20E-02	1.44E-01	1.44E-01
		871.10	100.00	-8.35E-02		1.50E-01
+	NB-95	765.79	99.81	6.81E-02	3.15E-01	3.15E-01
+	NB-95M	235.69	25.00	4.08E+02	1.50E+02	1.50E+02
+	ZR-95	724.18	43.70	3.19E-01	3.60E-01	5.45E-01
		756.72	55.30	-6.00E-02		3.60E-01

Analysis Report for 1510063-13
CP2107S14-15

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	MO-99	181.06	6.20	-3.36E+01	1.33E+03	1.91E+03
		739.58	12.80	-3.43E+02		1.33E+03
		778.00	4.50	5.55E+02		4.25E+03
+	RU-103	497.08	89.00	2.92E-02	2.30E-01	2.30E-01
+	RU-106	621.84	9.80	-2.38E-01	1.55E+00	1.55E+00
+	AG-108M	433.93	89.90	-1.79E-02	1.34E-01	1.34E-01
		614.37	90.40	-3.43E-02		1.73E-01
		722.95	90.50	8.35E-02		1.90E-01
+	CD-109	88.03	* 3.72	3.43E+00	4.38E+00	4.38E+00
+	AG-110M	657.75	93.14	-7.96E-02	1.48E-01	1.48E-01
		677.61	10.53	2.41E-01		1.45E+00
		706.67	16.46	-1.81E-01		9.09E-01
		763.93	21.98	5.61E-02		8.65E-01
		884.67	71.63	1.73E-03		2.22E-01
		1384.27	23.94	1.56E-01		6.60E-01
+	CD-113M	263.70	0.02	-3.11E+02	4.48E+02	4.48E+02
+	SN-113	255.12	1.93	2.62E-01	2.10E-01	6.47E+00
		391.69	64.90	-1.10E-02		2.10E-01
+	TE123M	159.00	84.10	-2.72E-02	1.34E-01	1.34E-01
+	SB-124	602.71	97.87	-5.53E-03	1.89E-01	1.89E-01
		645.85	7.26	-1.00E+00		2.66E+00
		722.78	11.10	-1.08E+00		1.96E+00
		1691.02	49.00	2.36E-02		3.75E-01
+	I-125	35.49	6.49	-8.81E-02	1.04E+00	1.04E+00
+	SB-125	176.33	6.89	2.21E-01	3.93E-01	1.48E+00
		427.89	29.33	-8.91E-02		3.93E-01
		463.38	10.35	1.82E-01		1.34E+00
		600.56	17.80	-4.00E-01		7.61E-01
		635.90	11.32	-1.13E-01		1.29E+00
+	SB-126	414.70	83.30	-1.33E-01	6.39E-01	6.70E-01
		666.33	99.60	-1.42E-01		6.39E-01
		695.00	99.60	1.50E-01		7.43E-01
		720.50	53.80	-6.86E-01		1.29E+00
+	SN-126	87.57	* 37.00	3.30E-01	4.22E-01	4.22E-01
+	SB-127	473.00	25.00	-1.00E+01	6.24E+01	7.65E+01
		685.20	35.70	1.87E+01		6.24E+01
		783.80	14.70	3.50E+00		1.82E+02
+	I-129	29.78	57.00	8.70E-03	8.14E-02	8.14E-02
		33.60	13.20	-6.14E-02		3.57E-01
		39.58	7.52	-2.41E-01		6.73E-01
+	I-131	284.30	6.05	-3.20E+00	1.50E+00	2.07E+01
		364.48	81.20	-1.67E-01		1.50E+00
		636.97	7.26	-2.00E+00		2.22E+01
		722.89	1.80	-5.40E+01		9.80E+01
+	TE-132	49.72	13.10	-9.38E+00	4.64E+01	1.82E+02
		228.16	88.00	-6.58E-02		4.64E+01
+	BA-133	81.00	33.00	-3.12E-01	2.73E-01	3.07E-01
		302.84	17.80	-2.97E-01		6.41E-01
		356.01	60.00	4.69E-01		2.73E-01

Analysis Report for 1510063-13
CP2107S14-15

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	I-133	529.87	86.30	6.38E+07	8.20E+08	8.20E+08
+	XE-133	81.00	38.00	-1.10E+01	1.08E+01	1.08E+01
+	CS-134	563.23	8.38	7.28E-02	1.84E-01	1.70E+00
		569.32	15.43	3.04E-01		9.41E-01
		604.70	97.60	-2.62E-02		1.84E-01
		795.84	85.40	3.89E-02		1.89E-01
		801.93	8.73	1.95E-01		1.71E+00
+	CS-135	268.24	16.00	3.79E-01	7.06E-01	7.06E-01
+	@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@	1260.41	28.60	1.00E+26		1.00E+26
	@	1678.03	9.54	1.00E+26		1.00E+26
+	CS-136	153.22	7.46	-4.46E-01	5.85E-01	5.56E+00
		163.89	4.61	-2.48E+00		9.21E+00
		176.55	13.56	4.83E-01		3.24E+00
		273.65	12.66	-4.43E-01		3.96E+00
		340.57	48.50	6.01E-02		1.25E+00
		818.50	99.70	7.38E-02		5.85E-01
		1048.07	79.60	1.50E-01		9.42E-01
		1235.34	19.70	1.91E+00		5.13E+00
+	CS-137	661.65	85.12	6.58E-02	1.66E-01	1.66E-01
+	LA-138	788.74	34.00	-1.10E-01	2.08E-01	4.90E-01
		1435.80	66.00	2.33E-02		2.08E-01
+	CE-139	165.85	80.35	5.90E-03	1.43E-01	1.43E-01
+	BA-140	162.64	6.70	-5.62E-02	2.26E+00	6.65E+00
		304.84	4.50	1.26E+00		1.12E+01
		423.70	3.20	6.86E+00		1.63E+01
		437.55	2.00	-6.99E+00		2.77E+01
		537.32	25.00	-3.19E-01		2.26E+00
+	LA-140	328.77	20.50	1.68E+00	8.37E-01	2.74E+00
		487.03	45.50	-1.36E-01		1.24E+00
		815.85	23.50	7.42E-01		2.74E+00
		1596.49	95.49	0.00E+00		8.37E-01
+	CE-141	145.44	48.40	1.86E-01	3.61E-01	3.61E-01
+	CE-143	57.36	11.80	-7.14E+05	4.27E+05	7.85E+05
		293.26	42.00	3.29E+05		4.27E+05
		664.55	5.20	7.52E+05		3.64E+06
+	CE-144	133.54	10.80	-1.65E-01	9.03E-01	9.03E-01
+	PM-144	476.78	42.00	-8.12E-02	1.52E-01	3.05E-01
		618.01	98.60	5.10E-02		1.52E-01
		696.49	99.49	8.17E-02		1.67E-01
+	PM-145	36.85	21.70	-7.84E-02	1.24E-01	2.25E-01
		37.36	39.70	-6.67E-02		1.24E-01
		42.30	15.10	3.57E-02		3.72E-01
		72.40	2.31	8.74E+00		4.50E+00
+	PM-146	453.90	39.94	-1.19E-01	3.16E-01	3.16E-01
		735.90	14.01	-1.63E-01		1.06E+00
		747.13	13.10	4.47E-01		1.16E+00
+	ND-147	91.11	28.90	5.25E+00	2.07E+00	2.07E+00
		531.02	13.10	-6.58E-01		5.74E+00

Analysis Report for 1510063-13
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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	PM-149	285.90	3.10	-4.78E+03	2.34E+04	2.34E+04
+	EU-152	121.78	20.50	-2.19E-01	4.25E-01	4.25E-01
		244.69	5.40	-5.95E-01		2.38E+00
		344.27	19.13	3.53E-02		5.78E-01
		778.89	9.20	2.33E-01		1.78E+00
		964.01	10.40	1.47E+00		2.09E+00
		1085.78	7.22	1.86E-01		2.69E+00
		1112.02	9.60	1.68E-01		1.92E+00
		1407.95	14.94	-2.33E-01		1.03E+00
+	GD-153	97.43	31.30	6.17E-03	2.85E-01	2.85E-01
		103.18	22.20	1.31E-01		3.99E-01
+	EU-154	123.07	40.50	-6.14E-02	2.20E-01	2.20E-01
		723.30	19.70	3.86E-01		8.77E-01
		873.19	11.50	-2.17E-01		1.41E+00
		996.32	10.30	-5.08E-01		1.59E+00
		1004.76	17.90	1.36E-01		9.57E-01
		1274.45	35.50	1.47E-01		5.75E-01
+	EU-155	86.50	30.90	-1.45E-01	3.11E-01	3.11E-01
		105.30	20.70	3.79E-02		4.04E-01
+	EU-156	811.77	10.40	-8.84E-01	4.84E+00	4.84E+00
		1153.47	7.20	-1.66E+00		9.69E+00
		1230.71	8.90	-4.76E+00		8.77E+00
+	HO-166M	184.41	72.60	1.32E-01	1.55E-01	1.55E-01
		280.45	29.60	1.18E-01		3.85E-01
		410.94	11.10	2.44E-01		1.12E+00
		711.69	54.10	3.52E-02		2.53E-01
+	TM-171	66.72	0.14	1.89E+01	5.86E+01	5.86E+01
+	HF-172	81.75	4.52	-7.27E+00	8.43E-01	2.13E+00
		125.81	11.30	2.79E-01		8.43E-01
+	LU-172	181.53	20.60	-7.29E-01	6.10E+00	9.22E+00
		810.06	16.63	-3.37E-01		1.59E+01
		912.12	15.25	4.17E+01		2.93E+01
		1093.66	62.50	1.22E+00		6.10E+00
+	LU-173	100.72	5.24	1.05E-01	5.75E-01	1.56E+00
		272.11	21.20	3.35E-01		5.75E-01
+	HF-175	343.40	84.00	1.05E-02	1.83E-01	1.83E-01
+	LU-176	88.34	13.30	1.24E+00	1.11E-01	7.55E-01
		201.83	86.00	5.33E-02		1.22E-01
		306.78	94.00	-4.31E-03		1.11E-01
+	TA-182	67.75	41.20	-5.67E-03	2.30E-01	2.30E-01
		1121.30	34.90	3.73E-02		8.11E-01
		1189.05	16.23	5.53E-01		1.64E+00
		1221.41	26.98	2.78E-01		9.94E-01
		1231.02	11.44	-1.22E+00		2.25E+00
+	IR-192	308.46	29.68	-9.24E-03	3.60E-01	4.63E-01
		468.07	48.10	6.93E-02		3.60E-01
+	HG-203	279.19	77.30	-3.28E-02	2.18E-01	2.18E-01
+	BI-207	569.67	* 97.72	9.67E-02	1.61E-01	1.61E-01
		1063.62	74.90	3.85E-03		2.40E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	TL-208	583.14	*	30.22	1.53E+00	4.33E-01	6.03E-01
		860.37		4.48	6.63E-01		3.69E+00
		2614.66	*	35.85	1.33E+00		4.33E-01
+	BI-210M	262.00		45.00	-1.21E-01	2.24E-01	2.24E-01
		300.00		23.00	2.37E-01		5.50E-01
+	PB-210	46.50	*	4.25	6.40E-01	1.19E+00	1.19E+00
+	PB-211	404.84		2.90	-3.34E-01	4.13E+00	4.13E+00
		831.96		2.90	-7.67E-01		5.74E+00
+	BI-212	727.17		11.80	6.57E-01	1.50E+00	1.50E+00
		1620.62		2.75	-1.10E-01		4.67E+00
+	PB-212	238.63	*	44.60	2.13E+00	3.83E-01	3.83E-01
		300.09	*	3.41	1.64E+00		3.03E+00
+	BI-214	609.31	*	46.30	8.60E-01	3.94E-01	3.94E-01
		1120.29	*	15.10	9.39E-01		1.52E+00
		1764.49	*	15.80	1.13E+00		1.16E+00
		2204.22	*	4.98	2.94E+00		2.91E+00
+	PB-214	295.21	*	19.19	6.81E-01	5.29E-01	7.31E-01
		351.92	*	37.19	1.15E+00		5.29E-01
+	RN-219	401.80		6.50	-4.95E-01	1.77E+00	1.77E+00
+	RA-223	323.87		3.88	1.28E+00	3.00E+00	3.00E+00
+	RA-224	240.98		3.95	2.06E+01	4.76E+00	4.76E+00
+	RA-225	40.00		31.00	-2.18E-01	6.09E-01	6.09E-01
+	RA-226	186.21		3.28	4.60E+00	3.51E+00	3.51E+00
+	TH-227	50.10		8.40	-3.77E-02	7.31E-01	7.31E-01
		236.00		11.50	4.08E+00		1.50E+00
		256.20		6.30	1.96E-01		1.67E+00
+	AC-228	338.32	*	11.40	1.51E+00	8.88E-01	1.12E+00
		911.07	*	27.70	9.61E-01		8.88E-01
		969.11		16.60	9.59E-01		1.30E+00
+	TH-230	48.44		16.90	-4.30E-03	3.59E-01	3.59E-01
		62.85		4.60	2.29E+00		1.70E+00
		67.67		0.37	-5.33E-01		2.16E+01
+	PA-231	283.67		1.60	6.85E-01	4.94E+00	7.01E+00
		302.67		2.30	-2.29E+00		4.94E+00
+	TH-231	25.64		14.70	-6.38E-02	3.16E-01	3.16E-01
		84.21		6.40	-5.15E+00		1.41E+00
+	PA-233	311.98		38.60	6.83E-02	5.76E-01	5.76E-01
+	PA-234	131.20		20.40	1.96E-01	4.61E-01	4.61E-01
		733.99		8.80	-1.34E+00		1.66E+00
		946.00		12.00	2.97E-02		1.47E+00
+	PA-234M	1001.03		0.92	7.77E-01	1.78E+01	1.78E+01
+	TH-234	63.29		3.80	1.99E+00	2.06E+00	2.06E+00
+	U-235	143.76		10.50	3.63E-01	9.03E-01	9.03E-01
		163.35		4.70	-5.53E-01		2.06E+00
		205.31		4.70	2.89E-01		2.34E+00
+	NP-237	86.50	*	12.60	9.70E-01	1.24E+00	1.24E+00
+	NP-239	106.10		22.70	1.32E+02	1.41E+03	1.41E+03

Analysis Report for 1510063-13
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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	NP-239	228.18	10.70	-1.65E+02	1.41E+03	3.74E+03
		277.60	14.10	-6.75E+02		3.07E+03
+	AM-241	59.54	35.90	5.21E-02	2.02E-01	2.02E-01
+	AM-243	74.67 *	66.00	7.41E-01	2.10E-01	2.10E-01
+	CM-243	209.75	3.29	-6.70E-01	8.08E-01	3.27E+00
		228.14	10.60	-1.41E-03		9.90E-01
		277.60	14.00	-1.78E-01		8.08E-01

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	BE-7	477.59	10.42	1.66E+00	1.66E+00	-4.46E-01	7.83E-01
	NA-22	1274.54	99.94	2.07E-01	2.07E-01	5.28E-02	9.46E-02
	NA-24	1368.53	99.99	5.00E+12	4.61E+12	2.34E+12	2.20E+12
		2754.09	99.86	4.61E+12		7.36E+11	1.79E+12
	AL-26	1808.65	99.76	1.16E-01	1.16E-01	-3.43E-02	4.62E-02
+	K-40	1460.81 *	10.67	2.14E+00	2.14E+00	1.81E+01	9.76E-01
@	AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
	TI-44	67.88	94.40	8.48E-02	8.48E-02	-2.09E-03	4.16E-02
		78.34	96.00	1.14E-01		2.78E-01	5.60E-02
	SC-46	889.25	99.98	1.75E-01	1.75E-01	-2.21E-02	7.97E-02
		1120.51	99.99	2.99E-01		2.24E-01	1.40E-01
	V-48	983.52	99.98	5.31E-01	5.31E-01	-2.95E-01	2.42E-01
		1312.10	97.50	6.26E-01		-5.43E-02	2.81E-01
	CR-51	320.08	9.83	2.21E+00	2.21E+00	-1.00E+00	1.06E+00
	MN-54	834.83	99.97	1.90E-01	1.90E-01	4.21E-02	8.88E-02
	CO-56	846.75	99.96	1.85E-01	1.85E-01	-7.69E-02	8.48E-02

Analysis Report for 1510063-13
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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
CO-56	1037.75	14.03	1.67E+00	1.85E-01	3.97E-01	7.70E-01
	1238.25	67.00	4.26E-01		1.52E-01	1.96E-01
	1771.40	15.51	1.25E+00		1.49E-01	5.29E-01
	2598.48	16.90	9.44E-01		2.63E-01	3.53E-01
CO-57	122.06	85.51	1.09E-01	1.09E-01	-5.63E-02	5.33E-02
	136.48	10.60	9.00E-01		-7.13E-01	4.38E-01
+ CO-58	810.76	*	1.99E-01	1.99E-01	1.03E-01	9.21E-02
FE-59	1099.22	56.50	5.24E-01	5.24E-01	1.04E-01	2.41E-01
	1291.56	43.20	6.98E-01		1.75E-01	3.17E-01
CO-60	1173.22	100.00	2.12E-01	1.72E-01	5.43E-03	9.77E-02
	1332.49	100.00	1.72E-01		-2.82E-02	7.68E-02
ZN-65	1115.52	50.75	4.01E-01	4.01E-01	-7.88E-02	1.84E-01
+ GA-67	93.31	*	1.75E+02	1.75E+02	1.95E+02	8.63E+01
	208.95	*	2.24		1.42E+03	9.45E+02
	300.22	*	16.00		1.35E+02	1.20E+02
SE-75	121.11	16.70	6.01E-01	1.80E-01	-4.64E-01	2.93E-01
	136.00	59.20	1.80E-01		-4.33E-02	8.76E-02
	264.65	59.80	2.02E-01		-1.86E-01	9.73E-02
	279.53	25.20	5.20E-01		-7.82E-02	2.50E-01
	400.65	11.40	1.14E+00		-6.77E-01	5.42E-01
RB-82	776.52	13.00	2.66E+00	2.66E+00	-1.12E-01	1.24E+00
RB-83	520.41	46.00	3.57E-01	3.57E-01	2.19E-03	1.68E-01
	529.64	30.30	5.34E-01		4.15E-02	2.51E-01
	552.65	16.40	9.41E-01		-2.81E-01	4.40E-01
KR-85	513.99	0.43	4.16E+01	4.16E+01	6.57E+01	2.00E+01
SR-85	513.99	99.27	2.44E-01	2.44E-01	3.86E-01	1.17E-01
Y-88	898.02	93.40	2.03E-01	1.63E-01	8.99E-02	9.33E-02
	1836.01	99.38	1.63E-01		4.69E-02	6.67E-02
NB-93M	16.57	9.43	4.17E-01	4.17E-01	7.70E-01	2.03E-01
NB-94	702.63	100.00	1.44E-01	1.44E-01	-1.20E-02	6.72E-02
	871.10	100.00	1.50E-01		-8.35E-02	6.89E-02
NB-95	765.79	99.81	3.15E-01	3.15E-01	6.81E-02	1.48E-01
NB-95M	235.69	25.00	1.50E+02	1.50E+02	4.08E+02	7.35E+01
ZR-95	724.18	43.70	5.45E-01	3.60E-01	3.19E-01	2.56E-01
	756.72	55.30	3.60E-01		-6.00E-02	1.67E-01
MO-99	181.06	6.20	1.91E+03	1.33E+03	-3.36E+01	9.27E+02
	739.58	12.80	1.33E+03		-3.43E+02	6.19E+02
	778.00	4.50	4.25E+03		5.55E+02	1.98E+03
RU-103	497.08	89.00	2.30E-01	2.30E-01	2.92E-02	1.09E-01
RU-106	621.84	9.80	1.55E+00	1.55E+00	-2.38E-01	7.29E-01
AG-108M	433.93	89.90	1.34E-01	1.34E-01	-1.79E-02	6.34E-02
	614.37	90.40	1.73E-01		-3.43E-02	8.18E-02
	722.95	90.50	1.90E-01		8.35E-02	8.92E-02
+ CD-109	88.03	*	4.38E+00	4.38E+00	3.43E+00	2.17E+00
AG-110M	657.75	93.14	1.48E-01	1.48E-01	-7.96E-02	6.88E-02
	677.61	10.53	1.45E+00		2.41E-01	6.77E-01
	706.67	16.46	9.09E-01		-1.81E-01	4.22E-01
	763.93	21.98	8.65E-01		5.61E-02	4.06E-01
	884.67	71.63	2.22E-01		1.73E-03	1.02E-01
	1384.27	23.94	6.60E-01		1.56E-01	2.87E-01
	CD-113M	263.70	0.02	4.48E+02	4.48E+02	-3.11E+02	2.16E+02
SN-113	255.12	1.93	6.47E+00	2.10E-01	2.62E-01	3.12E+00
	391.69	64.90	2.10E-01		-1.10E-02	9.98E-02

Analysis Report for 1510063-13

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
TE123M	159.00	84.10	1.34E-01	1.34E-01	-2.72E-02	6.51E-02
SB-124	602.71	97.87	1.89E-01	1.89E-01	-5.53E-03	8.86E-02
	645.85	7.26	2.66E+00		-1.00E+00	1.24E+00
	722.78	11.10	1.96E+00		-1.08E+00	9.15E-01
	1691.02	49.00	3.75E-01		2.36E-02	1.55E-01
I-125	35.49	6.49	1.04E+00	1.04E+00	-8.81E-02	5.06E-01
SB-125	176.33	6.89	1.48E+00	3.93E-01	2.21E-01	7.21E-01
	427.89	29.33	3.93E-01		-8.91E-02	1.86E-01
	463.38	10.35	1.34E+00		1.82E-01	6.39E-01
	600.56	17.80	7.61E-01		-4.00E-01	3.56E-01
	635.90	11.32	1.29E+00		-1.13E-01	6.04E-01
SB-126	414.70	83.30	6.70E-01	6.39E-01	-1.33E-01	3.18E-01
	666.33	99.60	6.39E-01		-1.42E-01	2.97E-01
	695.00	99.60	7.43E-01		1.50E-01	3.48E-01
	720.50	53.80	1.29E+00		-6.86E-01	5.99E-01
+ SN-126	87.57	* 37.00	4.22E-01	4.22E-01	3.30E-01	2.09E-01
SB-127	473.00	25.00	7.65E+01	6.24E+01	-1.00E+01	3.61E+01
	685.20	35.70	6.24E+01		1.87E+01	2.91E+01
	783.80	14.70	1.82E+02		3.50E+00	8.49E+01
I-129	29.78	57.00	8.14E-02	8.14E-02	8.70E-03	3.97E-02
	33.60	13.20	3.57E-01		-6.14E-02	1.74E-01
	39.58	7.52	6.73E-01		-2.41E-01	3.28E-01
I-131	284.30	6.05	2.07E+01	1.50E+00	-3.20E+00	9.96E+00
	364.48	81.20	1.50E+00		-1.67E-01	7.14E-01
	636.97	7.26	2.22E+01		-2.00E+00	1.04E+01
	722.89	1.80	9.80E+01		-5.40E+01	4.58E+01
TE-132	49.72	13.10	1.82E+02	4.64E+01	-9.38E+00	8.91E+01
	228.16	88.00	4.64E+01		-6.58E-02	2.24E+01
BA-133	81.00	33.00	3.07E-01	2.73E-01	-3.12E-01	1.51E-01
	302.84	17.80	6.41E-01		-2.97E-01	3.08E-01
	356.01	60.00	2.73E-01		4.69E-01	1.32E-01
I-133	529.87	86.30	8.20E+08	8.20E+08	6.38E+07	3.86E+08
XE-133	81.00	38.00	1.08E+01	1.08E+01	-1.10E+01	5.31E+00
CS-134	563.23	8.38	1.70E+00	1.84E-01	7.28E-02	7.99E-01
	569.32	15.43	9.41E-01		3.04E-01	4.44E-01
	604.70	97.60	1.84E-01		-2.62E-02	8.72E-02
	795.84	85.40	1.89E-01		3.89E-02	8.75E-02
	801.93	8.73	1.71E+00		1.95E-01	7.90E-01
CS-135	268.24	16.00	7.06E-01	7.06E-01	3.79E-01	3.41E-01
@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	1260.41	28.60	1.00E+26		1.00E+26	1.00E+20
@	1678.03	9.54	1.00E+26		1.00E+26	1.00E+20
CS-136	153.22	7.46	5.56E+00	5.85E-01	-4.46E-01	2.71E+00
	163.89	4.61	9.21E+00		-2.48E+00	4.48E+00
	176.55	13.56	3.24E+00		4.83E-01	1.58E+00
	273.65	12.66	3.96E+00		-4.43E-01	1.91E+00
	340.57	48.50	1.25E+00		6.01E-02	6.03E-01
	818.50	99.70	5.85E-01		7.38E-02	2.67E-01
	1048.07	79.60	9.42E-01		1.50E-01	4.30E-01
	1235.34	19.70	5.13E+00		1.91E+00	2.37E+00
CS-137	661.65	85.12	1.66E-01	1.66E-01	6.58E-02	7.76E-02
LA-138	788.74	34.00	4.90E-01	2.08E-01	-1.10E-01	2.29E-01
	1435.80	66.00	2.08E-01		2.33E-02	8.90E-02

: 00816

Analysis Report for 1510063-13
CP2107S14-15

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
CE-139	165.85	80.35	1.43E-01	1.43E-01	5.90E-03	6.98E-02
BA-140	162.64	6.70	6.65E+00	2.26E+00	-5.62E-02	3.23E+00
	304.84	4.50	1.12E+01		1.26E+00	5.40E+00
	423.70	3.20	1.63E+01		6.86E+00	7.74E+00
	437.55	2.00	2.77E+01		-6.99E+00	1.31E+01
	537.32	25.00	2.26E+00		-3.19E-01	1.06E+00
LA-140	328.77	20.50	2.74E+00	8.37E-01	1.68E+00	1.32E+00
	487.03	45.50	1.24E+00		-1.36E-01	5.84E-01
	815.85	23.50	2.74E+00		7.42E-01	1.26E+00
	1596.49	95.49	8.37E-01		0.00E+00	3.67E-01
CE-141	145.44	48.40	3.61E-01	3.61E-01	1.86E-01	1.76E-01
CE-143	57.36	11.80	7.85E+05	4.27E+05	-7.14E+05	3.84E+05
	293.26	42.00	4.27E+05		3.29E+05	2.06E+05
	664.55	5.20	3.64E+06		7.52E+05	1.70E+06
CE-144	133.54	10.80	9.03E-01	9.03E-01	-1.65E-01	4.40E-01
PM-144	476.78	42.00	3.05E-01	1.52E-01	-8.12E-02	1.44E-01
	618.01	98.60	1.52E-01		5.10E-02	7.12E-02
	696.49	99.49	1.67E-01		8.17E-02	7.84E-02
PM-145	36.85	21.70	2.25E-01	1.24E-01	-7.84E-02	1.10E-01
	37.36	39.70	1.24E-01		-6.67E-02	6.03E-02
	42.30	15.10	3.72E-01		3.57E-02	1.82E-01
	72.40	2.31	4.50E+00		8.74E+00	2.21E+00
PM-146	453.90	39.94	3.16E-01	3.16E-01	-1.19E-01	1.50E-01
	735.90	14.01	1.06E+00		-1.63E-01	4.94E-01
	747.13	13.10	1.16E+00		4.47E-01	5.41E-01
ND-147	91.11	28.90	2.07E+00	2.07E+00	5.25E+00	1.02E+00
	531.02	13.10	5.74E+00		-6.58E-01	2.70E+00
PM-149	285.90	3.10	2.34E+04	2.34E+04	-4.78E+03	1.13E+04
EU-152	121.78	20.50	4.25E-01	4.25E-01	-2.19E-01	2.07E-01
	244.69	5.40	2.38E+00		-5.95E-01	1.15E+00
	344.27	19.13	5.78E-01		3.53E-02	2.76E-01
	778.89	9.20	1.78E+00		2.33E-01	8.32E-01
	964.01	10.40	2.09E+00		1.47E+00	9.80E-01
	1085.78	7.22	2.69E+00		1.86E-01	1.24E+00
	1112.02	9.60	1.92E+00		1.68E-01	8.77E-01
	1407.95	14.94	1.03E+00		-2.33E-01	4.48E-01
GD-153	97.43	31.30	2.85E-01	2.85E-01	6.17E-03	1.39E-01
	103.18	22.20	3.99E-01		1.31E-01	1.95E-01
EU-154	123.07	40.50	2.20E-01	2.20E-01	-6.14E-02	1.08E-01
	723.30	19.70	8.77E-01		3.86E-01	4.12E-01
	873.19	11.50	1.41E+00		-2.17E-01	6.52E-01
	996.32	10.30	1.59E+00		-5.08E-01	7.28E-01
	1004.76	17.90	9.57E-01		1.36E-01	4.39E-01
	1274.45	35.50	5.75E-01		1.47E-01	2.63E-01
EU-155	86.50	30.90	3.11E-01	3.11E-01	-1.45E-01	1.53E-01
	105.30	20.70	4.04E-01		3.79E-02	1.98E-01
EU-156	811.77	10.40	4.84E+00	4.84E+00	-8.84E-01	2.22E+00
	1153.47	7.20	9.69E+00		-1.66E+00	4.44E+00
	1230.71	8.90	8.77E+00		-4.76E+00	4.04E+00
HO-166M	184.41	72.60	1.55E-01	1.55E-01	1.32E-01	7.55E-02
	280.45	29.60	3.85E-01		1.18E-01	1.86E-01
	410.94	11.10	1.12E+00		2.44E-01	5.34E-01
	711.69	54.10	2.53E-01		3.52E-02	1.17E-01

Analysis Report for 1510063-13
CP2107S14-15

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
TM-171	66.72	0.14	5.86E+01	5.86E+01	1.89E+01	2.87E+01
HF-172	81.75	4.52	2.13E+00	8.43E-01	-7.27E+00	1.05E+00
	125.81	11.30	8.43E-01		2.79E-01	4.12E-01
LU-172	181.53	20.60	9.22E+00	6.10E+00	-7.29E-01	4.48E+00
	810.06	16.63	1.59E+01		-3.37E-01	7.34E+00
	912.12	15.25	2.93E+01		4.17E+01	1.39E+01
	1093.66	62.50	6.10E+00		1.22E+00	2.83E+00
LU-173	100.72	5.24	1.56E+00	5.75E-01	1.05E-01	7.61E-01
	272.11	21.20	5.75E-01		3.35E-01	2.78E-01
HF-175	343.40	84.00	1.83E-01	1.83E-01	1.05E-02	8.75E-02
LU-176	88.34	13.30	7.55E-01	1.11E-01	1.24E+00	3.71E-01
	201.83	86.00	1.22E-01		5.33E-02	5.91E-02
	306.78	94.00	1.11E-01		-4.31E-03	5.33E-02
TA-182	67.75	41.20	2.30E-01	2.30E-01	-5.67E-03	1.13E-01
	1121.30	34.90	8.11E-01		3.73E-02	3.79E-01
	1189.05	16.23	1.64E+00		5.53E-01	7.60E-01
	1221.41	26.98	9.94E-01		2.78E-01	4.60E-01
	1231.02	11.44	2.25E+00		-1.22E+00	1.04E+00
IR-192	308.46	29.68	4.63E-01	3.60E-01	-9.24E-03	2.21E-01
	468.07	48.10	3.60E-01		6.93E-02	1.71E-01
HG-203	279.19	77.30	2.18E-01	2.18E-01	-3.28E-02	1.05E-01
+ BI-207	569.67 *	97.72	1.61E-01	1.61E-01	9.67E-02	7.62E-02
	1063.62	74.90	2.40E-01		3.85E-03	1.10E-01
+ TL-208	583.14 *	30.22	6.03E-01	4.33E-01	1.53E+00	2.88E-01
	860.37	4.48	3.69E+00		6.63E-01	1.71E+00
	2614.66 *	35.85	4.33E-01		1.33E+00	1.73E-01
BI-210M	262.00	45.00	2.24E-01	2.24E-01	-1.21E-01	1.08E-01
	300.00	23.00	5.50E-01		2.37E-01	2.65E-01
+ PB-210	46.50 *	4.25	1.19E+00	1.19E+00	6.40E-01	5.81E-01
PB-211	404.84	2.90	4.13E+00	4.13E+00	-3.34E-01	1.96E+00
	831.96	2.90	5.74E+00		-7.67E-01	2.67E+00
BI-212	727.17	11.80	1.50E+00	1.50E+00	6.57E-01	7.04E-01
	1620.62	2.75	4.67E+00		-1.10E-01	1.94E+00
+ PB-212	238.63 *	44.60	3.83E-01	3.83E-01	2.13E+00	1.87E-01
	300.09 *	3.41	3.03E+00		1.64E+00	1.45E+00
+ BI-214	609.31 *	46.30	3.94E-01	3.94E-01	8.60E-01	1.88E-01
	1120.29 *	15.10	1.52E+00		9.39E-01	7.06E-01
	1764.49 *	15.80	1.16E+00		1.13E+00	5.07E-01
	2204.22 *	4.98	2.91E+00		2.94E+00	1.17E+00
+ PB-214	295.21 *	19.19	7.31E-01	5.29E-01	6.81E-01	3.54E-01
	351.92 *	37.19	5.29E-01		1.15E+00	2.57E-01
RN-219	401.80	6.50	1.77E+00	1.77E+00	-4.95E-01	8.39E-01
RA-223	323.87	3.88	3.00E+00	3.00E+00	1.28E+00	1.44E+00
RA-224	240.98	3.95	4.76E+00	4.76E+00	2.06E+01	2.33E+00
RA-225	40.00	31.00	6.09E-01	6.09E-01	-2.18E-01	2.97E-01
RA-226	186.21	3.28	3.51E+00	3.51E+00	4.60E+00	1.71E+00
TH-227	50.10	8.40	7.31E-01	7.31E-01	-3.77E-02	3.58E-01
	236.00	11.50	1.50E+00		4.08E+00	7.34E-01
	256.20	6.30	1.67E+00		1.96E-01	8.04E-01
+ AC-228	338.32 *	11.40	1.12E+00	8.88E-01	1.51E+00	5.39E-01
	911.07 *	27.70	8.88E-01		9.61E-01	4.20E-01
	969.11	16.60	1.30E+00		9.59E-01	6.10E-01
TH-230	48.44	16.90	3.59E-01	3.59E-01	-4.30E-03	1.76E-01

Analysis Report for 1510063-13
CP2107S14-15

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
TH-230	62.85	4.60	1.70E+00	3.59E-01	2.29E+00	8.36E-01
	67.67	0.37	2.16E+01		-5.33E-01	1.06E+01
PA-231	283.67	1.60	7.01E+00	4.94E+00	6.85E-01	3.37E+00
	302.67	2.30	4.94E+00		-2.29E+00	2.37E+00
TH-231	25.64	14.70	3.16E-01	3.16E-01	-6.38E-02	1.54E-01
	84.21	6.40	1.41E+00		-5.15E+00	6.93E-01
PA-233	311.98	38.60	5.76E-01	5.76E-01	6.83E-02	2.76E-01
PA-234	131.20	20.40	4.61E-01	4.61E-01	1.96E-01	2.25E-01
	733.99	8.80	1.66E+00		-1.34E+00	7.71E-01
	946.00	12.00	1.47E+00		2.97E-02	6.78E-01
PA-234M	1001.03	0.92	1.78E+01	1.78E+01	7.77E-01	8.14E+00
TH-234	63.29	3.80	2.06E+00	2.06E+00	1.99E+00	1.01E+00
U-235	143.76	10.50	9.03E-01	9.03E-01	3.63E-01	4.40E-01
	163.35	4.70	2.06E+00		-5.53E-01	1.00E+00
	205.31	4.70	2.34E+00		2.89E-01	1.14E+00
+ NP-237	86.50	* 12.60	1.24E+00	1.24E+00	9.70E-01	6.14E-01
NP-239	106.10	22.70	1.41E+03	1.41E+03	1.32E+02	6.87E+02
	228.18	10.70	3.74E+03		-1.65E+02	1.81E+03
	277.60	14.10	3.07E+03		-6.75E+02	1.48E+03
AM-241	59.54	35.90	2.02E-01	2.02E-01	5.21E-02	9.91E-02
+ AM-243	74.67	* 66.00	2.10E-01	2.10E-01	7.41E-01	1.04E-01
CM-243	209.75	3.29	3.27E+00	8.08E-01	-6.70E-01	1.59E+00
	228.14	10.60	9.90E-01		-1.41E-03	4.79E-01
	277.60	14.00	8.08E-01		-1.78E-01	3.89E-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

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

Creation Date	Comment	User
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Analysis Report for 1510063-13
CP2107S14-15

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP2107S14-15

Elapsed Live time: 3600
 Elapsed Real Time: 3639

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	26	106
17:	69	75	56	69	78	56	63	72
25:	60	58	58	52	56	51	66	69
33:	59	56	55	46	61	63	68	57
41:	69	78	58	72	87	104	89	51
49:	71	84	73	75	72	61	86	72
57:	80	104	84	107	98	121	109	123
65:	105	109	93	85	90	105	111	130
73:	189	237	240	285	235	131	93	91
81:	97	95	97	109	107	135	124	120
89:	122	107	142	145	145	65	69	53
97:	55	65	69	65	70	56	66	75
105:	63	75	59	78	61	64	70	62
113:	72	66	68	52	45	60	59	72
121:	64	46	60	72	66	62	76	75
129:	73	65	64	51	52	60	61	56
137:	44	54	64	42	50	57	72	47
145:	63	62	55	55	55	48	44	56
153:	60	60	47	44	50	54	42	50
161:	46	53	55	45	52	50	44	56
169:	56	48	43	64	46	41	51	49
177:	42	35	47	41	43	43	45	60
185:	75	87	58	38	49	50	43	40
193:	31	38	32	38	39	39	43	44
201:	46	42	38	40	32	36	42	63
209:	51	39	34	33	27	41	37	51
217:	37	29	40	27	40	33	32	34
225:	35	42	36	28	32	26	28	30
233:	41	31	36	63	136	228	175	95
241:	75	60	35	16	22	28	33	26
249:	32	28	32	28	29	24	28	26
257:	32	16	33	23	16	21	28	21
265:	20	23	31	32	33	35	37	23
273:	31	26	20	18	30	33	26	29
281:	26	25	22	30	21	29	18	23
289:	23	21	26	22	31	52	62	38
297:	15	20	27	34	25	18	22	13
305:	23	23	23	11	19	17	19	22
313:	22	21	21	14	17	22	20	23
321:	14	20	14	17	24	23	34	18
329:	17	19	24	30	17	24	19	26
337:	36	58	35	22	14	16	20	20
345:	11	16	15	16	23	60	87	75
353:	50	10	15	19	16	20	24	12
361:	9	19	11	26	12	10	13	18

369: 16 14 9 21 18 16 20 16

Sample Title: CP2107S14-15

Channel	1	2	3	4	5	6	7	8
377:	14	11	11	16	11	11	16	18
385:	14	13	14	17	16	8	12	20
393:	17	13	10	12	15	15	14	14
401:	12	7	10	13	20	17	16	20
409:	13	23	9	16	13	9	18	12
417:	10	6	16	11	11	12	6	15
425:	8	15	13	12	10	7	16	15
433:	14	12	15	11	13	16	11	13
441:	8	12	17	16	17	15	16	10
449:	13	6	14	18	15	14	13	11
457:	8	17	15	14	10	18	18	17
465:	8	15	14	8	15	21	9	13
473:	13	5	11	4	9	13	12	15
481:	11	9	8	11	14	8	13	10
489:	13	8	6	14	9	12	10	4
497:	5	10	12	11	20	8	8	14
505:	10	10	8	12	27	41	44	27
513:	9	9	9	11	9	10	7	9
521:	14	10	10	13	10	15	8	9
529:	7	9	9	14	6	8	8	8
537:	12	9	10	7	9	15	4	5
545:	8	8	9	6	8	6	10	11
553:	7	4	10	10	11	8	12	10
561:	10	15	6	7	9	14	6	10
569:	7	13	10	15	7	3	7	13
577:	15	9	9	10	18	49	58	38
585:	19	7	10	5	2	9	7	6
593:	11	11	8	4	7	8	11	5
601:	8	8	11	9	4	8	20	52
609:	54	39	11	6	6	6	11	5
617:	5	7	12	9	12	10	9	9
625:	6	14	11	9	9	10	8	5
633:	11	5	10	9	5	7	14	8
641:	4	12	9	12	11	3	3	6
649:	8	12	9	6	2	8	3	4
657:	8	6	8	4	11	9	4	9
665:	7	8	4	6	7	3	5	9
673:	7	8	8	8	15	2	4	4
681:	7	3	7	10	8	8	6	7
689:	7	3	8	12	5	12	8	8
697:	6	8	5	11	9	4	5	6
705:	7	6	8	6	7	6	8	5
713:	4	3	6	4	3	7	10	5
721:	5	10	5	9	8	10	21	14
729:	11	4	5	11	6	7	6	9
737:	4	5	5	4	7	5	11	6
745:	6	8	9	5	5	6	3	4
753:	6	4	8	3	6	5	13	5
761:	9	15	2	3	12	15	11	6
769:	9	9	8	8	3	10	8	7
777:	9	3	6	9	7	5	6	6
785:	8	13	10	3	8	9	4	4
793:	7	11	11	4	5	3	7	2

801: 5 6 8 5 5 6 4 7

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Channel	1	2	3	4	5	6	7	8
809:	1	11	9	4	3	1	2	8
817:	4	4	7	4	3	4	4	7
825:	4	7	8	5	2	9	3	10
833:	8	5	10	6	4	12	7	6
841:	10	2	8	4	2	4	6	7
849:	3	5	4	4	6	5	3	5
857:	1	2	5	13	10	6	3	8
865:	5	11	1	5	8	3	8	5
873:	7	2	3	5	8	4	6	9
881:	3	3	8	3	3	5	2	3
889:	5	4	1	7	4	6	10	2
897:	4	1	3	8	4	6	1	1
905:	6	3	2	3	14	17	33	19
913:	10	4	3	7	5	3	5	6
921:	5	3	3	5	4	3	6	4
929:	5	4	4	6	7	4	4	6
937:	5	5	4	3	13	7	6	8
945:	6	2	6	5	6	4	6	6
953:	2	2	3	1	2	4	3	6
961:	5	4	6	10	11	6	10	17
969:	12	8	2	5	3	1	5	5
977:	5	6	5	2	8	2	2	5
985:	3	4	5	6	8	5	3	10
993:	2	2	4	4	2	4	5	5
1001:	5	5	6	5	1	3	4	7
1009:	2	5	6	2	8	9	5	4
1017:	3	0	5	7	4	2	2	1
1025:	7	5	5	8	5	3	3	8
1033:	5	6	4	6	4	6	3	6
1041:	5	5	1	5	3	3	1	3
1049:	6	5	3	9	5	4	2	5
1057:	2	4	5	7	7	3	2	7
1065:	6	2	2	8	3	4	3	3
1073:	3	5	2	5	8	3	8	4
1081:	2	7	3	5	3	7	5	3
1089:	7	6	4	6	5	7	3	9
1097:	7	2	7	7	4	4	1	1
1105:	5	3	2	4	5	9	4	4
1113:	4	2	4	3	7	6	7	15
1121:	13	5	3	8	4	6	4	4
1129:	2	4	3	3	4	2	7	3
1137:	5	3	6	3	3	7	6	3
1145:	5	5	2	6	3	3	4	4
1153:	4	1	7	7	8	12	4	3
1161:	7	1	4	3	4	9	2	7
1169:	8	10	7	5	4	3	0	5
1177:	5	3	4	7	10	7	4	2
1185:	5	8	6	3	7	8	5	3
1193:	8	4	6	4	7	5	3	10
1201:	7	9	5	5	3	7	11	5
1209:	8	5	7	6	4	4	3	2
1217:	4	5	4	6	6	6	7	9
1225:	4	8	4	6	4	5	5	5

1233: 5 7 5 5 11 6 3 7

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1241:	2	2	3	1	6	3	4	5
1249:	4	4	2	2	5	10	7	5
1257:	4	2	2	2	4	1	5	7
1265:	3	1	2	2	2	5	2	4
1273:	5	4	2	4	6	5	3	6
1281:	4	4	2	3	3	2	5	2
1289:	2	4	3	6	4	4	3	4
1297:	2	3	6	3	5	2	4	4
1305:	4	3	0	4	2	4	2	3
1313:	3	2	3	4	5	0	7	2
1321:	4	1	4	3	3	2	5	1
1329:	2	1	2	3	6	3	3	2
1337:	1	6	1	1	0	0	4	3
1345:	0	2	0	1	5	1	0	2
1353:	4	0	4	1	2	2	3	4
1361:	1	2	4	3	4	0	3	1
1369:	2	4	1	0	0	0	3	2
1377:	5	4	1	0	1	5	1	2
1385:	2	0	2	2	1	1	1	2
1393:	1	3	2	0	1	1	2	3
1401:	1	2	2	1	2	0	1	2
1409:	4	3	1	2	3	1	5	2
1417:	2	0	0	4	2	3	2	3
1425:	3	1	1	2	2	1	3	2
1433:	1	4	0	2	1	1	1	0
1441:	0	0	2	1	3	0	2	0
1449:	3	4	2	1	3	4	2	1
1457:	5	6	17	65	88	65	27	6
1465:	0	1	2	2	0	0	1	0
1473:	0	0	3	1	1	1	0	2
1481:	2	1	0	1	1	1	1	1
1489:	1	2	0	1	2	1	0	1
1497:	1	0	0	1	1	1	0	1
1505:	1	0	2	3	4	2	1	1
1513:	2	1	3	0	3	0	0	1
1521:	1	1	2	0	1	3	0	2
1529:	0	3	2	0	0	3	1	1
1537:	0	4	0	1	2	0	1	2
1545:	2	2	0	1	1	3	1	0
1553:	0	1	1	1	1	1	0	3
1561:	3	2	0	0	0	0	2	2
1569:	2	1	1	0	1	1	1	1
1577:	1	2	1	2	2	2	1	6
1585:	2	0	2	1	2	1	1	5
1593:	6	3	4	3	1	0	0	0
1601:	0	1	1	1	1	2	1	2
1609:	1	2	0	0	3	3	0	1
1617:	0	0	0	2	1	1	1	2
1625:	1	0	1	0	1	0	1	3
1633:	1	2	0	0	1	0	1	0
1641:	1	0	1	0	2	2	0	0
1649:	0	0	0	1	2	2	2	0
1657:	4	0	2	1	2	1	0	2

1665: 0 0 1 0 4 1 0 0

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Channel	1	2	3	4	5	6	7	8
1673:	0	0	0	1	1	1	0	0
1681:	0	1	0	1	1	1	1	3
1689:	1	0	1	0	0	1	1	2
1697:	0	0	1	0	1	0	1	0
1705:	0	1	0	0	0	0	0	0
1713:	0	2	0	0	0	2	0	3
1721:	0	1	0	0	0	1	2	3
1729:	1	2	1	3	0	0	0	0
1737:	0	0	0	0	0	0	1	2
1745:	1	0	1	1	1	1	1	0
1753:	0	0	1	1	1	0	0	1
1761:	1	0	2	4	10	6	1	1
1769:	2	1	1	2	0	1	0	0
1777:	1	0	0	0	0	0	1	1
1785:	0	0	1	2	2	3	1	0
1793:	2	0	1	0	0	1	0	0
1801:	1	0	1	0	0	0	1	0
1809:	2	0	0	0	1	1	0	2
1817:	1	1	0	3	1	0	2	1
1825:	2	1	0	0	0	0	0	0
1833:	0	1	0	1	1	1	0	2
1841:	1	0	1	1	1	3	1	0
1849:	3	1	0	1	0	0	2	2
1857:	1	0	1	0	2	1	0	1
1865:	1	1	0	1	2	0	0	0
1873:	0	1	1	1	0	0	0	0
1881:	0	2	1	2	0	1	0	0
1889:	0	2	0	1	0	0	0	2
1897:	0	0	0	0	1	0	1	1
1905:	0	5	1	0	0	0	0	0
1913:	1	0	2	1	3	0	2	0
1921:	1	0	0	0	0	2	0	0
1929:	1	2	1	0	1	0	2	0
1937:	0	1	0	0	1	1	1	1
1945:	0	1	1	2	0	1	0	1
1953:	1	0	0	0	1	1	0	2
1961:	0	3	1	1	0	0	0	0
1969:	0	2	3	0	0	1	1	0
1977:	0	0	1	1	2	1	1	0
1985:	0	0	0	0	0	1	2	0
1993:	1	2	0	1	2	0	1	0
2001:	1	0	1	2	0	0	0	1
2009:	2	0	1	1	1	0	1	0
2017:	0	1	1	0	0	0	0	0
2025:	0	0	0	0	0	1	2	0
2033:	0	0	0	0	4	0	1	0
2041:	0	1	1	0	3	1	1	0
2049:	2	2	0	0	2	0	1	0
2057:	0	0	0	1	0	1	1	1
2065:	1	0	0	0	1	1	1	1
2073:	0	0	2	0	0	1	0	0
2081:	0	1	1	0	0	1	2	1
2089:	1	2	0	1	1	0	0	0

2097: 1 1 1 0 0 1 2 2

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Channel	1	2	3	4	5	6	7	8	9
2105:	0	1	0	0	0	1	0	0	
2113:	1	0	0	0	0	0	1	1	
2121:	0	0	0	1	1	1	1	1	
2129:	0	0	2	1	0	0	0	0	
2137:	1	1	2	1	1	1	1	1	
2145:	1	1	0	0	1	0	0	1	
2153:	1	0	0	1	3	0	0	1	
2161:	1	2	0	0	0	2	2	2	
2169:	0	0	0	0	1	0	1	1	
2177:	0	0	1	1	1	1	0	1	
2185:	0	0	0	0	1	0	1	0	
2193:	0	1	1	0	1	1	0	2	
2201:	1	3	0	1	2	2	3	2	
2209:	1	0	0	0	0	1	0	2	
2217:	1	0	0	0	2	0	0	1	
2225:	0	0	2	2	2	0	0	1	
2233:	1	0	0	0	0	0	0	0	
2241:	0	0	0	1	0	0	0	0	
2249:	0	3	0	0	1	0	0	0	
2257:	0	0	0	1	1	1	2	1	
2265:	2	0	0	0	0	1	1	0	
2273:	0	1	0	1	1	1	1	2	
2281:	0	1	0	0	1	1	0	2	
2289:	2	1	0	1	0	1	1	2	
2297:	1	0	0	1	0	0	2	0	
2305:	2	0	1	0	0	0	0	1	
2313:	3	2	1	1	1	1	0	0	
2321:	0	1	0	1	1	0	2	0	
2329:	1	1	0	1	0	1	1	1	
2337:	0	2	1	0	1	0	3	2	
2345:	2	1	0	0	0	0	2	1	
2353:	0	0	0	0	1	4	1	0	
2361:	0	1	1	0	0	0	0	0	
2369:	0	0	0	0	1	0	0	0	
2377:	1	2	0	0	0	0	1	1	
2385:	1	1	0	0	0	0	0	0	
2393:	0	0	1	0	0	1	0	1	
2401:	0	1	1	1	3	1	1	1	
2409:	1	0	0	0	0	0	0	0	
2417:	0	1	0	0	1	0	0	1	
2425:	0	0	2	0	0	0	1	0	
2433:	0	3	0	0	1	0	0	0	
2441:	1	0	0	0	1	1	1	0	
2449:	2	2	0	0	0	1	0	1	
2457:	1	1	0	0	0	2	0	0	
2465:	0	0	0	0	2	0	0	1	
2473:	1	1	0	1	1	0	1	0	
2481:	0	1	0	1	0	0	0	0	
2489:	1	0	1	1	0	1	0	0	
2497:	1	2	0	0	0	1	1	0	
2505:	0	0	0	0	0	1	0	1	
2513:	0	0	1	2	0	0	0	0	
2521:	1	1	0	2	0	0	1	0	

2529: 1 0 1 1 0 0 1 1

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Channel	1	2	3	4	5	6	7	8	9
2537:	1	0	0	0	0	0	2	0	0
2545:	0	2	2	0	0	0	0	0	0
2553:	0	0	1	1	0	0	0	1	1
2561:	0	0	1	1	0	0	0	0	0
2569:	0	0	0	0	0	2	2	0	0
2577:	0	1	0	1	2	0	0	1	0
2585:	0	1	0	0	0	1	1	0	0
2593:	0	0	1	1	0	0	0	0	1
2601:	0	0	0	0	0	0	0	0	0
2609:	0	0	0	2	1	11	9	11	0
2617:	6	3	2	0	1	0	0	1	1
2625:	0	0	1	0	0	1	0	0	1
2633:	1	1	0	0	0	0	0	0	0
2641:	0	1	0	0	0	0	0	0	0
2649:	0	0	0	0	0	0	0	0	0
2657:	0	0	0	1	0	0	0	0	0
2665:	0	0	0	0	1	1	0	0	0
2673:	0	0	0	1	0	0	1	0	0
2681:	0	0	0	0	0	0	0	4	0
2689:	0	0	0	1	0	0	0	0	0
2697:	0	0	0	0	0	0	0	0	0
2705:	1	0	1	0	0	1	0	0	0
2713:	0	0	0	0	1	0	0	0	0
2721:	0	0	0	0	0	0	0	1	0
2729:	0	1	0	0	0	0	0	0	1
2737:	0	0	0	0	0	1	1	1	1
2745:	0	1	0	0	0	0	0	0	0
2753:	2	0	1	0	0	1	0	0	0
2761:	0	0	1	0	0	0	0	0	0
2769:	0	0	0	0	0	1	0	0	0
2777:	0	0	0	1	0	0	0	0	0
2785:	0	0	0	0	0	0	0	0	0
2793:	0	0	0	0	0	0	0	0	0
2801:	0	0	0	0	0	0	0	0	0
2809:	0	1	0	0	0	0	0	0	0
2817:	0	0	0	0	0	0	0	0	0
2825:	0	0	0	0	0	0	0	0	1
2833:	0	0	0	0	0	0	0	0	0
2841:	0	0	0	0	0	0	0	0	0
2849:	0	0	0	0	0	0	0	0	0
2857:	0	0	0	0	0	0	0	0	1
2865:	0	0	0	0	1	0	0	0	0
2873:	0	0	1	0	0	0	0	0	0
2881:	0	0	0	0	0	0	0	0	0
2889:	0	1	0	1	0	0	0	0	0
2897:	0	1	0	0	1	0	0	0	0
2905:	0	1	0	0	0	0	0	0	0
2913:	0	0	0	0	0	0	0	0	0
2921:	0	0	0	0	0	0	0	0	0
2929:	0	0	0	0	0	0	0	0	0
2937:	0	0	0	0	1	0	0	0	0
2945:	0	0	0	0	0	0	1	0	0
2953:	0	0	1	0	1	0	0	0	0

2961: 0 0 0 0 0 0 0 0

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Channel	-----	-----	-----	-----	-----	-----	-----	-----
2969:	0	0	0	0	0	0	0	1
2977:	0	0	0	0	0	0	0	0
2985:	0	1	0	0	1	0	0	0
2993:	0	0	0	0	0	0	0	0
3001:	0	0	0	0	0	0	0	0
3009:	0	0	0	1	0	0	0	0
3017:	0	0	1	0	0	1	0	0
3025:	0	0	0	0	0	0	0	0
3033:	1	0	0	0	0	0	0	0
3041:	1	0	0	0	0	0	0	0
3049:	1	0	0	0	0	0	0	1
3057:	1	0	0	0	0	0	1	1
3065:	0	0	1	0	0	0	0	0
3073:	0	0	0	0	0	0	0	0
3081:	0	0	0	0	0	1	0	0
3089:	0	0	0	0	0	0	0	1
3097:	0	0	1	0	0	0	0	0
3105:	2	0	0	0	0	0	0	0
3113:	0	1	0	0	0	1	1	0
3121:	0	0	0	0	0	0	0	0
3129:	0	0	0	0	1	0	0	0
3137:	0	0	0	0	0	0	0	0
3145:	0	0	0	0	0	0	1	0
3153:	0	0	0	0	0	0	0	1
3161:	0	0	0	0	0	0	0	0
3169:	0	0	1	0	0	0	0	0
3177:	1	1	0	0	0	0	0	0
3185:	0	0	0	0	0	0	1	0
3193:	0	0	0	0	0	0	0	0
3201:	0	0	0	0	0	0	0	0
3209:	0	0	0	0	0	0	0	0
3217:	0	0	1	0	0	0	0	0
3225:	0	1	0	0	0	0	0	0
3233:	0	0	0	0	0	0	0	0
3241:	0	1	0	0	0	0	0	0
3249:	0	0	0	0	0	0	0	0
3257:	0	0	0	0	0	0	0	1
3265:	0	0	0	0	0	0	0	0
3273:	0	0	0	0	1	0	1	0
3281:	0	0	0	0	1	0	0	0
3289:	0	0	0	0	0	0	0	0
3297:	0	0	0	0	0	0	0	0
3305:	0	1	0	0	0	0	0	0
3313:	0	0	0	0	0	0	0	0
3321:	0	0	0	0	0	0	0	0
3329:	1	0	0	0	0	0	0	1
3337:	0	0	0	0	0	0	0	1
3345:	0	1	1	0	0	0	0	0
3353:	0	0	0	0	0	0	0	0
3361:	0	0	0	0	1	1	0	0
3369:	0	0	0	0	1	0	0	0
3377:	0	0	0	0	0	0	0	0
3385:	1	0	0	0	0	0	1	1

3393: 0 0 0 0 0 0 0 0

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Channel	1	2	3	4	5	6	7	8	9
3401:	0	0	0	0	0	0	0	0	0
3409:	0	0	0	0	1	1	0	0	0
3417:	0	0	1	0	0	0	0	0	0
3425:	0	0	0	0	0	0	1	0	0
3433:	0	0	0	0	1	0	0	0	0
3441:	0	0	0	0	0	0	0	0	0
3449:	0	0	0	0	0	0	1	0	0
3457:	0	0	0	0	0	0	0	0	0
3465:	0	0	0	0	0	0	0	0	0
3473:	1	0	1	0	0	0	0	0	0
3481:	0	0	0	0	0	1	0	0	0
3489:	0	0	0	0	0	0	1	1	0
3497:	0	0	0	0	1	2	0	0	0
3505:	0	0	0	0	0	0	0	0	0
3513:	0	0	0	0	0	0	0	0	0
3521:	0	0	0	0	0	0	0	0	0
3529:	0	0	0	0	0	0	0	0	0
3537:	0	0	0	0	3	0	0	0	0
3545:	0	0	0	0	0	0	0	0	0
3553:	0	0	0	0	0	0	1	0	0
3561:	0	0	0	0	0	1	1	1	0
3569:	1	0	0	0	0	0	0	0	0
3577:	0	0	0	0	0	0	0	0	0
3585:	0	2	0	0	1	0	0	0	0
3593:	0	0	0	0	0	0	0	0	0
3601:	0	0	0	0	0	0	0	0	0
3609:	0	0	0	0	0	0	0	0	0
3617:	0	0	0	1	0	0	0	0	0
3625:	0	0	1	0	0	0	0	0	0
3633:	0	0	0	0	0	0	1	0	0
3641:	0	0	0	0	0	0	0	0	0
3649:	0	0	0	0	0	0	0	0	0
3657:	0	1	0	0	0	0	0	0	0
3665:	0	0	0	0	0	0	0	0	0
3673:	0	1	0	1	0	0	0	0	0
3681:	0	0	0	0	0	0	0	0	0
3689:	0	0	0	1	0	0	1	0	0
3697:	0	0	0	0	1	0	1	0	0
3705:	0	0	0	0	0	0	0	0	0
3713:	0	0	0	0	0	0	0	0	0
3721:	0	0	0	0	0	0	0	0	0
3729:	0	0	0	0	0	0	0	0	0
3737:	0	0	0	0	0	0	0	0	0
3745:	0	1	0	0	0	0	0	0	0
3753:	0	0	0	0	0	0	0	0	0
3761:	0	0	0	0	0	0	0	0	0
3769:	0	0	0	0	0	1	0	0	0
3777:	0	0	0	0	0	1	1	2	0
3785:	0	0	0	0	0	0	0	0	0
3793:	0	0	0	0	0	0	0	0	0
3801:	0	0	0	0	0	0	1	0	0
3809:	1	0	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0	0

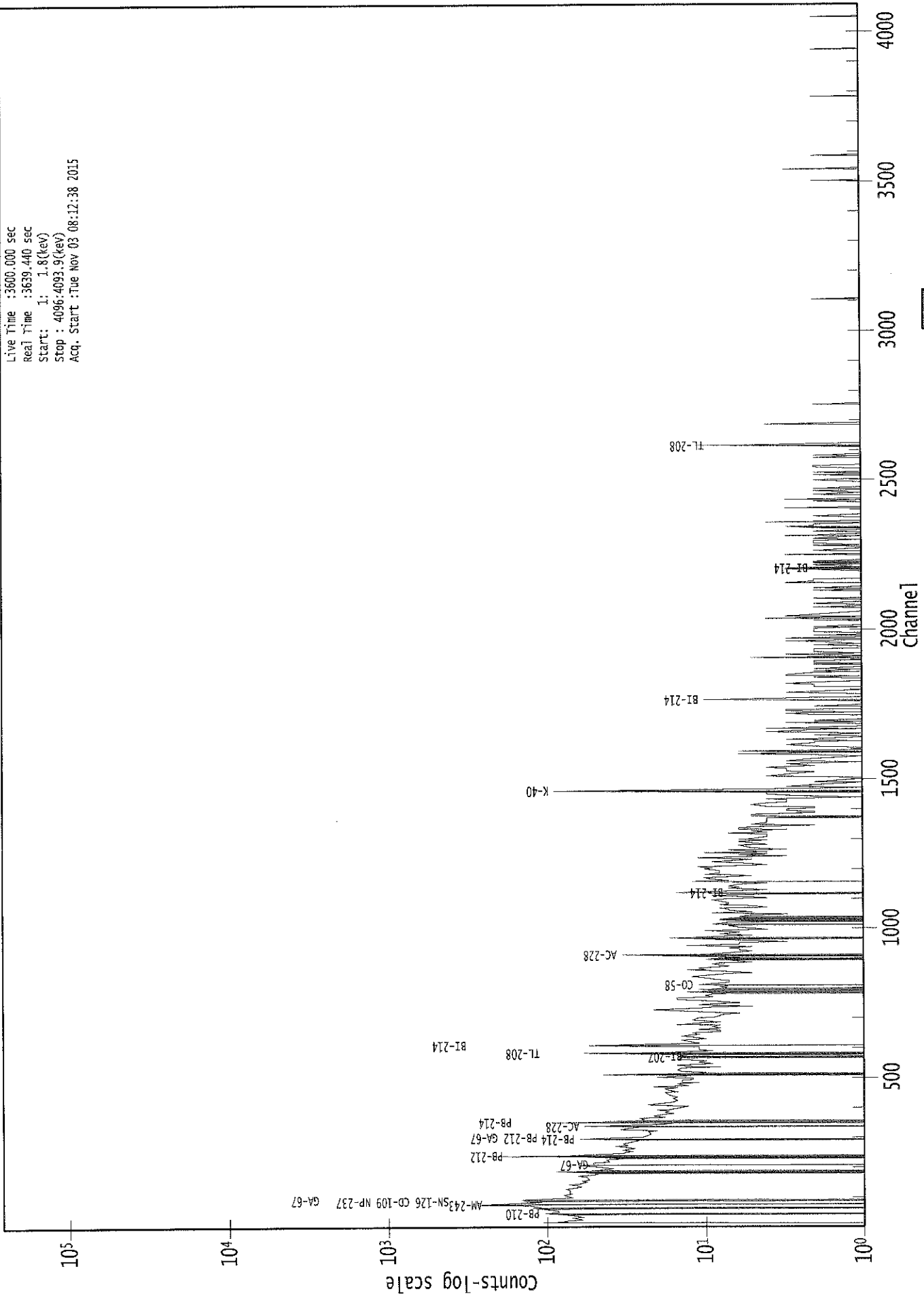
3825: 0 0 1 0 0 0 0 0

Sample Title: CP2107S14-15

Channel								
3833:	0	0	0	0	0	0	0	0
3841:	0	0	1	0	0	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	0	0	0	0	0
3865:	0	0	0	0	0	0	0	0
3873:	0	0	0	0	0	1	0	0
3881:	0	0	0	0	0	0	0	0
3889:	1	1	0	0	0	0	0	0
3897:	0	0	0	0	0	0	0	0
3905:	0	0	0	0	0	0	0	0
3913:	0	1	1	0	0	0	0	0
3921:	0	0	0	0	0	0	0	0
3929:	0	0	0	0	0	0	0	1
3937:	0	0	0	0	2	0	0	0
3945:	0	0	0	0	0	1	0	0
3953:	0	0	1	0	0	1	0	0
3961:	0	0	0	0	0	0	0	0
3969:	0	0	0	0	0	0	0	0
3977:	0	0	0	0	0	0	0	1
3985:	0	0	0	0	0	0	0	0
3993:	1	1	0	0	0	0	0	0
4001:	0	0	0	0	0	0	0	0
4009:	1	0	0	0	0	0	0	0
4017:	0	0	0	0	0	0	0	0
4025:	0	0	0	0	0	0	0	0
4033:	0	0	0	1	1	0	0	0
4041:	0	0	0	0	0	0	0	0
4049:	0	2	0	0	1	0	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	0	0	0	1	0	0	0
4073:	0	0	0	0	0	0	0	1
4081:	1	1	0	0	1	0	0	0
4089:	0	0	1	0	0	0	0	1

0000029014.CNF

Live Time :3600.000 sec
Real Time :3639.440 sec
Start: 1: 1.8(kev)
Stop : 4096:4093.9(kev)
Acq. Start :Tue Nov 03 08:12:38 2015



Analysis Report for 1510063-14
CP2107S17-18

✓
11/3

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510063-14
Sample Description : CP2107S17-18
Sample Type : SOIL

Sample Size : 5.734E+02 grams
Facility : Countroom

Sample Taken On : 10/6/2015 7:49:16AM
Acquisition Started : 11/3/2015 9:16:19AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE1
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3601.3 seconds

Dead Time : 0.04 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 18 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29015

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AC3
11/3/15

Analysis Report for 1510063-14
CP2107S17-18

PEAK LOCATE REPORT

Peak Locate Performed on : 11/3/2015 10:16:23AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	46.72	47.08	0.0000	0.00
2	63.28	63.62	0.0000	0.00
3	76.28	76.62	0.0000	0.00
4	89.53	89.86	0.0000	0.00
5	92.80	93.14	0.0000	0.00
6	105.42	105.75	0.0000	0.00
7	129.68	130.00	0.0000	0.00
8	186.19	186.50	0.0000	0.00
9	209.65	209.94	0.0000	0.00
10	238.75	239.04	0.0000	0.00
11	241.81	242.09	0.0000	0.00
12	270.25	270.53	0.0000	0.00
13	286.09	286.37	0.0000	0.00
14	295.24	295.51	0.0000	0.00
15	300.24	300.51	0.0000	0.00
16	327.97	328.23	0.0000	0.00
17	338.75	339.00	0.0000	0.00
18	352.14	352.39	0.0000	0.00
19	401.93	402.17	0.0000	0.00
20	409.94	410.17	0.0000	0.00
21	463.03	463.24	0.0000	0.00
22	511.10	511.29	0.0000	0.00
23	543.77	543.96	0.0000	0.00
24	582.81	582.98	0.0000	0.00
25	609.52	609.68	0.0000	0.00
26	630.69	630.85	0.0000	0.00
27	727.79	727.91	0.0000	0.00
28	756.74	756.85	0.0000	0.00
29	768.87	768.98	0.0000	0.00
30	795.03	795.13	0.0000	0.00
31	860.56	860.63	0.0000	0.00
32	868.80	868.87	0.0000	0.00
33	911.70	911.75	0.0000	0.00
34	933.29	933.34	0.0000	0.00
35	950.52	950.56	0.0000	0.00
36	957.16	957.20	0.0000	0.00
37	964.87	964.91	0.0000	0.00
38	969.13	969.16	0.0000	0.00
39	1121.53	1121.51	0.0000	0.00
40	1239.07	1239.01	0.0000	0.00
41	1377.79	1377.68	0.0000	0.00
42	1401.77	1401.65	0.0000	0.00

Analysis Report for 1510063-14
CP2107S17-18

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
43	1409.77	1409.64	0.0000	0.00
44	1461.46	1461.32	0.0000	0.00
45	1581.48	1581.29	0.0000	0.00
46	1588.37	1588.18	0.0000	0.00
47	1594.12	1593.93	0.0000	0.00
48	1630.95	1630.74	0.0000	0.00
49	1661.22	1661.00	0.0000	0.00
50	1689.16	1688.93	0.0000	0.00
51	1729.09	1728.85	0.0000	0.00
52	1765.43	1765.18	0.0000	0.00
53	1830.06	1829.78	0.0000	0.00
54	1848.81	1848.52	0.0000	0.00
55	1940.48	1940.15	0.0000	0.00
56	2104.74	2104.36	0.0000	0.00
57	2112.90	2112.51	0.0000	0.00
58	2119.84	2119.45	0.0000	0.00
59	2186.13	2185.71	0.0000	0.00
60	2204.64	2204.21	0.0000	0.00
61	2226.93	2226.50	0.0000	0.00
62	2293.43	2292.97	0.0000	0.00
63	2380.95	2380.46	0.0000	0.00
64	2615.50	2614.91	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510063-14
CP2107S17-18

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 10:16:23AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
1	46.72	44 -	50	47.08	1.21E+02	81.04	1.11E+03	1.23
2	63.28	60 -	67	63.62	1.97E+02	113.74	2.03E+03	1.26
3	76.28	72 -	82	76.62	1.37E+03	161.20	2.73E+03	3.95
m 4	89.53	83 -	102	89.86	1.71E+02	67.20	8.37E+02	1.49
m 5	92.80	83 -	102	93.14	3.07E+02	70.88	7.71E+02	1.49
6	105.42	103 -	108	105.75	7.95E+01	71.76	9.67E+02	2.73
7	129.68	126 -	134	130.00	1.21E+02	95.45	1.32E+03	2.25
8	186.19	181 -	191	186.50	3.34E+02	99.17	1.13E+03	2.16
9	209.65	208 -	213	209.94	4.92E+01	57.51	6.24E+02	1.24
M 10	238.75	235 -	246	239.04	1.07E+03	80.43	4.57E+02	1.52
m 11	241.81	235 -	246	242.09	3.36E+02	92.83	5.46E+02	2.48
12	270.25	268 -	272	270.53	5.91E+01	42.36	3.48E+02	1.78
13	286.09	284 -	290	286.37	5.98E+01	47.86	3.76E+02	2.33
14	295.24	291 -	298	295.51	2.84E+02	61.45	4.40E+02	1.78
15	300.24	299 -	304	300.51	7.11E+01	43.49	3.22E+02	1.88
16	327.97	325 -	332	328.23	8.81E+01	52.27	3.98E+02	2.27
17	338.75	335 -	343	339.00	1.35E+02	65.08	5.61E+02	1.44
18	352.14	348 -	357	352.39	5.21E+02	75.06	5.01E+02	1.81
M 19	401.93	401 -	413	402.17	2.04E+01	9.71	3.69E+01	1.83
m 20	409.94	401 -	413	410.17	3.48E+01	34.83	2.17E+02	1.83
21	463.03	459 -	467	463.24	4.30E+01	49.59	3.54E+02	2.09
22	511.10	506 -	516	511.29	1.69E+02	58.67	3.69E+02	2.00
23	543.77	542 -	546	543.96	2.21E+01	25.31	1.20E+02	2.77
24	582.81	571 -	590	582.98	3.39E+02	84.40	4.84E+02	2.02
25	609.52	605 -	614	609.68	3.69E+02	58.62	2.80E+02	1.72
26	630.69	628 -	634	630.85	2.53E+01	27.21	1.17E+02	2.78
27	727.79	723 -	732	727.91	5.02E+01	43.31	2.38E+02	1.77
28	756.74	753 -	761	756.85	3.90E+01	31.74	1.32E+02	3.30
29	768.87	766 -	771	768.98	4.08E+01	29.75	1.40E+02	1.59
30	795.03	790 -	800	795.13	4.97E+01	35.70	1.45E+02	2.06
31	860.56	856 -	865	860.63	5.49E+01	33.12	1.26E+02	1.83
32	868.80	866 -	871	868.87	1.87E+01	21.10	7.26E+01	2.57
33	911.70	907 -	916	911.75	2.20E+02	44.72	1.60E+02	2.14
34	933.29	929 -	937	933.34	3.52E+01	26.93	8.96E+01	1.62
35	950.52	946 -	954	950.56	3.84E+01	26.62	8.51E+01	4.91
M 36	957.16	955 -	975	957.20	2.20E+01	16.49	4.42E+01	2.18
m 37	964.87	955 -	975	964.91	8.10E+01	26.00	5.79E+01	2.18
m 38	969.13	955 -	975	969.16	1.47E+02	30.40	5.29E+01	2.19
39	1121.53	1117 -	1128	1121.51	1.00E+02	38.94	1.44E+02	2.14
40	1239.07	1235 -	1244	1239.01	2.83E+01	34.15	1.51E+02	3.30

Analysis Report for 1510063-14
CP2107S17-18

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1377.79	1373 -	1382	1377.68	3.74E+01	21.56	4.53E+01	1.59
42	1401.77	1397 -	1405	1401.65	1.63E+01	17.26	3.54E+01	2.01
43	1409.77	1407 -	1412	1409.64	1.14E+01	12.12	1.91E+01	3.42
44	1461.46	1456 -	1466	1461.32	8.86E+02	63.22	5.94E+01	2.17
45	1581.48	1578 -	1584	1581.29	9.40E+00	12.39	2.12E+01	3.49
M 46	1588.37	1585 -	1596	1588.18	1.82E+01	12.33	1.64E+01	2.72
m 47	1594.12	1585 -	1596	1593.93	1.79E+01	11.87	5.67E+00	2.50
48	1630.95	1627 -	1635	1630.74	1.85E+01	11.51	9.00E+00	4.62
49	1661.22	1657 -	1664	1661.00	1.20E+01	9.80	8.00E+00	2.13
50	1689.16	1685 -	1693	1688.93	1.00E+01	11.35	1.39E+01	6.41
51	1729.09	1723 -	1733	1728.85	2.45E+01	11.76	5.07E+00	3.58
52	1765.43	1760 -	1770	1765.18	8.15E+01	20.21	1.10E+01	1.83
53	1830.06	1824 -	1836	1829.78	1.60E+01	15.19	2.01E+01	6.84
54	1848.81	1844 -	1852	1848.52	1.78E+01	10.01	4.40E+00	1.56
55	1940.48	1938 -	1942	1940.15	5.50E+00	6.67	5.00E+00	2.39
56	2104.74	2100 -	2107	2104.36	1.74E+01	13.71	1.92E+01	1.91
57	2112.90	2111 -	2115	2112.51	7.25E+00	6.18	1.50E+00	1.27
58	2119.84	2116 -	2123	2119.45	1.10E+01	6.63	0.00E+00	1.66
59	2186.13	2182 -	2189	2185.71	6.94E+00	7.21	4.11E+00	1.19
60	2204.64	2199 -	2208	2204.21	2.30E+01	12.73	1.00E+01	1.79
61	2226.93	2224 -	2228	2226.50	6.00E+00	4.90	0.00E+00	1.16
62	2293.43	2289 -	2295	2292.97	6.50E+00	8.03	7.00E+00	2.90
63	2380.95	2377 -	2385	2380.46	1.75E+01	11.34	9.00E+00	4.92
64	2615.50	2610 -	2621	2614.91	1.30E+02	23.75	4.88E+00	2.94

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 10:16:23AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
1	46.72	44 -	50	1.21E+02	81.04	1.11E+03	6.41E+01
2	63.28	60 -	67	1.97E+02	113.74	2.03E+03	9.06E+01
3	76.28	72 -	82	1.37E+03	161.20	2.73E+03	1.18E+02
m 4	89.53	83 -	102	1.71E+02	67.20	8.37E+02	4.76E+01

Analysis Report for 1510063-14

CP2107S17-18

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
m	5	92.80	83 -	102	3.07E+02	70.88	7.71E+02	4.56E+01
	6	105.42	103 -	108	7.95E+01	71.76	9.67E+02	5.71E+01
	7	129.68	126 -	134	1.21E+02	95.45	1.32E+03	7.63E+01
	8	186.19	181 -	191	3.34E+02	99.17	1.13E+03	7.58E+01
	9	209.65	208 -	213	4.92E+01	57.51	6.24E+02	4.58E+01
M	10	238.75	235 -	246	1.07E+03	80.43	4.57E+02	3.51E+01
m	11	241.81	235 -	246	3.36E+02	92.83	5.46E+02	3.84E+01
	12	270.25	268 -	272	5.91E+01	42.36	3.48E+02	3.24E+01
	13	286.09	284 -	290	5.98E+01	47.86	3.76E+02	3.72E+01
	14	295.24	291 -	298	2.84E+02	61.45	4.40E+02	4.22E+01
	15	300.24	299 -	304	7.11E+01	43.49	3.22E+02	3.29E+01
	16	327.97	325 -	332	8.81E+01	52.27	3.98E+02	4.01E+01
	17	338.75	335 -	343	1.35E+02	65.08	5.61E+02	5.00E+01
	18	352.14	348 -	357	5.21E+02	75.06	5.01E+02	4.90E+01
M	19	401.93	401 -	413	2.04E+01	9.71	3.69E+01	9.99E+00
m	20	409.94	401 -	413	3.48E+01	34.83	2.17E+02	2.42E+01
	21	463.03	459 -	467	4.30E+01	49.59	3.54E+02	3.93E+01
	22	511.10	506 -	516	1.69E+02	58.67	3.69E+02	4.32E+01
	23	543.77	542 -	546	2.21E+01	25.31	1.20E+02	1.93E+01
	24	582.81	571 -	590	3.39E+02	84.40	4.84E+02	2.12E+01
	25	609.52	605 -	614	3.69E+02	58.62	2.80E+02	3.64E+01
	26	630.69	628 -	634	2.53E+01	27.21	1.17E+02	2.08E+01
	27	727.79	723 -	732	5.02E+01	43.31	2.38E+02	3.36E+01
	28	756.74	753 -	761	3.90E+01	31.74	1.32E+02	2.40E+01
	29	768.87	766 -	771	4.08E+01	29.75	1.40E+02	2.21E+01
	30	795.03	790 -	800	4.97E+01	35.70	1.45E+02	2.70E+01
	31	860.56	856 -	865	5.49E+01	33.12	1.26E+02	2.43E+01
	32	868.80	866 -	871	1.87E+01	21.10	7.26E+01	1.58E+01
	33	911.70	907 -	916	2.20E+02	44.72	1.60E+02	2.75E+01
	34	933.29	929 -	937	3.52E+01	26.93	8.96E+01	1.99E+01
	35	950.52	946 -	954	3.84E+01	26.62	8.51E+01	1.94E+01
M	36	957.16	955 -	975	2.20E+01	16.49	4.42E+01	1.09E+01
m	37	964.87	955 -	975	8.10E+01	26.00	5.79E+01	1.25E+01
m	38	969.13	955 -	975	1.47E+02	30.40	5.29E+01	1.20E+01
	39	1121.53	1117 -	1128	1.00E+02	38.94	1.44E+02	2.75E+01
	40	1239.07	1235 -	1244	2.83E+01	34.15	1.51E+02	2.67E+01
	41	1377.79	1373 -	1382	3.74E+01	21.56	4.53E+01	1.46E+01
	42	1401.77	1397 -	1405	1.63E+01	17.26	3.54E+01	1.25E+01
	43	1409.77	1407 -	1412	1.14E+01	12.12	1.91E+01	8.27E+00
	44	1461.46	1456 -	1466	8.86E+02	63.22	5.94E+01	1.75E+01
	45	1581.48	1578 -	1584	9.40E+00	12.39	2.12E+01	8.85E+00
M	46	1588.37	1585 -	1596	1.82E+01	12.33	1.64E+01	6.66E+00
m	47	1594.12	1585 -	1596	1.79E+01	11.87	5.67E+00	3.91E+00
	48	1630.95	1627 -	1635	1.85E+01	11.51	9.00E+00	6.29E+00
	49	1661.22	1657 -	1664	1.20E+01	9.80	8.00E+00	5.70E+00
	50	1689.16	1685 -	1693	1.00E+01	11.35	1.39E+01	7.74E+00
	51	1729.09	1723 -	1733	2.45E+01	11.76	5.07E+00	5.22E+00
	52	1765.43	1760 -	1770	8.15E+01	20.21	1.10E+01	7.47E+00
	53	1830.06	1824 -	1836	1.60E+01	15.19	2.01E+01	1.06E+01
	54	1848.81	1844 -	1852	1.78E+01	10.01	4.40E+00	4.43E+00
	55	1940.48	1938 -	1942	5.50E+00	6.67	5.00E+00	3.90E+00

Analysis Report for 1510063-14

CP2107S17-18

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
56	2104.74	2100 -	2107	1.74E+01	13.71	1.92E+01	8.95E+00
57	2112.90	2111 -	2115	7.25E+00	6.18	1.50E+00	2.50E+00
58	2119.84	2116 -	2123	1.10E+01	6.63	0.00E+00	0.00E+00
59	2186.13	2182 -	2189	6.94E+00	7.21	4.11E+00	4.05E+00
60	2204.64	2199 -	2208	2.30E+01	12.73	1.00E+01	6.88E+00
61	2226.93	2224 -	2228	6.00E+00	4.90	0.00E+00	0.00E+00
62	2293.43	2289 -	2295	6.50E+00	8.03	7.00E+00	5.10E+00
63	2380.95	2377 -	2385	1.75E+01	11.34	9.00E+00	6.29E+00
64	2615.50	2610 -	2621	1.30E+02	23.75	4.88E+00	5.56E+00

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

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/3/2015 10:16:23AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB
 Peak Match Tolerance : 1.000 keV

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
1	46.72	44 -	50	47.08	1.21E+02	81.04	1.11E+03	PB-210
2	63.28	60 -	67	63.62	1.97E+02	113.74	2.03E+03	TH-234 TH-230
3	76.28	72 -	82	76.62	1.37E+03	161.20	2.73E+03	.....
m 4	89.53	83 -	102	89.86	1.71E+02	67.20	8.37E+02	.....
m 5	92.80	83 -	102	93.14	3.07E+02	70.88	7.71E+02	GA-67
6	105.42	103 -	108	105.75	7.95E+01	71.76	9.67E+02	EU-155 NP-239
7	129.68	126 -	134	130.00	1.21E+02	95.45	1.32E+03	.....
8	186.19	181 -	191	186.50	3.34E+02	99.17	1.13E+03	RA-226
9	209.65	208 -	213	209.94	4.92E+01	57.51	6.24E+02	CM-243 GA-67
M 10	238.75	235 -	246	239.04	1.07E+03	80.43	4.57E+02	PB-212
m 11	241.81	235 -	246	242.09	3.36E+02	92.83	5.46E+02	RA-224
12	270.25	268 -	272	270.53	5.91E+01	42.36	3.48E+02	.....
13	286.09	284 -	290	286.37	5.98E+01	47.86	3.76E+02	PM-149
14	295.24	291 -	298	295.51	2.84E+02	61.45	4.40E+02	PB-214

Analysis Report for 1510063-14

CP2107S17-18

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	15	300.24	299 -	304	300.51	7.11E+01	43.49	3.22E+02	GA-67 PB-212 BI-210M
	16	327.97	325 -	332	328.23	8.81E+01	52.27	3.98E+02	LA-140
	17	338.75	335 -	343	339.00	1.35E+02	65.08	5.61E+02	AC-228
	18	352.14	348 -	357	352.39	5.21E+02	75.06	5.01E+02	PB-214
M	19	401.93	401 -	413	402.17	2.04E+01	9.71	3.69E+01	RN-219
m	20	409.94	401 -	413	410.17	3.48E+01	34.83	2.17E+02	.....
	21	463.03	459 -	467	463.24	4.30E+01	49.59	3.54E+02	SB-125
	22	511.10	506 -	516	511.29	1.69E+02	58.67	3.69E+02	.....
	23	543.77	542 -	546	543.96	2.21E+01	25.31	1.20E+02	.....
	24	582.81	571 -	590	582.98	3.39E+02	84.40	4.84E+02	TL-208
	25	609.52	605 -	614	609.68	3.69E+02	58.62	2.80E+02	BI-214
	26	630.69	628 -	634	630.85	2.53E+01	27.21	1.17E+02	.....
	27	727.79	723 -	732	727.91	5.02E+01	43.31	2.38E+02	BI-212
	28	756.74	753 -	761	756.85	3.90E+01	31.74	1.32E+02	ZR-95
	29	768.87	766 -	771	768.98	4.08E+01	29.75	1.40E+02	.....
	30	795.03	790 -	800	795.13	4.97E+01	35.70	1.45E+02	CS-134
	31	860.56	856 -	865	860.63	5.49E+01	33.12	1.26E+02	TL-208
	32	868.80	866 -	871	868.87	1.87E+01	21.10	7.26E+01	.....
	33	911.70	907 -	916	911.75	2.20E+02	44.72	1.60E+02	LU-172 AC-228
	34	933.29	929 -	937	933.34	3.52E+01	26.93	8.96E+01	.....
	35	950.52	946 -	954	950.56	3.84E+01	26.62	8.51E+01	.....
M	36	957.16	955 -	975	957.20	2.20E+01	16.49	4.42E+01	.....
m	37	964.87	955 -	975	964.91	8.10E+01	26.00	5.79E+01	EU-152
m	38	969.13	955 -	975	969.16	1.47E+02	30.40	5.29E+01	AC-228
	39	1121.53	1117 -	1128	1121.51	1.00E+02	38.94	1.44E+02	TA-182
	40	1239.07	1235 -	1244	1239.01	2.83E+01	34.15	1.51E+02	CO-56
	41	1377.79	1373 -	1382	1377.68	3.74E+01	21.56	4.53E+01	.....
	42	1401.77	1397 -	1405	1401.65	1.63E+01	17.26	3.54E+01	.....
	43	1409.77	1407 -	1412	1409.64	1.14E+01	12.12	1.91E+01	.....
	44	1461.46	1456 -	1466	1461.32	8.86E+02	63.22	5.94E+01	K-40
	45	1581.48	1578 -	1584	1581.29	9.40E+00	12.39	2.12E+01	.....
M	46	1588.37	1585 -	1596	1588.18	1.82E+01	12.33	1.64E+01	.....
m	47	1594.12	1585 -	1596	1593.93	1.79E+01	11.87	5.67E+00	.....
	48	1630.95	1627 -	1635	1630.74	1.85E+01	11.51	9.00E+00	.....
	49	1661.22	1657 -	1664	1661.00	1.20E+01	9.80	8.00E+00	.....
	50	1689.16	1685 -	1693	1688.93	1.00E+01	11.35	1.39E+01	.....
	51	1729.09	1723 -	1733	1728.85	2.45E+01	11.76	5.07E+00	.....
	52	1765.43	1760 -	1770	1765.18	8.15E+01	20.21	1.10E+01	BI-214
	53	1830.06	1824 -	1836	1829.78	1.60E+01	15.19	2.01E+01	.....
	54	1848.81	1844 -	1852	1848.52	1.78E+01	10.01	4.40E+00	.....
	55	1940.48	1938 -	1942	1940.15	5.50E+00	6.67	5.00E+00	.....
	56	2104.74	2100 -	2107	2104.36	1.74E+01	13.71	1.92E+01	.....
	57	2112.90	2111 -	2115	2112.51	7.25E+00	6.18	1.50E+00	.....
	58	2119.84	2116 -	2123	2119.45	1.10E+01	6.63	0.00E+00	.....
	59	2186.13	2182 -	2189	2185.71	6.94E+00	7.21	4.11E+00	.....
	60	2204.64	2199 -	2208	2204.21	2.30E+01	12.73	1.00E+01	BI-214
	61	2226.93	2224 -	2228	2226.50	6.00E+00	4.90	0.00E+00	.....
	62	2293.43	2289 -	2295	2292.97	6.50E+00	8.03	7.00E+00	.....
	63	2380.95	2377 -	2385	2380.46	1.75E+01	11.34	9.00E+00	.....
	64	2615.50	2610 -	2621	2614.91	1.30E+02	23.75	4.88E+00	TL-208

Analysis Report for 1510063-14
CP2107S17-18

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/3/2015 10:16:23AM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	46.72	1.21E+02	81.04	1.69E-02	1.78E-03
	2	63.28	1.97E+02	113.74	2.49E-02	1.91E-03
	3	76.28	1.37E+03	161.20	2.77E-02	2.35E-03
m	4	89.53	1.71E+02	67.20	2.85E-02	2.71E-03
m	5	92.80	3.07E+02	70.88	2.86E-02	2.65E-03
	6	105.42	7.95E+01	71.76	2.82E-02	2.40E-03
	7	129.68	1.21E+02	95.45	2.67E-02	2.09E-03
	8	186.19	3.34E+02	99.17	2.24E-02	2.03E-03
	9	209.65	4.92E+01	57.51	2.09E-02	1.85E-03
M	10	238.75	1.07E+03	80.43	1.92E-02	1.64E-03
m	11	241.81	3.36E+02	92.83	1.91E-02	1.62E-03
	12	270.25	5.91E+01	42.36	1.77E-02	1.41E-03
	13	286.09	5.98E+01	47.86	1.70E-02	1.33E-03
	14	295.24	2.84E+02	61.45	1.67E-02	1.31E-03
	15	300.24	7.11E+01	43.49	1.65E-02	1.30E-03
	16	327.97	8.81E+01	52.27	1.55E-02	1.24E-03
	17	338.75	1.35E+02	65.08	1.52E-02	1.22E-03
	18	352.14	5.21E+02	75.06	1.48E-02	1.19E-03
M	19	401.93	2.04E+01	9.71	1.34E-02	1.10E-03
m	20	409.94	3.48E+01	34.83	1.32E-02	1.09E-03
	21	463.03	4.30E+01	49.59	1.21E-02	1.04E-03
	22	511.10	1.69E+02	58.67	1.12E-02	9.90E-04
	23	543.77	2.21E+01	25.31	1.07E-02	9.56E-04
	24	582.81	3.39E+02	84.40	1.02E-02	9.16E-04
	25	609.52	3.69E+02	58.62	9.82E-03	8.88E-04
	26	630.69	2.53E+01	27.21	9.57E-03	8.66E-04
	27	727.79	5.02E+01	43.31	8.55E-03	7.75E-04
	28	756.74	3.90E+01	31.74	8.29E-03	7.49E-04
	29	768.87	4.08E+01	29.75	8.19E-03	7.38E-04
	30	795.03	4.97E+01	35.70	7.97E-03	7.15E-04
	31	860.56	5.49E+01	33.12	7.48E-03	6.56E-04
	32	868.80	1.87E+01	21.10	7.43E-03	6.49E-04
	33	911.70	2.20E+02	44.72	7.14E-03	6.15E-04
	34	933.29	3.52E+01	26.93	7.01E-03	6.04E-04

Analysis Report for 1510063-14
CP2107S17-18

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	35	950.52	3.84E+01	26.62	6.91E-03	5.95E-04
M	36	957.16	2.20E+01	16.49	6.87E-03	5.92E-04
m	37	964.87	8.10E+01	26.00	6.83E-03	5.88E-04
m	38	969.13	1.47E+02	30.40	6.80E-03	5.85E-04
	39	1121.53	1.00E+02	38.94	6.06E-03	5.06E-04
	40	1239.07	2.83E+01	34.15	5.61E-03	4.68E-04
	41	1377.79	3.74E+01	21.56	5.18E-03	4.40E-04
	42	1401.77	1.63E+01	17.26	5.12E-03	4.34E-04
	43	1409.77	1.14E+01	12.12	5.10E-03	4.32E-04
	44	1461.46	8.86E+02	63.22	4.97E-03	4.19E-04
	45	1581.48	9.40E+00	12.39	4.71E-03	3.89E-04
M	46	1588.37	1.82E+01	12.33	4.69E-03	3.87E-04
m	47	1594.12	1.79E+01	11.87	4.68E-03	3.86E-04
	48	1630.95	1.85E+01	11.51	4.61E-03	3.77E-04
	49	1661.22	1.20E+01	9.80	4.56E-03	3.69E-04
	50	1689.16	1.00E+01	11.35	4.51E-03	3.62E-04
	51	1729.09	2.45E+01	11.76	4.45E-03	3.52E-04
	52	1765.43	8.15E+01	20.21	4.39E-03	3.43E-04
	53	1830.06	1.60E+01	15.19	4.30E-03	3.27E-04
	54	1848.81	1.78E+01	10.01	4.28E-03	3.26E-04
	55	1940.48	5.50E+00	6.67	4.17E-03	3.26E-04
	56	2104.74	1.74E+01	13.71	4.02E-03	3.26E-04
	57	2112.90	7.25E+00	6.18	4.01E-03	3.26E-04
	58	2119.84	1.10E+01	6.63	4.01E-03	3.26E-04
	59	2186.13	6.94E+00	7.21	3.96E-03	3.26E-04
	60	2204.64	2.30E+01	12.73	3.95E-03	3.26E-04
	61	2226.93	6.00E+00	4.90	3.93E-03	3.26E-04
	62	2293.43	6.50E+00	8.03	3.90E-03	3.26E-04
	63	2380.95	1.75E+01	11.34	3.86E-03	3.26E-04
	64	2615.50	1.30E+02	23.75	3.79E-03	3.26E-04

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

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/3/2015 10:16:23AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028941.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
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: 00841

Analysis Report for 1510063-14

CP2107S17-18

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	46.72	1.21E+02	81.04	4.50E+01	8.46E+00	7.64E+01	8.15E+01
	2	63.28	1.97E+02	113.74	7.80E+01	1.33E+01	1.19E+02	1.15E+02
	3	76.28	1.37E+03	161.20	9.75E+00	8.28E+00	1.36E+03	1.61E+02
m	4	89.53	1.71E+02	67.20			1.71E+02	6.72E+01
m	5	92.80	3.07E+02	70.88	1.34E+02	9.83E+00	1.73E+02	7.16E+01
	6	105.42	7.95E+01	71.76			7.95E+01	7.18E+01
	7	129.68	1.21E+02	95.45			1.21E+02	9.54E+01
	8	186.19	3.34E+02	99.17	6.41E+01	7.38E+00	2.70E+02	9.94E+01
	9	209.65	4.92E+01	57.51			4.92E+01	5.75E+01
M	10	238.75	1.07E+03	80.43	2.34E+01	6.34E+00	1.05E+03	8.07E+01
m	11	241.81	3.36E+02	92.83			3.36E+02	9.28E+01
	12	270.25	5.91E+01	42.36			5.91E+01	4.24E+01
	13	286.09	5.98E+01	47.86			5.98E+01	4.79E+01
	14	295.24	2.84E+02	61.45	4.17E+00	5.50E+00	2.80E+02	6.17E+01
	15	300.24	7.11E+01	43.49			7.11E+01	4.35E+01
	16	327.97	8.81E+01	52.27			8.81E+01	5.23E+01
	17	338.75	1.35E+02	65.08	2.22E-01	4.54E+00	1.35E+02	6.52E+01
	18	352.14	5.21E+02	75.06	8.83E+00	4.91E+00	5.12E+02	7.52E+01
M	19	401.93	2.04E+01	9.71			2.04E+01	9.71E+00
m	20	409.94	3.48E+01	34.83			3.48E+01	3.48E+01
	21	463.03	4.30E+01	49.59			4.30E+01	4.96E+01
	22	511.10	1.69E+02	58.67	8.12E+01	5.49E+00	8.81E+01	5.89E+01
	23	543.77	2.21E+01	25.31			2.21E+01	2.53E+01
	24	582.81	3.39E+02	84.40	6.34E+00	3.74E+00	3.33E+02	8.45E+01
	25	609.52	3.69E+02	58.62	5.20E+00	3.69E+00	3.64E+02	5.87E+01
	26	630.69	2.53E+01	27.21			2.53E+01	2.72E+01
	27	727.79	5.02E+01	43.31			5.02E+01	4.33E+01
	28	756.74	3.90E+01	31.74			3.90E+01	3.17E+01
	29	768.87	4.08E+01	29.75			4.08E+01	2.97E+01
	30	795.03	4.97E+01	35.70			4.97E+01	3.57E+01
	31	860.56	5.49E+01	33.12			5.49E+01	3.31E+01
	32	868.80	1.87E+01	21.10			1.87E+01	2.11E+01
	33	911.70	2.20E+02	44.72	3.28E+00	2.53E+00	2.17E+02	4.48E+01
	34	933.29	3.52E+01	26.93			3.52E+01	2.69E+01
	35	950.52	3.84E+01	26.62			3.84E+01	2.66E+01
M	36	957.16	2.20E+01	16.49			2.20E+01	1.65E+01
m	37	964.87	8.10E+01	26.00			8.10E+01	2.60E+01
m	38	969.13	1.47E+02	30.40			1.47E+02	3.04E+01
	39	1121.53	1.00E+02	38.94			1.00E+02	3.89E+01
	40	1239.07	2.83E+01	34.15			2.83E+01	3.41E+01
	41	1377.79	3.74E+01	21.56			3.74E+01	2.16E+01
	42	1401.77	1.63E+01	17.26			1.63E+01	1.73E+01
	43	1409.77	1.14E+01	12.12			1.14E+01	1.21E+01
	44	1461.46	8.86E+02	63.22	6.46E+00	2.33E+00	8.80E+02	6.33E+01
	45	1581.48	9.40E+00	12.39			9.40E+00	1.24E+01
M	46	1588.37	1.82E+01	12.33			1.82E+01	1.23E+01
m	47	1594.12	1.79E+01	11.87			1.79E+01	1.19E+01
	48	1630.95	1.85E+01	11.51			1.85E+01	1.15E+01
	49	1661.22	1.20E+01	9.80			1.20E+01	9.80E+00
	50	1689.16	1.00E+01	11.35			1.00E+01	1.13E+01
	51	1729.09	2.45E+01	11.76			2.45E+01	1.18E+01
	52	1765.43	8.15E+01	20.21			8.15E+01	2.02E+01
	53	1830.06	1.60E+01	15.19			1.60E+01	1.52E+01
	54	1848.81	1.78E+01	10.01			1.78E+01	1.00E+01

Analysis Report for 1510063-14

CP2107S17-18

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
55	1940.48	5.50E+00	6.67			5.50E+00	6.67E+00
56	2104.74	1.74E+01	13.71			1.74E+01	1.37E+01
57	2112.90	7.25E+00	6.18			7.25E+00	6.18E+00
58	2119.84	1.10E+01	6.63			1.10E+01	6.63E+00
59	2186.13	6.94E+00	7.21			6.94E+00	7.21E+00
60	2204.64	2.30E+01	12.73			2.30E+01	1.27E+01
61	2226.93	6.00E+00	4.90			6.00E+00	4.90E+00
62	2293.43	6.50E+00	8.03			6.50E+00	8.03E+00
63	2380.95	1.75E+01	11.34			1.75E+01	1.13E+01
64	2615.50	1.30E+02	23.75	3.47E+00	1.48E+00	1.26E+02	2.38E+01

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

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/3/2015 10:16:23AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028941.CNF

Corrected Area is: Original * Peak Ratio - Background

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
1	46.72	1.21E+02	81.04	4.50E+01	8.46E+00	7.64E+01	8.15E+01
2	63.28	1.97E+02	113.74	7.80E+01	1.33E+01	1.19E+02	1.15E+02
3	76.28	1.37E+03	161.20	9.75E+00	8.28E+00	1.36E+03	1.61E+02
m 4	89.53	1.71E+02	67.20			1.71E+02	6.72E+01
m 5	92.80	3.07E+02	70.88	1.34E+02	9.83E+00	1.73E+02	7.16E+01
6	105.42	7.95E+01	71.76			7.95E+01	7.18E+01
7	129.68	1.21E+02	95.45			1.21E+02	9.54E+01
8	186.19	3.34E+02	99.17	6.41E+01	7.38E+00	2.70E+02	9.94E+01
9	209.65	4.92E+01	57.51			4.92E+01	5.75E+01
M 10	238.75	1.07E+03	80.43	2.34E+01	6.34E+00	1.05E+03	8.07E+01
m 11	241.81	3.36E+02	92.83			3.36E+02	9.28E+01
12	270.25	5.91E+01	42.36			5.91E+01	4.24E+01
13	286.09	5.98E+01	47.86			5.98E+01	4.79E+01
14	295.24	2.84E+02	61.45	4.17E+00	5.50E+00	2.80E+02	6.17E+01
15	300.24	7.11E+01	43.49			7.11E+01	4.35E+01
16	327.97	8.81E+01	52.27			8.81E+01	5.23E+01
17	338.75	1.35E+02	65.08	2.22E-01	4.54E+00	1.35E+02	6.52E+01
18	352.14	5.21E+02	75.06	8.83E+00	4.91E+00	5.12E+02	7.52E+01

Analysis Report for 1510063-14

CP2107S17-18

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
M	19	401.93	2.04E+01	9.71			2.04E+01	9.71E+00
m	20	409.94	3.48E+01	34.83			3.48E+01	3.48E+01
	21	463.03	4.30E+01	49.59			4.30E+01	4.96E+01
	22	511.10	1.69E+02	58.67	8.12E+01	5.49E+00	8.81E+01	5.89E+01
	23	543.77	2.21E+01	25.31			2.21E+01	2.53E+01
	24	582.81	3.39E+02	84.40	6.34E+00	3.74E+00	3.33E+02	8.45E+01
	25	609.52	3.69E+02	58.62	5.20E+00	3.69E+00	3.64E+02	5.87E+01
	26	630.69	2.53E+01	27.21			2.53E+01	2.72E+01
	27	727.79	5.02E+01	43.31			5.02E+01	4.33E+01
	28	756.74	3.90E+01	31.74			3.90E+01	3.17E+01
	29	768.87	4.08E+01	29.75			4.08E+01	2.97E+01
	30	795.03	4.97E+01	35.70			4.97E+01	3.57E+01
	31	860.56	5.49E+01	33.12			5.49E+01	3.31E+01
	32	868.80	1.87E+01	21.10			1.87E+01	2.11E+01
	33	911.70	2.20E+02	44.72	3.28E+00	2.53E+00	2.17E+02	4.48E+01
	34	933.29	3.52E+01	26.93			3.52E+01	2.69E+01
	35	950.52	3.84E+01	26.62			3.84E+01	2.66E+01
M	36	957.16	2.20E+01	16.49			2.20E+01	1.65E+01
m	37	964.87	8.10E+01	26.00			8.10E+01	2.60E+01
m	38	969.13	1.47E+02	30.40			1.47E+02	3.04E+01
	39	1121.53	1.00E+02	38.94			1.00E+02	3.89E+01
	40	1239.07	2.83E+01	34.15			2.83E+01	3.41E+01
	41	1377.79	3.74E+01	21.56			3.74E+01	2.16E+01
	42	1401.77	1.63E+01	17.26			1.63E+01	1.73E+01
	43	1409.77	1.14E+01	12.12			1.14E+01	1.21E+01
	44	1461.46	8.86E+02	63.22	6.46E+00	2.33E+00	8.80E+02	6.33E+01
	45	1581.48	9.40E+00	12.39			9.40E+00	1.24E+01
M	46	1588.37	1.82E+01	12.33			1.82E+01	1.23E+01
m	47	1594.12	1.79E+01	11.87			1.79E+01	1.19E+01
	48	1630.95	1.85E+01	11.51			1.85E+01	1.15E+01
	49	1661.22	1.20E+01	9.80			1.20E+01	9.80E+00
	50	1689.16	1.00E+01	11.35			1.00E+01	1.13E+01
	51	1729.09	2.45E+01	11.76			2.45E+01	1.18E+01
	52	1765.43	8.15E+01	20.21			8.15E+01	2.02E+01
	53	1830.06	1.60E+01	15.19			1.60E+01	1.52E+01
	54	1848.81	1.78E+01	10.01			1.78E+01	1.00E+01
	55	1940.48	5.50E+00	6.67			5.50E+00	6.67E+00
	56	2104.74	1.74E+01	13.71			1.74E+01	1.37E+01
	57	2112.90	7.25E+00	6.18			7.25E+00	6.18E+00
	58	2119.84	1.10E+01	6.63			1.10E+01	6.63E+00
	59	2186.13	6.94E+00	7.21			6.94E+00	7.21E+00
	60	2204.64	2.30E+01	12.73			2.30E+01	1.27E+01
	61	2226.93	6.00E+00	4.90			6.00E+00	4.90E+00
	62	2293.43	6.50E+00	8.03			6.50E+00	8.03E+00
	63	2380.95	1.75E+01	11.34			1.75E+01	1.13E+01
	64	2615.50	1.30E+02	23.75	3.47E+00	1.48E+00	1.26E+02	2.38E+01

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

Analysis Report for 1510063-14
CP2107S17-18

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.934	1460.81 *	10.67	2.17E+01	2.45E+00
GA-67	0.670	93.31 *	35.70	8.68E+01	3.34E+02
		208.95 *	2.24	5.39E+02	2.07E+03
		300.22 *	16.00	1.38E+02	5.34E+02
		285.90 *	3.10	9.84E+03	7.91E+03
PM-149	0.444	583.14 *	30.22	1.42E+00	3.82E-01
TL-208	0.937	860.37 *	4.48	2.15E+00	1.31E+00
		2614.66 *	35.85	1.21E+00	2.52E-01
		46.50 *	4.25	1.39E+00	1.49E+00
PB-210	0.992	727.17 *	11.80	6.52E-01	5.65E-01
BI-212	0.717	1620.62	2.75		
		238.63 *	44.60	1.60E+00	1.84E-01
PB-212	0.998	300.09 *	3.41	1.65E+00	1.02E+00
		609.31 *	46.30	1.05E+00	1.94E-01
BI-214	0.704	1120.29	15.10		
		1764.49 *	15.80	1.54E+00	4.00E-01
		2204.22 *	4.98	1.53E+00	8.57E-01
PB-214	0.995	295.21 *	19.19	1.14E+00	2.68E-01
		351.92 *	37.19	1.22E+00	2.05E-01
RN-219	0.997	401.80 *	6.50	3.06E-01	1.48E-01
RA-224	0.896	240.98 *	3.95	5.84E+00	1.69E+00
RA-226	1.000	186.21 *	3.28	4.81E+00	8.99E+00
AC-228	0.963	338.32 *	11.40	1.02E+00	5.01E-01
		911.07 *	27.70	1.43E+00	3.21E-01
		969.11 *	16.60	1.71E+00	3.82E-01
TH-234	1.000	63.29 *	3.80	1.65E+00	1.59E+00

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510063-14
CP2107S17-18

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 10:16:23AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m 3	76.28	3.78664E-01	5.92		
4	89.53	4.74569E-02	19.67		
6	105.42	2.20846E-02	45.13	Tol.	EU-155 NP-239
7	129.68	3.36070E-02	39.45		
12	270.25	1.64151E-02	35.84		
16	327.97	2.44783E-02	29.66	Tol.	LA-140
m 20	409.94	9.67539E-03	50.00		
21	463.03	1.19571E-02	57.61	Tol.	SB-125
22	511.10	2.44855E-02	33.43		
23	543.77	6.14837E-03	57.17		
26	630.69	7.01885E-03	53.84		
28	756.74	1.08373E-02	40.67	Tol.	ZR-95
29	768.87	1.13276E-02	36.48	Sum	
30	795.03	1.37955E-02	35.94	Sum	
32	868.80	5.18939E-03	56.46	Sum	
34	933.29	9.77430E-03	38.26		
35	950.52	1.06790E-02	34.62	S-Esc	
M 36	957.16	6.11311E-03	37.47		
m 37	964.87	2.25126E-02	16.04	Tol.	EU-152
39	1121.53	2.77754E-02	19.47	Sum	
40	1239.07	7.86325E-03	60.31	Tol.	CO-56
41	1377.79	1.03750E-02	28.87		
42	1401.77	4.53431E-03	52.88		
43	1409.77	3.17460E-03	53.04		
45	1581.48	2.61111E-03	65.90		
M 46	1588.37	5.04402E-03	33.95	Sum	
m 47	1594.12	4.95944E-03	33.25	D-Esc	
48	1630.95	5.13889E-03	31.11		
49	1661.22	3.33333E-03	40.82		
50	1689.16	2.78595E-03	56.57		
51	1729.09	6.79527E-03	24.03		
53	1830.06	4.43376E-03	47.58	Sum	
54	1848.81	4.94444E-03	28.12		
55	1940.48	1.52778E-03	60.64		
56	2104.74	4.83025E-03	39.43	S-Esc	
57	2112.90	2.01389E-03	42.65		
58	2119.84	3.05556E-03	30.15		
59	2186.13	1.92901E-03	51.92		
61	2226.93	1.66667E-03	40.82		
62	2293.43	1.80556E-03	61.78		
63	2380.95	4.86111E-03	32.39		

Analysis Report for 1510063-14
CP2107S17-18

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.93	1460.81 *	10.67	2.17E+01	2.45E+00
GA-67	0.67	93.31 *	35.70	8.68E+01	3.34E+02
		208.95 *	2.24	5.39E+02	2.07E+03
		300.22 *	16.00	1.38E+02	5.34E+02
PM-149	0.44	285.90 *	3.10	9.84E+03	7.91E+03
TL-208	0.93	583.14 *	30.22	1.42E+00	3.82E-01
		860.37 *	4.48	2.15E+00	1.31E+00
		2614.66 *	35.85	1.21E+00	2.52E-01
PB-210	0.99	46.50 *	4.25	1.39E+00	1.49E+00
BI-212	0.71	727.17 *	11.80	6.52E-01	5.65E-01
		1620.62	2.75		
PB-212	0.99	238.63 *	44.60	1.60E+00	1.84E-01
		300.09 *	3.41	1.65E+00	1.02E+00
BI-214	0.70	609.31 *	46.30	1.05E+00	1.94E-01
		1120.29	15.10		
		1764.49 *	15.80	1.54E+00	4.00E-01
		2204.22 *	4.98	1.53E+00	8.57E-01
PB-214	0.99	295.21 *	19.19	1.14E+00	2.68E-01
		351.92 *	37.19	1.22E+00	2.05E-01
RN-219	0.99	401.80 *	6.50	3.06E-01	1.48E-01
RA-224	0.89	240.98 *	3.95	5.84E+00	1.69E+00
RA-226	1.00	186.21 *	3.28	4.81E+00	8.99E+00
AC-228	0.96	338.32 *	11.40	1.02E+00	5.01E-01
		911.07 *	27.70	1.43E+00	3.21E-01
		969.11 *	16.60	1.71E+00	3.82E-01
TH-234	1.00	63.29 *	3.80	1.65E+00	1.59E+00

Analysis Report for 1510063-14
CP2107S17-18

* = Energy line found in the spectrum.
- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.934	2.17E+01	2.45E+00	
GA-67	0.670	7.55E+01	2.78E+02	
PM-149	0.444	9.84E+03	7.91E+03	
TL-208	0.937	1.30E+00	2.07E-01	
PB-210	0.992	1.39E+00	1.49E+00	
BI-212	0.717	6.52E-01	5.65E-01	
PB-212	0.998	1.57E+00	1.81E-01	
BI-214	0.704	1.16E+00	1.71E-01	
PB-214	0.995	1.19E+00	1.63E-01	
RN-219	0.997	3.06E-01	1.48E-01	
RA-224	0.896	5.84E+00	1.69E+00	
RA-226	1.000	4.81E+00	8.99E+00	
AC-228	0.963	1.44E+00	2.21E-01	
TH-234	1.000	1.65E+00	1.59E+00	

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510063-14
CP2107S17-18

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 10:16:23AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	3	76.28	3.78664E-01		
m	4	89.53	4.74569E-02		
	6	105.42	2.20846E-02	Tol.	EU-155 NP-239
	7	129.68	3.36070E-02		
	12	270.25	1.64151E-02		
	16	327.97	2.44783E-02	Tol.	LA-140
m	20	409.94	9.67539E-03		
	21	463.03	1.19571E-02	Tol.	SB-125
	22	511.10	2.44855E-02		
	23	543.77	6.14837E-03		
	26	630.69	7.01885E-03		
	28	756.74	1.08373E-02	Tol.	ZR-95
	29	768.87	1.13276E-02	Sum	
	30	795.03	1.37955E-02	Sum	
	32	868.80	5.18939E-03	Sum	
	34	933.29	9.77430E-03		
	35	950.52	1.06790E-02	S-Esc	
M	36	957.16	6.11311E-03		
m	37	964.87	2.25126E-02	Tol.	EU-152
	39	1121.53	2.77754E-02	Sum	
	40	1239.07	7.86325E-03	Tol.	CO-56
	41	1377.79	1.03750E-02		
	42	1401.77	4.53431E-03		
	43	1409.77	3.17460E-03		
	45	1581.48	2.61111E-03		
M	46	1588.37	5.04402E-03	Sum	
m	47	1594.12	4.95944E-03	D-Esc	
	48	1630.95	5.13889E-03		
	49	1661.22	3.33333E-03		
	50	1689.16	2.78595E-03		
	51	1729.09	6.79527E-03		
	53	1830.06	4.43376E-03	Sum	
	54	1848.81	4.94444E-03		
	55	1940.48	1.52778E-03		

Analysis Report for 1510063-14
CP2107S17-18

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
56	2104.74	4.83025E-03	39.43	S-Esc	
57	2112.90	2.01389E-03	42.65		
58	2119.84	3.05556E-03	30.15		
59	2186.13	1.92901E-03	51.92		
61	2226.93	1.66667E-03	40.82		
62	2293.43	1.80556E-03	61.78		
63	2380.95	4.86111E-03	32.39		

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59	10.42	-9.66E-02	8.14E-01	8.14E-01
+	NA-22	1274.54	99.94	1.14E-02	7.55E-02	7.55E-02
+	NA-24	1368.53	99.99	6.13E+11	1.08E+12	2.07E+12
		2754.09	99.86	2.32E+11		1.08E+12
+	AL-26	1808.65	99.76	1.06E-02	4.55E-02	4.55E-02
+	K-40	1460.81	* 10.67	2.17E+01	9.59E-01	9.59E-01
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	-1.61E-03	6.54E-02	6.54E-02
		78.34	96.00	2.43E-01		8.65E-02
+	SC-46	889.25	99.98	8.25E-03	8.85E-02	8.85E-02
		1120.51	99.99	2.01E-01		1.48E-01
+	V-48	983.52	99.98	-4.90E-02	2.16E-01	2.45E-01
		1312.10	97.50	-9.79E-02		2.16E-01
+	CR-51	320.08	9.83	4.79E-01	1.06E+00	1.06E+00
+	MN-54	834.83	99.97	1.43E-02	8.38E-02	8.38E-02
+	CO-56	846.75	99.96	1.71E-02	8.90E-02	8.90E-02
		1037.75	14.03	1.45E-01		6.90E-01
		1238.25	67.00	7.95E-02		1.99E-01
		1771.40	15.51	-9.86E-02		3.23E-01
		2598.48	16.90	-1.24E-01		3.14E-01
+	CO-57	122.06	85.51	-1.63E-02	5.66E-02	5.66E-02
		136.48	10.60	9.72E-03		4.71E-01

Analysis Report for 1510063-14
CP2107S17-18

	<i>Nuclide Name</i>	<i>Energy (keV)</i>	<i>Yield(%)</i>	<i>Activity (pCi/grams)</i>	<i>Nuclide MDA (pCi/grams)</i>	<i>Line MDA (pCi/grams)</i>
+	CO-58	810.76	99.40	-3.81E-02	8.08E-02	8.08E-02
+	FE-59	1099.22	56.50	4.01E-02	2.34E-01	2.34E-01
		1291.56	43.20	-1.15E-02		2.64E-01
+	CO-60	1173.22	100.00	-1.39E-02	7.81E-02	8.62E-02
		1332.49	100.00	3.86E-02		7.81E-02
+	ZN-65	1115.52	50.75	4.36E-02	1.65E-01	1.65E-01
+	GA-67	93.31	* 35.70	8.68E+01	1.33E+02	1.72E+02
		208.95	* 2.24	5.39E+02		1.04E+03
		300.22	* 16.00	1.38E+02		1.33E+02
+	SE-75	121.11	16.70	-5.81E-02	8.83E-02	3.17E-01
		136.00	59.20	2.43E-02		9.25E-02
		264.65	59.80	-9.51E-03		8.83E-02
		279.53	25.20	2.50E-01		2.61E-01
		400.65	11.40	-2.01E-02		5.06E-01
+	RB-82	776.52	13.00	-2.61E-01	1.12E+00	1.12E+00
+	RB-83	520.41	46.00	4.40E-02	1.60E-01	1.60E-01
		529.64	30.30	-2.72E-02		2.38E-01
		552.65	16.40	4.08E-01		5.46E-01
+	KR-85	513.99	0.43	3.54E+01	2.13E+01	2.13E+01
+	SR-85	513.99	99.27	2.08E-01	1.25E-01	1.25E-01
+	Y-88	898.02	93.40	-8.02E-03	8.06E-02	9.29E-02
		1836.01	99.38	2.21E-02		8.06E-02
+	NB-93M	16.57	9.43	-5.59E+01	6.33E+01	6.33E+01
+	NB-94	702.63	100.00	1.21E-02	6.98E-02	6.98E-02
		871.10	100.00	-2.51E-03		7.26E-02
+	NB-95	765.79	99.81	1.24E-02	1.51E-01	1.51E-01
+	NB-95M	235.69	25.00	-5.93E+02	5.66E+01	5.66E+01
+	ZR-95	724.18	43.70	-1.42E-02	1.79E-01	2.25E-01
		756.72	55.30	1.42E-01		1.79E-01
+	MO-99	181.06	6.20	-6.12E+01	6.28E+02	8.64E+02
		739.58	12.80	-3.33E+01		6.28E+02
		778.00	4.50	-1.85E+03		1.67E+03
+	RU-103	497.08	89.00	7.93E-02	1.15E-01	1.15E-01
+	RU-106	621.84	9.80	2.50E-01	6.49E-01	6.49E-01
+	AG-108M	433.93	89.90	-1.34E-02	6.06E-02	6.06E-02
		614.37	90.40	6.98E-04		7.17E-02
		722.95	90.50	9.91E-05		7.20E-02
+	CD-109	88.03	3.72	5.48E-01	1.82E+00	1.82E+00
+	AG-110M	657.75	93.14	1.91E-03	6.74E-02	6.74E-02
		677.61	10.53	-5.47E-02		6.43E-01
		706.67	16.46	6.26E-03		4.36E-01
		763.93	21.98	1.15E-02		3.55E-01
		884.67	71.63	-4.25E-03		1.06E-01
		1384.27	23.94	-2.92E-02		3.27E-01
+	CD-113M	263.70	0.02	-2.06E+01	1.98E+02	1.98E+02
+	SN-113	255.12	1.93	-2.18E-01	9.07E-02	3.07E+00
		391.69	64.90	-2.75E-02		9.07E-02

Analysis Report for 1510063-14
CP2107S17-18

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	TE123M	159.00	84.10	-1.46E-02	6.81E-02	6.81E-02
+	SB-124	602.71	97.87	1.40E-02	9.57E-02	9.57E-02
		645.85	7.26	-7.15E-02		1.17E+00
		722.78	11.10	1.12E-03		8.10E-01
		1691.02	49.00	5.91E-02		1.65E-01
+	I-125	35.49	6.49	-1.02E+00	3.01E+00	3.01E+00
+	SB-125	176.33	6.89	4.29E-01	2.02E-01	7.23E-01
		427.89	29.33	4.94E-02		2.02E-01
		463.38	10.35	6.50E-01		7.07E-01
		600.56	17.80	6.79E-02		3.87E-01
		635.90	11.32	-1.86E-02		5.47E-01
+	SB-126	414.70	83.30	-3.51E-02	3.10E-01	3.34E-01
		666.33	99.60	1.24E-01		3.30E-01
		695.00	99.60	-2.49E-02		3.10E-01
		720.50	53.80	-5.28E-02		5.94E-01
+	SN-126	87.57	37.00	5.29E-02	1.76E-01	1.76E-01
+	SB-127	473.00	25.00	1.99E+01	3.10E+01	3.96E+01
		685.20	35.70	2.75E+01		3.10E+01
		783.80	14.70	5.02E+01		7.55E+01
+	I-129	29.78	57.00	-1.15E-01	4.61E-01	4.61E-01
		33.60	13.20	-7.52E-01		1.26E+00
		39.58	7.52	7.03E-03		1.42E+00
+	I-131	284.30	6.05	-2.17E+00	6.68E-01	9.22E+00
		364.48	81.20	-2.34E-01		6.68E-01
		636.97	7.26	-1.59E+00		9.42E+00
		722.89	1.80	5.60E-02		4.07E+01
+	TE-132	49.72	13.10	-2.73E+01	2.32E+01	2.11E+02
		228.16	88.00	1.51E+00		2.32E+01
+	BA-133	81.00	33.00	-1.03E+00	8.35E-02	1.78E-01
		302.84	17.80	-5.89E-02		2.87E-01
		356.01	60.00	-5.88E-01		8.35E-02
+	I-133	529.87	86.30	-4.32E+07	3.78E+08	3.78E+08
+	XE-133	81.00	38.00	-3.66E+01	6.29E+00	6.29E+00
+	CS-134	563.23	8.38	5.27E-01	7.33E-02	8.31E-01
		569.32	15.43	6.75E-02		3.86E-01
		604.70	97.60	2.27E-04		7.33E-02
		795.84	85.40	6.93E-02		9.45E-02
		801.93	8.73	-1.70E-01		7.88E-01
+	CS-135	268.24	16.00	2.71E-01	3.36E-01	3.36E-01
+	@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@	1260.41	28.60	1.00E+26		1.00E+26
	@	1678.03	9.54	1.00E+26		1.00E+26
+	CS-136	153.22	7.46	6.18E-01	2.87E-01	2.95E+00
		163.89	4.61	1.79E+00		4.64E+00
		176.55	13.56	9.38E-01		1.58E+00
		273.65	12.66	-1.11E+00		1.80E+00
		340.57	48.50	7.34E-01		6.13E-01
		818.50	99.70	6.66E-02		2.87E-01
		1048.07	79.60	3.36E-01		4.48E-01

Analysis Report for 1510063-14
CP2107S17-18

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	CS-136	1235.34	19.70	1.49E-01	2.87E-01	2.13E+00
+	CS-137	661.65	85.12	-4.87E-02	6.68E-02	6.68E-02
+	LA-138	788.74	34.00	7.47E-02	1.06E-01	1.90E-01
		1435.80	66.00	-1.20E-02		1.06E-01
+	CE-139	165.85	80.35	-3.02E-02	6.90E-02	6.90E-02
+	BA-140	162.64	6.70	-3.03E-01	1.15E+00	3.28E+00
		304.84	4.50	1.05E+00		4.86E+00
		423.70	3.20	-3.33E+00		8.58E+00
		437.55	2.00	-5.36E+00		1.26E+01
		537.32	25.00	-6.65E-02		1.15E+00
+	LA-140	328.77	20.50	1.13E+00	3.09E-01	1.29E+00
		487.03	45.50	4.45E-01		6.19E-01
		815.85	23.50	-2.32E-01		1.21E+00
		1596.49	95.49	-6.71E-03		3.09E-01
+	CE-141	145.44	48.40	-5.88E-02	1.85E-01	1.85E-01
+	CE-143	57.36	11.80	-6.71E+04	2.49E+05	7.66E+05
		293.26	42.00	6.23E+05		2.49E+05
		664.55	5.20	-3.82E+05		1.73E+06
+	CE-144	133.54	10.80	1.25E-01	4.69E-01	4.69E-01
+	PM-144	476.78	42.00	-3.74E-02	6.43E-02	1.50E-01
		618.01	98.60	-2.16E-03		6.43E-02
		696.49	99.49	-3.84E-03		7.11E-02
+	PM-145	36.85	21.70	2.34E-02	3.17E-01	5.92E-01
		37.36	39.70	1.62E-01		3.17E-01
		42.30	15.10	4.30E-02		5.80E-01
		72.40	2.31	-2.31E+00		3.18E+00
+	PM-146	453.90	39.94	4.00E-03	1.49E-01	1.49E-01
		735.90	14.01	-4.46E-02		4.67E-01
		747.13	13.10	1.72E-01		5.08E-01
+	ND-147	91.11	28.90	-2.59E+00	1.35E+00	1.35E+00
		531.02	13.10	-9.36E-01		2.62E+00
+	PM-149	285.90	* 3.10	9.84E+03	1.27E+04	1.27E+04
+	EU-152	121.78	20.50	-6.34E-02	2.20E-01	2.20E-01
		244.69	5.40	-6.69E-01		1.00E+00
		344.27	19.13	-9.82E-02		2.55E-01
		778.89	9.20	5.73E-02		7.34E-01
		964.01	10.40	-1.22E+00		9.53E-01
		1085.78	7.22	-1.14E-01		9.08E-01
		1112.02	9.60	5.12E-01		8.83E-01
		1407.95	14.94	-2.10E-02		4.31E-01
+	GD-153	97.43	31.30	-4.19E-02	1.66E-01	1.66E-01
		103.18	22.20	-1.60E-01		2.30E-01
+	EU-154	123.07	40.50	8.01E-03	1.13E-01	1.13E-01
		723.30	19.70	4.58E-04		3.33E-01
		873.19	11.50	7.78E-02		5.95E-01
		996.32	10.30	2.88E-02		6.65E-01
		1004.76	17.90	1.03E-01		3.89E-01
		1274.45	35.50	3.16E-02		2.09E-01
+	EU-155	86.50	30.90	-1.14E-01	2.10E-01	2.10E-01

Analysis Report for 1510063-14

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	EU-155	105.30	20.70	5.19E-02	2.10E-01	2.35E-01
+	EU-156	811.77	10.40	-5.25E-01	2.13E+00	2.13E+00
		1153.47	7.20	2.73E+00		4.69E+00
		1230.71	8.90	1.73E+00		3.94E+00
+	HO-166M	184.41	72.60	1.48E-01	8.76E-02	8.76E-02
		280.45	29.60	-2.78E-02		1.74E-01
		410.94	11.10	-1.09E-02		5.38E-01
		711.69	54.10	1.34E-03		1.23E-01
+	TM-171	66.72	0.14	3.16E+00	4.60E+01	4.60E+01
+	HF-172	81.75	4.52	-1.98E+00	4.32E-01	1.32E+00
		125.81	11.30	4.20E-02		4.32E-01
+	LU-172	181.53	20.60	-3.07E+00	2.34E+00	4.10E+00
		810.06	16.63	9.82E-01		7.15E+00
		912.12	15.25	4.76E+01		1.75E+01
		1093.66	62.50	-4.89E-03		2.34E+00
+	LU-173	100.72	5.24	3.17E-01	2.81E-01	9.43E-01
		272.11	21.20	-3.70E-02		2.81E-01
+	HF-175	343.40	84.00	-2.20E-02	7.80E-02	7.80E-02
+	LU-176	88.34	13.30	6.09E-01	5.20E-02	4.95E-01
		201.83	86.00	-1.57E-02		5.97E-02
		306.78	94.00	1.61E-02		5.20E-02
+	TA-182	67.75	41.20	-4.37E-03	1.78E-01	1.78E-01
		1121.30	34.90	5.80E-01		4.08E-01
		1189.05	16.23	-1.33E-01		6.04E-01
		1221.41	26.98	-2.17E-02		4.14E-01
		1231.02	11.44	4.42E-01		1.01E+00
+	IR-192	308.46	29.68	-7.76E-02	1.63E-01	2.05E-01
		468.07	48.10	-3.13E-02		1.63E-01
+	HG-203	279.19	77.30	9.51E-02	1.12E-01	1.12E-01
+	BI-207	569.67	97.72	2.54E-03	5.75E-02	5.75E-02
		1063.62	74.90	-6.41E-03		1.02E-01
+	TL-208	583.14	* 30.22	1.42E+00	1.51E-01	5.46E-01
		860.37	* 4.48	2.15E+00		2.01E+00
		2614.66	* 35.85	1.21E+00		1.51E-01
+	BI-210M	262.00	45.00	-1.48E-02	1.04E-01	1.04E-01
		300.00	23.00	-4.32E-01		2.37E-01
+	PB-210	46.50	* 4.25	1.39E+00	2.44E+00	2.44E+00
+	PB-211	404.84	2.90	1.34E+00	1.96E+00	1.96E+00
		831.96	2.90	-1.57E+00		2.46E+00
+	BI-212	727.17	* 11.80	6.52E-01	9.09E-01	9.09E-01
		1620.62	2.75	1.11E+00		2.57E+00
+	PB-212	238.63	* 44.60	1.60E+00	2.22E-01	2.22E-01
		300.09	* 3.41	1.65E+00		1.60E+00
+	BI-214	609.31	* 46.30	1.05E+00	2.19E-01	2.19E-01
		1120.29	15.10	1.05E+00		7.79E-01
		1764.49	* 15.80	1.54E+00		3.33E-01
		2204.22	* 4.98	1.53E+00		1.10E+00
+	PB-214	295.21	* 19.19	1.14E+00	2.42E-01	3.60E-01

Analysis Report for 1510063-14
CP2107S17-18

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	PB-214	351.92	*	37.19	1.22E+00	2.42E-01	2.42E-01
+	RN-219	401.80	*	6.50	3.06E-01	1.43E+00	1.43E+00
+	RA-223	323.87		3.88	-6.23E-01	1.23E+00	1.23E+00
+	RA-224	240.98	*	3.95	5.84E+00	2.54E+00	2.54E+00
+	RA-225	40.00		31.00	6.18E-03	1.25E+00	1.25E+00
+	RA-226	186.21	*	3.28	4.81E+00	2.80E+00	2.80E+00
+	TH-227	50.10		8.40	-1.07E-01	5.61E-01	8.28E-01
		236.00		11.50	-5.88E+00		5.61E-01
		256.20		6.30	2.26E-01		8.05E-01
+	AC-228	338.32	*	11.40	1.02E+00	3.85E-01	7.80E-01
		911.07	*	27.70	1.43E+00		3.85E-01
		969.11	*	16.60	1.71E+00		8.56E-01
+	TH-230	48.44		16.90	1.81E-01	4.68E-01	4.68E-01
		62.85		4.60	2.38E+00		1.57E+00
		67.67		0.37	-4.11E-01		1.67E+01
+	PA-231	283.67		1.60	-6.64E-01	2.21E+00	3.10E+00
		302.67		2.30	-4.53E-01		2.21E+00
+	TH-231	25.64		14.70	-1.88E+00	9.63E-01	3.80E+00
		84.21		6.40	-1.17E+00		9.63E-01
+	PA-233	311.98		38.60	-5.63E-02	2.54E-01	2.54E-01
+	PA-234	131.20		20.40	5.10E-02	2.36E-01	2.36E-01
		733.99		8.80	-1.89E-02		7.44E-01
		946.00		12.00	8.26E-02		5.95E-01
+	PA-234M	1001.03		0.92	8.33E-01	7.64E+00	7.64E+00
+	TH-234	63.29	*	3.80	1.65E+00	2.59E+00	2.59E+00
+	U-235	143.76		10.50	-2.00E-02	4.66E-01	4.66E-01
		163.35		4.70	3.99E-01		1.03E+00
		205.31		4.70	2.19E-01		1.05E+00
+	NP-237	86.50		12.60	-2.76E-01	5.10E-01	5.10E-01
+	NP-239	106.10		22.70	1.82E+02	8.26E+02	8.26E+02
		228.18		10.70	1.23E+02		1.89E+03
		277.60		14.10	5.19E+02		1.55E+03
+	AM-241	59.54		35.90	-8.49E-03	1.82E-01	1.82E-01
+	AM-243	74.67		66.00	3.00E-02	1.35E-01	1.35E-01
+	CM-243	209.75		3.29	5.15E-01	4.04E-01	1.61E+00
		228.14		10.60	3.19E-02		4.92E-01
		277.60		14.00	1.35E-01		4.04E-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
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

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Analysis Report for 1510063-14
CP2107S17-18

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
BE-7	477.59	10.42	8.14E-01	8.14E-01	-9.66E-02	3.86E-01
NA-22	1274.54	99.94	7.55E-02	7.55E-02	1.14E-02	3.45E-02
NA-24	1368.53	99.99	2.07E+12	1.08E+12	6.13E+11	9.19E+11
	2754.09	99.86	1.08E+12		2.32E+11	3.82E+11
AL-26	1808.65	99.76	4.55E-02	4.55E-02	1.06E-02	1.86E-02
+ K-40	1460.81	* 10.67	9.59E-01	9.59E-01	2.17E+01	4.46E-01
@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
TI-44	67.88	94.40	6.54E-02	6.54E-02	-1.61E-03	3.20E-02
	78.34	96.00	8.65E-02		2.43E-01	4.26E-02
SC-46	889.25	99.98	8.85E-02	8.85E-02	8.25E-03	4.12E-02
	1120.51	99.99	1.48E-01		2.01E-01	7.05E-02
V-48	983.52	99.98	2.45E-01	2.16E-01	-4.90E-02	1.14E-01
	1312.10	97.50	2.16E-01		-9.79E-02	9.64E-02
CR-51	320.08	9.83	1.06E+00	1.06E+00	4.79E-01	5.08E-01
MN-54	834.83	99.97	8.38E-02	8.38E-02	1.43E-02	3.95E-02
CO-56	846.75	99.96	8.90E-02	8.90E-02	1.71E-02	4.15E-02
	1037.75	14.03	6.90E-01		1.45E-01	3.20E-01
	1238.25	67.00	1.99E-01		7.95E-02	9.33E-02
	1771.40	15.51	3.23E-01		-9.86E-02	1.28E-01
	2598.48	16.90	3.14E-01		-1.24E-01	1.22E-01
CO-57	122.06	85.51	5.66E-02	5.66E-02	-1.63E-02	2.75E-02
	136.48	10.60	4.71E-01		9.72E-03	2.28E-01
CO-58	810.76	99.40	8.08E-02	8.08E-02	-3.81E-02	3.74E-02
FE-59	1099.22	56.50	2.34E-01	2.34E-01	4.01E-02	1.09E-01
	1291.56	43.20	2.64E-01		-1.15E-02	1.20E-01
CO-60	1173.22	100.00	8.62E-02	7.81E-02	-1.39E-02	4.00E-02
	1332.49	100.00	7.81E-02		3.86E-02	3.57E-02
ZN-65	1115.52	50.75	1.65E-01	1.65E-01	4.36E-02	7.63E-02
+ GA-67	93.31	* 35.70	1.72E+02	1.33E+02	8.68E+01	8.54E+01
	208.95	* 2.24	1.04E+03		5.39E+02	5.03E+02
	300.22	* 16.00	1.33E+02		1.38E+02	6.40E+01
SE-75	121.11	16.70	3.17E-01	8.83E-02	-5.81E-02	1.54E-01
	136.00	59.20	9.25E-02		2.43E-02	4.49E-02
	264.65	59.80	8.83E-02		-9.51E-03	4.22E-02
	279.53	25.20	2.61E-01		2.50E-01	1.26E-01
	400.65	11.40	5.06E-01		-2.01E-02	2.39E-01
RB-82	776.52	13.00	1.12E+00	1.12E+00	-2.61E-01	5.24E-01
RB-83	520.41	46.00	1.60E-01	1.60E-01	4.40E-02	7.56E-02
	529.64	30.30	2.38E-01		-2.72E-02	1.12E-01
	552.65	16.40	5.46E-01		4.08E-01	2.60E-01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
KR-85	513.99	0.43	2.13E+01	2.13E+01	3.54E+01	1.03E+01
SR-85	513.99	99.27	1.25E-01	1.25E-01	2.08E-01	6.04E-02
Y-88	898.02	93.40	9.29E-02	8.06E-02	-8.02E-03	4.33E-02
	1836.01	99.38	8.06E-02		2.21E-02	3.53E-02
NB-93M	16.57	9.43	6.33E+01	6.33E+01	-5.59E+01	2.93E+01
NB-94	702.63	100.00	6.98E-02	6.98E-02	1.21E-02	3.29E-02
	871.10	100.00	7.26E-02		-2.51E-03	3.39E-02
NB-95	765.79	99.81	1.51E-01	1.51E-01	1.24E-02	7.18E-02
NB-95M	235.69	25.00	5.66E+01	5.66E+01	-5.93E+02	2.75E+01
ZR-95	724.18	43.70	2.25E-01	1.79E-01	-1.42E-02	1.06E-01
	756.72	55.30	1.79E-01		1.42E-01	8.45E-02
MO-99	181.06	6.20	8.64E+02	6.28E+02	-6.12E+01	4.17E+02
	739.58	12.80	6.28E+02		-3.33E+01	2.95E+02
	778.00	4.50	1.67E+03		-1.85E+03	7.78E+02
RU-103	497.08	89.00	1.15E-01	1.15E-01	7.93E-02	5.45E-02
RU-106	621.84	9.80	6.49E-01	6.49E-01	2.50E-01	3.05E-01
AG-108M	433.93	89.90	6.06E-02	6.06E-02	-1.34E-02	2.88E-02
	614.37	90.40	7.17E-02		6.98E-04	3.38E-02
	722.95	90.50	7.20E-02		9.91E-05	3.37E-02
CD-109	88.03	3.72	1.82E+00	1.82E+00	5.48E-01	8.92E-01
AG-110M	657.75	93.14	6.74E-02	6.74E-02	1.91E-03	3.15E-02
	677.61	10.53	6.43E-01		-5.47E-02	3.01E-01
	706.67	16.46	4.36E-01		6.26E-03	2.04E-01
	763.93	21.98	3.55E-01		1.15E-02	1.67E-01
	884.67	71.63	1.06E-01		-4.25E-03	4.95E-02
	1384.27	23.94	3.27E-01		-2.92E-02	1.48E-01
CD-113M	263.70	0.02	1.98E+02	1.98E+02	-2.06E+01	9.46E+01
SN-113	255.12	1.93	3.07E+00	9.07E-02	-2.18E-01	1.48E+00
	391.69	64.90	9.07E-02		-2.75E-02	4.30E-02
TE123M	159.00	84.10	6.81E-02	6.81E-02	-1.46E-02	3.30E-02
SB-124	602.71	97.87	9.57E-02	9.57E-02	1.40E-02	4.53E-02
	645.85	7.26	1.17E+00		-7.15E-02	5.49E-01
	722.78	11.10	8.10E-01		1.12E-03	3.79E-01
	1691.02	49.00	1.65E-01		5.91E-02	7.13E-02
I-125	35.49	6.49	3.01E+00	3.01E+00	-1.02E+00	1.46E+00
SB-125	176.33	6.89	7.23E-01	2.02E-01	4.29E-01	3.50E-01
	427.89	29.33	2.02E-01		4.94E-02	9.63E-02
	463.38	10.35	7.07E-01		6.50E-01	3.39E-01
	600.56	17.80	3.87E-01		6.79E-02	1.83E-01
	635.90	11.32	5.47E-01		-1.86E-02	2.56E-01
SB-126	414.70	83.30	3.34E-01	3.10E-01	-3.51E-02	1.59E-01
	666.33	99.60	3.30E-01		1.24E-01	1.55E-01
	695.00	99.60	3.10E-01		-2.49E-02	1.45E-01
	720.50	53.80	5.94E-01		-5.28E-02	2.79E-01
SN-126	87.57	37.00	1.76E-01	1.76E-01	5.29E-02	8.61E-02
SB-127	473.00	25.00	3.96E+01	3.10E+01	1.99E+01	1.89E+01
	685.20	35.70	3.10E+01		2.75E+01	1.46E+01
	783.80	14.70	7.55E+01		5.02E+01	3.54E+01
I-129	29.78	57.00	4.61E-01	4.61E-01	-1.15E-01	2.24E-01
	33.60	13.20	1.26E+00		-7.52E-01	6.12E-01
	39.58	7.52	1.42E+00		7.03E-03	6.91E-01
I-131	284.30	6.05	9.22E+00	6.68E-01	-2.17E+00	4.42E+00
	364.48	81.20	6.68E-01		-2.34E-01	3.17E-01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
I-131	636.97	7.26	9.42E+00	6.68E-01	-1.59E+00	4.42E+00
	722.89	1.80	4.07E+01		5.60E-02	1.91E+01
TE-132	49.72	13.10	2.11E+02	2.32E+01	-2.73E+01	1.03E+02
	228.16	88.00	2.32E+01		1.51E+00	1.12E+01
BA-133	81.00	33.00	1.78E-01	8.35E-02	-1.03E+00	8.69E-02
	302.84	17.80	2.87E-01		-5.89E-02	1.38E-01
	356.01	60.00	8.35E-02		-5.88E-01	3.97E-02
I-133	529.87	86.30	3.78E+08	3.78E+08	-4.32E+07	1.78E+08
XE-133	81.00	38.00	6.29E+00	6.29E+00	-3.66E+01	3.08E+00
CS-134	563.23	8.38	8.31E-01	7.33E-02	5.27E-01	3.95E-01
	569.32	15.43	3.86E-01		6.75E-02	1.81E-01
	604.70	97.60	7.33E-02		2.27E-04	3.47E-02
	795.84	85.40	9.45E-02		6.93E-02	4.46E-02
	801.93	8.73	7.88E-01		-1.70E-01	3.67E-01
CS-135	268.24	16.00	3.36E-01	3.36E-01	2.71E-01	1.62E-01
@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	1260.41	28.60	1.00E+26		1.00E+26	1.00E+20
@	1678.03	9.54	1.00E+26		1.00E+26	1.00E+20
CS-136	153.22	7.46	2.95E+00	2.87E-01	6.18E-01	1.43E+00
	163.89	4.61	4.64E+00		1.79E+00	2.25E+00
	176.55	13.56	1.58E+00		9.38E-01	7.66E-01
	273.65	12.66	1.80E+00		-1.11E+00	8.65E-01
	340.57	48.50	6.13E-01		7.34E-01	2.96E-01
	818.50	99.70	2.87E-01		6.66E-02	1.33E-01
	1048.07	79.60	4.48E-01		3.36E-01	2.08E-01
	1235.34	19.70	2.13E+00		1.49E-01	9.95E-01
CS-137	661.65	85.12	6.68E-02	6.68E-02	-4.87E-02	3.11E-02
LA-138	788.74	34.00	1.90E-01	1.06E-01	7.47E-02	8.87E-02
	1435.80	66.00	1.06E-01		-1.20E-02	4.77E-02
CE-139	165.85	80.35	6.90E-02	6.90E-02	-3.02E-02	3.34E-02
BA-140	162.64	6.70	3.28E+00	1.15E+00	-3.03E-01	1.59E+00
	304.84	4.50	4.86E+00		1.05E+00	2.32E+00
	423.70	3.20	8.58E+00		-3.33E+00	4.09E+00
	437.55	2.00	1.26E+01		-5.36E+00	5.98E+00
	537.32	25.00	1.15E+00		-6.65E-02	5.46E-01
LA-140	328.77	20.50	1.29E+00	3.09E-01	1.13E+00	6.21E-01
	487.03	45.50	6.19E-01		4.45E-01	2.94E-01
	815.85	23.50	1.21E+00		-2.32E-01	5.59E-01
	1596.49	95.49	3.09E-01		-6.71E-03	1.36E-01
CE-141	145.44	48.40	1.85E-01	1.85E-01	-5.88E-02	8.97E-02
CE-143	57.36	11.80	7.66E+05	2.49E+05	-6.71E+04	3.74E+05
	293.26	42.00	2.49E+05		6.23E+05	1.21E+05
	664.55	5.20	1.73E+06		-3.82E+05	8.12E+05
CE-144	133.54	10.80	4.69E-01	4.69E-01	1.25E-01	2.28E-01
PM-144	476.78	42.00	1.50E-01	6.43E-02	-3.74E-02	7.14E-02
	618.01	98.60	6.43E-02		-2.16E-03	3.02E-02
	696.49	99.49	7.11E-02		-3.84E-03	3.34E-02
PM-145	36.85	21.70	5.92E-01	3.17E-01	2.34E-02	2.88E-01
	37.36	39.70	3.17E-01		1.62E-01	1.54E-01
	42.30	15.10	5.80E-01		4.30E-02	2.81E-01
	72.40	2.31	3.18E+00		-2.31E+00	1.56E+00
PM-146	453.90	39.94	1.49E-01	1.49E-01	4.00E-03	7.07E-02
	735.90	14.01	4.67E-01		-4.46E-02	2.18E-01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
PM-146	747.13	13.10	5.08E-01	1.49E-01	1.72E-01	2.38E-01
ND-147	91.11	28.90	1.35E+00	1.35E+00	-2.59E+00	6.63E-01
	531.02	13.10	2.62E+00		-9.36E-01	1.23E+00
+ PM-149	285.90	*	1.27E+04	1.27E+04	9.84E+03	6.13E+03
EU-152	121.78	20.50	2.20E-01	2.20E-01	-6.34E-02	1.07E-01
	244.69	5.40	1.00E+00		-6.69E-01	4.85E-01
	344.27	19.13	2.55E-01		-9.82E-02	1.21E-01
	778.89	9.20	7.34E-01		5.73E-02	3.43E-01
	964.01	10.40	9.53E-01		-1.22E+00	4.51E-01
	1085.78	7.22	9.08E-01		-1.14E-01	4.14E-01
	1112.02	9.60	8.83E-01		5.12E-01	4.11E-01
	1407.95	14.94	4.31E-01		-2.10E-02	1.92E-01
GD-153	97.43	31.30	1.66E-01	1.66E-01	-4.19E-02	8.10E-02
	103.18	22.20	2.30E-01		-1.60E-01	1.12E-01
EU-154	123.07	40.50	1.13E-01	1.13E-01	8.01E-03	5.51E-02
	723.30	19.70	3.33E-01		4.58E-04	1.56E-01
	873.19	11.50	5.95E-01		7.78E-02	2.77E-01
	996.32	10.30	6.65E-01		2.88E-02	3.06E-01
	1004.76	17.90	3.89E-01		1.03E-01	1.79E-01
	1274.45	35.50	2.09E-01		3.16E-02	9.56E-02
EU-155	86.50	30.90	2.10E-01	2.10E-01	-1.14E-01	1.03E-01
	105.30	20.70	2.35E-01		5.19E-02	1.15E-01
EU-156	811.77	10.40	2.13E+00	2.13E+00	-5.25E-01	9.89E-01
	1153.47	7.20	4.69E+00		2.73E+00	2.20E+00
	1230.71	8.90	3.94E+00		1.73E+00	1.84E+00
HO-166M	184.41	72.60	8.76E-02	8.76E-02	1.48E-01	4.27E-02
	280.45	29.60	1.74E-01		-2.78E-02	8.36E-02
	410.94	11.10	5.38E-01		-1.09E-02	2.57E-01
	711.69	54.10	1.23E-01		1.34E-03	5.75E-02
TM-171	66.72	0.14	4.60E+01	4.60E+01	3.16E+00	2.25E+01
HF-172	81.75	4.52	1.32E+00	4.32E-01	-1.98E+00	6.47E-01
	125.81	11.30	4.32E-01		4.20E-02	2.10E-01
LU-172	181.53	20.60	4.10E+00	2.34E+00	-3.07E+00	1.98E+00
	810.06	16.63	7.15E+00		9.82E-01	3.33E+00
	912.12	15.25	1.75E+01		4.76E+01	8.46E+00
	1093.66	62.50	2.34E+00		-4.89E-03	1.09E+00
LU-173	100.72	5.24	9.43E-01	2.81E-01	3.17E-01	4.59E-01
	272.11	21.20	2.81E-01		-3.70E-02	1.36E-01
HF-175	343.40	84.00	7.80E-02	7.80E-02	-2.20E-02	3.72E-02
LU-176	88.34	13.30	4.95E-01	5.20E-02	6.09E-01	2.43E-01
	201.83	86.00	5.97E-02		-1.57E-02	2.89E-02
	306.78	94.00	5.20E-02		1.61E-02	2.48E-02
TA-182	67.75	41.20	1.78E-01	1.78E-01	-4.37E-03	8.69E-02
	1121.30	34.90	4.08E-01		5.80E-01	1.94E-01
	1189.05	16.23	6.04E-01		-1.33E-01	2.80E-01
	1221.41	26.98	4.14E-01		-2.17E-02	1.93E-01
	1231.02	11.44	1.01E+00		4.42E-01	4.72E-01
IR-192	308.46	29.68	2.05E-01	1.63E-01	-7.76E-02	9.79E-02
	468.07	48.10	1.63E-01		-3.13E-02	7.73E-02
HG-203	279.19	77.30	1.12E-01	1.12E-01	9.51E-02	5.38E-02
BI-207	569.67	97.72	5.75E-02	5.75E-02	2.54E-03	2.70E-02
	1063.62	74.90	1.02E-01		-6.41E-03	4.74E-02
+ TL-208	583.14	*	5.46E-01	1.51E-01	1.42E+00	2.67E-01

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Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
TL-208	860.37 *		4.48	2.01E+00	1.51E-01	2.15E+00	9.52E-01
	2614.66 *		35.85	1.51E-01		1.21E+00	6.23E-02
BI-210M	262.00		45.00	1.04E-01	1.04E-01	-1.48E-02	4.98E-02
	300.00		23.00	2.37E-01		-4.32E-01	1.14E-01
+ PB-210	46.50 *		4.25	2.44E+00	2.44E+00	1.39E+00	1.19E+00
PB-211	404.84		2.90	1.96E+00	1.96E+00	1.34E+00	9.34E-01
	831.96		2.90	2.46E+00		-1.57E+00	1.15E+00
+ BI-212	727.17 *		11.80	9.09E-01	9.09E-01	6.52E-01	4.37E-01
	1620.62		2.75	2.57E+00		1.11E+00	1.15E+00
+ PB-212	238.63 *		44.60	2.22E-01	2.22E-01	1.60E+00	1.09E-01
	300.09 *		3.41	1.60E+00		1.65E+00	7.67E-01
+ BI-214	609.31 *		46.30	2.19E-01	2.19E-01	1.05E+00	1.06E-01
	1120.29		15.10	7.79E-01		1.05E+00	3.70E-01
	1764.49 *		15.80	3.33E-01		1.54E+00	1.41E-01
	2204.22 *		4.98	1.10E+00		1.53E+00	4.58E-01
+ PB-214	295.21 *		19.19	3.60E-01	2.42E-01	1.14E+00	1.74E-01
	351.92 *		37.19	2.42E-01		1.22E+00	1.18E-01
+ RN-219	401.80 *		6.50	1.43E+00	1.43E+00	3.06E-01	6.94E-01
RA-223	323.87		3.88	1.23E+00	1.23E+00	-6.23E-01	5.87E-01
+ RA-224	240.98 *		3.95	2.54E+00	2.54E+00	5.84E+00	1.24E+00
RA-225	40.00		31.00	1.25E+00	1.25E+00	6.18E-03	6.08E-01
+ RA-226	186.21 *		3.28	2.80E+00	2.80E+00	4.81E+00	1.38E+00
TH-227	50.10		8.40	8.28E-01	5.61E-01	-1.07E-01	4.03E-01
	236.00		11.50	5.61E-01		-5.88E+00	2.73E-01
	256.20		6.30	8.05E-01		2.26E-01	3.87E-01
+ AC-228	338.32 *		11.40	7.80E-01	3.85E-01	1.02E+00	3.80E-01
	911.07 *		27.70	3.85E-01		1.43E+00	1.84E-01
	969.11 *		16.60	8.56E-01		1.71E+00	4.12E-01
TH-230	48.44		16.90	4.68E-01	4.68E-01	1.81E-01	2.28E-01
	62.85		4.60	1.57E+00		2.38E+00	7.71E-01
	67.67		0.37	1.67E+01		-4.11E-01	8.17E+00
PA-231	283.67		1.60	3.10E+00	2.21E+00	-6.64E-01	1.49E+00
	302.67		2.30	2.21E+00		-4.53E-01	1.06E+00
TH-231	25.64		14.70	3.80E+00	9.63E-01	-1.88E+00	1.85E+00
	84.21		6.40	9.63E-01		-1.17E+00	4.72E-01
PA-233	311.98		38.60	2.54E-01	2.54E-01	-5.63E-02	1.21E-01
PA-234	131.20		20.40	2.36E-01	2.36E-01	5.10E-02	1.15E-01
	733.99		8.80	7.44E-01		-1.89E-02	3.48E-01
	946.00		12.00	5.95E-01		8.26E-02	2.76E-01
PA-234M	1001.03		0.92	7.64E+00	7.64E+00	8.33E-01	3.53E+00
+ TH-234	63.29 *		3.80	2.59E+00	2.59E+00	1.65E+00	1.28E+00
U-235	143.76		10.50	4.66E-01	4.66E-01	-2.00E-02	2.26E-01
	163.35		4.70	1.03E+00		3.99E-01	5.02E-01
	205.31		4.70	1.05E+00		2.19E-01	5.07E-01
NP-237	86.50		12.60	5.10E-01	5.10E-01	-2.76E-01	2.50E-01
NP-239	106.10		22.70	8.26E+02	8.26E+02	1.82E+02	4.02E+02
	228.18		10.70	1.89E+03		1.23E+02	9.12E+02
	277.60		14.10	1.55E+03		5.19E+02	7.49E+02
AM-241	59.54		35.90	1.82E-01	1.82E-01	-8.49E-03	8.91E-02
AM-243	74.67		66.00	1.35E-01	1.35E-01	3.00E-02	6.64E-02
CM-243	209.75		3.29	1.61E+00	4.04E-01	5.15E-01	7.78E-01
	228.14		10.60	4.92E-01		3.19E-02	2.37E-01
	277.60		14.00	4.04E-01		1.35E-01	1.95E-01

Analysis Report for 1510063-14
CP2107S17-18

- + = 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
-

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

<i>Creation Date</i>	<i>Comment</i>	<i>User</i>
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No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP2107S17-18

Elapsed Live time: 3600

Elapsed Real Time: 3601

Channel	1	9	17	25	33	41	49	57	65	73	81	89	97	105	113	121	129	137	145	153	161	169	177	185	193	201	209	217	225	233	241	249	257	265	273	281	289	297	305	313	321	329	337	345	353	361																																																																																																																																																																																																																																																																																																																																												
1:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																																																																																																																																																																																																																																																																																																																									
9:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																																																																																																																																																																																																																																																																																																																								
17:	0	1	53	85	86	97	111	81	62	89	69	72	66	88	84	83	83	41:	73	81	76	70	70	98	169	94	81	57:	115	116	116	120	117	146	166	262	65:	141	129	133	136	140	134	140	111	73:	161	177	432	329	458	492	170	152	81:	127	129	117	167	180	136	189	236	89:	124	202	161	154	289	246	103	81	97:	93	99	104	103	100	71	89	79	105:	105	110	109	71	91	93	88	71	113:	101	79	97	108	89	79	83	72	121:	94	70	65	81	81	80	92	82	129:	107	99	84	83	80	72	63	98	137:	66	78	69	76	98	71	73	91	145:	83	80	68	75	93	76	77	69	153:	80	88	85	71	73	70	80	76	161:	58	78	67	73	63	65	65	67	169:	79	76	69	63	61	59	63	79	177:	66	63	50	51	50	58	57	61	185:	80	170	157	79	76	60	53	52	193:	61	58	54	68	71	67	53	73	201:	67	47	68	48	72	52	57	44	209:	64	91	53	54	55	51	56	58	217:	51	48	51	46	49	40	45	40	225:	59	49	56	54	54	53	42	66	233:	57	66	51	58	59	163	752	245	241:	117	164	121	41	37	31	32	36	249:	36	41	41	33	43	47	43	44	257:	34	48	46	34	41	36	32	34	265:	35	27	32	32	28	66	71	36	273:	38	45	42	46	47	60	40	48	281:	48	38	23	26	44	48	37	36	289:	34	23	34	38	23	29	126	181	297:	51	22	31	60	64	25	29	23	305:	31	39	27	34	24	28	28	29	313:	33	26	29	37	27	31	31	36	321:	41	25	30	18	30	34	28	56	329:	48	39	29	23	28	38	35	22	337:	22	74	130	45	25	36	27	27	345:	32	14	29	29	32	24	61	302	353:	213	34	23	29	24	20	19	19	361:	32	24	15	35	20	23	24	32

369: 21 21 20 22 11 23 23 27

Sample Title: CP2107S17-18

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	18	31	27	27	14	18	30	23
385:	25	16	20	27	37	30	17	18
393:	25	22	23	20	18	15	24	18
401:	19	28	16	33	41	29	22	14
409:	22	38	22	21	12	24	20	19
417:	23	22	25	29	27	22	23	16
425:	18	27	14	20	25	16	16	11
433:	21	20	14	19	15	20	13	18
441:	18	13	26	23	16	25	16	14
449:	22	15	16	19	24	13	16	21
457:	18	20	15	18	19	27	43	43
465:	17	20	18	25	13	17	17	24
473:	19	25	22	14	16	10	18	17
481:	21	15	14	18	16	14	21	24
489:	15	17	12	9	19	15	18	17
497:	22	18	11	23	14	8	12	17
505:	18	14	17	14	23	39	94	68
513:	30	20	19	16	19	16	15	9
521:	21	11	16	14	7	11	17	13
529:	24	11	7	14	9	19	16	20
537:	21	17	11	11	16	13	23	18
545:	20	8	13	13	13	15	19	22
553:	24	18	20	22	16	13	9	24
561:	20	13	20	13	16	16	17	10
569:	12	11	15	5	10	23	19	13
577:	12	12	18	19	21	33	130	150
585:	34	13	22	10	12	10	12	6
593:	10	11	11	15	13	12	17	19
601:	15	19	11	16	12	17	23	17
609:	132	216	47	16	16	13	15	12
617:	7	17	9	14	7	10	10	14
625:	17	5	8	6	14	11	19	11
633:	14	9	10	16	6	10	14	14
641:	9	19	13	14	8	10	11	11
649:	12	10	10	5	6	15	14	13
657:	10	6	9	9	7	9	9	14
665:	7	17	18	8	21	14	13	14
673:	12	7	17	8	14	7	17	5
681:	8	11	14	12	15	13	18	13
689:	4	13	10	6	10	12	12	16
697:	8	13	11	12	16	15	14	15
705:	12	6	11	12	11	13	11	7
713:	12	14	11	14	8	9	11	13
721:	7	14	13	11	7	9	32	47
729:	21	7	12	10	11	9	8	11
737:	12	12	8	11	10	13	12	15
745:	11	9	10	9	5	13	8	3
753:	10	8	9	18	13	18	11	11
761:	7	9	12	13	15	16	12	20
769:	35	20	8	10	17	15	8	9
777:	12	10	10	8	5	16	13	3
785:	10	20	10	5	5	5	7	11
793:	12	8	21	21	10	9	13	5

801: 11 4 11 15 7 12 14 7

Sample Title: CP2107S17-18

Channel	1	2	3	4	5	6	7	8
809:	7	9	11	8	5	6	8	8
817:	8	8	11	11	5	9	6	9
825:	10	9	5	11	15	8	7	12
833:	10	11	8	18	18	10	13	16
841:	14	11	7	6	14	7	7	9
849:	11	11	9	6	3	9	5	5
857:	10	7	5	21	31	13	10	7
865:	9	6	6	15	13	11	4	6
873:	12	7	12	7	7	9	7	5
881:	8	7	11	8	9	10	11	6
889:	12	10	5	7	11	5	13	16
897:	8	7	7	4	9	12	9	14
905:	11	8	8	9	9	17	85	102
913:	39	13	9	9	7	12	9	10
921:	6	7	10	6	5	7	7	6
929:	1	8	6	11	5	21	15	7
937:	6	7	7	8	7	4	11	8
945:	5	5	8	6	14	10	14	9
953:	13	2	7	6	15	8	7	6
961:	6	5	9	22	43	13	12	16
969:	74	46	12	9	3	7	1	6
977:	7	5	11	9	7	8	4	10
985:	9	7	10	9	7	7	9	4
993:	8	7	6	6	6	4	10	7
1001:	6	14	8	1	7	7	6	5
1009:	5	5	9	6	5	8	8	7
1017:	10	7	11	9	7	6	2	5
1025:	10	8	4	9	15	5	6	6
1033:	4	16	8	7	7	11	3	4
1041:	15	7	1	9	7	4	12	7
1049:	6	14	13	5	4	10	9	8
1057:	10	10	8	11	11	8	3	7
1065:	9	9	7	7	7	7	8	8
1073:	10	7	5	7	7	6	6	10
1081:	4	4	7	8	4	5	1	7
1089:	5	8	6	10	11	3	8	8
1097:	11	6	13	9	6	12	12	9
1105:	9	5	6	11	7	13	6	11
1113:	9	8	8	5	2	5	14	22
1121:	41	26	14	7	9	11	11	10
1129:	6	6	9	2	1	5	5	5
1137:	8	7	6	6	8	11	3	12
1145:	9	9	6	4	5	8	11	9
1153:	6	12	18	9	9	9	7	9
1161:	6	5	10	9	6	6	4	13
1169:	8	6	5	15	5	8	7	12
1177:	7	9	5	6	6	3	7	8
1185:	5	8	4	10	7	7	10	7
1193:	8	13	8	11	12	8	13	4
1201:	13	13	4	16	11	11	11	15
1209:	10	12	12	10	16	11	5	13
1217:	12	9	6	10	10	5	15	12
1225:	10	5	13	12	9	9	14	10

1233: 9 8 6 7 15 13 17 12

Sample Title: CP2107S17-18

Channel	11	10	9	4	12	8	7	7
1241:	11	10	9	4	12	8	7	7
1249:	7	5	9	9	6	2	6	8
1257:	10	10	5	8	9	9	11	5
1265:	9	8	2	6	1	7	6	7
1273:	5	6	5	4	4	6	4	6
1281:	8	10	5	7	6	3	4	6
1289:	9	2	3	7	6	3	5	8
1297:	3	5	9	5	1	4	6	8
1305:	2	2	6	3	4	3	3	3
1313:	5	4	2	5	6	5	3	8
1321:	4	2	5	7	5	5	2	7
1329:	7	4	8	8	5	5	1	3
1337:	2	5	5	2	2	6	4	4
1345:	5	2	2	5	0	7	3	2
1353:	7	5	8	5	7	5	6	0
1361:	3	4	2	4	4	2	4	3
1369:	3	5	1	2	1	4	6	5
1377:	7	15	7	5	7	3	3	4
1385:	5	6	3	3	6	1	5	0
1393:	2	4	0	4	1	5	3	5
1401:	0	9	6	5	0	3	2	4
1409:	5	5	4	1	1	5	4	5
1417:	1	5	1	3	3	4	2	2
1425:	8	3	1	2	3	1	5	5
1433:	1	3	2	4	9	3	5	4
1441:	3	4	2	6	1	1	4	4
1449:	1	0	1	3	6	3	4	4
1457:	5	3	24	129	375	299	60	11
1465:	4	2	1	1	1	2	4	1
1473:	1	5	1	1	1	1	1	2
1481:	1	4	3	4	1	2	1	3
1489:	4	0	1	2	6	3	0	0
1497:	3	2	2	1	3	7	3	1
1505:	1	1	5	0	5	4	5	3
1513:	3	4	2	4	0	3	5	4
1521:	1	2	3	2	1	1	3	2
1529:	0	2	2	2	1	0	1	4
1537:	1	2	1	3	2	3	2	3
1545:	0	2	2	1	2	2	2	2
1553:	0	2	1	4	5	1	1	2
1561:	3	0	3	1	2	4	2	0
1569:	1	0	1	2	2	1	0	3
1577:	1	1	1	4	5	3	4	2
1585:	2	4	4	9	6	4	1	2
1593:	5	7	4	0	0	2	1	0
1601:	1	0	1	0	2	1	3	0
1609:	1	2	4	1	0	1	2	0
1617:	2	3	1	4	3	7	3	2
1625:	3	1	0	4	1	4	6	5
1633:	1	2	0	1	1	3	2	0
1641:	2	1	1	2	2	1	3	2
1649:	2	2	2	0	2	2	0	1
1657:	0	1	2	2	5	4	1	1

1665: 0 3 2 2 1 1 2 3

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Channel	1	2	3	4	5	6	7	8
1673:	1	2	0	2	4	3	1	1
1681:	1	1	3	1	0	3	2	3
1689:	0	4	2	3	0	2	0	0
1697:	1	2	1	0	1	2	3	1
1705:	1	3	2	3	1	2	0	1
1713:	1	0	2	3	2	3	1	2
1721:	2	0	0	1	2	2	1	3
1729:	5	6	5	2	0	1	0	0
1737:	2	1	2	2	0	1	0	1
1745:	4	0	2	1	2	2	1	0
1753:	0	1	4	2	1	2	1	0
1761:	1	1	6	13	36	19	7	1
1769:	2	1	0	0	0	1	0	1
1777:	1	1	2	4	1	3	1	5
1785:	1	1	3	1	0	0	2	0
1793:	2	1	0	0	0	1	0	1
1801:	1	0	1	0	1	1	1	1
1809:	2	0	1	0	1	1	1	1
1817:	1	0	0	1	1	2	0	1
1825:	2	1	3	4	2	1	2	1
1833:	5	2	2	0	2	4	2	0
1841:	1	1	0	0	0	1	3	8
1849:	3	1	4	0	1	1	0	3
1857:	2	0	1	1	4	0	1	1
1865:	0	1	3	2	0	1	0	0
1873:	1	3	1	0	0	2	1	1
1881:	2	1	1	0	1	1	4	0
1889:	0	3	2	2	2	0	2	1
1897:	2	1	1	0	2	3	2	2
1905:	3	0	0	1	0	1	0	2
1913:	1	0	2	0	0	2	0	1
1921:	2	2	1	0	1	2	0	1
1929:	1	1	0	0	0	5	0	1
1937:	1	0	2	3	3	0	1	2
1945:	2	1	0	0	0	1	0	1
1953:	0	1	2	1	1	1	1	0
1961:	1	1	1	2	0	3	0	0
1969:	2	1	0	2	2	0	2	2
1977:	1	1	0	2	3	0	3	2
1985:	0	1	1	1	2	0	2	0
1993:	1	1	1	2	2	1	2	0
2001:	2	0	1	2	0	0	1	3
2009:	0	1	4	2	1	1	0	2
2017:	2	1	1	1	0	0	0	0
2025:	0	0	0	1	0	1	2	2
2033:	1	1	2	0	1	1	2	1
2041:	1	0	2	0	2	0	2	2
2049:	1	0	2	2	1	1	2	1
2057:	1	0	1	0	0	0	1	2
2065:	0	2	0	0	0	0	1	0
2073:	1	0	0	0	2	0	0	0
2081:	0	2	0	0	1	0	2	0
2089:	2	2	0	1	1	2	2	2

2097: 3 1 2 2 1 3 3 9

Sample Title: CP2107S17-18

Channel	1	2	3	4	5	6	7	8
2105:	5	4	0	1	1	1	0	5
2113:	2	1	0	0	1	2	2	4
2121:	1	1	0	0	1	1	1	1
2129:	1	1	1	2	1	1	2	2
2137:	0	1	2	1	1	1	0	4
2145:	1	1	2	0	1	2	1	1
2153:	1	2	1	0	0	1	0	1
2161:	0	0	2	1	0	2	2	2
2169:	2	0	1	0	0	1	2	0
2177:	0	1	1	0	0	0	1	0
2185:	1	5	1	1	0	1	3	1
2193:	2	1	4	0	2	0	1	2
2201:	0	1	1	11	8	1	2	1
2209:	0	2	2	1	1	1	0	0
2217:	0	1	0	1	1	0	0	0
2225:	1	1	4	0	0	1	0	0
2233:	3	1	2	2	0	2	0	2
2241:	0	2	3	1	1	2	2	3
2249:	1	0	1	1	0	1	2	0
2257:	0	2	0	2	2	1	2	2
2265:	1	2	1	2	1	0	3	1
2273:	0	0	2	2	0	1	0	0
2281:	0	0	0	3	1	1	0	2
2289:	0	1	1	3	2	3	0	0
2297:	2	0	1	1	2	2	0	0
2305:	0	1	0	1	2	0	0	1
2313:	0	1	1	3	0	2	2	1
2321:	0	3	0	0	1	1	3	1
2329:	1	1	0	1	3	1	3	2
2337:	0	2	0	2	0	1	2	0
2345:	0	1	0	1	2	3	0	2
2353:	1	1	0	5	0	4	1	2
2361:	1	1	0	2	1	2	3	2
2369:	2	0	0	2	1	0	0	1
2377:	0	4	3	3	5	4	2	1
2385:	0	1	0	1	1	1	0	1
2393:	1	0	1	1	2	0	1	1
2401:	2	1	0	0	0	1	0	0
2409:	1	0	1	2	0	1	1	0
2417:	1	1	0	4	0	1	2	0
2425:	2	1	0	0	1	1	2	1
2433:	0	0	1	1	1	0	1	0
2441:	0	2	2	0	0	0	1	2
2449:	2	1	1	2	1	0	0	0
2457:	0	0	1	0	0	0	1	0
2465:	0	1	1	0	2	1	1	2
2473:	4	1	1	1	1	0	1	1
2481:	0	1	1	1	0	0	0	1
2489:	0	0	0	0	0	0	1	1
2497:	0	1	0	1	1	0	1	0
2505:	0	0	1	1	0	0	1	0
2513:	0	0	1	2	2	0	0	0
2521:	1	0	0	1	1	0	1	0

2529: 0 0 0 1 0 0 1 0

Sample Title: CP2107S17-18

Channel	1	2	3	4	5	6	7	8
2537:	0	0	0	1	0	0	0	0
2545:	0	0	0	2	0	2	0	0
2553:	0	2	0	1	1	0	0	0
2561:	0	1	0	0	0	0	0	1
2569:	0	0	0	0	0	0	1	1
2577:	0	1	0	0	0	0	0	0
2585:	0	2	0	1	0	1	1	1
2593:	0	2	1	1	0	0	0	0
2601:	0	0	2	0	1	0	2	0
2609:	1	0	1	1	12	41	39	29
2617:	5	1	1	2	0	0	0	0
2625:	0	1	1	0	1	1	1	0
2633:	0	3	0	0	0	0	0	0
2641:	0	1	0	1	1	0	0	2
2649:	0	0	0	0	0	0	0	0
2657:	0	0	1	0	0	0	1	1
2665:	0	0	0	0	1	0	0	0
2673:	0	1	1	0	0	0	0	0
2681:	0	0	1	0	0	0	0	0
2689:	0	0	0	0	0	0	0	0
2697:	0	0	0	0	0	1	0	0
2705:	0	0	0	1	0	1	0	0
2713:	0	0	0	1	0	0	1	1
2721:	0	0	0	2	0	0	0	1
2729:	1	0	0	0	0	0	1	1
2737:	1	0	0	2	0	0	0	0
2745:	1	0	0	0	0	0	0	0
2753:	1	0	1	0	0	0	0	0
2761:	0	1	0	0	0	0	0	1
2769:	1	0	1	2	0	0	0	0
2777:	0	0	0	0	0	0	0	0
2785:	0	0	0	1	0	0	0	0
2793:	0	0	0	0	0	0	0	0
2801:	1	0	1	1	3	0	0	0
2809:	0	0	0	1	0	0	1	1
2817:	1	0	0	0	0	0	1	0
2825:	0	1	0	0	0	1	1	0
2833:	1	2	0	0	0	0	0	0
2841:	0	0	0	0	0	0	0	0
2849:	0	1	0	0	0	0	0	0
2857:	0	1	1	1	0	0	0	0
2865:	2	1	1	1	1	0	0	1
2873:	0	0	1	0	0	1	0	0
2881:	1	0	0	1	0	0	0	0
2889:	0	0	0	0	0	0	0	0
2897:	0	0	1	2	0	0	1	0
2905:	1	1	0	0	1	0	0	0
2913:	0	1	0	0	1	0	0	1
2921:	0	0	1	1	0	0	0	0
2929:	1	1	2	0	1	0	0	0
2937:	0	0	0	1	2	0	0	1
2945:	0	0	0	0	0	0	1	1
2953:	0	0	0	0	0	0	1	0

2961: 0 0 1 0 1 0 1 0

Sample Title: CP2107S17-18

Channel	1	2	3	4	5	6	7	8
2969:	1	0	0	0	0	1	0	0
2977:	0	2	0	0	0	0	0	1
2985:	0	0	0	0	0	0	1	2
2993:	1	0	0	0	0	1	1	0
3001:	0	0	0	0	1	0	0	0
3009:	1	0	1	0	0	0	0	1
3017:	1	0	0	0	0	0	0	0
3025:	0	0	0	0	0	0	1	1
3033:	0	0	2	0	1	0	0	0
3041:	0	0	0	0	0	0	1	0
3049:	1	0	0	0	0	0	0	0
3057:	0	0	0	0	0	0	1	0
3065:	0	0	0	0	0	0	1	1
3073:	0	0	1	0	0	0	0	0
3081:	1	0	0	0	0	0	0	0
3089:	0	0	0	0	0	1	0	0
3097:	0	0	0	0	0	0	0	0
3105:	0	0	0	0	0	0	0	0
3113:	0	0	2	0	0	0	0	0
3121:	0	0	0	0	2	0	0	2
3129:	0	0	0	0	0	0	0	0
3137:	0	0	1	0	1	0	1	1
3145:	0	0	0	1	0	0	0	0
3153:	0	0	1	0	1	2	0	0
3161:	0	0	0	1	0	0	0	0
3169:	1	0	0	0	0	0	1	0
3177:	0	0	0	1	0	0	0	0
3185:	0	0	0	1	0	0	0	0
3193:	1	0	0	0	2	1	0	1
3201:	0	1	0	0	1	0	0	0
3209:	0	1	0	0	0	0	0	0
3217:	0	0	0	0	0	0	0	0
3225:	0	0	0	0	1	0	2	0
3233:	0	0	0	0	0	0	0	0
3241:	0	0	0	0	0	0	0	2
3249:	0	0	0	0	0	0	0	0
3257:	0	0	0	0	0	0	0	0
3265:	1	1	0	1	0	1	0	0
3273:	0	0	0	0	0	0	0	0
3281:	0	0	0	0	0	0	0	0
3289:	0	0	1	0	0	0	1	0
3297:	0	0	0	0	0	0	0	0
3305:	0	0	0	0	0	0	2	0
3313:	1	0	0	0	0	0	0	0
3321:	1	0	0	0	0	1	1	0
3329:	0	0	0	0	0	0	1	0
3337:	0	0	0	0	0	0	0	0
3345:	0	0	0	0	0	0	0	0
3353:	0	1	0	0	0	0	0	0
3361:	0	0	0	1	1	0	0	0
3369:	0	0	0	0	0	0	0	1
3377:	1	0	0	1	0	0	0	0
3385:	0	0	1	0	0	0	0	0

3393: 0 0 0 0 0 0 0 0 0

Sample Title: CP2107S17-18

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3401:	0	0	0	0	0	0	1	0
3409:	1	0	0	0	0	0	0	0
3417:	1	0	0	0	1	0	0	0
3425:	0	0	0	0	0	0	0	0
3433:	0	1	0	0	0	0	0	0
3441:	0	0	0	0	0	0	0	0
3449:	0	0	0	0	0	0	0	0
3457:	0	0	0	0	0	0	0	0
3465:	1	0	0	0	0	0	0	1
3473:	0	0	0	0	0	1	0	1
3481:	0	0	0	0	0	0	0	0
3489:	0	0	1	0	0	0	1	0
3497:	0	0	0	0	0	0	0	0
3505:	0	0	0	0	1	0	0	0
3513:	0	0	0	0	0	0	0	0
3521:	0	1	1	0	0	0	1	0
3529:	1	0	0	0	0	0	0	0
3537:	0	0	0	1	0	0	0	0
3545:	0	0	0	0	0	0	0	0
3553:	0	0	0	0	0	1	0	0
3561:	0	0	0	0	0	0	1	0
3569:	0	0	0	0	1	0	0	1
3577:	0	0	0	0	0	0	0	2
3585:	0	0	0	0	0	0	0	0
3593:	0	1	1	0	0	0	0	0
3601:	0	1	1	0	0	0	0	0
3609:	0	0	1	0	0	0	1	0
3617:	0	0	0	1	0	0	0	0
3625:	0	0	0	0	0	0	0	0
3633:	0	0	0	0	0	0	1	0
3641:	0	0	0	0	0	1	0	0
3649:	0	0	0	0	0	0	0	0
3657:	1	0	0	0	0	0	0	0
3665:	0	0	0	0	0	0	1	0
3673:	1	0	0	0	0	1	0	0
3681:	0	0	0	0	0	0	1	0
3689:	0	0	0	1	0	0	0	0
3697:	0	0	0	0	0	0	0	0
3705:	0	0	0	1	0	0	0	0
3713:	0	0	0	0	0	0	0	0
3721:	0	0	0	0	0	0	0	0
3729:	0	0	0	0	0	0	1	0
3737:	0	0	0	0	2	0	0	0
3745:	1	0	0	0	0	0	1	1
3753:	0	0	0	0	0	0	0	0
3761:	0	0	0	0	0	0	0	0
3769:	1	0	0	0	0	0	1	0
3777:	0	0	0	0	0	0	1	0
3785:	0	0	0	0	0	0	0	1
3793:	0	1	0	1	0	0	0	0
3801:	0	0	0	0	0	0	1	0
3809:	0	0	0	0	0	0	0	1
3817:	1	0	0	0	0	0	0	0

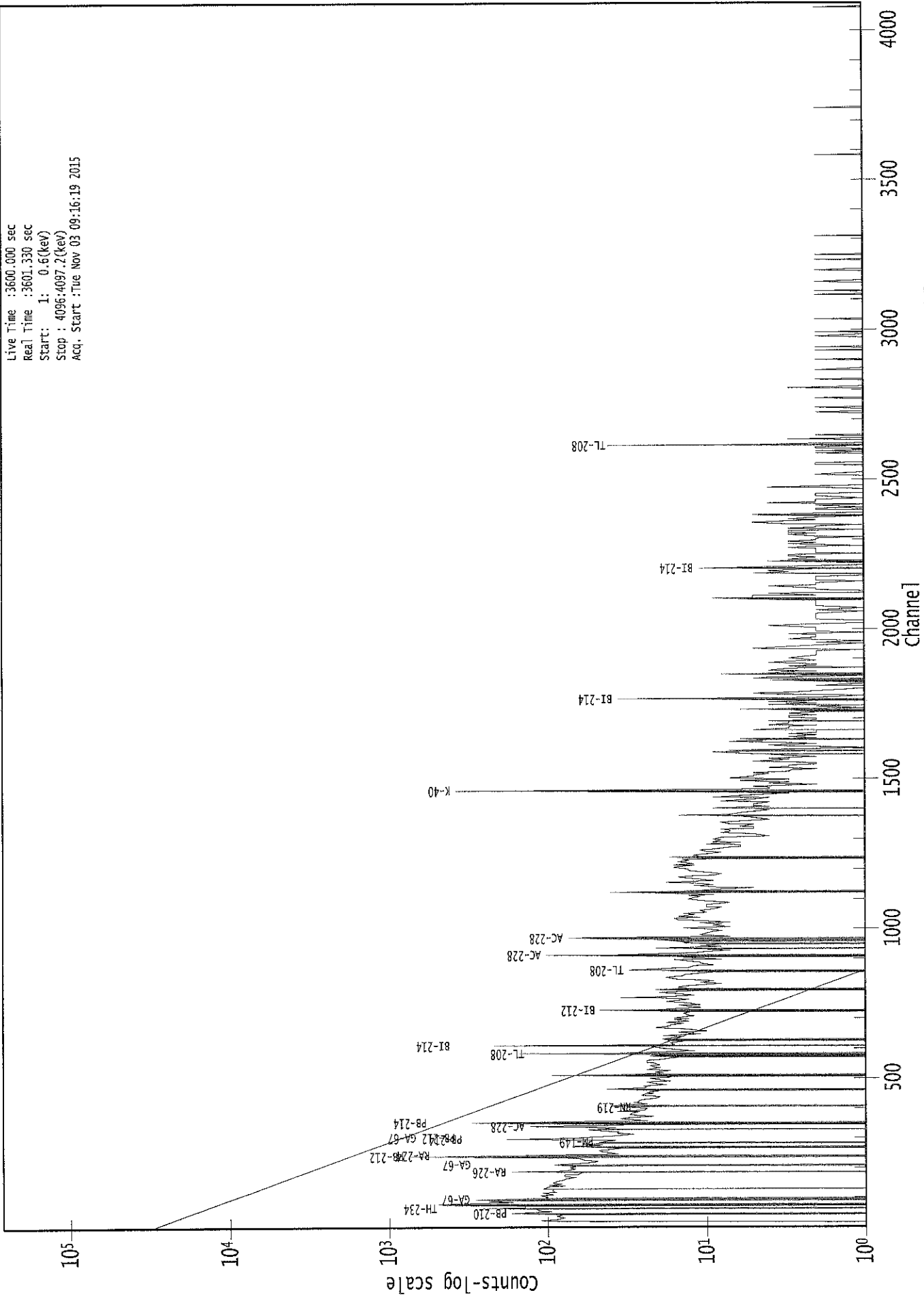
3825: 0 0 0 0 0 0 0 0

Sample Title: CP2107S17-18

Channel	1	0	1	1	1	0	0	0
3833:	1	0	1	1	1	0	0	0
3841:	0	0	0	0	1	0	0	0
3849:	0	0	0	0	0	0	0	1
3857:	0	0	0	0	0	0	1	0
3865:	0	0	0	0	0	0	0	0
3873:	0	0	0	1	0	0	1	0
3881:	0	0	0	0	0	0	0	0
3889:	1	0	1	0	0	0	0	0
3897:	0	0	0	1	0	0	0	0
3905:	0	0	0	0	0	0	1	0
3913:	0	0	0	0	1	1	0	0
3921:	0	0	0	0	0	1	0	0
3929:	0	0	0	0	1	0	0	0
3937:	0	0	0	0	0	0	0	0
3945:	0	0	0	0	0	0	0	0
3953:	0	0	0	0	0	0	0	0
3961:	0	0	0	0	0	1	0	0
3969:	1	0	0	0	0	1	0	0
3977:	0	0	0	0	0	0	0	0
3985:	0	0	0	0	1	0	0	0
3993:	0	0	1	0	0	0	0	0
4001:	0	0	0	0	0	0	0	0
4009:	0	0	0	0	0	0	0	0
4017:	0	0	0	0	1	0	0	0
4025:	0	0	0	0	0	0	0	0
4033:	0	0	0	0	0	0	0	0
4041:	0	0	0	0	0	0	0	0
4049:	0	0	0	0	0	1	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	0	1	0	0	0	0	0
4073:	0	0	0	0	2	0	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	1	0	0	0	0	0	0

0000029015.CNF

Live Time : 3600.000 sec
Real Time : 3601.330 sec
Start : 1: 0.6(keV)
Stop : 4096:4097.2(keV)
Acq. Start : Tue Nov 03 09:16:19 2015



ROI Type: 2

ROI Type: 1

Analysis Report for 1510063-15
CP2107S19-20

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GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510063-15
Sample Description : CP2107S19-20
Sample Type : SOIL

Sample Size : 5.543E+02 grams
Facility : Countroom

Sample Taken On : 10/6/2015 7:49:45AM
Acquisition Started : 11/3/2015 9:16:25AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE2
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3601.2 seconds

Dead Time : 0.03 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 6 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 11/2/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29016

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/3/15

Analysis Report for 1510063-15
CP2107S19-20

PEAK LOCATE REPORT

Peak Locate Performed on : 11/3/2015 10:16:43AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	46.79	46.90	0.0000	0.00
2	76.31	76.40	0.0000	0.00
3	87.41	87.49	0.0000	0.00
4	99.63	99.70	0.0000	0.00
5	129.04	129.09	0.0000	0.00
6	144.03	144.08	0.0000	0.00
7	154.18	154.22	0.0000	0.00
8	186.05	186.08	0.0000	0.00
9	208.86	208.88	0.0000	0.00
10	211.86	211.88	0.0000	0.00
11	238.71	238.70	0.0000	0.00
12	241.78	241.78	0.0000	0.00
13	270.57	270.55	0.0000	0.00
14	295.11	295.08	0.0000	0.00
15	300.11	300.07	0.0000	0.00
16	338.39	338.33	0.0000	0.00
17	351.92	351.86	0.0000	0.00
18	409.01	408.92	0.0000	0.00
19	463.54	463.42	0.0000	0.00
20	510.78	510.64	0.0000	0.00
21	583.24	583.06	0.0000	0.00
22	609.60	609.41	0.0000	0.00
23	648.12	647.91	0.0000	0.00
24	685.70	685.48	0.0000	0.00
25	727.61	727.36	0.0000	0.00
26	795.19	794.91	0.0000	0.00
27	859.98	859.67	0.0000	0.00
28	872.31	872.01	0.0000	0.00
29	911.26	910.93	0.0000	0.00
30	935.02	934.69	0.0000	0.00
31	948.98	948.64	0.0000	0.00
32	969.31	968.97	0.0000	0.00
33	1119.94	1119.53	0.0000	0.00
34	1377.02	1376.52	0.0000	0.00
35	1383.87	1383.37	0.0000	0.00
36	1389.34	1388.84	0.0000	0.00
37	1400.45	1399.95	0.0000	0.00
38	1460.93	1460.41	0.0000	0.00
39	1467.52	1467.00	0.0000	0.00
40	1506.54	1506.00	0.0000	0.00
41	1510.30	1509.77	0.0000	0.00
42	1513.77	1513.23	0.0000	0.00

Analysis Report for 1510063-15
CP2107S19-20

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
43	1590.87	1590.31	0.0000	0.00
44	1631.28	1630.71	0.0000	0.00
45	1661.79	1661.21	0.0000	0.00
46	1730.44	1729.84	0.0000	0.00
47	1764.38	1763.77	0.0000	0.00
48	1847.09	1846.46	0.0000	0.00
49	2103.68	2103.00	0.0000	0.00
50	2116.66	2115.98	0.0000	0.00
51	2155.65	2154.96	0.0000	0.00
52	2203.91	2203.22	0.0000	0.00
53	2328.66	2327.95	0.0000	0.00
54	2586.74	2586.00	0.0000	0.00
55	2614.51	2613.77	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510063-15
CP2107S19-20

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 10:16:43AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
1	46.79	43 -	51	46.90	2.21E+02	117.78	1.99E+03	1.54
2	76.31	72 -	81	76.40	1.06E+03	140.07	2.18E+03	3.79
3	87.41	86 -	89	87.49	6.34E+01	65.91	1.04E+03	1.54
4	99.63	98 -	102	99.70	6.29E+01	56.66	6.54E+02	1.99
5	129.04	127 -	132	129.09	8.08E+01	65.75	7.98E+02	2.12
6	144.03	141 -	148	144.08	8.29E+01	77.64	9.52E+02	1.62
7	154.18	150 -	157	154.22	8.18E+01	76.60	9.06E+02	1.35
8	186.05	182 -	189	186.08	2.48E+02	76.84	8.15E+02	1.38
M 9	208.86	204 -	215	208.88	7.21E+01	41.47	3.25E+02	1.36
m 10	211.86	204 -	215	211.88	3.63E+01	39.50	2.94E+02	1.37
M 11	238.71	234 -	248	238.70	9.58E+02	74.65	4.17E+02	1.58
m 12	241.78	234 -	248	241.78	2.14E+02	86.35	5.14E+02	2.28
13	270.57	267 -	274	270.55	7.01E+01	56.39	4.82E+02	1.75
14	295.11	291 -	297	295.08	2.71E+02	55.00	3.53E+02	1.66
15	300.11	299 -	302	300.07	3.40E+01	33.65	2.56E+02	1.25
16	338.39	335 -	342	338.33	1.53E+02	56.57	4.30E+02	1.85
17	351.92	348 -	355	351.86	4.10E+02	61.09	3.49E+02	1.34
18	409.01	406 -	411	408.92	3.97E+01	33.66	1.95E+02	2.45
19	463.54	459 -	467	463.42	7.01E+01	41.67	2.22E+02	1.68
20	510.78	507 -	516	510.64	1.81E+02	52.32	2.95E+02	2.02
21	583.24	579 -	587	583.06	3.10E+02	50.87	2.08E+02	1.65
22	609.60	605 -	618	609.41	3.06E+02	67.14	3.68E+02	1.92
23	648.12	642 -	654	647.91	4.41E+01	42.80	1.94E+02	7.13
24	685.70	681 -	689	685.48	3.10E+01	32.93	1.46E+02	1.54
25	727.61	723 -	732	727.36	6.74E+01	39.14	1.81E+02	2.09
26	795.19	792 -	798	794.91	2.25E+01	26.46	1.09E+02	1.96
27	859.98	855 -	864	859.67	4.31E+01	30.15	1.06E+02	1.98
28	872.31	869 -	874	872.01	1.71E+01	17.92	4.97E+01	1.72
29	911.26	907 -	915	910.93	1.77E+02	39.18	1.29E+02	1.58
30	935.02	927 -	942	934.69	5.64E+01	44.54	1.75E+02	2.61
31	948.98	946 -	952	948.64	2.50E+01	23.71	8.40E+01	1.45
32	969.31	965 -	974	968.97	1.02E+02	45.40	2.14E+02	2.03
33	1119.94	1114 -	1125	1119.53	8.83E+01	40.05	1.57E+02	2.33
34	1377.02	1372 -	1380	1376.52	3.23E+01	15.65	1.73E+01	4.29
M 35	1383.87	1381 -	1392	1383.37	1.54E+01	8.94	5.59E+00	2.83
m 36	1389.34	1381 -	1392	1388.84	1.34E+01	12.49	1.97E+01	3.32
37	1400.45	1394 -	1405	1399.95	3.90E+01	18.65	2.40E+01	1.98
M 38	1460.93	1455 -	1471	1460.41	7.76E+02	56.94	2.45E+01	2.23
m 39	1467.52	1455 -	1471	1467.00	1.11E+01	13.33	3.47E+01	2.32
M 40	1506.54	1504 -	1515	1506.00	1.10E+01	5.17	3.16E+00	2.34

Analysis Report for 1510063-15
CP2107S19-20

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
m	41	1510.30	1504 -	1515	1509.77	1.01E+01	12.96	1.27E+01	2.58
m	42	1513.77	1504 -	1515	1513.23	7.34E+00	9.33	1.12E+01	2.58
	43	1590.87	1583 -	1598	1590.31	2.87E+01	22.72	4.06E+01	7.46
	44	1631.28	1626 -	1636	1630.71	2.02E+01	14.24	1.56E+01	2.24
	45	1661.79	1658 -	1664	1661.21	1.15E+01	8.02	3.00E+00	2.96
	46	1730.44	1725 -	1734	1729.84	1.55E+01	12.77	1.30E+01	2.70
	47	1764.38	1757 -	1768	1763.77	5.26E+01	17.55	1.28E+01	2.31
	48	1847.09	1843 -	1850	1846.46	1.14E+01	10.77	1.12E+01	1.96
	49	2103.68	2099 -	2107	2103.00	1.25E+01	10.42	9.00E+00	1.19
	50	2116.66	2112 -	2120	2115.98	1.21E+01	8.73	3.86E+00	3.86
	51	2155.65	2152 -	2158	2154.96	6.06E+00	6.65	3.88E+00	2.59
	52	2203.91	2196 -	2209	2203.22	3.27E+01	13.89	6.56E+00	2.43
	53	2328.66	2324 -	2330	2327.95	5.67E+00	7.78	6.67E+00	2.34
	54	2586.74	2581 -	2589	2586.00	6.00E+00	4.90	0.00E+00	2.41
	55	2614.51	2609 -	2619	2613.77	1.07E+02	21.59	4.73E+00	2.98

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 10:16:43AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	1	46.79	43 -	51	2.21E+02	117.78	1.99E+03	9.37E+01
	2	76.31	72 -	81	1.06E+03	140.07	2.18E+03	1.02E+02
	3	87.41	86 -	89	6.34E+01	65.91	1.04E+03	5.26E+01
	4	99.63	98 -	102	6.29E+01	56.66	6.54E+02	4.47E+01
	5	129.04	127 -	132	8.08E+01	65.75	7.98E+02	5.20E+01
	6	144.03	141 -	148	8.29E+01	77.64	9.52E+02	6.20E+01
	7	154.18	150 -	157	8.18E+01	76.60	9.06E+02	6.12E+01
	8	186.05	182 -	189	2.48E+02	76.84	8.15E+02	5.76E+01
M	9	208.86	204 -	215	7.21E+01	41.47	3.25E+02	2.96E+01
m	10	211.86	204 -	215	3.63E+01	39.50	2.94E+02	2.82E+01
M	11	238.71	234 -	248	9.58E+02	74.65	4.17E+02	3.36E+01
m	12	241.78	234 -	248	2.14E+02	86.35	5.14E+02	3.73E+01
	13	270.57	267 -	274	7.01E+01	56.39	4.82E+02	4.43E+01

Analysis Report for 1510063-15
CP2107S19-20

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level	
14	295.11	291 -	297	2.71E+02	55.00	3.53E+02	3.62E+01	
15	300.11	299 -	302	3.40E+01	33.65	2.56E+02	3.40E+01	
16	338.39	335 -	342	1.53E+02	56.57	4.30E+02	4.18E+01	
17	351.92	348 -	355	4.10E+02	61.09	3.49E+02	3.76E+01	
18	409.01	406 -	411	3.97E+01	33.66	1.95E+02	2.57E+01	
19	463.54	459 -	467	7.01E+01	41.67	2.22E+02	3.14E+01	
20	510.78	507 -	516	1.81E+02	52.32	2.95E+02	3.69E+01	
21	583.24	579 -	587	3.10E+02	50.87	2.08E+02	3.02E+01	
22	609.60	605 -	618	3.06E+02	67.14	3.68E+02	1.87E+01	
23	648.12	642 -	654	4.41E+01	42.80	1.94E+02	3.34E+01	
24	685.70	681 -	689	3.10E+01	32.93	1.46E+02	2.55E+01	
25	727.61	723 -	732	6.74E+01	39.14	1.81E+02	2.92E+01	
26	795.19	792 -	798	2.25E+01	26.46	1.09E+02	2.03E+01	
27	859.98	855 -	864	4.31E+01	30.15	1.06E+02	2.23E+01	
28	872.31	869 -	874	1.71E+01	17.92	4.97E+01	1.31E+01	
29	911.26	907 -	915	1.77E+02	39.18	1.29E+02	2.36E+01	
30	935.02	927 -	942	5.64E+01	44.54	1.75E+02	3.45E+01	
31	948.98	946 -	952	2.50E+01	23.71	8.40E+01	1.77E+01	
32	969.31	965 -	974	1.02E+02	45.40	2.14E+02	3.34E+01	
33	1119.94	1114 -	1125	8.83E+01	40.05	1.57E+02	2.91E+01	
34	1377.02	1372 -	1380	3.23E+01	15.65	1.73E+01	8.84E+00	
M	35	1383.87	1381 -	1392	1.54E+01	8.94	5.59E+00	3.89E+00
m	36	1389.34	1381 -	1392	1.34E+01	12.49	1.97E+01	7.31E+00
	37	1400.45	1394 -	1405	3.90E+01	18.65	2.40E+01	1.14E+01
M	38	1460.93	1455 -	1471	7.76E+02	56.94	2.45E+01	8.14E+00
m	39	1467.52	1455 -	1471	1.11E+01	13.33	3.47E+01	9.69E+00
M	40	1506.54	1504 -	1515	1.10E+01	5.17	3.16E+00	2.92E+00
m	41	1510.30	1504 -	1515	1.01E+01	12.96	1.27E+01	5.85E+00
m	42	1513.77	1504 -	1515	7.34E+00	9.33	1.12E+01	5.51E+00
	43	1590.87	1583 -	1598	2.87E+01	22.72	4.06E+01	1.65E+01
	44	1631.28	1626 -	1636	2.02E+01	14.24	1.56E+01	9.08E+00
	45	1661.79	1658 -	1664	1.15E+01	8.02	3.00E+00	3.51E+00
	46	1730.44	1725 -	1734	1.55E+01	12.77	1.30E+01	8.26E+00
	47	1764.38	1757 -	1768	5.26E+01	17.55	1.28E+01	8.12E+00
	48	1847.09	1843 -	1850	1.14E+01	10.77	1.12E+01	6.89E+00
	49	2103.68	2099 -	2107	1.25E+01	10.42	9.00E+00	6.29E+00
	50	2116.66	2112 -	2120	1.21E+01	8.73	3.86E+00	4.35E+00
	51	2155.65	2152 -	2158	6.06E+00	6.65	3.88E+00	3.68E+00
	52	2203.91	2196 -	2209	3.27E+01	13.89	6.56E+00	6.48E+00
	53	2328.66	2324 -	2330	5.67E+00	7.78	6.67E+00	5.06E+00
	54	2586.74	2581 -	2589	6.00E+00	4.90	0.00E+00	0.00E+00
	55	2614.51	2609 -	2619	1.07E+02	21.59	4.73E+00	5.18E+00

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

Analysis Report for 1510063-15

CP2107S19-20

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/3/2015 10:16:43AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
1	46.79	43 -	51	46.90	2.21E+02	117.78	1.99E+03	PB-210
2	76.31	72 -	81	76.40	1.06E+03	140.07	2.18E+03	.....
3	87.41	86 -	89	87.49	6.34E+01	65.91	1.04E+03	SN-126 CD-109 NP-237 EU-155 LU-176
4	99.63	98 -	102	99.70	6.29E+01	56.66	6.54E+02	.....
5	129.04	127 -	132	129.09	8.08E+01	65.75	7.98E+02	.....
6	144.03	141 -	148	144.08	8.29E+01	77.64	9.52E+02	U-235
7	154.18	150 -	157	154.22	8.18E+01	76.60	9.06E+02	CS-136
8	186.05	182 -	189	186.08	2.48E+02	76.84	8.15E+02	RA-226
M 9	208.86	204 -	215	208.88	7.21E+01	41.47	3.25E+02	GA-67 CM-243
m 10	211.86	204 -	215	211.88	3.63E+01	39.50	2.94E+02	.....
M 11	238.71	234 -	248	238.70	9.58E+02	74.65	4.17E+02	PB-212
m 12	241.78	234 -	248	241.78	2.14E+02	86.35	5.14E+02	RA-224
13	270.57	267 -	274	270.55	7.01E+01	56.39	4.82E+02	.....
14	295.11	291 -	297	295.08	2.71E+02	55.00	3.53E+02	PB-214
15	300.11	299 -	302	300.07	3.40E+01	33.65	2.56E+02	PB-212 BI-210M GA-67
16	338.39	335 -	342	338.33	1.53E+02	56.57	4.30E+02	AC-228
17	351.92	348 -	355	351.86	4.10E+02	61.09	3.49E+02	PB-214
18	409.01	406 -	411	408.92	3.97E+01	33.66	1.95E+02	.....
19	463.54	459 -	467	463.42	7.01E+01	41.67	2.22E+02	SB-125
20	510.78	507 -	516	510.64	1.81E+02	52.32	2.95E+02	.....
21	583.24	579 -	587	583.06	3.10E+02	50.87	2.08E+02	TL-208
22	609.60	605 -	618	609.41	3.06E+02	67.14	3.68E+02	BI-214
23	648.12	642 -	654	647.91	4.41E+01	42.80	1.94E+02	.....
24	685.70	681 -	689	685.48	3.10E+01	32.93	1.46E+02	SB-127
25	727.61	723 -	732	727.36	6.74E+01	39.14	1.81E+02	BI-212
26	795.19	792 -	798	794.91	2.25E+01	26.46	1.09E+02	CS-134
27	859.98	855 -	864	859.67	4.31E+01	30.15	1.06E+02	TL-208
28	872.31	869 -	874	872.01	1.71E+01	17.92	4.97E+01	EU-154
29	911.26	907 -	915	910.93	1.77E+02	39.18	1.29E+02	AC-228 LU-172
30	935.02	927 -	942	934.69	5.64E+01	44.54	1.75E+02	.....

Analysis Report for 1510063-15

CP2107S19-20

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	31	948.98	946 -	952	948.64	2.50E+01	23.71	8.40E+01	.....
	32	969.31	965 -	974	968.97	1.02E+02	45.40	2.14E+02	AC-228
	33	1119.94	1114 -	1125	1119.53	8.83E+01	40.05	1.57E+02	BI-214 SC-46
	34	1377.02	1372 -	1380	1376.52	3.23E+01	15.65	1.73E+01	.....
M	35	1383.87	1381 -	1392	1383.37	1.54E+01	8.94	5.59E+00	AG-110M
m	36	1389.34	1381 -	1392	1388.84	1.34E+01	12.49	1.97E+01	.....
	37	1400.45	1394 -	1405	1399.95	3.90E+01	18.65	2.40E+01	.....
M	38	1460.93	1455 -	1471	1460.41	7.76E+02	56.94	2.45E+01	K-40
m	39	1467.52	1455 -	1471	1467.00	1.11E+01	13.33	3.47E+01	.....
M	40	1506.54	1504 -	1515	1506.00	1.10E+01	5.17	3.16E+00	.....
m	41	1510.30	1504 -	1515	1509.77	1.01E+01	12.96	1.27E+01	.....
m	42	1513.77	1504 -	1515	1513.23	7.34E+00	9.33	1.12E+01	.....
	43	1590.87	1583 -	1598	1590.31	2.87E+01	22.72	4.06E+01	.....
	44	1631.28	1626 -	1636	1630.71	2.02E+01	14.24	1.56E+01	.....
	45	1661.79	1658 -	1664	1661.21	1.15E+01	8.02	3.00E+00	.....
	46	1730.44	1725 -	1734	1729.84	1.55E+01	12.77	1.30E+01	.....
	47	1764.38	1757 -	1768	1763.77	5.26E+01	17.55	1.28E+01	BI-214
	48	1847.09	1843 -	1850	1846.46	1.14E+01	10.77	1.12E+01	.....
	49	2103.68	2099 -	2107	2103.00	1.25E+01	10.42	9.00E+00	.....
	50	2116.66	2112 -	2120	2115.98	1.21E+01	8.73	3.86E+00	.....
	51	2155.65	2152 -	2158	2154.96	6.06E+00	6.65	3.88E+00	.....
	52	2203.91	2196 -	2209	2203.22	3.27E+01	13.89	6.56E+00	BI-214
	53	2328.66	2324 -	2330	2327.95	5.67E+00	7.78	6.67E+00	.....
	54	2586.74	2581 -	2589	2586.00	6.00E+00	4.90	0.00E+00	.....
	55	2614.51	2609 -	2619	2613.77	1.07E+02	21.59	4.73E+00	TL-208

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/3/2015 10:16:43AM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	46.79	2.21E+02	117.78	1.36E-02	1.68E-03
2	76.31	1.06E+03	140.07	2.74E-02	3.34E-03
3	87.41	6.34E+01	65.91	2.84E-02	4.44E-03
4	99.63	6.29E+01	56.66	2.83E-02	3.99E-03

: 00879

Analysis Report for 1510063-15

CP2107S19-20

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	5	129.04	8.08E+01	65.75	2.60E-02	2.78E-03
	6	144.03	8.29E+01	77.64	2.46E-02	2.33E-03
	7	154.18	8.18E+01	76.60	2.37E-02	2.02E-03
	8	186.05	2.48E+02	76.84	2.11E-02	1.65E-03
M	9	208.86	7.21E+01	41.47	1.95E-02	1.63E-03
m	10	211.86	3.63E+01	39.50	1.94E-02	1.63E-03
M	11	238.71	9.58E+02	74.65	1.79E-02	1.60E-03
m	12	241.78	2.14E+02	86.35	1.77E-02	1.60E-03
	13	270.57	7.01E+01	56.39	1.64E-02	1.57E-03
	14	295.11	2.71E+02	55.00	1.55E-02	1.48E-03
	15	300.11	3.40E+01	33.65	1.53E-02	1.46E-03
	16	338.39	1.53E+02	56.57	1.41E-02	1.27E-03
	17	351.92	4.10E+02	61.09	1.37E-02	1.21E-03
	18	409.01	3.97E+01	33.66	1.24E-02	1.00E-03
	19	463.54	7.01E+01	41.67	1.13E-02	9.47E-04
	20	510.78	1.81E+02	52.32	1.06E-02	8.98E-04
	21	583.24	3.10E+02	50.87	9.58E-03	8.25E-04
	22	609.60	3.06E+02	67.14	9.27E-03	7.98E-04
	23	648.12	4.41E+01	42.80	8.84E-03	7.59E-04
	24	685.70	3.10E+01	32.93	8.47E-03	7.30E-04
	25	727.61	6.74E+01	39.14	8.08E-03	7.03E-04
	26	795.19	2.25E+01	26.46	7.53E-03	6.59E-04
	27	859.98	4.31E+01	30.15	7.07E-03	6.18E-04
	28	872.31	1.71E+01	17.92	6.99E-03	6.10E-04
	29	911.26	1.77E+02	39.18	6.74E-03	5.87E-04
	30	935.02	5.64E+01	44.54	6.60E-03	5.74E-04
	31	948.98	2.50E+01	23.71	6.53E-03	5.67E-04
	32	969.31	1.02E+02	45.40	6.41E-03	5.57E-04
	33	1119.94	8.83E+01	40.05	5.70E-03	4.80E-04
	34	1377.02	3.23E+01	15.65	4.87E-03	5.08E-04
M	35	1383.87	1.54E+01	8.94	4.85E-03	5.05E-04
m	36	1389.34	1.34E+01	12.49	4.84E-03	5.03E-04
	37	1400.45	3.90E+01	18.65	4.81E-03	4.98E-04
M	38	1460.93	7.76E+02	56.94	4.67E-03	4.73E-04
m	39	1467.52	1.11E+01	13.33	4.66E-03	4.70E-04
M	40	1506.54	1.10E+01	5.17	4.58E-03	4.54E-04
m	41	1510.30	1.01E+01	12.96	4.57E-03	4.53E-04
m	42	1513.77	7.34E+00	9.33	4.56E-03	4.51E-04
	43	1590.87	2.87E+01	22.72	4.43E-03	4.19E-04
	44	1631.28	2.02E+01	14.24	4.36E-03	4.03E-04
	45	1661.79	1.15E+01	8.02	4.32E-03	3.90E-04
	46	1730.44	1.55E+01	12.77	4.22E-03	3.62E-04
	47	1764.38	5.26E+01	17.55	4.19E-03	3.48E-04
	48	1847.09	1.14E+01	10.77	4.10E-03	3.18E-04
	49	2103.68	1.25E+01	10.42	3.95E-03	3.18E-04
	50	2116.66	1.21E+01	8.73	3.95E-03	3.18E-04
	51	2155.65	6.06E+00	6.65	3.94E-03	3.18E-04
	52	2203.91	3.27E+01	13.89	3.93E-03	3.18E-04
	53	2328.66	5.67E+00	7.78	3.93E-03	3.18E-04
	54	2586.74	6.00E+00	4.90	4.03E-03	3.18E-04
	55	2614.51	1.07E+02	21.59	4.05E-03	3.18E-04

Analysis Report for 1510063-15

CP2107S19-20

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

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/3/2015 10:16:43AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
1	46.79	2.21E+02	117.78	6.46E+01	1.16E+01	1.56E+02	1.18E+02
2	76.31	1.06E+03	140.07			1.06E+03	1.40E+02
3	87.41	6.34E+01	65.91	1.46E+00	7.88E+00	6.19E+01	6.64E+01
4	99.63	6.29E+01	56.66			6.29E+01	5.67E+01
5	129.04	8.08E+01	65.75			8.08E+01	6.57E+01
6	144.03	8.29E+01	77.64	8.10E+00	1.90E+01	7.48E+01	7.99E+01
7	154.18	8.18E+01	76.60			8.18E+01	7.66E+01
8	186.05	2.48E+02	76.84	4.72E+01	7.97E+00	2.01E+02	7.72E+01
M 9	208.86	7.21E+01	41.47			7.21E+01	4.15E+01
m 10	211.86	3.63E+01	39.50			3.63E+01	3.95E+01
M 11	238.71	9.58E+02	74.65	2.36E+01	1.35E+01	9.34E+02	7.59E+01
m 12	241.78	2.14E+02	86.35	6.38E+00	3.91E+00	2.08E+02	8.64E+01
13	270.57	7.01E+01	56.39			7.01E+01	5.64E+01
14	295.11	2.71E+02	55.00	8.57E+00	6.10E+00	2.62E+02	5.53E+01
15	300.11	3.40E+01	33.65			3.40E+01	3.36E+01
16	338.39	1.53E+02	56.57			1.53E+02	5.66E+01
17	351.92	4.10E+02	61.09	1.40E+01	5.55E+00	3.96E+02	6.13E+01
18	409.01	3.97E+01	33.66			3.97E+01	3.37E+01
19	463.54	7.01E+01	41.67			7.01E+01	4.17E+01
20	510.78	1.81E+02	52.32	8.41E+01	5.50E+00	9.66E+01	5.26E+01
21	583.24	3.10E+02	50.87	7.32E+00	4.08E+00	3.03E+02	5.10E+01
22	609.60	3.06E+02	67.14	1.30E+01	3.89E+00	2.93E+02	6.73E+01
23	648.12	4.41E+01	42.80			4.41E+01	4.28E+01
24	685.70	3.10E+01	32.93			3.10E+01	3.29E+01
25	727.61	6.74E+01	39.14			6.74E+01	3.91E+01
26	795.19	2.25E+01	26.46			2.25E+01	2.65E+01
27	859.98	4.31E+01	30.15			4.31E+01	3.01E+01
28	872.31	1.71E+01	17.92			1.71E+01	1.79E+01
29	911.26	1.77E+02	39.18	5.60E+00	3.32E+00	1.72E+02	3.93E+01
30	935.02	5.64E+01	44.54			5.64E+01	4.45E+01
31	948.98	2.50E+01	23.71			2.50E+01	2.37E+01
32	969.31	1.02E+02	45.40			1.02E+02	4.54E+01
33	1119.94	8.83E+01	40.05	3.93E+00	2.96E+00	8.44E+01	4.02E+01
34	1377.02	3.23E+01	15.65			3.23E+01	1.57E+01
M 35	1383.87	1.54E+01	8.94			1.54E+01	8.94E+00

: 00881

Analysis Report for 1510063-15

CP2107S19-20

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
m	36	1389.34	1.34E+01	12.49			1.34E+01	1.25E+01
	37	1400.45	3.90E+01	18.65			3.90E+01	1.87E+01
M	38	1460.93	7.76E+02	56.94	1.12E+01	2.55E+00	7.64E+02	5.70E+01
m	39	1467.52	1.11E+01	13.33			1.11E+01	1.33E+01
M	40	1506.54	1.10E+01	5.17			1.10E+01	5.17E+00
m	41	1510.30	1.01E+01	12.96			1.01E+01	1.30E+01
m	42	1513.77	7.34E+00	9.33			7.34E+00	9.33E+00
	43	1590.87	2.87E+01	22.72			2.87E+01	2.27E+01
	44	1631.28	2.02E+01	14.24			2.02E+01	1.42E+01
	45	1661.79	1.15E+01	8.02			1.15E+01	8.02E+00
	46	1730.44	1.55E+01	12.77			1.55E+01	1.28E+01
	47	1764.38	5.26E+01	17.55	4.23E+00	2.21E+00	4.83E+01	1.77E+01
	48	1847.09	1.14E+01	10.77			1.14E+01	1.08E+01
	49	2103.68	1.25E+01	10.42			1.25E+01	1.04E+01
	50	2116.66	1.21E+01	8.73			1.21E+01	8.73E+00
	51	2155.65	6.06E+00	6.65			6.06E+00	6.65E+00
	52	2203.91	3.27E+01	13.89	5.94E-01	1.16E+00	3.21E+01	1.39E+01
	53	2328.66	5.67E+00	7.78			5.67E+00	7.78E+00
	54	2586.74	6.00E+00	4.90			6.00E+00	4.90E+00
	55	2614.51	1.07E+02	21.59	7.38E+00	1.57E+00	9.92E+01	2.16E+01

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

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/3/2015 10:16:43AM
Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

Corrected Area is: Original * Peak Ratio - Background

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
1	46.79	2.21E+02	117.78	6.46E+01	1.16E+01	1.56E+02	1.18E+02
2	76.31	1.06E+03	140.07			1.06E+03	1.40E+02
3	87.41	6.34E+01	65.91	1.46E+00	7.88E+00	6.19E+01	6.64E+01
4	99.63	6.29E+01	56.66			6.29E+01	5.67E+01
5	129.04	8.08E+01	65.75			8.08E+01	6.57E+01
6	144.03	8.29E+01	77.64	8.10E+00	1.90E+01	7.48E+01	7.99E+01
7	154.18	8.18E+01	76.60			8.18E+01	7.66E+01
8	186.05	2.48E+02	76.84	4.72E+01	7.97E+00	2.01E+02	7.72E+01

: 00882

Analysis Report for 1510063-15

CP2107S19-20

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
M	9	208.86	7.21E+01	41.47			7.21E+01	4.15E+01
m	10	211.86	3.63E+01	39.50			3.63E+01	3.95E+01
M	11	238.71	9.58E+02	74.65	2.36E+01	1.35E+01	9.34E+02	7.59E+01
m	12	241.78	2.14E+02	86.35	6.38E+00	3.91E+00	2.08E+02	8.64E+01
	13	270.57	7.01E+01	56.39			7.01E+01	5.64E+01
	14	295.11	2.71E+02	55.00	8.57E+00	6.10E+00	2.62E+02	5.53E+01
	15	300.11	3.40E+01	33.65			3.40E+01	3.36E+01
	16	338.39	1.53E+02	56.57			1.53E+02	5.66E+01
	17	351.92	4.10E+02	61.09	1.40E+01	5.55E+00	3.96E+02	6.13E+01
	18	409.01	3.97E+01	33.66			3.97E+01	3.37E+01
	19	463.54	7.01E+01	41.67			7.01E+01	4.17E+01
	20	510.78	1.81E+02	52.32	8.41E+01	5.50E+00	9.66E+01	5.26E+01
	21	583.24	3.10E+02	50.87	7.32E+00	4.08E+00	3.03E+02	5.10E+01
	22	609.60	3.06E+02	67.14	1.30E+01	3.89E+00	2.93E+02	6.73E+01
	23	648.12	4.41E+01	42.80			4.41E+01	4.28E+01
	24	685.70	3.10E+01	32.93			3.10E+01	3.29E+01
	25	727.61	6.74E+01	39.14			6.74E+01	3.91E+01
	26	795.19	2.25E+01	26.46			2.25E+01	2.65E+01
	27	859.98	4.31E+01	30.15			4.31E+01	3.01E+01
	28	872.31	1.71E+01	17.92			1.71E+01	1.79E+01
	29	911.26	1.77E+02	39.18	5.60E+00	3.32E+00	1.72E+02	3.93E+01
	30	935.02	5.64E+01	44.54			5.64E+01	4.45E+01
	31	948.98	2.50E+01	23.71			2.50E+01	2.37E+01
	32	969.31	1.02E+02	45.40			1.02E+02	4.54E+01
	33	1119.94	8.83E+01	40.05	3.93E+00	2.96E+00	8.44E+01	4.02E+01
	34	1377.02	3.23E+01	15.65			3.23E+01	1.57E+01
M	35	1383.87	1.54E+01	8.94			1.54E+01	8.94E+00
m	36	1389.34	1.34E+01	12.49			1.34E+01	1.25E+01
	37	1400.45	3.90E+01	18.65			3.90E+01	1.87E+01
M	38	1460.93	7.76E+02	56.94	1.12E+01	2.55E+00	7.64E+02	5.70E+01
m	39	1467.52	1.11E+01	13.33			1.11E+01	1.33E+01
M	40	1506.54	1.10E+01	5.17			1.10E+01	5.17E+00
m	41	1510.30	1.01E+01	12.96			1.01E+01	1.30E+01
m	42	1513.77	7.34E+00	9.33			7.34E+00	9.33E+00
	43	1590.87	2.87E+01	22.72			2.87E+01	2.27E+01
	44	1631.28	2.02E+01	14.24			2.02E+01	1.42E+01
	45	1661.79	1.15E+01	8.02			1.15E+01	8.02E+00
	46	1730.44	1.55E+01	12.77			1.55E+01	1.28E+01
	47	1764.38	5.26E+01	17.55	4.23E+00	2.21E+00	4.83E+01	1.77E+01
	48	1847.09	1.14E+01	10.77			1.14E+01	1.08E+01
	49	2103.68	1.25E+01	10.42			1.25E+01	1.04E+01
	50	2116.66	1.21E+01	8.73			1.21E+01	8.73E+00
	51	2155.65	6.06E+00	6.65			6.06E+00	6.65E+00
	52	2203.91	3.27E+01	13.89	5.94E-01	1.16E+00	3.21E+01	1.39E+01
	53	2328.66	5.67E+00	7.78			5.67E+00	7.78E+00
	54	2586.74	6.00E+00	4.90			6.00E+00	4.90E+00
	55	2614.51	1.07E+02	21.59	7.38E+00	1.57E+00	9.92E+01	2.16E+01

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

Analysis Report for 1510063-15
CP2107S19-20

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.998	1460.81 *	10.67	2.08E+01	2.65E+00
CD-109	0.940	88.03 *	3.72	8.28E-01	8.98E-01
SN-126	0.996	87.57 *	37.00	7.98E-02	8.64E-02
TL-208	0.996	583.14 *	30.22	1.42E+00	2.68E-01
		860.37 *	4.48	1.84E+00	1.30E+00
		2614.66 *	35.85	9.26E-01	2.15E-01
PB-210	0.986	46.50 *	4.25	3.67E+00	2.82E+00
BI-212	0.741	727.17 *	11.80	9.57E-01	5.62E-01
		1620.62	2.75		
PB-212	0.999	238.63 *	44.60	1.59E+00	1.92E-01
		300.09 *	3.41	8.83E-01	8.78E-01
BI-214	0.988	609.31 *	46.30	9.25E-01	2.27E-01
		1120.29 *	15.10	1.33E+00	6.41E-01
		1764.49 *	15.80	9.90E-01	3.72E-01
		2204.22 *	4.98	2.22E+00	9.81E-01
PB-214	0.999	295.21 *	19.19	1.20E+00	2.77E-01
		351.92 *	37.19	1.05E+00	1.87E-01
RA-224	0.902	240.98 *	3.95	4.02E+00	1.71E+00
RA-226	0.996	186.21 *	3.28	3.94E+00	7.37E+00
AC-228	0.995	338.32 *	11.40	1.29E+00	4.91E-01
		911.07 *	27.70	1.25E+00	3.05E-01
		969.11 *	16.60	1.30E+00	5.89E-01
NP-237	0.876	86.50 *	12.60	2.34E-01	2.54E-01

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 10:16:43AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Analysis Report for 1510063-15
CP2107S19-20

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
2	76.31	2.94577E-01	6.60		
4	99.63	1.74608E-02	45.07		
5	129.04	2.24479E-02	40.68		
6	144.03	2.07868E-02	53.41	Tol.	U-235
7	154.18	2.27323E-02	46.80	Tol.	CS-136
M 9	208.86	2.00264E-02	28.76	Tol.	GA-67 CM-243
m 10	211.86	1.00889E-02	54.37		
13	270.57	1.94726E-02	40.22		
18	409.01	1.10189E-02	42.43		
19	463.54	1.94728E-02	29.72	Tol.	SB-125
20	510.78	2.68322E-02	27.23		
23	648.12	1.22380E-02	48.57		
24	685.70	8.62447E-03	53.03	Tol.	SB-127
26	795.19	6.24098E-03	58.88	Sum	
28	872.31	4.76190E-03	52.26	Tol.	EU-154
30	935.02	1.56732E-02	39.47	Sum	
31	948.98	6.94444E-03	47.41	S-Esc	
34	1377.02	8.98035E-03	24.21		
M 35	1383.87	4.26452E-03	29.13	Tol.	AG-110M
m 36	1389.34	3.70968E-03	46.76		
37	1400.45	1.08333E-02	23.92		
m 39	1467.52	3.07820E-03	60.16		
M 40	1506.54	3.04383E-03	23.60		
m 41	1510.30	2.81348E-03	63.98		
m 42	1513.77	2.04007E-03	63.50		
43	1590.87	7.97619E-03	39.55		
44	1631.28	5.61012E-03	35.25		
45	1661.79	3.19444E-03	34.85		
46	1730.44	4.31187E-03	41.12	Sum	
48	1847.09	3.16993E-03	47.19	Sum	
49	2103.68	3.47222E-03	41.67	S-Esc	
50	2116.66	3.35317E-03	36.17	Sum	
51	2155.65	1.68403E-03	54.86		
53	2328.66	1.57407E-03	68.63		
54	2586.74	1.66667E-03	40.82		

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

Analysis Report for 1510063-15
CP2107S19-20

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.99	1460.81 *	10.67	2.08E+01	2.65E+00
CD-109	0.94	88.03 *	3.72	8.28E-01	8.98E-01
SN-126	0.99	87.57 *	37.00	7.98E-02	8.64E-02
TL-208	0.99	583.14 *	30.22	1.42E+00	2.68E-01
		860.37 *	4.48	1.84E+00	1.30E+00
		2614.66 *	35.85	9.26E-01	2.15E-01
PB-210	0.98	46.50 *	4.25	3.67E+00	2.82E+00
BI-212	0.74	727.17 *	11.80	9.57E-01	5.62E-01
		1620.62	2.75		
PB-212	0.99	238.63 *	44.60	1.59E+00	1.92E-01
		300.09 *	3.41	8.83E-01	8.78E-01
BI-214	0.98	609.31 *	46.30	9.25E-01	2.27E-01
		1120.29 *	15.10	1.33E+00	6.41E-01
		1764.49 *	15.80	9.90E-01	3.72E-01
		2204.22 *	4.98	2.22E+00	9.81E-01
PB-214	0.99	295.21 *	19.19	1.20E+00	2.77E-01
		351.92 *	37.19	1.05E+00	1.87E-01
RA-224	0.90	240.98 *	3.95	4.02E+00	1.71E+00
RA-226	0.99	186.21 *	3.28	3.94E+00	7.37E+00
AC-228	0.99	338.32 *	11.40	1.29E+00	4.91E-01
		911.07 *	27.70	1.25E+00	3.05E-01
		969.11 *	16.60	1.30E+00	5.89E-01
NP-237	0.87	86.50 *	12.60	2.34E-01	2.54E-01

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

Analysis Report for 1510063-15
CP2107S19-20

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40	0.998	2.08E+01	2.65E+00	
?	CD-109	0.940	8.28E-01	8.98E-01	
?	SN-126	0.996	7.98E-02	8.64E-02	
	TL-208	0.996	1.13E+00	1.66E-01	
	PB-210	0.986	3.67E+00	2.82E+00	
	BI-212	0.741	9.57E-01	5.62E-01	
	PB-212	0.999	1.56E+00	1.87E-01	
	BI-214	0.988	1.02E+00	1.82E-01	
	PB-214	0.999	1.10E+00	1.55E-01	
	RA-224	0.902	4.02E+00	1.71E+00	
	RA-226	0.996	3.94E+00	7.37E+00	
	AC-228	0.995	1.26E+00	2.37E-01	
?	NP-237	0.876	2.34E-01	2.54E-01	

- ? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510063-15
CP2107S19-20

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 10:16:43AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	2	76.31	2.94577E-01	6.60	
	4	99.63	1.74608E-02	45.07	
	5	129.04	2.24479E-02	40.68	
	6	144.03	2.07868E-02	53.41	Tol. U-235
	7	154.18	2.27323E-02	46.80	Tol. CS-136
M	9	208.86	2.00264E-02	28.76	Tol. GA-67 CM-243
m	10	211.86	1.00889E-02	54.37	
	13	270.57	1.94726E-02	40.22	
	18	409.01	1.10189E-02	42.43	
	19	463.54	1.94728E-02	29.72	Tol. SB-125
	20	510.78	2.68322E-02	27.23	
	23	648.12	1.22380E-02	48.57	
	24	685.70	8.62447E-03	53.03	Tol. SB-127
	26	795.19	6.24098E-03	58.88	Sum
	28	872.31	4.76190E-03	52.26	Tol. EU-154
	30	935.02	1.56732E-02	39.47	Sum
	31	948.98	6.94444E-03	47.41	S-Esc
	34	1377.02	8.98035E-03	24.21	
M	35	1383.87	4.26452E-03	29.13	Tol. AG-110M
m	36	1389.34	3.70968E-03	46.76	
	37	1400.45	1.08333E-02	23.92	
m	39	1467.52	3.07820E-03	60.16	
M	40	1506.54	3.04383E-03	23.60	
m	41	1510.30	2.81348E-03	63.98	
m	42	1513.77	2.04007E-03	63.50	
	43	1590.87	7.97619E-03	39.55	
	44	1631.28	5.61012E-03	35.25	
	45	1661.79	3.19444E-03	34.85	
	46	1730.44	4.31187E-03	41.12	Sum
	48	1847.09	3.16993E-03	47.19	Sum
	49	2103.68	3.47222E-03	41.67	S-Esc
	50	2116.66	3.35317E-03	36.17	Sum
	51	2155.65	1.68403E-03	54.86	
	53	2328.66	1.57407E-03	68.63	

Analysis Report for 1510063-15
CP2107S19-20

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
54	2586.74	1.66667E-03	40.82		

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59	10.42	-3.48E-01	6.93E-01	6.93E-01
+	NA-22	1274.54	99.94	2.11E-02	8.52E-02	8.52E-02
+	NA-24	1368.53	99.99	-6.50E+11	1.17E+12	1.98E+12
		2754.09	99.86	1.46E+11		1.17E+12
+	AL-26	1808.65	99.76	-1.64E-02	6.39E-02	6.39E-02
+	K-40	1460.81	* 10.67	2.08E+01	1.17E+00	1.17E+00
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	4.79E-03	4.86E-02	4.86E-02
		78.34	96.00	2.65E-01		7.28E-02
+	SC-46	889.25	99.98	-2.95E-02	8.34E-02	8.34E-02
		1120.51	99.99	2.49E-01		1.68E-01
+	V-48	983.52	99.98	-7.43E-02	2.45E-01	2.45E-01
		1312.10	97.50	-2.20E-01		2.67E-01
+	CR-51	320.08	9.83	7.26E-01	1.06E+00	1.06E+00
+	MN-54	834.83	99.97	2.83E-03	8.93E-02	8.93E-02
+	CO-56	846.75	99.96	2.43E-02	1.00E-01	1.00E-01
		1037.75	14.03	-1.90E-01		6.98E-01
		1238.25	67.00	2.84E-02		1.95E-01
		1771.40	15.51	4.46E-03		4.02E-01
		2598.48	16.90	1.02E-01		3.05E-01
+	CO-57	122.06	85.51	-3.34E-02	5.43E-02	5.43E-02
		136.48	10.60	4.04E-01		4.89E-01
+	CO-58	810.76	99.40	1.15E-02	8.85E-02	8.85E-02
+	FE-59	1099.22	56.50	-4.84E-02	2.24E-01	2.24E-01
		1291.56	43.20	1.05E-01		3.26E-01
+	CO-60	1173.22	100.00	1.78E-02	7.73E-02	9.42E-02
		1332.49	100.00	1.30E-02		7.73E-02
+	ZN-65	1115.52	50.75	-1.36E-02	1.93E-01	1.93E-01

Analysis Report for 1510063-15
CP2107S19-20

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	GA-67	93.31	35.70	9.30E+01	6.76E+01	6.76E+01
		208.95	2.24	1.57E+02		1.02E+03
		300.22	16.00	7.30E+01		1.45E+02
+	SE-75	121.11	16.70	-1.89E-02	9.05E-02	3.10E-01
		136.00	59.20	3.50E-02		9.67E-02
		264.65	59.80	-5.12E-03		9.05E-02
		279.53	25.20	-1.02E-01		2.45E-01
		400.65	11.40	-2.86E-01		5.41E-01
+	RB-82	776.52	13.00	-6.89E-01	1.14E+00	1.14E+00
+	RB-83	520.41	46.00	-1.04E-02	1.34E-01	1.34E-01
		529.64	30.30	-4.34E-02		2.37E-01
		552.65	16.40	5.11E-03		4.29E-01
+	KR-85	513.99	0.43	-1.84E+01	1.51E+01	1.51E+01
+	SR-85	513.99	99.27	-1.08E-01	8.87E-02	8.87E-02
+	Y-88	898.02	93.40	-1.68E-03	7.75E-02	1.01E-01
		1836.01	99.38	5.10E-03		7.75E-02
+	NB-93M	16.57	9.43	-4.34E+03	5.44E+03	5.44E+03
+	NB-94	702.63	100.00	2.20E-02	6.76E-02	7.18E-02
		871.10	100.00	2.37E-02		6.76E-02
+	NB-95	765.79	99.81	-8.85E-03	1.37E-01	1.37E-01
+	NB-95M	235.69	25.00	-4.58E+02	7.32E+01	7.32E+01
+	ZR-95	724.18	43.70	-1.42E-02	1.74E-01	2.51E-01
		756.72	55.30	6.97E-02		1.74E-01
+	MO-99	181.06	6.20	-7.32E+01	6.13E+02	9.47E+02
		739.58	12.80	7.00E+01		6.13E+02
		778.00	4.50	-1.29E+03		1.77E+03
+	RU-103	497.08	89.00	6.57E-04	9.90E-02	9.90E-02
+	RU-106	621.84	9.80	2.79E-01	7.24E-01	7.24E-01
+	AG-108M	433.93	89.90	1.87E-02	5.92E-02	5.92E-02
		614.37	90.40	-5.86E-01		8.20E-02
		722.95	90.50	7.82E-03		7.78E-02
+	CD-109	88.03	* 3.72	8.28E-01	1.45E+00	1.45E+00
+	AG-110M	657.75	93.14	-8.31E-03	7.58E-02	7.58E-02
		677.61	10.53	1.31E-01		7.13E-01
		706.67	16.46	-2.11E-01		4.36E-01
		763.93	21.98	-3.34E-02		3.68E-01
		884.67	71.63	-2.51E-02		9.17E-02
		1384.27	23.94	-9.25E-02		3.03E-01
+	CD-113M	263.70	0.02	-7.88E+00	2.08E+02	2.08E+02
+	SN-113	255.12	1.93	-4.94E-01	1.02E-01	3.14E+00
		391.69	64.90	3.48E-02		1.02E-01
+	TE123M	159.00	84.10	2.56E-02	6.54E-02	6.54E-02
+	SB-124	602.71	97.87	7.21E-03	1.05E-01	1.05E-01
		645.85	7.26	3.06E-01		1.33E+00
		722.78	11.10	8.80E-02		8.75E-01
		1691.02	49.00	-1.24E-01		1.62E-01
+	I-125	35.49	6.49	5.85E-01	5.38E+00	5.38E+00
+	SB-125	176.33	6.89	3.17E-02	1.78E-01	7.36E-01

Analysis Report for 1510063-15
CP2107S19-20

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)		
SB-125	427.89	29.33	-8.45E-02	1.78E-01	1.78E-01		
	463.38	10.35	5.68E-01		6.40E-01		
	600.56	17.80	6.66E-02		4.17E-01		
	635.90	11.32	9.99E-02		5.92E-01		
+ SB-126	414.70	83.30	1.48E-02	3.08E-01	3.08E-01		
	666.33	99.60	-1.27E-02		3.42E-01		
	695.00	99.60	1.88E-01		3.60E-01		
	720.50	53.80	1.49E-01		6.14E-01		
+ SN-126	87.57	* 37.00	7.98E-02	1.40E-01	1.40E-01		
+ SB-127	473.00	25.00	-5.01E+00	3.06E+01	3.06E+01		
	685.20	35.70	2.20E+01		3.26E+01		
	783.80	14.70	-1.33E+01		8.11E+01		
+ I-129	29.78	57.00	-2.06E-01	1.20E+00	1.20E+00		
	33.60	13.20	-5.82E-01		2.45E+00		
	39.58	7.52	8.96E-01		2.21E+00		
+ I-131	284.30	6.05	-3.82E+00	7.06E-01	9.17E+00		
	364.48	81.20	-4.51E-02		7.06E-01		
	636.97	7.26	3.19E+00		1.02E+01		
	722.89	1.80	4.42E+00		4.40E+01		
+ TE-132	49.72	13.10	1.52E+01	2.53E+01	2.26E+02		
	228.16	88.00	3.91E+00		2.53E+01		
+ BA-133	81.00	33.00	-1.02E-02	8.51E-02	1.23E-01		
	302.84	17.80	1.72E-01		3.10E-01		
	356.01	60.00	-1.21E-02		8.51E-02		
+ I-133	529.87	86.30	-6.41E+07	3.81E+08	3.81E+08		
+ XE-133	81.00	38.00	-3.62E-01	4.36E+00	4.36E+00		
+ CS-134	563.23	8.38	2.70E-01	8.52E-02	7.12E-01		
	569.32	15.43	1.22E-01		3.74E-01		
	604.70	97.60	-1.20E-02		8.52E-02		
	795.84	85.40	3.46E-02		9.53E-02		
	801.93	8.73	-5.52E-02		7.79E-01		
+ CS-135	268.24	16.00	2.42E-02	3.50E-01	3.50E-01		
+ @ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26		
@	1260.41	28.60	1.00E+26		1.00E+26		
@	1678.03	9.54	1.00E+26		1.00E+26		
+ CS-136	153.22	7.46	1.29E+00	2.69E-01	3.06E+00		
	163.89	4.61	4.06E-01		4.41E+00		
	176.55	13.56	-4.43E-01		1.58E+00		
	273.65	12.66	-1.18E+00		1.68E+00		
	340.57	48.50	-4.33E-01		5.87E-01		
	818.50	99.70	-2.81E-02		2.69E-01		
	1048.07	79.60	1.53E-01		4.42E-01		
	1235.34	19.70	8.52E-01		2.28E+00		
	+ CS-137	661.65	85.12		-2.28E-02	8.07E-02	8.07E-02
	+ LA-138	788.74	34.00		4.75E-02	9.74E-02	2.26E-01
1435.80		66.00	-8.92E-03	9.74E-02			
+ CE-139	165.85	80.35	-3.52E-03	6.62E-02	6.62E-02		
+ BA-140	162.64	6.70	1.44E+00	9.59E-01	3.26E+00		
	304.84	4.50	7.04E+00		5.57E+00		

Analysis Report for 1510063-15
CP2107S19-20

<i>Nuclide Name</i>	<i>Energy (keV)</i>	<i>Yield(%)</i>	<i>Activity (pCi/grams)</i>	<i>Nuclide MDA (pCi/grams)</i>	<i>Line MDA (pCi/grams)</i>	
	BA-140	423.70	3.20	6.55E-01	9.59E-01	7.87E+00
		437.55	2.00	-4.57E+00		1.14E+01
		537.32	25.00	-5.28E-01		9.59E-01
+	LA-140	328.77	20.50	3.12E-02	3.82E-01	1.35E+00
		487.03	45.50	-1.37E-01		5.12E-01
		815.85	23.50	-1.82E-01		1.24E+00
		1596.49	95.49	2.94E-02		3.82E-01
+	CE-141	145.44	48.40	1.47E-01	1.91E-01	1.91E-01
+	CE-143	57.36	11.80	-2.91E+05	2.46E+05	6.31E+05
		293.26	42.00	2.27E+04		2.46E+05
		664.55	5.20	7.90E+05		1.98E+06
+	CE-144	133.54	10.80	7.07E-02	4.68E-01	4.68E-01
+	PM-144	476.78	42.00	-6.33E-02	7.17E-02	1.26E-01
		618.01	98.60	1.15E-02		7.17E-02
		696.49	99.49	-1.86E-02		7.66E-02
+	PM-145	36.85	21.70	-3.99E-01	4.99E-01	9.72E-01
		37.36	39.70	-2.05E-01		4.99E-01
		42.30	15.10	1.57E-01		8.26E-01
		72.40	2.31	-6.14E-01		2.09E+00
+	PM-146	453.90	39.94	6.91E-02	1.41E-01	1.41E-01
		735.90	14.01	-2.13E-01		4.72E-01
		747.13	13.10	2.83E-01		5.30E-01
+	ND-147	91.11	28.90	2.09E+00	1.30E+00	1.30E+00
		531.02	13.10	-8.89E-02		2.64E+00
+	PM-149	285.90	3.10	1.09E+03	1.07E+04	1.07E+04
+	EU-152	121.78	20.50	-1.30E-01	2.12E-01	2.12E-01
		244.69	5.40	-2.16E+00		9.96E-01
		344.27	19.13	5.93E-02		2.78E-01
		778.89	9.20	-4.39E-02		7.82E-01
		964.01	10.40	2.20E-02		9.36E-01
		1085.78	7.22	2.86E-01		1.07E+00
		1112.02	9.60	-5.95E-02		8.79E-01
		1407.95	14.94	1.12E-01		4.75E-01
+	GD-153	97.43	31.30	-5.88E-03	1.57E-01	1.57E-01
		103.18	22.20	-1.44E-02		2.09E-01
+	EU-154	123.07	40.50	-4.38E-02	1.09E-01	1.09E-01
		723.30	19.70	3.61E-02		3.59E-01
		873.19	11.50	2.90E-02		6.04E-01
		996.32	10.30	-3.24E-02		8.11E-01
		1004.76	17.90	5.83E-02		3.97E-01
		1274.45	35.50	5.86E-02		2.36E-01
+	EU-155	86.50	30.90	-2.67E-01	1.99E-01	1.99E-01
		105.30	20.70	5.28E-02		2.19E-01
+	EU-156	811.77	10.40	1.33E-01	2.34E+00	2.34E+00
		1153.47	7.20	1.41E+00		4.37E+00
		1230.71	8.90	7.82E-01		3.72E+00
+	HO-166M	184.41	72.60	6.77E-02	9.03E-02	9.03E-02
		280.45	29.60	-7.43E-02		1.77E-01
		410.94	11.10	8.34E-02		5.29E-01

Analysis Report for 1510063-15
CP2107S19-20

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	HO-166M 711.69	54.10	4.44E-02	9.03E-02	1.32E-01
+	TM-171 66.72	0.14	1.04E+01	3.43E+01	3.43E+01
+	HF-172 81.75	4.52	-1.04E+00	4.27E-01	9.14E-01
	125.81	11.30	1.53E-01		4.27E-01
+	LU-172 181.53	20.60	5.71E-02	2.53E+00	4.42E+00
	810.06	16.63	9.52E-01		7.33E+00
	912.12	15.25	4.73E+01		1.78E+01
	1093.66	62.50	1.39E+00		2.53E+00
+	LU-173 100.72	5.24	4.14E-01	2.95E-01	8.94E-01
	272.11	21.20	3.62E-01		2.95E-01
+	HF-175 343.40	84.00	-1.05E-02	8.29E-02	8.29E-02
+	LU-176 88.34	13.30	3.81E-01	5.48E-02	4.71E-01
	201.83	86.00	5.26E-02		6.29E-02
	306.78	94.00	2.87E-03		5.48E-02
+	TA-182 67.75	41.20	1.30E-02	1.32E-01	1.32E-01
	1121.30	34.90	6.00E-01		4.47E-01
	1189.05	16.23	4.77E-02		7.10E-01
	1221.41	26.98	1.55E-01		4.68E-01
	1231.02	11.44	3.83E-01		9.53E-01
+	IR-192 308.46	29.68	-2.44E-02	1.35E-01	2.17E-01
	468.07	48.10	-2.31E-02		1.35E-01
+	HG-203 279.19	77.30	9.91E-02	1.11E-01	1.11E-01
+	BI-207 569.67	97.72	1.88E-02	5.77E-02	5.77E-02
	1063.62	74.90	1.42E-03		1.03E-01
+	TL-208 583.14	* 30.22	1.42E+00	1.55E-01	3.00E-01
	860.37	* 4.48	1.84E+00		2.02E+00
	2614.66	* 35.85	9.26E-01		1.55E-01
+	BI-210M 262.00	45.00	9.17E-02	1.12E-01	1.12E-01
	300.00	23.00	1.30E-01		2.58E-01
+	PB-210 46.50	* 4.25	3.67E+00	4.53E+00	4.53E+00
+	PB-211 404.84	2.90	1.17E+00	1.88E+00	1.88E+00
	831.96	2.90	-7.52E-01		2.57E+00
+	BI-212 727.17	* 11.80	9.57E-01	8.68E-01	8.68E-01
	1620.62	2.75	1.80E+00		2.92E+00
+	PB-212 238.63	* 44.60	1.59E+00	2.86E-01	2.86E-01
	300.09	* 3.41	8.83E-01		1.84E+00
+	BI-214 609.31	* 46.30	9.25E-01	3.09E-01	3.09E-01
	1120.29	* 15.10	1.33E+00		9.66E-01
	1764.49	* 15.80	9.90E-01		4.24E-01
	2204.22	* 4.98	2.22E+00		1.11E+00
+	PB-214 295.21	* 19.19	1.20E+00	2.11E-01	3.49E-01
	351.92	* 37.19	1.05E+00		2.11E-01
+	RN-219 401.80	6.50	4.69E-01	8.64E-01	8.64E-01
+	RA-223 323.87	3.88	-3.92E-01	1.36E+00	1.36E+00
+	RA-224 240.98	* 3.95	4.02E+00	3.25E+00	3.25E+00
+	RA-225 40.00	31.00	7.77E-01	1.92E+00	1.92E+00
+	RA-226 186.21	* 3.28	3.94E+00	2.37E+00	2.37E+00
+	TH-227 50.10	8.40	5.93E-02	7.26E-01	8.81E-01

Analysis Report for 1510063-15
CP2107S19-20

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	TH-227	236.00		11.50	-4.53E+00	7.26E-01	7.26E-01
		256.20		6.30	-3.65E-01		8.11E-01
+	AC-228	338.32	*	11.40	1.29E+00	3.69E-01	7.28E-01
		911.07	*	27.70	1.25E+00		3.69E-01
		969.11	*	16.60	1.30E+00		8.85E-01
+	TH-230	48.44		16.90	-4.54E-01	4.87E-01	4.87E-01
		62.85		4.60	1.34E+00		1.26E+00
		67.67		0.37	1.22E+00		1.24E+01
+	PA-231	283.67		1.60	-1.28E+00	2.38E+00	3.08E+00
		302.67		2.30	1.32E+00		2.38E+00
+	TH-231	25.64		14.70	1.19E+00	7.17E-01	1.46E+01
		84.21		6.40	8.47E-01		7.17E-01
+	PA-233	311.98		38.60	-4.36E-02	2.71E-01	2.71E-01
+	PA-234	131.20		20.40	1.05E-02	2.46E-01	2.46E-01
		733.99		8.80	-1.42E-01		7.88E-01
		946.00		12.00	-1.36E-01		6.69E-01
+	PA-234M	1001.03		0.92	9.58E-01	8.07E+00	8.07E+00
+	TH-234	63.29		3.80	1.61E+00	1.51E+00	1.51E+00
+	U-235	143.76		10.50	5.76E-03	4.78E-01	4.78E-01
		163.35		4.70	4.50E-01		1.02E+00
		205.31		4.70	2.32E-01		1.16E+00
+	NP-237	86.50	*	12.60	2.34E-01	4.12E-01	4.12E-01
+	NP-239	106.10		22.70	1.32E+02	7.80E+02	7.80E+02
		228.18		10.70	3.18E+02		2.06E+03
		277.60		14.10	7.17E+02		1.52E+03
+	AM-241	59.54		35.90	2.19E-02	1.55E-01	1.55E-01
+	AM-243	74.67		66.00	-1.75E-01	1.00E-01	1.00E-01
+	CM-243	209.75		3.29	7.68E-01	3.95E-01	1.79E+00
		228.14		10.60	8.28E-02		5.36E-01
		277.60		14.00	1.86E-01		3.95E-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
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

Analysis Report for 1510063-15
CP2107S19-20

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
BE-7	477.59	10.42	6.93E-01	6.93E-01	-3.48E-01	3.24E-01
NA-22	1274.54	99.94	8.52E-02	8.52E-02	2.11E-02	3.90E-02
NA-24	1368.53	99.99	1.98E+12	1.17E+12	-6.50E+11	8.64E+11
	2754.09	99.86	1.17E+12		1.46E+11	4.40E+11
AL-26	1808.65	99.76	6.39E-02	6.39E-02	-1.64E-02	2.75E-02
+ K-40	1460.81	* 10.67	1.17E+00	1.17E+00	2.08E+01	5.50E-01
@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
TI-44	67.88	94.40	4.86E-02	4.86E-02	4.79E-03	2.35E-02
	78.34	96.00	7.28E-02		2.65E-01	3.57E-02
SC-46	889.25	99.98	8.34E-02	8.34E-02	-2.95E-02	3.83E-02
	1120.51	99.99	1.68E-01		2.49E-01	8.01E-02
V-48	983.52	99.98	2.45E-01	2.45E-01	-7.43E-02	1.13E-01
	1312.10	97.50	2.67E-01		-2.20E-01	1.21E-01
CR-51	320.08	9.83	1.06E+00	1.06E+00	7.26E-01	5.02E-01
MN-54	834.83	99.97	8.93E-02	8.93E-02	2.83E-03	4.19E-02
CO-56	846.75	99.96	1.00E-01	1.00E-01	2.43E-02	4.68E-02
	1037.75	14.03	6.98E-01		-1.90E-01	3.21E-01
	1238.25	67.00	1.95E-01		2.84E-02	9.07E-02
	1771.40	15.51	4.02E-01		4.46E-03	1.65E-01
	2598.48	16.90	3.05E-01		1.02E-01	1.18E-01
CO-57	122.06	85.51	5.43E-02	5.43E-02	-3.34E-02	2.63E-02
	136.48	10.60	4.89E-01		4.04E-01	2.37E-01
CO-58	810.76	99.40	8.85E-02	8.85E-02	1.15E-02	4.10E-02
FE-59	1099.22	56.50	2.24E-01	2.24E-01	-4.84E-02	1.03E-01
	1291.56	43.20	3.26E-01		1.05E-01	1.50E-01
CO-60	1173.22	100.00	9.42E-02	7.73E-02	1.78E-02	4.37E-02
	1332.49	100.00	7.73E-02		1.30E-02	3.50E-02
ZN-65	1115.52	50.75	1.93E-01	1.93E-01	-1.36E-02	8.95E-02
GA-67	93.31	35.70	6.76E+01	6.76E+01	9.30E+01	3.31E+01
	208.95	2.24	1.02E+03		1.57E+02	4.96E+02
	300.22	16.00	1.45E+02		7.30E+01	6.96E+01
SE-75	121.11	16.70	3.10E-01	9.05E-02	-1.89E-02	1.50E-01
	136.00	59.20	9.67E-02		3.50E-02	4.69E-02
	264.65	59.80	9.05E-02		-5.12E-03	4.31E-02
	279.53	25.20	2.45E-01		-1.02E-01	1.17E-01
	400.65	11.40	5.41E-01		-2.86E-01	2.55E-01
RB-82	776.52	13.00	1.14E+00	1.14E+00	-6.89E-01	5.33E-01
RB-83	520.41	46.00	1.34E-01	1.34E-01	-1.04E-02	6.22E-02
	529.64	30.30	2.37E-01		-4.34E-02	1.11E-01
	552.65	16.40	4.29E-01		5.11E-03	2.01E-01
KR-85	513.99	0.43	1.51E+01	1.51E+01	-1.84E+01	7.14E+00
SR-85	513.99	99.27	8.87E-02	8.87E-02	-1.08E-01	4.20E-02
Y-88	898.02	93.40	1.01E-01	7.75E-02	-1.68E-03	4.71E-02
	1836.01	99.38	7.75E-02		5.10E-03	3.34E-02
NB-93M	16.57	9.43	5.44E+03	5.44E+03	-4.34E+03	2.65E+03

Analysis Report for 1510063-15
CP2107S19-20

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
NB-94	702.63	100.00	7.18E-02	6.76E-02	2.20E-02	3.37E-02
	871.10	100.00	6.76E-02		2.37E-02	3.12E-02
NB-95	765.79	99.81	1.37E-01	1.37E-01	-8.85E-03	6.46E-02
NB-95M	235.69	25.00	7.32E+01	7.32E+01	-4.58E+02	3.57E+01
ZR-95	724.18	43.70	2.51E-01	1.74E-01	-1.42E-02	1.19E-01
	756.72	55.30	1.74E-01		6.97E-02	8.13E-02
MO-99	181.06	6.20	9.47E+02	6.13E+02	-7.32E+01	4.57E+02
	739.58	12.80	6.13E+02		7.00E+01	2.85E+02
	778.00	4.50	1.77E+03		-1.29E+03	8.23E+02
RU-103	497.08	89.00	9.90E-02	9.90E-02	6.57E-04	4.64E-02
RU-106	621.84	9.80	7.24E-01	7.24E-01	2.79E-01	3.40E-01
AG-108M	433.93	89.90	5.92E-02	5.92E-02	1.87E-02	2.79E-02
	614.37	90.40	8.20E-02		-5.86E-01	3.88E-02
	722.95	90.50	7.78E-02		7.82E-03	3.64E-02
+ CD-109	88.03	* 3.72	1.45E+00	1.45E+00	8.28E-01	7.09E-01
AG-110M	657.75	93.14	7.58E-02	7.58E-02	-8.31E-03	3.55E-02
	677.61	10.53	7.13E-01		1.31E-01	3.34E-01
	706.67	16.46	4.36E-01		-2.11E-01	2.03E-01
	763.93	21.98	3.68E-01		-3.34E-02	1.73E-01
	884.67	71.63	9.17E-02		-2.51E-02	4.19E-02
	1384.27	23.94	3.03E-01		-9.25E-02	1.34E-01
CD-113M	263.70	0.02	2.08E+02	2.08E+02	-7.88E+00	9.91E+01
SN-113	255.12	1.93	3.14E+00	1.02E-01	-4.94E-01	1.51E+00
	391.69	64.90	1.02E-01		3.48E-02	4.82E-02
TE123M	159.00	84.10	6.54E-02	6.54E-02	2.56E-02	3.16E-02
SB-124	602.71	97.87	1.05E-01	1.05E-01	7.21E-03	4.97E-02
	645.85	7.26	1.33E+00		3.06E-01	6.23E-01
	722.78	11.10	8.75E-01		8.80E-02	4.10E-01
	1691.02	49.00	1.62E-01		-1.24E-01	6.89E-02
I-125	35.49	6.49	5.38E+00	5.38E+00	5.85E-01	2.61E+00
SB-125	176.33	6.89	7.36E-01	1.78E-01	3.17E-02	3.56E-01
	427.89	29.33	1.78E-01		-8.45E-02	8.38E-02
	463.38	10.35	6.40E-01		5.68E-01	3.04E-01
	600.56	17.80	4.17E-01		6.66E-02	1.97E-01
	635.90	11.32	5.92E-01		9.99E-02	2.77E-01
SB-126	414.70	83.30	3.08E-01	3.08E-01	1.48E-02	1.45E-01
	666.33	99.60	3.42E-01		-1.27E-02	1.61E-01
	695.00	99.60	3.60E-01		1.88E-01	1.69E-01
	720.50	53.80	6.14E-01		1.49E-01	2.87E-01
+ SN-126	87.57	* 37.00	1.40E-01	1.40E-01	7.98E-02	6.83E-02
SB-127	473.00	25.00	3.06E+01	3.06E+01	-5.01E+00	1.43E+01
	685.20	35.70	3.26E+01		2.20E+01	1.53E+01
	783.80	14.70	8.11E+01		-1.33E+01	3.80E+01
I-129	29.78	57.00	1.20E+00	1.20E+00	-2.06E-01	5.83E-01
	33.60	13.20	2.45E+00		-5.82E-01	1.19E+00
	39.58	7.52	2.21E+00		8.96E-01	1.07E+00
I-131	284.30	6.05	9.17E+00	7.06E-01	-3.82E+00	4.37E+00
	364.48	81.20	7.06E-01		-4.51E-02	3.34E-01
	636.97	7.26	1.02E+01		3.19E+00	4.78E+00
	722.89	1.80	4.40E+01		4.42E+00	2.06E+01
TE-132	49.72	13.10	2.26E+02	2.53E+01	1.52E+01	1.10E+02
	228.16	88.00	2.53E+01		3.91E+00	1.22E+01
BA-133	81.00	33.00	1.23E-01	8.51E-02	-1.02E-02	5.97E-02

Analysis Report for 1510063-15
CP2107S19-20

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
BA-133	302.84	17.80	3.10E-01	8.51E-02	1.72E-01	1.48E-01
	356.01	60.00	8.51E-02		-1.21E-02	4.03E-02
I-133	529.87	86.30	3.81E+08	3.81E+08	-6.41E+07	1.79E+08
XE-133	81.00	38.00	4.36E+00	4.36E+00	-3.62E-01	2.11E+00
CS-134	563.23	8.38	7.12E-01	8.52E-02	2.70E-01	3.33E-01
	569.32	15.43	3.74E-01		1.22E-01	1.75E-01
	604.70	97.60	8.52E-02		-1.20E-02	4.05E-02
	795.84	85.40	9.53E-02		3.46E-02	4.47E-02
	801.93	8.73	7.79E-01		-5.52E-02	3.60E-01
CS-135	268.24	16.00	3.50E-01	3.50E-01	2.42E-02	1.68E-01
@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	1260.41	28.60	1.00E+26		1.00E+26	1.00E+20
@	1678.03	9.54	1.00E+26		1.00E+26	1.00E+20
CS-136	153.22	7.46	3.06E+00	2.69E-01	1.29E+00	1.48E+00
	163.89	4.61	4.41E+00		4.06E-01	2.13E+00
	176.55	13.56	1.58E+00		-4.43E-01	7.62E-01
	273.65	12.66	1.68E+00		-1.18E+00	8.02E-01
	340.57	48.50	5.87E-01		-4.33E-01	2.82E-01
	818.50	99.70	2.69E-01		-2.81E-02	1.24E-01
	1048.07	79.60	4.42E-01		1.53E-01	2.04E-01
	1235.34	19.70	2.28E+00		8.52E-01	1.06E+00
CS-137	661.65	85.12	8.07E-02	8.07E-02	-2.28E-02	3.79E-02
LA-138	788.74	34.00	2.26E-01	9.74E-02	4.75E-02	1.06E-01
	1435.80	66.00	9.74E-02		-8.92E-03	4.28E-02
CE-139	165.85	80.35	6.62E-02	6.62E-02	-3.52E-03	3.20E-02
BA-140	162.64	6.70	3.26E+00	9.59E-01	1.44E+00	1.58E+00
	304.84	4.50	5.57E+00		7.04E+00	2.66E+00
	423.70	3.20	7.87E+00		6.55E-01	3.72E+00
	437.55	2.00	1.14E+01		-4.57E+00	5.33E+00
	537.32	25.00	9.59E-01		-5.28E-01	4.47E-01
LA-140	328.77	20.50	1.35E+00	3.82E-01	3.12E-02	6.48E-01
	487.03	45.50	5.12E-01		-1.37E-01	2.39E-01
	815.85	23.50	1.24E+00		-1.82E-01	5.71E-01
	1596.49	95.49	3.82E-01		2.94E-02	1.71E-01
CE-141	145.44	48.40	1.91E-01	1.91E-01	1.47E-01	9.28E-02
CE-143	57.36	11.80	6.31E+05	2.46E+05	-2.91E+05	3.05E+05
	293.26	42.00	2.46E+05		2.27E+04	1.19E+05
	664.55	5.20	1.98E+06		7.90E+05	9.31E+05
CE-144	133.54	10.80	4.68E-01	4.68E-01	7.07E-02	2.27E-01
PM-144	476.78	42.00	1.26E-01	7.17E-02	-6.33E-02	5.88E-02
	618.01	98.60	7.17E-02		1.15E-02	3.37E-02
	696.49	99.49	7.66E-02		-1.86E-02	3.60E-02
PM-145	36.85	21.70	9.72E-01	4.99E-01	-3.99E-01	4.71E-01
	37.36	39.70	4.99E-01		-2.05E-01	2.42E-01
	42.30	15.10	8.26E-01		1.57E-01	4.01E-01
	72.40	2.31	2.09E+00		-6.14E-01	1.01E+00
PM-146	453.90	39.94	1.41E-01	1.41E-01	6.91E-02	6.65E-02
	735.90	14.01	4.72E-01		-2.13E-01	2.20E-01
	747.13	13.10	5.30E-01		2.83E-01	2.47E-01
ND-147	91.11	28.90	1.30E+00	1.30E+00	2.09E+00	6.36E-01
	531.02	13.10	2.64E+00		-8.89E-02	1.24E+00
PM-149	285.90	3.10	1.07E+04	1.07E+04	1.09E+03	5.12E+03
EU-152	121.78	20.50	2.12E-01	2.12E-01	-1.30E-01	1.02E-01

Analysis Report for 1510063-15
CP2107S19-20

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
EU-152	244.69	5.40	9.96E-01	2.12E-01	-2.16E+00	4.79E-01
	344.27	19.13	2.78E-01		5.93E-02	1.32E-01
	778.89	9.20	7.82E-01		-4.39E-02	3.65E-01
	964.01	10.40	9.36E-01		2.20E-02	4.40E-01
	1085.78	7.22	1.07E+00		2.86E-01	4.91E-01
	1112.02	9.60	8.79E-01		-5.95E-02	4.06E-01
	1407.95	14.94	4.75E-01		1.12E-01	2.12E-01
GD-153	97.43	31.30	1.57E-01	1.57E-01	-5.88E-03	7.63E-02
	103.18	22.20	2.09E-01		-1.44E-02	1.02E-01
EU-154	123.07	40.50	1.09E-01	1.09E-01	-4.38E-02	5.29E-02
	723.30	19.70	3.59E-01		3.61E-02	1.68E-01
	873.19	11.50	6.04E-01		2.90E-02	2.79E-01
	996.32	10.30	8.11E-01		-3.24E-02	3.77E-01
	1004.76	17.90	3.97E-01		5.83E-02	1.82E-01
EU-155	1274.45	35.50	2.36E-01	1.99E-01	5.86E-02	1.08E-01
	86.50	30.90	1.99E-01		-2.67E-01	9.72E-02
EU-156	105.30	20.70	2.19E-01	2.34E+00	5.28E-02	1.06E-01
	811.77	10.40	2.34E+00		1.33E-01	1.08E+00
	1153.47	7.20	4.37E+00		1.41E+00	2.02E+00
HO-166M	1230.71	8.90	3.72E+00	9.03E-02	7.82E-01	1.72E+00
	184.41	72.60	9.03E-02		6.77E-02	4.40E-02
	280.45	29.60	1.77E-01		-7.43E-02	8.48E-02
	410.94	11.10	5.29E-01		8.34E-02	2.51E-01
TM-171	711.69	54.10	1.32E-01	3.43E+01	4.44E-02	6.17E-02
	66.72	0.14	3.43E+01		1.04E+01	1.66E+01
	HF-172	81.75	4.52		9.14E-01	4.27E-01	-1.04E+00	4.42E-01
LU-172	125.81	11.30	4.27E-01	2.53E+00	1.53E-01	2.07E-01
	181.53	20.60	4.42E+00		5.71E-02	2.13E+00
	810.06	16.63	7.33E+00		9.52E-01	3.40E+00
	912.12	15.25	1.78E+01		4.73E+01	8.57E+00
	1093.66	62.50	2.53E+00		1.39E+00	1.17E+00
LU-173	100.72	5.24	8.94E-01	2.95E-01	4.14E-01	4.34E-01
	272.11	21.20	2.95E-01		3.62E-01	1.42E-01
HF-175	343.40	84.00	8.29E-02	8.29E-02	-1.05E-02	3.94E-02
LU-176	88.34	13.30	4.71E-01	5.48E-02	3.81E-01	2.31E-01
	201.83	86.00	6.29E-02		5.26E-02	3.04E-02
	306.78	94.00	5.48E-02		2.87E-03	2.61E-02
TA-182	67.75	41.20	1.32E-01	1.32E-01	1.30E-02	6.39E-02
	1121.30	34.90	4.47E-01		6.00E-01	2.12E-01
	1189.05	16.23	7.10E-01		4.77E-02	3.30E-01
	1221.41	26.98	4.68E-01		1.55E-01	2.19E-01
	1231.02	11.44	9.53E-01		3.83E-01	4.40E-01
IR-192	308.46	29.68	2.17E-01	1.35E-01	-2.44E-02	1.03E-01
	468.07	48.10	1.35E-01		-2.31E-02	6.29E-02
HG-203	279.19	77.30	1.11E-01	1.11E-01	9.91E-02	5.31E-02
BI-207	569.67	97.72	5.77E-02	5.77E-02	1.88E-02	2.69E-02
	1063.62	74.90	1.03E-01		1.42E-03	4.75E-02
+ TL-208	583.14	* 30.22	3.00E-01	1.55E-01	1.42E+00	1.44E-01
	860.37	* 4.48	2.02E+00		1.84E+00	9.55E-01
	2614.66	* 35.85	1.55E-01		9.26E-01	6.50E-02
BI-210M	262.00	45.00	1.12E-01	1.12E-01	9.17E-02	5.38E-02
	300.00	23.00	2.58E-01		1.30E-01	1.24E-01
+ PB-210	46.50	* 4.25	4.53E+00	4.53E+00	3.67E+00	2.23E+00

Analysis Report for 1510063-15
CP2107S19-20

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
PB-211	404.84		2.90	1.88E+00	1.88E+00	1.17E+00	8.90E-01
	831.96		2.90	2.57E+00		-7.52E-01	1.20E+00
+ BI-212	727.17	*	11.80	8.68E-01	8.68E-01	9.57E-01	4.15E-01
	1620.62		2.75	2.92E+00		1.80E+00	1.31E+00
+ PB-212	238.63	*	44.60	2.86E-01	2.86E-01	1.59E+00	1.41E-01
	300.09	*	3.41	1.84E+00		8.83E-01	8.83E-01
+ BI-214	609.31	*	46.30	3.09E-01	3.09E-01	9.25E-01	1.50E-01
	1120.29	*	15.10	9.66E-01		1.33E+00	4.62E-01
	1764.49	*	15.80	4.24E-01		9.90E-01	1.84E-01
	2204.22	*	4.98	1.11E+00		2.22E+00	4.62E-01
+ PB-214	295.21	*	19.19	3.49E-01	2.11E-01	1.20E+00	1.68E-01
	351.92	*	37.19	2.11E-01		1.05E+00	1.02E-01
RN-219	401.80		6.50	8.64E-01	8.64E-01	4.69E-01	4.10E-01
RA-223	323.87		3.88	1.36E+00	1.36E+00	-3.92E-01	6.50E-01
+ RA-224	240.98	*	3.95	3.25E+00	3.25E+00	4.02E+00	1.60E+00
RA-225	40.00		31.00	1.92E+00	1.92E+00	7.77E-01	9.32E-01
+ RA-226	186.21	*	3.28	2.37E+00	2.37E+00	3.94E+00	1.16E+00
TH-227	50.10		8.40	8.81E-01	7.26E-01	5.93E-02	4.27E-01
	236.00		11.50	7.26E-01		-4.53E+00	3.54E-01
	256.20		6.30	8.11E-01		-3.65E-01	3.88E-01
+ AC-228	338.32	*	11.40	7.28E-01	3.69E-01	1.29E+00	3.53E-01
	911.07	*	27.70	3.69E-01		1.25E+00	1.75E-01
	969.11	*	16.60	8.85E-01		1.30E+00	4.25E-01
TH-230	48.44		16.90	4.87E-01	4.87E-01	-4.54E-01	2.36E-01
	62.85		4.60	1.26E+00		1.34E+00	6.11E-01
	67.67		0.37	1.24E+01		1.22E+00	6.01E+00
PA-231	283.67		1.60	3.08E+00	2.38E+00	-1.28E+00	1.47E+00
	302.67		2.30	2.38E+00		1.32E+00	1.14E+00
TH-231	25.64		14.70	1.46E+01	7.17E-01	1.19E+00	7.08E+00
	84.21		6.40	7.17E-01		8.47E-01	3.48E-01
PA-233	311.98		38.60	2.71E-01	2.71E-01	-4.36E-02	1.29E-01
PA-234	131.20		20.40	2.46E-01	2.46E-01	1.05E-02	1.20E-01
	733.99		8.80	7.88E-01		-1.42E-01	3.68E-01
	946.00		12.00	6.69E-01		-1.36E-01	3.11E-01
PA-234M	1001.03		0.92	8.07E+00	8.07E+00	9.58E-01	3.72E+00
TH-234	63.29		3.80	1.51E+00	1.51E+00	1.61E+00	7.34E-01
U-235	143.76		10.50	4.78E-01	4.78E-01	5.76E-03	2.32E-01
	163.35		4.70	1.02E+00		4.50E-01	4.92E-01
	205.31		4.70	1.16E+00		2.32E-01	5.59E-01
+ NP-237	86.50	*	12.60	4.12E-01	4.12E-01	2.34E-01	2.01E-01
NP-239	106.10		22.70	7.80E+02	7.80E+02	1.32E+02	3.79E+02
	228.18		10.70	2.06E+03		3.18E+02	9.94E+02
	277.60		14.10	1.52E+03		7.17E+02	7.30E+02
AM-241	59.54		35.90	1.55E-01	1.55E-01	2.19E-02	7.54E-02
AM-243	74.67		66.00	1.00E-01	1.00E-01	-1.75E-01	4.91E-02
CM-243	209.75		3.29	1.79E+00	3.95E-01	7.68E-01	8.66E-01
	228.14		10.60	5.36E-01		8.28E-02	2.59E-01
	277.60		14.00	3.95E-01		1.86E-01	1.90E-01

Analysis Report for 1510063-15
CP2107S19-20

-
- + = 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
-

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

<i>Creation Date</i>	<i>Comment</i>	<i>User</i>
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No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP2107S19-20

Elapsed Live time: 3600
 Elapsed Real Time: 3601

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	1	2	209	
9:	589	1187	1092	439	647	1700	243	146	
17:	138	126	125	122	116	140	110	106	
25:	103	113	115	109	111	121	108	123	
33:	100	106	123	113	118	119	132	140	
41:	132	123	112	108	137	168	226	127	
49:	107	122	108	102	113	111	83	95	
57:	94	98	121	118	118	123	150	169	
65:	108	97	111	115	94	107	123	119	
73:	148	157	396	222	441	355	110	104	
81:	97	102	100	165	135	92	195	202	
89:	92	186	130	131	257	143	84	69	
97:	70	67	94	94	70	65	62	69	
105:	79	76	87	74	82	71	70	65	
113:	87	72	79	69	65	63	83	57	
121:	57	56	75	69	66	82	54	91	
129:	110	89	70	66	65	73	87	55	
137:	67	79	66	45	70	70	58	92	
145:	79	64	74	52	70	67	64	64	
153:	68	100	66	63	43	53	62	53	
161:	67	56	54	55	50	47	41	64	
169:	51	53	62	55	59	64	56	49	
177:	50	58	52	53	55	54	52	53	
185:	87	215	104	48	43	53	62	50	
193:	54	53	59	54	50	57	36	60	
201:	52	69	50	44	58	60	60	38	
209:	93	78	41	59	51	62	20	47	
217:	51	49	40	48	39	52	44	55	
225:	47	55	50	48	53	50	50	40	
233:	49	45	44	51	49	352	582	109	
241:	100	135	62	34	43	34	33	38	
249:	28	36	22	26	46	36	31	31	
257:	33	44	37	37	38	35	31	25	
265:	15	39	24	28	33	75	61	29	
273:	28	33	25	28	52	45	31	28	
281:	34	25	30	30	24	31	32	27	
289:	26	22	26	36	31	37	177	116	
297:	24	29	38	66	40	18	36	27	
305:	39	25	31	15	28	27	18	27	
313:	33	26	28	21	25	21	25	24	
321:	32	27	13	41	28	26	29	52	
329:	32	33	29	40	25	25	31	22	
337:	37	110	89	27	24	28	24	26	
345:	21	25	17	23	26	20	103	292	
353:	76	23	22	25	22	16	24	19	
361:	21	25	26	19	17	18	22	26	

369: 17 15 22 23 22 29 16 23

Sample Title: CP2107S19-20

Channel	1	2	3	4	5	6	7	8
377:	25	10	23	13	25	24	20	17
385:	21	16	16	21	16	25	29	21
393:	23	16	21	24	14	19	14	19
401:	21	16	27	29	19	14	15	31
409:	35	27	15	17	25	15	15	21
417:	20	20	21	20	21	22	20	16
425:	21	20	24	12	13	15	23	22
433:	20	15	17	15	10	15	19	16
441:	23	16	19	17	16	17	17	22
449:	9	9	11	18	17	17	17	23
457:	14	19	10	15	21	20	42	27
465:	13	20	13	8	14	14	14	12
473:	17	15	7	22	7	20	12	16
481:	22	10	13	18	9	19	15	14
489:	11	17	15	10	17	10	20	10
497:	18	10	16	15	16	11	15	18
505:	22	14	9	21	31	66	95	37
513:	22	18	10	19	15	10	8	16
521:	15	8	9	8	16	13	14	19
529:	17	16	11	16	21	18	15	10
537:	13	13	11	11	19	7	16	5
545:	19	14	11	12	16	11	21	8
553:	14	15	9	18	20	18	8	15
561:	13	15	17	18	9	11	11	12
569:	10	17	16	15	7	12	9	14
577:	9	14	8	18	17	65	174	84
585:	22	11	15	9	15	13	14	11
593:	12	8	10	21	16	10	11	20
601:	14	21	13	8	17	16	9	46
609:	164	124	15	16	13	24	11	16
617:	10	9	18	10	10	12	9	12
625:	13	6	13	8	7	6	5	9
633:	12	15	10	7	12	9	12	12
641:	12	4	10	11	19	12	12	13
649:	8	10	15	10	12	5	9	8
657:	12	11	9	9	14	14	12	10
665:	19	12	9	9	13	9	13	14
673:	9	12	15	11	11	9	10	10
681:	9	9	9	20	14	13	11	12
689:	7	7	8	14	13	12	12	15
697:	10	11	8	12	17	11	7	14
705:	10	10	7	10	8	12	10	14
713:	11	11	11	7	9	10	12	15
721:	7	11	5	13	3	18	40	35
729:	11	8	12	13	7	12	7	9
737:	8	7	10	10	10	7	7	7
745:	7	8	11	10	9	13	4	7
753:	9	16	10	10	8	8	7	4
761:	13	10	10	11	5	17	9	12
769:	19	15	11	20	11	13	6	8
777:	2	12	10	12	8	14	11	9
785:	10	12	10	11	13	9	10	8
793:	10	16	19	10	10	4	10	11

801: 7 5 7 8 5 7 10 7

Sample Title: CP2107S19-20

Channel	1	2	3	4	5	6	7	8	9
809:	7	5	10	10	4	11	4	9	
817:	5	8	6	5	6	3	9	9	
825:	8	3	5	9	9	8	7	12	
833:	8	6	14	19	9	14	15	15	
841:	10	9	8	8	9	13	8	12	
849:	11	7	8	13	8	2	5	7	
857:	6	7	10	17	23	8	7	6	
865:	8	6	2	6	4	6	7	14	
873:	9	2	5	7	7	3	8	5	
881:	5	5	7	5	6	3	6	8	
889:	5	3	8	11	7	14	7	10	
897:	11	9	5	12	9	8	8	14	
905:	9	7	3	5	18	39	104	46	
913:	11	6	10	8	4	5	4	2	
921:	6	4	13	5	7	8	4	9	
929:	7	9	3	11	20	17	12	4	
937:	7	6	9	12	7	7	3	7	
945:	5	7	9	10	19	10	6	6	
953:	6	9	10	6	3	11	4	9	
961:	10	8	11	18	19	12	9	50	
969:	61	27	8	12	7	4	8	9	
977:	9	5	8	4	8	8	7	5	
985:	4	9	9	9	3	11	4	7	
993:	13	8	8	10	7	7	6	7	
1001:	14	5	4	3	6	3	6	7	
1009:	2	7	5	9	3	9	6	9	
1017:	4	4	7	7	8	6	4	3	
1025:	10	5	6	5	5	10	4	7	
1033:	13	8	5	9	7	7	3	7	
1041:	8	5	8	8	7	8	9	5	
1049:	7	7	7	5	2	4	2	12	
1057:	0	7	9	4	8	4	9	6	
1065:	8	6	6	4	7	8	7	5	
1073:	7	4	11	3	6	4	8	4	
1081:	4	5	7	8	6	4	9	4	
1089:	3	8	7	13	2	7	12	6	
1097:	5	7	5	6	11	8	8	5	
1105:	7	9	2	10	7	10	4	9	
1113:	4	7	9	5	11	13	23	39	
1121:	28	11	7	7	7	8	8	8	
1129:	7	3	4	10	8	8	8	6	
1137:	5	7	10	5	7	6	6	15	
1145:	7	9	5	3	6	3	11	7	
1153:	8	8	9	5	9	4	6	7	
1161:	4	13	5	10	7	4	8	6	
1169:	6	6	14	5	5	8	10	9	
1177:	7	9	5	5	4	11	7	8	
1185:	7	7	8	12	6	12	6	10	
1193:	13	5	11	5	3	8	5	5	
1201:	12	8	7	14	8	7	17	4	
1209:	6	11	5	7	9	15	6	6	
1217:	13	7	11	10	9	9	12	13	
1225:	9	5	6	8	7	5	6	7	

1233: 12 6 5 5 11 18 10 7

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Channel	1	2	3	4	5	6	7	8
1241:	7	7	8	4	8	10	7	5
1249:	7	9	7	6	6	12	3	6
1257:	8	4	3	4	6	6	5	8
1265:	6	4	4	6	2	8	6	8
1273:	3	2	6	6	8	2	6	6
1281:	12	11	11	4	5	5	5	9
1289:	5	6	8	6	4	8	8	2
1297:	1	3	4	8	8	11	2	5
1305:	3	1	8	6	3	5	3	5
1313:	4	7	4	10	7	8	8	5
1321:	2	5	2	3	3	7	2	4
1329:	3	8	2	6	5	4	2	5
1337:	3	4	3	5	3	2	1	1
1345:	5	6	3	3	3	5	3	4
1353:	4	6	6	4	6	1	2	2
1361:	3	2	7	2	3	1	4	1
1369:	4	2	1	2	3	4	5	8
1377:	6	8	5	0	1	2	8	5
1385:	3	1	1	7	3	3	3	2
1393:	1	1	4	5	2	4	2	11
1401:	9	3	6	4	0	2	6	5
1409:	4	2	5	1	5	3	5	0
1417:	0	2	2	3	1	3	3	1
1425:	5	2	5	5	3	0	3	5
1433:	5	1	1	2	2	2	5	2
1441:	1	1	1	2	0	5	2	0
1449:	5	2	3	3	2	1	1	3
1457:	3	17	104	298	279	82	6	5
1465:	4	1	7	1	4	1	2	3
1473:	3	1	1	3	3	2	1	3
1481:	1	2	3	4	0	2	2	0
1489:	1	2	0	3	4	1	3	2
1497:	1	1	0	0	1	2	1	0
1505:	0	5	3	8	1	5	3	1
1513:	4	2	0	2	1	2	1	1
1521:	5	3	1	0	2	0	1	1
1529:	2	0	1	1	5	2	2	0
1537:	1	2	3	1	1	3	6	6
1545:	2	1	2	2	0	2	0	0
1553:	0	2	1	2	0	0	4	1
1561:	1	2	2	1	0	0	1	1
1569:	1	3	1	1	0	1	2	0
1577:	2	0	2	2	2	0	2	1
1585:	1	1	5	7	4	4	3	6
1593:	4	5	2	2	2	0	3	1
1601:	1	1	2	2	1	1	1	3
1609:	3	0	0	7	1	0	2	4
1617:	4	1	1	4	5	1	1	4
1625:	1	1	0	2	8	5	4	1
1633:	3	2	2	0	1	0	0	3
1641:	1	1	2	1	0	1	2	0
1649:	1	0	0	3	0	2	0	3
1657:	0	1	2	1	4	2	3	0

1665: 0 2 3 1 0 1 1 4

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Channel	1	2	3	4	5	6	7	8
1673:	1	1	2	0	0	3	2	0
1681:	0	2	1	1	2	1	1	1
1689:	2	1	1	0	1	3	4	4
1697:	1	2	0	2	0	0	2	1
1705:	2	1	0	1	1	4	2	1
1713:	2	1	0	1	0	1	3	0
1721:	0	2	0	1	2	0	1	5
1729:	1	8	2	2	1	0	0	2
1737:	0	2	3	0	1	1	0	0
1745:	2	2	1	3	1	1	1	1
1753:	2	0	2	1	1	2	2	0
1761:	2	6	9	19	15	2	1	0
1769:	0	0	0	1	1	3	1	1
1777:	2	0	2	3	1	1	2	2
1785:	0	0	0	0	2	0	1	3
1793:	1	2	1	1	0	1	2	2
1801:	2	1	3	1	4	1	1	0
1809:	3	1	2	0	2	1	3	2
1817:	1	0	1	0	1	0	0	0
1825:	0	1	0	3	2	0	3	2
1833:	0	1	1	0	1	2	3	1
1841:	1	1	1	1	3	4	6	1
1849:	1	0	1	1	1	1	2	0
1857:	2	1	1	1	0	0	0	1
1865:	1	0	1	0	1	0	2	1
1873:	0	3	3	0	0	0	3	1
1881:	1	1	0	1	1	3	0	0
1889:	0	3	1	0	1	2	1	3
1897:	2	2	2	1	2	3	0	2
1905:	1	1	2	0	2	1	2	1
1913:	0	4	0	0	3	1	1	0
1921:	0	1	1	1	0	0	0	1
1929:	2	1	0	0	2	1	0	2
1937:	2	0	0	0	0	1	0	0
1945:	1	1	0	0	0	3	0	1
1953:	1	0	1	0	1	1	0	2
1961:	1	2	1	0	3	0	1	0
1969:	1	1	0	0	1	0	0	0
1977:	0	1	2	1	2	1	2	1
1985:	0	0	0	0	1	5	0	1
1993:	0	2	2	0	2	0	0	0
2001:	0	1	0	2	1	1	0	0
2009:	0	1	0	1	0	1	1	0
2017:	2	2	2	1	1	1	1	1
2025:	1	1	1	1	0	1	2	1
2033:	0	0	2	0	1	0	2	1
2041:	0	0	1	0	1	1	0	0
2049:	0	0	0	1	1	1	0	0
2057:	0	1	1	0	1	0	0	0
2065:	2	2	2	2	0	1	0	0
2073:	1	2	1	0	1	1	2	0
2081:	1	0	1	3	2	1	3	0
2089:	1	0	1	1	1	0	1	3

2097: 0 0 1 1 3 1 2 7

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Channel	1	2	3	4	5	6	7	8
2105:	1	1	0	1	2	1	1	0
2113:	3	1	0	5	2	2	1	0
2121:	0	1	1	0	0	3	2	1
2129:	2	1	2	3	0	0	1	1
2137:	2	3	1	1	0	2	1	0
2145:	1	3	1	0	3	0	0	0
2153:	0	3	2	2	1	0	1	1
2161:	1	0	0	0	2	1	1	0
2169:	0	1	1	0	0	0	1	1
2177:	1	0	1	0	0	0	4	0
2185:	1	2	1	2	0	0	2	0
2193:	0	2	0	0	1	1	1	2
2201:	1	4	9	7	3	2	2	2
2209:	1	0	1	0	0	1	1	0
2217:	1	3	2	0	1	1	1	0
2225:	2	2	1	2	1	1	1	0
2233:	3	1	0	1	0	2	0	0
2241:	0	1	0	1	1	1	0	1
2249:	3	0	1	3	1	1	1	0
2257:	0	2	1	2	0	1	0	0
2265:	0	0	2	0	0	0	0	2
2273:	3	1	1	4	1	0	2	0
2281:	0	0	0	0	1	1	0	1
2289:	0	1	1	0	3	1	1	0
2297:	1	2	3	1	3	1	2	1
2305:	0	1	2	3	1	2	3	1
2313:	1	1	0	0	1	2	0	1
2321:	0	2	1	1	0	1	2	3
2329:	2	0	0	1	0	0	0	0
2337:	0	1	0	2	0	1	0	0
2345:	4	2	1	0	1	1	1	2
2353:	1	1	0	1	1	2	2	2
2361:	3	0	2	1	0	1	0	2
2369:	1	1	2	0	0	2	0	1
2377:	2	3	1	0	2	0	0	0
2385:	0	0	2	0	0	0	0	0
2393:	1	2	2	1	0	1	0	0
2401:	4	0	2	0	0	0	0	0
2409:	1	0	1	0	0	4	1	0
2417:	1	0	0	1	2	2	1	1
2425:	0	0	0	1	1	3	0	2
2433:	1	0	0	1	1	1	0	2
2441:	4	1	0	4	1	2	0	1
2449:	1	0	1	0	1	0	0	0
2457:	0	0	2	2	0	0	4	0
2465:	0	1	2	1	0	0	0	0
2473:	1	0	0	0	0	0	1	0
2481:	0	0	0	1	0	0	1	0
2489:	0	0	2	0	0	1	1	0
2497:	0	2	0	1	1	0	0	2
2505:	0	0	2	0	0	0	0	0
2513:	0	1	0	0	0	0	0	0
2521:	0	1	0	0	0	1	0	1

2529: 0 1 0 2 1 0 0 0

Sample Title: CP2107S19-20

Channel	1	2	3	4	5	6	7	8	9
2537:	2	0	1	1	0	0	0	0	0
2545:	0	0	0	2	0	1	0	0	0
2553:	0	0	1	0	2	1	1	0	0
2561:	1	0	1	0	0	0	1	0	0
2569:	0	2	0	0	1	0	0	0	0
2577:	0	1	0	0	0	1	0	0	0
2585:	0	2	2	1	0	0	0	0	0
2593:	0	0	1	0	1	1	0	0	0
2601:	0	1	0	0	0	1	0	1	0
2609:	0	1	4	16	28	31	16	9	0
2617:	3	1	0	0	0	0	0	0	0
2625:	1	0	0	0	0	1	0	0	0
2633:	0	0	0	0	0	0	0	0	0
2641:	0	0	0	1	0	0	0	0	0
2649:	0	0	1	0	0	0	0	0	0
2657:	0	1	0	0	0	0	0	0	0
2665:	1	1	0	0	0	0	0	0	0
2673:	1	1	0	0	0	0	2	0	0
2681:	0	0	0	0	0	0	0	1	0
2689:	0	0	0	1	0	0	0	1	0
2697:	0	0	0	0	0	0	0	0	0
2705:	0	0	0	1	0	0	0	0	0
2713:	0	0	0	1	0	1	0	1	0
2721:	0	0	0	1	1	2	1	0	0
2729:	1	0	0	1	0	0	0	1	0
2737:	1	0	0	0	0	0	0	0	0
2745:	1	0	1	0	0	0	0	0	0
2753:	1	1	1	0	0	0	0	0	0
2761:	0	0	0	0	0	0	0	0	0
2769:	1	0	1	0	0	0	1	0	0
2777:	1	0	0	1	1	0	0	1	0
2785:	1	0	0	0	0	0	0	0	0
2793:	1	1	1	1	0	0	0	0	0
2801:	0	0	0	0	0	1	1	0	0
2809:	0	0	0	1	0	0	0	0	0
2817:	0	0	0	0	0	2	0	0	0
2825:	0	0	0	0	0	0	0	0	0
2833:	1	0	0	0	1	0	0	0	0
2841:	0	1	0	1	0	1	0	0	0
2849:	0	0	0	0	0	0	1	1	0
2857:	1	0	1	0	0	0	0	0	0
2865:	1	0	0	0	0	0	0	0	0
2873:	0	0	2	0	3	0	1	0	0
2881:	0	1	1	1	0	0	0	0	0
2889:	0	1	0	0	0	0	0	1	0
2897:	0	0	0	0	0	0	0	0	0
2905:	2	0	0	0	0	1	0	0	0
2913:	0	1	0	0	0	0	0	2	0
2921:	0	0	0	1	0	0	1	0	0
2929:	0	0	0	0	0	0	1	1	0
2937:	0	2	1	0	0	1	0	0	0
2945:	0	0	0	0	0	0	0	0	0
2953:	0	0	1	1	1	0	0	0	0

2961: 0 0 1 1 0 0 0 0

Sample Title: CP2107S19-20

Channel	1	2	3	4	5	6	7	8
2969:	0	0	0	0	0	0	0	1
2977:	1	0	0	1	1	0	1	0
2985:	0	0	0	0	0	1	0	0
2993:	1	0	0	0	1	0	1	1
3001:	0	0	0	0	0	0	0	1
3009:	1	0	0	1	1	0	0	0
3017:	0	2	0	0	0	0	0	0
3025:	0	1	0	0	0	1	0	0
3033:	0	0	0	0	0	0	0	0
3041:	0	0	1	0	0	0	1	0
3049:	0	1	0	0	0	0	0	0
3057:	0	0	0	0	0	0	0	0
3065:	0	0	0	1	0	0	0	0
3073:	0	0	0	0	0	0	0	0
3081:	0	1	0	0	1	0	0	0
3089:	0	0	0	0	0	1	0	0
3097:	0	0	0	0	0	0	0	1
3105:	1	0	0	0	0	1	0	0
3113:	0	0	0	0	0	1	0	0
3121:	0	0	0	0	1	0	0	0
3129:	0	0	1	0	0	1	0	0
3137:	0	0	0	1	0	0	0	0
3145:	0	0	1	0	0	0	0	0
3153:	0	0	0	1	0	0	0	0
3161:	0	0	0	0	0	0	0	0
3169:	0	0	0	0	0	1	0	0
3177:	0	1	0	0	0	1	0	0
3185:	0	0	1	0	0	0	1	0
3193:	0	0	2	0	1	0	0	1
3201:	0	0	0	0	0	0	0	0
3209:	0	0	0	0	0	0	1	0
3217:	1	0	0	0	0	0	2	0
3225:	0	1	0	0	0	0	0	0
3233:	0	0	1	0	0	1	0	0
3241:	0	0	0	0	0	0	0	0
3249:	0	0	0	0	0	0	0	0
3257:	0	1	0	0	0	0	0	1
3265:	1	1	1	0	0	0	0	0
3273:	1	0	0	0	0	0	0	0
3281:	0	1	0	1	0	0	0	0
3289:	0	0	0	0	0	1	0	0
3297:	0	0	0	0	0	0	0	0
3305:	0	1	0	0	0	0	0	0
3313:	0	0	0	0	0	1	1	0
3321:	0	0	0	0	2	0	0	0
3329:	0	0	0	0	0	0	0	0
3337:	0	0	0	0	0	0	0	0
3345:	0	0	0	0	0	0	0	0
3353:	0	0	0	0	0	0	1	0
3361:	0	0	0	0	1	0	0	0
3369:	1	0	0	0	0	0	0	1
3377:	0	0	0	1	0	0	0	0
3385:	0	0	0	0	0	0	0	0

3393: 0 0 0 0 0 0 0 0

Sample Title: CP2107S19-20

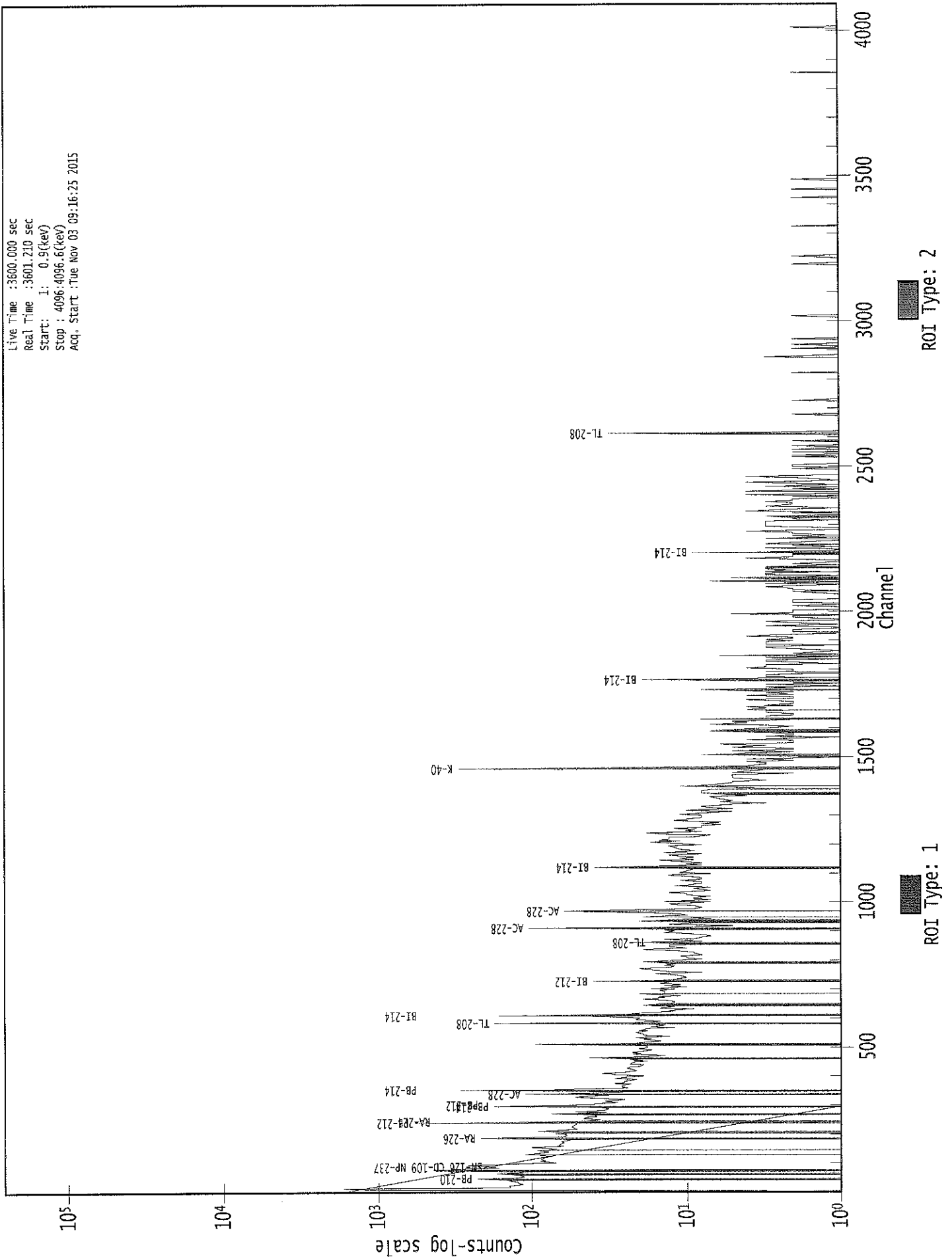
Channel	0	0	0	0	1	0	0	0
3401:	0	0	0	0	1	0	0	0
3409:	0	0	0	0	0	0	0	2
3417:	0	0	0	1	0	0	0	0
3425:	0	1	0	0	0	0	0	0
3433:	0	0	1	1	0	0	0	0
3441:	0	0	0	2	1	0	0	1
3449:	0	0	0	0	0	0	0	1
3457:	0	0	0	0	0	0	0	0
3465:	0	0	0	0	1	0	0	0
3473:	1	0	0	0	0	0	2	0
3481:	1	0	0	0	0	0	0	0
3489:	0	0	1	0	0	0	0	0
3497:	0	0	0	0	1	1	0	0
3505:	0	0	0	0	0	0	0	0
3513:	0	0	0	0	0	1	0	1
3521:	0	0	0	0	0	0	0	1
3529:	0	1	0	1	0	0	0	0
3537:	0	0	0	0	1	0	0	1
3545:	0	0	0	0	0	0	1	0
3553:	0	0	0	0	0	0	0	1
3561:	0	0	0	0	0	0	0	0
3569:	1	0	1	1	1	0	0	0
3577:	0	0	0	0	0	0	0	0
3585:	0	0	0	1	0	0	0	0
3593:	0	0	0	0	0	0	1	0
3601:	0	0	0	0	0	0	0	0
3609:	1	0	0	0	0	0	0	0
3617:	0	0	0	1	0	0	0	0
3625:	0	0	0	0	0	0	0	0
3633:	0	0	0	0	0	0	0	0
3641:	0	1	0	0	0	0	1	0
3649:	0	0	1	0	0	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	0	0	0	0	0	0	0	0
3673:	0	0	0	0	0	0	0	0
3681:	0	0	1	0	0	0	1	1
3689:	0	0	0	0	1	0	0	0
3697:	0	0	0	0	0	0	0	0
3705:	0	0	0	0	1	0	0	1
3713:	0	0	0	1	1	0	1	0
3721:	0	0	1	0	0	0	0	0
3729:	0	0	0	0	0	0	0	0
3737:	0	0	0	0	0	0	0	0
3745:	0	0	0	0	0	0	0	0
3753:	0	0	0	0	0	0	0	0
3761:	0	0	0	0	0	1	0	1
3769:	0	0	0	0	0	0	1	0
3777:	0	0	0	0	1	0	0	0
3785:	0	0	0	0	0	0	0	0
3793:	0	0	1	0	0	0	0	0
3801:	0	0	0	0	0	1	0	0
3809:	0	1	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0

3825: 0 0 0 0 0 0 0 0 1

Sample Title: CP2107S19-20

Channel	1	2	3	4	5	6	7	8
3833:	0	0	0	0	0	0	0	0
3841:	0	1	0	1	0	0	1	1
3849:	0	0	0	0	0	0	0	2
3857:	0	0	0	0	0	0	1	0
3865:	1	0	0	1	0	0	0	0
3873:	0	0	0	0	0	0	0	0
3881:	0	0	0	0	0	0	0	0
3889:	0	0	0	0	0	1	1	0
3897:	0	0	0	0	0	0	1	0
3905:	0	0	0	0	0	0	1	0
3913:	0	1	0	0	0	0	0	0
3921:	0	0	0	0	0	0	0	0
3929:	1	0	0	0	0	0	0	0
3937:	0	0	0	0	1	1	0	0
3945:	0	0	0	1	0	0	0	0
3953:	0	0	1	0	0	0	0	0
3961:	0	0	0	0	0	0	0	0
3969:	0	1	1	0	1	1	0	0
3977:	0	1	0	0	0	0	0	0
3985:	0	0	0	0	0	0	1	1
3993:	0	0	0	0	0	0	0	0
4001:	0	0	0	0	0	0	1	0
4009:	0	0	0	2	0	0	0	1
4017:	0	0	0	0	0	0	0	0
4025:	0	0	0	0	0	0	1	0
4033:	0	0	0	0	0	1	0	1
4041:	1	0	0	1	0	0	0	0
4049:	0	0	0	0	0	0	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	0	0	0	0	0	0	0
4073:	0	0	0	0	0	0	0	1
4081:	0	0	0	0	0	0	0	1
4089:	0	0	1	0	0	0	0	0

0000029016.CNF



11600 :

Analysis Report for 1510063-16
CP5005S01-02



GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510063-16
Sample Description : CP5005S01-02
Sample Type : SOIL

Sample Size : 6.066E+02 grams
Facility : Countroom

Sample Taken On : 10/6/2015 7:50:12AM
Acquisition Started : 11/3/2015 9:16:33AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE3
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3616.5 seconds

Dead Time : 0.46 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 9 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29017

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/3/15

Analysis Report for 1510063-16
CP5005S01-02

PEAK LOCATE REPORT

Peak Locate Performed on : 11/3/2015 10:16:59AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	63.84	64.06	0.0000	0.00
2	76.23	76.44	0.0000	0.00
3	87.52	87.73	0.0000	0.00
4	92.82	93.02	0.0000	0.00
5	128.72	128.90	0.0000	0.00
6	145.13	145.31	0.0000	0.00
7	186.39	186.54	0.0000	0.00
8	209.65	209.79	0.0000	0.00
9	238.86	238.99	0.0000	0.00
10	242.05	242.17	0.0000	0.00
11	271.15	271.26	0.0000	0.00
12	276.55	276.66	0.0000	0.00
13	295.32	295.42	0.0000	0.00
14	300.34	300.44	0.0000	0.00
15	338.29	338.37	0.0000	0.00
16	352.29	352.36	0.0000	0.00
17	463.53	463.54	0.0000	0.00
18	583.36	583.32	0.0000	0.00
19	609.58	609.53	0.0000	0.00
20	727.38	727.27	0.0000	0.00
21	735.41	735.29	0.0000	0.00
22	786.84	786.70	0.0000	0.00
23	792.37	792.23	0.0000	0.00
24	795.21	795.07	0.0000	0.00
25	806.39	806.24	0.0000	0.00
26	813.20	813.05	0.0000	0.00
27	836.97	836.81	0.0000	0.00
28	888.96	888.78	0.0000	0.00
29	911.50	911.30	0.0000	0.00
30	933.61	933.41	0.0000	0.00
31	968.88	968.66	0.0000	0.00
32	1107.03	1106.75	0.0000	0.00
33	1120.54	1120.25	0.0000	0.00
34	1142.03	1141.74	0.0000	0.00
35	1200.19	1199.87	0.0000	0.00
36	1238.16	1237.82	0.0000	0.00
37	1280.93	1280.58	0.0000	0.00
38	1354.08	1353.70	0.0000	0.00
39	1376.95	1376.56	0.0000	0.00
40	1409.06	1408.66	0.0000	0.00
41	1422.63	1422.22	0.0000	0.00
42	1432.21	1431.80	0.0000	0.00

Analysis Report for 1510063-16
CP5005S01-02

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
43	1461.32	1460.89	0.0000	0.00
44	1521.99	1521.55	0.0000	0.00
45	1529.12	1528.68	0.0000	0.00
46	1543.07	1542.62	0.0000	0.00
47	1587.80	1587.33	0.0000	0.00
48	1593.88	1593.41	0.0000	0.00
49	1634.26	1633.77	0.0000	0.00
50	1669.91	1669.41	0.0000	0.00
51	1730.08	1729.56	0.0000	0.00
52	1740.13	1739.61	0.0000	0.00
53	1765.10	1764.57	0.0000	0.00
54	1871.57	1871.00	0.0000	0.00
55	1969.52	1968.93	0.0000	0.00
56	2104.64	2104.00	0.0000	0.00
57	2205.08	2204.41	0.0000	0.00
58	2249.82	2249.14	0.0000	0.00
59	2323.63	2322.93	0.0000	0.00
60	2448.85	2448.11	0.0000	0.00
61	2615.24	2614.47	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

0913A

Analysis Report for 1510063-16
CP5005S01-02

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 10:16:59AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
1	63.84	61 -	68	64.06	2.24E+02	118.83	2.21E+03	1.71
2	76.23	71 -	81	76.44	1.22E+03	169.59	3.16E+03	3.88
3	87.52	86 -	90	87.73	1.04E+02	87.26	1.61E+03	1.53
4	92.82	90 -	97	93.02	3.86E+02	113.19	1.77E+03	1.98
5	128.72	125 -	132	128.90	8.90E+01	90.60	1.31E+03	1.89
6	145.13	143 -	148	145.31	6.41E+01	66.32	8.20E+02	2.09
7	186.39	183 -	190	186.54	2.23E+02	82.58	9.88E+02	1.89
8	209.65	207 -	212	209.79	6.81E+01	60.09	6.66E+02	1.47
M 9	238.86	235 -	254	238.99	8.19E+02	72.57	4.46E+02	1.65
m 10	242.05	235 -	254	242.17	1.88E+02	76.73	4.79E+02	1.89
M 11	271.15	267 -	281	271.26	9.47E+01	54.81	4.54E+02	3.41
m 12	276.55	267 -	281	276.66	8.71E+01	66.08	5.33E+02	3.41
13	295.32	291 -	299	295.42	2.65E+02	69.80	5.90E+02	1.85
14	300.34	299 -	302	300.44	4.06E+01	32.19	2.17E+02	1.76
15	338.29	334 -	341	338.37	1.27E+02	54.95	4.16E+02	1.86
16	352.29	346 -	357	352.36	4.97E+02	84.40	6.41E+02	1.91
17	463.53	460 -	468	463.54	3.26E+01	40.26	2.29E+02	1.46
18	583.36	578 -	588	583.32	2.16E+02	52.17	2.49E+02	2.10
19	609.58	605 -	614	609.53	3.22E+02	52.87	2.15E+02	2.04
20	727.38	723 -	730	727.27	7.03E+01	29.66	9.95E+01	2.74
21	735.41	732 -	740	735.29	2.59E+01	31.81	1.40E+02	2.00
22	786.84	784 -	790	786.70	2.40E+01	24.80	8.79E+01	4.33
M 23	792.37	791 -	799	792.23	1.34E+01	11.73	2.65E+01	2.41
m 24	795.21	791 -	799	795.07	3.33E+01	26.68	8.77E+01	2.55
25	806.39	804 -	809	806.24	2.67E+01	20.54	5.85E+01	1.93
26	813.20	810 -	816	813.05	2.91E+01	19.58	4.79E+01	4.03
27	836.97	833 -	840	836.81	2.29E+01	25.38	9.23E+01	5.25
28	888.96	886 -	892	888.78	1.85E+01	22.30	7.70E+01	4.67
29	911.50	907 -	916	911.30	1.28E+02	37.66	1.27E+02	2.02
30	933.61	929 -	937	933.41	2.42E+01	27.16	9.76E+01	2.70
31	968.88	965 -	972	968.66	7.50E+01	32.12	1.18E+02	1.26
M 32	1107.03	1103 -	1136	1106.75	1.63E+01	22.02	9.75E+01	3.01
m 33	1120.54	1103 -	1136	1120.25	6.76E+01	29.68	8.45E+01	3.02
34	1142.03	1137 -	1146	1141.74	5.10E+01	23.54	5.00E+01	8.06
35	1200.19	1198 -	1203	1199.87	1.49E+01	16.82	4.43E+01	2.14
36	1238.16	1234 -	1240	1237.82	3.05E+01	24.95	9.10E+01	1.84
37	1280.93	1277 -	1286	1280.58	1.91E+01	22.36	6.17E+01	3.65
38	1354.08	1352 -	1357	1353.70	1.21E+01	13.93	2.78E+01	1.87
39	1376.95	1372 -	1382	1376.56	3.96E+01	19.16	2.88E+01	2.57
40	1409.06	1405 -	1413	1408.66	1.35E+01	10.61	9.00E+00	1.46

Analysis Report for 1510063-16

CP5005S01-02

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
M	41	1422.63	1419 - 1437		1422.22	1.34E+01	11.18	2.16E+01	3.20
m	42	1432.21	1419 - 1437		1431.80	1.09E+01	14.32	1.12E+01	3.20
	43	1461.32	1456 - 1467		1460.89	4.93E+02	46.52	2.40E+01	2.32
	44	1521.99	1519 - 1524		1521.55	9.75E+00	8.12	4.50E+00	2.91
	45	1529.12	1525 - 1533		1528.68	1.42E+01	10.79	9.58E+00	3.60
	46	1543.07	1538 - 1546		1542.62	1.20E+01	12.85	1.80E+01	4.06
	47	1587.80	1584 - 1590		1587.33	9.15E+00	12.39	2.17E+01	1.58
	48	1593.88	1590 - 1598		1593.41	2.91E+01	14.03	9.88E+00	2.24
	49	1634.26	1626 - 1641		1633.77	2.38E+01	20.30	3.05E+01	10.53
	50	1669.91	1666 - 1671		1669.41	5.71E+00	6.08	2.57E+00	1.41
	51	1730.08	1726 - 1734		1729.56	1.57E+01	12.20	1.25E+01	1.51
	52	1740.13	1735 - 1743		1739.61	7.50E+00	9.41	9.00E+00	3.02
	53	1765.10	1760 - 1771		1764.57	5.84E+01	19.49	1.92E+01	2.69
	54	1871.57	1868 - 1873		1871.00	5.00E+00	4.47	0.00E+00	1.50
	55	1969.52	1964 - 1973		1968.93	7.60E+00	8.06	4.80E+00	1.06
	56	2104.64	2099 - 2108		2104.00	1.36E+01	12.61	1.48E+01	1.55
	57	2205.08	2199 - 2211		2204.41	2.64E+01	12.58	5.24E+00	3.25
	58	2249.82	2246 - 2252		2249.14	7.30E+00	8.03	5.40E+00	1.64
	59	2323.63	2320 - 2325		2322.93	5.64E+00	6.08	2.71E+00	2.60
	60	2448.85	2444 - 2451		2448.11	9.05E+00	7.75	3.91E+00	1.37
	61	2615.24	2610 - 2619		2614.47	8.60E+01	18.55	0.00E+00	2.41

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 10:16:59AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
1	63.84	61 -	68	2.24E+02	118.83	2.21E+03	9.45E+01
2	76.23	71 -	81	1.22E+03	169.59	3.16E+03	1.27E+02
3	87.52	86 -	90	1.04E+02	87.26	1.61E+03	6.98E+01
4	92.82	90 -	97	3.86E+02	113.19	1.77E+03	8.73E+01
5	128.72	125 -	132	8.90E+01	90.60	1.31E+03	7.28E+01
6	145.13	143 -	148	6.41E+01	66.32	8.20E+02	5.29E+01
7	186.39	183 -	190	2.23E+02	82.58	9.88E+02	6.33E+01

Analysis Report for 1510063-16

CP5005S01-02

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	8	209.65	207 -	212	6.81E+01	60.09	6.66E+02	4.75E+01
M	9	238.86	235 -	254	8.19E+02	72.57	4.46E+02	3.47E+01
m	10	242.05	235 -	254	1.88E+02	76.73	4.79E+02	3.60E+01
M	11	271.15	267 -	281	9.47E+01	54.81	4.54E+02	3.50E+01
m	12	276.55	267 -	281	8.71E+01	66.08	5.33E+02	3.80E+01
	13	295.32	291 -	299	2.65E+02	69.80	5.90E+02	5.08E+01
	14	300.34	299 -	302	4.06E+01	32.19	2.17E+02	2.43E+01
	15	338.29	334 -	341	1.27E+02	54.95	4.16E+02	4.12E+01
	16	352.29	346 -	357	4.97E+02	84.40	6.41E+02	5.89E+01
	17	463.53	460 -	468	3.26E+01	40.26	2.29E+02	3.17E+01
	18	583.36	578 -	588	2.16E+02	52.17	2.49E+02	3.54E+01
	19	609.58	605 -	614	3.22E+02	52.87	2.15E+02	3.19E+01
	20	727.38	723 -	730	7.03E+01	29.66	9.95E+01	2.01E+01
	21	735.41	732 -	740	2.59E+01	31.81	1.40E+02	2.48E+01
	22	786.84	784 -	790	2.40E+01	24.80	8.79E+01	1.87E+01
M	23	792.37	791 -	799	1.34E+01	11.73	2.65E+01	8.46E+00
m	24	795.21	791 -	799	3.33E+01	26.68	8.77E+01	1.54E+01
	25	806.39	804 -	809	2.67E+01	20.54	5.85E+01	2.56E+01
	26	813.20	810 -	816	2.91E+01	19.58	4.79E+01	1.34E+01
	27	836.97	833 -	840	2.29E+01	25.38	9.23E+01	1.93E+01
	28	888.96	886 -	892	1.85E+01	22.30	7.70E+01	1.69E+01
	29	911.50	907 -	916	1.28E+02	37.66	1.27E+02	2.47E+01
	30	933.61	929 -	937	2.42E+01	27.16	9.76E+01	2.08E+01
	31	968.88	965 -	972	7.50E+01	32.12	1.18E+02	2.22E+01
M	32	1107.03	1103 -	1136	1.63E+01	22.02	9.75E+01	1.62E+01
m	33	1120.54	1103 -	1136	6.76E+01	29.68	8.45E+01	1.51E+01
	34	1142.03	1137 -	1146	5.10E+01	23.54	5.00E+01	1.54E+01
	35	1200.19	1198 -	1203	1.49E+01	16.82	4.43E+01	1.23E+01
	36	1238.16	1234 -	1240	3.05E+01	24.95	9.10E+01	1.84E+01
	37	1280.93	1277 -	1286	1.91E+01	22.36	6.17E+01	1.69E+01
	38	1354.08	1352 -	1357	1.21E+01	13.93	2.78E+01	9.92E+00
	39	1376.95	1372 -	1382	3.96E+01	19.16	2.88E+01	1.19E+01
	40	1409.06	1405 -	1413	1.35E+01	10.61	9.00E+00	6.29E+00
M	41	1422.63	1419 -	1437	1.34E+01	11.18	2.16E+01	7.65E+00
m	42	1432.21	1419 -	1437	1.09E+01	14.32	1.12E+01	5.49E+00
	43	1461.32	1456 -	1467	4.93E+02	46.52	2.40E+01	1.14E+01
	44	1521.99	1519 -	1524	9.75E+00	8.12	4.50E+00	4.27E+00
	45	1529.12	1525 -	1533	1.42E+01	10.79	9.58E+00	6.35E+00
	46	1543.07	1538 -	1546	1.20E+01	12.85	1.80E+01	8.89E+00
	47	1587.80	1584 -	1590	9.15E+00	12.39	2.17E+01	8.89E+00
	48	1593.88	1590 -	1598	2.91E+01	14.03	9.88E+00	7.38E+00
	49	1634.26	1626 -	1641	2.38E+01	20.30	3.05E+01	1.46E+01
	50	1669.91	1666 -	1671	5.71E+00	6.08	2.57E+00	3.09E+00
	51	1730.08	1726 -	1734	1.57E+01	12.20	1.25E+01	7.62E+00
	52	1740.13	1735 -	1743	7.50E+00	9.41	9.00E+00	6.29E+00
	53	1765.10	1760 -	1771	5.84E+01	19.49	1.92E+01	9.95E+00
	54	1871.57	1868 -	1873	5.00E+00	4.47	0.00E+00	0.00E+00
	55	1969.52	1964 -	1973	7.60E+00	8.06	4.80E+00	4.84E+00
	56	2104.64	2099 -	2108	1.36E+01	12.61	1.48E+01	8.40E+00
	57	2205.08	2199 -	2211	2.64E+01	12.58	5.24E+00	5.97E+00
	58	2249.82	2246 -	2252	7.30E+00	8.03	5.40E+00	4.88E+00

Analysis Report for 1510063-16
CP5005S01-02

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
59	2323.63	2320 -	2325	5.64E+00	6.08	2.71E+00	3.12E+00
60	2448.85	2444 -	2451	9.05E+00	7.75	3.91E+00	4.01E+00
61	2615.24	2610 -	2619	8.60E+01	18.55	0.00E+00	0.00E+00

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

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/3/2015 10:16:59AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB
Peak Match Tolerance : 1.000 keV

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide	
1	63.84	61 -	68	64.06	2.24E+02	118.83	2.21E+03	TH-234 TH-230	
2	76.23	71 -	81	76.44	1.22E+03	169.59	3.16E+03	.....
3	87.52	86 -	90	87.73	1.04E+02	87.26	1.61E+03	SN-126 CD-109 LU-176	
4	92.82	90 -	97	93.02	3.86E+02	113.19	1.77E+03	GA-67	
5	128.72	125 -	132	128.90	8.90E+01	90.60	1.31E+03	.....
6	145.13	143 -	148	145.31	6.41E+01	66.32	8.20E+02	CE-141	
7	186.39	183 -	190	186.54	2.23E+02	82.58	9.88E+02	RA-226	
8	209.65	207 -	212	209.79	6.81E+01	60.09	6.66E+02	CM-243 GA-67	
M	9	238.86	235 -	254	238.99	8.19E+02	72.57	4.46E+02	PB-212
m	10	242.05	235 -	254	242.17	1.88E+02	76.73	4.79E+02	.....
M	11	271.15	267 -	281	271.26	9.47E+01	54.81	4.54E+02	LU-173
m	12	276.55	267 -	281	276.66	8.71E+01	66.08	5.33E+02	.....
	13	295.32	291 -	299	295.42	2.65E+02	69.80	5.90E+02	PB-214
	14	300.34	299 -	302	300.44	4.06E+01	32.19	2.17E+02	GA-67 PB-212 BI-210M
	15	338.29	334 -	341	338.37	1.27E+02	54.95	4.16E+02	AC-228
	16	352.29	346 -	357	352.36	4.97E+02	84.40	6.41E+02	PB-214
	17	463.53	460 -	468	463.54	3.26E+01	40.26	2.29E+02	SB-125

Analysis Report for 1510063-16

CP5005S01-02

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	18	583.36	578 -	588	583.32	2.16E+02	52.17	2.49E+02	TL-208
	19	609.58	605 -	614	609.53	3.22E+02	52.87	2.15E+02	BI-214
	20	727.38	723 -	730	727.27	7.03E+01	29.66	9.95E+01	BI-212
	21	735.41	732 -	740	735.29	2.59E+01	31.81	1.40E+02	PM-146
	22	786.84	784 -	790	786.70	2.40E+01	24.80	8.79E+01	.....
M	23	792.37	791 -	799	792.23	1.34E+01	11.73	2.65E+01	.....
m	24	795.21	791 -	799	795.07	3.33E+01	26.68	8.77E+01	CS-134
	25	806.39	804 -	809	806.24	2.67E+01	20.54	5.85E+01	.....
	26	813.20	810 -	816	813.05	2.91E+01	19.58	4.79E+01	.....
	27	836.97	833 -	840	836.81	2.29E+01	25.38	9.23E+01	.....
	28	888.96	886 -	892	888.78	1.85E+01	22.30	7.70E+01	SC-46
	29	911.50	907 -	916	911.30	1.28E+02	37.66	1.27E+02	AC-228 LU-172
	30	933.61	929 -	937	933.41	2.42E+01	27.16	9.76E+01	.....
	31	968.88	965 -	972	968.66	7.50E+01	32.12	1.18E+02	AC-228
M	32	1107.03	1103 -	1136	1106.75	1.63E+01	22.02	9.75E+01	.....
m	33	1120.54	1103 -	1136	1120.25	6.76E+01	29.68	8.45E+01	SC-46 BI-214 TA-182
	34	1142.03	1137 -	1146	1141.74	5.10E+01	23.54	5.00E+01	.....
	35	1200.19	1198 -	1203	1199.87	1.49E+01	16.82	4.43E+01	.....
	36	1238.16	1234 -	1240	1237.82	3.05E+01	24.95	9.10E+01	CO-56
	37	1280.93	1277 -	1286	1280.58	1.91E+01	22.36	6.17E+01	.....
	38	1354.08	1352 -	1357	1353.70	1.21E+01	13.93	2.78E+01	.....
	39	1376.95	1372 -	1382	1376.56	3.96E+01	19.16	2.88E+01	.....
	40	1409.06	1405 -	1413	1408.66	1.35E+01	10.61	9.00E+00	.....
M	41	1422.63	1419 -	1437	1422.22	1.34E+01	11.18	2.16E+01	.....
m	42	1432.21	1419 -	1437	1431.80	1.09E+01	14.32	1.12E+01	.....
	43	1461.32	1456 -	1467	1460.89	4.93E+02	46.52	2.40E+01	K-40
	44	1521.99	1519 -	1524	1521.55	9.75E+00	8.12	4.50E+00	.....
	45	1529.12	1525 -	1533	1528.68	1.42E+01	10.79	9.58E+00	.....
	46	1543.07	1538 -	1546	1542.62	1.20E+01	12.85	1.80E+01	.....
	47	1587.80	1584 -	1590	1587.33	9.15E+00	12.39	2.17E+01	.....
	48	1593.88	1590 -	1598	1593.41	2.91E+01	14.03	9.88E+00	.....
	49	1634.26	1626 -	1641	1633.77	2.38E+01	20.30	3.05E+01	.....
	50	1669.91	1666 -	1671	1669.41	5.71E+00	6.08	2.57E+00	.....
	51	1730.08	1726 -	1734	1729.56	1.57E+01	12.20	1.25E+01	.....
	52	1740.13	1735 -	1743	1739.61	7.50E+00	9.41	9.00E+00	.....
	53	1765.10	1760 -	1771	1764.57	5.84E+01	19.49	1.92E+01	BI-214
	54	1871.57	1868 -	1873	1871.00	5.00E+00	4.47	0.00E+00	.....
	55	1969.52	1964 -	1973	1968.93	7.60E+00	8.06	4.80E+00	.....
	56	2104.64	2099 -	2108	2104.00	1.36E+01	12.61	1.48E+01	.....
	57	2205.08	2199 -	2211	2204.41	2.64E+01	12.58	5.24E+00	BI-214
	58	2249.82	2246 -	2252	2249.14	7.30E+00	8.03	5.40E+00	.....
	59	2323.63	2320 -	2325	2322.93	5.64E+00	6.08	2.71E+00	.....
	60	2448.85	2444 -	2451	2448.11	9.05E+00	7.75	3.91E+00	.....
	61	2615.24	2610 -	2619	2614.47	8.60E+01	18.55	0.00E+00	TL-208

Analysis Report for 1510063-16

CP5005S01-02

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/3/2015 10:16:59AM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	63.84	2.24E+02	118.83	2.17E-02	1.73E-03
	2	76.23	1.22E+03	169.59	2.38E-02	2.13E-03
	3	87.52	1.04E+02	87.26	2.44E-02	2.51E-03
	4	92.82	3.86E+02	113.19	2.44E-02	2.41E-03
	5	128.72	8.90E+01	90.60	2.26E-02	1.70E-03
	6	145.13	6.41E+01	66.32	2.13E-02	1.62E-03
	7	186.39	2.23E+02	82.58	1.83E-02	1.42E-03
	8	209.65	6.81E+01	60.09	1.68E-02	1.31E-03
M	9	238.86	8.19E+02	72.57	1.52E-02	1.18E-03
m	10	242.05	1.88E+02	76.73	1.51E-02	1.17E-03
M	11	271.15	9.47E+01	54.81	1.37E-02	1.03E-03
m	12	276.55	8.71E+01	66.08	1.35E-02	1.01E-03
	13	295.32	2.65E+02	69.80	1.28E-02	9.74E-04
	14	300.34	4.06E+01	32.19	1.26E-02	9.67E-04
	15	338.29	1.27E+02	54.95	1.14E-02	9.13E-04
	16	352.29	4.97E+02	84.40	1.11E-02	8.93E-04
	17	463.53	3.26E+01	40.26	8.72E-03	7.66E-04
	18	583.36	2.16E+02	52.17	7.14E-03	6.46E-04
	19	609.58	3.22E+02	52.87	6.87E-03	6.20E-04
	20	727.38	7.03E+01	29.66	5.89E-03	5.14E-04
	21	735.41	2.59E+01	31.81	5.83E-03	5.08E-04
	22	786.84	2.40E+01	24.80	5.50E-03	4.66E-04
M	23	792.37	1.34E+01	11.73	5.47E-03	4.61E-04
m	24	795.21	3.33E+01	26.68	5.45E-03	4.59E-04
	25	806.39	2.67E+01	20.54	5.39E-03	4.50E-04
	26	813.20	2.91E+01	19.58	5.35E-03	4.44E-04
	27	836.97	2.29E+01	25.38	5.22E-03	4.25E-04
	28	888.96	1.85E+01	22.30	4.96E-03	3.82E-04
	29	911.50	1.28E+02	37.66	4.85E-03	3.72E-04
	30	933.61	2.42E+01	27.16	4.75E-03	3.68E-04
	31	968.88	7.50E+01	32.12	4.61E-03	3.61E-04
M	32	1107.03	1.63E+01	22.02	4.12E-03	3.36E-04
m	33	1120.54	6.76E+01	29.68	4.08E-03	3.33E-04
	34	1142.03	5.10E+01	23.54	4.01E-03	3.29E-04

Analysis Report for 1510063-16

CP5005S01-02

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	35	1200.19	1.49E+01	16.82	3.85E-03	3.18E-04
	36	1238.16	3.05E+01	24.95	3.76E-03	3.09E-04
	37	1280.93	1.91E+01	22.36	3.65E-03	3.00E-04
	38	1354.08	1.21E+01	13.93	3.49E-03	2.85E-04
	39	1376.95	3.96E+01	19.16	3.45E-03	2.82E-04
	40	1409.06	1.35E+01	10.61	3.39E-03	2.77E-04
M	41	1422.63	1.34E+01	11.18	3.36E-03	2.75E-04
m	42	1432.21	1.09E+01	14.32	3.34E-03	2.74E-04
	43	1461.32	4.93E+02	46.52	3.29E-03	2.69E-04
	44	1521.99	9.75E+00	8.12	3.19E-03	2.60E-04
	45	1529.12	1.42E+01	10.79	3.18E-03	2.59E-04
	46	1543.07	1.20E+01	12.85	3.16E-03	2.57E-04
	47	1587.80	9.15E+00	12.39	3.09E-03	2.50E-04
	48	1593.88	2.91E+01	14.03	3.08E-03	2.49E-04
	49	1634.26	2.38E+01	20.30	3.02E-03	2.43E-04
	50	1669.91	5.71E+00	6.08	2.97E-03	2.38E-04
	51	1730.08	1.57E+01	12.20	2.90E-03	2.29E-04
	52	1740.13	7.50E+00	9.41	2.89E-03	2.28E-04
	53	1765.10	5.84E+01	19.49	2.86E-03	2.24E-04
	54	1871.57	5.00E+00	4.47	2.74E-03	2.13E-04
	55	1969.52	7.60E+00	8.06	2.65E-03	2.13E-04
	56	2104.64	1.36E+01	12.61	2.54E-03	2.13E-04
	57	2205.08	2.64E+01	12.58	2.46E-03	2.13E-04
	58	2249.82	7.30E+00	8.03	2.43E-03	2.13E-04
	59	2323.63	5.64E+00	6.08	2.39E-03	2.13E-04
	60	2448.85	9.05E+00	7.75	2.32E-03	2.13E-04
	61	2615.24	8.60E+01	18.55	2.24E-03	2.13E-04

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

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/3/2015 10:16:59AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
1	63.84	2.24E+02	118.83	5.52E+01	2.05E+01	1.69E+02	1.21E+02
2	76.23	1.22E+03	169.59			1.22E+03	1.70E+02
3	87.52	1.04E+02	87.26	1.52E+01	5.37E+00	8.83E+01	8.74E+01

: 00920

Analysis Report for 1510063-16

CP5005S01-02

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	4	92.82	3.86E+02	113.19	9.04E+01	2.62E+01	2.96E+02	1.16E+02
	5	128.72	8.90E+01	90.60			8.90E+01	9.06E+01
	6	145.13	6.41E+01	66.32	8.84E+00	8.51E+00	5.53E+01	6.69E+01
	7	186.39	2.23E+02	82.58	3.93E+01	6.56E+00	1.84E+02	8.28E+01
	8	209.65	6.81E+01	60.09			6.81E+01	6.01E+01
M	9	238.86	8.19E+02	72.57	1.34E+01	2.14E+00	8.05E+02	7.26E+01
m	10	242.05	1.88E+02	76.73	2.69E+00	1.46E+00	1.85E+02	7.67E+01
M	11	271.15	9.47E+01	54.81			9.47E+01	5.48E+01
m	12	276.55	8.71E+01	66.08			8.71E+01	6.61E+01
	13	295.32	2.65E+02	69.80			2.65E+02	6.98E+01
	14	300.34	4.06E+01	32.19			4.06E+01	3.22E+01
	15	338.29	1.27E+02	54.95			1.27E+02	5.50E+01
	16	352.29	4.97E+02	84.40	3.99E+00	4.73E+00	4.93E+02	8.45E+01
	17	463.53	3.26E+01	40.26			3.26E+01	4.03E+01
	18	583.36	2.16E+02	52.17	5.96E+00	3.46E+00	2.10E+02	5.23E+01
	19	609.58	3.22E+02	52.87	6.71E+00	3.44E+00	3.16E+02	5.30E+01
	20	727.38	7.03E+01	29.66			7.03E+01	2.97E+01
	21	735.41	2.59E+01	31.81			2.59E+01	3.18E+01
	22	786.84	2.40E+01	24.80			2.40E+01	2.48E+01
M	23	792.37	1.34E+01	11.73			1.34E+01	1.17E+01
m	24	795.21	3.33E+01	26.68			3.33E+01	2.67E+01
	25	806.39	2.67E+01	20.54			2.67E+01	2.05E+01
	26	813.20	2.91E+01	19.58			2.91E+01	1.96E+01
	27	836.97	2.29E+01	25.38			2.29E+01	2.54E+01
	28	888.96	1.85E+01	22.30			1.85E+01	2.23E+01
	29	911.50	1.28E+02	37.66	2.32E+00	2.73E+00	1.26E+02	3.78E+01
	30	933.61	2.42E+01	27.16			2.42E+01	2.72E+01
	31	968.88	7.50E+01	32.12			7.50E+01	3.21E+01
M	32	1107.03	1.63E+01	22.02			1.63E+01	2.20E+01
m	33	1120.54	6.76E+01	29.68	2.00E+00	2.20E+00	6.56E+01	2.98E+01
	34	1142.03	5.10E+01	23.54			5.10E+01	2.35E+01
	35	1200.19	1.49E+01	16.82			1.49E+01	1.68E+01
	36	1238.16	3.05E+01	24.95			3.05E+01	2.49E+01
	37	1280.93	1.91E+01	22.36			1.91E+01	2.24E+01
	38	1354.08	1.21E+01	13.93			1.21E+01	1.39E+01
	39	1376.95	3.96E+01	19.16			3.96E+01	1.92E+01
	40	1409.06	1.35E+01	10.61			1.35E+01	1.06E+01
M	41	1422.63	1.34E+01	11.18			1.34E+01	1.12E+01
m	42	1432.21	1.09E+01	14.32			1.09E+01	1.43E+01
	43	1461.32	4.93E+02	46.52			4.93E+02	4.65E+01
	44	1521.99	9.75E+00	8.12			9.75E+00	8.12E+00
	45	1529.12	1.42E+01	10.79			1.42E+01	1.08E+01
	46	1543.07	1.20E+01	12.85			1.20E+01	1.28E+01
	47	1587.80	9.15E+00	12.39			9.15E+00	1.24E+01
	48	1593.88	2.91E+01	14.03			2.91E+01	1.40E+01
	49	1634.26	2.38E+01	20.30			2.38E+01	2.03E+01
	50	1669.91	5.71E+00	6.08			5.71E+00	6.08E+00
	51	1730.08	1.57E+01	12.20			1.57E+01	1.22E+01
	52	1740.13	7.50E+00	9.41			7.50E+00	9.41E+00
	53	1765.10	5.84E+01	19.49	1.45E+00	1.16E+00	5.69E+01	1.95E+01
	54	1871.57	5.00E+00	4.47			5.00E+00	4.47E+00
	55	1969.52	7.60E+00	8.06			7.60E+00	8.06E+00
	56	2104.64	1.36E+01	12.61			1.36E+01	1.26E+01
	57	2205.08	2.64E+01	12.58			2.64E+01	1.26E+01

: 00921

Analysis Report for 1510063-16
CP5005S01-02

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
58	2249.82	7.30E+00	8.03			7.30E+00	8.03E+00
59	2323.63	5.64E+00	6.08			5.64E+00	6.08E+00
60	2448.85	9.05E+00	7.75			9.05E+00	7.75E+00
61	2615.24	8.60E+01	18.55			8.60E+01	1.85E+01

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

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/3/2015 10:16:59AM
Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

Corrected Area is: Original * Peak Ratio - Background

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
1	63.84	2.24E+02	118.83	5.52E+01	2.05E+01	1.69E+02	1.21E+02
2	76.23	1.22E+03	169.59			1.22E+03	1.70E+02
3	87.52	1.04E+02	87.26	1.52E+01	5.37E+00	8.83E+01	8.74E+01
4	92.82	3.86E+02	113.19	9.04E+01	2.62E+01	2.96E+02	1.16E+02
5	128.72	8.90E+01	90.60			8.90E+01	9.06E+01
6	145.13	6.41E+01	66.32	8.84E+00	8.51E+00	5.53E+01	6.69E+01
7	186.39	2.23E+02	82.58	3.93E+01	6.56E+00	1.84E+02	8.28E+01
8	209.65	6.81E+01	60.09			6.81E+01	6.01E+01
M 9	238.86	8.19E+02	72.57	1.34E+01	2.14E+00	8.05E+02	7.26E+01
m 10	242.05	1.88E+02	76.73	2.69E+00	1.46E+00	1.85E+02	7.67E+01
M 11	271.15	9.47E+01	54.81			9.47E+01	5.48E+01
m 12	276.55	8.71E+01	66.08			8.71E+01	6.61E+01
13	295.32	2.65E+02	69.80			2.65E+02	6.98E+01
14	300.34	4.06E+01	32.19			4.06E+01	3.22E+01
15	338.29	1.27E+02	54.95			1.27E+02	5.50E+01
16	352.29	4.97E+02	84.40	3.99E+00	4.73E+00	4.93E+02	8.45E+01
17	463.53	3.26E+01	40.26			3.26E+01	4.03E+01
18	583.36	2.16E+02	52.17	5.96E+00	3.46E+00	2.10E+02	5.23E+01
19	609.58	3.22E+02	52.87	6.71E+00	3.44E+00	3.16E+02	5.30E+01
20	727.38	7.03E+01	29.66			7.03E+01	2.97E+01
21	735.41	2.59E+01	31.81			2.59E+01	3.18E+01
22	786.84	2.40E+01	24.80			2.40E+01	2.48E+01
M 23	792.37	1.34E+01	11.73			1.34E+01	1.17E+01
m 24	795.21	3.33E+01	26.68			3.33E+01	2.67E+01

Analysis Report for 1510063-16

CP5005S01-02

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.	
25	806.39	2.67E+01	20.54			2.67E+01	2.05E+01	
26	813.20	2.91E+01	19.58			2.91E+01	1.96E+01	
27	836.97	2.29E+01	25.38			2.29E+01	2.54E+01	
28	888.96	1.85E+01	22.30			1.85E+01	2.23E+01	
29	911.50	1.28E+02	37.66	2.32E+00	2.73E+00	1.26E+02	3.78E+01	
30	933.61	2.42E+01	27.16			2.42E+01	2.72E+01	
31	968.88	7.50E+01	32.12			7.50E+01	3.21E+01	
M	32	1107.03	1.63E+01	22.02		1.63E+01	2.20E+01	
m	33	1120.54	6.76E+01	29.68	2.00E+00	2.20E+00	6.56E+01	2.98E+01
34	1142.03	5.10E+01	23.54			5.10E+01	2.35E+01	
35	1200.19	1.49E+01	16.82			1.49E+01	1.68E+01	
36	1238.16	3.05E+01	24.95			3.05E+01	2.49E+01	
37	1280.93	1.91E+01	22.36			1.91E+01	2.24E+01	
38	1354.08	1.21E+01	13.93			1.21E+01	1.39E+01	
39	1376.95	3.96E+01	19.16			3.96E+01	1.92E+01	
40	1409.06	1.35E+01	10.61			1.35E+01	1.06E+01	
M	41	1422.63	1.34E+01	11.18		1.34E+01	1.12E+01	
m	42	1432.21	1.09E+01	14.32		1.09E+01	1.43E+01	
43	1461.32	4.93E+02	46.52			4.93E+02	4.65E+01	
44	1521.99	9.75E+00	8.12			9.75E+00	8.12E+00	
45	1529.12	1.42E+01	10.79			1.42E+01	1.08E+01	
46	1543.07	1.20E+01	12.85			1.20E+01	1.28E+01	
47	1587.80	9.15E+00	12.39			9.15E+00	1.24E+01	
48	1593.88	2.91E+01	14.03			2.91E+01	1.40E+01	
49	1634.26	2.38E+01	20.30			2.38E+01	2.03E+01	
50	1669.91	5.71E+00	6.08			5.71E+00	6.08E+00	
51	1730.08	1.57E+01	12.20			1.57E+01	1.22E+01	
52	1740.13	7.50E+00	9.41			7.50E+00	9.41E+00	
53	1765.10	5.84E+01	19.49	1.45E+00	1.16E+00	5.69E+01	1.95E+01	
54	1871.57	5.00E+00	4.47			5.00E+00	4.47E+00	
55	1969.52	7.60E+00	8.06			7.60E+00	8.06E+00	
56	2104.64	1.36E+01	12.61			1.36E+01	1.26E+01	
57	2205.08	2.64E+01	12.58			2.64E+01	1.26E+01	
58	2249.82	7.30E+00	8.03			7.30E+00	8.03E+00	
59	2323.63	5.64E+00	6.08			5.64E+00	6.08E+00	
60	2448.85	9.05E+00	7.75			9.05E+00	7.75E+00	
61	2615.24	8.60E+01	18.55			8.60E+01	1.85E+01	

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

: 00923

Analysis Report for 1510063-16
CP5005S01-02

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.960	1460.81 *	10.67	1.74E+01	2.20E+00
GA-67	0.670	93.31 *	35.70	1.64E+02	6.32E+02
		208.95 *	2.24	8.76E+02	3.30E+03
		300.22 *	16.00	9.71E+01	3.80E+02
		88.03 *	3.72	1.26E+00	1.25E+00
CD-109	0.959	87.57 *	37.00	1.21E-01	1.21E-01
SN-126	1.000	145.44 *	48.40	1.21E-01	1.49E-01
CE-141	0.981	100.72	5.24		
LU-173	0.493	272.11 *	21.20	4.18E-01	2.44E-01
		583.14 *	30.22	1.20E+00	3.19E-01
		860.37	4.48		
TL-208	0.857	2614.66 *	35.85	1.33E+00	3.13E-01
		727.17 *	11.80	1.25E+00	5.39E-01
		1620.62	2.75		
BI-212	0.765	238.63 *	44.60	1.47E+00	1.75E-01
		300.09 *	3.41	1.17E+00	9.29E-01
PB-212	0.992	609.31 *	46.30	1.23E+00	2.34E-01
		1120.29 *	15.10	1.32E+00	6.08E-01
		1764.49 *	15.80	1.56E+00	5.49E-01
		2204.22 *	4.98	2.66E+00	1.29E+00
BI-214	0.973	295.21 *	19.19	1.33E+00	3.66E-01
		351.92 *	37.19	1.49E+00	2.82E-01
PB-214	0.985	186.21 *	3.28	3.80E+00	7.17E+00
		338.32 *	11.40	1.20E+00	5.30E-01
RA-226	0.995	911.07 *	27.70	1.16E+00	3.59E-01
		969.11 *	16.60	1.21E+00	5.29E-01
AC-228	0.983	63.29 *	3.80	2.54E+00	1.82E+00
TH-234	0.952				

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 10:16:59AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Analysis Report for 1510063-16
CP5005S01-02

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	2	76.23	3.40246E-01		
	5	128.72	2.47265E-02		
m	10	242.05	5.13649E-02		
m	12	276.55	2.41818E-02		
	17	463.53	9.05234E-03	Tol.	SB-125
	21	735.41	7.20052E-03	Tol.	PM-146
	22	786.84	6.67484E-03		
M	23	792.37	3.72957E-03	Sum	
m	24	795.21	9.23767E-03	Sum	
	25	806.39	7.42725E-03		
	26	813.20	8.07128E-03		
	27	836.97	6.34863E-03		
	28	888.96	5.13889E-03		
	30	933.61	6.72184E-03		
M	32	1107.03	4.52625E-03		
	34	1142.03	1.41667E-02		
	35	1200.19	4.12913E-03		
	36	1238.16	8.47222E-03	Tol.	CO-56
	37	1280.93	5.31667E-03		
	38	1354.08	3.36538E-03		
	39	1376.95	1.09954E-02		
	40	1409.06	3.75000E-03		
M	41	1422.63	3.72220E-03		
m	42	1432.21	3.03339E-03		
	44	1521.99	2.70833E-03	Sum	
	45	1529.12	3.94737E-03		
	46	1543.07	3.33333E-03		
	47	1587.80	2.54167E-03		
	48	1593.88	8.07189E-03	D-Esc	
	49	1634.26	6.60256E-03		
	50	1669.91	1.58730E-03		
	51	1730.08	4.36869E-03	Sum	
	52	1740.13	2.08333E-03		
	54	1871.57	1.38889E-03		
	55	1969.52	2.11111E-03		
	56	2104.64	3.78307E-03	S-Esc	
	58	2249.82	2.02778E-03		
	59	2323.63	1.56746E-03		
	60	2448.85	2.51263E-03		

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

Analysis Report for 1510063-16

CP5005S01-02

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.96	1460.81 *	10.67	1.74E+01	2.20E+00
GA-67	0.67	93.31 *	35.70	1.64E+02	6.32E+02
		208.95 *	2.24	8.76E+02	3.30E+03
		300.22 *	16.00	9.71E+01	3.80E+02
CD-109	0.95	88.03 *	3.72	1.26E+00	1.25E+00
SN-126	1.00	87.57 *	37.00	1.21E-01	1.21E-01
CE-141	0.98	145.44 *	48.40	1.21E-01	1.49E-01
LU-173	0.49	100.72	5.24		
		272.11 *	21.20	4.18E-01	2.44E-01
TL-208	0.85	583.14 *	30.22	1.20E+00	3.19E-01
		860.37	4.48		
BI-212	0.76	2614.66 *	35.85	1.33E+00	3.13E-01
		727.17 *	11.80	1.25E+00	5.39E-01
		1620.62	2.75		
PB-212	0.99	238.63 *	44.60	1.47E+00	1.75E-01
		300.09 *	3.41	1.17E+00	9.29E-01
BI-214	0.97	609.31 *	46.30	1.23E+00	2.34E-01
		1120.29 *	15.10	1.32E+00	6.08E-01
		1764.49 *	15.80	1.56E+00	5.49E-01
		2204.22 *	4.98	2.66E+00	1.29E+00
PB-214	0.98	295.21 *	19.19	1.33E+00	3.66E-01
		351.92 *	37.19	1.49E+00	2.82E-01
RA-226	0.99	186.21 *	3.28	3.80E+00	7.17E+00
AC-228	0.98	338.32 *	11.40	1.20E+00	5.30E-01
		911.07 *	27.70	1.16E+00	3.59E-01
		969.11 *	16.60	1.21E+00	5.29E-01
TH-234	0.95	63.29 *	3.80	2.54E+00	1.82E+00

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510063-16
CP5005S01-02

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40	0.960	1.74E+01	2.20E+00	
X	SC-46	0.993			
	GA-67	0.670	8.87E+01	3.28E+02	
?	CD-109	0.959	1.26E+00	1.25E+00	
?	SN-126	1.000	1.21E-01	1.21E-01	
	CE-141	0.981	1.21E-01	1.49E-01	
	LU-173	0.493	4.18E-01	2.44E-01	
	TL-208	0.857	1.27E+00	2.23E-01	
	BI-212	0.765	1.25E+00	5.39E-01	
	PB-212	0.992	1.42E+00	1.73E-01	
	BI-214	0.973	1.32E+00	2.01E-01	
	PB-214	0.985	1.43E+00	2.23E-01	
	RA-226	0.995	3.80E+00	7.17E+00	
	AC-228	0.983	1.18E+00	2.59E-01	
	TH-234	0.952	2.54E+00	1.82E+00	

- ? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510063-16
CP5005S01-02

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 10:16:59AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	2	76.23	3.40246E-01	6.92	
	5	128.72	2.47265E-02	50.89	
m	10	242.05	5.13649E-02	20.75	
m	12	276.55	2.41818E-02	37.95	
	17	463.53	9.05234E-03	61.77	Tol. SB-125
	21	735.41	7.20052E-03	61.35	Tol. PM-146
	22	786.84	6.67484E-03	51.60	
M	23	792.37	3.72957E-03	43.67	Sum
m	24	795.21	9.23767E-03	40.12	Sum
	25	806.39	7.42725E-03	38.41	
	26	813.20	8.07128E-03	33.70	
	27	836.97	6.34863E-03	55.52	
	28	888.96	5.13889E-03	60.28	
	30	933.61	6.72184E-03	56.11	
M	32	1107.03	4.52625E-03	67.58	
	34	1142.03	1.41667E-02	23.08	
	35	1200.19	4.12913E-03	56.59	
	36	1238.16	8.47222E-03	40.90	Tol. CO-56
	37	1280.93	5.31667E-03	58.41	
	38	1354.08	3.36538E-03	57.48	
	39	1376.95	1.09954E-02	24.21	
	40	1409.06	3.75000E-03	39.28	
M	41	1422.63	3.72220E-03	41.72	
m	42	1432.21	3.03339E-03	65.56	
	44	1521.99	2.70833E-03	41.66	Sum
	45	1529.12	3.94737E-03	37.98	
	46	1543.07	3.33333E-03	53.52	
	47	1587.80	2.54167E-03	67.70	
	48	1593.88	8.07189E-03	24.14	D-Esc
	49	1634.26	6.60256E-03	42.70	
	50	1669.91	1.58730E-03	53.22	
	51	1730.08	4.36869E-03	38.77	Sum
	52	1740.13	2.08333E-03	62.72	
	54	1871.57	1.38889E-03	44.72	
	55	1969.52	2.11111E-03	53.04	

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Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
56	2104.64	3.78307E-03	46.29	S-Esc	
58	2249.82	2.02778E-03	55.01		
59	2323.63	1.56746E-03	53.90		
60	2448.85	2.51263E-03	42.82		

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59	10.42	-2.91E-01	1.05E+00	1.05E+00
+	NA-22	1274.54	99.94	7.58E-03	1.20E-01	1.20E-01
+	NA-24	1368.53	99.99	2.69E+11	2.05E+12	3.05E+12
		2754.09	99.86	0.00E+00		2.05E+12
+	AL-26	1808.65	99.76	-1.43E-02	7.70E-02	7.70E-02
+	K-40	1460.81	* 10.67	1.74E+01	8.99E-01	8.99E-01
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	-1.01E-02	7.62E-02	7.62E-02
		78.34	96.00	1.97E-01		9.30E-02
+	SC-46	889.25	* 99.98	5.83E-02	1.15E-01	1.15E-01
		1120.51	* 99.99	2.51E-01		4.97E-01
+	V-48	983.52	99.98	-7.70E-02	2.93E-01	2.93E-01
		1312.10	97.50	-2.40E-02		3.98E-01
+	CR-51	320.08	9.83	6.50E-02	1.47E+00	1.47E+00
+	MN-54	834.83	99.97	3.08E-02	9.99E-02	9.99E-02
+	CO-56	846.75	99.96	3.65E-03	1.22E-01	1.22E-01
		1037.75	14.03	-3.16E-01		7.33E-01
		1238.25	67.00	2.11E-01		2.78E-01
		1771.40	15.51	-4.38E-02		6.50E-01
		2598.48	16.90	-1.67E-01		3.07E-01
+	CO-57	122.06	85.51	1.05E-02	6.61E-02	6.61E-02
		136.48	10.60	-1.42E-01		5.38E-01
+	CO-58	810.76	99.40	-1.12E-01	1.07E-01	1.07E-01
+	FE-59	1099.22	56.50	-2.45E-02	2.60E-01	2.60E-01
		1291.56	43.20	-5.12E-02		4.01E-01

Analysis Report for 1510063-16
CP5005S01-02

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	CO-60	1173.22	100.00	-5.12E-02	1.05E-01	1.05E-01
		1332.49	100.00	5.81E-02		1.10E-01
+	ZN-65	1115.52	50.75	-4.18E-01	2.05E-01	2.05E-01
+	GA-67	93.31	* 35.70	1.64E+02	1.03E+02	1.03E+02
		208.95	* 2.24	8.76E+02		1.26E+03
		300.22	* 16.00	9.71E+01		1.23E+02
+	SE-75	121.11	16.70	5.72E-03	1.07E-01	3.66E-01
		136.00	59.20	-2.95E-03		1.07E-01
		264.65	59.80	-4.24E-03		1.26E-01
		279.53	25.20	-1.84E-02		3.36E-01
		400.65	11.40	-1.82E-02		7.87E-01
+	RB-82	776.52	13.00	-1.12E-01	1.48E+00	1.48E+00
+	RB-83	520.41	46.00	-8.28E-04	2.03E-01	2.03E-01
		529.64	30.30	7.92E-02		3.25E-01
		552.65	16.40	-7.83E-02		5.16E-01
+	KR-85	513.99	0.43	2.33E+01	2.30E+01	2.30E+01
+	SR-85	513.99	99.27	1.37E-01	1.35E-01	1.35E-01
+	Y-88	898.02	93.40	3.01E-02	9.76E-02	1.25E-01
		1836.01	99.38	3.51E-02		9.76E-02
+	NB-93M	16.57	9.43	-3.03E+01	8.11E+01	8.11E+01
+	NB-94	702.63	100.00	-1.05E-02	8.26E-02	8.26E-02
		871.10	100.00	1.72E-02		9.21E-02
+	NB-95	765.79	99.81	4.95E-02	1.62E-01	1.62E-01
+	NB-95M	235.69	25.00	-1.35E-01	1.05E+02	1.05E+02
+	ZR-95	724.18	43.70	2.76E-02	2.44E-01	3.03E-01
		756.72	55.30	1.94E-01		2.44E-01
+	MO-99	181.06	6.20	3.73E+02	7.75E+02	1.11E+03
		739.58	12.80	-1.19E+02		7.75E+02
		778.00	4.50	-1.33E+03		2.23E+03
+	RU-103	497.08	89.00	-2.80E-02	1.30E-01	1.30E-01
+	RU-106	621.84	9.80	-1.35E-01	8.16E-01	8.16E-01
+	AG-108M	433.93	89.90	-4.76E-02	8.10E-02	8.10E-02
		614.37	90.40	2.15E-02		1.06E-01
		722.95	90.50	-4.07E-03		9.49E-02
+	CD-109	88.03	* 3.72	1.26E+00	2.04E+00	2.04E+00
+	AG-110M	657.75	93.14	1.08E-02	1.03E-01	1.03E-01
		677.61	10.53	-1.26E-01		8.88E-01
		706.67	16.46	8.05E-03		5.26E-01
		763.93	21.98	-4.06E-01		4.05E-01
		884.67	71.63	-2.46E-02		1.30E-01
		1384.27	23.94	-2.35E-01		4.07E-01
+	CD-113M	263.70	0.02	2.61E+01	2.80E+02	2.80E+02
+	SN-113	255.12	1.93	1.51E+00	1.37E-01	4.05E+00
		391.69	64.90	-4.23E-03		1.37E-01
+	TE123M	159.00	84.10	5.50E-03	7.75E-02	7.75E-02
+	SB-124	602.71	97.87	-3.82E-02	1.16E-01	1.16E-01
		645.85	7.26	2.42E-01		1.69E+00
		722.78	11.10	-4.58E-02		1.07E+00

Analysis Report for 1510063-16
CP5005S01-02

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	SB-124	1691.02	49.00	9.84E-02	1.16E-01	2.31E-01
+	I-125	35.49	6.49	2.23E-01	3.15E+00	3.15E+00
+	SB-125	176.33	6.89	-3.24E-01	2.72E-01	8.18E-01
		427.89	29.33	1.18E-01		2.72E-01
		463.38	10.35	5.88E-01		7.79E-01
		600.56	17.80	1.89E-02		4.90E-01
		635.90	11.32	4.60E-02		7.24E-01
+	SB-126	414.70	83.30	-2.00E-01	4.23E-01	4.23E-01
		666.33	99.60	-1.41E-01		4.38E-01
		695.00	99.60	-5.48E-02		4.32E-01
		720.50	53.80	4.52E-01		8.00E-01
+	SN-126	87.57	* 37.00	1.21E-01	1.96E-01	1.96E-01
+	SB-127	473.00	25.00	1.23E+01	3.84E+01	4.81E+01
		685.20	35.70	2.34E+00		3.84E+01
		783.80	14.70	5.38E+00		1.03E+02
+	I-129	29.78	57.00	1.05E-01	4.81E-01	4.81E-01
		33.60	13.20	2.79E-01		1.33E+00
		39.58	7.52	-5.90E-02		1.49E+00
+	I-131	284.30	6.05	-1.57E+00	9.29E-01	1.24E+01
		364.48	81.20	2.04E-01		9.29E-01
		636.97	7.26	5.46E+00		1.29E+01
		722.89	1.80	-2.30E+00		5.37E+01
+	TE-132	49.72	13.10	-4.24E+02	2.99E+01	2.46E+02
		228.16	88.00	-1.50E+01		2.99E+01
+	BA-133	81.00	33.00	-6.27E-02	1.70E-01	1.91E-01
		302.84	17.80	3.53E-02		4.22E-01
		356.01	60.00	-6.97E-04		1.70E-01
+	I-133	529.87	86.30	1.26E+08	5.16E+08	5.16E+08
+	XE-133	81.00	38.00	-2.22E+00	6.77E+00	6.77E+00
+	CS-134	563.23	8.38	6.18E-01	8.95E-02	1.03E+00
		569.32	15.43	-8.63E-03		5.26E-01
		604.70	97.60	-1.14E-02		8.95E-02
		795.84	85.40	6.66E-02		1.21E-01
		801.93	8.73	1.47E-01		9.83E-01
+	CS-135	268.24	16.00	-4.05E-03	4.27E-01	4.27E-01
+	@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@	1260.41	28.60	1.00E+26		1.00E+26
	@	1678.03	9.54	1.00E+26		1.00E+26
+	CS-136	153.22	7.46	-1.01E+00	3.44E-01	3.13E+00
		163.89	4.61	2.60E+00		5.44E+00
		176.55	13.56	-6.01E-01		1.80E+00
		273.65	12.66	-4.43E-01		2.61E+00
		340.57	48.50	-7.80E-02		8.18E-01
		818.50	99.70	5.63E-02		3.44E-01
		1048.07	79.60	7.18E-02		5.15E-01
		1235.34	19.70	-4.51E-02		3.05E+00
+	CS-137	661.65	85.12	2.36E-03	1.09E-01	1.09E-01
+	LA-138	788.74	34.00	-9.80E-02	1.29E-01	2.57E-01
		1435.80	66.00	1.41E-02		1.29E-01

Analysis Report for 1510063-16
CP5005S01-02

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	CE-139	165.85	80.35	-2.38E-02	8.14E-02	8.14E-02
+	BA-140	162.64	6.70	5.28E-01	1.44E+00	3.91E+00
		304.84	4.50	1.86E-01		6.96E+00
		423.70	3.20	-1.85E+00		1.04E+01
		437.55	2.00	2.84E+00		1.78E+01
		537.32	25.00	1.52E-01		1.44E+00
+	LA-140	328.77	20.50	1.37E-01	5.44E-01	1.64E+00
		487.03	45.50	-9.28E-02		7.75E-01
		815.85	23.50	1.68E-01		1.64E+00
		1596.49	95.49	0.00E+00		5.44E-01
+	CE-141	145.44	*	48.40	2.40E-01	2.40E-01
+	CE-143	57.36	11.80	2.88E+05	3.39E+05	8.93E+05
		293.26	42.00	7.68E+05		3.39E+05
		664.55	5.20	6.83E+05		2.55E+06
+	CE-144	133.54	10.80	1.35E-01	5.39E-01	5.39E-01
+	PM-144	476.78	42.00	-2.58E-02	8.50E-02	1.93E-01
		618.01	98.60	3.97E-03		8.50E-02
		696.49	99.49	1.75E-02		9.95E-02
+	PM-145	36.85	21.70	-1.29E-01	3.27E-01	6.18E-01
		37.36	39.70	-5.94E-02		3.27E-01
		42.30	15.10	-6.73E-01		6.53E-01
		72.40	2.31	-5.67E+00		3.69E+00
+	PM-146	453.90	39.94	1.81E-03	1.88E-01	1.88E-01
		735.90	14.01	3.42E-01		6.66E-01
		747.13	13.10	-4.50E-02		6.99E-01
+	ND-147	91.11	28.90	-1.02E+00	1.47E+00	1.47E+00
		531.02	13.10	1.23E-01		3.53E+00
+	PM-149	285.90	3.10	1.12E+04	1.49E+04	1.49E+04
+	EU-152	121.78	20.50	4.07E-02	2.57E-01	2.57E-01
		244.69	5.40	-5.62E-01		1.49E+00
		344.27	19.13	7.03E-02		3.85E-01
		778.89	9.20	-4.10E-01		9.13E-01
		964.01	10.40	-5.43E-01		1.03E+00
		1085.78	7.22	-2.12E-01		1.42E+00
		1112.02	9.60	-8.44E-01		9.90E-01
		1407.95	14.94	2.65E-02		5.64E-01
+	GD-153	97.43	31.30	5.75E-02	1.78E-01	1.78E-01
		103.18	22.20	-3.04E-02		2.52E-01
+	EU-154	123.07	40.50	1.57E-02	1.29E-01	1.29E-01
		723.30	19.70	-1.88E-02		4.39E-01
		873.19	11.50	-1.01E-01		7.80E-01
		996.32	10.30	-3.43E-01		8.54E-01
		1004.76	17.90	-2.83E-03		5.80E-01
		1274.45	35.50	2.10E-02		3.34E-01
+	EU-155	86.50	30.90	1.56E-01	2.35E-01	2.35E-01
		105.30	20.70	-2.04E-02		2.52E-01
+	EU-156	811.77	10.40	8.09E-01	2.90E+00	2.90E+00
		1153.47	7.20	-1.19E+00		5.69E+00
		1230.71	8.90	-1.88E-01		4.98E+00

Analysis Report for 1510063-16

CP5005S01-02

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	HO-166M	184.41	72.60	1.47E-01	9.96E-02	9.96E-02
		280.45	29.60	-4.86E-02		2.33E-01
		410.94	11.10	3.96E-01		7.22E-01
		711.69	54.10	-7.36E-02		1.51E-01
+	TM-171	66.72	0.14	-8.81E+01	5.29E+01	5.29E+01
+	HF-172	81.75	4.52	-2.79E-02	4.92E-01	1.45E+00
		125.81	11.30	-4.31E-01		4.92E-01
+	LU-172	181.53	20.60	7.90E-01	3.18E+00	5.03E+00
		810.06	16.63	-6.68E+00		9.27E+00
		912.12	15.25	3.97E+01		1.95E+01
		1093.66	62.50	1.00E+00		3.18E+00
+	LU-173	100.72	5.24	2.92E-01	6.24E-01	1.04E+00
		272.11	*	21.20	4.18E-01	6.24E-01
+	HF-175	343.40	84.00	2.10E-02	1.15E-01	1.15E-01
+	LU-176	88.34	13.30	-3.17E-02	7.28E-02	5.53E-01
		201.83	86.00	8.85E-03		8.28E-02
		306.78	94.00	1.11E-02		7.28E-02
+	TA-182	67.75	41.20	-2.75E-02	2.07E-01	2.07E-01
		1121.30	34.90	5.80E-01		5.15E-01
		1189.05	16.23	-2.02E-01		8.52E-01
		1221.41	26.98	-2.45E-01		5.33E-01
		1231.02	11.44	6.05E-02		1.25E+00
+	IR-192	308.46	29.68	-8.50E-02	1.89E-01	2.92E-01
		468.07	48.10	2.25E-02		1.89E-01
+	HG-203	279.19	77.30	4.12E-02	1.41E-01	1.41E-01
+	BI-207	569.67	97.72	-9.16E-03	8.03E-02	8.03E-02
		1063.62	74.90	-1.76E-02		1.19E-01
+	TL-208	583.14	*	30.22	1.20E+00	4.17E-02
		860.37	4.48	1.37E+00		2.23E+00
		2614.66	*	35.85	1.33E+00	4.17E-02
+	BI-210M	262.00	45.00	1.28E-02	1.46E-01	1.46E-01
		300.00	23.00	-1.56E+00		3.23E-01
+	PB-210	46.50	4.25	4.74E-01	2.24E+00	2.24E+00
+	PB-211	404.84	2.90	-1.26E+00	2.63E+00	2.63E+00
		831.96	2.90	-7.12E-02		2.82E+00
+	BI-212	727.17	*	11.80	1.25E+00	7.65E-01
		1620.62	2.75	1.11E+00		3.56E+00
+	PB-212	238.63	*	44.60	1.47E+00	4.09E-01
		300.09	*	3.41	1.17E+00	1.47E+00
+	BI-214	609.31	*	46.30	1.23E+00	2.62E-01
		1120.29	*	15.10	1.32E+00	2.61E+00
		1764.49	*	15.80	1.56E+00	6.33E-01
		2204.22	*	4.98	2.66E+00	1.48E+00
+	PB-214	295.21	*	19.19	1.33E+00	3.64E-01
		351.92	*	37.19	1.49E+00	3.64E-01
+	RN-219	401.80	6.50	-2.74E-02	1.18E+00	1.18E+00
+	RA-223	323.87	3.88	-1.15E+00	1.85E+00	1.85E+00
+	RA-224	240.98	3.95	1.99E+01	3.48E+00	3.48E+00

Analysis Report for 1510063-16
CP5005S01-02

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	RA-225	40.00		31.00	-5.21E-02	1.31E+00	1.31E+00
+	RA-226	186.21	*	3.28	3.80E+00	2.72E+00	2.72E+00
+	TH-227	50.10		8.40	-1.67E+00	9.65E-01	9.65E-01
		236.00		11.50	-1.34E-03		1.04E+00
		256.20		6.30	2.23E-01		1.04E+00
+	AC-228	338.32	*	11.40	1.20E+00	4.85E-01	8.08E-01
		911.07	*	27.70	1.16E+00		4.85E-01
		969.11	*	16.60	1.21E+00		7.64E-01
+	TH-230	48.44		16.90	2.79E-01	5.35E-01	5.35E-01
		62.85		4.60	1.63E+00		1.75E+00
		67.67		0.37	-2.58E+00		1.95E+01
+	PA-231	283.67		1.60	-5.25E-01	3.25E+00	4.15E+00
		302.67		2.30	2.71E-01		3.25E+00
+	TH-231	25.64		14.70	1.24E+00	1.01E+00	3.57E+00
		84.21		6.40	-4.46E-01		1.01E+00
+	PA-233	311.98		38.60	5.85E-02	3.59E-01	3.59E-01
+	PA-234	131.20		20.40	1.43E-01	2.86E-01	2.86E-01
		733.99		8.80	2.65E-01		1.03E+00
		946.00		12.00	5.57E-01		8.44E-01
+	PA-234M	1001.03		0.92	9.57E-01	1.05E+01	1.05E+01
+	TH-234	63.29	*	3.80	2.54E+00	2.95E+00	2.95E+00
+	U-235	143.76		10.50	2.23E-01	5.36E-01	5.36E-01
		163.35		4.70	5.80E-01		1.21E+00
		205.31		4.70	4.73E-01		1.48E+00
+	NP-237	86.50		12.60	3.78E-01	5.70E-01	5.70E-01
+	NP-239	106.10		22.70	-2.21E+02	8.70E+02	8.70E+02
		228.18		10.70	-1.22E+03		2.43E+03
		277.60		14.10	1.55E+03		2.05E+03
+	AM-241	59.54		35.90	9.19E-02	2.09E-01	2.09E-01
+	AM-243	74.67		66.00	3.74E-01	1.51E-01	1.51E-01
+	CM-243	209.75		3.29	1.46E+00	5.32E-01	2.31E+00
		228.14		10.60	-3.17E-01		6.33E-01
		277.60		14.00	4.02E-01		5.32E-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
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

Analysis Report for 1510063-16

CP5005S01-02

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)	
BE-7	477.59	10.42	1.05E+00	1.05E+00	-2.91E-01	5.00E-01	
NA-22	1274.54	99.94	1.20E-01	1.20E-01	7.58E-03	5.55E-02	
NA-24	1368.53	99.99	3.05E+12	2.05E+12	2.69E+11	1.36E+12	
	2754.09	99.86	2.05E+12		0.00E+00	7.66E+11	
AL-26	1808.65	99.76	7.70E-02	7.70E-02	-1.43E-02	3.25E-02	
+ K-40	1460.81	*	10.67	8.99E-01	8.99E-01	1.74E+01	4.02E-01
@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20	
TI-44	67.88	94.40	7.62E-02	7.62E-02	-1.01E-02	3.73E-02	
	78.34	96.00	9.30E-02		1.97E-01	4.58E-02	
SC-46	889.25	*	99.98	1.15E-01	5.83E-02	5.33E-02	
	1120.51	*	99.99	4.97E-01	2.51E-01	2.43E-01	
V-48	983.52	99.98	2.93E-01	2.93E-01	-7.70E-02	1.34E-01	
	1312.10	97.50	3.98E-01		-2.40E-02	1.83E-01	
CR-51	320.08	9.83	1.47E+00	1.47E+00	6.50E-02	7.06E-01	
MN-54	834.83	99.97	9.99E-02	9.99E-02	3.08E-02	4.65E-02	
CO-56	846.75	99.96	1.22E-01	1.22E-01	3.65E-03	5.67E-02	
	1037.75	14.03	7.33E-01		-3.16E-01	3.31E-01	
	1238.25	67.00	2.78E-01		2.11E-01	1.30E-01	
	1771.40	15.51	6.50E-01		-4.38E-02	2.77E-01	
	2598.48	16.90	3.07E-01		-1.67E-01	9.71E-02	
CO-57	122.06	85.51	6.61E-02	6.61E-02	1.05E-02	3.21E-02	
	136.48	10.60	5.38E-01		-1.42E-01	2.61E-01	
CO-58	810.76	99.40	1.07E-01	1.07E-01	-1.12E-01	4.93E-02	
FE-59	1099.22	56.50	2.60E-01	2.60E-01	-2.45E-02	1.19E-01	
	1291.56	43.20	4.01E-01		-5.12E-02	1.84E-01	
CO-60	1173.22	100.00	1.05E-01	1.05E-01	-5.12E-02	4.80E-02	
	1332.49	100.00	1.10E-01		5.81E-02	5.00E-02	
ZN-65	1115.52	50.75	2.05E-01	2.05E-01	-4.18E-01	9.38E-02	
+ GA-67	93.31	*	35.70	1.03E+02	1.03E+02	1.64E+02	5.07E+01
	208.95	*	2.24	1.26E+03	8.76E+02	5.82E+02	6.11E+02
	300.22	*	16.00	1.23E+02	9.71E+01	5.82E+01	5.82E+01
SE-75	121.11	16.70	3.66E-01	1.07E-01	5.72E-03	1.78E-01	
	136.00	59.20	1.07E-01		-2.95E-03	5.18E-02	
	264.65	59.80	1.26E-01		-4.24E-03	6.05E-02	
	279.53	25.20	3.36E-01		-1.84E-02	1.62E-01	
	400.65	11.40	7.87E-01		-1.82E-02	3.76E-01	
RB-82	776.52	13.00	1.48E+00	1.48E+00	-1.12E-01	6.93E-01	
RB-83	520.41	46.00	2.03E-01	2.03E-01	-8.28E-04	9.60E-02	
	529.64	30.30	3.25E-01		7.92E-02	1.53E-01	
	552.65	16.40	5.16E-01		-7.83E-02	2.41E-01	
KR-85	513.99	0.43	2.30E+01	2.30E+01	2.33E+01	1.10E+01	
SR-85	513.99	99.27	1.35E-01	1.35E-01	1.37E-01	6.48E-02	
Y-88	898.02	93.40	1.25E-01	9.76E-02	3.01E-02	5.83E-02	
	1836.01	99.38	9.76E-02		3.51E-02	4.15E-02	
NB-93M	16.57	9.43	8.11E+01	8.11E+01	-3.03E+01	3.95E+01	

Analysis Report for 1510063-16
CP5005S01-02

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
NB-94	702.63	100.00	8.26E-02	8.26E-02	-1.05E-02	3.85E-02
	871.10	100.00	9.21E-02		1.72E-02	4.27E-02
NB-95	765.79	99.81	1.62E-01	1.62E-01	4.95E-02	7.57E-02
NB-95M	235.69	25.00	1.05E+02	1.05E+02	-1.35E-01	5.14E+01
ZR-95	724.18	43.70	3.03E-01	2.44E-01	2.76E-02	1.42E-01
	756.72	55.30	2.44E-01		1.94E-01	1.15E-01
MO-99	181.06	6.20	1.11E+03	7.75E+02	3.73E+02	5.37E+02
	739.58	12.80	7.75E+02		-1.19E+02	3.61E+02
	778.00	4.50	2.23E+03		-1.33E+03	1.04E+03
RU-103	497.08	89.00	1.30E-01	1.30E-01	-2.80E-02	6.10E-02
RU-106	621.84	9.80	8.16E-01	8.16E-01	-1.35E-01	3.81E-01
AG-108M	433.93	89.90	8.10E-02	8.10E-02	-4.76E-02	3.85E-02
	614.37	90.40	1.06E-01		2.15E-02	5.03E-02
	722.95	90.50	9.49E-02		-4.07E-03	4.43E-02
+ CD-109	88.03	* 3.72	2.04E+00	2.04E+00	1.26E+00	9.99E-01
AG-110M	657.75	93.14	1.03E-01	1.03E-01	1.08E-02	4.85E-02
	677.61	10.53	8.88E-01		-1.26E-01	4.17E-01
	706.67	16.46	5.26E-01		8.05E-03	2.45E-01
	763.93	21.98	4.05E-01		-4.06E-01	1.88E-01
	884.67	71.63	1.30E-01		-2.46E-02	5.99E-02
	1384.27	23.94	4.07E-01		-2.35E-01	1.82E-01
CD-113M	263.70	0.02	2.80E+02	2.80E+02	2.61E+01	1.35E+02
SN-113	255.12	1.93	4.05E+00	1.37E-01	1.51E+00	1.95E+00
	391.69	64.90	1.37E-01		-4.23E-03	6.57E-02
TE123M	159.00	84.10	7.75E-02	7.75E-02	5.50E-03	3.76E-02
SB-124	602.71	97.87	1.16E-01	1.16E-01	-3.82E-02	5.47E-02
	645.85	7.26	1.69E+00		2.42E-01	7.96E-01
	722.78	11.10	1.07E+00		-4.58E-02	4.99E-01
	1691.02	49.00	2.31E-01		9.84E-02	9.93E-02
I-125	35.49	6.49	3.15E+00	3.15E+00	2.23E-01	1.53E+00
	176.33	6.89	8.18E-01	2.72E-01	-3.24E-01	3.96E-01
SB-125	427.89	29.33	2.72E-01		1.18E-01	1.30E-01
	463.38	10.35	7.79E-01		5.88E-01	3.71E-01
	600.56	17.80	4.90E-01		1.89E-02	2.31E-01
	635.90	11.32	7.24E-01		4.60E-02	3.39E-01
	414.70	83.30	4.23E-01	4.23E-01	-2.00E-01	2.02E-01
	666.33	99.60	4.38E-01		-1.41E-01	2.06E-01
SB-126	695.00	99.60	4.32E-01		-5.48E-02	2.03E-01
	720.50	53.80	8.00E-01		4.52E-01	3.75E-01
	87.57	* 37.00	1.96E-01	1.96E-01	1.21E-01	9.63E-02
+ SN-126	473.00	25.00	4.81E+01	3.84E+01	1.23E+01	2.28E+01
SB-127	685.20	35.70	3.84E+01		2.34E+00	1.80E+01
	783.80	14.70	1.03E+02		5.38E+00	4.82E+01
	29.78	57.00	4.81E-01	4.81E-01	1.05E-01	2.34E-01
I-129	33.60	13.20	1.33E+00		2.79E-01	6.47E-01
	39.58	7.52	1.49E+00		-5.90E-02	7.24E-01
	284.30	6.05	1.24E+01	9.29E-01	-1.57E+00	5.95E+00
I-131	364.48	81.20	9.29E-01		2.04E-01	4.43E-01
	636.97	7.26	1.29E+01		5.46E+00	6.04E+00
	722.89	1.80	5.37E+01		-2.30E+00	2.51E+01
	49.72	13.10	2.46E+02	2.99E+01	-4.24E+02	1.20E+02
TE-132	228.16	88.00	2.99E+01		-1.50E+01	1.45E+01
	81.00	33.00	1.91E-01	1.70E-01	-6.27E-02	9.36E-02
BA-133						

Analysis Report for 1510063-16
CP5005S01-02

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
BA-133	302.84	17.80	4.22E-01	1.70E-01	3.53E-02	2.04E-01
	356.01	60.00	1.70E-01		-6.97E-04	8.23E-02
I-133	529.87	86.30	5.16E+08	5.16E+08	1.26E+08	2.44E+08
XE-133	81.00	38.00	6.77E+00	6.77E+00	-2.22E+00	3.31E+00
CS-134	563.23	8.38	1.03E+00	8.95E-02	6.18E-01	4.89E-01
	569.32	15.43	5.26E-01		-8.63E-03	2.48E-01
	604.70	97.60	8.95E-02		-1.14E-02	4.22E-02
	795.84	85.40	1.21E-01		6.66E-02	5.68E-02
	801.93	8.73	9.83E-01		1.47E-01	4.55E-01
	268.24	16.00	4.27E-01	4.27E-01	-4.05E-03	2.06E-01
@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	1260.41	28.60	1.00E+26		1.00E+26	1.00E+20
@	1678.03	9.54	1.00E+26		1.00E+26	1.00E+20
CS-136	153.22	7.46	3.13E+00	3.44E-01	-1.01E+00	1.52E+00
	163.89	4.61	5.44E+00		2.60E+00	2.64E+00
	176.55	13.56	1.80E+00		-6.01E-01	8.69E-01
	273.65	12.66	2.61E+00		-4.43E-01	1.26E+00
	340.57	48.50	8.18E-01		-7.80E-02	3.95E-01
	818.50	99.70	3.44E-01		5.63E-02	1.58E-01
	1048.07	79.60	5.15E-01		7.18E-02	2.36E-01
	1235.34	19.70	3.05E+00		-4.51E-02	1.43E+00
	661.65	85.12	1.09E-01	1.09E-01	2.36E-03	5.14E-02
	788.74	34.00	2.57E-01	1.29E-01	-9.80E-02	1.19E-01
1435.80	66.00	1.29E-01		1.41E-02	5.70E-02	
CE-139	165.85	80.35	8.14E-02	8.14E-02	-2.38E-02	3.95E-02
BA-140	162.64	6.70	3.91E+00	1.44E+00	5.28E-01	1.90E+00
	304.84	4.50	6.96E+00		1.86E-01	3.35E+00
	423.70	3.20	1.04E+01		-1.85E+00	4.97E+00
	437.55	2.00	1.78E+01		2.84E+00	8.48E+00
LA-140	537.32	25.00	1.44E+00		1.52E-01	6.78E-01
	328.77	20.50	1.64E+00	5.44E-01	1.37E-01	7.86E-01
	487.03	45.50	7.75E-01		-9.28E-02	3.67E-01
	815.85	23.50	1.64E+00		1.68E-01	7.59E-01
	1596.49	95.49	5.44E-01		0.00E+00	2.46E-01
+ CE-141	145.44	* 48.40	2.40E-01	2.40E-01	1.21E-01	1.17E-01
CE-143	57.36	11.80	8.93E+05	3.39E+05	2.88E+05	4.36E+05
	293.26	42.00	3.39E+05		7.68E+05	1.65E+05
	664.55	5.20	2.55E+06		6.83E+05	1.20E+06
CE-144	133.54	10.80	5.39E-01	5.39E-01	1.35E-01	2.62E-01
PM-144	476.78	42.00	1.93E-01	8.50E-02	-2.58E-02	9.15E-02
	618.01	98.60	8.50E-02		3.97E-03	3.98E-02
	696.49	99.49	9.95E-02		1.75E-02	4.68E-02
PM-145	36.85	21.70	6.18E-01	3.27E-01	-1.29E-01	3.01E-01
	37.36	39.70	3.27E-01		-5.94E-02	1.59E-01
	42.30	15.10	6.53E-01		-6.73E-01	3.18E-01
	72.40	2.31	3.69E+00		-5.67E+00	1.81E+00
PM-146	453.90	39.94	1.88E-01	1.88E-01	1.81E-03	8.90E-02
	735.90	14.01	6.66E-01		3.42E-01	3.12E-01
	747.13	13.10	6.99E-01		-4.50E-02	3.27E-01
ND-147	91.11	28.90	1.47E+00	1.47E+00	-1.02E+00	7.19E-01
	531.02	13.10	3.53E+00		1.23E-01	1.67E+00
PM-149	285.90	3.10	1.49E+04	1.49E+04	1.12E+04	7.20E+03
EU-152	121.78	20.50	2.57E-01	2.57E-01	4.07E-02	1.25E-01

Analysis Report for 1510063-16

CP5005S01-02

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
EU-152	244.69	5.40	1.49E+00	2.57E-01	-5.62E-01	7.26E-01
	344.27	19.13	3.85E-01		7.03E-02	1.85E-01
	778.89	9.20	9.13E-01		-4.10E-01	4.24E-01
	964.01	10.40	1.03E+00		-5.43E-01	4.81E-01
	1085.78	7.22	1.42E+00		-2.12E-01	6.56E-01
	1112.02	9.60	9.90E-01		-8.44E-01	4.52E-01
GD-153	1407.95	14.94	5.64E-01	1.78E-01	2.65E-02	2.49E-01
	97.43	31.30	1.78E-01		5.75E-02	8.64E-02
EU-154	103.18	22.20	2.52E-01	1.29E-01	-3.04E-02	1.23E-01
	123.07	40.50	1.29E-01		1.57E-02	6.28E-02
EU-155	723.30	19.70	4.39E-01	2.35E-01	-1.88E-02	2.05E-01
	873.19	11.50	7.80E-01		-1.01E-01	3.61E-01
	996.32	10.30	8.54E-01		-3.43E-01	3.91E-01
	1004.76	17.90	5.80E-01		-2.83E-03	2.69E-01
	1274.45	35.50	3.34E-01		2.10E-02	1.54E-01
	86.50	30.90	2.35E-01		1.56E-01	1.15E-01
EU-156	105.30	20.70	2.52E-01	2.90E+00	-2.04E-02	1.22E-01
	811.77	10.40	2.90E+00		8.09E-01	1.34E+00
HO-166M	1153.47	7.20	5.69E+00	9.96E-02	-1.19E+00	2.63E+00
	1230.71	8.90	4.98E+00		-1.88E-01	2.31E+00
	184.41	72.60	9.96E-02		1.47E-01	4.86E-02
	280.45	29.60	2.33E-01		-4.86E-02	1.12E-01
TM-171	410.94	11.10	7.22E-01	5.29E+01	3.96E-01	3.45E-01
	711.69	54.10	1.51E-01		-7.36E-02	7.04E-02
	66.72	0.14	5.29E+01		-8.81E+01	2.59E+01
	81.75	4.52	1.45E+00		-2.79E-02	7.07E-01
HF-172	125.81	11.30	4.92E-01	4.92E-01	-4.31E-01	2.39E-01
	181.53	20.60	5.03E+00		7.90E-01	2.43E+00
LU-172	810.06	16.63	9.27E+00	3.18E+00	-6.68E+00	4.29E+00
	912.12	15.25	1.95E+01		3.97E+01	9.33E+00
	1093.66	62.50	3.18E+00		1.00E+00	1.47E+00
	100.72	5.24	1.04E+00		2.92E-01	5.07E-01
+ LU-173	272.11	* 21.20	6.24E-01	6.24E-01	4.18E-01	3.06E-01
	343.40	84.00	1.15E-01		1.15E-01	5.54E-02
HF-175	88.34	13.30	5.53E-01	7.28E-02	-3.17E-02	2.71E-01
	201.83	86.00	8.28E-02		8.85E-03	4.03E-02
LU-176	306.78	94.00	7.28E-02	2.07E-01	1.11E-02	3.50E-02
	67.75	41.20	2.07E-01		-2.75E-02	1.01E-01
TA-182	1121.30	34.90	5.15E-01	1.89E-01	5.80E-01	2.44E-01
	1189.05	16.23	8.52E-01		-2.02E-01	3.94E-01
	1221.41	26.98	5.33E-01		-2.45E-01	2.47E-01
	1231.02	11.44	1.25E+00		6.05E-02	5.81E-01
	308.46	29.68	2.92E-01		-8.50E-02	1.40E-01
IR-192	468.07	48.10	1.89E-01	1.41E-01	2.25E-02	8.91E-02
	279.19	77.30	1.41E-01		4.12E-02	6.82E-02
HG-203	569.67	97.72	8.03E-02	8.03E-02	-9.16E-03	3.78E-02
	1063.62	74.90	1.19E-01		-1.76E-02	5.43E-02
BI-207	583.14	* 30.22	4.26E-01	4.17E-02	1.20E+00	2.05E-01
	860.37	4.48	2.23E+00		1.37E+00	1.04E+00
+ TL-208	2614.66	* 35.85	4.17E-02	1.46E-01	1.33E+00	0.00E+00
	262.00	45.00	1.46E-01		1.28E-02	7.03E-02
BI-210M	300.00	23.00	3.23E-01	2.24E+00	-1.56E+00	1.56E-01
	46.50	4.25	2.24E+00		4.74E-01	1.09E+00
PB-210						

Analysis Report for 1510063-16

CP5005S01-02

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
PB-211	404.84	2.90	2.63E+00	2.63E+00	-1.26E+00	1.26E+00
	831.96	2.90	2.82E+00		-7.12E-02	1.30E+00
+ BI-212	727.17 *	11.80	7.65E-01	7.65E-01	1.25E+00	3.58E-01
	1620.62	2.75	3.56E+00		1.11E+00	1.58E+00
+ PB-212	238.63 *	44.60	4.09E-01	4.09E-01	1.47E+00	2.02E-01
	300.09 *	3.41	1.47E+00		1.17E+00	6.98E-01
+ BI-214	609.31 *	46.30	2.62E-01	2.62E-01	1.23E+00	1.26E-01
	1120.29 *	15.10	2.61E+00		1.32E+00	1.28E+00
	1764.49 *	15.80	6.33E-01		1.56E+00	2.80E-01
	2204.22 *	4.98	1.48E+00		2.66E+00	6.03E-01
+ PB-214	295.21 *	19.19	5.25E-01	3.64E-01	1.33E+00	2.56E-01
	351.92 *	37.19	3.64E-01		1.49E+00	1.78E-01
RN-219	401.80	6.50	1.18E+00	1.18E+00	-2.74E-02	5.62E-01
RA-223	323.87	3.88	1.85E+00	1.85E+00	-1.15E+00	8.87E-01
RA-224	240.98	3.95	3.48E+00	3.48E+00	1.99E+01	1.71E+00
RA-225	40.00	31.00	1.31E+00	1.31E+00	-5.21E-02	6.38E-01
+ RA-226	186.21 *	3.28	2.72E+00	2.72E+00	3.80E+00	1.33E+00
TH-227	50.10	8.40	9.65E-01	9.65E-01	-1.67E+00	4.71E-01
	236.00	11.50	1.04E+00		-1.34E-03	5.10E-01
	256.20	6.30	1.04E+00		2.23E-01	4.99E-01
+ AC-228	338.32 *	11.40	8.08E-01	4.85E-01	1.20E+00	3.91E-01
	911.07 *	27.70	4.85E-01		1.16E+00	2.30E-01
	969.11 *	16.60	7.64E-01		1.21E+00	3.60E-01
TH-230	48.44	16.90	5.35E-01	5.35E-01	2.79E-01	2.61E-01
	62.85	4.60	1.75E+00		1.63E+00	8.59E-01
	67.67	0.37	1.95E+01		-2.58E+00	9.53E+00
PA-231	283.67	1.60	4.15E+00	3.25E+00	-5.25E-01	2.00E+00
	302.67	2.30	3.25E+00		2.71E-01	1.57E+00
TH-231	25.64	14.70	3.57E+00	1.01E+00	1.24E+00	1.74E+00
	84.21	6.40	1.01E+00		-4.46E-01	4.95E-01
PA-233	311.98	38.60	3.59E-01	3.59E-01	5.85E-02	1.72E-01
PA-234	131.20	20.40	2.86E-01	2.86E-01	1.43E-01	1.39E-01
	733.99	8.80	1.03E+00		2.65E-01	4.82E-01
	946.00	12.00	8.44E-01		5.57E-01	3.92E-01
PA-234M	1001.03	0.92	1.05E+01	1.05E+01	9.57E-01	4.84E+00
+ TH-234	63.29 *	3.80	2.95E+00	2.95E+00	2.54E+00	1.45E+00
U-235	143.76	10.50	5.36E-01	5.36E-01	2.23E-01	2.60E-01
	163.35	4.70	1.21E+00		5.80E-01	5.89E-01
	205.31	4.70	1.48E+00		4.73E-01	7.21E-01
NP-237	86.50	12.60	5.70E-01	5.70E-01	3.78E-01	2.79E-01
NP-239	106.10	22.70	8.70E+02	8.70E+02	-2.21E+02	4.23E+02
	228.18	10.70	2.43E+03		-1.22E+03	1.18E+03
	277.60	14.10	2.05E+03		1.55E+03	9.90E+02
AM-241	59.54	35.90	2.09E-01	2.09E-01	9.19E-02	1.02E-01
AM-243	74.67	66.00	1.51E-01	1.51E-01	3.74E-01	7.45E-02
CM-243	209.75	3.29	2.31E+00	5.32E-01	1.46E+00	1.12E+00
	228.14	10.60	6.33E-01		-3.17E-01	3.06E-01
	277.60	14.00	5.32E-01		4.02E-01	2.57E-01

Analysis Report for 1510063-16

CP5005S01-02

-
- + = 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
-

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

<i>Creation Date</i>	<i>Comment</i>	<i>User</i>
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No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5005S01-02

Elapsed Live time: 3600
Elapsed Real Time: 3617

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	14	174	155	144	118	118	101	107
17:	109	84	81	96	81	107	100	103
25:	89	100	101	112	89	101	84	89
33:	84	83	91	91	83	79	84	94
41:	89	80	88	88	93	118	171	111
49:	92	128	101	103	128	115	112	118
57:	107	123	149	139	125	152	197	244
65:	150	154	161	147	139	161	163	170
73:	179	197	436	325	488	449	137	143
81:	117	139	128	154	168	126	238	224
89:	132	190	152	151	273	234	112	82
97:	77	84	111	91	90	84	88	83
105:	99	92	77	74	108	77	86	83
113:	75	86	94	87	86	81	81	83
121:	85	79	82	90	71	90	89	92
129:	115	125	80	82	84	84	85	79
137:	74	75	73	83	79	79	72	89
145:	95	78	72	68	59	84	73	62
153:	62	66	79	70	82	68	69	62
161:	75	56	78	79	81	72	79	44
169:	76	87	45	68	67	68	61	59
177:	58	64	70	69	68	60	64	53
185:	82	170	138	68	83	59	64	60
193:	60	60	73	56	65	62	66	61
201:	59	64	56	60	65	57	58	43
209:	80	110	63	47	61	61	46	64
217:	34	61	34	47	43	48	58	47
225:	31	55	47	41	50	44	47	53
233:	47	55	48	55	54	175	543	197
241:	79	141	84	41	42	35	32	35
249:	35	35	34	38	28	27	42	42
257:	47	31	30	43	36	30	36	37
265:	29	33	26	33	33	53	45	54
273:	32	35	47	35	49	50	41	36
281:	25	26	35	25	42	29	34	29
289:	42	28	24	32	31	43	147	184
297:	41	31	27	51	45	26	26	35
305:	34	30	29	23	26	24	24	32
313:	23	29	31	31	19	39	19	27
321:	35	31	35	19	35	22	24	41
329:	44	30	24	20	33	26	38	27
337:	26	80	91	30	17	29	26	25
345:	37	27	29	24	19	27	94	287
353:	198	39	20	27	27	16	22	20
361:	12	16	18	27	17	17	22	25

369: 26 15 15 22 18 27 28 24

Sample Title: CP5005S01-02

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	20	21	26	21	22	16	21	14
385:	18	17	27	23	23	24	22	23
393:	24	19	24	14	29	23	20	24
401:	20	24	22	24	23	24	16	21
409:	27	31	27	20	22	18	19	17
417:	17	23	23	15	12	15	28	13
425:	25	24	12	22	19	23	22	13
433:	17	19	15	13	24	24	22	24
441:	17	22	16	21	18	9	22	18
449:	15	18	21	11	18	15	19	15
457:	19	16	18	8	10	17	39	24
465:	14	18	9	8	17	19	13	18
473:	16	19	12	20	18	15	17	15
481:	17	19	19	21	17	10	19	21
489:	11	13	14	17	13	10	13	16
497:	15	8	13	14	11	16	9	13
505:	26	13	15	11	17	35	49	37
513:	24	18	13	17	16	12	10	15
521:	8	16	16	11	13	11	13	15
529:	17	14	13	10	18	13	13	18
537:	15	15	11	12	12	13	16	18
545:	12	11	11	11	17	13	7	14
553:	6	8	7	12	8	8	12	17
561:	10	20	11	15	15	16	8	14
569:	7	13	11	20	14	8	14	18
577:	7	12	14	10	18	28	89	101
585:	31	15	10	12	14	8	13	10
593:	11	13	12	15	11	13	22	10
601:	16	12	13	9	12	15	8	24
609:	153	140	42	14	12	10	12	10
617:	16	8	8	10	13	10	11	11
625:	6	8	12	11	4	10	11	7
633:	4	16	9	11	11	8	16	9
641:	14	8	14	11	19	14	11	9
649:	12	16	9	12	11	8	11	11
657:	17	9	14	10	15	17	10	10
665:	18	17	10	13	11	19	9	11
673:	12	7	14	11	15	14	8	10
681:	6	13	14	13	12	5	11	10
689:	14	11	14	6	8	17	13	14
697:	9	13	14	10	15	6	9	11
705:	6	9	9	7	7	12	7	12
713:	8	10	7	15	14	15	15	7
721:	9	9	6	5	12	20	28	31
729:	14	4	6	9	9	16	16	8
737:	10	8	10	10	6	10	15	8
745:	9	7	14	9	10	15	10	8
753:	5	17	11	11	14	11	9	13
761:	7	8	7	5	7	12	10	14
769:	17	11	8	15	13	13	9	9
777:	12	6	4	9	9	7	14	6
785:	16	15	8	9	9	5	3	11
793:	8	13	21	15	10	9	4	10

801: 7 8 9 5 10 20 15 3

Sample Title: CP5005S01-02

Channel	1	2	3	4	5	6	7	8
809:	3	5	7	10	10	10	7	4
817:	2	8	11	5	7	9	2	10
825:	8	4	9	6	5	5	10	8
833:	3	11	5	10	13	13	10	4
841:	8	7	7	11	11	5	12	11
849:	7	6	10	10	4	11	5	4
857:	9	4	7	9	24	9	6	5
865:	10	5	9	15	3	8	9	10
873:	5	6	6	8	7	8	10	6
881:	4	9	6	5	8	3	12	9
889:	12	6	11	4	7	11	8	10
897:	8	11	6	11	6	4	8	9
905:	8	5	10	4	7	25	66	46
913:	15	6	7	6	5	5	2	2
921:	4	8	6	9	5	12	5	8
929:	5	7	1	12	16	14	8	4
937:	6	3	4	7	7	1	9	6
945:	10	5	6	11	12	7	4	4
953:	11	4	6	8	8	7	7	7
961:	6	4	9	6	14	15	10	11
969:	54	21	4	5	6	5	9	5
977:	8	7	6	5	4	5	4	6
985:	12	3	5	9	10	7	8	9
993:	4	6	3	8	8	6	4	9
1001:	4	11	5	9	4	6	7	13
1009:	10	8	5	8	5	6	8	7
1017:	11	4	3	9	9	5	1	5
1025:	6	11	6	6	9	5	8	6
1033:	4	7	0	5	4	9	3	6
1041:	3	6	7	4	4	10	4	6
1049:	6	6	5	4	6	3	3	5
1057:	3	5	6	5	4	5	8	6
1065:	4	4	9	3	5	5	4	3
1073:	4	2	4	10	5	4	9	6
1081:	7	5	3	3	6	12	7	5
1089:	11	8	10	9	6	3	9	8
1097:	4	5	6	6	4	6	9	3
1105:	2	14	7	16	9	7	6	3
1113:	4	3	6	7	9	7	16	32
1121:	33	7	6	2	7	5	6	5
1129:	7	6	2	7	9	5	11	1
1137:	4	9	4	8	10	11	11	4
1145:	11	4	1	7	13	4	9	8
1153:	9	2	13	8	8	7	5	4
1161:	6	9	6	1	7	3	5	7
1169:	6	8	4	8	7	5	3	7
1177:	12	7	7	9	10	6	10	8
1185:	8	5	5	13	6	8	7	9
1193:	9	10	8	5	6	2	11	10
1201:	7	3	4	3	7	6	10	5
1209:	4	5	5	11	5	11	5	9
1217:	8	11	6	7	11	6	7	7
1225:	10	13	8	10	7	11	7	6

1233: 7 6 6 11 12 22 15 4

Sample Title: CP5005S01-02

Channel	1	2	3	4	5	6	7	8
1241:	9	5	8	11	7	12	6	5
1249:	4	2	6	6	5	4	5	6
1257:	6	5	15	5	5	4	7	4
1265:	9	7	3	4	11	7	4	5
1273:	11	2	9	2	3	5	8	6
1281:	8	5	4	3	6	2	5	5
1289:	5	3	6	5	4	5	4	4
1297:	8	4	5	4	3	3	8	3
1305:	1	5	5	4	5	6	4	6
1313:	9	5	3	1	5	5	6	2
1321:	5	7	3	3	3	1	3	1
1329:	5	9	5	2	4	3	4	4
1337:	3	2	2	4	2	4	7	4
1345:	1	3	0	5	6	6	1	5
1353:	5	8	5	2	1	3	3	4
1361:	5	3	3	3	3	2	4	2
1369:	4	5	1	0	5	5	5	4
1377:	12	9	7	2	2	3	1	4
1385:	1	5	5	0	9	5	1	3
1393:	3	1	1	2	1	2	5	1
1401:	3	6	1	1	0	1	2	7
1409:	3	2	2	1	0	1	0	6
1417:	1	2	3	2	4	7	3	1
1425:	2	1	1	2	1	1	5	1
1433:	3	3	2	1	0	0	4	1
1441:	1	3	0	1	4	4	1	2
1449:	3	3	3	1	2	3	2	0
1457:	1	8	33	139	197	95	20	2
1465:	5	5	0	2	0	2	2	0
1473:	3	3	1	0	2	1	2	2
1481:	5	2	2	2	0	2	2	0
1489:	1	1	0	0	0	2	2	3
1497:	1	3	3	2	3	1	0	3
1505:	2	2	1	3	2	1	2	3
1513:	1	2	1	1	3	1	1	2
1521:	5	1	3	0	0	1	2	4
1529:	4	4	2	1	1	1	0	3
1537:	1	1	1	2	3	4	4	4
1545:	2	0	2	4	3	2	1	1
1553:	2	0	1	2	3	2	2	1
1561:	3	1	3	2	3	2	2	0
1569:	1	3	1	2	0	1	0	0
1577:	2	2	1	3	2	4	1	1
1585:	2	3	4	7	3	0	4	9
1593:	10	3	2	4	2	0	0	0
1601:	2	2	0	1	2	1	1	0
1609:	1	2	1	0	1	2	1	1
1617:	1	2	1	5	2	4	0	5
1625:	1	2	0	3	4	3	6	1
1633:	2	1	3	2	3	4	4	1
1641:	0	1	2	0	0	1	1	1
1649:	3	0	0	0	2	1	2	2
1657:	0	1	3	2	1	4	2	0

1665: 0 0 0 1 2 4 0 1

Sample Title: CP5005S01-02

Channel	1	2	3	4	5	6	7	8
1673:	0	0	1	0	1	0	0	1
1681:	0	2	4	0	1	0	2	0
1689:	2	2	1	1	3	2	0	1
1697:	1	0	1	1	1	3	3	1
1705:	0	2	4	1	1	0	2	1
1713:	0	1	1	0	0	0	1	1
1721:	0	2	1	1	2	0	1	3
1729:	9	4	3	1	1	0	1	1
1737:	0	0	4	1	4	1	0	1
1745:	2	3	0	0	3	0	1	1
1753:	1	1	0	0	1	2	0	1
1761:	0	0	12	21	20	6	2	1
1769:	4	1	0	2	1	0	0	0
1777:	2	1	2	2	1	1	3	1
1785:	0	1	0	3	1	1	0	0
1793:	1	0	0	0	1	2	2	1
1801:	3	1	0	0	0	2	1	0
1809:	2	2	0	3	0	2	3	1
1817:	2	1	0	1	0	1	0	0
1825:	0	0	0	3	1	0	2	1
1833:	2	1	1	1	1	2	0	0
1841:	0	0	0	2	1	2	4	1
1849:	2	0	0	2	1	0	2	1
1857:	1	1	3	0	0	0	1	2
1865:	1	0	0	0	0	1	3	1
1873:	0	0	0	1	2	0	0	2
1881:	0	1	1	2	0	1	0	2
1889:	0	1	1	1	1	1	1	1
1897:	1	2	3	2	0	1	2	1
1905:	2	1	0	1	3	1	1	1
1913:	1	1	2	5	1	1	0	0
1921:	0	1	0	0	1	2	0	1
1929:	0	1	1	2	1	1	1	1
1937:	0	0	1	0	1	0	2	0
1945:	1	3	1	2	2	1	1	3
1953:	0	0	0	0	1	1	0	1
1961:	0	0	0	0	0	0	2	0
1969:	5	1	1	1	0	1	0	3
1977:	1	0	1	1	0	0	0	4
1985:	3	0	1	0	0	1	1	1
1993:	1	0	0	0	0	0	0	1
2001:	0	1	2	1	0	1	0	0
2009:	1	0	1	1	0	2	1	1
2017:	0	1	1	0	1	1	2	0
2025:	0	0	3	2	3	1	2	0
2033:	0	2	0	2	0	0	1	0
2041:	1	1	2	2	0	0	0	0
2049:	1	1	1	2	1	0	3	0
2057:	2	1	0	2	2	0	0	3
2065:	0	0	0	2	1	3	0	0
2073:	1	0	0	1	1	0	1	1
2081:	0	0	2	0	2	1	0	1
2089:	1	0	1	0	0	0	1	3

2097: 0 1 1 0 2 3 2 6

Sample Title: CP5005S01-02

Channel	1	2	3	4	5	6	7	8
2105:	3	2	1	1	0	0	1	0
2113:	3	0	1	1	1	2	1	1
2121:	1	1	1	1	0	1	0	0
2129:	0	1	0	1	0	1	2	0
2137:	1	0	3	1	0	1	0	0
2145:	0	0	1	0	0	1	0	0
2153:	1	1	2	0	1	1	0	2
2161:	0	2	1	3	0	1	1	0
2169:	0	0	2	1	2	2	0	0
2177:	0	5	0	2	0	3	0	1
2185:	0	1	0	1	0	0	0	0
2193:	0	1	0	1	3	0	1	0
2201:	3	2	5	6	5	2	2	1
2209:	1	1	0	0	0	1	1	0
2217:	0	1	1	2	1	1	0	4
2225:	2	1	3	1	0	0	2	1
2233:	2	2	1	0	1	0	0	0
2241:	0	1	1	1	1	1	2	0
2249:	3	4	0	0	0	0	1	0
2257:	0	0	1	1	0	1	0	1
2265:	1	0	1	1	0	0	2	0
2273:	3	0	0	0	0	0	0	2
2281:	1	2	1	1	0	1	0	0
2289:	0	1	2	3	1	0	2	0
2297:	1	3	0	1	2	1	1	1
2305:	1	2	2	2	0	1	0	1
2313:	0	1	0	1	1	2	0	1
2321:	0	2	1	3	0	0	1	1
2329:	2	2	1	1	2	2	1	1
2337:	1	4	1	0	1	2	3	0
2345:	1	0	1	2	0	0	2	2
2353:	2	0	2	2	2	1	2	2
2361:	0	0	1	0	0	0	0	1
2369:	2	0	0	1	1	1	2	1
2377:	0	0	2	1	0	1	0	0
2385:	2	1	0	1	0	1	1	0
2393:	1	0	1	0	0	1	1	0
2401:	0	1	0	0	0	1	1	2
2409:	0	1	0	0	1	2	0	1
2417:	2	0	2	0	0	0	0	0
2425:	0	0	0	1	0	1	0	0
2433:	0	0	2	0	0	0	0	0
2441:	0	2	0	1	0	0	2	5
2449:	1	2	0	0	0	0	1	0
2457:	1	0	1	1	0	1	0	0
2465:	0	0	0	1	0	0	0	0
2473:	0	0	0	1	0	0	0	0
2481:	0	0	1	1	3	0	0	1
2489:	1	0	0	2	2	0	1	0
2497:	0	1	0	0	1	0	0	0
2505:	1	0	0	0	0	0	2	0
2513:	0	0	0	0	0	0	0	0
2521:	3	1	0	0	2	1	0	0

2529: 0 1 0 0 0 0 1 2

Sample Title: CP5005S01-02

Channel	1	2	3	4	5	6	7	8	9
2537:	0	0	1	0	0	0	0	0	0
2545:	0	0	0	0	0	0	0	0	0
2553:	0	0	0	0	0	0	1	0	0
2561:	0	0	0	0	0	0	0	0	0
2569:	0	0	0	0	0	0	0	0	0
2577:	0	0	0	1	0	0	0	2	0
2585:	2	0	0	0	1	0	0	1	0
2593:	0	0	0	0	1	0	0	0	0
2601:	0	0	1	1	0	0	0	0	1
2609:	0	0	0	2	13	28	32	9	9
2617:	1	1	0	0	1	2	0	0	0
2625:	0	0	0	0	0	0	0	0	1
2633:	0	0	0	0	0	0	0	0	0
2641:	0	0	1	0	1	0	0	0	0
2649:	0	0	1	2	1	2	1	0	0
2657:	0	0	0	1	0	1	1	0	0
2665:	0	1	0	0	0	0	2	0	0
2673:	0	1	0	0	0	0	0	0	0
2681:	0	0	0	1	0	0	1	0	0
2689:	0	1	0	0	0	0	0	0	1
2697:	1	0	0	0	0	0	0	0	0
2705:	0	0	0	0	0	0	0	0	0
2713:	0	0	0	0	0	0	1	1	0
2721:	0	0	0	0	0	0	1	0	0
2729:	0	0	0	0	0	0	1	0	0
2737:	0	0	0	0	1	0	0	0	0
2745:	0	1	0	0	0	1	0	0	0
2753:	1	0	1	0	0	1	0	0	0
2761:	0	0	0	1	0	0	0	0	0
2769:	0	0	0	0	0	1	1	0	0
2777:	0	0	0	0	0	0	1	1	0
2785:	0	0	0	0	0	0	0	0	0
2793:	0	0	0	0	0	0	1	0	0
2801:	0	1	2	0	0	0	0	0	0
2809:	0	0	0	0	0	0	0	0	0
2817:	0	0	0	0	0	0	1	0	0
2825:	0	0	1	0	0	0	0	0	0
2833:	1	1	0	0	0	0	0	0	0
2841:	1	0	0	0	1	0	0	0	0
2849:	0	1	0	0	0	0	0	0	0
2857:	0	0	0	0	0	0	0	0	0
2865:	1	0	0	0	0	0	1	0	0
2873:	1	0	1	2	0	1	0	1	0
2881:	0	0	1	1	0	0	0	0	0
2889:	1	0	0	0	0	1	1	2	0
2897:	0	1	0	0	0	1	0	0	0
2905:	0	0	1	0	0	0	0	0	0
2913:	0	3	0	0	0	0	0	0	0
2921:	0	0	0	0	0	0	0	1	0
2929:	0	0	0	0	1	0	0	0	0
2937:	0	0	0	0	0	1	0	0	0
2945:	0	0	1	0	0	1	0	0	0
2953:	0	0	0	0	1	0	0	0	0

2961: 0 0 0 0 0 0 0 0 0

Sample Title: CP5005S01-02

Channel	1	2	3	4	5	6	7	8
2969:	0	0	0	2	1	0	2	0
2977:	0	1	0	0	1	0	0	1
2985:	0	2	0	0	0	0	0	1
2993:	0	1	0	2	0	0	0	0
3001:	0	0	0	0	0	0	0	0
3009:	0	0	0	0	0	0	0	1
3017:	0	0	0	0	1	0	0	0
3025:	0	0	0	0	0	0	0	2
3033:	0	0	0	0	0	0	0	0
3041:	0	0	1	0	0	0	0	0
3049:	0	0	0	0	1	0	0	0
3057:	0	0	0	0	0	0	0	0
3065:	0	0	0	0	0	0	0	1
3073:	1	0	0	0	1	0	0	0
3081:	0	0	0	1	0	0	0	0
3089:	0	0	0	0	0	0	0	0
3097:	0	0	0	0	0	1	0	0
3105:	0	0	0	0	0	0	0	0
3113:	0	0	0	0	0	0	0	0
3121:	0	0	0	0	0	0	0	0
3129:	0	0	0	0	0	0	0	0
3137:	0	1	1	0	0	0	0	0
3145:	0	0	0	0	1	0	0	0
3153:	0	0	0	0	1	0	1	0
3161:	0	0	0	0	1	0	0	0
3169:	0	0	0	0	0	0	0	0
3177:	0	0	0	0	0	1	0	0
3185:	1	1	0	2	1	0	0	0
3193:	0	0	1	0	0	1	0	1
3201:	0	0	0	0	0	1	1	0
3209:	0	0	0	0	0	0	0	0
3217:	0	0	1	0	0	0	0	0
3225:	0	0	0	0	0	0	0	0
3233:	0	0	0	0	0	0	0	0
3241:	1	0	0	0	0	1	0	1
3249:	0	0	0	1	0	0	0	0
3257:	0	0	0	0	0	0	0	0
3265:	0	0	0	0	0	0	0	0
3273:	0	1	0	0	0	0	0	0
3281:	0	1	0	0	1	0	0	0
3289:	0	0	0	1	0	0	0	0
3297:	0	0	0	0	0	0	0	0
3305:	0	0	0	0	0	0	0	0
3313:	1	0	0	0	0	0	0	0
3321:	0	0	0	0	0	0	0	0
3329:	0	0	0	0	0	0	0	0
3337:	0	0	0	0	0	0	0	0
3345:	0	0	0	0	0	0	0	0
3353:	0	0	0	0	0	0	0	0
3361:	0	0	0	0	0	0	0	0
3369:	0	0	0	0	0	0	0	0
3377:	0	0	0	0	0	0	0	0
3385:	0	0	0	0	0	0	0	0

3393: 0 0 0 0 0 0 0 0 0

Sample Title: CP5005S01-02

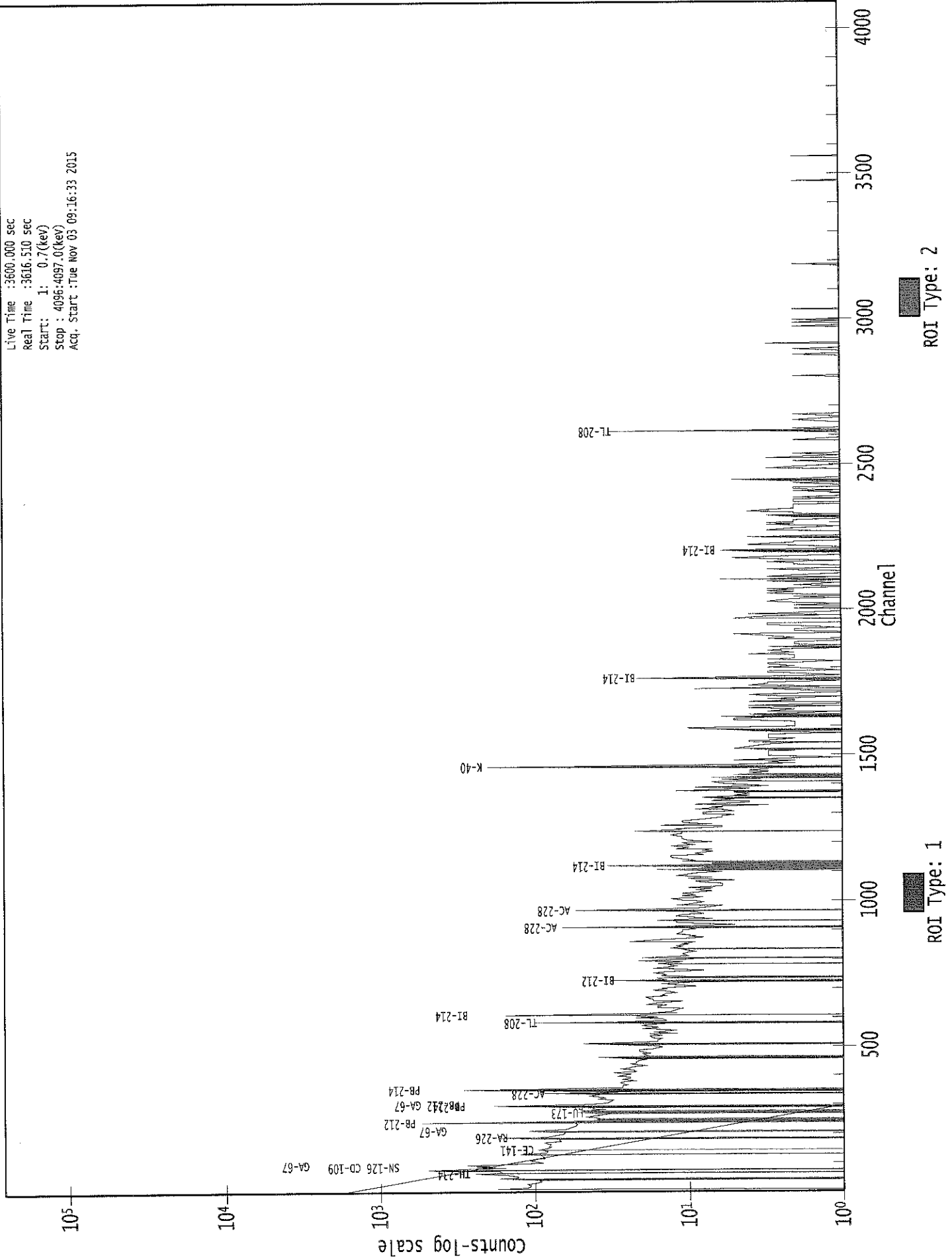
Channel	-----	-----	-----	-----	-----	-----	-----	-----
3401:	0	0	1	0	0	0	0	0
3409:	0	0	0	0	0	0	0	1
3417:	0	0	0	0	0	0	0	0
3425:	0	0	0	1	0	1	0	0
3433:	0	0	0	0	0	0	0	0
3441:	0	0	0	0	0	0	0	0
3449:	0	0	0	0	0	0	0	1
3457:	0	0	1	0	0	0	0	0
3465:	1	0	1	0	0	0	0	0
3473:	0	0	2	0	0	0	0	0
3481:	0	0	0	0	0	0	0	0
3489:	0	0	0	0	1	0	0	0
3497:	0	0	1	1	0	0	0	0
3505:	0	1	0	0	0	1	0	0
3513:	0	1	0	0	0	0	1	0
3521:	0	0	0	0	1	0	0	0
3529:	0	0	0	0	0	0	1	0
3537:	0	0	0	1	0	0	0	0
3545:	0	0	0	0	0	0	0	1
3553:	0	0	0	0	0	2	0	0
3561:	0	0	0	0	0	0	0	1
3569:	0	1	1	1	0	0	0	0
3577:	0	0	0	0	1	0	0	0
3585:	0	0	0	0	0	0	0	0
3593:	0	0	0	0	0	0	0	0
3601:	0	0	1	0	0	1	0	0
3609:	0	0	0	0	0	1	0	0
3617:	0	0	0	0	0	0	0	0
3625:	0	0	0	0	0	0	0	0
3633:	0	0	1	0	0	0	0	0
3641:	0	0	0	0	0	0	0	1
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	0	1	1	0	0
3665:	0	0	0	0	0	0	1	0
3673:	0	1	0	0	0	0	0	0
3681:	0	0	0	0	0	0	0	0
3689:	0	0	0	0	0	0	0	0
3697:	0	0	0	0	0	0	0	0
3705:	0	0	0	0	1	0	0	0
3713:	0	0	0	0	0	0	0	0
3721:	1	0	0	0	0	0	0	0
3729:	0	0	0	0	0	0	0	0
3737:	0	0	0	0	0	0	0	0
3745:	0	0	1	0	0	0	0	0
3753:	0	0	1	0	0	0	0	1
3761:	0	0	0	0	0	0	0	0
3769:	0	0	0	1	0	1	0	0
3777:	0	0	0	0	0	0	0	0
3785:	0	0	0	0	1	0	0	0
3793:	0	0	0	0	0	0	0	0
3801:	0	0	0	0	0	1	0	0
3809:	0	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0

3825: 0 1 0 0 0 0 0 0 0

Sample Title: CP5005S01-02

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	0	0	0	0	0
3849:	0	1	0	0	0	0	0	0
3857:	0	0	0	0	0	0	0	1
3865:	0	0	0	0	0	0	0	0
3873:	0	0	0	0	0	0	0	0
3881:	0	1	0	0	0	0	0	1
3889:	0	0	0	1	0	0	0	0
3897:	0	0	0	0	0	0	0	0
3905:	0	0	1	0	0	0	0	0
3913:	0	1	0	0	0	0	0	0
3921:	0	0	0	0	0	0	0	1
3929:	0	0	0	0	0	1	0	0
3937:	0	0	1	0	0	0	0	0
3945:	0	0	0	0	0	0	0	1
3953:	0	0	0	0	0	1	0	0
3961:	0	0	0	0	0	0	0	0
3969:	0	0	1	1	0	0	0	0
3977:	0	0	0	1	0	0	0	0
3985:	0	0	0	0	0	0	0	0
3993:	0	0	0	0	0	0	1	0
4001:	0	0	0	1	0	0	0	0
4009:	0	0	0	0	0	0	0	1
4017:	0	0	0	0	0	0	0	0
4025:	0	0	0	0	0	0	1	0
4033:	0	0	0	0	0	0	0	0
4041:	0	0	0	0	0	0	0	0
4049:	0	0	1	0	0	1	0	1
4057:	0	0	0	0	0	0	0	0
4065:	0	0	0	0	0	0	0	0
4073:	0	0	0	0	0	0	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	0	0	0	0	0

0000029017.CNF



Analysis Report for 1510063-17
CP5005S04-05

✓
1117

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510063-17
Sample Description : CP5005S04-05
Sample Type : SOIL

Sample Size : 5.998E+02 grams
Facility : Countroom

Sample Taken On : 10/6/2015 7:50:50AM
Acquisition Started : 11/3/2015 9:16:41AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE4
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3639.7 seconds

Dead Time : 1.09 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 15 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 11/8/2014
Efficiency Calibration Description :

Sample Number : 29018

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/3/15

Analysis Report for 1510063-17
CP5005S04-05

PEAK LOCATE REPORT

Peak Locate Performed on : 11/3/2015 10:17:22AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096
 Peak Search Sensitivity : 2.50

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	46.73	45.99	0.0000	0.00
2	63.00	62.26	0.0000	0.00
3	76.06	75.33	0.0000	0.00
4	86.48	85.75	0.0000	0.00
5	93.04	92.32	0.0000	0.00
6	129.30	128.60	0.0000	0.00
7	185.49	184.80	0.0000	0.00
8	209.52	208.84	0.0000	0.00
9	239.51	238.85	0.0000	0.00
10	269.89	269.24	0.0000	0.00
11	295.72	295.08	0.0000	0.00
12	328.73	328.11	0.0000	0.00
13	339.39	338.78	0.0000	0.00
14	352.66	352.05	0.0000	0.00
15	461.63	461.06	0.0000	0.00
16	498.97	498.43	0.0000	0.00
17	511.93	511.39	0.0000	0.00
18	583.67	583.16	0.0000	0.00
19	609.71	609.22	0.0000	0.00
20	650.04	649.57	0.0000	0.00
21	794.23	793.83	0.0000	0.00
22	897.27	896.92	0.0000	0.00
23	911.70	911.36	0.0000	0.00
24	970.24	969.93	0.0000	0.00
25	1120.52	1120.29	0.0000	0.00
26	1447.55	1447.51	0.0000	0.00
27	1461.08	1461.05	0.0000	0.00
28	1765.00	1765.16	0.0000	0.00
29	2091.62	2092.00	0.0000	0.00
30	2120.88	2121.28	0.0000	0.00
31	2203.16	2203.62	0.0000	0.00
32	2335.43	2335.99	0.0000	0.00
33	2447.56	2448.20	0.0000	0.00
34	2615.01	2615.78	0.0000	0.00

? = Adjacent peak noted
 Errors quoted at 2.000sigma

Analysis Report for 1510063-17
CP5005S04-05

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 10:17:22AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
1	46.73	43 -	50	45.99	1.11E+02	80.50	1.01E+03	2.27
2	63.00	57 -	66	62.26	1.58E+02	109.02	1.61E+03	2.26
3	76.06	69 -	81	75.33	8.21E+02	154.38	2.42E+03	3.34
4	86.48	83 -	89	85.75	8.20E+01	91.26	1.46E+03	1.51
5	93.04	89 -	98	92.32	1.73E+02	114.28	1.68E+03	2.68
6	129.30	126 -	131	128.60	8.38E+01	57.91	6.00E+02	2.55
7	185.49	179 -	191	184.80	1.65E+02	98.30	1.06E+03	2.72
8	209.52	204 -	214	208.84	7.47E+01	74.85	7.01E+02	2.55
9	239.51	234 -	245	238.85	5.60E+02	86.83	6.51E+02	2.38
10	269.89	265 -	274	269.24	6.05E+01	58.86	4.61E+02	3.81
11	295.72	289 -	302	295.08	1.61E+02	79.79	6.32E+02	2.81
12	328.73	324 -	332	328.11	4.55E+01	45.30	2.87E+02	1.46
13	339.39	333 -	345	338.78	1.08E+02	61.65	3.96E+02	3.22
14	352.66	347 -	359	352.05	2.65E+02	64.00	3.56E+02	2.63
15	461.63	456 -	468	461.06	5.09E+01	46.29	2.30E+02	6.42
16	498.97	494 -	503	498.43	3.94E+01	33.15	1.33E+02	3.79
17	511.93	504 -	520	511.39	1.80E+02	53.50	2.04E+02	3.57
18	583.67	578 -	589	583.16	1.57E+02	42.10	1.40E+02	3.78
19	609.71	604 -	614	609.22	1.68E+02	42.25	1.49E+02	2.18
20	650.04	645 -	655	649.57	3.45E+01	29.67	9.90E+01	1.08
21	794.23	790 -	798	793.83	2.15E+01	27.60	1.05E+02	3.55
22	897.27	893 -	900	896.92	2.84E+01	18.76	3.93E+01	5.44
23	911.70	905 -	914	911.36	6.13E+01	32.48	1.17E+02	2.13
24	970.24	966 -	975	969.93	4.76E+01	31.89	1.01E+02	2.28
25	1120.52	1116 -	1125	1120.29	3.72E+01	25.98	7.56E+01	3.38
26	1447.55	1443 -	1453	1447.51	1.75E+01	12.35	1.10E+01	7.33
27	1461.08	1456 -	1468	1461.05	2.47E+02	37.76	4.92E+01	3.04
28	1765.00	1761 -	1768	1765.16	2.70E+01	11.49	4.07E+00	3.24
29	2091.62	2087 -	2094	2092.00	8.00E+00	5.66	0.00E+00	2.09
30	2120.88	2118 -	2124	2121.28	8.50E+00	7.23	3.00E+00	2.92
31	2203.16	2199 -	2206	2203.62	1.27E+01	9.80	6.63E+00	1.84
32	2335.43	2332 -	2339	2335.99	6.20E+00	8.49	7.60E+00	5.56
33	2447.56	2444 -	2450	2448.20	5.00E+00	4.47	0.00E+00	2.31
34	2615.01	2611 -	2620	2615.78	3.07E+01	12.53	4.67E+00	3.21

Analysis Report for 1510063-17
CP5005S04-05

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 10:17:22AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
1	46.73	43 -	50	1.11E+02	80.50	1.01E+03	6.39E+01
2	63.00	57 -	66	1.58E+02	109.02	1.61E+03	8.72E+01
3	76.06	69 -	81	8.21E+02	154.38	2.42E+03	1.18E+02
4	86.48	83 -	89	8.20E+01	91.26	1.46E+03	7.35E+01
5	93.04	89 -	98	1.73E+02	114.28	1.68E+03	9.14E+01
6	129.30	126 -	131	8.38E+01	57.91	6.00E+02	4.52E+01
7	185.49	179 -	191	1.65E+02	98.30	1.06E+03	7.80E+01
8	209.52	204 -	214	7.47E+01	74.85	7.01E+02	5.99E+01
9	239.51	234 -	245	5.60E+02	86.83	6.51E+02	5.98E+01
10	269.89	265 -	274	6.05E+01	58.86	4.61E+02	4.67E+01
11	295.72	289 -	302	1.61E+02	79.79	6.32E+02	6.22E+01
12	328.73	324 -	332	4.55E+01	45.30	2.87E+02	3.55E+01
13	339.39	333 -	345	1.08E+02	61.65	3.96E+02	4.77E+01
14	352.66	347 -	359	2.65E+02	64.00	3.56E+02	4.53E+01
15	461.63	456 -	468	5.09E+01	46.29	2.30E+02	3.62E+01
16	498.97	494 -	503	3.94E+01	33.15	1.33E+02	2.52E+01
17	511.93	504 -	520	1.80E+02	53.50	2.04E+02	3.80E+01
18	583.67	578 -	589	1.57E+02	42.10	1.40E+02	2.78E+01
19	609.71	604 -	614	1.68E+02	42.25	1.49E+02	2.74E+01
20	650.04	645 -	655	3.45E+01	29.67	9.90E+01	2.24E+01
21	794.23	790 -	798	2.15E+01	27.60	1.05E+02	2.14E+01
22	897.27	893 -	900	2.84E+01	18.76	3.93E+01	1.27E+01
23	911.70	905 -	914	6.13E+01	32.48	1.17E+02	2.34E+01
24	970.24	966 -	975	4.76E+01	31.89	1.01E+02	2.36E+01
25	1120.52	1116 -	1125	3.72E+01	25.98	7.56E+01	1.89E+01
26	1447.55	1443 -	1453	1.75E+01	12.35	1.10E+01	7.47E+00
27	1461.08	1456 -	1468	2.47E+02	37.76	4.92E+01	1.72E+01
28	1765.00	1761 -	1768	2.70E+01	11.49	4.07E+00	4.04E+00
29	2091.62	2087 -	2094	8.00E+00	5.66	0.00E+00	0.00E+00
30	2120.88	2118 -	2124	8.50E+00	7.23	3.00E+00	3.51E+00
31	2203.16	2199 -	2206	1.27E+01	9.80	6.63E+00	5.53E+00

Analysis Report for 1510063-17

CP5005S04-05

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
32	2335.43	2332 -	2339	6.20E+00	8.49	7.60E+00	5.65E+00
33	2447.56	2444 -	2450	5.00E+00	4.47	0.00E+00	0.00E+00
34	2615.01	2611 -	2620	3.07E+01	12.53	4.67E+00	4.82E+00

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

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/3/2015 10:17:22AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
1	46.73	43 -	50	45.99	1.11E+02	80.50	1.01E+03	PB-210
2	63.00	57 -	66	62.26	1.58E+02	109.02	1.61E+03	TH-230 TH-234
3	76.06	69 -	81	75.33	8.21E+02	154.38	2.42E+03	.....
4	86.48	83 -	89	85.75	8.20E+01	91.26	1.46E+03	EU-155 NP-237
5	93.04	89 -	98	92.32	1.73E+02	114.28	1.68E+03	GA-67
6	129.30	126 -	131	128.60	8.38E+01	57.91	6.00E+02	.....
7	185.49	179 -	191	184.80	1.65E+02	98.30	1.06E+03	RA-226
8	209.52	204 -	214	208.84	7.47E+01	74.85	7.01E+02	CM-243 GA-67
9	239.51	234 -	245	238.85	5.60E+02	86.83	6.51E+02	PB-212
10	269.89	265 -	274	269.24	6.05E+01	58.86	4.61E+02	.....
11	295.72	289 -	302	295.08	1.61E+02	79.79	6.32E+02	PB-214
12	328.73	324 -	332	328.11	4.55E+01	45.30	2.87E+02	LA-140
13	339.39	333 -	345	338.78	1.08E+02	61.65	3.96E+02	.....
14	352.66	347 -	359	352.05	2.65E+02	64.00	3.56E+02	PB-214
15	461.63	456 -	468	461.06	5.09E+01	46.29	2.30E+02	.....
16	498.97	494 -	503	498.43	3.94E+01	33.15	1.33E+02	.....
17	511.93	504 -	520	511.39	1.80E+02	53.50	2.04E+02	.....
18	583.67	578 -	589	583.16	1.57E+02	42.10	1.40E+02	TL-208
19	609.71	604 -	614	609.22	1.68E+02	42.25	1.49E+02	BI-214
20	650.04	645 -	655	649.57	3.45E+01	29.67	9.90E+01	.....

: 00956

Analysis Report for 1510063-17

CP5005S04-05

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
21	794.23	790 -	798	793.83	2.15E+01	27.60	1.05E+02	.....
22	897.27	893 -	900	896.92	2.84E+01	18.76	3.93E+01	Y-88
23	911.70	905 -	914	911.36	6.13E+01	32.48	1.17E+02	LU-172 AC-228
24	970.24	966 -	975	969.93	4.76E+01	31.89	1.01E+02	.....
25	1120.52	1116 -	1125	1120.29	3.72E+01	25.98	7.56E+01	SC-46 BI-214 TA-182
26	1447.55	1443 -	1453	1447.51	1.75E+01	12.35	1.10E+01	.....
27	1461.08	1456 -	1468	1461.05	2.47E+02	37.76	4.92E+01	K-40
28	1765.00	1761 -	1768	1765.16	2.70E+01	11.49	4.07E+00	BI-214
29	2091.62	2087 -	2094	2092.00	8.00E+00	5.66	0.00E+00	.....
30	2120.88	2118 -	2124	2121.28	8.50E+00	7.23	3.00E+00	.....
31	2203.16	2199 -	2206	2203.62	1.27E+01	9.80	6.63E+00	.....
32	2335.43	2332 -	2339	2335.99	6.20E+00	8.49	7.60E+00	.....
33	2447.56	2444 -	2450	2448.20	5.00E+00	4.47	0.00E+00	.....
34	2615.01	2611 -	2620	2615.78	3.07E+01	12.53	4.67E+00	TL-208

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/3/2015 10:17:22AM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	46.73	1.11E+02	80.50	2.63E-02	1.78E-03
2	63.00	1.58E+02	109.02	2.33E-02	1.76E-03
3	76.06	8.21E+02	154.38	2.13E-02	1.69E-03
4	86.48	8.20E+01	91.26	1.98E-02	1.64E-03
5	93.04	1.73E+02	114.28	1.90E-02	1.62E-03
6	129.30	8.38E+01	57.91	1.53E-02	1.47E-03
7	185.49	1.65E+02	98.30	1.16E-02	1.15E-03
8	209.52	7.47E+01	74.85	1.05E-02	1.08E-03
9	239.51	5.60E+02	86.83	9.39E-03	9.84E-04
10	269.89	6.05E+01	58.86	8.44E-03	8.90E-04
11	295.72	1.61E+02	79.79	7.77E-03	8.43E-04
12	328.73	4.55E+01	45.30	7.05E-03	8.06E-04
13	339.39	1.08E+02	61.65	6.84E-03	7.94E-04

: 00957

Analysis Report for 1510063-17
CP5005S04-05

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
14	352.66	2.65E+02	64.00	6.60E-03	7.79E-04
15	461.63	5.09E+01	46.29	5.09E-03	6.34E-04
16	498.97	3.94E+01	33.15	4.72E-03	5.79E-04
17	511.93	1.80E+02	53.50	4.60E-03	5.60E-04
18	583.67	1.57E+02	42.10	4.04E-03	4.55E-04
19	609.71	1.68E+02	42.25	3.87E-03	4.16E-04
20	650.04	3.45E+01	29.67	3.64E-03	3.57E-04
21	794.23	2.15E+01	27.60	2.98E-03	2.66E-04
22	897.27	2.84E+01	18.76	2.65E-03	2.08E-04
23	911.70	6.13E+01	32.48	2.61E-03	2.06E-04
24	970.24	4.76E+01	31.89	2.46E-03	1.99E-04
25	1120.52	3.72E+01	25.98	2.14E-03	1.79E-04
26	1447.55	1.75E+01	12.35	1.70E-03	1.92E-04
27	1461.08	2.47E+02	37.76	1.68E-03	1.89E-04
28	1765.00	2.70E+01	11.49	1.43E-03	1.26E-04
29	2091.62	8.00E+00	5.66	1.25E-03	1.11E-04
30	2120.88	8.50E+00	7.23	1.24E-03	1.11E-04
31	2203.16	1.27E+01	9.80	1.21E-03	1.11E-04
32	2335.43	6.20E+00	8.49	1.16E-03	1.11E-04
33	2447.56	5.00E+00	4.47	1.12E-03	1.11E-04
34	2615.01	3.07E+01	12.53	1.07E-03	1.11E-04

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

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/3/2015 10:17:22AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
1	46.73	1.11E+02	80.50	2.00E+01	7.38E+00	9.07E+01	8.08E+01
2	63.00	1.58E+02	109.02	5.38E+01	9.34E+00	1.04E+02	1.09E+02
3	76.06	8.21E+02	154.38			8.21E+02	1.54E+02
4	86.48	8.20E+01	91.26			8.20E+01	9.13E+01
5	93.04	1.73E+02	114.28	5.44E+01	8.36E+00	1.18E+02	1.15E+02
6	129.30	8.38E+01	57.91			8.38E+01	5.79E+01
7	185.49	1.65E+02	98.30	1.43E+01	7.33E+00	1.50E+02	9.86E+01
8	209.52	7.47E+01	74.85			7.47E+01	7.48E+01
9	239.51	5.60E+02	86.83	1.09E+01	6.39E+00	5.49E+02	8.71E+01

Analysis Report for 1510063-17

CP5005S04-05

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
10	269.89	6.05E+01	58.86			6.05E+01	5.89E+01
11	295.72	1.61E+02	79.79			1.61E+02	7.98E+01
12	328.73	4.55E+01	45.30			4.55E+01	4.53E+01
13	339.39	1.08E+02	61.65			1.08E+02	6.17E+01
14	352.66	2.65E+02	64.00	8.07E+00	5.01E+00	2.57E+02	6.42E+01
15	461.63	5.09E+01	46.29			5.09E+01	4.63E+01
16	498.97	3.94E+01	33.15			3.94E+01	3.32E+01
17	511.93	1.80E+02	53.50	4.21E+01	4.92E+00	1.38E+02	5.37E+01
18	583.67	1.57E+02	42.10			1.57E+02	4.21E+01
19	609.71	1.68E+02	42.25	5.16E+00	1.63E+00	1.62E+02	4.23E+01
20	650.04	3.45E+01	29.67			3.45E+01	2.97E+01
21	794.23	2.15E+01	27.60			2.15E+01	2.76E+01
22	897.27	2.84E+01	18.76			2.84E+01	1.88E+01
23	911.70	6.13E+01	32.48	1.01E+00	2.85E+00	6.03E+01	3.26E+01
24	970.24	4.76E+01	31.89			4.76E+01	3.19E+01
25	1120.52	3.72E+01	25.98			3.72E+01	2.60E+01
26	1447.55	1.75E+01	12.35			1.75E+01	1.23E+01
27	1461.08	2.47E+02	37.76			2.47E+02	3.78E+01
28	1765.00	2.70E+01	11.49	1.11E-01	9.77E-01	2.69E+01	1.15E+01
29	2091.62	8.00E+00	5.66			8.00E+00	5.66E+00
30	2120.88	8.50E+00	7.23			8.50E+00	7.23E+00
31	2203.16	1.27E+01	9.80			1.27E+01	9.80E+00
32	2335.43	6.20E+00	8.49			6.20E+00	8.49E+00
33	2447.56	5.00E+00	4.47			5.00E+00	4.47E+00
34	2615.01	3.07E+01	12.53	1.20E+00	1.02E+00	2.95E+01	1.26E+01

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

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/3/2015 10:17:22AM
Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

Corrected Area is: Original * Peak Ratio - Background

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
1	46.73	1.11E+02	80.50	2.00E+01	7.38E+00	9.07E+01	8.08E+01
2	63.00	1.58E+02	109.02	5.38E+01	9.34E+00	1.04E+02	1.09E+02
3	76.06	8.21E+02	154.38			8.21E+02	1.54E+02

: 00959

Analysis Report for 1510063-17

CP5005S04-05

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
4	86.48	8.20E+01	91.26			8.20E+01	9.13E+01
5	93.04	1.73E+02	114.28	5.44E+01	8.36E+00	1.18E+02	1.15E+02
6	129.30	8.38E+01	57.91			8.38E+01	5.79E+01
7	185.49	1.65E+02	98.30	1.43E+01	7.33E+00	1.50E+02	9.86E+01
8	209.52	7.47E+01	74.85			7.47E+01	7.48E+01
9	239.51	5.60E+02	86.83	1.09E+01	6.39E+00	5.49E+02	8.71E+01
10	269.89	6.05E+01	58.86			6.05E+01	5.89E+01
11	295.72	1.61E+02	79.79			1.61E+02	7.98E+01
12	328.73	4.55E+01	45.30			4.55E+01	4.53E+01
13	339.39	1.08E+02	61.65			1.08E+02	6.17E+01
14	352.66	2.65E+02	64.00	8.07E+00	5.01E+00	2.57E+02	6.42E+01
15	461.63	5.09E+01	46.29			5.09E+01	4.63E+01
16	498.97	3.94E+01	33.15			3.94E+01	3.32E+01
17	511.93	1.80E+02	53.50	4.21E+01	4.92E+00	1.38E+02	5.37E+01
18	583.67	1.57E+02	42.10			1.57E+02	4.21E+01
19	609.71	1.68E+02	42.25	5.16E+00	1.63E+00	1.62E+02	4.23E+01
20	650.04	3.45E+01	29.67			3.45E+01	2.97E+01
21	794.23	2.15E+01	27.60			2.15E+01	2.76E+01
22	897.27	2.84E+01	18.76			2.84E+01	1.88E+01
23	911.70	6.13E+01	32.48	1.01E+00	2.85E+00	6.03E+01	3.26E+01
24	970.24	4.76E+01	31.89			4.76E+01	3.19E+01
25	1120.52	3.72E+01	25.98			3.72E+01	2.60E+01
26	1447.55	1.75E+01	12.35			1.75E+01	1.23E+01
27	1461.08	2.47E+02	37.76			2.47E+02	3.78E+01
28	1765.00	2.70E+01	11.49	1.11E-01	9.77E-01	2.69E+01	1.15E+01
29	2091.62	8.00E+00	5.66			8.00E+00	5.66E+00
30	2120.88	8.50E+00	7.23			8.50E+00	7.23E+00
31	2203.16	1.27E+01	9.80			1.27E+01	9.80E+00
32	2335.43	6.20E+00	8.49			6.20E+00	8.49E+00
33	2447.56	5.00E+00	4.47			5.00E+00	4.47E+00
34	2615.01	3.07E+01	12.53	1.20E+00	1.02E+00	2.95E+01	1.26E+01

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
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Analysis Report for 1510063-17
CP5005S04-05

<i>Nuclide Name</i>	<i>Id Confidence</i>	<i>Energy (keV)</i>	<i>Yield(%)</i>	<i>Activity (pCi/grams)</i>	<i>Activity Uncertainty</i>
K-40	0.989	1460.81 *	10.67	1.72E+01	3.28E+00
EU-155	0.381	86.50 *	30.90	1.70E-01	1.89E-01
		105.30	20.70		
TL-208	0.858	583.14 *	30.22	1.61E+00	4.68E-01
		860.37	4.48		
		2614.66 *	35.85	9.60E-01	4.21E-01
PB-210	0.991	46.50 *	4.25	1.02E+00	9.12E-01
PB-212	0.787	238.63 *	44.60	1.64E+00	3.12E-01
		300.09	3.41		
BI-214	0.913	609.31 *	46.30	1.13E+00	3.19E-01
		1120.29 *	15.10	1.44E+00	1.01E+00
		1764.49 *	15.80	1.48E+00	6.50E-01
		2204.22	4.98		
PB-214	0.931	295.21 *	19.19	1.35E+00	6.86E-01
		351.92 *	37.19	1.31E+00	3.62E-01
RA-226	0.919	186.21 *	3.28	4.92E+00	9.58E+00
TH-234	0.986	63.29 *	3.80	1.47E+00	1.55E+00
NP-237	1.000	86.50 *	12.60	4.11E-01	4.59E-01

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 10:17:22AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Peak Size (CPS)</i>	<i>Peak CPS (%) Uncertainty</i>	<i>Peak Type</i>	<i>Tolerance Nuclide</i>
3	76.06	2.27970E-01	9.41		
5	93.04	3.28244E-02	48.48	Sum	
6	129.30	2.32740E-02	34.56		
8	209.52	2.07565E-02	50.08	Tol.	CM-243
10	269.89	1.68089E-02	48.63		
12	328.73	1.26433E-02	49.76	Tol.	LA-140
13	339.39	3.00100E-02	28.53		
15	461.63	1.41299E-02	45.50		
16	498.97	1.09499E-02	42.05		
17	511.93	3.82947E-02	19.48		

Analysis Report for 1510063-17
CP5005S04-05

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
20	650.04	9.58333E-03	43.00		
21	794.23	5.96096E-03	64.31	Sum	
22	897.27	7.88194E-03	33.06	Tol.	Y-88
23	911.70	1.67459E-02	27.04	Tol.	LU-172 AC-228
24	970.24	1.32341E-02	33.47		
26	1447.55	4.86111E-03	35.28		
29	2091.62	2.22222E-03	35.36		
30	2120.88	2.36111E-03	42.52		
31	2203.16	3.52431E-03	38.61		
32	2335.43	1.72222E-03	68.43		
33	2447.56	1.38889E-03	44.72		

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.98	1460.81 *	10.67	1.72E+01	3.28E+00
EU-155	0.38	86.50 *	30.90	1.70E-01	1.89E-01
		105.30	20.70		
TL-208	0.85	583.14 *	30.22	1.61E+00	4.68E-01
		860.37	4.48		
		2614.66 *	35.85	9.60E-01	4.21E-01
PB-210	0.99	46.50 *	4.25	1.02E+00	9.12E-01
PB-212	0.78	238.63 *	44.60	1.64E+00	3.12E-01
		300.09	3.41		
BI-214	0.91	609.31 *	46.30	1.13E+00	3.19E-01
		1120.29 *	15.10	1.44E+00	1.01E+00
		1764.49 *	15.80	1.48E+00	6.50E-01
		2204.22	4.98		
PB-214	0.93	295.21 *	19.19	1.35E+00	6.86E-01
		351.92 *	37.19	1.31E+00	3.62E-01
RA-226	0.91	186.21 *	3.28	4.92E+00	9.58E+00

Analysis Report for 1510063-17
CP5005S04-05

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
TH-234	0.98	63.29 *	3.80	1.47E+00	1.55E+00
NP-237	1.00	86.50 *	12.60	4.11E-01	4.59E-01

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40	0.989	1.72E+01	3.28E+00	
X	GA-67	0.447			
?	EU-155	0.381	1.70E-01	1.89E-01	
	TL-208	0.858	1.25E+00	3.13E-01	
	PB-210	0.991	1.02E+00	9.12E-01	
	PB-212	0.787	1.64E+00	3.12E-01	
	BI-214	0.913	1.22E+00	2.76E-01	
	PB-214	0.931	1.32E+00	3.20E-01	
	RA-226	0.919	4.92E+00	9.58E+00	
	TH-234	0.986	1.47E+00	1.55E+00	
?	NP-237	1.000	4.11E-01	4.59E-01	

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510063-17
CP5005S04-05

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 10:17:22AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
3	76.06	2.27970E-01	9.41		
5	93.04	3.28244E-02	48.48	Sum	
6	129.30	2.32740E-02	34.56		
8	209.52	2.07565E-02	50.08	Tol.	CM-243
10	269.89	1.68089E-02	48.63		
12	328.73	1.26433E-02	49.76	Tol.	LA-140
13	339.39	3.00100E-02	28.53		
15	461.63	1.41299E-02	45.50		
16	498.97	1.09499E-02	42.05		
17	511.93	3.82947E-02	19.48		
20	650.04	9.58333E-03	43.00		
21	794.23	5.96096E-03	64.31	Sum	
22	897.27	7.88194E-03	33.06	Tol.	Y-88
23	911.70	1.67459E-02	27.04	Tol.	LU-172 AC-228
24	970.24	1.32341E-02	33.47		
26	1447.55	4.86111E-03	35.28		
29	2091.62	2.22222E-03	35.36		
30	2120.88	2.36111E-03	42.52		
31	2203.16	3.52431E-03	38.61		
32	2335.43	1.72222E-03	68.43		
33	2447.56	1.38889E-03	44.72		

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

Analysis Report for 1510063-17
CP5005S04-05

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59	10.42	-8.80E-01	1.58E+00	1.58E+00
+	NA-22	1274.54	99.94	-2.58E-02	1.81E-01	1.81E-01
+	NA-24	1368.53	99.99	-6.96E+10	4.36E+12	5.27E+12
		2754.09	99.86	-1.35E+12		4.36E+12
+	AL-26	1808.65	99.76	3.94E-02	1.42E-01	1.42E-01
+	K-40	1460.81	* 10.67	1.72E+01	2.58E+00	2.58E+00
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	6.46E-03	8.49E-02	8.49E-02
		78.34	96.00	2.80E-01		1.15E-01
+	SC-46	889.25	99.98	-3.11E-02	1.79E-01	1.79E-01
		1120.51	99.99	2.18E-01		3.07E-01
+	V-48	983.52	99.98	2.04E-01	5.41E-01	5.41E-01
		1312.10	97.50	-1.09E-01		5.63E-01
+	CR-51	320.08	9.83	-6.90E-01	2.10E+00	2.10E+00
+	MN-54	834.83	99.97	3.88E-02	1.73E-01	1.73E-01
+	CO-56	846.75	99.96	3.19E-02	2.00E-01	2.00E-01
		1037.75	14.03	9.70E-01		1.78E+00
		1238.25	67.00	3.62E-02		4.20E-01
		1771.40	15.51	-8.43E-01		1.50E+00
		2598.48	16.90	-8.81E-02		9.49E-01
+	CO-57	122.06	85.51	-2.58E-02	1.08E-01	1.08E-01
		136.48	10.60	-1.90E-01		9.44E-01
+	CO-58	810.76	99.40	-5.67E-02	1.80E-01	1.80E-01
+	FE-59	1099.22	56.50	2.97E-02	5.16E-01	5.16E-01
		1291.56	43.20	3.30E-02		6.30E-01
+	CO-60	1173.22	100.00	8.12E-02	1.47E-01	2.13E-01
		1332.49	100.00	5.19E-03		1.47E-01
+	ZN-65	1115.52	50.75	5.79E-02	4.62E-01	4.62E-01
+	GA-67	93.31	* 35.70	8.53E+01	1.36E+02	1.36E+02
		208.95	* 2.24	1.55E+03		2.54E+03
		300.22	16.00	6.71E+00		2.99E+02
+	SE-75	121.11	16.70	3.50E-02	1.83E-01	6.04E-01
		136.00	59.20	-1.83E-02		1.83E-01
		264.65	59.80	-4.81E-02		2.07E-01
		279.53	25.20	1.93E-01		5.22E-01
		400.65	11.40	5.91E-01		1.31E+00
+	RB-82	776.52	13.00	1.08E-01	2.60E+00	2.60E+00
+	RB-83	520.41	46.00	-8.98E-02	3.36E-01	3.36E-01
		529.64	30.30	-8.67E-02		5.13E-01
		552.65	16.40	5.08E-01		1.06E+00
+	KR-85	513.99	0.43	7.05E+01	4.37E+01	4.37E+01
+	SR-85	513.99	99.27	4.14E-01	2.57E-01	2.57E-01

Analysis Report for 1510063-17
CP5005S04-05

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	Y-88	898.02	93.40	-6.08E-02	1.63E-01	2.16E-01
		1836.01	99.38	-4.30E-02		1.63E-01
+	NB-93M	16.57	9.43	8.42E-01	4.23E-01	4.23E-01
+	NB-94	702.63	100.00	2.18E-02	1.56E-01	1.56E-01
		871.10	100.00	3.88E-02		1.60E-01
+	NB-95	765.79	99.81	9.02E-02	2.84E-01	2.84E-01
+	NB-95M	235.69	25.00	1.39E+01	1.44E+02	1.44E+02
+	ZR-95	724.18	43.70	1.43E-01	3.65E-01	5.23E-01
		756.72	55.30	-1.78E-03		3.65E-01
+	MO-99	181.06	6.20	3.26E+01	1.47E+03	2.02E+03
		739.58	12.80	-9.48E+01		1.47E+03
		778.00	4.50	-8.42E+02		3.92E+03
+	RU-103	497.08	89.00	7.97E-02	2.36E-01	2.36E-01
+	RU-106	621.84	9.80	-2.36E-02	1.42E+00	1.42E+00
+	AG-108M	433.93	89.90	-4.43E-02	1.43E-01	1.43E-01
		614.37	90.40	-2.26E-02		1.96E-01
		722.95	90.50	9.42E-03		1.83E-01
+	CD-109	88.03	3.72	1.89E+00	2.76E+00	2.76E+00
+	AG-110M	657.75	93.14	2.83E-02	1.50E-01	1.50E-01
		677.61	10.53	1.13E-01		1.51E+00
		706.67	16.46	3.93E-02		9.51E-01
		763.93	21.98	4.63E-02		7.69E-01
		884.67	71.63	4.56E-02		2.26E-01
		1384.27	23.94	1.02E-01		7.18E-01
+	CD-113M	263.70	0.02	-4.07E+01	4.52E+02	4.52E+02
+	SN-113	255.12	1.93	1.77E+00	2.10E-01	6.69E+00
		391.69	64.90	-2.58E-02		2.10E-01
+	TE123M	159.00	84.10	5.19E-02	1.38E-01	1.38E-01
+	SB-124	602.71	97.87	-2.48E-02	1.98E-01	1.98E-01
		645.85	7.26	7.32E-02		2.52E+00
		722.78	11.10	-2.10E+00		1.83E+00
		1691.02	49.00	1.66E-01		4.14E-01
+	I-125	35.49	6.49	-3.09E-01	1.00E+00	1.00E+00
+	SB-125	176.33	6.89	-3.27E-02	4.57E-01	1.48E+00
		427.89	29.33	1.22E-01		4.57E-01
		463.38	10.35	4.11E-01		1.31E+00
		600.56	17.80	2.95E-02		7.89E-01
		635.90	11.32	-4.84E-01		1.04E+00
+	SB-126	414.70	83.30	-2.42E-01	6.72E-01	6.72E-01
		666.33	99.60	6.65E-02		6.75E-01
		695.00	99.60	4.97E-01		8.18E-01
		720.50	53.80	-8.78E-01		1.30E+00
+	SN-126	87.57	37.00	1.82E-01	2.66E-01	2.66E-01
+	SB-127	473.00	25.00	4.26E+01	5.98E+01	7.71E+01
		685.20	35.70	-4.26E+01		5.98E+01
		783.80	14.70	1.82E+01		1.60E+02
+	I-129	29.78	57.00	-4.23E-02	7.80E-02	7.80E-02
		33.60	13.20	-2.28E-01		3.46E-01

Analysis Report for 1510063-17
CP5005S04-05

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	I-129	39.58	7.52	-1.18E-01	7.80E-02	6.69E-01
+	I-131	284.30	6.05	1.62E+00	1.61E+00	2.10E+01
		364.48	81.20	6.28E-01		1.61E+00
		636.97	7.26	-1.05E+01		1.79E+01
		722.89	1.80	-1.06E+02		9.19E+01
+	TE-132	49.72	13.10	9.64E+00	4.92E+01	1.88E+02
		228.16	88.00	8.78E+00		4.92E+01
+	BA-133	81.00	33.00	-1.10E-01	2.87E-01	3.15E-01
		302.84	17.80	1.47E-01		6.58E-01
		356.01	60.00	5.95E-01		2.87E-01
+	I-133	529.87	86.30	-1.38E+08	8.15E+08	8.15E+08
+	XE-133	81.00	38.00	-3.88E+00	1.11E+01	1.11E+01
+	CS-134	563.23	8.38	1.27E-01	1.73E-01	1.70E+00
		569.32	15.43	-1.29E-01		8.58E-01
		604.70	97.60	-1.89E-03		1.73E-01
		795.84	85.40	9.25E-02		2.21E-01
		801.93	8.73	4.55E-01		1.96E+00
+	CS-135	268.24	16.00	6.18E-01	7.28E-01	7.28E-01
+	@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@	1260.41	28.60	1.00E+26		1.00E+26
	@	1678.03	9.54	1.00E+26		1.00E+26
+	CS-136	153.22	7.46	-1.09E+00	6.11E-01	5.63E+00
		163.89	4.61	1.73E+00		9.50E+00
		176.55	13.56	-7.16E-02		3.24E+00
		273.65	12.66	1.48E-01		4.04E+00
		340.57	48.50	1.86E+00		1.26E+00
		818.50	99.70	3.80E-02		6.11E-01
		1048.07	79.60	-9.07E-02		9.60E-01
		1235.34	19.70	-1.18E+00		4.98E+00
+	CS-137	661.65	85.12	7.60E-02	1.66E-01	1.66E-01
+	LA-138	788.74	34.00	1.76E-02	2.23E-01	4.60E-01
		1435.80	66.00	2.22E-02		2.23E-01
+	CE-139	165.85	80.35	8.05E-03	1.43E-01	1.43E-01
+	BA-140	162.64	6.70	-1.98E-01	2.46E+00	6.77E+00
		304.84	4.50	8.80E-01		1.15E+01
		423.70	3.20	7.83E+00		1.91E+01
		437.55	2.00	1.77E+01		3.15E+01
		537.32	25.00	7.93E-01		2.46E+00
+	LA-140	328.77	20.50	1.56E+00	7.50E-01	2.65E+00
		487.03	45.50	3.37E-01		1.25E+00
		815.85	23.50	3.61E-02		2.63E+00
		1596.49	95.49	3.85E-02		7.50E-01
+	CE-141	145.44	48.40	1.06E-01	3.60E-01	3.60E-01
+	CE-143	57.36	11.80	1.81E+04	4.84E+05	7.80E+05
		293.26	42.00	5.86E+05		4.84E+05
		664.55	5.20	-6.66E+05		3.66E+06
+	CE-144	133.54	10.80	-1.33E-03	9.28E-01	9.28E-01
+	PM-144	476.78	42.00	-7.81E-02	1.40E-01	2.97E-01
		618.01	98.60	-2.98E-02		1.40E-01

Analysis Report for 1510063-17
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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	PM-144	696.49	99.49	1.01E-01	1.40E-01	1.80E-01
+	PM-145	36.85	21.70	6.00E-02	1.23E-01	2.25E-01
		37.36	39.70	3.97E-02		1.23E-01
		42.30	15.10	-3.83E-02		3.71E-01
		72.40	2.31	7.64E+00		4.48E+00
+	PM-146	453.90	39.94	-1.13E-02	3.14E-01	3.14E-01
		735.90	14.01	-5.31E-01		1.07E+00
		747.13	13.10	-4.61E-02		1.27E+00
+	ND-147	91.11	28.90	3.38E+00	2.07E+00	2.07E+00
		531.02	13.10	3.95E-01		5.71E+00
+	PM-149	285.90	3.10	3.74E+03	2.42E+04	2.42E+04
+	EU-152	121.78	20.50	-1.00E-01	4.20E-01	4.20E-01
		244.69	5.40	-2.05E-01		2.36E+00
		344.27	19.13	-2.56E+00		6.06E-01
		778.89	9.20	-3.50E-01		1.63E+00
		964.01	10.40	2.16E-01		2.14E+00
		1085.78	7.22	-5.10E-01		2.32E+00
		1112.02	9.60	1.47E-01		2.08E+00
		1407.95	14.94	5.24E-02		1.14E+00
+	GD-153	97.43	31.30	3.65E-02	2.97E-01	2.97E-01
		103.18	22.20	-5.29E-02		3.90E-01
+	EU-154	123.07	40.50	-7.07E-02	2.14E-01	2.14E-01
		723.30	19.70	4.35E-02		8.45E-01
		873.19	11.50	7.40E-01		1.42E+00
		996.32	10.30	-3.73E-01		1.62E+00
		1004.76	17.90	-1.61E-02		9.29E-01
		1274.45	35.50	-7.16E-02		5.01E-01
+	EU-155	86.50	* 30.90	1.70E-01	3.10E-01	3.10E-01
		105.30	20.70	-1.79E-01		3.88E-01
+	EU-156	811.77	10.40	-2.30E+00	4.54E+00	4.54E+00
		1153.47	7.20	6.91E-01		1.01E+01
		1230.71	8.90	-2.16E+00		9.35E+00
+	HO-166M	184.41	72.60	2.21E-01	1.62E-01	1.62E-01
		280.45	29.60	9.37E-03		3.78E-01
		410.94	11.10	3.17E-01		1.08E+00
		711.69	54.10	-1.27E-01		2.41E-01
+	TM-171	66.72	0.14	4.44E+00	5.86E+01	5.86E+01
+	HF-172	81.75	4.52	-6.36E+00	8.31E-01	2.19E+00
		125.81	11.30	-4.77E-02		8.31E-01
+	LU-172	181.53	20.60	3.84E-01	5.54E+00	9.80E+00
		810.06	16.63	-4.70E+00		1.49E+01
		912.12	15.25	-4.22E+00		2.97E+01
		1093.66	62.50	1.89E+00		5.54E+00
+	LU-173	100.72	5.24	6.35E-02	5.78E-01	1.59E+00
		272.11	21.20	3.20E-01		5.78E-01
+	HF-175	343.40	84.00	-2.27E-01	1.93E-01	1.93E-01
+	LU-176	88.34	13.30	1.18E+00	1.17E-01	7.59E-01
		201.83	86.00	9.90E-03		1.23E-01
		306.78	94.00	5.14E-03		1.17E-01

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	TA-182	67.75	41.20	1.75E-02	2.30E-01	2.30E-01
		1121.30	34.90	6.95E-01		8.32E-01
		1189.05	16.23	1.03E-01		1.47E+00
		1221.41	26.98	-3.45E-01		9.52E-01
		1231.02	11.44	-5.54E-01		2.39E+00
+	IR-192	308.46	29.68	5.69E-02	3.30E-01	4.78E-01
		468.07	48.10	8.22E-02		3.30E-01
+	HG-203	279.19	77.30	8.10E-02	2.20E-01	2.20E-01
+	BI-207	569.67	97.72	-2.00E-02	1.32E-01	1.32E-01
		1063.62	74.90	-3.45E-02		2.16E-01
+	TL-208	583.14	* 30.22	1.61E+00	4.28E-01	5.98E-01
		860.37	4.48	1.15E+00		3.60E+00
		2614.66	* 35.85	9.60E-01		4.28E-01
+	BI-210M	262.00	45.00	9.93E-03	2.30E-01	2.30E-01
		300.00	23.00	1.58E-01		5.88E-01
+	PB-210	46.50	* 4.25	1.02E+00	1.48E+00	1.48E+00
+	PB-211	404.84	2.90	1.53E-01	4.33E+00	4.33E+00
		831.96	2.90	1.22E+00		5.58E+00
+	BI-212	727.17	11.80	1.01E+00	1.49E+00	1.49E+00
		1620.62	2.75	2.28E+00		5.56E+00
+	PB-212	238.63	* 44.60	1.64E+00	3.69E-01	3.69E-01
		300.09	3.41	1.07E+00		3.97E+00
+	BI-214	609.31	* 46.30	1.13E+00	4.06E-01	4.06E-01
		1120.29	* 15.10	1.44E+00		1.56E+00
		1764.49	* 15.80	1.48E+00		6.09E-01
		2204.22	4.98	2.08E-01		4.90E+00
+	PB-214	295.21	* 19.19	1.35E+00	4.81E-01	1.07E+00
		351.92	* 37.19	1.31E+00		4.81E-01
+	RN-219	401.80	6.50	3.45E-01	1.95E+00	1.95E+00
+	RA-223	323.87	3.88	7.53E-02	2.85E+00	2.85E+00
+	RA-224	240.98	3.95	1.88E+01	4.58E+00	4.58E+00
+	RA-225	40.00	31.00	-1.07E-01	6.07E-01	6.07E-01
+	RA-226	186.21	* 3.28	4.92E+00	5.24E+00	5.24E+00
+	TH-227	50.10	8.40	3.84E-02	7.48E-01	7.48E-01
		236.00	11.50	1.38E-01		1.43E+00
		256.20	6.30	1.20E+00		1.73E+00
+	AC-228	338.32	11.40	1.44E+00	8.95E-01	1.19E+00
		911.07	27.70	1.10E+00		8.95E-01
		969.11	16.60	1.91E+00		1.54E+00
+	TH-230	48.44	16.90	-1.85E-02	3.60E-01	3.60E-01
		62.85	4.60	1.41E+00		1.66E+00
		67.67	0.37	1.64E+00		2.16E+01
+	PA-231	283.67	1.60	8.39E-01	5.06E+00	7.10E+00
		302.67	2.30	1.13E+00		5.06E+00
+	TH-231	25.64	14.70	-3.95E-02	3.14E-01	3.14E-01
		84.21	6.40	-5.12E+00		1.44E+00
+	PA-233	311.98	38.60	-8.07E-02	5.58E-01	5.58E-01
+	PA-234	131.20	20.40	-9.44E-02	4.53E-01	4.53E-01

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Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
PA-234	733.99	8.80	-1.60E+00	4.53E-01	1.68E+00
	946.00	12.00	1.22E-01		1.42E+00
+ PA-234M	1001.03	0.92	1.58E+00	1.83E+01	1.83E+01
+ TH-234	63.29 *	3.80	1.47E+00	2.54E+00	2.54E+00
+ U-235	143.76	10.50	6.76E-02	9.14E-01	9.14E-01
	163.35	4.70	3.85E-01		2.12E+00
	205.31	4.70	3.32E-01		2.31E+00
+ NP-237	86.50 *	12.60	4.11E-01	7.51E-01	7.51E-01
+ NP-239	106.10	22.70	-6.32E+02	1.37E+03	1.37E+03
	228.18	10.70	-3.71E+01		3.95E+03
	277.60	14.10	6.86E+02		3.06E+03
+ AM-241	59.54	35.90	-9.64E-03	1.99E-01	1.99E-01
+ AM-243	74.67	66.00	6.56E-01	1.69E-01	1.69E-01
+ CM-243	209.75	3.29	1.99E+00	7.96E-01	3.35E+00
	228.14	10.60	1.86E-01		1.04E+00
	277.60	14.00	1.78E-01		7.96E-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

? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
BE-7	477.59	10.42	1.58E+00	1.58E+00	-8.80E-01	7.44E-01
NA-22	1274.54	99.94	1.81E-01	1.81E-01	-2.58E-02	8.12E-02
NA-24	1368.53	99.99	5.27E+12	4.36E+12	-6.96E+10	2.32E+12
	2754.09	99.86	4.36E+12		-1.35E+12	1.63E+12
AL-26	1808.65	99.76	1.42E-01	1.42E-01	3.94E-02	5.87E-02
+ K-40	1460.81 *	10.67	2.58E+00	2.58E+00	1.72E+01	1.20E+00

: 00970

Analysis Report for 1510063-17

CP5005S04-05

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
TI-44	67.88	94.40	8.49E-02	8.49E-02	6.46E-03	4.17E-02
	78.34	96.00	1.15E-01		2.80E-01	5.67E-02
SC-46	889.25	99.98	1.79E-01	1.79E-01	-3.11E-02	8.13E-02
	1120.51	99.99	3.07E-01		2.18E-01	1.43E-01
V-48	983.52	99.98	5.41E-01	5.41E-01	2.04E-01	2.47E-01
	1312.10	97.50	5.63E-01		-1.09E-01	2.50E-01
CR-51	320.08	9.83	2.10E+00	2.10E+00	-6.90E-01	1.00E+00
MN-54	834.83	99.97	1.73E-01	1.73E-01	3.88E-02	8.01E-02
CO-56	846.75	99.96	2.00E-01	2.00E-01	3.19E-02	9.22E-02
	1037.75	14.03	1.78E+00		9.70E-01	8.24E-01
	1238.25	67.00	4.20E-01		3.62E-02	1.93E-01
	1771.40	15.51	1.50E+00		-8.43E-01	6.51E-01
	2598.48	16.90	9.49E-01		-8.81E-02	3.55E-01
CO-57	122.06	85.51	1.08E-01	1.08E-01	-2.58E-02	5.27E-02
	136.48	10.60	9.44E-01		-1.90E-01	4.61E-01
CO-58	810.76	99.40	1.80E-01	1.80E-01	-5.67E-02	8.23E-02
FE-59	1099.22	56.50	5.16E-01	5.16E-01	2.97E-02	2.37E-01
	1291.56	43.20	6.30E-01		3.30E-02	2.83E-01
CO-60	1173.22	100.00	2.13E-01	1.47E-01	8.12E-02	9.82E-02
	1332.49	100.00	1.47E-01		5.19E-03	6.44E-02
ZN-65	1115.52	50.75	4.62E-01	4.62E-01	5.79E-02	2.14E-01
GA-67	93.31	*	35.70	1.36E+02	8.53E+01	6.68E+01
	208.95	*	2.24	2.54E+03	1.55E+03	1.24E+03
	300.22		16.00	2.99E+02	6.71E+00	1.44E+02
SE-75	121.11	16.70	6.04E-01	1.83E-01	3.50E-02	2.95E-01
	136.00	59.20	1.83E-01		-1.83E-02	8.91E-02
	264.65	59.80	2.07E-01		-4.81E-02	9.95E-02
	279.53	25.20	5.22E-01		1.93E-01	2.51E-01
	400.65	11.40	1.31E+00		5.91E-01	6.26E-01
RB-82	776.52	13.00	2.60E+00	2.60E+00	1.08E-01	1.21E+00
RB-83	520.41	46.00	3.36E-01	3.36E-01	-8.98E-02	1.58E-01
	529.64	30.30	5.13E-01		-8.67E-02	2.41E-01
	552.65	16.40	1.06E+00		5.08E-01	4.97E-01
KR-85	513.99	0.43	4.37E+01	4.37E+01	7.05E+01	2.10E+01
SR-85	513.99	99.27	2.57E-01	2.57E-01	4.14E-01	1.23E-01
Y-88	898.02	93.40	2.16E-01	1.63E-01	-6.08E-02	9.99E-02
	1836.01	99.38	1.63E-01		-4.30E-02	6.70E-02
NB-93M	16.57	9.43	4.23E-01	4.23E-01	8.42E-01	2.05E-01
NB-94	702.63	100.00	1.56E-01	1.56E-01	2.18E-02	7.29E-02
	871.10	100.00	1.60E-01		3.88E-02	7.40E-02
NB-95	765.79	99.81	2.84E-01	2.84E-01	9.02E-02	1.32E-01
NB-95M	235.69	25.00	1.44E+02	1.44E+02	1.39E+01	7.07E+01
ZR-95	724.18	43.70	5.23E-01	3.65E-01	1.43E-01	2.46E-01
	756.72	55.30	3.65E-01		-1.78E-03	1.69E-01
MO-99	181.06	6.20	2.02E+03	1.47E+03	3.26E+01	9.85E+02
	739.58	12.80	1.47E+03		-9.48E+01	6.88E+02
	778.00	4.50	3.92E+03		-8.42E+02	1.81E+03
RU-103	497.08	89.00	2.36E-01	2.36E-01	7.97E-02	1.12E-01
RU-106	621.84	9.80	1.42E+00	1.42E+00	-2.36E-02	6.60E-01
AG-108M	433.93	89.90	1.43E-01	1.43E-01	-4.43E-02	6.78E-02
	614.37	90.40	1.96E-01		-2.26E-02	9.30E-02
	722.95	90.50	1.83E-01		9.42E-03	8.57E-02

Analysis Report for 1510063-17
CP5005S04-05

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
CD-109	88.03	3.72	2.76E+00	2.76E+00	1.89E+00	1.36E+00
AG-110M	657.75	93.14	1.50E-01	1.50E-01	2.83E-02	6.98E-02
	677.61	10.53	1.51E+00		1.13E-01	7.07E-01
	706.67	16.46	9.51E-01		3.93E-02	4.43E-01
	763.93	21.98	7.69E-01		4.63E-02	3.58E-01
	884.67	71.63	2.26E-01		4.56E-02	1.03E-01
	1384.27	23.94	7.18E-01		1.02E-01	3.16E-01
CD-113M	263.70	0.02	4.52E+02	4.52E+02	-4.07E+01	2.18E+02
SN-113	255.12	1.93	6.69E+00	2.10E-01	1.77E+00	3.23E+00
	391.69	64.90	2.10E-01		-2.58E-02	9.99E-02
TE123M	159.00	84.10	1.38E-01	1.38E-01	5.19E-02	6.74E-02
SB-124	602.71	97.87	1.98E-01	1.98E-01	-2.48E-02	9.27E-02
	645.85	7.26	2.52E+00		7.32E-02	1.17E+00
	722.78	11.10	1.83E+00		-2.10E+00	8.50E-01
	1691.02	49.00	4.14E-01		1.66E-01	1.75E-01
I-125	35.49	6.49	1.00E+00	1.00E+00	-3.09E-01	4.87E-01
SB-125	176.33	6.89	1.48E+00	4.57E-01	-3.27E-02	7.18E-01
	427.89	29.33	4.57E-01		1.22E-01	2.18E-01
	463.38	10.35	1.31E+00		4.11E-01	6.25E-01
	600.56	17.80	7.89E-01		2.95E-02	3.70E-01
	635.90	11.32	1.04E+00		-4.84E-01	4.79E-01
SB-126	414.70	83.30	6.72E-01	6.72E-01	-2.42E-01	3.19E-01
	666.33	99.60	6.75E-01		6.65E-02	3.14E-01
	695.00	99.60	8.18E-01		4.97E-01	3.85E-01
	720.50	53.80	1.30E+00		-8.78E-01	6.03E-01
SN-126	87.57	37.00	2.66E-01	2.66E-01	1.82E-01	1.30E-01
SB-127	473.00	25.00	7.71E+01	5.98E+01	4.26E+01	3.64E+01
	685.20	35.70	5.98E+01		-4.26E+01	2.78E+01
	783.80	14.70	1.60E+02		1.82E+01	7.41E+01
I-129	29.78	57.00	7.80E-02	7.80E-02	-4.23E-02	3.80E-02
	33.60	13.20	3.46E-01		-2.28E-01	1.69E-01
	39.58	7.52	6.69E-01		-1.18E-01	3.26E-01
I-131	284.30	6.05	2.10E+01	1.61E+00	1.62E+00	1.01E+01
	364.48	81.20	1.61E+00		6.28E-01	7.71E-01
	636.97	7.26	1.79E+01		-1.05E+01	8.26E+00
	722.89	1.80	9.19E+01		-1.06E+02	4.27E+01
TE-132	49.72	13.10	1.88E+02	4.92E+01	9.64E+00	9.20E+01
	228.16	88.00	4.92E+01		8.78E+00	2.38E+01
BA-133	81.00	33.00	3.15E-01	2.87E-01	-1.10E-01	1.55E-01
	302.84	17.80	6.58E-01		1.47E-01	3.16E-01
	356.01	60.00	2.87E-01		5.95E-01	1.39E-01
I-133	529.87	86.30	8.15E+08	8.15E+08	-1.38E+08	3.82E+08
XE-133	81.00	38.00	1.11E+01	1.11E+01	-3.88E+00	5.48E+00
CS-134	563.23	8.38	1.70E+00	1.73E-01	1.27E-01	7.99E-01
	569.32	15.43	8.58E-01		-1.29E-01	4.02E-01
	604.70	97.60	1.73E-01		-1.89E-03	8.19E-02
	795.84	85.40	2.21E-01		9.25E-02	1.04E-01
	801.93	8.73	1.96E+00		4.55E-01	9.12E-01
CS-135	268.24	16.00	7.28E-01	7.28E-01	6.18E-01	3.52E-01
@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	1260.41	28.60	1.00E+26		1.00E+26	1.00E+20
@	1678.03	9.54	1.00E+26		1.00E+26	1.00E+20
CS-136	153.22	7.46	5.63E+00	6.11E-01	-1.09E+00	2.74E+00

Analysis Report for 1510063-17

CP5005S04-05

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)		
CS-136	163.89	4.61	9.50E+00	6.11E-01	1.73E+00	4.62E+00		
	176.55	13.56	3.24E+00		-7.16E-02	1.57E+00		
	273.65	12.66	4.04E+00		1.48E-01	1.95E+00		
	340.57	48.50	1.26E+00		1.86E+00	6.05E-01		
	818.50	99.70	6.11E-01		3.80E-02	2.80E-01		
	1048.07	79.60	9.60E-01		-9.07E-02	4.39E-01		
	1235.34	19.70	4.98E+00		-1.18E+00	2.30E+00		
CS-137	661.65	85.12	1.66E-01	1.66E-01	7.60E-02	7.73E-02		
LA-138	788.74	34.00	4.60E-01	2.23E-01	1.76E-02	2.13E-01		
	1435.80	66.00	2.23E-01		2.22E-02	9.66E-02		
CE-139	165.85	80.35	1.43E-01	1.43E-01	8.05E-03	6.95E-02		
BA-140	162.64	6.70	6.77E+00	2.46E+00	-1.98E-01	3.29E+00		
	304.84	4.50	1.15E+01		8.80E-01	5.51E+00		
	423.70	3.20	1.91E+01		7.83E+00	9.13E+00		
	437.55	2.00	3.15E+01		1.77E+01	1.50E+01		
	537.32	25.00	2.46E+00		7.93E-01	1.16E+00		
LA-140	328.77	20.50	2.65E+00	7.50E-01	1.56E+00	1.27E+00		
	487.03	45.50	1.25E+00		3.37E-01	5.91E-01		
	815.85	23.50	2.63E+00		3.61E-02	1.20E+00		
	1596.49	95.49	7.50E-01		3.85E-02	3.23E-01		
CE-141	145.44	48.40	3.60E-01	3.60E-01	1.06E-01	1.76E-01		
CE-143	57.36	11.80	7.80E+05	4.84E+05	1.81E+04	3.82E+05		
	293.26	42.00	4.84E+05		5.86E+05	2.35E+05		
	664.55	5.20	3.66E+06		-6.66E+05	1.70E+06		
CE-144	133.54	10.80	9.28E-01	9.28E-01	-1.33E-03	4.53E-01		
PM-144	476.78	42.00	2.97E-01	1.40E-01	-7.81E-02	1.40E-01		
	618.01	98.60	1.40E-01		-2.98E-02	6.52E-02		
	696.49	99.49	1.80E-01		1.01E-01	8.48E-02		
PM-145	36.85	21.70	2.25E-01	1.23E-01	6.00E-02	1.10E-01		
	37.36	39.70	1.23E-01		3.97E-02	6.00E-02		
	42.30	15.10	3.71E-01		-3.83E-02	1.81E-01		
	72.40	2.31	4.48E+00		7.64E+00	2.21E+00		
PM-146	453.90	39.94	3.14E-01	3.14E-01	-1.13E-02	1.48E-01		
	735.90	14.01	1.07E+00		-5.31E-01	4.97E-01		
	747.13	13.10	1.27E+00		-4.61E-02	5.93E-01		
ND-147	91.11	28.90	2.07E+00	2.07E+00	3.38E+00	1.02E+00		
	531.02	13.10	5.71E+00		3.95E-01	2.69E+00		
PM-149	285.90	3.10	2.42E+04	2.42E+04	3.74E+03	1.16E+04		
EU-152	121.78	20.50	4.20E-01	4.20E-01	-1.00E-01	2.05E-01		
	244.69	5.40	2.36E+00		-2.05E-01	1.15E+00		
	344.27	19.13	6.06E-01		-2.56E+00	2.90E-01		
	778.89	9.20	1.63E+00		-3.50E-01	7.53E-01		
	964.01	10.40	2.14E+00		2.16E-01	1.00E+00		
	1085.78	7.22	2.32E+00		-5.10E-01	1.05E+00		
	1112.02	9.60	2.08E+00		1.47E-01	9.57E-01		
	1407.95	14.94	1.14E+00		5.24E-02	5.03E-01		
	GD-153	97.43	31.30		2.97E-01	2.97E-01	3.65E-02	1.45E-01
		103.18	22.20		3.90E-01		-5.29E-02	1.90E-01
	EU-154	123.07	40.50		2.14E-01	2.14E-01	-7.07E-02	1.04E-01
723.30		19.70	8.45E-01	4.35E-02	3.96E-01			
873.19		11.50	1.42E+00	7.40E-01	6.55E-01			
996.32		10.30	1.62E+00	-3.73E-01	7.41E-01			
1004.76		17.90	9.29E-01	-1.61E-02	4.25E-01			

Analysis Report for 1510063-17
CP5005S04-05

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)	
	EU-154	1274.45	35.50	5.01E-01	2.14E-01	-7.16E-02	2.25E-01
+	EU-155	86.50 *	30.90	3.10E-01	3.10E-01	1.70E-01	1.52E-01
		105.30	20.70	3.88E-01		-1.79E-01	1.89E-01
	EU-156	811.77	10.40	4.54E+00	4.54E+00	-2.30E+00	2.07E+00
		1153.47	7.20	1.01E+01		6.91E-01	4.63E+00
		1230.71	8.90	9.35E+00		-2.16E+00	4.33E+00
	HO-166M	184.41	72.60	1.62E-01	1.62E-01	2.21E-01	7.92E-02
		280.45	29.60	3.78E-01		9.37E-03	1.82E-01
		410.94	11.10	1.08E+00		3.17E-01	5.13E-01
		711.69	54.10	2.41E-01		-1.27E-01	1.11E-01
	TM-171	66.72	0.14	5.86E+01	5.86E+01	4.44E+00	2.88E+01
	HF-172	81.75	4.52	2.19E+00	8.31E-01	-6.36E+00	1.07E+00
		125.81	11.30	8.31E-01		-4.77E-02	4.06E-01
	LU-172	181.53	20.60	9.80E+00	5.54E+00	3.84E-01	4.77E+00
		810.06	16.63	1.49E+01		-4.70E+00	6.82E+00
		912.12	15.25	2.97E+01		-4.22E+00	1.41E+01
		1093.66	62.50	5.54E+00		1.89E+00	2.55E+00
	LU-173	100.72	5.24	1.59E+00	5.78E-01	6.35E-02	7.76E-01
		272.11	21.20	5.78E-01		3.20E-01	2.79E-01
	HF-175	343.40	84.00	1.93E-01	1.93E-01	-2.27E-01	9.28E-02
	LU-176	88.34	13.30	7.59E-01	1.17E-01	1.18E+00	3.73E-01
		201.83	86.00	1.23E-01		9.90E-03	5.98E-02
		306.78	94.00	1.17E-01		5.14E-03	5.62E-02
	TA-182	67.75	41.20	2.30E-01	2.30E-01	1.75E-02	1.13E-01
		1121.30	34.90	8.32E-01		6.95E-01	3.89E-01
		1189.05	16.23	1.47E+00		1.03E-01	6.72E-01
		1221.41	26.98	9.52E-01		-3.45E-01	4.39E-01
		1231.02	11.44	2.39E+00		-5.54E-01	1.11E+00
	IR-192	308.46	29.68	4.78E-01	3.30E-01	5.69E-02	2.29E-01
		468.07	48.10	3.30E-01		8.22E-02	1.56E-01
	HG-203	279.19	77.30	2.20E-01	2.20E-01	8.10E-02	1.06E-01
	BI-207	569.67	97.72	1.32E-01	1.32E-01	-2.00E-02	6.20E-02
		1063.62	74.90	2.16E-01		-3.45E-02	9.79E-02
+	TL-208	583.14 *	30.22	5.98E-01	4.28E-01	1.61E+00	2.85E-01
		860.37	4.48	3.60E+00		1.15E+00	1.67E+00
		2614.66 *	35.85	4.28E-01		9.60E-01	1.70E-01
	BI-210M	262.00	45.00	2.30E-01	2.30E-01	9.93E-03	1.10E-01
		300.00	23.00	5.88E-01		1.58E-01	2.84E-01
+	PB-210	46.50 *	4.25	1.48E+00	1.48E+00	1.02E+00	7.27E-01
	PB-211	404.84	2.90	4.33E+00	4.33E+00	1.53E-01	2.06E+00
		831.96	2.90	5.58E+00		1.22E+00	2.59E+00
	BI-212	727.17	11.80	1.49E+00	1.49E+00	1.01E+00	6.99E-01
		1620.62	2.75	5.56E+00		2.28E+00	2.38E+00
+	PB-212	238.63 *	44.60	3.69E-01	3.69E-01	1.64E+00	1.80E-01
		300.09	3.41	3.97E+00		1.07E+00	1.92E+00
+	BI-214	609.31 *	46.30	4.06E-01	4.06E-01	1.13E+00	1.94E-01
		1120.29 *	15.10	1.56E+00		1.44E+00	7.30E-01
		1764.49 *	15.80	6.09E-01		1.48E+00	2.30E-01
		2204.22	4.98	4.90E+00		2.08E-01	2.17E+00
+	PB-214	295.21 *	19.19	1.07E+00	4.81E-01	1.35E+00	5.22E-01
		351.92 *	37.19	4.81E-01		1.31E+00	2.33E-01
	RN-219	401.80	6.50	1.95E+00	1.95E+00	3.45E-01	9.29E-01
	RA-223	323.87	3.88	2.85E+00	2.85E+00	7.53E-02	1.36E+00

Analysis Report for 1510063-17
CP5005S04-05

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
RA-224	240.98	3.95	4.58E+00	4.58E+00	1.88E+01	2.24E+00
RA-225	40.00	31.00	6.07E-01	6.07E-01	-1.07E-01	2.96E-01
+ RA-226	186.21 *	3.28	5.24E+00	5.24E+00	4.92E+00	2.57E+00
TH-227	50.10	8.40	7.48E-01	7.48E-01	3.84E-02	3.66E-01
	236.00	11.50	1.43E+00		1.38E-01	7.01E-01
	256.20	6.30	1.73E+00		1.20E+00	8.36E-01
AC-228	338.32	11.40	1.19E+00	8.95E-01	1.44E+00	5.76E-01
	911.07	27.70	8.95E-01		1.10E+00	4.24E-01
	969.11	16.60	1.54E+00		1.91E+00	7.27E-01
TH-230	48.44	16.90	3.60E-01	3.60E-01	-1.85E-02	1.76E-01
	62.85	4.60	1.66E+00		1.41E+00	8.13E-01
	67.67	0.37	2.16E+01		1.64E+00	1.06E+01
PA-231	283.67	1.60	7.10E+00	5.06E+00	8.39E-01	3.42E+00
	302.67	2.30	5.06E+00		1.13E+00	2.43E+00
TH-231	25.64	14.70	3.14E-01	3.14E-01	-3.95E-02	1.53E-01
	84.21	6.40	1.44E+00		-5.12E+00	7.06E-01
PA-233	311.98	38.60	5.58E-01	5.58E-01	-8.07E-02	2.67E-01
PA-234	131.20	20.40	4.53E-01	4.53E-01	-9.44E-02	2.21E-01
	733.99	8.80	1.68E+00		-1.60E+00	7.81E-01
	946.00	12.00	1.42E+00		1.22E-01	6.54E-01
PA-234M	1001.03	0.92	1.83E+01	1.83E+01	1.58E+00	8.39E+00
+ TH-234	63.29 *	3.80	2.54E+00	2.54E+00	1.47E+00	1.25E+00
U-235	143.76	10.50	9.14E-01	9.14E-01	6.76E-02	4.46E-01
	163.35	4.70	2.12E+00		3.85E-01	1.03E+00
	205.31	4.70	2.31E+00		3.32E-01	1.12E+00
+ NP-237	86.50 *	12.60	7.51E-01	7.51E-01	4.11E-01	3.69E-01
NP-239	106.10	22.70	1.37E+03	1.37E+03	-6.32E+02	6.67E+02
	228.18	10.70	3.95E+03		-3.71E+01	1.91E+03
	277.60	14.10	3.06E+03		6.86E+02	1.48E+03
AM-241	59.54	35.90	1.99E-01	1.99E-01	-9.64E-03	9.75E-02
AM-243	74.67	66.00	1.69E-01	1.69E-01	6.56E-01	8.32E-02
CM-243	209.75	3.29	3.35E+00	7.96E-01	1.99E+00	1.63E+00
	228.14	10.60	1.04E+00		1.86E-01	5.04E-01
	277.60	14.00	7.96E-01		1.78E-01	3.83E-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

No Action Level results available for reporting purposes.

Analysis Report for 1510063-17
CP5005S04-05

DATA REVIEW COMMENTS REPORT

Creation Date

Comment

User

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5005S04-05

Elapsed Live time: 3600
 Elapsed Real Time: 3640

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	20	87
17:	76	74	73	78	69	66	67	65
25:	50	60	55	52	57	54	44	58
33:	50	50	60	54	56	58	69	71
41:	56	63	56	50	110	112	87	71
49:	69	61	71	72	79	74	79	70
57:	67	73	96	81	96	129	135	98
65:	114	76	108	98	90	84	120	141
73:	157	198	254	307	237	140	112	96
81:	93	91	99	114	117	139	114	115
89:	116	108	141	147	124	81	88	73
97:	75	62	67	79	57	61	51	65
105:	60	68	45	74	67	57	71	65
113:	65	56	70	49	63	51	49	67
121:	56	58	66	71	46	60	54	78
129:	82	68	42	54	68	46	52	73
137:	66	59	58	53	64	58	55	60
145:	63	57	52	52	48	49	54	48
153:	56	63	54	51	45	48	51	65
161:	47	50	43	40	52	61	50	63
169:	43	43	39	52	44	40	40	42
177:	56	41	41	53	50	36	58	66
185:	79	88	53	51	45	35	39	42
193:	42	45	43	49	41	51	36	37
201:	43	45	42	29	44	40	40	41
209:	53	49	39	29	37	24	34	40
217:	34	52	38	31	36	42	42	39
225:	36	30	42	25	30	41	37	34
233:	41	22	30	50	123	214	141	85
241:	68	54	45	27	27	21	32	22
249:	18	31	26	32	36	24	28	24
257:	32	24	31	25	28	15	19	27
265:	18	28	27	36	40	31	42	20
273:	25	24	23	26	28	22	31	24
281:	26	20	29	22	20	24	34	27
289:	22	23	22	20	47	69	78	51
297:	24	22	31	26	23	19	23	22
305:	29	19	16	20	16	22	20	16
313:	21	19	12	22	15	10	15	17
321:	25	15	16	17	16	22	25	25
329:	35	17	15	17	14	16	15	22
337:	37	42	43	26	19	19	18	19
345:	16	14	14	19	20	43	93	85
353:	51	20	21	27	17	21	12	15
361:	13	16	15	18	21	20	13	18

369: 11 12 12 18 18 13 10 11

Sample Title: CP5005S04-05

Channel	1	2	3	4	5	6	7	8
377:	11	9	18	20	9	21	16	9
385:	12	17	18	16	12	12	11	16
393:	12	14	15	15	16	18	17	24
401:	18	17	12	11	13	12	15	19
409:	17	12	14	11	11	13	11	9
417:	16	18	13	12	14	17	21	9
425:	21	24	16	11	12	16	9	11
433:	13	16	19	17	15	11	18	17
441:	20	12	14	13	10	8	13	15
449:	14	12	11	16	17	8	7	9
457:	15	14	11	16	17	16	22	7
465:	14	12	7	6	13	14	12	14
473:	4	18	12	5	11	4	9	12
481:	8	11	11	11	10	11	5	11
489:	11	14	11	9	6	9	6	11
497:	18	9	17	12	9	8	7	5
505:	9	7	9	19	34	42	41	23
513:	14	11	13	20	6	7	13	9
521:	3	8	7	8	8	5	15	6
529:	7	7	9	11	11	12	13	9
537:	8	6	10	14	8	5	8	11
545:	6	6	4	7	15	10	6	15
553:	15	6	4	13	5	16	7	10
561:	6	11	15	7	11	11	10	7
569:	10	6	8	4	7	5	7	11
577:	6	8	8	10	30	39	44	38
585:	14	10	13	11	2	8	4	9
593:	7	4	12	8	10	5	11	11
601:	8	10	6	7	9	11	8	39
609:	72	43	25	11	9	8	6	7
617:	7	7	6	6	11	6	9	5
625:	7	3	12	7	9	9	4	5
633:	9	3	3	6	5	3	8	4
641:	6	7	9	5	4	10	8	7
649:	4	19	7	9	6	6	4	5
657:	6	5	11	6	6	7	8	1
665:	15	5	7	4	7	9	6	5
673:	6	7	7	8	10	10	5	9
681:	6	4	10	9	8	6	4	6
689:	3	9	6	15	8	9	10	11
697:	9	9	10	6	8	7	7	5
705:	5	14	6	3	6	7	4	7
713:	5	4	5	8	6	6	9	6
721:	3	9	7	4	6	9	23	12
729:	12	6	6	7	5	6	6	6
737:	11	5	6	8	4	10	11	12
745:	6	10	5	7	5	7	7	10
753:	8	7	6	2	6	3	5	8
761:	7	5	6	2	8	5	7	12
769:	13	5	6	8	10	8	6	3
777:	6	9	4	5	8	3	5	7
785:	5	6	9	4	6	4	8	7
793:	12	15	6	13	4	5	8	7

801: 8 9 6 4 7 8 6 6

Sample Title: CP5005S04-05

Channel	1	2	3	4	5	6	7	8
809:	3	3	4	6	1	2	5	4
817:	7	5	4	7	4	2	6	5
825:	3	3	6	6	6	10	3	4
833:	6	5	5	9	6	6	6	4
841:	3	8	3	5	5	3	11	5
849:	4	4	4	7	4	6	4	4
857:	5	3	7	12	7	4	3	5
865:	5	2	5	5	10	4	5	6
873:	4	7	2	6	5	3	2	4
881:	6	5	5	3	7	3	3	4
889:	1	5	6	2	4	7	3	7
897:	7	10	8	2	2	4	12	7
905:	7	5	5	3	12	11	32	27
913:	12	6	3	5	7	1	5	8
921:	4	4	5	5	6	4	6	6
929:	7	6	7	3	6	10	5	5
937:	4	4	3	3	6	7	5	6
945:	3	7	2	8	5	3	9	2
953:	5	7	2	6	6	5	2	6
961:	8	6	6	9	13	8	7	15
969:	24	18	8	6	5	5	2	2
977:	3	2	5	2	2	2	2	6
985:	6	8	4	3	4	3	9	4
993:	4	6	4	3	8	1	5	4
1001:	8	2	5	4	3	3	3	6
1009:	4	4	4	3	6	3	4	1
1017:	2	8	3	4	4	2	7	3
1025:	7	3	6	4	6	1	7	3
1033:	3	9	2	7	5	8	2	8
1041:	7	5	2	3	2	3	7	4
1049:	5	2	6	7	3	8	3	2
1057:	2	2	4	6	3	6	2	3
1065:	2	4	2	4	5	7	2	6
1073:	7	4	4	4	2	5	5	3
1081:	8	6	4	3	1	4	3	4
1089:	4	4	4	4	3	2	3	4
1097:	15	2	5	3	5	3	2	3
1105:	8	5	3	6	4	4	8	6
1113:	6	5	3	4	5	5	13	11
1121:	15	9	5	3	5	3	5	4
1129:	5	4	1	2	6	5	6	8
1137:	5	4	2	5	6	3	5	4
1145:	5	5	9	5	2	6	7	2
1153:	5	3	6	7	6	4	4	1
1161:	0	8	1	2	2	2	4	1
1169:	7	8	4	8	2	5	3	6
1177:	4	7	1	6	4	2	3	7
1185:	2	4	6	0	4	5	4	7
1193:	9	8	2	4	6	7	3	7
1201:	3	7	4	4	5	6	5	6
1209:	5	11	7	7	7	6	6	6
1217:	4	5	4	3	6	5	4	4
1225:	11	7	6	8	9	5	5	9

1233: 4 2 4 5 3 11 5 9

Sample Title: CP5005S04-05

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1241:	4	3	4	4	3	2	8	7
1249:	4	3	2	3	3	2	3	4
1257:	7	3	7	5	5	2	2	1
1265:	3	6	2	2	2	0	1	2
1273:	4	6	0	3	8	3	6	6
1281:	4	5	5	5	1	0	3	2
1289:	3	2	4	5	2	2	3	5
1297:	5	0	2	1	3	4	5	3
1305:	5	2	1	2	2	0	3	5
1313:	3	3	2	1	3	2	4	4
1321:	3	5	3	3	2	6	0	1
1329:	0	3	1	2	3	3	0	3
1337:	0	0	2	0	4	2	3	2
1345:	2	2	3	1	2	2	2	3
1353:	2	4	5	3	3	2	3	2
1361:	1	2	2	4	1	1	2	1
1369:	1	3	3	2	3	2	2	3
1377:	2	3	1	2	1	3	1	2
1385:	2	2	4	1	0	4	0	0
1393:	2	0	3	3	5	2	3	1
1401:	6	3	0	1	2	1	3	6
1409:	1	1	5	0	0	1	3	0
1417:	1	3	0	1	2	1	4	2
1425:	2	3	1	0	3	1	0	0
1433:	1	1	3	4	1	2	0	2
1441:	3	1	0	3	6	1	1	2
1449:	3	1	5	1	0	1	3	2
1457:	0	2	25	61	84	67	23	3
1465:	1	1	1	2	1	2	0	3
1473:	0	3	0	3	1	0	0	0
1481:	0	2	2	1	2	0	2	0
1489:	2	1	3	1	1	1	2	3
1497:	0	4	1	2	3	3	1	0
1505:	3	0	1	3	0	1	1	2
1513:	2	3	1	2	0	3	2	0
1521:	1	0	4	1	1	0	1	0
1529:	2	1	0	2	2	0	1	1
1537:	1	2	0	2	0	2	1	2
1545:	4	0	1	2	2	2	0	0
1553:	1	0	0	4	0	2	1	1
1561:	1	4	1	1	3	2	4	1
1569:	3	3	0	2	0	2	0	2
1577:	2	0	2	0	1	2	2	2
1585:	1	1	4	0	2	2	1	8
1593:	5	2	2	0	2	0	2	0
1601:	0	0	1	1	1	1	1	0
1609:	0	2	0	1	0	0	1	1
1617:	3	0	2	0	1	2	2	0
1625:	2	0	0	1	2	1	2	0
1633:	1	3	1	0	0	0	2	2
1641:	0	1	0	0	3	0	2	1
1649:	0	1	0	0	0	1	1	3
1657:	1	2	0	1	1	1	1	0

1665: 3 0 0 1 0 2 1 2

Sample Title: CP5005S04-05

Channel	1	2	3	4	5	6	7	8
1673:	0	3	0	1	1	0	0	0
1681:	0	0	1	0	1	0	2	1
1689:	2	0	0	0	2	1	2	0
1697:	0	1	3	1	1	0	0	0
1705:	0	1	1	0	1	0	1	0
1713:	1	0	1	0	2	3	0	0
1721:	1	0	1	0	1	3	0	2
1729:	4	0	2	0	1	0	1	2
1737:	1	0	1	0	0	0	1	2
1745:	1	0	0	1	1	1	0	0
1753:	4	0	1	0	0	1	2	1
1761:	0	2	2	5	10	3	7	0
1769:	0	1	2	0	0	0	1	2
1777:	2	1	0	1	0	1	0	2
1785:	1	0	0	1	2	0	0	0
1793:	0	1	2	0	1	1	3	0
1801:	0	0	0	1	1	0	0	0
1809:	1	2	1	0	0	2	1	0
1817:	1	1	1	0	0	0	0	0
1825:	2	0	0	1	0	1	0	0
1833:	0	0	4	1	0	0	1	0
1841:	1	1	1	2	4	1	1	2
1849:	0	1	0	1	0	1	0	1
1857:	1	1	0	0	0	0	0	0
1865:	0	1	0	1	1	0	0	1
1873:	2	1	4	1	1	0	3	2
1881:	0	2	0	2	0	0	2	0
1889:	0	1	1	0	0	1	0	3
1897:	1	1	0	0	2	0	1	1
1905:	0	1	0	0	2	0	1	0
1913:	0	2	0	3	1	0	2	0
1921:	0	3	0	1	0	1	1	0
1929:	1	0	0	0	0	2	0	0
1937:	2	0	1	0	2	0	0	0
1945:	2	1	0	1	1	0	2	0
1953:	0	1	2	0	1	0	1	1
1961:	0	4	0	0	1	1	0	0
1969:	1	0	0	0	1	2	0	0
1977:	0	1	0	0	1	1	0	0
1985:	0	1	1	0	0	0	1	0
1993:	0	0	0	2	1	1	0	0
2001:	0	1	0	0	0	0	0	1
2009:	1	1	1	1	0	0	2	0
2017:	0	0	1	0	1	1	2	0
2025:	0	1	0	2	0	1	0	0
2033:	1	1	0	0	0	0	2	0
2041:	1	0	1	0	0	2	0	0
2049:	2	0	0	0	0	1	1	1
2057:	0	0	1	0	1	1	0	0
2065:	0	1	0	0	1	2	0	1
2073:	0	0	1	1	0	0	0	1
2081:	0	0	0	1	0	0	0	0
2089:	0	1	1	3	3	0	0	1

2097: 0 0 1 0 2 1 2 2

Sample Title: CP5005S04-05

Channel	1	2	3	4	5	6	7	8
2105:	1	1	0	0	2	0	1	0
2113:	0	0	3	0	0	1	1	1
2121:	3	2	2	0	0	0	0	0
2129:	0	0	1	2	0	0	1	0
2137:	2	0	0	1	0	0	0	1
2145:	1	0	1	0	0	0	0	0
2153:	0	0	0	0	1	1	0	0
2161:	2	1	1	1	2	0	2	1
2169:	1	0	0	1	2	0	2	2
2177:	0	0	1	1	2	0	0	1
2185:	0	1	2	1	1	0	1	2
2193:	0	0	0	2	0	0	0	1
2201:	0	1	3	7	4	0	2	2
2209:	0	0	1	0	0	1	2	0
2217:	2	1	0	3	0	0	0	0
2225:	0	1	0	0	1	1	3	1
2233:	1	0	0	0	1	0	0	1
2241:	0	0	0	1	1	0	1	0
2249:	1	1	0	1	0	0	0	0
2257:	0	0	0	3	2	0	0	1
2265:	0	1	0	1	0	2	1	2
2273:	0	0	0	2	0	0	0	1
2281:	0	2	0	1	3	0	1	0
2289:	0	0	0	1	3	1	1	0
2297:	0	0	0	0	0	1	1	0
2305:	2	1	2	1	0	2	0	0
2313:	0	1	1	1	1	0	1	4
2321:	0	2	1	1	1	0	3	0
2329:	3	0	2	0	3	0	0	2
2337:	3	2	0	0	0	1	0	0
2345:	0	0	1	0	0	1	0	1
2353:	1	0	1	0	2	1	2	1
2361:	1	0	0	3	1	0	1	0
2369:	0	0	0	0	1	1	0	0
2377:	1	0	0	1	1	0	1	1
2385:	1	0	1	1	0	1	2	0
2393:	1	0	0	0	1	0	0	1
2401:	0	1	0	0	0	0	1	0
2409:	0	1	0	2	1	0	2	0
2417:	0	0	2	0	1	1	0	1
2425:	0	0	0	0	0	0	1	1
2433:	1	1	0	0	2	0	0	2
2441:	0	0	0	0	0	0	1	2
2449:	2	0	0	0	0	0	1	0
2457:	0	1	1	0	0	1	3	1
2465:	0	0	1	0	0	1	1	1
2473:	0	2	0	1	0	0	0	1
2481:	0	0	1	0	1	0	0	0
2489:	1	0	1	0	0	0	1	2
2497:	0	2	0	0	0	1	0	1
2505:	0	1	1	0	1	0	0	0
2513:	0	0	0	1	0	1	0	0
2521:	0	0	0	0	0	0	0	0

2529: 0 1 0 0 0 1 0 0

Sample Title: CP5005S04-05

Channel	1	2	3	4	5	6	7	8	9
2537:	0	0	0	0	0	0	0	0	0
2545:	0	1	0	0	0	0	0	0	0
2553:	0	0	0	0	0	0	0	0	0
2561:	0	2	0	0	0	1	0	0	0
2569:	0	2	0	0	0	0	0	0	0
2577:	0	0	0	0	0	1	0	0	0
2585:	0	0	1	0	0	0	2	0	0
2593:	1	0	1	0	0	1	0	0	0
2601:	1	0	0	0	0	0	0	0	0
2609:	0	1	0	1	1	5	10	6	0
2617:	6	2	2	0	0	0	0	0	0
2625:	0	0	0	0	0	0	0	1	0
2633:	0	0	0	0	0	0	0	0	0
2641:	0	1	0	0	0	0	1	0	0
2649:	0	0	0	0	0	0	0	0	0
2657:	0	1	0	0	0	0	0	0	0
2665:	0	0	0	0	0	0	0	0	0
2673:	0	0	0	0	0	0	0	0	0
2681:	0	0	0	1	0	1	0	0	0
2689:	0	0	0	1	0	0	0	0	0
2697:	1	0	0	0	0	0	0	0	0
2705:	0	0	0	0	0	0	0	1	0
2713:	1	0	0	0	0	0	0	0	0
2721:	1	0	0	0	0	0	0	1	0
2729:	0	0	0	0	0	0	0	0	0
2737:	0	0	0	1	0	0	0	0	0
2745:	1	1	2	0	1	1	0	1	0
2753:	0	0	0	0	0	0	0	1	0
2761:	1	0	0	0	0	0	0	0	0
2769:	0	0	0	0	0	0	0	0	0
2777:	0	0	0	2	1	0	0	0	0
2785:	0	0	0	0	0	0	0	0	0
2793:	0	0	0	1	0	0	1	0	0
2801:	0	1	0	0	1	0	0	0	0
2809:	0	0	0	0	0	0	0	0	0
2817:	1	0	0	1	0	0	0	0	0
2825:	0	0	0	0	0	0	0	0	0
2833:	1	0	0	0	0	0	0	2	0
2841:	0	0	0	0	0	0	0	0	0
2849:	0	0	0	0	0	0	1	0	0
2857:	0	0	0	1	0	0	0	0	0
2865:	0	0	1	0	0	1	1	1	0
2873:	0	0	0	0	0	0	0	0	0
2881:	0	0	0	1	0	0	0	0	0
2889:	0	0	0	0	0	1	0	0	0
2897:	1	0	0	0	1	0	0	0	0
2905:	0	0	0	1	0	0	0	0	0
2913:	0	1	0	1	0	0	0	1	0
2921:	0	0	0	2	0	0	0	0	0
2929:	0	0	1	0	0	0	0	0	0
2937:	0	1	3	0	0	0	1	0	0
2945:	0	0	0	0	0	0	0	0	0
2953:	0	0	0	0	0	0	0	0	0

2961: 0 0 0 0 0 0 0 0 0

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Channel								
2969:	0	0	1	1	1	0	0	0
2977:	0	0	0	1	0	0	0	0
2985:	1	0	0	0	0	0	0	1
2993:	0	0	0	0	0	0	1	0
3001:	0	0	1	0	0	1	0	0
3009:	0	0	0	0	0	0	0	0
3017:	0	0	0	0	0	0	0	0
3025:	0	0	0	1	0	0	0	0
3033:	0	0	0	0	0	0	0	0
3041:	0	0	1	0	0	0	0	0
3049:	0	0	0	0	0	0	0	0
3057:	0	0	0	0	0	0	0	0
3065:	0	0	0	0	0	0	0	0
3073:	1	0	1	1	0	0	0	1
3081:	0	0	0	1	1	0	0	2
3089:	1	0	0	1	0	0	0	0
3097:	0	2	0	0	0	1	0	0
3105:	0	0	0	0	1	0	1	0
3113:	1	1	0	0	0	0	0	1
3121:	0	0	1	0	0	0	0	0
3129:	0	1	0	0	0	0	0	0
3137:	0	0	0	0	1	0	0	1
3145:	0	0	1	0	0	0	0	1
3153:	0	0	1	0	0	0	0	0
3161:	0	0	0	0	0	0	0	0
3169:	0	0	1	0	0	0	0	0
3177:	0	0	0	0	0	1	0	0
3185:	0	0	0	0	1	0	0	0
3193:	0	0	0	1	0	0	0	1
3201:	0	0	0	0	1	0	1	0
3209:	0	0	0	0	0	0	0	0
3217:	0	0	0	0	0	0	0	0
3225:	0	0	0	0	0	0	0	0
3233:	0	0	0	0	0	0	0	0
3241:	0	0	0	0	0	0	0	0
3249:	0	0	0	0	1	0	0	0
3257:	0	0	0	0	0	1	0	1
3265:	0	1	0	0	0	0	0	0
3273:	0	0	0	0	0	0	0	0
3281:	1	0	0	0	1	0	0	0
3289:	0	0	0	0	0	0	0	0
3297:	0	0	0	0	1	0	0	0
3305:	0	0	0	0	0	0	0	0
3313:	0	0	0	0	0	0	0	0
3321:	0	1	1	0	0	0	0	0
3329:	1	0	0	1	1	0	0	0
3337:	1	0	0	0	0	0	0	0
3345:	0	1	0	0	1	0	0	0
3353:	0	0	0	0	0	0	1	0
3361:	0	0	0	0	1	0	0	0
3369:	0	0	0	0	0	0	0	0
3377:	0	0	0	0	0	0	0	0
3385:	0	0	0	0	0	1	0	0

3393: 0 0 0 0 0 0 0 0 0

Sample Title: CP5005S04-05

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3401:	0	0	0	0	0	0	0	0
3409:	0	0	0	1	0	1	1	0
3417:	0	0	0	0	0	0	0	0
3425:	1	0	0	0	0	0	0	0
3433:	0	0	0	0	0	0	0	0
3441:	0	0	0	0	0	0	0	0
3449:	0	0	0	1	0	0	0	0
3457:	0	0	0	0	0	0	0	0
3465:	0	1	0	0	0	0	0	0
3473:	0	0	0	0	0	0	0	0
3481:	0	0	0	0	0	0	0	0
3489:	0	0	0	0	0	0	0	0
3497:	1	0	0	0	0	0	0	1
3505:	0	0	0	0	0	0	0	0
3513:	1	1	0	1	1	1	0	0
3521:	0	0	0	0	0	0	0	0
3529:	0	0	0	1	0	0	0	0
3537:	0	0	0	0	1	0	1	1
3545:	0	0	0	0	0	0	0	1
3553:	0	0	0	0	0	0	0	0
3561:	2	0	0	0	0	0	0	0
3569:	0	0	0	1	0	1	0	0
3577:	0	0	0	0	0	0	2	0
3585:	0	0	0	0	0	0	0	0
3593:	0	0	0	0	0	0	0	0
3601:	0	0	0	0	0	0	0	0
3609:	0	0	0	0	0	0	0	0
3617:	0	0	0	1	0	0	0	0
3625:	0	1	0	0	0	0	1	0
3633:	0	0	0	0	1	0	0	1
3641:	0	1	0	0	0	0	0	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	1	0	0	0	0	0	0	0
3673:	0	0	0	0	2	0	0	1
3681:	0	0	0	0	0	0	0	0
3689:	1	0	0	0	0	0	0	0
3697:	0	0	0	0	0	0	0	0
3705:	0	0	0	0	0	0	0	0
3713:	0	0	0	0	0	1	0	1
3721:	0	0	0	0	0	0	0	0
3729:	0	0	0	0	1	0	0	0
3737:	1	0	0	0	0	0	0	0
3745:	0	0	0	0	0	0	0	0
3753:	0	0	0	0	0	0	0	0
3761:	0	0	0	0	0	0	1	0
3769:	0	0	0	0	0	0	0	0
3777:	0	0	0	0	0	0	0	0
3785:	0	0	0	0	0	0	0	0
3793:	0	0	0	0	0	0	0	1
3801:	0	0	0	0	0	1	0	1
3809:	1	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0

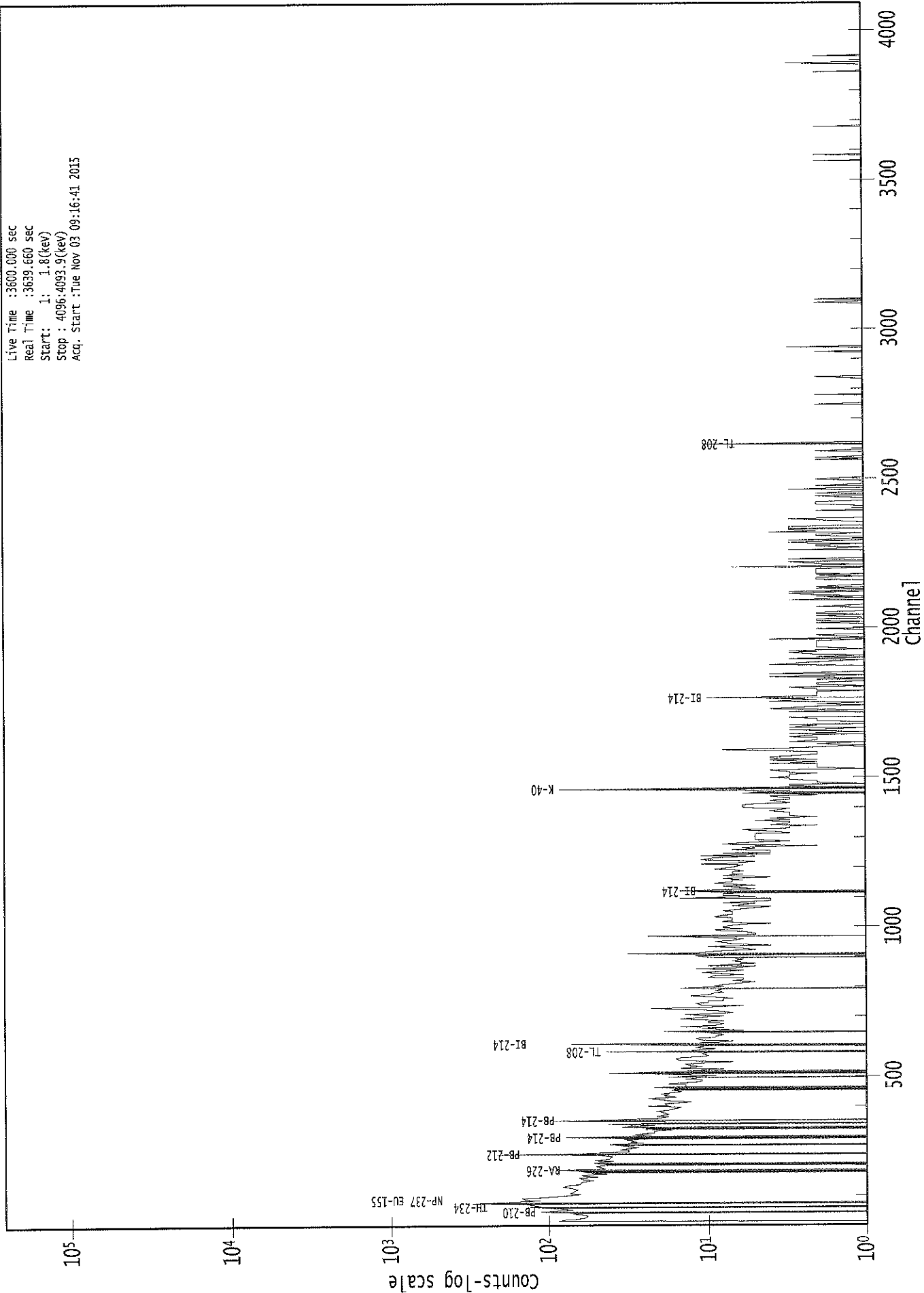
3825: 0 0 0 0 0 0 0 0

Sample Title: CP5005S04-05

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3833:	0	0	0	0	1	0	0	0
3841:	0	0	0	1	0	0	0	0
3849:	1	0	0	0	0	0	0	0
3857:	0	0	0	0	2	0	0	0
3865:	0	0	0	0	0	0	0	0
3873:	0	0	0	0	0	0	0	0
3881:	0	0	0	0	1	0	0	0
3889:	0	3	1	0	0	0	0	0
3897:	0	0	0	0	1	0	0	0
3905:	0	0	0	1	0	0	0	0
3913:	2	0	0	1	0	0	0	0
3921:	1	0	0	0	1	0	0	0
3929:	0	0	0	0	0	0	1	1
3937:	0	0	0	0	0	0	0	0
3945:	0	0	0	0	0	0	0	0
3953:	0	0	0	0	0	0	0	1
3961:	0	0	0	0	0	0	0	0
3969:	0	0	0	0	0	0	1	0
3977:	0	0	0	0	0	0	0	0
3985:	0	0	0	0	0	0	0	0
3993:	0	0	0	0	1	0	0	0
4001:	0	0	0	0	0	0	0	0
4009:	0	0	0	0	0	1	0	0
4017:	0	1	0	0	0	0	0	1
4025:	1	0	1	0	0	0	0	1
4033:	0	0	0	0	0	0	0	0
4041:	0	0	0	0	0	0	0	0
4049:	0	0	0	1	0	0	1	0
4057:	0	0	0	1	0	0	0	0
4065:	0	0	0	0	0	0	0	0
4073:	0	0	0	0	0	1	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	0	0	0	1	0

0000029018.CNF

Live Time : 3600.000 sec
Real Time : 3639.660 sec
Start : 1: 1.8(keV)
Stop : 4096.4093.9(keV)
Acq. Start : Tue Nov 03 09:16:41 2015



ROI Type: 1

Analysis Report for 1510063-18
CP5005S05-06

✓
110

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510063-18
Sample Description : CP5005S05-06
Sample Type : SOIL

Sample Size : 4.639E+02 grams
Facility : Countroom

Sample Taken On : 10/6/2015 7:51:16AM
Acquisition Started : 11/3/2015 10:17:54AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE1
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3601.2 seconds

Dead Time : 0.03 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 19 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29019

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/3/15

Analysis Report for 1510063-18
CP5005S05-06

PEAK LOCATE REPORT

Peak Locate Performed on : 11/3/2015 11:17:58AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	46.24	46.59	0.0000	0.00
2	63.02	63.37	0.0000	0.00
3	74.78	75.12	0.0000	0.00
4	77.41	77.75	0.0000	0.00
5	88.06	88.39	0.0000	0.00
6	93.27	93.61	0.0000	0.00
7	129.42	129.74	0.0000	0.00
8	144.19	144.50	0.0000	0.00
9	186.23	186.54	0.0000	0.00
10	209.41	209.71	0.0000	0.00
11	238.73	239.01	0.0000	0.00
12	241.87	242.15	0.0000	0.00
13	269.79	270.06	0.0000	0.00
14	277.84	278.11	0.0000	0.00
15	295.37	295.64	0.0000	0.00
16	300.79	301.06	0.0000	0.00
17	338.74	338.99	0.0000	0.00
18	352.14	352.39	0.0000	0.00
19	401.59	401.82	0.0000	0.00
20	409.69	409.92	0.0000	0.00
21	463.15	463.36	0.0000	0.00
22	485.97	486.17	0.0000	0.00
23	511.47	511.66	0.0000	0.00
24	521.51	521.70	0.0000	0.00
25	563.13	563.30	0.0000	0.00
26	583.42	583.59	0.0000	0.00
27	598.32	598.49	0.0000	0.00
28	609.55	609.71	0.0000	0.00
29	665.26	665.40	0.0000	0.00
30	727.65	727.77	0.0000	0.00
31	794.62	794.72	0.0000	0.00
32	839.93	840.01	0.0000	0.00
33	861.93	862.00	0.0000	0.00
34	911.78	911.83	0.0000	0.00
35	934.43	934.48	0.0000	0.00
36	949.37	949.41	0.0000	0.00
37	964.55	964.58	0.0000	0.00
38	969.58	969.61	0.0000	0.00
39	1054.29	1054.29	0.0000	0.00
40	1065.50	1065.50	0.0000	0.00
41	1109.68	1109.66	0.0000	0.00
42	1120.98	1120.96	0.0000	0.00

Analysis Report for 1510063-18
CP5005S05-06

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
43	1166.68	1166.64	0.0000	0.00
44	1239.52	1239.45	0.0000	0.00
45	1279.90	1279.82	0.0000	0.00
46	1375.39	1375.28	0.0000	0.00
47	1378.88	1378.77	0.0000	0.00
48	1461.36	1461.22	0.0000	0.00
49	1465.14	1465.00	0.0000	0.00
50	1473.78	1473.63	0.0000	0.00
51	1482.70	1482.55	0.0000	0.00
52	1511.14	1510.98	0.0000	0.00
53	1540.71	1540.54	0.0000	0.00
54	1588.37	1588.18	0.0000	0.00
55	1594.78	1594.59	0.0000	0.00
56	1630.61	1630.40	0.0000	0.00
57	1661.43	1661.21	0.0000	0.00
58	1730.40	1730.15	0.0000	0.00
59	1765.34	1765.09	0.0000	0.00
60	1781.69	1781.43	0.0000	0.00
61	1787.64	1787.38	0.0000	0.00
62	1847.61	1847.32	0.0000	0.00
63	1882.15	1881.85	0.0000	0.00
64	1953.46	1953.13	0.0000	0.00
65	2011.75	2011.40	0.0000	0.00
66	2104.35	2103.97	0.0000	0.00
67	2152.42	2152.02	0.0000	0.00
68	2204.65	2204.22	0.0000	0.00
69	2244.62	2244.18	0.0000	0.00
70	2335.94	2335.46	0.0000	0.00
71	2398.84	2398.35	0.0000	0.00
72	2615.33	2614.75	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510063-18
CP5005S05-06

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 11:17:58AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
1	46.24	43 -	49	46.59	1.21E+02	77.98	1.02E+03	1.12
2	63.02	59 -	66	63.37	2.30E+02	107.80	1.79E+03	1.53
M 3	74.78	71 -	83	75.12	5.40E+02	89.40	1.31E+03	1.77
m 4	77.41	71 -	83	77.75	8.10E+02	103.17	1.24E+03	1.77
5	88.06	86 -	91	88.39	1.78E+02	93.20	1.60E+03	1.43
6	93.27	91 -	97	93.61	3.46E+02	100.87	1.47E+03	1.62
7	129.42	125 -	134	129.74	1.74E+02	98.48	1.28E+03	1.49
8	144.19	141 -	147	144.50	7.53E+01	74.76	9.59E+02	2.97
9	186.23	182 -	191	186.54	2.77E+02	90.39	1.01E+03	2.15
10	209.41	206 -	213	209.71	8.30E+01	73.59	8.38E+02	1.80
M 11	238.73	235 -	245	239.01	1.08E+03	76.21	4.23E+02	1.68
m 12	241.87	235 -	245	242.15	2.05E+02	59.69	3.88E+02	1.68
13	269.79	267 -	273	270.06	8.15E+01	49.31	3.85E+02	2.67
14	277.84	274 -	282	278.11	8.30E+01	61.26	5.26E+02	4.18
15	295.37	291 -	299	295.64	2.96E+02	71.65	6.09E+02	1.75
16	300.79	300 -	304	301.06	5.76E+01	39.81	2.93E+02	1.40
17	338.74	334 -	343	338.99	2.25E+02	62.10	4.16E+02	1.66
18	352.14	348 -	356	352.39	5.69E+02	70.42	4.10E+02	1.85
19	401.59	398 -	406	401.82	4.68E+01	44.12	2.72E+02	2.45
20	409.69	407 -	413	409.92	3.25E+01	37.96	2.39E+02	1.34
21	463.15	459 -	466	463.36	5.42E+01	40.89	2.40E+02	1.81
22	485.97	483 -	491	486.17	4.51E+01	35.51	1.66E+02	2.61
23	511.47	506 -	518	511.66	2.07E+02	55.99	2.66E+02	2.53
24	521.51	519 -	525	521.70	2.65E+01	27.58	1.19E+02	1.67
25	563.13	561 -	566	563.30	2.38E+01	25.90	1.12E+02	2.79
26	583.42	578 -	588	583.59	2.66E+02	57.69	3.00E+02	2.01
27	598.32	595 -	602	598.49	3.17E+01	31.94	1.51E+02	3.26
28	609.55	606 -	613	609.71	3.92E+02	51.38	1.77E+02	1.87
29	665.26	662 -	668	665.40	2.34E+01	29.43	1.41E+02	2.10
30	727.65	724 -	731	727.77	5.95E+01	33.94	1.53E+02	1.84
31	794.62	791 -	799	794.72	3.27E+01	32.74	1.47E+02	1.43
32	839.93	834 -	849	840.01	6.99E+01	35.33	1.00E+02	5.73
33	861.93	857 -	868	862.00	5.90E+01	35.94	1.32E+02	2.30
34	911.78	908 -	917	911.83	1.93E+02	43.07	1.54E+02	2.03
35	934.43	932 -	937	934.48	3.87E+01	21.95	6.46E+01	3.33
36	949.37	946 -	953	949.41	3.14E+01	23.15	6.93E+01	2.10
M 37	964.55	961 -	977	964.58	3.92E+01	25.25	9.08E+01	2.40
m 38	969.58	961 -	977	969.61	1.30E+02	28.88	6.07E+01	1.91
39	1054.29	1048 -	1061	1054.29	2.91E+01	34.48	1.20E+02	7.88
40	1065.50	1063 -	1068	1065.50	1.76E+01	17.55	4.68E+01	3.22

Analysis Report for 1510063-18

CP5005S05-06

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1109.68	1104 -	1116	1109.66	2.71E+01	33.23	1.18E+02	9.20
42	1120.98	1117 -	1125	1120.96	9.05E+01	32.21	1.05E+02	1.76
43	1166.68	1163 -	1169	1166.64	1.81E+01	22.58	7.78E+01	2.89
44	1239.52	1237 -	1244	1239.45	3.70E+01	26.23	8.59E+01	1.98
45	1279.90	1277 -	1283	1279.82	1.71E+01	14.20	2.38E+01	1.50
M 46	1375.39	1374 -	1381	1375.28	6.88E+00	7.87	1.74E+01	2.96
m 47	1378.88	1374 -	1381	1378.77	2.16E+01	13.86	1.62E+01	2.11
M 48	1461.36	1456 -	1467	1461.22	6.94E+02	54.42	3.17E+01	2.13
m 49	1465.14	1456 -	1467	1465.00	1.16E+01	18.72	1.02E+01	2.20
50	1473.78	1470 -	1476	1473.63	8.29E+00	10.25	1.14E+01	2.10
51	1482.70	1478 -	1486	1482.55	1.52E+01	12.20	1.36E+01	2.83
52	1511.14	1507 -	1517	1510.98	1.63E+01	16.59	2.95E+01	5.55
53	1540.71	1536 -	1546	1540.54	1.47E+01	16.22	2.66E+01	2.07
54	1588.37	1583 -	1591	1588.18	2.11E+01	14.18	1.79E+01	3.12
55	1594.78	1593 -	1597	1594.59	7.38E+00	8.90	9.25E+00	4.38
56	1630.61	1626 -	1635	1630.40	1.90E+01	12.08	1.00E+01	5.13
57	1661.43	1656 -	1665	1661.21	1.26E+01	12.45	1.48E+01	5.62
58	1730.40	1725 -	1734	1730.15	2.50E+01	13.04	1.00E+01	1.44
59	1765.34	1760 -	1770	1765.09	9.30E+01	19.29	0.00E+00	2.61
60	1781.69	1779 -	1784	1781.43	7.00E+00	5.29	0.00E+00	2.22
61	1787.64	1785 -	1789	1787.38	8.00E+00	5.66	0.00E+00	1.12
62	1847.61	1841 -	1850	1847.32	1.53E+01	11.58	1.13E+01	2.00
63	1882.15	1877 -	1885	1881.85	1.04E+01	11.35	1.32E+01	4.96
64	1953.46	1950 -	1958	1953.13	8.71E+00	9.82	1.06E+01	3.84
65	2011.75	2007 -	2013	2011.40	5.00E+00	4.47	0.00E+00	1.24
66	2104.35	2099 -	2110	2103.97	1.97E+01	14.97	1.87E+01	2.75
67	2152.42	2150 -	2155	2152.02	9.05E+00	7.00	1.90E+00	3.10
68	2204.65	2199 -	2208	2204.22	2.06E+01	16.03	2.49E+01	1.61
69	2244.62	2241 -	2246	2244.18	6.50E+00	6.40	3.00E+00	1.98
70	2335.94	2332 -	2338	2335.46	5.50E+00	7.78	7.00E+00	2.25
71	2398.84	2395 -	2401	2398.35	7.22E+00	6.95	3.56E+00	2.62
72	2615.33	2611 -	2620	2614.75	9.29E+01	20.22	6.20E+00	2.40

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 11:17:58AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

: 00002

Analysis Report for 1510063-18

CP5005S05-06

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	1	46.24	43 -	49	1.21E+02	77.98	1.02E+03	6.15E+01
	2	63.02	59 -	66	2.30E+02	107.80	1.79E+03	8.50E+01
M	3	74.78	71 -	83	5.40E+02	89.40	1.31E+03	5.94E+01
m	4	77.41	71 -	83	8.10E+02	103.17	1.24E+03	5.79E+01
	5	88.06	86 -	91	1.78E+02	93.20	1.60E+03	7.34E+01
	6	93.27	91 -	97	3.46E+02	100.87	1.47E+03	7.71E+01
	7	129.42	125 -	134	1.74E+02	98.48	1.28E+03	7.80E+01
	8	144.19	141 -	147	7.53E+01	74.76	9.59E+02	5.98E+01
	9	186.23	182 -	191	2.77E+02	90.39	1.01E+03	6.91E+01
	10	209.41	206 -	213	8.30E+01	73.59	8.38E+02	5.86E+01
M	11	238.73	235 -	245	1.08E+03	76.21	4.23E+02	3.38E+01
m	12	241.87	235 -	245	2.05E+02	59.69	3.88E+02	3.24E+01
	13	269.79	267 -	273	8.15E+01	49.31	3.85E+02	3.77E+01
	14	277.84	274 -	282	8.30E+01	61.26	5.26E+02	4.81E+01
	15	295.37	291 -	299	2.96E+02	71.65	6.09E+02	5.17E+01
	16	300.79	300 -	304	5.76E+01	39.81	2.93E+02	3.03E+01
	17	338.74	334 -	343	2.25E+02	62.10	4.16E+02	4.47E+01
	18	352.14	348 -	356	5.69E+02	70.42	4.10E+02	4.26E+01
	19	401.59	398 -	406	4.68E+01	44.12	2.72E+02	3.45E+01
	20	409.69	407 -	413	3.25E+01	37.96	2.39E+02	2.98E+01
	21	463.15	459 -	466	5.42E+01	40.89	2.40E+02	3.14E+01
	22	485.97	483 -	491	4.51E+01	35.51	1.66E+02	2.70E+01
	23	511.47	506 -	518	2.07E+02	55.99	2.66E+02	3.95E+01
	24	521.51	519 -	525	2.65E+01	27.58	1.19E+02	2.10E+01
	25	563.13	561 -	566	2.38E+01	25.90	1.12E+02	1.97E+01
	26	583.42	578 -	588	2.66E+02	57.69	3.00E+02	3.91E+01
	27	598.32	595 -	602	3.17E+01	31.94	1.51E+02	2.46E+01
	28	609.55	606 -	613	3.92E+02	51.38	1.77E+02	2.69E+01
	29	665.26	662 -	668	2.34E+01	29.43	1.41E+02	2.28E+01
	30	727.65	724 -	731	5.95E+01	33.94	1.53E+02	2.49E+01
	31	794.62	791 -	799	3.27E+01	32.74	1.47E+02	2.52E+01
	32	839.93	834 -	849	6.99E+01	35.33	1.00E+02	2.56E+01
	33	861.93	857 -	868	5.90E+01	35.94	1.32E+02	2.67E+01
	34	911.78	908 -	917	1.93E+02	43.07	1.54E+02	2.71E+01
	35	934.43	932 -	937	3.87E+01	21.95	6.46E+01	1.49E+01
	36	949.37	946 -	953	3.14E+01	23.15	6.93E+01	1.67E+01
M	37	964.55	961 -	977	3.92E+01	25.25	9.08E+01	1.57E+01
m	38	969.58	961 -	977	1.30E+02	28.88	6.07E+01	1.28E+01
	39	1054.29	1048 -	1061	2.91E+01	34.48	1.20E+02	2.69E+01
	40	1065.50	1063 -	1068	1.76E+01	17.55	4.68E+01	1.27E+01
	41	1109.68	1104 -	1116	2.71E+01	33.23	1.18E+02	2.59E+01
	42	1120.98	1117 -	1125	9.05E+01	32.21	1.05E+02	2.14E+01
	43	1166.68	1163 -	1169	1.81E+01	22.58	7.78E+01	1.72E+01
	44	1239.52	1237 -	1244	3.70E+01	26.23	8.59E+01	1.91E+01
	45	1279.90	1277 -	1283	1.71E+01	14.20	2.38E+01	9.49E+00
M	46	1375.39	1374 -	1381	6.88E+00	7.87	1.74E+01	6.86E+00
m	47	1378.88	1374 -	1381	2.16E+01	13.86	1.62E+01	6.62E+00
M	48	1461.36	1456 -	1467	6.94E+02	54.42	3.17E+01	9.25E+00
m	49	1465.14	1456 -	1467	1.16E+01	18.72	1.02E+01	5.24E+00
	50	1473.78	1470 -	1476	8.29E+00	10.25	1.14E+01	6.97E+00
	51	1482.70	1478 -	1486	1.52E+01	12.20	1.36E+01	7.71E+00

Analysis Report for 1510063-18

CP5005S05-06

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
52	1511.14	1507 -	1517	1.63E+01	16.59	2.95E+01	1.19E+01
53	1540.71	1536 -	1546	1.47E+01	16.22	2.66E+01	1.18E+01
54	1588.37	1583 -	1591	2.11E+01	14.18	1.79E+01	8.88E+00
55	1594.78	1593 -	1597	7.38E+00	8.90	9.25E+00	5.80E+00
56	1630.61	1626 -	1635	1.90E+01	12.08	1.00E+01	6.88E+00
57	1661.43	1656 -	1665	1.26E+01	12.45	1.48E+01	8.41E+00
58	1730.40	1725 -	1734	2.50E+01	13.04	1.00E+01	6.88E+00
59	1765.34	1760 -	1770	9.30E+01	19.29	0.00E+00	0.00E+00
60	1781.69	1779 -	1784	7.00E+00	5.29	0.00E+00	0.00E+00
61	1787.64	1785 -	1789	8.00E+00	5.66	0.00E+00	0.00E+00
62	1847.61	1841 -	1850	1.53E+01	11.58	1.13E+01	7.01E+00
63	1882.15	1877 -	1885	1.04E+01	11.35	1.32E+01	7.68E+00
64	1953.46	1950 -	1958	8.71E+00	9.82	1.06E+01	6.45E+00
65	2011.75	2007 -	2013	5.00E+00	4.47	0.00E+00	0.00E+00
66	2104.35	2099 -	2110	1.97E+01	14.97	1.87E+01	9.91E+00
67	2152.42	2150 -	2155	9.05E+00	7.00	1.90E+00	2.94E+00
68	2204.65	2199 -	2208	2.06E+01	16.03	2.49E+01	1.09E+01
69	2244.62	2241 -	2246	6.50E+00	6.40	3.00E+00	3.18E+00
70	2335.94	2332 -	2338	5.50E+00	7.78	7.00E+00	5.10E+00
71	2398.84	2395 -	2401	7.22E+00	6.95	3.56E+00	3.62E+00
72	2615.33	2611 -	2620	9.29E+01	20.22	6.20E+00	5.03E+00

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

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/3/2015 11:17:58AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
1	46.24	43 -	49	46.59	1.21E+02	77.98	1.02E+03	PB-210
2	63.02	59 -	66	63.37	2.30E+02	107.80	1.79E+03	TH-230 TH-234
M 3	74.78	71 -	83	75.12	5.40E+02	89.40	1.31E+03	AM-243

: 00994

Analysis Report for 1510063-18

CP5005S05-06

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
m	4	77.41	71 -	83	77.75	8.10E+02	103.17	1.24E+03	TI-44
	5	88.06	86 -	91	88.39	1.78E+02	93.20	1.60E+03	CD-109 LU-176 SN-126
	6	93.27	91 -	97	93.61	3.46E+02	100.87	1.47E+03	GA-67
	7	129.42	125 -	134	129.74	1.74E+02	98.48	1.28E+03	.....
	8	144.19	141 -	147	144.50	7.53E+01	74.76	9.59E+02	U-235
	9	186.23	182 -	191	186.54	2.77E+02	90.39	1.01E+03	RA-226
	10	209.41	206 -	213	209.71	8.30E+01	73.59	8.38E+02	CM-243 GA-67
M	11	238.73	235 -	245	239.01	1.08E+03	76.21	4.23E+02	PB-212
m	12	241.87	235 -	245	242.15	2.05E+02	59.69	3.88E+02	RA-224
	13	269.79	267 -	273	270.06	8.15E+01	49.31	3.85E+02	.....
	14	277.84	274 -	282	278.11	8.30E+01	61.26	5.26E+02	CM-243 NP-239
	15	295.37	291 -	299	295.64	2.96E+02	71.65	6.09E+02	PB-214
	16	300.79	300 -	304	301.06	5.76E+01	39.81	2.93E+02	GA-67 PB-212 BI-210M
	17	338.74	334 -	343	338.99	2.25E+02	62.10	4.16E+02	AC-228
	18	352.14	348 -	356	352.39	5.69E+02	70.42	4.10E+02	PB-214
	19	401.59	398 -	406	401.82	4.68E+01	44.12	2.72E+02	RN-219 SE-75
	20	409.69	407 -	413	409.92	3.25E+01	37.96	2.39E+02	.....
	21	463.15	459 -	466	463.36	5.42E+01	40.89	2.40E+02	SB-125
	22	485.97	483 -	491	486.17	4.51E+01	35.51	1.66E+02	.....
	23	511.47	506 -	518	511.66	2.07E+02	55.99	2.66E+02	.....
	24	521.51	519 -	525	521.70	2.65E+01	27.58	1.19E+02	.....
	25	563.13	561 -	566	563.30	2.38E+01	25.90	1.12E+02	CS-134
	26	583.42	578 -	588	583.59	2.66E+02	57.69	3.00E+02	TL-208
	27	598.32	595 -	602	598.49	3.17E+01	31.94	1.51E+02	.....
	28	609.55	606 -	613	609.71	3.92E+02	51.38	1.77E+02	BI-214
	29	665.26	662 -	668	665.40	2.34E+01	29.43	1.41E+02	CE-143
	30	727.65	724 -	731	727.77	5.95E+01	33.94	1.53E+02	BI-212
	31	794.62	791 -	799	794.72	3.27E+01	32.74	1.47E+02	.....
	32	839.93	834 -	849	840.01	6.99E+01	35.33	1.00E+02	.....
	33	861.93	857 -	868	862.00	5.90E+01	35.94	1.32E+02	.....
	34	911.78	908 -	917	911.83	1.93E+02	43.07	1.54E+02	LU-172 AC-228
	35	934.43	932 -	937	934.48	3.87E+01	21.95	6.46E+01	.....
	36	949.37	946 -	953	949.41	3.14E+01	23.15	6.93E+01	.....
M	37	964.55	961 -	977	964.58	3.92E+01	25.25	9.08E+01	EU-152
m	38	969.58	961 -	977	969.61	1.30E+02	28.88	6.07E+01	AC-228
	39	1054.29	1048 -	1061	1054.29	2.91E+01	34.48	1.20E+02	.....
	40	1065.50	1063 -	1068	1065.50	1.76E+01	17.55	4.68E+01	.....
	41	1109.68	1104 -	1116	1109.66	2.71E+01	33.23	1.18E+02	.....
	42	1120.98	1117 -	1125	1120.96	9.05E+01	32.21	1.05E+02	TA-182 SC-46 BI-214
	43	1166.68	1163 -	1169	1166.64	1.81E+01	22.58	7.78E+01	.....
	44	1239.52	1237 -	1244	1239.45	3.70E+01	26.23	8.59E+01	.....
	45	1279.90	1277 -	1283	1279.82	1.71E+01	14.20	2.38E+01	.....
M	46	1375.39	1374 -	1381	1375.28	6.88E+00	7.87	1.74E+01	.....
m	47	1378.88	1374 -	1381	1378.77	2.16E+01	13.86	1.62E+01	.....

Analysis Report for 1510063-18

CP5005S05-06

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
M	48	1461.36	1456 -	1467	1461.22	6.94E+02	54.42	3.17E+01	K-40
m	49	1465.14	1456 -	1467	1465.00	1.16E+01	18.72	1.02E+01	.....
	50	1473.78	1470 -	1476	1473.63	8.29E+00	10.25	1.14E+01	.....
	51	1482.70	1478 -	1486	1482.55	1.52E+01	12.20	1.36E+01	.....
	52	1511.14	1507 -	1517	1510.98	1.63E+01	16.59	2.95E+01	.....
	53	1540.71	1536 -	1546	1540.54	1.47E+01	16.22	2.66E+01	.....
	54	1588.37	1583 -	1591	1588.18	2.11E+01	14.18	1.79E+01	.....
	55	1594.78	1593 -	1597	1594.59	7.38E+00	8.90	9.25E+00	.....
	56	1630.61	1626 -	1635	1630.40	1.90E+01	12.08	1.00E+01	.....
	57	1661.43	1656 -	1665	1661.21	1.26E+01	12.45	1.48E+01	.....
	58	1730.40	1725 -	1734	1730.15	2.50E+01	13.04	1.00E+01	.....
	59	1765.34	1760 -	1770	1765.09	9.30E+01	19.29	0.00E+00	BI-214
	60	1781.69	1779 -	1784	1781.43	7.00E+00	5.29	0.00E+00	.....
	61	1787.64	1785 -	1789	1787.38	8.00E+00	5.66	0.00E+00	.....
	62	1847.61	1841 -	1850	1847.32	1.53E+01	11.58	1.13E+01	.....
	63	1882.15	1877 -	1885	1881.85	1.04E+01	11.35	1.32E+01	.....
	64	1953.46	1950 -	1958	1953.13	8.71E+00	9.82	1.06E+01	.....
	65	2011.75	2007 -	2013	2011.40	5.00E+00	4.47	0.00E+00	.....
	66	2104.35	2099 -	2110	2103.97	1.97E+01	14.97	1.87E+01	.....
	67	2152.42	2150 -	2155	2152.02	9.05E+00	7.00	1.90E+00	.....
	68	2204.65	2199 -	2208	2204.22	2.06E+01	16.03	2.49E+01	BI-214
	69	2244.62	2241 -	2246	2244.18	6.50E+00	6.40	3.00E+00	.....
	70	2335.94	2332 -	2338	2335.46	5.50E+00	7.78	7.00E+00	.....
	71	2398.84	2395 -	2401	2398.35	7.22E+00	6.95	3.56E+00	.....
	72	2615.33	2611 -	2620	2614.75	9.29E+01	20.22	6.20E+00	TL-208

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/3/2015 11:17:58AM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	46.24	1.21E+02	77.98	1.66E-02	1.78E-03
	2	63.02	2.30E+02	107.80	2.48E-02	1.90E-03
M	3	74.78	5.40E+02	89.40	2.75E-02	2.29E-03
m	4	77.41	8.10E+02	103.17	2.78E-02	2.38E-03
	5	88.06	1.78E+02	93.20	2.85E-02	2.74E-03

Analysis Report for 1510063-18

CP5005S05-06

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	6	93.27	3.46E+02	100.87	2.86E-02	2.64E-03
	7	129.42	1.74E+02	98.48	2.67E-02	2.09E-03
	8	144.19	7.53E+01	74.76	2.55E-02	2.12E-03
	9	186.23	2.77E+02	90.39	2.24E-02	2.03E-03
	10	209.41	8.30E+01	73.59	2.09E-02	1.85E-03
M	11	238.73	1.08E+03	76.21	1.92E-02	1.64E-03
m	12	241.87	2.05E+02	59.69	1.91E-02	1.61E-03
	13	269.79	8.15E+01	49.31	1.77E-02	1.41E-03
	14	277.84	8.30E+01	61.26	1.74E-02	1.35E-03
	15	295.37	2.96E+02	71.65	1.67E-02	1.31E-03
	16	300.79	5.76E+01	39.81	1.65E-02	1.30E-03
	17	338.74	2.25E+02	62.10	1.52E-02	1.22E-03
	18	352.14	5.69E+02	70.42	1.48E-02	1.19E-03
	19	401.59	4.68E+01	44.12	1.34E-02	1.10E-03
	20	409.69	3.25E+01	37.96	1.32E-02	1.10E-03
	21	463.15	5.42E+01	40.89	1.21E-02	1.04E-03
	22	485.97	4.51E+01	35.51	1.17E-02	1.02E-03
	23	511.47	2.07E+02	55.99	1.12E-02	9.90E-04
	24	521.51	2.65E+01	27.58	1.11E-02	9.79E-04
	25	563.13	2.38E+01	25.90	1.04E-02	9.36E-04
	26	583.42	2.66E+02	57.69	1.02E-02	9.15E-04
	27	598.32	3.17E+01	31.94	9.97E-03	9.00E-04
	28	609.55	3.92E+02	51.38	9.82E-03	8.88E-04
	29	665.26	2.34E+01	29.43	9.18E-03	8.31E-04
	30	727.65	5.95E+01	33.94	8.55E-03	7.75E-04
	31	794.62	3.27E+01	32.74	7.97E-03	7.15E-04
	32	839.93	6.99E+01	35.33	7.63E-03	6.74E-04
	33	861.93	5.90E+01	35.94	7.47E-03	6.55E-04
	34	911.78	1.93E+02	43.07	7.14E-03	6.15E-04
	35	934.43	3.87E+01	21.95	7.01E-03	6.03E-04
	36	949.37	3.14E+01	23.15	6.92E-03	5.96E-04
M	37	964.55	3.92E+01	25.25	6.83E-03	5.88E-04
m	38	969.58	1.30E+02	28.88	6.80E-03	5.85E-04
	39	1054.29	2.91E+01	34.48	6.36E-03	5.41E-04
	40	1065.50	1.76E+01	17.55	6.31E-03	5.35E-04
	41	1109.68	2.71E+01	33.23	6.11E-03	5.12E-04
	42	1120.98	9.05E+01	32.21	6.06E-03	5.06E-04
	43	1166.68	1.81E+01	22.58	5.88E-03	4.83E-04
	44	1239.52	3.70E+01	26.23	5.61E-03	4.67E-04
	45	1279.90	1.71E+01	14.20	5.48E-03	4.60E-04
M	46	1375.39	6.88E+00	7.87	5.19E-03	4.40E-04
m	47	1378.88	2.16E+01	13.86	5.18E-03	4.40E-04
M	48	1461.36	6.94E+02	54.42	4.97E-03	4.19E-04
m	49	1465.14	1.16E+01	18.72	4.96E-03	4.18E-04
	50	1473.78	8.29E+00	10.25	4.94E-03	4.16E-04
	51	1482.70	1.52E+01	12.20	4.92E-03	4.14E-04
	52	1511.14	1.63E+01	16.59	4.85E-03	4.07E-04
	53	1540.71	1.47E+01	16.22	4.79E-03	3.99E-04
	54	1588.37	2.11E+01	14.18	4.69E-03	3.87E-04
	55	1594.78	7.38E+00	8.90	4.68E-03	3.86E-04
	56	1630.61	1.90E+01	12.08	4.61E-03	3.77E-04
	57	1661.43	1.26E+01	12.45	4.56E-03	3.69E-04
	58	1730.40	2.50E+01	13.04	4.45E-03	3.52E-04

Analysis Report for 1510063-18

CP5005S05-06

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
59	1765.34	9.30E+01	19.29	4.39E-03	3.43E-04
60	1781.69	7.00E+00	5.29	4.37E-03	3.39E-04
61	1787.64	8.00E+00	5.66	4.36E-03	3.38E-04
62	1847.61	1.53E+01	11.58	4.28E-03	3.26E-04
63	1882.15	1.04E+01	11.35	4.24E-03	3.26E-04
64	1953.46	8.71E+00	9.82	4.16E-03	3.26E-04
65	2011.75	5.00E+00	4.47	4.10E-03	3.26E-04
66	2104.35	1.97E+01	14.97	4.02E-03	3.26E-04
67	2152.42	9.05E+00	7.00	3.98E-03	3.26E-04
68	2204.65	2.06E+01	16.03	3.95E-03	3.26E-04
69	2244.62	6.50E+00	6.40	3.92E-03	3.26E-04
70	2335.94	5.50E+00	7.78	3.88E-03	3.26E-04
71	2398.84	7.22E+00	6.95	3.85E-03	3.26E-04
72	2615.33	9.29E+01	20.22	3.79E-03	3.26E-04

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

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/3/2015 11:17:58AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028941.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.	
	1	46.24	1.21E+02	77.98	4.50E+01	8.46E+00	7.63E+01	7.84E+01
	2	63.02	2.30E+02	107.80	7.80E+01	1.33E+01	1.52E+02	1.09E+02
M	3	74.78	5.40E+02	89.40	5.09E+00	4.37E+00	5.35E+02	8.95E+01
m	4	77.41	8.10E+02	103.17	9.75E+00	8.28E+00	8.00E+02	1.04E+02
	5	88.06	1.78E+02	93.20			1.78E+02	9.32E+01
	6	93.27	3.46E+02	100.87	1.34E+02	9.83E+00	2.12E+02	1.01E+02
	7	129.42	1.74E+02	98.48			1.74E+02	9.85E+01
	8	144.19	7.53E+01	74.76	7.18E+00	7.25E+00	6.81E+01	7.51E+01
	9	186.23	2.77E+02	90.39	6.41E+01	7.38E+00	2.13E+02	9.07E+01
	10	209.41	8.30E+01	73.59			8.30E+01	7.36E+01
M	11	238.73	1.08E+03	76.21	2.34E+01	6.34E+00	1.05E+03	7.65E+01
m	12	241.87	2.05E+02	59.69			2.05E+02	5.97E+01
	13	269.79	8.15E+01	49.31			8.15E+01	4.93E+01
	14	277.84	8.30E+01	61.26			8.30E+01	6.13E+01
	15	295.37	2.96E+02	71.65	4.17E+00	5.50E+00	2.92E+02	7.19E+01
	16	300.79	5.76E+01	39.81			5.76E+01	3.98E+01

Analysis Report for 1510063-18

CP5005S05-06

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
17	338.74	2.25E+02	62.10	2.22E-01	4.54E+00	2.25E+02	6.23E+01
18	352.14	5.69E+02	70.42	8.83E+00	4.91E+00	5.60E+02	7.06E+01
19	401.59	4.68E+01	44.12			4.68E+01	4.41E+01
20	409.69	3.25E+01	37.96			3.25E+01	3.80E+01
21	463.15	5.42E+01	40.89			5.42E+01	4.09E+01
22	485.97	4.51E+01	35.51			4.51E+01	3.55E+01
23	511.47	2.07E+02	55.99	8.12E+01	5.49E+00	1.26E+02	5.63E+01
24	521.51	2.65E+01	27.58			2.65E+01	2.76E+01
25	563.13	2.38E+01	25.90			2.38E+01	2.59E+01
26	583.42	2.66E+02	57.69	6.34E+00	3.74E+00	2.60E+02	5.78E+01
27	598.32	3.17E+01	31.94			3.17E+01	3.19E+01
28	609.55	3.92E+02	51.38	5.20E+00	3.69E+00	3.86E+02	5.15E+01
29	665.26	2.34E+01	29.43			2.34E+01	2.94E+01
30	727.65	5.95E+01	33.94			5.95E+01	3.39E+01
31	794.62	3.27E+01	32.74			3.27E+01	3.27E+01
32	839.93	6.99E+01	35.33			6.99E+01	3.53E+01
33	861.93	5.90E+01	35.94			5.90E+01	3.59E+01
34	911.78	1.93E+02	43.07	3.28E+00	2.53E+00	1.90E+02	4.31E+01
35	934.43	3.87E+01	21.95			3.87E+01	2.20E+01
36	949.37	3.14E+01	23.15			3.14E+01	2.32E+01
M 37	964.55	3.92E+01	25.25			3.92E+01	2.52E+01
m 38	969.58	1.30E+02	28.88			1.30E+02	2.89E+01
39	1054.29	2.91E+01	34.48			2.91E+01	3.45E+01
40	1065.50	1.76E+01	17.55			1.76E+01	1.75E+01
41	1109.68	2.71E+01	33.23			2.71E+01	3.32E+01
42	1120.98	9.05E+01	32.21	2.28E+00	2.55E+00	8.82E+01	3.23E+01
43	1166.68	1.81E+01	22.58			1.81E+01	2.26E+01
44	1239.52	3.70E+01	26.23			3.70E+01	2.62E+01
45	1279.90	1.71E+01	14.20			1.71E+01	1.42E+01
M 46	1375.39	6.88E+00	7.87			6.88E+00	7.87E+00
m 47	1378.88	2.16E+01	13.86			2.16E+01	1.39E+01
M 48	1461.36	6.94E+02	54.42	6.46E+00	2.33E+00	6.88E+02	5.45E+01
m 49	1465.14	1.16E+01	18.72			1.16E+01	1.87E+01
50	1473.78	8.29E+00	10.25			8.29E+00	1.02E+01
51	1482.70	1.52E+01	12.20			1.52E+01	1.22E+01
52	1511.14	1.63E+01	16.59			1.63E+01	1.66E+01
53	1540.71	1.47E+01	16.22			1.47E+01	1.62E+01
54	1588.37	2.11E+01	14.18			2.11E+01	1.42E+01
55	1594.78	7.38E+00	8.90			7.38E+00	8.90E+00
56	1630.61	1.90E+01	12.08			1.90E+01	1.21E+01
57	1661.43	1.26E+01	12.45			1.26E+01	1.24E+01
58	1730.40	2.50E+01	13.04			2.50E+01	1.30E+01
59	1765.34	9.30E+01	19.29			9.30E+01	1.93E+01
60	1781.69	7.00E+00	5.29			7.00E+00	5.29E+00
61	1787.64	8.00E+00	5.66			8.00E+00	5.66E+00
62	1847.61	1.53E+01	11.58			1.53E+01	1.16E+01
63	1882.15	1.04E+01	11.35			1.04E+01	1.13E+01
64	1953.46	8.71E+00	9.82			8.71E+00	9.82E+00
65	2011.75	5.00E+00	4.47			5.00E+00	4.47E+00
66	2104.35	1.97E+01	14.97			1.97E+01	1.50E+01
67	2152.42	9.05E+00	7.00			9.05E+00	7.00E+00
68	2204.65	2.06E+01	16.03			2.06E+01	1.60E+01
69	2244.62	6.50E+00	6.40			6.50E+00	6.40E+00
70	2335.94	5.50E+00	7.78			5.50E+00	7.78E+00

Analysis Report for 1510063-18

CP5005S05-06

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
71	2398.84	7.22E+00	6.95			7.22E+00	6.95E+00
72	2615.33	9.29E+01	20.22	3.47E+00	1.48E+00	8.94E+01	2.03E+01

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

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/3/2015 11:17:58AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028941.CNF

Corrected Area Is: Original * Peak Ratio - Background

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.	
	1	46.24	1.21E+02	77.98	4.50E+01	8.46E+00	7.63E+01	7.84E+01
	2	63.02	2.30E+02	107.80	7.80E+01	1.33E+01	1.52E+02	1.09E+02
M	3	74.78	5.40E+02	89.40	5.09E+00	4.37E+00	5.35E+02	8.95E+01
m	4	77.41	8.10E+02	103.17	9.75E+00	8.28E+00	8.00E+02	1.04E+02
	5	88.06	1.78E+02	93.20			1.78E+02	9.32E+01
	6	93.27	3.46E+02	100.87	1.34E+02	9.83E+00	2.12E+02	1.01E+02
	7	129.42	1.74E+02	98.48			1.74E+02	9.85E+01
	8	144.19	7.53E+01	74.76	7.18E+00	7.25E+00	6.81E+01	7.51E+01
	9	186.23	2.77E+02	90.39	6.41E+01	7.38E+00	2.13E+02	9.07E+01
	10	209.41	8.30E+01	73.59			8.30E+01	7.36E+01
M	11	238.73	1.08E+03	76.21	2.34E+01	6.34E+00	1.05E+03	7.65E+01
m	12	241.87	2.05E+02	59.69			2.05E+02	5.97E+01
	13	269.79	8.15E+01	49.31			8.15E+01	4.93E+01
	14	277.84	8.30E+01	61.26			8.30E+01	6.13E+01
	15	295.37	2.96E+02	71.65	4.17E+00	5.50E+00	2.92E+02	7.19E+01
	16	300.79	5.76E+01	39.81			5.76E+01	3.98E+01
	17	338.74	2.25E+02	62.10	2.22E-01	4.54E+00	2.25E+02	6.23E+01
	18	352.14	5.69E+02	70.42	8.83E+00	4.91E+00	5.60E+02	7.06E+01
	19	401.59	4.68E+01	44.12			4.68E+01	4.41E+01
	20	409.69	3.25E+01	37.96			3.25E+01	3.80E+01
	21	463.15	5.42E+01	40.89			5.42E+01	4.09E+01
	22	485.97	4.51E+01	35.51			4.51E+01	3.55E+01
	23	511.47	2.07E+02	55.99	8.12E+01	5.49E+00	1.26E+02	5.63E+01
	24	521.51	2.65E+01	27.58			2.65E+01	2.76E+01
	25	563.13	2.38E+01	25.90			2.38E+01	2.59E+01
	26	583.42	2.66E+02	57.69	6.34E+00	3.74E+00	2.60E+02	5.78E+01

Analysis Report for 1510063-18

CP5005S05-06

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
27	598.32	3.17E+01	31.94			3.17E+01	3.19E+01
28	609.55	3.92E+02	51.38	5.20E+00	3.69E+00	3.86E+02	5.15E+01
29	665.26	2.34E+01	29.43			2.34E+01	2.94E+01
30	727.65	5.95E+01	33.94			5.95E+01	3.39E+01
31	794.62	3.27E+01	32.74			3.27E+01	3.27E+01
32	839.93	6.99E+01	35.33			6.99E+01	3.53E+01
33	861.93	5.90E+01	35.94			5.90E+01	3.59E+01
34	911.78	1.93E+02	43.07	3.28E+00	2.53E+00	1.90E+02	4.31E+01
35	934.43	3.87E+01	21.95			3.87E+01	2.20E+01
36	949.37	3.14E+01	23.15			3.14E+01	2.32E+01
M 37	964.55	3.92E+01	25.25			3.92E+01	2.52E+01
m 38	969.58	1.30E+02	28.88			1.30E+02	2.89E+01
39	1054.29	2.91E+01	34.48			2.91E+01	3.45E+01
40	1065.50	1.76E+01	17.55			1.76E+01	1.75E+01
41	1109.68	2.71E+01	33.23			2.71E+01	3.32E+01
42	1120.98	9.05E+01	32.21	2.28E+00	2.55E+00	8.82E+01	3.23E+01
43	1166.68	1.81E+01	22.58			1.81E+01	2.26E+01
44	1239.52	3.70E+01	26.23			3.70E+01	2.62E+01
45	1279.90	1.71E+01	14.20			1.71E+01	1.42E+01
M 46	1375.39	6.88E+00	7.87			6.88E+00	7.87E+00
m 47	1378.88	2.16E+01	13.86			2.16E+01	1.39E+01
M 48	1461.36	6.94E+02	54.42	6.46E+00	2.33E+00	6.88E+02	5.45E+01
m 49	1465.14	1.16E+01	18.72			1.16E+01	1.87E+01
50	1473.78	8.29E+00	10.25			8.29E+00	1.02E+01
51	1482.70	1.52E+01	12.20			1.52E+01	1.22E+01
52	1511.14	1.63E+01	16.59			1.63E+01	1.66E+01
53	1540.71	1.47E+01	16.22			1.47E+01	1.62E+01
54	1588.37	2.11E+01	14.18			2.11E+01	1.42E+01
55	1594.78	7.38E+00	8.90			7.38E+00	8.90E+00
56	1630.61	1.90E+01	12.08			1.90E+01	1.21E+01
57	1661.43	1.26E+01	12.45			1.26E+01	1.24E+01
58	1730.40	2.50E+01	13.04			2.50E+01	1.30E+01
59	1765.34	9.30E+01	19.29			9.30E+01	1.93E+01
60	1781.69	7.00E+00	5.29			7.00E+00	5.29E+00
61	1787.64	8.00E+00	5.66			8.00E+00	5.66E+00
62	1847.61	1.53E+01	11.58			1.53E+01	1.16E+01
63	1882.15	1.04E+01	11.35			1.04E+01	1.13E+01
64	1953.46	8.71E+00	9.82			8.71E+00	9.82E+00
65	2011.75	5.00E+00	4.47			5.00E+00	4.47E+00
66	2104.35	1.97E+01	14.97			1.97E+01	1.50E+01
67	2152.42	9.05E+00	7.00			9.05E+00	7.00E+00
68	2204.65	2.06E+01	16.03			2.06E+01	1.60E+01
69	2244.62	6.50E+00	6.40			6.50E+00	6.40E+00
70	2335.94	5.50E+00	7.78			5.50E+00	7.78E+00
71	2398.84	7.22E+00	6.95			7.22E+00	6.95E+00
72	2615.33	9.29E+01	20.22	3.47E+00	1.48E+00	8.94E+01	2.03E+01

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

Analysis Report for 1510063-18
CP5005S05-06

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.952	1460.81 *	10.67	2.10E+01	2.47E+00
GA-67	0.678	93.31 *	35.70	1.33E+02	5.13E+02
		208.95 *	2.24	1.13E+03	4.27E+03
		300.22 *	16.00	1.39E+02	5.43E+02
		88.03 *	3.72	2.83E+00	1.52E+00
CD-109	1.000	88.03 *	3.72	2.83E+00	1.52E+00
SN-126	0.963	87.57 *	37.00	2.73E-01	1.45E-01
TL-208	0.849	583.14 *	30.22	1.37E+00	3.29E-01
		860.37	4.48		
		2614.66 *	35.85	1.06E+00	2.58E-01
PB-210	0.989	46.50 *	4.25	1.75E+00	1.81E+00
BI-212	0.737	727.17 *	11.80	9.55E-01	5.51E-01
		1620.62	2.75		
PB-212	0.993	238.63 *	44.60	1.99E+00	2.23E-01
		300.09 *	3.41	1.66E+00	1.15E+00
BI-214	0.958	609.31 *	46.30	1.38E+00	2.21E-01
		1120.29 *	15.10	1.56E+00	5.86E-01
		1764.49 *	15.80	2.17E+00	4.80E-01
		2204.22 *	4.98	1.69E+00	1.33E+00
PB-214	0.993	295.21 *	19.19	1.47E+00	3.81E-01
		351.92 *	37.19	1.65E+00	2.47E-01
RN-219	0.993	401.80 *	6.50	8.67E-01	8.21E-01
RA-224	0.882	240.98 *	3.95	4.41E+00	1.34E+00
RA-226	1.000	186.21 *	3.28	4.70E+00	8.83E+00
AC-228	0.946	338.32 *	11.40	2.10E+00	6.07E-01
		911.07 *	27.70	1.55E+00	3.77E-01
		969.11 *	16.60	1.86E+00	4.44E-01
TH-234	0.989	63.29 *	3.80	2.61E+00	1.87E+00
AM-243	0.998	74.67 *	66.00	4.78E-01	8.94E-02
CM-243	0.368	209.75 *	3.29	1.96E+00	1.75E+00
		228.14	10.60		
		277.60 *	14.00	5.53E-01	4.10E-01

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510063-18
CP5005S05-06

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 11:17:58AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m 4	77.41	2.22242E-01	6.47	Tol.	TI-44
7	129.42	4.83922E-02	28.26		
8	144.19	1.89118E-02	55.16	Tol.	U-235
13	269.79	2.26277E-02	30.27		
20	409.69	9.03143E-03	58.38		
21	463.15	1.50479E-02	37.74	Sum	
22	485.97	1.25358E-02	39.35		
23	511.47	3.49726E-02	22.34		
24	521.51	7.36111E-03	52.03		
25	563.13	6.60417E-03	54.48	Tol.	CS-134
27	598.32	8.79413E-03	50.44		
29	665.26	6.50118E-03	62.87	Tol.	CE-143
31	794.62	9.09067E-03	50.02		
32	839.93	1.94120E-02	25.28		
33	861.93	1.63889E-02	30.46	Sum	
35	934.43	1.07512E-02	28.36		
36	949.37	8.71212E-03	36.91	S-Esc	
M 37	964.55	1.08783E-02	32.24		
39	1054.29	8.07740E-03	59.29		
40	1065.50	4.88482E-03	49.90	Sum	
41	1109.68	7.52584E-03	61.33		
43	1166.68	5.02437E-03	62.41	Sum	
44	1239.52	1.02865E-02	35.42		
45	1279.90	4.75575E-03	41.48		
M 46	1375.39	1.91039E-03	57.25		
m 47	1378.88	6.00335E-03	32.06		
m 49	1465.14	3.20944E-03	81.02		
50	1473.78	2.30159E-03	61.84	Sum	
51	1482.70	4.22349E-03	40.11		
52	1511.14	4.51613E-03	51.02		
53	1540.71	4.08234E-03	55.20		
54	1588.37	5.85185E-03	33.65		
55	1594.78	2.04861E-03	60.35		
56	1630.61	5.27778E-03	31.80		
57	1661.43	3.49306E-03	49.50		
58	1730.40	6.94444E-03	26.08	Sum	
60	1781.69	1.94444E-03	37.80		
61	1787.64	2.22222E-03	35.36		
62	1847.61	4.25926E-03	37.75		
63	1882.15	2.88399E-03	54.64	Sum	
64	1953.46	2.42063E-03	56.36		
65	2011.75	1.38889E-03	44.72		

Analysis Report for 1510063-18

CP5005S05-06

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
66	2104.35	5.46456E-03	38.04	S-Esc	
67	2152.42	2.51389E-03	38.67		
69	2244.62	1.80556E-03	49.25		
70	2335.94	1.52778E-03	70.71		
71	2398.84	2.00617E-03	48.09		

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.95	1460.81 *	10.67	2.10E+01	2.47E+00
GA-67	0.67	93.31 *	35.70	1.33E+02	5.13E+02
		208.95 *	2.24	1.13E+03	4.27E+03
		300.22 *	16.00	1.39E+02	5.43E+02
		88.03 *	3.72	2.83E+00	1.52E+00
CD-109	1.00	87.57 *	37.00	2.73E-01	1.45E-01
SN-126	0.96	583.14 *	30.22	1.37E+00	3.29E-01
TL-208	0.84	860.37	4.48		
		2614.66 *	35.85	1.06E+00	2.58E-01
		46.50 *	4.25	1.75E+00	1.81E+00
PB-210	0.98	727.17 *	11.80	9.55E-01	5.51E-01
BI-212	0.73	1620.62	2.75		
		238.63 *	44.60	1.99E+00	2.23E-01
PB-212	0.99	300.09 *	3.41	1.66E+00	1.15E+00
		609.31 *	46.30	1.38E+00	2.21E-01
BI-214	0.95	1120.29 *	15.10	1.56E+00	5.86E-01
		1764.49 *	15.80	2.17E+00	4.80E-01
		2204.22 *	4.98	1.69E+00	1.33E+00
		295.21 *	19.19	1.47E+00	3.81E-01
PB-214	0.99	351.92 *	37.19	1.65E+00	2.47E-01
		401.80 *	6.50	8.67E-01	8.21E-01
RN-219	0.99	240.98 *	3.95	4.41E+00	1.34E+00
RA-224	0.88	186.21 *	3.28	4.70E+00	8.83E+00
RA-226	1.00				

Analysis Report for 1510063-18

CP5005S05-06

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
AC-228	0.94	338.32 *	11.40	2.10E+00	6.07E-01
		911.07 *	27.70	1.55E+00	3.77E-01
		969.11 *	16.60	1.86E+00	4.44E-01
TH-234	0.98	63.29 *	3.80	2.61E+00	1.87E+00
AM-243	0.99	74.67 *	66.00	4.78E-01	8.94E-02
CM-243	0.36	209.75 *	3.29	1.96E+00	1.75E+00
		228.14	10.60		
		277.60 *	14.00	5.53E-01	4.10E-01

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.952	2.10E+01	2.47E+00	
GA-67	0.678	8.67E+01	3.22E+02	
? CD-109	1.000	2.83E+00	1.52E+00	
? SN-126	0.963	2.73E-01	1.45E-01	
TL-208	0.849	1.18E+00	2.03E-01	
PB-210	0.989	1.75E+00	1.81E+00	
BI-212	0.737	9.55E-01	5.51E-01	
PB-212	0.993	1.94E+00	2.20E-01	
BI-214	0.958	1.52E+00	1.88E-01	
PB-214	0.993	1.60E+00	2.07E-01	
RN-219	0.993	8.67E-01	8.21E-01	
RA-224	0.882	4.41E+00	1.34E+00	
RA-226	1.000	4.70E+00	8.83E+00	
AC-228	0.946	1.76E+00	2.60E-01	
TH-234	0.989	2.61E+00	1.87E+00	
AM-243	0.998	4.78E-01	8.94E-02	
CM-243	0.368	6.19E-01	4.00E-01	

Analysis Report for 1510063-18

CP5005S05-06

- ? = nuclide is part of an undetermined solution
- X = nuclide rejected by the interference analysis
- @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510063-18
 CP5005S05-06

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 11:17:58AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m 4	77.41	2.22242E-01	6.47	Tol.	TI-44
7	129.42	4.83922E-02	28.26		
8	144.19	1.89118E-02	55.16	Tol.	U-235
13	269.79	2.26277E-02	30.27		
20	409.69	9.03143E-03	58.38		
21	463.15	1.50479E-02	37.74	Sum	
22	485.97	1.25358E-02	39.35		
23	511.47	3.49726E-02	22.34		
24	521.51	7.36111E-03	52.03		
25	563.13	6.60417E-03	54.48	Tol.	CS-134
27	598.32	8.79413E-03	50.44		
29	665.26	6.50118E-03	62.87	Tol.	CE-143
31	794.62	9.09067E-03	50.02		
32	839.93	1.94120E-02	25.28		
33	861.93	1.63889E-02	30.46	Sum	
35	934.43	1.07512E-02	28.36		
36	949.37	8.71212E-03	36.91	S-Esc	
M 37	964.55	1.08783E-02	32.24		
39	1054.29	8.07740E-03	59.29		
40	1065.50	4.88482E-03	49.90	Sum	
41	1109.68	7.52584E-03	61.33		
43	1166.68	5.02437E-03	62.41	Sum	
44	1239.52	1.02865E-02	35.42		
45	1279.90	4.75575E-03	41.48		
M 46	1375.39	1.91039E-03	57.25		
m 47	1378.88	6.00335E-03	32.06		
m 49	1465.14	3.20944E-03	81.02		
50	1473.78	2.30159E-03	61.84	Sum	
51	1482.70	4.22349E-03	40.11		
52	1511.14	4.51613E-03	51.02		
53	1540.71	4.08234E-03	55.20		
54	1588.37	5.85185E-03	33.65		
55	1594.78	2.04861E-03	60.35		
56	1630.61	5.27778E-03	31.80		
57	1661.43	3.49306E-03	49.50		

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Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
58	1730.40	6.94444E-03	26.08	Sum	
60	1781.69	1.94444E-03	37.80		
61	1787.64	2.22222E-03	35.36		
62	1847.61	4.25926E-03	37.75		
63	1882.15	2.88399E-03	54.64	Sum	
64	1953.46	2.42063E-03	56.36		
65	2011.75	1.38889E-03	44.72		
66	2104.35	5.46456E-03	38.04	S-Esc	
67	2152.42	2.51389E-03	38.67		
69	2244.62	1.80556E-03	49.25		
70	2335.94	1.52778E-03	70.71		
71	2398.84	2.00617E-03	48.09		

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59	10.42	4.68E-01	9.57E-01	9.57E-01
+	NA-22	1274.54	99.94	-1.85E-02	7.67E-02	7.67E-02
+	NA-24	1368.53	99.99	2.32E+11	1.11E+12	2.98E+12
		2754.09	99.86	1.50E+11		1.11E+12
+	AL-26	1808.65	99.76	2.50E-03	5.28E-02	5.28E-02
+	K-40	1460.81	* 10.67	2.10E+01	1.15E+00	1.15E+00
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	1.02E-02	7.77E-02	7.77E-02
		78.34	96.00	3.06E-01		1.04E-01
+	SC-46	889.25	99.98	4.15E-03	9.98E-02	9.98E-02
		1120.51	99.99	2.78E-01		1.88E-01
+	V-48	983.52	99.98	2.82E-02	2.85E-01	2.85E-01
		1312.10	97.50	-4.19E-02		3.00E-01
+	CR-51	320.08	9.83	1.78E-01	1.19E+00	1.19E+00
+	MN-54	834.83	99.97	-1.14E-02	8.50E-02	8.50E-02
+	CO-56	846.75	99.96	-1.55E-02	9.18E-02	9.18E-02

Analysis Report for 1510063-18
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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	CO-56	1037.75	14.03	1.55E-01	9.18E-02	7.70E-01
		1238.25	67.00	-4.59E-02		2.37E-01
		1771.40	15.51	3.66E-02		4.58E-01
		2598.48	16.90	0.00E+00		3.00E-01
+	CO-57	122.06	85.51	3.60E-02	6.78E-02	6.78E-02
		136.48	10.60	6.79E-02		5.55E-01
+	CO-58	810.76	99.40	-2.57E-02	9.08E-02	9.08E-02
+	FE-59	1099.22	56.50	6.18E-02	2.56E-01	2.56E-01
		1291.56	43.20	1.43E-01		3.47E-01
+	CO-60	1173.22	100.00	-1.83E-02	8.80E-02	9.48E-02
		1332.49	100.00	1.47E-02		8.80E-02
+	ZN-65	1115.52	50.75	-7.79E-01	1.86E-01	1.86E-01
+	GA-67	93.31	* 35.70	1.33E+02	1.02E+02	1.02E+02
		208.95	* 2.24	1.13E+03		1.64E+03
		300.22	* 16.00	1.39E+02		1.53E+02
+	SE-75	121.11	16.70	-6.71E-02	1.02E-01	3.66E-01
		136.00	59.20	4.84E-02		1.07E-01
		264.65	59.80	-1.50E-02		1.02E-01
		279.53	25.20	1.84E-01		2.99E-01
		400.65	11.40	4.76E-01		6.58E-01
+	RB-82	776.52	13.00	-5.33E-01	1.29E+00	1.29E+00
+	RB-83	520.41	46.00	6.57E-03	1.79E-01	1.79E-01
		529.64	30.30	-1.09E-01		2.57E-01
		552.65	16.40	2.27E-01		5.88E-01
+	KR-85	513.99	0.43	4.65E+01	2.47E+01	2.47E+01
+	SR-85	513.99	99.27	2.73E-01	1.45E-01	1.45E-01
+	Y-88	898.02	93.40	5.76E-02	6.83E-02	1.11E-01
		1836.01	99.38	-6.18E-03		6.83E-02
+	NB-93M	16.57	9.43	-4.88E+01	8.28E+01	8.28E+01
+	NB-94	702.63	100.00	-4.59E-02	7.56E-02	7.56E-02
		871.10	100.00	5.97E-03		7.56E-02
+	NB-95	765.79	99.81	1.13E-01	1.74E-01	1.74E-01
+	NB-95M	235.69	25.00	-6.62E+02	6.60E+01	6.60E+01
+	ZR-95	724.18	43.70	5.57E-02	2.02E-01	2.75E-01
		756.72	55.30	4.91E-02		2.02E-01
+	MO-99	181.06	6.20	2.45E+02	7.79E+02	1.09E+03
		739.58	12.80	-9.65E+00		7.79E+02
		778.00	4.50	-1.94E+03		1.94E+03
+	RU-103	497.08	89.00	2.24E-03	1.20E-01	1.20E-01
+	RU-106	621.84	9.80	-1.73E-01	7.24E-01	7.24E-01
+	AG-108M	433.93	89.90	-3.91E-02	7.34E-02	7.34E-02
		614.37	90.40	3.77E-02		8.08E-02
		722.95	90.50	1.97E-02		8.89E-02
+	CD-109	88.03	* 3.72	2.83E+00	2.38E+00	2.38E+00
+	AG-110M	657.75	93.14	1.45E-02	8.67E-02	8.67E-02
		677.61	10.53	3.72E-01		8.24E-01
		706.67	16.46	-1.89E-01		5.19E-01
		763.93	21.98	-5.82E-01		3.95E-01

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	AG-110M	884.67	71.63	-3.75E-04	8.67E-02	1.18E-01
		1384.27	23.94	1.63E-01		3.40E-01
+	CD-113M	263.70	0.02	5.88E+01	2.34E+02	2.34E+02
+	SN-113	255.12	1.93	-4.13E-01	1.05E-01	3.51E+00
		391.69	64.90	7.91E-03		1.05E-01
+	TE123M	159.00	84.10	4.54E-03	7.90E-02	7.90E-02
+	SB-124	602.71	97.87	3.19E-02	1.11E-01	1.11E-01
		645.85	7.26	2.44E-02		1.40E+00
		722.78	11.10	2.22E-01		1.00E+00
		1691.02	49.00	-8.61E-02		1.22E-01
+	I-125	35.49	6.49	-1.69E+00	3.45E+00	3.45E+00
+	SB-125	176.33	6.89	-2.48E-02	2.41E-01	8.55E-01
		427.89	29.33	3.29E-03		2.41E-01
		463.38	10.35	6.56E-01		8.06E-01
		600.56	17.80	4.94E-02		4.72E-01
		635.90	11.32	3.49E-01		7.14E-01
+	SB-126	414.70	83.30	6.13E-02	3.87E-01	4.08E-01
		666.33	99.60	1.95E-01		4.12E-01
		695.00	99.60	-5.73E-02		3.87E-01
		720.50	53.80	1.55E-01		7.00E-01
+	SN-126	87.57	* 37.00	2.73E-01	2.30E-01	2.30E-01
+	SB-127	473.00	25.00	-3.21E-01	3.21E+01	4.21E+01
		685.20	35.70	-1.39E+01		3.21E+01
		783.80	14.70	5.05E+01		9.23E+01
+	I-129	29.78	57.00	-5.07E-01	5.39E-01	5.39E-01
		33.60	13.20	3.07E-01		1.51E+00
		39.58	7.52	4.74E-01		1.62E+00
+	I-131	284.30	6.05	-3.04E+00	8.09E-01	1.09E+01
		364.48	81.20	-1.18E-01		8.09E-01
		636.97	7.26	-7.65E-01		1.18E+01
		722.89	1.80	1.12E+01		5.05E+01
+	TE-132	49.72	13.10	-1.33E+02	2.83E+01	2.46E+02
		228.16	88.00	1.54E+01		2.83E+01
+	BA-133	81.00	33.00	-1.60E+00	1.02E-01	1.97E-01
		302.84	17.80	6.75E-02		3.58E-01
		356.01	60.00	1.75E-03		1.02E-01
+	I-133	529.87	86.30	-1.80E+08	4.21E+08	4.21E+08
+	XE-133	81.00	38.00	-5.68E+01	7.03E+00	7.03E+00
+	CS-134	563.23	8.38	1.35E-01	8.90E-02	9.17E-01
		569.32	15.43	1.08E-01		4.87E-01
		604.70	97.60	2.38E-02		8.90E-02
		795.84	85.40	7.20E-02		1.14E-01
		801.93	8.73	-1.68E-01		9.67E-01
+	CS-135	268.24	16.00	4.20E-01	3.98E-01	3.98E-01
+	@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@	1260.41	28.60	1.00E+26		1.00E+26
	@	1678.03	9.54	1.00E+26		1.00E+26
+	CS-136	153.22	7.46	-5.47E-01	3.14E-01	3.33E+00
		163.89	4.61	2.57E+00		5.68E+00

Analysis Report for 1510063-18

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Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
CS-136	176.55	13.56	-5.43E-02	3.14E-01	1.88E+00
	273.65	12.66	-3.07E+00		2.01E+00
	340.57	48.50	1.14E+00		7.45E-01
	818.50	99.70	-4.48E-03		3.14E-01
	1048.07	79.60	-1.34E-02		4.28E-01
	1235.34	19.70	-1.16E+00		2.58E+00
+ CS-137	661.65	85.12	1.80E-02	9.58E-02	9.58E-02
+ LA-138	788.74	34.00	7.18E-03	1.37E-01	2.30E-01
	1435.80	66.00	3.28E-02		1.37E-01
+ CE-139	165.85	80.35	-1.94E-02	8.29E-02	8.29E-02
+ BA-140	162.64	6.70	-1.03E+00	1.35E+00	3.99E+00
	304.84	4.50	2.61E-01		6.00E+00
	423.70	3.20	1.53E+00		1.06E+01
	437.55	2.00	-1.18E+00		1.53E+01
	537.32	25.00	6.33E-01		1.35E+00
+ LA-140	328.77	20.50	8.25E-01	3.24E-01	1.41E+00
	487.03	45.50	6.68E-01		7.28E-01
	815.85	23.50	-5.65E-03		1.35E+00
	1596.49	95.49	-3.33E-02		3.24E-01
+ CE-141	145.44	48.40	9.11E-02	2.33E-01	2.33E-01
+ CE-143	57.36	11.80	-1.57E+04	3.40E+05	9.28E+05
	293.26	42.00	9.39E+05		3.40E+05
	664.55	5.20	3.80E+05		2.33E+06
+ CE-144	133.54	10.80	-7.30E-02	5.32E-01	5.32E-01
+ PM-144	476.78	42.00	1.50E-02	7.47E-02	1.72E-01
	618.01	98.60	-5.63E-03		7.47E-02
	696.49	99.49	-2.51E-03		8.23E-02
+ PM-145	36.85	21.70	2.05E-02	3.56E-01	6.69E-01
	37.36	39.70	4.80E-02		3.56E-01
	42.30	15.10	2.75E-01		7.10E-01
	72.40	2.31	-3.44E+00		3.91E+00
+ PM-146	453.90	39.94	-4.31E-02	1.70E-01	1.70E-01
	735.90	14.01	1.72E-01		6.24E-01
	747.13	13.10	6.12E-02		6.28E-01
+ ND-147	91.11	28.90	-2.83E+00	1.64E+00	1.64E+00
	531.02	13.10	-2.10E+00		2.82E+00
+ PM-149	285.90	3.10	4.44E+03	1.32E+04	1.32E+04
+ EU-152	121.78	20.50	1.40E-01	2.64E-01	2.64E-01
	244.69	5.40	1.58E-01		1.25E+00
	344.27	19.13	8.27E-03		3.02E-01
	778.89	9.20	-2.98E-01		8.38E-01
	964.01	10.40	-1.28E+00		1.08E+00
	1085.78	7.22	1.09E-01		1.15E+00
	1112.02	9.60	5.76E-01		1.01E+00
	1407.95	14.94	-5.41E-02		5.53E-01
	97.43	31.30	3.48E-02	1.88E-01	1.88E-01
+ GD-153	103.18	22.20	1.14E-01		2.78E-01
	123.07	40.50	-2.51E-02	1.34E-01	1.34E-01
+ EU-154	723.30	19.70	9.09E-02		4.11E-01

Analysis Report for 1510063-18

CP5005S05-06

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	EU-154	873.19	11.50	1.81E-01	1.34E-01	6.82E-01
		996.32	10.30	-2.66E-01		7.97E-01
		1004.76	17.90	-1.69E-03		5.03E-01
		1274.45	35.50	-5.14E-02		2.13E-01
+	EU-155	86.50	30.90	-9.05E-02	2.50E-01	2.50E-01
		105.30	20.70	-1.87E-01		2.77E-01
+	EU-156	811.77	10.40	-9.23E-01	2.33E+00	2.33E+00
		1153.47	7.20	3.20E+00		5.22E+00
		1230.71	8.90	-3.56E-01		4.58E+00
+	HO-166M	184.41	72.60	2.15E-01	1.06E-01	1.06E-01
		280.45	29.60	-1.31E-01		2.01E-01
		410.94	11.10	3.31E-01		6.71E-01
		711.69	54.10	-2.03E-02		1.51E-01
+	TM-171	66.72	0.14	7.15E+00	5.48E+01	5.48E+01
+	HF-172	81.75	4.52	-2.15E+00	5.07E-01	1.49E+00
		125.81	11.30	-8.57E-02		5.07E-01
+	LU-172	181.53	20.60	8.35E-01	2.93E+00	4.98E+00
		810.06	16.63	5.22E-01		8.02E+00
		912.12	15.25	5.01E+01		2.06E+01
		1093.66	62.50	1.98E+00		2.93E+00
+	LU-173	100.72	5.24	3.59E-01	3.15E-01	1.10E+00
		272.11	21.20	1.67E-01		3.15E-01
+	HF-175	343.40	84.00	-1.19E-02	8.95E-02	8.95E-02
+	LU-176	88.34	13.30	8.48E-01	6.01E-02	5.99E-01
		201.83	86.00	-2.23E-02		7.13E-02
		306.78	94.00	-1.59E-02		6.01E-02
+	TA-182	67.75	41.20	2.78E-02	2.11E-01	2.11E-01
		1121.30	34.90	8.25E-01		5.09E-01
		1189.05	16.23	6.51E-02		6.92E-01
		1221.41	26.98	-9.43E-02		4.51E-01
		1231.02	11.44	-9.09E-02		1.17E+00
+	IR-192	308.46	29.68	9.05E-02	1.78E-01	2.55E-01
		468.07	48.10	5.83E-02		1.78E-01
+	HG-203	279.19	77.30	1.00E-01	1.29E-01	1.29E-01
+	BI-207	569.67	97.72	4.76E-02	7.97E-02	7.97E-02
		1063.62	74.90	3.93E-02		1.20E-01
+	TL-208	583.14	* 30.22	1.37E+00	1.75E-01	4.30E-01
		860.37	4.48	8.90E-01		2.18E+00
		2614.66	* 35.85	1.06E+00		1.75E-01
+	BI-210M	262.00	45.00	4.07E-02	1.22E-01	1.22E-01
		300.00	23.00	-7.84E-01		2.86E-01
+	PB-210	46.50	* 4.25	1.75E+00	2.95E+00	2.95E+00
+	PB-211	404.84	2.90	-4.71E-01	2.04E+00	2.04E+00
		831.96	2.90	1.14E-01		2.70E+00
+	BI-212	727.17	* 11.80	9.55E-01	8.41E-01	8.41E-01
		1620.62	2.75	3.39E-02		2.63E+00
+	PB-212	238.63	* 44.60	1.99E+00	2.45E-01	2.45E-01
		300.09	* 3.41	1.66E+00		1.82E+00

Analysis Report for 1510063-18
CP5005S05-06

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BI-214	609.31	*	46.30	1.38E+00	6.31E-02	2.04E-01
		1120.29	*	15.10	1.56E+00		8.12E-01
		1764.49	*	15.80	2.17E+00		6.31E-02
		2204.22	*	4.98	1.69E+00		2.01E+00
+	PB-214	295.21	*	19.19	1.47E+00	2.62E-01	5.40E-01
		351.92	*	37.19	1.65E+00		2.62E-01
+	RN-219	401.80	*	6.50	8.67E-01	1.33E+00	1.33E+00
+	RA-223	323.87		3.88	-1.25E+00	1.42E+00	1.42E+00
+	RA-224	240.98	*	3.95	4.41E+00	2.74E+00	2.74E+00
+	RA-225	40.00		31.00	4.18E-01	1.42E+00	1.42E+00
+	RA-226	186.21	*	3.28	4.70E+00	3.18E+00	3.18E+00
+	TH-227	50.10		8.40	-5.17E-01	6.49E-01	9.57E-01
		236.00		11.50	-6.51E+00		6.49E-01
		256.20		6.30	-1.27E-01		8.95E-01
+	AC-228	338.32	*	11.40	2.10E+00	4.69E-01	8.66E-01
		911.07	*	27.70	1.55E+00		4.69E-01
		969.11	*	16.60	1.86E+00		1.01E+00
+	TH-230	48.44		16.90	3.10E-02	5.60E-01	5.60E-01
		62.85		4.60	3.79E+00		1.92E+00
		67.67		0.37	2.62E+00		1.98E+01
+	PA-231	283.67		1.60	-8.57E-01	2.76E+00	3.65E+00
		302.67		2.30	5.20E-01		2.76E+00
+	TH-231	25.64		14.70	2.22E+00	1.11E+00	4.76E+00
		84.21		6.40	9.07E-01		1.11E+00
+	PA-233	311.98		38.60	-1.29E-01	3.02E-01	3.02E-01
+	PA-234	131.20		20.40	1.98E-01	2.92E-01	2.92E-01
		733.99		8.80	-7.87E-02		9.65E-01
		946.00		12.00	-8.43E-03		6.32E-01
+	PA-234M	1001.03		0.92	1.48E+00	1.01E+01	1.01E+01
+	TH-234	63.29	*	3.80	2.61E+00	3.03E+00	3.03E+00
+	U-235	143.76		10.50	6.35E-01	5.95E-01	5.95E-01
		163.35		4.70	5.73E-01		1.26E+00
		205.31		4.70	3.82E-01		1.35E+00
+	NP-237	86.50		12.60	-2.20E-01	6.06E-01	6.06E-01
+	NP-239	106.10		22.70	-6.65E+02	9.86E+02	9.86E+02
		228.18		10.70	1.26E+03		2.31E+03
		277.60		14.10	2.44E+02		1.77E+03
+	AM-241	59.54		35.90	-2.55E-01	2.16E-01	2.16E-01
+	AM-243	74.67	*	66.00	4.78E-01	2.30E-01	2.30E-01
+	CM-243	209.75	*	3.29	1.96E+00	5.94E-01	2.83E+00
		228.14		10.60	3.23E-01		5.94E-01
		277.60	*	14.00	5.53E-01		6.59E-01

Analysis Report for 1510063-18

CP5005S05-06

- + = 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
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
BE-7	477.59	10.42	9.57E-01	9.57E-01	4.68E-01	4.53E-01
NA-22	1274.54	99.94	7.67E-02	7.67E-02	-1.85E-02	3.43E-02
NA-24	1368.53	99.99	2.98E+12	1.11E+12	2.32E+11	1.34E+12
	2754.09	99.86	1.11E+12		1.50E+11	3.50E+11
AL-26	1808.65	99.76	5.28E-02	5.28E-02	2.50E-03	2.13E-02
+ K-40	1460.81	* 10.67	1.15E+00	1.15E+00	2.10E+01	5.35E-01
@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
TI-44	67.88	94.40	7.77E-02	7.77E-02	1.02E-02	3.80E-02
	78.34	96.00	1.04E-01		3.06E-01	5.13E-02
SC-46	889.25	99.98	9.98E-02	9.98E-02	4.15E-03	4.61E-02
	1120.51	99.99	1.88E-01		2.78E-01	8.93E-02
V-48	983.52	99.98	2.85E-01	2.85E-01	2.82E-02	1.31E-01
	1312.10	97.50	3.00E-01		-4.19E-02	1.36E-01
CR-51	320.08	9.83	1.19E+00	1.19E+00	1.78E-01	5.66E-01
MN-54	834.83	99.97	8.50E-02	8.50E-02	-1.14E-02	3.95E-02
CO-56	846.75	99.96	9.18E-02	9.18E-02	-1.55E-02	4.22E-02
	1037.75	14.03	7.70E-01		1.55E-01	3.54E-01
	1238.25	67.00	2.37E-01		-4.59E-02	1.11E-01
	1771.40	15.51	4.58E-01		3.66E-02	1.88E-01
	2598.48	16.90	3.00E-01		0.00E+00	1.06E-01
CO-57	122.06	85.51	6.78E-02	6.78E-02	3.60E-02	3.29E-02
	136.48	10.60	5.55E-01		6.79E-02	2.69E-01
CO-58	810.76	99.40	9.08E-02	9.08E-02	-2.57E-02	4.17E-02
FE-59	1099.22	56.50	2.56E-01	2.56E-01	6.18E-02	1.18E-01
	1291.56	43.20	3.47E-01		1.43E-01	1.59E-01
CO-60	1173.22	100.00	9.48E-02	8.80E-02	-1.83E-02	4.36E-02
	1332.49	100.00	8.80E-02		1.47E-02	3.99E-02
ZN-65	1115.52	50.75	1.86E-01	1.86E-01	-7.79E-01	8.56E-02
+ GA-67	93.31	* 35.70	1.02E+02	1.02E+02	1.33E+02	5.00E+01

: 01014

Analysis Report for 1510063-18

CP5005S05-06

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
GA-67	208.95	*	2.24	1.64E+03	1.02E+02	1.13E+03	8.01E+02
	300.22	*	16.00	1.53E+02		1.39E+02	7.33E+01
SE-75	121.11		16.70	3.66E-01	1.02E-01	-6.71E-02	1.78E-01
	136.00		59.20	1.07E-01		4.84E-02	5.20E-02
	264.65		59.80	1.02E-01		-1.50E-02	4.88E-02
	279.53		25.20	2.99E-01		1.84E-01	1.44E-01
	400.65		11.40	6.58E-01		4.76E-01	3.12E-01
RB-82	776.52		13.00	1.29E+00	1.29E+00	-5.33E-01	6.02E-01
RB-83	520.41		46.00	1.79E-01	1.79E-01	6.57E-03	8.43E-02
	529.64		30.30	2.57E-01		-1.09E-01	1.20E-01
	552.65		16.40	5.88E-01		2.27E-01	2.78E-01
KR-85	513.99		0.43	2.47E+01	2.47E+01	4.65E+01	1.19E+01
SR-85	513.99		99.27	1.45E-01	1.45E-01	2.73E-01	6.99E-02
Y-88	898.02		93.40	1.11E-01	6.83E-02	5.76E-02	5.18E-02
	1836.01		99.38	6.83E-02		-6.18E-03	2.80E-02
NB-93M	16.57		9.43	8.28E+01	8.28E+01	-4.88E+01	3.85E+01
NB-94	702.63		100.00	7.56E-02	7.56E-02	-4.59E-02	3.53E-02
	871.10		100.00	7.56E-02		5.97E-03	3.48E-02
NB-95	765.79		99.81	1.74E-01	1.74E-01	1.13E-01	8.25E-02
NB-95M	235.69		25.00	6.60E+01	6.60E+01	-6.62E+02	3.20E+01
ZR-95	724.18		43.70	2.75E-01	2.02E-01	5.57E-02	1.30E-01
	756.72		55.30	2.02E-01		4.91E-02	9.45E-02
MO-99	181.06		6.20	1.09E+03	7.79E+02	2.45E+02	5.25E+02
	739.58		12.80	7.79E+02		-9.65E+00	3.66E+02
	778.00		4.50	1.94E+03		-1.94E+03	8.98E+02
RU-103	497.08		89.00	1.20E-01	1.20E-01	2.24E-03	5.64E-02
RU-106	621.84		9.80	7.24E-01	7.24E-01	-1.73E-01	3.38E-01
AG-108M	433.93		89.90	7.34E-02	7.34E-02	-3.91E-02	3.48E-02
	614.37		90.40	8.08E-02		3.77E-02	3.79E-02
	722.95		90.50	8.89E-02		1.97E-02	4.17E-02
+ CD-109	88.03	*	3.72	2.38E+00	2.38E+00	2.83E+00	1.17E+00
AG-110M	657.75		93.14	8.67E-02	8.67E-02	1.45E-02	4.06E-02
	677.61		10.53	8.24E-01		3.72E-01	3.87E-01
	706.67		16.46	5.19E-01		-1.89E-01	2.43E-01
	763.93		21.98	3.95E-01		-5.82E-01	1.84E-01
	884.67		71.63	1.18E-01		-3.75E-04	5.44E-02
	1384.27		23.94	3.40E-01		1.63E-01	1.51E-01
CD-113M	263.70		0.02	2.34E+02	2.34E+02	5.88E+01	1.12E+02
SN-113	255.12		1.93	3.51E+00	1.05E-01	-4.13E-01	1.68E+00
	391.69		64.90	1.05E-01		7.91E-03	4.97E-02
TE123M	159.00		84.10	7.90E-02	7.90E-02	4.54E-03	3.82E-02
SB-124	602.71		97.87	1.11E-01	1.11E-01	3.19E-02	5.23E-02
	645.85		7.26	1.40E+00		2.44E-02	6.57E-01
	722.78		11.10	1.00E+00		2.22E-01	4.69E-01
	1691.02		49.00	1.22E-01		-8.61E-02	4.71E-02
I-125	35.49		6.49	3.45E+00	3.45E+00	-1.69E+00	1.67E+00
SB-125	176.33		6.89	8.55E-01	2.41E-01	-2.48E-02	4.13E-01
	427.89		29.33	2.41E-01		3.29E-03	1.15E-01
	463.38		10.35	8.06E-01		6.56E-01	3.85E-01
	600.56		17.80	4.72E-01		4.94E-02	2.23E-01
	635.90		11.32	7.14E-01		3.49E-01	3.37E-01
SB-126	414.70		83.30	4.08E-01	3.87E-01	6.13E-02	1.94E-01
	666.33		99.60	4.12E-01		1.95E-01	1.95E-01

Analysis Report for 1510063-18
CP5005S05-06

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
SB-126	695.00	99.60	3.87E-01	3.87E-01	-5.73E-02	1.81E-01
	720.50	53.80	7.00E-01		1.55E-01	3.27E-01
+ SN-126	87.57 *	37.00	2.30E-01	2.30E-01	2.73E-01	1.13E-01
SB-127	473.00	25.00	4.21E+01	3.21E+01	-3.21E-01	1.99E+01
	685.20	35.70	3.21E+01		-1.39E+01	1.50E+01
	783.80	14.70	9.23E+01		5.05E+01	4.32E+01
I-129	29.78	57.00	5.39E-01	5.39E-01	-5.07E-01	2.61E-01
	33.60	13.20	1.51E+00		3.07E-01	7.33E-01
	39.58	7.52	1.62E+00		4.74E-01	7.83E-01
I-131	284.30	6.05	1.09E+01	8.09E-01	-3.04E+00	5.23E+00
	364.48	81.20	8.09E-01		-1.18E-01	3.83E-01
	636.97	7.26	1.18E+01		-7.65E-01	5.55E+00
	722.89	1.80	5.05E+01		1.12E+01	2.36E+01
TE-132	49.72	13.10	2.46E+02	2.83E+01	-1.33E+02	1.20E+02
	228.16	88.00	2.83E+01		1.54E+01	1.37E+01
BA-133	81.00	33.00	1.97E-01	1.02E-01	-1.60E+00	9.64E-02
	302.84	17.80	3.58E-01		6.75E-02	1.72E-01
	356.01	60.00	1.02E-01		1.75E-03	4.87E-02
I-133	529.87	86.30	4.21E+08	4.21E+08	-1.80E+08	1.97E+08
XE-133	81.00	38.00	7.03E+00	7.03E+00	-5.68E+01	3.43E+00
CS-134	563.23	8.38	9.17E-01	8.90E-02	1.35E-01	4.33E-01
	569.32	15.43	4.87E-01		1.08E-01	2.29E-01
	604.70	97.60	8.90E-02		2.38E-02	4.22E-02
	795.84	85.40	1.14E-01		7.20E-02	5.36E-02
	801.93	8.73	9.67E-01		-1.68E-01	4.51E-01
CS-135	268.24	16.00	3.98E-01	3.98E-01	4.20E-01	1.92E-01
@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	1260.41	28.60	1.00E+26		1.00E+26	1.00E+20
@	1678.03	9.54	1.00E+26		1.00E+26	1.00E+20
CS-136	153.22	7.46	3.33E+00	3.14E-01	-5.47E-01	1.61E+00
	163.89	4.61	5.68E+00		2.57E+00	2.75E+00
	176.55	13.56	1.88E+00		-5.43E-02	9.07E-01
	273.65	12.66	2.01E+00		-3.07E+00	9.62E-01
	340.57	48.50	7.45E-01		1.14E+00	3.59E-01
	818.50	99.70	3.14E-01		-4.48E-03	1.45E-01
	1048.07	79.60	4.28E-01		-1.34E-02	1.95E-01
	1235.34	19.70	2.58E+00		-1.16E+00	1.21E+00
CS-137	661.65	85.12	9.58E-02	9.58E-02	1.80E-02	4.51E-02
LA-138	788.74	34.00	2.30E-01	1.37E-01	7.18E-03	1.07E-01
	1435.80	66.00	1.37E-01		3.28E-02	6.21E-02
CE-139	165.85	80.35	8.29E-02	8.29E-02	-1.94E-02	4.01E-02
BA-140	162.64	6.70	3.99E+00	1.35E+00	-1.03E+00	1.93E+00
	304.84	4.50	6.00E+00		2.61E-01	2.86E+00
	423.70	3.20	1.06E+01		1.53E+00	5.04E+00
	437.55	2.00	1.53E+01		-1.18E+00	7.25E+00
	537.32	25.00	1.35E+00		6.33E-01	6.39E-01
LA-140	328.77	20.50	1.41E+00	3.24E-01	8.25E-01	6.76E-01
	487.03	45.50	7.28E-01		6.68E-01	3.45E-01
	815.85	23.50	1.35E+00		-5.65E-03	6.18E-01
	1596.49	95.49	3.24E-01		-3.33E-02	1.39E-01
CE-141	145.44	48.40	2.33E-01	2.33E-01	9.11E-02	1.13E-01
CE-143	57.36	11.80	9.28E+05	3.40E+05	-1.57E+04	4.52E+05
	293.26	42.00	3.40E+05		9.39E+05	1.66E+05

Analysis Report for 1510063-18
CP5005S05-06

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
CE-143	664.55	5.20	2.33E+06	3.40E+05	3.80E+05	1.10E+06
CE-144	133.54	10.80	5.32E-01	5.32E-01	-7.30E-02	2.58E-01
PM-144	476.78	42.00	1.72E-01	7.47E-02	1.50E-02	8.15E-02
	618.01	98.60	7.47E-02		-5.63E-03	3.49E-02
	696.49	99.49	8.23E-02		-2.51E-03	3.85E-02
PM-145	36.85	21.70	6.69E-01	3.56E-01	2.05E-02	3.24E-01
	37.36	39.70	3.56E-01		4.80E-02	1.73E-01
	42.30	15.10	7.10E-01		2.75E-01	3.45E-01
	72.40	2.31	3.91E+00		-3.44E+00	1.92E+00
PM-146	453.90	39.94	1.70E-01	1.70E-01	-4.31E-02	8.05E-02
	735.90	14.01	6.24E-01		1.72E-01	2.93E-01
	747.13	13.10	6.28E-01		6.12E-02	2.94E-01
ND-147	91.11	28.90	1.64E+00	1.64E+00	-2.83E+00	8.04E-01
	531.02	13.10	2.82E+00		-2.10E+00	1.32E+00
PM-149	285.90	3.10	1.32E+04	1.32E+04	4.44E+03	6.32E+03
EU-152	121.78	20.50	2.64E-01	2.64E-01	1.40E-01	1.28E-01
	244.69	5.40	1.25E+00		1.58E-01	6.01E-01
	344.27	19.13	3.02E-01		8.27E-03	1.43E-01
	778.89	9.20	8.38E-01		-2.98E-01	3.90E-01
	964.01	10.40	1.08E+00		-1.28E+00	5.10E-01
	1085.78	7.22	1.15E+00		1.09E-01	5.26E-01
	1112.02	9.60	1.01E+00		5.76E-01	4.70E-01
	1407.95	14.94	5.53E-01		-5.41E-02	2.48E-01
GD-153	97.43	31.30	1.88E-01	1.88E-01	3.48E-02	9.11E-02
	103.18	22.20	2.78E-01		1.14E-01	1.35E-01
EU-154	123.07	40.50	1.34E-01	1.34E-01	-2.51E-02	6.50E-02
	723.30	19.70	4.11E-01		9.09E-02	1.93E-01
	873.19	11.50	6.82E-01		1.81E-01	3.15E-01
	996.32	10.30	7.97E-01		-2.66E-01	3.67E-01
	1004.76	17.90	5.03E-01		-1.69E-03	2.33E-01
	1274.45	35.50	2.13E-01		-5.14E-02	9.52E-02
EU-155	86.50	30.90	2.50E-01	2.50E-01	-9.05E-02	1.22E-01
	105.30	20.70	2.77E-01		-1.87E-01	1.35E-01
EU-156	811.77	10.40	2.33E+00	2.33E+00	-9.23E-01	1.07E+00
	1153.47	7.20	5.22E+00		3.20E+00	2.42E+00
	1230.71	8.90	4.58E+00		-3.56E-01	2.13E+00
HO-166M	184.41	72.60	1.06E-01	1.06E-01	2.15E-01	5.16E-02
	280.45	29.60	2.01E-01		-1.31E-01	9.60E-02
	410.94	11.10	6.71E-01		3.31E-01	3.21E-01
	711.69	54.10	1.51E-01		-2.03E-02	7.11E-02
TM-171	66.72	0.14	5.48E+01	5.48E+01	7.15E+00	2.68E+01
HF-172	81.75	4.52	1.49E+00	5.07E-01	-2.15E+00	7.26E-01
	125.81	11.30	5.07E-01		-8.57E-02	2.46E-01
LU-172	181.53	20.60	4.98E+00	2.93E+00	8.35E-01	2.40E+00
	810.06	16.63	8.02E+00		5.22E-01	3.70E+00
	912.12	15.25	2.06E+01		5.01E+01	9.95E+00
	1093.66	62.50	2.93E+00		1.98E+00	1.36E+00
LU-173	100.72	5.24	1.10E+00	3.15E-01	3.59E-01	5.37E-01
	272.11	21.20	3.15E-01		1.67E-01	1.51E-01
HF-175	343.40	84.00	8.95E-02	8.95E-02	-1.19E-02	4.25E-02
LU-176	88.34	13.30	5.99E-01	6.01E-02	8.48E-01	2.94E-01
	201.83	86.00	7.13E-02		-2.23E-02	3.45E-02
	306.78	94.00	6.01E-02		-1.59E-02	2.86E-02

Analysis Report for 1510063-18

CP5005S05-06

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
TA-182	67.75	41.20	2.11E-01	2.11E-01	2.78E-02	1.03E-01
	1121.30	34.90	5.09E-01		8.25E-01	2.42E-01
	1189.05	16.23	6.92E-01		6.51E-02	3.19E-01
	1221.41	26.98	4.51E-01		-9.43E-02	2.08E-01
	1231.02	11.44	1.17E+00		-9.09E-02	5.45E-01
IR-192	308.46	29.68	2.55E-01	1.78E-01	9.05E-02	1.21E-01
	468.07	48.10	1.78E-01		5.83E-02	8.40E-02
HG-203	279.19	77.30	1.29E-01	1.29E-01	1.00E-01	6.22E-02
BI-207	569.67	97.72	7.97E-02	7.97E-02	4.76E-02	3.77E-02
	1063.62	74.90	1.20E-01		3.93E-02	5.52E-02
+ TL-208	583.14	*	30.22	4.30E-01	1.75E-01	1.37E+00
	860.37		4.48	2.18E+00		8.90E-01
	2614.66	*	35.85	1.75E-01	1.06E+00	7.16E-02
BI-210M	262.00	45.00	1.22E-01	1.22E-01	4.07E-02	5.85E-02
	300.00	23.00	2.86E-01		-7.84E-01	1.37E-01
+ PB-210	46.50	*	4.25	2.95E+00	2.95E+00	1.75E+00
	404.84		2.90	2.04E+00	2.04E+00	-4.71E-01
+ PB-211	831.96		2.90	2.70E+00		1.14E-01
	727.17	*	11.80	8.41E-01	8.41E-01	9.55E-01
+ BI-212	1620.62		2.75	2.63E+00		3.39E-02
	238.63	*	44.60	2.45E-01	2.45E-01	1.99E+00
+ PB-212	300.09	*	3.41	1.82E+00		1.66E+00
	609.31	*	46.30	2.04E-01	6.31E-02	1.38E+00
+ BI-214	1120.29	*	15.10	8.12E-01		1.56E+00
	1764.49	*	15.80	6.31E-02		2.17E+00
	2204.22	*	4.98	2.01E+00		1.69E+00
	295.21	*	19.19	5.40E-01	2.62E-01	1.47E+00
+ PB-214	351.92	*	37.19	2.62E-01		1.65E+00
	401.80	*	6.50	1.33E+00	1.33E+00	8.67E-01
+ RN-219	401.80	*	6.50	1.33E+00	1.33E+00	8.67E-01
RA-223	323.87		3.88	1.42E+00	1.42E+00	-1.25E+00
+ RA-224	240.98	*	3.95	2.74E+00	2.74E+00	4.41E+00
RA-225	40.00		31.00	1.42E+00	1.42E+00	4.18E-01
+ RA-226	186.21	*	3.28	3.18E+00	3.18E+00	4.70E+00
TH-227	50.10		8.40	9.57E-01	6.49E-01	-5.17E-01
	236.00		11.50	6.49E-01		-6.51E+00
	256.20		6.30	8.95E-01		-1.27E-01
+ AC-228	338.32	*	11.40	8.66E-01	4.69E-01	2.10E+00
	911.07	*	27.70	4.69E-01		1.55E+00
	969.11	*	16.60	1.01E+00		1.86E+00
TH-230	48.44		16.90	5.60E-01	5.60E-01	3.10E-02
	62.85		4.60	1.92E+00		3.79E+00
	67.67		0.37	1.98E+01		2.62E+00
PA-231	283.67		1.60	3.65E+00	2.76E+00	-8.57E-01
	302.67		2.30	2.76E+00		5.20E-01
TH-231	25.64		14.70	4.76E+00	1.11E+00	2.22E+00
	84.21		6.40	1.11E+00		9.07E-01
PA-233	311.98		38.60	3.02E-01	3.02E-01	-1.29E-01
PA-234	131.20		20.40	2.92E-01	2.92E-01	1.98E-01
	733.99		8.80	9.65E-01		-7.87E-02
	946.00		12.00	6.32E-01		-8.43E-03
PA-234M	1001.03		0.92	1.01E+01	1.01E+01	1.48E+00
+ TH-234	63.29	*	3.80	3.03E+00	3.03E+00	2.61E+00
U-235	143.76		10.50	5.95E-01	5.95E-01	6.35E-01

Analysis Report for 1510063-18
 CP5005S05-06

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
U-235	163.35	4.70	1.26E+00	5.95E-01	5.73E-01	6.13E-01
	205.31	4.70	1.35E+00		3.82E-01	6.53E-01
NP-237	86.50	12.60	6.06E-01	6.06E-01	-2.20E-01	2.97E-01
NP-239	106.10	22.70	9.86E+02	9.86E+02	-6.65E+02	4.80E+02
	228.18	10.70	2.31E+03		1.26E+03	1.12E+03
	277.60	14.10	1.77E+03		2.44E+02	8.47E+02
AM-241	59.54	35.90	2.16E-01	2.16E-01	-2.55E-01	1.05E-01
+ AM-243	74.67	* 66.00	2.30E-01	2.30E-01	4.78E-01	1.14E-01
+ CM-243	209.75	* 3.29	2.83E+00	5.94E-01	1.96E+00	1.39E+00
	228.14	10.60	5.94E-01		3.23E-01	2.87E-01
	277.60	* 14.00	6.59E-01		5.53E-01	3.20E-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

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

Creation Date	Comment	User
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No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5005S05-06

Elapsed Live time: 3600
 Elapsed Real Time: 3601

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	61	84	74	84	74	73
25:	93	73	80	64	64	64	50	72
33:	78	67	52	70	73	59	69	62
41:	72	77	55	75	84	88	175	82
49:	73	85	73	77	106	104	94	93
57:	93	104	99	115	132	114	173	247
65:	142	103	139	125	120	132	138	157
73:	133	151	435	333	427	547	130	103
81:	121	111	94	141	159	101	190	238
89:	110	189	149	122	321	217	125	84
97:	65	74	90	84	83	74	86	79
105:	92	105	76	78	108	73	66	68
113:	107	66	61	72	81	74	43	76
121:	69	79	67	67	74	74	86	74
129:	86	129	84	83	68	54	63	63
137:	74	77	63	74	67	63	84	107
145:	81	91	62	72	70	61	61	55
153:	56	86	71	58	73	47	68	63
161:	62	64	73	74	53	74	58	55
169:	63	40	61	55	54	70	63	56
177:	59	58	57	52	59	46	56	52
185:	82	163	149	69	60	54	49	48
193:	45	48	65	51	56	56	51	60
201:	69	43	52	58	68	51	61	58
209:	78	96	63	47	48	46	47	45
217:	57	47	48	42	48	33	52	46
225:	36	46	47	49	56	56	46	41
233:	49	52	37	57	51	149	713	224
241:	108	144	116	41	32	44	31	38
249:	25	30	41	36	38	32	33	31
257:	45	32	41	31	23	43	35	28
265:	27	17	33	21	43	56	57	37
273:	27	32	40	31	43	57	35	31
281:	46	31	27	30	45	29	31	39
289:	29	34	31	31	37	35	150	213
297:	52	32	19	51	66	24	32	31
305:	22	29	34	26	24	32	26	24
313:	23	27	36	34	24	26	22	25
321:	35	25	16	28	25	25	24	47
329:	34	24	25	25	21	31	30	24
337:	22	73	126	50	30	29	18	15
345:	28	26	31	22	29	21	65	320
353:	234	31	33	19	20	25	21	20
361:	17	31	20	21	26	22	22	25

369: 22 23 20 20 21 23 15 12

Sample Title: CP5005S05-06

Channel	1	2	3	4	5	6	7	8
377:	15	13	15	18	24	18	17	23
385:	19	20	21	29	22	26	21	23
393:	14	14	18	13	14	13	20	20
401:	22	25	30	17	18	18	15	18
409:	24	39	21	19	16	19	18	20
417:	29	16	23	16	28	23	17	27
425:	15	13	22	18	21	18	19	16
433:	13	19	14	14	16	19	21	18
441:	10	17	17	16	16	10	13	8
449:	11	23	9	14	20	21	13	15
457:	16	18	17	17	18	16	46	41
465:	11	8	18	17	12	19	13	15
473:	14	14	13	11	12	16	22	16
481:	16	12	7	22	20	18	10	14
489:	15	13	9	9	13	7	9	16
497:	14	12	14	15	16	11	14	15
505:	16	9	18	17	15	42	75	65
513:	28	22	13	16	14	6	11	5
521:	21	16	13	11	9	8	14	10
529:	4	15	14	4	10	15	16	20
537:	11	15	11	15	12	9	11	14
545:	16	12	13	16	16	17	16	10
553:	14	22	14	12	9	10	16	16
561:	7	18	18	20	11	6	10	15
569:	11	14	16	18	18	13	11	15
577:	18	15	12	17	12	32	122	139
585:	33	16	10	8	14	12	14	9
593:	16	5	10	10	13	16	22	10
601:	17	9	13	19	18	9	14	29
609:	141	212	55	11	9	9	10	16
617:	13	11	9	3	9	14	9	14
625:	7	10	9	11	12	14	12	10
633:	17	16	12	7	14	14	9	9
641:	8	14	2	6	19	13	17	12
649:	5	14	6	9	10	8	10	11
657:	8	8	14	14	9	9	11	11
665:	20	18	14	11	11	15	8	12
673:	14	11	9	13	12	13	13	11
681:	11	6	6	9	9	15	10	10
689:	11	14	14	10	16	6	9	10
697:	12	15	11	10	8	9	11	6
705:	12	12	10	17	8	9	10	20
713:	11	9	12	11	11	9	11	9
721:	17	7	10	7	8	16	26	38
729:	15	16	10	11	7	18	12	7
737:	16	13	11	10	10	8	9	14
745:	10	10	12	6	8	12	9	12
753:	11	8	12	13	15	7	9	8
761:	8	6	12	9	11	10	11	23
769:	30	17	12	12	11	18	7	8
777:	8	6	9	6	9	13	10	7
785:	9	11	15	8	6	3	8	9
793:	4	14	27	13	11	8	12	9

801: 8 6 9 9 12 9 11 5

Sample Title: CP5005S05-06

Channel	1	2	3	4	5	6	7	8
809:	7	5	5	9	7	5	3	8
817:	7	8	5	2	9	7	7	10
825:	6	9	9	7	6	8	15	8
833:	3	1	14	12	12	7	4	10
841:	8	6	7	9	3	5	10	9
849:	3	5	11	4	6	6	11	4
857:	7	8	5	12	22	21	8	11
865:	11	9	5	6	5	7	9	7
873:	9	4	6	8	7	5	5	6
881:	5	5	11	9	7	6	5	6
889:	9	7	11	6	9	3	12	5
897:	10	7	9	8	9	5	6	6
905:	10	8	11	5	7	11	83	97
913:	30	12	6	11	8	7	8	9
921:	9	6	5	6	5	8	11	9
929:	7	7	6	6	15	17	19	13
937:	1	9	9	1	8	3	5	7
945:	3	2	8	8	8	15	12	7
953:	6	6	9	8	10	8	5	9
961:	5	11	12	12	24	22	6	13
969:	56	60	19	5	6	4	5	11
977:	3	5	6	8	11	8	8	3
985:	7	5	6	6	6	9	5	3
993:	9	7	5	4	7	5	7	8
1001:	13	15	7	3	8	10	6	4
1009:	4	8	7	10	5	6	9	8
1017:	5	5	8	3	6	2	10	2
1025:	5	6	4	7	9	6	3	2
1033:	10	3	5	6	8	11	5	3
1041:	6	6	3	7	3	8	2	5
1049:	4	4	10	8	10	3	4	6
1057:	7	9	6	8	5	5	4	8
1065:	9	10	7	3	4	6	6	3
1073:	5	4	8	5	7	5	8	9
1081:	4	5	9	4	8	2	11	2
1089:	3	4	7	5	12	7	10	10
1097:	7	6	5	4	9	9	3	5
1105:	7	8	2	6	9	7	12	7
1113:	5	4	9	5	5	5	9	25
1121:	54	28	4	7	6	7	5	6
1129:	7	7	12	4	7	7	7	7
1137:	9	7	6	6	9	3	10	4
1145:	10	0	9	7	4	6	9	8
1153:	8	12	8	7	4	5	9	11
1161:	5	7	7	6	8	13	10	10
1169:	3	6	5	10	4	8	8	4
1177:	11	5	10	8	6	3	9	11
1185:	6	9	5	8	7	9	4	3
1193:	9	0	7	5	5	10	9	7
1201:	5	9	8	5	8	11	7	8
1209:	2	8	7	7	12	9	6	5
1217:	16	6	4	8	8	10	8	7
1225:	6	7	17	12	8	9	9	8

1233: 8 8 7 8 6 20 18 9

Sample Title: CP5005S05-06

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1241:	7	11	6	3	6	8	12	10
1249:	5	5	3	12	6	4	2	8
1257:	7	9	5	5	7	6	7	8
1265:	5	7	9	4	10	4	5	4
1273:	5	3	3	2	2	5	5	9
1281:	3	4	1	2	4	5	4	9
1289:	2	7	3	7	5	8	3	4
1297:	5	3	3	4	5	3	4	5
1305:	6	2	6	4	2	7	2	3
1313:	4	4	9	4	6	2	5	4
1321:	6	7	8	6	1	0	7	4
1329:	3	8	6	2	3	2	7	1
1337:	4	6	4	6	4	4	0	1
1345:	0	4	1	4	5	1	4	4
1353:	4	6	1	1	2	2	6	1
1361:	2	8	6	5	1	6	2	5
1369:	3	8	3	0	4	3	7	1
1377:	4	13	10	2	0	1	6	5
1385:	1	6	2	4	0	0	1	2
1393:	2	2	1	2	1	2	3	4
1401:	4	9	3	3	7	2	2	5
1409:	2	5	2	6	3	1	3	6
1417:	1	3	4	3	3	1	3	4
1425:	3	5	1	3	0	2	3	3
1433:	9	4	3	1	7	3	3	2
1441:	5	3	5	3	1	3	3	3
1449:	3	6	3	1	3	3	5	3
1457:	2	4	16	113	300	223	62	2
1465:	6	1	1	1	2	2	1	1
1473:	5	3	2	0	0	1	2	1
1481:	2	5	1	8	2	0	2	4
1489:	2	2	1	4	3	4	3	2
1497:	4	4	0	0	4	5	1	0
1505:	5	0	1	1	4	5	5	2
1513:	4	4	2	2	1	3	3	1
1521:	1	3	4	3	5	4	1	1
1529:	0	3	0	4	2	3	1	2
1537:	1	3	4	6	3	2	2	1
1545:	3	1	1	2	0	3	2	2
1553:	2	2	2	0	1	1	3	2
1561:	3	3	1	1	3	4	0	3
1569:	3	2	0	1	1	1	1	0
1577:	0	2	1	3	4	3	1	3
1585:	3	2	4	5	6	6	0	0
1593:	4	2	3	3	0	1	0	1
1601:	2	3	2	1	0	3	1	0
1609:	1	2	0	0	1	2	1	1
1617:	1	3	0	4	4	2	1	5
1625:	1	0	3	4	1	1	6	6
1633:	2	1	0	1	2	3	2	2
1641:	0	0	1	2	0	0	1	2
1649:	1	3	0	1	4	1	2	0
1657:	1	3	2	1	4	4	4	1

1665: 0 1 1 0 1 2 2 0

Sample Title: CP5005S05-06

Channel	1	2	3	4	5	6	7	8
1673:	1	1	1	1	0	0	3	0
1681:	1	1	3	3	1	1	0	0
1689:	1	2	0	0	1	0	2	3
1697:	1	2	1	1	3	2	1	0
1705:	1	0	0	1	1	1	0	0
1713:	1	1	1	2	0	1	1	0
1721:	1	2	1	1	0	2	1	1
1729:	4	12	4	3	3	0	1	5
1737:	0	1	0	2	1	1	2	1
1745:	2	3	2	1	1	0	0	0
1753:	4	0	3	1	1	2	0	0
1761:	1	1	4	20	34	26	5	1
1769:	1	0	0	1	2	2	1	2
1777:	0	0	0	1	3	2	1	0
1785:	0	2	1	5	0	0	0	2
1793:	0	3	1	0	1	0	1	0
1801:	4	0	0	1	0	1	0	2
1809:	2	1	0	2	0	1	0	1
1817:	3	6	2	1	0	3	1	0
1825:	2	2	0	1	0	1	2	1
1833:	1	1	1	2	1	0	1	2
1841:	0	1	2	1	3	1	3	4
1849:	6	0	0	2	1	0	0	0
1857:	1	0	0	0	1	1	1	1
1865:	0	5	1	1	1	2	1	3
1873:	3	1	2	1	1	1	2	4
1881:	0	2	4	3	0	1	0	3
1889:	0	1	2	0	1	1	1	0
1897:	1	2	2	2	1	0	1	1
1905:	2	1	0	1	2	0	0	1
1913:	1	1	1	0	2	1	0	1
1921:	0	2	1	0	1	1	1	1
1929:	0	1	0	0	3	2	2	2
1937:	4	2	1	2	2	0	0	1
1945:	2	1	0	1	0	0	2	1
1953:	3	4	2	1	1	0	2	1
1961:	2	1	2	0	0	0	2	0
1969:	0	0	2	0	1	0	1	2
1977:	1	0	1	0	2	2	0	0
1985:	2	1	1	3	0	1	2	0
1993:	0	0	3	0	1	0	2	0
2001:	1	1	0	1	1	0	0	0
2009:	0	1	1	3	0	0	0	3
2017:	1	0	1	1	0	0	2	1
2025:	0	0	3	1	1	1	1	1
2033:	3	0	0	0	2	1	1	0
2041:	1	1	2	2	1	1	1	0
2049:	0	1	0	2	0	1	0	1
2057:	2	0	2	0	0	1	2	3
2065:	2	4	3	1	3	0	1	0
2073:	1	1	0	1	0	0	1	0
2081:	1	0	2	1	1	1	1	0
2089:	1	2	0	4	0	0	1	0

2097: 0 1 0 1 0 3 5 8

Sample Title: CP5005S05-06

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2105:	6	2	2	1	1	0	2	4
2113:	0	1	3	2	1	0	4	4
2121:	0	0	0	0	1	1	1	0
2129:	0	0	3	2	3	0	0	2
2137:	0	0	0	0	0	1	0	1
2145:	0	1	3	3	0	1	3	3
2153:	2	1	0	0	0	2	1	0
2161:	0	0	0	0	0	1	1	1
2169:	0	3	0	1	0	1	2	2
2177:	0	0	0	1	2	0	1	1
2185:	0	0	0	1	1	1	0	0
2193:	2	1	1	1	2	0	2	1
2201:	0	2	2	12	7	5	1	1
2209:	2	2	1	0	0	1	2	2
2217:	2	1	1	1	2	0	1	2
2225:	2	1	0	0	0	1	1	0
2233:	1	1	3	1	1	0	0	1
2241:	0	1	1	3	3	0	0	1
2249:	1	0	0	1	1	1	0	1
2257:	0	0	4	1	1	2	2	0
2265:	0	2	0	1	1	0	1	1
2273:	1	1	0	2	1	4	3	1
2281:	0	2	2	0	2	0	1	0
2289:	1	0	4	2	4	1	0	2
2297:	0	0	0	3	1	1	2	1
2305:	0	1	2	1	1	1	0	2
2313:	3	2	1	3	1	1	0	1
2321:	2	2	0	1	0	1	1	2
2329:	1	0	0	1	1	0	2	3
2337:	2	0	1	1	2	1	1	0
2345:	1	2	2	1	2	3	1	1
2353:	1	2	1	2	2	0	0	0
2361:	1	2	0	5	2	0	3	0
2369:	2	2	0	4	2	1	3	1
2377:	1	2	0	0	0	1	1	1
2385:	1	0	1	3	1	1	3	0
2393:	0	0	0	0	2	2	4	1
2401:	0	1	1	1	3	1	0	2
2409:	1	1	0	1	1	0	3	0
2417:	0	2	1	1	0	0	0	0
2425:	2	1	1	0	0	3	1	0
2433:	0	0	0	0	1	0	0	0
2441:	2	0	2	1	0	0	4	4
2449:	1	0	2	2	0	1	1	0
2457:	2	1	1	0	0	0	1	0
2465:	0	1	0	0	2	1	0	0
2473:	1	0	1	0	1	0	0	1
2481:	2	0	1	0	1	0	0	2
2489:	0	0	0	1	0	0	1	1
2497:	0	0	0	0	2	0	0	0
2505:	2	0	2	0	0	1	0	0
2513:	0	1	1	0	0	0	1	1
2521:	0	0	0	2	1	0	0	0

2529: 1 0 1 1 0 0 0 1

Sample Title: CP5005S05-06

Channel	1	0	1	1	0	0	0	1
2537:	1	0	0	0	1	0	0	0
2545:	0	0	0	0	1	0	0	0
2553:	0	0	1	0	0	1	0	2
2561:	1	1	1	0	0	2	0	3
2569:	0	0	0	0	0	0	1	1
2577:	0	0	0	1	0	0	0	0
2585:	1	0	0	0	2	2	0	0
2593:	0	0	1	0	0	0	1	0
2601:	0	0	0	1	0	0	1	0
2609:	0	0	0	2	5	35	31	17
2617:	4	1	1	0	1	2	0	0
2625:	1	0	0	0	0	0	0	0
2633:	0	1	0	0	0	0	1	0
2641:	0	0	1	0	0	2	0	0
2649:	1	1	0	0	0	0	0	0
2657:	0	0	0	0	0	0	1	0
2665:	2	2	2	0	1	2	0	0
2673:	0	0	0	0	0	0	0	0
2681:	1	0	1	1	0	1	1	1
2689:	0	0	2	1	0	3	1	0
2697:	0	0	0	0	2	0	0	1
2705:	0	1	0	0	0	0	0	0
2713:	0	0	0	0	1	0	0	1
2721:	0	0	1	1	0	0	0	0
2729:	0	0	0	0	0	0	0	0
2737:	0	0	0	1	0	0	2	1
2745:	1	0	0	0	0	1	0	0
2753:	0	0	0	0	0	0	0	0
2761:	0	0	0	0	0	0	0	0
2769:	0	1	0	0	0	0	0	0
2777:	1	0	0	1	0	0	0	1
2785:	0	0	1	0	0	0	1	0
2793:	0	0	0	0	0	0	0	0
2801:	0	0	0	0	0	0	0	1
2809:	0	1	1	0	0	0	1	0
2817:	0	2	0	0	0	0	0	0
2825:	1	0	1	0	0	0	0	2
2833:	0	1	1	0	0	0	0	0
2841:	0	0	0	1	0	0	0	1
2849:	0	0	0	0	0	0	0	2
2857:	1	1	0	0	0	0	1	0
2865:	0	0	1	0	0	0	0	0
2873:	1	0	0	0	0	0	1	0
2881:	0	1	0	0	2	0	0	0
2889:	0	0	0	0	0	0	0	0
2897:	2	1	1	0	0	0	0	0
2905:	1	1	0	0	0	0	0	0
2913:	0	0	0	0	0	0	0	0
2921:	0	0	0	1	0	0	0	0
2929:	0	1	0	0	0	0	0	0
2937:	0	1	1	0	0	0	0	0
2945:	0	0	0	0	0	0	1	0
2953:	0	1	0	0	0	0	0	2

2961: 0 0 0 1 0 0 0 0

Sample Title: CP5005S05-06

Channel	1	0	1	0	1	1	0	0
2969:	1	0	1	0	1	1	0	0
2977:	0	0	0	0	0	0	1	0
2985:	0	0	1	0	0	0	0	0
2993:	0	0	0	0	1	1	0	0
3001:	0	0	0	2	0	0	0	0
3009:	0	0	1	0	0	0	0	0
3017:	1	0	0	0	0	0	1	0
3025:	1	0	1	0	0	1	0	0
3033:	0	0	0	0	1	1	0	0
3041:	0	0	0	0	0	0	0	0
3049:	1	0	0	0	0	0	1	1
3057:	0	0	0	0	0	0	0	0
3065:	0	0	0	1	0	0	0	1
3073:	0	0	0	0	0	1	0	0
3081:	0	0	0	0	0	0	0	1
3089:	0	0	0	0	1	0	0	0
3097:	0	0	0	0	0	0	0	0
3105:	0	0	1	1	1	1	0	1
3113:	0	0	0	0	0	0	0	0
3121:	0	0	0	0	1	0	0	0
3129:	0	0	0	1	0	0	0	0
3137:	1	0	0	0	0	1	0	1
3145:	1	0	0	2	0	1	0	1
3153:	0	0	0	0	0	0	0	0
3161:	0	0	0	0	0	0	1	0
3169:	2	0	0	0	0	0	1	0
3177:	0	1	0	0	0	1	0	0
3185:	0	0	0	0	0	0	0	2
3193:	0	0	0	1	0	4	1	0
3201:	0	0	0	1	0	0	0	0
3209:	0	1	0	1	0	1	0	0
3217:	0	0	0	0	0	0	0	0
3225:	0	0	0	0	0	0	1	0
3233:	0	0	0	0	0	1	0	0
3241:	0	0	0	0	0	1	0	0
3249:	0	0	0	0	0	0	0	1
3257:	0	0	0	0	0	0	0	0
3265:	0	0	2	2	0	0	0	0
3273:	0	0	0	0	0	0	0	0
3281:	0	0	0	0	0	0	1	1
3289:	0	0	0	0	0	0	0	0
3297:	0	0	0	1	1	0	1	0
3305:	0	0	0	0	0	1	1	1
3313:	0	0	0	0	0	0	0	0
3321:	0	0	0	0	0	0	0	0
3329:	0	0	1	0	0	1	0	1
3337:	0	0	0	0	1	0	0	0
3345:	0	1	0	0	1	0	0	0
3353:	0	0	0	0	0	0	1	0
3361:	0	0	0	0	0	0	1	0
3369:	0	0	0	0	0	1	1	0
3377:	1	1	0	0	1	0	0	0
3385:	0	0	0	0	0	0	1	0

3393: 0 0 0 0 0 0 0 0 0

Sample Title: CP5005S05-06

Channel									
3401:	0	0	0	0	0	0	0	0	0
3409:	1	0	0	0	0	0	0	1	0
3417:	1	0	0	0	0	0	0	0	0
3425:	0	0	0	0	0	1	0	0	1
3433:	0	0	0	0	1	0	0	0	0
3441:	0	0	0	0	0	0	0	0	0
3449:	0	0	0	0	0	0	0	1	0
3457:	0	0	0	0	0	0	0	0	0
3465:	1	0	0	0	0	0	0	0	0
3473:	0	0	1	0	0	0	0	0	0
3481:	0	0	0	0	0	1	0	0	0
3489:	0	0	0	0	0	0	0	0	0
3497:	0	0	1	0	0	0	0	0	0
3505:	0	0	0	1	0	0	0	0	0
3513:	0	0	1	0	1	0	0	1	0
3521:	0	0	0	0	0	0	0	1	0
3529:	1	0	0	0	0	0	0	0	0
3537:	0	0	0	0	0	0	0	0	1
3545:	0	0	0	0	0	1	0	0	0
3553:	0	0	0	0	2	1	0	0	0
3561:	1	0	0	0	0	0	0	0	0
3569:	0	0	0	0	0	1	0	0	0
3577:	0	0	0	0	0	0	0	0	0
3585:	0	1	0	0	0	1	0	0	0
3593:	0	0	0	0	1	0	0	0	0
3601:	0	0	0	0	0	0	0	0	1
3609:	0	0	0	0	0	0	0	0	0
3617:	0	0	0	0	0	0	0	1	0
3625:	0	0	0	0	0	0	0	0	0
3633:	0	0	0	0	0	0	0	0	0
3641:	0	1	2	0	0	0	0	0	0
3649:	0	0	0	0	1	0	0	0	0
3657:	0	0	0	0	0	1	1	0	0
3665:	0	0	0	0	0	0	0	1	0
3673:	1	0	0	0	0	0	0	0	0
3681:	0	1	0	0	0	0	0	0	0
3689:	0	0	0	0	0	1	0	0	0
3697:	0	0	0	0	0	0	0	1	0
3705:	0	0	0	0	0	0	0	0	0
3713:	0	0	0	0	0	0	0	0	0
3721:	0	0	0	0	0	0	0	0	0
3729:	0	0	0	0	1	0	0	0	0
3737:	0	2	0	0	0	0	0	0	0
3745:	0	0	0	0	0	1	0	0	0
3753:	0	0	0	0	0	0	0	0	2
3761:	0	0	1	1	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0	0
3777:	0	0	0	0	0	0	0	1	0
3785:	0	0	0	0	0	0	0	0	0
3793:	0	0	0	0	0	0	0	0	0
3801:	0	0	0	0	0	0	0	0	0
3809:	0	0	0	0	0	0	0	0	1
3817:	0	0	0	0	0	0	0	0	0

3825: 0 0 0 0 0 0 0 0 0

Sample Title: CP5005S05-06

Channel	1	0	0	0	0	0	1	0
3833:	1	0	0	0	0	0	1	0
3841:	0	0	0	0	1	0	1	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	0	0	0	0	0
3865:	1	0	0	1	0	0	1	0
3873:	0	0	1	0	0	0	0	0
3881:	0	0	1	0	0	0	0	0
3889:	0	0	0	1	0	0	0	0
3897:	0	0	0	0	0	0	0	0
3905:	1	1	0	0	1	0	0	1
3913:	0	0	0	0	0	0	0	0
3921:	0	0	0	0	0	0	0	0
3929:	0	0	0	0	0	0	1	0
3937:	0	1	0	0	1	0	0	0
3945:	0	0	0	0	0	0	0	0
3953:	0	0	1	0	0	0	1	0
3961:	0	0	0	1	0	0	0	0
3969:	0	0	0	0	0	0	0	0
3977:	1	0	0	0	0	0	0	0
3985:	0	0	1	0	0	0	0	0
3993:	0	0	0	0	1	0	0	1
4001:	0	0	0	0	0	0	0	0
4009:	0	0	0	1	0	1	0	0
4017:	0	0	0	0	0	1	0	1
4025:	0	1	0	0	0	0	0	0
4033:	0	0	0	0	0	0	0	1
4041:	0	0	1	1	0	0	0	0
4049:	0	0	0	0	0	0	0	0
4057:	0	0	0	0	1	0	0	0
4065:	1	0	0	0	0	0	0	0
4073:	0	0	1	0	0	0	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	0	0	0	0	0

Analysis Report for 1510063-19
CP5005S09-10

✓
6617

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510063-19
Sample Description : CP5005S09-10
Sample Type : SOIL

Sample Size : 4.226E+02 grams
Facility : Countroom

Sample Taken On : 10/6/2015 7:51:48AM
Acquisition Started : 11/3/2015 10:18:00AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE2
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3601.2 seconds

Dead Time : 0.03 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 8 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 11/2/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29020

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/3/15

Analysis Report for 1510063-19
CP5005S09-10

PEAK LOCATE REPORT

Peak Locate Performed on : 11/3/2015 11:18:19AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	76.34	76.43	0.0000	0.00
2	93.36	93.44	0.0000	0.00
3	100.51	100.59	0.0000	0.00
4	129.20	129.26	0.0000	0.00
5	144.78	144.83	0.0000	0.00
6	186.09	186.12	0.0000	0.00
7	209.35	209.36	0.0000	0.00
8	238.77	238.77	0.0000	0.00
9	241.86	241.86	0.0000	0.00
10	295.32	295.29	0.0000	0.00
11	300.25	300.21	0.0000	0.00
12	338.58	338.53	0.0000	0.00
13	352.02	351.96	0.0000	0.00
14	463.00	462.88	0.0000	0.00
15	501.01	500.87	0.0000	0.00
16	510.78	510.64	0.0000	0.00
17	583.25	583.07	0.0000	0.00
18	609.28	609.09	0.0000	0.00
19	660.28	660.06	0.0000	0.00
20	715.29	715.05	0.0000	0.00
21	727.30	727.06	0.0000	0.00
22	768.08	767.82	0.0000	0.00
23	772.08	771.82	0.0000	0.00
24	786.46	786.19	0.0000	0.00
25	790.12	789.84	0.0000	0.00
26	795.14	794.86	0.0000	0.00
27	860.82	860.52	0.0000	0.00
28	911.31	910.98	0.0000	0.00
29	964.55	964.20	0.0000	0.00
30	969.15	968.81	0.0000	0.00
31	1000.83	1000.47	0.0000	0.00
32	1065.80	1065.42	0.0000	0.00
33	1120.22	1119.82	0.0000	0.00
34	1156.59	1156.17	0.0000	0.00
35	1222.73	1222.28	0.0000	0.00
36	1232.17	1231.72	0.0000	0.00
37	1237.45	1237.00	0.0000	0.00
38	1270.78	1270.32	0.0000	0.00
39	1377.88	1377.38	0.0000	0.00
40	1407.98	1407.47	0.0000	0.00
41	1460.87	1460.35	0.0000	0.00
42	1509.46	1508.92	0.0000	0.00

Analysis Report for 1510063-19
CP5005S09-10

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
43	1572.89	1572.33	0.0000	0.00
44	1581.92	1581.36	0.0000	0.00
45	1588.53	1587.98	0.0000	0.00
46	1729.52	1728.92	0.0000	0.00
47	1764.68	1764.08	0.0000	0.00
48	1846.77	1846.15	0.0000	0.00
49	2056.76	2056.09	0.0000	0.00
50	2103.39	2102.71	0.0000	0.00
51	2171.01	2170.32	0.0000	0.00
52	2203.67	2202.97	0.0000	0.00
53	2338.62	2337.90	0.0000	0.00
54	2388.66	2387.94	0.0000	0.00
55	2614.28	2613.54	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510063-19
CP5005S09-10

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 11:18:19AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
1	76.34	72 -	83	76.43	1.14E+03	163.74	2.79E+03	3.63
2	93.36	91 -	96	93.44	1.87E+02	83.76	1.17E+03	1.40
3	100.51	99 -	103	100.59	5.86E+01	55.96	6.33E+02	1.29
4	129.20	125 -	133	129.26	8.60E+01	90.86	1.22E+03	2.00
5	144.78	141 -	147	144.83	7.27E+01	74.00	9.39E+02	1.30
6	186.09	182 -	190	186.12	2.26E+02	85.08	9.70E+02	1.68
7	209.35	206 -	212	209.36	8.47E+01	64.14	6.69E+02	1.82
M 8	238.77	235 -	246	238.77	9.30E+02	74.28	4.26E+02	1.54
m 9	241.86	235 -	246	241.86	2.39E+02	81.01	5.69E+02	2.21
M 10	295.32	292 -	303	295.29	3.49E+02	50.48	2.67E+02	1.55
m 11	300.25	292 -	303	300.21	4.29E+01	36.00	2.39E+02	1.66
12	338.58	334 -	343	338.53	1.77E+02	62.48	4.49E+02	1.79
13	352.02	348 -	355	351.96	5.70E+02	67.85	3.87E+02	1.39
14	463.00	458 -	466	462.88	8.67E+01	43.79	2.39E+02	1.68
15	501.01	496 -	504	500.87	3.03E+01	37.88	2.01E+02	3.02
16	510.78	506 -	515	510.64	1.62E+02	48.25	2.41E+02	2.17
17	583.25	579 -	585	583.07	2.76E+02	45.70	1.80E+02	1.48
18	609.28	604 -	613	609.09	4.65E+02	60.36	2.55E+02	1.68
19	660.28	657 -	663	660.06	2.75E+01	27.65	1.19E+02	3.74
20	715.29	712 -	719	715.05	2.71E+01	28.28	1.14E+02	3.03
21	727.30	724 -	731	727.06	8.98E+01	34.81	1.46E+02	1.55
M 22	768.08	762 -	779	767.82	5.83E+01	25.67	9.48E+01	2.02
m 23	772.08	762 -	779	771.82	2.43E+01	23.39	8.99E+01	2.03
M 24	786.46	783 -	792	786.19	3.44E+01	23.11	8.37E+01	2.04
m 25	790.12	783 -	792	789.84	1.57E+01	20.54	5.26E+01	2.04
26	795.14	792 -	800	794.86	2.62E+01	31.61	1.44E+02	1.85
27	860.82	855 -	866	860.52	8.23E+01	35.21	1.13E+02	3.29
28	911.31	907 -	914	910.98	1.53E+02	37.42	1.31E+02	1.88
M 29	964.55	961 -	972	964.20	4.36E+01	23.94	8.06E+01	1.86
m 30	969.15	961 -	972	968.81	1.06E+02	31.78	8.44E+01	2.49
31	1000.83	993 -	1010	1000.47	7.05E+01	44.37	1.55E+02	8.38
32	1065.80	1057 -	1073	1065.42	4.35E+01	40.00	1.35E+02	9.47
33	1120.22	1115 -	1123	1119.82	9.76E+01	35.60	1.35E+02	2.78
34	1156.59	1151 -	1160	1156.17	3.90E+01	26.06	7.40E+01	5.34
M 35	1222.73	1218 -	1245	1222.28	1.80E+01	25.78	8.86E+01	2.88
m 36	1232.17	1218 -	1245	1231.72	2.28E+01	26.32	8.61E+01	2.89
m 37	1237.45	1218 -	1245	1237.00	6.07E+01	25.07	6.52E+01	2.18
38	1270.78	1267 -	1274	1270.32	2.30E+01	21.35	6.19E+01	4.63
39	1377.88	1373 -	1380	1377.38	1.69E+01	21.54	6.23E+01	1.81
40	1407.98	1405 -	1411	1407.47	1.68E+01	15.56	3.24E+01	2.75

Analysis Report for 1510063-19

CP5005S09-10

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1460.87	1454 -	1466	1460.35	7.36E+02	56.26	2.56E+01	2.33
42	1509.46	1506 -	1511	1508.92	1.14E+01	12.12	1.93E+01	1.83
43	1572.89	1568 -	1575	1572.33	9.10E+00	10.39	1.18E+01	3.72
44	1581.92	1578 -	1585	1581.36	2.04E+01	10.20	3.23E+00	4.21
45	1588.53	1586 -	1591	1587.98	1.92E+01	10.49	7.57E+00	1.64
46	1729.52	1724 -	1733	1728.92	2.06E+01	13.67	1.47E+01	2.35
47	1764.68	1759 -	1768	1764.08	7.55E+01	21.84	2.50E+01	1.59
48	1846.77	1841 -	1850	1846.15	1.95E+01	10.63	4.95E+00	3.57
49	2056.76	2051 -	2060	2056.09	1.00E+01	10.49	1.00E+01	1.52
50	2103.39	2098 -	2107	2102.71	1.52E+01	11.40	9.60E+00	1.58
51	2171.01	2165 -	2174	2170.32	8.73E+00	8.31	4.55E+00	5.93
52	2203.67	2197 -	2207	2202.97	2.51E+01	11.93	5.75E+00	3.07
53	2338.62	2335 -	2342	2337.90	1.16E+01	8.25	2.85E+00	3.73
54	2388.66	2384 -	2390	2387.94	5.00E+00	7.52	6.00E+00	1.31
55	2614.28	2609 -	2618	2613.54	9.60E+01	19.60	0.00E+00	2.90

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 11:18:19AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
1	76.34	72 -	83	1.14E+03	163.74	2.79E+03	1.23E+02
2	93.36	91 -	96	1.87E+02	83.76	1.17E+03	6.51E+01
3	100.51	99 -	103	5.86E+01	55.96	6.33E+02	4.42E+01
4	129.20	125 -	133	8.60E+01	90.86	1.22E+03	7.31E+01
5	144.78	141 -	147	7.27E+01	74.00	9.39E+02	5.92E+01
6	186.09	182 -	190	2.26E+02	85.08	9.70E+02	6.54E+01
7	209.35	206 -	212	8.47E+01	64.14	6.69E+02	5.05E+01
M 8	238.77	235 -	246	9.30E+02	74.28	4.26E+02	3.39E+01
m 9	241.86	235 -	246	2.39E+02	81.01	5.69E+02	3.92E+01
M 10	295.32	292 -	303	3.49E+02	50.48	2.67E+02	2.69E+01
m 11	300.25	292 -	303	4.29E+01	36.00	2.39E+02	2.54E+01
12	338.58	334 -	343	1.77E+02	62.48	4.49E+02	4.65E+01
13	352.02	348 -	355	5.70E+02	67.85	3.87E+02	3.96E+01

Analysis Report for 1510063-19

CP5005S09-10

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	14	463.00	458 -	466	8.67E+01	43.79	2.39E+02	3.26E+01
	15	501.01	496 -	504	3.03E+01	37.88	2.01E+02	2.98E+01
	16	510.78	506 -	515	1.62E+02	48.25	2.41E+02	3.37E+01
	17	583.25	579 -	585	2.76E+02	45.70	1.80E+02	2.58E+01
	18	609.28	604 -	613	4.65E+02	60.36	2.55E+02	3.47E+01
	19	660.28	657 -	663	2.75E+01	27.65	1.19E+02	2.10E+01
	20	715.29	712 -	719	2.71E+01	28.28	1.14E+02	2.16E+01
	21	727.30	724 -	731	8.98E+01	34.81	1.46E+02	2.40E+01
M	22	768.08	762 -	779	5.83E+01	25.67	9.48E+01	1.60E+01
m	23	772.08	762 -	779	2.43E+01	23.39	8.99E+01	1.56E+01
M	24	786.46	783 -	792	3.44E+01	23.11	8.37E+01	1.50E+01
m	25	790.12	783 -	792	1.57E+01	20.54	5.26E+01	1.19E+01
	26	795.14	792 -	800	2.62E+01	31.61	1.44E+02	2.46E+01
	27	860.82	855 -	866	8.23E+01	35.21	1.13E+02	2.48E+01
	28	911.31	907 -	914	1.53E+02	37.42	1.31E+02	2.31E+01
M	29	964.55	961 -	972	4.36E+01	23.94	8.06E+01	1.48E+01
m	30	969.15	961 -	972	1.06E+02	31.78	8.44E+01	1.51E+01
	31	1000.83	993 -	1010	7.05E+01	44.37	1.55E+02	3.38E+01
	32	1065.80	1057 -	1073	4.35E+01	40.00	1.35E+02	3.10E+01
	33	1120.22	1115 -	1123	9.76E+01	35.60	1.35E+02	2.43E+01
	34	1156.59	1151 -	1160	3.90E+01	26.06	7.40E+01	1.88E+01
M	35	1222.73	1218 -	1245	1.80E+01	25.78	8.86E+01	1.55E+01
m	36	1232.17	1218 -	1245	2.28E+01	26.32	8.61E+01	1.53E+01
m	37	1237.45	1218 -	1245	6.07E+01	25.07	6.52E+01	1.33E+01
	38	1270.78	1267 -	1274	2.30E+01	21.35	6.19E+01	1.57E+01
	39	1377.88	1373 -	1380	1.69E+01	21.54	6.23E+01	1.64E+01
	40	1407.98	1405 -	1411	1.68E+01	15.56	3.24E+01	1.09E+01
	41	1460.87	1454 -	1466	7.36E+02	56.26	2.56E+01	1.22E+01
	42	1509.46	1506 -	1511	1.14E+01	12.12	1.93E+01	8.28E+00
	43	1572.89	1568 -	1575	9.10E+00	10.39	1.18E+01	6.96E+00
	44	1581.92	1578 -	1585	2.04E+01	10.20	3.23E+00	3.90E+00
	45	1588.53	1586 -	1591	1.92E+01	10.49	7.57E+00	4.73E+00
	46	1729.52	1724 -	1733	2.06E+01	13.67	1.47E+01	8.40E+00
	47	1764.68	1759 -	1768	7.55E+01	21.84	2.50E+01	1.09E+01
	48	1846.77	1841 -	1850	1.95E+01	10.63	4.95E+00	4.86E+00
	49	2056.76	2051 -	2060	1.00E+01	10.49	1.00E+01	6.88E+00
	50	2103.39	2098 -	2107	1.52E+01	11.40	9.60E+00	6.84E+00
	51	2171.01	2165 -	2174	8.73E+00	8.31	4.55E+00	4.80E+00
	52	2203.67	2197 -	2207	2.51E+01	11.93	5.75E+00	5.31E+00
	53	2338.62	2335 -	2342	1.16E+01	8.25	2.85E+00	3.83E+00
	54	2388.66	2384 -	2390	5.00E+00	7.52	6.00E+00	4.97E+00
	55	2614.28	2609 -	2618	9.60E+01	19.60	0.00E+00	0.00E+00

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

Analysis Report for 1510063-19

CP5005S09-10

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/3/2015 11:18:19AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide	
1	76.34	72 -	83	76.43	1.14E+03	163.74	2.79E+03	.....
2	93.36	91 -	96	93.44	1.87E+02	83.76	1.17E+03	GA-67	
3	100.51	99 -	103	100.59	5.86E+01	55.96	6.33E+02	LU-173	
4	129.20	125 -	133	129.26	8.60E+01	90.86	1.22E+03	.....
5	144.78	141 -	147	144.83	7.27E+01	74.00	9.39E+02	CE-141	
6	186.09	182 -	190	186.12	2.26E+02	85.08	9.70E+02	RA-226	
7	209.35	206 -	212	209.36	8.47E+01	64.14	6.69E+02	GA-67 CM-243	
M	8	238.77	235 -	246	238.77	9.30E+02	74.28	4.26E+02	PB-212
m	9	241.86	235 -	246	241.86	2.39E+02	81.01	5.69E+02	RA-224
M	10	295.32	292 -	303	295.29	3.49E+02	50.48	2.67E+02	PB-214
m	11	300.25	292 -	303	300.21	4.29E+01	36.00	2.39E+02	GA-67 PB-212 BI-210M
12	338.58	334 -	343	338.53	1.77E+02	62.48	4.49E+02	AC-228	
13	352.02	348 -	355	351.96	5.70E+02	67.85	3.87E+02	PB-214	
14	463.00	458 -	466	462.88	8.67E+01	43.79	2.39E+02	SB-125	
15	501.01	496 -	504	500.87	3.03E+01	37.88	2.01E+02	.....
16	510.78	506 -	515	510.64	1.62E+02	48.25	2.41E+02	.....
17	583.25	579 -	585	583.07	2.76E+02	45.70	1.80E+02	TL-208	
18	609.28	604 -	613	609.09	4.65E+02	60.36	2.55E+02	BI-214	
19	660.28	657 -	663	660.06	2.75E+01	27.65	1.19E+02	.....
20	715.29	712 -	719	715.05	2.71E+01	28.28	1.14E+02	.....
21	727.30	724 -	731	727.06	8.98E+01	34.81	1.46E+02	BI-212	
M	22	768.08	762 -	779	767.82	5.83E+01	25.67	9.48E+01
m	23	772.08	762 -	779	771.82	2.43E+01	23.39	8.99E+01
M	24	786.46	783 -	792	786.19	3.44E+01	23.11	8.37E+01
m	25	790.12	783 -	792	789.84	1.57E+01	20.54	5.26E+01
26	795.14	792 -	800	794.86	2.62E+01	31.61	1.44E+02	CS-134	
27	860.82	855 -	866	860.52	8.23E+01	35.21	1.13E+02	TL-208	
28	911.31	907 -	914	910.98	1.53E+02	37.42	1.31E+02	AC-228 LU-172	
M	29	964.55	961 -	972	964.20	4.36E+01	23.94	8.06E+01	EU-152
m	30	969.15	961 -	972	968.81	1.06E+02	31.78	8.44E+01	AC-228
31	1000.83	993 -	1010	1000.47	7.05E+01	44.37	1.55E+02	PA-234M	
32	1065.80	1057 -	1073	1065.42	4.35E+01	40.00	1.35E+02	.....
33	1120.22	1115 -	1123	1119.82	9.76E+01	35.60	1.35E+02	BI-214 SC-46	

: 01037

Analysis Report for 1510063-19

CP5005S09-10

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	34	1156.59	1151 -	1160	1156.17	3.90E+01	26.06	7.40E+01	.....
M	35	1222.73	1218 -	1245	1222.28	1.80E+01	25.78	8.86E+01	.....
m	36	1232.17	1218 -	1245	1231.72	2.28E+01	26.32	8.61E+01	.....
m	37	1237.45	1218 -	1245	1237.00	6.07E+01	25.07	6.52E+01	CO-56
	38	1270.78	1267 -	1274	1270.32	2.30E+01	21.35	6.19E+01	.....
	39	1377.88	1373 -	1380	1377.38	1.69E+01	21.54	6.23E+01	.....
	40	1407.98	1405 -	1411	1407.47	1.68E+01	15.56	3.24E+01	EU-152
	41	1460.87	1454 -	1466	1460.35	7.36E+02	56.26	2.56E+01	K-40
	42	1509.46	1506 -	1511	1508.92	1.14E+01	12.12	1.93E+01	.....
	43	1572.89	1568 -	1575	1572.33	9.10E+00	10.39	1.18E+01	.....
	44	1581.92	1578 -	1585	1581.36	2.04E+01	10.20	3.23E+00	.....
	45	1588.53	1586 -	1591	1587.98	1.92E+01	10.49	7.57E+00	.....
	46	1729.52	1724 -	1733	1728.92	2.06E+01	13.67	1.47E+01	.....
	47	1764.68	1759 -	1768	1764.08	7.55E+01	21.84	2.50E+01	BI-214
	48	1846.77	1841 -	1850	1846.15	1.95E+01	10.63	4.95E+00	.....
	49	2056.76	2051 -	2060	2056.09	1.00E+01	10.49	1.00E+01	.....
	50	2103.39	2098 -	2107	2102.71	1.52E+01	11.40	9.60E+00	.....
	51	2171.01	2165 -	2174	2170.32	8.73E+00	8.31	4.55E+00	.....
	52	2203.67	2197 -	2207	2202.97	2.51E+01	11.93	5.75E+00	BI-214
	53	2338.62	2335 -	2342	2337.90	1.16E+01	8.25	2.85E+00	.....
	54	2388.66	2384 -	2390	2387.94	5.00E+00	7.52	6.00E+00	.....
	55	2614.28	2609 -	2618	2613.54	9.60E+01	19.60	0.00E+00	TL-208

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/3/2015 11:18:19AM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	76.34	1.14E+03	163.74	2.74E-02	3.35E-03
	2	93.36	1.87E+02	83.76	2.85E-02	4.27E-03
	3	100.51	5.86E+01	55.96	2.83E-02	3.95E-03
	4	129.20	8.60E+01	90.86	2.60E-02	2.77E-03
	5	144.78	7.27E+01	74.00	2.45E-02	2.31E-03
	6	186.09	2.26E+02	85.08	2.11E-02	1.65E-03
	7	209.35	8.47E+01	64.14	1.95E-02	1.63E-03
M	8	238.77	9.30E+02	74.28	1.79E-02	1.60E-03

Analysis Report for 1510063-19

CP5005S09-10

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
m	9	241.86	2.39E+02	81.01	1.77E-02	1.60E-03
M	10	295.32	3.49E+02	50.48	1.55E-02	1.48E-03
m	11	300.25	4.29E+01	36.00	1.53E-02	1.46E-03
	12	338.58	1.77E+02	62.48	1.41E-02	1.27E-03
	13	352.02	5.70E+02	67.85	1.37E-02	1.21E-03
	14	463.00	8.67E+01	43.79	1.13E-02	9.47E-04
	15	501.01	3.03E+01	37.88	1.07E-02	9.08E-04
	16	510.78	1.62E+02	48.25	1.06E-02	8.98E-04
	17	583.25	2.76E+02	45.70	9.58E-03	8.25E-04
	18	609.28	4.65E+02	60.36	9.27E-03	7.98E-04
	19	660.28	2.75E+01	27.65	8.72E-03	7.47E-04
	20	715.29	2.71E+01	28.28	8.19E-03	7.11E-04
	21	727.30	8.98E+01	34.81	8.09E-03	7.03E-04
M	22	768.08	5.83E+01	25.67	7.74E-03	6.77E-04
m	23	772.08	2.43E+01	23.39	7.71E-03	6.74E-04
M	24	786.46	3.44E+01	23.11	7.60E-03	6.65E-04
m	25	790.12	1.57E+01	20.54	7.57E-03	6.63E-04
	26	795.14	2.62E+01	31.61	7.53E-03	6.59E-04
	27	860.82	8.23E+01	35.21	7.06E-03	6.17E-04
	28	911.31	1.53E+02	37.42	6.74E-03	5.87E-04
M	29	964.55	4.36E+01	23.94	6.44E-03	5.59E-04
m	30	969.15	1.06E+02	31.78	6.41E-03	5.57E-04
	31	1000.83	7.05E+01	44.37	6.25E-03	5.41E-04
	32	1065.80	4.35E+01	40.00	5.94E-03	5.08E-04
	33	1120.22	9.76E+01	35.60	5.70E-03	4.80E-04
	34	1156.59	3.90E+01	26.06	5.56E-03	4.61E-04
M	35	1222.73	1.80E+01	25.78	5.32E-03	4.76E-04
m	36	1232.17	2.28E+01	26.32	5.29E-03	4.80E-04
m	37	1237.45	6.07E+01	25.07	5.27E-03	4.82E-04
	38	1270.78	2.30E+01	21.35	5.17E-03	4.98E-04
	39	1377.88	1.69E+01	21.54	4.87E-03	5.08E-04
	40	1407.98	1.68E+01	15.56	4.79E-03	4.95E-04
	41	1460.87	7.36E+02	56.26	4.67E-03	4.73E-04
	42	1509.46	1.14E+01	12.12	4.57E-03	4.53E-04
	43	1572.89	9.10E+00	10.39	4.46E-03	4.27E-04
	44	1581.92	2.04E+01	10.20	4.44E-03	4.23E-04
	45	1588.53	1.92E+01	10.49	4.43E-03	4.20E-04
	46	1729.52	2.06E+01	13.67	4.23E-03	3.62E-04
	47	1764.68	7.55E+01	21.84	4.18E-03	3.47E-04
	48	1846.77	1.95E+01	10.63	4.10E-03	3.18E-04
	49	2056.76	1.00E+01	10.49	3.97E-03	3.18E-04
	50	2103.39	1.52E+01	11.40	3.95E-03	3.18E-04
	51	2171.01	8.73E+00	8.31	3.94E-03	3.18E-04
	52	2203.67	2.51E+01	11.93	3.93E-03	3.18E-04
	53	2338.62	1.16E+01	8.25	3.94E-03	3.18E-04
	54	2388.66	5.00E+00	7.52	3.95E-03	3.18E-04
	55	2614.28	9.60E+01	19.60	4.05E-03	3.18E-04

Analysis Report for 1510063-19

CP5005S09-10

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

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/3/2015 11:18:19AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
1	76.34	1.14E+03	163.74			1.14E+03	1.64E+02
2	93.36	1.87E+02	83.76	5.70E+01	9.03E+00	1.30E+02	8.42E+01
3	100.51	5.86E+01	55.96			5.86E+01	5.60E+01
4	129.20	8.60E+01	90.86			8.60E+01	9.09E+01
5	144.78	7.27E+01	74.00	8.10E+00	1.90E+01	6.46E+01	7.64E+01
6	186.09	2.26E+02	85.08	4.72E+01	7.97E+00	1.79E+02	8.55E+01
7	209.35	8.47E+01	64.14			8.47E+01	6.41E+01
M 8	238.77	9.30E+02	74.28	2.36E+01	1.35E+01	9.06E+02	7.55E+01
m 9	241.86	2.39E+02	81.01	6.38E+00	3.91E+00	2.32E+02	8.11E+01
M 10	295.32	3.49E+02	50.48	8.57E+00	6.10E+00	3.40E+02	5.08E+01
m 11	300.25	4.29E+01	36.00			4.29E+01	3.60E+01
12	338.58	1.77E+02	62.48			1.77E+02	6.25E+01
13	352.02	5.70E+02	67.85	1.40E+01	5.55E+00	5.56E+02	6.81E+01
14	463.00	8.67E+01	43.79			8.67E+01	4.38E+01
15	501.01	3.03E+01	37.88			3.03E+01	3.79E+01
16	510.78	1.62E+02	48.25	8.41E+01	5.50E+00	7.75E+01	4.86E+01
17	583.25	2.76E+02	45.70	7.32E+00	4.08E+00	2.68E+02	4.59E+01
18	609.28	4.65E+02	60.36	1.30E+01	3.89E+00	4.52E+02	6.05E+01
19	660.28	2.75E+01	27.65			2.75E+01	2.76E+01
20	715.29	2.71E+01	28.28			2.71E+01	2.83E+01
21	727.30	8.98E+01	34.81			8.98E+01	3.48E+01
M 22	768.08	5.83E+01	25.67			5.83E+01	2.57E+01
m 23	772.08	2.43E+01	23.39			2.43E+01	2.34E+01
M 24	786.46	3.44E+01	23.11			3.44E+01	2.31E+01
m 25	790.12	1.57E+01	20.54			1.57E+01	2.05E+01
26	795.14	2.62E+01	31.61			2.62E+01	3.16E+01
27	860.82	8.23E+01	35.21			8.23E+01	3.52E+01
28	911.31	1.53E+02	37.42	5.60E+00	3.32E+00	1.47E+02	3.76E+01
M 29	964.55	4.36E+01	23.94			4.36E+01	2.39E+01
m 30	969.15	1.06E+02	31.78			1.06E+02	3.18E+01
31	1000.83	7.05E+01	44.37			7.05E+01	4.44E+01
32	1065.80	4.35E+01	40.00			4.35E+01	4.00E+01
33	1120.22	9.76E+01	35.60	3.93E+00	2.96E+00	9.36E+01	3.57E+01
34	1156.59	3.90E+01	26.06			3.90E+01	2.61E+01
M 35	1222.73	1.80E+01	25.78			1.80E+01	2.58E+01

Analysis Report for 1510063-19

CP5005S09-10

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
m	36	1232.17	2.28E+01	26.32			2.28E+01	2.63E+01
m	37	1237.45	6.07E+01	25.07			6.07E+01	2.51E+01
	38	1270.78	2.30E+01	21.35			2.30E+01	2.14E+01
	39	1377.88	1.69E+01	21.54			1.69E+01	2.15E+01
	40	1407.98	1.68E+01	15.56			1.68E+01	1.56E+01
	41	1460.87	7.36E+02	56.26	1.12E+01	2.55E+00	7.25E+02	5.63E+01
	42	1509.46	1.14E+01	12.12			1.14E+01	1.21E+01
	43	1572.89	9.10E+00	10.39			9.10E+00	1.04E+01
	44	1581.92	2.04E+01	10.20			2.04E+01	1.02E+01
	45	1588.53	1.92E+01	10.49			1.92E+01	1.05E+01
	46	1729.52	2.06E+01	13.67			2.06E+01	1.37E+01
	47	1764.68	7.55E+01	21.84	4.23E+00	2.21E+00	7.13E+01	2.20E+01
	48	1846.77	1.95E+01	10.63			1.95E+01	1.06E+01
	49	2056.76	1.00E+01	10.49			1.00E+01	1.05E+01
	50	2103.39	1.52E+01	11.40			1.52E+01	1.14E+01
	51	2171.01	8.73E+00	8.31			8.73E+00	8.31E+00
	52	2203.67	2.51E+01	11.93	5.94E-01	1.16E+00	2.45E+01	1.20E+01
	53	2338.62	1.16E+01	8.25			1.16E+01	8.25E+00
	54	2388.66	5.00E+00	7.52			5.00E+00	7.52E+00
	55	2614.28	9.60E+01	19.60	7.38E+00	1.57E+00	8.86E+01	1.97E+01

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

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/3/2015 11:18:19AM
Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

Corrected Area is: Original * Peak Ratio - Background

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	1	76.34	1.14E+03	163.74			1.14E+03	1.64E+02
	2	93.36	1.87E+02	83.76	5.70E+01	9.03E+00	1.30E+02	8.42E+01
	3	100.51	5.86E+01	55.96			5.86E+01	5.60E+01
	4	129.20	8.60E+01	90.86			8.60E+01	9.09E+01
	5	144.78	7.27E+01	74.00	8.10E+00	1.90E+01	6.46E+01	7.64E+01
	6	186.09	2.26E+02	85.08	4.72E+01	7.97E+00	1.79E+02	8.55E+01
	7	209.35	8.47E+01	64.14			8.47E+01	6.41E+01
M	8	238.77	9.30E+02	74.28	2.36E+01	1.35E+01	9.06E+02	7.55E+01

: 01041

Analysis Report for 1510063-19

CP5005S09-10

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
m	9	241.86	2.39E+02	81.01	6.38E+00	3.91E+00	2.32E+02	8.11E+01
M	10	295.32	3.49E+02	50.48	8.57E+00	6.10E+00	3.40E+02	5.08E+01
m	11	300.25	4.29E+01	36.00			4.29E+01	3.60E+01
	12	338.58	1.77E+02	62.48			1.77E+02	6.25E+01
	13	352.02	5.70E+02	67.85	1.40E+01	5.55E+00	5.56E+02	6.81E+01
	14	463.00	8.67E+01	43.79			8.67E+01	4.38E+01
	15	501.01	3.03E+01	37.88			3.03E+01	3.79E+01
	16	510.78	1.62E+02	48.25	8.41E+01	5.50E+00	7.75E+01	4.86E+01
	17	583.25	2.76E+02	45.70	7.32E+00	4.08E+00	2.68E+02	4.59E+01
	18	609.28	4.65E+02	60.36	1.30E+01	3.89E+00	4.52E+02	6.05E+01
	19	660.28	2.75E+01	27.65			2.75E+01	2.76E+01
	20	715.29	2.71E+01	28.28			2.71E+01	2.83E+01
	21	727.30	8.98E+01	34.81			8.98E+01	3.48E+01
M	22	768.08	5.83E+01	25.67			5.83E+01	2.57E+01
m	23	772.08	2.43E+01	23.39			2.43E+01	2.34E+01
M	24	786.46	3.44E+01	23.11			3.44E+01	2.31E+01
m	25	790.12	1.57E+01	20.54			1.57E+01	2.05E+01
	26	795.14	2.62E+01	31.61			2.62E+01	3.16E+01
	27	860.82	8.23E+01	35.21			8.23E+01	3.52E+01
	28	911.31	1.53E+02	37.42	5.60E+00	3.32E+00	1.47E+02	3.76E+01
M	29	964.55	4.36E+01	23.94			4.36E+01	2.39E+01
m	30	969.15	1.06E+02	31.78			1.06E+02	3.18E+01
	31	1000.83	7.05E+01	44.37			7.05E+01	4.44E+01
	32	1065.80	4.35E+01	40.00			4.35E+01	4.00E+01
	33	1120.22	9.76E+01	35.60	3.93E+00	2.96E+00	9.36E+01	3.57E+01
	34	1156.59	3.90E+01	26.06			3.90E+01	2.61E+01
M	35	1222.73	1.80E+01	25.78			1.80E+01	2.58E+01
m	36	1232.17	2.28E+01	26.32			2.28E+01	2.63E+01
m	37	1237.45	6.07E+01	25.07			6.07E+01	2.51E+01
	38	1270.78	2.30E+01	21.35			2.30E+01	2.14E+01
	39	1377.88	1.69E+01	21.54			1.69E+01	2.15E+01
	40	1407.98	1.68E+01	15.56			1.68E+01	1.56E+01
	41	1460.87	7.36E+02	56.26	1.12E+01	2.55E+00	7.25E+02	5.63E+01
	42	1509.46	1.14E+01	12.12			1.14E+01	1.21E+01
	43	1572.89	9.10E+00	10.39			9.10E+00	1.04E+01
	44	1581.92	2.04E+01	10.20			2.04E+01	1.02E+01
	45	1588.53	1.92E+01	10.49			1.92E+01	1.05E+01
	46	1729.52	2.06E+01	13.67			2.06E+01	1.37E+01
	47	1764.68	7.55E+01	21.84	4.23E+00	2.21E+00	7.13E+01	2.20E+01
	48	1846.77	1.95E+01	10.63			1.95E+01	1.06E+01
	49	2056.76	1.00E+01	10.49			1.00E+01	1.05E+01
	50	2103.39	1.52E+01	11.40			1.52E+01	1.14E+01
	51	2171.01	8.73E+00	8.31			8.73E+00	8.31E+00
	52	2203.67	2.51E+01	11.93	5.94E-01	1.16E+00	2.45E+01	1.20E+01
	53	2338.62	1.16E+01	8.25			1.16E+01	8.25E+00
	54	2388.66	5.00E+00	7.52			5.00E+00	7.52E+00
	55	2614.28	9.60E+01	19.60	7.38E+00	1.57E+00	8.86E+01	1.97E+01

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

Analysis Report for 1510063-19
CP5005S09-10

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.999	1460.81	*	10.67	2.58E+01	3.34E+00
GA-67	0.689	93.31	*	35.70	8.93E+01	3.47E+02
		208.95	*	2.24	1.36E+03	5.08E+03
		300.22	*	16.00	1.23E+02	4.82E+02
CE-141	0.928	145.44	*	48.40	1.76E-01	2.12E-01
TL-208	0.986	583.14	*	30.22	1.65E+00	3.15E-01
		860.37	*	4.48	4.62E+00	2.02E+00
		2614.66	*	35.85	1.08E+00	2.55E-01
BI-212	0.764	727.17	*	11.80	1.67E+00	6.64E-01
		1620.62		2.75		
PB-212	0.997	238.63	*	44.60	2.02E+00	2.47E-01
		300.09	*	3.41	1.46E+00	1.23E+00
BI-214	0.996	609.31	*	46.30	1.87E+00	2.98E-01
		1120.29	*	15.10	1.93E+00	7.55E-01
		1764.49	*	15.80	1.91E+00	6.11E-01
		2204.22	*	4.98	2.23E+00	1.10E+00
PB-214	0.998	295.21	*	19.19	2.04E+00	3.61E-01
		351.92	*	37.19	1.94E+00	2.92E-01
RA-224	0.882	240.98	*	3.95	5.90E+00	2.13E+00
RA-226	0.998	186.21	*	3.28	4.60E+00	8.70E+00
AC-228	0.993	338.32	*	11.40	1.95E+00	7.13E-01
		911.07	*	27.70	1.40E+00	3.77E-01
		969.11	*	16.60	1.76E+00	5.52E-01
PA-234M	0.994	1001.03	*	0.92	2.18E+01	1.38E+01

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510063-19
CP5005S09-10

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 11:18:19AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
1	76.34	3.17534E-01	7.16		
3	100.51	1.62859E-02	47.72	Tol.	LU-173
4	129.20	2.38987E-02	52.80		
14	463.00	2.40952E-02	25.24		
15	501.01	8.41815E-03	62.50		
16	510.78	2.15216E-02	31.34		
19	660.28	7.63889E-03	50.27		
20	715.29	7.51984E-03	52.24		
M	22	768.08	1.61961E-02	22.01	
m	23	772.08	6.75360E-03	48.10	
M	24	786.46	9.55732E-03	33.58	
m	25	790.12	4.37076E-03	65.28	
	26	795.14	7.27041E-03	60.39	Sum
M	29	964.55	1.21225E-02	27.43	Tol. EU-152
	32	1065.80	1.20933E-02	45.94	Sum
	34	1156.59	1.08315E-02	33.41	Sum
M	35	1222.73	5.01200E-03	71.45	
m	36	1232.17	6.33711E-03	57.69	
m	37	1237.45	1.68667E-02	20.65	
	38	1270.78	6.39660E-03	46.37	
	39	1377.88	4.68461E-03	63.86	
	40	1407.98	4.66751E-03	46.31	Tol. EU-152
	42	1509.46	3.15476E-03	53.38	
	43	1572.89	2.52778E-03	57.10	
	44	1581.92	5.66288E-03	25.01	
	45	1588.53	5.33816E-03	27.29	Sum
	46	1729.52	5.73413E-03	33.12	Sum
	48	1846.77	5.42298E-03	27.23	Sum
	49	2056.76	2.77778E-03	52.44	
	50	2103.39	4.22222E-03	37.51	S-Esc
	51	2171.01	2.42424E-03	47.59	
	53	2338.62	3.21581E-03	35.61	
	54	2388.66	1.38889E-03	75.17	

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

Analysis Report for 1510063-19
CP5005S09-10

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.99	1460.81	*	10.67	2.58E+01	3.34E+00
GA-67	0.68	93.31	*	35.70	8.93E+01	3.47E+02
		208.95	*	2.24	1.36E+03	5.08E+03
		300.22	*	16.00	1.23E+02	4.82E+02
CE-141	0.92	145.44	*	48.40	1.76E-01	2.12E-01
TL-208	0.98	583.14	*	30.22	1.65E+00	3.15E-01
		860.37	*	4.48	4.62E+00	2.02E+00
BI-212	0.76	2614.66	*	35.85	1.08E+00	2.55E-01
		727.17	*	11.80	1.67E+00	6.64E-01
		1620.62		2.75		
PB-212	0.99	238.63	*	44.60	2.02E+00	2.47E-01
		300.09	*	3.41	1.46E+00	1.23E+00
BI-214	0.99	609.31	*	46.30	1.87E+00	2.98E-01
		1120.29	*	15.10	1.93E+00	7.55E-01
		1764.49	*	15.80	1.91E+00	6.11E-01
		2204.22	*	4.98	2.23E+00	1.10E+00
PB-214	0.99	295.21	*	19.19	2.04E+00	3.61E-01
		351.92	*	37.19	1.94E+00	2.92E-01
RA-224	0.88	240.98	*	3.95	5.90E+00	2.13E+00
RA-226	0.99	186.21	*	3.28	4.60E+00	8.70E+00
AC-228	0.99	338.32	*	11.40	1.95E+00	7.13E-01
		911.07	*	27.70	1.40E+00	3.77E-01
		969.11	*	16.60	1.76E+00	5.52E-01
PA-234M	0.99	1001.03	*	0.92	2.18E+01	1.38E+01

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

Analysis Report for 1510063-19
CP5005S09-10

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.999	2.58E+01	3.34E+00	
GA-67	0.689	5.97E+01	2.25E+02	
CE-141	0.928	1.76E-01	2.12E-01	
TL-208	0.986	1.34E+00	1.97E-01	
BI-212	0.764	1.67E+00	6.64E-01	
PB-212	0.997	1.97E+00	2.43E-01	
BI-214	0.996	1.90E+00	2.46E-01	
PB-214	0.998	1.98E+00	2.27E-01	
RA-224	0.882	5.90E+00	2.13E+00	
RA-226	0.998	4.60E+00	8.70E+00	
AC-228	0.993	1.58E+00	2.85E-01	
PA-234M	0.994	2.18E+01	1.38E+01	

- ? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

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UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 11:18:19AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
1	76.34	3.17534E-01	7.16		
3	100.51	1.62859E-02	47.72	Tol.	LU-173
4	129.20	2.38987E-02	52.80		
14	463.00	2.40952E-02	25.24		
15	501.01	8.41815E-03	62.50		
16	510.78	2.15216E-02	31.34		
19	660.28	7.63889E-03	50.27		
20	715.29	7.51984E-03	52.24		
M	22	768.08	1.61961E-02	22.01	
m	23	772.08	6.75360E-03	48.10	
M	24	786.46	9.55732E-03	33.58	
m	25	790.12	4.37076E-03	65.28	
	26	795.14	7.27041E-03	60.39	Sum
M	29	964.55	1.21225E-02	27.43	Tol. EU-152
	32	1065.80	1.20933E-02	45.94	Sum
	34	1156.59	1.08315E-02	33.41	Sum
M	35	1222.73	5.01200E-03	71.45	
m	36	1232.17	6.33711E-03	57.69	
m	37	1237.45	1.68667E-02	20.65	
	38	1270.78	6.39660E-03	46.37	
	39	1377.88	4.68461E-03	63.86	
	40	1407.98	4.66751E-03	46.31	Tol. EU-152
	42	1509.46	3.15476E-03	53.38	
	43	1572.89	2.52778E-03	57.10	
	44	1581.92	5.66288E-03	25.01	
	45	1588.53	5.33816E-03	27.29	Sum
	46	1729.52	5.73413E-03	33.12	Sum
	48	1846.77	5.42298E-03	27.23	Sum
	49	2056.76	2.77778E-03	52.44	
	50	2103.39	4.22222E-03	37.51	S-Esc
	51	2171.01	2.42424E-03	47.59	
	53	2338.62	3.21581E-03	35.61	
	54	2388.66	1.38889E-03	75.17	

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	<i>Nuclide Name</i>	<i>Energy (keV)</i>	<i>Yield(%)</i>	<i>Activity (pCi/grams)</i>	<i>Nuclide MDA (pCi/grams)</i>	<i>Line MDA (pCi/grams)</i>
+	BE-7	477.59	10.42	1.11E-02	9.99E-01	9.99E-01
+	NA-22	1274.54	99.94	1.76E-02	1.24E-01	1.24E-01
+	NA-24	1368.53	99.99	-9.24E+11	1.39E+12	3.48E+12
		2754.09	99.86	3.00E+11		1.39E+12
+	AL-26	1808.65	99.76	4.13E-02	8.92E-02	8.92E-02
+	K-40	1460.81	* 10.67	2.58E+01	1.06E+00	1.06E+00
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	-4.18E-02	6.54E-02	6.54E-02
		78.34	96.00	4.34E-01		1.03E-01
+	SC-46	889.25	99.98	5.70E-02	1.26E-01	1.26E-01
		1120.51	99.99	3.83E-01		2.35E-01
+	V-48	983.52	99.98	-9.98E-02	3.22E-01	3.22E-01
		1312.10	97.50	-1.10E-01		3.24E-01
+	CR-51	320.08	9.83	9.56E-02	1.39E+00	1.39E+00
+	MN-54	834.83	99.97	-6.28E-02	1.00E-01	1.00E-01
+	CO-56	846.75	99.96	-1.72E-02	1.19E-01	1.19E-01
		1037.75	14.03	5.49E-02		9.07E-01
		1238.25	67.00	3.22E-01		3.17E-01
		1771.40	15.51	9.53E-02		6.37E-01
		2598.48	16.90	5.11E-02		4.37E-01
+	CO-57	122.06	85.51	3.42E-02	7.35E-02	7.35E-02
		136.48	10.60	-2.13E-01		6.45E-01
+	CO-58	810.76	99.40	-2.84E-02	1.14E-01	1.14E-01
+	FE-59	1099.22	56.50	-2.86E-02	2.91E-01	2.91E-01
		1291.56	43.20	4.94E-03		3.46E-01
+	CO-60	1173.22	100.00	1.62E-02	1.04E-01	1.29E-01
		1332.49	100.00	2.70E-02		1.04E-01
+	ZN-65	1115.52	50.75	1.71E-02	2.64E-01	2.64E-01
+	GA-67	93.31	* 35.70	8.93E+01	9.38E+01	9.38E+01
		208.95	* 2.24	1.36E+03		1.66E+03
		300.22	* 16.00	1.23E+02		3.15E+02
+	SE-75	121.11	16.70	-5.23E-02	1.27E-01	4.07E-01

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	SE-75	136.00	59.20	6.42E-03	1.27E-01	1.27E-01
		264.65	59.80	6.08E-02		1.31E-01
		279.53	25.20	5.95E-02		3.37E-01
		400.65	11.40	6.00E-01		7.49E-01
+	RB-82	776.52	13.00	-6.31E-01	1.50E+00	1.50E+00
+	RB-83	520.41	46.00	9.06E-02	1.97E-01	1.97E-01
		529.64	30.30	-1.12E-01		2.85E-01
		552.65	16.40	3.83E-02		5.44E-01
+	KR-85	513.99	0.43	-2.89E+01	1.83E+01	1.83E+01
+	SR-85	513.99	99.27	-1.70E-01	1.08E-01	1.08E-01
+	Y-88	898.02	93.40	-3.35E-02	9.82E-02	1.17E-01
		1836.01	99.38	1.88E-02		9.82E-02
+	NB-93M	16.57	9.43	-1.62E+04	6.94E+03	6.94E+03
+	NB-94	702.63	100.00	-4.73E-02	9.02E-02	9.02E-02
		871.10	100.00	3.66E-02		9.53E-02
+	NB-95	765.79	99.81	1.97E-01	2.13E-01	2.13E-01
+	NB-95M	235.69	25.00	-7.57E+02	9.21E+01	9.21E+01
+	ZR-95	724.18	43.70	-1.04E-02	2.10E-01	3.70E-01
		756.72	55.30	-1.01E-01		2.10E-01
+	MO-99	181.06	6.20	9.70E+01	7.05E+02	1.30E+03
		739.58	12.80	-4.57E+02		7.05E+02
		778.00	4.50	-2.73E+02		2.40E+03
+	RU-103	497.08	89.00	-2.34E-02	1.24E-01	1.24E-01
+	RU-106	621.84	9.80	-1.96E-02	9.33E-01	9.33E-01
+	AG-108M	433.93	89.90	6.22E-03	7.64E-02	7.64E-02
		614.37	90.40	1.38E-02		1.08E-01
		722.95	90.50	-1.40E-02		1.06E-01
+	CD-109	88.03	3.72	3.77E+00	2.40E+00	2.40E+00
+	AG-110M	657.75	93.14	-1.27E-02	1.08E-01	1.08E-01
		677.61	10.53	4.68E-01		9.29E-01
		706.67	16.46	2.65E-01		6.47E-01
		763.93	21.98	-4.47E-01		5.18E-01
		884.67	71.63	-1.18E-01		1.33E-01
		1384.27	23.94	-5.36E-02		4.14E-01
+	CD-113M	263.70	0.02	1.16E+02	2.92E+02	2.92E+02
+	SN-113	255.12	1.93	1.02E+00	1.22E-01	4.07E+00
		391.69	64.90	-3.59E-02		1.22E-01
+	TE123M	159.00	84.10	-2.25E-02	8.66E-02	8.66E-02
+	SB-124	602.71	97.87	-3.07E-02	1.22E-01	1.22E-01
		645.85	7.26	-8.60E-01		1.57E+00
		722.78	11.10	-1.58E-01		1.20E+00
		1691.02	49.00	5.02E-03		1.76E-01
+	I-125	35.49	6.49	-3.74E+00	6.97E+00	6.97E+00
+	SB-125	176.33	6.89	-6.28E-01	2.48E-01	9.28E-01
		427.89	29.33	-2.96E-02		2.48E-01
		463.38	10.35	1.14E+00		9.01E-01
		600.56	17.80	-2.05E-01		4.67E-01
		635.90	11.32	4.73E-02		8.17E-01

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	SB-126	414.70	83.30	3.40E-02	3.93E-01	3.93E-01
		666.33	99.60	-9.74E-02		4.32E-01
		695.00	99.60	-5.76E-02		4.49E-01
		720.50	53.80	-1.13E-01		7.51E-01
+	SN-126	87.57	37.00	3.64E-01	2.31E-01	2.31E-01
+	SB-127	473.00	25.00	4.49E+00	3.18E+01	4.54E+01
		685.20	35.70	-2.27E+01		3.18E+01
		783.80	14.70	-3.26E+00		1.12E+02
+	I-129	29.78	57.00	-7.70E-01	1.56E+00	1.56E+00
		33.60	13.20	-6.38E-01		3.25E+00
		39.58	7.52	-4.56E-01		2.89E+00
+	I-131	284.30	6.05	-3.97E+00	1.01E+00	1.29E+01
		364.48	81.20	5.59E-02		1.01E+00
		636.97	7.26	-5.35E+00		1.37E+01
		722.89	1.80	-7.96E+00		6.05E+01
+	TE-132	49.72	13.10	4.12E+01	3.31E+01	2.96E+02
		228.16	88.00	1.39E+01		3.31E+01
+	BA-133	81.00	33.00	4.34E-03	1.15E-01	1.62E-01
		302.84	17.80	-1.90E-01		3.71E-01
		356.01	60.00	2.28E-02		1.15E-01
+	I-133	529.87	86.30	1.18E+08	5.01E+08	5.01E+08
+	XE-133	81.00	38.00	1.54E-01	5.75E+00	5.75E+00
+	CS-134	563.23	8.38	-1.35E-01	1.21E-01	8.30E-01
		569.32	15.43	-2.49E-01		4.76E-01
		604.70	97.60	-1.30E-02		1.21E-01
		795.84	85.40	8.81E-02		1.32E-01
		801.93	8.73	6.46E-02		1.19E+00
+	CS-135	268.24	16.00	-9.40E-02	4.68E-01	4.68E-01
+	@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@	1260.41	28.60	1.00E+26		1.00E+26
	@	1678.03	9.54	1.00E+26		1.00E+26
+	CS-136	153.22	7.46	9.54E-01	3.54E-01	4.04E+00
		163.89	4.61	-6.27E+00		5.86E+00
		176.55	13.56	2.01E-01		2.04E+00
		273.65	12.66	-2.12E+00		2.31E+00
		340.57	48.50	-6.00E-01		7.38E-01
		818.50	99.70	-9.51E-02		3.54E-01
		1048.07	79.60	-3.45E-01		5.30E-01
		1235.34	19.70	3.25E-01		3.46E+00
+	CS-137	661.65	85.12	-6.69E-03	1.13E-01	1.13E-01
+	LA-138	788.74	34.00	3.10E-01	1.40E-01	3.07E-01
		1435.80	66.00	1.54E-02		1.40E-01
+	CE-139	165.85	80.35	3.34E-02	9.35E-02	9.35E-02
+	BA-140	162.64	6.70	-4.25E-01	1.41E+00	4.18E+00
		304.84	4.50	3.06E+00		6.63E+00
		423.70	3.20	-2.67E-01		1.06E+01
		437.55	2.00	-5.72E+00		1.50E+01
		537.32	25.00	4.97E-01		1.41E+00
+	LA-140	328.77	20.50	6.67E-02	5.11E-01	1.68E+00

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	LA-140	487.03	45.50	1.11E-01	5.11E-01	7.01E-01
		815.85	23.50	-8.54E-01		1.51E+00
		1596.49	95.49	2.03E-01		5.11E-01
+	CE-141	145.44	* 48.40	1.76E-01	3.42E-01	3.42E-01
+	CE-143	57.36	11.80	-4.10E+04	3.53E+05	8.32E+05
		293.26	42.00	-1.04E+05		3.53E+05
		664.55	5.20	1.14E+06		2.66E+06
+	CE-144	133.54	10.80	2.20E-01	6.46E-01	6.46E-01
+	PM-144	476.78	42.00	2.01E-03	9.50E-02	1.81E-01
		618.01	98.60	1.52E-03		9.50E-02
		696.49	99.49	3.94E-02		1.02E-01
+	PM-145	36.85	21.70	8.73E-01	6.85E-01	1.33E+00
		37.36	39.70	4.49E-01		6.85E-01
		42.30	15.10	-1.26E-01		1.14E+00
		72.40	2.31	-2.29E+00		2.69E+00
+	PM-146	453.90	39.94	7.91E-03	1.73E-01	1.73E-01
		735.90	14.01	5.97E-02		6.19E-01
		747.13	13.10	1.45E-01		7.01E-01
+	ND-147	91.11	28.90	-7.24E-02	1.67E+00	1.67E+00
		531.02	13.10	-4.22E-01		3.22E+00
+	PM-149	285.90	3.10	3.35E+03	1.54E+04	1.54E+04
+	EU-152	121.78	20.50	1.33E-01	2.86E-01	2.86E-01
		244.69	5.40	-1.74E+00		1.40E+00
		344.27	19.13	3.35E-02		3.43E-01
		778.89	9.20	-1.14E-01		9.42E-01
		964.01	10.40	-2.90E+00		1.32E+00
		1085.78	7.22	-2.29E-01		1.37E+00
		1112.02	9.60	2.00E-01		1.22E+00
		1407.95	14.94	1.65E-01		7.43E-01
+	GD-153	97.43	31.30	1.66E-02	2.03E-01	2.03E-01
		103.18	22.20	-9.74E-03		2.78E-01
+	EU-154	123.07	40.50	6.64E-02	1.45E-01	1.45E-01
		723.30	19.70	-6.48E-02		4.92E-01
		873.19	11.50	8.70E-03		8.28E-01
		996.32	10.30	4.74E-01		1.06E+00
		1004.76	17.90	3.16E-01		6.49E-01
		1274.45	35.50	4.88E-02		3.44E-01
+	EU-155	86.50	30.90	-1.53E-01	2.72E-01	2.72E-01
		105.30	20.70	8.08E-02		2.85E-01
+	EU-156	811.77	10.40	-4.65E-01	2.96E+00	2.96E+00
		1153.47	7.20	-3.04E-01		5.69E+00
		1230.71	8.90	1.48E+00		5.31E+00
+	HO-166M	184.41	72.60	8.47E-04	1.14E-01	1.14E-01
		280.45	29.60	4.32E-02		2.45E-01
		410.94	11.10	-2.47E-02		6.36E-01
		711.69	54.10	2.18E-02		1.80E-01
+	TM-171	66.72	0.14	-4.59E-01	4.57E+01	4.57E+01
+	HF-172	81.75	4.52	-1.63E+00	5.48E-01	1.17E+00
		125.81	11.30	-7.73E-01		5.48E-01

Analysis Report for 1510063-19

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	LU-172	181.53	20.60	-5.45E-02	3.31E+00	6.09E+00
		810.06	16.63	-2.36E+00		9.49E+00
		912.12	15.25	4.23E+01		2.21E+01
		1093.66	62.50	1.15E+00		3.31E+00
+	LU-173	100.72	5.24	4.36E-01	3.89E-01	1.16E+00
		272.11	21.20	3.40E-01		3.89E-01
+	HF-175	343.40	84.00	5.83E-03	1.03E-01	1.03E-01
+	LU-176	88.34	13.30	1.01E+00	6.65E-02	6.43E-01
		201.83	86.00	-1.85E-02		8.22E-02
		306.78	94.00	-1.83E-02		6.65E-02
+	TA-182	67.75	41.20	-1.14E-01	1.78E-01	1.78E-01
		1121.30	34.90	9.87E-01		6.28E-01
		1189.05	16.23	-4.53E-01		7.40E-01
		1221.41	26.98	2.11E-01		5.59E-01
		1231.02	11.44	2.75E-01		1.33E+00
+	IR-192	308.46	29.68	2.88E-02	1.83E-01	2.80E-01
		468.07	48.10	9.71E-05		1.83E-01
+	HG-203	279.19	77.30	2.90E-02	1.42E-01	1.42E-01
+	BI-207	569.67	97.72	-3.83E-02	7.35E-02	7.35E-02
		1063.62	74.90	-4.66E-03		1.40E-01
+	TL-208	583.14	* 30.22	1.65E+00	1.47E-01	3.41E-01
		860.37	* 4.48	4.62E+00		2.94E+00
		2614.66	* 35.85	1.08E+00		1.47E-01
+	BI-210M	262.00	45.00	-5.88E-02	1.45E-01	1.45E-01
		300.00	23.00	1.13E-01		3.11E-01
+	PB-210	46.50	4.25	4.18E+00	3.27E+00	3.27E+00
+	PB-211	404.84	2.90	-1.59E+00	2.32E+00	2.32E+00
		831.96	2.90	-7.77E-01		3.39E+00
+	BI-212	727.17	* 11.80	1.67E+00	9.45E-01	9.45E-01
		1620.62	2.75	6.03E-01		3.76E+00
+	PB-212	238.63	* 44.60	2.02E+00	3.17E-01	3.17E-01
		300.09	* 3.41	1.46E+00		3.75E+00
+	BI-214	609.31	* 46.30	1.87E+00	3.04E-01	3.04E-01
		1120.29	* 15.10	1.93E+00		1.07E+00
		1764.49	* 15.80	1.91E+00		6.93E-01
		2204.22	* 4.98	2.23E+00		1.25E+00
+	PB-214	295.21	* 19.19	2.04E+00	2.91E-01	6.68E-01
		351.92	* 37.19	1.94E+00		2.91E-01
+	RN-219	401.80	6.50	2.70E-01	1.09E+00	1.09E+00
+	RA-223	323.87	3.88	1.29E+00	1.95E+00	1.95E+00
+	RA-224	240.98	* 3.95	5.90E+00	3.62E+00	3.62E+00
+	RA-225	40.00	31.00	-3.96E-01	2.51E+00	2.51E+00
+	RA-226	186.21	* 3.28	4.60E+00	3.50E+00	3.50E+00
+	TH-227	50.10	8.40	1.59E-01	9.05E-01	1.15E+00
		236.00	11.50	-7.44E+00		9.05E-01
		256.20	6.30	-5.50E-01		1.02E+00
+	AC-228	338.32	* 11.40	1.95E+00	4.75E-01	1.06E+00
		911.07	* 27.70	1.40E+00		4.75E-01

Analysis Report for 1510063-19
CP5005S09-10

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	AC-228	969.11	*	16.60	1.76E+00	4.75E-01	9.42E-01
+	TH-230	48.44		16.90	-6.07E-01	6.24E-01	6.24E-01
		62.85		4.60	1.80E+00		1.63E+00
		67.67		0.37	-1.07E+01		1.67E+01
+	PA-231	283.67		1.60	-1.33E+00	2.85E+00	4.31E+00
		302.67		2.30	-1.46E+00		2.85E+00
+	TH-231	25.64		14.70	-1.19E+01	9.08E-01	1.95E+01
		84.21		6.40	8.24E-01		9.08E-01
+	PA-233	311.98		38.60	1.65E-01	3.47E-01	3.47E-01
+	PA-234	131.20		20.40	5.78E-02	3.30E-01	3.30E-01
		733.99		8.80	-2.98E-01		1.03E+00
		946.00		12.00	-7.83E-02		8.20E-01
+	PA-234M	1001.03	*	0.92	2.18E+01	2.17E+01	2.17E+01
+	TH-234	63.29		3.80	2.17E+00	1.96E+00	1.96E+00
+	U-235	143.76		10.50	3.06E-01	6.59E-01	6.59E-01
		163.35		4.70	-1.32E-01		1.30E+00
		205.31		4.70	-1.20E-02		1.54E+00
+	NP-237	86.50		12.60	-3.72E-01	6.59E-01	6.59E-01
+	NP-239	106.10		22.70	9.96E+02	1.06E+03	1.06E+03
		228.18		10.70	1.14E+03		2.70E+03
		277.60		14.10	-2.09E+00		1.98E+03
+	AM-241	59.54		35.90	2.94E-02	1.94E-01	1.94E-01
+	AM-243	74.67		66.00	-3.37E-01	1.36E-01	1.36E-01
+	CM-243	209.75		3.29	2.25E+00	5.08E-01	2.35E+00
		228.14		10.60	2.92E-01		6.94E-01
		277.60		14.00	-5.37E-04		5.08E-01

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

: 01053

Analysis Report for 1510063-19
CP5005S09-10

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
BE-7	477.59	10.42	9.99E-01	9.99E-01	1.11E-02	4.69E-01
NA-22	1274.54	99.94	1.24E-01	1.24E-01	1.76E-02	5.73E-02
NA-24	1368.53	99.99	3.48E+12	1.39E+12	-9.24E+11	1.57E+12
	2754.09	99.86	1.39E+12		3.00E+11	4.93E+11
AL-26	1808.65	99.76	8.92E-02	8.92E-02	4.13E-02	3.88E-02
+ K-40	1460.81	* 10.67	1.06E+00	1.06E+00	2.58E+01	4.83E-01
@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
TI-44	67.88	94.40	6.54E-02	6.54E-02	-4.18E-02	3.17E-02
	78.34	96.00	1.03E-01		4.34E-01	5.07E-02
SC-46	889.25	99.98	1.26E-01	1.26E-01	5.70E-02	5.87E-02
	1120.51	99.99	2.35E-01		3.83E-01	1.12E-01
V-48	983.52	99.98	3.22E-01	3.22E-01	-9.98E-02	1.48E-01
	1312.10	97.50	3.24E-01		-1.10E-01	1.45E-01
CR-51	320.08	9.83	1.39E+00	1.39E+00	9.56E-02	6.62E-01
MN-54	834.83	99.97	1.00E-01	1.00E-01	-6.28E-02	4.67E-02
CO-56	846.75	99.96	1.19E-01	1.19E-01	-1.72E-02	5.53E-02
	1037.75	14.03	9.07E-01		5.49E-02	4.17E-01
	1238.25	67.00	3.17E-01		3.22E-01	1.50E-01
	1771.40	15.51	6.37E-01		9.53E-02	2.71E-01
	2598.48	16.90	4.37E-01		5.11E-02	1.73E-01
CO-57	122.06	85.51	7.35E-02	7.35E-02	3.42E-02	3.56E-02
	136.48	10.60	6.45E-01		-2.13E-01	3.13E-01
CO-58	810.76	99.40	1.14E-01	1.14E-01	-2.84E-02	5.27E-02
FE-59	1099.22	56.50	2.91E-01	2.91E-01	-2.86E-02	1.34E-01
	1291.56	43.20	3.46E-01		4.94E-03	1.56E-01
CO-60	1173.22	100.00	1.29E-01	1.04E-01	1.62E-02	6.03E-02
	1332.49	100.00	1.04E-01		2.70E-02	4.74E-02
ZN-65	1115.52	50.75	2.64E-01	2.64E-01	1.71E-02	1.23E-01
+ GA-67	93.31	* 35.70	9.38E+01	9.38E+01	8.93E+01	4.60E+01
	208.95	* 2.24	1.66E+03		1.36E+03	8.10E+02
	300.22	* 16.00	3.15E+02		1.23E+02	1.54E+02
SE-75	121.11	16.70	4.07E-01	1.27E-01	-5.23E-02	1.97E-01
	136.00	59.20	1.27E-01		6.42E-03	6.15E-02
	264.65	59.80	1.31E-01		6.08E-02	6.27E-02
	279.53	25.20	3.37E-01		5.95E-02	1.62E-01
	400.65	11.40	7.49E-01		6.00E-01	3.55E-01
RB-82	776.52	13.00	1.50E+00	1.50E+00	-6.31E-01	6.99E-01
RB-83	520.41	46.00	1.97E-01	1.97E-01	9.06E-02	9.23E-02
	529.64	30.30	2.85E-01		-1.12E-01	1.33E-01
	552.65	16.40	5.44E-01		3.83E-02	2.53E-01
KR-85	513.99	0.43	1.83E+01	1.83E+01	-2.89E+01	8.63E+00
SR-85	513.99	99.27	1.08E-01	1.08E-01	-1.70E-01	5.07E-02
Y-88	898.02	93.40	1.17E-01	9.82E-02	-3.35E-02	5.39E-02
	1836.01	99.38	9.82E-02		1.88E-02	4.21E-02
NB-93M	16.57	9.43	6.94E+03	6.94E+03	-1.62E+04	3.37E+03
NB-94	702.63	100.00	9.02E-02	9.02E-02	-4.73E-02	4.22E-02
	871.10	100.00	9.53E-02		3.66E-02	4.42E-02
NB-95	765.79	99.81	2.13E-01	2.13E-01	1.97E-01	1.01E-01
NB-95M	235.69	25.00	9.21E+01	9.21E+01	-7.57E+02	4.49E+01
ZR-95	724.18	43.70	3.70E-01	2.10E-01	-1.04E-02	1.76E-01
	756.72	55.30	2.10E-01		-1.01E-01	9.76E-02

Analysis Report for 1510063-19
CP5005S09-10

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
MO-99	181.06	6.20	1.30E+03	7.05E+02	9.70E+01	6.27E+02
	739.58	12.80	7.05E+02		-4.57E+02	3.24E+02
	778.00	4.50	2.40E+03		-2.73E+02	1.12E+03
RU-103	497.08	89.00	1.24E-01	1.24E-01	-2.34E-02	5.79E-02
RU-106	621.84	9.80	9.33E-01	9.33E-01	-1.96E-02	4.38E-01
AG-108M	433.93	89.90	7.64E-02	7.64E-02	6.22E-03	3.59E-02
	614.37	90.40	1.08E-01		1.38E-02	5.09E-02
	722.95	90.50	1.06E-01		-1.40E-02	5.00E-02
CD-109	88.03	3.72	2.40E+00	2.40E+00	3.77E+00	1.18E+00
AG-110M	657.75	93.14	1.08E-01	1.08E-01	-1.27E-02	5.09E-02
	677.61	10.53	9.29E-01		4.68E-01	4.36E-01
	706.67	16.46	6.47E-01		2.65E-01	3.04E-01
	763.93	21.98	5.18E-01		-4.47E-01	2.44E-01
	884.67	71.63	1.33E-01		-1.18E-01	6.12E-02
	1384.27	23.94	4.14E-01		-5.36E-02	1.85E-01
CD-113M	263.70	0.02	2.92E+02	2.92E+02	1.16E+02	1.40E+02
SN-113	255.12	1.93	4.07E+00	1.22E-01	1.02E+00	1.95E+00
	391.69	64.90	1.22E-01		-3.59E-02	5.74E-02
TE123M	159.00	84.10	8.66E-02	8.66E-02	-2.25E-02	4.18E-02
SB-124	602.71	97.87	1.22E-01	1.22E-01	-3.07E-02	5.72E-02
	645.85	7.26	1.57E+00		-8.60E-01	7.32E-01
	722.78	11.10	1.20E+00		-1.58E-01	5.63E-01
	1691.02	49.00	1.76E-01		5.02E-03	7.22E-02
I-125	35.49	6.49	6.97E+00	6.97E+00	-3.74E+00	3.38E+00
SB-125	176.33	6.89	9.28E-01	2.48E-01	-6.28E-01	4.48E-01
	427.89	29.33	2.48E-01		-2.96E-02	1.17E-01
	463.38	10.35	9.01E-01		1.14E+00	4.30E-01
	600.56	17.80	4.67E-01		-2.05E-01	2.19E-01
	635.90	11.32	8.17E-01		4.73E-02	3.85E-01
SB-126	414.70	83.30	3.93E-01	3.93E-01	3.40E-02	1.85E-01
	666.33	99.60	4.32E-01		-9.74E-02	2.03E-01
	695.00	99.60	4.49E-01		-5.76E-02	2.11E-01
	720.50	53.80	7.51E-01		-1.13E-01	3.49E-01
SN-126	87.57	37.00	2.31E-01	2.31E-01	3.64E-01	1.13E-01
SB-127	473.00	25.00	4.54E+01	3.18E+01	4.49E+00	2.13E+01
	685.20	35.70	3.18E+01		-2.27E+01	1.46E+01
	783.80	14.70	1.12E+02		-3.26E+00	5.28E+01
I-129	29.78	57.00	1.56E+00	1.56E+00	-7.70E-01	7.58E-01
	33.60	13.20	3.25E+00		-6.38E-01	1.57E+00
	39.58	7.52	2.89E+00		-4.56E-01	1.41E+00
I-131	284.30	6.05	1.29E+01	1.01E+00	-3.97E+00	6.17E+00
	364.48	81.20	1.01E+00		5.59E-02	4.80E-01
	636.97	7.26	1.37E+01		-5.35E+00	6.42E+00
	722.89	1.80	6.05E+01		-7.96E+00	2.84E+01
TE-132	49.72	13.10	2.96E+02	3.31E+01	4.12E+01	1.44E+02
	228.16	88.00	3.31E+01		1.39E+01	1.59E+01
BA-133	81.00	33.00	1.62E-01	1.15E-01	4.34E-03	7.83E-02
	302.84	17.80	3.71E-01		-1.90E-01	1.76E-01
	356.01	60.00	1.15E-01		2.28E-02	5.43E-02
I-133	529.87	86.30	5.01E+08	5.01E+08	1.18E+08	2.35E+08
XE-133	81.00	38.00	5.75E+00	5.75E+00	1.54E-01	2.78E+00
CS-134	563.23	8.38	8.30E-01	1.21E-01	-1.35E-01	3.85E-01
	569.32	15.43	4.76E-01		-2.49E-01	2.22E-01

Analysis Report for 1510063-19
CP5005S09-10

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)		
CS-134	604.70	97.60	1.21E-01	1.21E-01	-1.30E-02	5.76E-02		
	795.84	85.40	1.32E-01		8.81E-02	6.22E-02		
	801.93	8.73	1.19E+00		6.46E-02	5.59E-01		
CS-135	268.24	16.00	4.68E-01	4.68E-01	-9.40E-02	2.25E-01		
@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20		
@	1260.41	28.60	1.00E+26		1.00E+26	1.00E+20		
@	1678.03	9.54	1.00E+26		1.00E+26	1.00E+20		
CS-136	153.22	7.46	4.04E+00	3.54E-01	9.54E-01	1.96E+00		
	163.89	4.61	5.86E+00		-6.27E+00	2.83E+00		
	176.55	13.56	2.04E+00		2.01E-01	9.82E-01		
	273.65	12.66	2.31E+00		-2.12E+00	1.10E+00		
	340.57	48.50	7.38E-01		-6.00E-01	3.53E-01		
	818.50	99.70	3.54E-01		-9.51E-02	1.62E-01		
	1048.07	79.60	5.30E-01		-3.45E-01	2.43E-01		
	1235.34	19.70	3.46E+00		3.25E-01	1.63E+00		
	CS-137	661.65	85.12		1.13E-01	1.13E-01	-6.69E-03	5.33E-02
	LA-138	788.74	34.00		3.07E-01	1.40E-01	3.10E-01	1.44E-01
1435.80		66.00	1.40E-01	1.54E-02	6.21E-02			
CE-139	165.85	80.35	9.35E-02	9.35E-02	3.34E-02	4.52E-02		
BA-140	162.64	6.70	4.18E+00	1.41E+00	-4.25E-01	2.02E+00		
	304.84	4.50	6.63E+00		3.06E+00	3.15E+00		
	423.70	3.20	1.06E+01		-2.67E-01	5.04E+00		
	437.55	2.00	1.50E+01		-5.72E+00	7.06E+00		
	537.32	25.00	1.41E+00		4.97E-01	6.63E-01		
	LA-140	328.77	20.50		1.68E+00	5.11E-01	6.67E-02	8.04E-01
	487.03	45.50	7.01E-01		1.11E-01	3.28E-01		
	815.85	23.50	1.51E+00		-8.54E-01	6.92E-01		
	1596.49	95.49	5.11E-01		2.03E-01	2.29E-01		
	CE-141	145.44	* 48.40	3.42E-01	3.42E-01	1.76E-01	1.67E-01	
CE-143	57.36	11.80	8.32E+05	3.53E+05	-4.10E+04	4.02E+05		
	293.26	42.00	3.53E+05		-1.04E+05	1.71E+05		
	664.55	5.20	2.66E+06		1.14E+06	1.25E+06		
CE-144	133.54	10.80	6.46E-01	6.46E-01	2.20E-01	3.14E-01		
PM-144	476.78	42.00	1.81E-01	9.50E-02	2.01E-03	8.52E-02		
	618.01	98.60	9.50E-02		1.52E-03	4.47E-02		
	696.49	99.49	1.02E-01		3.94E-02	4.77E-02		
PM-145	36.85	21.70	1.33E+00	6.85E-01	8.73E-01	6.47E-01		
	37.36	39.70	6.85E-01		4.49E-01	3.32E-01		
	42.30	15.10	1.14E+00		-1.26E-01	5.54E-01		
	72.40	2.31	2.69E+00		-2.29E+00	1.30E+00		
PM-146	453.90	39.94	1.73E-01	1.73E-01	7.91E-03	8.13E-02		
	735.90	14.01	6.19E-01		5.97E-02	2.88E-01		
	747.13	13.10	7.01E-01		1.45E-01	3.27E-01		
ND-147	91.11	28.90	1.67E+00	1.67E+00	-7.24E-02	8.20E-01		
	531.02	13.10	3.22E+00		-4.22E-01	1.51E+00		
PM-149	285.90	3.10	1.54E+04	1.54E+04	3.35E+03	7.35E+03		
EU-152	121.78	20.50	2.86E-01	2.86E-01	1.33E-01	1.39E-01		
	244.69	5.40	1.40E+00		-1.74E+00	6.73E-01		
	344.27	19.13	3.43E-01		3.35E-02	1.63E-01		
	778.89	9.20	9.42E-01		-1.14E-01	4.37E-01		
	964.01	10.40	1.32E+00		-2.90E+00	6.22E-01		
	1085.78	7.22	1.37E+00		-2.29E-01	6.29E-01		
	1112.02	9.60	1.22E+00		2.00E-01	5.64E-01		

Analysis Report for 1510063-19
CP5005S09-10

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
EU-152	1407.95	14.94	7.43E-01	2.86E-01	1.65E-01	3.38E-01
GD-153	97.43	31.30	2.03E-01	2.03E-01	1.66E-02	9.84E-02
	103.18	22.20	2.78E-01		-9.74E-03	1.35E-01
EU-154	123.07	40.50	1.45E-01	1.45E-01	6.64E-02	7.05E-02
	723.30	19.70	4.92E-01		-6.48E-02	2.31E-01
	873.19	11.50	8.28E-01		8.70E-03	3.84E-01
	996.32	10.30	1.06E+00		4.74E-01	4.90E-01
	1004.76	17.90	6.49E-01		3.16E-01	3.03E-01
	1274.45	35.50	3.44E-01		4.88E-02	1.59E-01
EU-155	86.50	30.90	2.72E-01	2.72E-01	-1.53E-01	1.33E-01
	105.30	20.70	2.85E-01		8.08E-02	1.38E-01
EU-156	811.77	10.40	2.96E+00	2.96E+00	-4.65E-01	1.37E+00
	1153.47	7.20	5.69E+00		-3.04E-01	2.63E+00
	1230.71	8.90	5.31E+00		1.48E+00	2.47E+00
HO-166M	184.41	72.60	1.14E-01	1.14E-01	8.47E-04	5.56E-02
	280.45	29.60	2.45E-01		4.32E-02	1.17E-01
	410.94	11.10	6.36E-01		-2.47E-02	3.00E-01
	711.69	54.10	1.80E-01		2.18E-02	8.46E-02
TM-171	66.72	0.14	4.57E+01	4.57E+01	-4.59E-01	2.22E+01
HF-172	81.75	4.52	1.17E+00	5.48E-01	-1.63E+00	5.66E-01
	125.81	11.30	5.48E-01		-7.73E-01	2.66E-01
LU-172	181.53	20.60	6.09E+00	3.31E+00	-5.45E-02	2.95E+00
	810.06	16.63	9.49E+00		-2.36E+00	4.39E+00
	912.12	15.25	2.21E+01		4.23E+01	1.06E+01
	1093.66	62.50	3.31E+00		1.15E+00	1.53E+00
LU-173	100.72	5.24	1.16E+00	3.89E-01	4.36E-01	5.62E-01
	272.11	21.20	3.89E-01		3.40E-01	1.87E-01
HF-175	343.40	84.00	1.03E-01	1.03E-01	5.83E-03	4.88E-02
LU-176	88.34	13.30	6.43E-01	6.65E-02	1.01E+00	3.15E-01
	201.83	86.00	8.22E-02		-1.85E-02	3.97E-02
	306.78	94.00	6.65E-02		-1.83E-02	3.16E-02
TA-182	67.75	41.20	1.78E-01	1.78E-01	-1.14E-01	8.62E-02
	1121.30	34.90	6.28E-01		9.87E-01	3.00E-01
	1189.05	16.23	7.40E-01		-4.53E-01	3.38E-01
	1221.41	26.98	5.59E-01		2.11E-01	2.60E-01
	1231.02	11.44	1.33E+00		2.75E-01	6.16E-01
IR-192	308.46	29.68	2.80E-01	1.83E-01	2.88E-02	1.33E-01
	468.07	48.10	1.83E-01		9.71E-05	8.55E-02
HG-203	279.19	77.30	1.42E-01	1.42E-01	2.90E-02	6.82E-02
BI-207	569.67	97.72	7.35E-02	7.35E-02	-3.83E-02	3.42E-02
	1063.62	74.90	1.40E-01		-4.66E-03	6.44E-02
+ TL-208	583.14	* 30.22	3.41E-01	1.47E-01	1.65E+00	1.62E-01
	860.37	* 4.48	2.94E+00		4.62E+00	1.39E+00
	2614.66	* 35.85	1.47E-01		1.08E+00	5.69E-02
BI-210M	262.00	45.00	1.45E-01	1.45E-01	-5.88E-02	6.92E-02
	300.00	23.00	3.11E-01		1.13E-01	1.49E-01
PB-210	46.50	4.25	3.27E+00	3.27E+00	4.18E+00	1.59E+00
PB-211	404.84	2.90	2.32E+00	2.32E+00	-1.59E+00	1.09E+00
	831.96	2.90	3.39E+00		-7.77E-01	1.58E+00
+ BI-212	727.17	* 11.80	9.45E-01	9.45E-01	1.67E+00	4.47E-01
	1620.62	2.75	3.76E+00		6.03E-01	1.68E+00
+ PB-212	238.63	* 44.60	3.17E-01	3.17E-01	2.02E+00	1.55E-01
	300.09	* 3.41	3.75E+00		1.46E+00	1.83E+00

Analysis Report for 1510063-19
CP5005S09-10

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
+	BI-214	609.31 *		46.30	3.04E-01	3.04E-01	1.87E+00	1.46E-01
		1120.29 *		15.10	1.07E+00		1.93E+00	5.09E-01
		1764.49 *		15.80	6.93E-01		1.91E+00	3.10E-01
		2204.22 *		4.98	1.25E+00		2.23E+00	5.03E-01
+	PB-214	295.21 *		19.19	6.68E-01	2.91E-01	2.04E+00	3.26E-01
		351.92 *		37.19	2.91E-01		1.94E+00	1.41E-01
	RN-219	401.80		6.50	1.09E+00	1.09E+00	2.70E-01	5.15E-01
	RA-223	323.87		3.88	1.95E+00	1.95E+00	1.29E+00	9.33E-01
+	RA-224	240.98 *		3.95	3.62E+00	3.62E+00	5.90E+00	1.78E+00
	RA-225	40.00		31.00	2.51E+00	2.51E+00	-3.96E-01	1.22E+00
+	RA-226	186.21 *		3.28	3.50E+00	3.50E+00	4.60E+00	1.72E+00
	TH-227	50.10		8.40	1.15E+00	9.05E-01	1.59E-01	5.55E-01
		236.00		11.50	9.05E-01		-7.44E+00	4.41E-01
		256.20		6.30	1.02E+00		-5.50E-01	4.86E-01
+	AC-228	338.32 *		11.40	1.06E+00	4.75E-01	1.95E+00	5.14E-01
		911.07 *		27.70	4.75E-01		1.40E+00	2.24E-01
		969.11 *		16.60	9.42E-01		1.76E+00	4.49E-01
	TH-230	48.44		16.90	6.24E-01	6.24E-01	-6.07E-01	3.03E-01
		62.85		4.60	1.63E+00		1.80E+00	7.93E-01
		67.67		0.37	1.67E+01		-1.07E+01	8.10E+00
	PA-231	283.67		1.60	4.31E+00	2.85E+00	-1.33E+00	2.06E+00
		302.67		2.30	2.85E+00		-1.46E+00	1.36E+00
	TH-231	25.64		14.70	1.95E+01	9.08E-01	-1.19E+01	9.43E+00
		84.21		6.40	9.08E-01		8.24E-01	4.41E-01
	PA-233	311.98		38.60	3.47E-01	3.47E-01	1.65E-01	1.65E-01
	PA-234	131.20		20.40	3.30E-01	3.30E-01	5.78E-02	1.60E-01
		733.99		8.80	1.03E+00		-2.98E-01	4.82E-01
		946.00		12.00	8.20E-01		-7.83E-02	3.80E-01
+	PA-234M	1001.03 *		0.92	2.17E+01	2.17E+01	2.18E+01	1.04E+01
	TH-234	63.29		3.80	1.96E+00	1.96E+00	2.17E+00	9.52E-01
	U-235	143.76		10.50	6.59E-01	6.59E-01	3.06E-01	3.20E-01
		163.35		4.70	1.30E+00		-1.32E-01	6.28E-01
		205.31		4.70	1.54E+00		-1.20E-02	7.43E-01
	NP-237	86.50		12.60	6.59E-01	6.59E-01	-3.72E-01	3.23E-01
	NP-239	106.10		22.70	1.06E+03	1.06E+03	9.96E+02	5.14E+02
		228.18		10.70	2.70E+03		1.14E+03	1.30E+03
		277.60		14.10	1.98E+03		-2.09E+00	9.48E+02
	AM-241	59.54		35.90	1.94E-01	1.94E-01	2.94E-02	9.37E-02
	AM-243	74.67		66.00	1.36E-01	1.36E-01	-3.37E-01	6.65E-02
	CM-243	209.75		3.29	2.35E+00	5.08E-01	2.25E+00	1.14E+00
		228.14		10.60	6.94E-01		2.92E-01	3.35E-01
		277.60		14.00	5.08E-01		-5.37E-04	2.43E-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 1510063-19
CP5005S09-10

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

<i>Creation Date</i>	<i>Comment</i>	<i>User</i>
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No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5005S09-10

Elapsed Live time: 3600

Elapsed Real Time: 3601

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	195
9:	573	1171	1155	418	658	1709	290	137
17:	141	109	163	119	110	120	110	154
25:	116	119	106	121	115	113	106	128
33:	119	114	103	113	130	141	110	166
41:	126	138	143	125	127	152	214	113
49:	110	116	105	103	121	93	75	90
57:	88	100	104	106	111	104	158	170
65:	105	111	108	115	115	142	123	105
73:	146	156	420	252	533	410	120	109
81:	98	96	91	144	137	101	216	223
89:	103	190	114	121	238	148	89	63
97:	69	75	70	104	77	72	52	64
105:	88	88	77	86	70	72	86	68
113:	67	72	70	66	58	69	60	60
121:	76	53	79	67	58	59	78	84
129:	106	90	67	88	67	78	63	88
137:	65	67	74	77	66	67	78	102
145:	72	82	75	52	78	72	86	69
153:	76	77	58	67	65	60	49	55
161:	54	57	55	57	44	55	81	62
169:	53	51	56	64	70	56	49	56
177:	43	51	56	45	62	53	69	65
185:	79	163	110	60	56	56	46	55
193:	46	50	39	53	53	48	54	53
201:	58	52	53	57	61	60	48	55
209:	98	80	45	33	45	45	58	54
217:	45	38	54	48	36	52	46	43
225:	52	54	46	56	51	42	38	45
233:	58	48	40	47	53	300	607	110
241:	107	145	89	37	31	35	45	28
249:	33	34	39	37	41	36	39	31
257:	25	28	37	41	28	32	39	20
265:	37	40	29	24	30	84	51	31
273:	32	30	34	30	37	48	31	30
281:	36	36	32	34	23	36	36	39
289:	30	34	33	26	30	46	220	146
297:	31	24	23	52	36	25	25	21
305:	25	42	15	16	19	29	22	25
313:	28	20	20	27	24	30	27	26
321:	18	29	26	30	40	37	29	41
329:	35	25	26	27	31	23	28	26
337:	32	117	87	23	24	26	15	23
345:	22	23	24	28	27	25	134	391
353:	118	23	17	28	25	21	23	22
361:	25	30	21	22	27	25	24	23

369: 27 19 20 17 23 26 20 20

Sample Title: CP5005S09-10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	18	29	23	12	30	19	22	21
385:	22	28	15	26	21	22	20	15
393:	22	15	22	21	27	13	20	19
401:	23	27	20	14	17	18	22	23
409:	25	22	24	15	13	21	17	21
417:	18	19	12	24	25	20	20	20
425:	25	20	15	23	13	24	20	17
433:	19	19	16	15	11	15	20	17
441:	20	22	16	17	19	12	16	11
449:	12	17	12	9	17	18	16	20
457:	15	18	20	17	13	33	49	20
465:	28	8	13	21	12	20	15	16
473:	19	14	19	20	11	22	11	15
481:	18	20	16	18	14	14	15	17
489:	14	7	15	10	11	13	14	10
497:	14	16	13	15	19	15	21	8
505:	13	10	14	16	26	65	76	30
513:	16	19	10	15	13	17	22	11
521:	12	11	9	9	18	12	13	15
529:	14	11	11	23	10	16	15	14
537:	18	20	12	13	12	21	12	16
545:	7	20	16	8	14	15	17	6
553:	11	15	10	16	12	11	7	9
561:	7	14	13	13	9	14	17	7
569:	15	13	10	31	8	16	15	14
577:	15	15	14	18	10	51	183	81
585:	9	13	13	15	10	14	11	15
593:	16	13	15	9	8	10	14	12
601:	10	12	9	13	16	12	13	78
609:	267	143	22	14	14	15	11	15
617:	14	10	12	12	12	15	6	16
625:	8	13	10	7	9	9	11	14
633:	15	13	16	10	3	16	13	9
641:	14	13	9	11	9	11	8	7
649:	13	19	6	7	11	18	8	9
657:	8	12	18	13	18	13	5	12
665:	9	24	10	7	10	21	12	7
673:	11	9	11	14	10	13	8	12
681:	11	3	5	4	8	8	9	9
689:	6	11	16	5	13	13	10	9
697:	10	18	10	11	6	11	10	15
705:	9	12	14	12	14	12	9	7
713:	11	18	10	14	8	9	7	6
721:	12	11	6	5	18	21	51	26
729:	11	16	15	9	10	9	14	6
737:	5	7	9	2	9	7	12	4
745:	5	11	14	12	10	10	8	6
753:	5	9	11	13	4	7	8	15
761:	12	5	15	16	9	12	18	38
769:	10	8	14	20	8	7	13	11
777:	6	9	8	6	8	7	12	5
785:	13	24	13	8	7	12	4	3
793:	4	23	24	8	8	8	14	6

801: 17 12 6 12 7 13 8 3

Sample Title: CP5005S09-10

Channel	1	2	3	4	5	6	7	8	9
809:	14	2	9	11	4	7	8	4	
817:	4	7	6	5	9	9	9	4	
825:	7	7	6	8	11	14	12	9	
833:	8	6	5	17	8	6	13	9	
841:	9	8	7	4	13	10	2	11	
849:	9	13	5	10	7	5	5	9	
857:	10	8	18	20	24	14	8	9	
865:	10	4	5	8	7	8	11	6	
873:	10	6	8	6	7	9	9	10	
881:	6	7	9	4	7	5	8	12	
889:	12	9	8	6	11	2	4	9	
897:	13	5	5	6	6	7	12	5	
905:	8	10	9	10	5	47	89	45	
913:	7	6	8	12	10	7	7	10	
921:	7	10	13	3	6	7	12	10	
929:	7	8	7	7	13	15	8	6	
937:	5	3	9	5	4	8	5	5	
945:	4	9	9	7	13	10	10	8	
953:	5	6	8	10	6	7	10	8	
961:	6	6	15	27	25	8	14	40	
969:	59	22	8	4	7	7	8	7	
977:	9	9	5	12	5	2	7	9	
985:	6	4	8	9	9	7	7	1	
993:	6	4	7	13	12	8	8	7	
1001:	8	12	14	7	7	9	9	6	
1009:	6	5	5	9	11	7	7	10	
1017:	6	7	7	6	8	5	5	7	
1025:	5	2	6	2	8	5	8	10	
1033:	5	6	5	6	9	4	7	8	
1041:	7	3	12	8	8	4	3	5	
1049:	8	9	4	9	7	5	8	3	
1057:	6	5	8	4	3	8	11	9	
1065:	6	7	4	11	7	5	9	5	
1073:	3	4	7	13	10	7	9	7	
1081:	11	6	9	7	3	3	5	8	
1089:	2	8	6	9	9	10	7	5	
1097:	4	9	2	12	8	7	5	7	
1105:	6	6	7	7	13	7	6	8	
1113:	6	10	6	9	12	13	33	43	
1121:	35	10	4	10	5	8	9	11	
1129:	5	5	8	5	6	4	6	9	
1137:	4	8	8	6	7	9	2	11	
1145:	10	8	3	5	8	3	6	5	
1153:	4	9	12	11	7	10	8	4	
1161:	2	8	12	5	10	12	7	12	
1169:	4	6	12	10	10	8	12	5	
1177:	5	12	6	5	13	8	10	7	
1185:	9	6	5	4	9	4	4	5	
1193:	6	10	9	5	10	8	6	9	
1201:	7	12	5	7	11	9	7	6	
1209:	9	8	10	6	13	6	9	8	
1217:	5	5	8	7	11	10	13	4	
1225:	7	5	11	10	4	6	15	7	

1233: 8 8 8 5 31 20 17 10

Sample Title: CP5005S09-10

Channel	1	2	3	4	5	6	7	8
1241:	9	6	7	8	3	6	7	3
1249:	2	10	6	5	6	8	6	6
1257:	4	9	7	3	6	3	4	6
1265:	4	2	2	7	7	9	6	13
1273:	6	4	7	6	7	4	6	9
1281:	12	8	7	7	3	6	6	3
1289:	4	3	6	3	8	2	2	3
1297:	3	5	7	3	2	1	3	4
1305:	4	6	4	6	4	3	1	4
1313:	6	6	2	5	5	1	7	4
1321:	3	1	7	3	2	4	2	5
1329:	3	4	4	5	9	4	3	3
1337:	4	2	2	3	4	4	6	4
1345:	5	3	4	4	2	3	1	1
1353:	1	4	5	1	5	6	4	2
1361:	3	1	2	2	3	4	7	5
1369:	5	0	4	7	7	3	2	7
1377:	14	8	6	1	2	3	1	2
1385:	9	2	4	4	4	2	1	3
1393:	1	2	0	4	3	3	0	5
1401:	4	5	6	2	2	6	7	10
1409:	5	2	1	4	3	3	1	2
1417:	3	4	0	1	0	1	1	2
1425:	1	1	1	4	1	2	3	1
1433:	3	3	2	8	2	3	2	4
1441:	1	4	1	3	2	2	2	4
1449:	2	2	4	3	1	2	3	5
1457:	12	16	99	277	245	75	8	2
1465:	4	1	0	2	1	4	2	2
1473:	4	1	1	0	2	2	2	4
1481:	3	1	3	4	2	2	1	1
1489:	3	2	1	1	3	2	2	1
1497:	2	1	1	0	6	3	2	2
1505:	3	2	4	3	7	5	0	2
1513:	1	1	3	1	4	3	0	1
1521:	0	1	2	1	3	4	4	3
1529:	2	1	0	1	1	2	2	3
1537:	4	2	5	1	4	5	5	1
1545:	1	0	1	0	0	1	3	2
1553:	1	2	0	2	3	1	1	2
1561:	3	0	2	2	1	2	1	0
1569:	1	1	3	3	3	4	0	2
1577:	0	1	3	4	4	3	6	1
1585:	0	0	6	11	2	3	1	1
1593:	4	4	3	3	3	3	3	2
1601:	1	2	1	1	1	1	3	0
1609:	2	1	2	1	2	1	1	2
1617:	4	2	6	3	1	2	2	2
1625:	4	2	4	1	3	1	4	3
1633:	3	0	2	1	0	3	3	1
1641:	1	3	1	0	2	0	0	2
1649:	2	2	1	2	1	3	0	1
1657:	0	2	0	2	3	2	2	1

1665: 0 0 2 1 0 1 0 4

Sample Title: CP5005S09-10

Channel	1	2	3	4	5	6	7	8
1673:	2	0	0	0	3	0	3	3
1681:	0	3	0	2	0	0	0	1
1689:	4	0	0	0	1	1	0	1
1697:	1	2	1	1	3	2	1	1
1705:	1	1	2	1	1	0	1	1
1713:	0	0	1	3	1	0	2	1
1721:	3	1	2	0	2	1	1	8
1729:	8	4	3	1	0	1	5	0
1737:	0	0	1	0	0	0	0	0
1745:	0	1	2	1	0	1	0	0
1753:	2	0	2	0	2	2	1	2
1761:	0	4	17	40	14	6	3	1
1769:	1	3	0	1	1	1	0	0
1777:	0	0	0	1	2	2	2	2
1785:	0	1	1	3	0	0	2	1
1793:	2	2	2	3	2	1	0	2
1801:	1	1	1	2	1	2	4	1
1809:	1	2	0	2	1	0	0	1
1817:	2	0	0	1	2	0	2	1
1825:	1	0	1	1	1	2	1	1
1833:	2	1	4	1	1	0	1	1
1841:	0	1	2	3	1	8	2	1
1849:	4	0	0	2	2	0	0	1
1857:	0	0	0	0	0	1	0	1
1865:	1	3	1	1	1	0	0	3
1873:	1	0	0	2	2	0	2	1
1881:	3	0	0	1	3	1	1	1
1889:	2	0	2	1	0	1	1	1
1897:	2	1	2	0	2	0	1	1
1905:	1	0	2	1	3	0	1	1
1913:	1	1	1	0	2	0	1	2
1921:	0	0	1	1	1	1	1	1
1929:	1	1	5	2	1	1	0	1
1937:	2	2	1	0	3	1	2	1
1945:	1	1	2	1	1	0	0	1
1953:	0	2	0	1	0	0	0	1
1961:	3	0	3	1	1	0	1	4
1969:	0	2	1	1	3	1	2	2
1977:	1	1	1	1	1	0	0	0
1985:	2	1	1	0	0	1	1	1
1993:	1	0	1	1	0	1	2	2
2001:	1	0	2	0	1	2	1	0
2009:	0	0	0	0	2	1	0	0
2017:	2	0	1	0	0	0	2	0
2025:	2	0	0	0	2	3	0	1
2033:	1	1	1	0	0	0	1	1
2041:	2	2	0	2	2	2	0	0
2049:	0	1	0	1	1	2	1	3
2057:	5	0	1	1	0	2	1	2
2065:	0	1	2	0	1	1	1	0
2073:	1	1	2	2	1	1	1	1
2081:	0	1	1	0	1	0	2	0
2089:	2	1	2	0	1	0	1	1

2097: 0 0 1 0 1 7 4 1

Sample Title: CP5005S09-10

Channel	1	2	3	4	5	6	7	8	9
2105:	3	2	1	1	3	1	0	1	
2113:	1	2	1	1	1	1	0	0	
2121:	0	1	2	1	1	1	0	2	
2129:	0	2	1	1	1	0	2	4	
2137:	0	2	1	2	1	0	2	1	
2145:	3	0	1	1	0	0	0	0	
2153:	1	2	0	0	2	0	1	0	
2161:	1	0	0	0	0	1	2	0	
2169:	0	1	1	4	2	0	1	0	
2177:	2	0	1	1	3	0	0	0	
2185:	1	1	1	0	1	0	1	2	
2193:	2	1	2	1	0	1	2	2	
2201:	2	3	7	5	4	2	0	0	
2209:	2	1	1	0	0	0	2	1	
2217:	0	0	2	0	0	1	0	1	
2225:	0	0	1	0	2	3	0	0	
2233:	4	2	1	3	1	2	1	0	
2241:	1	0	0	1	0	0	1	0	
2249:	1	0	0	1	1	1	1	2	
2257:	1	1	0	1	1	1	0	1	
2265:	2	2	0	0	1	2	1	0	
2273:	1	1	4	0	1	1	1	0	
2281:	0	0	0	0	3	0	0	1	
2289:	1	1	0	1	1	1	2	0	
2297:	1	2	2	0	0	1	1	0	
2305:	3	0	1	0	0	0	1	1	
2313:	0	1	1	3	2	1	0	1	
2321:	2	1	1	1	0	1	1	1	
2329:	0	1	2	0	5	1	0	3	
2337:	4	1	3	1	1	0	0	1	
2345:	1	0	2	2	0	0	2	0	
2353:	1	0	2	1	2	3	1	1	
2361:	1	0	1	1	0	3	1	1	
2369:	1	2	1	2	1	1	1	0	
2377:	0	1	1	0	1	0	0	0	
2385:	1	0	1	2	4	0	2	1	
2393:	1	2	0	0	1	1	0	3	
2401:	3	1	2	1	0	0	0	0	
2409:	1	1	0	0	2	2	2	3	
2417:	2	0	1	0	0	0	1	1	
2425:	1	3	1	1	1	1	0	0	
2433:	1	0	1	0	3	1	2	0	
2441:	2	0	0	1	1	0	3	1	
2449:	0	2	0	1	0	1	0	1	
2457:	1	0	0	1	1	1	0	1	
2465:	1	1	0	1	3	1	2	1	
2473:	1	1	3	0	2	0	0	0	
2481:	0	1	0	0	0	0	0	0	
2489:	1	1	0	0	0	1	1	0	
2497:	1	0	1	0	2	0	2	1	
2505:	0	0	0	2	0	0	0	0	
2513:	0	0	0	0	0	0	1	0	
2521:	0	0	0	0	0	0	0	1	

2529: 1 1 0 1 1 1 0 0

Sample Title: CP5005S09-10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2537:	0	1	0	0	0	0	1	0
2545:	0	0	1	1	0	0	1	0
2553:	1	2	0	0	0	1	0	0
2561:	0	2	0	1	0	1	0	0
2569:	0	0	2	0	0	1	0	0
2577:	2	0	0	0	0	0	0	0
2585:	0	0	0	0	0	0	1	1
2593:	0	1	0	0	0	0	0	3
2601:	0	1	0	0	0	0	1	0
2609:	0	0	6	13	28	28	15	5
2617:	1	0	0	0	1	0	0	0
2625:	0	0	0	0	0	0	0	0
2633:	1	1	0	0	0	1	1	1
2641:	1	0	0	0	1	0	0	1
2649:	0	1	0	0	1	1	2	0
2657:	0	0	0	0	0	0	1	0
2665:	2	1	0	0	0	1	1	0
2673:	0	0	1	1	0	0	1	0
2681:	0	0	0	1	1	3	0	1
2689:	1	0	0	1	0	0	0	0
2697:	1	0	0	0	0	1	0	0
2705:	0	0	0	0	0	0	0	0
2713:	0	0	0	1	0	0	0	0
2721:	1	0	0	0	0	0	0	0
2729:	1	0	0	0	0	0	0	0
2737:	0	0	1	0	0	0	0	1
2745:	0	0	0	0	0	0	1	0
2753:	0	0	1	0	0	0	0	0
2761:	0	0	1	0	0	0	0	0
2769:	0	0	0	0	0	0	1	1
2777:	0	2	0	1	0	1	0	1
2785:	0	1	0	0	0	0	0	0
2793:	0	0	0	0	0	1	0	0
2801:	0	1	0	0	0	0	0	0
2809:	0	0	0	0	0	0	0	0
2817:	0	0	1	0	0	1	0	0
2825:	1	0	0	0	1	0	0	2
2833:	0	0	0	0	0	0	0	0
2841:	1	0	0	0	1	0	0	0
2849:	0	0	0	0	0	0	0	0
2857:	1	2	0	0	1	0	0	0
2865:	1	0	0	0	0	0	0	1
2873:	1	1	1	0	0	0	0	1
2881:	0	0	0	1	0	0	1	0
2889:	1	0	0	0	1	0	0	0
2897:	0	0	0	0	0	0	1	0
2905:	0	0	0	0	0	1	1	0
2913:	1	0	0	0	1	0	0	0
2921:	0	1	0	1	1	0	0	0
2929:	0	0	0	0	0	1	0	1
2937:	0	0	0	0	0	1	0	0
2945:	0	2	1	1	0	1	0	0
2953:	0	0	1	0	0	0	0	0

2961: 0 0 0 0 1 0 1 0

Sample Title: CP5005S09-10

Channel	1	2	3	4	5	6	7	8	9
2969:	0	0	0	0	0	0	0	0	0
2977:	0	0	1	1	1	0	0	0	0
2985:	0	0	0	0	1	0	0	0	0
2993:	2	1	0	1	0	1	0	0	0
3001:	0	0	1	0	0	0	0	0	0
3009:	1	1	0	0	1	1	0	0	0
3017:	0	0	0	0	0	0	0	0	0
3025:	2	0	1	0	0	0	1	1	1
3033:	0	0	0	0	1	0	0	0	0
3041:	1	1	0	0	0	2	0	1	1
3049:	0	0	0	0	1	1	0	0	0
3057:	0	0	0	0	0	0	0	0	0
3065:	0	1	1	0	0	0	0	0	0
3073:	0	1	0	0	1	1	0	0	0
3081:	0	0	0	1	0	0	0	0	0
3089:	0	0	0	0	0	1	0	1	1
3097:	0	0	0	0	0	0	1	0	0
3105:	0	0	0	0	0	0	0	0	0
3113:	2	0	0	0	0	0	0	0	0
3121:	0	0	0	0	0	2	0	0	0
3129:	0	0	0	0	1	0	0	0	0
3137:	2	0	0	0	0	0	1	0	0
3145:	0	0	0	0	0	0	1	2	2
3153:	0	0	0	0	0	0	0	1	1
3161:	0	1	0	0	0	0	0	1	1
3169:	0	0	0	0	0	0	0	0	0
3177:	1	0	0	0	0	0	1	0	0
3185:	0	0	0	0	1	0	0	0	0
3193:	0	0	0	0	2	0	1	1	1
3201:	1	0	0	0	0	0	0	0	0
3209:	0	0	0	0	1	0	0	0	0
3217:	0	0	0	0	0	0	0	0	0
3225:	0	0	0	0	0	0	0	0	0
3233:	0	0	0	0	1	0	0	0	0
3241:	0	0	0	0	0	0	0	0	0
3249:	0	0	0	0	0	1	0	0	0
3257:	0	0	0	0	1	0	0	0	0
3265:	0	0	0	0	0	0	0	0	0
3273:	1	0	1	0	0	0	1	0	0
3281:	0	0	0	0	0	0	0	0	0
3289:	0	0	0	0	1	0	0	0	0
3297:	0	0	1	0	0	0	0	0	0
3305:	0	0	0	0	0	0	0	0	0
3313:	0	0	0	0	1	0	0	0	0
3321:	1	0	0	1	0	1	0	0	0
3329:	0	0	0	0	0	0	0	0	0
3337:	0	1	0	0	0	0	0	1	1
3345:	1	0	0	0	0	0	0	0	0
3353:	0	1	0	0	0	0	0	0	0
3361:	0	0	0	0	0	1	1	0	0
3369:	0	0	0	0	0	0	2	0	0
3377:	1	1	0	0	0	0	0	0	0
3385:	0	0	0	0	0	0	0	0	0

3393: 0 0 0 0 0 0 0 0 0

Sample Title: CP5005S09-10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3401:	0	0	0	0	1	1	1	0
3409:	0	0	0	0	0	0	0	0
3417:	0	1	0	1	0	0	0	0
3425:	0	0	0	0	0	0	0	1
3433:	0	0	0	0	0	1	0	1
3441:	0	0	0	0	0	0	1	0
3449:	1	0	0	0	0	0	0	0
3457:	0	0	0	0	0	1	1	0
3465:	0	0	0	1	0	0	0	0
3473:	0	0	0	0	0	1	0	0
3481:	0	0	1	0	2	0	1	0
3489:	0	0	0	0	0	1	0	0
3497:	0	0	1	0	0	1	0	0
3505:	1	0	0	1	0	0	0	0
3513:	1	1	0	0	0	0	0	0
3521:	1	0	0	1	0	1	1	0
3529:	0	1	1	0	0	0	0	0
3537:	0	1	2	0	0	0	0	0
3545:	0	0	0	0	0	0	0	1
3553:	1	0	0	0	0	0	0	0
3561:	0	0	0	0	0	1	0	0
3569:	0	1	0	0	0	0	0	0
3577:	0	0	0	0	0	0	0	0
3585:	0	1	0	0	1	0	0	0
3593:	0	0	0	0	1	0	0	0
3601:	0	0	0	0	0	0	0	0
3609:	0	0	1	0	0	0	0	0
3617:	0	0	0	0	0	1	0	0
3625:	0	1	0	0	0	0	0	1
3633:	0	0	0	0	0	0	0	0
3641:	0	0	0	0	1	0	0	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	0	0	0	0	1	0	0	0
3673:	1	0	0	0	0	0	0	1
3681:	1	1	0	0	0	0	0	0
3689:	0	0	0	0	0	0	0	0
3697:	1	0	0	0	0	0	1	0
3705:	0	0	0	1	0	0	0	0
3713:	0	0	0	1	0	0	0	0
3721:	0	0	0	1	0	0	0	0
3729:	0	0	0	0	0	1	0	0
3737:	0	0	0	0	0	0	0	1
3745:	0	0	0	1	0	0	0	1
3753:	0	0	1	0	0	0	0	0
3761:	0	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0
3777:	0	1	0	0	0	0	0	0
3785:	0	0	0	0	0	0	0	0
3793:	0	0	0	0	0	1	0	1
3801:	0	0	0	0	0	0	0	0
3809:	1	0	0	0	0	0	1	0
3817:	0	0	0	0	0	0	0	0

3825: 1 0 0 0 1 0 0 0

Sample Title: CP5005S09-10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3833:	0	0	0	0	0	0	0	1
3841:	0	0	0	0	0	0	1	0
3849:	0	0	0	0	0	0	0	1
3857:	0	0	0	0	1	0	0	0
3865:	0	0	0	0	0	0	0	0
3873:	1	0	0	0	0	0	1	0
3881:	0	0	0	0	1	0	0	0
3889:	0	0	0	0	0	0	1	0
3897:	0	0	1	0	0	0	0	1
3905:	0	1	0	0	0	0	0	1
3913:	0	0	1	0	0	0	0	0
3921:	0	0	0	0	0	0	0	0
3929:	0	0	0	0	0	0	0	0
3937:	0	1	0	0	0	0	1	1
3945:	0	0	0	0	0	0	0	0
3953:	0	0	0	0	0	0	0	0
3961:	0	0	0	0	1	0	0	0
3969:	0	0	0	1	0	0	0	0
3977:	0	0	0	0	0	0	0	0
3985:	0	0	0	1	0	0	0	0
3993:	0	0	0	0	0	1	0	0
4001:	0	0	0	0	0	0	1	0
4009:	0	0	0	0	0	0	1	0
4017:	0	0	0	0	1	0	0	0
4025:	0	1	0	1	0	1	0	0
4033:	0	0	0	0	1	0	0	0
4041:	0	1	0	0	0	0	0	0
4049:	1	1	0	0	0	0	0	0
4057:	0	0	0	0	0	1	2	1
4065:	0	0	0	1	1	0	0	0
4073:	1	0	0	0	0	0	0	0
4081:	0	0	0	0	0	0	1	0
4089:	0	1	0	0	1	1	0	0

Analysis Report for 1510063-20
CP5005S12-13

✓
10/3

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510063-20
Sample Description : CP5005S12-13
Sample Type : SOIL

Sample Size : 4.335E+02 grams
Facility : Countroom

Sample Taken On : 10/6/2015 7:52:16AM
Acquisition Started : 11/3/2015 10:18:09AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE3
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3616.5 seconds

Dead Time : 0.46 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 9 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29021

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AC
11/3/15

Analysis Report for 1510063-20
CP5005S12-13

PEAK LOCATE REPORT

Peak Locate Performed on : 11/3/2015 11:18:35AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	52.80	53.03	0.0000	0.00
2	62.49	62.71	0.0000	0.00
3	76.25	76.47	0.0000	0.00
4	88.12	88.33	0.0000	0.00
5	93.34	93.54	0.0000	0.00
6	114.60	114.80	0.0000	0.00
7	129.69	129.88	0.0000	0.00
8	186.17	186.33	0.0000	0.00
9	208.74	208.89	0.0000	0.00
10	238.92	239.05	0.0000	0.00
11	242.05	242.17	0.0000	0.00
12	270.07	270.18	0.0000	0.00
13	278.67	278.78	0.0000	0.00
14	295.41	295.51	0.0000	0.00
15	300.95	301.04	0.0000	0.00
16	338.85	338.93	0.0000	0.00
17	352.15	352.22	0.0000	0.00
18	462.38	462.40	0.0000	0.00
19	511.22	511.21	0.0000	0.00
20	580.04	580.00	0.0000	0.00
21	583.70	583.66	0.0000	0.00
22	609.55	609.49	0.0000	0.00
23	658.74	658.66	0.0000	0.00
24	723.54	723.43	0.0000	0.00
25	727.91	727.79	0.0000	0.00
26	806.70	806.56	0.0000	0.00
27	860.83	860.66	0.0000	0.00
28	911.60	911.41	0.0000	0.00
29	934.46	934.25	0.0000	0.00
30	965.14	964.92	0.0000	0.00
31	969.10	968.88	0.0000	0.00
32	1120.71	1120.43	0.0000	0.00
33	1126.34	1126.05	0.0000	0.00
34	1149.86	1149.56	0.0000	0.00
35	1194.62	1194.30	0.0000	0.00
36	1217.27	1216.95	0.0000	0.00
37	1234.56	1234.23	0.0000	0.00
38	1238.57	1238.23	0.0000	0.00
39	1279.56	1279.21	0.0000	0.00
40	1285.78	1285.43	0.0000	0.00
41	1302.62	1302.26	0.0000	0.00
42	1378.24	1377.85	0.0000	0.00

Analysis Report for 1510063-20
CP5005S12-13

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
43	1461.21	1460.78	0.0000	0.00
44	1493.53	1493.10	0.0000	0.00
45	1500.97	1500.53	0.0000	0.00
46	1588.25	1587.78	0.0000	0.00
47	1592.73	1592.26	0.0000	0.00
48	1621.94	1621.46	0.0000	0.00
49	1631.79	1631.30	0.0000	0.00
50	1701.24	1700.73	0.0000	0.00
51	1728.93	1728.42	0.0000	0.00
52	1764.92	1764.39	0.0000	0.00
53	1847.86	1847.30	0.0000	0.00
54	1893.09	1892.51	0.0000	0.00
55	1983.20	1982.60	0.0000	0.00
56	1995.98	1995.37	0.0000	0.00
57	2003.53	2002.92	0.0000	0.00
58	2102.27	2101.63	0.0000	0.00
59	2144.32	2143.67	0.0000	0.00
60	2204.72	2204.05	0.0000	0.00
61	2472.74	2472.00	0.0000	0.00
62	2614.80	2614.02	0.0000	0.00
63	2648.07	2647.29	0.0000	0.00

? = Adjacent peak noted

Errors quoted at 2.000sigma

Analysis Report for 1510063-20
CP5005S12-13

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 11:18:35AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
1	52.80	50 -	56	53.03	9.25E+01	89.62	1.39E+03	3.37
2	62.49	58 -	68	62.71	1.87E+02	143.10	2.65E+03	1.85
3	76.25	71 -	81	76.47	1.29E+03	156.87	2.58E+03	3.94
4	88.12	86 -	91	88.33	2.37E+02	90.92	1.47E+03	3.37
5	93.34	91 -	97	93.54	2.00E+02	97.04	1.45E+03	1.65
6	114.60	112 -	118	114.80	7.94E+01	70.98	8.53E+02	3.08
7	129.69	125 -	135	129.88	1.55E+02	102.69	1.32E+03	2.25
8	186.17	182 -	191	186.33	2.04E+02	90.61	1.06E+03	2.06
9	208.74	205 -	213	208.89	1.16E+02	71.52	7.16E+02	2.03
M 10	238.92	235 -	247	239.05	8.10E+02	70.65	4.38E+02	1.74
m 11	242.05	235 -	247	242.17	1.87E+02	75.10	3.99E+02	1.89
12	270.07	266 -	274	270.18	8.86E+01	60.83	5.19E+02	2.35
13	278.67	275 -	283	278.78	6.68E+01	58.16	4.64E+02	5.29
14	295.41	292 -	298	295.51	3.08E+02	57.96	3.84E+02	1.91
15	300.95	299 -	304	301.04	6.15E+01	39.87	2.67E+02	3.51
16	338.85	335 -	342	338.93	1.35E+02	52.08	3.58E+02	1.82
17	352.15	347 -	356	352.22	4.83E+02	68.01	3.85E+02	1.71
18	462.38	459 -	467	462.40	4.98E+01	39.75	2.14E+02	1.87
19	511.22	507 -	514	511.21	1.08E+02	40.64	2.02E+02	2.29
M 20	580.04	578 -	589	580.00	1.49E+01	17.55	7.14E+01	1.98
m 21	583.70	578 -	589	583.66	2.20E+02	39.15	1.19E+02	2.40
22	609.55	605 -	614	609.49	2.88E+02	49.49	1.87E+02	2.01
23	658.74	655 -	661	658.66	2.42E+01	26.30	1.08E+02	3.72
M 24	723.54	722 -	733	723.43	1.83E+01	17.20	6.00E+01	2.50
m 25	727.91	722 -	733	727.79	4.02E+01	27.78	1.05E+02	2.28
26	806.70	803 -	812	806.56	2.33E+01	29.58	1.03E+02	2.80
27	860.83	857 -	865	860.66	2.35E+01	26.71	9.70E+01	2.06
28	911.60	908 -	915	911.41	1.34E+02	33.53	9.33E+01	1.82
29	934.46	929 -	938	934.25	2.06E+01	26.02	8.48E+01	1.51
M 30	965.14	962 -	975	964.92	2.21E+01	17.30	5.44E+01	2.42
m 31	969.10	962 -	975	968.88	8.49E+01	28.02	7.34E+01	2.42
M 32	1120.71	1116 -	1129	1120.43	6.21E+01	26.15	6.68E+01	2.78
m 33	1126.34	1116 -	1129	1126.05	1.52E+01	22.18	7.08E+01	3.33
34	1149.86	1143 -	1156	1149.56	4.01E+01	34.00	1.06E+02	10.09
35	1194.62	1191 -	1198	1194.30	2.57E+01	20.40	5.25E+01	1.21
36	1217.27	1212 -	1219	1216.95	2.17E+01	24.17	8.07E+01	2.94
M 37	1234.56	1231 -	1242	1234.23	1.82E+01	19.52	6.74E+01	2.55
m 38	1238.57	1231 -	1242	1238.23	3.49E+01	22.74	6.93E+01	2.42
39	1279.56	1277 -	1282	1279.21	1.28E+01	15.65	3.85E+01	2.62
M 40	1285.78	1283 -	1306	1285.43	1.88E+01	13.95	2.86E+01	3.77

Analysis Report for 1510063-20

CP5005S12-13

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
m	41	1302.62	1283 -	1306	1302.26	1.88E+01	19.25	3.87E+01	3.79
	42	1378.24	1373 -	1381	1377.85	2.23E+01	17.14	3.15E+01	2.07
	43	1461.21	1456 -	1467	1460.78	4.86E+02	48.21	4.56E+01	2.57
	44	1493.53	1487 -	1497	1493.10	1.52E+01	10.11	5.61E+00	2.07
	45	1500.97	1498 -	1503	1500.53	1.03E+01	7.55	3.42E+00	3.59
M	46	1588.25	1586 -	1594	1587.78	1.05E+01	6.93	6.71E+00	3.28
m	47	1592.73	1586 -	1594	1592.26	2.22E+01	11.22	4.24E+00	2.01
	48	1621.94	1618 -	1625	1621.46	7.75E+00	8.94	8.50E+00	2.61
	49	1631.79	1629 -	1633	1631.30	4.81E+00	7.12	6.38E+00	1.32
	50	1701.24	1697 -	1703	1700.73	7.39E+00	6.95	3.22E+00	2.63
	51	1728.93	1723 -	1733	1728.42	1.65E+01	12.19	1.10E+01	1.45
	52	1764.92	1759 -	1768	1764.39	4.04E+01	16.34	1.52E+01	2.21
	53	1847.86	1844 -	1850	1847.30	1.00E+01	6.32	0.00E+00	1.66
	54	1893.09	1888 -	1896	1892.51	1.68E+01	9.81	4.37E+00	6.52
	55	1983.20	1979 -	1985	1982.60	5.00E+00	4.47	0.00E+00	1.24
	56	1995.98	1992 -	1998	1995.37	7.10E+00	8.03	5.80E+00	2.67
	57	2003.53	2000 -	2005	2002.92	7.67E+00	6.71	2.67E+00	1.12
	58	2102.27	2098 -	2104	2101.63	8.50E+00	8.51	7.00E+00	1.18
	59	2144.32	2138 -	2147	2143.67	8.31E+00	10.10	9.38E+00	2.94
	60	2204.72	2200 -	2208	2204.05	1.31E+01	8.96	3.87E+00	3.01
	61	2472.74	2469 -	2474	2472.00	5.00E+00	4.47	0.00E+00	2.98
	62	2614.80	2609 -	2618	2614.02	6.35E+01	17.00	4.94E+00	2.60
	63	2648.07	2643 -	2651	2647.29	7.00E+00	5.29	0.00E+00	4.99

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/3/2015 11:18:35AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
1	52.80	50 -	56	9.25E+01	89.62	1.39E+03	7.20E+01
2	62.49	58 -	68	1.87E+02	143.10	2.65E+03	1.15E+02
3	76.25	71 -	81	1.29E+03	156.87	2.58E+03	1.15E+02
4	88.12	86 -	91	2.37E+02	90.92	1.47E+03	7.03E+01
5	93.34	91 -	97	2.00E+02	97.04	1.45E+03	7.63E+01

: 01074

Analysis Report for 1510063-20

CP5005S12-13

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
6	114.60	112 -	118	7.94E+01	70.98	8.53E+02	5.65E+01
7	129.69	125 -	135	1.55E+02	102.69	1.32E+03	8.19E+01
8	186.17	182 -	191	2.04E+02	90.61	1.06E+03	7.07E+01
9	208.74	205 -	213	1.16E+02	71.52	7.16E+02	5.61E+01
M 10	238.92	235 -	247	8.10E+02	70.65	4.38E+02	3.44E+01
m 11	242.05	235 -	247	1.87E+02	75.10	3.99E+02	3.28E+01
12	270.07	266 -	274	8.86E+01	60.83	5.19E+02	4.76E+01
13	278.67	275 -	283	6.68E+01	58.16	4.64E+02	4.59E+01
14	295.41	292 -	298	3.08E+02	57.96	3.84E+02	3.79E+01
15	300.95	299 -	304	6.15E+01	39.87	2.67E+02	3.01E+01
16	338.85	335 -	342	1.35E+02	52.08	3.58E+02	3.83E+01
17	352.15	347 -	356	4.83E+02	68.01	3.85E+02	4.27E+01
18	462.38	459 -	467	4.98E+01	39.75	2.14E+02	3.05E+01
19	511.22	507 -	514	1.08E+02	40.64	2.02E+02	2.87E+01
M 20	580.04	578 -	589	1.49E+01	17.55	7.14E+01	1.39E+01
m 21	583.70	578 -	589	2.20E+02	39.15	1.19E+02	1.79E+01
22	609.55	605 -	614	2.88E+02	49.49	1.87E+02	2.96E+01
23	658.74	655 -	661	2.42E+01	26.30	1.08E+02	2.00E+01
M 24	723.54	722 -	733	1.83E+01	17.20	6.00E+01	1.27E+01
m 25	727.91	722 -	733	4.02E+01	27.78	1.05E+02	1.68E+01
26	806.70	803 -	812	2.33E+01	29.58	1.03E+02	2.30E+01
27	860.83	857 -	865	2.35E+01	26.71	9.70E+01	2.05E+01
28	911.60	908 -	915	1.34E+02	33.53	9.33E+01	1.99E+01
29	934.46	929 -	938	2.06E+01	26.02	8.48E+01	2.00E+01
M 30	965.14	962 -	975	2.21E+01	17.30	5.44E+01	1.21E+01
m 31	969.10	962 -	975	8.49E+01	28.02	7.34E+01	1.41E+01
M 32	1120.71	1116 -	1129	6.21E+01	26.15	6.68E+01	1.34E+01
m 33	1126.34	1116 -	1129	1.52E+01	22.18	7.08E+01	1.38E+01
34	1149.86	1143 -	1156	4.01E+01	34.00	1.06E+02	2.59E+01
35	1194.62	1191 -	1198	2.57E+01	20.40	5.25E+01	1.45E+01
36	1217.27	1212 -	1219	2.17E+01	24.17	8.07E+01	1.83E+01
M 37	1234.56	1231 -	1242	1.82E+01	19.52	6.74E+01	1.35E+01
m 38	1238.57	1231 -	1242	3.49E+01	22.74	6.93E+01	1.37E+01
39	1279.56	1277 -	1282	1.28E+01	15.65	3.85E+01	1.14E+01
M 40	1285.78	1283 -	1306	1.88E+01	13.95	2.86E+01	8.80E+00
m 41	1302.62	1283 -	1306	1.88E+01	19.25	3.87E+01	1.02E+01
42	1378.24	1373 -	1381	2.23E+01	17.14	3.15E+01	1.18E+01
43	1461.21	1456 -	1467	4.86E+02	48.21	4.56E+01	1.60E+01
44	1493.53	1487 -	1497	1.52E+01	10.11	5.61E+00	5.29E+00
45	1500.97	1498 -	1503	1.03E+01	7.55	3.42E+00	3.27E+00
M 46	1588.25	1586 -	1594	1.05E+01	6.93	6.71E+00	4.26E+00
m 47	1592.73	1586 -	1594	2.22E+01	11.22	4.24E+00	3.38E+00
48	1621.94	1618 -	1625	7.75E+00	8.94	8.50E+00	5.75E+00
49	1631.79	1629 -	1633	4.81E+00	7.12	6.38E+00	4.61E+00
50	1701.24	1697 -	1703	7.39E+00	6.95	3.22E+00	3.55E+00
51	1728.93	1723 -	1733	1.65E+01	12.19	1.10E+01	7.47E+00
52	1764.92	1759 -	1768	4.04E+01	16.34	1.52E+01	8.44E+00
53	1847.86	1844 -	1850	1.00E+01	6.32	0.00E+00	0.00E+00
54	1893.09	1888 -	1896	1.68E+01	9.81	4.37E+00	4.43E+00
55	1983.20	1979 -	1985	5.00E+00	4.47	0.00E+00	0.00E+00
56	1995.98	1992 -	1998	7.10E+00	8.03	5.80E+00	4.94E+00

Analysis Report for 1510063-20

CP5005S12-13

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
57	2003.53	2000 -	2005	7.67E+00	6.71	2.67E+00	3.11E+00
58	2102.27	2098 -	2104	8.50E+00	8.51	7.00E+00	5.10E+00
59	2144.32	2138 -	2147	8.31E+00	10.10	9.38E+00	6.82E+00
60	2204.72	2200 -	2208	1.31E+01	8.96	3.87E+00	4.35E+00
61	2472.74	2469 -	2474	5.00E+00	4.47	0.00E+00	0.00E+00
62	2614.80	2609 -	2618	6.35E+01	17.00	4.94E+00	4.85E+00
63	2648.07	2643 -	2651	7.00E+00	5.29	0.00E+00	0.00E+00

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

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/3/2015 11:18:35AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
1	52.80	50 -	56	53.03	9.25E+01	89.62	1.39E+03	.....
2	62.49	58 -	68	62.71	1.87E+02	143.10	2.65E+03	TH-230 TH-234
3	76.25	71 -	81	76.47	1.29E+03	156.87	2.58E+03	.....
4	88.12	86 -	91	88.33	2.37E+02	90.92	1.47E+03	CD-109 LU-176 SN-126
5	93.34	91 -	97	93.54	2.00E+02	97.04	1.45E+03	GA-67
6	114.60	112 -	118	114.80	7.94E+01	70.98	8.53E+02	.....
7	129.69	125 -	135	129.88	1.55E+02	102.69	1.32E+03	.....
8	186.17	182 -	191	186.33	2.04E+02	90.61	1.06E+03	RA-226
9	208.74	205 -	213	208.89	1.16E+02	71.52	7.16E+02	GA-67
M 10	238.92	235 -	247	239.05	8.10E+02	70.65	4.38E+02	PB-212
m 11	242.05	235 -	247	242.17	1.87E+02	75.10	3.99E+02	.....
12	270.07	266 -	274	270.18	8.86E+01	60.83	5.19E+02	.....
13	278.67	275 -	283	278.78	6.68E+01	58.16	4.64E+02	HG-203 SE-75
14	295.41	292 -	298	295.51	3.08E+02	57.96	3.84E+02	PB-214
15	300.95	299 -	304	301.04	6.15E+01	39.87	2.67E+02	GA-67

Analysis Report for 1510063-20

CP5005S12-13

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
								PB-212
								BI-210M
16	338.85	335 -	342	338.93	1.35E+02	52.08	3.58E+02	AC-228
17	352.15	347 -	356	352.22	4.83E+02	68.01	3.85E+02	PB-214
18	462.38	459 -	467	462.40	4.98E+01	39.75	2.14E+02	.....
19	511.22	507 -	514	511.21	1.08E+02	40.64	2.02E+02	.....
M 20	580.04	578 -	589	580.00	1.49E+01	17.55	7.14E+01	.....
m 21	583.70	578 -	589	583.66	2.20E+02	39.15	1.19E+02	TL-208
22	609.55	605 -	614	609.49	2.88E+02	49.49	1.87E+02	BI-214
23	658.74	655 -	661	658.66	2.42E+01	26.30	1.08E+02	AG-110M
M 24	723.54	722 -	733	723.43	1.83E+01	17.20	6.00E+01	EU-154
								AG-108M
								ZR-95
								I-131
								SB-124
m 25	727.91	722 -	733	727.79	4.02E+01	27.78	1.05E+02	BI-212
26	806.70	803 -	812	806.56	2.33E+01	29.58	1.03E+02	.....
27	860.83	857 -	865	860.66	2.35E+01	26.71	9.70E+01	TL-208
28	911.60	908 -	915	911.41	1.34E+02	33.53	9.33E+01	LU-172
								AC-228
29	934.46	929 -	938	934.25	2.06E+01	26.02	8.48E+01	.....
M 30	965.14	962 -	975	964.92	2.21E+01	17.30	5.44E+01	.....
m 31	969.10	962 -	975	968.88	8.49E+01	28.02	7.34E+01	AC-228
M 32	1120.71	1116 -	1129	1120.43	6.21E+01	26.15	6.68E+01	SC-46
								BI-214
								TA-182
m 33	1126.34	1116 -	1129	1126.05	1.52E+01	22.18	7.08E+01	.....
34	1149.86	1143 -	1156	1149.56	4.01E+01	34.00	1.06E+02	.....
35	1194.62	1191 -	1198	1194.30	2.57E+01	20.40	5.25E+01	.....
36	1217.27	1212 -	1219	1216.95	2.17E+01	24.17	8.07E+01	.....
M 37	1234.56	1231 -	1242	1234.23	1.82E+01	19.52	6.74E+01	CS-136
m 38	1238.57	1231 -	1242	1238.23	3.49E+01	22.74	6.93E+01	CO-56
39	1279.56	1277 -	1282	1279.21	1.28E+01	15.65	3.85E+01	.....
M 40	1285.78	1283 -	1306	1285.43	1.88E+01	13.95	2.86E+01	.....
m 41	1302.62	1283 -	1306	1302.26	1.88E+01	19.25	3.87E+01	.....
42	1378.24	1373 -	1381	1377.85	2.23E+01	17.14	3.15E+01	.....
43	1461.21	1456 -	1467	1460.78	4.86E+02	48.21	4.56E+01	K-40
44	1493.53	1487 -	1497	1493.10	1.52E+01	10.11	5.61E+00	.....
45	1500.97	1498 -	1503	1500.53	1.03E+01	7.55	3.42E+00	.....
M 46	1588.25	1586 -	1594	1587.78	1.05E+01	6.93	6.71E+00	.....
m 47	1592.73	1586 -	1594	1592.26	2.22E+01	11.22	4.24E+00	.....
48	1621.94	1618 -	1625	1621.46	7.75E+00	8.94	8.50E+00	.....
49	1631.79	1629 -	1633	1631.30	4.81E+00	7.12	6.38E+00	.....
50	1701.24	1697 -	1703	1700.73	7.39E+00	6.95	3.22E+00	.....
51	1728.93	1723 -	1733	1728.42	1.65E+01	12.19	1.10E+01	.....
52	1764.92	1759 -	1768	1764.39	4.04E+01	16.34	1.52E+01	BI-214
53	1847.86	1844 -	1850	1847.30	1.00E+01	6.32	0.00E+00	.....
54	1893.09	1888 -	1896	1892.51	1.68E+01	9.81	4.37E+00	.....
55	1983.20	1979 -	1985	1982.60	5.00E+00	4.47	0.00E+00	.....
56	1995.98	1992 -	1998	1995.37	7.10E+00	8.03	5.80E+00	.....
57	2003.53	2000 -	2005	2002.92	7.67E+00	6.71	2.67E+00	.....
58	2102.27	2098 -	2104	2101.63	8.50E+00	8.51	7.00E+00	.....
59	2144.32	2138 -	2147	2143.67	8.31E+00	10.10	9.38E+00	.....
60	2204.72	2200 -	2208	2204.05	1.31E+01	8.96	3.87E+00	BI-214

Analysis Report for 1510063-20

CP5005S12-13

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
61	2472.74	2469 -	2474	2472.00	5.00E+00	4.47	0.00E+00	.....
62	2614.80	2609 -	2618	2614.02	6.35E+01	17.00	4.94E+00	TL-208
63	2648.07	2643 -	2651	2647.29	7.00E+00	5.29	0.00E+00	.....

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/3/2015 11:18:35AM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty	
1	52.80	9.25E+01	89.62	1.81E-02	1.58E-03	
2	62.49	1.87E+02	143.10	2.14E-02	1.68E-03	
3	76.25	1.29E+03	156.87	2.38E-02	2.14E-03	
4	88.12	2.37E+02	90.92	2.44E-02	2.52E-03	
5	93.34	2.00E+02	97.04	2.44E-02	2.40E-03	
6	114.60	7.94E+01	70.98	2.35E-02	1.91E-03	
7	129.69	1.55E+02	102.69	2.25E-02	1.69E-03	
8	186.17	2.04E+02	90.61	1.83E-02	1.42E-03	
9	208.74	1.16E+02	71.52	1.68E-02	1.32E-03	
M	10	238.92	8.10E+02	70.65	1.52E-02	1.18E-03
m	11	242.05	1.87E+02	75.10	1.51E-02	1.17E-03
	12	270.07	8.86E+01	60.83	1.38E-02	1.04E-03
	13	278.67	6.68E+01	58.16	1.34E-02	9.99E-04
	14	295.41	3.08E+02	57.96	1.28E-02	9.74E-04
	15	300.95	6.15E+01	39.87	1.26E-02	9.66E-04
	16	338.85	1.35E+02	52.08	1.14E-02	9.12E-04
	17	352.15	4.83E+02	68.01	1.11E-02	8.93E-04
	18	462.38	4.98E+01	39.75	8.74E-03	7.67E-04
	19	511.22	1.08E+02	40.64	8.01E-03	7.18E-04
M	20	580.04	1.49E+01	17.55	7.17E-03	6.49E-04
m	21	583.70	2.20E+02	39.15	7.13E-03	6.46E-04
	22	609.55	2.88E+02	49.49	6.87E-03	6.20E-04
	23	658.74	2.42E+01	26.30	6.42E-03	5.71E-04
M	24	723.54	1.83E+01	17.20	5.92E-03	5.17E-04
m	25	727.91	4.02E+01	27.78	5.89E-03	5.14E-04
	26	806.70	2.33E+01	29.58	5.39E-03	4.49E-04
	27	860.83	2.35E+01	26.71	5.09E-03	4.05E-04

: 01078

Analysis Report for 1510063-20

CP5005S12-13

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	28	911.60	1.34E+02	33.53	4.85E-03	3.72E-04
	29	934.46	2.06E+01	26.02	4.75E-03	3.68E-04
M	30	965.14	2.21E+01	17.30	4.62E-03	3.62E-04
m	31	969.10	8.49E+01	28.02	4.60E-03	3.61E-04
M	32	1120.71	6.21E+01	26.15	4.08E-03	3.33E-04
m	33	1126.34	1.52E+01	22.18	4.06E-03	3.32E-04
	34	1149.86	4.01E+01	34.00	3.99E-03	3.28E-04
	35	1194.62	2.57E+01	20.40	3.87E-03	3.19E-04
	36	1217.27	2.17E+01	24.17	3.81E-03	3.14E-04
M	37	1234.56	1.82E+01	19.52	3.76E-03	3.10E-04
m	38	1238.57	3.49E+01	22.74	3.75E-03	3.09E-04
	39	1279.56	1.28E+01	15.65	3.66E-03	3.00E-04
M	40	1285.78	1.88E+01	13.95	3.64E-03	2.99E-04
m	41	1302.62	1.88E+01	19.25	3.60E-03	2.95E-04
	42	1378.24	2.23E+01	17.14	3.45E-03	2.82E-04
	43	1461.21	4.86E+02	48.21	3.29E-03	2.69E-04
	44	1493.53	1.52E+01	10.11	3.24E-03	2.64E-04
	45	1500.97	1.03E+01	7.55	3.22E-03	2.63E-04
M	46	1588.25	1.05E+01	6.93	3.09E-03	2.50E-04
m	47	1592.73	2.22E+01	11.22	3.08E-03	2.50E-04
	48	1621.94	7.75E+00	8.94	3.04E-03	2.45E-04
	49	1631.79	4.81E+00	7.12	3.03E-03	2.44E-04
	50	1701.24	7.39E+00	6.95	2.93E-03	2.33E-04
	51	1728.93	1.65E+01	12.19	2.90E-03	2.29E-04
	52	1764.92	4.04E+01	16.34	2.86E-03	2.24E-04
	53	1847.86	1.00E+01	6.32	2.77E-03	2.13E-04
	54	1893.09	1.68E+01	9.81	2.72E-03	2.13E-04
	55	1983.20	5.00E+00	4.47	2.64E-03	2.13E-04
	56	1995.98	7.10E+00	8.03	2.62E-03	2.13E-04
	57	2003.53	7.67E+00	6.71	2.62E-03	2.13E-04
	58	2102.27	8.50E+00	8.51	2.54E-03	2.13E-04
	59	2144.32	8.31E+00	10.10	2.51E-03	2.13E-04
	60	2204.72	1.31E+01	8.96	2.46E-03	2.13E-04
	61	2472.74	5.00E+00	4.47	2.31E-03	2.13E-04
	62	2614.80	6.35E+01	17.00	2.24E-03	2.13E-04
	63	2648.07	7.00E+00	5.29	2.23E-03	2.13E-04

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

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/3/2015 11:18:35AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

: 01079

Analysis Report for 1510063-20

CP5005S12-13

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
1	52.80	9.25E+01	89.62			9.25E+01	8.96E+01
2	62.49	1.87E+02	143.10			1.87E+02	1.43E+02
3	76.25	1.29E+03	156.87			1.29E+03	1.57E+02
4	88.12	2.37E+02	90.92	1.52E+01	5.37E+00	2.22E+02	9.11E+01
5	93.34	2.00E+02	97.04	9.04E+01	2.62E+01	1.10E+02	1.01E+02
6	114.60	7.94E+01	70.98			7.94E+01	7.10E+01
7	129.69	1.55E+02	102.69			1.55E+02	1.03E+02
8	186.17	2.04E+02	90.61	3.93E+01	6.56E+00	1.65E+02	9.09E+01
9	208.74	1.16E+02	71.52			1.16E+02	7.15E+01
M 10	238.92	8.10E+02	70.65	1.34E+01	2.14E+00	7.97E+02	7.07E+01
m 11	242.05	1.87E+02	75.10	2.69E+00	1.46E+00	1.84E+02	7.51E+01
12	270.07	8.86E+01	60.83			8.86E+01	6.08E+01
13	278.67	6.68E+01	58.16			6.68E+01	5.82E+01
14	295.41	3.08E+02	57.96			3.08E+02	5.80E+01
15	300.95	6.15E+01	39.87			6.15E+01	3.99E+01
16	338.85	1.35E+02	52.08			1.35E+02	5.21E+01
17	352.15	4.83E+02	68.01	3.99E+00	4.73E+00	4.79E+02	6.82E+01
18	462.38	4.98E+01	39.75			4.98E+01	3.97E+01
19	511.22	1.08E+02	40.64	5.78E+01	4.60E+00	5.04E+01	4.09E+01
M 20	580.04	1.49E+01	17.55			1.49E+01	1.75E+01
m 21	583.70	2.20E+02	39.15	5.96E+00	3.46E+00	2.14E+02	3.93E+01
22	609.55	2.88E+02	49.49	6.71E+00	3.44E+00	2.81E+02	4.96E+01
23	658.74	2.42E+01	26.30			2.42E+01	2.63E+01
M 24	723.54	1.83E+01	17.20			1.83E+01	1.72E+01
m 25	727.91	4.02E+01	27.78			4.02E+01	2.78E+01
26	806.70	2.33E+01	29.58			2.33E+01	2.96E+01
27	860.83	2.35E+01	26.71			2.35E+01	2.67E+01
28	911.60	1.34E+02	33.53	2.32E+00	2.73E+00	1.32E+02	3.36E+01
29	934.46	2.06E+01	26.02			2.06E+01	2.60E+01
M 30	965.14	2.21E+01	17.30			2.21E+01	1.73E+01
m 31	969.10	8.49E+01	28.02			8.49E+01	2.80E+01
M 32	1120.71	6.21E+01	26.15	2.00E+00	2.20E+00	6.01E+01	2.62E+01
m 33	1126.34	1.52E+01	22.18			1.52E+01	2.22E+01
34	1149.86	4.01E+01	34.00			4.01E+01	3.40E+01
35	1194.62	2.57E+01	20.40			2.57E+01	2.04E+01
36	1217.27	2.17E+01	24.17			2.17E+01	2.42E+01
M 37	1234.56	1.82E+01	19.52			1.82E+01	1.95E+01
m 38	1238.57	3.49E+01	22.74			3.49E+01	2.27E+01
39	1279.56	1.28E+01	15.65			1.28E+01	1.57E+01
M 40	1285.78	1.88E+01	13.95			1.88E+01	1.39E+01
m 41	1302.62	1.88E+01	19.25			1.88E+01	1.92E+01
42	1378.24	2.23E+01	17.14			2.23E+01	1.71E+01
43	1461.21	4.86E+02	48.21			4.86E+02	4.82E+01
44	1493.53	1.52E+01	10.11			1.52E+01	1.01E+01
45	1500.97	1.03E+01	7.55			1.03E+01	7.55E+00
M 46	1588.25	1.05E+01	6.93			1.05E+01	6.93E+00
m 47	1592.73	2.22E+01	11.22			2.22E+01	1.12E+01
48	1621.94	7.75E+00	8.94			7.75E+00	8.94E+00
49	1631.79	4.81E+00	7.12			4.81E+00	7.12E+00
50	1701.24	7.39E+00	6.95			7.39E+00	6.95E+00
51	1728.93	1.65E+01	12.19			1.65E+01	1.22E+01

Analysis Report for 1510063-20

CP5005S12-13

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
52	1764.92	4.04E+01	16.34	1.45E+00	1.16E+00	3.89E+01	1.64E+01
53	1847.86	1.00E+01	6.32			1.00E+01	6.32E+00
54	1893.09	1.68E+01	9.81			1.68E+01	9.81E+00
55	1983.20	5.00E+00	4.47			5.00E+00	4.47E+00
56	1995.98	7.10E+00	8.03			7.10E+00	8.03E+00
57	2003.53	7.67E+00	6.71			7.67E+00	6.71E+00
58	2102.27	8.50E+00	8.51			8.50E+00	8.51E+00
59	2144.32	8.31E+00	10.10			8.31E+00	1.01E+01
60	2204.72	1.31E+01	8.96			1.31E+01	8.96E+00
61	2472.74	5.00E+00	4.47			5.00E+00	4.47E+00
62	2614.80	6.35E+01	17.00			6.35E+01	1.70E+01
63	2648.07	7.00E+00	5.29			7.00E+00	5.29E+00

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

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/3/2015 11:18:35AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

Corrected Area is: Original * Peak Ratio - Background

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
1	52.80	9.25E+01	89.62			9.25E+01	8.96E+01
2	62.49	1.87E+02	143.10			1.87E+02	1.43E+02
3	76.25	1.29E+03	156.87			1.29E+03	1.57E+02
4	88.12	2.37E+02	90.92	1.52E+01	5.37E+00	2.22E+02	9.11E+01
5	93.34	2.00E+02	97.04	9.04E+01	2.62E+01	1.10E+02	1.01E+02
6	114.60	7.94E+01	70.98			7.94E+01	7.10E+01
7	129.69	1.55E+02	102.69			1.55E+02	1.03E+02
8	186.17	2.04E+02	90.61	3.93E+01	6.56E+00	1.65E+02	9.09E+01
9	208.74	1.16E+02	71.52			1.16E+02	7.15E+01
M	10	238.92	8.10E+02	1.34E+01	2.14E+00	7.97E+02	7.07E+01
m	11	242.05	1.87E+02	2.69E+00	1.46E+00	1.84E+02	7.51E+01
	12	270.07	8.86E+01			8.86E+01	6.08E+01
	13	278.67	6.68E+01			6.68E+01	5.82E+01
	14	295.41	3.08E+02			3.08E+02	5.80E+01
	15	300.95	6.15E+01			6.15E+01	3.99E+01
	16	338.85	1.35E+02			1.35E+02	5.21E+01

Analysis Report for 1510063-20

CP5005S12-13

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	17	352.15	4.83E+02	68.01	3.99E+00	4.73E+00	4.79E+02	6.82E+01
	18	462.38	4.98E+01	39.75			4.98E+01	3.97E+01
	19	511.22	1.08E+02	40.64	5.78E+01	4.60E+00	5.04E+01	4.09E+01
M	20	580.04	1.49E+01	17.55			1.49E+01	1.75E+01
m	21	583.70	2.20E+02	39.15	5.96E+00	3.46E+00	2.14E+02	3.93E+01
	22	609.55	2.88E+02	49.49	6.71E+00	3.44E+00	2.81E+02	4.96E+01
	23	658.74	2.42E+01	26.30			2.42E+01	2.63E+01
M	24	723.54	1.83E+01	17.20			1.83E+01	1.72E+01
m	25	727.91	4.02E+01	27.78			4.02E+01	2.78E+01
	26	806.70	2.33E+01	29.58			2.33E+01	2.96E+01
	27	860.83	2.35E+01	26.71			2.35E+01	2.67E+01
	28	911.60	1.34E+02	33.53	2.32E+00	2.73E+00	1.32E+02	3.36E+01
	29	934.46	2.06E+01	26.02			2.06E+01	2.60E+01
M	30	965.14	2.21E+01	17.30			2.21E+01	1.73E+01
m	31	969.10	8.49E+01	28.02			8.49E+01	2.80E+01
M	32	1120.71	6.21E+01	26.15	2.00E+00	2.20E+00	6.01E+01	2.62E+01
m	33	1126.34	1.52E+01	22.18			1.52E+01	2.22E+01
	34	1149.86	4.01E+01	34.00			4.01E+01	3.40E+01
	35	1194.62	2.57E+01	20.40			2.57E+01	2.04E+01
	36	1217.27	2.17E+01	24.17			2.17E+01	2.42E+01
M	37	1234.56	1.82E+01	19.52			1.82E+01	1.95E+01
m	38	1238.57	3.49E+01	22.74			3.49E+01	2.27E+01
	39	1279.56	1.28E+01	15.65			1.28E+01	1.57E+01
M	40	1285.78	1.88E+01	13.95			1.88E+01	1.39E+01
m	41	1302.62	1.88E+01	19.25			1.88E+01	1.92E+01
	42	1378.24	2.23E+01	17.14			2.23E+01	1.71E+01
	43	1461.21	4.86E+02	48.21			4.86E+02	4.82E+01
	44	1493.53	1.52E+01	10.11			1.52E+01	1.01E+01
	45	1500.97	1.03E+01	7.55			1.03E+01	7.55E+00
M	46	1588.25	1.05E+01	6.93			1.05E+01	6.93E+00
m	47	1592.73	2.22E+01	11.22			2.22E+01	1.12E+01
	48	1621.94	7.75E+00	8.94			7.75E+00	8.94E+00
	49	1631.79	4.81E+00	7.12			4.81E+00	7.12E+00
	50	1701.24	7.39E+00	6.95			7.39E+00	6.95E+00
	51	1728.93	1.65E+01	12.19			1.65E+01	1.22E+01
	52	1764.92	4.04E+01	16.34	1.45E+00	1.16E+00	3.89E+01	1.64E+01
	53	1847.86	1.00E+01	6.32			1.00E+01	6.32E+00
	54	1893.09	1.68E+01	9.81			1.68E+01	9.81E+00
	55	1983.20	5.00E+00	4.47			5.00E+00	4.47E+00
	56	1995.98	7.10E+00	8.03			7.10E+00	8.03E+00
	57	2003.53	7.67E+00	6.71			7.67E+00	6.71E+00
	58	2102.27	8.50E+00	8.51			8.50E+00	8.51E+00
	59	2144.32	8.31E+00	10.10			8.31E+00	1.01E+01
	60	2204.72	1.31E+01	8.96			1.31E+01	8.96E+00
	61	2472.74	5.00E+00	4.47			5.00E+00	4.47E+00
	62	2614.80	6.35E+01	17.00			6.35E+01	1.70E+01
	63	2648.07	7.00E+00	5.29			7.00E+00	5.29E+00

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.00sigma

Analysis Report for 1510063-20
CP5005S12-13

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.975	1460.81 *	10.67	2.40E+01	3.12E+00
GA-67	0.672	93.31 *	35.70	8.60E+01	3.39E+02
		208.95 *	2.24	2.10E+03	7.80E+03
		300.22 *	16.00	2.08E+02	8.09E+02
CD-109	0.999	88.03 *	3.72	4.41E+00	1.89E+00
SN-126	0.953	87.57 *	37.00	4.26E-01	1.80E-01
HG-203	0.956	279.19 *	77.30	1.69E-01	1.48E-01
TL-208	0.975	583.14 *	30.22	1.72E+00	3.52E-01
		860.37 *	4.48	1.78E+00	2.03E+00
		2614.66 *	35.85	1.37E+00	3.89E-01
BI-212	0.703	727.17 *	11.80	1.00E+00	6.98E-01
		1620.62	2.75		
PB-212	0.979	238.63 *	44.60	2.03E+00	2.40E-01
		300.09 *	3.41	2.47E+00	1.62E+00
BI-214	0.982	609.31 *	46.30	1.53E+00	3.03E-01
		1120.29 *	15.10	1.69E+00	7.51E-01
		1764.49 *	15.80	1.49E+00	6.39E-01
		2204.22 *	4.98	1.85E+00	1.28E+00
PB-214	0.993	295.21 *	19.19	2.17E+00	4.40E-01
		351.92 *	37.19	2.02E+00	3.30E-01
RA-226	1.000	186.21 *	3.28	4.77E+00	9.12E+00
AC-228	0.969	338.32 *	11.40	1.79E+00	7.07E-01
		911.07 *	27.70	1.70E+00	4.53E-01
		969.11 *	16.60	1.92E+00	6.53E-01
TH-234	0.903	63.29 *	3.80	3.98E+00	3.07E+00

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510063-20
CP5005S12-13

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 11:18:35AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
1	52.80	2.56944E-02	48.44		
3	76.25	3.57219E-01	6.10		
6	114.60	2.20625E-02	44.68		
7	129.69	4.31229E-02	33.08		
m 11	242.05	5.11624E-02	20.39		
12	270.07	2.45977E-02	34.35		
18	462.38	1.38358E-02	39.90		
19	511.22	1.39868E-02	40.62		
M 20	580.04	4.14152E-03	58.86	Sum	
23	658.74	6.72543E-03	54.32	Tol.	AG-110M
M 24	723.54	5.07113E-03	47.12	Tol.	ZR-95
					AG-108M
					SB-124
					I-131
					EU-154
26	806.70	6.46111E-03	63.59		
29	934.46	5.72310E-03	63.14		
M 30	965.14	6.13903E-03	39.14		
m 33	1126.34	4.22863E-03	72.85		
34	1149.86	1.11290E-02	42.43	Sum	
35	1194.62	7.14744E-03	39.63		
36	1217.27	6.01926E-03	55.76		
M 37	1234.56	5.04904E-03	53.69	Tol.	CS-136
m 38	1238.57	9.69447E-03	32.58	Tol.	CO-56
39	1279.56	3.54167E-03	61.38		
M 40	1285.78	5.21165E-03	37.17		
m 41	1302.62	5.21237E-03	51.29		
42	1378.24	6.18421E-03	38.49		
44	1493.53	4.22068E-03	33.27		
45	1500.97	2.85880E-03	36.68		
M 46	1588.25	2.91988E-03	32.96	Sum	
m 47	1592.73	6.15912E-03	25.31	D-Esc	
48	1621.94	2.15278E-03	57.70		
49	1631.79	1.33681E-03	74.01		
50	1701.24	2.05247E-03	47.00		
51	1728.93	4.58333E-03	36.93		
53	1847.86	2.77778E-03	31.62	Sum	
54	1893.09	4.67105E-03	29.17		
55	1983.20	1.38889E-03	44.72		
56	1995.98	1.97222E-03	56.56		
57	2003.53	2.12963E-03	43.75	Sum	
58	2102.27	2.36111E-03	50.09		
59	2144.32	2.30769E-03	60.78		
61	2472.74	1.38889E-03	44.72		
63	2648.07	1.94444E-03	37.80		

Analysis Report for 1510063-20

CP5005S12-13

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.97	1460.81 *	10.67	2.40E+01	3.12E+00
GA-67	0.67	93.31 *	35.70	8.60E+01	3.39E+02
		208.95 *	2.24	2.10E+03	7.80E+03
		300.22 *	16.00	2.08E+02	8.09E+02
CD-109	0.99	88.03 *	3.72	4.41E+00	1.89E+00
SN-126	0.95	87.57 *	37.00	4.26E-01	1.80E-01
HG-203	0.95	279.19 *	77.30	1.69E-01	1.48E-01
TL-208	0.97	583.14 *	30.22	1.72E+00	3.52E-01
		860.37 *	4.48	1.78E+00	2.03E+00
		2614.66 *	35.85	1.37E+00	3.89E-01
BI-212	0.70	727.17 *	11.80	1.00E+00	6.98E-01
		1620.62	2.75		
PB-212	0.97	238.63 *	44.60	2.03E+00	2.40E-01
		300.09 *	3.41	2.47E+00	1.62E+00
BI-214	0.98	609.31 *	46.30	1.53E+00	3.03E-01
		1120.29 *	15.10	1.69E+00	7.51E-01
		1764.49 *	15.80	1.49E+00	6.39E-01
		2204.22 *	4.98	1.85E+00	1.28E+00
PB-214	0.99	295.21 *	19.19	2.17E+00	4.40E-01
		351.92 *	37.19	2.02E+00	3.30E-01
RA-226	1.00	186.21 *	3.28	4.77E+00	9.12E+00
AC-228	0.96	338.32 *	11.40	1.79E+00	7.07E-01
		911.07 *	27.70	1.70E+00	4.53E-01
		969.11 *	16.60	1.92E+00	6.53E-01
TH-234	0.90	63.29 *	3.80	3.98E+00	3.07E+00

Analysis Report for 1510063-20
CP5005S12-13

* = Energy line found in the spectrum.
- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.975	2.40E+01	3.12E+00	
GA-67	0.672	7.94E+01	2.99E+02	
? CD-109	0.999	4.41E+00	1.89E+00	
? SN-126	0.953	4.26E-01	1.80E-01	
HG-203	0.956	1.69E-01	1.48E-01	
TL-208	0.975	1.57E+00	2.59E-01	
BI-212	0.703	1.00E+00	6.98E-01	
PB-212	0.979	2.02E+00	2.38E-01	
BI-214	0.982	1.56E+00	2.52E-01	
PB-214	0.993	2.07E+00	2.64E-01	
RA-226	1.000	4.77E+00	9.12E+00	
AC-228	0.969	1.78E+00	3.29E-01	
TH-234	0.903	3.98E+00	3.07E+00	

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510063-20
 CP5005S12-13

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/3/2015 11:18:35AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
1	52.80	2.56944E-02	48.44		
3	76.25	3.57219E-01	6.10		
6	114.60	2.20625E-02	44.68		
7	129.69	4.31229E-02	33.08		
m 11	242.05	5.11624E-02	20.39		
12	270.07	2.45977E-02	34.35		
18	462.38	1.38358E-02	39.90		
19	511.22	1.39868E-02	40.62		
M 20	580.04	4.14152E-03	58.86	Sum	
23	658.74	6.72543E-03	54.32	Tol.	AG-110M
M 24	723.54	5.07113E-03	47.12	Tol.	ZR-95
					AG-108M
					SB-124
					I-131
					EU-154
26	806.70	6.46111E-03	63.59		
29	934.46	5.72310E-03	63.14		
M 30	965.14	6.13903E-03	39.14		
m 33	1126.34	4.22863E-03	72.85		
34	1149.86	1.11290E-02	42.43	Sum	
35	1194.62	7.14744E-03	39.63		
36	1217.27	6.01926E-03	55.76		
M 37	1234.56	5.04904E-03	53.69	Tol.	CS-136
m 38	1238.57	9.69447E-03	32.58	Tol.	CO-56
39	1279.56	3.54167E-03	61.38		
M 40	1285.78	5.21165E-03	37.17		
m 41	1302.62	5.21237E-03	51.29		
42	1378.24	6.18421E-03	38.49		
44	1493.53	4.22068E-03	33.27		
45	1500.97	2.85880E-03	36.68		
M 46	1588.25	2.91988E-03	32.96	Sum	
m 47	1592.73	6.15912E-03	25.31	D-Esc	
48	1621.94	2.15278E-03	57.70		
49	1631.79	1.33681E-03	74.01		
50	1701.24	2.05247E-03	47.00		

Analysis Report for 1510063-20
CP5005S12-13

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
51	1728.93	4.58333E-03	36.93		
53	1847.86	2.77778E-03	31.62	Sum	
54	1893.09	4.67105E-03	29.17		
55	1983.20	1.38889E-03	44.72		
56	1995.98	1.97222E-03	56.56		
57	2003.53	2.12963E-03	43.75	Sum	
58	2102.27	2.36111E-03	50.09		
59	2144.32	2.30769E-03	60.78		
61	2472.74	1.38889E-03	44.72		
63	2648.07	1.94444E-03	37.80		

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59	10.42	-7.04E-02	1.37E+00	1.37E+00
+	NA-22	1274.54	99.94	4.91E-02	1.55E-01	1.55E-01
+	NA-24	1368.53	99.99	1.97E+11	3.34E+12	4.47E+12
		2754.09	99.86	4.87E+11		3.34E+12
+	AL-26	1808.65	99.76	1.85E-02	1.03E-01	1.03E-01
+	K-40	1460.81	* 10.67	2.40E+01	1.71E+00	1.71E+00
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	1.70E-02	1.01E-01	1.01E-01
		78.34	96.00	3.14E-01		1.26E-01
+	SC-46	889.25	99.98	-3.49E-02	1.42E-01	1.42E-01
		1120.51	99.99	3.17E-01		2.61E-01
+	V-48	983.52	99.98	-6.12E-02	3.95E-01	3.95E-01
		1312.10	97.50	-8.40E-02		4.95E-01
+	CR-51	320.08	9.83	1.15E-01	2.03E+00	2.03E+00
+	MN-54	834.83	99.97	-8.81E-03	1.33E-01	1.33E-01
+	CO-56	846.75	99.96	5.99E-02	1.66E-01	1.66E-01
		1037.75	14.03	-3.68E-01		1.06E+00
		1238.25	67.00	1.56E-01		3.55E-01

Analysis Report for 1510063-20
CP5005S12-13

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	CO-56	1771.40	15.51	-2.68E-01	1.66E-01	7.08E-01
		2598.48	16.90	1.46E-02		7.02E-01
+	CO-57	122.06	85.51	-4.35E-03	8.08E-02	8.08E-02
		136.48	10.60	-1.84E-02		6.85E-01
+	CO-58	810.76	99.40	-9.98E-03	1.37E-01	1.37E-01
+	FE-59	1099.22	56.50	7.45E-02	3.60E-01	3.60E-01
		1291.56	43.20	-1.68E-01		5.97E-01
+	CO-60	1173.22	100.00	3.91E-02	1.45E-01	1.45E-01
		1332.49	100.00	8.39E-03		1.45E-01
+	ZN-65	1115.52	50.75	-5.72E-02	2.70E-01	2.70E-01
+	GA-67	93.31	* 35.70	8.60E+01	1.29E+02	1.29E+02
		208.95	* 2.24	2.10E+03		2.08E+03
		300.22	* 16.00	2.08E+02		2.13E+02
+	SE-75	121.11	16.70	9.27E-02	1.37E-01	4.55E-01
		136.00	59.20	1.25E-02		1.37E-01
		264.65	59.80	-1.63E-02		1.68E-01
		279.53	25.20	8.83E-02		4.39E-01
		400.65	11.40	-5.03E-01		9.38E-01
+	RB-82	776.52	13.00	8.21E-01	2.06E+00	2.06E+00
+	RB-83	520.41	46.00	-2.72E-02	2.78E-01	2.78E-01
		529.64	30.30	-3.54E-01		3.41E-01
		552.65	16.40	-4.05E-01		7.75E-01
+	KR-85	513.99	0.43	-1.43E+00	3.16E+01	3.16E+01
+	SR-85	513.99	99.27	-8.38E-03	1.86E-01	1.86E-01
+	Y-88	898.02	93.40	-1.58E-02	1.19E-01	1.67E-01
		1836.01	99.38	0.00E+00		1.19E-01
+	NB-93M	16.57	9.43	-3.07E+00	1.12E+02	1.12E+02
+	NB-94	702.63	100.00	7.68E-02	1.12E-01	1.25E-01
		871.10	100.00	-2.39E-02		1.12E-01
+	NB-95	765.79	99.81	1.78E-01	2.31E-01	2.31E-01
+	NB-95M	235.69	25.00	1.26E+01	1.45E+02	1.45E+02
+	ZR-95	724.18	43.70	-1.29E-01	2.91E-01	4.21E-01
		756.72	55.30	1.76E-02		2.91E-01
+	MO-99	181.06	6.20	-7.13E+01	1.06E+03	1.42E+03
		739.58	12.80	-2.16E+02		1.06E+03
		778.00	4.50	-1.96E+03		3.05E+03
+	RU-103	497.08	89.00	5.10E-02	1.78E-01	1.78E-01
+	RU-106	621.84	9.80	-2.10E-01	1.21E+00	1.21E+00
+	AG-108M	433.93	89.90	-2.91E-02	1.04E-01	1.04E-01
		614.37	90.40	1.25E-02		1.26E-01
		722.95	90.50	7.03E-04		1.42E-01
+	CD-109	88.03	* 3.72	4.41E+00	2.87E+00	2.87E+00
+	AG-110M	657.75	93.14	3.79E-02	1.37E-01	1.37E-01
		677.61	10.53	2.81E-01		1.18E+00
		706.67	16.46	-3.79E-01		7.47E-01
		763.93	21.98	-3.12E-01		5.80E-01
		884.67	71.63	-3.98E-02		1.61E-01
		1384.27	23.94	3.12E-02		5.92E-01

Analysis Report for 1510063-20
 CP5005S12-13

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	CD-113M	263.70	0.02	-1.06E+01	3.76E+02	3.76E+02
+	SN-113	255.12	1.93	2.15E+00	1.82E-01	5.58E+00
		391.69	64.90	5.18E-02		1.82E-01
+	TE123M	159.00	84.10	-4.84E-02	9.32E-02	9.32E-02
+	SB-124	602.71	97.87	1.55E-02	1.54E-01	1.54E-01
		645.85	7.26	-2.52E-01		2.16E+00
		722.78	11.10	7.92E-03		1.60E+00
		1691.02	49.00	4.74E-03		2.49E-01
+	I-125	35.49	6.49	-1.98E+00	4.33E+00	4.33E+00
+	SB-125	176.33	6.89	9.49E-02	3.29E-01	1.07E+00
		427.89	29.33	1.02E-01		3.29E-01
		463.38	10.35	9.06E-01		1.09E+00
		600.56	17.80	3.07E-01		6.54E-01
		635.90	11.32	-2.01E-01		1.01E+00
+	SB-126	414.70	83.30	-2.96E-01	5.52E-01	5.77E-01
		666.33	99.60	2.38E-01		5.52E-01
		695.00	99.60	-1.12E-01		5.61E-01
		720.50	53.80	-2.21E-01		1.08E+00
+	SN-126	87.57	* 37.00	4.26E-01	2.77E-01	2.77E-01
+	SB-127	473.00	25.00	5.75E+00	5.01E+01	6.26E+01
		685.20	35.70	-2.44E+00		5.01E+01
		783.80	14.70	-1.59E+01		1.27E+02
+	I-129	29.78	57.00	-1.29E-01	6.22E-01	6.22E-01
		33.60	13.20	7.81E-01		1.84E+00
		39.58	7.52	-4.53E-01		2.06E+00
+	I-131	284.30	6.05	-3.52E+00	1.31E+00	1.63E+01
		364.48	81.20	-2.27E-01		1.31E+00
		636.97	7.26	-6.02E+00		1.79E+01
		722.89	1.80	3.99E-01		8.09E+01
+	TE-132	49.72	13.10	-8.01E+01	4.08E+01	3.45E+02
		228.16	88.00	2.11E+00		4.08E+01
+	BA-133	81.00	33.00	-7.86E-02	2.21E-01	2.54E-01
		302.84	17.80	-4.50E-02		5.54E-01
		356.01	60.00	6.26E-03		2.21E-01
+	I-133	529.87	86.30	-5.82E+08	5.59E+08	5.59E+08
+	XE-133	81.00	38.00	-2.80E+00	9.04E+00	9.04E+00
+	CS-134	563.23	8.38	-1.60E-01	1.23E-01	1.31E+00
		569.32	15.43	1.20E-01		6.62E-01
		604.70	97.60	2.09E-02		1.23E-01
		795.84	85.40	6.43E-02		1.65E-01
		801.93	8.73	1.71E-01		1.46E+00
+	CS-135	268.24	16.00	1.96E-01	6.10E-01	6.10E-01
+	@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@	1260.41	28.60	1.00E+26		1.00E+26
	@	1678.03	9.54	1.00E+26		1.00E+26
+	CS-136	153.22	7.46	1.96E+00	5.57E-01	4.20E+00
		163.89	4.61	1.47E+00		6.82E+00
		176.55	13.56	-1.29E-01		2.33E+00
		273.65	12.66	-5.64E-01		3.55E+00

Analysis Report for 1510063-20
CP5005S12-13

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)	
CS-136	340.57	48.50	-2.09E-02	5.57E-01	1.13E+00	
	818.50	99.70	2.30E-01		5.57E-01	
	1048.07	79.60	-3.10E-02		7.38E-01	
	1235.34	19.70	1.97E+00		4.22E+00	
+ CS-137	661.65	85.12	-5.26E-02	1.33E-01	1.33E-01	
+ LA-138	788.74	34.00	1.20E-01	1.72E-01	3.62E-01	
	1435.80	66.00	3.28E-02		1.72E-01	
+ CE-139	165.85	80.35	2.91E-03	1.02E-01	1.02E-01	
+ BA-140	162.64	6.70	1.48E+00	1.89E+00	4.80E+00	
	304.84	4.50	6.62E-01		9.17E+00	
	423.70	3.20	-5.89E+00		1.35E+01	
	437.55	2.00	1.73E+01		2.39E+01	
+ LA-140	537.32	25.00	5.60E-01	7.16E-01	1.89E+00	
	328.77	20.50	-9.12E-03		2.29E+00	
	487.03	45.50	3.07E-01		1.04E+00	
	815.85	23.50	-2.85E-01		2.26E+00	
+ CE-141	145.44	48.40	5.99E-02	2.70E-01	2.70E-01	
+ CE-143	57.36	11.80	-6.02E+05	4.91E+05	1.18E+06	
	293.26	42.00	-3.15E+04		4.91E+05	
	664.55	5.20	-2.94E+05		3.04E+06	
+ CE-144	133.54	10.80	-4.16E-01	6.66E-01	6.66E-01	
+ PM-144	476.78	42.00	1.90E-02	1.20E-01	2.47E-01	
	618.01	98.60	4.42E-02		1.20E-01	
	696.49	99.49	-4.26E-02		1.22E-01	
+ PM-145	36.85	21.70	9.95E-02	4.58E-01	8.63E-01	
	37.36	39.70	1.19E-01		4.58E-01	
	42.30	15.10	-1.25E+00		8.70E-01	
	72.40	2.31	-7.97E+00		4.89E+00	
+ PM-146	453.90	39.94	1.35E-01	2.51E-01	2.51E-01	
	735.90	14.01	-6.02E-02		8.03E-01	
	747.13	13.10	7.36E-02		8.99E-01	
+ ND-147	91.11	28.90	-1.21E+00	1.94E+00	1.94E+00	
	531.02	13.10	-5.01E-01		4.05E+00	
+ PM-149	285.90	3.10	-6.06E+02	1.92E+04	1.92E+04	
+ EU-152	121.78	20.50	-1.69E-02	3.15E-01	3.15E-01	
	244.69	5.40	-1.56E+00		1.98E+00	
	344.27	19.13	-5.48E-02		4.78E-01	
	778.89	9.20	2.69E-01		1.31E+00	
	964.01	10.40	-2.72E+00		1.39E+00	
	1085.78	7.22	-7.79E-01		1.76E+00	
	1112.02	9.60	3.01E-01		1.53E+00	
	1407.95	14.94	-1.45E-01		8.25E-01	
	97.43	31.30	2.28E-02		2.27E-01	2.27E-01
	103.18	22.20	-2.01E-01		3.16E-01	
+ EU-154	123.07	40.50	-5.24E-02	1.58E-01	1.58E-01	
	723.30	19.70	3.25E-03		6.58E-01	
	873.19	11.50	-3.33E-01		9.79E-01	
	996.32	10.30	-6.08E-01		1.06E+00	

Analysis Report for 1510063-20

CP5005S12-13

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	EU-154	1004.76	17.90	1.56E-02	1.58E-01	7.16E-01
		1274.45	35.50	1.36E-01		4.30E-01
+	EU-155	86.50	30.90	9.79E-02	3.10E-01	3.10E-01
		105.30	20.70	-4.12E-02		3.26E-01
+	EU-156	811.77	10.40	-2.47E-01	3.48E+00	3.48E+00
		1153.47	7.20	-1.41E-01		6.76E+00
		1230.71	8.90	2.40E-01		6.11E+00
+	HO-166M	184.41	72.60	2.21E-01	1.32E-01	1.32E-01
		280.45	29.60	-1.70E-02		3.10E-01
		410.94	11.10	9.57E-02		9.34E-01
		711.69	54.10	8.27E-02		2.13E-01
+	TM-171	66.72	0.14	-6.25E+01	7.11E+01	7.11E+01
+	HF-172	81.75	4.52	4.28E-01	6.21E-01	1.88E+00
		125.81	11.30	-3.52E-01		6.21E-01
+	LU-172	181.53	20.60	2.82E-01	4.02E+00	6.50E+00
		810.06	16.63	-1.24E+01		1.10E+01
		912.12	15.25	5.62E+01		2.74E+01
		1093.66	62.50	1.87E+00		4.02E+00
+	LU-173	100.72	5.24	5.89E-01	5.13E-01	1.32E+00
		272.11	21.20	3.49E-01		5.13E-01
+	HF-175	343.40	84.00	-1.64E-02	1.52E-01	1.52E-01
+	LU-176	88.34	13.30	1.30E+00	9.19E-02	7.52E-01
		201.83	86.00	-2.25E-02		9.98E-02
		306.78	94.00	-1.89E-02		9.19E-02
+	TA-182	67.75	41.20	4.61E-02	2.76E-01	2.76E-01
		1121.30	34.90	6.62E-01		6.98E-01
		1189.05	16.23	1.06E-01		1.04E+00
		1221.41	26.98	-2.59E-02		6.80E-01
		1231.02	11.44	-9.52E-02		1.66E+00
+	IR-192	308.46	29.68	1.20E-01	2.72E-01	3.91E-01
		468.07	48.10	1.02E-01		2.72E-01
+	HG-203	279.19	* 77.30	1.69E-01	2.39E-01	2.39E-01
+	BI-207	569.67	97.72	1.25E-02	1.02E-01	1.02E-01
		1063.62	74.90	6.14E-02		1.92E-01
+	TL-208	583.14	* 30.22	1.72E+00	2.68E-01	5.33E-01
		860.37	* 4.48	1.78E+00		3.31E+00
		2614.66	* 35.85	1.37E+00		2.68E-01
+	BI-210M	262.00	45.00	-5.15E-02	1.93E-01	1.93E-01
		300.00	23.00	-2.18E+00		4.43E-01
+	PB-210	46.50	4.25	2.83E+00	3.05E+00	3.05E+00
+	PB-211	404.84	2.90	2.02E+00	3.67E+00	3.67E+00
		831.96	2.90	-4.68E-01		4.09E+00
+	BI-212	727.17	* 11.80	1.00E+00	1.54E+00	1.54E+00
		1620.62	2.75	0.00E+00		4.03E+00
+	PB-212	238.63	* 44.60	2.03E+00	3.75E-01	3.75E-01
		300.09	* 3.41	2.47E+00		2.54E+00
+	BI-214	609.31	* 46.30	1.53E+00	3.42E-01	3.42E-01
		1120.29	* 15.10	1.69E+00		1.53E+00

Analysis Report for 1510063-20
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Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	BI-214	1764.49	*	15.80	1.49E+00	3.42E-01
		2204.22	*	4.98	1.85E+00	1.61E+00
+	PB-214	295.21	*	19.19	2.17E+00	3.74E-01
		351.92	*	37.19	2.02E+00	3.74E-01
+	RN-219	401.80		6.50	3.33E-01	1.48E+00
+	RA-223	323.87		3.88	-1.25E+00	2.58E+00
+	RA-224	240.98		3.95	2.86E+01	4.82E+00
+	RA-225	40.00		31.00	-4.00E-01	1.82E+00
+	RA-226	186.21	*	3.28	4.77E+00	4.22E+00
+	TH-227	50.10		8.40	-3.12E-01	1.34E+00
		236.00		11.50	1.24E-01	1.42E+00
		256.20		6.30	7.08E-01	1.47E+00
+	AC-228	338.32	*	11.40	1.79E+00	5.56E-01
		911.07	*	27.70	1.70E+00	5.56E-01
		969.11	*	16.60	1.92E+00	1.34E+00
+	TH-230	48.44		16.90	3.49E-01	7.30E-01
		62.85		4.60	2.42E+00	2.31E+00
		67.67		0.37	4.33E+00	2.59E+01
+	PA-231	283.67		1.60	-1.18E+00	4.26E+00
		302.67		2.30	-3.46E-01	4.26E+00
+	TH-231	25.64		14.70	-3.88E-01	1.30E+00
		84.21		6.40	-1.55E-01	1.30E+00
+	PA-233	311.98		38.60	-1.83E-01	4.77E-01
+	PA-234	131.20		20.40	2.32E-01	3.64E-01
		733.99		8.80	-4.32E-01	1.27E+00
		946.00		12.00	-4.21E-01	9.40E-01
+	PA-234M	1001.03		0.92	-2.06E+00	1.32E+01
+	TH-234	63.29	*	3.80	3.98E+00	4.98E+00
+	U-235	143.76		10.50	3.79E-01	7.00E-01
		163.35		4.70	3.26E-01	1.52E+00
		205.31		4.70	-2.84E-02	1.90E+00
+	NP-237	86.50		12.60	2.37E-01	7.52E-01
+	NP-239	106.10		22.70	-3.47E+02	1.16E+03
		228.18		10.70	1.72E+02	3.33E+03
		277.60		14.10	1.54E+03	2.69E+03
+	AM-241	59.54		35.90	-2.21E-01	2.75E-01
+	AM-243	74.67		66.00	4.08E-01	2.02E-01
+	CM-243	209.75		3.29	1.53E+00	6.91E-01
		228.14		10.60	4.43E-02	8.55E-01
		277.60		14.00	3.94E-01	6.91E-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
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

Analysis Report for 1510063-20
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NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
BE-7	477.59	10.42	1.37E+00	1.37E+00	-7.04E-02	6.45E-01
NA-22	1274.54	99.94	1.55E-01	1.55E-01	4.91E-02	7.10E-02
NA-24	1368.53	99.99	4.47E+12	3.34E+12	1.97E+11	2.00E+12
	2754.09	99.86	3.34E+12		4.87E+11	1.30E+12
AL-26	1808.65	99.76	1.03E-01	1.03E-01	1.85E-02	4.32E-02
+ K-40	1460.81	* 10.67	1.71E+00	1.71E+00	2.40E+01	7.90E-01
@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
TI-44	67.88	94.40	1.01E-01	1.01E-01	1.70E-02	4.96E-02
	78.34	96.00	1.26E-01		3.14E-01	6.21E-02
SC-46	889.25	99.98	1.42E-01	1.42E-01	-3.49E-02	6.49E-02
	1120.51	99.99	2.61E-01		3.17E-01	1.23E-01
V-48	983.52	99.98	3.95E-01	3.95E-01	-6.12E-02	1.80E-01
	1312.10	97.50	4.95E-01		-8.40E-02	2.25E-01
CR-51	320.08	9.83	2.03E+00	2.03E+00	1.15E-01	9.73E-01
MN-54	834.83	99.97	1.33E-01	1.33E-01	-8.81E-03	6.19E-02
CO-56	846.75	99.96	1.66E-01	1.66E-01	5.99E-02	7.74E-02
	1037.75	14.03	1.06E+00		-3.68E-01	4.79E-01
	1238.25	67.00	3.55E-01		1.56E-01	1.65E-01
	1771.40	15.51	7.08E-01		-2.68E-01	2.86E-01
	2598.48	16.90	7.02E-01		1.46E-02	2.72E-01
CO-57	122.06	85.51	8.08E-02	8.08E-02	-4.35E-03	3.91E-02
	136.48	10.60	6.85E-01		-1.84E-02	3.32E-01
CO-58	810.76	99.40	1.37E-01	1.37E-01	-9.98E-03	6.30E-02
FE-59	1099.22	56.50	3.60E-01	3.60E-01	7.45E-02	1.64E-01
	1291.56	43.20	5.97E-01		-1.68E-01	2.76E-01
CO-60	1173.22	100.00	1.45E-01	1.45E-01	3.91E-02	6.64E-02
	1332.49	100.00	1.45E-01		8.39E-03	6.61E-02
ZN-65	1115.52	50.75	2.70E-01	2.70E-01	-5.72E-02	1.23E-01
+ GA-67	93.31	* 35.70	1.29E+02	1.29E+02	8.60E+01	6.34E+01
	208.95	* 2.24	2.08E+03		2.10E+03	1.02E+03
	300.22	* 16.00	2.13E+02		2.08E+02	1.02E+02
SE-75	121.11	16.70	4.55E-01	1.37E-01	9.27E-02	2.20E-01
	136.00	59.20	1.37E-01		1.25E-02	6.62E-02
	264.65	59.80	1.68E-01		-1.63E-02	8.08E-02
	279.53	25.20	4.39E-01		8.83E-02	2.11E-01
	400.65	11.40	9.38E-01		-5.03E-01	4.45E-01
RB-82	776.52	13.00	2.06E+00	2.06E+00	8.21E-01	9.63E-01

Analysis Report for 1510063-20
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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)	
RB-83	520.41	46.00	2.78E-01	2.78E-01	-2.72E-02	1.31E-01	
	529.64	30.30	3.41E-01		-3.54E-01	1.58E-01	
	552.65	16.40	7.75E-01		-4.05E-01	3.64E-01	
KR-85	513.99	0.43	3.16E+01	3.16E+01	-1.43E+00	1.51E+01	
SR-85	513.99	99.27	1.86E-01	1.86E-01	-8.38E-03	8.89E-02	
Y-88	898.02	93.40	1.67E-01	1.19E-01	-1.58E-02	7.75E-02	
	1836.01	99.38	1.19E-01		0.00E+00	4.96E-02	
NB-93M	16.57	9.43	1.12E+02	1.12E+02	-3.07E+00	5.43E+01	
NB-94	702.63	100.00	1.25E-01	1.12E-01	7.68E-02	5.86E-02	
	871.10	100.00	1.12E-01		-2.39E-02	5.12E-02	
NB-95	765.79	99.81	2.31E-01	2.31E-01	1.78E-01	1.08E-01	
NB-95M	235.69	25.00	1.45E+02	1.45E+02	1.26E+01	7.10E+01	
ZR-95	724.18	43.70	4.21E-01	2.91E-01	-1.29E-01	1.98E-01	
	756.72	55.30	2.91E-01		1.36E-02	1.36E-01	
MO-99	181.06	6.20	1.42E+03	1.06E+03	-7.13E+01	6.85E+02	
	739.58	12.80	1.06E+03		-2.16E+02	4.94E+02	
	778.00	4.50	3.05E+03		-1.96E+03	1.42E+03	
RU-103	497.08	89.00	1.78E-01	1.78E-01	5.10E-02	8.40E-02	
RU-106	621.84	9.80	1.21E+00	1.21E+00	-2.10E-01	5.67E-01	
AG-108M	433.93	89.90	1.04E-01	1.04E-01	-2.91E-02	4.93E-02	
	614.37	90.40	1.26E-01		1.25E-02	5.92E-02	
	722.95	90.50	1.42E-01		7.03E-04	6.69E-02	
	88.03	3.72	2.87E+00		4.41E+00	1.41E+00	
+ CD-109	657.75	93.14	1.37E-01	1.37E-01	3.79E-02	6.43E-02	
	677.61	10.53	1.18E+00		2.81E-01	5.53E-01	
	706.67	16.46	7.47E-01		-3.79E-01	3.48E-01	
	763.93	21.98	5.80E-01		-3.12E-01	2.70E-01	
	884.67	71.63	1.61E-01		-3.98E-02	7.33E-02	
	1384.27	23.94	5.92E-01		3.12E-02	2.65E-01	
	263.70	0.02	3.76E+02		3.76E+02	-1.06E+01	1.81E+02
	SN-113	255.12	1.93		5.58E+00	1.82E-01	2.15E+00	2.69E+00
TE123M	391.69	64.90	1.82E-01	9.32E-02	5.18E-02	8.68E-02	
	159.00	84.10	9.32E-02		-4.84E-02	4.50E-02	
SB-124	602.71	97.87	1.54E-01	1.54E-01	1.55E-02	7.20E-02	
	645.85	7.26	2.16E+00		-2.52E-01	1.01E+00	
	722.78	11.10	1.60E+00		7.92E-03	7.53E-01	
	1691.02	49.00	2.49E-01		4.74E-03	1.02E-01	
	35.49	6.49	4.33E+00		4.33E+00	-1.98E+00	2.10E+00
SB-125	176.33	6.89	1.07E+00	3.29E-01	9.49E-02	5.16E-01	
	427.89	29.33	3.29E-01		1.02E-01	1.56E-01	
	463.38	10.35	1.09E+00		9.06E-01	5.19E-01	
	600.56	17.80	6.54E-01		3.07E-01	3.08E-01	
	635.90	11.32	1.01E+00		-2.01E-01	4.75E-01	
SB-126	414.70	83.30	5.77E-01	5.52E-01	-2.96E-01	2.74E-01	
	666.33	99.60	5.52E-01		2.38E-01	2.58E-01	
	695.00	99.60	5.61E-01		-1.12E-01	2.62E-01	
	720.50	53.80	1.08E+00		-2.21E-01	5.05E-01	
+ SN-126	87.57	37.00	2.77E-01	2.77E-01	4.26E-01	1.36E-01	
	473.00	25.00	6.26E+01		5.01E+01	2.96E+01	
	685.20	35.70	5.01E+01		-2.44E+00	2.34E+01	
SB-127	783.80	14.70	1.27E+02	6.22E-01	-1.59E+01	5.87E+01	
	29.78	57.00	6.22E-01		-1.29E-01	3.02E-01	
	33.60	13.20	1.84E+00		7.81E-01	8.96E-01	

Analysis Report for 1510063-20
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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
I-129	39.58	7.52	2.06E+00	6.22E-01	-4.53E-01	1.00E+00
I-131	284.30	6.05	1.63E+01	1.31E+00	-3.52E+00	7.80E+00
	364.48	81.20	1.31E+00		-2.27E-01	6.27E-01
	636.97	7.26	1.79E+01		-6.02E+00	8.38E+00
	722.89	1.80	8.09E+01		3.99E-01	3.80E+01
TE-132	49.72	13.10	3.45E+02	4.08E+01	-8.01E+01	1.68E+02
	228.16	88.00	4.08E+01		2.11E+00	1.97E+01
BA-133	81.00	33.00	2.54E-01	2.21E-01	-7.86E-02	1.24E-01
	302.84	17.80	5.54E-01		-4.50E-02	2.66E-01
	356.01	60.00	2.21E-01		6.26E-03	1.07E-01
I-133	529.87	86.30	5.59E+08	5.59E+08	-5.82E+08	2.59E+08
XE-133	81.00	38.00	9.04E+00	9.04E+00	-2.80E+00	4.41E+00
CS-134	563.23	8.38	1.31E+00	1.23E-01	-1.60E-01	6.14E-01
	569.32	15.43	6.62E-01		1.20E-01	3.10E-01
	604.70	97.60	1.23E-01		2.09E-02	5.81E-02
	795.84	85.40	1.65E-01		6.43E-02	7.75E-02
	801.93	8.73	1.46E+00		1.71E-01	6.78E-01
CS-135	268.24	16.00	6.10E-01	6.10E-01	1.96E-01	2.94E-01
@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	1260.41	28.60	1.00E+26		1.00E+26	1.00E+20
@	1678.03	9.54	1.00E+26		1.00E+26	1.00E+20
CS-136	153.22	7.46	4.20E+00	5.57E-01	1.96E+00	2.03E+00
	163.89	4.61	6.82E+00		1.47E+00	3.30E+00
	176.55	13.56	2.33E+00		-1.29E-01	1.13E+00
	273.65	12.66	3.55E+00		-5.64E-01	1.72E+00
	340.57	48.50	1.13E+00		-2.09E-02	5.48E-01
	818.50	99.70	5.57E-01		2.30E-01	2.59E-01
	1048.07	79.60	7.38E-01		-3.10E-02	3.39E-01
	1235.34	19.70	4.22E+00		1.97E+00	1.97E+00
CS-137	661.65	85.12	1.33E-01	1.33E-01	-5.26E-02	6.20E-02
LA-138	788.74	34.00	3.62E-01	1.72E-01	1.20E-01	1.69E-01
	1435.80	66.00	1.72E-01		3.28E-02	7.54E-02
CE-139	165.85	80.35	1.02E-01	1.02E-01	2.91E-03	4.91E-02
BA-140	162.64	6.70	4.80E+00	1.89E+00	1.48E+00	2.32E+00
	304.84	4.50	9.17E+00		6.62E-01	4.39E+00
	423.70	3.20	1.35E+01		-5.89E+00	6.40E+00
	437.55	2.00	2.39E+01		1.73E+01	1.14E+01
	537.32	25.00	1.89E+00		5.60E-01	8.90E-01
LA-140	328.77	20.50	2.29E+00	7.16E-01	-9.12E-03	1.10E+00
	487.03	45.50	1.04E+00		3.07E-01	4.94E-01
	815.85	23.50	2.26E+00		-2.85E-01	1.04E+00
	1596.49	95.49	7.16E-01		-2.20E-01	3.21E-01
CE-141	145.44	48.40	2.70E-01	2.70E-01	5.99E-02	1.31E-01
CE-143	57.36	11.80	1.18E+06	4.91E+05	-6.02E+05	5.76E+05
	293.26	42.00	4.91E+05		-3.15E+04	2.39E+05
	664.55	5.20	3.04E+06		-2.94E+05	1.42E+06
CE-144	133.54	10.80	6.66E-01	6.66E-01	-4.16E-01	3.23E-01
PM-144	476.78	42.00	2.47E-01	1.20E-01	1.90E-02	1.17E-01
	618.01	98.60	1.20E-01		4.42E-02	5.65E-02
	696.49	99.49	1.22E-01		-4.26E-02	5.68E-02
PM-145	36.85	21.70	8.63E-01	4.58E-01	9.95E-02	4.20E-01
	37.36	39.70	4.58E-01		1.19E-01	2.23E-01
	42.30	15.10	8.70E-01		-1.25E+00	4.22E-01

Analysis Report for 1510063-20

CP5005S12-13

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
PM-145	72.40	2.31	4.89E+00	4.58E-01	-7.97E+00	2.40E+00
PM-146	453.90	39.94	2.51E-01	2.51E-01	1.35E-01	1.19E-01
	735.90	14.01	8.03E-01		-6.02E-02	3.73E-01
	747.13	13.10	8.99E-01		7.36E-02	4.18E-01
ND-147	91.11	28.90	1.94E+00	1.94E+00	-1.21E+00	9.51E-01
	531.02	13.10	4.05E+00		-5.01E-01	1.89E+00
PM-149	285.90	3.10	1.92E+04	1.92E+04	-6.06E+02	9.20E+03
EU-152	121.78	20.50	3.15E-01	3.15E-01	-1.69E-02	1.52E-01
	244.69	5.40	1.98E+00		-1.56E+00	9.59E-01
	344.27	19.13	4.78E-01		-5.48E-02	2.28E-01
	778.89	9.20	1.31E+00		2.69E-01	6.08E-01
	964.01	10.40	1.39E+00		-2.72E+00	6.46E-01
	1085.78	7.22	1.76E+00		-7.79E-01	8.03E-01
	1112.02	9.60	1.53E+00		3.01E-01	7.04E-01
	1407.95	14.94	8.25E-01		-1.45E-01	3.66E-01
GD-153	97.43	31.30	2.27E-01	2.27E-01	2.28E-02	1.10E-01
	103.18	22.20	3.16E-01		-2.01E-01	1.53E-01
EU-154	123.07	40.50	1.58E-01	1.58E-01	-5.24E-02	7.65E-02
	723.30	19.70	6.58E-01		3.25E-03	3.09E-01
	873.19	11.50	9.79E-01		-3.33E-01	4.49E-01
	996.32	10.30	1.06E+00		-6.08E-01	4.79E-01
	1004.76	17.90	7.16E-01		1.56E-02	3.29E-01
	1274.45	35.50	4.30E-01		1.36E-01	1.97E-01
EU-155	86.50	30.90	3.10E-01	3.10E-01	9.79E-02	1.52E-01
	105.30	20.70	3.26E-01		-4.12E-02	1.58E-01
EU-156	811.77	10.40	3.48E+00	3.48E+00	-2.47E-01	1.59E+00
	1153.47	7.20	6.76E+00		-1.41E-01	3.09E+00
	1230.71	8.90	6.11E+00		2.40E-01	2.81E+00
HO-166M	184.41	72.60	1.32E-01	1.32E-01	2.21E-01	6.40E-02
	280.45	29.60	3.10E-01		-1.70E-02	1.49E-01
	410.94	11.10	9.34E-01		9.57E-02	4.45E-01
	711.69	54.10	2.13E-01		8.27E-02	9.93E-02
TM-171	66.72	0.14	7.11E+01	7.11E+01	-6.25E+01	3.48E+01
HF-172	81.75	4.52	1.88E+00	6.21E-01	4.28E-01	9.16E-01
	125.81	11.30	6.21E-01		-3.52E-01	3.01E-01
LU-172	181.53	20.60	6.50E+00	4.02E+00	2.82E-01	3.14E+00
	810.06	16.63	1.10E+01		-1.24E+01	5.04E+00
	912.12	15.25	2.74E+01		5.62E+01	1.31E+01
	1093.66	62.50	4.02E+00		1.87E+00	1.84E+00
LU-173	100.72	5.24	1.32E+00	5.13E-01	5.89E-01	6.42E-01
	272.11	21.20	5.13E-01		3.49E-01	2.48E-01
HF-175	343.40	84.00	1.52E-01	1.52E-01	-1.64E-02	7.29E-02
LU-176	88.34	13.30	7.52E-01	9.19E-02	1.30E+00	3.69E-01
	201.83	86.00	9.98E-02		-2.25E-02	4.83E-02
	306.78	94.00	9.19E-02		-1.89E-02	4.39E-02
TA-182	67.75	41.20	2.76E-01	2.76E-01	4.61E-02	1.35E-01
	1121.30	34.90	6.98E-01		6.62E-01	3.29E-01
	1189.05	16.23	1.04E+00		1.06E-01	4.74E-01
	1221.41	26.98	6.80E-01		-2.59E-02	3.13E-01
	1231.02	11.44	1.66E+00		-9.52E-02	7.67E-01
IR-192	308.46	29.68	3.91E-01	2.72E-01	1.20E-01	1.87E-01
	468.07	48.10	2.72E-01		1.02E-01	1.29E-01
+ HG-203	279.19	* 77.30	2.39E-01	2.39E-01	1.69E-01	1.16E-01

Analysis Report for 1510063-20
CP5005S12-13

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
BI-207	569.67		97.72	1.02E-01	1.02E-01	1.25E-02	4.78E-02
	1063.62		74.90	1.92E-01		6.14E-02	8.86E-02
+ TL-208	583.14	*	30.22	5.33E-01	2.68E-01	1.72E+00	2.56E-01
	860.37	*	4.48	3.31E+00		1.78E+00	1.55E+00
	2614.66	*	35.85	2.68E-01		1.37E+00	1.05E-01
BI-210M	262.00		45.00	1.93E-01	1.93E-01	-5.15E-02	9.27E-02
	300.00		23.00	4.43E-01		-2.18E+00	2.14E-01
PB-210	46.50		4.25	3.05E+00	3.05E+00	2.83E+00	1.49E+00
PB-211	404.84		2.90	3.67E+00	3.67E+00	2.02E+00	1.75E+00
	831.96		2.90	4.09E+00		-4.68E-01	1.89E+00
+ BI-212	727.17	*	11.80	1.54E+00	1.54E+00	1.00E+00	7.37E-01
	1620.62		2.75	4.03E+00		0.00E+00	1.74E+00
+ PB-212	238.63	*	44.60	3.75E-01	3.75E-01	2.03E+00	1.84E-01
	300.09	*	3.41	2.54E+00		2.47E+00	1.21E+00
+ BI-214	609.31	*	46.30	3.42E-01	3.42E-01	1.53E+00	1.64E-01
	1120.29	*	15.10	1.53E+00		1.69E+00	7.24E-01
	1764.49	*	15.80	7.73E-01		1.49E+00	3.35E-01
	2204.22	*	4.98	1.61E+00		1.85E+00	6.14E-01
+ PB-214	295.21	*	19.19	5.53E-01	3.74E-01	2.17E+00	2.67E-01
	351.92	*	37.19	3.74E-01		2.02E+00	1.81E-01
RN-219	401.80		6.50	1.48E+00	1.48E+00	3.33E-01	7.05E-01
RA-223	323.87		3.88	2.58E+00	2.58E+00	-1.25E+00	1.24E+00
RA-224	240.98		3.95	4.82E+00	4.82E+00	2.86E+01	2.37E+00
RA-225	40.00		31.00	1.82E+00	1.82E+00	-4.00E-01	8.86E-01
+ RA-226	186.21	*	3.28	4.22E+00	4.22E+00	4.77E+00	2.07E+00
TH-227	50.10		8.40	1.34E+00	1.34E+00	-3.12E-01	6.54E-01
	236.00		11.50	1.42E+00		1.24E-01	6.98E-01
	256.20		6.30	1.47E+00		7.08E-01	7.07E-01
+ AC-228	338.32	*	11.40	1.06E+00	5.56E-01	1.79E+00	5.10E-01
	911.07	*	27.70	5.56E-01		1.70E+00	2.60E-01
	969.11	*	16.60	1.34E+00		1.92E+00	6.39E-01
TH-230	48.44		16.90	7.30E-01	7.30E-01	3.49E-01	3.56E-01
	62.85		4.60	2.31E+00		2.42E+00	1.13E+00
	67.67		0.37	2.59E+01		4.33E+00	1.27E+01
PA-231	283.67		1.60	5.43E+00	4.26E+00	-1.18E+00	2.61E+00
	302.67		2.30	4.26E+00		-3.46E-01	2.05E+00
TH-231	25.64		14.70	4.56E+00	1.30E+00	-3.88E-01	2.21E+00
	84.21		6.40	1.30E+00		-1.55E-01	6.37E-01
PA-233	311.98		38.60	4.77E-01	4.77E-01	-1.83E-01	2.28E-01
PA-234	131.20		20.40	3.64E-01	3.64E-01	2.32E-01	1.77E-01
	733.99		8.80	1.27E+00		-4.32E-01	5.91E-01
	946.00		12.00	9.40E-01		-4.21E-01	4.29E-01
PA-234M	1001.03		0.92	1.32E+01	1.32E+01	-2.06E+00	6.03E+00
+ TH-234	63.29	*	3.80	4.98E+00	4.98E+00	3.98E+00	2.46E+00
U-235	143.76		10.50	7.00E-01	7.00E-01	3.79E-01	3.39E-01
	163.35		4.70	1.52E+00		3.26E-01	7.34E-01
	205.31		4.70	1.90E+00		-2.84E-02	9.19E-01
NP-237	86.50		12.60	7.52E-01	7.52E-01	2.37E-01	3.68E-01
NP-239	106.10		22.70	1.16E+03	1.16E+03	-3.47E+02	5.61E+02
	228.18		10.70	3.33E+03		1.72E+02	1.61E+03
	277.60		14.10	2.69E+03		1.54E+03	1.30E+03
AM-241	59.54		35.90	2.75E-01	2.75E-01	-2.21E-01	1.34E-01
AM-243	74.67		66.00	2.02E-01	2.02E-01	4.08E-01	9.94E-02

Analysis Report for 1510063-20
CP5005S12-13

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
CM-243	209.75	3.29	2.91E+00	6.91E-01	1.53E+00	1.41E+00
	228.14	10.60	8.55E-01		4.43E-02	4.14E-01
	277.60	14.00	6.91E-01		3.94E-01	3.33E-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

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

Creation Date	Comment	User
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No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5005S12-13

Elapsed Live time: 3600
 Elapsed Real Time: 3617

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	12	168	150	131	146	116	108	117
17:	74	83	84	81	75	89	83	90
25:	86	94	68	81	87	78	67	91
33:	96	74	83	85	84	86	88	89
41:	80	74	90	80	72	118	161	97
49:	103	96	117	114	131	119	106	106
57:	93	96	113	134	130	132	175	204
65:	129	121	152	126	162	128	137	145
73:	151	211	381	293	442	450	150	119
81:	96	112	119	138	147	89	210	224
89:	119	183	146	105	245	183	105	74
97:	66	72	74	83	73	77	72	67
105:	66	102	68	70	88	80	60	69
113:	77	79	78	91	65	47	70	70
121:	67	59	55	66	61	75	69	78
129:	106	87	77	63	68	76	54	60
137:	80	61	63	65	70	80	58	75
145:	78	67	62	54	52	68	63	62
153:	55	68	65	49	53	57	51	55
161:	44	62	62	65	48	53	47	68
169:	53	50	55	49	51	51	61	49
177:	52	56	48	60	52	49	61	42
185:	77	145	125	65	58	60	52	58
193:	56	50	52	53	49	45	39	47
201:	43	44	65	35	44	56	48	42
209:	77	73	49	47	38	42	46	51
217:	51	47	42	42	46	44	37	39
225:	49	47	37	45	30	46	39	36
233:	51	53	50	47	51	185	498	217
241:	88	120	93	34	28	33	27	30
249:	27	31	29	31	41	32	33	32
257:	41	37	37	27	36	34	27	32
265:	21	27	32	31	37	51	64	47
273:	31	28	38	34	38	47	34	30
281:	22	40	16	26	28	29	27	35
289:	31	27	35	29	41	32	162	176
297:	39	21	26	45	46	26	35	17
305:	26	21	28	25	19	26	26	27
313:	16	28	27	21	36	24	20	28
321:	31	36	23	29	32	22	28	48
329:	32	26	26	23	30	27	26	18
337:	20	67	98	44	24	17	21	20
345:	24	19	23	25	17	26	66	282
353:	167	26	25	18	17	22	26	18
361:	23	25	23	18	24	20	18	16

369: 18 28 16 22 22 10 19 21

Sample Title: CP5005S12-13

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	22	16	21	19	18	20	14	17
385:	15	17	25	17	20	25	24	29
393:	10	22	12	14	18	14	9	16
401:	6	23	21	23	28	20	13	25
409:	27	16	26	14	17	16	17	25
417:	19	20	20	27	15	14	16	16
425:	15	14	19	13	17	12	18	12
433:	10	17	10	16	20	24	13	26
441:	18	10	13	13	17	17	12	14
449:	16	9	16	16	14	13	15	18
457:	15	7	14	18	13	18	31	23
465:	14	13	13	13	14	13	24	9
473:	11	14	12	16	13	14	18	9
481:	15	16	15	15	13	13	14	27
489:	10	11	11	10	8	18	10	7
497:	9	13	15	14	13	10	7	15
505:	14	16	14	12	16	36	60	43
513:	20	8	13	14	9	12	13	15
521:	16	13	10	16	10	11	6	7
529:	9	7	7	8	10	17	14	9
537:	8	18	8	11	8	14	8	10
545:	13	10	10	13	9	17	11	9
553:	16	6	8	11	17	16	15	10
561:	12	18	15	12	9	8	16	6
569:	10	13	8	10	8	8	12	9
577:	9	9	8	16	10	27	88	95
585:	26	17	13	14	6	10	10	15
593:	11	12	12	12	7	17	10	8
601:	14	11	14	12	5	13	10	25
609:	131	149	32	5	7	4	16	8
617:	10	11	12	8	14	12	11	11
625:	10	13	14	7	11	10	12	15
633:	11	6	11	11	5	16	15	14
641:	7	20	9	11	12	7	13	9
649:	13	7	12	6	11	10	7	7
657:	16	12	12	18	6	8	9	9
665:	8	15	11	11	8	9	7	9
673:	10	6	11	11	10	9	9	10
681:	10	9	9	11	10	11	6	10
689:	8	11	9	11	10	5	11	17
697:	9	5	9	14	11	12	10	9
705:	11	11	7	8	5	12	11	14
713:	5	6	11	7	6	10	6	16
721:	7	8	16	10	10	12	25	26
729:	11	7	12	10	8	7	6	9
737:	5	9	12	10	6	7	11	12
745:	6	6	13	7	8	8	7	8
753:	13	8	12	11	7	9	7	7
761:	9	5	6	12	10	8	9	17
769:	13	5	5	9	12	13	7	4
777:	11	8	10	9	5	12	8	2
785:	10	12	7	7	9	8	8	10
793:	6	9	20	8	10	11	12	7

801: 9 8 8 5 11 18 5 11

Sample Title: CP5005S12-13

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	6	4	4	3	4	8	8	10
817:	10	4	6	13	9	5	8	6
825:	3	13	6	6	3	11	6	8
833:	6	7	10	11	8	7	13	4
841:	8	6	9	9	6	17	9	6
849:	7	6	5	7	5	8	6	4
857:	4	5	7	15	15	6	10	6
865:	4	9	7	5	7	4	11	2
873:	6	6	7	5	11	6	8	5
881:	9	1	4	2	6	9	5	7
889:	5	3	9	2	10	7	8	7
897:	8	7	10	8	6	9	7	9
905:	16	6	8	9	7	16	77	52
913:	12	5	3	5	4	8	3	8
921:	8	9	8	4	5	4	6	6
929:	3	5	6	5	5	14	9	6
937:	6	4	4	4	7	6	7	7
945:	4	4	2	7	5	6	9	8
953:	6	8	5	9	3	4	7	8
961:	6	5	3	10	15	9	11	21
969:	42	28	6	3	9	4	5	5
977:	8	4	7	6	8	5	4	6
985:	5	2	8	4	5	9	8	3
993:	4	4	3	7	3	2	7	6
1001:	9	5	4	5	9	5	8	6
1009:	4	5	4	4	3	6	11	5
1017:	6	9	5	9	9	9	8	3
1025:	2	7	4	3	3	8	4	3
1033:	2	6	4	3	5	4	2	6
1041:	8	8	8	3	6	7	4	9
1049:	4	4	9	8	6	6	4	8
1057:	8	5	4	9	4	8	8	7
1065:	10	3	8	4	5	6	5	5
1073:	7	9	9	8	2	5	6	5
1081:	8	5	4	6	5	4	10	3
1089:	4	10	5	4	8	7	2	6
1097:	3	5	7	7	4	6	3	6
1105:	7	3	12	2	5	11	10	6
1113:	5	7	3	5	5	3	11	35
1121:	26	11	7	3	11	6	10	4
1129:	3	6	6	6	6	7	5	3
1137:	8	16	3	8	11	6	5	6
1145:	6	13	9	10	7	6	7	2
1153:	5	3	10	4	1	5	4	7
1161:	6	3	4	4	6	6	11	4
1169:	4	6	7	4	9	6	6	3
1177:	5	5	5	13	7	8	8	6
1185:	8	8	9	2	6	5	1	8
1193:	7	5	19	7	3	2	5	7
1201:	10	10	7	14	6	9	10	9
1209:	4	7	8	7	6	6	6	13
1217:	10	11	3	3	7	6	8	7
1225:	3	9	7	6	5	6	6	5

1233: 7 13 8 9 6 20 10 6

Sample Title: CP5005S12-13

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1241:	6	3	6	2	8	8	9	6
1249:	8	7	5	7	4	9	5	6
1257:	2	7	3	5	5	6	5	6
1265:	6	1	2	2	2	3	5	6
1273:	5	4	3	6	1	7	9	8
1281:	4	3	3	9	2	12	7	6
1289:	7	5	2	2	7	7	5	7
1297:	5	3	3	4	6	6	10	4
1305:	4	2	2	3	4	4	4	4
1313:	2	4	6	2	6	6	4	3
1321:	2	5	0	3	0	5	3	2
1329:	3	5	3	3	4	7	2	4
1337:	3	3	7	6	2	3	2	3
1345:	3	1	3	3	3	1	5	1
1353:	5	1	2	2	6	5	1	4
1361:	4	3	5	0	3	5	5	5
1369:	1	1	1	3	1	2	5	3
1377:	5	10	6	5	1	2	1	3
1385:	3	1	5	4	1	3	2	1
1393:	2	0	0	3	2	1	5	2
1401:	5	2	1	3	5	2	1	6
1409:	0	0	2	2	3	4	1	4
1417:	3	1	3	2	2	4	6	1
1425:	3	1	2	2	2	2	3	0
1433:	2	3	2	2	2	2	1	2
1441:	0	0	2	4	1	2	1	3
1449:	4	2	0	1	3	1	4	1
1457:	1	6	38	159	185	99	9	4
1465:	4	1	2	1	3	0	0	0
1473:	2	2	0	0	1	0	1	1
1481:	0	1	3	3	0	0	1	1
1489:	1	2	1	1	1	5	3	2
1497:	0	0	3	2	4	3	0	1
1505:	2	1	2	5	5	3	3	3
1513:	3	4	2	3	1	0	1	0
1521:	0	2	2	2	3	5	1	4
1529:	4	1	2	0	1	1	3	0
1537:	2	3	3	4	3	1	3	2
1545:	2	0	0	2	3	1	1	2
1553:	3	3	0	1	1	1	0	1
1561:	2	1	0	3	0	0	2	3
1569:	0	2	1	2	0	1	4	0
1577:	1	0	1	2	4	1	2	1
1585:	2	0	5	2	3	2	4	10
1593:	8	0	0	1	2	0	3	2
1601:	2	0	0	1	3	1	1	2
1609:	0	2	0	2	0	0	1	1
1617:	0	0	1	0	6	0	4	1
1625:	0	2	1	3	0	1	5	2
1633:	0	0	2	1	1	3	4	0
1641:	2	3	3	0	1	2	1	1
1649:	1	1	0	1	0	1	1	1
1657:	1	0	2	1	0	4	2	3

1665: 0 3 2 3 0 2 0 1

Sample Title: CP5005S12-13

Channel	1	2	3	4	5	6	7	8	9
1673:	1	2	1	1	1	2	1	2	
1681:	0	0	0	2	1	1	1	0	
1689:	1	1	1	1	2	0	0	0	
1697:	0	1	0	2	3	3	0	1	
1705:	3	0	1	1	2	0	0	1	
1713:	2	0	3	1	1	1	0	0	
1721:	1	1	0	1	4	1	0	1	
1729:	8	4	2	1	0	1	2	2	
1737:	0	1	0	3	2	2	4	2	
1745:	2	2	3	0	2	0	2	1	
1753:	1	1	1	0	0	2	0	1	
1761:	4	1	6	11	17	7	1	0	
1769:	1	1	2	0	0	1	0	2	
1777:	1	0	0	1	1	1	1	1	
1785:	1	1	1	0	0	1	2	0	
1793:	0	1	0	1	1	1	1	2	
1801:	1	0	1	0	3	0	0	1	
1809:	3	2	0	0	1	0	1	0	
1817:	3	2	0	0	0	0	0	0	
1825:	1	0	0	0	0	4	1	0	
1833:	0	2	0	0	2	2	1	1	
1841:	0	0	0	0	2	1	1	4	
1849:	2	0	0	0	2	1	0	1	
1857:	0	0	0	3	1	0	0	0	
1865:	2	0	1	2	0	1	0	2	
1873:	1	1	0	0	1	1	0	1	
1881:	1	0	1	1	1	2	1	0	
1889:	3	2	1	4	2	2	5	0	
1897:	0	1	1	1	1	0	0	1	
1905:	1	1	1	1	2	1	1	0	
1913:	0	2	1	1	0	0	0	2	
1921:	2	3	1	1	1	1	1	3	
1929:	1	2	4	0	2	1	1	0	
1937:	2	1	0	1	0	1	1	0	
1945:	0	0	2	0	2	0	1	2	
1953:	1	0	0	0	1	0	0	1	
1961:	0	2	1	0	0	1	1	0	
1969:	1	0	0	1	1	2	0	1	
1977:	1	0	0	0	0	3	1	1	
1985:	0	0	0	4	2	0	1	1	
1993:	2	0	3	2	2	0	0	1	
2001:	1	2	1	4	0	0	1	0	
2009:	0	3	0	2	1	0	1	0	
2017:	2	1	1	0	0	0	1	0	
2025:	0	0	0	2	1	1	0	1	
2033:	2	0	2	1	0	2	0	0	
2041:	1	1	2	0	0	1	1	0	
2049:	1	2	2	1	0	1	1	0	
2057:	1	3	0	1	1	1	0	0	
2065:	0	1	1	0	1	1	0	2	
2073:	0	1	0	0	1	0	1	0	
2081:	0	1	0	3	2	1	0	1	
2089:	2	1	2	0	0	0	0	2	

2097: 1 0 2 2 1 2 5 0

Sample Title: CP5005S12-13

Channel	1	0	2	2	1	2	5	0
2105:	1	0	1	0	1	2	2	0
2113:	0	0	1	0	0	1	1	0
2121:	2	2	1	1	1	0	0	0
2129:	1	0	1	0	1	0	2	0
2137:	1	1	2	1	0	1	1	4
2145:	0	3	0	0	0	2	2	0
2153:	1	2	0	0	0	1	1	1
2161:	0	2	1	0	0	1	2	0
2169:	2	0	2	0	2	1	2	0
2177:	3	0	1	1	1	1	0	1
2185:	1	1	0	0	0	0	0	2
2193:	0	0	0	1	1	3	0	1
2201:	0	2	5	1	3	1	2	0
2209:	0	1	1	0	2	1	0	1
2217:	1	1	0	2	2	2	2	2
2225:	1	0	2	1	0	0	1	2
2233:	0	1	1	0	1	0	1	2
2241:	0	0	0	2	0	0	1	0
2249:	1	0	1	1	0	2	0	3
2257:	0	0	1	0	3	3	1	1
2265:	1	1	2	2	2	1	0	1
2273:	3	1	0	1	1	0	0	0
2281:	1	2	1	1	0	2	1	1
2289:	3	0	0	1	1	1	1	1
2297:	0	2	2	1	1	1	1	4
2305:	1	1	1	1	1	0	1	1
2313:	1	0	0	1	2	1	0	0
2321:	1	2	0	3	3	0	1	0
2329:	3	0	2	0	1	2	0	1
2337:	0	0	2	1	3	0	3	0
2345:	0	2	0	3	0	0	0	0
2353:	1	0	4	0	2	0	0	2
2361:	0	0	1	1	1	2	1	0
2369:	1	1	2	0	4	1	0	1
2377:	1	0	1	3	0	0	2	1
2385:	3	0	1	0	1	0	1	0
2393:	0	0	0	2	2	0	2	0
2401:	0	0	0	0	0	1	2	0
2409:	0	2	1	3	2	1	1	0
2417:	0	0	0	0	0	1	3	1
2425:	1	1	0	1	0	0	0	0
2433:	2	0	2	1	1	0	1	0
2441:	1	1	1	1	2	0	0	4
2449:	1	1	1	2	0	0	1	0
2457:	0	0	2	1	0	0	0	0
2465:	0	0	1	0	0	0	2	1
2473:	2	0	0	0	1	1	1	0
2481:	2	0	0	0	0	0	0	0
2489:	1	1	0	1	0	2	0	2
2497:	1	0	1	1	0	0	0	0
2505:	2	1	1	0	0	0	0	0
2513:	0	0	0	0	0	0	0	1
2521:	0	2	0	0	1	1	0	0

2529: 0 0 1 0 2 0 1 0

Sample Title: CP5005S12-13

Channel	1	2	3	4	5	6	7	8
2537:	0	1	0	0	1	0	0	0
2545:	0	0	0	0	0	0	0	0
2553:	0	1	0	0	0	0	0	0
2561:	0	0	1	0	0	0	0	1
2569:	0	0	0	1	0	0	0	0
2577:	0	0	0	0	0	0	0	0
2585:	0	1	0	0	0	0	1	1
2593:	0	2	0	1	0	0	0	0
2601:	1	0	1	0	0	0	0	0
2609:	0	0	0	4	17	24	14	6
2617:	1	0	1	1	0	1	0	1
2625:	0	0	0	0	0	0	0	0
2633:	2	0	0	0	0	0	0	0
2641:	0	0	0	2	0	0	0	3
2649:	1	1	0	0	0	0	0	0
2657:	0	0	0	0	1	0	0	0
2665:	0	0	0	1	0	0	0	0
2673:	0	0	0	0	0	1	0	0
2681:	0	0	0	0	0	0	0	0
2689:	0	0	0	1	1	0	1	0
2697:	0	0	0	1	0	0	1	0
2705:	1	0	1	1	0	0	0	0
2713:	1	0	0	1	0	0	0	0
2721:	0	0	0	0	0	0	0	0
2729:	1	0	0	1	0	0	0	0
2737:	0	0	1	0	0	0	0	0
2745:	0	0	0	0	1	1	0	0
2753:	2	0	0	0	0	1	0	0
2761:	0	0	0	0	0	0	0	0
2769:	2	1	1	0	0	0	0	0
2777:	1	1	0	0	0	0	1	0
2785:	1	1	0	0	0	1	0	0
2793:	0	0	2	0	0	0	0	1
2801:	0	0	0	0	0	0	0	1
2809:	0	1	0	0	0	1	0	0
2817:	0	2	0	0	1	0	0	0
2825:	0	0	0	0	0	2	0	1
2833:	1	0	0	0	0	0	0	0
2841:	0	0	0	0	0	1	0	0
2849:	1	1	0	0	0	0	3	0
2857:	0	1	1	1	0	0	0	0
2865:	0	0	0	1	0	0	0	0
2873:	0	0	1	1	0	0	0	0
2881:	0	0	0	0	0	1	0	1
2889:	1	1	0	2	0	0	1	0
2897:	0	0	1	0	1	0	1	0
2905:	0	0	0	0	0	0	1	0
2913:	0	0	0	0	0	0	0	1
2921:	0	0	0	0	0	1	0	0
2929:	1	0	0	1	0	0	0	1
2937:	0	0	0	0	0	0	0	0
2945:	0	0	0	1	0	0	0	0
2953:	0	0	0	0	1	0	0	0

2961: 0 0 0 0 0 0 0 0 0

Sample Title: CP5005S12-13

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2969:	0	1	1	0	0	0	0	1
2977:	0	0	0	1	0	0	0	1
2985:	0	0	1	0	0	0	0	0
2993:	0	0	0	0	0	0	0	0
3001:	1	0	0	0	0	0	0	0
3009:	0	0	0	0	0	0	0	0
3017:	0	0	0	0	0	0	0	0
3025:	0	0	0	0	0	0	0	0
3033:	0	0	0	0	0	0	1	0
3041:	0	0	1	0	0	0	0	0
3049:	0	0	0	1	0	1	1	0
3057:	0	1	0	0	0	0	0	0
3065:	0	0	0	0	0	0	1	0
3073:	0	0	0	0	0	1	1	0
3081:	0	0	1	0	0	0	0	1
3089:	0	0	0	0	0	0	1	0
3097:	0	0	0	0	0	0	0	0
3105:	0	0	0	0	0	0	0	0
3113:	0	0	0	0	2	1	0	0
3121:	0	0	0	0	0	0	0	0
3129:	0	1	1	0	0	0	0	0
3137:	0	0	0	0	0	0	0	0
3145:	0	0	0	0	0	1	0	0
3153:	0	0	0	0	0	1	0	0
3161:	0	0	1	0	0	0	1	0
3169:	0	0	0	0	0	0	0	0
3177:	0	0	0	0	0	1	0	0
3185:	0	0	0	0	0	0	0	0
3193:	0	2	0	0	1	0	0	0
3201:	1	0	0	0	0	0	0	1
3209:	0	0	0	0	1	0	0	0
3217:	0	0	0	0	0	0	0	0
3225:	0	0	0	0	0	0	0	0
3233:	1	2	0	0	0	0	0	0
3241:	1	0	0	0	0	0	0	1
3249:	1	0	0	0	0	0	0	1
3257:	0	0	0	0	0	1	0	0
3265:	0	0	0	0	1	0	0	0
3273:	1	0	2	0	0	0	0	0
3281:	0	0	0	0	0	0	1	0
3289:	0	0	0	0	0	0	0	0
3297:	0	0	0	0	1	0	0	0
3305:	0	1	0	0	0	0	0	0
3313:	0	0	0	0	1	0	0	0
3321:	1	0	0	0	0	0	0	0
3329:	0	0	0	0	0	0	0	0
3337:	0	0	0	0	0	0	0	0
3345:	1	0	1	0	1	0	0	0
3353:	1	0	0	0	0	0	0	0
3361:	0	0	0	0	0	0	0	0
3369:	0	0	1	0	0	0	1	0
3377:	1	1	0	0	0	1	0	0
3385:	0	0	0	0	0	0	0	0

3393: 0 0 0 0 1 0 0 0

Sample Title: CP5005S12-13

Channel	1	2	3	4	5	6	7	8
3401:	0	0	0	0	0	0	0	0
3409:	0	0	0	0	0	0	0	0
3417:	0	1	0	0	0	0	0	0
3425:	0	0	0	0	0	0	0	0
3433:	0	0	0	1	0	0	0	0
3441:	0	0	1	0	0	0	0	0
3449:	0	0	0	0	0	0	1	0
3457:	1	0	0	0	1	0	0	0
3465:	0	0	0	0	0	1	0	0
3473:	0	0	0	0	0	0	0	0
3481:	0	0	1	0	0	0	0	0
3489:	0	0	0	0	0	1	0	0
3497:	0	0	0	0	0	0	0	0
3505:	0	0	0	0	0	0	0	0
3513:	0	0	0	0	0	0	0	1
3521:	0	1	0	0	0	1	0	0
3529:	0	0	0	0	0	0	0	1
3537:	0	0	1	0	0	0	0	0
3545:	0	0	0	0	0	0	0	0
3553:	0	0	0	0	1	0	0	0
3561:	0	0	1	0	0	0	0	0
3569:	0	0	0	0	0	0	0	0
3577:	0	1	0	0	0	0	0	0
3585:	0	0	0	0	0	0	1	0
3593:	0	0	1	0	0	0	0	0
3601:	0	0	0	1	0	0	0	0
3609:	0	0	0	1	1	0	0	0
3617:	0	0	0	0	0	0	0	1
3625:	0	0	0	0	0	0	0	1
3633:	0	0	0	1	0	0	0	3
3641:	0	0	0	0	1	0	0	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	1	0	0	1	0
3665:	0	0	0	0	0	0	0	0
3673:	1	0	0	0	0	0	0	0
3681:	0	0	0	0	0	0	0	0
3689:	0	0	0	0	0	0	0	0
3697:	0	0	0	0	0	0	0	0
3705:	0	0	0	1	0	0	0	0
3713:	0	0	0	0	0	0	0	0
3721:	0	0	0	0	0	0	0	0
3729:	0	0	0	0	0	0	0	0
3737:	0	0	0	0	0	0	0	0
3745:	0	0	0	0	0	0	0	0
3753:	0	0	0	0	0	0	0	0
3761:	0	0	0	0	0	0	0	1
3769:	0	0	0	0	0	0	0	0
3777:	0	0	0	0	0	0	0	0
3785:	0	0	1	0	0	0	0	0
3793:	0	0	0	0	0	1	0	0
3801:	0	0	0	0	0	0	2	0
3809:	1	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0

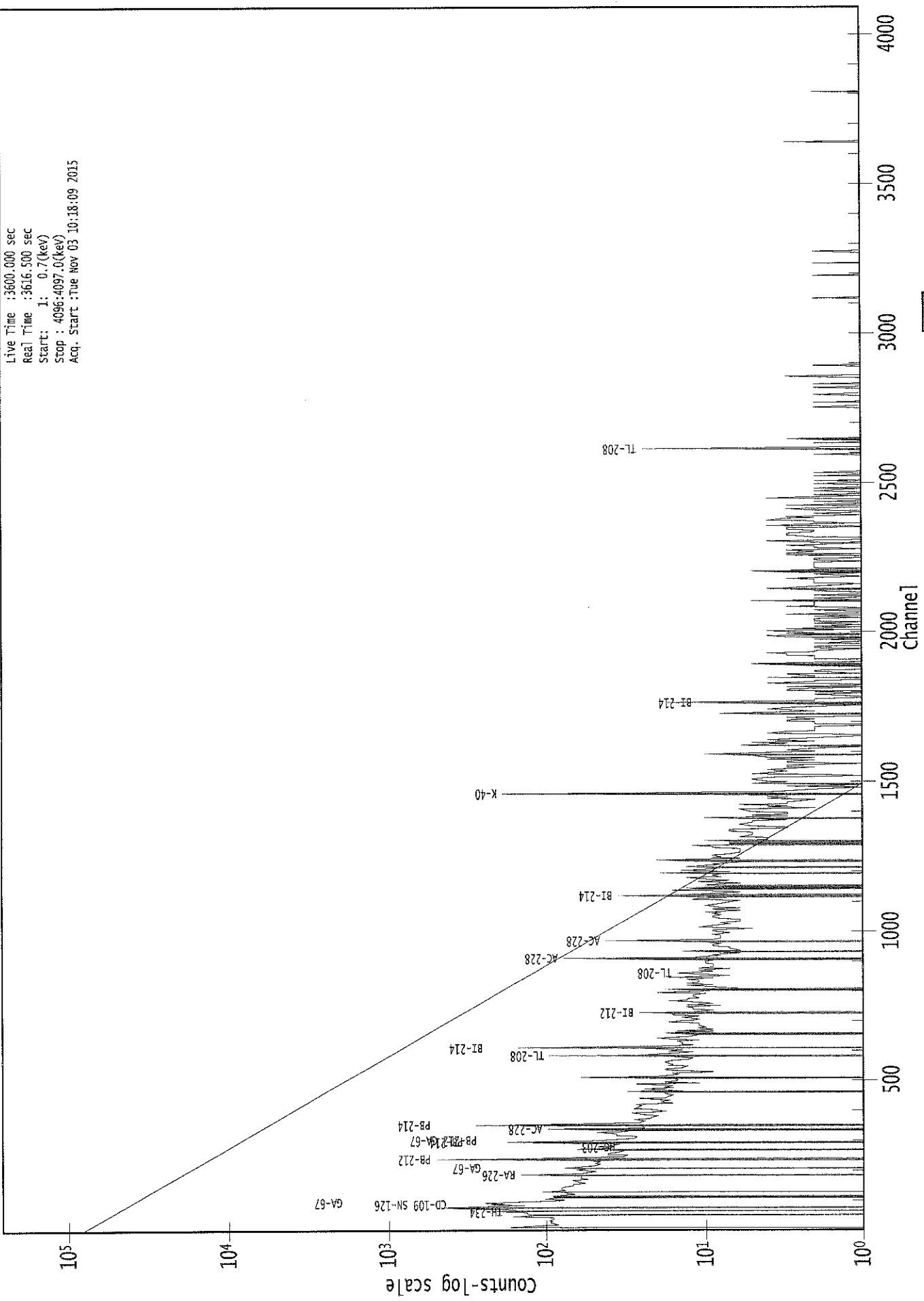
3825: 0 0 0 0 0 0 0 0 0

Sample Title: CP5005S12-13

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3833:	0	0	0	0	0	0	0	1
3841:	0	0	0	0	0	0	0	1
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	0	0	1	0	0
3865:	0	0	0	0	1	0	0	0
3873:	0	0	0	0	0	0	0	0
3881:	0	0	0	0	0	0	0	0
3889:	0	0	0	0	0	1	0	0
3897:	0	0	1	0	1	0	0	0
3905:	0	0	0	0	0	0	0	0
3913:	0	0	0	0	0	0	1	0
3921:	0	0	0	0	0	0	0	0
3929:	0	0	0	0	0	0	0	0
3937:	0	0	0	0	0	0	0	0
3945:	0	0	1	0	0	0	0	0
3953:	0	0	0	0	0	0	0	0
3961:	0	0	1	0	0	0	0	0
3969:	0	0	0	0	0	0	0	0
3977:	0	0	0	0	0	0	0	0
3985:	0	0	0	0	0	0	0	0
3993:	1	1	0	0	1	1	0	0
4001:	0	0	0	0	0	0	0	0
4009:	0	0	0	0	0	0	0	0
4017:	0	0	0	0	0	0	0	0
4025:	0	0	0	0	0	0	0	0
4033:	0	0	0	0	0	0	0	0
4041:	0	0	0	1	0	0	0	1
4049:	0	0	0	0	0	0	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	0	0	0	0	0	0	0
4073:	0	0	0	0	0	0	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	0	0	0	0	0

0000029021.CNF

Live Time :3600.000 sec
Real Time :3616.500 sec
Start: 1: 0.7(keV)
Stop : 4096.4097.0(keV)
Acq. Start :Tue Nov 03 10:18:09 2015



 ***** GENIE QUALITY ASSURANCE *****

Last Results Report
 11/2/15 6:00:34 AM

11/2

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000004B.QCK

Detector: GE4
 Geometry: <None>
 Certificate: <None>
 Sample ID: QA Background Ch
 Sample Desc: QA Count
 Sample Quantity: 1.0000E+000
 Sample Date: 11/2/15 5:44:51 AM
 Measurement Date: 11/2/15 5:44:54 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 932.3 seconds

Parameter Description	Value	Deviation/Flags
[Mean +/- Std. Dev.]		< LU : SD : UD : BS >
DAILY BKG CT RATE GE4	1.6867E+000	-4.3268E-002
[SD: 8.8023E+000+/-164.45]		< : : : >
Trend Test: The last	9 samples exhibit a bias trend.	

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
 SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
 UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
 BS = Measurement Bias Test (In = Investigate, Ac = Action)

 ***** GENIE QUALITY ASSURANCE *****

Last Results Report
 11/2/15 5:29:13 AM

[Handwritten signature]

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000004GAW-14C.QCK

Detector: GE4
 Geometry: <None>
 Certificate: GAW-14
 Sample ID: QA Calibration C
 Sample Desc: QA Count
 Sample Quantity: 1.0000E+000
 Sample Date: 10/1/14 12:00:00 AM
 Measurement Date: 11/2/15 5:13:02 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 958.4 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >			
Peak centroid 59.54 keV Boundary Limits: [5.800E+001, 6.100E+001]	5.8640E+001	<	:	:	>
Peak centroid 661.65 keV Boundary Limits: [6.600E+002, 6.630E+002]	6.6106E+002	<	:	:	>
Peak centroid 1332.49 keV Boundary Limits: [1.331E+003, 1.334E+003]	1.3322E+003	<	:	:	>
Peak centroid 1836.1 keV Boundary Limits: [1.834E+003, 1.838E+003]	1.8361E+003	<	:	:	>
Peak FWHM Am-241 Boundary Limits: [5.000E-001, 3.000E+000]	2.2457E+000	<	:	:	>
Peak FWHM Cs-137 Boundary Limits: [5.000E-001, 3.000E+000] Trend Test: The last 9 samples exhibit a bias trend.	2.6471E+000	<	:	:	>
Peak FWHM Co-60 Boundary Limits: [5.000E-001, 3.000E+000]	2.9091E+000	<	:	:	>
Peak FWHM Y-88 Boundary Limits: [5.000E-001, 3.500E+000]	3.1110E+000	<	:	:	>
Decay corrected activity Boundary Limits: [1.200E-001, 1.816E-001]	1.2075E+005	<	:	:	>
Decay corrected activity Boundary Limits: [4.918E-002, 7.377E-002] Trend Test: The last 9 samples exhibit a bias trend.	6.4442E+004	<	:	:	>

Decay corrected activity 9.5907E+004
Boundary Limits: [7.892E-002, 1.184E-001] < : : : >
Trend Test: The last 9 samples exhibit a bias trend.

Parameter Description	Value	Deviation/Flags
[Mean +/- Std. Dev.]		< LU : SD : UD : BS >

Decay corrected activity 2.0976E+005
Boundary Limits: [1.695E-001, 2.543E-001] < : : : >
Trend Test: The last 9 samples exhibit a bias trend.

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
 SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
 UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
 BS = Measurement Bias Test (In = Investigate, Ac = Action)

 ***** GENIE QUALITY ASSURANCE *****

Last Results Report
 11/3/15 6:02:04 AM

1112

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000004B.QCK

Detector: GE4
 Geometry: <None>
 Certificate: <None>
 Sample ID: QA Background Ch
 Sample Desc: QA Count
 Sample Quantity: 1.0000E+000
 Sample Date: 11/3/15 5:46:43 AM
 Measurement Date: 11/3/15 5:46:46 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 909.7 seconds

Parameter Description	Value	Deviation/Flags
[Mean +/- Std. Dev.]		< LU : SD : UD : BS >
DAILY BKG CT RATE GE4	1.6344E+000	-4.3544E-002
[SD: 8.7888E+000+/-164.30]		< : : : >
Trend Test: The last	9 samples exhibit a bias trend.	

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
 SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
 UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
 BS = Measurement Bias Test (In = Investigate, Ac = Action)

 ***** GENIE QUALITY ASSURANCE *****

Last Results Report
 11/3/15 6:01:51 AM

T117

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000003B.QCK

Detector: GE3
 Geometry: <None>
 Certificate: <None>
 Sample ID: QA Background Ch
 Sample Desc: QA Count
 Sample Quantity: 1.0000E+000
 Sample Date: 11/3/15 5:46:35 AM
 Measurement Date: 11/3/15 5:46:38 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 903.3 seconds

Parameter Description	Value	Deviation/Flags
[Mean +/- Std. Dev.]		< LU : SD : UD : BS >
DAILY BKG CT RATE GE3	1.8730E+003	-2.7493E-001
[SD: 2.2835E+003+/-1492.9]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
 SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
 UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
 BS = Measurement Bias Test (In = Investigate, Ac = Action)

 ***** GENIE QUALITY ASSURANCE *****

Last Results Report
 11/3/15 6:01:43 AM

T112

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000002B.QCK

Detector: GE2
 Geometry: <None>
 Certificate: <None>
 Sample ID: QA Background Ch
 Sample Desc: QA Count
 Sample Quantity: 1.0000E+000
 Sample Date: 11/3/15 5:46:27 AM
 Measurement Date: 11/3/15 5:46:29 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 900.1 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
DAILY BKG CT RATE GE2 [SD: 4.5536E+000+/- 0.281]	4.4900E+000	-2.2644E-001 < : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
 SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
 UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
 BS = Measurement Bias Test (In = Investigate, Ac = Action)

 ***** GENIE QUALITY ASSURANCE *****

Last Results Report
 11/3/15 6:01:35 AM

1117

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000001B.QCK

Detector: GE1
 Geometry: <None>
 Certificate: <None>
 Sample ID: QA Background Ch
 Sample Desc: QA Count
 Sample Quantity: 1.0000E+000
 Sample Date: 11/3/15 5:46:21 AM
 Measurement Date: 11/3/15 5:46:23 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 900.1 seconds

Parameter Description	Value	Deviation/Flags
[Mean +/- Std. Dev.]		< LU : SD : UD : BS >
DAILY BKG CT RATE GE1	2.0700E+000	-1.3780E-001
[SD: 2.3041E+000 +/- 1.699]		< : : : >
Trend Test: The last	9 samples exhibit a bias trend.	

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
 SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
 UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
 BS = Measurement Bias Test (In = Investigate, Ac = Action)

GENIE QUALITY ASSURANCE

Last Results Report
11/3/15 5:33:47 AM

Handwritten mark resembling '1117' with a checkmark above it.

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000004GAW-14C.QCK

Detector: GE4
Geometry: <None>
Certificate: GAW-14
Sample ID: QA Calibration C
Sample Desc: QA Count
Sample Quantity: 1.0000E+000
Sample Date: 10/1/14 12:00:00 AM
Measurement Date: 11/3/15 5:17:39 AM
Elapsed Live Time: 900.0 seconds
Elapsed Real Time: 955.5 seconds

Table with 3 columns: Parameter Description, Value, and Deviation/Flags. It lists various peak measurements (e.g., 59.54 keV, 661.65 keV) and decay corrected activities with their respective boundary limits and flags.

Boundary Limits: [7.892E-002, 1.184E-001] < : : >
Trend Test: The last 9 samples exhibit a bias trend.

Parameter Description	Value	Deviation/Flags
[Mean +/- Std. Dev.]		< LU : SD : UD : BS >

Decay corrected activity	2.1039E+005	
Boundary Limits: [1.695E-001, 2.543E-001]		< : : >
Trend Test: The last	9 samples exhibit a bias trend.	

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
 SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
 UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
 BS = Measurement Bias Test (In = Investigate, Ac = Action)

***** GENIE QUALITY ASSURANCE *****

Last Results Report
11/3/15 5:33:18 AM

Handwritten mark resembling '1113' with a checkmark above it.

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000003GAS-1402C.QC

Detector: GE3
Geometry: <None>
Certificate: GAS-1402
Sample ID: QA Calibration C
Sample Desc: QA Count
Sample Quantity: 1.0000E+000
Sample Date: 10/1/14 12:00:00 AM
Measurement Date: 11/3/15 5:17:32 AM
Elapsed Live Time: 900.0 seconds
Elapsed Real Time: 936.6 seconds

Table with 4 columns: Parameter Description, Value, Deviation/Flags, and a fourth column with symbols. Rows include peak centroid data for 59.54 keV, 661.65 keV, 1332.49 ke, 1836.1 keV, and FWHM data for Am-241, Cs-137, Co-60, and Y-88. It also includes decay corrected activity and trend test results.

Decay corrected activity 9.7760E+004

Boundary Limits: [7.972E-002, 1.120E-001] < : : >

Trend Test: The last 9 samples exhibit a bias trend.

Parameter Description
[Mean +/- Std. Dev.]

Value

Deviation/Flags
< LU : SD : UD : BS >

Decay corrected activity 2.0654E+005

Boundary Limits: [1.713E-001, 2.569E-001] < : : >

Trend Test: The last 9 samples exhibit a bias trend.

Flags Key:

LU = Lower/Upper Bounds Test

(Ab = Above, Be = Below)

SD = Sample Driven N-Sigma Test

(In = Investigate, Ac = Action)

UD = User Driven N-Sigma Test

(In = Investigate, Ac = Action)

BS = Measurement Bias Test

(In = Investigate, Ac = Action)

***** G E N I E Q U A L I T Y A S S U R A N C E *****

Last Results Report
11/3/15 5:33:04 AM

1117

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000002GAS-1401C.QC

Detector: GE2
Geometry: <None>
Certificate: GAS-1401
Sample ID: QA Calibration C
Sample Desc: QA Count
Sample Quantity: 1.0000E+000
Sample Date: 10/1/14 12:00:00 AM
Measurement Date: 11/3/15 5:17:23 AM
Elapsed Live Time: 900.0 seconds
Elapsed Real Time: 926.8 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >			
Peak centroid 59.54kev	6.0000E+001				
Boundary Limits: [5.800E+001, 6.100E+001]		<	:	:	>
Trend Test: The last 9 samples exhibit a bias trend.					
Peak centroid 661.65 kev	6.6145E+002				
Boundary Limits: [6.600E+002, 6.640E+002]		<	:	:	>
Trend Test: The last 9 samples exhibit a bias trend.					
Peak centroid 1332.49 ke	1.3320E+003				
Boundary Limits: [1.331E+003, 1.334E+003]		<	:	:	>
Peak centroid 1836.1 kev	1.8353E+003				
Boundary Limits: [1.834E+003, 1.838E+003]		<	:	:	>
Trend Test: The last 9 samples exhibit a bias trend.					
Peak FWHM Am-241	1.3593E+000				
Boundary Limits: [5.000E-001, 3.000E+000]		<	:	:	>
Trend Test: The last 9 samples exhibit a bias trend.					
Peak FWHM Cs-137	2.0949E+000				
Boundary Limits: [5.000E-001, 3.000E+000]		<	:	:	>
Trend Test: The last 9 samples exhibit a bias trend.					
Peak FWHM Co-60	2.1198E+000				
Boundary Limits: [5.000E-001, 3.000E+000]		<	:	:	>
Peak FWHM Y-88	2.7827E+000				
Boundary Limits: [5.000E-001, 3.000E+000]		<	:	:	>
Trend Test: The last 9 samples exhibit a bias trend.					
Decay corrected activity	1.5569E+005				
Boundary Limits: [1.224E-001, 1.836E-001]		<	:	:	>

Trend Test: The last 9 samples exhibit a bias trend.

Decay corrected activity 6.4359E+004

Boundary Limits: [4.971E-002, 7.457E-002] < : : >

Trend Test: The last 9 samples exhibit a bias trend.

Decay corrected activity 1.0526E+005

Boundary Limits: [7.978E-002, 1.197E-001] < : : >

Trend Test: The last 9 samples exhibit a bias trend.

Decay corrected activity 2.1706E+005

Boundary Limits: [1.714E-001, 2.571E-001] < : : >

Trend Test: The last 9 samples exhibit a bias trend.

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

 ***** G E N I E Q U A L I T Y A S S U R A N C E *****

Last Results Report
 11/3/15 5:32:54 AM

113

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000001GAF-14C.QCK

Detector: GE1
 Geometry: <None>
 Certificate: GAF-14
 Sample ID: QA Calibration C
 Sample Desc: QA Count
 Sample Quantity: 1.0000E+000
 Sample Date: 10/1/14 12:00:00 AM
 Measurement Date: 11/3/15 5:17:15 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 924.8 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >				
Peak centroid 59.54 keV Boundary Limits: [5.800E+001, 6.100E+001]	6.0000E+001	<	:	:	:	>
Peak centroid 661.65 keV Boundary Limits: [6.600E+002, 6.630E+002]	6.6202E+002	<	:	:	:	>
Peak centroid 1332.49 keV Boundary Limits: [1.331E+003, 1.334E+003]	1.3329E+003	<	:	:	:	>
Peak centroid 1836.01 keV Boundary Limits: [1.834E+003, 1.838E+003]	1.8365E+003	<	:	:	:	>
Peak FWHM Am-241 Boundary Limits: [5.000E-001, 3.000E+000]	1.2268E+000	<	:	:	:	>
Peak FWHM Cs-137 Boundary Limits: [5.000E-001, 3.000E+000]	1.5659E+000	<	:	:	:	>
Peak FWHM Co-60 Boundary Limits: [5.000E-001, 3.000E+000] Trend Test: The last 9 samples exhibit a bias trend.	2.0077E+000	<	:	:	:	>
Peak FWHM Y-90 Boundary Limits: [5.000E-001, 3.000E+000]	2.5946E+000	<	:	:	:	>
Decay corrected activity Boundary Limits: [1.170E-002, 1.754E-002]	1.4864E+004	<	:	:	:	>
Decay corrected activity Boundary Limits: [4.716E-003, 7.075E-003]	6.4158E+003	<	:	:	:	>
Decay corrected activity	1.0791E+004					

Boundary Limits: [7.572E-003, 1.136E-002] < : : : >

Decay corrected activity 1.9378E+004

Boundary Limits: [1.626E-002, 2.440E-002] < : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)