

AUXIER & ASSOCIATES, INC.

PAP-KAN

**STANDARD LEVEL IV
REPORT OF ANALYSIS**

WORK ORDER #15-10092-OR

November 25, 2015

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

TABLE OF CONTENTS

SECTION	DESCRIPTION	PAGE
I	Chain of Custody	0004
II	Sample Acknowledgement	0009
III	Case Narrative	0011
IV	Analytical Results Summary	0015
V	Analytical Standards	0024
VI	Quality Control Sample Results Summary	0041
VII	Laboratory Technician's Notes	0048
VIII	Analytical Data (Isotopic Uranium)	0067
IX	Analytical Data (Isotopic Thorium)	0167
X	Analytical Data (Gamma Spectroscopy)	0267
	Last Page	0917



STANDARD OPERATING PROCEDURE

MP-001, Rev. 15
Effective: 2/2/15
Page 14 of 15

Sample Receiving

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

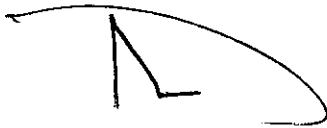
MP-001-3

Eberline Services Work Order # 15-10092

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

Date for Partial	Initials	Date	Initials	Checklist Items
		10-19-15	JFB	Sample Log-In
		11/11/15	JL	Data Compilation
		11-19-15	MTT	First Technical Data Review
		11/20/15	JL	Second Technical Data Review
		11/23/15	JL	Data Entry/Electronic Deliverable
		11/23/15	JL	Case Narrative
		11/25/15	JL	Electronic Deliverable Proof
		11/25/15	JL	Samples Analyzed within Holding Time Yes? <input checked="" type="checkbox"/> No? <input type="checkbox"/>
		11/25/15	JL	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:  11/25/15

 Laboratory Manager Date

Copy No. _____

Radiochemistry Services

SECTION I
CHAIN OF CUSTODY

Chain of Custody Record

7131
No 7120

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



Project Name: <u>DAP/HAN</u>		Project Number: _____		Page _____ of _____		
Send Report To: <u>Carolina Greene</u>		Sampler (Print Name): <u>Ashley Junc</u>		Purchase Order #: _____		
Address: _____		Sampler (Print Name): _____		Comments, Special Instructions, etc.		
<u>9821 Cogdill Pkwy Suite 1</u>		Shipment Method: <u>Fedex</u>		RECD OCT 14 2015 15-10092		
<u>Wnoxville, TN 37932</u>		Airbill Number: _____				
Phone: <u>865-675-3669</u>		Laboratory Receiving: _____				
<u>Ferris Agency</u>		_____				
Field Sample ID	Sample Date	Sample Time	Sample Matrix	Number of Containers	Analysis Requested	Lab Sample ID (to be completed by lab)
CP5003303-04	10/9/15	0900	S	1	X	21 Day Growth
CP5003306-07	10/9/15	0910	S	1	X	
CP5003307-08	10/9/15	0920	S	1	X	
CP5003309-10	10/9/15	0930	S	1	X	
CP5003312-13	10/9/15	0940	S	1	X	
CP5003314-15	10/9/15	0950	S	1	X	
CP5003316-17	10/9/15	1000	S	1	X	
CP5001303-04	10/9/15	1030	S	1	X	
CP5001306-07	10/9/15	1040	S	1	X	
CP5001309-10	10/9/15	1050	S	1	X	
CP5001311-12	10/9/15	1100	S	1	X	
CP5001313-14	10/9/15	1110	S	1	X	
CP5001316-17	10/9/15	1120	S	1	X	
CP5001318-19	10/9/15	1130	S	1	X	21 Day Growth

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
		10/12/15	1300
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Sample Custodian Remarks (Completed By Laboratory):	
Turnaround	Sample Receipt
QA/QC Level	Total # Containers Received?
Level I <input type="checkbox"/>	COC Seals Present?
Level II <input type="checkbox"/>	COC Seals Intact?
Level III <input type="checkbox"/>	Received Containers Intact?
Other <input type="checkbox"/>	Temperature?



EBERLINE
SERVICES
Oak Ridge Laboratory

Internal Chain of Custody

Work Order #

15-10092

Lab Deadline

11/5/2015

Analysis

UUISO - Level 4

Sample Matrix

Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
	04	40	K1.1
	05	35	K1.1
	06	32	K1.1
	07	35	K1.1
	08	33	K1.1
	09	35	K1.1
	10	38	K1.1
	11	43	K1.1
	12	29	K1.1
	13	38	K1.1
	14	41	K1.1
	15	37	K1.1
	16	36	K1.1

	Location (circle one)					Initials	Date
Received by	<u>Sample Storage</u>	Rough Prep	Prep	Separations	Count Room	Kenny Seeg	10-20-15
Relinquished by	Sample Storage	<u>Rough Prep</u>	Prep	Separations	Count Room	Kenny Seeg	10-21-15
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	J. Achille	10-21-15
Relinquished by	Sample Storage	Rough Prep	<u>Prep</u>	Separations	Count Room	J. Achille	10-23-15 0410
Received by	Sample Storage	Rough Prep	Prep	<u>Separations</u>	Count Room	Joe	10-23-15 0410
Relinquished by	Sample Storage	Rough Prep	Prep	<u>Separations</u>	Count Room	Joe	11-3-15 0904
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	KB	11/3/15 1822
Received by	<u>Sample Storage</u>	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		



Internal Chain of Custody

Work Order #	15-10092
Lab Deadline	11/5/2015
Analysis	ThISO - Level 4
Sample Matrix	Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
	04	40	K1.1
	05	35	K1.1
	06	32	K1.1
	07	35	K1.1
	08	33	K1.1
	09	35	K1.1
	10	38	K1.1
	11	43	K1.1
	12	29	K1.1
	13	38	K1.1
	14	41	K1.1
	15	37	K1.1
	16	36	K1.1

	Location (circle one)					Initials	Date
Received by	<u>Sample Storage</u>	<u>Rough Prep</u>	Prep	Separations	Count Room	<i>Kenny Seis</i>	10-20-15
Relinquished by	Sample Storage	<u>Rough Prep</u>	Prep	Separations	Count Room	<i>Kenny Seis</i>	10-21-15
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	<i>J. P. Seis</i>	11-2-15
Relinquished by	Sample Storage	Rough Prep	<u>Prep</u>	Separations	Count Room	<i>J. P. Seis</i>	10-21-15
Received by	Sample Storage	Rough Prep	Prep	<u>Separations</u>	Count Room	<i>J. P. Seis</i>	11-2-15
Relinquished by	Sample Storage	Rough Prep	Prep	<u>Separations</u>	Count Room	<i>J. P. Seis</i>	11-5-15
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	<i>J. P. Seis</i>	11-2-15
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	<u>Count Room</u>	<i>J. P. Seis</i>	11-5-15
Received by	<u>Sample Storage</u>	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 #

15-10092

Lab Deadline

11/5/2015

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	40	K1.1	
	05	35	K1.1	
	06	32	K1.1	
	07	35	K1.1	
	08	33	K1.1	
	09	35	K1.1	
	10	38	K1.1	
	11	43	K1.1	
	12	29	K1.1	
	13	38	K1.1	
	14	41	K1.1	
	15	37	K1.1	
	16	36	K1.1	

	Location (circle one)					Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	<i>Key ser</i>	10-20-15
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	<i>Key ser</i>	10-21-15
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	<i>UB 10/21/15 0956</i>	
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	<i>C 11/11/15</i>	
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

Date Received
10/14/2015

Required Turnaround Days
28

Internal Deadline
11/10/2015

Client Deadline
11/11/2015

Client Name
Auxier & Associates, Inc.

Contract/PO
PAP-KAN

Project Type
Environmental

Lab Deadline
11/05/2015

Sample Disp
H

Client WO
PAP-KAN

Client ID
PAP-KAN

Matrix
SO

Storage
K1.1

Internal ID	Client ID	Sample Date	Matrix	Storage	Gamma	TH130	U130	U130														
01	LCS	10/15/15	SO	K1.1	X	X	X															
02	BLANK	10/15/15	SO	K1.1	X	X	X															
03	DUP	10/15/15	SO	K1.1	X	X	X															
04	CP5003S03-04	10/09/15 09:00	SO	K1.1	X	X	X															
05	CP5003S06-07	10/09/15 09:10	SO	K1.1	X	X	X															
06	CP5003S09-10	10/09/15 09:30	SO	K1.1	X	X	X															
07	CP5003S12-13	10/09/15 09:40	SO	K1.1	X	X	X															
08	CP5003S14-15	10/09/15 09:50	SO	K1.1	X	X	X															
09	CP5003S16-17	10/09/15 10:00	SO	K1.1	X	X	X															
10	CP5001S03-04	10/09/15 10:30	SO	K1.1	X	X	X															
11	CP5001S06-07	10/09/15 10:40	SO	K1.1	X	X	X															
12	CP5001S09-10	10/09/15 10:50	SO	K1.1	X	X	X															
13	CP5001S11-12	10/09/15 11:00	SO	K1.1	X	X	X															
14	CP5001S13-14	10/09/15 11:10	SO	K1.1	X	X	X															
15	CP5001S16-17	10/09/15 11:20	SO	K1.1	X	X	X															
16	CP5001S18-19	10/09/15 11:30	SO	K1.1	X	X	X															
Totals Per Analysis (non QA samples)					13	13	13															

Report Data
Cecilia Greene
Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37830
Voice 865-675-3669
Fax 865-675-3677

Accounts Payable
Auxier & Associates, Inc.
9821 Cogdill Drive #1
Knoxville, TN 37832
Voice 865-675-3669
Fax 865-675-3677
Contact
Harvey Cohen
Voice 301-718-8900
Fax 301-718-8909

Oak Ridge Laboratory
601 Scarboro Rd.
Oak Ridge, TN 37830
Voice: (865) 481-0683
Fax: (865) 483-4621



EBERLINE SERVICES

Sample Log In Report



STANDARD OPERATING PROCEDURE

Sample Receiving

MP-001, Rev. 15
Effective: 2/2/15
Page 13 of 15

Eberline Services – Oak Ridge Laboratory

SAMPLE RECEIPT CHECKLIST MP-001-2

WORK ORDER # 15-10092

SAMPLE MATRIX/MATRICES:

(CIRCLE ONE OR BOTH)

AQUEOUS

NON-AQUEOUS

WERE SAMPLES:

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

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: *James E. Smith* DATE: 10-18-15

SECTION III
CASE NARRATIVE



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

EBS-OR-40007

November 25, 2015

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

CASE NARRATIVE
Work Order # 15-10092-OR

SAMPLE RECEIPT

This work order contains thirteen soil samples received 10/14/2015. 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>
CP5003S03-04	15-10092-04	CP5001S06-07	15-10092-11
CP5003S06-07	15-10092-05	CP5001S09-10	15-10092-12
CP5003S09-10	15-10092-06	CP5001S11-12	15-10092-13
CP5003S12-13	15-10092-07	CP5001S13-14	15-10092-14
CP5003S14-15	15-10092-08	CP5001S16-17	15-10092-15
CP5003S16-17	15-10092-09	CP5001S18-19	15-10092-16
CP5001S03-04	15-10092-10		

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 duplicate demonstrated an acceptable relative percent difference and normalized difference. Results for the Uranium-235 and Uranium-238 duplicate demonstrated a high relative percent difference; however, normalized difference is within acceptable limits for the analytical technique. 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. 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, Thorium-230 and Thorium-232 duplicate demonstrated an acceptable relative percent difference and normalized difference. Results for the Thorium-228, Thorium-230 and Thorium-232 laboratory control sample demonstrated an acceptable percent recovery.

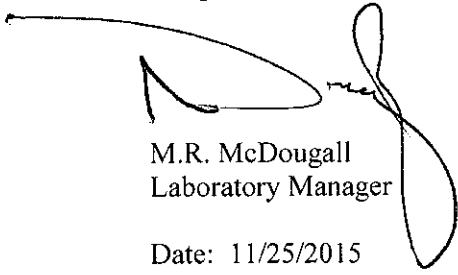
GAMMA SPECTROSCOPY

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: 11/25/2015

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

Report To:
15-10092
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
15-10092-01	LCS	KNOWN	10/15/15 00:00	10/14/2015	11/11/2015	15-10092	Cobalt-60	LANL ER-130 Modified	1.37E+02	5.48E+00				pCi/g
15-10092-01	LCS	KNOWN	10/15/15 00:00	10/14/2015	11/11/2015	15-10092	Cesium-137	LANL ER-130 Modified	8.69E+01	3.48E+00				pCi/g
15-10092-01	LCS	SPIKE	10/15/15 00:00	10/14/2015	11/11/2015	15-10092	Cobalt-60	LANL ER-130 Modified	1.39E+02	9.19E+00	1.14E+01	1.41E+00	1.43E+00	pCi/g
15-10092-01	LCS	SPIKE	10/15/15 00:00	10/14/2015	11/11/2015	15-10092	Cesium-137	LANL ER-130 Modified	8.42E+01	8.11E+00	9.19E+00	2.09E+00	1.01E+00	pCi/g
15-10092-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/11/2015	15-10092	Actinium-228	LANL ER-130 Modified	1.10E-01	1.38E-01	1.38E-01	2.82E-01	1.23E-01	pCi/g
15-10092-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/11/2015	15-10092	Bismuth-214	LANL ER-130 Modified	1.77E-02	9.13E-02	9.13E-02	1.55E-01	7.03E-02	pCi/g
15-10092-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/11/2015	15-10092	Potassium-40	LANL ER-130 Modified	1.50E-01	3.86E-01	3.86E-01	8.01E-01	3.28E-01	pCi/g
15-10092-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/11/2015	15-10092	Lead-212	LANL ER-130 Modified	3.29E-02	6.08E-02	6.08E-02	1.02E-01	4.81E-02	pCi/g
15-10092-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/11/2015	15-10092	Lead-214	LANL ER-130 Modified	-2.11E-02	7.61E-02	7.61E-02	1.19E-01	5.44E-02	pCi/g
15-10092-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/11/2015	15-10092	Radium-226	LANL ER-130 Modified	1.77E-02	9.13E-02	9.13E-02	1.55E-01	5.49E-01	pCi/g
15-10092-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/11/2015	15-10092	Radium-228	LANL ER-130 Modified	1.10E-01	1.38E-01	1.38E-01	2.82E-01	1.23E-01	pCi/g
15-10092-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/11/2015	15-10092	Thorium-234	LANL ER-130 Modified	4.32E-01	3.72E-01	3.72E-01	6.37E-01	3.04E-01	pCi/g
15-10092-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/11/2015	15-10092	Thallium-208	LANL ER-130 Modified	3.09E-03	1.16E-01	1.16E-01	1.92E-01	8.55E-02	pCi/g
15-10092-03	DUP	CP5003S03-04	10/09/15 09:00	10/14/2015	11/11/2015	15-10092	Actinium-228	LANL ER-130 Modified	1.51E+00	2.40E-01	2.52E-01	3.37E-01	1.58E-01	pCi/g
15-10092-03	DUP	CP5003S03-04	10/09/15 09:00	10/14/2015	11/11/2015	15-10092	Bismuth-214	LANL ER-130 Modified	1.30E+00	1.68E-01	1.81E-01	1.85E-01	8.84E-02	pCi/g
15-10092-03	DUP	CP5003S03-04	10/09/15 09:00	10/14/2015	11/11/2015	15-10092	Potassium-40	LANL ER-130 Modified	1.89E+01	2.43E+00	2.62E+00	9.12E-01	4.18E-01	pCi/g
15-10092-03	DUP	CP5003S03-04	10/09/15 09:00	10/14/2015	11/11/2015	15-10092	Lead-212	LANL ER-130 Modified	1.83E+00	2.36E-01	2.54E-01	2.26E-01	1.11E-01	pCi/g
15-10092-03	DUP	CP5003S03-04	10/09/15 09:00	10/14/2015	11/11/2015	15-10092	Lead-214	LANL ER-130 Modified	1.35E+00	1.82E-01	1.95E-01	2.33E-01	1.13E-01	pCi/g
15-10092-03	DUP	CP5003S03-04	10/09/15 09:00	10/14/2015	11/11/2015	15-10092	Radium-226	LANL ER-130 Modified	1.30E+00	1.68E-01	1.81E-01	1.85E-01	1.11E+00	pCi/g
15-10092-03	DUP	CP5003S03-04	10/09/15 09:00	10/14/2015	11/11/2015	15-10092	Radium-228	LANL ER-130 Modified	1.51E+00	2.40E-01	2.52E-01	3.37E-01	1.58E-01	pCi/g
15-10092-03	DUP	CP5003S03-04	10/09/15 09:00	10/14/2015	11/11/2015	15-10092	Thorium-234	LANL ER-130 Modified	1.30E+00	9.78E-01	9.80E-01	1.56E+00	7.59E-01	pCi/g
15-10092-03	DUP	CP5003S03-04	10/09/15 09:00	10/14/2015	11/11/2015	15-10092	Thallium-208	LANL ER-130 Modified	1.17E+00	1.74E-01	1.84E-01	1.54E-01	1.62E-01	pCi/g
15-10092-04	DO	CP5003S03-04	10/09/15 09:00	10/14/2015	11/11/2015	15-10092	Actinium-228	LANL ER-130 Modified	1.62E+00	2.32E-01	2.46E-01	3.98E-01	1.89E-01	pCi/g
15-10092-04	DO	CP5003S03-04	10/09/15 09:00	10/14/2015	11/11/2015	15-10092	Bismuth-214	LANL ER-130 Modified	1.10E+00	1.66E-01	1.76E-01	2.25E-01	1.08E-01	pCi/g
15-10092-04	DO	CP5003S03-04	10/09/15 09:00	10/14/2015	11/11/2015	15-10092	Potassium-40	LANL ER-130 Modified	1.95E+01	2.45E+00	2.64E+00	7.21E-01	3.23E-01	pCi/g
15-10092-04	DO	CP5003S03-04	10/09/15 09:00	10/14/2015	11/11/2015	15-10092	Lead-212	LANL ER-130 Modified	1.40E+00	1.75E-01	1.90E-01	2.34E-01	1.15E-01	pCi/g
15-10092-04	DO	CP5003S03-04	10/09/15 09:00	10/14/2015	11/11/2015	15-10092	Lead-214	LANL ER-130 Modified	1.35E+00	1.73E-01	1.86E-01	2.36E-01	1.14E-01	pCi/g
15-10092-04	DO	CP5003S03-04	10/09/15 09:00	10/14/2015	11/11/2015	15-10092	Radium-226	LANL ER-130 Modified	1.10E+00	1.66E-01	1.76E-01	2.25E-01	1.46E+00	pCi/g
15-10092-04	DO	CP5003S03-04	10/09/15 09:00	10/14/2015	11/11/2015	15-10092	Radium-228	LANL ER-130 Modified	1.62E+00	2.32E-01	2.46E-01	3.98E-01	1.89E-01	pCi/g
15-10092-04	DO	CP5003S03-04	10/09/15 09:00	10/14/2015	11/11/2015	15-10092	Thorium-234	LANL ER-130 Modified	1.19E+00	1.00E+00	1.00E+00	1.58E+00	7.69E-01	pCi/g
15-10092-04	DO	CP5003S03-04	10/09/15 09:00	10/14/2015	11/11/2015	15-10092	Thallium-208	LANL ER-130 Modified	1.12E+00	1.75E-01	1.84E-01	1.72E-01	1.74E-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

Work Order Details:

15-10092
 Project: PAP-KAN
 Analysis Category: ENVIRONMENTAL
 Sample Matrix: SO

Report To:

SDG:
 Method:
 Analyte 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
15-10092-05	TRG	CP5003S06-07	10/09/15 09:10	10/14/2015	11/11/2015	15-10092	Actinium-228	LANL ER-130 Modified	1.56E+00	2.47E-01	2.60E-01	4.06E-01	1.89E-01	pCi/g
15-10092-05	TRG	CP5003S06-07	10/09/15 09:10	10/14/2015	11/11/2015	15-10092	Bismuth-214	LANL ER-130 Modified	1.20E+00	2.01E-01	2.11E-01	2.99E-01	1.44E-01	pCi/g
15-10092-05	TRG	CP5003S06-07	10/09/15 09:10	10/14/2015	11/11/2015	15-10092	Potassium-40	LANL ER-130 Modified	2.12E+01	2.60E+00	2.82E+00	1.28E+00	5.88E-01	pCi/g
15-10092-05	TRG	CP5003S06-07	10/09/15 09:10	10/14/2015	11/11/2015	15-10092	Lead-212	LANL ER-130 Modified	1.69E+00	1.90E-01	2.09E-01	2.58E-01	1.26E-01	pCi/g
15-10092-05	TRG	CP5003S06-07	10/09/15 09:10	10/14/2015	11/11/2015	15-10092	Lead-214	LANL ER-130 Modified	1.38E+00	1.59E-01	1.74E-01	2.58E-01	1.24E-01	pCi/g
15-10092-05	TRG	CP5003S06-07	10/09/15 09:10	10/14/2015	11/11/2015	15-10092	Radium-226	LANL ER-130 Modified	1.20E+00	2.01E-01	2.11E-01	2.99E-01	1.46E+00	pCi/g
15-10092-05	TRG	CP5003S06-07	10/09/15 09:10	10/14/2015	11/11/2015	15-10092	Radium-228	LANL ER-130 Modified	1.56E+00	2.47E-01	2.60E-01	4.06E-01	1.89E-01	pCi/g
15-10092-05	TRG	CP5003S06-07	10/09/15 09:10	10/14/2015	11/11/2015	15-10092	Thorium-234	LANL ER-130 Modified	2.84E+00	1.48E+00	1.49E+00	4.63E+00	2.29E+00	pCi/g
15-10092-05	TRG	CP5003S06-07	10/09/15 09:10	10/14/2015	11/11/2015	15-10092	Thallium-208	LANL ER-130 Modified	1.50E+00	2.36E-01	2.49E-01	4.67E-02	2.06E-01	pCi/g
15-10092-06	TRG	CP5003S09-10	10/09/15 09:30	10/14/2015	11/11/2015	15-10092	Actinium-228	LANL ER-130 Modified	1.50E+00	5.18E-01	5.24E-01	9.29E-01	4.39E-01	pCi/g
15-10092-06	TRG	CP5003S09-10	10/09/15 09:30	10/14/2015	11/11/2015	15-10092	Bismuth-214	LANL ER-130 Modified	1.25E+00	3.13E-01	3.20E-01	2.83E-01	2.99E-01	pCi/g
15-10092-06	TRG	CP5003S09-10	10/09/15 09:30	10/14/2015	11/11/2015	15-10092	Potassium-40	LANL ER-130 Modified	2.00E+01	3.44E+00	3.59E+00	1.85E+00	8.20E-01	pCi/g
15-10092-06	TRG	CP5003S09-10	10/09/15 09:30	10/14/2015	11/11/2015	15-10092	Lead-212	LANL ER-130 Modified	1.82E+00	3.37E-01	3.50E-01	4.06E-01	1.99E-01	pCi/g
15-10092-06	TRG	CP5003S09-10	10/09/15 09:30	10/14/2015	11/11/2015	15-10092	Lead-214	LANL ER-130 Modified	1.25E+00	2.94E-01	3.01E-01	4.27E-01	2.06E-01	pCi/g
15-10092-06	TRG	CP5003S09-10	10/09/15 09:30	10/14/2015	11/11/2015	15-10092	Radium-226	LANL ER-130 Modified	1.25E+00	3.13E-01	3.20E-01	2.83E-01	2.22E+00	pCi/g
15-10092-06	TRG	CP5003S09-10	10/09/15 09:30	10/14/2015	11/11/2015	15-10092	Radium-228	LANL ER-130 Modified	1.50E+00	5.18E-01	5.24E-01	9.29E-01	4.39E-01	pCi/g
15-10092-06	TRG	CP5003S09-10	10/09/15 09:30	10/14/2015	11/11/2015	15-10092	Thorium-234	LANL ER-130 Modified	7.27E-01	1.45E+00	1.45E+00	2.24E+00	1.10E+00	pCi/g
15-10092-06	TRG	CP5003S09-10	10/09/15 09:30	10/14/2015	11/11/2015	15-10092	Thallium-208	LANL ER-130 Modified	1.62E+00	3.76E-01	3.85E-01	9.72E-02	4.23E-01	pCi/g
15-10092-07	TRG	CP5003S12-13	10/09/15 09:40	10/14/2015	11/11/2015	15-10092	Actinium-228	LANL ER-130 Modified	1.36E+00	3.41E-01	3.48E-01	7.56E-01	3.64E-01	pCi/g
15-10092-07	TRG	CP5003S12-13	10/09/15 09:40	10/14/2015	11/11/2015	15-10092	Bismuth-214	LANL ER-130 Modified	1.41E+00	2.19E-01	2.30E-01	3.06E-01	1.47E-01	pCi/g
15-10092-07	TRG	CP5003S12-13	10/09/15 09:40	10/14/2015	11/11/2015	15-10092	Potassium-40	LANL ER-130 Modified	2.08E+01	2.54E+00	2.75E+00	1.05E+00	4.70E-01	pCi/g
15-10092-07	TRG	CP5003S12-13	10/09/15 09:40	10/14/2015	11/11/2015	15-10092	Lead-212	LANL ER-130 Modified	1.87E+00	2.04E-01	2.25E-01	2.95E-01	1.45E-01	pCi/g
15-10092-07	TRG	CP5003S12-13	10/09/15 09:40	10/14/2015	11/11/2015	15-10092	Lead-214	LANL ER-130 Modified	1.47E+00	1.88E-01	2.03E-01	3.03E-01	1.47E-01	pCi/g
15-10092-07	TRG	CP5003S12-13	10/09/15 09:40	10/14/2015	11/11/2015	15-10092	Radium-226	LANL ER-130 Modified	1.41E+00	2.19E-01	2.30E-01	3.06E-01	1.14E+00	pCi/g
15-10092-07	TRG	CP5003S12-13	10/09/15 09:40	10/14/2015	11/11/2015	15-10092	Radium-228	LANL ER-130 Modified	1.36E+00	3.41E-01	3.48E-01	7.56E-01	3.64E-01	pCi/g
15-10092-07	TRG	CP5003S12-13	10/09/15 09:40	10/14/2015	11/11/2015	15-10092	Thorium-234	LANL ER-130 Modified	1.74E+00	1.71E+00	1.72E+00	2.29E+00	1.12E+00	pCi/g
15-10092-07	TRG	CP5003S12-13	10/09/15 09:40	10/14/2015	11/11/2015	15-10092	Thallium-208	LANL ER-130 Modified	1.27E+00	2.14E-01	2.24E-01	2.14E-01	1.70E-01	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**

15-10092
PAP-KAN
ENVIRONMENTAL
SO

Work Order Details:

Report To:

SDG:
Project:
Analysis Category:
Sample Matrix:

Method
Analyte
Batch ID
Analysis Date
Receipt Date
Sample Date

Result
CU
CSU
MDA
CV
Report Units

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10092-08	TRG	CP5003S14-15	10/09/15 09:50	10/14/2015	11/11/2015	15-10092	Actinium-228	LANL ER-130 Modified	1.63E+00	5.21E-01	5.28E-01	1.04E+00	4.93E-01	pCi/g
15-10092-08	TRG	CP5003S14-15	10/09/15 09:50	10/14/2015	11/11/2015	15-10092	Bismuth-214	LANL ER-130 Modified	1.09E+00	3.13E-01	3.18E-01	2.80E-01	2.72E-01	pCi/g
15-10092-08	TRG	CP5003S14-15	10/09/15 09:50	10/14/2015	11/11/2015	15-10092	Potassium-40	LANL ER-130 Modified	2.00E+01	3.59E+00	3.74E+00	2.63E+00	1.21E+00	pCi/g
15-10092-08	TRG	CP5003S14-15	10/09/15 09:50	10/14/2015	11/11/2015	15-10092	Lead-212	LANL ER-130 Modified	1.76E+00	3.19E-01	3.32E-01	3.73E-01	1.82E-01	pCi/g
15-10092-08	TRG	CP5003S14-15	10/09/15 09:50	10/14/2015	11/11/2015	15-10092	Lead-214	LANL ER-130 Modified	1.20E+00	2.92E-01	2.99E-01	4.76E-01	2.31E-01	pCi/g
15-10092-08	TRG	CP5003S14-15	10/09/15 09:50	10/14/2015	11/11/2015	15-10092	Radium-226	LANL ER-130 Modified	1.09E+00	3.13E-01	3.18E-01	2.80E-01	2.55E+00	pCi/g
15-10092-08	TRG	CP5003S14-15	10/09/15 09:50	10/14/2015	11/11/2015	15-10092	Radium-228	LANL ER-130 Modified	1.63E+00	5.21E-01	5.28E-01	1.04E+00	4.93E-01	pCi/g
15-10092-08	TRG	CP5003S14-15	10/09/15 09:50	10/14/2015	11/11/2015	15-10092	Thorium-234	LANL ER-130 Modified	1.68E+00	1.43E+00	1.44E+00	2.25E+00	1.10E+00	pCi/g
15-10092-08	TRG	CP5003S14-15	10/09/15 09:50	10/14/2015	11/11/2015	15-10092	Thallium-208	LANL ER-130 Modified	1.33E+00	3.23E-01	3.30E-01	9.59E-02	3.41E-01	pCi/g
15-10092-09	TRG	CP5003S16-17	10/09/15 10:00	10/14/2015	11/11/2015	15-10092	Actinium-228	LANL ER-130 Modified	1.68E+00	2.48E-01	2.63E-01	4.17E-01	1.99E-01	pCi/g
15-10092-09	TRG	CP5003S16-17	10/09/15 10:00	10/14/2015	11/11/2015	15-10092	Bismuth-214	LANL ER-130 Modified	1.46E+00	1.74E-01	1.89E-01	1.96E-01	9.37E-02	pCi/g
15-10092-09	TRG	CP5003S16-17	10/09/15 10:00	10/14/2015	11/11/2015	15-10092	Potassium-40	LANL ER-130 Modified	2.23E+01	2.46E+00	2.71E+00	7.97E-01	3.62E-01	pCi/g
15-10092-09	TRG	CP5003S16-17	10/09/15 10:00	10/14/2015	11/11/2015	15-10092	Lead-212	LANL ER-130 Modified	1.72E+00	1.92E-01	2.11E-01	2.50E-01	1.23E-01	pCi/g
15-10092-09	TRG	CP5003S16-17	10/09/15 10:00	10/14/2015	11/11/2015	15-10092	Lead-214	LANL ER-130 Modified	1.53E+00	1.71E-01	1.88E-01	2.68E-01	1.30E-01	pCi/g
15-10092-09	TRG	CP5003S16-17	10/09/15 10:00	10/14/2015	11/11/2015	15-10092	Radium-226	LANL ER-130 Modified	1.46E+00	1.74E-01	1.89E-01	1.96E-01	1.46E+00	pCi/g
15-10092-09	TRG	CP5003S16-17	10/09/15 10:00	10/14/2015	11/11/2015	15-10092	Radium-228	LANL ER-130 Modified	1.68E+00	2.48E-01	2.63E-01	4.17E-01	1.99E-01	pCi/g
15-10092-09	TRG	CP5003S16-17	10/09/15 10:00	10/14/2015	11/11/2015	15-10092	Thorium-234	LANL ER-130 Modified	3.04E+00	1.66E+00	1.67E+00	2.71E+00	1.33E+00	pCi/g
15-10092-09	TRG	CP5003S16-17	10/09/15 10:00	10/14/2015	11/11/2015	15-10092	Thallium-208	LANL ER-130 Modified	1.38E+00	1.99E-01	2.11E-01	1.76E-01	1.89E-01	pCi/g
15-10092-10	TRG	CP5001S03-04	10/09/15 10:30	10/14/2015	11/11/2015	15-10092	Actinium-228	LANL ER-130 Modified	1.46E+00	2.58E-01	2.68E-01	5.59E-01	2.68E-01	pCi/g
15-10092-10	TRG	CP5001S03-04	10/09/15 10:30	10/14/2015	11/11/2015	15-10092	Bismuth-214	LANL ER-130 Modified	1.53E+00	1.84E-01	2.00E-01	2.13E-01	1.24E-01	pCi/g
15-10092-10	TRG	CP5001S03-04	10/09/15 10:30	10/14/2015	11/11/2015	15-10092	Potassium-40	LANL ER-130 Modified	2.10E+01	2.36E+00	2.59E+00	1.03E+00	4.75E-01	pCi/g
15-10092-10	TRG	CP5001S03-04	10/09/15 10:30	10/14/2015	11/11/2015	15-10092	Lead-212	LANL ER-130 Modified	1.72E+00	1.95E-01	2.14E-01	2.84E-01	1.40E-01	pCi/g
15-10092-10	TRG	CP5001S03-04	10/09/15 10:30	10/14/2015	11/11/2015	15-10092	Lead-214	LANL ER-130 Modified	1.68E+00	1.74E-01	1.94E-01	2.26E-01	1.09E-01	pCi/g
15-10092-10	TRG	CP5001S03-04	10/09/15 10:30	10/14/2015	11/11/2015	15-10092	Radium-226	LANL ER-130 Modified	1.53E+00	1.84E-01	2.00E-01	2.13E-01	1.27E+00	pCi/g
15-10092-10	TRG	CP5001S03-04	10/09/15 10:30	10/14/2015	11/11/2015	15-10092	Radium-228	LANL ER-130 Modified	1.46E+00	2.58E-01	2.68E-01	5.59E-01	2.69E-01	pCi/g
15-10092-10	TRG	CP5001S03-04	10/09/15 10:30	10/14/2015	11/11/2015	15-10092	Thorium-234	LANL ER-130 Modified	2.22E+00	1.79E+00	1.79E+00	2.97E+00	1.46E+00	pCi/g
15-10092-10	TRG	CP5001S03-04	10/09/15 10:30	10/14/2015	11/11/2015	15-10092	Thallium-208	LANL ER-130 Modified	1.31E+00	1.97E-01	2.08E-01	1.75E-01	1.91E-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

15-10092
PAP-KAN
ENVIRONMENTAL
SO

SDG:
 Project:
 Analysis Category:
 Sample Matrix:

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
15-10092-11	TRG	CP5001S06-07	10/09/15 10:40	10/14/2015	11/11/2015	15-10092	Actinium-228	LANL ER-130 Modified	1.30E+00	1.92E-01	2.03E-01	5.41E-01	2.61E-01	pCi/g
15-10092-11	TRG	CP5001S06-07	10/09/15 10:40	10/14/2015	11/11/2015	15-10092	Bismuth-214	LANL ER-130 Modified	1.31E+00	1.51E-01	1.65E-01	2.16E-01	1.04E-01	pCi/g
15-10092-11	TRG	CP5001S06-07	10/09/15 10:40	10/14/2015	11/11/2015	15-10092	Potassium-40	LANL ER-130 Modified	1.88E+01	2.41E+00	2.59E+00	8.45E-01	3.86E-01	pCi/g
15-10092-11	TRG	CP5001S06-07	10/09/15 10:40	10/14/2015	11/11/2015	15-10092	Lead-212	LANL ER-130 Modified	1.48E+00	1.77E-01	1.93E-01	2.40E-01	1.18E-01	pCi/g
15-10092-11	TRG	CP5001S06-07	10/09/15 10:40	10/14/2015	11/11/2015	15-10092	Lead-214	LANL ER-130 Modified	1.37E+00	1.61E-01	1.76E-01	2.13E-01	1.03E-01	pCi/g
15-10092-11	TRG	CP5001S06-07	10/09/15 10:40	10/14/2015	11/11/2015	15-10092	Radium-226	LANL ER-130 Modified	1.31E+00	1.51E-01	1.65E-01	2.16E-01	1.15E+00	pCi/g
15-10092-11	TRG	CP5001S06-07	10/09/15 10:40	10/14/2015	11/11/2015	15-10092	Radium-228	LANL ER-130 Modified	1.30E+00	1.92E-01	2.03E-01	5.41E-01	2.61E-01	pCi/g
15-10092-11	TRG	CP5001S06-07	10/09/15 10:40	10/14/2015	11/11/2015	15-10092	Thorium-234	LANL ER-130 Modified	2.07E+00	9.41E-01	9.47E-01	1.54E+00	7.49E-01	pCi/g
15-10092-11	TRG	CP5001S06-07	10/09/15 10:40	10/14/2015	11/11/2015	15-10092	Thallium-208	LANL ER-130 Modified	1.20E+00	1.62E-01	1.73E-01	1.11E-01	1.28E-01	pCi/g
15-10092-12	TRG	CP5001S09-10	10/09/15 10:50	10/14/2015	11/11/2015	15-10092	Actinium-228	LANL ER-130 Modified	1.47E+00	2.51E-01	2.62E-01	9.46E-01	4.60E-01	pCi/g
15-10092-12	TRG	CP5001S09-10	10/09/15 10:50	10/14/2015	11/11/2015	15-10092	Bismuth-214	LANL ER-130 Modified	1.29E+00	2.03E-01	2.14E-01	2.71E-01	1.30E-01	pCi/g
15-10092-12	TRG	CP5001S09-10	10/09/15 10:50	10/14/2015	11/11/2015	15-10092	Potassium-40	LANL ER-130 Modified	2.03E+01	2.46E+00	2.67E+00	9.40E-01	4.18E-01	pCi/g
15-10092-12	TRG	CP5001S09-10	10/09/15 10:50	10/14/2015	11/11/2015	15-10092	Lead-212	LANL ER-130 Modified	1.70E+00	1.92E-01	2.11E-01	3.09E-01	1.52E-01	pCi/g
15-10092-12	TRG	CP5001S09-10	10/09/15 10:50	10/14/2015	11/11/2015	15-10092	Lead-214	LANL ER-130 Modified	1.26E+00	1.65E-01	1.77E-01	2.30E-01	1.11E-01	pCi/g
15-10092-12	TRG	CP5001S09-10	10/09/15 10:50	10/14/2015	11/11/2015	15-10092	Radium-226	LANL ER-130 Modified	1.29E+00	2.03E-01	2.14E-01	2.71E-01	1.55E+00	pCi/g
15-10092-12	TRG	CP5001S09-10	10/09/15 10:50	10/14/2015	11/11/2015	15-10092	Radium-228	LANL ER-130 Modified	1.47E+00	2.51E-01	2.62E-01	9.46E-01	4.60E-01	pCi/g
15-10092-12	TRG	CP5001S09-10	10/09/15 10:50	10/14/2015	11/11/2015	15-10092	Thorium-234	LANL ER-130 Modified	2.26E+00	1.65E+00	1.66E+00	2.22E+00	1.09E+00	pCi/g
15-10092-12	TRG	CP5001S09-10	10/09/15 10:50	10/14/2015	11/11/2015	15-10092	Thallium-208	LANL ER-130 Modified	1.33E+00	2.41E-01	2.50E-01	4.55E-02	2.38E-01	pCi/g
15-10092-13	TRG	CP5001S11-12	10/09/15 11:00	10/14/2015	11/11/2015	15-10092	Actinium-228	LANL ER-130 Modified	1.44E+00	4.94E-01	5.00E-01	8.02E-01	3.75E-01	pCi/g
15-10092-13	TRG	CP5001S11-12	10/09/15 11:00	10/14/2015	11/11/2015	15-10092	Bismuth-214	LANL ER-130 Modified	1.32E+00	3.43E-01	3.49E-01	5.28E-01	2.54E-01	pCi/g
15-10092-13	TRG	CP5001S11-12	10/09/15 11:00	10/14/2015	11/11/2015	15-10092	Potassium-40	LANL ER-130 Modified	2.18E+01	3.57E+00	3.74E+00	1.09E+00	4.38E-01	pCi/g
15-10092-13	TRG	CP5001S11-12	10/09/15 11:00	10/14/2015	11/11/2015	15-10092	Lead-212	LANL ER-130 Modified	1.92E+00	3.70E-01	3.83E-01	4.63E-01	2.27E-01	pCi/g
15-10092-13	TRG	CP5001S11-12	10/09/15 11:00	10/14/2015	11/11/2015	15-10092	Lead-214	LANL ER-130 Modified	1.40E+00	3.37E-01	3.44E-01	5.42E-01	2.63E-01	pCi/g
15-10092-13	TRG	CP5001S11-12	10/09/15 11:00	10/14/2015	11/11/2015	15-10092	Radium-226	LANL ER-130 Modified	1.32E+00	3.43E-01	3.49E-01	5.28E-01	2.28E+00	pCi/g
15-10092-13	TRG	CP5001S11-12	10/09/15 11:00	10/14/2015	11/11/2015	15-10092	Radium-228	LANL ER-130 Modified	1.44E+00	4.94E-01	5.00E-01	8.02E-01	3.75E-01	pCi/g
15-10092-13	TRG	CP5001S11-12	10/09/15 11:00	10/14/2015	11/11/2015	15-10092	Thorium-234	LANL ER-130 Modified	1.96E-01	1.51E+00	1.51E+00	2.29E+00	1.12E+00	pCi/g
15-10092-13	TRG	CP5001S11-12	10/09/15 11:00	10/14/2015	11/11/2015	15-10092	Thallium-208	LANL ER-130 Modified	1.37E+00	2.99E-01	3.07E-01	9.87E-02	2.43E-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
 SERVICES

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

Report To:

15-10092
PAP-KAN
ENVIRONMENTAL
SO

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
15-10092-14	TRG	CP5001S13-14	10/09/15 11:10	10/14/2015	11/11/2015	15-10092	Actinium-228	LANL ER-130 Modified	1.46E+00	2.44E-01	2.55E-01	4.24E-01	2.03E-01	pCi/g
15-10092-14	TRG	CP5001S13-14	10/09/15 11:10	10/14/2015	11/11/2015	15-10092	Bismuth-214	LANL ER-130 Modified	1.41E+00	1.72E-01	1.87E-01	2.29E-01	1.10E-01	pCi/g
15-10092-14	TRG	CP5001S13-14	10/09/15 11:10	10/14/2015	11/11/2015	15-10092	Potassium-40	LANL ER-130 Modified	2.25E+01	2.47E+00	2.72E+00	1.69E+00	7.89E-01	pCi/g
15-10092-14	TRG	CP5001S13-14	10/09/15 11:10	10/14/2015	11/11/2015	15-10092	Lead-212	LANL ER-130 Modified	1.58E+00	1.82E-01	1.99E-01	2.73E-01	1.34E-01	pCi/g
15-10092-14	TRG	CP5001S13-14	10/09/15 11:10	10/14/2015	11/11/2015	15-10092	Lead-214	LANL ER-130 Modified	1.54E+00	1.71E-01	1.88E-01	2.58E-01	1.25E-01	pCi/g
15-10092-14	TRG	CP5001S13-14	10/09/15 11:10	10/14/2015	11/11/2015	15-10092	Radium-226	LANL ER-130 Modified	1.41E+00	1.72E-01	1.87E-01	2.29E-01	1.28E+00	pCi/g
15-10092-14	TRG	CP5001S13-14	10/09/15 11:10	10/14/2015	11/11/2015	15-10092	Radium-228	LANL ER-130 Modified	1.46E+00	2.44E-01	2.55E-01	4.24E-01	2.03E-01	pCi/g
15-10092-14	TRG	CP5001S13-14	10/09/15 11:10	10/14/2015	11/11/2015	15-10092	Thorium-234	LANL ER-130 Modified	1.57E+00	1.52E+00	1.52E+00	2.04E+00	1.00E+00	pCi/g
15-10092-14	TRG	CP5001S13-14	10/09/15 11:10	10/14/2015	11/11/2015	15-10092	Thallium-208	LANL ER-130 Modified	1.29E+00	1.81E-01	1.92E-01	9.70E-02	1.52E-01	pCi/g
15-10092-15	TRG	CP5001S16-17	10/09/15 11:20	10/14/2015	11/11/2015	15-10092	Actinium-228	LANL ER-130 Modified	1.33E+00	2.38E-01	2.48E-01	3.52E-01	1.66E-01	pCi/g
15-10092-15	TRG	CP5001S16-17	10/09/15 11:20	10/14/2015	11/11/2015	15-10092	Bismuth-214	LANL ER-130 Modified	1.27E+00	1.63E-01	1.75E-01	1.98E-01	9.46E-02	pCi/g
15-10092-15	TRG	CP5001S16-17	10/09/15 11:20	10/14/2015	11/11/2015	15-10092	Potassium-40	LANL ER-130 Modified	2.14E+01	2.67E+00	2.86E+00	6.70E-01	2.98E-01	pCi/g
15-10092-15	TRG	CP5001S16-17	10/09/15 11:20	10/14/2015	11/11/2015	15-10092	Lead-212	LANL ER-130 Modified	1.57E+00	1.88E-01	2.04E-01	2.44E-01	1.20E-01	pCi/g
15-10092-15	TRG	CP5001S16-17	10/09/15 11:20	10/14/2015	11/11/2015	15-10092	Lead-214	LANL ER-130 Modified	1.20E+00	1.61E-01	1.72E-01	2.44E-01	1.19E-01	pCi/g
15-10092-15	TRG	CP5001S16-17	10/09/15 11:20	10/14/2015	11/11/2015	15-10092	Radium-226	LANL ER-130 Modified	1.27E+00	1.63E-01	1.75E-01	1.98E-01	1.37E+00	pCi/g
15-10092-15	TRG	CP5001S16-17	10/09/15 11:20	10/14/2015	11/11/2015	15-10092	Radium-228	LANL ER-130 Modified	1.33E+00	2.38E-01	2.48E-01	3.52E-01	1.66E-01	pCi/g
15-10092-15	TRG	CP5001S16-17	10/09/15 11:20	10/14/2015	11/11/2015	15-10092	Thorium-234	LANL ER-130 Modified	1.65E+00	1.34E+00	1.34E+00	2.22E+00	1.09E+00	pCi/g
15-10092-15	TRG	CP5001S16-17	10/09/15 11:20	10/14/2015	11/11/2015	15-10092	Thallium-208	LANL ER-130 Modified	1.03E+00	1.84E-01	1.72E-01	1.92E-01	1.55E-01	pCi/g
15-10092-16	TRG	CP5001S18-19	10/09/15 11:30	10/14/2015	11/11/2015	15-10092	Actinium-228	LANL ER-130 Modified	1.69E+00	2.74E-01	2.88E-01	4.50E-01	2.11E-01	pCi/g
15-10092-16	TRG	CP5001S18-19	10/09/15 11:30	10/14/2015	11/11/2015	15-10092	Bismuth-214	LANL ER-130 Modified	1.16E+00	1.91E-01	2.00E-01	2.84E-01	1.26E-01	pCi/g
15-10092-16	TRG	CP5001S18-19	10/09/15 11:30	10/14/2015	11/11/2015	15-10092	Potassium-40	LANL ER-130 Modified	2.16E+01	2.67E+00	2.89E+00	1.34E+00	6.14E-01	pCi/g
15-10092-16	TRG	CP5001S18-19	10/09/15 11:30	10/14/2015	11/11/2015	15-10092	Lead-212	LANL ER-130 Modified	1.55E+00	1.81E-01	1.98E-01	2.52E-01	1.23E-01	pCi/g
15-10092-16	TRG	CP5001S18-19	10/09/15 11:30	10/14/2015	11/11/2015	15-10092	Lead-214	LANL ER-130 Modified	1.36E+00	2.07E-01	2.19E-01	3.05E-01	1.48E-01	pCi/g
15-10092-16	TRG	CP5001S18-19	10/09/15 11:30	10/14/2015	11/11/2015	15-10092	Radium-226	LANL ER-130 Modified	1.16E+00	1.91E-01	2.00E-01	2.84E-01	1.49E+00	pCi/g
15-10092-16	TRG	CP5001S18-19	10/09/15 11:30	10/14/2015	11/11/2015	15-10092	Radium-228	LANL ER-130 Modified	1.69E+00	2.74E-01	2.88E-01	4.50E-01	2.11E-01	pCi/g
15-10092-16	TRG	CP5001S18-19	10/09/15 11:30	10/14/2015	11/11/2015	15-10092	Thorium-234	LANL ER-130 Modified	1.75E+00	2.01E+00	2.01E+00	3.36E+00	1.66E+00	pCi/g
15-10092-16	TRG	CP5001S18-19	10/09/15 11:30	10/14/2015	11/11/2015	15-10092	Thallium-208	LANL ER-130 Modified	1.24E+00	2.16E-01	2.25E-01	4.81E-02	2.06E-01	pCi/g

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

Work Order Details:

15-10092
 PAP-KAN
 ENVIRONMENTAL
 SO

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
15-10092-01	LCS	KNOWN	10/15/15 00:00	10/14/2015	11/5/2015	15-10092	Thorium-228	EML Th-01 Modified	4.69E+00	1.69E-01	9.78E-01	1.00E-01	2.27E-02	pCig
15-10092-01	LCS	SPIKE	10/15/15 00:00	10/14/2015	11/5/2015	15-10092	Thorium-228	EML Th-01 Modified	5.22E+00	8.46E-01	4.42E-02	7.34E-02	1.88E-02	pCig
15-10092-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/5/2015	15-10092	Thorium-228	EML Th-01 Modified	3.03E-02	4.41E-02	3.54E-01	4.12E-02	2.35E-03	pCig
15-10092-03	DUP	CP5003S03-04	10/09/15 09:00	10/14/2015	11/5/2015	15-10092	Thorium-228	EML Th-01 Modified	1.39E+00	2.85E-01	3.05E-01	6.87E-02	1.51E-02	pCig
15-10092-04	DO	CP5003S03-04	10/09/15 09:00	10/14/2015	11/5/2015	15-10092	Thorium-228	EML Th-01 Modified	1.16E+00	2.97E-01	3.24E-01	5.80E-02	1.27E-02	pCig
15-10092-05	TRG	CP5003S06-07	10/09/15 09:10	10/14/2015	11/5/2015	15-10092	Thorium-228	EML Th-01 Modified	1.36E+00	3.79E-01	4.03E-01	9.86E-02	2.75E-02	pCig
15-10092-06	TRG	CP5003S09-10	10/09/15 09:30	10/14/2015	11/5/2015	15-10092	Thorium-228	EML Th-01 Modified	1.49E+00	4.39E-01	4.62E-01	8.62E-02	1.76E-02	pCig
15-10092-07	TRG	CP5003S12-13	10/09/15 09:40	10/14/2015	11/5/2015	15-10092	Thorium-228	EML Th-01 Modified	1.72E+00	4.39E-01	4.62E-01	8.62E-02	1.76E-02	pCig
15-10092-08	TRG	CP5003S14-15	10/09/15 09:50	10/14/2015	11/5/2015	15-10092	Thorium-228	EML Th-01 Modified	1.29E+00	3.30E-01	3.51E-01	6.70E-02	1.01E-02	pCig
15-10092-09	TRG	CP5003S16-17	10/09/15 10:00	10/14/2015	11/5/2015	15-10092	Thorium-228	EML Th-01 Modified	1.02E+00	2.29E-01	2.49E-01	4.91E-02	9.15E-03	pCig
15-10092-10	TRG	CP5001S03-04	10/09/15 10:30	10/14/2015	11/5/2015	15-10092	Thorium-228	EML Th-01 Modified	1.21E+00	2.74E-01	2.97E-01	5.53E-02	1.03E-02	pCig
15-10092-11	TRG	CP5001S06-07	10/09/15 10:40	10/14/2015	11/5/2015	15-10092	Thorium-228	EML Th-01 Modified	1.54E+00	3.59E-01	3.87E-01	6.00E-02	9.01E-03	pCig
15-10092-12	TRG	CP5001S08-10	10/09/15 10:50	10/14/2015	11/5/2015	15-10092	Thorium-228	EML Th-01 Modified	8.65E-01	2.25E-01	2.40E-01	4.41E-02	3.72E-03	pCig
15-10092-13	TRG	CP5001S11-12	10/09/15 11:00	10/14/2015	11/5/2015	15-10092	Thorium-228	EML Th-01 Modified	1.23E+00	3.10E-01	3.31E-01	9.89E-02	3.84E-02	pCig
15-10092-14	TRG	CP5001S13-14	10/09/15 11:10	10/14/2015	11/5/2015	15-10092	Thorium-228	EML Th-01 Modified	1.14E+00	2.63E-01	2.84E-01	5.51E-02	1.03E-02	pCig
15-10092-15	TRG	CP5001S16-17	10/09/15 11:20	10/14/2015	11/5/2015	15-10092	Thorium-228	EML Th-01 Modified	9.00E-01	2.69E-01	2.82E-01	7.47E-02	1.12E-02	pCig
15-10092-16	TRG	CP5001S18-19	10/09/15 11:30	10/14/2015	11/5/2015	15-10092	Thorium-228	EML Th-01 Modified	1.23E+00	3.48E-01	3.67E-01	8.82E-02	1.65E-02	pCig
15-10092-01	LCS	KNOWN	10/15/15 00:00	10/14/2015	11/5/2015	15-10092	Thorium-230	EML Th-01 Modified	5.36E+00	1.45E-01	1.28E+00	8.90E-02	8.60E-02	pCig
15-10092-01	LCS	SPIKE	10/15/15 00:00	10/14/2015	11/5/2015	15-10092	Thorium-230	EML Th-01 Modified	6.44E+00	1.00E+00	5.62E-02	6.11E-02	5.89E-02	pCig
15-10092-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/5/2015	15-10092	Thorium-230	EML Th-01 Modified	6.77E-02	5.55E-02	3.99E-01	5.05E-02	5.95E-02	pCig
15-10092-03	DUP	CP5003S03-04	10/09/15 09:00	10/14/2015	11/5/2015	15-10092	Thorium-230	EML Th-01 Modified	1.53E+00	3.51E-01	3.90E-01	3.93E-02	4.92E-02	pCig
15-10092-04	DO	CP5003S03-04	10/09/15 09:00	10/14/2015	11/5/2015	15-10092	Thorium-230	EML Th-01 Modified	1.50E+00	3.43E-01	3.90E-01	3.93E-02	4.92E-02	pCig
15-10092-05	TRG	CP5003S06-07	10/09/15 09:10	10/14/2015	11/5/2015	15-10092	Thorium-230	EML Th-01 Modified	1.27E+00	2.80E-01	3.21E-01	4.17E-02	4.41E-02	pCig
15-10092-06	TRG	CP5003S08-10	10/09/15 09:30	10/14/2015	11/5/2015	15-10092	Thorium-230	EML Th-01 Modified	1.51E+00	3.86E-01	4.29E-01	5.75E-02	6.50E-02	pCig
15-10092-07	TRG	CP5003S12-13	10/09/15 09:40	10/14/2015	11/5/2015	15-10092	Thorium-230	EML Th-01 Modified	1.57E+00	4.02E-01	4.46E-01	6.43E-02	6.83E-02	pCig
15-10092-08	TRG	CP5003S14-15	10/09/15 09:50	10/14/2015	11/5/2015	15-10092	Thorium-230	EML Th-01 Modified	1.76E+00	4.16E-01	4.70E-01	4.55E-02	5.69E-02	pCig
15-10092-09	TRG	CP5003S16-17	10/09/15 10:00	10/14/2015	11/5/2015	15-10092	Thorium-230	EML Th-01 Modified	1.23E+00	2.60E-01	3.01E-01	3.03E-02	3.79E-02	pCig
15-10092-10	TRG	CP5001S03-04	10/09/15 10:30	10/14/2015	11/5/2015	15-10092	Thorium-230	EML Th-01 Modified	1.54E+00	3.28E-01	3.79E-01	3.91E-02	4.40E-02	pCig
15-10092-11	TRG	CP5001S06-07	10/09/15 10:40	10/14/2015	11/5/2015	15-10092	Thorium-230	EML Th-01 Modified	1.56E+00	3.59E-01	4.07E-01	5.51E-02	5.95E-02	pCig
15-10092-12	TRG	CP5001S09-10	10/09/15 10:50	10/14/2015	11/5/2015	15-10092	Thorium-230	EML Th-01 Modified	1.16E+00	2.77E-01	3.12E-01	5.08E-02	5.14E-02	pCig
15-10092-13	TRG	CP5001S11-12	10/09/15 11:00	10/14/2015	11/5/2015	15-10092	Thorium-230	EML Th-01 Modified	1.42E+00	3.42E-01	3.84E-01	8.81E-02	8.00E-02	pCig
15-10092-14	TRG	CP5001S13-14	10/09/15 11:10	10/14/2015	11/5/2015	15-10092	Thorium-230	EML Th-01 Modified	1.28E+00	2.84E-01	3.25E-01	4.60E-02	4.66E-02	pCig
15-10092-15	TRG	CP5001S16-17	10/09/15 11:20	10/14/2015	11/5/2015	15-10092	Thorium-230	EML Th-01 Modified	1.65E+00	4.17E-01	4.64E-01	8.35E-02	7.80E-02	pCig
15-10092-16	TRG	CP5001S18-19	10/09/15 11:30	10/14/2015	11/5/2015	15-10092	Thorium-230	EML Th-01 Modified	1.55E+00	4.10E-01	4.53E-01	6.24E-02	7.03E-02	pCig

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

Eberline Analytical

Final Report of Analysis

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

15-10092
PAP-KAN
ENVIRONMENTAL
SO

Report To:

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
15-10092-01	LCS	KNOWN	10/15/15 00:00	10/14/2015	11/5/2015	15-10092	Thorium-232	EML Th-01 Modified	4.69E+00	1.69E-01	9.39E-01	7.40E-02	8.17E-03	pCi/g
15-10092-02	LCS	SPIKE	10/15/15 00:00	10/14/2015	11/5/2015	15-10092	Thorium-232	EML Th-01 Modified	5.07E+00	8.26E-01	3.42E-02	6.64E-02	1.38E-02	pCi/g
15-10092-03	MBL	BLANK	10/15/15 00:00	10/14/2015	11/5/2015	15-10092	Thorium-232	EML Th-01 Modified	1.59E-02	3.42E-02	2.98E-01	4.60E-02	3.91E-03	pCi/g
15-10092-04	DUP	CP5003S03-04	10/09/15 09:00	10/14/2015	11/5/2015	15-10092	Thorium-232	EML Th-01 Modified	1.13E+00	2.80E-01	3.17E-01	5.93E-02	1.02E-02	pCi/g
15-10092-05	DO	CP5003S03-04	10/09/15 09:00	10/14/2015	11/5/2015	15-10092	Thorium-232	EML Th-01 Modified	1.24E+00	2.98E-01	3.03E-01	3.31E-02	1.88E-03	pCi/g
15-10092-06	TRG	CP5003S06-07	10/09/15 09:10	10/14/2015	11/5/2015	15-10092	Thorium-232	EML Th-01 Modified	1.28E+00	2.81E-01	4.49E-01	7.20E-02	8.10E-04	pCi/g
15-10092-07	TRG	CP5003S12-13	10/09/15 09:40	10/14/2015	11/5/2015	15-10092	Thorium-232	EML Th-01 Modified	1.72E+00	4.31E-01	4.57E-01	7.33E-02	8.25E-04	pCi/g
15-10092-08	TRG	CP5003S14-15	10/09/15 09:50	10/14/2015	11/5/2015	15-10092	Thorium-232	EML Th-01 Modified	1.42E+00	3.51E-01	3.73E-01	6.53E-02	7.32E-04	pCi/g
15-10092-09	TRG	CP5003S16-17	10/09/15 10:00	10/14/2015	11/5/2015	15-10092	Thorium-232	EML Th-01 Modified	1.26E+00	2.66E-01	2.88E-01	3.80E-02	4.18E-03	pCi/g
15-10092-10	TRG	CP5001S03-04	10/09/15 10:30	10/14/2015	11/5/2015	15-10092	Thorium-232	EML Th-01 Modified	1.09E+00	2.53E-01	2.71E-01	4.89E-02	5.48E-04	pCi/g
15-10092-11	TRG	CP5001S06-07	10/09/15 10:40	10/14/2015	11/5/2015	15-10092	Thorium-232	EML Th-01 Modified	1.36E+00	3.25E-01	3.46E-01	5.84E-02	6.56E-04	pCi/g
15-10092-12	TRG	CP5001S09-10	10/09/15 10:50	10/14/2015	11/5/2015	15-10092	Thorium-232	EML Th-01 Modified	1.18E+00	2.80E-01	2.98E-01	4.71E-02	5.17E-03	pCi/g
15-10092-13	TRG	CP5001S11-12	10/09/15 11:00	10/14/2015	11/5/2015	15-10092	Thorium-232	EML Th-01 Modified	1.20E+00	3.02E-01	3.20E-01	8.97E-02	3.15E-02	pCi/g
15-10092-14	TRG	CP5001S13-14	10/09/15 11:10	10/14/2015	11/5/2015	15-10092	Thorium-232	EML Th-01 Modified	1.21E+00	2.72E-01	2.92E-01	3.89E-02	3.31E-03	pCi/g
15-10092-15	TRG	CP5001S16-17	10/09/15 11:20	10/14/2015	11/5/2015	15-10092	Thorium-232	EML Th-01 Modified	1.17E+00	3.23E-01	3.95E-01	1.06E-01	3.59E-02	pCi/g
15-10092-16	TRG	CP5001S18-19	10/09/15 11:30	10/14/2015	11/5/2015	15-10092	Thorium-232	EML Th-01 Modified	1.63E+00	4.27E-01	4.51E-01	7.35E-02	9.72E-03	pCi/g
15-10092-01	LCS	KNOWN	10/15/15 00:00	10/14/2015	11/3/2015	15-10092	Uranium-234	EML U-02 Modified	8.06E+00	2.90E-01	1.04E+00	7.92E-02	8.42E-03	pCi/g
15-10092-01	LCS	SPIKE	10/15/15 00:00	10/14/2015	11/3/2015	15-10092	Uranium-234	EML U-02 Modified	6.05E+00	9.44E-01	3.14E-02	8.31E-02	2.48E-02	pCi/g
15-10092-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/3/2015	15-10092	Uranium-234	EML U-02 Modified	-2.18E-03	3.14E-02	3.24E-01	7.26E-02	1.38E-02	pCi/g
15-10092-03	DUP	CP5003S03-04	10/09/15 09:00	10/14/2015	11/3/2015	15-10092	Uranium-234	EML U-02 Modified	1.44E+00	3.07E-01	2.59E-01	6.30E-02	1.18E-02	pCi/g
15-10092-04	DO	CP5003S03-04	10/09/15 09:00	10/14/2015	11/3/2015	15-10092	Uranium-234	EML U-02 Modified	1.14E+00	2.46E-01	2.58E-01	4.25E-02	3.47E-03	pCi/g
15-10092-05	TRG	CP5003S06-07	10/09/15 09:10	10/14/2015	11/3/2015	15-10092	Uranium-234	EML U-02 Modified	1.12E+00	2.45E-01	2.75E-01	7.72E-02	1.16E-02	pCi/g
15-10092-06	TRG	CP5003S09-10	10/09/15 09:30	10/14/2015	11/3/2015	15-10092	Uranium-234	EML U-02 Modified	1.00E+00	2.65E-01	2.91E-01	6.60E-02	1.25E-02	pCi/g
15-10092-07	TRG	CP5003S12-13	10/09/15 09:40	10/14/2015	11/3/2015	15-10092	Uranium-234	EML U-02 Modified	1.31E+00	2.75E-01	2.91E-01	6.60E-02	1.25E-02	pCi/g
15-10092-08	TRG	CP5003S14-15	10/09/15 09:50	10/14/2015	11/3/2015	15-10092	Uranium-234	EML U-02 Modified	1.17E+00	2.45E-01	2.59E-01	7.32E-02	2.07E-02	pCi/g
15-10092-09	TRG	CP5003S16-17	10/09/15 10:00	10/14/2015	11/3/2015	15-10092	Uranium-234	EML U-02 Modified	1.10E+00	2.27E-01	2.40E-01	5.55E-02	1.05E-02	pCi/g
15-10092-10	TRG	CP5001S03-04	10/09/15 10:30	10/14/2015	11/3/2015	15-10092	Uranium-234	EML U-02 Modified	1.06E+00	2.22E-01	2.34E-01	5.82E-02	1.20E-02	pCi/g
15-10092-11	TRG	CP5001S06-07	10/09/15 10:40	10/14/2015	11/3/2015	15-10092	Uranium-234	EML U-02 Modified	9.58E-01	2.06E-01	2.17E-01	6.26E-02	1.59E-02	pCi/g
15-10092-12	TRG	CP5001S09-10	10/09/15 10:50	10/14/2015	11/3/2015	15-10092	Uranium-234	EML U-02 Modified	9.99E-01	1.88E-01	2.01E-01	3.53E-02	4.57E-03	pCi/g
15-10092-13	TRG	CP5001S11-12	10/09/15 11:00	10/14/2015	11/3/2015	15-10092	Uranium-234	EML U-02 Modified	1.12E+00	2.50E-01	2.62E-01	6.63E-02	1.25E-02	pCi/g
15-10092-14	TRG	CP5001S13-14	10/09/15 11:10	10/14/2015	11/3/2015	15-10092	Uranium-234	EML U-02 Modified	8.84E-01	2.16E-01	2.25E-01	5.05E-02	5.37E-03	pCi/g
15-10092-15	TRG	CP5001S16-17	10/09/15 11:20	10/14/2015	11/3/2015	15-10092	Uranium-234	EML U-02 Modified	1.30E+00	2.76E-01	2.91E-01	8.36E-02	2.49E-02	pCi/g
15-10092-16	TRG	CP5001S18-19	10/09/15 11:30	10/14/2015	11/3/2015	15-10092	Uranium-234	EML U-02 Modified	1.13E+00	2.41E-01	2.54E-01	5.10E-02	6.58E-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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 601 SCARBORO ROAD OAK RIDGE, TN 37830 865/481-0683 FAX 865/483-4621

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Eberline Analytical

Final Report of Analysis

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

SDG: 15-10092
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
15-10092-01	LCS	SPIKE	10/15/15 00:00	10/14/2015	11/3/2015	15-10092	Uranium-235	EML U-02 Modified	4.49E-01	1.99E-01	2.02E-01	1.22E-01	1.11E-03	pCt/g
15-10092-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/3/2015	15-10092	Uranium-235	EML U-02 Modified	-1.31E-02	2.73E-02	2.73E-02	8.08E-02	1.13E-02	pCt/g
15-10092-03	DUP	CP5003S03-04	10/09/15 09:00	10/14/2015	11/3/2015	15-10092	Uranium-235	EML U-02 Modified	5.69E-02	6.27E-02	6.28E-02	8.53E-02	7.72E-04	pCt/g
15-10092-04	DO	CP5003S03-04	10/09/15 09:00	10/14/2015	11/3/2015	15-10092	Uranium-235	EML U-02 Modified	7.40E-02	6.45E-02	6.47E-02	7.39E-02	6.69E-04	pCt/g
15-10092-05	TRG	CP5003S06-07	10/09/15 09:10	10/14/2015	11/3/2015	15-10092	Uranium-235	EML U-02 Modified	6.29E-02	6.08E-02	6.10E-02	7.54E-02	6.86E-04	pCt/g
15-10092-06	TRG	CP5003S09-10	10/09/15 09:30	10/14/2015	11/3/2015	15-10092	Uranium-235	EML U-02 Modified	4.49E-02	5.82E-02	5.83E-02	8.08E-02	5.57E-03	pCt/g
15-10092-07	TRG	CP5003S12-13	10/09/15 09:40	10/14/2015	11/3/2015	15-10092	Uranium-235	EML U-02 Modified	7.95E-02	6.83E-02	6.85E-02	7.74E-02	9.60E-03	pCt/g
15-10092-08	TRG	CP5003S14-15	10/09/15 09:50	10/14/2015	11/3/2015	15-10092	Uranium-235	EML U-02 Modified	3.06E-02	4.69E-02	4.69E-02	7.95E-02	1.34E-02	pCt/g
15-10092-09	TRG	CP5003S16-17	10/09/15 10:00	10/14/2015	11/3/2015	15-10092	Uranium-235	EML U-02 Modified	1.01E-01	6.86E-02	6.90E-02	6.13E-02	6.58E-03	pCt/g
15-10092-10	TRG	CP5001S03-04	10/09/15 10:30	10/14/2015	11/3/2015	15-10092	Uranium-235	EML U-02 Modified	7.07E-02	5.73E-02	5.76E-02	5.72E-02	5.08E-03	pCt/g
15-10092-11	TRG	CP5001S06-07	10/09/15 10:40	10/14/2015	11/3/2015	15-10092	Uranium-235	EML U-02 Modified	6.83E-02	5.54E-02	5.56E-02	5.52E-02	4.91E-03	pCt/g
15-10092-12	TRG	CP5001S09-10	10/09/15 10:50	10/14/2015	11/3/2015	15-10092	Uranium-235	EML U-02 Modified	1.07E-01	5.96E-02	6.01E-02	3.46E-02	1.59E-03	pCt/g
15-10092-13	TRG	CP5001S11-12	10/09/15 11:00	10/14/2015	11/3/2015	15-10092	Uranium-235	EML U-02 Modified	1.15E-01	7.76E-02	7.81E-02	5.42E-02	2.49E-03	pCt/g
15-10092-14	TRG	CP5001S13-14	10/09/15 11:10	10/14/2015	11/3/2015	15-10092	Uranium-235	EML U-02 Modified	6.52E-02	6.30E-02	6.32E-02	7.82E-02	7.09E-04	pCt/g
15-10092-15	TRG	CP5001S16-17	10/09/15 11:20	10/14/2015	11/3/2015	15-10092	Uranium-235	EML U-02 Modified	1.26E-02	3.73E-02	3.73E-02	8.12E-02	1.14E-02	pCt/g
15-10092-16	TRG	CP5001S18-19	10/09/15 11:30	10/14/2015	11/3/2015	15-10092	Uranium-235	EML U-02 Modified	6.58E-02	5.84E-02	5.86E-02	6.29E-02	5.59E-03	pCt/g
15-10092-01	LCS	KNOWN	10/15/15 00:00	10/14/2015	11/3/2015	15-10092	Uranium-238	EML U-02 Modified	7.85E+00	2.83E-01				pCt/g
15-10092-01	LCS	SPIKE	10/15/15 00:00	10/14/2015	11/3/2015	15-10092	Uranium-238	EML U-02 Modified	6.84E+00	1.04E+00	1.15E+00	6.88E-02	4.11E-03	pCt/g
15-10092-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/3/2015	15-10092	Uranium-238	EML U-02 Modified	3.61E-02	4.12E-02	4.13E-02	5.43E-02	6.13E-03	pCt/g
15-10092-03	DUP	CP5003S03-04	10/09/15 09:00	10/14/2015	11/3/2015	15-10092	Uranium-238	EML U-02 Modified	1.37E+00	2.97E-01	3.13E-01	5.49E-02	4.81E-03	pCt/g
15-10092-04	DO	CP5003S03-04	10/09/15 09:00	10/14/2015	11/3/2015	15-10092	Uranium-238	EML U-02 Modified	9.82E-01	2.34E-01	2.34E-01	4.76E-02	4.17E-03	pCt/g
15-10092-05	TRG	CP5003S06-07	10/09/15 09:10	10/14/2015	11/3/2015	15-10092	Uranium-238	EML U-02 Modified	1.02E+00	2.31E-01	2.42E-01	4.85E-02	4.27E-03	pCt/g
15-10092-06	TRG	CP5003S09-10	10/09/15 09:30	10/14/2015	11/3/2015	15-10092	Uranium-238	EML U-02 Modified	9.61E-01	2.58E-01	2.67E-01	7.15E-02	8.06E-03	pCt/g
15-10092-07	TRG	CP5003S12-13	10/09/15 09:40	10/14/2015	11/3/2015	15-10092	Uranium-238	EML U-02 Modified	1.09E+00	2.45E-01	2.57E-01	6.87E-02	1.33E-02	pCt/g
15-10092-08	TRG	CP5003S14-15	10/09/15 09:50	10/14/2015	11/3/2015	15-10092	Uranium-238	EML U-02 Modified	1.17E+00	2.43E-01	2.57E-01	5.90E-02	1.03E-02	pCt/g
15-10092-09	TRG	CP5003S16-17	10/09/15 10:00	10/14/2015	11/3/2015	15-10092	Uranium-238	EML U-02 Modified	1.13E+00	2.31E-01	2.45E-01	4.95E-02	6.69E-03	pCt/g
15-10092-10	TRG	CP5001S03-04	10/09/15 10:30	10/14/2015	11/3/2015	15-10092	Uranium-238	EML U-02 Modified	8.57E-01	1.94E-01	2.03E-01	4.61E-02	5.18E-03	pCt/g
15-10092-11	TRG	CP5001S06-07	10/09/15 10:40	10/14/2015	11/3/2015	15-10092	Uranium-238	EML U-02 Modified	9.34E-01	2.02E-01	2.12E-01	5.35E-02	9.36E-03	pCt/g
15-10092-12	TRG	CP5001S09-10	10/09/15 10:50	10/14/2015	11/3/2015	15-10092	Uranium-238	EML U-02 Modified	1.06E+00	1.95E-01	2.09E-01	2.80E-02	1.75E-03	pCt/g
15-10092-13	TRG	CP5001S11-12	10/09/15 11:00	10/14/2015	11/3/2015	15-10092	Uranium-238	EML U-02 Modified	1.01E+00	2.34E-01	2.45E-01	5.91E-02	7.67E-03	pCt/g
15-10092-14	TRG	CP5001S13-14	10/09/15 11:10	10/14/2015	11/3/2015	15-10092	Uranium-238	EML U-02 Modified	1.04E+00	2.38E-01	2.49E-01	4.39E-02	2.62E-03	pCt/g
15-10092-15	TRG	CP5001S16-17	10/09/15 11:20	10/14/2015	11/3/2015	15-10092	Uranium-238	EML U-02 Modified	1.34E+00	2.78E-01	2.94E-01	5.46E-02	6.16E-03	pCt/g
15-10092-16	TRG	CP5001S18-19	10/09/15 11:30	10/14/2015	11/3/2015	15-10092	Uranium-238	EML U-02 Modified	1.45E+00	2.83E-01	3.02E-01	5.46E-02	7.35E-03	pCt/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

20 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	Half Life, Years	Half Life, Days
<u>^{234, 235, 238}U</u>	<u>4.468E+09</u>	<u>1.632E+12</u>

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-238 = 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

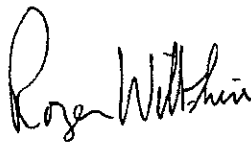
Chemical Composition Calculated weight of U-232, 4.42E-08 grams, as 2M HNO₃ solution in a flame sealed glass vial.
This Tracer solution has been produced 'carrier free'.

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 Wilshire

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
²³² U	7.200E+01	2.630E+04

Radionuclide	²³² U	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

MP-009 Date 10/27/2015 0:00
Solution Reference # AEA/Amersham 92/232/87 Solution # U-10a

Principal Radionuclide ²³²U Half Life, Years 7.200E+01 Half Life, Days 2.630E+04

Radionuclide of Interest ²³²U Reference Date 3/1/2000 0:00
Parent Solution Conc. 2.167E+03 dpm/ml

Chemical Composition of Standard Solution
²³²U(NO₃)₆ in 2M HNO₃

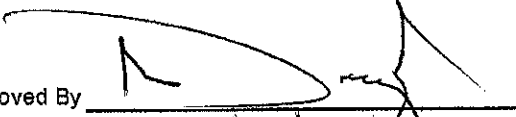

Dilution Instructions: Dilution Solvent Used 2M HNO₃

SECONDARY VOLUMETRIC DILUTION

Vol. Parent Solution: 10.0000 ml
Total Activity: 2.1670E+04 dpm Final Activity Concentration: 2.1670E+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: 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:	±3.0%
b. Random uncertainty in assay:	±0.0%
c. Random uncertainty in weighing(s):	±2.0%
d. Total uncertainty at the 99% confidence level:	±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).



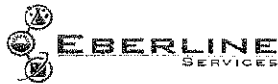
ISOTOPE PRODUCTS LABORATORIES
1800 North Keystone Street
Burbank, California 91504
(818) 843 - 7000

Arma 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 & ²²⁸Th Reference Date 11/1/1993 0:00
Certified Activity 9.330E-02 μCi
Certified Concentration $\mu\text{Ci per gram}$

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 μCi

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 μCi 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	Half Life, Years	Half Life, Days
<u>226 & 232 Th</u>	<u>1.405E+10</u>	<u>5.132E+12</u>

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 

Date: 9/29/2015 0:00

QC Approval 

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 μCi .

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 $\mu\text{Ci/gram}$.

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)



ISOTOPE PRODUCTS LABORATORIES
1800 No. Keystone Street.,
Burbank, California 91504
(818) 843 - 7000

[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

SOLUTION REFERENCE # IPL 388-116 CURRENT DATE 4/15/2015 0:00
SOLUTION # Th-1

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

Radionuclide ²³⁰Thorium Reference Date 11/1/1991 0:00
Certified Activity 1.036E+00 μCi
Certified Concentration $\mu\text{Ci per gram}$

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 μCi

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 μCi 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 [Signature]

Date: 4/15/2015 0:00

QC Approval [Signature]

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: 4/5/15

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.


Quality Control

9-Jan-02
Date Signed

IPL Ref. No.: 867-54

ISO 9001 CERTIFIED



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

Half Life, Years

Half Life, Days

²²⁹Th

7.340E+03

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
IPL 867-54 Solution # Th-18a

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

Radionuclide of Interest ²²⁹Th Reference Date 1/15/2002 0:00
Parent Solution Conc. 2.25E+03 dpm/ml

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

Dilution Instructions: Dilution Solvent Used 0.1M HNO₃

SECONDARY VOLUMETRIC DILUTION

Vol. Parent Solution: 10.0000 ml
Total Activity: 2.2490E+04 dpm Final Activity Concentration: 2.2490E+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: August 24, 2016

Verified & Approved By [Signature]

Date: 9/29/2015 0:00

QC Approval [Signature]

Date: 9/30/15



Eckert & Ziegler

Analytics

1380 Seaboard Industrial Blvd.
 Atlanta, Georgia 30318
 Tel 404-352-8677
 Fax 404-352-2837
 www.analyticsinc.com

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*
					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
Sn-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)

ANA Form 005 Rev. —



SECTION VI
QUALITY CONTROL SAMPLE RESULTS SUMMARY

W/O	Analysis	Run	Activity Units	Aliquot Units	Client Name
15-10092	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	75.14%	17.16%	100.00%	3.60%	8.06E+00	2.90E-01	6.05E+00	1.04E+00	U-8a	3.52E+01	3.60E+00	5.08E-01
U-238	87.08%	16.79%	100.00%	3.60%	7.85E+00	2.83E-01	6.84E+00	1.15E+00	U-8a	3.44E+01	3.60E+00	5.08E-01

Matrix Spike

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

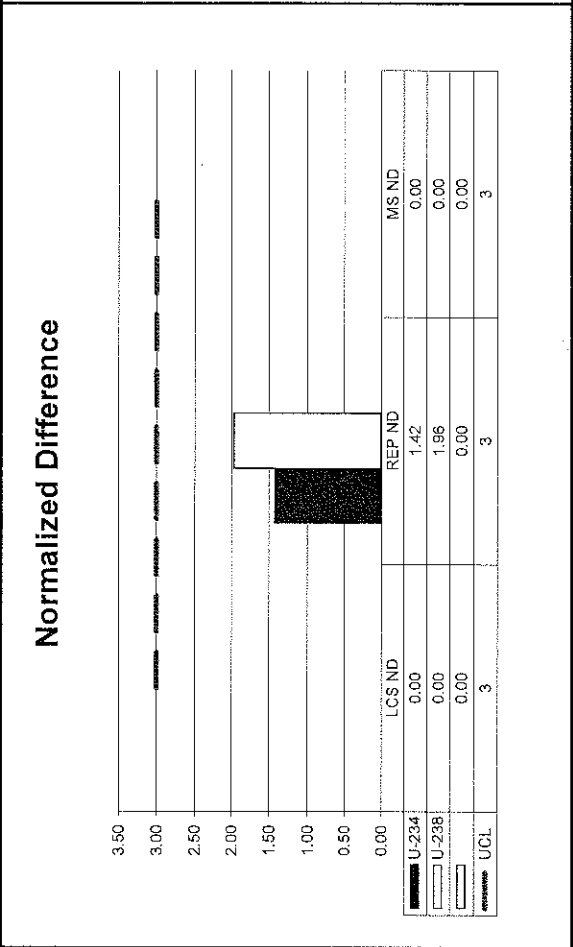
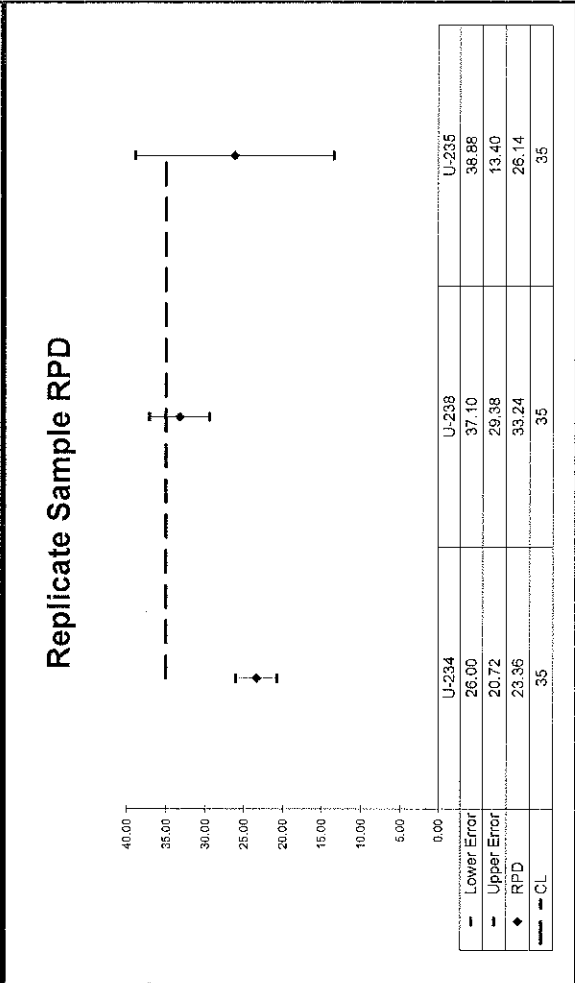
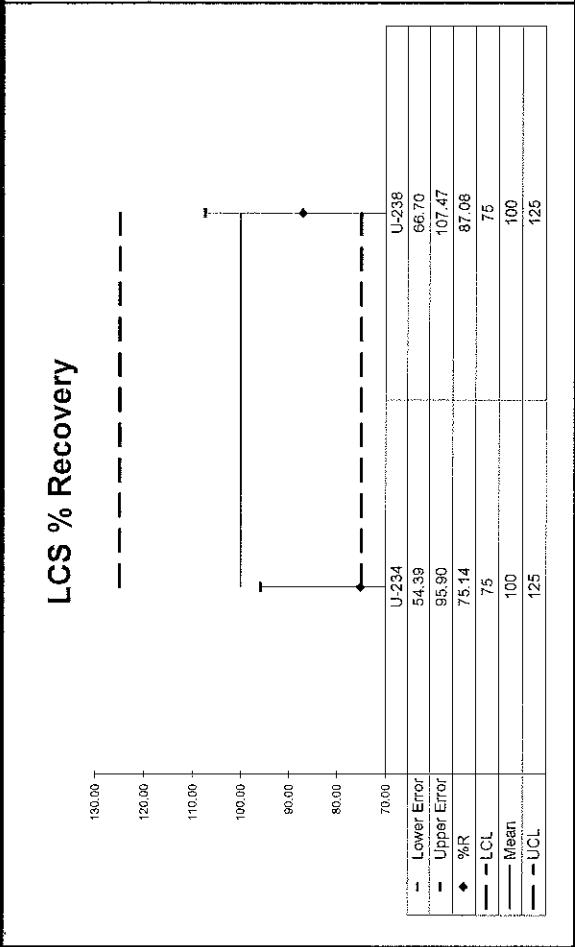
Replicate Sample

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	1.42	23.36	1.14E+00	2.59E-01	1.44E+00	3.24E-01	0.75	OK			OK	OK
U-238	1.96	33.24	9.82E-01	2.34E-01	1.37E+00	3.13E-01	0.87	OK			INV	OK
U-235	0.37	26.14	7.40E-02	6.47E-02	5.69E-02	6.28E-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	1.42	23.36	1.14E+00	2.59E-01	1.44E+00	3.24E-01	0.75	OK			OK	OK
U-238	1.96	33.24	9.82E-01	2.34E-01	1.37E+00	3.13E-01	0.87	OK			INV	OK
U-235	0.37	26.14	7.40E-02	6.47E-02	5.69E-02	6.28E-02		OK			NA	OK

WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
15-10092	UUISO	1	pCi	g	Auxier & Associates, Inc.



No Matrix Spike

WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
15-10092	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	111.14%	18.75%	100.00%	3.60%	4.69E+00	1.69E-01	5.22E+00	9.78E-01	Th-8b	1.04E+02	3.60E+00	1.01E-01
TH-230	120.33%	19.89%	100.00%	2.70%	5.36E+00	1.45E-01	6.44E+00	1.28E+00	Th-1b	2.35E+01	2.70E+00	5.06E-01
TH-232	108.07%	18.52%	100.00%	3.60%	4.69E+00	1.69E-01	5.07E+00	9.39E-01	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

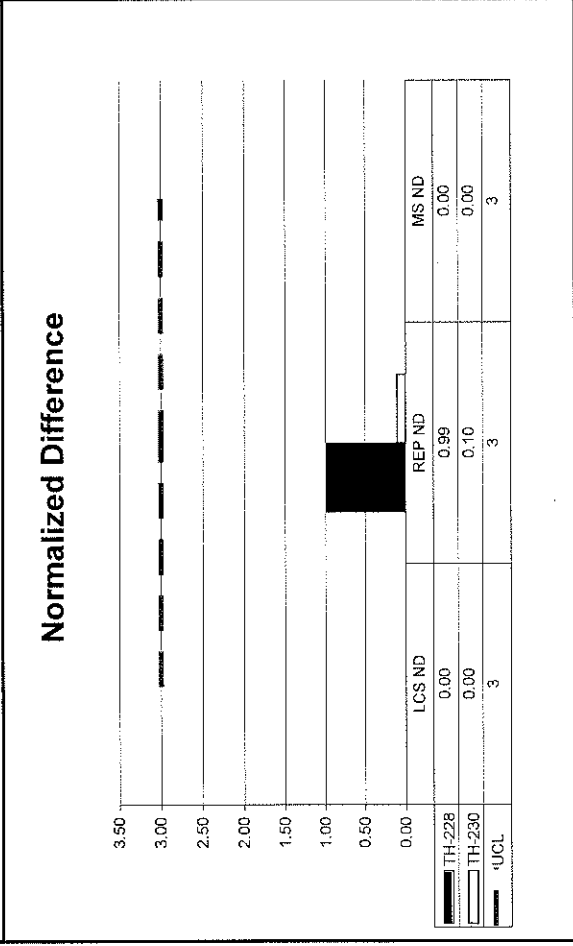
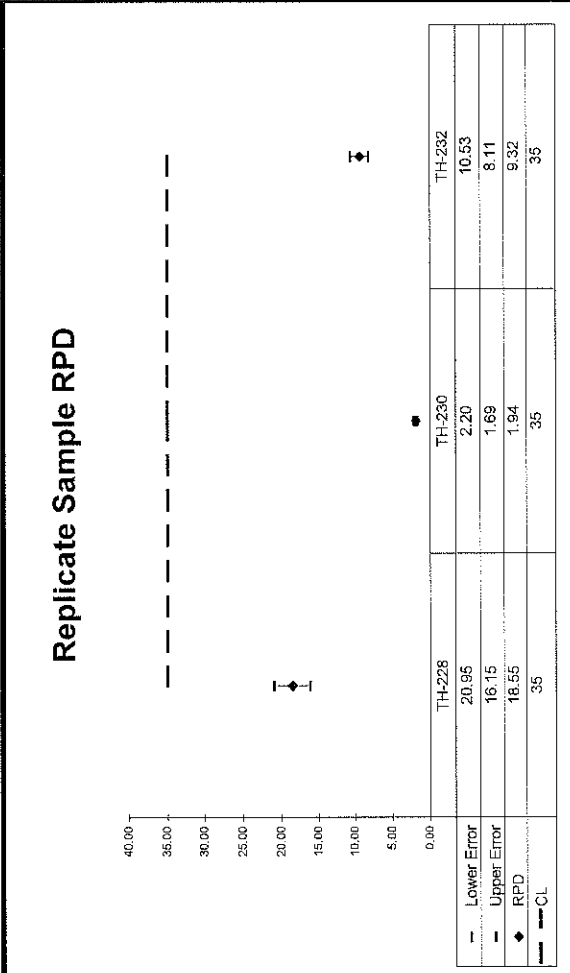
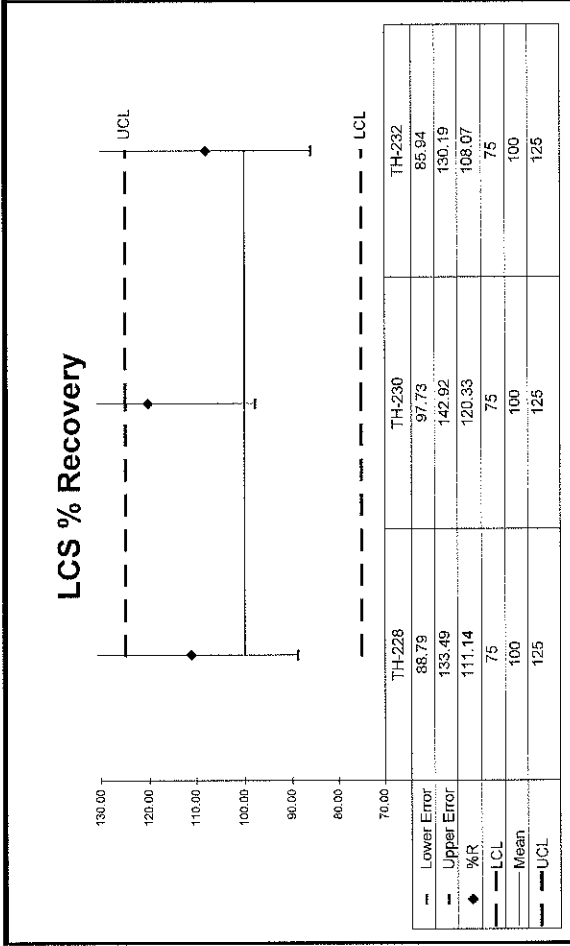
Analyte	Normalized Difference	RPD	Original Result	Original CSU	Replicate Result	Replicate CSU	LCS Relative Bias	LCS % R	MS % R	MS ND	Rep RPD	Rep ND
TH-228	0.99	18.55	1.16E+00	3.05E-01	1.39E+00	3.54E-01	1.11	OK			OK	OK
TH-230	0.10	1.94	1.50E+00	3.90E-01	1.53E+00	3.99E-01	1.20	OK			OK	OK
TH-232	0.50	9.32	1.24E+00	3.17E-01	1.13E+00	2.98E-01	1.08	OK			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
TH-228	0.99	18.55	1.16E+00	3.05E-01	1.39E+00	3.54E-01	1.11	OK			OK	OK
TH-230	0.10	1.94	1.50E+00	3.90E-01	1.53E+00	3.99E-01	1.20	OK			OK	OK
TH-232	0.50	9.32	1.24E+00	3.17E-01	1.13E+00	2.98E-01	1.08	OK			OK	OK



WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
15-10092	ThISO	1	pCi	g	Auxier & Associates, Inc.



No Matrix Spike



WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
15-10092	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	96.81%	8.62%	100.00%	4.00%	1.37E+02	5.48E+00	1.33E+02	1.14E+01	GAS-1302	1.37E+02	5.48E+00	7.38E+02
CS-137	96.85%	10.91%	100.00%	4.00%	8.69E+01	3.48E+00	8.42E+01	9.19E+00	GAS-1302	8.69E+01	3.48E+00	7.38E+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)

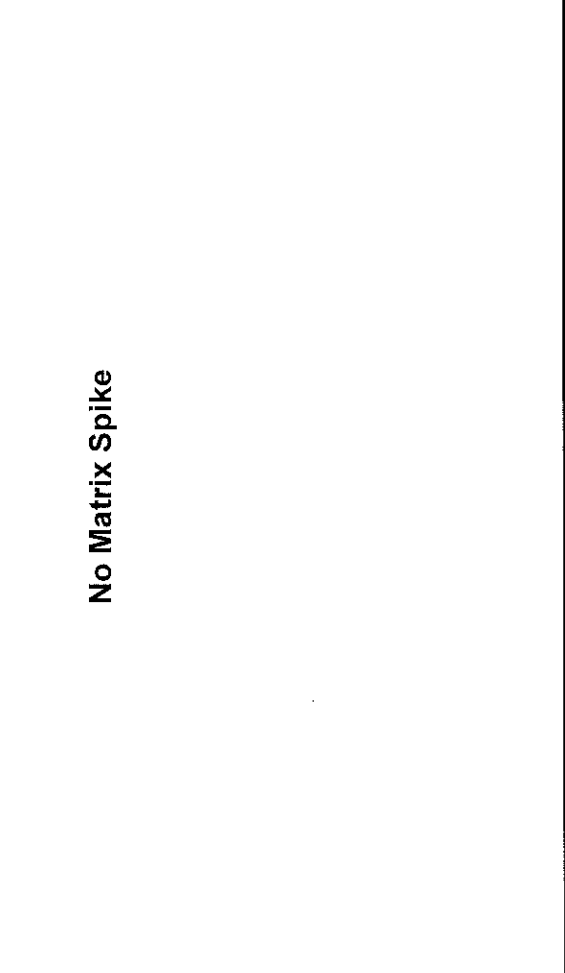
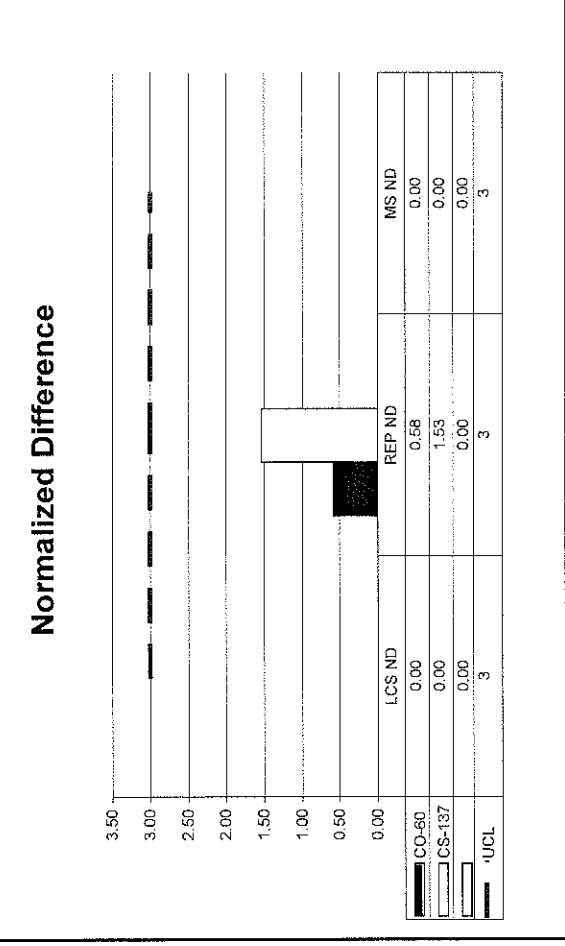
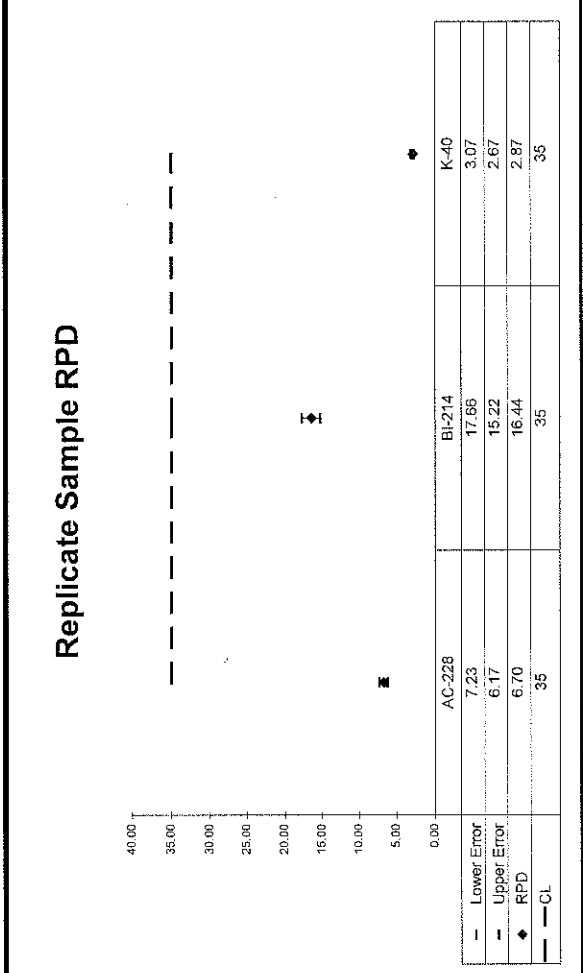
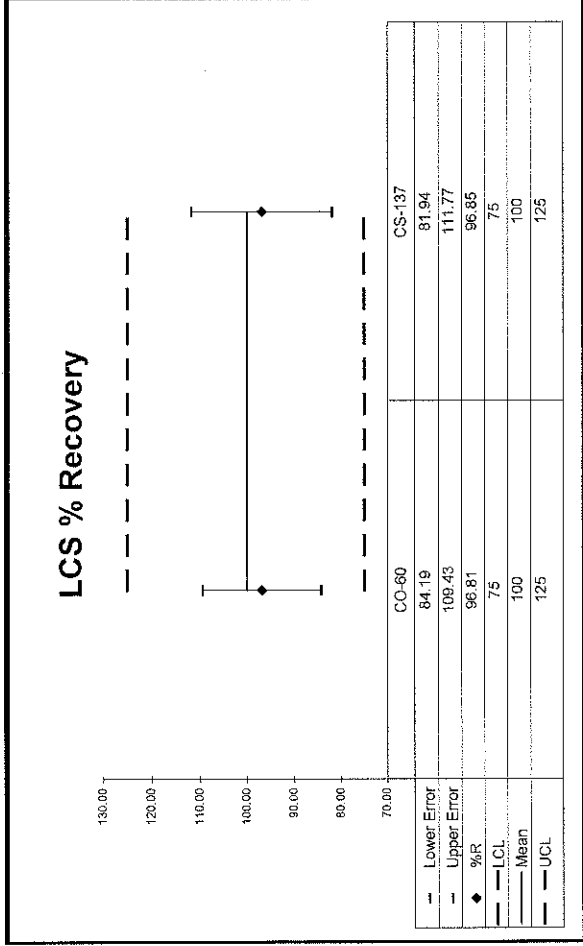
Replicate Sample

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	0.58	6.70	1.62E+00	2.46E-01	1.51E+00	2.52E-01	0.97	OK	<CS-137	AC-228>	OK	
BI-214	1.53	16.44	1.10E+00	1.76E-01	1.30E+00	1.81E-01	0.97	OK	<CO-60	BI-214>	OK	OK
K-40	0.29	2.87	1.95E+01	2.64E+00	1.89E+01	2.62E+00				K-40>	OK	OK

QC Summary



WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
15-10092	Gamma	1	pCi	g	Auxier & Associates, Inc.



SECTION VII
LABORATORY TECHNICIAN'S NOTES
& RUN LOGS

ISO U NOTES

0048A

 EBERLINE SERVICES Work Order Analysis Notes	Oak Ridge Laboratory	Internal Work Order	15-10092
	601 Scarboro Rd. Oak Ridge, TN 37830 Voice: 865.481.0683 www.eberlineservices.com	Analysis Code	UISO
		Run Number	1


#	Date	Dept	User	Notes
1	10/21/15 13:14	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.

10-21-15 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	15-10092
		Analysis Code	UUISO
		Run Number	1

#	Date	Dept	User	Notes
1	10/21/15 13:14	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	11/02/15 14:30	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.

[Handwritten Signature]
 11/2/15

 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	15-10092
		Analysis Code	UUISO
		Run Number	1

#	Date	Dept	User	Notes
1	10/21/15 13:14	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	11/02/15 14:30	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	11/03/15 04:55	CHEM	TSMITH	Followed steps 12.1.7 to 12.4.5 in AP-005 . (Precipitated and filtered samples for Uranium)

*11/3/15
ms*

0050A



Reagents Used in an Analysis

Internal Work Order

15-10092

Analysis Code

Run

UUISO

1

Reagent ID	Reagent Name	Reagent Concentration	Analyst ID	Date Recorded
016569P	Hydrofluoric Acid	Reagent Grade	JPACHELLA	10/21/2015
016519P	Nitric Acid	Reagent Grade	JPACHELLA	10/21/2015
016158P	Perchloric Acid	Reagent Grade	JPACHELLA	10/21/2015
016679P	Sulfuric Acid	Reagent Grade	JPACHELLA	10/21/2015
016862P	Anion Exchange Resin	Reagent Grade	JDEMELAS	11/2/2015
016965S	HCl - NH4I	8N - 0.1M	JDEMELAS	11/2/2015
016874D03	Hydrochloric Acid	0.5N	JDEMELAS	11/2/2015
016904S	Hydrochloric Acid	6.5N	JDEMELAS	11/2/2015
016959S	Hydrochloric Acid	8N	JDEMELAS	11/2/2015
016796P	Hydrochloric Acid	Reagent Grade	JDEMELAS	11/2/2015
016957S	HCl - HF	6.5N - 0.04N	JDEMELAS	11/2/2015
016955S	Carbon substrate	Solution	TSMITH	11/3/2015
016569P	Hydrofluoric Acid	Reagent Grade	TSMITH	11/3/2015
016583S	Neodymium Carrier	1 mg/ml	TSMITH	11/3/2015
016514P	Reagent Alcohol	Reagent Grade	TSMITH	11/3/2015
016606P	Titanous Chloride	Reagent Grade	TSMITH	11/3/2015

Alpha # 3

Date	Project	Client	Sample	Time	Analysis	Test
10/30/15	1510091A(6-19)	Auxier	1430	2hr50-	Ull	KB
10/30/15	System Bkgd	Lab	1725	16:40 hr	-	KB
11/2	Philly Park	LAB	0510	1	nt	-
11/2	1510086A(1-18)	Auxier	0828	2hr	Ull	-
11/2	1510086A(1-10)	Auxier	0829	2hr	7hr	-
11/2/15	1510086A(1-5)	Auxier	1124	2hr50-	ISO-Th	KB
11/2/15	1510145A(1-4)	Washen	1125	2hr50-	ISO-PV	KB
11/2/15	1510091A(1-19)	Auxier	1128	2hr50-	Ull	KB
11/2/15	1510155A(1-4)	ND	1625	2hr50-	Pale	KB
11/7	Philly Park	LAB	0510	1	nt	-
11/7	1510087A(8-17)	Auxier	0821	2hr	7hr	-
11/7	1510082A(1-14)	Auxier	0824	2hr	7hr	-
11/7	1510122A(1-4)	UCOR	0825	2hr	7hr	-
11/3/15	1510071A(3-5)	Genitech	1172	2hr50-	ISO-PL	KB
11/3/15	1510090A(1-14)	Auxier	1177	2hr50-	Ull	KB
11/3/15	1510092A(1-5)	Auxier	1175	2hr50-	Ull	KB
11/3/15	1510078A(1-6)	Env. Dimensions	1178	5hr35-	ISO-Th	KB


Alpha # 1

Date	Project #	Client	Transaction	CT Time	Indep	Fee
10/17	56004(U-15)	WAB	1032	2hr	MT	C
10/17	1510122A(U-4)	UCOR	0876	2hr	MT	C
10/17	1510122A(U-7)	UCOR	0876	2hr	MT	C
10/30/15	1510091A(U-9)	AT	1057	2hr	ISO-Th	C
10/30/15	1510104A(U-6)	ERL	1057	2hr	Rate	C
10/30/15	1510100A(U-7)	USACE Army	1413	2hr	Rate	ICB
10/30/15	System Bkgd	Lab	1725	16:40 hr		ICB
11/2	Daily Pulse	WAB	0510	1hr	MT	
11/2	1510105A(U-5)	Test Africa	0571	2hr	Rate	C
11/2	1510086A(U-17)	Aurion	0871	2hr	Rate	
11/2/15	1510161A(U-5)	USA	1229	2hr	ISO-Th	ICB
11/3	Daily Pulse	WAB	0519	1hr	MT	
11/3	1510087A(U-7)	Aurion	0821	2hr	Rate	
11/3/15	1510133A(U-4,6)	UCOR	1126	2hr	ISO-PH	ICB
11/3/15	1510071A(U-2)	Unitech	1128	2hr	ISO-PH	ICB
11/3/15	1510092A(U-12)	Aurion	1430	2hr	UU	ICB

Alpha # 3

Date	Project	Client	Lead Time	Time	Analysis	Fee
10/30/15	1510091A(6-19)	Auxier	1430	2hrs	UW	KB
10/30/15	System Bkgd	Lab	1725	16:40	-	KB
11/2	Phyphse	UW	0510	1	UW	-
11/2	1510086A(1-18)	Auxier	0828	2L	UW	-
11/2	1510086A(1-10)	Auxier	0829	2L	UW	-
11/2/15	1510086A(1-10)	Auxier	1124	2hrs	ISO-TN	KB
11/2/15	1510145A(1-4)	Washen	1125	2hrs	ISO-P4	KB
11/2/15	1510091A(4-19)	Auxier	1128	2hrs	UW	KB
11/2/15	1510155A(1-4)	ND	1625	2hrs	Rate	KB
11/7	Phyphse	UW	0512	1	UW	-
11/7	1510087A(8-14)	Auxier	0821	2L	UW	-
11/7	1510080A(1-10)	Auxier	0824	2L	UW	-
11/7	1510122A(1-4)	UCON	0825	2L	UW	-
11/3/15	1510071A(3-5)	Unitech	1172	2hrs	ISO-PU	KB
11/3/15	1510090A(1-14)	Auxier	1173	2hrs	UW	KB
11/3/15	1510092A(1-5)	Auxier	1175	2hrs	UW	KB
11/3/15	1510078A(1-6)	Env. Dimensions	1178	5hr 35	ISO-TN	KB
11/3/15	1510092A(13-16)	Auxier	1520	2hrs	UW	KB
11/3/15	1510092A(3)	Auxier	1521	2hrs	UW	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	15-10092
		Analysis Code	ThISO
		Run Number	1


#	Date	Dept	User	Notes
1	10/21/15 13:13	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.

10-21-15 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	15-10092
		Analysis Code	ThISO
		Run Number	1

#	Date	Dept	User	Notes
1	10/21/15 13:13	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	11/04/15 16:45	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.

JPACHELLA
11/4/15

 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	15-10092
		Analysis Code	ThISO
		Run Number	1

#	Date	Dept	User	Notes
1	10/21/15 13:13	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	11/04/15 16:45	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	11/05/15 04:42	CHEM	TSMITH	Followed steps 12.2.5 to 12.4.5 in AP-005 . (Precipitated and filtered samples for Thorium)

11-515




EBERLINE
SERVICES

Reagents Used in an Analysis

Internal Work Order

15-10092

Analysis Code

Run

THISO

1

Reagent ID	Reagent Name	Reagent Concentration	Analyst ID	Date Recorded
016569P	Hydrofluoric Acid	Reagent Grade	JPACHELLA	10/21/2015
016519P	Nitric Acid	Reagent Grade	JPACHELLA	10/21/2015
016679P	Sulfuric Acid	Reagent Grade	JPACHELLA	10/21/2015
016158P	Perchloric Acid	Reagent Grade	JPACHELLA	10/21/2015
016959S	Hydrochloric Acid	8N	JDEMELAS	11/4/2015
016796P	Hydrochloric Acid	Reagent Grade	JDEMELAS	11/4/2015
016961S	Nitric Acid	8N	JDEMELAS	11/4/2015
016516P	Nitric Acid	Reagent Grade	JDEMELAS	11/4/2015
016963P	Anion Exchange Resin	Reagent Grade	JDEMELAS	11/4/2015
016869S	Cerrium Carrier	0.1mg/ml	TSMITH	11/5/2015
016569P	Hydrofluoric Acid	Reagent Grade	TSMITH	11/5/2015
016514P	Reagent Alcohol	Reagent Grade	TSMITH	11/5/2015
016968S	Carbon substrate	Solution	TSMITH	11/5/2015

Alpha # 3

Date	Sample #	Client	Transaction	CTO Time	Developer	Who
1115	1870101A(1-6)	United	0829	2:30	P. S. Co.	-
1115	1570092A(1-6)	Annie	0829	2:30	Th. Co.	-

Alpha # 3

Rate	Sample #	Client	Function	CT Time	Analysis	Tool
1115	1510101A(1-6)	United	0829	2hr50	Put Iso	—
1115	1510092A(1-6)	Auxier	0829	2hr	Th Iso	—
1115/15	1510092A(7-14)	Auxier	1128	2hr50	ISO-TH	KB

GAMMA NOTES

DATE	SAMPLE #	Client	Load Time	CT Time	Analysis	Tech
11/9/15	1510088-14	Auxier	1635	1hr	Y	ICB
11/9/15	1511030-01	TDX	1736	30mins	Y	ICB
11/9/15	1511030-02	TDX	1907	1hr	Y	ICB
11/10/15	DAIRY B160	LAB	0603	15min	Y	AG
11/10/15	GAP-14	LAB	0621	15min	Y	AG
11/10/15	1510090-03	Auxier	0946	1hr	Y	ICB
11/10/15	1510090-04	Auxier	1019	1hr	Y	ICB
11/10/15	1510090-09	Auxier	1151	1hr	Y	ICB
11/10/15	1510090-13	Auxier	1258	1hr	Y	ICB
11/10/15	1511023-05	MPA	1353	15mins	Ba	ICB
11/10/15	1511023-09	MPA	1408	15mins	Ba	ICB
11/10/15	1510143-03	Kemvions	1424	15mins	Ba	ICB
11/10/15	1511067-01	UCR	1439	15min	Ba	ICB
11/10/15	1510091-05	Auxier	1456	1hr	Y	ICB
11/10/15	1510091-08	Auxier	1557	1hr	Y	ICB
11/10/15	1510091-11	Auxier	1658	1hr	Y	ICB
11/10/15	1510091-15	Auxier	1759	1hr	Y	ICB
11/11	EAX-14	LAB	0724	15	Y	ICB
11/11	DAIRY B	LAB	0852	15	Y	ICB
11/11	1510091-19	Auxier	0617	1hr	Y	ICB
11/11	1510092-09	Auxier	0721	1hr	Y	ICB
11/11	1510092-10	Auxier	0824	1hr	Y	ICB
11/11	1510092-14	Auxier	0933	1hr	Y	ICB

DATE	SAMPLE #	Client	LoadTime	CTTime	Analysis	Tech
11/10/15	1511030-09	TDX	0743	1 hr	Y	AC
11/10/15	1510090-05	Auxin	0946	1 hr	Y	KB
11/10/15	1510165-01	TDE	1049	15min	Be	KB
11/10/15	1510090-07	Auxin	1104	1 hr	Y	KB
11/10/15	1510090-11	Auxin	1207	1 hr	Y	KB
11/10/15	1510091-03	Auxin	1309	1 hr	Y	KB
11/10/15	1510091-04	Auxin	1409	1 hr	Y	KB
11/10/15	1510091-07	Auxin	1511	1 hr	Y	RB
11/10/15	1510091-10	Auxin	1612	1 hr	Y	KB
11/10/15	1510091-13	Auxin	1713	1 hr	Y	KB
11/10/15	1510091-17	Auxin	1814	1 hr	Y	KB
11/11	GS1401	LFB	0524	1R	h	S
11/11	Den. 4B	LFB	0552	1R	✓	S
11/11	1510092-03	Auxin	0618	1L	✓	C
11/11	1510092-04	Auxin	0721	1L	✓	C
11/11	1510092-11	Auxin	0824	1L	✓	11
11/11	1510092-15	Auxin	0933	1L	✓	11

DATE	SAMPLE #	Client	LoadTime	CT.Time	Analysis	Tech
11/10/15	1510091-06	Auxier	1505	1hr	✓	KB
11/10/15	1510091-09	Auxier	1606	1hr	✓	KB
11/10/15	1510091-12	Auxier	1707	1hr	✓	KB
11/10/15	1510091-16	Auxier	1808	1hr	✓	KB
11/11	G/S 1402	UTS	0524	1R	✓	✓
11/11	Daily R	UTS	0522	1R	✓	✓
11/11	1510092-05	Auxier	0618	1L	✓	—
11/11	1510092-07	Auxier	0721	1L	✓	—
11/11	1510092-12	Auxier	0824	1L	✓	—
11/11	1510092-16	Auxier	0933	1L	✓	—

GE 4

DATE	SAMPLE #	Client	LoadTime	CT-Time	Analysis	Tech
11/11	Exp 14	LAB	0524	15	✓	S
11/14	Daily R	LAB	0552	15	✓	S
11/14	1510092-06	Auxier	0618	2L	✓	-
11/11	1510092-08	Auxier	0721	2L	✓	-
11/11	1510092-13	Auxier	0824	2L	✓	-
11/11	1510092-02	Auxier	0933	2L	✓	-
11/11	1510092-01	Auxier	1034	3L	✓	-

SECTION VIII
ANALYTICAL DATA (ISOTOPIC URANIUM)

Work Order	15-10092
Analysis Code	UIISO
Run	1
Date Received	10/14/2015
Lab Deadline	11/5/2015
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		10/15/15 00:00	1.0000E+00
02	MBL	BLANK		10/15/15 00:00	1.5000E+00
03	DUP	CP5003S03-04	40	10/09/15 09:00	1.5232E+00
04	DO	CP5003S03-04	40	10/09/15 09:00	1.5031E+00
05	TRG	CP5003S06-07	35	10/09/15 09:10	1.5257E+00
06	TRG	CP5003S09-10	32	10/09/15 09:30	1.5401E+00
07	TRG	CP5003S12-13	35	10/09/15 09:40	1.5033E+00
08	TRG	CP5003S14-15	33	10/09/15 09:50	1.5123E+00
09	TRG	CP5003S16-17	35	10/09/15 10:00	1.5334E+00
10	TRG	CP5001S03-04	38	10/09/15 10:30	1.5161E+00
11	TRG	CP5001S06-07	43	10/09/15 10:40	1.5412E+00
12	TRG	CP5001S09-10	29	10/09/15 10:50	1.5568E+00
13	TRG	CP5001S11-12	38	10/09/15 11:00	1.5366E+00
14	TRG	CP5001S13-14	41	10/09/15 11:10	1.5095E+00
15	TRG	CP5001S16-17	37	10/09/15 11:20	1.5111E+00
16	TRG	CP5001S18-19	36	10/09/15 11:30	1.5004E+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	0.6484	12.1		0.00								
02	MBL	0.6597	12.3		0.00								
03	DUP	0.6500	12.1		0.00								
04	DO	0.6533	12.2		0.00								
05	TRG	0.6621	12.3		0.00								
06	TRG	0.6554	12.2		0.00								
07	TRG	0.6477	12.1		0.00								
08	TRG	0.6529	12.2		0.00								
09	TRG	0.6580	12.3		0.00								
10	TRG	0.6561	12.2		0.00								
11	TRG	0.6567	12.2		0.00								
12	TRG	0.6565	12.2		0.00								
13	TRG	0.6561	12.2		0.00								
14	TRG	0.6495	12.1		0.00								
15	TRG	0.6569	12.2		0.00								
16	TRG	0.6569	12.2		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.

00000

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			10/21/15 13:32	JPACHELLA				
02	MBL			10/21/15 13:32	JPACHELLA				
03	DUP			10/21/15 13:32	JPACHELLA				
04	DO	10/21/15 07:12	KSALLINGS	10/21/15 13:32	JPACHELLA				
05	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:32	JPACHELLA				
06	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:32	JPACHELLA				
07	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:32	JPACHELLA				
08	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:32	JPACHELLA				
09	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:32	JPACHELLA				
10	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:32	JPACHELLA				
11	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:32	JPACHELLA				
12	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:32	JPACHELLA				
13	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:32	JPACHELLA				
14	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:32	JPACHELLA				
15	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:32	JPACHELLA				
16	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:32	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		UUISO
Eberline Analytical Work Order		15-10092
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	6.05E+00	9.44E-01	7.92E-02	8.06E+00	75.14	OK		OK	
02	U-234	MBL	BLANK	pCi/g	-2.16E-03	3.14E-02	8.31E-02					OK	OK
03	U-234	DUP	CP5003S03-04	pCi/g	1.44E+00	3.07E-01	7.26E-02				OK	OK	
04	U-234	DO	CP5003S03-04	pCi/g	1.14E+00	2.46E-01	6.30E-02					OK	
05	U-234	TRG	CP5003S06-07	pCi/g	1.12E+00	2.45E-01	4.25E-02					OK	
06	U-234	TRG	CP5003S09-10	pCi/g	1.00E+00	2.65E-01	7.72E-02					OK	
07	U-234	TRG	CP5003S12-13	pCi/g	1.31E+00	2.75E-01	6.60E-02					OK	
08	U-234	TRG	CP5003S14-15	pCi/g	1.17E+00	2.45E-01	7.32E-02					OK	
09	U-234	TRG	CP5003S16-17	pCi/g	1.10E+00	2.27E-01	5.55E-02					OK	
10	U-234	TRG	CP5001S03-04	pCi/g	1.06E+00	2.22E-01	5.82E-02					OK	
11	U-234	TRG	CP5001S06-07	pCi/g	9.58E-01	2.06E-01	6.26E-02					OK	
12	U-234	TRG	CP5001S09-10	pCi/g	9.99E-01	1.88E-01	3.53E-02					OK	
13	U-234	TRG	CP5001S11-12	pCi/g	1.12E+00	2.50E-01	6.63E-02					OK	
14	U-234	TRG	CP5001S13-14	pCi/g	8.84E-01	2.16E-01	5.05E-02					OK	
15	U-234	TRG	CP5001S16-17	pCi/g	1.30E+00	2.76E-01	8.36E-02					OK	
16	U-234	TRG	CP5001S18-19	pCi/g	1.13E+00	2.41E-01	5.10E-02					OK	

Preliminary Data Report & Analytical Calculations
Work Order: 15-10092-UUISO-1

Client	Auxier & Associates, Inc.
Eberline Analytical Work Order	15-10092
Analysis Code	UUISO
Run	1


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	10/15/15 00:00	1.00E+00	112.32	0.00	0.00			
02	U-234	MBL	10/15/15 00:00	1.50E+00	111.72	0.00	0.00			
03	U-234	DUP	10/09/15 09:00	1.52E+00	103.94	0.00	0.00			
04	U-234	DO	10/09/15 09:00	1.50E+00	121.47	0.00	0.00			
05	U-234	TRG	10/09/15 09:10	1.53E+00	117.57	0.00	0.00			
06	U-234	TRG	10/09/15 09:30	1.54E+00	72.27	0.00	0.00			
07	U-234	TRG	10/09/15 09:40	1.50E+00	89.11	0.00	0.00			
08	U-234	TRG	10/09/15 09:50	1.51E+00	97.22	0.00	0.00			
09	U-234	TRG	10/09/15 10:00	1.53E+00	98.12	0.00	0.00			
10	U-234	TRG	10/09/15 10:30	1.52E+00	102.42	0.00	0.00			
11	U-234	TRG	10/09/15 10:40	1.54E+00	109.76	0.00	0.00			
12	U-234	TRG	10/09/15 10:50	1.56E+00	107.92	0.00	0.00			
13	U-234	TRG	10/09/15 11:00	1.54E+00	107.59	0.00	0.00			
14	U-234	TRG	10/09/15 11:10	1.51E+00	116.59	0.00	0.00			
15	U-234	TRG	10/09/15 11:20	1.51E+00	110.29	0.00	0.00			
16	U-234	TRG	10/09/15 11:30	1.50E+00	113.36	0.00	0.00			

Preliminary Data Report & Analytical Calculations
Work Order: 15-10092-UUISO-1

Run	1	UUISO	Analysis Code	Eberline Analytical Work Order	15-10092	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-234	LCS	11/03/15 11:35		A_Spec	Alpha_050	170	3.66 E+02	2.00 E-03	14.3
02	U-234	MBL	11/03/15 11:35		A_Spec	Alpha_051	170	-2.10 E-01	1.30 E-02	15.2
03	U-234	DUP	11/03/15 15:20		A_Spec	Alpha_053	170	1.25 E+02	6.00 E-03	14.6
04	U-234	DO	11/03/15 11:35		A_Spec	Alpha_053	170	1.14 E+02	6.00 E-03	14.6
05	U-234	TRG	11/03/15 11:35		A_Spec	Alpha_054	170	1.10 E+02	1.00 E-03	14.5
06	U-234	TRG	11/03/15 14:29		A_Spec	Alpha_003	170.02	7.33 E+01	4.00 E-03	17.4
07	U-234	TRG	11/03/15 14:29		A_Spec	Alpha_004	170.02	1.25 E+02	6.00 E-03	18.9
08	U-234	TRG	11/03/15 14:29		A_Spec	Alpha_010	170	1.25 E+02	1.20 E-02	19.2
09	U-234	TRG	11/03/15 14:29		A_Spec	Alpha_011	170	1.25 E+02	6.00 E-03	20
10	U-234	TRG	11/03/15 14:29		A_Spec	Alpha_012	170.02	1.20 E+02	7.00 E-03	19.4
11	U-234	TRG	11/03/15 14:29		A_Spec	Alpha_014	170	1.12 E+02	1.00 E-02	18.4
12	U-234	TRG	11/03/15 14:29		A_Spec	Alpha_015	170	1.48 E+02	3.00 E-03	23.5
13	U-234	TRG	11/03/15 15:19		A_Spec	Alpha_049	170	1.06 E+02	6.00 E-03	15.3
14	U-234	TRG	11/03/15 15:19		A_Spec	Alpha_050	170	8.37 E+01	2.00 E-03	14.3
15	U-234	TRG	11/03/15 15:19		A_Spec	Alpha_051	170	1.25 E+02	1.30 E-02	15.2
16	U-234	TRG	11/03/15 15:19		A_Spec	Alpha_052	170	1.16 E+02	3.00 E-03	16.1

Preliminary Data Report & Analytical Calculations
Work Order: 15-10092-UUISO-1

	Run	1
Analysis Code	UUISO	
Eberline Analytical Work Order	15-10092	
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-238	LCS	10/15/15 00:00	1.00E+00	112.32	0.00	0.00			
02	U-238	MBL	10/15/15 00:00	1.50E+00	111.72	0.00	0.00			
03	U-238	DUP	10/09/15 09:00	1.52E+00	103.94	0.00	0.00			
04	U-238	DO	10/09/15 09:00	1.50E+00	121.47	0.00	0.00			
05	U-238	TRG	10/09/15 09:10	1.53E+00	117.57	0.00	0.00			
06	U-238	TRG	10/09/15 09:30	1.54E+00	72.27	0.00	0.00			
07	U-238	TRG	10/09/15 09:40	1.50E+00	89.11	0.00	0.00			
08	U-238	TRG	10/09/15 09:50	1.51E+00	97.22	0.00	0.00			
09	U-238	TRG	10/09/15 10:00	1.53E+00	98.12	0.00	0.00			
10	U-238	TRG	10/09/15 10:30	1.52E+00	102.42	0.00	0.00			
11	U-238	TRG	10/09/15 10:40	1.54E+00	109.76	0.00	0.00			
12	U-238	TRG	10/09/15 10:50	1.56E+00	107.92	0.00	0.00			
13	U-238	TRG	10/09/15 11:00	1.54E+00	107.59	0.00	0.00			
14	U-238	TRG	10/09/15 11:10	1.51E+00	116.59	0.00	0.00			
15	U-238	TRG	10/09/15 11:20	1.51E+00	110.29	0.00	0.00			
16	U-238	TRG	10/09/15 11:30	1.50E+00	113.36	0.00	0.00			

Preliminary Data Report & Analytical Calculations
Work Order: 15-10092-UJISO-1

	Run	1
	Analysis Code	UJISO
Eberline Analytical Work Order	15-10092	
Client	Auxier & Associates, Inc.	

Lab Fraction	Nuclide	Sample Desc	Counting Date/Time	Half-life (days)	Detect	Carrier	Count Time	Counts	Bkg GPM	Eff
01	U-238	LCS	11/03/15 11:35		A_Spec	Alpha_050	170	4.15 E+02	1.00 E-03	14.3
02	U-238	MBL	11/03/15 11:35		A_Spec	Alpha_051	170	3.49 E+00	3.00 E-03	15.2
03	U-238	DUP	11/03/15 15:20		A_Spec	Alpha_053	170	1.20 E+02	2.00 E-03	14.6
04	U-238	DO	11/03/15 11:35		A_Spec	Alpha_053	170	9.87 E+01	2.00 E-03	14.6
05	U-238	TRG	11/03/15 11:35		A_Spec	Alpha_054	170	1.01 E+02	2.00 E-03	14.5
06	U-238	TRG	11/03/15 14:29		A_Spec	Alpha_003	170.02	7.05 E+01	3.00 E-03	17.4
07	U-238	TRG	11/03/15 14:29		A_Spec	Alpha_004	170.02	1.05 E+02	7.00 E-03	18.9
08	U-238	TRG	11/03/15 14:29		A_Spec	Alpha_010	170	1.25 E+02	6.00 E-03	19.2
09	U-238	TRG	11/03/15 14:29		A_Spec	Alpha_011	170	1.29 E+02	4.00 E-03	20
10	U-238	TRG	11/03/15 14:29		A_Spec	Alpha_012	170.02	9.75 E+01	3.00 E-03	19.4
11	U-238	TRG	11/03/15 14:29		A_Spec	Alpha_014	170	1.10 E+02	6.00 E-03	18.4
12	U-238	TRG	11/03/15 14:29		A_Spec	Alpha_015	170	1.59 E+02	1.00 E-03	23.5
13	U-238	TRG	11/03/15 15:19		A_Spec	Alpha_049	170	9.63 E+01	4.00 E-03	15.3
14	U-238	TRG	11/03/15 15:19		A_Spec	Alpha_050	170	9.88 E+01	1.00 E-03	14.3
15	U-238	TRG	11/03/15 15:19		A_Spec	Alpha_051	170	1.28 E+02	3.00 E-03	15.2
16	U-238	TRG	11/03/15 15:19		A_Spec	Alpha_052	170	1.50 E+02	4.00 E-03	16.1

Preliminary Data Report & Analytical Calculations
Work Order: 15-10092-UISO-1

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

Lab Fraction	Nuclide	Sample Desc	Sample Date	Sample Aliquot	Radometric % Rec	Grav % Rec	Mean % Rec	SAF	Sep 10 Date/Time	Sep 11 Date/Time
01	U-235	LCS	10/15/15 00:00	1.00E+00	112.32	0.00	0.00			
02	U-235	MBL	10/15/15 00:00	1.50E+00	111.72	0.00	0.00			
03	U-235	DUP	10/09/15 09:00	1.52E+00	103.94	0.00	0.00			
04	U-235	DO	10/09/15 09:00	1.50E+00	121.47	0.00	0.00			
05	U-235	TRG	10/09/15 09:10	1.53E+00	117.57	0.00	0.00			
06	U-235	TRG	10/09/15 09:30	1.54E+00	72.27	0.00	0.00			
07	U-235	TRG	10/09/15 09:40	1.50E+00	89.11	0.00	0.00			
08	U-235	TRG	10/09/15 09:50	1.51E+00	97.22	0.00	0.00			
09	U-235	TRG	10/09/15 10:00	1.53E+00	98.12	0.00	0.00			
10	U-235	TRG	10/09/15 10:30	1.52E+00	102.42	0.00	0.00			
11	U-235	TRG	10/09/15 10:40	1.54E+00	109.76	0.00	0.00			
12	U-235	TRG	10/09/15 10:50	1.56E+00	107.92	0.00	0.00			
13	U-235	TRG	10/09/15 11:00	1.54E+00	107.59	0.00	0.00			
14	U-235	TRG	10/09/15 11:10	1.51E+00	116.59	0.00	0.00			
15	U-235	TRG	10/09/15 11:20	1.51E+00	110.29	0.00	0.00			
16	U-235	TRG	10/09/15 11:30	1.50E+00	113.36	0.00	0.00			

Internal Work Order		Run	Analysis Code		Date	Technician		Technician/Initials		Witness Initials		
15-10092		1	UIISO		10/21/2015 13:23	JPACHELLA		<i>[Signature]</i>				
LCS & Matrix Spikes			LCS	MS	LCS	MS	LCS	MS	LCS	MS	MSD	
Isotope	Sol #	Activity dpm/g	Solution Date	Approx Addition	Volume Used (g)	Volume Used (g)	Known pCi	Error Estimate	Added pCi	Error Estimate	Added pCi	Error Estimate
U-234	U-8a	35.240	10/21/2015	0.500	0.5076		8.06	0.290	0.00	0.000	0.00	0.000
U-238	U-8a	34.350	10/21/2015	0.500	0.5076		7.85	0.283	0.00	0.000	0.00	0.000
IC-99 MS	IC-2a	22043.636	7/5/2014	0.1								

Balance Printer Tapes												
fraction	Isotope	Sol #	Activity dpm/g	Solution Date	Volume Used (g)	Approx Addition	Tracer					MSD
01	U-232	U-10a	18.640	10/21/2015	0.6484	0.6500						
02	U-232	U-10a	18.640	10/21/2015	0.6597	0.6500						
03	U-232	U-10a	18.640	10/21/2015	0.6500	0.6500						
04	U-232	U-10a	18.640	10/21/2015	0.6533	0.6500						
05	U-232	U-10a	18.640	10/21/2015	0.6621	0.6500						
06	U-232	U-10a	18.640	10/21/2015	0.6554	0.6500						
07	U-232	U-10a	18.640	10/21/2015	0.6477	0.6500						
08	U-232	U-10a	18.640	10/21/2015	0.6529	0.6500						
09	U-232	U-10a	18.640	10/21/2015	0.6580	0.6500						
10	U-232	U-10a	18.640	10/21/2015	0.6561	0.6500						
11	U-232	U-10a	18.640	10/21/2015	0.6567	0.6500						
12	U-232	U-10a	18.640	10/21/2015	0.6565	0.6500						
13	U-232	U-10a	18.640	10/21/2015	0.6561	0.6500						
14	U-232	U-10a	18.640	10/21/2015	0.6495	0.6500						
15	U-232	U-10a	18.640	10/21/2015	0.6569	0.6500						
16	U-232	U-10a	18.640	10/21/2015	0.6569	0.6500						
Matrix Spike												



Aliquot Worksheet

Work Order	Run	Analysis Code	Rpt Units	Lab Deadline	Technician
15-10092	1	UUISO	grams	11/5/2015	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 Dis	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	CP5003S03-04	DUP						1.5232E+00	1.5232E+00				
04	CP5003S03-04	DO						1.5031E+00	1.5031E+00				
05	CP5003S06-07	TRG						1.5257E+00	1.5257E+00				
06	CP5003S09-10	TRG						1.5401E+00	1.5401E+00				
07	CP5003S12-13	TRG						1.5033E+00	1.5033E+00				
08	CP5003S14-15	TRG						1.5123E+00	1.5123E+00				
09	CP5003S16-17	TRG						1.5334E+00	1.5334E+00				
10	CP5001S03-04	TRG						1.5161E+00	1.5161E+00				
11	CP5001S06-07	TRG						1.5412E+00	1.5412E+00				
12	CP5001S09-10	TRG						1.5568E+00	1.5568E+00				
13	CP5001S11-12	TRG						1.5366E+00	1.5366E+00				
14	CP5001S13-14	TRG						1.5095E+00	1.5095E+00				
15	CP5001S16-17	TRG						1.5111E+00	1.5111E+00				
16	CP5001S18-19	TRG						1.5004E+00	1.5004E+00				

Comments

Technician: JPachella Date: 10/21/15

**Rough Sample Preparation
 Log Book**

Work Order	Lab Deadline	Date Received in Prep	Date Sealed	Date Returned	Technician
15-10092	11/5/2015	10/20/2015	10/21/2015	10/22/2015	KSALLINGS

Eberline Fraction	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	CP5003S03-04	14.4300	903.8000	1093.4600	903.8000	1079.0300	889.3700	17.58%	82.42%	0.0000	0.0000	
05	CP5003S06-07	14.4200	740.0300	885.2800	740.0300	870.8600	725.6100	16.68%	83.32%	0.0000	0.0000	
06	CP5003S09-10	14.4600	926.4000	1146.8200	926.4000	1132.3600	911.9400	19.47%	80.53%	0.0000	0.0000	
07	CP5003S12-13	14.5300	873.8800	1095.7000	873.8800	1081.1700	859.3500	20.52%	79.48%	0.0000	0.0000	
08	CP5003S14-15	14.5000	874.3200	1084.4600	874.3200	1059.9600	859.8200	19.64%	80.36%	0.0000	0.0000	
09	CP5003S16-17	14.5000	757.8900	956.2600	757.8900	941.7600	743.3900	21.06%	78.94%	0.0000	0.0000	
10	CP5001S03-04	14.5200	931.8000	1136.0000	931.8000	1121.4800	917.2800	18.21%	81.79%	0.0000	0.0000	
11	CP5001S06-07	14.5100	626.2100	749.2300	626.2100	734.7200	611.7000	16.74%	83.26%	0.0000	0.0000	
12	CP5001S09-10	14.5200	743.3600	917.5000	743.3600	902.9800	728.8400	19.29%	80.71%	0.0000	0.0000	
13	CP5001S11-12	14.5400	704.5600	871.2800	704.5600	856.7400	690.0200	19.46%	80.54%	0.0000	0.0000	
14	CP5001S13-14	14.5100	792.0700	1001.0600	792.0700	986.5500	777.5600	21.18%	78.82%	0.0000	0.0000	
15	CP5001S16-17	14.5300	674.1400	859.5000	674.1400	844.9700	659.6100	21.94%	78.06%	0.0000	0.0000	
16	CP5001S18-19	14.5200	669.2900	854.4400	669.2900	839.9200	654.7700	22.04%	77.96%	0.0000	0.0000	

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



KB
11/3/15

Apex-Alpha™

Sample Description: CP5003S03-04 DUP
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001330
 Batch Identification: 1510092A-UU
 Sample Identification: 03
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_053
 Chamber Serial Number: 10006122A
 Detector Serial Number: 53
 Env. Background: System Bkgd 133283
 Reagent Blank: <not performed>

Sample Size: 1.523E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 12:52:00 PM
 Acquisition Date/Time: 11/3/2015 3:20:22 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.650 mL
 Effective Efficiency: 0.1512 +/- 0.0093
 Counting Efficiency: 0.1455 +/- 0.0026 on 12/13/2014 2:39:33 PM
 Chem. Recovery Factor: 1.0394 +/- 0.0665

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	309.32	11.16	0.68	0.00E+000	12.9
U-234	4.737	124.98	17.62	1.02	0.00E+000	4.7
U-235	4.396	4.00	109.57	0.00	0.00E+000	3.0
U-238	4.163	119.66	17.95	0.34	0.00E+000	11.0

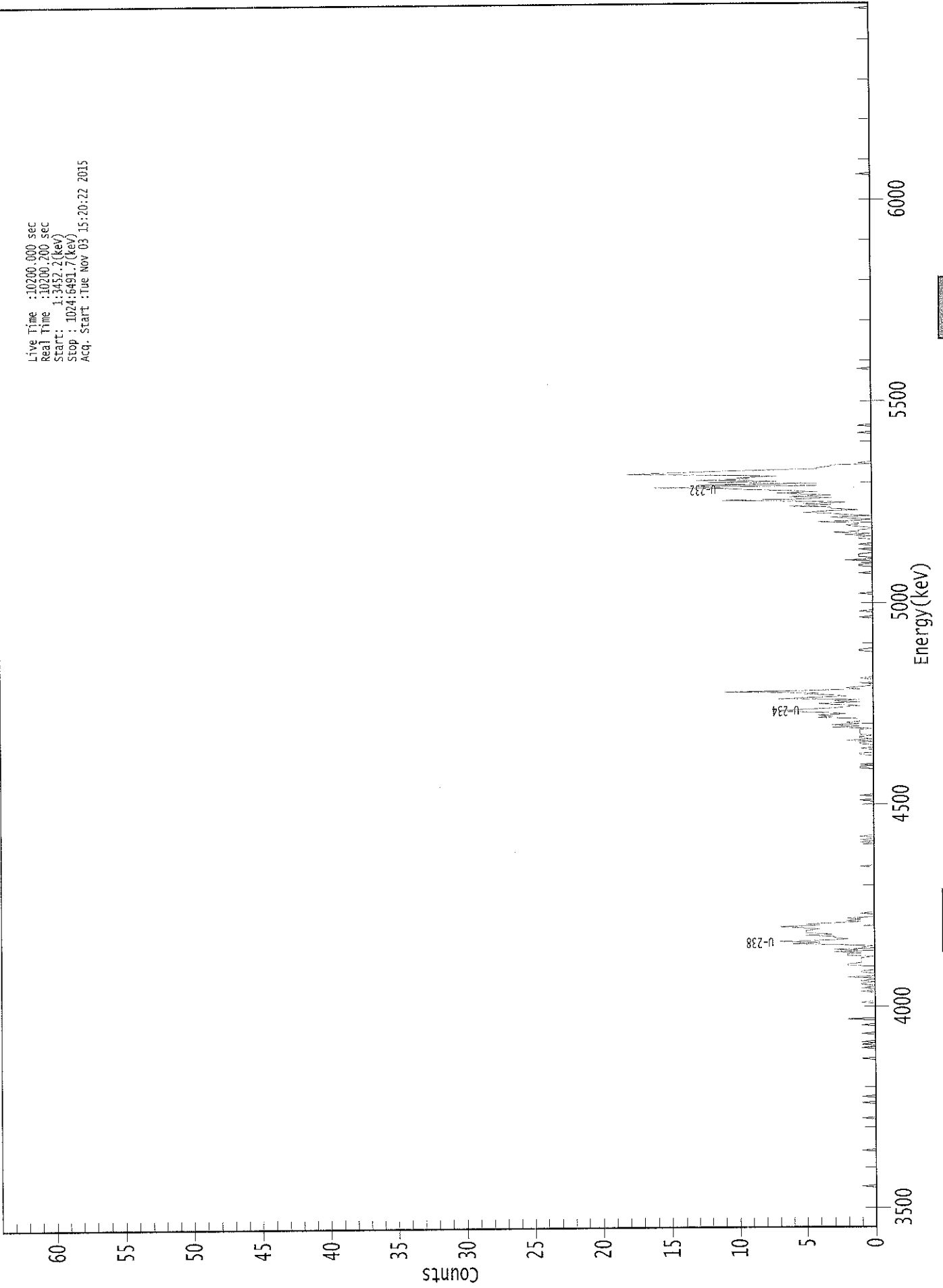
T = Tracer Peak used for Effective Efficiency

 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.998	5302.50*	3.57E+000 +/- 4.29E-001	6.51E-002 +/- 7.83E-003
U-234	0.996	4761.50*	1.44E+000 +/- 3.07E-001	7.26E-002 +/- 8.74E-003
U-235	0.999	4385.50*	5.69E-002 +/- 6.27E-002	8.53E-002 +/- 1.03E-002
U-238	0.997	4184.40*	1.37E+000 +/- 2.97E-001	5.49E-002 +/- 6.60E-003

0000133063.CNF

Live Time : 10260.000 sec
Real Time : 10280.200 sec
Start : 1:34:52.2 (keV)
Stop : 1024:6491.7 (keV)
Acq. Start : Tue Nov 03 15:20:22 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: 03

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	1	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:	1	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	1	0	0	0	0	0
97:	0	0	0	0	0	0	0	0	0
105:	1	0	0	0	0	1	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	1	0	1	0	0	0	0	0
161:	0	0	1	0	0	0	0	0	0
169:	0	1	0	0	0	0	2	0	0
177:	0	0	0	0	0	0	0	0	0
185:	0	0	0	0	1	0	0	0	0
193:	0	0	0	0	0	1	0	0	0
201:	1	0	0	1	1	0	1	0	0
209:	0	2	0	0	0	1	1	0	0
217:	0	0	0	2	2	1	1	1	1
225:	1	1	0	2	2	1	3	0	0
233:	3	0	1	0	3	6	4	7	7
241:	3	2	3	3	5	3	5	5	5
249:	5	4	5	7	4	5	3	1	1
257:	2	1	2	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	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	1	0	1	0	0	1	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	1	0	0	0	0
361:	1	0	0	0	0	0	0	0	0

369: 0 0 0 0 0 0 0 0 0

Sample Title: 03

Channel	1	2	3	4	5	6	7	8	9
377:	0	0	0	0	0	0	0	0	1
385:	1	0	1	0	0	0	0	0	0
393:	0	0	1	1	0	0	0	0	1
401:	0	0	0	1	1	0	2	0	0
409:	1	1	0	1	1	1	1	1	1
417:	0	3	1	3	1	2	1	1	1
425:	1	4	3	4	2	3	6	7	7
433:	5	3	2	1	3	4	1	3	3
441:	1	7	4	2	3	5	4	11	11
449:	4	1	2	1	0	0	1	0	0
457:	0	0	1	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	1	1	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	1	0	0	0
513:	0	0	1	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	0	0	0	0	0	0	0
545:	0	0	1	0	0	0	0	0	0
553:	1	1	0	0	0	2	0	0	0
561:	1	1	1	0	0	0	1	0	0
569:	0	0	1	0	0	0	0	1	1
577:	1	0	2	0	3	1	1	0	0
585:	0	1	2	1	1	4	1	0	0
593:	2	3	0	2	3	5	3	1	1
601:	3	3	6	3	5	2	5	11	11
609:	5	3	6	3	5	7	4	6	6
617:	9	11	16	4	13	4	12	7	7
625:	13	9	10	7	10	18	16	12	12
633:	9	4	4	3	3	0	1	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	1	1
665:	0	0	0	0	0	1	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	1	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	0	0	0	0	0

801: 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	0	1
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	1	0	0	0	0	0

KA
11/3/15

Sample Description: SPIKE
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001330
 Batch Identification: 1510092A-UU
 Sample Identification: 01
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_050
 Chamber Serial Number: 10006121B
 Detector Serial Number: 50
 Env. Background: System Bkgd 133280
 Reagent Blank: <not performed>

Sample Size: 1.000E+000 +/- 0.000E+000 gram
 Sample Date/Time: 11/3/2015 6:42:42 AM
 Acquisition Date/Time: 11/3/2015 11:35:52 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.648 mL
 Effective Efficiency: 0.1603 +/- 0.0096
 Counting Efficiency: 0.1428 +/- 0.0026 on 12/13/2014 2:43:59 PM
 Chem. Recovery Factor: 1.1232 +/- 0.0703

Control Certificate Name: NatU_U-8A
 Chem. Recov. of Control: U-238 0.848878 +/- 0.070552
 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 5.272	327.15	10.85	0.85	0.00E+000	5.9
U-234	4.719	365.66	10.26	0.34	0.00E+000	5.6
U-235	4.379	22.00	42.73	0.00	0.00E+000	4.4
U-238	4.149	414.83	9.63	0.17	0.00E+000	13.8

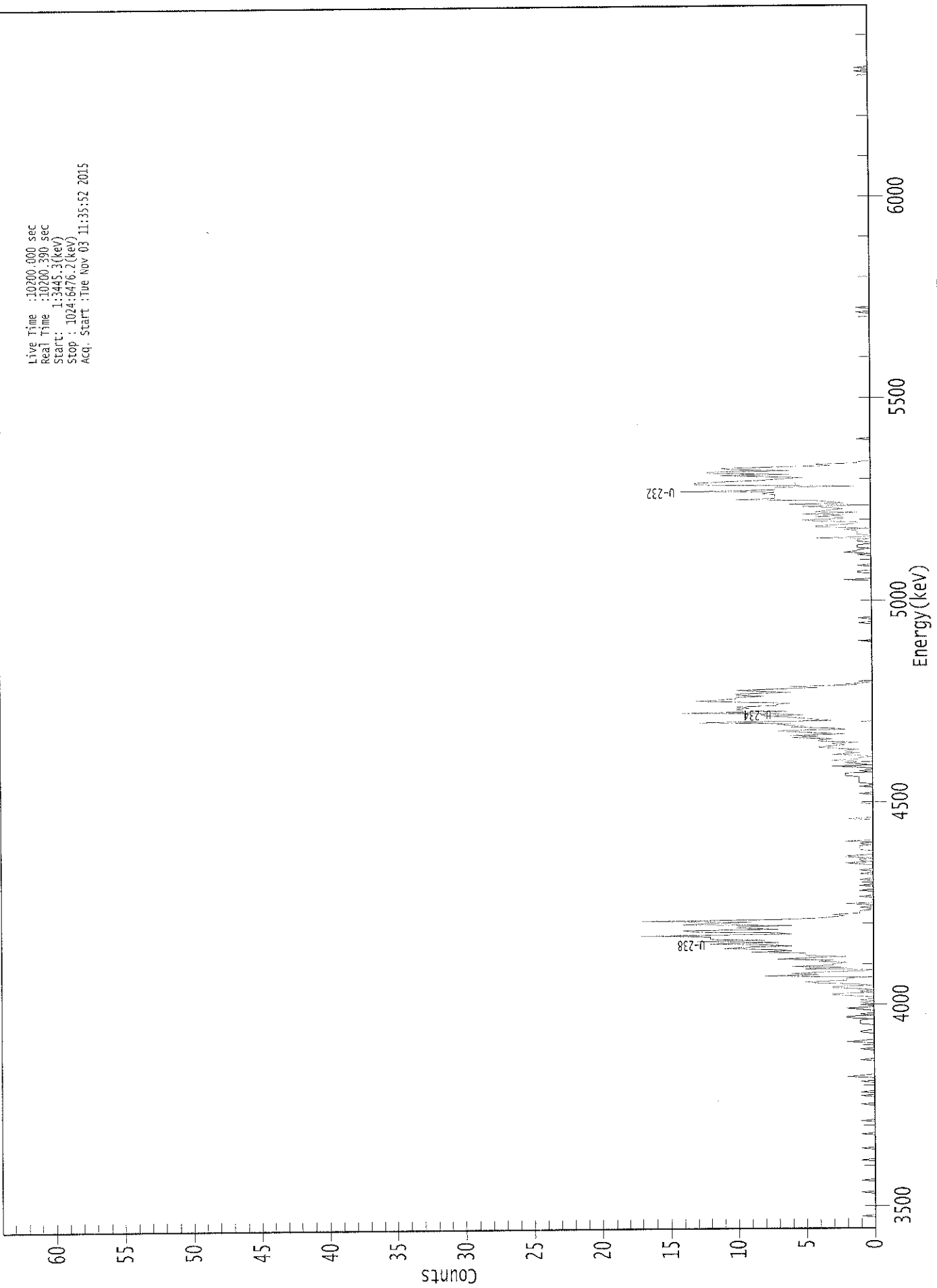
T = Tracer Peak used for Effective Efficiency

 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.993	5302.50*	5.42E+000 +/- 6.37E-001	9.91E-002 +/- 1.17E-002
U-234	0.987	4761.50*	6.05E+000 +/- 9.44E-001	7.92E-002 +/- 9.30E-003
U-235	1.000	4385.50*	4.49E-001 +/- 1.99E-001	1.22E-001 +/- 1.44E-002
U-238	0.991	4184.40*	6.84E+000 +/- 1.04E+000	6.88E-002 +/- 8.09E-003

0000133031.CNF

Live Time :10200.000 sec
Real Time :10200.390 sec
Start : 1:3445.3(kev)
Stop : 1024:6476.2(kev)
Acq. Start :Tue Nov 03 11:35:52 2015



ROI Type: 1

ROI Type: 3

000000

```
*****  
***** 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	1	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	1	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	1	0	0	0	0	0	0	0
65:	0	0	0	1	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	1	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	1
113:	0	0	1	0	0	0	0	0	0
121:	0	0	0	1	0	0	0	0	2
129:	1	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	0	0	2	1	0	0	0
161:	0	0	0	0	1	1	0	0	0
169:	0	0	0	1	1	1	1	0	0
177:	2	2	0	1	0	0	0	0	1
185:	2	0	0	1	0	1	0	0	1
193:	0	0	1	3	3	0	1	0	0
201:	1	3	3	0	1	4	5	0	2
209:	2	2	0	8	4	6	4	0	1
217:	0	5	2	6	3	3	2	0	4
225:	3	7	5	2	5	5	5	0	9
233:	6	7	11	10	6	8	12	0	7
241:	13	8	12	12	12	17	6	0	7
249:	13	14	7	10	10	6	14	0	12
257:	9	17	7	4	3	2	3	0	1
265:	1	1	0	0	1	0	0	0	2
273:	0	0	0	0	0	1	0	0	0
281:	0	0	1	0	0	0	1	0	0
289:	0	0	0	1	0	0	0	0	0
297:	1	0	0	1	0	0	0	0	0
305:	1	2	0	1	1	0	2	0	2
313:	0	0	0	0	1	1	1	0	1
321:	0	1	0	2	0	0	0	0	0
329:	0	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	2	0	0
345:	0	0	0	0	0	0	0	0	0
353:	0	0	0	1	0	0	0	0	0
361:	0	0	0	1	0	0	0	0	0

369: 0 1 0 0 1 1 1 1

Sample Title: 01

Channel	1	2	3	4	5	6	7	8
377:	1	1	2	2	2	0	1	0
385:	0	1	3	0	1	2	1	3
393:	1	1	0	1	3	1	2	2
401:	1	3	4	3	2	3	1	4
409:	4	3	6	4	6	2	4	6
417:	7	2	3	6	5	7	6	13
425:	3	4	5	6	8	5	7	14
433:	6	10	10	9	10	7	7	6
441:	10	13	11	10	10	8	10	10
449:	6	8	10	7	4	6	1	2
457:	0	1	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	1	0	0	0	0
497:	0	0	0	0	0	0	0	0
505:	0	0	1	0	0	0	1	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	2	0
545:	0	0	0	0	1	1	0	0
553:	0	0	1	0	0	0	0	0
561:	0	0	0	1	0	2	1	1
569:	0	1	1	1	0	0	1	1
577:	0	4	0	0	1	1	1	1
585:	2	0	4	4	2	1	1	4
593:	5	2	2	4	2	5	1	4
601:	3	2	3	5	0	6	2	3
609:	4	10	7	7	7	7	8	7
617:	14	7	7	7	1	11	13	13
625:	11	8	7	5	7	11	6	12
633:	12	6	10	11	7	3	4	1
641:	1	0	0	0	0	0	0	0
649:	0	0	0	0	0	0	0	0
657:	0	0	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:	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	1	0	0
769:	0	1	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	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	1
969:	0	0	1	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™

KCS
11/3/15

Sample Description: BLANK
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001330
 Batch Identification: 1510092A-UU
 Sample Identification: 02
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_051
 Chamber Serial Number: 10006123A
 Detector Serial Number: 51
 Env. Background: System Bkgd 133281
 Reagent Blank: <not performed>

Sample Size: 1.500E+000 +/- 0.000E+000 gram
 Sample Date/Time: 11/3/2015 6:42:42 AM
 Acquisition Date/Time: 11/3/2015 11:35:58 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: 0.1703 +/- 0.0099
 Counting Efficiency: 0.1524 +/- 0.0027 on 12/13/2014 2:42:37 PM
 Chem. Recovery Factor: 1.1172 +/- 0.0681

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 5.282	353.43	10.49	3.57	0.00E+000	21.9
U-234	4.730	-0.21	1438.5	2.21	0.00E+000	3.0
U-235	4.398	-1.02	208.15	1.02	0.00E+000	0.0
U-238	4.125	3.49	113.53	0.51	0.00E+000	3.0

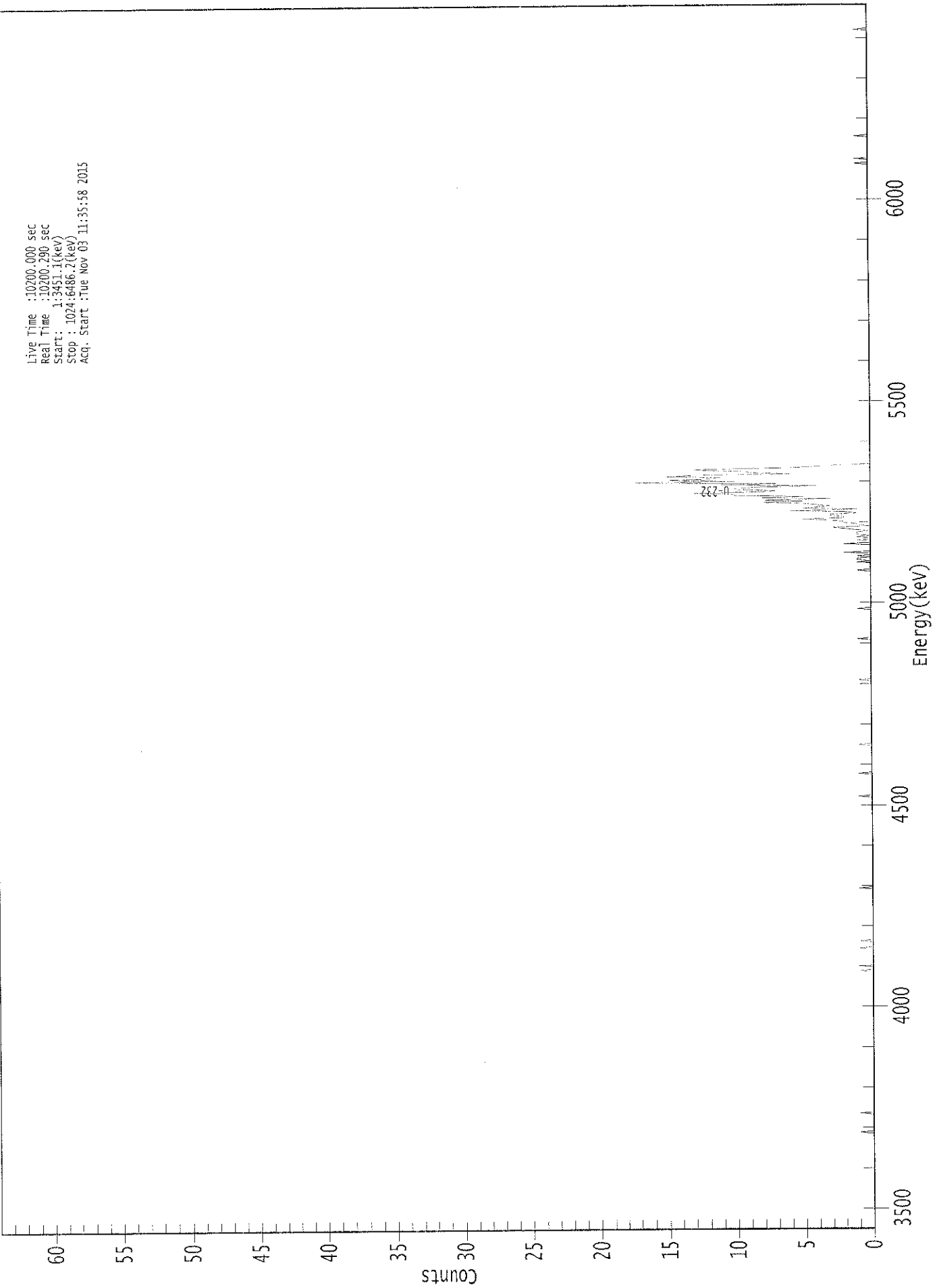
T = Tracer Peak used for Effective Efficiency

 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.997	5302.50*	3.67E+000 +/- 4.19E-001	9.80E-002 +/- 1.12E-002
U-234	0.993	4761.50*	-2.18E-003 +/- 3.14E-002	8.31E-002 +/- 9.49E-003
U-235	0.999	4385.50*	-1.31E-002 +/- 2.73E-002	8.08E-002 +/- 9.22E-003
U-238	0.975	4184.40*	3.61E-002 +/- 4.12E-002	5.43E-002 +/- 6.20E-003

0000133033.CNF

Live Time :10200.000 sec
Real Time :10200.290 sec
Start : 1:34:11.1(keV)
Stop : 1024:6486.2(keV)
Acq. Start :Tue Nov 03 11:35:58 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: 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	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:	1	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	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	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	0	0	0	0	1
217:	0	0	0	1	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:	1	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	1	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	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: 02

Channel	1	2	3	4	5	6	7	8
377:	0	0	0	0	1	0	0	0
385:	0	0	0	0	0	0	0	0
393:	0	0	0	0	0	0	0	0
401:	0	0	0	0	1	0	0	0
409:	0	0	0	0	0	0	0	0
417:	0	0	0	0	0	0	0	0
425:	0	0	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	1	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	1	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	1	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	0	0	1	0	0
553:	0	0	0	0	1	0	1	1
561:	0	1	0	0	2	0	0	0
569:	0	0	0	2	0	0	1	0
577:	0	1	0	1	1	1	0	1
585:	2	3	0	1	1	2	2	3
593:	5	2	2	3	3	1	2	6
601:	1	5	4	3	4	5	8	5
609:	8	3	8	5	10	10	13	8
617:	7	10	10	8	4	11	7	18
625:	10	15	12	11	15	13	6	9
633:	9	12	13	6	4	3	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

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	1	0	0	0	1	0	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	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	1	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

10
11/3/15

Sample Description: CP5003S03-04
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001330
 Batch Identification: 1510092A-UU
 Sample Identification: 04
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_053
 Chamber Serial Number: 10006122A
 Detector Serial Number: 53
 Env. Background: System Bkgd 133283
 Reagent Blank: <not performed>

Sample Size: 1.503E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:42:42 AM
 Acquisition Date/Time: 11/3/2015 11:35:54 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: 0.1767 +/- 0.0101
 Counting Efficiency: 0.1455 +/- 0.0026 on 12/13/2014 2:39:33 PM
 Chem. Recovery Factor: 1.2147 +/- 0.0730

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	363.32	10.29	0.68	0.00E+000	12.3
U-234	4.734	113.98	18.45	1.02	0.00E+000	4.3
U-235	4.375	6.00	86.43	0.00	0.00E+000	3.0
U-238	4.159	98.66	19.77	0.34	0.00E+000	5.9

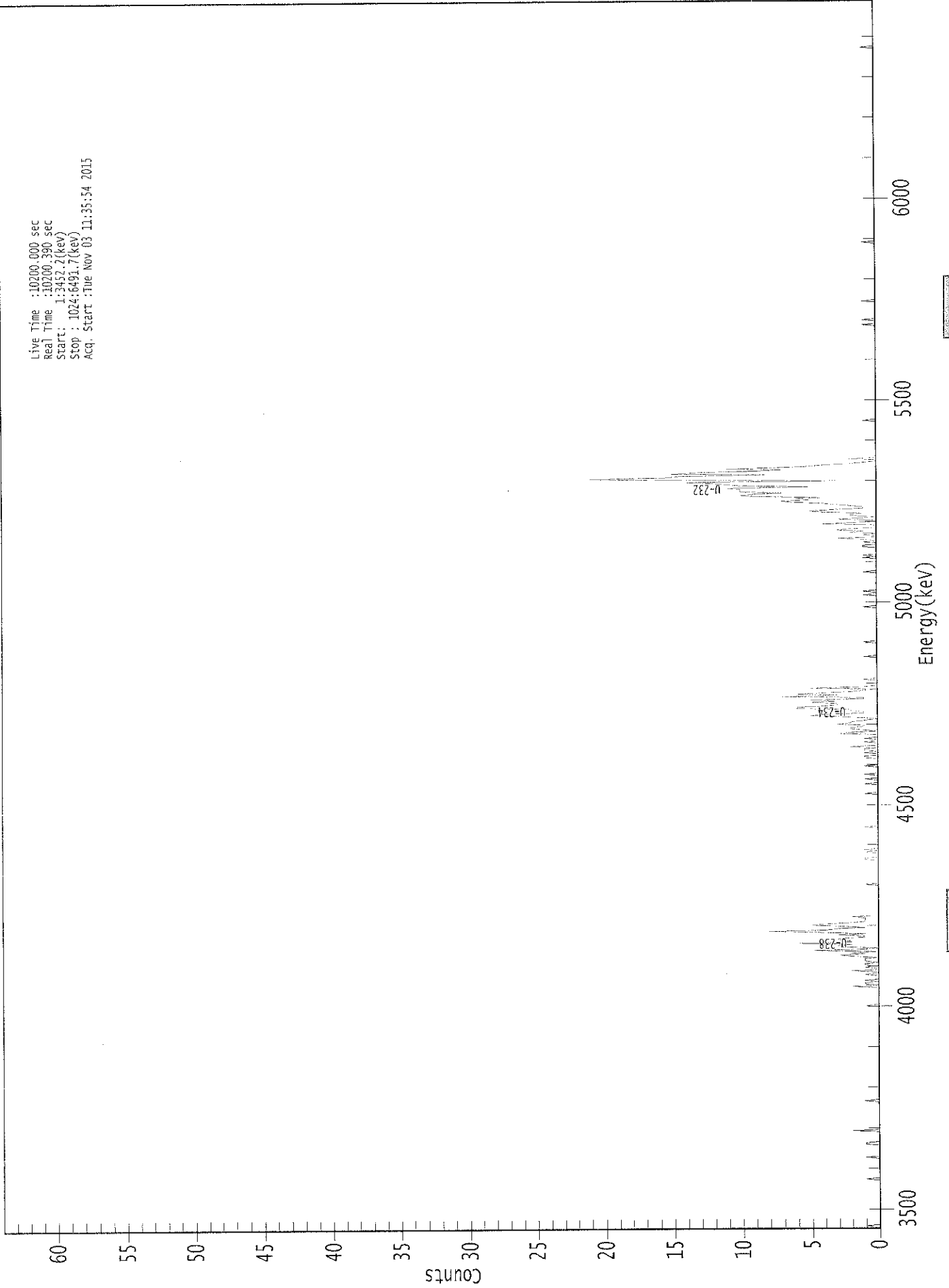
T = Tracer Peak used for Effective Efficiency

 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.997	5302.50*	3.63E+000 +/- 4.08E-001	5.64E-002 +/- 6.34E-003
U-234	0.995	4761.50*	1.14E+000 +/- 2.46E-001	6.30E-002 +/- 7.08E-003
U-235	0.999	4385.50*	7.40E-002 +/- 6.45E-002	7.39E-002 +/- 8.31E-003
U-238	0.995	4184.40*	9.82E-001 +/- 2.23E-001	4.76E-002 +/- 5.35E-003

0000133030.CNF

Live Time : 10200.000 sec
Real Time : 10200.390 sec
Start : 1:3452.2(kev)
Stop : 1024:6491.7(kev)
Acq. Start : Tue Nov 03 11:35:54 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: 10200

Elapsed Real Time: 10200

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	1	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	1	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0
57:	0	0	0	1	0	0	0	0
65:	0	0	0	0	0	0	1	1
73:	0	0	0	0	0	0	0	0
81:	0	2	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	1	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	1	0	0	0	0	0	0
193:	0	0	0	0	0	0	0	0
201:	0	2	0	1	1	0	1	0
209:	0	0	0	1	0	0	2	0
217:	0	1	0	1	1	0	1	1
225:	1	0	2	3	1	2	0	5
233:	1	0	3	3	2	6	2	2
241:	3	3	1	1	3	1	4	8
249:	4	3	1	3	5	4	2	1
257:	1	1	1	2	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	1	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:	0	1	0	1	0	0	0	0
321:	0	0	0	0	0	0	0	0
329:	0	0	0	0	0	0	1	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	1	0	0	0	0	0

369: 0 0 1 0 0 0 1 0

Sample Title: 04

Channel	1	2	3	4	5	6	7	8
377:	0	0	1	0	0	0	0	0
385:	0	1	0	0	0	0	0	0
393:	1	1	0	0	1	0	1	1
401:	0	2	0	0	0	1	0	0
409:	1	0	0	0	3	2	0	1
417:	2	2	1	1	3	2	2	1
425:	0	1	3	5	4	1	1	2
433:	2	6	6	4	3	3	5	3
441:	5	1	1	7	3	6	4	2
449:	1	0	5	1	0	0	0	0
457:	0	1	0	0	0	0	0	0
465:	0	0	0	0	0	0	0	0
473:	0	0	0	0	1	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	0
505:	0	0	0	0	0	0	0	0
513:	0	0	0	0	0	1	0	0
521:	0	0	0	0	0	0	0	1
529:	0	0	1	0	0	0	0	0
537:	0	0	0	0	0	0	0	0
545:	0	0	1	0	0	0	0	0
553:	0	0	0	0	0	0	1	0
561:	1	0	0	0	0	0	0	1
569:	1	0	0	1	0	1	3	0
577:	0	1	0	2	1	3	2	0
585:	0	0	4	2	0	0	3	1
593:	0	2	2	1	4	5	3	1
601:	1	2	3	4	6	7	5	6
609:	4	9	10	9	7	10	10	10
617:	11	5	10	11	12	14	3	18
625:	21	15	15	8	15	13	9	7
633:	11	7	5	4	2	1	0	0
641:	2	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:	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:	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:	1	0	0	0	1	0	0	0
761:	0	0	0	0	0	0	0	0
769:	0	0	0	0	1	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: 04

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	0	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	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	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

KB
11/3/15

Apex-Alpha™

Sample Description: CP5003S06-07
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001330
 Batch Identification: 1510092A-UU
 Sample Identification: 05
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_054
 Chamber Serial Number: 10006122B
 Detector Serial Number: 54
 Env. Background: System Bkgd 133284
 Reagent Blank: <not performed>

Sample Size: 1.526E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:42:42 AM
 Acquisition Date/Time: 11/3/2015 11:35:56 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.662 mL
 Effective Efficiency: 0.1707 +/- 0.0099
 Counting Efficiency: 0.1452 +/- 0.0026 on 12/13/2014 2:38:19 PM
 Chem. Recovery Factor: 1.1757 +/- 0.0712

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 5.278	355.66	10.40	0.34	0.00E+000	27.0
U-234	4.735	109.83	18.72	0.17	0.00E+000	4.2
U-235	4.363	5.00	96.02	0.00	0.00E+000	8.9
U-238	4.153	100.66	19.57	0.34	0.00E+000	5.2

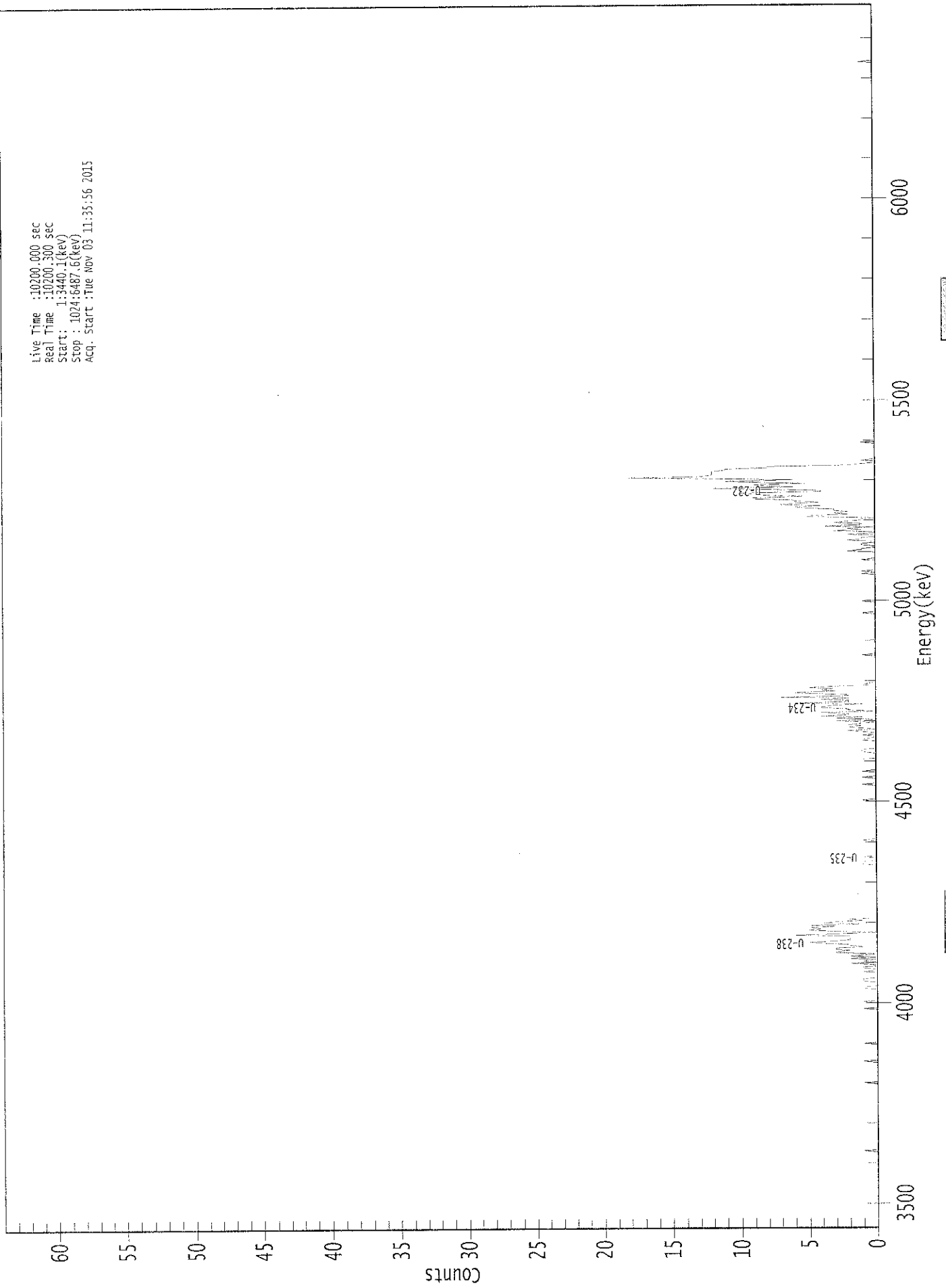
T = Tracer Peak used for Effective Efficiency

 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.996	5302.50*	3.63E+000 +/- 4.11E-001	4.88E-002 +/- 5.53E-003
U-234	0.995	4761.50*	1.12E+000 +/- 2.45E-001	4.25E-002 +/- 4.82E-003
U-235	0.996	4385.50*	6.29E-002 +/- 6.08E-002	7.54E-002 +/- 8.55E-003
U-238	0.993	4184.40*	1.02E+000 +/- 2.31E-001	4.85E-002 +/- 5.50E-003

0000133029.CNF

Live Time :10200.000 sec
Real Time :10200.300 sec
Start : 1:3440.1(keV)
Stop : 1024:6487.6(keV)
Acq. Start :Tue Nov 03 11:35:56 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: 05

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:	1	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	1	0	0	0	0	0	0	0
129:	0	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	1	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	1
185:	0	0	0	0	0	1	0	0	0
193:	0	0	0	0	0	0	0	0	0
201:	1	1	0	0	0	0	1	1	1
209:	1	0	0	0	0	0	1	0	0
217:	0	1	1	0	0	2	0	1	1
225:	0	2	0	2	1	0	3	3	3
233:	2	3	3	1	2	2	4	5	5
241:	3	2	2	2	2	6	3	0	0
249:	3	5	4	5	3	5	1	4	4
257:	3	1	2	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:	1	1	1	0	0	0	1	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	0	0	0	0	0	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	0	0	0	0

369: 0 0 1 0 0 0 0 0 0

Sample Title: 05

Channel	1	2	3	4	5	6	7	8	9
377:	1	0	0	0	0	0	1	0	0
385:	0	0	0	0	0	0	0	1	1
393:	0	0	0	0	0	0	1	1	1
401:	0	0	0	0	0	0	0	0	1
409:	1	0	0	1	0	0	0	1	2
417:	0	1	2	1	2	1	1	0	3
425:	0	3	1	4	2	2	2	4	0
433:	2	2	4	4	3	1	1	6	2
441:	2	4	2	7	2	2	2	5	6
449:	3	4	3	5	3	0	0	1	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	1	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	0
513:	0	1	0	0	0	0	0	0	0
521:	0	0	0	1	0	0	0	0	0
529:	0	0	0	0	0	0	0	0	0
537:	0	0	0	0	0	0	0	0	0
545:	0	0	1	0	1	0	0	0	0
553:	0	0	0	0	0	0	0	1	0
561:	0	0	0	0	0	0	2	1	1
569:	0	0	1	1	0	0	0	2	1
577:	1	0	0	2	0	0	0	3	1
585:	2	0	4	1	1	3	2	2	1
593:	1	0	5	5	2	3	2	2	3
601:	3	5	6	4	7	6	4	4	6
609:	6	9	9	5	8	9	9	10	4
617:	4	8	12	6	8	9	9	5	9
625:	11	6	11	18	13	12	12	12	12
633:	12	11	11	8	8	2	1	1	0
641:	0	1	0	0	0	0	0	0	0
649:	0	0	0	0	0	0	0	0	0
657:	1	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:	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: 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	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	1	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

YCB
11/3/15

Sample Description: CP5003S09-10
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001330
 Batch Identification: 1510092A-UU
 Sample Identification: 06
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_003
 Chamber Serial Number:
 Detector Serial Number: 3
 Env. Background: System Bkgd 133256
 Reagent Blank: <not performed>

Sample Size: 1.540E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:42:42 AM
 Acquisition Date/Time: 11/3/2015 2:29:41 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: 0.1259 +/- 0.0083
 Counting Efficiency: 0.1742 +/- 0.0031 on 10/25/2014 6:43:48 PM
 Chem. Recovery Factor: 0.7227 +/- 0.0495

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	5.281	259.66	12.17	0.34	0.00E+000	5.4
U-234	4.735	73.32	23.01	0.68	0.00E+000	3.8
U-235	4.394	2.66	128.85	0.34	0.00E+000	3.0
U-238	4.140	70.49	23.44	0.51	0.00E+000	6.0

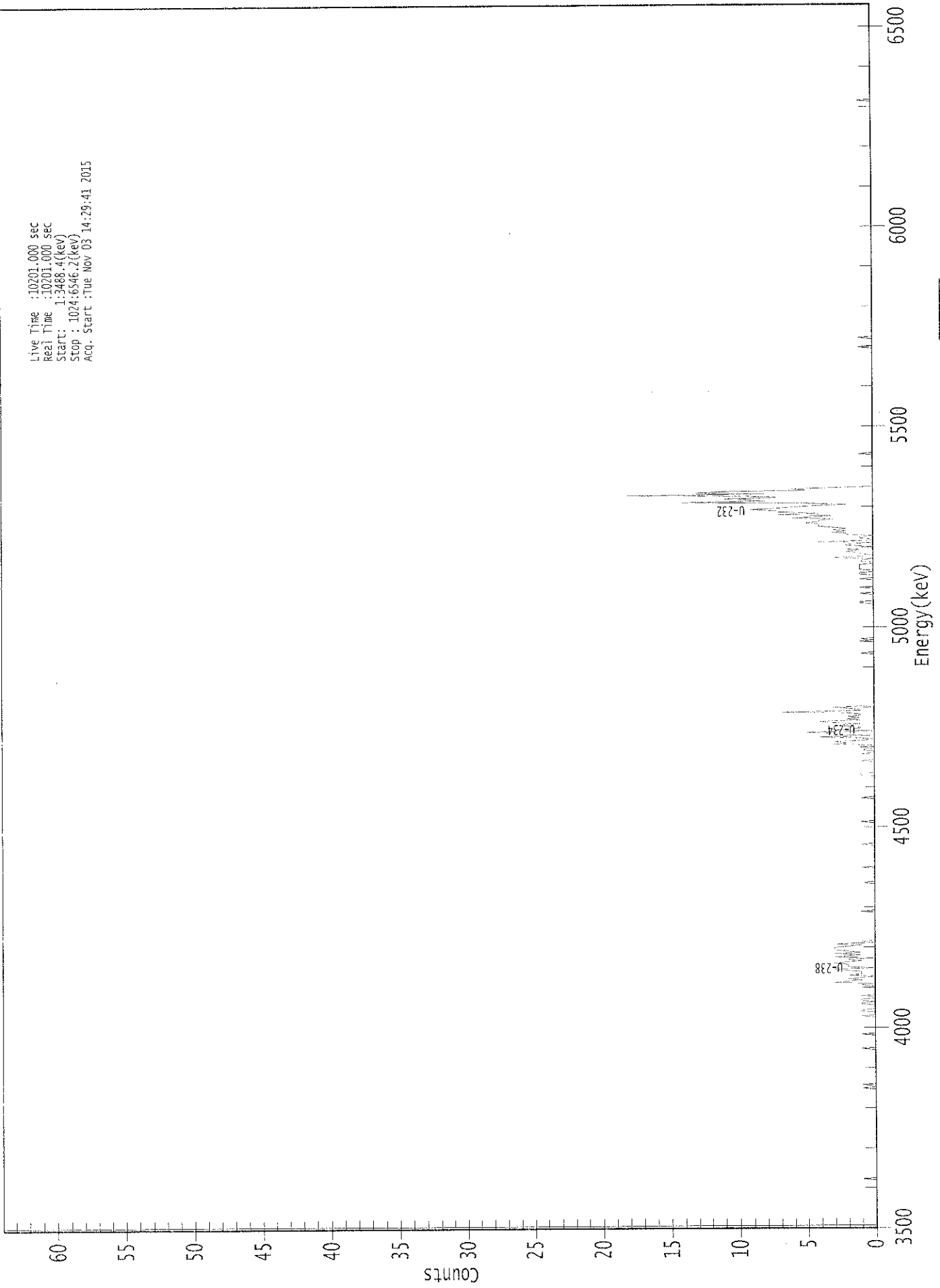
T = Tracer Peak used for Effective Efficiency

 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.997	5302.50*	3.56E+000 +/- 4.62E-001	6.55E-002 +/- 8.50E-003
U-234	0.995	4761.50*	1.00E+000 +/- 2.65E-001	7.72E-002 +/- 1.00E-002
U-235	0.999	4385.50*	4.49E-002 +/- 5.82E-002	8.08E-002 +/- 1.05E-002
U-238	0.986	4184.40*	9.61E-001 +/- 2.58E-001	7.15E-002 +/- 9.29E-003

0000133046.CNF

Live Time :10701.000 sec
Real Time :10701.000 sec
Start : 1:3488.4{keV}
Stop : 1024:6546.2{keV}
Acq. Start :Tue Nov 03 14:29:41 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: 10201

Elapsed Real Time: 10201

Channel	1	2	3	4	5	6	7	8	9
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	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	1	0	0
121:	1	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	1	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	1	0	0	0	1	1	1	0
185:	0	0	0	1	1	0	1	1	1
193:	0	0	1	0	0	0	0	0	0
201:	0	1	0	1	0	3	2	1	1
209:	2	1	0	2	1	1	1	1	2
217:	3	0	2	2	2	3	2	1	1
225:	2	0	3	2	1	3	1	2	2
233:	3	3	3	2	1	3	0	1	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	0
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:	1	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:	1	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	0	0	0	0
353:	0	0	0	0	0	0	0	0	1
361:	0	0	0	0	0	0	0	0	0

369: 0 0 0 0 0 0 0 0 0

Sample Title: 06

Channel	1	2	3	4	5	6	7	8	9
377:	0	0	1	1	0	0	0	0	0
385:	0	0	0	0	0	0	1	0	0
393:	0	0	0	0	1	0	0	1	1
401:	0	1	1	0	3	2	3	1	1
409:	0	1	4	0	3	3	5	0	0
417:	3	1	1	2	3	1	3	4	4
425:	1	2	1	2	1	1	2	7	7
433:	1	1	2	3	0	0	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	0	0	0	0	0	0
473:	0	0	0	0	0	0	0	0	0
481:	1	0	0	0	0	0	0	0	0
489:	0	0	1	0	1	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	1	1	0	0	0	0	0
529:	0	0	1	0	0	0	0	1	1
537:	0	0	0	0	0	0	1	0	0
545:	0	0	1	1	0	0	1	1	1
553:	1	1	1	0	0	1	1	0	0
561:	3	1	0	1	1	2	1	2	2
569:	0	0	2	2	0	4	0	0	0
577:	1	1	0	2	2	3	2	3	3
585:	2	3	4	4	4	5	4	4	4
593:	3	6	4	3	7	4	7	7	7
601:	9	7	6	4	2	5	14	8	8
609:	9	11	7	8	18	8	13	11	11
617:	5	6	3	0	0	0	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	0	0	0	0	0	1	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	1	1
737:	0	0	0	0	0	0	0	1	1
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: 06

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	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



Apex-Alpha™

11/3/15

Sample Description: CP5003S12-13
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001330
 Batch Identification: 1510092A-UU
 Sample Identification: 07
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_004
 Chamber Serial Number:
 Detector Serial Number: 4
 Env. Background: System Bkgd 133257
 Reagent Blank: <not performed>

Sample Size: 1.503E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:42:42 AM
 Acquisition Date/Time: 11/3/2015 2:29:42 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.648 mL
 Effective Efficiency: 0.1686 +/- 0.0099
 Counting Efficiency: 0.1892 +/- 0.0033 on 10/25/2014 6:43:53 PM
 Chem. Recovery Factor: 0.8911 +/- 0.0545

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 5.275	343.66	10.58	0.34	0.00E+000	30.2
U-234	4.730	124.98	17.62	1.02	0.00E+000	6.1
U-235	4.391	6.15	85.19	0.85	0.00E+000	4.4
U-238	4.144	104.81	19.27	1.19	0.00E+000	4.3

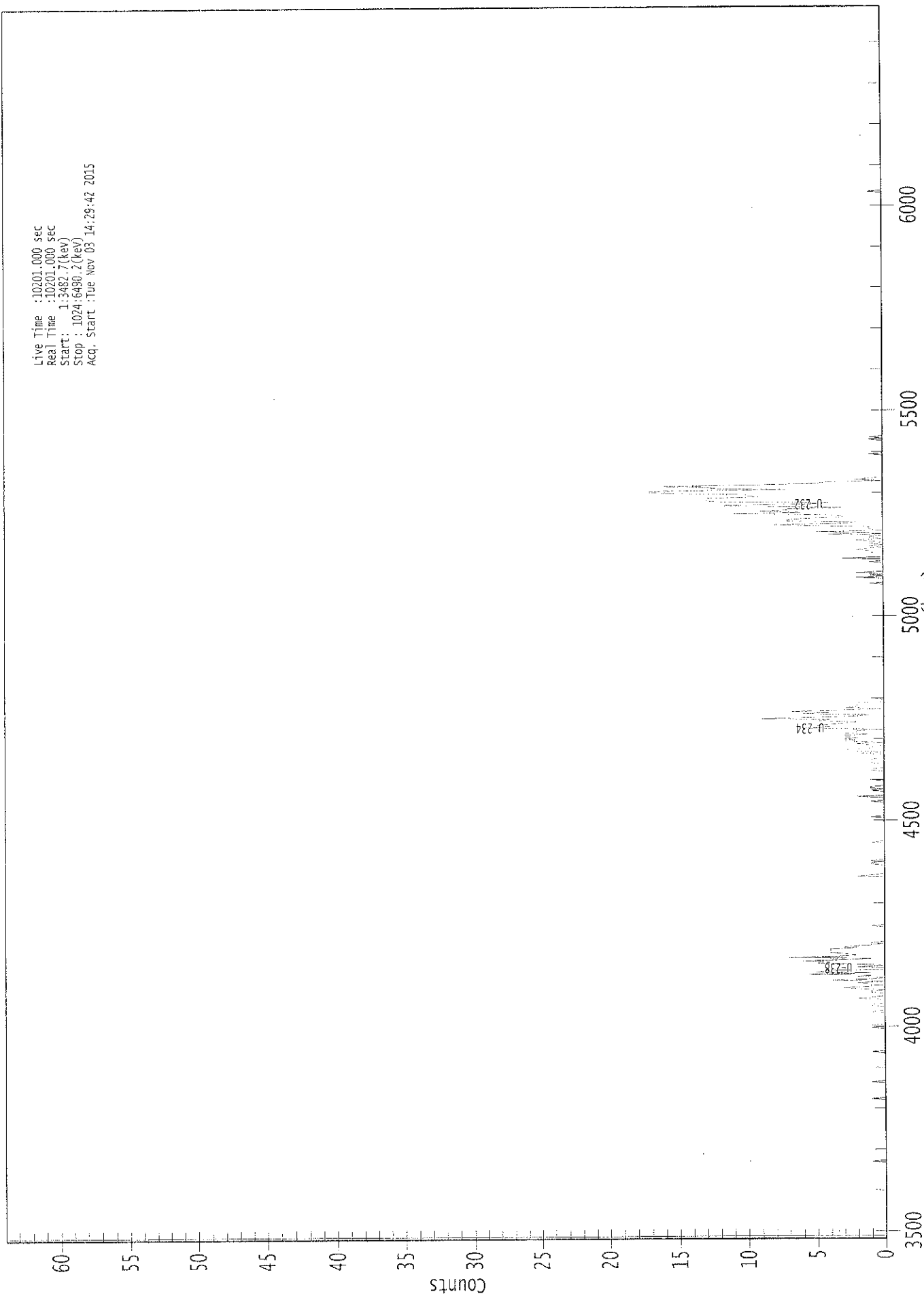
T = Tracer Peak used for Effective Efficiency

 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.995	5302.50*	3.60E+000 +/- 4.14E-001	5.01E-002 +/- 5.76E-003
U-234	0.993	4761.50*	1.31E+000 +/- 2.75E-001	6.60E-002 +/- 7.59E-003
U-235	1.000	4385.50*	7.95E-002 +/- 6.83E-002	7.74E-002 +/- 8.90E-003
U-238	0.988	4184.40*	1.09E+000 +/- 2.45E-001	6.87E-002 +/- 7.90E-003

0000133047.CNF

Live Time :10201.000 sec
Real Time :10201.000 sec
Start: 1:3482.7(keV)
Stop : 1024:6490.2(keV)
Acq. Start :Tue Nov 03 14:29:42 2015



0001101

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: 07

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	0	0
49:	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0
65:	1	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	1	0	0	0
121:	0	0	0	0	0	0	0	0
129:	0	0	1	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	1	0	0	0	0
161:	0	0	0	0	0	0	0	0
169:	0	0	0	0	0	0	0	1
177:	0	1	0	0	0	0	0	0
185:	0	0	0	0	1	0	0	0
193:	0	1	1	0	0	0	0	2
201:	1	0	0	0	1	1	0	2
209:	3	1	1	1	2	0	4	1
217:	0	2	1	6	1	5	4	0
225:	0	2	0	1	5	4	6	3
233:	1	7	3	2	3	4	4	4
241:	4	2	3	1	1	1	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	2	1	0	0
305:	0	0	0	0	0	0	1	1
313:	0	1	0	0	0	0	0	0
321:	0	0	0	0	0	0	0	0
329:	1	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	1	0	0
353:	0	0	0	0	0	0	0	0
361:	0	0	1	0	0	0	2	0

369: 0 0 0 1 0 1 1 0

Sample Title: 07

Channel	1	2	3	4	5	6	7	8
377:	0	0	0	0	1	0	0	0
385:	0	0	0	0	1	1	0	0
393:	0	0	1	1	1	1	0	0
401:	0	0	2	0	3	3	1	1
409:	0	1	2	0	3	2	3	2
417:	3	3	1	3	2	2	0	6
425:	4	5	4	3	2	5	4	9
433:	5	2	1	6	4	7	3	0
441:	3	2	2	2	2	0	0	0
449:	1	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	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	0	0
529:	0	0	0	0	0	0	0	0
537:	0	0	0	0	0	0	0	1
545:	0	0	0	0	2	0	1	0
553:	2	0	0	0	0	0	0	0
561:	0	1	0	0	3	0	0	0
569:	0	1	1	2	1	0	1	0
577:	1	0	1	2	0	1	1	0
585:	4	1	5	0	1	1	1	5
593:	8	3	2	7	7	6	3	3
601:	4	11	6	9	7	7	3	9
609:	12	5	4	12	13	13	13	9
617:	10	10	15	17	17	7	12	13
625:	16	9	5	4	0	2	1	0
633:	0	0	0	0	0	0	0	0
641:	0	0	0	0	0	0	0	0
649:	0	0	1	0	0	0	0	0
657:	0	0	0	0	0	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

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	1	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
11/2/15

Sample Description: CP5003S14-15
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001330
 Batch Identification: 1510092A-UU
 Sample Identification: 08
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_010
 Chamber Serial Number:
 Detector Serial Number: 10
 Env. Background: System Bkgd 133258
 Reagent Blank: <not performed>

Sample Size: 1.512E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:42:42 AM
 Acquisition Date/Time: 11/3/2015 2:29:43 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.653 mL
 Effective Efficiency: 0.1867 +/- 0.0105
 Counting Efficiency: 0.1921 +/- 0.0033 on 10/25/2014 6:44:30 PM
 Chem. Recovery Factor: 0.9722 +/- 0.0571

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	383.64	10.03	1.36	0.00E+000	44.8
U-234	4.733	124.96	17.70	2.04	0.00E+000	4.0
U-235	4.361	2.64	152.72	1.36	0.00E+000	2.9
U-238	4.151	124.98	17.62	1.02	0.00E+000	3.5

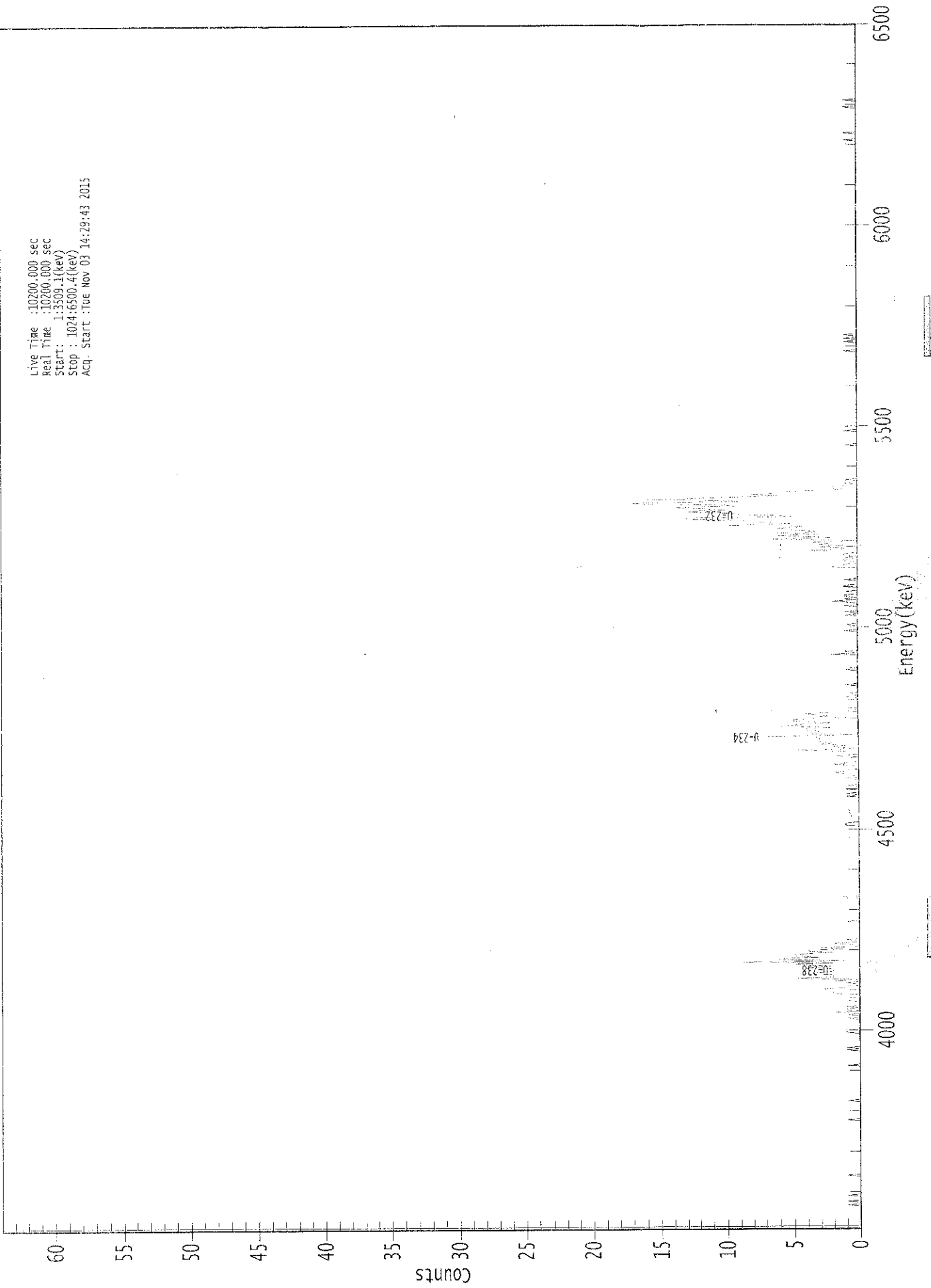
T = Tracer Peak used for Effective Efficiency

 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.997	5302.50*	3.61E+000 +/- 3.97E-001	6.45E-002 +/- 7.09E-003
U-234	0.994	4761.50*	1.17E+000 +/- 2.45E-001	7.32E-002 +/- 8.05E-003
U-235	0.996	4385.50*	3.06E-002 +/- 4.69E-002	7.95E-002 +/- 8.74E-003
U-238	0.992	4184.40*	1.17E+000 +/- 2.43E-001	5.90E-002 +/- 6.49E-003

0000133048.CNF

Live Time :10260.000 sec
Real Time :10260.000 sec
Start : 1:3509.1(keV)
Stop : 1024:6500.4(keV)
Acq. Start :Tue Nov 03 14:29:43 2015



: 00120

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: 08

Elapsed Live time: 10200

Elapsed Real Time: 10200

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	10200	10200	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	0	0	1	0	0	1
25:	0	0	0	0	1	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	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	1	0	0	0
97:	0	0	0	0	0	0	0	0
105:	0	0	0	0	1	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	1	0	0	0	0	0
145:	0	0	0	0	0	0	0	1
153:	0	1	0	0	0	0	0	0
161:	0	0	0	0	0	0	1	1
169:	1	0	0	0	0	0	0	0
177:	0	0	1	0	0	1	0	2
185:	0	1	1	0	1	0	0	0
193:	0	1	1	1	0	0	0	2
201:	2	2	2	3	1	1	0	0
209:	1	0	2	0	5	2	2	2
217:	4	3	2	2	2	4	2	3
225:	5	2	9	1	6	6	3	5
233:	5	4	2	4	4	1	3	0
241:	0	1	2	0	0	1	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	2	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	0	1	0	0	0
337:	0	0	0	0	0	0	1	1
345:	1	0	0	0	0	0	0	0
353:	0	0	0	0	0	0	0	0
361:	0	0	0	0	0	0	0	1

369: 0 1 0 0 0 1 0 0

Sample Title: 08

Channel	1	2	3	4	5	6	7	8	9
377:	1	0	0	0	0	0	0	1	0
385:	0	1	1	2	1	1	1	0	0
393:	0	1	2	1	0	1	1	1	1
401:	0	2	0	1	1	1	1	5	1
409:	1	2	1	3	2	3	3	3	3
417:	3	3	7	0	4	4	4	3	4
425:	4	2	6	4	5	2	4	4	5
433:	5	0	3	2	4	4	0	0	1
441:	0	0	0	0	0	0	0	0	0
449:	0	1	0	1	0	0	0	1	0
457:	0	0	0	0	0	1	0	0	0
465:	0	0	0	0	0	0	0	0	0
473:	0	0	1	0	0	0	0	0	0
481:	0	0	0	0	0	0	0	0	2
489:	0	1	0	0	0	0	0	0	0
497:	0	0	0	0	0	0	0	0	0
505:	0	0	0	1	0	0	0	0	0
513:	1	0	0	0	0	0	0	0	0
521:	1	0	0	1	0	0	0	0	0
529:	1	0	0	1	2	0	1	1	0
537:	1	1	0	0	1	0	0	0	0
545:	1	1	0	0	0	0	1	1	0
553:	0	0	0	0	0	0	0	0	0
561:	0	2	1	1	0	0	1	1	1
569:	0	1	0	1	1	0	0	0	4
577:	1	1	3	1	3	2	4	4	0
585:	3	7	2	4	6	3	6	6	3
593:	4	5	6	5	4	10	5	6	6
601:	8	9	13	13	5	6	9	9	9
609:	13	12	10	12	14	9	10	16	16
617:	17	9	10	16	12	9	6	8	8
625:	6	6	3	1	2	2	1	0	0
633:	1	0	0	1	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	1	0	0	0	0	0	0	0
673:	0	0	0	0	0	1	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	1	0	0	0	0	0	0	0
753:	0	1	0	0	1	0	0	1	1
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

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	1	0	0	0
929:	0	0	1	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	0	0	0	0	0	1	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

100
11/3/15

Apex-Alpha™

Sample Description: CP5003S16-17
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001330
 Batch Identification: 1510092A-UU
 Sample Identification: 09
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_011
 Chamber Serial Number:
 Detector Serial Number: 11
 Env. Background: System Bkgd 133259
 Reagent Blank: <not performed>

Sample Size: 1.533E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:42:42 AM
 Acquisition Date/Time: 11/3/2015 2:29:44 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.658 mL
 Effective Efficiency: 0.1966 +/- 0.0108
 Counting Efficiency: 0.2004 +/- 0.0035 on 10/25/2014 6:44:33 PM
 Chem. Recovery Factor: 0.9812 +/- 0.0564

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 5.265	407.13	9.74	1.87	0.00E+000	25.0
U-234	4.722	124.98	17.62	1.02	0.00E+000	6.0
U-235	4.388	9.32	66.89	0.68	0.00E+000	2.6
U-238	4.136	129.32	17.29	0.68	0.00E+000	4.2

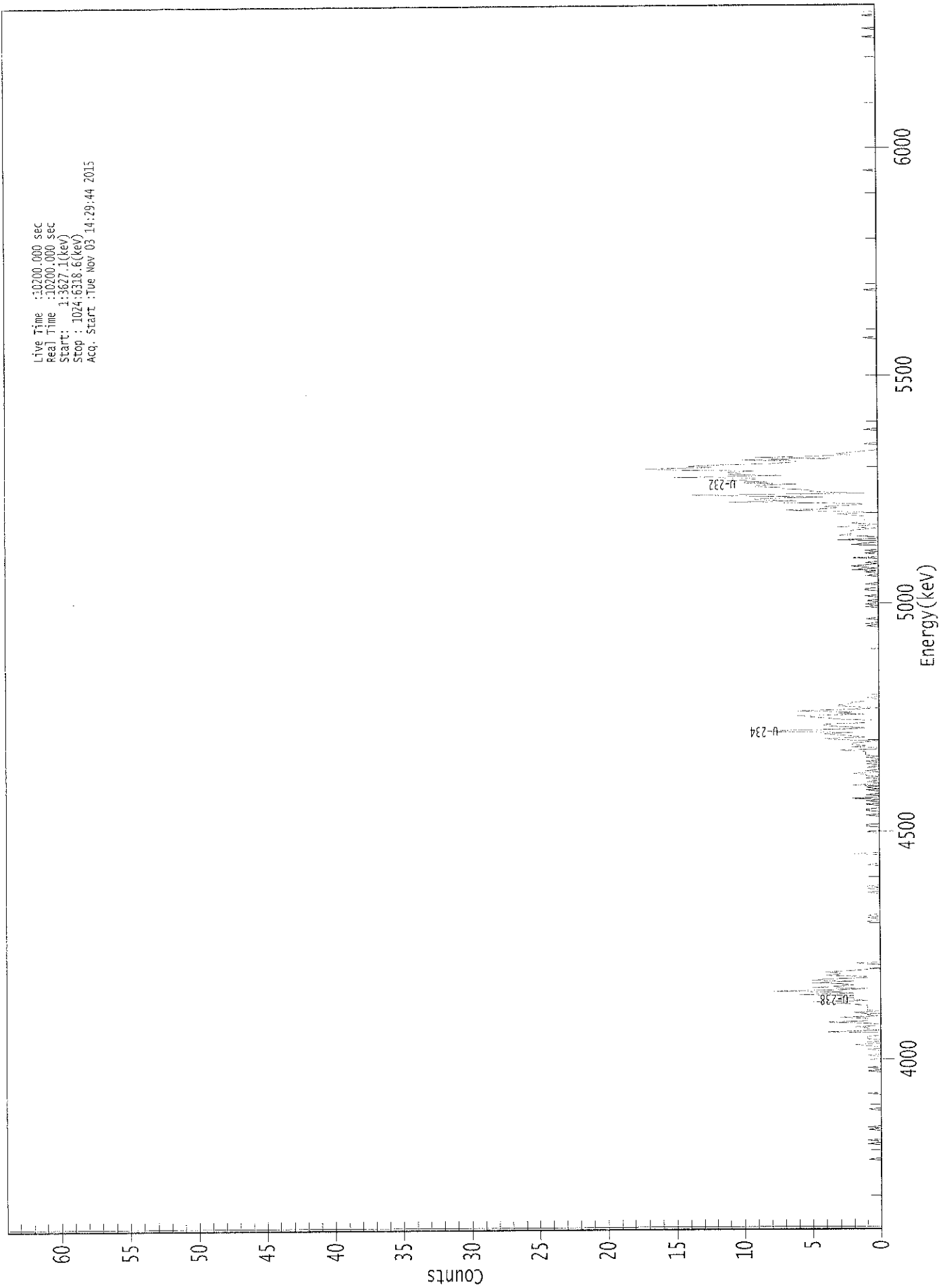
T = Tracer Peak used for Effective Efficiency

 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.990	5302.50*	3.59E+000 +/- 3.85E-001	6.67E-002 +/- 7.16E-003
U-234	0.989	4761.50*	1.10E+000 +/- 2.27E-001	5.55E-002 +/- 5.95E-003
U-235	1.000	4385.50*	1.01E-001 +/- 6.86E-002	6.13E-002 +/- 6.58E-003
U-238	0.983	4184.40*	1.13E+000 +/- 2.31E-001	4.95E-002 +/- 5.31E-003

0000133049.CNF

Live Time :10200.000 sec
Real Time :10200.000 sec
Start: 1:3627.1(kev)
Stop : 1024:6318.6(kev)
Acq. Start :Tue Nov 03 14:29:44 2015



12100

 ***** 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:	10200	10200	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	1	0	0	0	0	0
65:	0	0	0	0	0	0	0	1
73:	0	0	1	0	0	0	0	0
81:	0	0	0	1	0	1	0	0
89:	0	0	0	0	0	0	0	0
97:	0	0	0	0	1	0	0	0
105:	0	0	0	0	0	0	0	0
113:	0	1	0	0	0	0	0	0
121:	0	0	0	0	0	0	0	0
129:	0	0	0	0	1	0	0	1
137:	0	0	0	0	0	0	0	0
145:	0	1	0	0	0	0	1	0
153:	0	1	2	0	1	0	0	1
161:	1	1	0	0	0	4	0	1
169:	1	2	0	0	1	4	1	1
177:	1	3	0	1	1	2	0	1
185:	1	1	1	1	2	3	5	1
193:	2	2	3	2	6	2	3	8
201:	3	1	5	3	2	3	5	2
209:	5	4	1	1	4	3	3	4
217:	2	1	0	0	0	0	2	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	1	0	0	1	0	1	0
265:	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0
281:	0	1	0	0	1	0	1	0
289:	0	0	0	0	0	0	0	0
297:	0	0	0	0	0	0	0	0
305:	1	0	0	0	0	0	0	0
313:	0	2	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:	1	1	0	0	0	0	0	0
345:	0	1	0	0	0	1	1	0
353:	0	0	1	0	0	1	0	2
361:	0	0	1	0	0	0	1	0

369: 1 0 2 0 0 1 0 0

Sample Title: 09

Channel	1	0	2	0	0	1	0	0
377:	1	0	1	1	2	0	1	0
385:	0	1	0	0	1	0	1	0
393:	0	1	0	1	1	1	1	3
401:	0	0	2	1	2	2	1	0
409:	3	4	1	2	3	4	2	8
417:	7	2	1	3	4	4	1	1
425:	1	3	4	5	6	1	3	2
433:	6	3	0	1	3	3	2	2
441:	1	1	0	1	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	0	0	0	0	1
505:	0	1	0	0	0	1	0	0
513:	0	0	0	0	0	0	0	1
521:	0	1	0	0	1	0	0	0
529:	1	0	0	0	0	1	1	0
537:	0	0	1	0	0	0	0	0
545:	0	1	0	0	1	0	2	0
553:	1	2	1	0	1	0	0	0
561:	2	0	0	0	1	0	1	0
569:	0	0	0	2	1	0	0	3
577:	0	0	1	3	2	2	2	2
585:	1	0	3	1	0	2	1	1
593:	1	1	1	1	2	3	0	3
601:	7	4	3	4	2	1	4	11
609:	6	9	9	4	9	14	1	4
617:	5	5	7	7	9	9	6	10
625:	8	11	9	9	15	7	11	10
633:	11	9	15	17	12	14	12	8
641:	6	6	10	3	9	5	2	3
649:	2	1	0	0	0	0	0	1
657:	0	0	0	0	0	0	0	0
665:	0	0	0	1	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	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	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: 09

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	1	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	1	0	0	0	0
1001:	0	0	1	0	0	0	0	0
1009:	0	0	0	0	0	1	0	0
1017:	0	0	0	0	0	0	0	0

Apex-Alpha™

10/13/15

Sample Description: CP5001S03-04
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001330
 Batch Identification: 1510092A-UU
 Sample Identification: 10
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_012
 Chamber Serial Number:
 Detector Serial Number: 12
 Env. Background: System Bkgd 133260
 Reagent Blank: <not performed>

Sample Size: 1.516E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:42:42 AM
 Acquisition Date/Time: 11/3/2015 2:29:45 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.656 mL
 Effective Efficiency: 0.1983 +/- 0.0108
 Counting Efficiency: 0.1936 +/- 0.0034 on 10/25/2014 6:44:33 PM
 Chem. Recovery Factor: 1.0242 +/- 0.0586

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	409.49	9.69	0.51	0.00E+000	28.5
U-234	4.739	119.81	18.01	1.19	0.00E+000	11.9
U-235	4.363	6.49	80.40	0.51	0.00E+000	3.0
U-238	4.156	97.49	19.91	0.51	0.00E+000	6.1

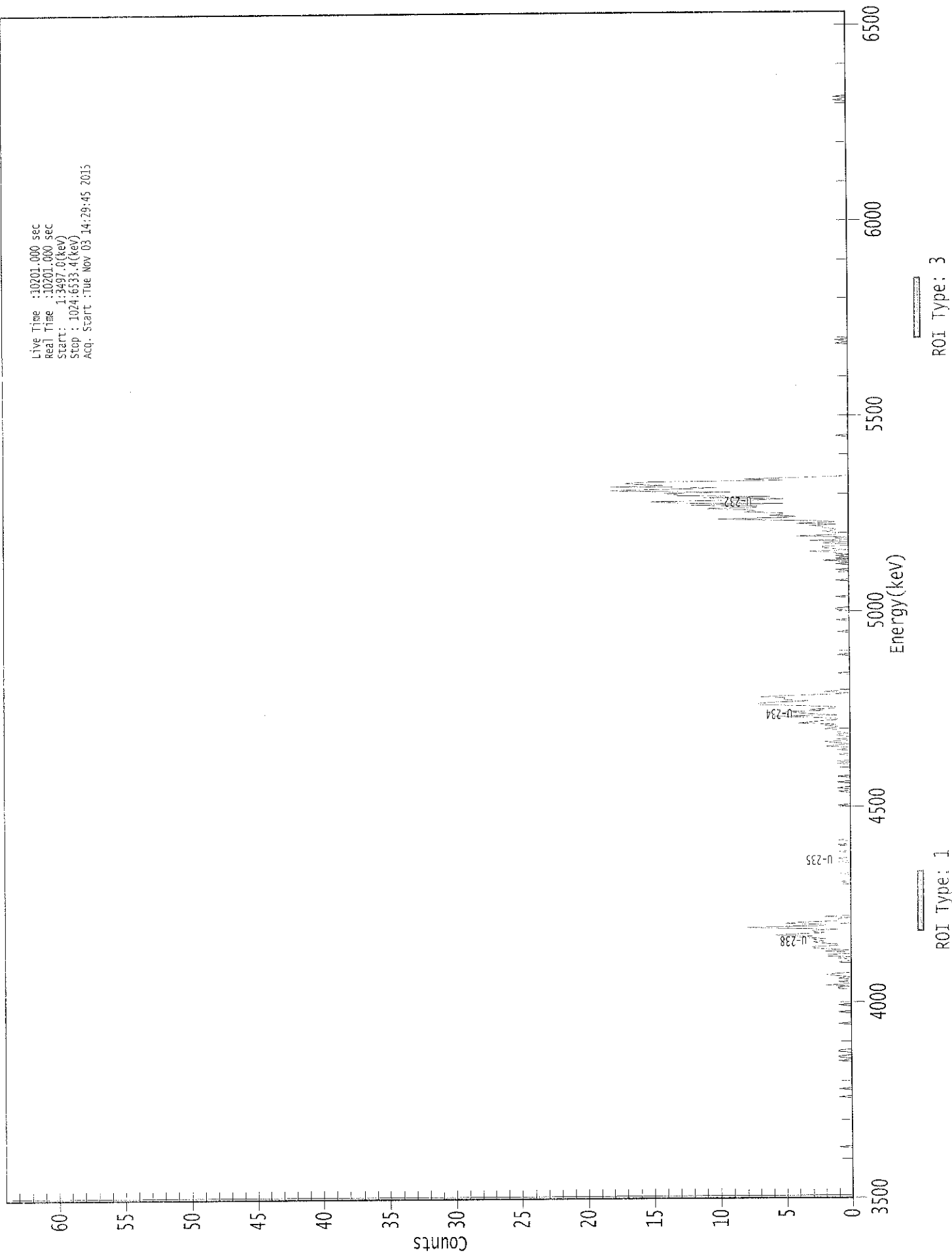
T = Tracer Peak used for Effective Efficiency

 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.997	5302.50*	3.62E+000 +/- 3.87E-001	4.64E-002 +/- 4.96E-003
U-234	0.996	4761.50*	1.06E+000 +/- 2.22E-001	5.82E-002 +/- 6.22E-003
U-235	0.996	4385.50*	7.07E-002 +/- 5.73E-002	5.72E-002 +/- 6.11E-003
U-238	0.994	4184.40*	8.57E-001 +/- 1.94E-001	4.61E-002 +/- 4.93E-003

0000133050.CNF

Live Time :10201.000 sec
Real Time :10201.000 sec
Start : 1:34:07.0(Rev)
Stop : 1024:6333.4(Rev)
Acq. Start :Tue Nov 03 14:29:45 2015



001000

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

Sample Title: 10

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	1	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	1
89:	0	0	0	0	0	0	1	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	0
121:	0	1	1	0	0	0	1	1
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	1	0
153:	0	0	0	0	0	0	0	0
161:	1	0	0	0	0	0	1	0
169:	0	0	0	0	0	0	0	0
177:	0	0	0	0	1	1	0	2
185:	0	0	1	0	0	1	0	1
193:	2	1	0	0	0	0	0	0
201:	0	0	0	1	0	0	1	0
209:	2	2	0	0	2	0	2	3
217:	3	1	1	2	3	2	3	2
225:	4	3	6	4	2	3	3	1
233:	6	8	2	2	5	4	1	1
241:	1	0	2	0	0	0	0	0
249:	0	0	0	0	0	0	0	0
257:	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0
273:	1	0	0	0	0	0	0	1
281:	0	0	0	0	0	0	0	0
289:	0	1	0	0	1	0	0	0
297:	0	0	1	0	0	0	0	0
305:	1	0	0	0	1	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	1	0	0	0	0	0
345:	0	0	0	0	0	0	1	0
353:	0	1	0	0	0	0	1	0
361:	0	0	0	1	0	0	0	0

369: 0 0 0 0 0 0 0 1 0

Sample Title: 10

Channel	1	2	3	4	5	6	7	8	9
377:	1	0	0	0	0	0	0	1	0
385:	0	0	1	0	0	2	1	1	0
393:	1	2	0	1	0	0	1	1	1
401:	0	1	1	1	2	1	1	2	2
409:	1	4	3	2	1	1	3	6	6
417:	1	3	4	5	2	3	1	1	1
425:	4	7	7	6	3	5	5	5	5
433:	7	4	1	0	2	1	0	0	0
441:	0	0	0	0	0	0	0	0	0
449:	0	0	0	0	1	0	0	0	0
457:	0	0	0	0	0	0	0	0	0
465:	0	0	0	0	1	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:	1	0	0	0	0	0	0	0	0
497:	0	0	1	0	0	0	0	0	0
505:	0	0	0	1	1	0	0	0	0
513:	0	0	0	0	0	0	1	0	0
521:	0	0	0	0	0	0	0	0	0
529:	0	0	0	0	1	0	0	0	0
537:	0	0	0	0	0	1	0	0	0
545:	0	0	1	0	0	2	0	1	1
553:	0	1	0	1	1	3	0	1	1
561:	2	2	0	0	2	0	3	0	0
569:	1	0	4	1	1	1	2	1	1
577:	1	2	2	3	1	4	1	2	2
585:	7	10	5	4	6	5	5	8	8
593:	7	8	11	7	7	12	5	13	13
601:	15	7	5	11	6	13	13	14	14
609:	9	17	18	12	10	18	14	16	16
617:	17	15	5	8	5	1	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	0	0	0	0	0	0	0	0
649:	0	0	0	0	0	0	0	0	0
657:	1	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:	1	0	0	1	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

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	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	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

11/3/15

Apex-Alpha™

Sample Description: CP5001S06-07
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001330
 Batch Identification: 1510092A-UU
 Sample Identification: 11
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_014
 Chamber Serial Number:
 Detector Serial Number: 14
 Env. Background: System Bkgd 133261
 Reagent Blank: <not performed>

Sample Size: 1.541E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:42:42 AM
 Acquisition Date/Time: 11/3/2015 2:29:46 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.657 mL
 Effective Efficiency: 0.2020 +/- 0.0110
 Counting Efficiency: 0.1840 +/- 0.0032 on 10/25/2014 6:45:28 PM
 Chem. Recovery Factor: 1.0976 +/- 0.0626

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 5.277	417.45	9.63	2.55	0.00E+000	29.1
U-234	4.736	112.30	18.66	1.70	0.00E+000	4.8
U-235	4.358	6.49	80.40	0.51	0.00E+000	2.9
U-238	4.157	109.98	18.79	1.02	0.00E+000	4.7

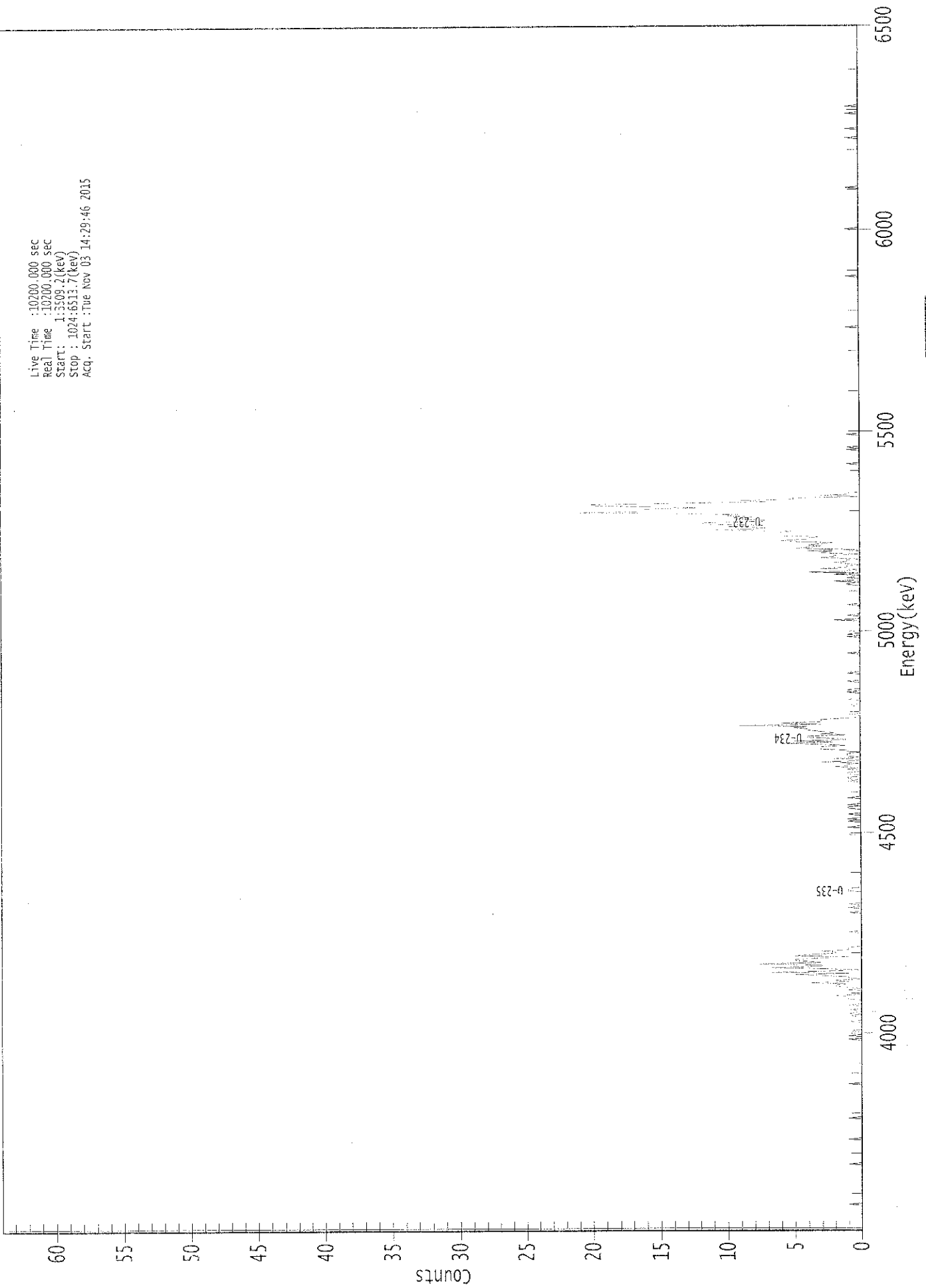
T = Tracer Peak used for Effective Efficiency

 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.995	5302.50*	3.56E+000 +/- 3.79E-001	7.16E-002 +/- 7.61E-003
U-234	0.995	4761.50*	9.58E-001 +/- 2.06E-001	6.26E-002 +/- 6.66E-003
U-235	0.995	4385.50*	6.83E-002 +/- 5.54E-002	5.52E-002 +/- 5.87E-003
U-238	0.995	4184.40*	9.34E-001 +/- 2.02E-001	5.35E-002 +/- 5.69E-003

0000133051.CNF

Live Time : 10200.000 sec
Real Time : 10200.000 sec
Start : 1:3309.2(kev)
Stop : 1024:5513.7(kev)
Acq. Start : Tue Nov 03 14:29:46 2015



ROI Type: 3

ROI Type: 1

15100

 ***** 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:	10200	10200	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	1	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:	1	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	1	0	0
81:	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	1
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	1	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	1	0	0	1	0	0
169:	0	1	0	0	0	0	0	0
177:	0	1	0	0	0	0	1	0
185:	1	0	0	1	0	0	0	1
193:	0	0	0	0	1	1	1	2
201:	0	0	0	0	1	0	1	2
209:	2	1	4	1	2	0	1	1
217:	3	5	1	7	2	0	4	7
225:	3	3	8	3	4	5	5	3
233:	1	5	4	2	2	3	1	1
241:	1	0	0	0	0	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	0	1	0
273:	0	0	1	0	0	1	0	0
281:	0	0	0	0	0	0	0	0
289:	1	1	1	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	0	0	0	0	0
337:	1	0	0	0	0	0	1	0
345:	0	0	0	1	0	1	0	0
353:	0	1	0	0	0	0	1	1
361:	0	1	0	0	0	0	0	1

369: 0 0 0 0 0 0 0 0 0

Sample Title: 11

Channel	1	2	3	4	5	6	7	8
377:	0	0	0	0	0	1	0	1
385:	1	0	0	1	1	0	0	1
393:	0	2	1	1	0	3	0	0
401:	2	0	1	1	1	0	1	1
409:	3	3	3	1	3	6	2	5
417:	1	2	4	4	1	3	2	3
425:	4	4	5	4	9	3	6	3
433:	3	3	1	0	0	1	0	0
441:	0	0	0	0	0	1	0	0
449:	0	0	1	0	0	0	0	0
457:	1	0	1	0	0	0	0	0
465:	0	1	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	1	0	0	0	0	0	0
497:	0	0	0	0	0	0	0	1
505:	0	1	0	0	0	0	0	0
513:	0	0	0	0	0	2	0	0
521:	0	1	0	0	0	0	0	0
529:	0	0	1	0	0	0	0	0
537:	0	0	0	0	0	0	0	0
545:	0	0	0	1	1	0	2	0
553:	0	1	0	0	2	0	4	0
561:	0	3	1	1	0	1	2	1
569:	1	0	3	2	2	0	3	2
577:	4	0	5	4	3	4	3	2
585:	5	6	4	4	3	6	6	6
593:	6	5	11	8	7	10	7	11
601:	12	7	7	9	9	8	10	9
609:	13	21	16	16	16	12	16	20
617:	20	12	7	9	5	5	0	3
625:	1	1	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	1	0	0	0	0	0
657:	0	0	0	0	0	0	1	0
665:	1	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	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	1	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: 11

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	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	1	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	1	0
929:	0	0	0	0	0	0	1	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	1	0	0	0	0
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™

163
11/3/15

Sample Description: CP5001S09-10
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001330
 Batch Identification: 1510092A-UU
 Sample Identification: 12
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_015
 Chamber Serial Number:
 Detector Serial Number: 15
 Env. Background: System Bkgd 133262
 Reagent Blank: <not performed>

Sample Size: 1.557E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:42:42 AM
 Acquisition Date/Time: 11/3/2015 2:29:47 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.656 mL
 Effective Efficiency: 0.2534 +/- 0.0125
 Counting Efficiency: 0.2348 +/- 0.0040 on 5/1/2015 2:28:00 PM
 Chem. Recovery Factor: 1.0792 +/- 0.0564

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 5.272	523.49	8.57	0.51	0.00E+000	29.3
U-234	4.722	148.49	16.12	0.51	0.00E+000	11.4
U-235	4.372	12.83	55.14	0.17	0.00E+000	3.0
U-238	4.140	158.83	15.56	0.17	0.00E+000	7.2

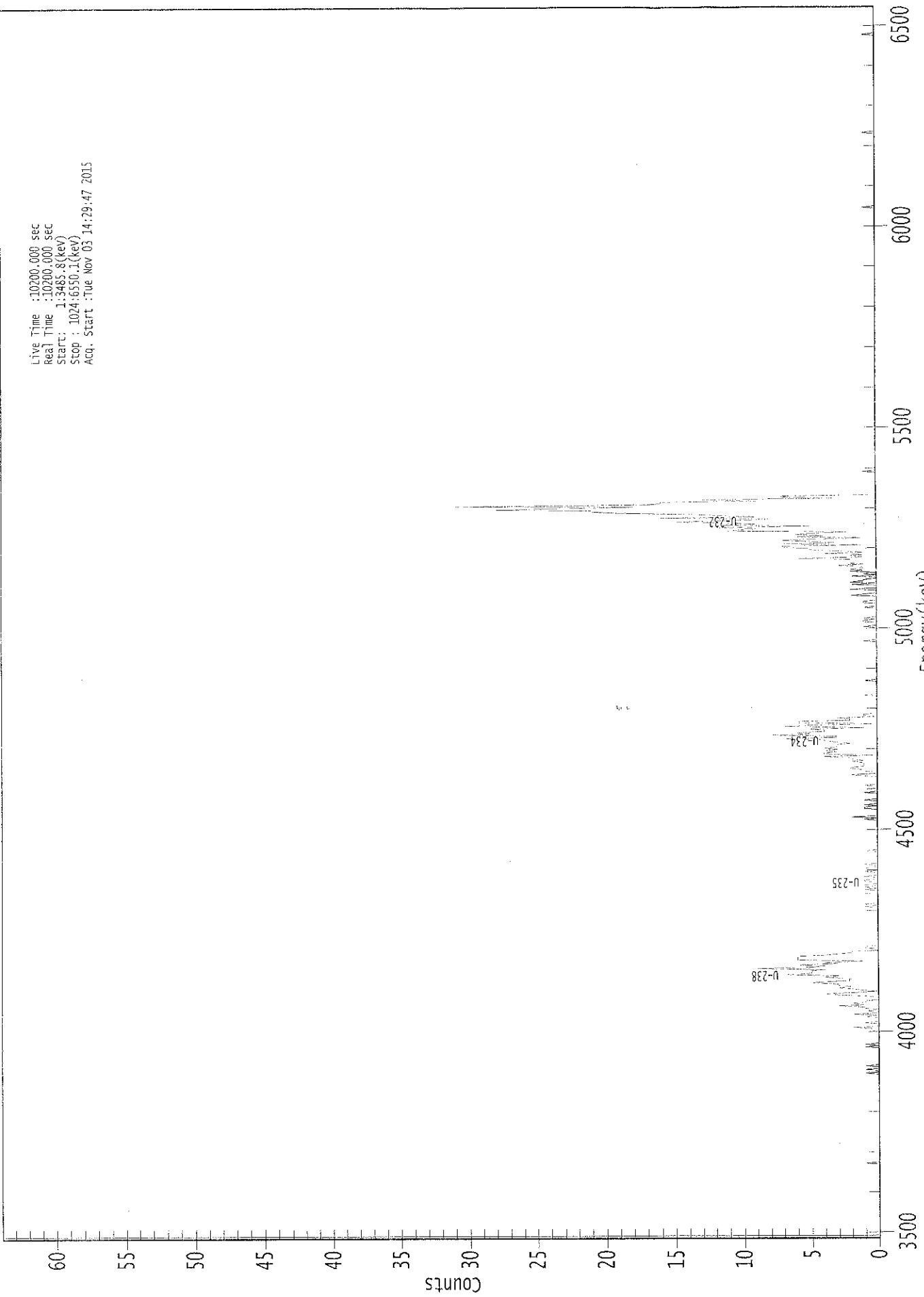
T = Tracer Peak used for Effective Efficiency

 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.993	5302.50*	3.53E+000 +/- 3.41E-001	3.53E-002 +/- 3.42E-003
U-234	0.989	4761.50*	9.99E-001 +/- 1.88E-001	3.53E-002 +/- 3.42E-003
U-235	0.999	4385.50*	1.07E-001 +/- 5.96E-002	3.46E-002 +/- 3.36E-003
U-238	0.986	4184.40*	1.06E+000 +/- 1.95E-001	2.80E-002 +/- 2.71E-003

0000133052.CNF

Live Time :10200.000 sec
Real Time :10200.000 sec
Start: 1:3485.8(kev)
Stop : 1024:6550.1(kev)
Acq. Start :Tue Nov 03 14:29:47 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: 12

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	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	1	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	1	0	0	1	0	0	1	1
145:	0	0	0	0	0	0	0	0	0
153:	0	0	0	0	0	0	0	0	1
161:	0	1	0	0	0	0	0	0	0
169:	0	0	0	0	0	0	0	0	2
177:	0	0	0	1	0	0	0	0	0
185:	1	0	2	0	0	1	0	1	1
193:	1	3	1	2	1	1	0	0	0
201:	0	1	3	4	2	0	1	2	2
209:	3	2	3	3	5	4	2	2	2
217:	3	4	3	7	5	5	5	4	4
225:	9	5	4	6	3	4	1	6	6
233:	6	6	6	4	3	2	2	0	0
241:	0	1	1	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	1	0	1	0	0	0
281:	0	0	0	0	0	0	1	0	0
289:	0	1	0	1	0	1	0	0	0
297:	1	1	0	0	1	0	0	0	0
305:	1	0	0	1	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	1	0	2	0	0	0
353:	0	0	0	0	1	1	0	1	1
361:	0	0	0	1	0	0	0	0	0

369: 0 1 0 0 0 0 0 0 1

Sample Title: 12

Channel	1	2	3	4	5	6	7	8	9
377:	0	0	0	0	0	0	0	0	1
385:	2	0	0	1	1	2	2	2	1
393:	1	1	1	2	1	2	2	2	4
401:	0	4	4	3	4	3	4	3	3
409:	3	3	2	3	4	4	7	3	3
417:	3	8	5	6	4	4	5	1	1
425:	7	5	0	6	6	2	2	3	3
433:	0	1	1	0	0	0	0	0	0
441:	0	0	0	0	0	0	0	0	0
449:	0	0	1	0	0	0	0	0	0
457:	0	0	0	0	0	0	1	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	0	1	1
497:	0	0	0	0	0	0	0	0	0
505:	0	0	0	1	0	0	0	1	1
513:	1	0	1	0	0	0	0	0	0
521:	0	0	0	1	0	0	0	1	1
529:	1	0	0	0	0	2	1	0	0
537:	0	0	2	0	0	0	2	0	0
545:	2	1	1	0	0	2	0	1	1
553:	0	2	1	2	1	1	3	1	1
561:	2	2	2	2	6	1	2	1	1
569:	4	1	3	5	5	7	7	1	1
577:	7	3	5	7	5	1	6	4	4
585:	6	5	2	11	10	9	12	5	5
593:	12	9	12	15	10	8	16	9	9
601:	12	14	19	21	21	28	24	18	18
609:	31	17	16	16	9	13	3	7	7
617:	7	0	0	0	0	0	0	0	0
625:	0	0	0	0	0	0	0	0	0
633:	0	0	0	0	1	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:	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

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	1
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	1	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	1
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

108
11/3/15

Apex-Alpha™

Sample Description: CP5001S11-12
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001330
 Batch Identification: 1510092A-UU
 Sample Identification: 13
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_049
 Chamber Serial Number: 10006121A
 Detector Serial Number: 49
 Env. Background: System Bkgd 133279
 Reagent Blank: <not performed>

Sample Size: 1.537E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:42:42 AM
 Acquisition Date/Time: 11/3/2015 3:19:51 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.656 mL
 Effective Efficiency: 0.1641 +/- 0.0097
 Counting Efficiency: 0.1525 +/- 0.0027 on 12/13/2014 2:45:02 PM
 Chem. Recovery Factor: 1.0759 +/- 0.0664

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	338.83	10.65	0.17	0.00E+000	32.2
U-234	4.731	105.98	19.15	1.02	0.00E+000	8.3
U-235	4.411	8.83	66.70	0.17	0.00E+000	3.0
U-238	4.162	96.32	20.05	0.68	0.00E+000	13.1

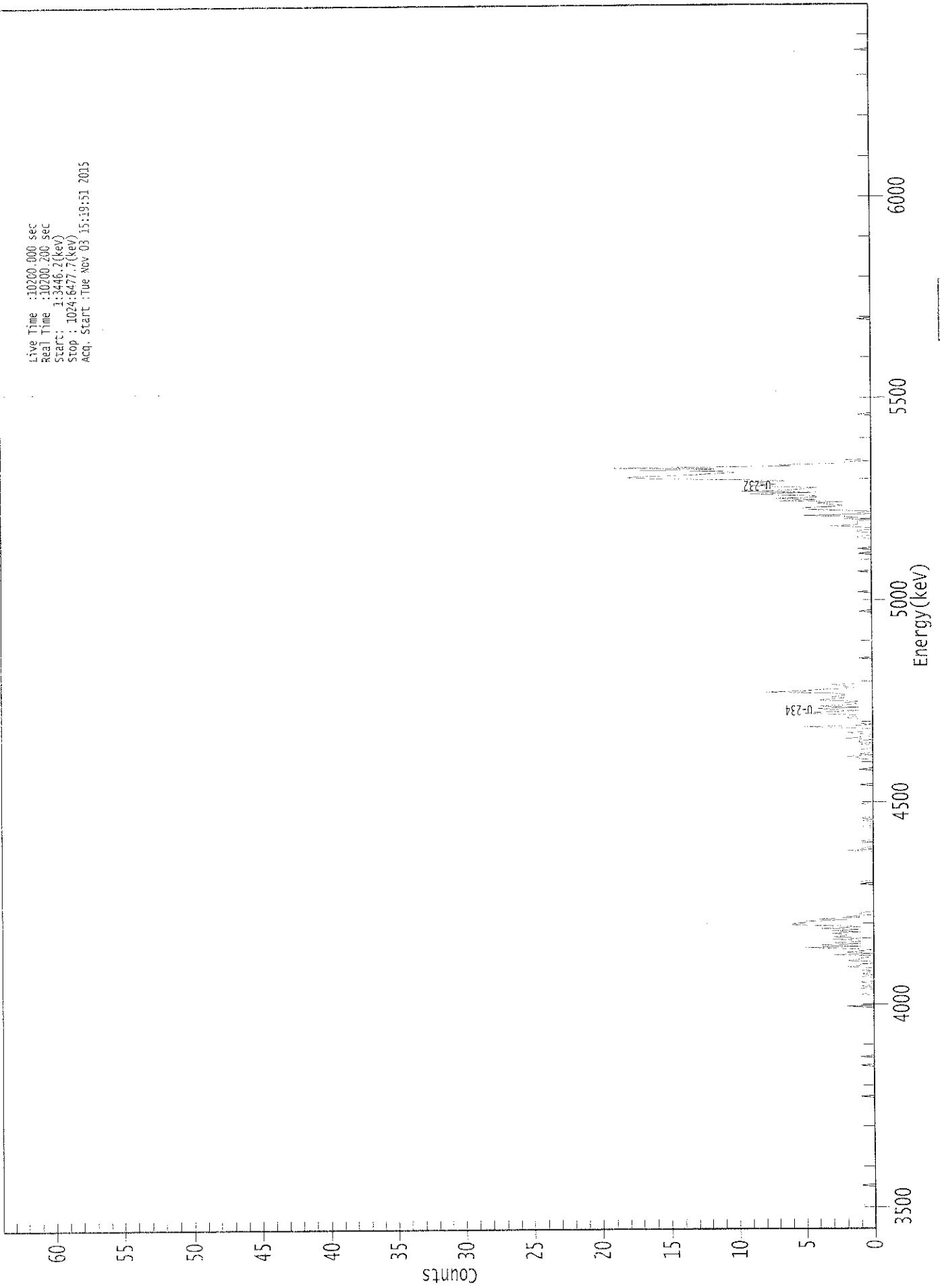
T = Tracer Peak used for Effective Efficiency

 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.998	5302.50*	3.57E+000 +/- 4.13E-001	4.40E-002 +/- 5.09E-003
U-234	0.994	4761.50*	1.12E+000 +/- 2.50E-001	6.63E-002 +/- 7.67E-003
U-235	0.995	4385.50*	1.15E-001 +/- 7.76E-002	5.42E-002 +/- 6.27E-003
U-238	0.997	4184.40*	1.01E+000 +/- 2.34E-001	5.91E-002 +/- 6.84E-003

0000133059.CNF

Live Time :10200.000 sec
Real Time :10200.200 sec
Start: 1:3446.2(keV)
Stop : 1024.6477.7(keV)
Acq. Start :Tue Nov 03 15:19:51 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: 13

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	1	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	1	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:	1	0	0	0	0	0	0	1
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	2	0	0	0	0	0	0
193:	0	0	0	1	0	0	0	0
201:	1	0	1	0	0	1	0	0
209:	0	0	1	0	1	0	0	1
217:	0	0	2	1	1	0	0	2
225:	1	1	0	0	3	0	2	1
233:	0	2	5	1	4	1	3	1
241:	1	3	0	3	2	2	3	1
249:	3	1	4	1	2	6	6	5
257:	5	2	4	1	2	0	1	1
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	1
289:	0	1	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	2	0	1	0	0
321:	0	0	0	1	0	0	0	0
329:	0	0	0	0	0	0	0	1
337:	0	0	0	0	1	0	1	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 0 1 0 0 0 0 0

Sample Title: 13

Channel	1	2	3	4	5	6	7	8	9
377:	0	0	0	0	0	0	0	0	1
385:	0	0	0	0	0	0	0	0	0
393:	1	1	2	0	1	0	0	0	0
401:	1	0	0	0	1	0	1	1	1
409:	0	2	1	0	0	1	2	2	0
417:	0	0	2	5	1	0	1	1	1
425:	1	1	2	1	1	2	5	4	4
433:	1	3	4	1	4	2	1	2	2
441:	1	4	3	2	3	2	2	3	3
449:	8	5	4	1	2	2	3	1	1
457:	1	0	0	0	0	0	0	0	0
465:	0	0	0	0	0	0	0	0	0
473:	0	0	0	0	1	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	0
513:	0	0	0	1	0	0	0	0	0
521:	0	0	0	0	0	0	0	0	0
529:	0	0	0	1	0	0	0	0	0
537:	0	0	0	0	0	0	0	0	0
545:	0	0	0	0	1	0	0	0	0
553:	0	0	0	0	0	0	0	0	0
561:	0	0	0	1	0	0	0	0	1
569:	0	0	0	0	0	0	0	0	0
577:	1	1	0	0	0	1	1	0	0
585:	0	1	3	1	1	1	1	0	0
593:	2	1	2	5	0	1	0	2	2
601:	5	5	3	2	3	4	2	7	7
609:	4	7	4	4	7	9	4	10	10
617:	6	5	4	7	9	7	8	9	9
625:	6	10	16	18	17	13	12	10	10
633:	11	17	11	19	6	7	2	2	2
641:	0	2	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	1	1
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	1	1
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

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:	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:	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™

WB
11/3/15

Sample Description: CP5001S13-14
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001330
 Batch Identification: 1510092A-UU
 Sample Identification: 14
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_050
 Chamber Serial Number: 10006121B
 Detector Serial Number: 50
 Env. Background: System Bkgd 133280
 Reagent Blank: <not performed>

Sample Size: 1.510E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:42:42 AM
 Acquisition Date/Time: 11/3/2015 3:19:53 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.650 mL
 Effective Efficiency: 0.1664 +/- 0.0098
 Counting Efficiency: 0.1428 +/- 0.0026 on 12/13/2014 2:43:59 PM
 Chem. Recovery Factor: 1.1659 +/- 0.0719

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 5.273	340.15	10.64	0.85	0.00E+000	40.0
U-234	4.725	83.66	21.48	0.34	0.00E+000	3.6
U-235	4.409	5.00	96.02	0.00	0.00E+000	3.0
U-238	4.153	98.83	19.74	0.17	0.00E+000	6.4

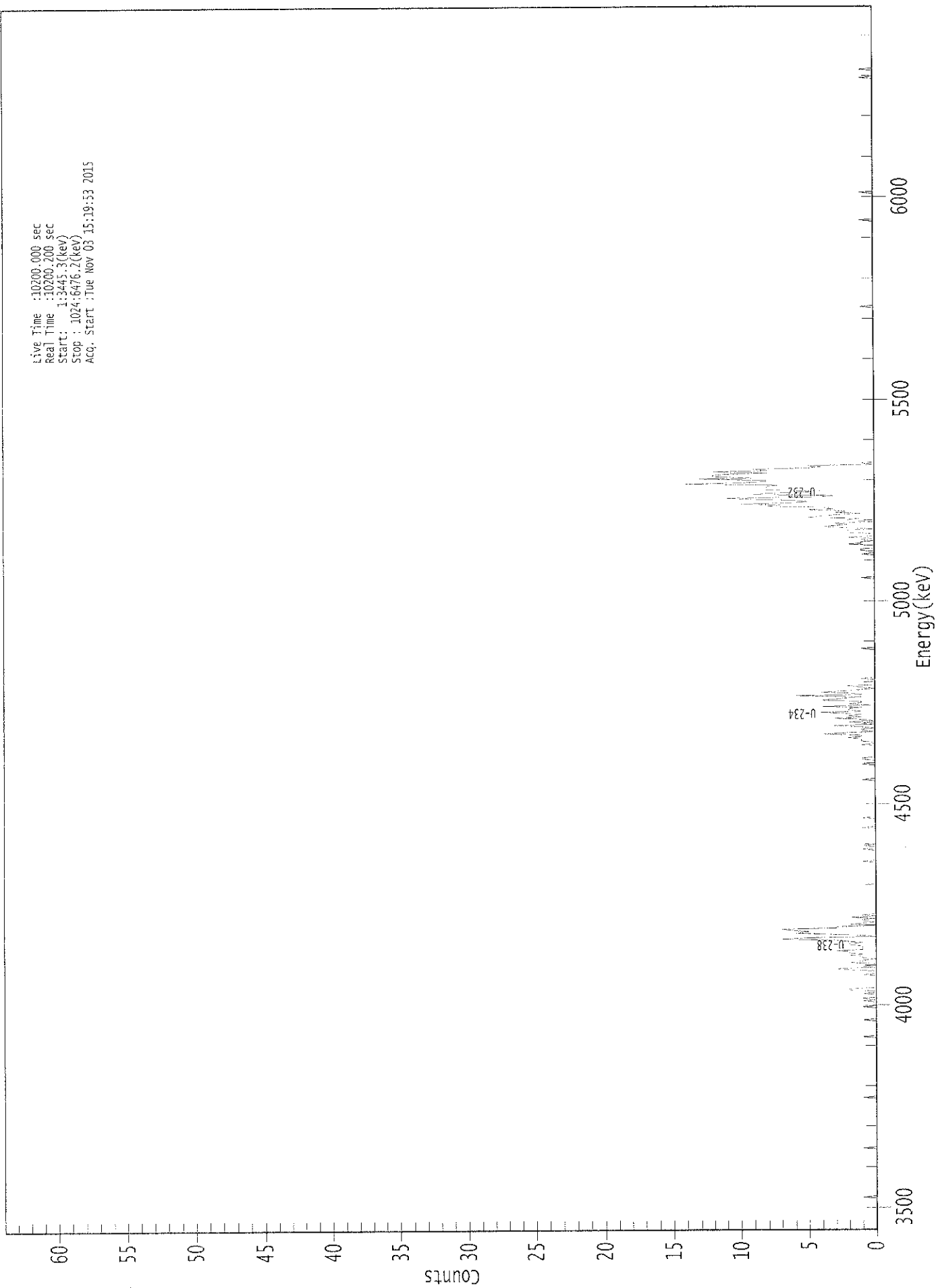
T = Tracer Peak used for Effective Efficiency

 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.994	5302.50*	3.60E+000 +/- 4.16E-001	6.33E-002 +/- 7.32E-003
U-234	0.990	4761.50*	8.84E-001 +/- 2.16E-001	5.05E-002 +/- 5.84E-003
U-235	0.996	4385.50*	6.52E-002 +/- 6.30E-002	7.82E-002 +/- 9.04E-003
U-238	0.993	4184.40*	1.04E+000 +/- 2.38E-001	4.39E-002 +/- 5.08E-003

0000133060.CNF

Live Time :10200.000 sec
Real Time :10200.200 sec
Start: 1:3445.3(keV)
Stop : 1024:5476.2(keV)
Acq. Start :Tue Nov 03 15:19:53 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: 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	0	0	0	0	0	0	0
17:	0	0	0	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	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	1	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	1	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	1	0	0	0	0	0	0	0
169:	0	0	0	0	0	0	0	0	1
177:	0	0	0	0	0	0	0	0	0
185:	0	0	1	0	0	0	0	0	1
193:	0	1	0	0	0	1	0	0	0
201:	2	2	0	0	0	0	0	0	0
209:	0	0	0	0	0	1	0	0	0
217:	0	2	3	0	1	0	0	0	2
225:	1	1	0	1	1	2	1	2	2
233:	2	3	1	1	1	1	2	2	2
241:	1	2	3	7	5	0	1	4	4
249:	6	5	6	7	3	3	0	2	2
257:	1	0	1	1	0	2	0	1	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	0	0	0
305:	0	0	0	0	1	0	0	0	0
313:	0	0	0	0	0	0	1	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:	1	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: 14

Channel	1	2	3	4	5	6	7	8	9
377:	1	0	0	0	0	0	0	0	0
385:	0	0	0	0	0	1	0	0	0
393:	0	1	1	0	0	0	0	0	0
401:	0	0	0	0	0	1	0	0	0
409:	1	1	1	2	1	1	4	2	2
417:	0	1	1	0	1	3	0	1	1
425:	2	0	1	3	1	2	1	2	2
433:	4	1	2	2	1	4	0	2	2
441:	1	1	4	3	2	1	6	1	1
449:	2	4	2	1	0	1	2	0	0
457:	0	0	0	0	1	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	1	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	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	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	1	0	0	1	0
569:	1	0	0	0	2	1	1	0	0
577:	1	0	2	0	0	0	2	2	2
585:	2	0	2	4	3	2	3	0	0
593:	2	2	1	5	4	3	1	3	3
601:	2	5	3	3	8	7	10	6	6
609:	5	6	9	11	4	3	9	8	8
617:	6	4	8	8	8	8	7	14	14
625:	10	8	8	13	9	12	12	11	11
633:	8	12	8	9	5	4	5	0	0
641:	1	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:	0	0	0	0	0	0	0	0	0
761:	0	0	0	0	0	0	0	0	0
769:	0	0	0	1	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	0	0	0	0	0	0	0
841:	0	0	0	1	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	1	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	1	0	0	0	0	0
969:	0	1	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
11/3/15

Sample Description: CP5001S16-17
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001330
 Batch Identification: 1510092A-UU
 Sample Identification: 15
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_051
 Chamber Serial Number: 10006123A
 Detector Serial Number: 51
 Env. Background: System Bkgd 133281
 Reagent Blank: <not performed>

Sample Size: 1.511E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:42:42 AM
 Acquisition Date/Time: 11/3/2015 3:19:55 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.657 mL
 Effective Efficiency: 0.1681 +/- 0.0099
 Counting Efficiency: 0.1524 +/- 0.0027 on 12/13/2014 2:42:37 PM
 Chem. Recovery Factor: 1.1029 +/- 0.0677

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 5.264	347.43	10.58	3.57	0.00E+000	9.9
U-234	4.727	124.79	17.73	2.21	0.00E+000	13.4
U-235	4.369	0.98	294.85	1.02	0.00E+000	3.0
U-238	4.135	128.49	17.33	0.51	0.00E+000	3.9

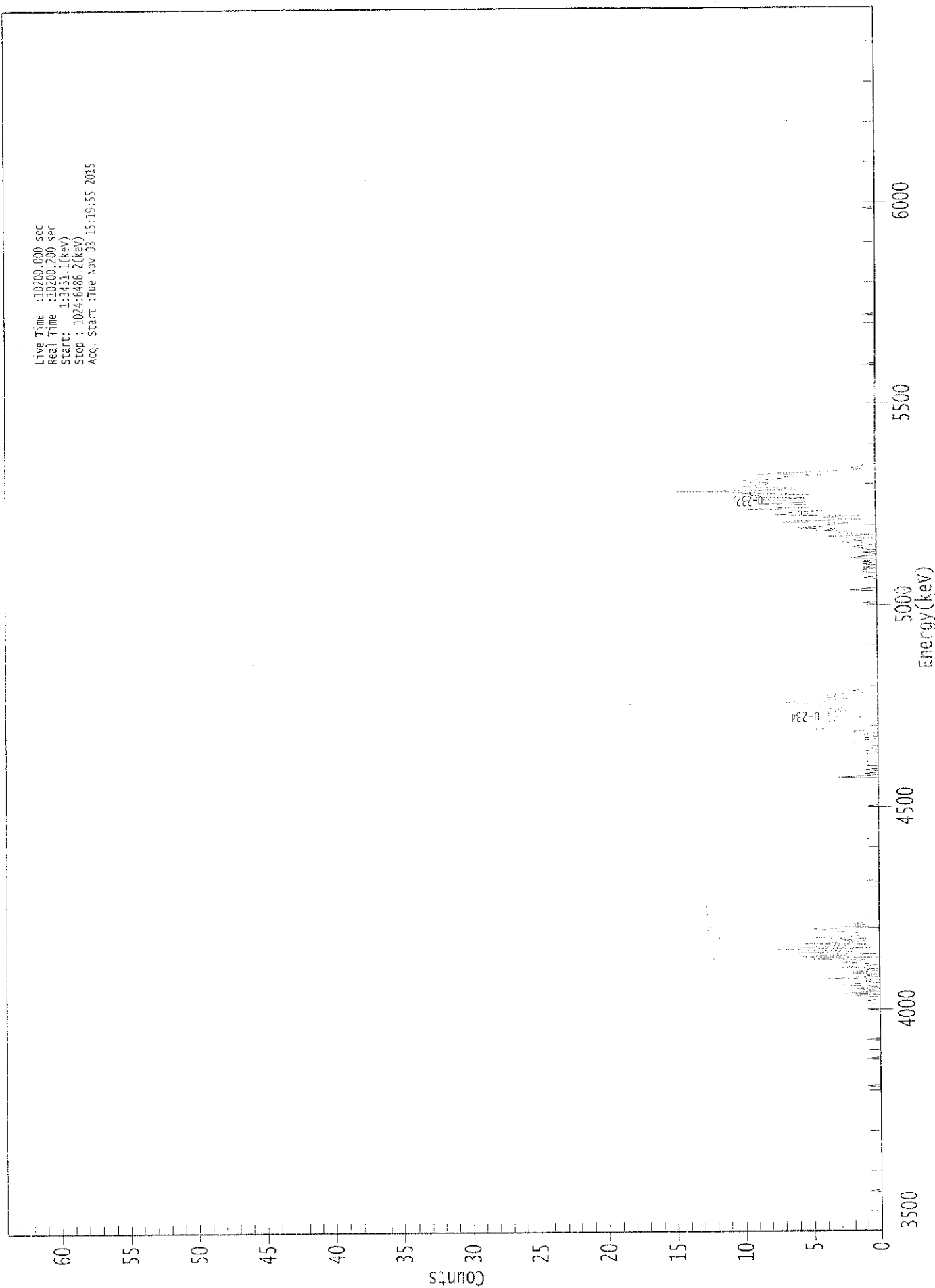
T = Tracer Peak used for Effective Efficiency

 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.989	5302.50*	3.63E+000 +/- 4.18E-001	9.86E-002 +/- 1.13E-002
U-234	0.992	4761.50*	1.30E+000 +/- 2.76E-001	8.36E-002 +/- 9.61E-003
U-235	0.998	4385.50*	1.26E-002 +/- 3.73E-002	8.12E-002 +/- 9.34E-003
U-238	0.983	4184.40*	1.34E+000 +/- 2.78E-001	5.46E-002 +/- 6.28E-003

0000133061.CNF

Live Time :10200.000 sec
Real Time :10200.200 sec
Start: 1:3451.1(kev)
Stop : 1024:0486.2(kev)
Acq. Start :Tue Nov 03 15:19:55 2015



ROI Type: 3

ROI Type: 1

00155

 ***** 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:	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	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	1	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:	1	0	0	0	0	0	0	0	0
153:	0	0	0	0	0	0	0	0	0
161:	1	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	0	0	0	0	1	1	1
193:	1	0	0	0	2	0	3	1	1
201:	0	1	2	0	0	3	2	0	0
209:	1	1	0	4	0	1	0	2	2
217:	2	0	1	0	3	1	0	1	1
225:	3	2	1	5	0	6	4	0	0
233:	6	2	3	8	0	6	2	1	1
241:	6	2	1	3	1	5	2	1	1
249:	1	2	3	4	5	0	3	1	1
257:	2	1	1	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	0	0	0	1	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	1	1
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	1	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: 15

Channel	1	2	3	4	5	6	7	8	9
377:	0	0	3	1	0	1	0	0	0
385:	1	0	0	0	1	0	0	0	1
393:	0	0	0	0	1	1	0	0	0
401:	1	0	1	0	0	1	1	2	0
409:	1	1	0	1	0	1	1	0	0
417:	2	1	5	4	4	3	3	3	3
425:	3	4	2	1	1	3	4	3	3
433:	4	4	2	3	4	2	2	4	4
441:	5	7	4	4	2	4	3	4	4
449:	3	1	1	2	1	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	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	1	0	0	0	0
529:	0	0	0	0	0	0	0	2	0
537:	1	0	0	0	0	0	0	0	0
545:	0	1	0	0	0	0	1	1	1
553:	1	0	1	0	0	1	0	1	1
561:	0	0	2	1	0	0	1	0	0
569:	0	1	1	2	1	0	1	3	3
577:	1	2	0	1	4	0	2	3	3
585:	2	5	3	7	4	4	3	2	2
593:	7	6	1	3	4	1	8	4	4
601:	7	4	6	10	5	5	5	9	9
609:	5	5	10	8	5	11	10	5	5
617:	10	9	15	6	6	8	10	9	9
625:	8	8	10	10	7	7	6	4	4
633:	9	6	4	2	1	2	1	1	1
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	1	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	1	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: 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	1	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

KS
11/3/15

Apex-Alpha™

Sample Description: CP5001S18-19
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001330
 Batch Identification: 1510092A-UU
 Sample Identification: 16
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_052
 Chamber Serial Number: 10006123B
 Detector Serial Number: 52
 Env. Background: System Bkgd 133282
 Reagent Blank: <not performed>

Sample Size: 1.500E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:42:42 AM
 Acquisition Date/Time: 11/3/2015 3:19:56 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.657 mL
 Effective Efficiency: 0.1821 +/- 0.0103
 Counting Efficiency: 0.1607 +/- 0.0029 on 12/13/2014 2:40:57 PM
 Chem. Recovery Factor: 1.1336 +/- 0.0671

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 5.274	376.49	10.11	0.51	0.00E+000	10.9
U-234	4.733	116.49	18.21	0.51	0.00E+000	6.1
U-235	4.374	5.49	88.08	0.51	0.00E+000	2.9
U-238	4.159	150.32	16.03	0.68	0.00E+000	9.1

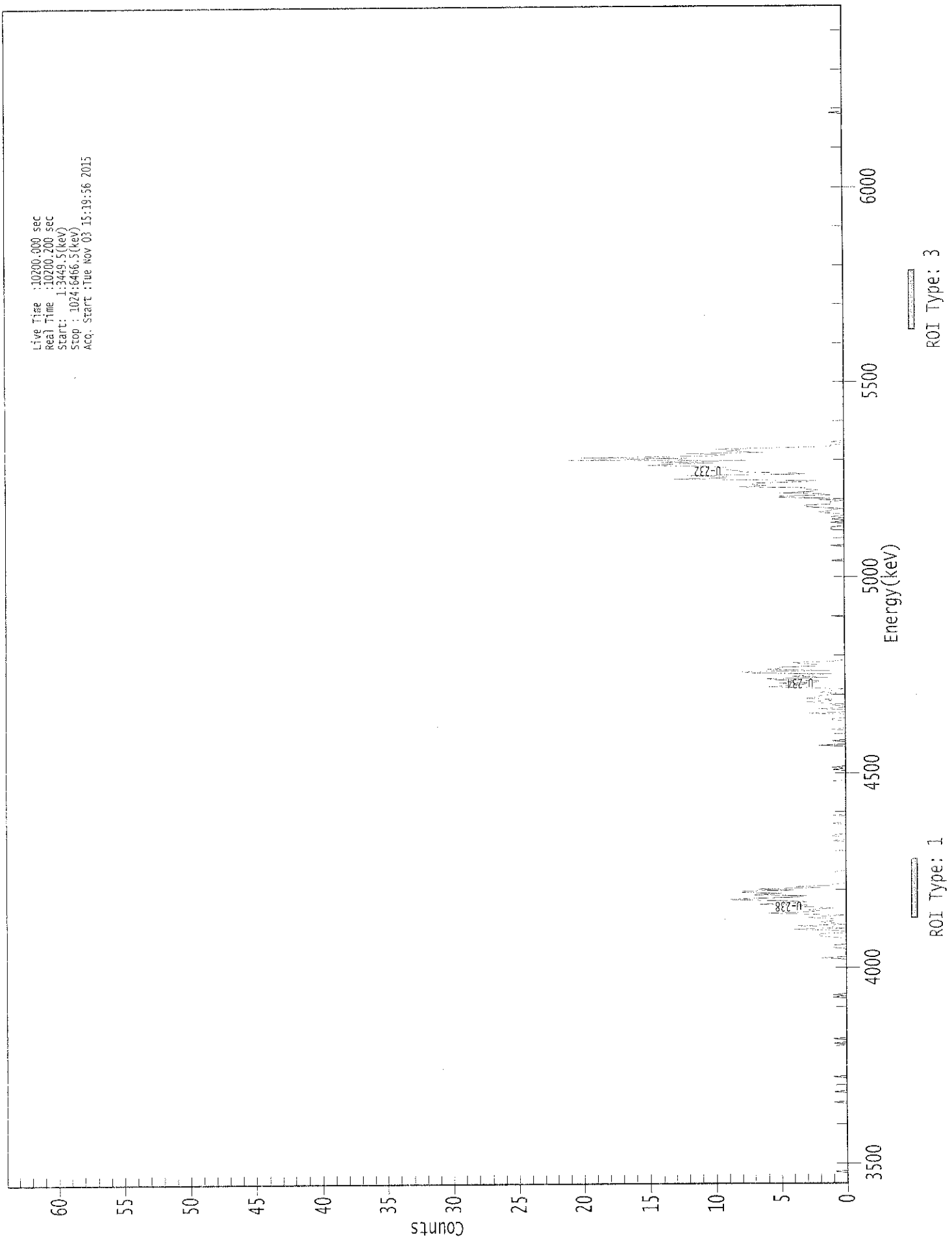
T = Tracer Peak used for Effective Efficiency

 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.994	5302.50*	3.66E+000 +/- 4.05E-001	5.10E-002 +/- 5.65E-003
U-234	0.994	4761.50*	1.13E+000 +/- 2.41E-001	5.10E-002 +/- 5.64E-003
U-235	0.999	4385.50*	6.58E-002 +/- 5.84E-002	6.29E-002 +/- 6.96E-003
U-238	0.995	4184.40*	1.45E+000 +/- 2.83E-001	5.46E-002 +/- 6.04E-003

0000133062.CNF

Live Time : 10200.000 sec
Real Time : 10200.200 sec
Start : 1:3449.5 (keV)
Stop : 1024:0466.5 (keV)
Acq. Start : Tue Nov 03 15:19:36 2015



: 00160

 ***** 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:	0	0	0	0	0	0	0	0
9:	0	0	1	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	1	0
73:	0	0	0	0	0	0	0	1
81:	0	0	0	0	0	0	0	0
89:	0	0	0	0	1	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	1	0	0	0	1	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	1	0	1	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	2	0	0	0	0
201:	0	0	0	0	1	1	1	0
209:	0	0	0	0	0	1	2	2
217:	2	0	0	1	4	1	1	4
225:	0	1	2	1	1	1	3	2
233:	0	3	6	3	2	3	1	2
241:	4	3	7	4	3	5	9	7
249:	4	3	7	5	8	8	4	7
257:	2	4	1	1	0	0	0	0
265:	0	0	0	0	0	0	1	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	1	1	0
305:	0	0	0	0	0	0	0	0
313:	1	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	1	0	0
353:	0	0	0	0	0	0	0	1
361:	0	1	0	0	0	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	2	0	0	0	0
385:	1	0	0	0	0	0	0	0	0
393:	0	0	1	0	0	0	0	0	0
401:	0	0	1	1	0	0	0	0	0
409:	3	0	0	0	2	0	0	0	1
417:	0	2	3	1	1	3	2	2	2
425:	1	0	2	1	1	0	3	6	6
433:	4	3	5	2	2	5	6	1	1
441:	4	3	1	7	8	1	6	5	5
449:	5	2	2	3	4	1	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	1	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	1	0	0	0	0
545:	0	0	0	0	0	0	0	0	0
553:	0	1	0	0	0	0	0	0	0
561:	0	0	0	0	0	0	0	0	1
569:	1	1	0	0	0	1	0	0	0
577:	1	0	1	0	0	1	2	1	1
585:	1	0	2	3	3	1	1	1	1
593:	0	2	1	5	5	1	2	5	5
601:	2	2	3	3	8	6	7	7	7
609:	4	2	7	13	9	9	12	3	3
617:	4	8	8	9	9	9	10	15	15
625:	14	10	14	7	21	12	20	10	10
633:	9	12	6	9	8	10	4	1	1
641:	1	0	0	1	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:	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

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:	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	1	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



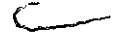
QA SUMMARY REPORT

Review Of QA Results - Pulser Check

Date : 11/3/2015
Time : 5:45:15 AM

CHAMBER	DEVICE	PARAMETER	FLAG	DATE
Alpha 001	21f	ALL	Not Done	
Alpha 002	21f	ALL	Not Done	
Alpha 003	21f	ALL	Passed	11/3/2015 5:19:43 AM
Alpha 004	21f	ALL	Passed	11/3/2015 5:19:44 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	11/3/2015 5:19:45 AM
Alpha 011	21f	ALL	Passed	11/3/2015 5:19:46 AM
Alpha 012	21f	ALL	Passed	11/3/2015 5:19:46 AM
Alpha 013	21f	ALL	Not Done	
Alpha 014	21f	ALL	Passed	11/3/2015 5:19:47 AM
Alpha 015	21f	ALL	Passed	11/3/2015 5:19:48 AM
Alpha 016	21f	ALL	Not Done	
Alpha 033	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:19:49 AM
Alpha 034	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:19:51 AM
Alpha 035	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:19:52 AM
Alpha 036	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:19:54 AM
Alpha 037	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:19:55 AM
Alpha 038	Alpha Analyst100DC	Peak Energy	Action	11/3/2015 5:19:57 AM
Alpha 039	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:19:58 AM
Alpha 040	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:00 AM
Alpha 041	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:02 AM
Alpha 042	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:03 AM
Alpha 043	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:05 AM
Alpha 044	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:07 AM
Alpha 045	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:09 AM
Alpha 046	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:10 AM
Alpha 047	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:12 AM
Alpha 048	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:14 AM
Alpha 049	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:15 AM
Alpha 050	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:17 AM
Alpha 051	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:19 AM
Alpha 052	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:22 AM
Alpha 053	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:24 AM
Alpha 054	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:26 AM
Alpha 055	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:29 AM
Alpha 056	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:31 AM
Alpha 057	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:34 AM
Alpha 058	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:37 AM

CHAMBER	DEVICE	PARAMETER	FLAG	DATE
Alpha_059	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:40 AM
Alpha_060	Alpha Analyst100DC	ALL	Passed	11/3/2015 5:20:43 AM

APPROVED BY: APPROVAL DATE: 11/3-

***** 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	15-10092
Analysis Code	ThISO
Run	1
Date Received	10/14/2015
Lab Deadline	11/5/2015
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		10/15/15 00:00	1.0000E+00
02	MBL	BLANK		10/15/15 00:00	1.5000E+00
03	DUP	CP5003S03-04	40	10/09/15 09:00	1.5359E+00
04	DO	CP5003S03-04	40	10/09/15 09:00	1.5380E+00
05	TRG	CP5003S06-07	35	10/09/15 09:10	1.5528E+00
06	TRG	CP5003S09-10	32	10/09/15 09:30	1.5122E+00
07	TRG	CP5003S12-13	35	10/09/15 09:40	1.5044E+00
08	TRG	CP5003S14-15	33	10/09/15 09:50	1.5155E+00
09	TRG	CP5003S16-17	35	10/09/15 10:00	1.5089E+00
10	TRG	CP5001S03-04	38	10/09/15 10:30	1.5216E+00
11	TRG	CP5001S06-07	43	10/09/15 10:40	1.5285E+00
12	TRG	CP5001S09-10	29	10/09/15 10:50	1.5051E+00
13	TRG	CP5001S11-12	38	10/09/15 11:00	1.5116E+00
14	TRG	CP5001S13-14	41	10/09/15 11:10	1.5096E+00
15	TRG	CP5001S16-17	37	10/09/15 11:20	1.5292E+00
16	TRG	CP5001S18-19	36	10/09/15 11:30	1.5220E+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	0.4429	9.9		0.00								
02	MBL	0.2306	5.2		0.00								
03	DUP	0.2245	5.0		0.00								
04	DO	0.2243	5.0		0.00								
05	TRG	0.2245	5.0		0.00								
06	TRG	0.2248	5.0		0.00								
07	TRG	0.2242	5.0		0.00								
08	TRG	0.2239	5.0		0.00								
09	TRG	0.2237	5.0		0.00								
10	TRG	0.2239	5.0		0.00								
11	TRG	0.2248	5.0		0.00								
12	TRG	0.2245	5.0		0.00								
13	TRG	0.2251	5.1		0.00								
14	TRG	0.2242	5.0		0.00								
15	TRG	0.2246	5.0		0.00								
16	TRG	0.2237	5.0		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			10/21/15 13:13	JPACHELLA				
02	MBL			10/21/15 13:13	JPACHELLA				
03	DUP			10/21/15 13:13	JPACHELLA				
04	DO	10/21/15 07:12	KSALLINGS	10/21/15 13:13	JPACHELLA				
05	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:13	JPACHELLA				
06	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:13	JPACHELLA				
07	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:13	JPACHELLA				
08	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:13	JPACHELLA				
09	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:13	JPACHELLA				
10	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:13	JPACHELLA				
11	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:13	JPACHELLA				
12	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:13	JPACHELLA				
13	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:13	JPACHELLA				
14	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:13	JPACHELLA				
15	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:13	JPACHELLA				
16	TRG	10/21/15 07:12	KSALLINGS	10/21/15 13:13	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.

	1 Run
THISO Analysis Code	15-10092 Eberline Services Work Order
Auxier & Associates, Inc. Client	

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	5.22E+00	8.46E-01	1.00E-01	4.69E+00	111.14	OK		OK	
02	TH-228	MBL	BLANK	pCi/g	3.03E-02	4.41E-02	7.34E-02					OK	OK
03	TH-228	DUP	CP5003S03-04	pCi/g	1.39E+00	3.29E-01	4.12E-02				OK	OK	
04	TH-228	DO	CP5003S03-04	pCi/g	1.16E+00	2.85E-01	6.87E-02					OK	OK
05	TH-228	TRG	CP5003S06-07	pCi/g	1.36E+00	2.97E-01	5.80E-02					OK	
06	TH-228	TRG	CP5003S09-10	pCi/g	1.45E+00	3.79E-01	9.86E-02					OK	
07	TH-228	TRG	CP5003S12-13	pCi/g	1.72E+00	4.33E-01	8.62E-02					OK	
08	TH-228	TRG	CP5003S14-15	pCi/g	1.29E+00	3.30E-01	6.70E-02					OK	
09	TH-228	TRG	CP5003S16-17	pCi/g	1.02E+00	2.29E-01	4.91E-02					OK	
10	TH-228	TRG	CP5001S03-04	pCi/g	1.21E+00	2.74E-01	5.53E-02					OK	
11	TH-228	TRG	CP5001S06-07	pCi/g	1.54E+00	3.59E-01	6.00E-02					OK	
12	TH-228	TRG	CP5001S09-10	pCi/g	8.65E-01	2.25E-01	4.41E-02					OK	
13	TH-228	TRG	CP5001S11-12	pCi/g	1.23E+00	3.10E-01	9.89E-02					OK	
14	TH-228	TRG	CP5001S13-14	pCi/g	1.14E+00	2.63E-01	5.51E-02					OK	
15	TH-228	TRG	CP5001S16-17	pCi/g	9.00E-01	2.69E-01	7.47E-02					OK	
16	TH-228	TRG	CP5001S18-19	pCi/g	1.23E+00	3.48E-01	8.82E-02					OK	

		15-10092 Eberline Services Work Order	THISO Analysis Code	1 Run
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	10/15/15 00:00	1.00E+00	120.10	0.00	0.00			
02	TH-228	MBL	10/15/15 00:00	1.50E+00	113.98	0.00	0.00			
03	TH-228	DUP	10/09/15 09:00	1.54E+00	113.79	0.00	0.00			
04	TH-228	DO	10/09/15 09:00	1.54E+00	111.65	0.00	0.00			
05	TH-228	TRG	10/09/15 09:10	1.55E+00	125.23	0.00	0.00			
06	TH-228	TRG	10/09/15 09:30	1.51E+00	94.63	0.00	0.00			
07	TH-228	TRG	10/09/15 09:40	1.50E+00	79.82	0.00	0.00			
08	TH-228	TRG	10/09/15 09:50	1.52E+00	89.80	0.00	0.00			
09	TH-228	TRG	10/09/15 10:00	1.51E+00	147.10	0.00	0.00			
10	TH-228	TRG	10/09/15 10:30	1.52E+00	118.21	0.00	0.00			
11	TH-228	TRG	10/09/15 10:40	1.53E+00	104.08	0.00	0.00			
12	TH-228	TRG	10/09/15 10:50	1.51E+00	121.33	0.00	0.00			
13	TH-228	TRG	10/09/15 11:00	1.51E+00	90.28	0.00	0.00			
14	TH-228	TRG	10/09/15 11:10	1.51E+00	116.24	0.00	0.00			
15	TH-228	TRG	10/09/15 11:20	1.53E+00	76.25	0.00	0.00			
16	TH-228	TRG	10/09/15 11:30	1.52E+00	76.92	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-228	LCS	11/05/15 08:29		A_Spec	Alpha_055	170	3.69 E+02	9.00 E-03	15.6
02	TH-228	MBL	11/05/15 08:29		A_Spec	Alpha_056	170	3.13 E+00	1.10 E-02	16
03	TH-228	DUP	11/05/15 08:29		A_Spec	Alpha_057	170	1.41 E+02	1.00 E-03	15.8
04	TH-228	DO	11/05/15 08:29		A_Spec	Alpha_058	170	1.19 E+02	9.00 E-03	16.4
05	TH-228	TRG	11/05/15 08:29		A_Spec	Alpha_059	170	1.66 E+02	9.00 E-03	17.2
06	TH-228	TRG	11/05/15 08:29		A_Spec	Alpha_060	170	1.18 E+02	1.30 E-02	15.4
07	TH-228	TRG	11/05/15 11:25		A_Spec	Alpha_033	170	1.37 E+02	8.00 E-03	18
08	TH-228	TRG	11/05/15 11:25		A_Spec	Alpha_034	170	1.15 E+02	5.00 E-03	17.9
09	TH-228	TRG	11/05/15 11:25		A_Spec	Alpha_035	170	1.37 E+02	7.00 E-03	16.5
10	TH-228	TRG	11/05/15 11:25		A_Spec	Alpha_036	170	1.44 E+02	7.00 E-03	18.1
11	TH-228	TRG	11/05/15 11:25		A_Spec	Alpha_037	170	1.54 E+02	5.00 E-03	17.1
12	TH-228	TRG	11/05/15 11:25		A_Spec	Alpha_038	170	9.37 E+01	2.00 E-03	16.2
13	TH-228	TRG	11/05/15 11:25		A_Spec	Alpha_039	170	1.19 E+02	2.20 E-02	19.3
14	TH-228	TRG	11/05/15 11:25		A_Spec	Alpha_040	170	1.37 E+02	7.00 E-03	18.6
15	TH-228	TRG	11/05/15 11:25		A_Spec	Alpha_041	170	7.22 E+01	5.00 E-03	18.7
16	TH-228	TRG	11/05/15 11:25		A_Spec	Alpha_042	170	9.18 E+01	7.00 E-03	17.4

	1 Run	THISO Analysis Code	15-10092 Eberline Services Work Order	Auxier & Associates, Inc. Client
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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	6.44E+00	1.00E+00	8.90E-02	5.36E+00	120.33	OK		OK	
02	TH-230	MBL	BLANK	pCi/g	6.77E-02	5.55E-02	6.11E-02					OK	OK
03	TH-230	DUP	CP5003S03-04	pCi/g	1.53E+00	3.51E-01	5.05E-02				OK	OK	
04	TH-230	DO	CP5003S03-04	pCi/g	1.50E+00	3.43E-01	3.93E-02					OK	
05	TH-230	TRG	CP5003S06-07	pCi/g	1.27E+00	2.80E-01	4.17E-02					OK	
06	TH-230	TRG	CP5003S09-10	pCi/g	1.51E+00	3.86E-01	5.75E-02					OK	
07	TH-230	TRG	CP5003S12-13	pCi/g	1.57E+00	4.02E-01	6.43E-02					OK	
08	TH-230	TRG	CP5003S14-15	pCi/g	1.76E+00	4.16E-01	4.55E-02					OK	
09	TH-230	TRG	CP5003S16-17	pCi/g	1.23E+00	2.60E-01	3.03E-02					OK	
10	TH-230	TRG	CP5001S03-04	pCi/g	1.54E+00	3.28E-01	3.91E-02					OK	
11	TH-230	TRG	CP5001S06-07	pCi/g	1.56E+00	3.59E-01	5.51E-02					OK	
12	TH-230	TRG	CP5001S09-10	pCi/g	1.16E+00	2.77E-01	5.08E-02					OK	
13	TH-230	TRG	CP5001S11-12	pCi/g	1.42E+00	3.42E-01	8.81E-02					OK	
14	TH-230	TRG	CP5001S13-14	pCi/g	1.28E+00	2.84E-01	4.60E-02					OK	
15	TH-230	TRG	CP5001S16-17	pCi/g	1.65E+00	4.17E-01	8.33E-02					OK	
16	TH-230	TRG	CP5001S18-19	pCi/g	1.55E+00	4.10E-01	6.24E-02					OK	

	Run	1
	Analysis Code	THISO
Eberline Services Work Order	15-10092	
Client	Auxier & Associates, Inc.	

	Run	1
	Analysis Code	THISO
Client	Auxier & Associates, Inc.	
Eberline Services Work Order	15-10092	

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	10/15/15 00:00	1.00E+00	120.10	0.00	0.00			
02	TH-230	MBL	10/15/15 00:00	1.50E+00	113.98	0.00	0.00			
03	TH-230	DUP	10/09/15 09:00	1.54E+00	113.79	0.00	0.00			
04	TH-230	DO	10/09/15 09:00	1.54E+00	111.65	0.00	0.00			
05	TH-230	TRG	10/09/15 09:10	1.55E+00	125.23	0.00	0.00			
06	TH-230	TRG	10/09/15 09:30	1.51E+00	94.63	0.00	0.00			
07	TH-230	TRG	10/09/15 09:40	1.50E+00	79.82	0.00	0.00			
08	TH-230	TRG	10/09/15 09:50	1.52E+00	89.80	0.00	0.00			
09	TH-230	TRG	10/09/15 10:00	1.51E+00	147.10	0.00	0.00			
10	TH-230	TRG	10/09/15 10:30	1.52E+00	118.21	0.00	0.00			
11	TH-230	TRG	10/09/15 10:40	1.53E+00	104.08	0.00	0.00			
12	TH-230	TRG	10/09/15 10:50	1.51E+00	121.33	0.00	0.00			
13	TH-230	TRG	10/09/15 11:00	1.51E+00	90.28	0.00	0.00			
14	TH-230	TRG	10/09/15 11:10	1.51E+00	116.24	0.00	0.00			
15	TH-230	TRG	10/09/15 11:20	1.53E+00	76.25	0.00	0.00			
16	TH-230	TRG	10/09/15 11:30	1.52E+00	76.92	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)	Detect	Carrier	Count Time	Counts	Bkg CPM	Eff
01	TH-230	LCS	11/05/15 08:29		A_Spec	Alpha_055	170	4.56 E+02	6.00 E-03	15.6
02	TH-230	MBL	11/05/15 08:29		A_Spec	Alpha_056	170	6.98 E+00	6.00 E-03	16
03	TH-230	DIUP	11/05/15 08:29		A_Spec	Alpha_057	170	1.58 E+02	3.00 E-03	15.8
04	TH-230	DO	11/05/15 08:29		A_Spec	Alpha_058	170	1.59 E+02	1.00 E-03	16.4
05	TH-230	TRG	11/05/15 08:29		A_Spec	Alpha_059	170	1.59 E+02	3.00 E-03	17.2
06	TH-230	TRG	11/05/15 08:29		A_Spec	Alpha_060	170	1.26 E+02	2.00 E-03	15.4
07	TH-230	TRG	11/05/15 11:25		A_Spec	Alpha_033	170	1.28 E+02	3.00 E-03	18
08	TH-230	TRG	11/05/15 11:25		A_Spec	Alpha_034	170	1.62 E+02	1.00 E-03	17.9
09	TH-230	TRG	11/05/15 11:25		A_Spec	Alpha_035	170	1.69 E+02	1.00 E-03	16.5
10	TH-230	TRG	11/05/15 11:25		A_Spec	Alpha_036	170	1.89 E+02	2.00 E-03	18.1
11	TH-230	TRG	11/05/15 11:25		A_Spec	Alpha_037	170	1.59 E+02	4.00 E-03	17.1
12	TH-230	TRG	11/05/15 11:25		A_Spec	Alpha_038	170	1.29 E+02	4.00 E-03	16.2
13	TH-230	TRG	11/05/15 11:25		A_Spec	Alpha_039	170	1.41 E+02	1.70 E-02	19.3
14	TH-230	TRG	11/05/15 11:25		A_Spec	Alpha_040	170	1.57 E+02	4.00 E-03	18.6
15	TH-230	TRG	11/05/15 11:25		A_Spec	Alpha_041	170	1.36 E+02	8.00 E-03	18.7
16	TH-230	TRG	11/05/15 11:25		A_Spec	Alpha_042	170	1.19 E+02	2.00 E-03	17.4

		Client Auxier & Associates, Inc.
Run 1	Analysis Code THISO	Eberline Services Work Order 15-10092

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	6.07E+00	8.26E-01	7.40E-02	4.69E+00	108.07	OK		OK	
02	TH-232	MBL	BLANK	pCi/g	1.59E-02	3.42E-02	6.64E-02					OK	OK
03	TH-232	DUP	CP5003S03-04	pCi/g	1.13E+00	2.80E-01	4.60E-02				OK	OK	
04	TH-232	DO	CP5003S03-04	pCi/g	1.24E+00	2.98E-01	5.93E-02					OK	
05	TH-232	TRG	CP5003S06-07	pCi/g	1.28E+00	2.81E-01	3.31E-02					OK	
06	TH-232	TRG	CP5003S09-10	pCi/g	1.70E+00	4.24E-01	7.20E-02					OK	
07	TH-232	TRG	CP5003S12-13	pCi/g	1.72E+00	4.31E-01	7.33E-02					OK	
08	TH-232	TRG	CP5003S14-15	pCi/g	1.42E+00	3.51E-01	6.53E-02					OK	
09	TH-232	TRG	CP5003S16-17	pCi/g	1.26E+00	2.65E-01	3.80E-02					OK	
10	TH-232	TRG	CP5001S03-04	pCi/g	1.09E+00	2.53E-01	4.89E-02					OK	
11	TH-232	TRG	CP5001S06-07	pCi/g	1.36E+00	3.25E-01	5.84E-02					OK	
12	TH-232	TRG	CP5001S09-10	pCi/g	1.18E+00	2.80E-01	4.71E-02					OK	
13	TH-232	TRG	CP5001S11-12	pCi/g	1.20E+00	3.02E-01	8.97E-02					OK	
14	TH-232	TRG	CP5001S13-14	pCi/g	1.21E+00	2.72E-01	3.89E-02					OK	
15	TH-232	TRG	CP5001S16-17	pCi/g	1.17E+00	3.23E-01	1.06E-01					OK	
16	TH-232	TRG	CP5001S18-19	pCi/g	1.63E+00	4.27E-01	7.35E-02					OK	

	Run	1
	Analysis Code	THISO
Eberline Services Work Order	15-10092	
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	10/15/15 00:00	1.00E+00	120.10	0.00	0.00			
02	TH-232	MBL	10/15/15 00:00	1.50E+00	113.98	0.00	0.00			
03	TH-232	DUP	10/09/15 09:00	1.54E+00	113.79	0.00	0.00			
04	TH-232	DO	10/09/15 09:00	1.54E+00	111.65	0.00	0.00			
05	TH-232	TRG	10/09/15 09:10	1.55E+00	125.23	0.00	0.00			
06	TH-232	TRG	10/09/15 09:30	1.51E+00	94.63	0.00	0.00			
07	TH-232	TRG	10/09/15 09:40	1.50E+00	79.82	0.00	0.00			
08	TH-232	TRG	10/09/15 09:50	1.52E+00	89.80	0.00	0.00			
09	TH-232	TRG	10/09/15 10:00	1.51E+00	147.10	0.00	0.00			
10	TH-232	TRG	10/09/15 10:30	1.52E+00	118.21	0.00	0.00			
11	TH-232	TRG	10/09/15 10:40	1.53E+00	104.08	0.00	0.00			
12	TH-232	TRG	10/09/15 10:50	1.51E+00	121.33	0.00	0.00			
13	TH-232	TRG	10/09/15 11:00	1.51E+00	90.28	0.00	0.00			
14	TH-232	TRG	10/09/15 11:10	1.51E+00	116.24	0.00	0.00			
15	TH-232	TRG	10/09/15 11:20	1.53E+00	76.25	0.00	0.00			
16	TH-232	TRG	10/09/15 11:30	1.52E+00	76.92	0.00	0.00			

	Run	1
	Analysis Code	THISO
Eberline Services Work Order	15-10092	
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-232	LCS	11/05/15 08:29		A_Spec	Alpha_055	170	3.59 E+02	3.00 E-03	15.6
02	TH-232	MBL	11/05/15 08:29		A_Spec	Alpha_056	170	1.64 E+00	8.00 E-03	16
03	TH-232	DUP	11/05/15 08:29		A_Spec	Alpha_057	170	1.18 E+02	2.00 E-03	15.8
04	TH-232	DO	11/05/15 08:29		A_Spec	Alpha_058	170	1.32 E+02	6.00 E-03	16.4
05	TH-232	TRG	11/05/15 08:29		A_Spec	Alpha_059	170	1.61 E+02	1.00 E-03	17.2
06	TH-232	TRG	11/05/15 08:29		A_Spec	Alpha_060	170	1.42 E+02	0.00 E+00	15.4
07	TH-232	TRG	11/05/15 11:25		A_Spec	Alpha_033	170	1.41 E+02	0.00 E+00	18
08	TH-232	TRG	11/05/15 11:25		A_Spec	Alpha_034	170	1.30 E+02	0.00 E+00	17.9
09	TH-232	TRG	11/05/15 11:25		A_Spec	Alpha_035	170	1.73 E+02	3.00 E-03	16.5
10	TH-232	TRG	11/05/15 11:25		A_Spec	Alpha_036	170	1.34 E+02	0.00 E+00	18.1
11	TH-232	TRG	11/05/15 11:25		A_Spec	Alpha_037	170	1.40 E+02	0.00 E+00	17.1
12	TH-232	TRG	11/05/15 11:25		A_Spec	Alpha_038	170	1.31 E+02	3.00 E-03	16.2
13	TH-232	TRG	11/05/15 11:25		A_Spec	Alpha_039	170	1.20 E+02	1.80 E-02	19.3
14	TH-232	TRG	11/05/15 11:25		A_Spec	Alpha_040	170	1.49 E+02	2.00 E-03	18.6
15	TH-232	TRG	11/05/15 11:25		A_Spec	Alpha_041	170	9.61 E+01	1.70 E-02	18.7
16	TH-232	TRG	11/05/15 11:25		A_Spec	Alpha_042	170	1.25 E+02	4.00 E-03	17.4

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	10/15/15 00:00	1.0000	0.4429	9.9475		0.00		
02	MBL	BLANK	10/15/15 00:00	1.5000	0.2306	5.1793		0.00		
03	DUP	CP5003S03-04	10/09/15 09:00	1.5359	0.2245	5.0423		0.00		
04	DO	CP5003S03-04	10/09/15 09:00	1.5380	0.2243	5.0378		0.00		
05	TRG	CP5003S06-07	10/09/15 09:10	1.5528	0.2245	5.0423		0.00		
06	TRG	CP5003S09-10	10/09/15 09:30	1.5122	0.2248	5.0490		0.00		
07	TRG	CP5003S12-13	10/09/15 09:40	1.5044	0.2242	5.0355		0.00		
08	TRG	CP5003S14-15	10/09/15 09:50	1.5155	0.2239	5.0288		0.00		
09	TRG	CP5003S16-17	10/09/15 10:00	1.5089	0.2237	5.0243		0.00		
10	TRG	CP5001S03-04	10/09/15 10:30	1.5216	0.2239	5.0288		0.00		
11	TRG	CP5001S06-07	10/09/15 10:40	1.5285	0.2248	5.0490		0.00		
12	TRG	CP5001S09-10	10/09/15 10:50	1.5051	0.2245	5.0423		0.00		
13	TRG	CP5001S11-12	10/09/15 11:00	1.5116	0.2251	5.0557		0.00		
14	TRG	CP5001S13-14	10/09/15 11:10	1.5096	0.2242	5.0355		0.00		
15	TRG	CP5001S16-17	10/09/15 11:20	1.5292	0.2246	5.0445		0.00		
16	TRG	CP5001S18-19	10/09/15 11:30	1.5220	0.2237	5.0243		0.00		

Handwritten notes: 15, 0222, 16, 53-72, 55

Internal Work Order		Run	Analysis Code	Date	Technician	Technician Initials	Witness Initials						
15-10092		1	THISO	10/21/2015 13:02	JPACHELLA	<i>[Signature]</i>							
LCS & Matrix Spikes													
Isotope	Sol #	Activity dpm/g	Solution Date	Approx Addition	LCS Volume Used (g)	MS Volume Used (g)	MSD Volume Used (g)	LCS Known pCi	LCS Error Estimate	MS Added pCi	MS Error Estimate	MSD Added pCi	MSD Error Estimate
Th-228	Th-8b	103.560	10/21/2015	0.100	0.1006			4.69	0.169	0.00	0.000	0.00	0.000
Th-230	Th-1b	23.520	10/21/2015	0.500	0.5055			5.36	0.145	0.00	0.000	0.00	0.000
Th-232	Th-8b	103.560	10/21/2015	0.100	0.1006			4.69	0.169	0.00	0.000	0.00	0.000
1c-99 MS		22043.536	7/5/2014	0.1									
Tracers								Balance Printer Tapes					
fraction	Isotope	Sol #	Activity dpm/g	Solution Date	Volume Used (g)	Approx Addition	Tracer	LCS					
01	Th-229	Th-18a	22,460	10/21/2015	0.4429	0.2200							
02	Th-229	Th-18a	22,460	10/21/2015	0.2306	0.2200							
03	Th-229	Th-18a	22,460	10/21/2015	0.2245	0.2200							
04	Th-229	Th-18a	22,460	10/21/2015	0.2243	0.2200							
05	Th-229	Th-18a	22,460	10/21/2015	0.2245	0.2200							
06	Th-229	Th-18a	22,460	10/21/2015	0.2248	0.2200							
07	Th-229	Th-18a	22,460	10/21/2015	0.2242	0.2200							
08	Th-229	Th-18a	22,460	10/21/2015	0.2239	0.2200							
09	Th-229	Th-18a	22,460	10/21/2015	0.2237	0.2200							
10	Th-229	Th-18a	22,460	10/21/2015	0.2239	0.2200							
11	Th-229	Th-18a	22,460	10/21/2015	0.2248	0.2200							
12	Th-229	Th-18a	22,460	10/21/2015	0.2245	0.2200							
13	Th-229	Th-18a	22,460	10/21/2015	0.2251	0.2200							
14	Th-229	Th-18a	22,460	10/21/2015	0.2242	0.2200							
15	Th-229	Th-18a	22,460	10/21/2015	0.2246	0.2200							
16	Th-229	Th-18a	22,460	10/21/2015	0.2237	0.2200							
								Matrix Spike					

Aliquot Worksheet

Work Order	Run	Analysis Code	Rpt Units	Lab Deadline	Technician
15-10092	1	THISO	grams	11/5/2015	JPACHELLA

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 Dilis	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	CP5003S03-04		DUP						1.5359E+00	1.5359E+00				
04	CP5003S03-04		DO						1.5380E+00	1.5380E+00				
05	CP5003S06-07		TRG						1.5528E+00	1.5528E+00				
06	CP5003S09-10		TRG						1.5122E+00	1.5122E+00				
07	CP5003S12-13		TRG						1.5044E+00	1.5044E+00				
08	CP5003S14-15		TRG						1.5155E+00	1.5155E+00				
09	CP5003S16-17		TRG						1.5089E+00	1.5089E+00				
10	CP5001S03-04		TRG						1.5216E+00	1.5216E+00				
11	CP5001S06-07		TRG						1.5285E+00	1.5285E+00				
12	CP5001S09-10		TRG						1.5051E+00	1.5051E+00				
13	CP5001S11-12		TRG						1.5116E+00	1.5116E+00				
14	CP5001S13-14		TRG						1.5096E+00	1.5096E+00				
15	CP5001S16-17		TRG						1.5292E+00	1.5292E+00				
16	CP5001S18-19		TRG						1.5220E+00	1.5220E+00				

Comments

Technician: JPachella Date: 10/21/15

**Rough Sample Preparation
 Log Book**

Work Order		Date Received in Prep		Date Sealed		Date Returned		Technician	
15-10092		10/20/2015		10/21/2015		10/22/2015		KSALLINGS	

Eberline Fraction	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	CP5003S03-04	14.4300	903.8000	1093.4600	903.8000	1079.0300	889.3700	17.58%	82.42%	0.0000	0.0000	
05	CP5003S06-07	14.4200	740.0300	885.2800	740.0300	870.8600	725.6100	16.68%	83.32%	0.0000	0.0000	
06	CP5003S09-10	14.4600	926.4000	1146.8200	926.4000	1132.3600	911.9400	19.47%	80.53%	0.0000	0.0000	
07	CP5003S12-13	14.5300	873.8800	1095.7000	873.8800	1081.1700	859.3500	20.52%	79.48%	0.0000	0.0000	
08	CP5003S14-15	14.5000	874.3200	1084.4600	874.3200	1069.9600	859.8200	19.64%	80.36%	0.0000	0.0000	
09	CP5003S16-17	14.5000	757.8900	956.2600	757.8900	941.7600	743.3900	21.06%	78.94%	0.0000	0.0000	
10	CP5001S03-04	14.5200	931.8000	1136.0000	931.8000	1121.4800	917.2800	18.21%	81.79%	0.0000	0.0000	
11	CP5001S06-07	14.5100	626.2100	749.2300	626.2100	734.7200	611.7000	16.74%	83.26%	0.0000	0.0000	
12	CP5001S09-10	14.5200	743.3600	917.5000	743.3600	902.9800	728.8400	19.29%	80.71%	0.0000	0.0000	
13	CP5001S11-12	14.5400	704.5600	871.2800	704.5600	856.7400	690.0200	19.46%	80.54%	0.0000	0.0000	
14	CP5001S13-14	14.5100	792.0700	1001.0600	792.0700	986.5500	777.5600	21.18%	78.82%	0.0000	0.0000	
15	CP5001S16-17	14.5300	674.1400	859.5000	674.1400	844.9700	659.6100	21.94%	78.06%	0.0000	0.0000	
16	CP5001S18-19	14.5200	669.2900	854.4400	669.2900	839.9200	654.7700	22.04%	77.96%	0.0000	0.0000	

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

Technician: Kerry Saly

Date: Analysis: Rough Prep Logbook

Analysis: ThISO Page No. 9434

10/3
11/5/15

Apex-Alpha™

Sample Description: SPIKE
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001332
 Batch Identification: 1510092A-TH
 Sample Identification: 01
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_055
 Chamber Serial Number: 10006124A
 Detector Serial Number: 55
 Env. Background: System Bkgd 133285
 Reagent Blank: <not performed>

Sample Size: 1.000E+000 +/- 0.000E+000 gram
 Sample Date/Time: 11/5/2015 6:29:22 AM
 Acquisition Date/Time: 11/5/2015 8:29:53 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.443 mL
 Effective Efficiency: 0.1878 +/- 0.0121
 Counting Efficiency: 0.1564 +/- 0.0028 on 12/13/2014 2:35:48 PM
 Chem. Recovery Factor: 1.2010 +/- 0.0801

Control Certificate Name: NatTh_Th-8
 Chem. Recov. of Control: TH-232 1.080664 +/- 0.095511
 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	5.864	11.49	59.30	0.51	0.00E+000	3.0
TH-228	5.347	369.47	10.22	1.53	0.00E+000	7.0
TH-229 T	4.863	317.64	11.02	1.36	0.00E+000	9.2
TH-230	4.607	455.98	9.19	1.02	0.00E+000	4.2
TH-232	3.946	359.49	10.35	0.51	0.00E+000	10.4

T = Tracer Peak used for Effective Efficiency

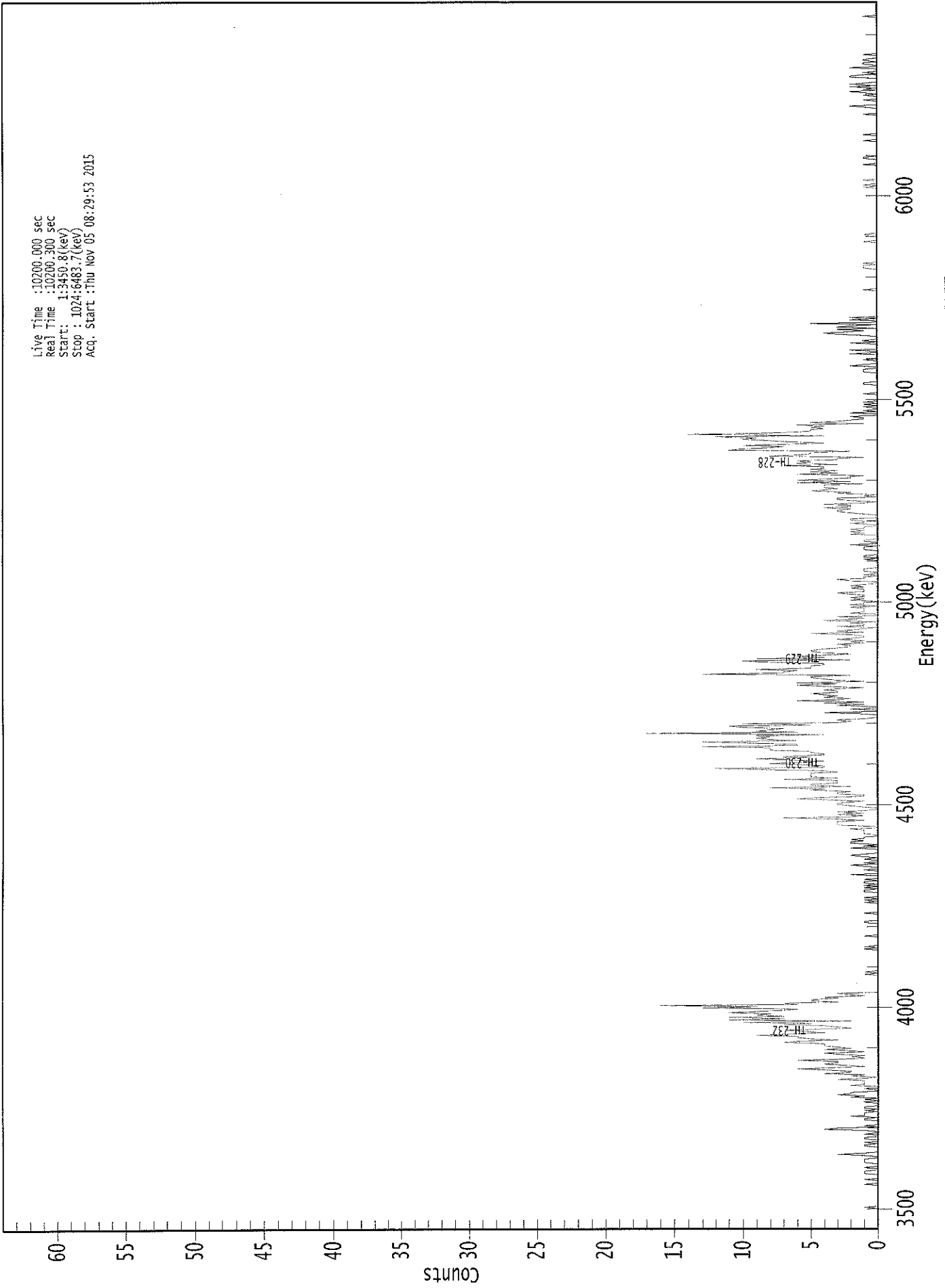
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.999	5850.00*	1.66E-001 +/- 1.01E-001	7.59E-002 +/- 9.56E-003
TH-228	0.985	5400.00*	5.22E+000 +/- 8.46E-001	1.00E-001 +/- 1.26E-002
TH-229	1.000	4872.00*	4.50E+000 +/- 5.67E-001	9.72E-002 +/- 1.22E-002
TH-230	0.978	4672.00*	6.44E+000 +/- 1.00E+000	8.90E-002 +/- 1.12E-002
TH-232	0.987	3997.00*	5.07E+000 +/- 8.26E-001	7.40E-002 +/- 9.32E-003

AG
11/5/15

0000133248.CNF

Live Time : 10200.000 sec
Real Time : 10200.300 sec
Start : 1:34:50.8(keV)
Stop : 1024:6483.7(keV)
Acq. Start : Thu Nov 05 08:29:53 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	1	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	1	0	0	0
41:	0	1	0	0	0	0	1	1	1
49:	1	0	0	1	0	0	0	0	1
57:	1	1	1	0	0	1	3	1	1
65:	0	0	0	0	0	1	1	0	0
73:	1	0	0	1	1	0	0	1	1
81:	0	0	1	4	3	0	1	0	0
89:	0	0	0	1	1	0	2	1	1
97:	1	1	0	1	0	1	1	0	0
105:	0	0	1	0	1	0	2	1	1
113:	3	2	2	0	0	1	0	0	0
121:	2	1	1	1	1	3	1	0	0
129:	2	1	4	2	2	4	6	3	3
137:	1	3	4	3	3	6	2	1	1
145:	2	1	3	4	1	2	4	2	2
153:	3	4	4	4	7	6	3	5	5
161:	6	6	9	7	4	5	7	5	5
169:	2	3	4	7	5	10	2	11	11
177:	7	11	7	9	8	11	9	7	7
185:	6	13	9	16	6	7	3	5	5
193:	5	3	4	1	2	3	0	0	0
201:	0	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	1	0	1	1
217:	0	0	0	0	0	0	0	0	0
225:	0	0	0	0	0	0	0	0	0
233:	0	0	1	0	1	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:	1	1	0	0	0	0	0	0	0
265:	1	0	0	0	0	0	0	0	0
273:	0	1	0	1	0	1	0	0	0
281:	0	0	1	1	0	1	0	1	1
289:	0	1	1	0	1	0	0	0	0
297:	2	0	0	0	1	0	0	1	1
305:	2	0	1	0	0	1	0	1	1
313:	2	1	0	0	0	0	2	0	0
321:	1	0	2	2	1	2	1	1	1
329:	0	0	1	1	1	1	2	0	0
337:	0	3	3	3	3	1	3	7	7
345:	2	1	3	1	3	1	0	0	0
353:	1	2	3	3	2	1	4	6	6
361:	4	1	1	3	3	2	5	4	4

369: 8 2 5 5 3 3 3 7

Sample Title: 01

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

Sample Title: 01

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	1	0
825:	0	0	0	0	1	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	1	0	1	0	0
873:	0	1	0	0	0	0	0	0
881:	0	0	0	0	0	0	1	0
889:	0	0	0	1	1	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	1	0	0	0	0	1
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	1	0	0	0	0	0	1	2
937:	0	0	0	0	1	0	0	0
945:	1	0	1	2	0	1	0	2
953:	0	2	1	0	0	0	0	2
961:	2	1	0	1	0	0	0	2
969:	0	0	1	1	0	1	1	0
977:	0	0	1	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	1	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0



KBS
11/5/15

Sample Description: BLANK
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001332
 Batch Identification: 1510092A-TH
 Sample Identification: 02
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_056
 Chamber Serial Number: 10006124B
 Detector Serial Number: 56
 Env. Background: System Bkgd 133286
 Reagent Blank: <not performed>

Sample Size: 1.500E+000 +/- 0.000E+000 gram
 Sample Date/Time: 11/5/2015 6:29:22 AM
 Acquisition Date/Time: 11/5/2015 8:29:54 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.231 mL
 Effective Efficiency: 0.1824 +/- 0.0156
 Counting Efficiency: 0.1600 +/- 0.0028 on 12/13/2014 2:30:22 PM
 Chem. Recovery Factor: 1.1398 +/- 0.0994

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	5.791	-0.53	415.13	1.53	0.00E+000	3.0
TH-228	5.304	3.13	144.40	1.87	0.00E+000	3.0
TH-229 T	4.879	160.62	15.60	2.38	0.00E+000	4.1
TH-230	4.662	6.98	80.28	1.02	0.00E+000	3.0
TH-232	3.949	1.64	214.83	1.36	0.00E+000	3.0

T = Tracer Peak used for Effective Efficiency

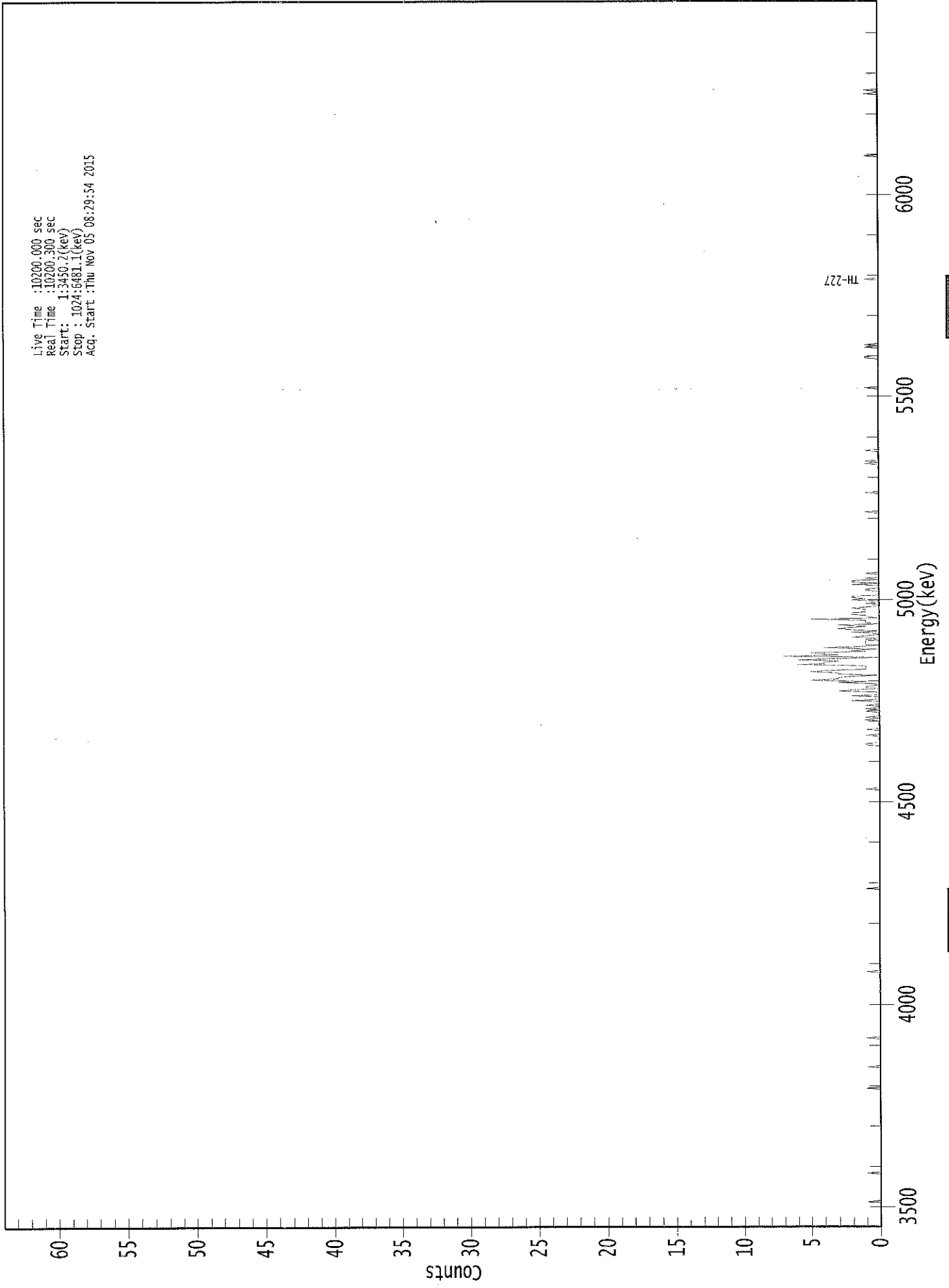
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.982	5850.00*	-5.26E-003 +/- 2.19E-002	7.06E-002 +/- 1.18E-002
TH-228	0.953	5400.00*	3.03E-002 +/- 4.41E-002	7.34E-002 +/- 1.23E-002
TH-229	1.000	4872.00*	1.56E+000 +/- 2.62E-001	7.98E-002 +/- 1.34E-002
TH-230	1.000	4672.00*	6.77E-002 +/- 5.55E-002	6.11E-002 +/- 1.02E-002
TH-232	0.988	3997.00*	1.59E-002 +/- 3.42E-002	6.64E-002 +/- 1.11E-002

AG
11/5/15

0000133249.CNF

Live Time : 10200.000 sec
Real Time : 10200.300 sec
Start : 1:3450.2(kev)
Stop : 1024.6481.1(kev)
Acq. Start : Thu Nov 05 08:29:54 2015



06100

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:	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	1	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	1	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	1	0	0	0	0
121:	0	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	1	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	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	0	1	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	1	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	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: 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	1	0	0	0	0
409:	0	0	1	0	0	0	0	1
417:	0	0	0	0	0	0	0	1
425:	0	1	0	0	0	0	1	0
433:	1	0	0	1	0	0	0	2
441:	0	0	0	2	0	0	0	3
449:	2	0	1	1	0	0	3	1
457:	5	3	3	2	0	3	3	5
465:	4	1	1	1	1	6	4	4
473:	3	6	3	0	7	3	4	5
481:	1	2	0	4	2	0	1	1
489:	1	1	1	0	2	1	0	0
497:	2	0	2	3	2	1	3	0
505:	1	1	1	5	0	1	1	2
513:	2	1	1	1	2	1	0	0
521:	1	0	0	2	1	2	2	0
529:	0	0	0	1	1	0	0	0
537:	2	0	2	2	0	1	0	0
545:	0	1	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	0	0	0	0	0	0	0
585:	0	0	0	0	0	0	0	0
593:	0	0	0	0	1	0	0	0
601:	0	0	0	0	0	0	0	0
609:	0	0	0	0	1	0	0	0
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	1	0
641:	0	0	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	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	1	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	1	1	0	0
729:	0	0	0	0	0	1	0	1
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	1	0
793:	0	0	0	0	0	0	0	0

801: 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	1	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	1	0	0	1	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
11/5/15

Sample Description: CP5003S03-04-DUP
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001332
 Batch Identification: 1510092A-TH
 Sample Identification: 03
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_057
 Chamber Serial Number: 01017326A
 Detector Serial Number: 57
 Env. Background: System Bkgd 133287
 Reagent Blank: <not performed>

Sample Size: 1.536E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:29:22 AM
 Acquisition Date/Time: 11/5/2015 8:29:45 AM
 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: 0.1795 +/- 0.0155
 Counting Efficiency: 0.1577 +/- 0.0028 on 12/13/2014 2:27:38 PM
 Chem. Recovery Factor: 1.1379 +/- 0.1004

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	5.852	18.49	46.31	0.51	0.00E+000	6.0
TH-228	5.360	140.83	16.53	0.17	0.00E+000	3.7
TH-229 T	4.867	153.83	15.81	0.17	0.00E+000	5.4
TH-230	4.631	158.49	15.60	0.51	0.00E+000	26.8
TH-232	3.961	117.66	18.10	0.34	0.00E+000	4.0

T = Tracer Peak used for Effective Efficiency

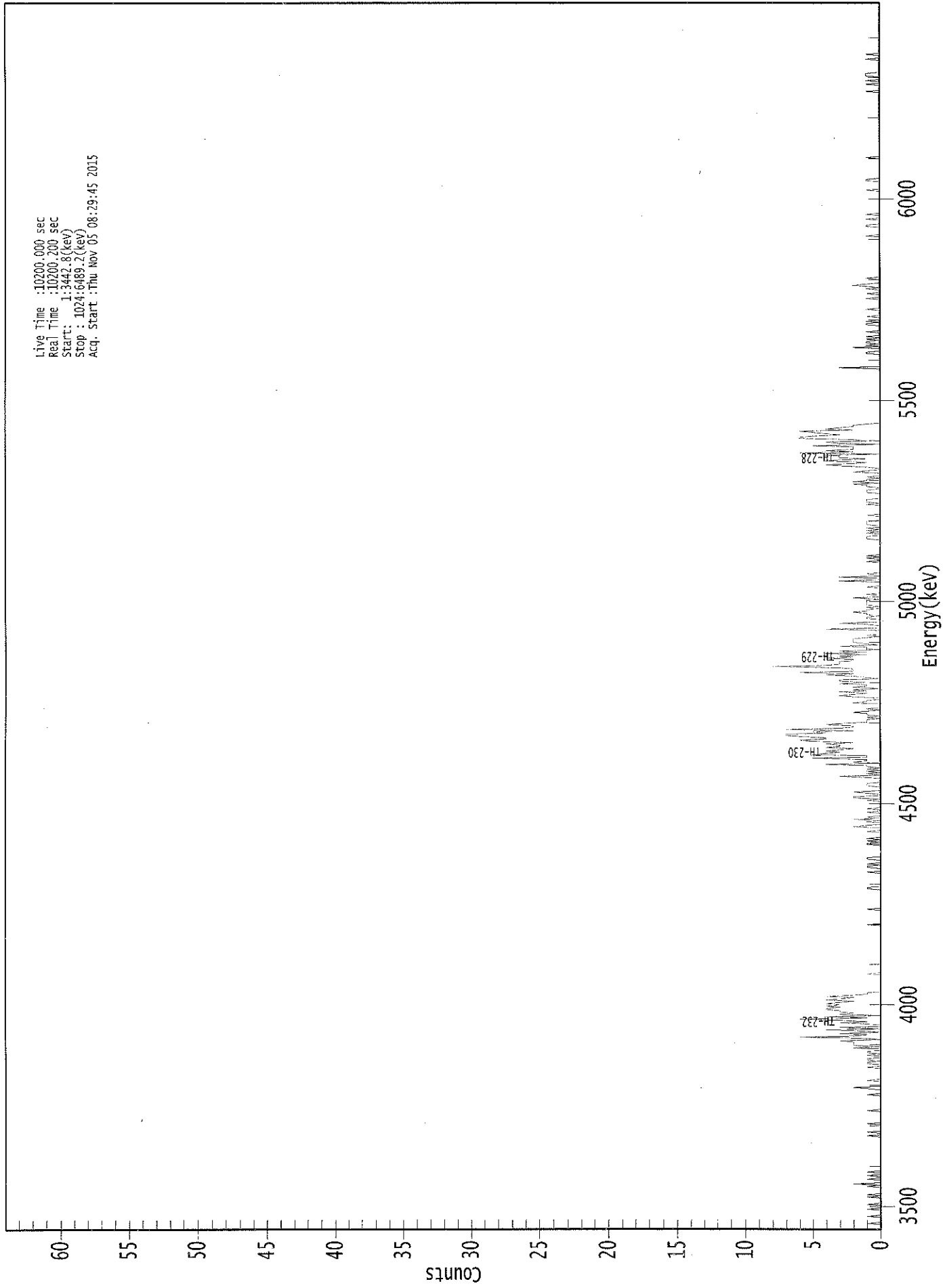
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	1.000	5850.00*	1.83E-001 +/- 9.01E-002	5.19E-002 +/- 8.79E-003
TH-228	0.992	5400.00*	1.39E+000 +/- 3.29E-001	4.12E-002 +/- 6.99E-003
TH-229	1.000	4872.00*	1.49E+000 +/- 2.52E-001	4.03E-002 +/- 6.83E-003
TH-230	0.991	4672.00*	1.53E+000 +/- 3.51E-001	5.05E-002 +/- 8.56E-003
TH-232	0.993	3997.00*	1.13E+000 +/- 2.80E-001	4.60E-002 +/- 7.79E-003

AG
11/5/15

0000133250.CNF

Live Time : 10200.000 sec
Real Time : 10200.200 sec
Start : 1:3442.8(kev)
Stop : 1024:6489.2(kev)
Acq. Start : Thu Nov 05 08:29:45 2015



191001 :

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: 03

Elapsed Live time: 10200
 Elapsed Real Time: 10200

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

369: 0 0 1 1 1 0 0 0

Sample Title: 03

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

801: 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	1	0	0	0
833:	0	0	0	0	1	1	0	0
841:	0	0	1	0	0	0	1	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	1	0	0	0	0	0
873:	0	0	1	1	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	1	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	1	0	0	0
953:	0	0	1	0	0	1	0	0
961:	0	1	1	1	0	0	0	0
969:	0	0	0	0	0	0	0	1
977:	0	0	0	1	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
11/5/15

Sample Description: CP5003S03-04
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001332
 Batch Identification: 1510092A-TH
 Sample Identification: 04
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_058
 Chamber Serial Number: 01017326B
 Detector Serial Number: 58
 Env. Background: System Bkgd 133288
 Reagent Blank: <not performed>

Sample Size: 1.538E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:29:22 AM
 Acquisition Date/Time: 11/5/2015 8:29:47 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.224 mL
 Effective Efficiency: 0.1831 +/- 0.0157
 Counting Efficiency: 0.1640 +/- 0.0029 on 12/13/2014 2:26:06 PM
 Chem. Recovery Factor: 1.1165 +/- 0.0977

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	5.824	12.49	56.77	0.51	0.00E+000	3.0
TH-228	5.364	119.47	18.07	1.53	0.00E+000	16.4
TH-229 T	4.870	156.83	15.66	0.17	0.00E+000	10.9
TH-230	4.618	158.83	15.56	0.17	0.00E+000	3.7
TH-232	3.942	131.98	17.14	1.02	0.00E+000	8.2

T = Tracer Peak used for Effective Efficiency

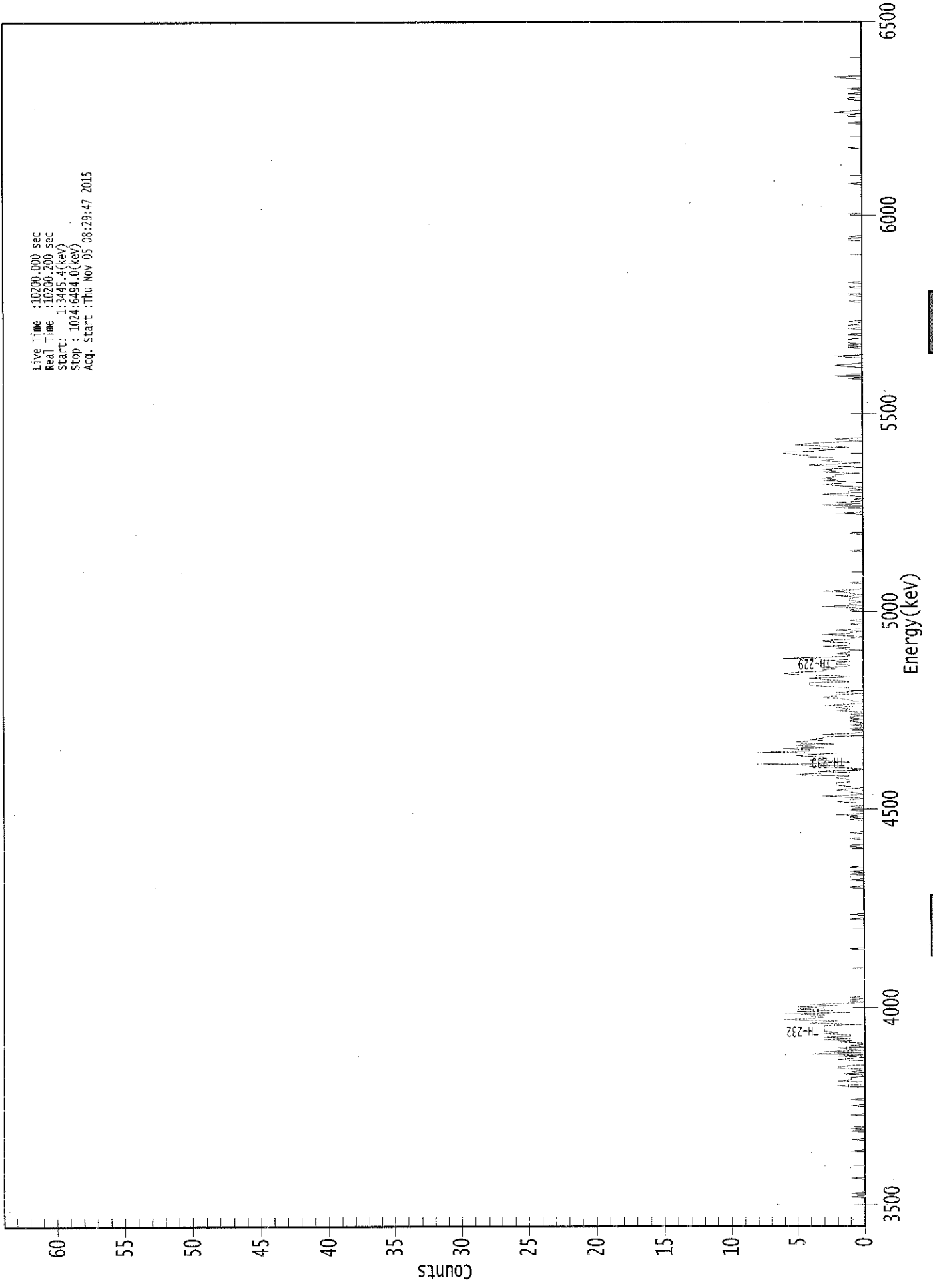
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.997	5850.00*	1.21E-001 +/- 7.15E-002	5.08E-002 +/- 8.53E-003
TH-228	0.993	5400.00*	1.16E+000 +/- 2.85E-001	6.87E-002 +/- 1.15E-002
TH-229	1.000	4872.00*	1.48E+000 +/- 2.49E-001	3.95E-002 +/- 6.63E-003
TH-230	0.985	4672.00*	1.50E+000 +/- 3.43E-001	3.93E-002 +/- 6.61E-003
TH-232	0.985	3997.00*	1.24E+000 +/- 2.98E-001	5.93E-002 +/- 9.96E-003

AG
11/5/15

0000133251.CNF

Live Time :10200.000 sec
Real Time :10200.200 sec
Start : 1:3445.4(keV)
Stop : 1024:6494.0(keV)
Acq. Start :Thu Nov 05 08:29:47 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: 04

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	1	0	0	1	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:	1	0	0	0	0	0	0	0	0
73:	0	0	1	0	0	0	0	0	0
81:	0	1	0	1	0	0	0	0	0
89:	0	0	0	0	0	0	0	0	1
97:	0	0	0	0	0	0	0	0	1
105:	0	0	0	0	1	0	0	0	0
113:	0	0	0	0	0	0	0	0	1
121:	2	0	0	0	2	1	1	1	1
129:	0	0	2	0	1	0	0	0	2
137:	2	1	0	0	0	0	2	1	1
145:	0	2	0	4	0	3	0	0	1
153:	2	0	1	0	0	2	1	1	3
161:	1	3	1	1	3	2	3	3	3
169:	3	3	3	3	0	4	3	2	2
177:	6	4	3	4	3	6	1	5	5
185:	2	5	3	5	2	4	1	0	0
193:	1	1	0	1	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	1	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	1	0	0	0
265:	0	1	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	1	0	0
297:	0	0	0	1	0	1	0	0	0
305:	0	1	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	1	0	0	0	0	1	0	0
337:	0	0	0	0	0	0	0	0	0
345:	0	1	0	1	0	2	0	0	0
353:	0	1	0	0	1	0	0	0	0
361:	2	1	1	0	1	3	0	0	0

369: 1 1 2 1 0 1 2 2

Sample Title: 04

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

801: 1 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	1	1	0	1
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	1	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	1	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	0	1	1
945:	0	2	1	0	0	0	0	0
953:	0	0	0	0	1	1	0	0
961:	0	1	0	0	0	1	0	0
969:	0	0	0	0	0	0	1	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

KCS
11/5/15

Apex-Alpha™

Sample Description: CP5003S06-07
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001332
 Batch Identification: 1510092A-TH
 Sample Identification: 05
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_059
 Chamber Serial Number: 10006125A
 Detector Serial Number: 59
 Env. Background: System Bkgd 133289
 Reagent Blank: <not performed>

Sample Size: 1.553E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:29:22 AM
 Acquisition Date/Time: 11/5/2015 8:29:49 AM
 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: 0.2150 +/- 0.0172
 Counting Efficiency: 0.1717 +/- 0.0030 on 12/13/2014 2:24:23 PM
 Chem. Recovery Factor: 1.2523 +/- 0.1027

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	5.805	13.32	55.28	0.68	0.00E+000	3.0
TH-228	5.361	166.47	15.27	1.53	0.00E+000	6.9
TH-229 T	4.866	184.32	14.47	0.68	0.00E+000	15.9
TH-230	4.612	159.49	15.55	0.51	0.00E+000	7.8
TH-232	3.943	160.83	15.46	0.17	0.00E+000	18.6

T = Tracer Peak used for Effective Efficiency

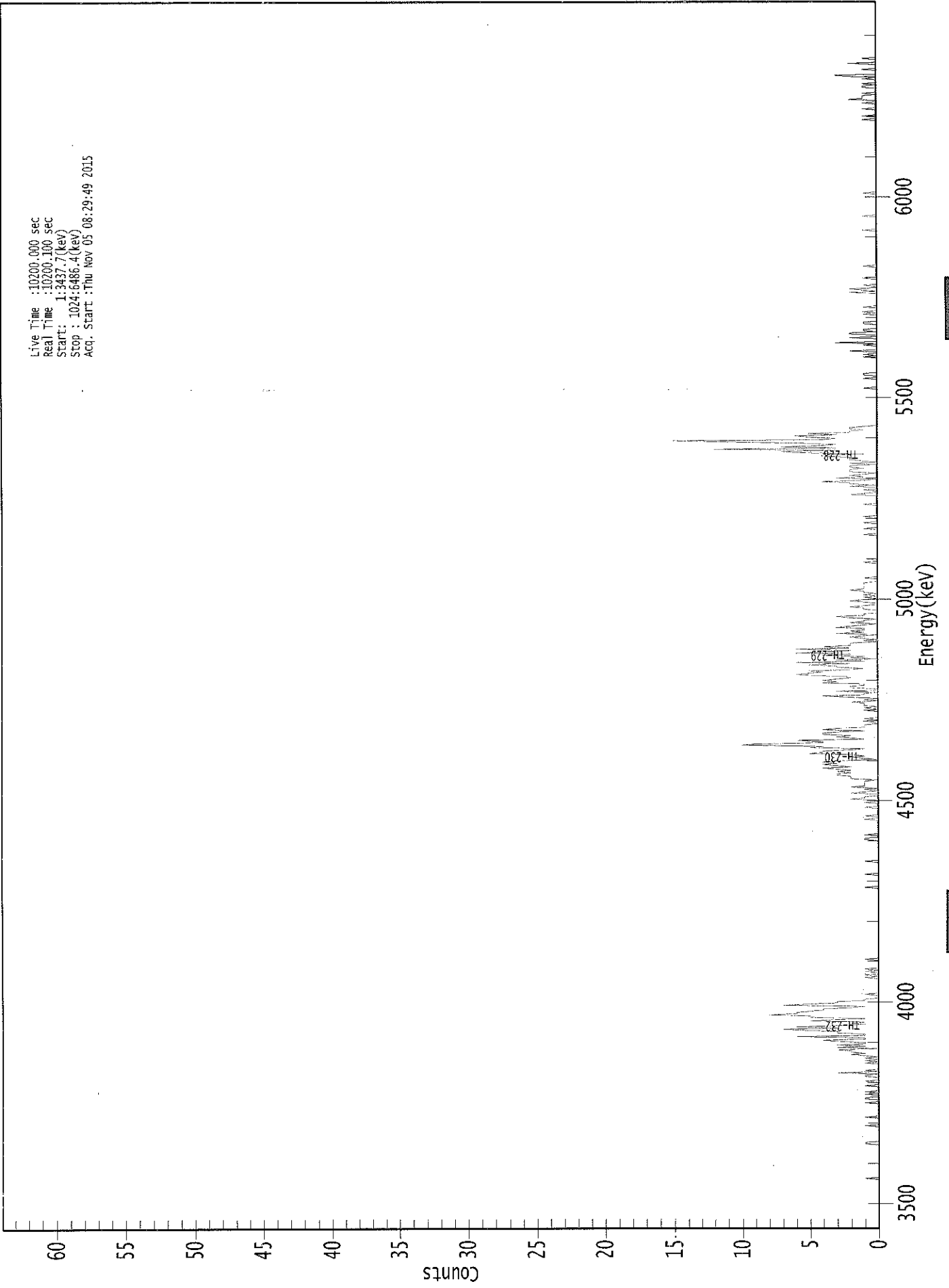
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.989	5850.00*	1.09E-001 +/- 6.25E-002	4.60E-002 +/- 7.22E-003
TH-228	0.992	5400.00*	1.36E+000 +/- 2.97E-001	5.80E-002 +/- 9.10E-003
TH-229	1.000	4872.00*	1.47E+000 +/- 2.31E-001	4.50E-002 +/- 7.06E-003
TH-230	0.981	4672.00*	1.27E+000 +/- 2.80E-001	4.17E-002 +/- 6.55E-003
TH-232	0.985	3997.00*	1.28E+000 +/- 2.81E-001	3.31E-002 +/- 5.20E-003

AG
 11/5/15

0000133252.CNF

Live Time : 10200.000 sec
Real Time : 10200.100 sec
Start : 1:3437.7 (keV)
Stop : 1024:6486.4 (keV)
Acq. Start : Thu Nov 05 08:29:49 2015



ROI Type: 3

ROI Type: 1

50205

 ***** 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: 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	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	1
73:	1	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	1	0
89:	0	0	0	0	0	0	1	0	0
97:	0	0	0	0	0	0	0	0	0
105:	0	1	0	0	1	1	1	0	0
113:	1	0	1	0	0	0	0	0	1
121:	0	0	0	1	0	0	0	0	1
129:	1	0	3	0	1	0	0	0	0
137:	0	0	1	0	1	0	1	1	0
145:	1	2	1	2	2	3	0	0	3
153:	1	3	1	1	3	4	1	1	1
161:	6	1	1	3	3	5	7	3	3
169:	6	3	1	2	1	5	3	1	1
177:	5	5	8	6	6	5	4	4	4
185:	2	1	7	5	3	3	1	1	1
193:	0	0	0	1	0	0	0	0	0
201:	0	0	0	0	0	0	0	0	0
209:	0	1	0	1	0	0	1	0	0
217:	1	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	0	0	0	0
273:	0	0	0	0	0	0	0	0	0
281:	0	0	0	0	1	0	0	0	0
289:	0	0	0	0	0	0	0	0	1
297:	0	0	0	0	0	0	0	0	0
305:	0	0	1	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	0	0
321:	0	0	0	0	1	1	0	0	0
329:	1	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	1	0	0	0
345:	1	0	0	0	0	0	0	0	1
353:	0	0	0	1	0	0	2	1	1
361:	1	0	0	2	1	0	1	0	0

369: 2 1 1 1 1 1 0 2

Sample Title: 05

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

801: 0 0 1 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:	1	0	0	0	0	0	0	0
841:	0	0	0	0	1	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	1	0	0	1
929:	0	0	0	0	0	1	0	0
937:	0	0	1	0	0	2	1	1
945:	1	0	1	0	0	0	0	1
953:	1	0	1	0	0	0	1	0
961:	2	3	0	0	0	0	1	0
969:	0	0	0	2	0	0	0	1
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
11/5/15

Sample Description: CP5003S09-10
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001332
 Batch Identification: 1510092A-TH
 Sample Identification: 06
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_060
 Chamber Serial Number: 10006125B
 Detector Serial Number: 60
 Env. Background: System Bkgd 133290
 Reagent Blank: <not performed>

Sample Size: 1.512E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:29:22 AM
 Acquisition Date/Time: 11/5/2015 8:29:51 AM
 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: 0.1460 +/- 0.0138
 Counting Efficiency: 0.1543 +/- 0.0028 on 12/13/2014 2:22:05 PM
 Chem. Recovery Factor: 0.9463 +/- 0.0913

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	5.849	10.49	62.21	0.51	0.00E+000	3.0
TH-228	5.371	117.79	18.26	2.21	0.00E+000	8.4
TH-229 T	4.878	125.32	17.56	0.68	0.00E+000	6.3
TH-230	4.634	125.66	17.51	0.34	0.00E+000	4.7
TH-232	3.961	142.00	16.51	0.00	0.00E+000	3.8

T = Tracer Peak used for Effective Efficiency

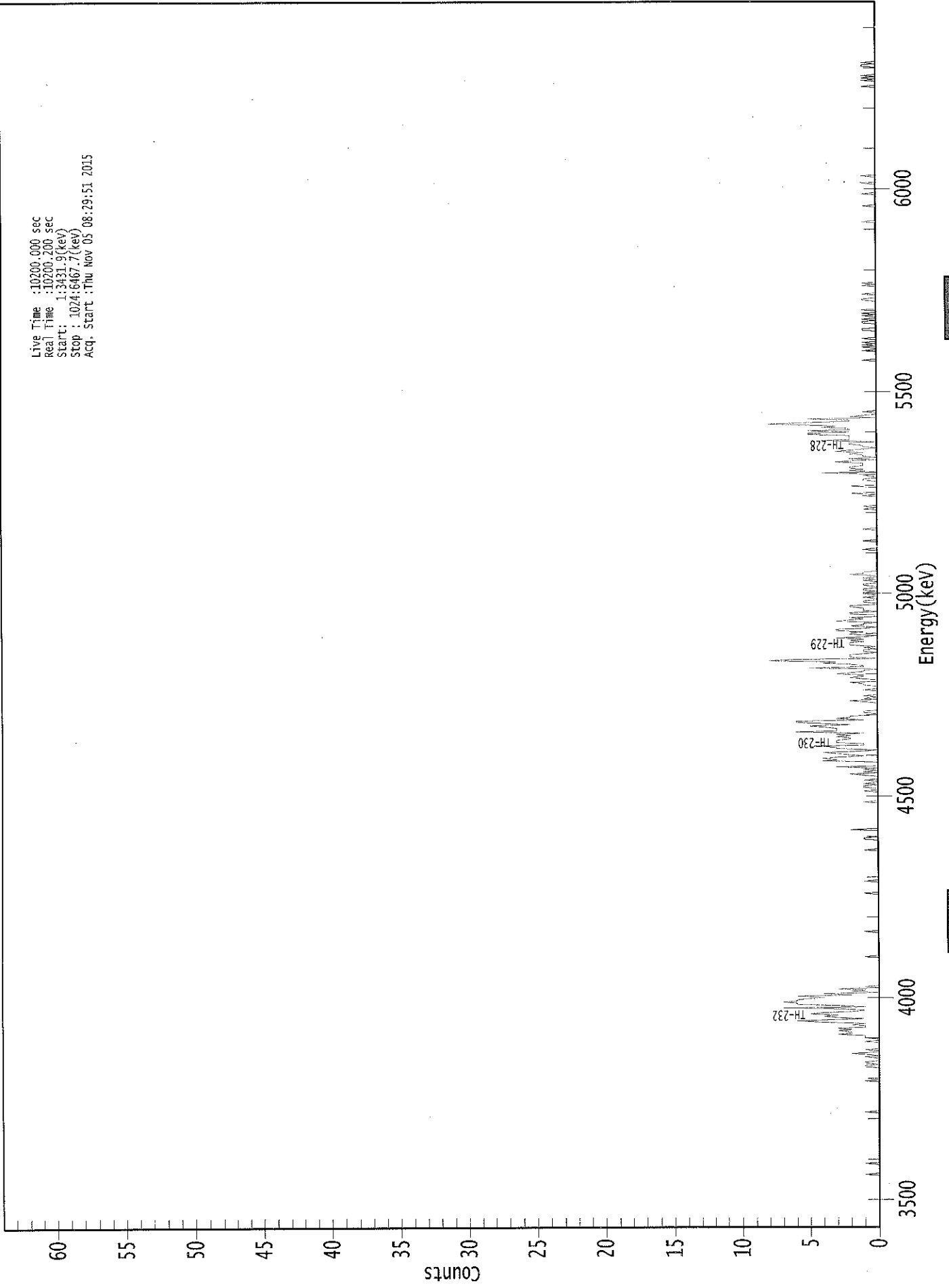
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	1.000	5850.00*	1.29E-001 +/- 8.40E-002	6.47E-002 +/- 1.20E-002
TH-228	0.995	5400.00*	1.45E+000 +/- 3.79E-001	9.86E-002 +/- 1.83E-002
TH-229	1.000	4872.00*	1.51E+000 +/- 2.81E-001	6.80E-002 +/- 1.26E-002
TH-230	0.992	4672.00*	1.51E+000 +/- 3.86E-001	5.75E-002 +/- 1.07E-002
TH-232	0.993	3997.00*	1.70E+000 +/- 4.24E-001	7.20E-002 +/- 1.34E-002

AG
11/5/15

0000133253.CNF

Live Time : 10200.000 sec
Real Time : 10200.200 sec
Start : 1:34:31.9 (keV)
Stop : 1024:6467.7 (keV)
Acq. Start : Thu Nov 05 08:29:51 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: 06

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	1	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	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	0	0	0	0	0	0
121:	0	0	1	0	0	0	0	0	0
129:	0	0	0	0	0	0	1	1	1
137:	0	1	1	0	0	0	1	0	0
145:	1	2	0	0	1	0	0	0	0
153:	0	0	0	1	0	0	1	1	1
161:	1	3	2	2	3	2	3	1	3
169:	1	2	1	4	6	4	1	3	7
177:	4	3	5	4	2	1	2	5	5
185:	1	3	6	6	7	6	6	3	3
193:	4	6	2	4	0	2	1	0	0
201:	0	1	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	1	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	1	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	1	0
281:	0	0	0	0	0	0	0	0	0
289:	0	1	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	1	0	0	0	0	0
321:	0	0	0	0	1	1	0	0	0
329:	0	0	0	0	2	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	1	0	0	0	0	0
361:	0	0	0	0	1	0	0	1	1

369: 1 0 1 0 0 1 0 0

Sample Title: 06

Channel	1	2	3	4	5	6	7	8	9
377:	0	1	2	0	1	0	1	0	
385:	3	0	0	0	0	4	3	4	
393:	3	1	2	3	4	1	0	3	
401:	3	5	1	1	3	3	3	2	
409:	2	3	2	3	1	6	3	3	
417:	3	4	5	2	4	6	6	1	
425:	3	2	2	0	0	1	1	0	
433:	0	0	0	0	0	0	1	2	
441:	0	1	0	1	0	0	0	0	
449:	1	0	0	0	1	1	2	0	
457:	0	1	2	1	1	3	2	1	
465:	1	0	5	1	1	2	4	3	
473:	8	6	0	2	2	2	1	0	
481:	1	1	0	1	0	2	2	2	
489:	1	2	1	3	1	0	2	2	
497:	1	3	3	1	0	2	1	1	
505:	0	3	2	1	2	0	0	2	
513:	2	0	1	1	1	2	2	0	
521:	0	1	1	0	0	1	0	0	
529:	1	1	0	1	1	0	0	1	
537:	1	0	0	1	0	1	0	0	
545:	2	1	1	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	0	0	0	1	0	0	0	
577:	0	0	0	0	0	0	1	0	
585:	0	0	0	0	0	0	0	0	
593:	0	0	0	0	0	0	0	1	
601:	0	1	0	0	0	0	0	0	
609:	0	0	1	0	2	0	0	0	
617:	0	0	2	0	0	0	0	1	
625:	1	0	0	1	0	4	0	2	
633:	1	2	2	1	1	1	3	2	
641:	0	2	0	1	1	2	1	3	
649:	2	1	0	1	1	2	2	0	
657:	4	2	2	2	2	5	5	2	
665:	5	2	2	4	3	5	8	5	
673:	2	2	5	0	2	1	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	1	0	0	0	0	
729:	0	0	0	1	0	0	1	0	
737:	1	0	1	0	0	1	0	0	
745:	0	0	0	0	1	1	0	0	
753:	0	0	1	1	0	1	0	0	
761:	1	0	1	0	0	1	0	0	
769:	0	0	0	0	0	1	1	0	
777:	0	0	1	0	0	0	0	0	
785:	0	1	0	1	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	-----	-----	-----	-----	-----	-----	-----	-----
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	1	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	1	0	0
865:	0	0	0	0	0	0	1	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:	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	1
953:	0	0	0	0	1	0	1	0
961:	1	0	0	0	0	0	0	0
969:	1	1	0	1	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
11/5/15

Sample Description: CP5003S12-13
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001332
 Batch Identification: 1510092A-TH
 Sample Identification: 07
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_033
 Chamber Serial Number: 04026479A
 Detector Serial Number: 91132
 Env. Background: System Bkgd 133263
 Reagent Blank: <not performed>

Sample Size: 1.504E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:29:22 AM
 Acquisition Date/Time: 11/5/2015 11:25:28 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.224 mL
 Effective Efficiency: 0.1441 +/- 0.0138
 Counting Efficiency: 0.1805 +/- 0.0032 on 10/25/2014 2:26:39 PM
 Chem. Recovery Factor: 0.7982 +/- 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	5.821	14.66	51.88	0.34	0.00E+000	3.0
TH-228	5.371	136.64	16.86	1.36	0.00E+000	5.2
TH-229 T	4.860	123.32	17.71	0.68	0.00E+000	3.0
TH-230	4.637	128.49	17.33	0.51	0.00E+000	5.5
TH-232	3.957	141.00	16.56	0.00	0.00E+000	6.9

T = Tracer Peak used for Effective Efficiency

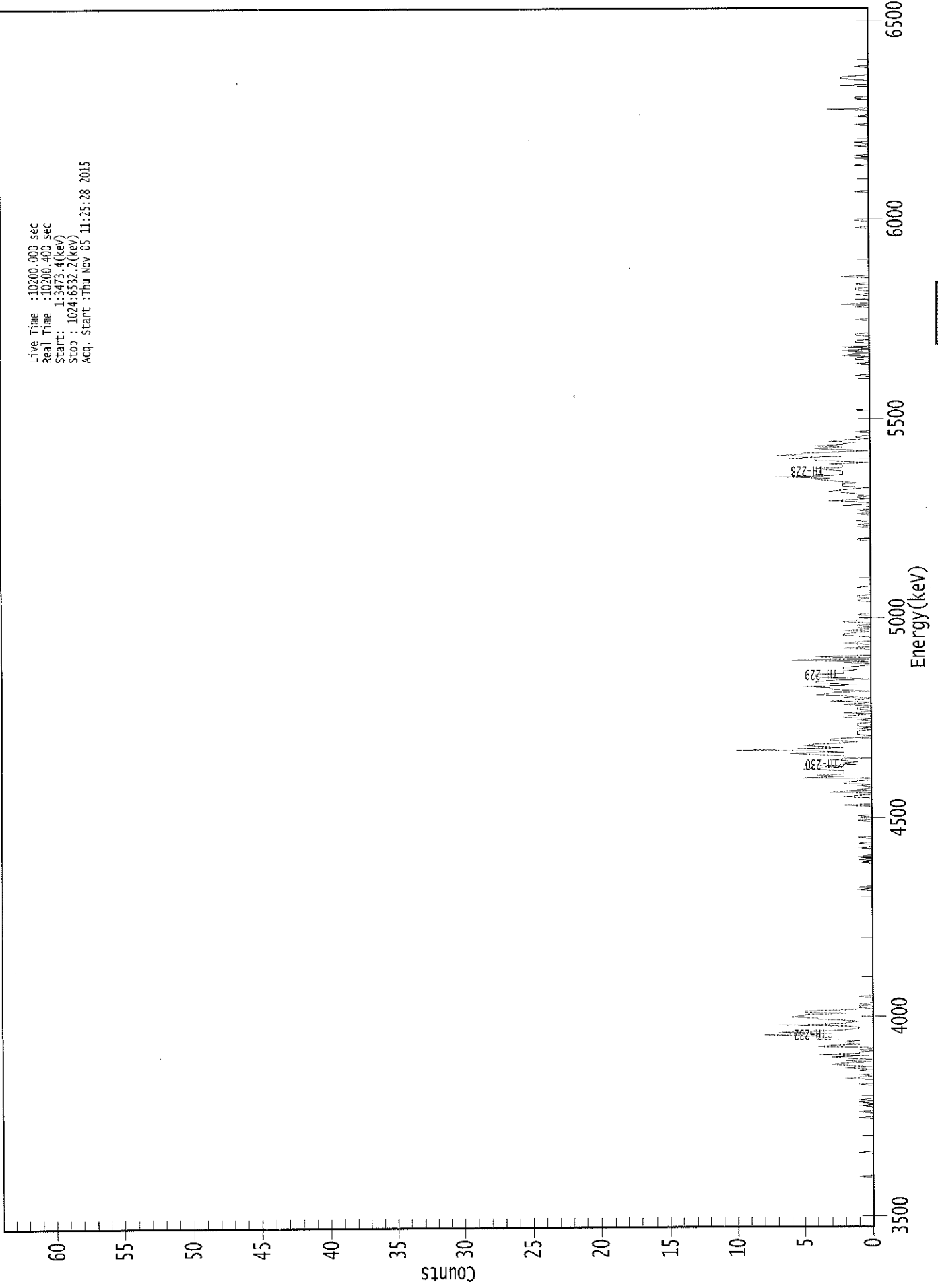
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.996	5850.00*	1.84E-001 +/- 1.02E-001	6.01E-002 +/- 1.13E-002
TH-228	0.995	5400.00*	1.72E+000 +/- 4.33E-001	8.62E-002 +/- 1.61E-002
TH-229	0.999	4872.00*	1.52E+000 +/- 2.84E-001	6.93E-002 +/- 1.30E-002
TH-230	0.994	4672.00*	1.57E+000 +/- 4.02E-001	6.43E-002 +/- 1.20E-002
TH-232	0.991	3997.00*	1.72E+000 +/- 4.31E-001	7.33E-002 +/- 1.37E-002

AG
11/5/15

0000133261.CNF

Live Time : 10200.000 sec
Real Time : 10200.400 sec
Start : 1:3473.4(keV)
Stop : 1024:6532.2(keV)
Acq. Start : Thu Nov 05 11:25:28 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: 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	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	1	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	1	0	0	0	0	0
97:	1	0	0	0	0	0	1	0	0
105:	1	0	1	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0	1
121:	0	0	0	0	2	1	0	0	1
129:	0	0	0	1	0	2	0	0	2
137:	3	2	0	2	0	2	3	0	0
145:	4	1	1	0	1	0	0	0	4
153:	3	1	2	2	1	4	4	3	3
161:	5	8	3	7	3	2	1	1	1
169:	2	7	2	2	1	2	4	4	4
177:	6	5	5	2	5	5	2	0	0
185:	1	1	0	1	0	0	0	0	0
193:	0	1	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	1	0	1	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	1	0	1	0	0	0	1
313:	0	0	0	0	0	0	1	0	0
321:	0	0	1	0	0	0	0	0	1
329:	0	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	1	0	0	0
345:	0	1	0	0	0	0	0	0	0
353:	0	0	2	0	0	0	0	0	0
361:	0	2	1	0	0	3	0	0	1

369: 0 0 1 0 2 2 1 0

Sample Title: 07

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

801: 0 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	1	0
841:	0	0	0	0	1	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	1	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	1	0	0	0	0	0
897:	1	0	1	0	0	0	0	0
905:	0	0	1	0	0	1	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	1	0	0	0
929:	0	0	0	1	0	0	0	0
937:	0	3	0	0	0	0	0	0
945:	0	0	1	1	0	0	0	0
953:	0	0	0	0	0	2	0	0
961:	0	0	1	2	2	1	0	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

Apex-Alpha™

KB
11/5/15

Sample Description: CP5003S14-15
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001332
 Batch Identification: 1510092A-TH
 Sample Identification: 08
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_034
 Chamber Serial Number: 04026479B
 Detector Serial Number: 91136
 Env. Background: System Bkgd 133264
 Reagent Blank: <not performed>

Sample Size: 1.515E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:29:22 AM
 Acquisition Date/Time: 11/5/2015 11:25:29 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.224 mL
 Effective Efficiency: 0.1606 +/- 0.0146
 Counting Efficiency: 0.1789 +/- 0.0031 on 10/25/2014 2:30:05 PM
 Chem. Recovery Factor: 0.8980 +/- 0.0832

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	5.847	6.49	80.40	0.51	0.00E+000	3.0
TH-228	5.367	115.15	18.34	0.85	0.00E+000	9.0
TH-229 T	4.869	137.32	16.77	0.68	0.00E+000	4.5
TH-230	4.614	161.83	15.42	0.17	0.00E+000	8.4
TH-232	3.954	130.00	17.26	0.00	0.00E+000	8.6

T = Tracer Peak used for Effective Efficiency

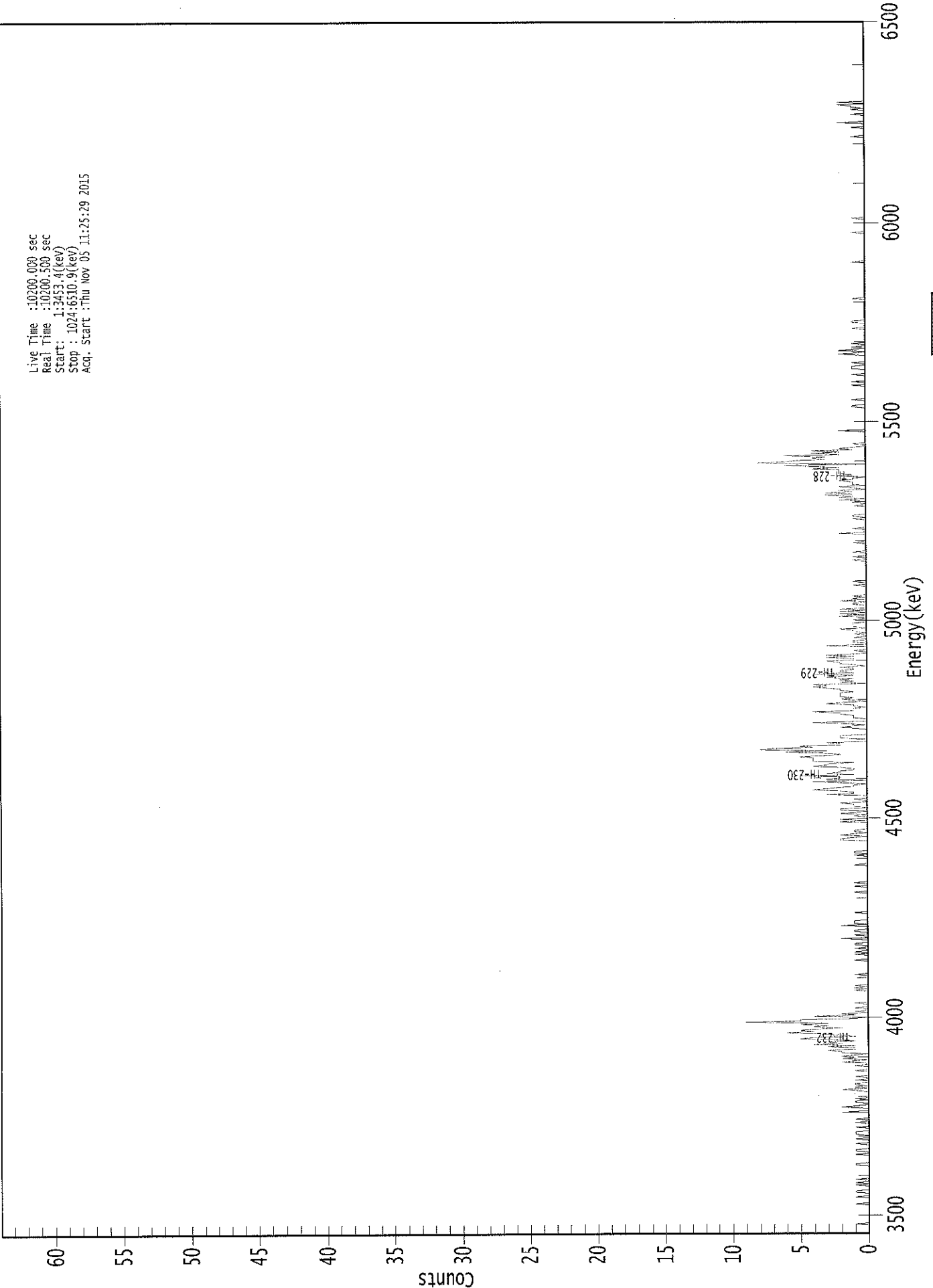
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	1.000	5850.00*	7.26E-002 +/- 5.98E-002	5.87E-002 +/- 1.05E-002
TH-228	0.994	5400.00*	1.29E+000 +/- 3.30E-001	6.70E-002 +/- 1.20E-002
TH-229	1.000	4872.00*	1.50E+000 +/- 2.68E-001	6.17E-002 +/- 1.10E-002
TH-230	0.983	4672.00*	1.76E+000 +/- 4.16E-001	4.55E-002 +/- 8.12E-003
TH-232	0.990	3997.00*	1.42E+000 +/- 3.51E-001	6.53E-002 +/- 1.16E-002

KB
11/5/15

0000133262.CNF

Live Time :10200.000 sec
Real Time :10200.500 sec
Start : 1:3453.4(keV)
Stop : 1024:6510.9(keV)
Acq. Start :Thu Nov 05 11:25:29 2015



ROI Type: 3

ROI Type: 1

00200

 ***** 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: 10201

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

369: 0 0 3 1 1 2 4 3

Sample Title: 08

Channel	1	2	3	4	5	6	7	8
377:	2	1	1	0	2	4	0	3
385:	2	2	5	1	3	2	2	1
393:	1	2	4	3	3	1	4	4
401:	4	4	5	3	2	3	6	3
409:	8	7	4	5	2	2	3	0
417:	0	0	2	2	2	0	0	0
425:	0	0	1	2	1	0	2	4
433:	0	0	0	1	1	1	2	2
441:	4	1	1	1	0	1	1	3
449:	2	0	1	2	1	2	2	2
457:	2	1	2	2	3	4	3	4
465:	0	2	1	2	1	3	2	1
473:	4	1	2	2	1	1	2	0
481:	1	2	2	3	1	1	3	1
489:	3	1	0	0	1	0	0	0
497:	3	0	0	1	1	0	0	1
505:	0	0	1	0	1	1	2	0
513:	1	1	1	1	0	0	1	0
521:	0	2	0	2	0	2	0	2
529:	0	0	0	1	1	0	2	0
537:	1	0	1	0	0	0	0	0
545:	0	0	0	1	0	0	1	0
553:	0	0	0	0	0	0	0	0
561:	0	0	0	0	0	0	0	0
569:	1	0	0	1	0	0	0	1
577:	0	0	0	0	0	0	0	1
585:	0	0	0	0	0	0	0	2
593:	0	0	0	1	0	0	0	0
601:	0	0	0	1	0	1	1	0
609:	0	0	0	0	0	0	1	0
617:	0	1	0	2	0	2	1	3
625:	1	3	1	2	0	1	2	0
633:	1	1	1	2	1	1	0	2
641:	1	2	2	2	2	4	2	4
649:	6	0	8	6	5	3	4	3
657:	6	2	4	2	4	1	2	1
665:	0	0	1	0	0	0	0	0
673:	0	0	0	0	0	2	0	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0
697:	0	1	1	0	0	0	0	1
705:	0	0	0	0	0	0	0	0
713:	0	0	0	1	0	0	1	0
721:	0	0	0	0	1	0	0	0
729:	0	1	1	1	0	0	1	0
737:	0	0	0	0	0	2	1	0
745:	2	1	0	1	0	0	1	0
753:	0	0	0	0	0	0	0	0
761:	0	0	0	1	0	0	0	0
769:	1	1	0	0	0	0	0	0
777:	0	0	0	0	0	0	0	0
785:	0	0	0	0	1	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	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	0	0	0	0	0	0	0
817:	0	0	0	1	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	1	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	1	0	0
929:	0	0	0	0	0	1	0	0
937:	0	2	0	0	0	0	0	0
945:	1	0	0	0	1	0	1	1
953:	2	0	2	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™

KS
11/5/15

Sample Description: CP5003S16-17
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001332
 Batch Identification: 1510092A-TH
 Sample Identification: 09
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_035
 Chamber Serial Number: 04026477A
 Detector Serial Number: 58771
 Env. Background: System Bkgd 133265
 Reagent Blank: <not performed>

Sample Size: 1.509E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:29:22 AM
 Acquisition Date/Time: 11/5/2015 11:25:31 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.224 mL
 Effective Efficiency: 0.2423 +/- 0.0185
 Counting Efficiency: 0.1647 +/- 0.0029 on 10/25/2014 2:34:10 PM
 Chem. Recovery Factor: 1.4710 +/- 0.1152

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	5.816	17.32	48.17	0.68	0.00E+000	3.0
TH-228	5.396	136.81	16.84	1.19	0.00E+000	9.8
TH-229 T	4.901	207.00	13.66	0.00	0.00E+000	13.2
TH-230	4.663	168.83	15.09	0.17	0.00E+000	8.7
TH-232	3.986	173.49	14.91	0.51	0.00E+000	19.4

T = Tracer Peak used for Effective Efficiency

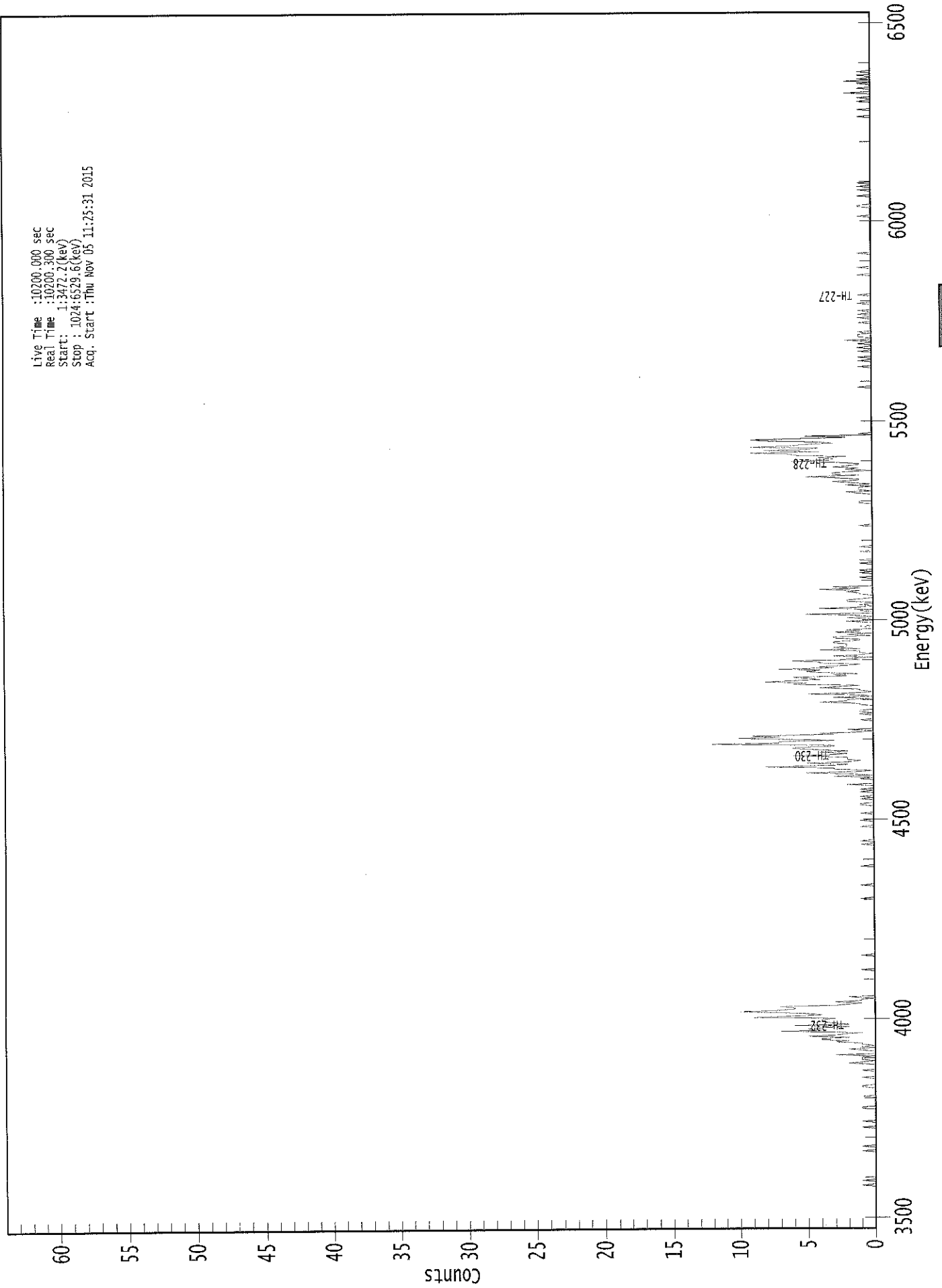
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.994	5850.00*	1.29E-001 +/- 6.51E-002	4.20E-002 +/- 6.28E-003
TH-228	1.000	5400.00*	1.02E+000 +/- 2.29E-001	4.91E-002 +/- 7.33E-003
TH-229	0.996	4872.00*	1.51E+000 +/- 2.25E-001	4.37E-002 +/- 6.53E-003
TH-230	1.000	4672.00*	1.23E+000 +/- 2.60E-001	3.03E-002 +/- 4.53E-003
TH-232	0.999	3997.00*	1.26E+000 +/- 2.65E-001	3.80E-002 +/- 5.68E-003

AG
11/5/15

0000133263.CNF

Live Time : 10200.000 sec
Real Time : 10200.300 sec
Start : 1:3472.2(keV)
Stop : 1024:6529.6(keV)
Acq. Start : Thu Nov 05 11:25:31 2015



: 00225

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: 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	1	0	0	0
41:	1	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	1	0	0	0	1	0	0
73:	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	1	0	0
89:	0	0	1	0	0	0	0	0
97:	0	0	0	0	0	1	1	0
105:	0	0	0	0	0	0	0	1
113:	0	0	0	0	0	0	0	1
121:	1	0	0	0	0	0	0	1
129:	0	0	0	0	0	1	0	0
137:	0	0	0	2	1	0	1	1
145:	1	0	3	0	0	0	1	2
153:	0	1	0	1	1	3	2	4
161:	4	2	5	3	2	1	7	4
169:	5	4	2	6	2	3	4	4
177:	4	3	9	6	4	5	7	10
185:	7	6	6	7	3	2	1	3
193:	1	1	0	2	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	1	0	0	0	0	0
225:	0	0	0	0	0	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	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	1	0
281:	0	0	0	0	0	0	0	0
289:	0	1	0	0	0	0	0	0
297:	0	0	0	0	0	0	0	0
305:	0	1	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	0
321:	0	0	0	1	0	0	1	0
329:	0	0	0	0	0	0	0	0
337:	0	0	1	0	0	0	0	1
345:	0	0	0	0	0	1	0	0
353:	0	0	0	0	1	1	0	0
361:	0	1	0	1	0	0	0	1

369: 0 1 0 0 0 2 0 0

Sample Title: 09

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

801: 0 1 0 0 0 0 0 1

Sample Title: 09

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	0	0	0	0	0	0	0
817:	0	0	0	1	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	1	0	0	0	0	0
857:	0	0	1	1	0	0	0	0
865:	0	0	0	1	0	0	0	0
873:	1	0	0	1	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	1	0
937:	0	0	0	0	1	0	0	0
945:	0	0	0	1	0	0	1	0
953:	0	0	2	0	0	0	1	0
961:	0	0	1	0	2	0	1	0
969:	0	1	0	0	1	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

RB
11/5/15

Sample Description: CP5001S03-04
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001332
 Batch Identification: 1510092A-TH
 Sample Identification: 10
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_036
 Chamber Serial Number: 04026477B
 Detector Serial Number: 84167
 Env. Background: System Bkgd 133266
 Reagent Blank: <not performed>

Sample Size: 1.522E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:29:22 AM
 Acquisition Date/Time: 11/5/2015 11:25:33 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.224 mL
 Effective Efficiency: 0.2135 +/- 0.0172
 Counting Efficiency: 0.1806 +/- 0.0032 on 10/25/2014 2:38:17 PM
 Chem. Recovery Factor: 1.1821 +/- 0.0972

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	5.854	12.64	58.50	1.36	0.00E+000	4.5
TH-228	5.365	143.81	16.42	1.19	0.00E+000	8.0
TH-229 T	4.863	182.49	14.53	0.51	0.00E+000	8.2
TH-230	4.623	188.66	14.28	0.34	0.00E+000	4.0
TH-232	3.957	134.00	16.99	0.00	0.00E+000	4.1

T = Tracer Peak used for Effective Efficiency

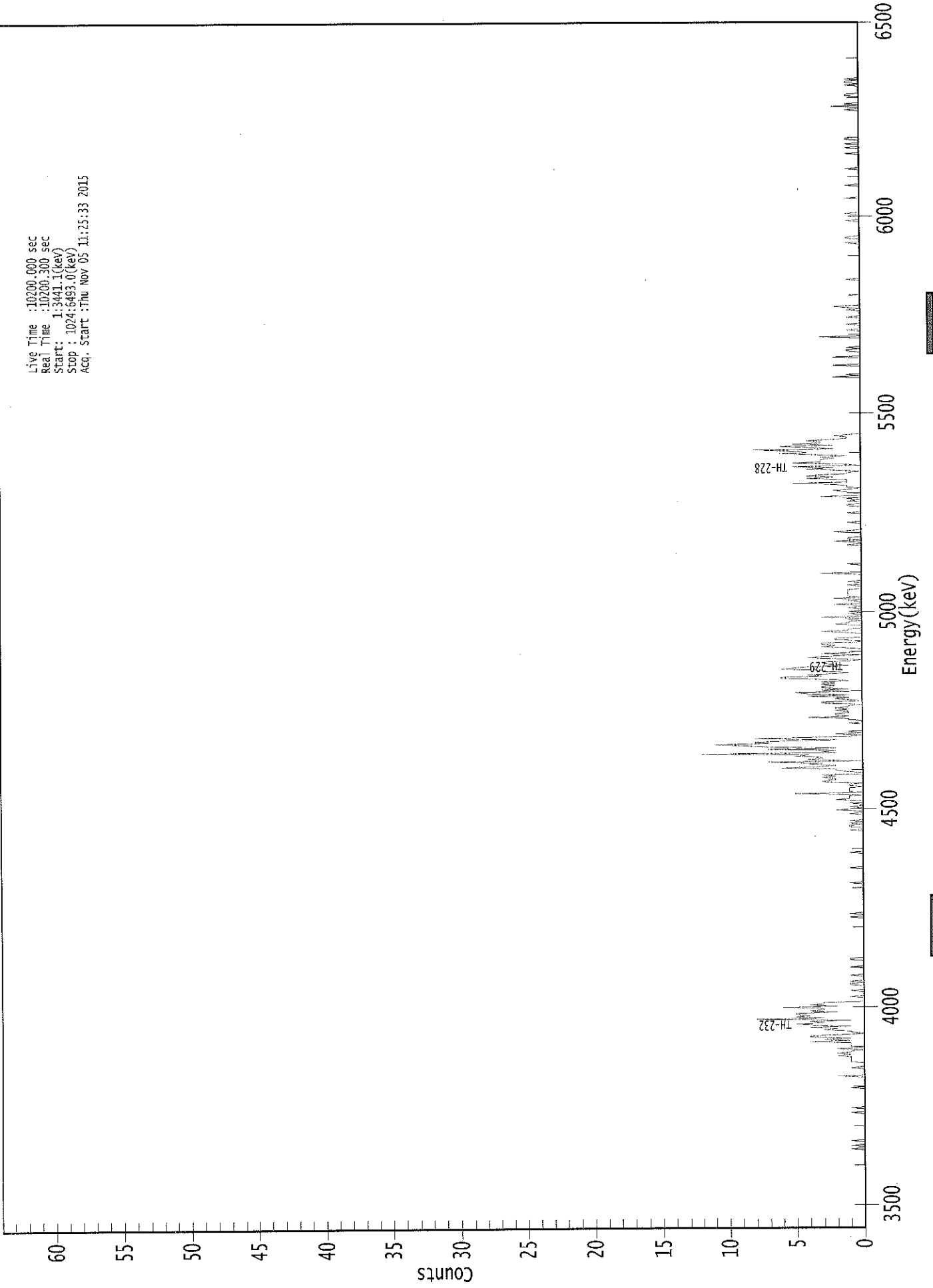
 ----- NUCLIDE ANALYSIS RESULTS -----

Nuclide	Id. Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	1.000	5850.00*	1.06E-001 +/- 6.42E-002	5.75E-002 +/- 9.06E-003
TH-228	0.994	5400.00*	1.21E+000 +/- 2.74E-001	5.53E-002 +/- 8.70E-003
TH-229	1.000	4872.00*	1.50E+000 +/- 2.36E-001	4.30E-002 +/- 6.78E-003
TH-230	0.987	4672.00*	1.54E+000 +/- 3.28E-001	3.91E-002 +/- 6.15E-003
TH-232	0.992	3997.00*	1.09E+000 +/- 2.53E-001	4.89E-002 +/- 7.71E-003

AG
11/5/15

0000133264.CNF

Live Time : 10200.000 sec
Real Time : 10200.300 sec
Start : 1:3441.1(kev)
Stop : 1024:6493.0(kev)
Acq. Start : Thu Nov 05 11:25:33 2015



ROI Type: 1

ROI Type: 3

00230

 ***** 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: 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	1	0	0	1	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	1	0	0	0	1	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	2	0	0	0	0	0	0	0
137:	1	0	0	0	0	1	1	1	1
145:	1	1	2	1	2	1	1	0	0
153:	2	0	1	1	1	1	4	1	1
161:	3	1	4	4	1	0	1	1	1
169:	3	2	4	1	4	5	3	4	4
177:	1	8	3	5	4	5	5	2	2
185:	4	3	3	6	2	4	3	3	3
193:	0	0	0	0	1	0	0	0	0
201:	0	1	0	0	0	0	1	1	1
209:	0	1	0	0	0	0	1	0	0
217:	0	0	0	0	0	1	0	0	0
225:	0	0	0	1	1	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	1
265:	0	0	1	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	0	0
297:	0	0	0	0	0	0	0	0	0
305:	0	1	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	0	0	0	0	0	0	0	0
337:	0	1	0	0	1	1	0	1	1
345:	0	1	0	0	0	0	0	1	1
353:	0	0	2	1	0	1	0	0	0
361:	1	0	0	2	1	1	1	0	0

369: 5 0 1 1 1 1 0 1

Sample Title: 10

Channel	1	2	3	4	5	6	7	8
377:	1	0	3	3	2	2	3	2
385:	3	0	0	1	2	2	6	3
393:	2	4	3	7	0	4	3	3
401:	5	4	12	2	3	2	7	2
409:	7	9	11	7	8	6	2	8
417:	4	1	0	2	0	1	0	0
425:	0	0	0	0	1	0	0	1
433:	1	4	1	2	2	1	1	2
441:	1	2	1	1	0	3	3	0
449:	1	2	1	4	1	4	5	1
457:	3	1	3	3	2	3	2	3
465:	1	2	6	6	3	4	2	1
473:	3	3	6	5	4	1	2	3
481:	3	1	0	3	4	2	0	3
489:	1	0	0	0	1	3	2	3
497:	3	0	0	2	2	0	0	0
505:	0	1	3	1	1	0	0	0
513:	2	1	1	0	1	0	3	0
521:	0	1	0	1	0	0	1	0
529:	0	2	0	0	1	0	2	0
537:	1	1	1	1	1	1	0	0
545:	0	1	0	0	1	0	0	0
553:	0	0	0	3	0	0	0	0
561:	0	0	0	1	0	0	0	0
569:	0	0	0	0	0	0	0	0
577:	0	0	0	1	0	0	2	0
585:	1	1	0	0	0	0	2	1
593:	0	0	0	0	0	0	1	0
601:	0	0	0	0	0	0	1	0
609:	0	0	0	0	1	1	0	0
617:	1	0	1	0	3	0	0	1
625:	1	2	1	0	1	1	2	5
633:	1	1	1	4	2	4	3	1
641:	1	0	2	4	2	5	0	1
649:	5	3	3	3	2	3	1	3
657:	6	4	5	8	2	4	6	2
665:	5	3	3	4	2	1	1	2
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:	0	0	0	0	0	0	0	0
713:	0	0	0	0	0	0	0	0
721:	0	2	0	1	0	0	0	0
729:	0	0	0	2	0	0	0	0
737:	0	0	2	0	0	0	0	1
745:	1	0	1	0	0	0	0	0
753:	0	0	0	3	0	0	0	0
761:	0	1	0	0	0	0	1	0
769:	0	0	0	0	1	0	0	0
777:	0	0	1	0	1	2	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 1 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	1	0	0	0	1
841:	1	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	1	0
857:	0	0	0	0	1	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	1	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	1	0	0	0	0	0
905:	0	0	0	0	0	0	0	1
913:	0	0	0	0	1	0	0	1
921:	0	0	0	1	1	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	1	0	0	2
953:	0	1	0	0	0	0	0	0
961:	1	1	0	0	0	0	0	0
969:	0	1	0	1	1	0	1	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



105
11/5/15

Sample Description: CP5001S06-07
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001332
 Batch Identification: 1510092A-TH
 Sample Identification: 11
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_037
 Chamber Serial Number: 04026478A
 Detector Serial Number: 91133
 Env. Background: System Bkgd 133267
 Reagent Blank: <not performed>

Sample Size: 1.528E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:29:22 AM
 Acquisition Date/Time: 11/5/2015 11:25:36 AM
 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: 0.1779 +/- 0.0154
 Counting Efficiency: 0.1709 +/- 0.0030 on 10/25/2014 2:46:09 PM
 Chem. Recovery Factor: 1.0408 +/- 0.0921

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	5.811	8.47	74.12	1.53	0.00E+000	3.0
TH-228	5.355	154.15	15.84	0.85	0.00E+000	17.3
TH-229 T	4.871	152.66	15.88	0.34	0.00E+000	6.3
TH-230	4.615	159.32	15.57	0.68	0.00E+000	13.0
TH-232	3.950	140.00	16.62	0.00	0.00E+000	9.0

T = Tracer Peak used for Effective Efficiency

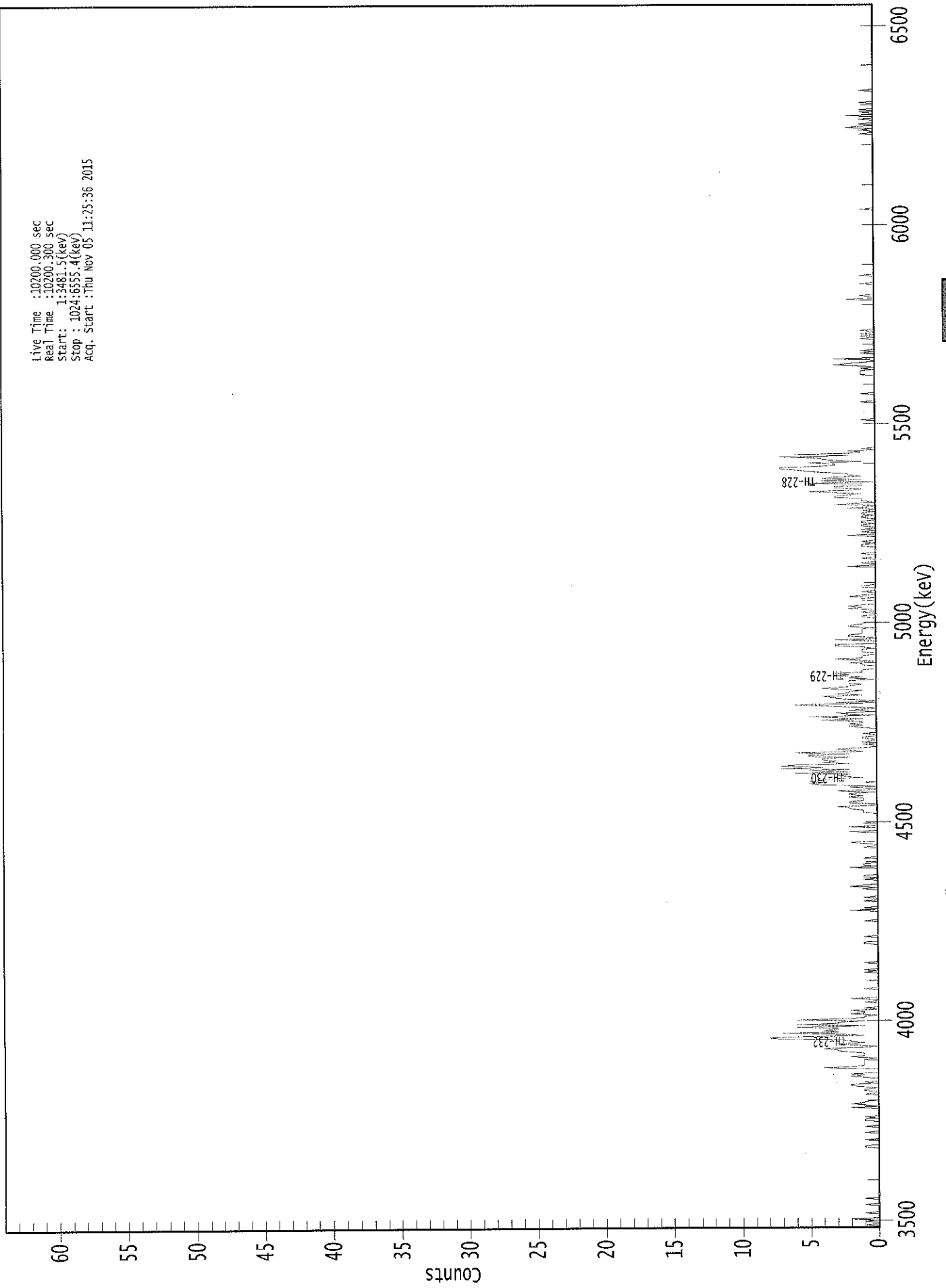
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.992	5850.00*	8.49E-002 +/- 6.45E-002	7.12E-002 +/- 1.21E-002
TH-228	0.990	5400.00*	1.54E+000 +/- 3.59E-001	6.00E-002 +/- 1.02E-002
TH-229	1.000	4872.00*	1.50E+000 +/- 2.54E-001	4.68E-002 +/- 7.96E-003
TH-230	0.983	4672.00*	1.56E+000 +/- 3.59E-001	5.51E-002 +/- 9.37E-003
TH-232	0.989	3997.00*	1.36E+000 +/- 3.25E-001	5.84E-002 +/- 9.94E-003

AG
11/5/15

0000133265.CNF

Live Time : 10200.000 sec
Real Time : 10200.300 sec
Start : 1:3481.5 (kev)
Stop : 1024:6555.4 (kev)
Acq. Start : Thu Nov 05 11:25:36 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:	0	0	1	0	0	1	0	2
9:	0	0	0	0	1	0	0	0
17:	0	0	0	1	0	0	0	0
25:	1	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	1	1	0	0	0
73:	0	1	0	0	0	0	0	1
81:	0	0	0	0	1	0	0	0
89:	0	1	1	0	1	0	0	0
97:	0	0	0	0	2	0	1	2
105:	1	1	0	0	0	0	0	1
113:	0	0	1	1	0	1	2	2
121:	0	1	0	0	0	1	2	1
129:	2	0	0	0	0	4	2	1
137:	1	1	1	1	1	0	2	1
145:	1	1	2	3	3	4	1	0
153:	2	3	1	2	2	7	8	6
161:	1	2	7	3	4	3	3	6
169:	1	6	3	3	1	6	2	1
177:	1	0	2	1	1	2	0	1
185:	0	0	0	0	1	0	0	2
193:	0	0	0	0	0	0	0	1
201:	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	1	0	1
217:	0	0	0	0	0	1	0	0
225:	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	1	1	0
241:	0	0	0	1	0	0	0	0
249:	0	0	0	0	0	0	0	0
257:	1	0	0	0	0	0	0	0
265:	0	2	0	1	0	0	0	0
273:	0	1	0	0	1	0	0	0
281:	0	0	0	1	0	2	1	0
289:	0	0	0	1	0	1	1	0
297:	0	0	0	0	0	2	0	1
305:	1	0	0	0	0	1	0	0
313:	0	0	0	0	0	0	1	0
321:	0	1	2	0	0	0	0	0
329:	0	0	0	2	0	0	0	2
337:	0	0	1	0	0	0	0	0
345:	0	0	0	1	1	1	2	2
353:	3	0	0	2	2	1	1	1
361:	2	1	2	2	0	3	0	0

369: 2 0 4 5 4 5 4 4

Sample Title: 11

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

801: 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	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	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	1	0	0	1	0	2
921:	1	0	1	0	0	0	1	0
929:	0	2	0	0	1	0	1	0
937:	0	0	0	0	1	0	0	0
945:	0	0	0	0	0	0	1	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

100
11/5/15

Sample Description: CP5001S09-10
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001332
 Batch Identification: 1510092A-TH
 Sample Identification: 12
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_038
 Chamber Serial Number: 04026478B
 Detector Serial Number: 91134
 Env. Background: System Bkgd 133268
 Reagent Blank: <not performed>

Sample Size: 1.505E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:29:22 AM
 Acquisition Date/Time: 11/5/2015 11:25:38 AM
 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: 0.1960 +/- 0.0163
 Counting Efficiency: 0.1615 +/- 0.0029 on 10/25/2014 2:50:18 PM
 Chem. Recovery Factor: 1.2133 +/- 0.1034

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	5.828	14.83	51.24	0.17	0.00E+000	3.0
TH-228	5.341	93.66	20.30	0.34	0.00E+000	3.3
TH-229 T	4.877	168.00	15.17	0.00	0.00E+000	3.8
TH-230	4.607	129.32	17.29	0.68	0.00E+000	6.0
TH-232	3.963	131.49	17.13	0.51	0.00E+000	8.2

T = Tracer Peak used for Effective Efficiency

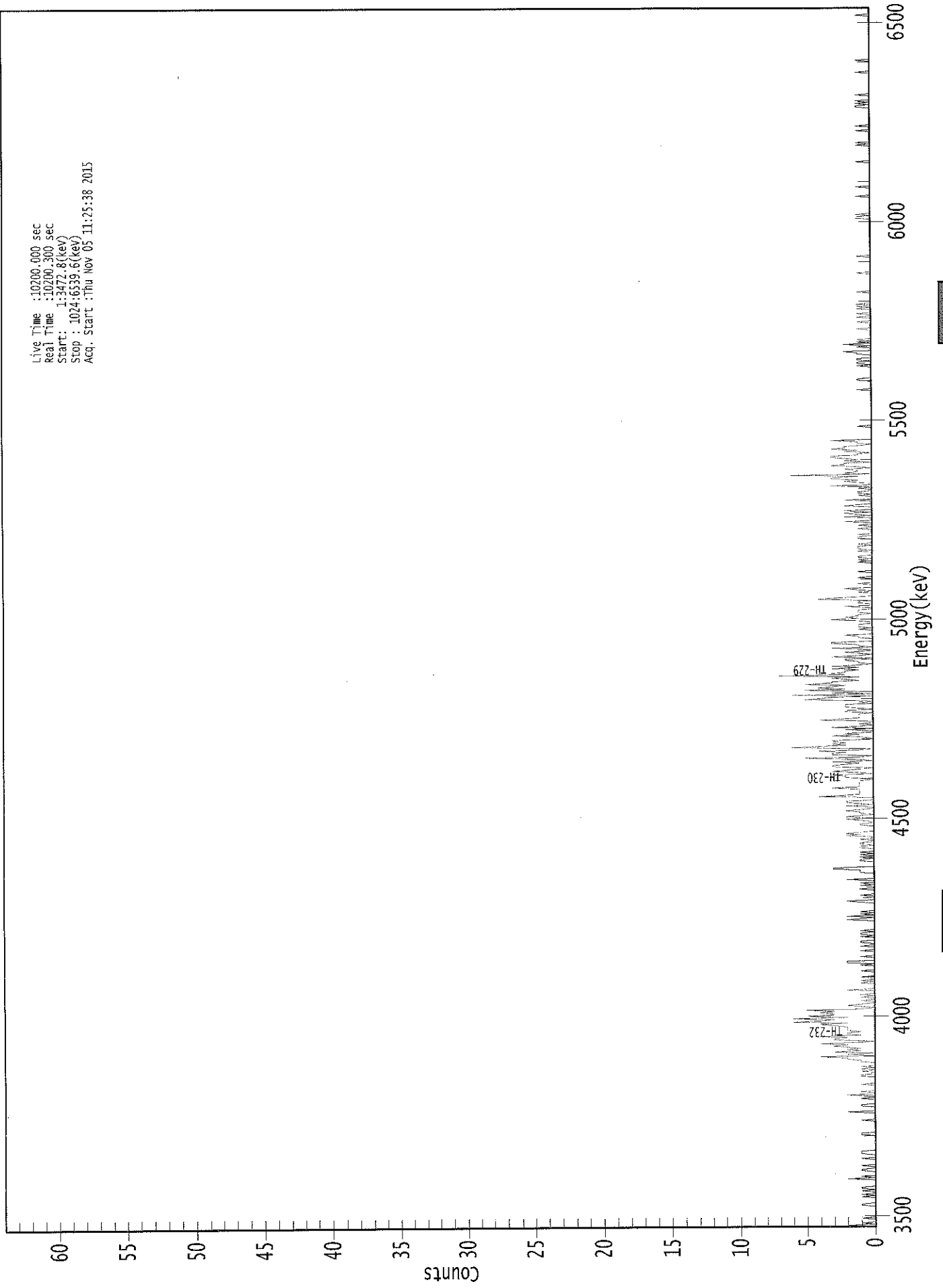
 ----- NUCLIDE ANALYSIS RESULTS -----

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.997	5850.00*	1.37E-001 +/- 7.37E-002	3.85E-002 +/- 6.30E-003
TH-228	0.982	5400.00*	8.65E-001 +/- 2.25E-001	4.41E-002 +/- 7.21E-003
TH-229	1.000	4872.00*	1.52E+000 +/- 2.48E-001	5.41E-002 +/- 8.84E-003
TH-230	0.978	4672.00*	1.16E+000 +/- 2.77E-001	5.08E-002 +/- 8.29E-003
TH-232	0.994	3997.00*	1.18E+000 +/- 2.80E-001	4.71E-002 +/- 7.70E-003

AG
11/5/15

0000133266.CNF

Live Time : 10200.000 sec
Real Time : 10200.300 sec
Start : 1:3472.8(kev)
Stop : 1024:6539.6(kev)
Acq. Start : Thu Nov 05 11:25:36 2015



0000133266

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: 10200

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

369: 3 1 1 1 1 1 1 1 0

Sample Title: 12

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

801: 1 0 0 0 0 0 0 0

Sample Title: 12

Channel								
809:	0	0	0	0	0	0	1	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	1	1
849:	0	1	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	1	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	1	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	1	0	1	0	0
913:	0	0	0	0	0	0	0	1
921:	0	0	0	1	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	1	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:	1	0	0	0	0	0	0	0
977:	0	0	1	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:	1	0	0	0	0	0	0	0



11/5/15

Sample Description: CP5001S11-12
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001332
 Batch Identification: 1510092A-TH
 Sample Identification: 13
 Sample Geometry: Shelf 2
 Procedure Description: Th iso
 Detector Name: Alpha_039
 Chamber Serial Number: 06027396A
 Detector Serial Number: 83109
 Env. Background: System Bkgd 133269
 Reagent Blank: <not performed>

Sample Size: 1.512E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:29:22 AM
 Acquisition Date/Time: 11/5/2015 11:25:41 AM
 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: 0.1746 +/- 0.0154
 Counting Efficiency: 0.1934 +/- 0.0034 on 10/25/2014 2:53:34 PM
 Chem. Recovery Factor: 0.9028 +/- 0.0814

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	5.857	13.79	57.52	2.21	0.00E+000	3.0
TH-228	5.380	119.26	18.27	3.74	0.00E+000	7.4
TH-229 T	4.877	150.09	16.24	3.91	0.00E+000	5.4
TH-230	4.627	141.11	16.70	2.89	0.00E+000	11.0
TH-232	3.972	119.94	18.16	3.06	0.00E+000	16.8

T = Tracer Peak used for Effective Efficiency

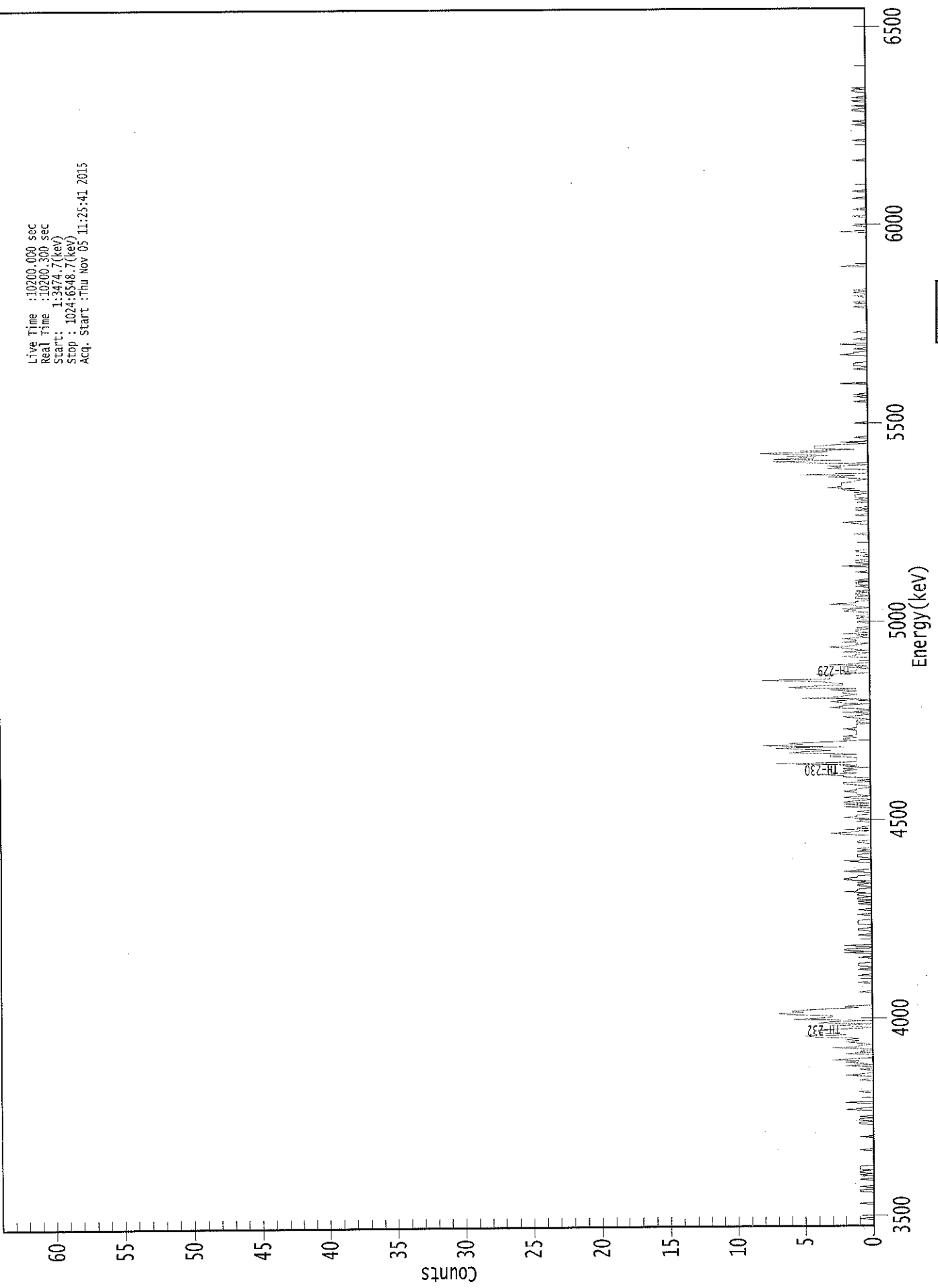
 ----- NUCLIDE ANALYSIS RESULTS -----

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	1.000	5850.00*	1.42E-001 +/- 8.55E-002	8.25E-002 +/- 1.43E-002
TH-228	0.998	5400.00*	1.23E+000 +/- 3.10E-001	9.89E-002 +/- 1.72E-002
TH-229	1.000	4872.00*	1.51E+000 +/- 2.63E-001	9.83E-002 +/- 1.70E-002
TH-230	0.990	4672.00*	1.42E+000 +/- 3.42E-001	8.81E-002 +/- 1.53E-002
TH-232	0.997	3997.00*	1.20E+000 +/- 3.02E-001	8.97E-002 +/- 1.55E-002

Ag
11/5/15

0000133267.CNF

Live Time : 10200.000 sec
Real Time : 10200.300 sec
Start : 1:3474.7 (keV)
Stop : 1024:6548.7 (keV)
Acq. Start : Thu Nov 05 11:25:41 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: 10200

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

369: 0 0 1 2 2 0 1 0

Sample Title: 13

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

801: 0 0 0 0 0 2 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	2	0	0	0	0	1
841:	0	0	0	0	0	0	0	1
849:	0	0	0	0	0	1	0	0
857:	0	0	0	0	0	0	1	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	0	0	0	0	0	1	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	1
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	1	0	0	1
929:	0	0	0	0	0	0	0	0
937:	1	1	0	0	1	0	0	0
945:	1	0	0	1	0	0	0	0
953:	1	1	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

*KES
11/5/15*

Sample Description: CP5001S13-14
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001332
 Batch Identification: 1510092A-TH
 Sample Identification: 14
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_040
 Chamber Serial Number: 06027396B
 Detector Serial Number: 91135
 Env. Background: System Bkgd 133270
 Reagent Blank: <not performed>

Sample Size: 1.510E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:29:22 AM
 Acquisition Date/Time: 11/5/2015 11:25:45 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.224 mL
 Effective Efficiency: 0.2157 +/- 0.0172
 Counting Efficiency: 0.1856 +/- 0.0032 on 10/25/2014 2:57:14 PM
 Chem. Recovery Factor: 1.1624 +/- 0.0951

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	5.788	18.15	47.25	0.85	0.00E+000	4.5
TH-228	5.370	136.81	16.84	1.19	0.00E+000	4.0
TH-229 T	4.866	184.66	14.44	0.34	0.00E+000	3.8
TH-230	4.633	157.32	15.67	0.68	0.00E+000	4.0
TH-232	3.962	148.66	16.10	0.34	0.00E+000	4.9

T = Tracer Peak used for Effective Efficiency

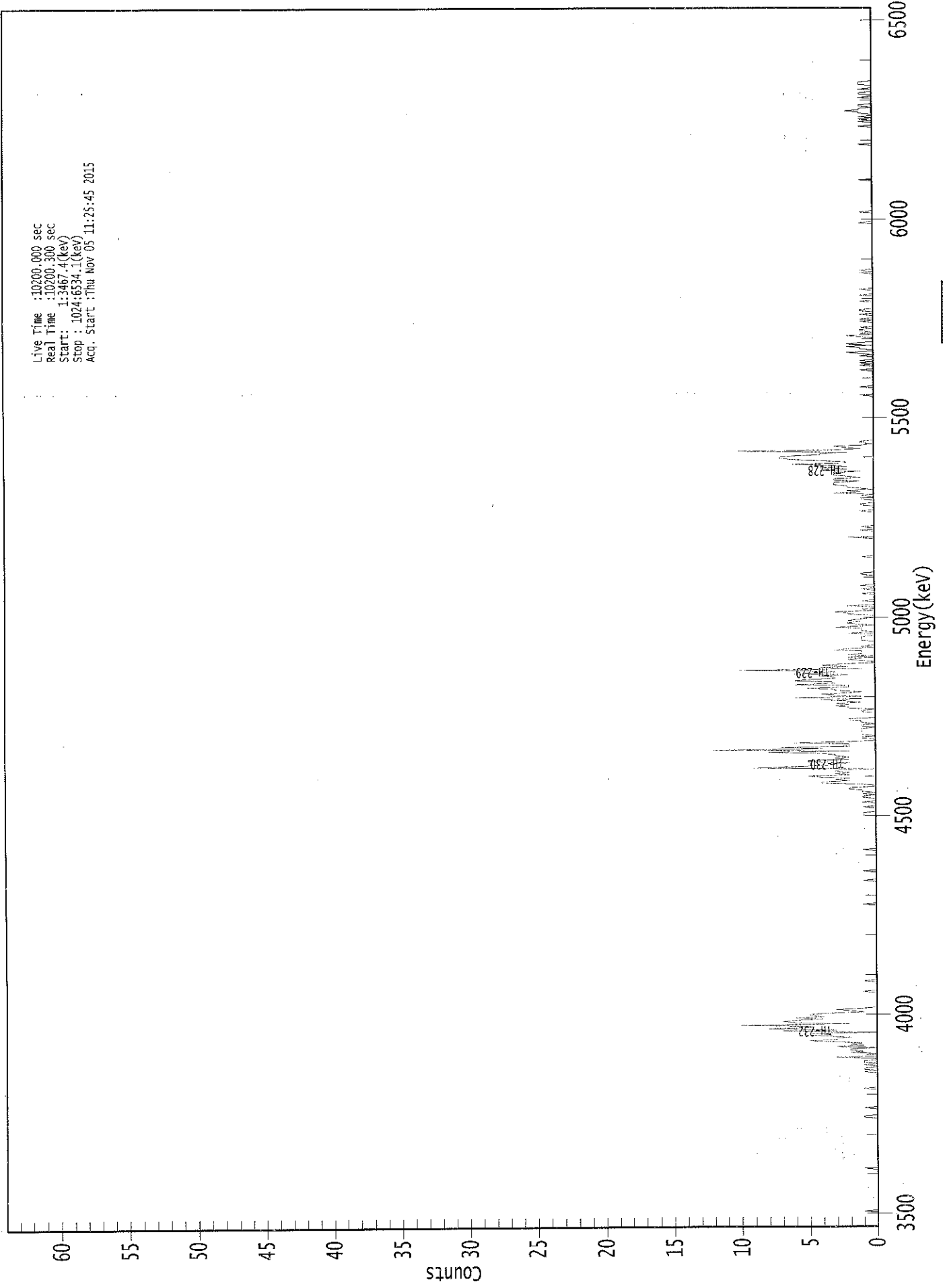
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.980	5850.00*	1.52E-001 +/- 7.56E-002	5.01E-002 +/- 7.85E-003
TH-228	0.995	5400.00*	1.14E+000 +/- 2.63E-001	5.51E-002 +/- 8.63E-003
TH-229	1.000	4872.00*	1.51E+000 +/- 2.37E-001	3.91E-002 +/- 6.12E-003
TH-230	0.992	4672.00*	1.28E+000 +/- 2.84E-001	4.60E-002 +/- 7.20E-003
TH-232	0.994	3997.00*	1.21E+000 +/- 2.72E-001	3.89E-002 +/- 6.09E-003

*AG
11/5/15*

0000133268.CNF

Live Time : 10200.000 sec
Real Time : 10200.300 sec
Start : 1:34:67.4(keV)
Stop : 1024:6534.1(keV)
Acq. Start : Thu Nov 05 11:25:45 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: 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	0	0	0	0	1	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	1	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	1	1	0	0	0
97:	0	0	0	0	1	0	0	0	0
105:	0	0	0	0	0	0	0	0	0
113:	0	0	0	0	1	0	0	0	0
121:	0	0	0	0	0	0	0	0	0
129:	0	0	1	0	1	1	0	0	0
137:	1	0	1	1	0	0	3	0	0
145:	0	0	2	1	2	2	0	3	0
153:	1	2	1	3	5	3	3	2	0
161:	4	5	5	0	7	3	8	5	0
169:	5	10	2	6	7	6	4	6	0
177:	4	5	5	3	1	2	3	1	0
185:	0	0	0	0	0	0	0	0	0
193:	0	0	0	0	0	1	0	0	0
201:	0	0	0	0	0	0	1	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	1	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	0	1	0	0	0	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	0	0	0
337:	0	0	0	0	0	0	0	0	0
345:	0	1	1	1	0	0	0	0	0
353:	1	0	0	0	1	0	0	0	0
361:	1	1	0	1	0	1	1	2	0

369: 2 0 0 1 4 4 2 3

Sample Title: 14

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

801: 1 0 1 0 0 0 0 0

Sample Title: 14

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	1	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	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	1	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	1	0	0	0	1
929:	0	1	0	1	0	0	1	1
937:	2	1	1	0	1	1	0	0
945:	0	0	0	1	0	0	1	1
953:	0	0	1	0	0	0	1	1
961:	1	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
11/5/15

Sample Description: CP5001S16-17
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001332
 Batch Identification: 1510092A-TH
 Sample Identification: 15
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_041
 Chamber Serial Number: 05026930A
 Detector Serial Number: 91087
 Env. Background: System Bkgd 133271
 Reagent Blank: <not performed>

Sample Size: 1.529E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:29:22 AM
 Acquisition Date/Time: 11/5/2015 11:25:49 AM
 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: 0.1428 +/- 0.0137
 Counting Efficiency: 0.1873 +/- 0.0033 on 10/25/2014 3:00:28 PM
 Chem. Recovery Factor: 0.7625 +/- 0.0742

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	5.852	12.15	58.49	0.85	0.00E+000	3.0
TH-228	5.353	72.15	23.23	0.85	0.00E+000	10.2
TH-229 T	4.887	122.49	17.75	0.51	0.00E+000	4.4
TH-230	4.606	135.64	16.93	1.36	0.00E+000	4.2
TH-232	3.957	96.11	20.34	2.89	0.00E+000	6.0

T = Tracer Peak used for Effective Efficiency

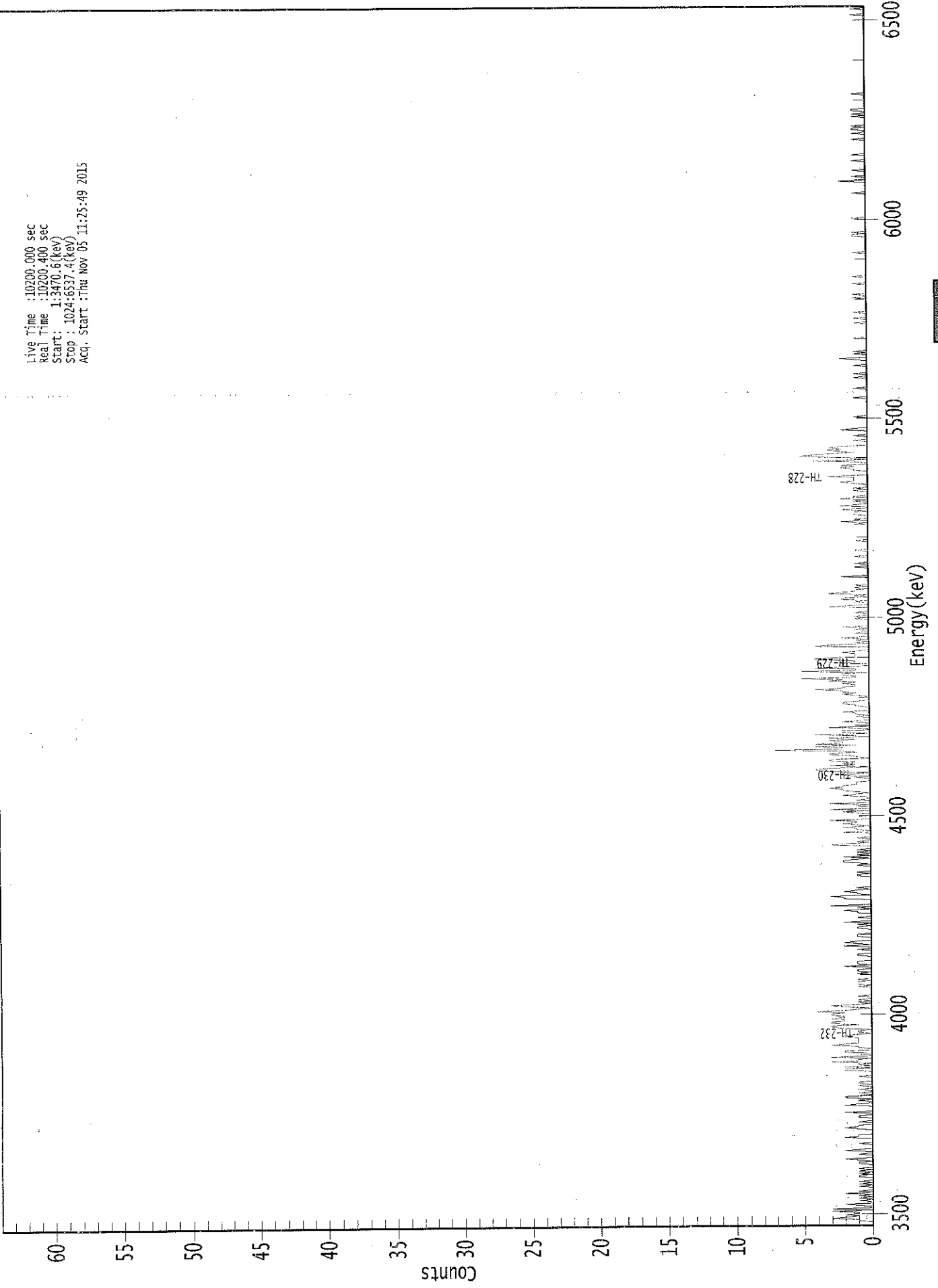
 NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	1.000	5850.00*	1.52E-001 +/- 9.31E-002	7.47E-002 +/- 1.40E-002
TH-228	0.989	5400.00*	9.00E-001 +/- 2.69E-001	7.47E-002 +/- 1.40E-002
TH-229	0.999	4872.00*	1.49E+000 +/- 2.80E-001	6.40E-002 +/- 1.20E-002
TH-230	0.978	4672.00*	1.65E+000 +/- 4.17E-001	8.33E-002 +/- 1.56E-002
TH-232	0.991	3997.00*	1.17E+000 +/- 3.23E-001	1.06E-001 +/- 1.99E-002

KB
11/5/15

0000133269.CNF

Live Time : 10200.000 sec
Real Time : 10200.400 sec
Start : 1:3470.6(keV)
Stop : 1024:6537.4(keV)
Acq. Start : Thu Nov 05 11:25:49 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	1	1	3	2	
9:	1	2	1	1	3	0	3	0	
17:	0	1	2	0	0	1	0	1	
25:	0	1	0	2	0	1	0	0	
33:	0	1	0	1	0	1	0	0	
41:	0	1	1	0	1	0	1	0	
49:	1	0	0	0	1	1	0	1	
57:	2	0	0	0	1	0	0	2	
65:	1	0	0	0	0	1	0	0	
73:	0	0	2	1	1	0	0	0	
81:	0	1	2	1	1	0	0	1	
89:	0	0	0	1	1	0	0	2	
97:	0	0	0	0	0	2	1	0	
105:	0	1	0	2	2	0	0	1	
113:	0	0	1	0	0	1	0	1	
121:	1	0	0	0	0	1	0	0	
129:	0	0	2	2	0	2	0	1	
137:	0	3	1	1	0	3	0	0	
145:	0	2	2	0	0	1	1	3	
153:	2	1	1	1	1	1	2	2	
161:	1	0	1	1	0	2	3	3	
169:	1	3	3	2	2	3	2	2	
177:	3	3	2	4	2	1	0	2	
185:	3	1	0	1	0	1	0	0	
193:	1	0	0	0	0	0	0	0	
201:	1	0	1	1	1	0	1	0	
209:	0	0	0	1	0	1	1	0	
217:	0	2	0	1	1	1	0	0	
225:	0	0	1	1	0	0	0	1	
233:	0	0	2	0	1	2	1	0	
241:	0	0	1	1	1	0	0	0	
249:	0	1	1	0	1	0	2	0	
257:	0	0	1	0	0	0	1	1	
265:	2	0	1	0	3	0	0	0	
273:	0	0	2	2	3	0	1	1	
281:	2	1	0	1	0	0	0	0	
289:	0	0	0	0	0	1	1	0	
297:	1	0	0	0	0	0	1	0	
305:	1	2	2	1	0	2	0	1	
313:	0	1	0	1	0	0	0	3	
321:	2	0	1	0	0	1	0	0	
329:	0	0	2	0	1	1	2	0	
337:	1	2	1	1	3	0	0	0	
345:	0	0	1	2	0	3	0	0	
353:	1	0	3	0	0	1	0	0	
361:	1	2	1	0	1	2	2	3	

369: 2 2 1 1 1 0 0 0

Sample Title: 15

Channel	1	2	3	4	5	6	7	8	9
377:	1	1	2	1	0	3	4	4	
385:	2	0	3	1	2	1	3	3	
393:	0	1	1	3	3	1	2	7	
401:	2	2	4	1	4	2	2	3	
409:	1	3	1	1	4	0	2	2	
417:	0	0	3	0	1	0	0	2	
425:	0	0	0	1	0	1	1	2	
433:	0	0	0	0	1	1	2	2	
441:	1	0	0	0	0	1	2	1	
449:	2	2	4	2	2	1	1	2	
457:	1	3	2	5	1	1	2	2	
465:	0	5	1	1	4	1	0	0	
473:	2	1	1	4	4	1	1	1	
481:	1	2	1	0	0	0	4	3	
489:	0	1	0	1	0	2	0	0	
497:	0	1	0	0	1	0	2	0	
505:	0	0	0	0	0	1	0	1	
513:	0	0	1	0	0	0	0	3	
521:	1	0	0	1	0	2	2	0	
529:	1	0	3	2	1	1	0	1	
537:	0	1	0	0	0	0	0	0	
545:	2	0	0	0	0	0	0	0	
553:	1	0	0	1	0	0	0	0	
561:	0	1	0	0	0	0	1	0	
569:	0	0	0	0	0	0	1	0	
577:	0	0	0	0	0	0	0	0	
585:	0	0	0	0	1	0	2	0	
593:	1	0	0	0	1	1	1	0	
601:	2	0	0	2	1	0	0	1	
609:	0	2	1	1	0	0	0	0	
617:	1	0	1	0	0	0	1	2	
625:	1	1	1	1	3	0	0	0	
633:	0	1	1	2	1	2	0	0	
641:	1	4	0	0	3	5	4	3	
649:	1	2	3	2	3	2	0	0	
657:	0	0	1	0	0	0	1	0	
665:	0	0	0	2	1	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	1	0	
697:	0	0	0	0	0	0	1	0	
705:	0	0	0	0	0	0	0	1	
713:	0	0	1	0	0	0	0	0	
721:	0	1	0	0	0	0	1	2	
729:	0	0	0	1	0	1	0	0	
737:	0	0	0	0	0	0	0	0	
745:	1	0	0	0	0	0	0	0	
753:	0	0	0	0	0	1	0	0	
761:	0	1	0	0	0	0	1	0	
769:	0	0	0	0	0	0	0	0	
777:	0	0	1	0	0	1	0	0	
785:	0	0	0	0	0	0	1	0	
793:	0	0	0	0	1	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:	1	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	1	1
833:	0	1	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	1	0	0	0	0	0
873:	0	0	0	0	2	0	0	0
881:	1	0	0	0	0	1	0	0
889:	0	0	0	0	0	1	0	0
897:	0	0	1	0	0	0	0	0
905:	0	0	0	0	0	0	0	1
913:	0	0	0	0	1	0	0	1
921:	1	0	1	0	0	0	0	0
929:	0	0	1	0	1	0	0	1
937:	1	0	0	0	0	0	0	0
945:	0	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	1
1017:	0	0	0	0	1	0	0	0



10/25/15

Sample Description: CP5001S18-19
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001332
 Batch Identification: 1510092A-TH
 Sample Identification: 16
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_042
 Chamber Serial Number: 05026930B
 Detector Serial Number: 84185
 Env. Background: System Bkgd 133272
 Reagent Blank: <not performed>

Sample Size: 1.522E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/9/2015 6:29:22 AM
 Acquisition Date/Time: 11/5/2015 11:25:52 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.224 mL
 Effective Efficiency: 0.1336 +/- 0.0132
 Counting Efficiency: 0.1737 +/- 0.0030 on 10/25/2014 3:04:21 PM
 Chem. Recovery Factor: 0.7692 +/- 0.0773

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	5.859	12.49	56.77	0.51	0.00E+000	3.0
TH-228	5.359	91.81	20.61	1.19	0.00E+000	3.8
TH-229 T	4.872	114.15	18.42	0.85	0.00E+000	5.0
TH-230	4.617	118.66	18.02	0.34	0.00E+000	10.9
TH-232	3.961	125.32	17.56	0.68	0.00E+000	18.6

T = Tracer Peak used for Effective Efficiency

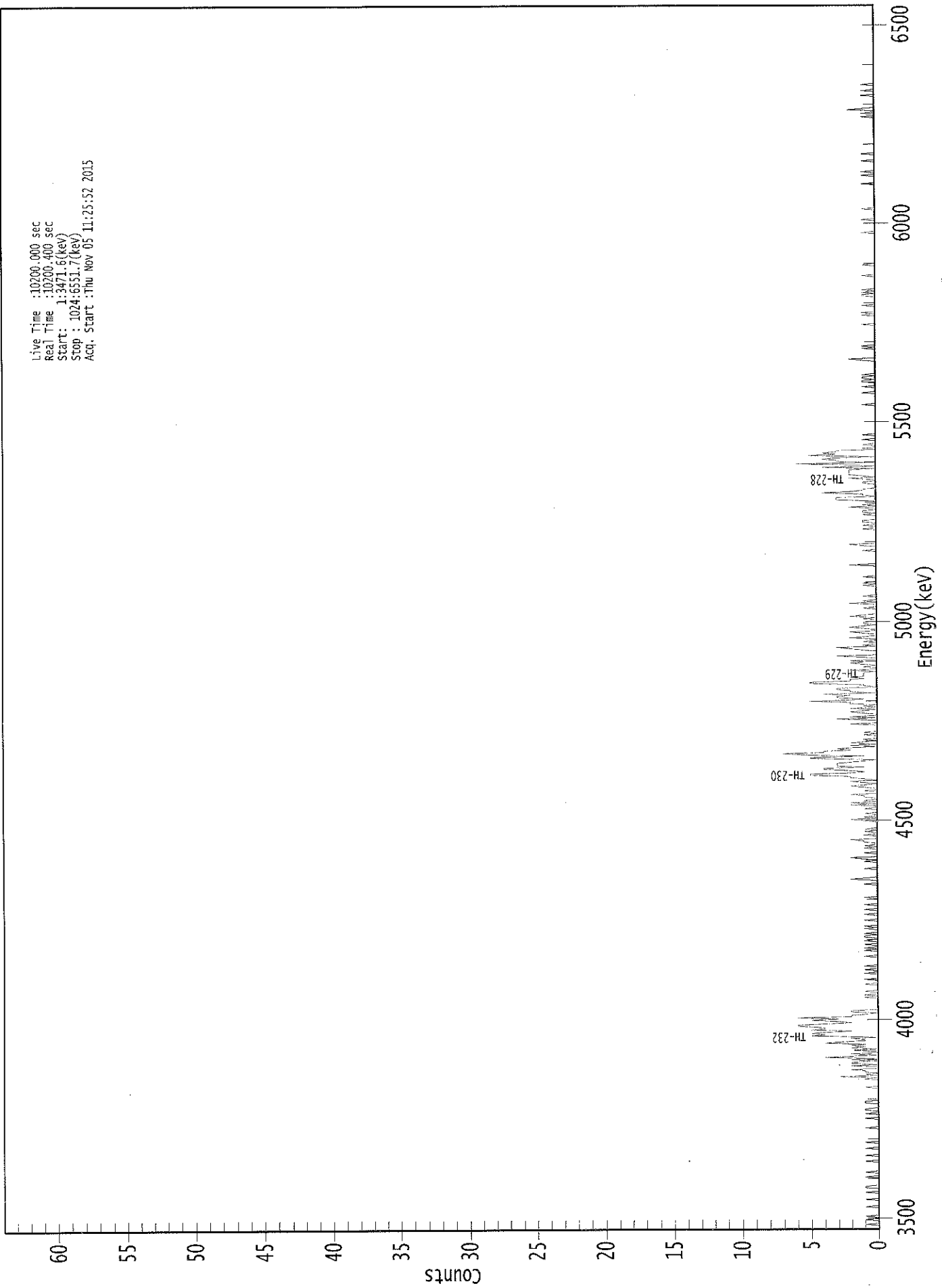
 ----- NUCLIDE ANALYSIS RESULTS -----

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	1.000	5850.00*	1.67E-001 +/- 1.00E-001	7.03E-002 +/- 1.36E-002
TH-228	0.991	5400.00*	1.23E+000 +/- 3.48E-001	8.82E-002 +/- 1.71E-002
TH-229	1.000	4872.00*	1.49E+000 +/- 2.90E-001	7.84E-002 +/- 1.52E-002
TH-230	0.984	4672.00*	1.55E+000 +/- 4.10E-001	6.24E-002 +/- 1.21E-002
TH-232	0.993	3997.00*	1.63E+000 +/- 4.27E-001	7.35E-002 +/- 1.43E-002

AG
11/5/15

0000133270.CNF

Live Time : 10200.000 sec
Real Time : 10200.400 sec
Start : 1:3471.6(kev)
Stop : 1024:6551.7(kev)
Acq. Start : Thu Nov 05 11:25:52 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	1	0	0	0	0
9:	1	0	0	1	0	0	0	0	0
17:	0	0	0	1	0	0	0	0	0
25:	0	1	0	0	0	0	0	0	1
33:	0	0	0	1	1	0	0	0	0
41:	0	0	0	0	1	0	0	0	0
49:	1	0	0	0	0	0	0	0	0
57:	0	1	0	0	0	0	1	0	0
65:	0	0	0	0	1	0	0	0	0
73:	0	1	0	0	0	0	0	0	0
81:	0	0	0	0	0	1	0	0	0
89:	0	0	0	0	0	1	0	0	0
97:	0	1	0	0	1	1	0	0	0
105:	0	0	1	1	0	0	0	0	0
113:	0	0	0	0	0	0	0	1	0
121:	0	0	0	0	0	0	1	0	0
129:	3	0	1	0	1	1	2	0	0
137:	0	2	0	2	2	0	2	0	0
145:	4	2	0	2	0	0	2	0	0
153:	2	1	2	1	4	3	1	1	1
161:	2	0	5	4	5	4	2	5	5
169:	4	4	6	6	4	2	3	5	5
177:	3	6	2	2	1	0	2	2	2
185:	0	0	0	0	0	0	0	0	0
193:	0	0	1	0	1	0	0	1	0
201:	0	0	0	0	0	1	0	0	0
209:	0	1	0	0	0	0	1	0	0
217:	0	1	0	0	1	0	0	0	0
225:	0	0	0	0	1	0	0	0	0
233:	0	1	0	1	0	0	1	0	0
241:	0	1	0	0	1	1	0	1	0
249:	0	0	0	1	0	1	0	0	0
257:	0	0	1	0	0	0	0	1	0
265:	0	0	0	1	0	0	0	1	0
273:	0	0	0	0	0	1	0	0	0
281:	0	0	0	0	0	0	0	0	0
289:	1	0	0	0	2	1	0	0	0
297:	0	0	0	0	0	1	0	0	0
305:	0	0	0	1	0	1	2	0	0
313:	0	0	1	0	0	0	1	0	0
321:	1	0	0	1	1	2	0	0	0
329:	0	1	0	0	1	0	1	0	0
337:	0	0	0	0	0	1	2	0	0
345:	1	0	0	1	0	0	0	1	0
353:	0	0	2	0	2	0	1	0	0
361:	0	1	1	2	0	0	1	0	0

369: 0 1 2 1 0 1 2 0

Sample Title: 16

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

801: 0 0 0 0 0 1 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:	1	0	0	0	0	0	0	0
841:	0	0	0	1	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	1	0	0	0	0	0	0
881:	1	0	0	1	0	0	0	0
889:	0	0	0	0	1	0	0	0
897:	0	0	1	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	1	0	0	1	0	0	2
937:	1	0	0	0	0	0	0	0
945:	0	0	0	1	0	0	0	1
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




QA SUMMARY REPORT
Review Of QA Results - Pulser Check

Date : 11/5/2015
Time : 5:35:31 AM

CHAMBER	DEVICE	PARAMETER	FLAG	DATE
Alpha 001	21f	ALL	Not Done	
Alpha 002	21f	ALL	Not Done	
Alpha 003	21f	ALL	Passed	11/5/2015 5:16:13 AM
Alpha 004	21f	ALL	Passed	11/5/2015 5:16:14 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	11/5/2015 5:16:15 AM
Alpha 011	21f	ALL	Passed	11/5/2015 5:16:16 AM
Alpha 012	21f	ALL	Passed	11/5/2015 5:16:17 AM
Alpha 013	21f	ALL	Not Done	
Alpha 014	21f	ALL	Passed	11/5/2015 5:16:17 AM
Alpha 015	21f	ALL	Passed	11/5/2015 5:16:18 AM
Alpha 016	21f	ALL	Not Done	
Alpha 033	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:16:19 AM
Alpha 034	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:16:21 AM
Alpha 035	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:16:23 AM
Alpha 036	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:16:24 AM
Alpha 037	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:16:26 AM
Alpha 038	Alpha Analyst100DC	Peak Energy	Action	11/5/2015 5:16:28 AM
Alpha 039	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:16:31 AM
Alpha 040	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:16:34 AM
Alpha 041	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:16:37 AM
Alpha 042	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:16:40 AM
Alpha 043	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:16:43 AM
Alpha 044	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:16:47 AM
Alpha 045	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:16:52 AM
Alpha 046	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:16:56 AM
Alpha 047	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:17:00 AM
Alpha 048	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:17:04 AM
Alpha 049	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:17:08 AM
Alpha 050	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:17:13 AM
Alpha 051	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:17:17 AM
Alpha 052	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:17:20 AM
Alpha 053	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:17:25 AM
Alpha 054	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:17:29 AM
Alpha 055	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:17:34 AM
Alpha 056	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:17:38 AM
Alpha 057	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:17:42 AM
Alpha 058	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:17:47 AM

CHAMBER	DEVICE	PARAMETER	FLAG	DATE
Alpha 059	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:17:51 AM
Alpha 060	Alpha Analyst100DC	ALL	Passed	11/5/2015 5:17:55 AM

APPROVED BY: _____ 

APPROVAL DATE: 11/5

 ***** 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	15-10092
Analysis Code	Gamma
Run	1
Date Received	10/14/2015
Lab Deadline	11/5/2015
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		10/15/15 00:00	1.0000E+00
02	MBL	BLANK		10/15/15 00:00	1.0000E+00
03	DUP	CP5003S03-04	40	10/09/15 09:00	5.4537E+02
04	DO	CP5003S03-04	40	10/09/15 09:00	5.4537E+02
05	TRG	CP5003S06-07	35	10/09/15 09:10	5.4229E+02
06	TRG	CP5003S09-10	32	10/09/15 09:30	5.4412E+02
07	TRG	CP5003S12-13	35	10/09/15 09:40	5.4170E+02
08	TRG	CP5003S14-15	33	10/09/15 09:50	5.5157E+02
09	TRG	CP5003S16-17	35	10/09/15 10:00	5.3466E+02
10	TRG	CP5001S03-04	38	10/09/15 10:30	5.0627E+02
11	TRG	CP5001S06-07	43	10/09/15 10:40	5.6015E+02
12	TRG	CP5001S09-10	29	10/09/15 10:50	5.5576E+02
13	TRG	CP5001S11-12	38	10/09/15 11:00	5.3574E+02
14	TRG	CP5001S13-14	41	10/09/15 11:10	5.2905E+02
15	TRG	CP5001S16-17	37	10/09/15 11:20	5.4622E+02
16	TRG	CP5001S18-19	36	10/09/15 11:30	5.2625E+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.

002674

15-10092
Gamma
Run 1

Eberline Services
Oak Ridge Laboratory
Analysis Sheet

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								

* 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 10 Date/Time	Sep 10 By	Sep 11 Date/Time	Sep 11 By
01	LCS								
02	MBL								
03	DUP								
04	DO	10/21/15 07:12	KSALLINGS						
05	TRG	10/21/15 07:12	KSALLINGS						
06	TRG	10/21/15 07:12	KSALLINGS						
07	TRG	10/21/15 07:12	KSALLINGS						
08	TRG	10/21/15 07:12	KSALLINGS						
09	TRG	10/21/15 07:12	KSALLINGS						
10	TRG	10/21/15 07:12	KSALLINGS						
11	TRG	10/21/15 07:12	KSALLINGS						
12	TRG	10/21/15 07:12	KSALLINGS						
13	TRG	10/21/15 07:12	KSALLINGS						
14	TRG	10/21/15 07:12	KSALLINGS						
15	TRG	10/21/15 07:12	KSALLINGS						
16	TRG	10/21/15 07:12	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.

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	1.33E+02	9.19E+00	1.41E+00	1.37E+02	96.81	OK		10/15/15 00:00	1.00E+00	11/11/15 10:34	YES
01	CS-137	LCS	LCS	pCi/g	8.42E+01	8.11E+00	2.05E+00	8.69E+01	96.85	OK		10/15/15 00:00	1.00E+00	11/11/15 10:34	YES
02	AC-228	MBL	BLANK	pCi/g	1.10E-01	1.38E-01	2.82E-01					10/15/15 00:00	1.00E+00	11/11/15 09:32	NO
02	BI-214	MBL	BLANK	pCi/g	1.77E-02	9.13E-02	1.65E-01					10/15/15 00:00	1.00E+00	11/11/15 09:32	NO
02	K-40	MBL	BLANK	pCi/g	1.50E-01	3.86E-01	8.01E-01					10/15/15 00:00	1.00E+00	11/11/15 09:32	NO
02	PB-212	MBL	BLANK	pCi/g	3.29E-02	6.08E-02	1.02E-01					10/15/15 00:00	1.00E+00	11/11/15 09:32	NO
02	PB-214	MBL	BLANK	pCi/g	-2.11E-02	7.61E-02	1.19E-01					10/15/15 00:00	1.00E+00	11/11/15 09:32	NO
02	RA-226	MBL	BLANK	pCi/g	1.77E-02	9.13E-02	1.65E-01					10/15/15 00:00	1.00E+00	11/11/15 09:32	NO
02	RA-228	MBL	BLANK	pCi/g	1.10E-01	1.38E-01	2.82E-01					10/15/15 00:00	1.00E+00	11/11/15 09:32	NO
02	TH-234	MBL	BLANK	pCi/g	4.32E-01	3.72E-01	6.37E-01					10/15/15 00:00	1.00E+00	11/11/15 09:32	NO
02	TL-208	MBL	BLANK	pCi/g	3.09E-03	1.16E-01	1.92E-01					10/15/15 00:00	1.00E+00	11/11/15 09:32	NO
03	AC-228	DUP	CP5003S03-04	pCi/g	1.51E+00	2.40E-01	3.37E-01				OK	10/09/15 09:00	5.45E+02	11/11/15 06:18	YES
03	BI-214	DUP	CP5003S03-04	pCi/g	1.30E+00	1.68E-01	1.85E-01				OK	10/09/15 09:00	5.45E+02	11/11/15 06:18	YES
03	K-40	DUP	CP5003S03-04	pCi/g	1.89E+01	2.43E+00	9.12E-01				OK	10/09/15 09:00	5.45E+02	11/11/15 06:18	YES
03	PB-212	DUP	CP5003S03-04	pCi/g	1.83E+00	2.36E-01	2.26E-01					10/09/15 09:00	5.45E+02	11/11/15 06:18	YES
03	PB-214	DUP	CP5003S03-04	pCi/g	1.35E+00	1.82E-01	2.33E-01					10/09/15 09:00	5.45E+02	11/11/15 06:18	YES
03	RA-226	DUP	CP5003S03-04	pCi/g	1.30E+00	1.68E-01	1.85E-01					10/09/15 09:00	5.45E+02	11/11/15 06:18	YES
03	RA-228	DUP	CP5003S03-04	pCi/g	1.51E+00	2.40E-01	3.37E-01					10/09/15 09:00	5.45E+02	11/11/15 06:18	YES
03	TH-234	DUP	CP5003S03-04	pCi/g	1.30E+00	9.78E-01	1.56E+00					10/09/15 09:00	5.45E+02	11/11/15 06:18	NO
03	TL-208	DUP	CP5003S03-04	pCi/g	1.17E+00	1.74E-01	1.54E-01					10/09/15 09:00	5.45E+02	11/11/15 06:18	YES
04	AC-228	DO	CP5003S03-04	pCi/g	1.62E+00	2.32E-01	3.98E-01					10/09/15 09:00	5.45E+02	11/11/15 07:21	YES
04	BI-214	DO	CP5003S03-04	pCi/g	1.10E+00	1.66E-01	2.25E-01					10/09/15 09:00	5.45E+02	11/11/15 07:21	YES
04	K-40	DO	CP5003S03-04	pCi/g	1.95E+01	2.45E+00	7.21E-01					10/09/15 09:00	5.45E+02	11/11/15 07:21	YES
04	PB-212	DO	CP5003S03-04	pCi/g	1.40E+00	1.75E-01	2.34E-01					10/09/15 09:00	5.45E+02	11/11/15 07:21	YES
04	PB-214	DO	CP5003S03-04	pCi/g	1.35E+00	1.73E-01	2.36E-01					10/09/15 09:00	5.45E+02	11/11/15 07:21	YES
04	RA-226	DO	CP5003S03-04	pCi/g	1.10E+00	1.66E-01	2.25E-01					10/09/15 09:00	5.45E+02	11/11/15 07:21	YES
04	RA-228	DO	CP5003S03-04	pCi/g	1.62E+00	2.32E-01	3.98E-01					10/09/15 09:00	5.45E+02	11/11/15 07:21	YES
04	TH-234	DO	CP5003S03-04	pCi/g	1.19E+00	1.00E+00	1.58E+00					10/09/15 09:00	5.45E+02	11/11/15 07:21	NO
04	TL-208	DO	CP5003S03-04	pCi/g	1.12E+00	1.75E-01	1.72E-01					10/09/15 09:00	5.45E+02	11/11/15 07:21	YES
05	AC-228	TRG	CP5003S06-07	pCi/g	1.56E+00	2.47E-01	4.06E-01					10/09/15 09:10	5.42E+02	11/11/15 06:18	YES
05	BI-214	TRG	CP5003S06-07	pCi/g	1.20E+00	2.01E-01	2.99E-01					10/09/15 09:10	5.42E+02	11/11/15 06:18	YES
05	K-40	TRG	CP5003S06-07	pCi/g	2.12E+01	2.60E+00	1.28E+00					10/09/15 09:10	5.42E+02	11/11/15 06:18	YES
05	PB-212	TRG	CP5003S06-07	pCi/g	1.69E+00	1.90E-01	2.58E-01					10/09/15 09:10	5.42E+02	11/11/15 06:18	YES
05	PB-214	TRG	CP5003S06-07	pCi/g	1.38E+00	1.59E-01	2.58E-01					10/09/15 09:10	5.42E+02	11/11/15 06:18	YES
05	RA-226	TRG	CP5003S06-07	pCi/g	1.20E+00	2.01E-01	2.99E-01					10/09/15 09:10	5.42E+02	11/11/15 06:18	YES
05	RA-228	TRG	CP5003S06-07	pCi/g	1.56E+00	2.47E-01	4.06E-01					10/09/15 09:10	5.42E+02	11/11/15 06:18	YES
05	TH-234	TRG	CP5003S06-07	pCi/g	2.84E+00	1.48E+00	4.63E+00					10/09/15 09:10	5.42E+02	11/11/15 06:18	YES
05	TL-208	TRG	CP5003S06-07	pCi/g	1.50E+00	2.38E-01	4.67E-02					10/09/15 09:10	5.42E+02	11/11/15 06:18	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	CP5003S09-10	pCi/g	1.50E+00	5.18E-01	9.29E-01					10/09/15 09:30	5.44E+02	11/11/15 06:18	YES
06	BI-214	TRG	CP5003S09-10	pCi/g	1.25E+00	3.13E-01	2.83E-01					10/09/15 09:30	5.44E+02	11/11/15 06:18	YES
06	K-40	TRG	CP5003S09-10	pCi/g	2.00E+01	3.44E+00	1.85E+00					10/09/15 09:30	5.44E+02	11/11/15 06:18	YES
06	PB-212	TRG	CP5003S09-10	pCi/g	1.82E+00	3.37E-01	4.06E-01					10/09/15 09:30	5.44E+02	11/11/15 06:18	YES
06	PB-214	TRG	CP5003S09-10	pCi/g	1.25E+00	2.94E-01	4.27E-01					10/09/15 09:30	5.44E+02	11/11/15 06:18	YES
06	RA-226	TRG	CP5003S09-10	pCi/g	1.25E+00	3.13E-01	2.83E-01					10/09/15 09:30	5.44E+02	11/11/15 06:18	YES
06	RA-228	TRG	CP5003S09-10	pCi/g	1.50E+00	5.18E-01	9.29E-01					10/09/15 09:30	5.44E+02	11/11/15 06:18	YES
06	TH-234	TRG	CP5003S09-10	pCi/g	7.27E-01	1.45E+00	2.24E+00					10/09/15 09:30	5.44E+02	11/11/15 06:18	NO
06	TL-208	TRG	CP5003S09-10	pCi/g	1.62E+00	3.76E-01	9.72E-02					10/09/15 09:30	5.44E+02	11/11/15 06:18	YES
07	AC-228	TRG	CP5003S12-13	pCi/g	1.36E+00	3.41E-01	7.56E-01					10/09/15 09:40	5.42E+02	11/11/15 07:21	YES
07	BI-214	TRG	CP5003S12-13	pCi/g	1.41E+00	2.19E-01	3.06E-01					10/09/15 09:40	5.42E+02	11/11/15 07:21	YES
07	K-40	TRG	CP5003S12-13	pCi/g	2.08E+01	2.54E+00	1.05E+00					10/09/15 09:40	5.42E+02	11/11/15 07:21	YES
07	PB-212	TRG	CP5003S12-13	pCi/g	1.87E+00	2.04E-01	2.95E-01					10/09/15 09:40	5.42E+02	11/11/15 07:21	YES
07	PB-214	TRG	CP5003S12-13	pCi/g	1.47E+00	1.88E-01	3.03E-01					10/09/15 09:40	5.42E+02	11/11/15 07:21	YES
07	RA-226	TRG	CP5003S12-13	pCi/g	1.41E+00	2.19E-01	3.06E-01					10/09/15 09:40	5.42E+02	11/11/15 07:21	YES
07	RA-228	TRG	CP5003S12-13	pCi/g	1.36E+00	3.41E-01	7.56E-01					10/09/15 09:40	5.42E+02	11/11/15 07:21	YES
07	TH-234	TRG	CP5003S12-13	pCi/g	1.74E+00	1.71E+00	2.29E+00					10/09/15 09:40	5.42E+02	11/11/15 07:21	NO
07	TL-208	TRG	CP5003S12-13	pCi/g	1.27E+00	2.14E-01	2.14E-01					10/09/15 09:40	5.42E+02	11/11/15 07:21	YES
08	AC-228	TRG	CP5003S14-15	pCi/g	1.63E+00	5.21E-01	1.04E+00					10/09/15 09:50	5.52E+02	11/11/15 07:21	NO
08	BI-214	TRG	CP5003S14-15	pCi/g	1.09E+00	3.13E-01	2.80E-01					10/09/15 09:50	5.52E+02	11/11/15 07:21	YES
08	K-40	TRG	CP5003S14-15	pCi/g	2.00E+01	3.59E+00	2.63E+00					10/09/15 09:50	5.52E+02	11/11/15 07:21	YES
08	PB-212	TRG	CP5003S14-15	pCi/g	1.76E+00	3.19E-01	3.73E-01					10/09/15 09:50	5.52E+02	11/11/15 07:21	YES
08	PB-214	TRG	CP5003S14-15	pCi/g	1.20E+00	2.92E-01	4.76E-01					10/09/15 09:50	5.52E+02	11/11/15 07:21	YES
08	RA-226	TRG	CP5003S14-15	pCi/g	1.09E+00	3.13E-01	2.80E-01					10/09/15 09:50	5.52E+02	11/11/15 07:21	YES
08	RA-228	TRG	CP5003S14-15	pCi/g	1.63E+00	5.21E-01	1.04E+00					10/09/15 09:50	5.52E+02	11/11/15 07:21	NO
08	TH-234	TRG	CP5003S14-15	pCi/g	1.68E+00	1.43E+00	2.25E+00					10/09/15 09:50	5.52E+02	11/11/15 07:21	NO
08	TL-208	TRG	CP5003S14-15	pCi/g	1.33E+00	3.23E-01	9.59E-02					10/09/15 09:50	5.52E+02	11/11/15 07:21	YES
09	AC-228	TRG	CP5003S16-17	pCi/g	1.68E+00	2.48E-01	4.17E-01					10/09/15 10:00	5.35E+02	11/11/15 07:20	YES
09	BI-214	TRG	CP5003S16-17	pCi/g	1.46E+00	1.74E-01	1.96E-01					10/09/15 10:00	5.35E+02	11/11/15 07:20	YES
09	K-40	TRG	CP5003S16-17	pCi/g	2.23E+01	2.46E+00	7.97E-01					10/09/15 10:00	5.35E+02	11/11/15 07:20	YES
09	PB-212	TRG	CP5003S16-17	pCi/g	1.72E+00	1.92E-01	2.50E-01					10/09/15 10:00	5.35E+02	11/11/15 07:20	YES
09	PB-214	TRG	CP5003S16-17	pCi/g	1.53E+00	1.71E-01	2.68E-01					10/09/15 10:00	5.35E+02	11/11/15 07:20	YES
09	RA-226	TRG	CP5003S16-17	pCi/g	1.46E+00	1.74E-01	1.96E-01					10/09/15 10:00	5.35E+02	11/11/15 07:20	YES
09	RA-228	TRG	CP5003S16-17	pCi/g	1.68E+00	2.48E-01	4.17E-01					10/09/15 10:00	5.35E+02	11/11/15 07:20	YES
09	TH-234	TRG	CP5003S16-17	pCi/g	3.04E+00	1.66E+00	2.71E+00					10/09/15 10:00	5.35E+02	11/11/15 07:20	YES
09	TL-208	TRG	CP5003S16-17	pCi/g	1.38E+00	1.99E-01	1.76E-01					10/09/15 10:00	5.35E+02	11/11/15 07:20	YES
10	AC-228	TRG	CP5001S03-04	pCi/g	1.46E+00	2.58E-01	5.69E-01					10/09/15 10:30	5.06E+02	11/11/15 08:24	YES
10	BI-214	TRG	CP5001S03-04	pCi/g	1.53E+00	1.84E-01	2.13E-01					10/09/15 10:30	5.06E+02	11/11/15 08:24	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	CP5001S03-04	pCi/g	2.10E+01	2.36E+00	1.03E+00					10/09/15 10:30	5.06E+02	11/11/15 08:24	YES
10	PB-212	TRG	CP5001S03-04	pCi/g	1.72E+00	1.95E-01	2.84E-01					10/09/15 10:30	5.06E+02	11/11/15 08:24	YES
10	PB-214	TRG	CP5001S03-04	pCi/g	1.68E+00	1.74E-01	2.26E-01					10/09/15 10:30	5.06E+02	11/11/15 08:24	YES
10	RA-226	TRG	CP5001S03-04	pCi/g	1.53E+00	1.84E-01	2.13E-01					10/09/15 10:30	5.06E+02	11/11/15 08:24	YES
10	RA-228	TRG	CP5001S03-04	pCi/g	1.46E+00	2.58E-01	5.59E-01					10/09/15 10:30	5.06E+02	11/11/15 08:24	YES
10	TH-234	TRG	CP5001S03-04	pCi/g	2.22E+00	1.79E+00	2.97E+00					10/09/15 10:30	5.06E+02	11/11/15 08:24	YES
10	TL-208	TRG	CP5001S03-04	pCi/g	1.31E+00	1.97E-01	1.75E-01					10/09/15 10:30	5.06E+02	11/11/15 08:24	YES
11	AC-228	TRG	CP5001S06-07	pCi/g	1.30E+00	1.92E-01	5.41E-01					10/09/15 10:40	5.60E+02	11/11/15 08:24	YES
11	BI-214	TRG	CP5001S06-07	pCi/g	1.31E+00	1.51E-01	2.16E-01					10/09/15 10:40	5.60E+02	11/11/15 08:24	YES
11	K-40	TRG	CP5001S06-07	pCi/g	1.88E+01	2.41E+00	8.45E-01					10/09/15 10:40	5.60E+02	11/11/15 08:24	YES
11	PB-212	TRG	CP5001S06-07	pCi/g	1.48E+00	1.77E-01	2.40E-01					10/09/15 10:40	5.60E+02	11/11/15 08:24	YES
11	PB-214	TRG	CP5001S06-07	pCi/g	1.37E+00	1.61E-01	2.13E-01					10/09/15 10:40	5.60E+02	11/11/15 08:24	YES
11	RA-226	TRG	CP5001S06-07	pCi/g	1.31E+00	1.51E-01	2.16E-01					10/09/15 10:40	5.60E+02	11/11/15 08:24	YES
11	RA-228	TRG	CP5001S06-07	pCi/g	1.30E+00	1.92E-01	5.41E-01					10/09/15 10:40	5.60E+02	11/11/15 08:24	YES
11	TH-234	TRG	CP5001S06-07	pCi/g	2.07E+00	9.41E-01	1.54E+00					10/09/15 10:40	5.60E+02	11/11/15 08:24	NO
11	TL-208	TRG	CP5001S06-07	pCi/g	1.20E+00	1.62E-01	1.11E-01					10/09/15 10:40	5.60E+02	11/11/15 08:24	YES
12	AC-228	TRG	CP5001S09-10	pCi/g	1.47E+00	2.51E-01	9.46E-01					10/09/15 10:50	5.56E+02	11/11/15 08:24	YES
12	BI-214	TRG	CP5001S09-10	pCi/g	1.29E+00	2.03E-01	2.71E-01					10/09/15 10:50	5.56E+02	11/11/15 08:24	YES
12	K-40	TRG	CP5001S09-10	pCi/g	2.03E+01	2.46E+00	9.40E-01					10/09/15 10:50	5.56E+02	11/11/15 08:24	YES
12	PB-212	TRG	CP5001S09-10	pCi/g	1.70E+00	1.92E-01	3.09E-01					10/09/15 10:50	5.56E+02	11/11/15 08:24	YES
12	PB-214	TRG	CP5001S09-10	pCi/g	1.26E+00	1.65E-01	2.30E-01					10/09/15 10:50	5.56E+02	11/11/15 08:24	YES
12	RA-226	TRG	CP5001S09-10	pCi/g	1.29E+00	2.03E-01	2.71E-01					10/09/15 10:50	5.56E+02	11/11/15 08:24	YES
12	RA-228	TRG	CP5001S09-10	pCi/g	1.47E+00	2.51E-01	9.46E-01					10/09/15 10:50	5.56E+02	11/11/15 08:24	YES
12	TH-234	TRG	CP5001S09-10	pCi/g	2.26E+00	1.65E+00	2.22E+00					10/09/15 10:50	5.56E+02	11/11/15 08:24	NO
12	TL-208	TRG	CP5001S09-10	pCi/g	1.33E+00	2.41E-01	4.55E-02					10/09/15 10:50	5.56E+02	11/11/15 08:24	YES
13	AC-228	TRG	CP5001S11-12	pCi/g	1.44E+00	4.94E-01	8.02E-01					10/09/15 11:00	5.36E+02	11/11/15 08:24	YES
13	BI-214	TRG	CP5001S11-12	pCi/g	1.32E+00	3.43E-01	5.28E-01					10/09/15 11:00	5.36E+02	11/11/15 08:24	YES
13	K-40	TRG	CP5001S11-12	pCi/g	2.18E+01	3.57E+00	1.09E+00					10/09/15 11:00	5.36E+02	11/11/15 08:24	YES
13	PB-212	TRG	CP5001S11-12	pCi/g	1.92E+00	3.70E-01	4.63E-01					10/09/15 11:00	5.36E+02	11/11/15 08:24	YES
13	PB-214	TRG	CP5001S11-12	pCi/g	1.40E+00	3.37E-01	5.42E-01					10/09/15 11:00	5.36E+02	11/11/15 08:24	YES
13	RA-226	TRG	CP5001S11-12	pCi/g	1.32E+00	3.43E-01	5.28E-01					10/09/15 11:00	5.36E+02	11/11/15 08:24	YES
13	RA-228	TRG	CP5001S11-12	pCi/g	1.44E+00	4.94E-01	8.02E-01					10/09/15 11:00	5.36E+02	11/11/15 08:24	YES
13	TH-234	TRG	CP5001S11-12	pCi/g	1.96E-01	1.51E+00	2.29E+00					10/09/15 11:00	5.36E+02	11/11/15 08:24	NO
13	TL-208	TRG	CP5001S11-12	pCi/g	1.37E+00	2.99E-01	9.87E-02					10/09/15 11:00	5.36E+02	11/11/15 08:24	YES
14	AC-228	TRG	CP5001S13-14	pCi/g	1.46E+00	2.44E-01	4.24E-01					10/09/15 11:10	5.29E+02	11/11/15 09:32	YES
14	BI-214	TRG	CP5001S13-14	pCi/g	1.41E+00	1.72E-01	2.29E-01					10/09/15 11:10	5.29E+02	11/11/15 09:32	YES
14	K-40	TRG	CP5001S13-14	pCi/g	2.25E+01	2.47E+00	1.65E+00					10/09/15 11:10	5.29E+02	11/11/15 09:32	YES
14	PB-212	TRG	CP5001S13-14	pCi/g	1.58E+00	1.82E-01	2.73E-01					10/09/15 11:10	5.29E+02	11/11/15 09:32	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
14	PB-214	TRG	CP5001S13-14	pCi/g	1.54E+00	1.71E-01	2.58E-01					10/09/15 11:10	5.29E+02	11/11/15 09:32	YES
14	RA-226	TRG	CP5001S13-14	pCi/g	1.41E+00	1.72E-01	2.29E-01					10/09/15 11:10	5.29E+02	11/11/15 09:32	YES
14	RA-228	TRG	CP5001S13-14	pCi/g	1.46E+00	2.44E-01	4.24E-01					10/09/15 11:10	5.29E+02	11/11/15 09:32	YES
14	TH-234	TRG	CP5001S13-14	pCi/g	1.57E+00	1.52E+00	2.04E+00					10/09/15 11:10	5.29E+02	11/11/15 09:32	NO
14	TL-208	TRG	CP5001S13-14	pCi/g	1.29E+00	1.81E-01	9.70E-02					10/09/15 11:10	5.29E+02	11/11/15 09:32	YES
15	AC-228	TRG	CP5001S16-17	pCi/g	1.33E+00	2.38E-01	3.52E-01					10/09/15 11:20	5.46E+02	11/11/15 09:32	YES
15	BI-214	TRG	CP5001S16-17	pCi/g	1.27E+00	1.63E-01	1.98E-01					10/09/15 11:20	5.46E+02	11/11/15 09:32	YES
15	K-40	TRG	CP5001S16-17	pCi/g	2.14E+01	2.67E+00	6.70E-01					10/09/15 11:20	5.46E+02	11/11/15 09:32	YES
15	PB-212	TRG	CP5001S16-17	pCi/g	1.57E+00	1.88E-01	2.44E-01					10/09/15 11:20	5.46E+02	11/11/15 09:32	YES
15	PB-214	TRG	CP5001S16-17	pCi/g	1.20E+00	1.61E-01	2.44E-01					10/09/15 11:20	5.46E+02	11/11/15 09:32	YES
15	RA-226	TRG	CP5001S16-17	pCi/g	1.27E+00	1.63E-01	1.98E-01					10/09/15 11:20	5.46E+02	11/11/15 09:32	YES
15	RA-228	TRG	CP5001S16-17	pCi/g	1.33E+00	2.38E-01	3.52E-01					10/09/15 11:20	5.46E+02	11/11/15 09:32	YES
15	TH-234	TRG	CP5001S16-17	pCi/g	1.65E+00	1.34E+00	2.22E+00					10/09/15 11:20	5.46E+02	11/11/15 09:32	YES
15	TL-208	TRG	CP5001S16-17	pCi/g	1.03E+00	1.64E-01	1.92E-01					10/09/15 11:20	5.46E+02	11/11/15 09:32	YES
16	AC-228	TRG	CP5001S18-19	pCi/g	1.69E+00	2.74E-01	4.50E-01					10/09/15 11:30	5.26E+02	11/11/15 09:32	YES
16	BI-214	TRG	CP5001S18-19	pCi/g	1.16E+00	1.91E-01	2.64E-01					10/09/15 11:30	5.26E+02	11/11/15 09:32	YES
16	K-40	TRG	CP5001S18-19	pCi/g	2.16E+01	2.67E+00	1.34E+00					10/09/15 11:30	5.26E+02	11/11/15 09:32	YES
16	PB-212	TRG	CP5001S18-19	pCi/g	1.55E+00	1.81E-01	2.62E-01					10/09/15 11:30	5.26E+02	11/11/15 09:32	YES
16	PB-214	TRG	CP5001S18-19	pCi/g	1.36E+00	2.07E-01	3.05E-01					10/09/15 11:30	5.26E+02	11/11/15 09:32	YES
16	RA-226	TRG	CP5001S18-19	pCi/g	1.16E+00	1.91E-01	2.64E-01					10/09/15 11:30	5.26E+02	11/11/15 09:32	YES
16	RA-228	TRG	CP5001S18-19	pCi/g	1.69E+00	2.74E-01	4.50E-01					10/09/15 11:30	5.26E+02	11/11/15 09:32	YES
16	TH-234	TRG	CP5001S18-19	pCi/g	1.75E+00	2.01E+00	3.36E+00					10/09/15 11:30	5.26E+02	11/11/15 09:32	YES
16	TL-208	TRG	CP5001S18-19	pCi/g	1.24E+00	2.16E-01	4.81E-02					10/09/15 11:30	5.26E+02	11/11/15 09:32	YES

NW

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	10/15/15 00:00	1.0000				0.00		
02	MBL	BLANK	10/15/15 00:00	1.0000				0.00		
03	DUP	CP5003S03-04	10/09/15 09:00	545.3700				0.00		
04	DO	CP5003S03-04	10/09/15 09:00	545.3700				0.00		
05	TRG	CP5003S06-07	10/09/15 09:10	542.2900				0.00		
06	TRG	CP5003S09-10	10/09/15 09:30	544.1200				0.00		
07	TRG	CP5003S12-13	10/09/15 09:40	541.7000				0.00		
08	TRG	CP5003S14-15	10/09/15 09:50	551.5700				0.00		
09	TRG	CP5003S16-17	10/09/15 10:00	534.6600				0.00		
10	TRG	CP5001S03-04	10/09/15 10:30	506.2700				0.00		
11	TRG	CP5001S06-07	10/09/15 10:40	560.1500				0.00		
12	TRG	CP5001S09-10	10/09/15 10:50	555.7600				0.00		
13	TRG	CP5001S11-12	10/09/15 11:00	535.7400				0.00		
14	TRG	CP5001S13-14	10/09/15 11:10	529.0500				0.00		
15	TRG	CP5001S16-17	10/09/15 11:20	546.2200				0.00		
16	TRG	CP5001S18-19	10/09/15 11:30	526.2500				0.00		

062

Aliquot Worksheet

Work Order		Run	Analysis Code	Rpt Units	Lab Deadline	Technician	
15-10092		1	Gamma	grams	11/5/2015	KSALLINGS	

Lab Fraction	Auxier & Associates, Inc.		Muffle Data		Dilution Data			Aliquot Data		MS Aliquot Data		H-3 Solids Only	
	Client ID	Type	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	CP5003S03-04	DUP					5.4537E+02	5.4537E+02					
04	CP5003S03-04	DO					5.4537E+02	5.4537E+02					
05	CP5003S06-07	TRG					5.4229E+02	5.4229E+02					
06	CP5003S09-10	TRG					5.4412E+02	5.4412E+02					
07	CP5003S12-13	TRG					5.4170E+02	5.4170E+02					
08	CP5003S14-15	TRG					5.5157E+02	5.5157E+02					
09	CP5003S16-17	TRG					5.3466E+02	5.3466E+02					
10	CP5001S03-04	TRG					5.0627E+02	5.0627E+02					
11	CP5001S06-07	TRG					5.6015E+02	5.6015E+02					
12	CP5001S09-10	TRG					5.5576E+02	5.5576E+02					
13	CP5001S11-12	TRG					5.3574E+02	5.3574E+02					
14	CP5001S13-14	TRG					5.2905E+02	5.2905E+02					
15	CP5001S16-17	TRG					5.4622E+02	5.4622E+02					
16	CP5001S18-19	TRG					5.2625E+02	5.2625E+02					

Comments	
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Technician: Kamy Saaj Date: 10/21/15

**Rough Sample Preparation
 Log Book**

Work Order	Lab Deadline	Date Received in Prep	Date Sealed	Date Returned	Technician
15-10092	11/5/2015	10/20/2015	10/21/2015	10/22/2015	KSALLINGS

Eberline Fraction	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	CP5003S03-04	14.4300	903.8000	1093.4600	903.8000	1079.0300	889.3700	17.58%	82.42%	0.0000	0.0000	
05	CP5003S06-07	14.4200	740.0300	885.2800	740.0300	870.8600	725.6100	16.68%	83.32%	0.0000	0.0000	
06	CP5003S09-10	14.4600	926.4000	1146.8200	926.4000	1132.3600	911.9400	19.47%	80.53%	0.0000	0.0000	
07	CP5003S12-13	14.5300	873.8800	1095.7000	873.8800	1081.1700	859.3500	20.52%	79.48%	0.0000	0.0000	
08	CP5003S14-15	14.5000	874.3200	1084.4600	874.3200	1069.9600	859.8200	19.64%	80.36%	0.0000	0.0000	
09	CP5003S16-17	14.5000	757.8900	956.2600	757.8900	941.7600	743.3900	21.06%	78.94%	0.0000	0.0000	
10	CP5001S03-04	14.5200	931.8000	1136.0000	931.8000	1121.4800	917.2800	18.21%	81.79%	0.0000	0.0000	
11	CP5001S06-07	14.5100	626.2100	749.2300	626.2100	734.7200	611.7000	16.74%	83.26%	0.0000	0.0000	
12	CP5001S09-10	14.5200	743.3600	917.5000	743.3600	902.9800	728.8400	19.29%	80.71%	0.0000	0.0000	
13	CP5001S11-12	14.5400	704.5600	871.2800	704.5600	856.7400	690.0200	19.46%	80.54%	0.0000	0.0000	
14	CP5001S13-14	14.5100	792.0700	1001.0600	792.0700	986.5500	777.5600	21.18%	78.82%	0.0000	0.0000	
15	CP5001S16-17	14.5300	674.1400	859.5000	674.1400	844.9700	659.6100	21.94%	78.06%	0.0000	0.0000	
16	CP5001S18-19	14.5200	669.2900	854.4400	669.2900	839.9200	654.7700	22.04%	77.96%	0.0000	0.0000	

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

Technician: *Kerry Saeg*

Date: Analysis: Rough Prep Logbook

Analysis: Gamma Page No. 9434

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	0.6	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 1510092-01
GAS 1302

✓
11/11

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510092-01
Sample Description : GAS 1302
Sample Type : SOIL

Sample Size : 7.360E+02 grams
Facility : Countroom

Sample Taken On : 7/1/2013 3:54:40PM
Acquisition Started : 11/11/2015 10:34:54AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE4
Geometry : GAS-1402
Live Time : 1800.0 seconds
Real Time : 1843.4 seconds

Dead Time : 2.36 %

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 : 29479

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510092-01

GAS 1302

PEAK LOCATE REPORT

Peak Locate Performed on : 11/11/2015 11:05:40AM
 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	22.34	21.58	0.0000	0.00
2	32.08	31.33	0.0000	0.00
3	53.81	53.07	0.0000	0.00
4	59.45	58.71	0.0000	0.00
5	67.70	66.97	0.0000	0.00
6	87.78	87.05	0.0000	0.00
7	122.08	121.37	0.0000	0.00
8	136.04	135.33	0.0000	0.00
9	165.49	164.79	0.0000	0.00
10	188.46	187.77	0.0000	0.00
11	403.94	403.35	0.0000	0.00
12	610.61	610.12	0.0000	0.00
13	661.84	661.37	0.0000	0.00
14	1173.51	1173.31	0.0000	0.00
15	1332.79	1332.69	0.0000	0.00
16	1807.29	1807.48	0.0000	0.00
17	1836.51	1836.72	0.0000	0.00
18	1850.46	1850.68	0.0000	0.00
19	1961.28	1961.57	0.0000	0.00
20	2095.22	2095.61	0.0000	0.00
21	2102.07	2102.46	0.0000	0.00
22	2109.58	2109.98	0.0000	0.00
23	2205.77	2206.23	0.0000	0.00
24	2505.64	2506.32	0.0000	0.00
25	2616.25	2617.02	0.0000	0.00

? = Adjacent peak noted
 Errors quoted at 2.000sigma

Analysis Report for 1510092-01

GAS 1302

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/11/2015 11:05:40AM

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	22.34	19 -	25	21.58	7.08E+04	775.07	5.91E+04	2.58
	2	32.08	29 -	34	31.33	1.13E+03	233.31	1.01E+04	2.43
M	3	53.81	43 -	62	53.07	1.83E+04	1004.57	5.84E+04	6.63
m	4	59.45	43 -	62	58.71	5.61E+04	605.04	1.90E+04	2.33
	5	67.70	64 -	70	66.97	7.15E+02	333.21	1.98E+04	3.31
	6	87.78	80 -	93	87.05	2.62E+04	625.92	3.13E+04	2.50
	7	122.08	117 -	126	121.37	5.12E+03	350.11	1.45E+04	2.51
	8	136.04	132 -	138	135.33	4.63E+02	233.31	9.53E+03	2.46
	9	165.49	161 -	169	164.79	5.68E+02	272.86	1.11E+04	2.68
	10	188.46	174 -	197	187.77	5.99E+02	621.12	2.74E+04	8.40
	11	403.94	400 -	407	403.35	2.35E+02	167.95	4.55E+03	4.79
	12	610.61	605 -	615	610.12	2.11E+02	163.01	3.43E+03	7.64
	13	661.84	656 -	667	661.37	1.19E+04	278.96	3.75E+03	2.60
	14	1173.51	1166 -	1179	1173.31	9.76E+03	235.31	1.82E+03	2.80
	15	1332.79	1325 -	1339	1332.69	8.75E+03	194.95	3.18E+02	2.88
	16	1807.29	1800 -	1814	1807.48	3.14E+01	14.01	7.23E+00	7.80
M	17	1836.51	1832 -	1855	1836.72	7.17E+01	20.74	8.15E+00	4.01
m	18	1850.46	1832 -	1855	1850.68	9.46E+00	11.05	1.87E+01	4.01
	19	1961.28	1953 -	1970	1961.57	1.65E+01	19.05	2.69E+01	14.84
	20	2095.22	2093 -	2098	2095.61	6.81E+00	6.40	2.38E+00	3.02
	21	2102.07	2099 -	2106	2102.46	1.30E+01	7.21	0.00E+00	2.73
	22	2109.58	2107 -	2113	2109.98	9.05E+00	7.50	3.91E+00	1.26
	23	2205.77	2200 -	2210	2206.23	9.72E+00	12.76	1.66E+01	1.06
	24	2505.64	2501 -	2511	2506.32	4.00E+01	12.65	0.00E+00	2.41
	25	2616.25	2613 -	2620	2617.02	7.06E+00	7.21	3.89E+00	1.53

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 1510092-01

GAS 1302

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/11/2015 11:05:40AM

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	22.34	19 -	25	7.08E+04	775.07	5.91E+04	4.63E+02
2	32.08	29 -	34	1.13E+03	233.31	1.01E+04	1.84E+02
M 3	53.81	43 -	62	1.83E+04	1004.57	5.84E+04	3.97E+02
m 4	59.45	43 -	62	5.61E+04	605.04	1.90E+04	2.26E+02
5	67.70	64 -	70	7.15E+02	333.21	1.98E+04	2.70E+02
6	87.78	80 -	93	2.62E+04	625.92	3.13E+04	4.40E+02
7	122.08	117 -	126	5.12E+03	350.11	1.45E+04	2.63E+02
8	136.04	132 -	138	4.63E+02	233.31	9.53E+03	1.88E+02
9	165.49	161 -	169	5.68E+02	272.86	1.11E+04	2.21E+02
10	188.46	174 -	197	5.99E+02	621.12	2.74E+04	5.09E+02
11	403.94	400 -	407	2.35E+02	167.95	4.55E+03	1.36E+02
12	610.61	605 -	615	2.11E+02	163.01	3.43E+03	1.32E+02
13	661.84	656 -	667	1.19E+04	278.96	3.75E+03	1.43E+02
14	1173.51	1166 -	1179	9.76E+03	235.31	1.82E+03	1.05E+02
15	1332.79	1325 -	1339	8.75E+03	194.95	3.18E+02	4.50E+01
16	1807.29	1800 -	1814	3.14E+01	14.01	7.23E+00	6.91E+00
M 17	1836.51	1832 -	1855	7.17E+01	20.74	8.15E+00	4.69E+00
m 18	1850.46	1832 -	1855	9.46E+00	11.05	1.87E+01	7.10E+00
19	1961.28	1953 -	1970	1.65E+01	19.05	2.69E+01	1.42E+01
20	2095.22	2093 -	2098	6.81E+00	6.40	2.38E+00	3.05E+00
21	2102.07	2099 -	2106	1.30E+01	7.21	0.00E+00	0.00E+00
22	2109.58	2107 -	2113	9.05E+00	7.50	3.91E+00	3.68E+00
23	2205.77	2200 -	2210	9.72E+00	12.76	1.66E+01	9.15E+00
24	2505.64	2501 -	2511	4.00E+01	12.65	0.00E+00	0.00E+00
25	2616.25	2613 -	2620	7.06E+00	7.21	3.89E+00	4.01E+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 1510092-01

GAS 1302

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/11/2015 11:05:40AM

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	22.34	19 -	25	21.58	7.08E+04	775.07	5.91E+04	.....
2	32.08	29 -	34	31.33	1.13E+03	233.31	1.01E+04	.....
M 3	53.81	43 -	62	53.07	1.83E+04	1004.57	5.84E+04	.....
m 4	59.45	43 -	62	58.71	5.61E+04	605.04	1.90E+04	AM-241
5	67.70	64 -	70	66.97	7.15E+02	333.21	1.98E+04	TH-230
								TA-182
								TI-44
								TM-171
6	87.78	80 -	93	87.05	2.62E+04	625.92	3.13E+04	SN-126
								CD-109
								LU-176
7	122.08	117 -	126	121.37	5.12E+03	350.11	1.45E+04	CO-57
								EU-152
								SE-75
								EU-154
8	136.04	132 -	138	135.33	4.63E+02	233.31	9.53E+03	SE-75
								CO-57
9	165.49	161 -	169	164.79	5.68E+02	272.86	1.11E+04	CE-139
10	188.46	174 -	197	187.77	5.99E+02	621.12	2.74E+04	.....
11	403.94	400 -	407	403.35	2.35E+02	167.95	4.55E+03	PB-211
12	610.61	605 -	615	610.12	2.11E+02	163.01	3.43E+03	.....
13	661.84	656 -	667	661.37	1.19E+04	278.96	3.75E+03	CS-137
14	1173.51	1166 -	1179	1173.31	9.76E+03	235.31	1.82E+03	CO-60
15	1332.79	1325 -	1339	1332.69	8.75E+03	194.95	3.18E+02	CO-60
16	1807.29	1800 -	1814	1807.48	3.14E+01	14.01	7.23E+00	.....
M 17	1836.51	1832 -	1855	1836.72	7.17E+01	20.74	8.15E+00	Y-88
m 18	1850.46	1832 -	1855	1850.68	9.46E+00	11.05	1.87E+01	.....
19	1961.28	1953 -	1970	1961.57	1.65E+01	19.05	2.69E+01	.....
20	2095.22	2093 -	2098	2095.61	6.81E+00	6.40	2.38E+00	.....
21	2102.07	2099 -	2106	2102.46	1.30E+01	7.21	0.00E+00	.....
22	2109.58	2107 -	2113	2109.98	9.05E+00	7.50	3.91E+00	.....
23	2205.77	2200 -	2210	2206.23	9.72E+00	12.76	1.66E+01	.....
24	2505.64	2501 -	2511	2506.32	4.00E+01	12.65	0.00E+00	.....
25	2616.25	2613 -	2620	2617.02	7.06E+00	7.21	3.89E+00	.....

Analysis Report for 1510092-01

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 EFFICIENCY REPORT

Peak Analysis Performed on : 11/11/2015 11:05:40AM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	22.34	7.08E+04	775.07	3.04E-02	1.78E-03
	2	32.08	1.13E+03	233.31	2.90E-02	1.78E-03
M	3	53.81	1.83E+04	1004.57	2.49E-02	1.78E-03
m	4	59.45	5.61E+04	605.04	2.39E-02	1.78E-03
	5	67.70	7.15E+02	333.21	2.25E-02	1.74E-03
	6	87.78	2.62E+04	625.92	1.96E-02	1.63E-03
	7	122.08	5.12E+03	350.11	1.59E-02	1.53E-03
	8	136.04	4.63E+02	233.31	1.48E-02	1.43E-03
	9	165.49	5.68E+02	272.86	1.28E-02	1.22E-03
	10	188.46	5.99E+02	621.12	1.15E-02	1.14E-03
	11	403.94	2.35E+02	167.95	5.80E-03	7.18E-04
	12	610.61	2.11E+02	163.01	3.87E-03	4.15E-04
	13	661.84	1.19E+04	278.96	3.57E-03	3.40E-04
	14	1173.51	9.76E+03	235.31	2.05E-03	1.73E-04
	15	1332.79	8.75E+03	194.95	1.83E-03	2.16E-04
	16	1807.29	3.14E+01	14.01	1.41E-03	1.17E-04
M	17	1836.51	7.17E+01	20.74	1.39E-03	1.11E-04
m	18	1850.46	9.46E+00	11.05	1.38E-03	1.11E-04
	19	1961.28	1.65E+01	19.05	1.32E-03	1.11E-04
	20	2095.22	6.81E+00	6.40	1.25E-03	1.11E-04
	21	2102.07	1.30E+01	7.21	1.25E-03	1.11E-04
	22	2109.58	9.05E+00	7.50	1.25E-03	1.11E-04
	23	2205.77	9.72E+00	12.76	1.21E-03	1.11E-04
	24	2505.64	4.00E+01	12.65	1.10E-03	1.11E-04
	25	2616.25	7.06E+00	7.21	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

Analysis Report for 1510092-01

GAS 1302

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/11/2015 11:05:40AM

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	22.34	7.08E+04	775.07			7.08E+04	7.75E+02
	2	32.08	1.13E+03	233.31			1.13E+03	2.33E+02
M	3	53.81	1.83E+04	1004.57			1.83E+04	1.00E+03
m	4	59.45	5.61E+04	605.04			5.61E+04	6.05E+02
	5	67.70	7.15E+02	333.21			7.15E+02	3.33E+02
	6	87.78	2.62E+04	625.92			2.62E+04	6.26E+02
	7	122.08	5.12E+03	350.11			5.12E+03	3.50E+02
	8	136.04	4.63E+02	233.31			4.63E+02	2.33E+02
	9	165.49	5.68E+02	272.86			5.68E+02	2.73E+02
	10	188.46	5.99E+02	621.12			5.99E+02	6.21E+02
	11	403.94	2.35E+02	167.95	0.00E+00	0.00E+00	2.35E+02	1.68E+02
	12	610.61	2.11E+02	163.01			2.11E+02	1.63E+02
	13	661.84	1.19E+04	278.96			1.19E+04	2.79E+02
	14	1173.51	9.76E+03	235.31			9.76E+03	2.35E+02
	15	1332.79	8.75E+03	194.95			8.75E+03	1.95E+02
	16	1807.29	3.14E+01	14.01			3.14E+01	1.40E+01
M	17	1836.51	7.17E+01	20.74			7.17E+01	2.07E+01
m	18	1850.46	9.46E+00	11.05			9.46E+00	1.10E+01
	19	1961.28	1.65E+01	19.05			1.65E+01	1.91E+01
	20	2095.22	6.81E+00	6.40			6.81E+00	6.40E+00
	21	2102.07	1.30E+01	7.21			1.30E+01	7.21E+00
	22	2109.58	9.05E+00	7.50			9.05E+00	7.50E+00
	23	2205.77	9.72E+00	12.76			9.72E+00	1.28E+01
	24	2505.64	4.00E+01	12.65			4.00E+01	1.26E+01
	25	2616.25	7.06E+00	7.21			7.06E+00	7.21E+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 1510092-01

GAS 1302

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/11/2015 11:05:40AM
 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	22.34	7.08E+04			7.08E+04	7.75E+02
	2	32.08	1.13E+03			1.13E+03	2.33E+02
M	3	53.81	1.83E+04			1.83E+04	1.00E+03
m	4	59.45	5.61E+04			5.61E+04	6.05E+02
	5	67.70	7.15E+02			7.15E+02	3.33E+02
	6	87.78	2.62E+04			2.62E+04	6.26E+02
	7	122.08	5.12E+03			5.12E+03	3.50E+02
	8	136.04	4.63E+02			4.63E+02	2.33E+02
	9	165.49	5.68E+02			5.68E+02	2.73E+02
	10	188.46	5.99E+02			5.99E+02	6.21E+02
	11	403.94	2.35E+02	0.00E+00	0.00E+00	2.35E+02	1.68E+02
	12	610.61	2.11E+02			2.11E+02	1.63E+02
	13	661.84	1.19E+04			1.19E+04	2.79E+02
	14	1173.51	9.76E+03			9.76E+03	2.35E+02
	15	1332.79	8.75E+03			8.75E+03	1.95E+02
	16	1807.29	3.14E+01			3.14E+01	1.40E+01
M	17	1836.51	7.17E+01			7.17E+01	2.07E+01
m	18	1850.46	9.46E+00			9.46E+00	1.10E+01
	19	1961.28	1.65E+01			1.65E+01	1.91E+01
	20	2095.22	6.81E+00			6.81E+00	6.40E+00
	21	2102.07	1.30E+01			1.30E+01	7.21E+00
	22	2109.58	9.05E+00			9.05E+00	7.50E+00
	23	2205.77	9.72E+00			9.72E+00	1.28E+01
	24	2505.64	4.00E+01			4.00E+01	1.26E+01
	25	2616.25	7.06E+00			7.06E+00	7.21E+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

: 00285

Analysis Report for 1510092-01
 GAS 1302

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
CO-57	0.947	122.06 *	85.51	6.97E+01	8.23E+00
		136.48 *	10.60	5.49E+01	2.82E+01
CO-60	0.985	1173.22 *	100.00	1.32E+02	1.16E+01
		1332.49 *	100.00	1.33E+02	1.60E+01
CD-109	0.973	88.03 *	3.72	2.65E+03	2.78E+02
SN-126	0.993	87.57 *	37.00	7.35E+01	6.36E+00
CS-137	0.994	661.65 *	85.12	8.42E+01	8.27E+00
CE-139	0.805	165.85 *	80.35	8.71E+01	4.27E+01
TM-171	0.851	66.72 *	0.14	1.09E+03	5.12E+02
AM-241	0.999	59.54 *	35.90	1.34E+02	1.01E+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 : 11/11/2015 11:05:40AM
 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	22.34	3.93512E+01	0.55		
2	32.08	6.28167E-01	10.32		
M 3	53.81	1.01882E+01	2.74		
10	188.46	3.32848E-01	51.84		
11	403.94	1.30507E-01	35.75	Tol.	PB-211
12	610.61	1.16960E-01	38.71		
16	1807.29	1.74365E-02	22.32		
M 17	1836.51	3.98319E-02	14.46	Tol.	Y-88
m 18	1850.46	5.25333E-03	58.40		
19	1961.28	9.18518E-03	57.62		
20	2095.22	3.78472E-03	47.00		
21	2102.07	7.22222E-03	27.74		
22	2109.58	5.02525E-03	41.46		
23	2205.77	5.40123E-03	65.61		
24	2505.64	2.22222E-02	15.81	Sum	
25	2616.25	3.91975E-03	51.10		

Analysis Report for 1510092-01

GAS 1302

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

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	6.97E+01	8.23E+00
		136.48 *	10.60	5.49E+01	2.82E+01
CO-60	0.98	1173.22 *	100.00	1.32E+02	1.16E+01
		1332.49 *	100.00	1.33E+02	1.60E+01
CD-109	0.97	88.03 *	3.72	2.65E+03	2.78E+02
SN-126	0.99	87.57 *	37.00	7.35E+01	6.36E+00
CS-137	0.99	661.65 *	85.12	8.42E+01	8.27E+00
CE-139	0.80	165.85 *	80.35	8.71E+01	4.27E+01
TM-171	0.85	66.72 *	0.14	1.09E+03	5.12E+02
AM-241	0.99	59.54 *	35.90	1.34E+02	1.01E+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 1510092-01

GAS 1302

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
CO-57	0.947	6.86E+01	7.90E+00	
CO-60	0.985	1.33E+02	9.38E+00	
? CD-109	0.973	2.65E+03	2.78E+02	
? SN-126	0.993	7.35E+01	6.36E+00	
CS-137	0.994	8.42E+01	8.27E+00	
CE-139	0.805	8.71E+01	4.27E+01	
TM-171	0.851	1.09E+03	5.12E+02	
AM-241	0.999	1.34E+02	1.01E+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 1510092-01
 GAS 1302

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 11:05:40AM
 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	22.34	3.93512E+01	0.55	
	2	32.08	6.28167E-01	10.32	
M	3	53.81	1.01882E+01	2.74	
	10	188.46	3.32848E-01	51.84	
	11	403.94	1.30507E-01	35.75	Tol. PB-211
	12	610.61	1.16960E-01	38.71	
	16	1807.29	1.74365E-02	22.32	
M	17	1836.51	3.98319E-02	14.46	Tol. Y-88
m	18	1850.46	5.25333E-03	58.40	
	19	1961.28	9.18518E-03	57.62	
	20	2095.22	3.78472E-03	47.00	
	21	2102.07	7.22222E-03	27.74	
	22	2109.58	5.02525E-03	41.46	
	23	2205.77	5.40123E-03	65.61	
	24	2505.64	2.22222E-02	15.81	Sum
	25	2616.25	3.91975E-03	51.10	

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	2.41E+05	7.03E+05	7.03E+05

Analysis Report for 1510092-01

GAS 1302

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	NA-22	1274.54	99.94	-1.34E-01	1.22E+00	1.22E+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	2.31E-01	4.04E-01	4.04E-01
+	K-40	1460.81	10.67	4.13E-02	3.81E+00	3.81E+00
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	-1.48E+01	5.33E-01	5.33E-01
		78.34	96.00	-3.02E-01		5.75E-01
+	SC-46	889.25	99.98	4.48E+02	1.80E+03	1.86E+03
		1120.51	99.99	-5.18E+02		1.80E+03
+	V-48	983.52	99.98	1.10E+16	1.34E+16	2.78E+16
		1312.10	97.50	2.19E+15		1.34E+16
+	CR-51	320.08	9.83	1.22E+09	1.82E+10	1.82E+10
+	MN-54	834.83	99.97	6.43E+00	8.90E+00	8.90E+00
+	CO-56	846.75	99.96	-2.24E+01	1.64E+03	2.63E+03
		1037.75	14.03	1.99E+03		2.14E+04
		1238.25	67.00	-6.80E+02		2.22E+03
		1771.40	15.51	8.57E+02		4.66E+03
		2598.48	16.90	-5.94E+02		1.64E+03
+	CO-57	122.06	* 85.51	6.97E+01	7.19E+00	7.19E+00
		136.48	* 10.60	5.49E+01		4.50E+01
+	CO-58	810.76	99.40	-1.71E+02	5.80E+03	5.80E+03
+	FE-59	1099.22	56.50	1.54E+05	9.96E+05	1.85E+06
		1291.56	43.20	-4.52E+04		9.96E+05
+	CO-60	1173.22	* 100.00	1.32E+02	1.41E+00	2.89E+00
		1332.49	* 100.00	1.33E+02		1.41E+00
+	ZN-65	1115.52	50.75	2.48E+01	3.53E+01	3.53E+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	5.94E+03	1.31E+02	5.72E+02
		136.00	59.20	1.99E+02		1.31E+02
		264.65	59.80	-1.37E+02		1.71E+02
		279.53	25.20	7.85E+01		4.16E+02
		400.65	11.40	3.26E+01		1.13E+03
+	RB-82	776.52	13.00	3.63E+10	1.33E+11	1.33E+11
+	RB-83	520.41	46.00	6.97E+02	2.11E+03	2.11E+03
		529.64	30.30	-2.22E+01		3.18E+03
		552.65	16.40	-2.53E+03		5.80E+03
+	KR-85	513.99	0.43	6.12E+01	2.55E+02	2.55E+02
+	SR-85	513.99	99.27	2.33E+03	9.68E+03	9.68E+03
+	Y-88	898.02	93.40	2.28E+02	1.94E+02	4.54E+02
		1836.01	99.38	2.65E+02		1.94E+02
+	NB-93M	16.57	9.43	-2.28E+02	6.04E+00	6.04E+00
+	NB-94	702.63	100.00	1.02E-01	1.03E+00	1.03E+00
		871.10	100.00	-3.03E-01		1.40E+00
+	NB-95	765.79	99.81	7.10E+06	2.98E+07	2.98E+07

Analysis Report for 1510092-01

GAS 1302

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	@ NB-95M	235.69	25.00	1.00E+26	1.00E+26	1.00E+26
+	ZR-95	724.18	43.70	-2.66E+03	2.32E+04	2.76E+04
		756.72	55.30	-5.21E+03		2.32E+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	-2.36E+06	4.19E+06	4.19E+06
+	RU-106	621.84	9.80	4.10E+00	5.11E+01	5.11E+01
+	AG-108M	433.93	89.90	-4.34E-01	1.06E+00	1.06E+00
		614.37	90.40	2.10E-01		1.12E+00
		722.95	90.50	2.26E-01		1.19E+00
+	CD-109	88.03	* 3.72	2.65E+03	8.95E+01	8.95E+01
+	AG-110M	657.75	93.14	4.79E-01	1.76E+01	2.81E+01
		677.61	10.53	2.29E+01		1.04E+02
		706.67	16.46	-1.73E+00		6.92E+01
		763.93	21.98	3.00E+01		5.80E+01
		884.67	71.63	-1.60E+01		2.18E+01
		1384.27	23.94	4.42E+00		1.76E+01
+	CD-113M	263.70	0.02	-1.57E+03	3.40E+03	3.40E+03
+	SN-113	255.12	1.93	2.34E+03	2.43E+02	6.61E+03
		391.69	64.90	1.59E+02		2.43E+02
+	TE123M	159.00	84.10	-2.42E+01	9.49E+01	9.49E+01
+	SB-124	602.71	97.87	2.62E+02	1.81E+04	2.02E+04
		645.85	7.26	7.55E+04		2.91E+05
		722.78	11.10	3.40E+04		1.98E+05
		1691.02	49.00	6.36E+03		1.81E+04
+	I-125	35.49	6.49	-2.26E+05	1.05E+05	1.05E+05
+	SB-125	176.33	6.89	-3.26E-01	5.79E+00	1.46E+01
		427.89	29.33	1.59E+00		5.79E+00
		463.38	10.35	2.94E+00		1.80E+01
		600.56	17.80	-7.20E-01		9.85E+00
		635.90	11.32	-7.46E+00		1.59E+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	7.35E+01	2.48E+00	2.48E+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	-4.23E+00	7.35E-01	7.35E-01
		33.60	13.20	-1.27E+00		2.40E+00
		39.58	7.52	-2.08E+01		4.77E+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
+	@ TE-132	49.72	13.10	1.00E+26	1.00E+26	1.00E+26

Analysis Report for 1510092-01

GAS 1302

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	@ TE-132	228.16	88.00	1.00E+26	1.00E+26	1.00E+26
+	BA-133	81.00	33.00	-1.01E+00	1.55E+00	1.97E+00
		302.84	17.80	-2.80E-01		4.81E+00
		356.01	60.00	4.87E-02		1.55E+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	6.86E+00	2.20E+00	2.49E+01
		569.32	15.43	-4.49E+00		1.34E+01
		604.70	97.60	-9.30E-02		2.20E+00
		795.84	85.40	8.85E-02		3.05E+00
		801.93	8.73	-2.13E+00		3.01E+01
+	CS-135	268.24	16.00	-9.51E-02	4.40E+00	4.40E+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	-2.38E+20	6.79E+19	3.82E+20
		163.89	4.61	-1.00E+20		6.86E+20
		176.55	13.56	-5.00E+18		2.24E+20
		273.65	12.66	1.95E+20		3.08E+20
		340.57	48.50	-2.02E+19		8.66E+19
		818.50	99.70	-1.75E+19		6.79E+19
		1048.07	79.60	-2.98E+19		1.03E+20
		1235.34	19.70	1.12E+20		2.22E+20
+	CS-137	661.65	* 85.12	8.42E+01	2.05E+00	2.05E+00
+	LA-138	788.74	34.00	2.11E+00	6.07E-01	3.57E+00
		1435.80	66.00	2.34E-01		6.07E-01
+	CE-139	165.85	* 80.35	8.71E+01	6.82E+01	6.82E+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	3.81E+07	1.05E+08	1.05E+08
+	@ 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	-5.92E+00	3.95E+01	3.95E+01
+	PM-144	476.78	42.00	6.34E+00	5.18E+00	1.26E+01
		618.01	98.60	1.04E+00		5.18E+00
		696.49	99.49	8.29E-02		5.29E+00
+	PM-145	36.85	21.70	-5.47E+00	9.13E-01	1.66E+00
		37.36	39.70	-3.86E+00		9.13E-01
		42.30	15.10	-5.19E+00		2.99E+00
		72.40	2.31	9.02E-01		2.44E+01

Analysis Report for 1510092-01

GAS 1302

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	PM-146	453.90	39.94	5.59E-01	3.43E+00	3.43E+00
		735.90	14.01	-3.07E+00		1.03E+01
		747.13	13.10	2.93E-01		1.14E+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	3.60E+01	2.97E+00	3.56E+00
		244.69	5.40	-7.07E+00		1.44E+01
		344.27	19.13	-4.42E-01		4.58E+00
		778.89	9.20	1.80E+00		1.46E+01
		964.01	10.40	2.47E+00		1.75E+01
		1085.78	7.22	3.15E+00		2.47E+01
		1112.02	9.60	1.07E+01		1.87E+01
		1407.95	14.94	1.12E+00		2.97E+00
+	GD-153	97.43	31.30	-3.19E+00	1.65E+01	1.65E+01
		103.18	22.20	4.36E+00		2.40E+01
+	EU-154	123.07	40.50	1.87E+01	1.92E+00	1.92E+00
		723.30	19.70	1.23E+00		6.51E+00
		873.19	11.50	8.18E+00		1.49E+01
		996.32	10.30	-3.13E+00		1.73E+01
		1004.76	17.90	-1.15E+00		1.02E+01
		1274.45	35.50	-2.43E-01		2.20E+00
+	EU-155	86.50	30.90	1.19E+02	3.04E+00	4.12E+00
		105.30	20.70	-7.08E-01		3.04E+00
+	EU-156	811.77	10.40	2.06E+17	1.19E+18	1.50E+18
		1153.47	7.20	-3.57E+17		2.10E+18
		1230.71	8.90	2.75E+17		1.19E+18
+	HO-166M	184.41	72.60	6.02E-01	8.38E-01	8.38E-01
		280.45	29.60	2.31E-01		2.40E+00
		410.94	11.10	1.13E+00		7.95E+00
		711.69	54.10	6.54E-02		1.94E+00
+	TM-171	66.72	* 0.14	1.09E+03	8.25E+02	8.25E+02
+	HF-172	81.75	4.52	-1.30E+01	1.32E+01	3.04E+01
		125.81	11.30	-2.06E-01		1.32E+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	4.29E-01	1.11E+01	2.79E+01
		272.11	21.20	4.66E+00		1.11E+01
+	HF-175	343.40	84.00	6.10E+02	4.76E+03	4.76E+03
+	LU-176	88.34	13.30	1.93E+02	7.36E-01	6.80E+00
		201.83	86.00	-4.37E-02		7.36E-01
		306.78	94.00	-5.06E-02		7.87E-01
+	TA-182	67.75	41.20	-6.16E+03	2.21E+02	2.21E+02
		1121.30	34.90	-1.19E+02		7.56E+02
		1189.05	16.23	3.36E+01		1.16E+03
		1221.41	26.98	-1.37E+02		5.90E+02
		1231.02	11.44	3.17E+02		1.37E+03

Analysis Report for 1510092-01

GAS 1302

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	IR-192	308.46	29.68	1.57E+03	6.98E+03	8.11E+03
		468.07	48.10	1.76E+03		6.98E+03
+	HG-203	279.19	77.30	6.50E+04	3.44E+05	3.44E+05
+	BI-207	569.67	97.72	-3.37E-01	1.00E+00	1.00E+00
		1063.62	74.90	-1.02E-01		2.14E+00
+	TL-208	583.14	30.22	3.07E-01	9.25E-01	3.18E+00
		860.37	4.48	-7.82E+00		3.00E+01
		2614.66	35.85	3.54E-02		9.25E-01
+	BI-210M	262.00	45.00	3.88E-01	1.56E+00	1.56E+00
		300.00	23.00	-4.49E-01		3.16E+00
+	PB-210	46.50	4.25	1.89E+01	1.36E+01	1.36E+01
+	PB-211	404.84	2.90	3.69E+00	3.04E+01	3.04E+01
		831.96	2.90	-5.86E+00		4.41E+01
+	BI-212	727.17	11.80	9.16E-01	9.03E+00	9.03E+00
		1620.62	2.75	-1.54E+00		1.42E+01
+	PB-212	238.63	44.60	1.11E+00	1.57E+00	1.57E+00
		300.09	3.41	-3.03E+00		2.13E+01
+	BI-214	609.31	46.30	1.49E+00	2.15E+00	2.15E+00
		1120.29	15.10	-2.74E+00		9.49E+00
		1764.49	15.80	2.50E-01		2.50E+00
		2204.22	4.98	3.00E+00		7.63E+00
+	PB-214	295.21	19.19	1.44E+00	2.13E+00	3.80E+00
		351.92	37.19	-1.20E-01		2.13E+00
+	RN-219	401.80	6.50	-8.67E-01	1.35E+01	1.35E+01
+	RA-223	323.87	3.88	5.12E+00	1.96E+01	1.96E+01
+	RA-224	240.98	3.95	-2.30E+00	1.76E+01	1.76E+01
+	RA-225	40.00	31.00	-1.79E+18	4.11E+17	4.11E+17
+	RA-226	186.21	3.28	1.57E+01	1.88E+01	1.88E+01
+	TH-227	50.10	8.40	1.08E+01	6.10E+00	7.39E+00
		236.00	11.50	1.55E+00		6.10E+00
		256.20	6.30	4.34E+00		1.11E+01
+	AC-228	338.32	11.40	-2.58E+00	5.64E+00	6.73E+00
		911.07	27.70	7.74E-01		5.64E+00
		969.11	16.60	-1.63E+00		9.25E+00
+	TH-230	48.44	16.90	7.12E+00	3.50E+00	3.50E+00
		62.85	4.60	8.05E+02		2.23E+01
		67.67	0.37	-3.69E+03		1.32E+02
+	PA-231	283.67	1.60	-1.09E+01	3.18E+01	4.41E+01
		302.67	2.30	-1.85E+00		3.18E+01
+	TH-231	25.64	14.70	-1.60E+01	6.26E+00	6.26E+00
		84.21	6.40	9.16E+01		1.24E+01
+	PA-233	311.98	38.60	6.85E+09	8.18E+09	8.18E+09
+	PA-234	131.20	20.40	-5.96E-01	2.44E+00	2.44E+00
		733.99	8.80	-1.27E+00		1.22E+01
		946.00	12.00	-8.01E+00		1.38E+01
+	PA-234M	1001.03	0.92	6.24E+01	1.65E+02	1.65E+02
+	TH-234	63.29	3.80	4.14E+02	2.29E+01	2.29E+01

Analysis Report for 1510092-01

GAS 1302

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	U-235	143.76	10.50	-2.46E+00	4.93E+00	4.93E+00
		163.35	4.70	-1.80E+00		1.23E+01
		205.31	4.70	-9.72E+00		1.36E+01
+	NP-237	86.50	12.60	2.11E+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	1.34E+02	3.06E+00	3.06E+00
+	AM-243	74.67	66.00	-1.68E-01	7.88E-01	7.88E-01
+	CM-243	209.75	3.29	-1.05E+01	5.39E+00	2.11E+01
		228.14	10.60	2.35E+00		6.99E+00
		277.60	14.00	9.12E-01		5.39E+00

+ = Nuclide identified during the nuclide identification

* = Energy line found in the spectrum

> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

? = 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	7.03E+05	7.03E+05	2.41E+05	3.48E+05
NA-22	1274.54	99.94	1.22E+00	1.22E+00	-1.34E-01	5.81E-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	4.04E-01	4.04E-01	2.31E-01	1.82E-01
K-40	1460.81	10.67	3.81E+00	3.81E+00	4.13E-02	1.75E+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	5.33E-01	5.33E-01	-1.48E+01	2.65E-01
	78.34	96.00	5.75E-01		-3.02E-01	2.86E-01
SC-46	889.25	99.98	1.86E+03	1.80E+03	4.48E+02	9.18E+02

Analysis Report for 1510092-01

GAS 1302

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
SC-46	1120.51	99.99	1.80E+03	1.80E+03	-5.18E+02	8.82E+02
V-48	983.52	99.98	2.78E+16	1.34E+16	1.10E+16	1.37E+16
	1312.10	97.50	1.34E+16		2.19E+15	6.44E+15
CR-51	320.08	9.83	1.82E+10	1.82E+10	1.22E+09	9.03E+09
MN-54	834.83	99.97	8.90E+00	8.90E+00	6.43E+00	4.39E+00
CO-56	846.75	99.96	2.63E+03	1.64E+03	-2.24E+01	1.30E+03
	1037.75	14.03	2.14E+04		1.99E+03	1.05E+04
	1238.25	67.00	2.22E+03		-6.80E+02	1.07E+03
	1771.40	15.51	4.66E+03		8.57E+02	2.08E+03
	2598.48	16.90	1.64E+03		-5.94E+02	5.18E+02
+ CO-57	122.06	* 85.51	7.19E+00	7.19E+00	6.97E+01	3.58E+00
	136.48	* 10.60	4.50E+01		5.49E+01	2.23E+01
CO-58	810.76	99.40	5.80E+03	5.80E+03	-1.71E+02	2.86E+03
FE-59	1099.22	56.50	1.85E+06	9.96E+05	1.54E+05	9.11E+05
	1291.56	43.20	9.96E+05		-4.52E+04	4.76E+05
+ CO-60	1173.22	* 100.00	2.89E+00	1.41E+00	1.32E+02	1.43E+00
	1332.49	* 100.00	1.41E+00		1.33E+02	6.86E-01
ZN-65	1115.52	50.75	3.53E+01	3.53E+01	2.48E+01	1.74E+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	5.72E+02	1.31E+02	5.94E+03	2.84E+02
	136.00	59.20	1.31E+02		1.99E+02	6.50E+01
	264.65	59.80	1.71E+02		-1.37E+02	8.45E+01
	279.53	25.20	4.16E+02		7.85E+01	2.06E+02
	400.65	11.40	1.13E+03		3.26E+01	5.60E+02
RB-82	776.52	13.00	1.33E+11	1.33E+11	3.63E+10	6.53E+10
RB-83	520.41	46.00	2.11E+03	2.11E+03	6.97E+02	1.04E+03
	529.64	30.30	3.18E+03		-2.22E+01	1.57E+03
	552.65	16.40	5.80E+03		-2.53E+03	2.86E+03
KR-85	513.99	0.43	2.55E+02	2.55E+02	6.12E+01	1.26E+02
SR-85	513.99	99.27	9.68E+03	9.68E+03	2.33E+03	4.78E+03
Y-88	898.02	93.40	4.54E+02	1.94E+02	2.28E+02	2.24E+02
	1836.01	99.38	1.94E+02		2.65E+02	9.16E+01
NB-93M	16.57	9.43	6.04E+00	6.04E+00	-2.28E+02	3.01E+00
NB-94	702.63	100.00	1.03E+00	1.03E+00	1.02E-01	5.06E-01
	871.10	100.00	1.40E+00		-3.03E-01	6.88E-01
NB-95	765.79	99.81	2.98E+07	2.98E+07	7.10E+06	1.47E+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	2.76E+04	2.32E+04	-2.66E+03	1.36E+04
	756.72	55.30	2.32E+04		-5.21E+03	1.14E+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	4.19E+06	4.19E+06	-2.36E+06	2.07E+06
RU-106	621.84	9.80	5.11E+01	5.11E+01	4.10E+00	2.52E+01
AG-108M	433.93	89.90	1.06E+00	1.06E+00	-4.34E-01	5.26E-01
	614.37	90.40	1.12E+00		2.10E-01	5.50E-01
	722.95	90.50	1.19E+00		2.26E-01	5.86E-01
+ CD-109	88.03	* 3.72	8.95E+01	8.95E+01	2.65E+03	4.46E+01
AG-110M	657.75	93.14	2.81E+01	1.76E+01	4.79E-01	1.40E+01
	677.61	10.53	1.04E+02		2.29E+01	5.13E+01
	706.67	16.46	6.92E+01		-1.73E+00	3.40E+01

Analysis Report for 1510092-01

GAS 1302

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
AG-110M	763.93	21.98	5.80E+01	1.76E+01	3.00E+01	2.86E+01
	884.67	71.63	2.18E+01		-1.60E+01	1.07E+01
	1384.27	23.94	1.76E+01		4.42E+00	8.06E+00
CD-113M	263.70	0.02	3.40E+03	3.40E+03	-1.57E+03	1.68E+03
SN-113	255.12	1.93	6.61E+03	2.43E+02	2.34E+03	3.28E+03
	391.69	64.90	2.43E+02		1.59E+02	1.20E+02
TE123M	159.00	84.10	9.49E+01	9.49E+01	-2.42E+01	4.71E+01
SB-124	602.71	97.87	2.02E+04	1.81E+04	2.62E+02	9.94E+03
	645.85	7.26	2.91E+05		7.55E+04	1.44E+05
	722.78	11.10	1.98E+05		3.40E+04	9.73E+04
	1691.02	49.00	1.81E+04		6.36E+03	8.29E+03
I-125	35.49	6.49	1.05E+05	1.05E+05	-2.26E+05	5.22E+04
SB-125	176.33	6.89	1.46E+01	5.79E+00	-3.26E-01	7.24E+00
	427.89	29.33	5.79E+00		1.59E+00	2.86E+00
	463.38	10.35	1.80E+01		2.94E+00	8.92E+00
	600.56	17.80	9.85E+00		-7.20E-01	4.85E+00
	635.90	11.32	1.59E+01		-7.46E+00	7.85E+00
@ SB-126	414.70	83.30	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	666.33	99.60	1.00E+26		1.00E+26	1.00E+20
@	695.00	99.60	1.00E+26		1.00E+26	1.00E+20
@	720.50	53.80	1.00E+26		1.00E+26	1.00E+20
+ SN-126	87.57	* 37.00	2.48E+00	2.48E+00	7.35E+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+20
@	783.80	14.70	1.00E+26		1.00E+26	1.00E+20
I-129	29.78	57.00	7.35E-01	7.35E-01	-4.23E+00	3.66E-01
	33.60	13.20	2.40E+00		-1.27E+00	1.19E+00
	39.58	7.52	4.77E+00		-2.08E+01	2.37E+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+20
@	636.97	7.26	1.00E+26		1.00E+26	1.00E+20
@	722.89	1.80	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+20
BA-133	81.00	33.00	1.97E+00	1.55E+00	-1.01E+00	9.79E-01
	302.84	17.80	4.81E+00		-2.80E-01	2.38E+00
	356.01	60.00	1.55E+00		4.87E-02	7.68E-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	2.49E+01	2.20E+00	6.86E+00	1.23E+01
	569.32	15.43	1.34E+01		-4.49E+00	6.59E+00
	604.70	97.60	2.20E+00		-9.30E-02	1.08E+00
	795.84	85.40	3.05E+00		8.85E-02	1.50E+00
	801.93	8.73	3.01E+01		-2.13E+00	1.48E+01
CS-135	268.24	16.00	4.40E+00	4.40E+00	-9.51E-02	2.18E+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+20
@	1678.03	9.54	1.00E+26		1.00E+26	1.00E+20
CS-136	153.22	7.46	3.82E+20	6.79E+19	-2.38E+20	1.89E+20
	163.89	4.61	6.86E+20		-1.00E+20	3.40E+20
	176.55	13.56	2.24E+20		-5.00E+18	1.11E+20
	273.65	12.66	3.08E+20		1.95E+20	1.53E+20
	340.57	48.50	8.66E+19		-2.02E+19	4.29E+19

Analysis Report for 1510092-01

GAS 1302

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)	
CS-136	818.50	99.70	6.79E+19	6.79E+19	-1.75E+19	3.34E+19	
	1048.07	79.60	1.03E+20		-2.98E+19	5.07E+19	
	1235.34	19.70	2.22E+20		1.12E+20	1.07E+20	
+ CS-137	661.65 *	85.12	2.05E+00	2.05E+00	8.42E+01	1.01E+00	
LA-138	788.74	34.00	3.57E+00	6.07E-01	2.11E+00	1.76E+00	
	1435.80	66.00	6.07E-01		2.34E-01	2.79E-01	
+ CE-139	165.85 *	80.35	6.82E+01	6.82E+01	8.71E+01	3.39E+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	1.05E+08	1.05E+08	3.81E+07	5.22E+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	3.95E+01	3.95E+01	-5.92E+00	1.96E+01	
PM-144	476.78	42.00	1.26E+01	5.18E+00	6.34E+00	6.22E+00	
	618.01	98.60	5.18E+00		1.04E+00	2.55E+00	
	696.49	99.49	5.29E+00		8.29E-02	2.60E+00	
PM-145	36.85	21.70	1.66E+00	9.13E-01	-5.47E+00	8.24E-01	
	37.36	39.70	9.13E-01		-3.86E+00	4.54E-01	
	42.30	15.10	2.99E+00		-5.19E+00	1.49E+00	
	72.40	2.31	2.44E+01		9.02E-01	1.22E+01	
PM-146	453.90	39.94	3.43E+00	3.43E+00	5.59E-01	1.70E+00	
	735.90	14.01	1.03E+01		-3.07E+00	5.05E+00	
	747.13	13.10	1.14E+01		2.93E-01	5.62E+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	3.56E+00	2.97E+00	3.60E+01	1.77E+00	
	244.69	5.40	1.44E+01		-7.07E+00	7.16E+00	
	344.27	19.13	4.58E+00		-4.42E-01	2.27E+00	
	778.89	9.20	1.46E+01		1.80E+00	7.17E+00	
	964.01	10.40	1.75E+01		2.47E+00	8.65E+00	
	1085.78	7.22	2.47E+01		3.15E+00	1.22E+01	
	1112.02	9.60	1.87E+01		1.07E+01	9.21E+00	
	1407.95	14.94	2.97E+00		1.12E+00	1.37E+00	
	GD-153	97.43	31.30	1.65E+01	1.65E+01	-3.19E+00	8.19E+00
		103.18	22.20	2.40E+01		4.36E+00	1.19E+01
EU-154	123.07	40.50	1.92E+00	1.92E+00	1.87E+01	9.57E-01	
	723.30	19.70	6.51E+00		1.23E+00	3.21E+00	
	873.19	11.50	1.49E+01		8.18E+00	7.36E+00	
	996.32	10.30	1.73E+01		-3.13E+00	8.54E+00	
	1004.76	17.90	1.02E+01		-1.15E+00	5.03E+00	
EU-155	1274.45	35.50	2.20E+00		-2.43E-01	1.05E+00	
	86.50	30.90	4.12E+00	3.04E+00	1.19E+02	2.06E+00	
	105.30	20.70	3.04E+00		-7.08E-01	1.51E+00	
EU-156	811.77	10.40	1.50E+18	1.19E+18	2.06E+17	7.40E+17	

Analysis Report for 1510092-01

GAS 1302

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
EU-156	1153.47	7.20	2.10E+18	1.19E+18	-3.57E+17	1.03E+18
	1230.71	8.90	1.19E+18		2.75E+17	5.73E+17
HO-166M	184.41	72.60	8.38E-01	8.38E-01	6.02E-01	4.16E-01
	280.45	29.60	2.40E+00		2.31E-01	1.19E+00
	410.94	11.10	7.95E+00		1.13E+00	3.93E+00
	711.69	54.10	1.94E+00		6.54E-02	9.53E-01
+ TM-171	66.72	* 0.14	8.25E+02	8.25E+02	1.09E+03	4.10E+02
HF-172	81.75	4.52	3.04E+01	1.32E+01	-1.30E+01	1.51E+01
	125.81	11.30	1.32E+01		-2.06E-01	6.57E+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	2.79E+01	1.11E+01	4.29E-01	1.39E+01
	272.11	21.20	1.11E+01		4.66E+00	5.52E+00
HF-175	343.40	84.00	4.76E+03	4.76E+03	6.10E+02	2.35E+03
LU-176	88.34	13.30	6.80E+00	7.36E-01	1.93E+02	3.39E+00
	201.83	86.00	7.36E-01		-4.37E-02	3.65E-01
	306.78	94.00	7.87E-01		-5.06E-02	3.89E-01
TA-182	67.75	41.20	2.21E+02	2.21E+02	-6.16E+03	1.10E+02
	1121.30	34.90	7.56E+02		-1.19E+02	3.71E+02
	1189.05	16.23	1.16E+03		3.36E+01	5.65E+02
	1221.41	26.98	5.90E+02		-1.37E+02	2.85E+02
	1231.02	11.44	1.37E+03		3.17E+02	6.61E+02
IR-192	308.46	29.68	8.11E+03	6.98E+03	1.57E+03	4.01E+03
	468.07	48.10	6.98E+03		1.76E+03	3.45E+03
HG-203	279.19	77.30	3.44E+05	3.44E+05	6.50E+04	1.70E+05
BI-207	569.67	97.72	1.00E+00	1.00E+00	-3.37E-01	4.94E-01
	1063.62	74.90	2.14E+00		-1.02E-01	1.05E+00
TL-208	583.14	30.22	3.18E+00	9.25E-01	3.07E-01	1.57E+00
	860.37	4.48	3.00E+01		-7.82E+00	1.48E+01
	2614.66	35.85	9.25E-01		3.54E-02	3.91E-01
BI-210M	262.00	45.00	1.56E+00	1.56E+00	3.88E-01	7.72E-01
	300.00	23.00	3.16E+00		-4.49E-01	1.56E+00
PB-210	46.50	4.25	1.36E+01	1.36E+01	1.89E+01	6.77E+00
PB-211	404.84	2.90	3.04E+01	3.04E+01	3.69E+00	1.50E+01
	831.96	2.90	4.41E+01		-5.86E+00	2.17E+01
BI-212	727.17	11.80	9.03E+00	9.03E+00	9.16E-01	4.44E+00
	1620.62	2.75	1.42E+01		-1.54E+00	6.44E+00
PB-212	238.63	44.60	1.57E+00	1.57E+00	1.11E+00	7.80E-01
	300.09	3.41	2.13E+01		-3.03E+00	1.06E+01
BI-214	609.31	46.30	2.15E+00	2.15E+00	1.49E+00	1.06E+00
	1120.29	15.10	9.49E+00		-2.74E+00	4.66E+00
	1764.49	15.80	2.50E+00		2.50E-01	1.13E+00
	2204.22	4.98	7.63E+00		3.00E+00	3.35E+00
PB-214	295.21	19.19	3.80E+00	2.13E+00	1.44E+00	1.88E+00
	351.92	37.19	2.13E+00		-1.20E-01	1.05E+00
RN-219	401.80	6.50	1.35E+01	1.35E+01	-8.67E-01	6.68E+00
RA-223	323.87	3.88	1.96E+01	1.96E+01	5.12E+00	9.73E+00
RA-224	240.98	3.95	1.76E+01	1.76E+01	-2.30E+00	8.73E+00
RA-225	40.00	31.00	4.11E+17	4.11E+17	-1.79E+18	2.04E+17
RA-226	186.21	3.28	1.88E+01	1.88E+01	1.57E+01	9.33E+00
TH-227	50.10	8.40	7.39E+00	6.10E+00	1.08E+01	3.68E+00

Analysis Report for 1510092-01

GAS 1302

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
TH-227	236.00	11.50	6.10E+00	6.10E+00	1.55E+00	3.02E+00
	256.20	6.30	1.11E+01		4.34E+00	5.53E+00
AC-228	338.32	11.40	6.73E+00	5.64E+00	-2.58E+00	3.33E+00
	911.07	27.70	5.64E+00		7.74E-01	2.78E+00
	969.11	16.60	9.25E+00		-1.63E+00	4.56E+00
TH-230	48.44	16.90	3.50E+00	3.50E+00	7.12E+00	1.74E+00
	62.85	4.60	2.23E+01		8.05E+02	1.11E+01
	67.67	0.37	1.32E+02		-3.69E+03	6.58E+01
PA-231	283.67	1.60	4.41E+01	3.18E+01	-1.09E+01	2.18E+01
	302.67	2.30	3.18E+01		-1.85E+00	1.58E+01
TH-231	25.64	14.70	6.26E+00	6.26E+00	-1.60E+01	3.12E+00
	84.21	6.40	1.24E+01		9.16E+01	6.19E+00
PA-233	311.98	38.60	8.18E+09	8.18E+09	6.85E+09	4.05E+09
PA-234	131.20	20.40	2.44E+00	2.44E+00	-5.96E-01	1.21E+00
	733.99	8.80	1.22E+01		-1.27E+00	6.00E+00
	946.00	12.00	1.38E+01		-8.01E+00	6.83E+00
PA-234M	1001.03	0.92	1.65E+02	1.65E+02	6.24E+01	8.15E+01
TH-234	63.29	3.80	2.29E+01	2.29E+01	4.14E+02	1.14E+01
U-235	143.76	10.50	4.93E+00	4.93E+00	-2.46E+00	2.45E+00
	163.35	4.70	1.23E+01		-1.80E+00	6.11E+00
	205.31	4.70	1.36E+01		-9.72E+00	6.74E+00
NP-237	86.50	12.60	7.27E+00	7.27E+00	2.11E+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	3.06E+00	3.06E+00	1.34E+02	1.52E+00
AM-243	74.67	66.00	7.88E-01	7.88E-01	-1.68E-01	3.92E-01
CM-243	209.75	3.29	2.11E+01	5.39E+00	-1.05E+01	1.05E+01
	228.14	10.60	6.99E+00		2.35E+00	3.46E+00
	277.60	14.00	5.39E+00		9.12E-01	2.67E+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.

DATA REVIEW COMMENTS REPORT

Creation Date

Comment

User

: 00300

Analysis Report for 1510092-01
GAS 1302

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: 1843

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	3	396	1556
17:	1692	1878	4695	16316	28284	22482	11687	9933
25:	7006	2676	977	757	770	1014	1292	1264
33:	970	849	935	1015	1036	998	1118	1180
41:	1323	1547	1642	1739	1906	2194	2572	3222
49:	3569	3556	3545	3568	3730	4027	4150	4696
57:	8833	19507	22984	11359	2639	1228	1248	1333
65:	1448	1512	1639	1615	1571	1490	1529	1523
73:	1502	1558	1541	1520	1529	1499	1477	1524
81:	1574	1716	1689	1800	2295	5780	10360	8611
89:	3094	996	794	846	771	807	800	760
97:	804	776	781	768	782	796	752	813
105:	758	772	783	754	728	763	766	828
113:	758	772	850	803	797	817	882	1572
121:	2560	2441	1236	747	667	631	696	687
129:	684	678	699	712	713	746	841	839
137:	731	647	678	660	646	672	626	638
145:	663	681	637	671	591	614	596	620
153:	609	604	591	623	619	617	604	597
161:	626	623	640	771	828	764	630	619
169:	623	621	574	556	574	550	568	550
177:	546	523	566	554	626	596	678	598
185:	617	626	602	627	639	607	612	561
193:	608	621	631	625	565	593	589	576
201:	560	587	548	564	582	544	578	542
209:	599	617	572	611	559	631	634	600
217:	610	641	585	579	577	572	566	609
225:	610	566	570	539	591	546	522	541
233:	547	535	532	562	523	575	513	510
241:	526	483	460	450	523	499	477	496
249:	460	499	499	479	470	479	452	469
257:	461	489	475	435	457	420	412	444
265:	435	400	444	411	468	422	426	434
273:	459	415	429	418	417	413	407	398
281:	396	394	411	393	390	350	391	382
289:	386	394	389	379	406	391	374	368
297:	378	411	406	397	340	371	336	373
305:	376	363	373	393	371	403	366	361
313:	384	371	403	335	315	377	345	346
321:	363	359	404	341	368	335	366	359
329:	385	329	383	368	359	346	321	342
337:	335	337	324	316	347	345	325	337
345:	317	357	346	295	335	347	327	322
353:	324	344	327	310	337	333	325	334
361:	349	300	333	322	338	312	288	310

369: 314 339 297 320 300 307 344 313

Sample Title: GAS 1302

Channel	332	331	326	335	324	328	300	306
377:	332	331	326	335	324	328	300	306
385:	305	296	336	319	316	344	390	352
393:	318	295	294	326	305	321	279	287
401:	327	310	345	343	323	311	262	308
409:	291	347	309	271	310	327	326	278
417:	320	291	322	321	359	272	320	327
425:	297	323	338	336	310	337	299	354
433:	297	278	320	317	320	287	309	367
441:	351	330	313	304	315	316	355	315
449:	356	350	346	348	340	318	329	334
457:	308	325	333	345	325	343	306	330
465:	351	326	324	376	315	300	319	322
473:	338	323	299	331	300	288	282	249
481:	282	272	268	277	260	248	233	254
489:	255	263	240	249	231	219	256	228
497:	244	225	258	243	223	268	250	230
505:	234	227	213	230	223	250	248	219
513:	218	236	213	215	224	218	230	213
521:	225	219	202	222	227	183	196	216
529:	195	216	210	219	211	185	214	211
537:	204	192	196	193	192	192	180	186
545:	212	189	196	204	195	165	200	171
553:	196	186	197	159	207	186	184	174
561:	193	198	188	204	183	175	187	162
569:	188	188	192	160	176	164	196	173
577:	197	181	169	180	183	188	165	176
585:	184	193	189	184	180	160	167	187
593:	192	197	168	168	195	184	164	183
601:	191	158	173	153	164	145	196	179
609:	196	179	178	184	173	184	146	161
617:	179	197	164	175	162	151	147	166
625:	174	161	180	166	158	172	182	167
633:	156	152	174	165	162	167	157	176
641:	178	189	153	177	182	166	159	146
649:	167	165	161	156	160	174	187	168
657:	156	207	560	2164	4327	3844	1544	338
665:	161	167	121	157	170	136	128	152
673:	175	134	137	148	138	162	144	130
681:	148	144	147	143	136	161	139	139
689:	142	141	130	157	138	161	137	139
697:	128	141	140	133	138	151	143	145
705:	150	147	125	152	163	125	149	143
713:	162	140	143	135	136	153	152	144
721:	141	136	149	138	150	142	154	131
729:	149	145	134	147	149	132	154	132
737:	141	152	132	136	167	151	156	156
745:	149	156	140	150	133	152	144	129
753:	142	165	153	161	150	138	142	148
761:	163	136	178	160	152	132	175	159
769:	135	140	168	158	140	151	165	122
777:	157	170	182	147	150	161	141	157
785:	159	157	181	147	164	155	174	141
793:	133	167	136	142	139	143	143	155

801: 133 128 152 168 165 142 151 165

Sample Title: GAS 1302

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	156	163	162	171	155	145	158	149
817:	154	158	157	162	157	157	174	144
825:	157	147	150	134	144	160	158	174
833:	162	165	164	174	178	170	166	151
841:	165	152	178	151	177	160	160	180
849:	149	182	181	154	174	177	167	173
857:	156	172	154	167	157	180	149	177
865:	169	175	161	153	181	172	168	178
873:	172	188	190	181	192	173	168	179
881:	184	176	163	174	183	161	183	177
889:	192	215	197	201	192	193	196	195
897:	205	241	225	174	200	194	184	188
905:	189	179	203	191	204	200	189	205
913:	195	215	198	205	214	200	208	196
921:	176	222	208	209	196	186	198	216
929:	197	195	206	195	228	203	189	221
937:	221	206	220	234	213	208	215	211
945:	202	207	207	216	211	212	232	212
953:	227	235	230	226	200	219	241	226
961:	223	204	196	182	211	170	169	145
969:	180	166	155	172	170	159	164	156
977:	158	162	178	179	147	151	151	168
985:	166	158	159	156	140	155	160	145
993:	139	163	132	136	168	154	163	158
1001:	156	160	154	145	161	156	152	158
1009:	150	146	168	159	132	166	172	146
1017:	119	146	136	178	146	150	163	144
1025:	134	137	171	145	154	153	143	142
1033:	142	149	132	136	152	133	145	154
1041:	164	146	129	149	118	148	145	148
1049:	154	146	122	140	143	151	146	159
1057:	156	136	136	153	131	132	161	129
1065:	129	146	150	129	136	139	162	130
1073:	121	133	137	131	154	142	157	157
1081:	161	143	155	158	121	150	139	140
1089:	160	146	125	123	146	130	131	125
1097:	149	149	133	145	153	157	144	149
1105:	155	141	147	150	128	149	154	137
1113:	151	147	128	127	127	121	104	99
1121:	101	113	108	108	106	73	115	99
1129:	75	97	92	92	89	78	80	78
1137:	87	96	83	80	63	72	72	78
1145:	87	92	92	61	67	83	80	74
1153:	73	79	68	67	83	67	85	69
1161:	79	87	99	78	74	72	83	77
1169:	77	132	536	1799	3256	2934	1248	281
1177:	58	64	53	60	63	54	41	50
1185:	53	57	44	52	43	43	49	65
1193:	37	48	42	58	51	55	44	51
1201:	58	27	30	34	39	37	39	32
1209:	41	31	33	36	28	35	44	27
1217:	37	36	35	35	34	33	25	28
1225:	34	29	42	34	32	25	30	35

1233: 30 31 24 23 35 28 20 20

Sample Title: GAS 1302

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1241:	22	17	23	24	24	20	25	16
1249:	17	14	18	17	21	18	17	15
1257:	27	24	19	19	16	18	24	18
1265:	16	17	17	29	18	22	18	15
1273:	21	14	17	14	18	15	15	15
1281:	16	17	16	20	15	16	18	18
1289:	17	20	16	20	15	10	18	16
1297:	17	19	23	25	21	20	18	17
1305:	25	17	22	19	17	17	19	18
1313:	23	14	28	24	17	19	13	18
1321:	17	25	18	19	11	19	22	22
1329:	47	223	1068	2475	2850	1646	443	63
1337:	8	8	6	6	6	6	5	2
1345:	5	2	2	9	4	3	7	3
1353:	9	7	4	7	6	9	9	3
1361:	6	4	1	4	4	6	6	7
1369:	2	8	5	10	3	5	4	7
1377:	6	6	3	5	8	2	5	5
1385:	6	2	5	5	3	4	2	5
1393:	4	4	3	6	1	5	3	4
1401:	6	0	5	4	7	4	4	6
1409:	5	2	6	6	4	3	3	4
1417:	4	3	6	5	4	4	8	6
1425:	7	6	3	4	2	2	4	2
1433:	3	5	5	3	5	10	4	7
1441:	6	4	3	1	4	5	2	5
1449:	7	6	3	2	4	3	4	3
1457:	5	4	7	7	4	3	3	5
1465:	6	6	7	5	4	3	2	3
1473:	3	3	4	1	3	0	5	5
1481:	6	5	3	2	4	5	5	3
1489:	0	2	4	1	2	5	2	4
1497:	3	4	3	0	7	2	4	5
1505:	4	4	6	3	3	6	3	3
1513:	5	5	5	4	6	2	5	3
1521:	2	3	3	4	3	4	1	5
1529:	3	1	5	4	2	6	2	3
1537:	4	5	3	8	3	4	7	0
1545:	3	3	1	2	4	4	4	4
1553:	7	6	1	3	10	2	7	4
1561:	7	3	1	1	4	5	2	3
1569:	4	7	1	5	3	4	7	1
1577:	3	4	4	1	4	1	5	4
1585:	4	5	8	4	6	7	4	8
1593:	3	5	5	3	5	8	2	4
1601:	2	3	3	1	2	4	4	6
1609:	4	5	4	5	1	7	4	5
1617:	3	2	4	1	4	3	8	5
1625:	3	3	1	4	4	4	1	6
1633:	1	4	4	0	6	1	3	5
1641:	4	1	4	4	1	6	3	1
1649:	2	3	2	2	6	3	0	0
1657:	3	3	4	2	2	2	1	5

1665: 1 1 6 6 0 3 3 1

Sample Title: GAS 1302

Channel								
1673:	3	3	2	3	2	3	3	5
1681:	3	3	3	2	4	3	5	3
1689:	5	3	3	3	7	4	5	2
1697:	3	4	2	5	3	1	5	3
1705:	0	3	3	3	2	3	4	0
1713:	3	3	3	1	4	5	1	4
1721:	0	3	4	2	2	1	1	2
1729:	5	4	0	2	2	0	1	5
1737:	2	0	0	3	3	2	2	5
1745:	0	2	4	2	2	3	1	2
1753:	1	1	2	3	5	1	0	4
1761:	4	2	4	1	0	3	3	3
1769:	2	3	1	4	3	2	2	1
1777:	0	0	1	5	3	1	5	1
1785:	2	4	2	4	1	2	0	1
1793:	2	2	2	2	2	1	1	0
1801:	2	3	1	3	1	6	4	2
1809:	3	2	2	2	4	0	0	2
1817:	0	1	2	3	2	3	2	3
1825:	0	2	2	1	3	4	0	0
1833:	1	6	20	13	24	18	7	3
1841:	3	3	2	3	1	1	1	1
1849:	2	3	4	3	1	2	0	2
1857:	0	1	3	2	1	4	2	2
1865:	1	0	1	1	1	0	3	5
1873:	2	2	0	2	1	1	5	3
1881:	2	2	3	0	3	0	1	3
1889:	1	1	1	3	4	4	1	1
1897:	2	2	1	3	3	0	3	2
1905:	3	1	1	1	1	0	2	3
1913:	2	0	4	1	1	1	1	5
1921:	1	3	2	3	2	1	0	3
1929:	3	1	1	1	2	2	2	1
1937:	1	1	2	4	2	1	0	1
1945:	2	3	2	3	4	2	3	0
1953:	1	1	3	3	1	0	0	4
1961:	1	3	0	1	1	2	1	3
1969:	4	1	1	4	3	3	2	2
1977:	1	0	2	3	2	2	3	0
1985:	1	4	2	1	1	1	4	1
1993:	2	0	1	3	0	2	1	1
2001:	1	2	2	2	2	0	1	0
2009:	2	1	1	2	0	3	3	2
2017:	2	3	1	1	2	3	1	5
2025:	1	0	2	2	3	2	2	1
2033:	2	1	0	1	1	6	3	3
2041:	0	1	1	2	1	1	4	1
2049:	0	2	3	3	2	3	1	2
2057:	0	1	2	5	0	0	1	0
2065:	3	0	2	1	3	1	0	3
2073:	1	1	1	1	0	1	3	2
2081:	0	2	0	1	0	1	1	1
2089:	5	0	2	0	1	1	2	2

2097: 2 0 0 0 5 2 3 1

Sample Title: GAS 1302

Channel								
2105:	2	0	0	0	5	2	2	2
2113:	0	1	0	1	2	2	2	2
2121:	1	2	1	4	2	2	1	0
2129:	0	1	1	1	2	1	0	4
2137:	1	1	2	0	1	2	1	0
2145:	1	1	1	1	2	3	0	1
2153:	1	0	0	5	0	2	0	2
2161:	1	1	0	0	0	2	1	0
2169:	2	0	3	0	3	1	1	2
2177:	1	0	0	1	2	0	2	0
2185:	2	2	1	2	0	2	1	2
2193:	1	1	1	1	1	1	1	1
2201:	0	1	2	1	0	8	2	1
2209:	2	0	1	1	0	1	1	2
2217:	0	0	0	2	1	2	1	1
2225:	1	2	2	2	1	2	3	3
2233:	0	2	0	1	3	0	4	1
2241:	0	1	0	1	2	1	0	1
2249:	1	0	2	2	1	0	0	2
2257:	0	1	3	1	1	0	2	2
2265:	1	3	2	1	0	1	1	4
2273:	0	0	2	1	2	1	2	0
2281:	1	1	0	2	0	0	0	2
2289:	2	1	2	0	1	2	1	0
2297:	2	0	0	1	0	2	0	1
2305:	1	2	0	0	0	1	0	0
2313:	0	1	0	0	0	2	0	2
2321:	1	0	1	1	1	2	1	0
2329:	0	0	0	0	3	0	0	1
2337:	0	0	1	0	0	0	0	0
2345:	1	0	1	0	1	1	0	1
2353:	0	1	1	1	1	1	1	2
2361:	3	1	1	0	0	0	0	1
2369:	1	0	1	1	2	1	0	1
2377:	0	0	0	1	0	0	0	0
2385:	0	1	0	1	2	1	0	0
2393:	0	0	0	0	1	0	0	0
2401:	1	0	1	0	0	0	0	1
2409:	0	0	0	0	0	0	1	2
2417:	0	1	0	0	0	2	0	0
2425:	0	1	0	0	0	0	0	0
2433:	0	1	0	1	1	0	1	0
2441:	0	0	0	0	1	1	0	0
2449:	0	0	0	0	0	0	0	0
2457:	0	0	1	0	1	0	0	0
2465:	0	0	1	0	1	0	0	0
2473:	0	1	0	0	0	0	0	0
2481:	0	1	0	0	1	0	0	0
2489:	0	0	0	0	0	1	0	0
2497:	0	0	0	0	0	0	0	3
2505:	7	14	10	3	2	1	0	0
2513:	1	0	0	0	0	0	0	0
2521:	1	0	0	0	0	0	0	0

2529: 0 0 0 0 0 0 0 0 1

Sample Title: GAS 1302

Channel	1	2	3	4	5	6	7	8	9
2537:	0	0	0	0	0	0	0	0	0
2545:	0	0	0	0	0	0	1	0	0
2553:	0	0	0	0	0	0	0	0	0
2561:	1	0	0	0	0	0	0	0	0
2569:	0	1	0	1	0	0	0	0	0
2577:	0	0	0	0	0	0	0	0	0
2585:	0	0	0	1	0	0	0	1	0
2593:	0	0	0	1	0	0	0	0	0
2601:	0	0	0	0	1	0	0	0	0
2609:	0	0	0	1	0	0	0	1	2
2617:	4	1	1	0	0	0	0	0	1
2625:	0	0	0	0	0	0	0	0	0
2633:	0	0	0	0	0	0	0	1	0
2641:	0	0	0	0	0	0	0	0	0
2649:	0	0	0	1	0	1	0	0	0
2657:	0	0	0	0	0	0	0	0	1
2665:	0	0	0	0	0	0	0	0	0
2673:	0	0	0	0	0	0	0	0	0
2681:	0	0	0	0	0	0	0	0	0
2689:	0	0	0	0	0	0	0	0	0
2697:	0	1	1	0	0	0	0	0	0
2705:	0	0	0	0	0	0	0	0	0
2713:	0	0	1	0	0	0	0	0	0
2721:	0	1	0	0	0	0	0	0	1
2729:	0	0	0	0	0	0	0	0	0
2737:	0	0	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:	0	0	0	0	0	0	0	0	0
2769:	0	0	0	0	0	0	0	1	0
2777:	0	0	1	0	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	1	0	0	0	0	0	0
2809:	0	0	0	0	0	0	0	0	0
2817:	0	0	0	0	0	0	0	0	0
2825:	1	0	0	0	0	0	0	0	0
2833:	0	0	0	0	1	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	2	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	0	0	0	0	0	0	0	1
2897:	0	0	0	0	1	0	1	1	1
2905:	0	0	1	0	0	0	0	0	0
2913:	0	0	0	0	0	0	1	0	0
2921:	0	0	0	0	0	0	0	0	0
2929:	0	1	1	0	0	2	0	0	0
2937:	0	0	0	0	0	0	0	0	0
2945:	0	0	1	0	0	0	0	0	0
2953:	0	0	0	0	0	0	0	0	0

2961: 0 0 1 0 0 0 0 0

Sample Title: GAS 1302

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	0	0	0	0	1	1	0
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	1	0	0
3033:	0	0	0	0	0	0	0	0
3041:	0	0	0	0	0	0	0	0
3049:	1	0	0	0	0	0	0	0
3057:	0	1	0	1	0	0	0	0
3065:	0	0	0	0	0	0	0	0
3073:	0	0	0	0	0	1	0	0
3081:	0	0	0	0	0	0	1	0
3089:	0	0	0	1	0	0	0	0
3097:	0	0	0	0	0	0	0	0
3105:	0	0	0	0	0	0	0	0
3113:	0	1	0	0	0	0	0	0
3121:	0	0	0	0	1	0	0	0
3129:	0	0	0	0	0	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	1	0
3161:	0	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	1	0	0	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:	0	0	0	0	0	0	1	0
3225:	0	0	0	0	0	0	0	0
3233:	0	0	0	0	0	0	0	1
3241:	0	0	0	0	1	0	0	0
3249:	0	0	0	1	0	1	0	0
3257:	0	0	0	0	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	0	0	0	0	0	0
3289:	1	0	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	0
3321:	0	1	0	0	0	0	0	0
3329:	0	0	0	0	0	0	0	0
3337:	0	1	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	1	0	0	0	0	0

3393: 0 0 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	1	0	0	0	0
3417:	0	0	0	0	0	0	0	1
3425:	0	0	0	0	0	0	1	0
3433:	0	0	1	0	1	0	0	1
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	1	0	0	0	0	0	0
3473:	0	0	0	0	0	0	0	0
3481:	0	0	1	1	0	0	0	0
3489:	0	0	0	0	0	0	0	0
3497:	0	0	0	0	1	0	0	0
3505:	0	1	0	1	0	0	0	2
3513:	0	0	0	0	0	0	0	0
3521:	0	0	1	0	0	0	0	0
3529:	0	0	0	0	0	0	0	0
3537:	0	0	1	0	0	0	0	1
3545:	0	0	0	0	0	0	1	0
3553:	0	0	1	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	0	0	0	1
3593:	0	0	0	0	0	0	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	0	0	0	0	0
3633:	0	1	0	0	0	0	0	0
3641:	1	0	0	1	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	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	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:	1	0	0	1	0	0	0	0
3777:	0	0	0	0	0	0	0	0
3785:	0	0	0	1	0	0	0	1
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

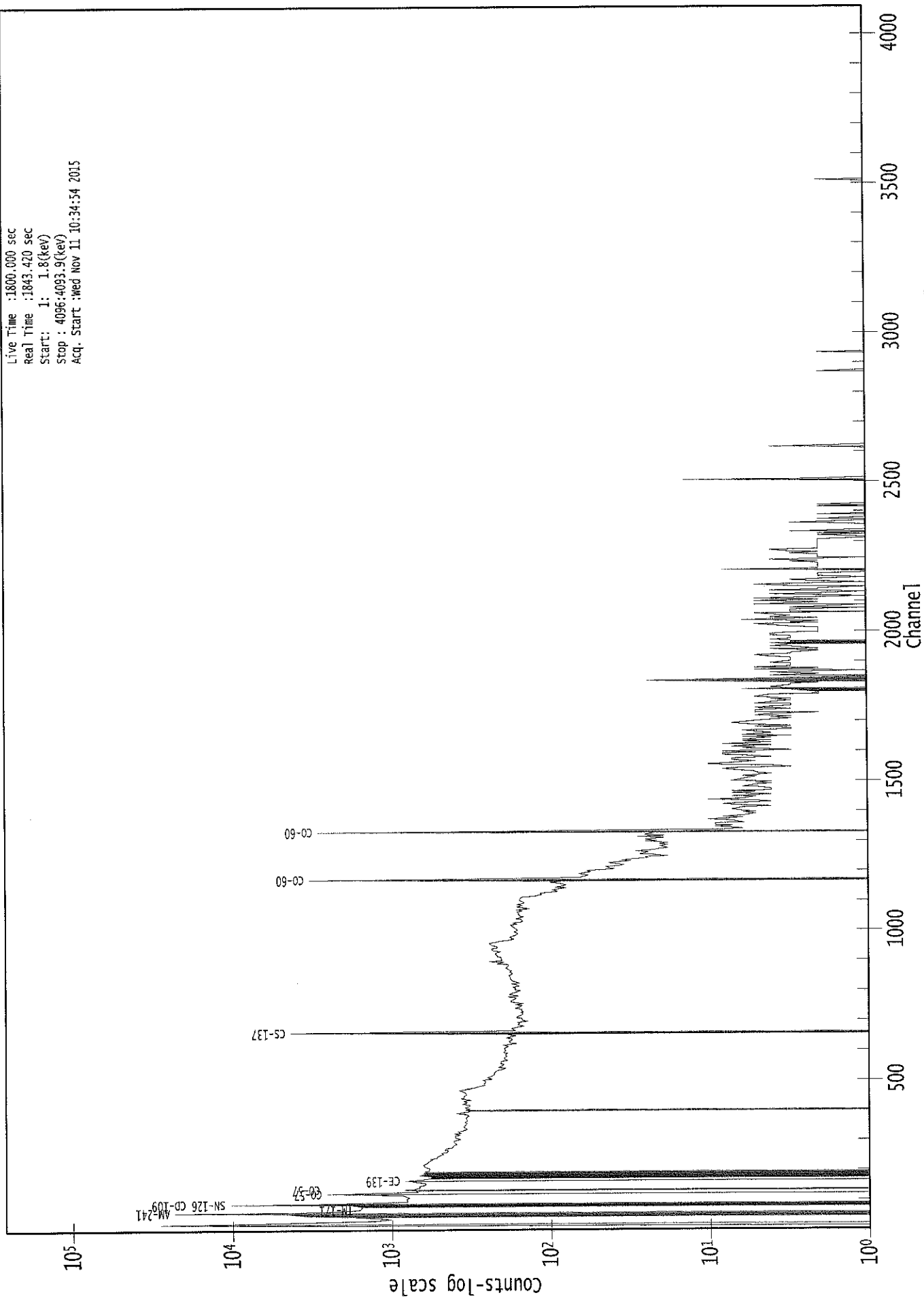
3825: 0 1 0 0 0 0 0 0 0

Sample Title: GAS 1302

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	0	1	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	1	0	0	0	0
3881:	0	0	0	0	0	0	0	0
3889:	0	0	0	0	0	0	0	0
3897:	0	1	0	0	0	0	1	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	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	0	0
3977:	0	0	0	0	0	0	0	0
3985:	0	0	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	1	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	0	0	0	0	0
4049:	0	0	0	0	0	0	0	0
4057:	0	0	0	0	1	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	1	0

0000029479.CNF

Live Time :1800.000 sec
Real Time :1843.420 sec
Start: 1: 1.8(kev)
Stop : 4096:4093.9(kev)
Acq. Start :Wed Nov 11 10:34:54 2015



: 00312

Analysis Report for 1510092-02
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11/11

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510092-02
Sample Description : BLANK
Sample Type : SOIL

Sample Size : 7.834E+02 grams
Facility : Countroom

Sample Taken On : 11/11/2015 3:55:02PM
Acquisition Started : 11/11/2015 9:32:49AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE4
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3659.9 seconds

Dead Time : 1.64 %

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 : 29475

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

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11/11/15

Analysis Report for 1510092-02

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PEAK LOCATE REPORT

Peak Locate Performed on : 11/11/2015 10:33:50AM
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	204.70	204.02	0.0000	0.00
2	486.27	485.72	0.0000	0.00
3	510.04	509.50	0.0000	0.00
4	547.69	547.17	0.0000	0.00
5	664.70	664.23	0.0000	0.00
6	943.87	943.55	0.0000	0.00
7	966.31	966.00	0.0000	0.00
8	975.81	975.50	0.0000	0.00
9	1094.02	1093.78	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510092-02

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PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/11/2015 10:33:50AM

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	204.70	199 -	208	204.02	3.17E+01	35.57	1.57E+02	1.55
2	486.27	482 -	488	485.72	1.24E+01	14.77	2.92E+01	3.47
3	510.04	504 -	513	509.50	6.17E+01	20.52	2.46E+01	4.32
4	547.69	543 -	552	547.17	1.70E+01	14.42	2.00E+01	6.76
5	664.70	657 -	668	664.23	1.89E+01	17.78	3.02E+01	1.58
6	943.87	938 -	947	943.55	9.38E+00	8.54	5.25E+00	1.41
7	966.31	962 -	970	966.00	1.18E+01	11.35	1.04E+01	5.50
8	975.81	971 -	980	975.50	1.00E+01	6.32	0.00E+00	6.81
9	1094.02	1090 -	1096	1093.78	9.00E+00	6.00	0.00E+00	2.59

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 : 11/11/2015 10:33:50AM

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	204.70	199 -	208	3.17E+01	35.57	1.57E+02	2.77E+01
2	486.27	482 -	488	1.24E+01	14.77	2.92E+01	1.07E+01
3	510.04	504 -	513	6.17E+01	20.52	2.46E+01	1.09E+01
4	547.69	543 -	552	1.70E+01	14.42	2.00E+01	9.73E+00
5	664.70	657 -	668	1.89E+01	17.78	3.02E+01	1.27E+01
6	943.87	938 -	947	9.38E+00	8.54	5.25E+00	4.90E+00

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Analysis Report for 1510092-02

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Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
7	966.31	962 -	970	1.18E+01	11.35	1.04E+01	7.42E+00
8	975.81	971 -	980	1.00E+01	6.32	0.00E+00	0.00E+00
9	1094.02	1090 -	1096	9.00E+00	6.00	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 : 11/11/2015 10:33:50AM

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	204.70	199 -	208	204.02	3.17E+01	35.57	1.57E+02	U-235
2	486.27	482 -	488	485.72	1.24E+01	14.77	2.92E+01	LA-140
3	510.04	504 -	513	509.50	6.17E+01	20.52	2.46E+01	.....
4	547.69	543 -	552	547.17	1.70E+01	14.42	2.00E+01	.....
5	664.70	657 -	668	664.23	1.89E+01	17.78	3.02E+01	CE-143
6	943.87	938 -	947	943.55	9.38E+00	8.54	5.25E+00	.....
7	966.31	962 -	970	966.00	1.18E+01	11.35	1.04E+01	.....
8	975.81	971 -	980	975.50	1.00E+01	6.32	0.00E+00	.....
9	1094.02	1090 -	1096	1093.78	9.00E+00	6.00	0.00E+00	LU-172

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 1510092-02

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PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/11/2015 10:33:50AM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	204.70	3.17E+01	35.57	1.07E-02	1.09E-03
2	486.27	1.24E+01	14.77	4.84E-03	5.97E-04
3	510.04	6.17E+01	20.52	4.62E-03	5.63E-04
4	547.69	1.70E+01	14.42	4.31E-03	5.07E-04
5	664.70	1.89E+01	17.78	3.56E-03	3.39E-04
6	943.87	9.38E+00	8.54	2.52E-03	2.02E-04
7	966.31	1.18E+01	11.35	2.47E-03	1.99E-04
8	975.81	1.00E+01	6.32	2.44E-03	1.98E-04
9	1094.02	9.00E+00	6.00	2.19E-03	1.83E-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 : 11/11/2015 10:33:50AM

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	204.70	3.17E+01	35.57			3.17E+01	3.56E+01
2	486.27	1.24E+01	14.77			1.24E+01	1.48E+01
3	510.04	6.17E+01	20.52			6.17E+01	2.05E+01
4	547.69	1.70E+01	14.42			1.70E+01	1.44E+01
5	664.70	1.89E+01	17.78			1.89E+01	1.78E+01
6	943.87	9.38E+00	8.54			9.38E+00	8.54E+00
7	966.31	1.18E+01	11.35			1.18E+01	1.13E+01
8	975.81	1.00E+01	6.32			1.00E+01	6.32E+00
9	1094.02	9.00E+00	6.00			9.00E+00	6.00E+00

: 00317

Analysis Report for 1510092-02

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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 : 11/11/2015 10:33:50AM
 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	204.70	3.17E+01	35.57			3.17E+01	3.56E+01
2	486.27	1.24E+01	14.77			1.24E+01	1.48E+01
3	510.04	6.17E+01	20.52			6.17E+01	2.05E+01
4	547.69	1.70E+01	14.42			1.70E+01	1.44E+01
5	664.70	1.89E+01	17.78			1.89E+01	1.78E+01
6	943.87	9.38E+00	8.54			9.38E+00	8.54E+00
7	966.31	1.18E+01	11.35			1.18E+01	1.13E+01
8	975.81	1.00E+01	6.32			1.00E+01	6.32E+00
9	1094.02	9.00E+00	6.00			9.00E+00	6.00E+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
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Analysis Report for 1510092-02

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Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
			*		?
			*		?

* = 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 : 11/11/2015 10:33:50AM
 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	204.70	8.80556E-03	56.10	Tol.	U-235
2	486.27	3.44650E-03	59.53	Tol.	LA-140
3	510.04	1.71359E-02	16.63		
4	547.69	4.72222E-03	42.42		
5	664.70	5.25327E-03	47.00	Tol.	CE-143
6	943.87	2.60417E-03	45.57		
7	966.31	3.27614E-03	48.10		
8	975.81	2.77778E-03	31.62		
9	1094.02	2.50000E-03	33.33	Tol.	LU-172

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 1510092-02

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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
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* = 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
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? = 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 1510092-02

BLANK

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 10:33:50AM
 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	204.70	8.80556E-03	56.10	Tol.	U-235
2	486.27	3.44650E-03	59.53	Tol.	LA-140
3	510.04	1.71359E-02	16.63		
4	547.69	4.72222E-03	42.42		
5	664.70	5.25327E-03	47.00	Tol.	CE-143
6	943.87	2.60417E-03	45.57		
7	966.31	3.27614E-03	48.10		
8	975.81	2.77778E-03	31.62		
9	1094.02	2.50000E-03	33.33	Tol.	LU-172

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	8.20E-02	5.00E-01	5.00E-01
+	NA-22	1274.54	99.94	2.02E-03	6.61E-02	6.61E-02
+	NA-24	1368.53	99.99	-4.92E-03	5.37E-02	5.37E-02
		2754.09	99.86	1.41E-02		6.56E-02
+	AL-26	1808.65	99.76	-3.64E-02	6.35E-02	6.35E-02
+	K-40	1460.81	10.67	1.50E-01	8.01E-01	8.01E-01
+	AR-41	1293.64	99.16	5.28E-03	1.00E-02	1.00E-02
+	TI-44	67.88	94.40	-1.33E-02	2.52E-02	2.52E-02

: 00321

Analysis Report for 1510092-02

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	TI-44	78.34	96.00	-3.04E-04	2.52E-02	2.87E-02
+	SC-46	889.25	99.98	2.86E-02	7.77E-02	7.83E-02
		1120.51	99.99	2.31E-02		7.77E-02
+	V-48	983.52	99.98	-2.48E-02	4.21E-02	4.21E-02
		1312.10	97.50	5.83E-03		7.40E-02
+	CR-51	320.08	9.83	1.28E-01	4.64E-01	4.64E-01
+	MN-54	834.83	99.97	1.48E-02	8.10E-02	8.10E-02
+	CO-56	846.75	99.96	-4.55E-02	5.41E-02	5.41E-02
		1037.75	14.03	1.63E-01		6.31E-01
		1238.25	67.00	2.19E-02		1.22E-01
		1771.40	15.51	-1.90E-01		5.18E-01
		2598.48	16.90	1.58E-01		5.66E-01
+	CO-57	122.06	85.51	-5.49E-03	3.31E-02	3.31E-02
		136.48	10.60	-3.08E-02		2.96E-01
+	CO-58	810.76	99.40	-9.55E-03	4.94E-02	4.94E-02
+	FE-59	1099.22	56.50	-4.30E-02	1.29E-01	1.29E-01
		1291.56	43.20	-2.65E-02		1.87E-01
+	CO-60	1173.22	100.00	1.40E-02	5.64E-02	7.01E-02
		1332.49	100.00	-3.15E-02		5.64E-02
+	ZN-65	1115.52	50.75	0.00E+00	1.39E-01	1.39E-01
+	GA-67	93.31	35.70	7.51E-02	8.99E-02	8.99E-02
		208.95	2.24	-5.29E-01		1.62E+00
		300.22	16.00	-3.14E-02		2.90E-01
+	SE-75	121.11	16.70	-5.65E-02	5.20E-02	1.67E-01
		136.00	59.20	-1.83E-03		5.20E-02
		264.65	59.80	2.21E-02		7.65E-02
		279.53	25.20	-3.97E-03		1.73E-01
		400.65	11.40	6.30E-02		4.56E-01
+	RB-82	776.52	13.00	1.30E-01	5.39E-01	5.39E-01
+	RB-83	520.41	46.00	-3.75E-02	1.01E-01	1.01E-01
		529.64	30.30	4.73E-02		1.87E-01
		552.65	16.40	-5.31E-02		3.28E-01
+	KR-85	513.99	0.43	-6.13E+00	1.81E+01	1.81E+01
+	SR-85	513.99	99.27	-2.68E-02	7.88E-02	7.88E-02
+	Y-88	898.02	93.40	-1.81E-02	5.46E-02	5.46E-02
		1836.01	99.38	-3.18E-02		8.33E-02
+	NB-93M	16.57	9.43	3.91E-01	2.30E-01	2.30E-01
+	NB-94	702.63	100.00	1.92E-02	6.12E-02	7.12E-02
		871.10	100.00	2.46E-02		6.12E-02
+	NB-95	765.79	99.81	2.86E-02	7.73E-02	7.73E-02
+	NB-95M	235.69	25.00	-1.44E-02	1.64E-01	1.64E-01
+	ZR-95	724.18	43.70	3.90E-02	1.18E-01	1.26E-01
		756.72	55.30	-3.31E-02		1.18E-01
+	MO-99	181.06	6.20	-3.70E-01	3.83E-01	5.42E-01
		739.58	12.80	-4.40E-02		3.83E-01
		778.00	4.50	5.81E-01		1.44E+00
+	RU-103	497.08	89.00	7.18E-03	5.66E-02	5.66E-02

Analysis Report for 1510092-02

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	RU-106	621.84	9.80	-8.30E-02	6.31E-01	6.31E-01
+	AG-108M	433.93	89.90	-1.14E-02	5.47E-02	5.47E-02
		614.37	90.40	2.14E-02		7.77E-02
		722.95	90.50	1.78E-02		5.64E-02
+	CD-109	88.03	3.72	-5.77E-01	8.03E-01	8.03E-01
+	AG-110M	657.75	93.14	-8.11E-03	5.57E-02	5.57E-02
		677.61	10.53	1.30E-01		5.71E-01
		706.67	16.46	1.07E-01		4.09E-01
		763.93	21.98	0.00E+00		3.38E-01
		884.67	71.63	2.77E-02		1.00E-01
		1384.27	23.94	-8.00E-02		2.97E-01
+	CD-113M	263.70	0.02	5.44E+01	2.00E+02	2.00E+02
+	SN-113	255.12	1.93	-7.10E-01	7.47E-02	2.13E+00
		391.69	64.90	-2.12E-02		7.47E-02
+	TE123M	159.00	84.10	-1.30E-02	4.05E-02	4.05E-02
+	SB-124	602.71	97.87	-7.48E-03	6.59E-02	6.59E-02
		645.85	7.26	-3.36E-02		8.46E-01
		722.78	11.10	2.92E-02		4.38E-01
		1691.02	49.00	2.19E-03		1.22E-01
+	I-125	35.49	6.49	-5.01E-02	2.87E-01	2.87E-01
+	SB-125	176.33	6.89	-9.13E-02	1.71E-01	5.11E-01
		427.89	29.33	2.10E-02		1.71E-01
		463.38	10.35	1.93E-01		5.30E-01
		600.56	17.80	-3.16E-02		3.56E-01
		635.90	11.32	-2.48E-01		5.11E-01
+	SB-126	414.70	83.30	-9.46E-03	5.75E-02	5.75E-02
		666.33	99.60	-1.49E-03		7.31E-02
		695.00	99.60	2.11E-03		6.84E-02
		720.50	53.80	-1.54E-02		8.49E-02
+	SN-126	87.57	37.00	-5.79E-02	8.06E-02	8.06E-02
+	SB-127	473.00	25.00	-1.29E-03	1.63E-01	1.77E-01
		685.20	35.70	3.72E-02		1.63E-01
		783.80	14.70	-1.45E-02		3.44E-01
+	I-129	29.78	57.00	-2.20E-02	3.46E-02	3.46E-02
		33.60	13.20	4.62E-02		1.49E-01
		39.58	7.52	-1.01E-01		2.54E-01
+	I-131	284.30	6.05	7.60E-03	5.60E-02	7.74E-01
		364.48	81.20	-3.61E-03		5.60E-02
		636.97	7.26	0.00E+00		8.37E-01
		722.89	1.80	1.77E-01		2.65E+00
+	TE-132	49.72	13.10	8.86E-02	4.71E-02	1.57E-01
		228.16	88.00	1.07E-02		4.71E-02
+	BA-133	81.00	33.00	-3.03E-02	7.19E-02	8.32E-02
		302.84	17.80	-5.91E-02		2.68E-01
		356.01	60.00	-3.30E-02		7.19E-02
+	I-133	529.87	86.30	1.37E-02	5.43E-02	5.43E-02
+	XE-133	81.00	38.00	-2.54E-02	7.00E-02	7.00E-02
+	CS-134	563.23	8.38	-2.23E-01	6.64E-02	6.96E-01

Analysis Report for 1510092-02

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	CS-134	569.32	15.43	9.95E-02	6.64E-02	4.16E-01
		604.70	97.60	-1.80E-02		6.64E-02
		795.84	85.40	2.06E-02		8.45E-02
		801.93	8.73	-1.62E-02		7.23E-01
+	CS-135	268.24	16.00	-3.67E-02	2.51E-01	2.51E-01
+	I-135	1131.51	22.50	-5.42E-02	1.41E-01	1.53E-01
		1260.41	28.60	6.73E-03		1.41E-01
		1678.03	9.54	1.09E-01		3.91E-01
+	CS-136	153.22	7.46	2.92E-01	6.16E-02	4.64E-01
		163.89	4.61	-1.27E-01		7.32E-01
		176.55	13.56	-4.58E-02		2.57E-01
		273.65	12.66	-1.78E-01		2.91E-01
		340.57	48.50	-1.21E-02		8.98E-02
		818.50	99.70	5.37E-03		6.16E-02
		1048.07	79.60	-8.68E-03		9.80E-02
		1235.34	19.70	-1.28E-01		3.46E-01
+	CS-137	661.65	85.12	4.27E-02	8.61E-02	8.61E-02
+	LA-138	788.74	34.00	3.75E-03	9.14E-02	1.63E-01
		1435.80	66.00	1.32E-02		9.14E-02
+	CE-139	165.85	80.35	2.99E-02	4.50E-02	4.50E-02
+	BA-140	162.64	6.70	-1.61E-01	2.07E-01	4.98E-01
		304.84	4.50	-3.10E-01		1.03E+00
		423.70	3.20	2.92E-01		1.61E+00
		437.55	2.00	2.64E-01		2.49E+00
		537.32	25.00	1.60E-02		2.07E-01
+	LA-140	328.77	20.50	1.77E-03	8.33E-02	2.15E-01
		487.03	45.50	-4.30E-03		1.25E-01
		815.85	23.50	-4.61E-03		2.20E-01
		1596.49	95.49	-1.74E-02		8.33E-02
+	CE-141	145.44	48.40	1.80E-03	6.79E-02	6.79E-02
+	CE-143	57.36	11.80	-2.46E-01	1.07E-01	1.52E-01
		293.26	42.00	7.34E-04		1.07E-01
		664.55	5.20	9.04E-01		1.29E+00
+	CE-144	133.54	10.80	2.27E-02	2.90E-01	2.90E-01
+	PM-144	476.78	42.00	2.44E-02	6.24E-02	1.20E-01
		618.01	98.60	-2.31E-02		6.24E-02
		696.49	99.49	-1.95E-02		6.81E-02
+	PM-145	36.85	21.70	-2.15E-02	4.62E-02	8.65E-02
		37.36	39.70	-7.74E-03		4.62E-02
		42.30	15.10	8.04E-04		1.31E-01
		72.40	2.31	1.03E-01		1.10E+00
+	PM-146	453.90	39.94	-3.00E-02	1.27E-01	1.27E-01
		735.90	14.01	1.91E-01		4.41E-01
		747.13	13.10	2.90E-02		4.50E-01
+	ND-147	91.11	28.90	1.00E-01	1.16E-01	1.16E-01
		531.02	13.10	3.90E-03		4.21E-01
+	PM-149	285.90	3.10	4.64E-01	1.46E+00	1.46E+00
+	EU-152	121.78	20.50	-2.29E-02	1.38E-01	1.38E-01
		244.69	5.40	1.24E-01		8.49E-01

Analysis Report for 1510092-02

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	EU-152	344.27	19.13	1.64E-02	1.38E-01	2.41E-01
		778.89	9.20	3.03E-01		7.50E-01
		964.01	10.40	-4.14E-03		8.36E-01
		1085.78	7.22	3.21E-01		9.54E-01
		1112.02	9.60	-2.08E-01		6.52E-01
		1407.95	14.94	1.84E-01		5.85E-01
+	GD-153	97.43	31.30	1.47E-03	9.98E-02	9.98E-02
		103.18	22.20	-5.52E-03		1.26E-01
+	EU-154	123.07	40.50	-9.59E-03	7.13E-02	7.13E-02
		723.30	19.70	8.18E-02		2.59E-01
		873.19	11.50	5.79E-02		5.10E-01
		996.32	10.30	-1.26E-01		7.04E-01
		1004.76	17.90	2.62E-01		4.80E-01
		1274.45	35.50	5.67E-03		1.86E-01
+	EU-155	86.50	30.90	-1.29E-01	9.10E-02	9.10E-02
		105.30	20.70	-1.53E-02		1.34E-01
+	EU-156	811.77	10.40	-3.76E-01	4.09E-01	4.09E-01
		1153.47	7.20	2.00E-01		8.90E-01
		1230.71	8.90	1.29E-01		8.14E-01
+	HO-166M	184.41	72.60	3.12E-02	5.58E-02	5.58E-02
		280.45	29.60	-2.47E-02		1.49E-01
		410.94	11.10	-3.41E-02		4.40E-01
		711.69	54.10	1.24E-02		1.00E-01
+	TM-171	66.72	0.14	1.93E+00	1.75E+01	1.75E+01
+	HF-172	81.75	4.52	-1.38E-01	2.77E-01	6.13E-01
		125.81	11.30	1.38E-01		2.77E-01
+	LU-172	181.53	20.60	-1.34E-02	1.14E-01	1.78E-01
		810.06	16.63	-5.58E-02		2.88E-01
		912.12	15.25	1.17E-01		4.73E-01
		1093.66	62.50	1.92E-02		1.14E-01
+	LU-173	100.72	5.24	-1.78E-01	1.81E-01	5.42E-01
		272.11	21.20	-6.40E-02		1.81E-01
+	HF-175	343.40	84.00	-2.59E-03	5.47E-02	5.47E-02
+	LU-176	88.34	13.30	1.01E-01	4.88E-02	2.42E-01
		201.83	86.00	-2.72E-03		5.03E-02
		306.78	94.00	-1.33E-02		4.88E-02
+	TA-182	67.75	41.20	-3.04E-02	5.77E-02	5.77E-02
		1121.30	34.90	1.60E-03		2.03E-01
		1189.05	16.23	-1.02E-01		4.10E-01
		1221.41	26.98	3.59E-02		2.35E-01
		1231.02	11.44	1.01E-01		6.39E-01
+	IR-192	308.46	29.68	1.48E-02	8.44E-02	1.56E-01
		468.07	48.10	-9.40E-02		8.44E-02
+	HG-203	279.19	77.30	-1.29E-03	5.61E-02	5.61E-02
+	BI-207	569.67	97.72	1.57E-02	6.57E-02	6.57E-02
		1063.62	74.90	5.12E-02		1.18E-01
+	TL-208	583.14	30.22	3.09E-03	1.92E-01	1.92E-01
		860.37	4.48	-4.46E-02		1.41E+00
		2614.66	35.85	1.25E-01		3.27E-01

Analysis Report for 1510092-02

BLANK

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BI-210M	262.00	45.00	1.77E-02	1.02E-01	1.02E-01
		300.00	23.00	4.80E-02		2.18E-01
+	PB-210	46.50	4.25	9.63E-02	4.85E-01	4.85E-01
+	PB-211	404.84	2.90	-7.43E-01	1.66E+00	1.66E+00
		831.96	2.90	-5.79E-01		2.66E+00
+	BI-212	727.17	11.80	3.26E-02	4.70E-01	4.70E-01
		1620.62	2.75	-4.53E-01		1.67E+00
+	PB-212	238.63	44.60	3.29E-02	1.02E-01	1.02E-01
		300.09	3.41	3.24E-01		1.47E+00
+	BI-214	609.31	46.30	1.77E-02	1.55E-01	1.55E-01
		1120.29	15.10	1.53E-01		5.16E-01
		1764.49	15.80	1.41E-01		6.35E-01
		2204.22	4.98	-1.59E-01		1.17E+00
+	PB-214	295.21	19.19	3.63E-02	1.19E-01	2.67E-01
		351.92	37.19	-2.11E-02		1.19E-01
+	RN-219	401.80	6.50	3.47E-02	7.85E-01	7.85E-01
+	RA-223	323.87	3.88	2.01E-01	1.22E+00	1.22E+00
+	RA-224	240.98	3.95	5.69E-01	1.20E+00	1.20E+00
+	RA-225	40.00	31.00	-2.43E-02	6.12E-02	6.12E-02
+	RA-226	186.21	3.28	-6.67E-03	1.17E+00	1.17E+00
+	TH-227	50.10	8.40	1.46E-01	2.59E-01	2.59E-01
		236.00	11.50	-3.28E-02		3.74E-01
		256.20	6.30	1.61E-01		7.01E-01
+	AC-228	338.32	11.40	-1.74E-01	2.82E-01	3.66E-01
		911.07	27.70	1.10E-01		2.82E-01
		969.11	16.60	2.08E-01		4.86E-01
+	TH-230	48.44	16.90	4.98E-02	1.25E-01	1.25E-01
		62.85	4.60	3.38E-01		5.24E-01
		67.67	0.37	-3.39E+00		6.43E+00
+	PA-231	283.67	1.60	3.49E-01	2.07E+00	2.98E+00
		302.67	2.30	-4.57E-01		2.07E+00
+	TH-231	25.64	14.70	2.75E-02	1.53E-01	1.53E-01
		84.21	6.40	-2.03E-01		4.23E-01
+	PA-233	311.98	38.60	3.51E-02	1.19E-01	1.19E-01
+	PA-234	131.20	20.40	-4.34E-02	1.50E-01	1.50E-01
		733.99	8.80	1.72E-01		6.79E-01
		946.00	12.00	3.17E-02		6.18E-01
+	PA-234M	1001.03	0.92	-6.86E-01	8.79E+00	8.79E+00
+	TH-234	63.29	3.80	4.32E-01	6.37E-01	6.37E-01
+	U-235	143.76	10.50	1.07E-01	3.20E-01	3.20E-01
		163.35	4.70	-1.26E-01		7.26E-01
		205.31	4.70	3.03E-01		8.87E-01
+	NP-237	86.50	12.60	-3.18E-01	2.23E-01	2.23E-01
+	NP-239	106.10	22.70	-1.30E-02	1.14E-01	1.14E-01
		228.18	10.70	2.33E-02		3.66E-01
		277.60	14.10	9.36E-03		2.71E-01
+	AM-241	59.54	35.90	2.41E-02	6.47E-02	6.47E-02

Analysis Report for 1510092-02

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	AM-243	74.67	66.00	3.77E-02	4.21E-02	4.21E-02
+	CM-243	209.75	3.29	-5.19E-01	2.93E-01	1.17E+00
		228.14	10.60	9.35E-02		4.12E-01
		277.60	14.00	1.01E-02		2.93E-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	5.00E-01	5.00E-01	8.20E-02	2.25E-01
NA-22	1274.54	99.94	6.61E-02	6.61E-02	2.02E-03	2.62E-02
NA-24	1368.53	99.99	5.37E-02	5.37E-02	-4.92E-03	2.13E-02
	2754.09	99.86	6.56E-02		1.41E-02	2.32E-02
AL-26	1808.65	99.76	6.35E-02	6.35E-02	-3.64E-02	2.25E-02
K-40	1460.81	10.67	8.01E-01	8.01E-01	1.50E-01	3.28E-01
AR-41	1293.64	99.16	1.00E-02	1.00E-02	5.28E-03	4.27E-03
TI-44	67.88	94.40	2.52E-02	2.52E-02	-1.33E-02	1.20E-02
	78.34	96.00	2.87E-02		-3.04E-04	1.37E-02
SC-46	889.25	99.98	7.83E-02	7.77E-02	2.86E-02	3.43E-02
	1120.51	99.99	7.77E-02		2.31E-02	3.28E-02
V-48	983.52	99.98	4.21E-02	4.21E-02	-2.48E-02	1.58E-02
	1312.10	97.50	7.40E-02		5.83E-03	2.99E-02
CR-51	320.08	9.83	4.64E-01	4.64E-01	1.28E-01	2.14E-01
MN-54	834.83	99.97	8.10E-02	8.10E-02	1.48E-02	3.59E-02
CO-56	846.75	99.96	5.41E-02	5.41E-02	-4.55E-02	2.25E-02
	1037.75	14.03	6.31E-01		1.63E-01	2.75E-01
	1238.25	67.00	1.22E-01		2.19E-02	5.10E-02
	1771.40	15.51	5.18E-01		-1.90E-01	2.01E-01

: 00327

Analysis Report for 1510092-02

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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	2598.48	16.90	5.66E-01	5.41E-02	1.58E-01	2.12E-01
CO-57	122.06	85.51	3.31E-02	3.31E-02	-5.49E-03	1.56E-02
	136.48	10.60	2.96E-01		-3.08E-02	1.40E-01
CO-58	810.76	99.40	4.94E-02	4.94E-02	-9.55E-03	2.02E-02
FE-59	1099.22	56.50	1.29E-01	1.29E-01	-4.30E-02	5.40E-02
	1291.56	43.20	1.87E-01		-2.65E-02	7.74E-02
CO-60	1173.22	100.00	7.01E-02	5.64E-02	1.40E-02	2.87E-02
	1332.49	100.00	5.64E-02		-3.15E-02	2.11E-02
ZN-65	1115.52	50.75	1.39E-01	1.39E-01	0.00E+00	5.77E-02
GA-67	93.31	35.70	8.99E-02	8.99E-02	7.51E-02	4.31E-02
	208.95	2.24	1.62E+00		-5.29E-01	7.60E-01
	300.22	16.00	2.90E-01		-3.14E-02	1.35E-01
SE-75	121.11	16.70	1.67E-01	5.20E-02	-5.65E-02	7.89E-02
	136.00	59.20	5.20E-02		-1.83E-03	2.45E-02
	264.65	59.80	7.65E-02		2.21E-02	3.57E-02
	279.53	25.20	1.73E-01		-3.97E-03	8.01E-02
	400.65	11.40	4.56E-01		6.30E-02	2.09E-01
RB-82	776.52	13.00	5.39E-01	5.39E-01	1.30E-01	2.37E-01
RB-83	520.41	46.00	1.01E-01	1.01E-01	-3.75E-02	4.41E-02
	529.64	30.30	1.87E-01		4.73E-02	8.41E-02
	552.65	16.40	3.28E-01		-5.31E-02	1.46E-01
KR-85	513.99	0.43	1.81E+01	1.81E+01	-6.13E+00	8.39E+00
SR-85	513.99	99.27	7.88E-02	7.88E-02	-2.68E-02	3.66E-02
Y-88	898.02	93.40	5.46E-02	5.46E-02	-1.81E-02	2.20E-02
	1836.01	99.38	8.33E-02		-3.18E-02	3.23E-02
NB-93M	16.57	9.43	2.30E-01	2.30E-01	3.91E-01	1.11E-01
NB-94	702.63	100.00	7.12E-02	6.12E-02	1.92E-02	3.18E-02
	871.10	100.00	6.12E-02		2.46E-02	2.59E-02
NB-95	765.79	99.81	7.73E-02	7.73E-02	2.86E-02	3.45E-02
NB-95M	235.69	25.00	1.64E-01	1.64E-01	-1.44E-02	7.69E-02
ZR-95	724.18	43.70	1.26E-01	1.18E-01	3.90E-02	5.39E-02
	756.72	55.30	1.18E-01		-3.31E-02	5.14E-02
MO-99	181.06	6.20	5.42E-01	3.83E-01	-3.70E-01	2.55E-01
	739.58	12.80	3.83E-01		-4.40E-02	1.62E-01
	778.00	4.50	1.44E+00		5.81E-01	6.31E-01
RU-103	497.08	89.00	5.66E-02	5.66E-02	7.18E-03	2.53E-02
RU-106	621.84	9.80	6.31E-01	6.31E-01	-8.30E-02	2.81E-01
AG-108M	433.93	89.90	5.47E-02	5.47E-02	-1.14E-02	2.47E-02
	614.37	90.40	7.77E-02		2.14E-02	3.51E-02
	722.95	90.50	5.64E-02		1.78E-02	2.38E-02
CD-109	88.03	3.72	8.03E-01	8.03E-01	-5.77E-01	3.84E-01
AG-110M	657.75	93.14	5.57E-02	5.57E-02	-8.11E-03	2.40E-02
	677.61	10.53	5.71E-01		1.30E-01	2.50E-01
	706.67	16.46	4.09E-01		1.07E-01	1.81E-01
	763.93	21.98	3.38E-01		0.00E+00	1.50E-01
	884.67	71.63	1.00E-01		2.77E-02	4.33E-02
	1384.27	23.94	2.97E-01		-8.00E-02	1.18E-01
CD-113M	263.70	0.02	2.00E+02	2.00E+02	5.44E+01	9.34E+01
SN-113	255.12	1.93	2.13E+00	7.47E-02	-7.10E-01	9.89E-01
	391.69	64.90	7.47E-02		-2.12E-02	3.40E-02
TE123M	159.00	84.10	4.05E-02	4.05E-02	-1.30E-02	1.91E-02
SB-124	602.71	97.87	6.59E-02	6.59E-02	-7.48E-03	2.96E-02
	645.85	7.26	8.46E-01		-3.36E-02	3.74E-01

Analysis Report for 1510092-02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)		
SB-124	722.78	11.10	4.38E-01	6.59E-02	2.92E-02	1.84E-01		
	1691.02	49.00	1.22E-01		2.19E-03	4.32E-02		
I-125	35.49	6.49	2.87E-01	2.87E-01	-5.01E-02	1.36E-01		
SB-125	176.33	6.89	5.11E-01	1.71E-01	-9.13E-02	2.40E-01		
	427.89	29.33	1.71E-01		2.10E-02	7.72E-02		
	463.38	10.35	5.30E-01		1.93E-01	2.40E-01		
	600.56	17.80	3.56E-01		-3.16E-02	1.59E-01		
	635.90	11.32	5.11E-01		-2.48E-01	2.25E-01		
SB-126	414.70	83.30	5.75E-02	5.75E-02	-9.46E-03	2.60E-02		
	666.33	99.60	7.31E-02		-1.49E-03	3.29E-02		
	695.00	99.60	6.84E-02		2.11E-03	3.04E-02		
	720.50	53.80	8.49E-02		-1.54E-02	3.52E-02		
SN-126	87.57	37.00	8.06E-02	8.06E-02	-5.79E-02	3.85E-02		
SB-127	473.00	25.00	1.77E-01	1.63E-01	-1.29E-03	7.87E-02		
	685.20	35.70	1.63E-01		3.72E-02	7.14E-02		
	783.80	14.70	3.44E-01		-1.45E-02	1.44E-01		
I-129	29.78	57.00	3.46E-02	3.46E-02	-2.20E-02	1.65E-02		
	33.60	13.20	1.49E-01		4.62E-02	7.09E-02		
	39.58	7.52	2.54E-01		-1.01E-01	1.21E-01		
I-131	284.30	6.05	7.74E-01	5.60E-02	7.60E-03	3.61E-01		
	364.48	81.20	5.60E-02		-3.61E-03	2.56E-02		
	636.97	7.26	8.37E-01		0.00E+00	3.71E-01		
	722.89	1.80	2.65E+00		1.77E-01	1.11E+00		
TE-132	49.72	13.10	1.57E-01	4.71E-02	8.86E-02	7.49E-02		
	228.16	88.00	4.71E-02		1.07E-02	2.21E-02		
BA-133	81.00	33.00	8.32E-02	7.19E-02	-3.03E-02	3.97E-02		
	302.84	17.80	2.68E-01		-5.91E-02	1.24E-01		
	356.01	60.00	7.19E-02		-3.30E-02	3.26E-02		
I-133	529.87	86.30	5.43E-02	5.43E-02	1.37E-02	2.44E-02		
XE-133	81.00	38.00	7.00E-02	7.00E-02	-2.54E-02	3.34E-02		
CS-134	563.23	8.38	6.96E-01	6.64E-02	-2.23E-01	3.11E-01		
	569.32	15.43	4.16E-01		9.95E-02	1.88E-01		
	604.70	97.60	6.64E-02		-1.80E-02	2.98E-02		
	795.84	85.40	8.45E-02		2.06E-02	3.72E-02		
	801.93	8.73	7.23E-01		-1.62E-02	3.11E-01		
CS-135	268.24	16.00	2.51E-01	2.51E-01	-3.67E-02	1.16E-01		
I-135	1131.51	22.50	1.53E-01	1.41E-01	-5.42E-02	6.18E-02		
	1260.41	28.60	1.41E-01		6.73E-03	5.80E-02		
	1678.03	9.54	3.91E-01		1.09E-01	1.46E-01		
CS-136	153.22	7.46	4.64E-01	6.16E-02	2.92E-01	2.19E-01		
	163.89	4.61	7.32E-01		-1.27E-01	3.45E-01		
	176.55	13.56	2.57E-01		-4.58E-02	1.21E-01		
	273.65	12.66	2.91E-01		-1.78E-01	1.33E-01		
	340.57	48.50	8.98E-02		-1.21E-02	4.10E-02		
	818.50	99.70	6.16E-02		5.37E-03	2.64E-02		
	1048.07	79.60	9.80E-02		-8.68E-03	4.20E-02		
	1235.34	19.70	3.46E-01		-1.28E-01	1.40E-01		
	CS-137	661.65	85.12		8.61E-02	8.61E-02	4.27E-02	3.88E-02
	LA-138	788.74	34.00		1.63E-01	9.14E-02	3.75E-03	6.90E-02
1435.80		66.00	9.14E-02	1.32E-02	3.42E-02			
CE-139	165.85	80.35	4.50E-02	4.50E-02	2.99E-02	2.12E-02		
BA-140	162.64	6.70	4.98E-01	2.07E-01	-1.61E-01	2.34E-01		
	304.84	4.50	1.03E+00		-3.10E-01	4.75E-01		

: 00329

Analysis Report for 1510092-02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)	
BA-140	423.70	3.20	1.61E+00	2.07E-01	2.92E-01	7.35E-01	
	437.55	2.00	2.49E+00		2.64E-01	1.12E+00	
	537.32	25.00	2.07E-01		1.60E-02	9.19E-02	
LA-140	328.77	20.50	2.15E-01	8.33E-02	1.77E-03	9.87E-02	
	487.03	45.50	1.25E-01		-4.30E-03	5.66E-02	
	815.85	23.50	2.20E-01		-4.61E-03	9.11E-02	
	1596.49	95.49	8.33E-02		-1.74E-02	3.30E-02	
CE-141	145.44	48.40	6.79E-02	6.79E-02	1.80E-03	3.21E-02	
CE-143	57.36	11.80	1.52E-01	1.07E-01	-2.46E-01	7.18E-02	
	293.26	42.00	1.07E-01		7.34E-04	4.98E-02	
	664.55	5.20	1.29E+00		9.04E-01	5.84E-01	
CE-144	133.54	10.80	2.90E-01	2.90E-01	2.27E-02	1.37E-01	
PM-144	476.78	42.00	1.20E-01	6.24E-02	2.44E-02	5.38E-02	
	618.01	98.60	6.24E-02		-2.31E-02	2.77E-02	
	696.49	99.49	6.81E-02		-1.95E-02	3.02E-02	
PM-145	36.85	21.70	8.65E-02	4.62E-02	-2.15E-02	4.11E-02	
	37.36	39.70	4.62E-02		-7.74E-03	2.19E-02	
	42.30	15.10	1.31E-01		8.04E-04	6.21E-02	
	72.40	2.31	1.10E+00		1.03E-01	5.22E-01	
PM-146	453.90	39.94	1.27E-01	1.27E-01	-3.00E-02	5.71E-02	
	735.90	14.01	4.41E-01		1.91E-01	1.92E-01	
	747.13	13.10	4.50E-01		2.90E-02	1.94E-01	
ND-147	91.11	28.90	1.16E-01	1.16E-01	1.00E-01	5.57E-02	
	531.02	13.10	4.21E-01		3.90E-03	1.89E-01	
PM-149	285.90	3.10	1.46E+00	1.46E+00	4.64E-01	6.80E-01	
EU-152	121.78	20.50	1.38E-01	1.38E-01	-2.29E-02	6.49E-02	
	244.69	5.40	8.49E-01		1.24E-01	3.98E-01	
	344.27	19.13	2.41E-01		1.64E-02	1.11E-01	
	778.89	9.20	7.50E-01		3.03E-01	3.29E-01	
	964.01	10.40	8.36E-01		-4.14E-03	3.68E-01	
	1085.78	7.22	9.54E-01		3.21E-01	3.96E-01	
	1112.02	9.60	6.52E-01		-2.08E-01	2.64E-01	
	1407.95	14.94	5.85E-01		1.84E-01	2.43E-01	
	97.43	31.30	9.98E-02		9.98E-02	1.47E-03	4.77E-02
	103.18	22.20	1.26E-01		-5.52E-03	5.96E-02	
	123.07	40.50	7.13E-02		7.13E-02	-9.59E-03	3.37E-02
EU-154	723.30	19.70	2.59E-01	7.13E-02	8.18E-02	1.09E-01	
	873.19	11.50	5.10E-01		5.79E-02	2.14E-01	
	996.32	10.30	7.04E-01		-1.26E-01	3.00E-01	
	1004.76	17.90	4.80E-01		2.62E-01	2.10E-01	
	1274.45	35.50	1.86E-01		5.67E-03	7.38E-02	
EU-155	86.50	30.90	9.10E-02	9.10E-02	-1.29E-01	4.34E-02	
	105.30	20.70	1.34E-01		-1.53E-02	6.33E-02	
EU-156	811.77	10.40	4.09E-01	4.09E-01	-3.76E-01	1.62E-01	
	1153.47	7.20	8.90E-01		2.00E-01	3.60E-01	
	1230.71	8.90	8.14E-01		1.29E-01	3.34E-01	
HO-166M	184.41	72.60	5.58E-02	5.58E-02	3.12E-02	2.64E-02	
	280.45	29.60	1.49E-01		-2.47E-02	6.91E-02	
	410.94	11.10	4.40E-01		-3.41E-02	1.99E-01	
	711.69	54.10	1.00E-01		1.24E-02	4.29E-02	
TM-171	66.72	0.14	1.75E+01	1.75E+01	1.93E+00	8.33E+00	
HF-172	81.75	4.52	6.13E-01	2.77E-01	-1.38E-01	2.92E-01	
	125.81	11.30	2.77E-01		1.38E-01	1.31E-01	

Analysis Report for 1510092-02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
LU-172	181.53	20.60	1.78E-01	1.14E-01	-1.34E-02	8.40E-02
	810.06	16.63	2.88E-01		-5.58E-02	1.18E-01
	912.12	15.25	4.73E-01		1.17E-01	2.05E-01
	1093.66	62.50	1.14E-01		1.92E-02	4.76E-02
LU-173	100.72	5.24	5.42E-01	1.81E-01	-1.78E-01	2.58E-01
	272.11	21.20	1.81E-01		-6.40E-02	8.32E-02
HF-175	343.40	84.00	5.47E-02	5.47E-02	-2.59E-03	2.51E-02
LU-176	88.34	13.30	2.42E-01	4.88E-02	1.01E-01	1.16E-01
	201.83	86.00	5.03E-02		-2.72E-03	2.37E-02
	306.78	94.00	4.88E-02		-1.33E-02	2.25E-02
TA-182	67.75	41.20	5.77E-02	5.77E-02	-3.04E-02	2.74E-02
	1121.30	34.90	2.03E-01		1.60E-03	8.42E-02
	1189.05	16.23	4.10E-01		-1.02E-01	1.66E-01
	1221.41	26.98	2.35E-01		3.59E-02	9.33E-02
	1231.02	11.44	6.39E-01		1.01E-01	2.62E-01
IR-192	308.46	29.68	1.56E-01	8.44E-02	1.48E-02	7.23E-02
	468.07	48.10	8.44E-02		-9.40E-02	3.68E-02
HG-203	279.19	77.30	5.61E-02	5.61E-02	-1.29E-03	2.60E-02
BI-207	569.67	97.72	6.57E-02	6.57E-02	1.57E-02	2.97E-02
	1063.62	74.90	1.18E-01		5.12E-02	5.12E-02
TL-208	583.14	30.22	1.92E-01	1.92E-01	3.09E-03	8.55E-02
	860.37	4.48	1.41E+00		-4.46E-02	5.98E-01
	2614.66	35.85	3.27E-01		1.25E-01	1.30E-01
BI-210M	262.00	45.00	1.02E-01	1.02E-01	1.77E-02	4.78E-02
	300.00	23.00	2.18E-01		4.80E-02	1.02E-01
PB-210	46.50	4.25	4.85E-01	4.85E-01	9.63E-02	2.31E-01
PB-211	404.84	2.90	1.66E+00	1.66E+00	-7.43E-01	7.52E-01
	831.96	2.90	2.66E+00		-5.79E-01	1.17E+00
BI-212	727.17	11.80	4.70E-01	4.70E-01	3.26E-02	2.01E-01
	1620.62	2.75	1.67E+00		-4.53E-01	5.26E-01
PB-212	238.63	44.60	1.02E-01	1.02E-01	3.29E-02	4.81E-02
	300.09	3.41	1.47E+00		3.24E-01	6.87E-01
BI-214	609.31	46.30	1.55E-01	1.55E-01	1.77E-02	7.03E-02
	1120.29	15.10	5.16E-01		1.53E-01	2.18E-01
	1764.49	15.80	6.35E-01		1.41E-01	2.60E-01
	2204.22	4.98	1.17E+00		-1.59E-01	3.71E-01
PB-214	295.21	19.19	2.67E-01	1.19E-01	3.63E-02	1.25E-01
	351.92	37.19	1.19E-01		-2.11E-02	5.44E-02
RN-219	401.80	6.50	7.85E-01	7.85E-01	3.47E-02	3.58E-01
RA-223	323.87	3.88	1.22E+00	1.22E+00	2.01E-01	5.63E-01
RA-224	240.98	3.95	1.20E+00	1.20E+00	5.69E-01	5.67E-01
RA-225	40.00	31.00	6.12E-02	6.12E-02	-2.43E-02	2.91E-02
RA-226	186.21	3.28	1.17E+00	1.17E+00	-6.67E-03	5.49E-01
TH-227	50.10	8.40	2.59E-01	2.59E-01	1.46E-01	1.23E-01
	236.00	11.50	3.74E-01		-3.28E-02	1.75E-01
	256.20	6.30	7.01E-01		1.61E-01	3.27E-01
AC-228	338.32	11.40	3.66E-01	2.82E-01	-1.74E-01	1.66E-01
	911.07	27.70	2.82E-01		1.10E-01	1.23E-01
	969.11	16.60	4.86E-01		2.08E-01	2.11E-01
TH-230	48.44	16.90	1.25E-01	1.25E-01	4.98E-02	5.98E-02
	62.85	4.60	5.24E-01		3.38E-01	2.50E-01
	67.67	0.37	6.43E+00		-3.39E+00	3.06E+00
PA-231	283.67	1.60	2.98E+00	2.07E+00	3.49E-01	1.39E+00

Analysis Report for 1510092-02

BLANK

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
PA-231	302.67	2.30	2.07E+00	2.07E+00	-4.57E-01	9.62E-01
TH-231	25.64	14.70	1.53E-01	1.53E-01	2.75E-02	7.35E-02
	84.21	6.40	4.23E-01		-2.03E-01	2.01E-01
PA-233	311.98	38.60	1.19E-01	1.19E-01	3.51E-02	5.49E-02
PA-234	131.20	20.40	1.50E-01	1.50E-01	-4.34E-02	7.10E-02
	733.99	8.80	6.79E-01		1.72E-01	2.94E-01
	946.00	12.00	6.18E-01		3.17E-02	2.66E-01
PA-234M	1001.03	0.92	8.79E+00	8.79E+00	-6.86E-01	3.80E+00
TH-234	63.29	3.80	6.37E-01	6.37E-01	4.32E-01	3.04E-01
U-235	143.76	10.50	3.20E-01	3.20E-01	1.07E-01	1.51E-01
	163.35	4.70	7.26E-01		-1.26E-01	3.41E-01
	205.31	4.70	8.87E-01		3.03E-01	4.18E-01
NP-237	86.50	12.60	2.23E-01	2.23E-01	-3.18E-01	1.06E-01
NP-239	106.10	22.70	1.14E-01	1.14E-01	-1.30E-02	5.40E-02
	228.18	10.70	3.66E-01		2.33E-02	1.72E-01
	277.60	14.10	2.71E-01		9.36E-03	1.25E-01
AM-241	59.54	35.90	6.47E-02	6.47E-02	2.41E-02	3.08E-02
AM-243	74.67	66.00	4.21E-02	4.21E-02	3.77E-02	2.02E-02
CM-243	209.75	3.29	1.17E+00	2.93E-01	-5.19E-01	5.47E-01
	228.14	10.60	4.12E-01		9.35E-02	1.93E-01
	277.60	14.00	2.93E-01		1.01E-02	1.35E-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 1510092-02

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: 3660

Channel	----	----	----	----	----	----	----	----
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	8	52
17:	49	33	32	29	22	28	25	37
25:	21	21	18	17	23	17	11	19
33:	8	17	12	19	20	13	9	10
41:	12	15	17	8	25	21	13	13
49:	9	13	21	15	12	8	14	12
57:	15	13	9	7	19	23	29	25
65:	10	10	13	10	8	13	13	13
73:	24	19	21	18	20	23	14	14
81:	13	11	14	19	19	15	16	19
89:	16	13	27	39	37	17	12	14
97:	15	14	8	19	17	10	13	10
105:	8	13	10	13	13	13	12	10
113:	11	8	10	13	8	6	5	11
121:	9	15	11	12	14	11	16	8
129:	12	11	9	12	8	10	15	9
137:	13	7	10	12	11	9	15	11
145:	15	9	10	7	10	11	10	13
153:	12	9	11	15	10	8	5	8
161:	9	15	21	5	9	5	9	9
169:	13	8	4	9	14	9	7	8
177:	8	11	6	9	15	9	9	5
185:	17	16	9	12	5	6	13	8
193:	8	7	10	10	11	9	13	11
201:	12	12	12	6	13	17	6	8
209:	3	2	6	11	6	7	9	9
217:	10	5	6	8	13	11	9	11
225:	9	8	11	4	7	13	9	3
233:	8	6	4	7	9	19	9	10
241:	6	12	8	8	9	8	8	10
249:	4	4	6	7	7	5	8	5
257:	11	5	9	10	6	7	11	5
265:	6	10	5	8	7	3	4	2
273:	6	4	5	2	8	7	6	5
281:	6	9	7	6	8	11	7	6
289:	7	10	5	3	14	7	8	7
297:	8	7	11	4	10	6	4	4
305:	4	7	6	9	6	5	7	4
313:	5	4	4	5	5	2	5	11
321:	5	5	5	3	5	4	6	6
329:	3	7	4	4	7	3	3	3
337:	5	4	5	3	4	4	6	4
345:	7	5	3	5	4	7	1	3
353:	4	3	6	3	3	6	4	8
361:	3	4	2	5	4	3	2	6

369: 5 4 4 8 6 4 7 7

Sample Title: BLANK

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

801: 1 3 1 3 0 2 2 0

Sample Title: BLANK

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	0	1	1	0	0	1	0	2
817:	1	3	0	2	0	3	0	2
825:	4	1	3	1	2	2	2	0
833:	1	2	2	7	3	2	3	0
841:	2	0	1	0	2	1	2	1
849:	1	0	5	1	3	0	3	0
857:	1	3	0	2	1	2	2	0
865:	0	1	1	1	1	2	1	1
873:	0	2	1	1	0	0	1	1
881:	1	1	2	0	2	1	4	2
889:	1	1	3	3	0	1	0	2
897:	1	0	0	1	0	1	0	2
905:	0	0	3	0	1	3	2	4
913:	0	0	3	1	2	0	1	3
921:	2	3	1	1	2	1	3	2
929:	2	3	2	1	3	0	1	1
937:	0	1	0	0	2	0	1	5
945:	2	1	0	0	4	0	1	0
953:	2	1	2	1	1	0	1	1
961:	2	1	1	4	4	2	2	1
969:	2	0	0	3	1	0	0	0
977:	2	4	0	0	0	1	0	0
985:	0	2	0	2	1	1	4	1
993:	1	2	4	0	1	0	1	1
1001:	3	0	1	4	3	2	0	2
1009:	0	0	1	0	0	1	2	0
1017:	0	0	1	0	1	0	0	1
1025:	0	0	2	2	1	1	0	2
1033:	1	1	3	0	3	1	3	2
1041:	2	1	3	0	2	0	2	3
1049:	1	0	1	3	3	0	0	0
1057:	2	0	1	1	2	1	3	1
1065:	1	4	1	1	1	0	3	1
1073:	0	0	1	2	1	0	0	1
1081:	0	0	2	1	2	1	2	0
1089:	0	0	1	0	2	3	3	0
1097:	0	0	0	1	1	0	4	0
1105:	2	0	2	1	0	0	2	0
1113:	1	0	0	2	1	2	0	0
1121:	2	2	0	1	0	0	2	1
1129:	1	0	0	0	0	1	1	1
1137:	0	4	1	1	0	2	0	1
1145:	0	0	0	0	0	0	0	0
1153:	2	0	1	1	2	0	1	2
1161:	1	1	0	1	1	0	0	0
1169:	1	0	1	4	0	0	0	1
1177:	0	0	1	1	1	1	3	1
1185:	1	0	1	1	1	0	2	0
1193:	0	0	1	1	0	0	0	2
1201:	1	3	0	1	2	0	0	4
1209:	1	1	1	0	0	0	1	0
1217:	0	2	0	0	1	0	0	1
1225:	1	0	1	0	1	0	0	2

1233: 0 2 1 1 0 0 0 1

Sample Title: BLANK

Channel	1	2	3	4	5	6	7	8
1241:	1	3	1	0	1	1	1	0
1249:	0	2	1	2	1	2	1	1
1257:	0	3	0	0	2	0	1	0
1265:	0	0	1	0	0	0	0	0
1273:	0	0	1	2	0	2	0	3
1281:	0	1	1	1	1	1	0	1
1289:	0	0	1	3	1	0	2	1
1297:	2	1	0	0	0	1	0	3
1305:	1	1	1	0	0	3	2	0
1313:	1	0	0	0	1	0	0	0
1321:	0	0	0	0	0	1	2	0
1329:	0	1	0	2	0	0	0	0
1337:	1	2	0	1	0	1	0	1
1345:	0	0	2	1	0	0	0	1
1353:	0	1	0	0	1	2	0	0
1361:	1	0	2	0	1	0	1	0
1369:	0	1	2	0	0	0	1	1
1377:	2	1	1	1	0	0	2	0
1385:	1	0	0	1	2	0	0	1
1393:	0	0	1	0	1	0	1	0
1401:	0	0	1	0	1	1	2	0
1409:	0	2	2	0	0	0	1	0
1417:	2	1	1	1	0	2	1	0
1425:	0	1	0	1	0	0	1	0
1433:	0	1	1	0	0	0	0	1
1441:	0	0	0	0	0	1	1	0
1449:	0	0	0	2	0	1	1	0
1457:	1	0	0	2	2	1	1	0
1465:	0	1	0	0	0	0	1	1
1473:	2	0	0	1	0	0	1	0
1481:	0	0	1	0	1	0	0	0
1489:	0	0	2	1	1	0	0	0
1497:	0	0	2	0	1	0	1	1
1505:	0	1	1	1	0	0	0	0
1513:	0	0	0	0	0	0	0	0
1521:	0	0	0	0	0	1	1	0
1529:	0	0	2	0	0	0	0	0
1537:	0	1	0	0	0	0	0	0
1545:	4	0	0	0	0	1	1	0
1553:	0	0	1	1	0	0	1	1
1561:	1	0	1	0	1	1	1	0
1569:	0	0	0	1	1	0	0	0
1577:	0	0	0	1	1	0	1	1
1585:	0	1	0	1	1	1	0	1
1593:	1	0	0	1	2	0	0	0
1601:	1	0	1	2	0	0	0	0
1609:	0	0	0	1	0	1	0	0
1617:	0	0	1	0	0	0	0	0
1625:	0	1	0	0	0	0	0	1
1633:	0	1	0	0	1	1	0	1
1641:	0	0	1	0	0	0	0	0
1649:	0	0	0	0	0	1	2	0
1657:	0	0	1	1	1	1	1	1

1665: 0 0 1 2 0 0 0 0

Sample Title: BLANK

Channel	1	2	3	4	5	6	7	8
1673:	0	0	0	1	0	0	1	1
1681:	0	0	0	0	0	0	0	0
1689:	0	1	1	0	0	0	0	1
1697:	0	0	0	0	1	0	0	0
1705:	1	1	1	0	0	0	0	0
1713:	0	0	0	1	0	0	2	0
1721:	1	0	0	0	0	0	0	0
1729:	0	0	1	1	0	0	0	0
1737:	0	0	1	0	0	1	0	0
1745:	1	0	0	1	2	1	0	0
1753:	0	0	0	0	0	1	0	0
1761:	0	1	1	0	4	0	0	1
1769:	0	0	1	0	0	2	0	0
1777:	0	0	1	0	0	2	0	0
1785:	0	1	0	0	0	0	2	0
1793:	0	0	0	1	0	1	0	0
1801:	1	0	1	0	0	0	2	0
1809:	0	0	0	0	0	0	1	0
1817:	1	2	0	0	0	1	0	0
1825:	0	0	0	2	0	0	0	0
1833:	0	0	1	1	0	0	0	0
1841:	2	1	0	2	0	0	0	0
1849:	1	0	2	1	0	0	0	0
1857:	0	1	0	0	0	1	0	0
1865:	1	0	0	0	0	1	0	0
1873:	1	1	2	1	0	0	0	0
1881:	0	1	0	0	0	0	0	1
1889:	1	0	0	0	0	0	0	0
1897:	0	0	1	0	0	2	0	0
1905:	0	0	0	0	0	0	0	1
1913:	1	0	0	2	0	0	2	1
1921:	1	0	1	0	0	0	0	0
1929:	0	1	0	0	0	0	0	0
1937:	0	2	1	1	0	1	0	0
1945:	0	0	2	0	1	0	2	0
1953:	0	0	0	0	0	1	1	0
1961:	1	0	1	2	0	0	0	1
1969:	0	0	0	0	0	1	2	0
1977:	0	0	0	0	0	0	0	0
1985:	2	0	1	0	2	1	0	0
1993:	0	0	0	1	0	0	0	1
2001:	0	0	0	0	1	1	0	0
2009:	0	1	1	0	0	0	0	1
2017:	0	0	0	2	0	2	0	0
2025:	1	0	0	0	0	0	0	0
2033:	0	1	0	0	0	0	0	0
2041:	0	0	0	0	0	0	0	1
2049:	0	0	0	0	0	0	1	0
2057:	0	0	0	0	0	0	0	0
2065:	0	0	0	0	0	1	0	0
2073:	0	0	0	0	0	0	0	0
2081:	0	0	1	1	0	1	0	0
2089:	0	0	0	0	0	0	0	0

2097: 0 0 0 0 0 0 0 0 0

Sample Title: BLANK

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2105:	0	0	0	0	1	0	0	0
2113:	0	0	0	0	0	0	0	0
2121:	0	0	0	0	0	1	0	0
2129:	0	0	0	0	0	1	0	0
2137:	0	0	0	0	0	0	0	0
2145:	0	0	0	0	0	0	1	0
2153:	0	0	0	1	0	0	1	0
2161:	0	0	0	0	0	0	0	0
2169:	0	1	0	1	0	0	0	0
2177:	0	0	0	0	0	0	0	0
2185:	0	1	0	0	1	2	0	0
2193:	0	0	0	0	0	0	0	0
2201:	0	0	0	0	1	0	0	0
2209:	0	0	0	1	0	0	0	0
2217:	0	0	0	0	0	0	1	0
2225:	0	0	0	0	0	2	0	1
2233:	2	0	0	0	1	0	1	0
2241:	0	0	0	0	0	0	0	0
2249:	0	0	0	0	1	0	0	1
2257:	0	0	0	0	0	0	0	1
2265:	0	0	0	0	0	0	0	0
2273:	1	0	1	0	0	1	0	0
2281:	0	1	0	0	0	0	0	0
2289:	0	0	0	1	0	0	0	0
2297:	0	0	0	0	0	0	0	0
2305:	0	0	0	0	0	0	0	0
2313:	0	0	0	0	0	0	0	0
2321:	0	0	0	0	0	0	2	0
2329:	1	0	0	2	1	0	0	0
2337:	0	0	0	0	0	0	0	0
2345:	0	0	0	0	0	0	0	2
2353:	0	1	1	0	0	0	0	0
2361:	1	0	0	0	0	0	0	0
2369:	0	0	0	0	0	0	0	0
2377:	0	0	0	0	0	0	1	1
2385:	0	0	0	0	0	1	1	0
2393:	0	0	0	0	0	0	0	0
2401:	0	0	0	0	0	0	0	0
2409:	0	1	0	0	1	0	0	0
2417:	0	0	0	0	0	0	0	0
2425:	2	0	1	0	0	1	0	0
2433:	0	0	0	0	0	0	1	0
2441:	0	1	0	0	0	0	1	0
2449:	0	1	0	0	0	0	0	0
2457:	1	0	0	0	1	0	1	0
2465:	2	0	0	0	1	0	0	0
2473:	0	0	0	1	0	0	0	0
2481:	0	1	0	0	0	0	0	2
2489:	0	1	0	0	0	0	0	0
2497:	2	1	0	0	0	0	1	0
2505:	0	0	0	0	0	1	0	0
2513:	0	0	0	1	0	0	0	0
2521:	0	0	0	0	1	0	0	0

2529: 0 1 0 0 0 0 0 0 0

Sample Title: BLANK

Channel	1	2	3	4	5	6	7	8
2537:	0	0	0	0	0	0	1	0
2545:	0	1	0	0	1	0	0	1
2553:	1	0	0	1	1	1	1	1
2561:	0	1	0	0	0	0	0	0
2569:	0	0	0	0	0	1	0	0
2577:	0	2	0	0	0	0	0	0
2585:	0	0	0	0	0	0	0	0
2593:	0	0	0	0	0	0	0	1
2601:	0	1	1	0	0	0	0	0
2609:	0	0	0	0	0	0	1	2
2617:	1	1	0	0	0	0	0	0
2625:	0	0	1	1	0	0	0	0
2633:	0	1	0	0	0	0	0	0
2641:	1	0	0	0	1	1	0	0
2649:	1	0	0	0	0	0	0	0
2657:	0	0	0	0	0	0	0	0
2665:	0	0	0	0	0	0	1	0
2673:	0	0	0	0	0	0	0	0
2681:	1	0	0	0	0	0	0	0
2689:	0	0	0	1	0	0	0	0
2697:	0	0	0	0	1	0	0	0
2705:	0	0	0	0	0	0	0	0
2713:	0	0	1	0	0	0	0	0
2721:	0	0	0	0	0	0	0	0
2729:	0	0	0	0	0	0	0	0
2737:	1	0	1	0	0	0	0	0
2745:	0	0	0	0	0	1	0	0
2753:	0	0	0	0	1	0	0	0
2761:	0	0	0	0	0	0	0	0
2769:	0	1	0	0	0	0	0	0
2777:	0	0	1	0	0	0	0	0
2785:	0	0	0	0	0	0	0	1
2793:	1	0	0	0	1	0	1	0
2801:	0	0	0	0	0	0	0	0
2809:	0	0	0	2	0	0	0	0
2817:	0	0	1	0	0	1	0	0
2825:	0	0	0	0	1	0	0	0
2833:	0	0	0	1	0	0	0	0
2841:	0	0	0	1	0	0	0	0
2849:	0	0	1	0	0	0	1	0
2857:	0	0	0	0	0	0	1	1
2865:	0	0	0	0	0	0	0	1
2873:	0	0	0	0	0	0	0	0
2881:	0	0	0	0	1	0	0	0
2889:	0	0	2	0	1	0	0	0
2897:	0	0	0	0	0	0	0	0
2905:	0	0	3	0	0	0	0	0
2913:	0	0	1	1	0	0	1	0
2921:	0	0	0	0	0	0	0	0
2929:	1	0	0	0	0	0	1	0
2937:	0	0	0	0	0	1	0	0
2945:	1	0	0	0	0	0	0	0
2953:	0	0	0	0	0	0	0	0

2961: 0 1 0 0 1 0 0 1

Sample Title: BLANK

Channel	1	2	3	4	5	6	7	8
2969:	0	0	0	0	0	0	1	0
2977:	0	0	0	0	1	0	0	0
2985:	0	0	0	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:	0	0	0	0	0	0	0	0
3025:	1	0	0	0	0	0	0	0
3033:	0	0	0	0	0	0	0	1
3041:	0	0	0	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	1	0	0	0	0
3073:	0	0	0	0	0	0	0	0
3081:	0	0	1	0	0	0	0	1
3089:	0	0	1	0	0	0	1	1
3097:	0	0	0	0	0	0	0	0
3105:	0	0	1	0	0	0	0	0
3113:	0	0	0	0	0	0	0	1
3121:	0	0	0	0	0	0	0	1
3129:	0	0	0	0	0	0	0	0
3137:	0	1	0	0	0	0	0	1
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:	0	1	0	0	0	0	0	0
3177:	0	1	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:	1	1	1	0	0	1	1	1
3209:	0	0	0	0	0	1	0	0
3217:	0	0	0	0	0	0	0	0
3225:	0	1	0	1	0	0	0	1
3233:	0	0	0	1	0	0	0	0
3241:	0	0	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	0	0	0	0
3281:	0	0	0	0	0	0	1	1
3289:	0	0	1	0	0	0	0	0
3297:	0	0	0	0	1	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	0	0	0	0
3329:	0	0	0	0	0	0	0	0
3337:	0	0	0	0	1	1	0	1
3345:	0	0	0	0	0	0	0	0
3353:	0	0	0	0	1	1	0	0
3361:	0	0	0	0	0	0	0	0
3369:	0	0	1	0	0	0	0	0
3377:	0	0	0	0	0	0	0	0
3385:	0	0	0	0	0	0	0	0

3393: 1 0 1 0 0 0 0 0

Sample Title: BLANK

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	0	1	0	0	0	0	0
3425:	0	0	0	0	0	0	1	0
3433:	1	0	0	0	0	0	0	0
3441:	0	0	1	0	0	0	0	0
3449:	0	0	0	0	0	0	0	0
3457:	0	0	0	0	1	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	2	0	0	0	0
3489:	0	0	0	0	0	0	0	0
3497:	0	1	0	0	1	0	1	0
3505:	0	0	1	0	0	0	0	0
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	0
3537:	0	0	0	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	1	0	0	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	1	0
3601:	0	0	0	0	0	0	0	0
3609:	0	0	0	0	0	0	0	0
3617:	1	1	0	0	0	0	0	0
3625:	0	0	0	1	0	0	0	0
3633:	0	1	0	0	0	0	0	1
3641:	0	0	0	0	0	0	1	1
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	0	0	0	0	0	1	0	0
3673:	0	0	0	0	0	0	0	0
3681:	0	0	1	0	0	0	0	0
3689:	0	0	0	0	0	0	0	1
3697:	0	0	0	1	0	0	0	0
3705:	0	0	0	0	0	0	1	0
3713:	0	0	0	0	0	1	0	0
3721:	0	0	0	0	0	0	0	1
3729:	0	0	0	0	0	0	0	0
3737:	0	1	0	0	0	0	0	0
3745:	0	0	0	0	0	0	0	0
3753:	0	0	1	1	0	0	0	0
3761:	0	1	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	1	0	0	0	0	0	0
3801:	0	0	0	0	1	0	0	0
3809:	0	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0

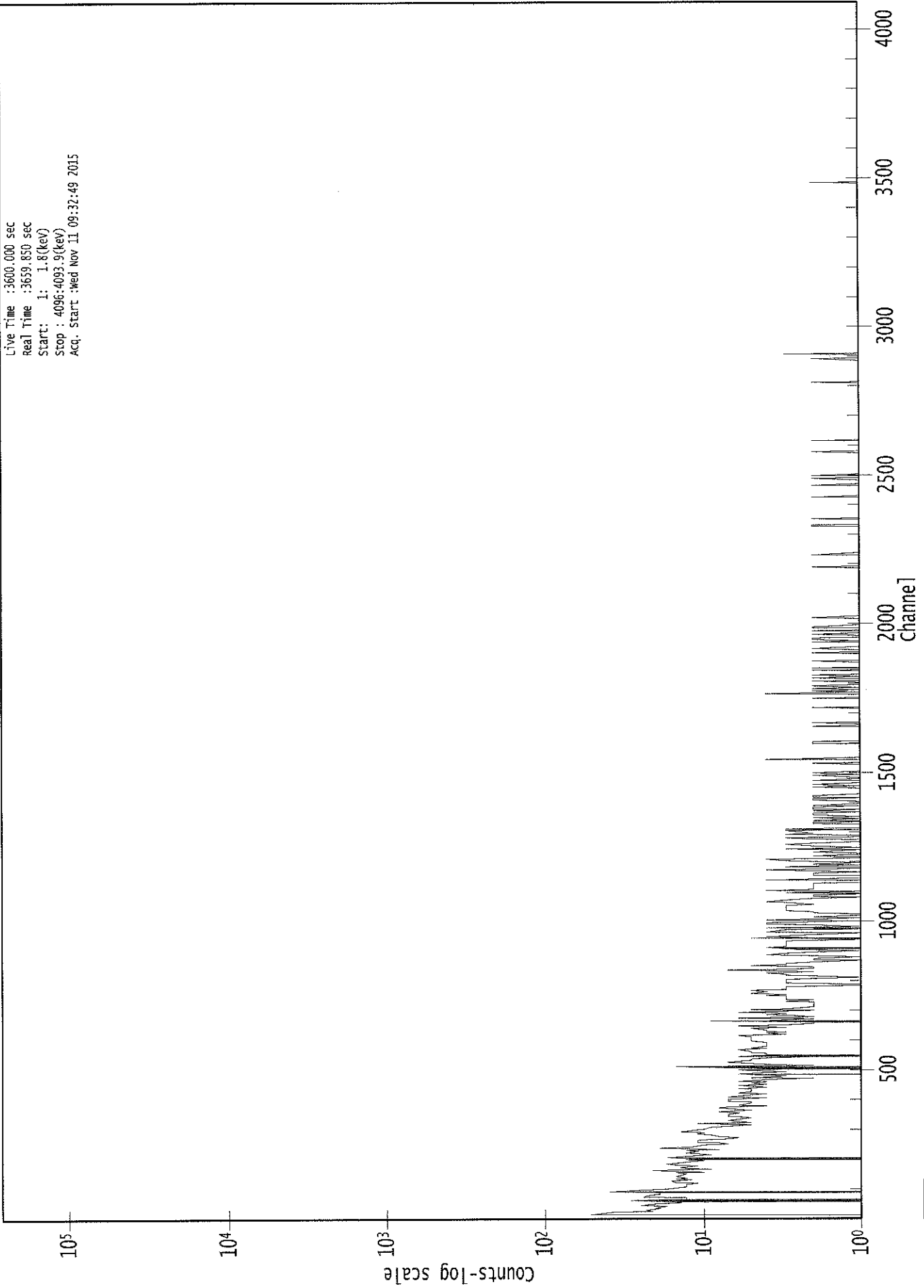
3825: 0 0 0 0 0 1 0 1

Sample Title: BLANK

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3833:	0	0	0	0	0	0	0	1
3841:	0	0	0	0	0	0	0	0
3849:	1	0	0	0	0	0	0	0
3857:	0	0	0	0	0	0	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	1	0	1	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	1	0	0	0	0
3929:	0	0	0	1	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	1	1	0	0	0	0
3961:	0	0	0	0	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	0	0	0	0	0	0
3993:	0	0	0	0	0	0	0	0
4001:	0	1	0	1	0	0	0	0
4009:	0	0	0	1	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	1	0	0
4049:	0	1	0	0	0	0	0	0
4057:	0	0	0	1	0	0	0	0
4065:	0	0	0	0	0	0	0	0
4073:	0	0	0	1	0	0	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	0	0	0	0	0

0000029475.CNF

Live Time : 3600.000 sec
Real Time : 3659.850 sec
Start : 1: 1.8(kev)
Stop : 4096:4093.9(kev)
Acq. Start : Wed Nov 11 09:32:49 2015



ROI Type: 1

Analysis Report for 1510092-03
CP5003S03-04

C
11/11

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510092-03
Sample Description : CP5003S03-04
Sample Type : SOIL

Sample Size : 5.454E+02 grams
Facility : Countroom

Sample Taken On : 10/9/2015 3:55:29PM
Acquisition Started : 11/11/2015 6:18:22AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE2
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3601.3 seconds

Dead Time : 0.04 %

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 : 29461

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510092-03
CP5003S03-04

PEAK LOCATE REPORT

Peak Locate Performed on : 11/11/2015 7:18:25AM
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	53.62	53.72	0.0000	0.00
2	76.42	76.51	0.0000	0.00
3	92.48	92.56	0.0000	0.00
4	104.92	105.00	0.0000	0.00
5	128.15	128.21	0.0000	0.00
6	186.05	186.08	0.0000	0.00
7	209.93	209.94	0.0000	0.00
8	239.12	239.12	0.0000	0.00
9	270.23	270.21	0.0000	0.00
10	276.53	276.51	0.0000	0.00
11	295.33	295.29	0.0000	0.00
12	300.47	300.43	0.0000	0.00
13	338.18	338.13	0.0000	0.00
14	351.94	351.88	0.0000	0.00
15	462.26	462.14	0.0000	0.00
16	510.89	510.75	0.0000	0.00
17	583.24	583.06	0.0000	0.00
18	609.35	609.16	0.0000	0.00
19	727.26	727.02	0.0000	0.00
20	835.42	835.13	0.0000	0.00
21	841.17	840.87	0.0000	0.00
22	860.13	859.82	0.0000	0.00
23	911.29	910.97	0.0000	0.00
24	934.06	933.72	0.0000	0.00
25	969.32	968.97	0.0000	0.00
26	1006.74	1006.37	0.0000	0.00
27	1120.26	1119.86	0.0000	0.00
28	1156.00	1155.58	0.0000	0.00
29	1237.48	1237.04	0.0000	0.00
30	1255.47	1255.01	0.0000	0.00
31	1288.16	1287.69	0.0000	0.00
32	1297.08	1296.61	0.0000	0.00
33	1380.07	1379.57	0.0000	0.00
34	1409.82	1409.31	0.0000	0.00
35	1460.83	1460.31	0.0000	0.00
36	1498.67	1498.14	0.0000	0.00
37	1509.25	1508.71	0.0000	0.00
38	1515.82	1515.29	0.0000	0.00
39	1593.86	1593.30	0.0000	0.00
40	1633.44	1632.87	0.0000	0.00
41	1659.88	1659.30	0.0000	0.00
42	1730.10	1729.50	0.0000	0.00

Analysis Report for 1510092-03
CP5003S03-04

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
43	1760.12	1759.51	0.0000	0.00
44	1764.37	1763.76	0.0000	0.00
45	1792.55	1791.94	0.0000	0.00
46	1846.12	1845.50	0.0000	0.00
47	1939.07	1938.43	0.0000	0.00
48	2051.51	2050.84	0.0000	0.00
49	2067.11	2066.44	0.0000	0.00
50	2084.67	2084.00	0.0000	0.00
51	2103.33	2102.65	0.0000	0.00
52	2202.45	2201.76	0.0000	0.00
53	2536.73	2536.00	0.0000	0.00
54	2614.16	2613.42	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510092-03
CP5003S03-04

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/11/2015 7:18:25AM

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	53.62	51 -	56	53.72	1.12E+02	78.82	1.13E+03	1.70
2	76.42	72 -	83	76.51	1.01E+03	173.45	3.25E+03	3.64
3	92.48	89 -	96	92.56	3.01E+02	112.92	1.84E+03	1.42
4	104.92	103 -	107	105.00	8.45E+01	59.11	7.03E+02	2.07
5	128.15	125 -	130	128.21	5.52E+01	68.13	8.88E+02	1.20
6	186.05	182 -	188	186.08	2.21E+02	72.03	7.80E+02	1.45
7	209.93	206 -	213	209.94	7.83E+01	75.87	8.89E+02	1.80
8	239.12	234 -	243	239.12	1.11E+03	101.12	8.25E+02	1.64
9	270.23	267 -	273	270.21	5.74E+01	52.89	4.69E+02	1.84
10	276.53	274 -	279	276.51	6.32E+01	45.18	3.50E+02	1.39
11	295.33	290 -	298	295.29	2.89E+02	70.83	5.95E+02	1.83
12	300.47	299 -	304	300.43	5.98E+01	45.12	3.58E+02	2.20
13	338.18	333 -	342	338.13	1.67E+02	64.50	4.97E+02	1.51
14	351.94	348 -	355	351.88	5.21E+02	67.68	4.16E+02	1.30
15	462.26	459 -	465	462.14	5.43E+01	39.41	2.45E+02	1.23
16	510.89	507 -	515	510.75	1.47E+02	50.04	2.90E+02	2.12
17	583.24	579 -	587	583.06	2.56E+02	51.91	2.57E+02	1.67
18	609.35	605 -	613	609.16	3.84E+02	50.92	1.63E+02	1.79
19	727.26	723 -	732	727.02	6.87E+01	39.24	1.83E+02	1.82
20	835.42	833 -	837	835.13	1.65E+01	20.34	7.70E+01	1.50
21	841.17	838 -	844	840.87	2.70E+01	24.55	8.80E+01	3.12
22	860.13	855 -	864	859.82	4.57E+01	35.59	1.55E+02	2.62
23	911.29	907 -	915	910.97	2.14E+02	38.80	1.02E+02	1.77
24	934.06	930 -	936	933.72	3.22E+01	21.74	6.15E+01	1.99
25	969.32	965 -	972	968.97	1.18E+02	39.19	1.64E+02	1.79
26	1006.74	1004 -	1010	1006.37	2.16E+01	22.39	7.29E+01	2.74
27	1120.26	1114 -	1126	1119.86	9.38E+01	41.86	1.60E+02	2.31
28	1156.00	1151 -	1159	1155.58	2.79E+01	26.10	8.21E+01	5.03
29	1237.48	1232 -	1241	1237.04	5.02E+01	32.76	1.24E+02	2.16
30	1255.47	1253 -	1257	1255.01	1.66E+01	15.56	3.48E+01	2.81
31	1288.16	1285 -	1291	1287.69	1.83E+01	17.52	4.34E+01	3.55
32	1297.08	1292 -	1301	1296.61	2.65E+01	18.30	2.70E+01	7.34
33	1380.07	1370 -	1389	1379.57	3.88E+01	33.35	7.85E+01	1.98
34	1409.82	1405 -	1414	1409.31	3.89E+01	18.14	2.42E+01	6.87
35	1460.83	1455 -	1466	1460.31	6.96E+02	55.43	3.60E+01	2.20
36	1498.67	1493 -	1505	1498.14	2.92E+01	14.85	9.65E+00	3.17
37	1509.25	1506 -	1512	1508.71	1.59E+01	9.18	4.11E+00	2.13
38	1515.82	1513 -	1518	1515.29	6.00E+00	7.35	6.00E+00	2.63
39	1593.86	1591 -	1597	1593.30	1.52E+01	17.31	3.37E+01	2.82
40	1633.44	1627 -	1639	1632.87	2.45E+01	14.44	1.30E+01	8.29

Analysis Report for 1510092-03

CP5003S03-04

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
M	41	1659.88	1654 - 1662	1659.30	1.05E+01	10.02	9.00E+00	3.05
	42	1730.10	1726 - 1732	1729.50	1.17E+01	9.19	6.53E+00	3.22
m	43	1760.12	1759 - 1771	1759.51	6.48E+00	0.00	0.00E+00	3.63
	44	1764.37	1759 - 1771	1763.76	9.15E+01	20.00	0.00E+00	3.27
	45	1792.55	1790 - 1794	1791.94	4.17E+00	6.04	3.67E+00	1.72
	46	1846.12	1841 - 1849	1845.50	9.00E+00	12.37	1.80E+01	6.40
	47	1939.07	1933 - 1942	1938.43	1.14E+01	9.00	5.14E+00	5.59
	48	2051.51	2047 - 2054	2050.84	7.25E+00	9.80	9.50E+00	2.91
	49	2067.11	2063 - 2069	2066.44	7.50E+00	8.28	7.00E+00	2.60
	50	2084.67	2079 - 2087	2084.00	9.67E+00	8.26	4.67E+00	1.62
	51	2103.33	2097 - 2107	2102.65	2.53E+01	11.93	5.46E+00	5.63
	52	2202.45	2195 - 2207	2201.76	2.25E+01	14.16	1.30E+01	9.46
	53	2536.73	2532 - 2538	2536.00	6.00E+00	4.90	0.00E+00	2.88
	54	2614.16	2609 - 2618	2613.42	1.28E+02	23.43	5.56E+00	3.25

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 : 11/11/2015 7:18:25AM

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	53.62	51 -	56	1.12E+02	78.82	1.13E+03	6.24E+01
2	76.42	72 -	83	1.01E+03	173.45	3.25E+03	1.33E+02
3	92.48	89 -	96	3.01E+02	112.92	1.84E+03	8.83E+01
4	104.92	103 -	107	8.45E+01	59.11	7.03E+02	4.62E+01
5	128.15	125 -	130	5.52E+01	68.13	8.88E+02	5.47E+01
6	186.05	182 -	188	2.21E+02	72.03	7.80E+02	5.39E+01
7	209.93	206 -	213	7.83E+01	75.87	8.89E+02	6.06E+01
8	239.12	234 -	243	1.11E+03	101.12	8.25E+02	6.25E+01
9	270.23	267 -	273	5.74E+01	52.89	4.69E+02	4.17E+01
10	276.53	274 -	279	6.32E+01	45.18	3.50E+02	3.48E+01
11	295.33	290 -	298	2.89E+02	70.83	5.95E+02	5.11E+01
12	300.47	299 -	304	5.98E+01	45.12	3.58E+02	3.48E+01
13	338.18	333 -	342	1.67E+02	64.50	4.97E+02	4.86E+01
14	351.94	348 -	355	5.21E+02	67.68	4.16E+02	4.11E+01

Analysis Report for 1510092-03
CP5003S03-04

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level	
15	462.26	459 -	465	5.43E+01	39.41	2.45E+02	3.00E+01	
16	510.89	507 -	515	1.47E+02	50.04	2.90E+02	3.60E+01	
17	583.24	579 -	587	2.56E+02	51.91	2.57E+02	3.36E+01	
18	609.35	605 -	613	3.84E+02	50.92	1.63E+02	2.67E+01	
19	727.26	723 -	732	6.87E+01	39.24	1.83E+02	2.92E+01	
20	835.42	833 -	837	1.65E+01	20.34	7.70E+01	1.53E+01	
21	841.17	838 -	844	2.70E+01	24.55	8.80E+01	1.83E+01	
22	860.13	855 -	864	4.57E+01	35.59	1.55E+02	2.71E+01	
23	911.29	907 -	915	2.14E+02	38.80	1.02E+02	2.10E+01	
24	934.06	930 -	936	3.22E+01	21.74	6.15E+01	1.52E+01	
25	969.32	965 -	972	1.18E+02	39.19	1.64E+02	2.68E+01	
26	1006.74	1004 -	1010	2.16E+01	22.39	7.29E+01	1.68E+01	
27	1120.26	1114 -	1126	9.38E+01	41.86	1.60E+02	3.05E+01	
28	1156.00	1151 -	1159	2.79E+01	26.10	8.21E+01	1.96E+01	
29	1237.48	1232 -	1241	5.02E+01	32.76	1.24E+02	2.43E+01	
30	1255.47	1253 -	1257	1.66E+01	15.56	3.48E+01	1.09E+01	
31	1288.16	1285 -	1291	1.83E+01	17.52	4.34E+01	1.26E+01	
32	1297.08	1292 -	1301	2.65E+01	18.30	2.70E+01	1.24E+01	
33	1380.07	1370 -	1389	3.88E+01	33.35	7.85E+01	9.59E+00	
34	1409.82	1405 -	1414	3.89E+01	18.14	2.42E+01	1.08E+01	
35	1460.83	1455 -	1466	6.96E+02	55.43	3.60E+01	1.39E+01	
36	1498.67	1493 -	1505	2.92E+01	14.85	9.65E+00	8.37E+00	
37	1509.25	1506 -	1512	1.59E+01	9.18	4.11E+00	3.72E+00	
38	1515.82	1513 -	1518	6.00E+00	7.35	6.00E+00	4.50E+00	
39	1593.86	1591 -	1597	1.52E+01	17.31	3.37E+01	1.27E+01	
40	1633.44	1627 -	1639	2.45E+01	14.44	1.30E+01	8.64E+00	
41	1659.88	1654 -	1662	1.05E+01	10.02	9.00E+00	6.29E+00	
42	1730.10	1726 -	1732	1.17E+01	9.19	6.53E+00	5.04E+00	
M	43	1760.12	1759 -	1771	6.48E+00	0.00	0.00E+00	0.00E+00
m	44	1764.37	1759 -	1771	9.15E+01	20.00	0.00E+00	0.00E+00
	45	1792.55	1790 -	1794	4.17E+00	6.04	3.67E+00	3.66E+00
	46	1846.12	1841 -	1849	9.00E+00	12.37	1.80E+01	8.89E+00
	47	1939.07	1933 -	1942	1.14E+01	9.00	5.14E+00	4.88E+00
	48	2051.51	2047 -	2054	7.25E+00	9.80	9.50E+00	6.73E+00
	49	2067.11	2063 -	2069	7.50E+00	8.28	7.00E+00	5.10E+00
	50	2084.67	2079 -	2087	9.67E+00	8.26	4.67E+00	4.47E+00
	51	2103.33	2097 -	2107	2.53E+01	11.93	5.46E+00	5.27E+00
	52	2202.45	2195 -	2207	2.25E+01	14.16	1.30E+01	8.64E+00
	53	2536.73	2532 -	2538	6.00E+00	4.90	0.00E+00	0.00E+00
	54	2614.16	2609 -	2618	1.28E+02	23.43	5.56E+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

Analysis Report for 1510092-03
CP5003S03-04

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/11/2015 7:18:25AM

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	53.62	51 -	56	53.72	1.12E+02	78.82	1.13E+03	.....
2	76.42	72 -	83	76.51	1.01E+03	173.45	3.25E+03	.....
3	92.48	89 -	96	92.56	3.01E+02	112.92	1.84E+03	GA-67
4	104.92	103 -	107	105.00	8.45E+01	59.11	7.03E+02	EU-155
5	128.15	125 -	130	128.21	5.52E+01	68.13	8.88E+02	.....
6	186.05	182 -	188	186.08	2.21E+02	72.03	7.80E+02	RA-226
7	209.93	206 -	213	209.94	7.83E+01	75.87	8.89E+02	CM-243 GA-67
8	239.12	234 -	243	239.12	1.11E+03	101.12	8.25E+02	PB-212
9	270.23	267 -	273	270.21	5.74E+01	52.89	4.69E+02	.....
10	276.53	274 -	279	276.51	6.32E+01	45.18	3.50E+02	.....
11	295.33	290 -	298	295.29	2.89E+02	70.83	5.95E+02	PB-214
12	300.47	299 -	304	300.43	5.98E+01	45.12	3.58E+02	GA-67 PB-212 BI-210M
13	338.18	333 -	342	338.13	1.67E+02	64.50	4.97E+02	AC-228
14	351.94	348 -	355	351.88	5.21E+02	67.68	4.16E+02	PB-214
15	462.26	459 -	465	462.14	5.43E+01	39.41	2.45E+02	.....
16	510.89	507 -	515	510.75	1.47E+02	50.04	2.90E+02	.....
17	583.24	579 -	587	583.06	2.56E+02	51.91	2.57E+02	TL-208
18	609.35	605 -	613	609.16	3.84E+02	50.92	1.63E+02	BI-214
19	727.26	723 -	732	727.02	6.87E+01	39.24	1.83E+02	BI-212
20	835.42	833 -	837	835.13	1.65E+01	20.34	7.70E+01	MN-54
21	841.17	838 -	844	840.87	2.70E+01	24.55	8.80E+01	.....
22	860.13	855 -	864	859.82	4.57E+01	35.59	1.55E+02	TL-208
23	911.29	907 -	915	910.97	2.14E+02	38.80	1.02E+02	AC-228 LU-172
24	934.06	930 -	936	933.72	3.22E+01	21.74	6.15E+01	.....
25	969.32	965 -	972	968.97	1.18E+02	39.19	1.64E+02	AC-228
26	1006.74	1004 -	1010	1006.37	2.16E+01	22.39	7.29E+01	.....
27	1120.26	1114 -	1126	1119.86	9.38E+01	41.86	1.60E+02	BI-214 SC-46
28	1156.00	1151 -	1159	1155.58	2.79E+01	26.10	8.21E+01	.....
29	1237.48	1232 -	1241	1237.04	5.02E+01	32.76	1.24E+02	CO-56
30	1255.47	1253 -	1257	1255.01	1.66E+01	15.56	3.48E+01	.....
31	1288.16	1285 -	1291	1287.69	1.83E+01	17.52	4.34E+01	.....
32	1297.08	1292 -	1301	1296.61	2.65E+01	18.30	2.70E+01	.....
33	1380.07	1370 -	1389	1379.57	3.88E+01	33.35	7.85E+01	.....
34	1409.82	1405 -	1414	1409.31	3.89E+01	18.14	2.42E+01	.....
35	1460.83	1455 -	1466	1460.31	6.96E+02	55.43	3.60E+01	K-40
36	1498.67	1493 -	1505	1498.14	2.92E+01	14.85	9.65E+00	.....

Analysis Report for 1510092-03
CP5003S03-04

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
37	1509.25	1506 -	1512	1508.71	1.59E+01	9.18	4.11E+00	.....
38	1515.82	1513 -	1518	1515.29	6.00E+00	7.35	6.00E+00	.....
39	1593.86	1591 -	1597	1593.30	1.52E+01	17.31	3.37E+01	.....
40	1633.44	1627 -	1639	1632.87	2.45E+01	14.44	1.30E+01	.....
41	1659.88	1654 -	1662	1659.30	1.05E+01	10.02	9.00E+00	.....
42	1730.10	1726 -	1732	1729.50	1.17E+01	9.19	6.53E+00	.....
M 43	1760.12	1759 -	1771	1759.51	6.48E+00	0.00	0.00E+00	.....
m 44	1764.37	1759 -	1771	1763.76	9.15E+01	20.00	0.00E+00	BI-214
45	1792.55	1790 -	1794	1791.94	4.17E+00	6.04	3.67E+00	.....
46	1846.12	1841 -	1849	1845.50	9.00E+00	12.37	1.80E+01	.....
47	1939.07	1933 -	1942	1938.43	1.14E+01	9.00	5.14E+00	.....
48	2051.51	2047 -	2054	2050.84	7.25E+00	9.80	9.50E+00	.....
49	2067.11	2063 -	2069	2066.44	7.50E+00	8.28	7.00E+00	.....
50	2084.67	2079 -	2087	2084.00	9.67E+00	8.26	4.67E+00	.....
51	2103.33	2097 -	2107	2102.65	2.53E+01	11.93	5.46E+00	.....
52	2202.45	2195 -	2207	2201.76	2.25E+01	14.16	1.30E+01	.....
53	2536.73	2532 -	2538	2536.00	6.00E+00	4.90	0.00E+00	.....
54	2614.16	2609 -	2618	2613.42	1.28E+02	23.43	5.56E+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 : 11/11/2015 7:18:25AM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	53.62	1.12E+02	78.82	1.86E-02	1.68E-03
2	76.42	1.01E+03	173.45	2.74E-02	3.35E-03
3	92.48	3.01E+02	112.92	2.85E-02	4.31E-03
4	104.92	8.45E+01	59.11	2.80E-02	3.75E-03
5	128.15	5.52E+01	68.13	2.61E-02	2.81E-03
6	186.05	2.21E+02	72.03	2.11E-02	1.65E-03
7	209.93	7.83E+01	75.87	1.95E-02	1.63E-03
8	239.12	1.11E+03	101.12	1.78E-02	1.60E-03
9	270.23	5.74E+01	52.89	1.64E-02	1.57E-03
10	276.53	6.32E+01	45.18	1.62E-02	1.56E-03
11	295.33	2.89E+02	70.83	1.55E-02	1.48E-03
12	300.47	5.98E+01	45.12	1.53E-02	1.46E-03

Analysis Report for 1510092-03

CP5003S03-04

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty	
13	338.18	1.67E+02	64.50	1.41E-02	1.28E-03	
14	351.94	5.21E+02	67.68	1.37E-02	1.21E-03	
15	462.26	5.43E+01	39.41	1.13E-02	9.48E-04	
16	510.89	1.47E+02	50.04	1.06E-02	8.98E-04	
17	583.24	2.56E+02	51.91	9.58E-03	8.25E-04	
18	609.35	3.84E+02	50.92	9.27E-03	7.98E-04	
19	727.26	6.87E+01	39.24	8.09E-03	7.03E-04	
20	835.42	1.65E+01	20.34	7.24E-03	6.34E-04	
21	841.17	2.70E+01	24.55	7.20E-03	6.30E-04	
22	860.13	4.57E+01	35.59	7.07E-03	6.18E-04	
23	911.29	2.14E+02	38.80	6.74E-03	5.87E-04	
24	934.06	3.22E+01	21.74	6.61E-03	5.75E-04	
25	969.32	1.18E+02	39.19	6.41E-03	5.57E-04	
26	1006.74	2.16E+01	22.39	6.22E-03	5.38E-04	
27	1120.26	9.38E+01	41.86	5.70E-03	4.80E-04	
28	1156.00	2.79E+01	26.10	5.56E-03	4.62E-04	
29	1237.48	5.02E+01	32.76	5.27E-03	4.82E-04	
30	1255.47	1.66E+01	15.56	5.22E-03	4.91E-04	
31	1288.16	1.83E+01	17.52	5.11E-03	5.06E-04	
32	1297.08	2.65E+01	18.30	5.09E-03	5.10E-04	
33	1380.07	3.88E+01	33.35	4.86E-03	5.07E-04	
34	1409.82	3.89E+01	18.14	4.79E-03	4.94E-04	
35	1460.83	6.96E+02	55.43	4.67E-03	4.73E-04	
36	1498.67	2.92E+01	14.85	4.59E-03	4.58E-04	
37	1509.25	1.59E+01	9.18	4.57E-03	4.53E-04	
38	1515.82	6.00E+00	7.35	4.56E-03	4.50E-04	
39	1593.86	1.52E+01	17.31	4.42E-03	4.18E-04	
40	1633.44	2.45E+01	14.44	4.36E-03	4.02E-04	
41	1659.88	1.05E+01	10.02	4.32E-03	3.91E-04	
42	1730.10	1.17E+01	9.19	4.23E-03	3.62E-04	
M	43	1760.12	6.48E+00	0.00	4.19E-03	3.49E-04
m	44	1764.37	9.15E+01	20.00	4.19E-03	3.48E-04
	45	1792.55	4.17E+00	6.04	4.15E-03	3.36E-04
	46	1846.12	9.00E+00	12.37	4.10E-03	3.18E-04
	47	1939.07	1.14E+01	9.00	4.03E-03	3.18E-04
	48	2051.51	7.25E+00	9.80	3.97E-03	3.18E-04
	49	2067.11	7.50E+00	8.28	3.96E-03	3.18E-04
	50	2084.67	9.67E+00	8.26	3.96E-03	3.18E-04
	51	2103.33	2.53E+01	11.93	3.95E-03	3.18E-04
	52	2202.45	2.25E+01	14.16	3.93E-03	3.18E-04
	53	2536.73	6.00E+00	4.90	4.00E-03	3.18E-04
	54	2614.16	1.28E+02	23.43	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

Analysis Report for 1510092-03

CP5003S03-04

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/11/2015 7:18:25AM

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	53.62	1.12E+02	78.82			1.12E+02	7.88E+01	
2	76.42	1.01E+03	173.45			1.01E+03	1.73E+02	
3	92.48	3.01E+02	112.92	5.70E+01	9.03E+00	2.44E+02	1.13E+02	
4	104.92	8.45E+01	59.11			8.45E+01	5.91E+01	
5	128.15	5.52E+01	68.13			5.52E+01	6.81E+01	
6	186.05	2.21E+02	72.03	4.72E+01	7.97E+00	1.74E+02	7.25E+01	
7	209.93	7.83E+01	75.87			7.83E+01	7.59E+01	
8	239.12	1.11E+03	101.12	2.36E+01	1.35E+01	1.09E+03	1.02E+02	
9	270.23	5.74E+01	52.89			5.74E+01	5.29E+01	
10	276.53	6.32E+01	45.18			6.32E+01	4.52E+01	
11	295.33	2.89E+02	70.83	8.57E+00	6.10E+00	2.80E+02	7.11E+01	
12	300.47	5.98E+01	45.12			5.98E+01	4.51E+01	
13	338.18	1.67E+02	64.50			1.67E+02	6.45E+01	
14	351.94	5.21E+02	67.68	1.40E+01	5.55E+00	5.07E+02	6.79E+01	
15	462.26	5.43E+01	39.41			5.43E+01	3.94E+01	
16	510.89	1.47E+02	50.04	8.41E+01	5.50E+00	6.27E+01	5.03E+01	
17	583.24	2.56E+02	51.91	7.32E+00	4.08E+00	2.49E+02	5.21E+01	
18	609.35	3.84E+02	50.92	1.30E+01	3.89E+00	3.71E+02	5.11E+01	
19	727.26	6.87E+01	39.24			6.87E+01	3.92E+01	
20	835.42	1.65E+01	20.34			1.65E+01	2.03E+01	
21	841.17	2.70E+01	24.55			2.70E+01	2.45E+01	
22	860.13	4.57E+01	35.59			4.57E+01	3.56E+01	
23	911.29	2.14E+02	38.80	5.60E+00	3.32E+00	2.08E+02	3.89E+01	
24	934.06	3.22E+01	21.74			3.22E+01	2.17E+01	
25	969.32	1.18E+02	39.19			1.18E+02	3.92E+01	
26	1006.74	2.16E+01	22.39			2.16E+01	2.24E+01	
27	1120.26	9.38E+01	41.86	3.93E+00	2.96E+00	8.99E+01	4.20E+01	
28	1156.00	2.79E+01	26.10			2.79E+01	2.61E+01	
29	1237.48	5.02E+01	32.76			5.02E+01	3.28E+01	
30	1255.47	1.66E+01	15.56			1.66E+01	1.56E+01	
31	1288.16	1.83E+01	17.52			1.83E+01	1.75E+01	
32	1297.08	2.65E+01	18.30			2.65E+01	1.83E+01	
33	1380.07	3.88E+01	33.35			3.88E+01	3.33E+01	
34	1409.82	3.89E+01	18.14			3.89E+01	1.81E+01	
35	1460.83	6.96E+02	55.43	1.12E+01	2.55E+00	6.85E+02	5.55E+01	
36	1498.67	2.92E+01	14.85			2.92E+01	1.48E+01	
37	1509.25	1.59E+01	9.18			1.59E+01	9.18E+00	
38	1515.82	6.00E+00	7.35			6.00E+00	7.35E+00	
39	1593.86	1.52E+01	17.31			1.52E+01	1.73E+01	
40	1633.44	2.45E+01	14.44			2.45E+01	1.44E+01	
41	1659.88	1.05E+01	10.02			1.05E+01	1.00E+01	
42	1730.10	1.17E+01	9.19			1.17E+01	9.19E+00	
M	43	1760.12	6.48E+00	0.00		6.48E+00	0.00E+00	
m	44	1764.37	9.15E+01	20.00	4.23E+00	2.21E+00	8.72E+01	2.01E+01

Analysis Report for 1510092-03

CP5003S03-04

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
45	1792.55	4.17E+00	6.04			4.17E+00	6.04E+00
46	1846.12	9.00E+00	12.37			9.00E+00	1.24E+01
47	1939.07	1.14E+01	9.00			1.14E+01	9.00E+00
48	2051.51	7.25E+00	9.80			7.25E+00	9.80E+00
49	2067.11	7.50E+00	8.28			7.50E+00	8.28E+00
50	2084.67	9.67E+00	8.26			9.67E+00	8.26E+00
51	2103.33	2.53E+01	11.93			2.53E+01	1.19E+01
52	2202.45	2.25E+01	14.16			2.25E+01	1.42E+01
53	2536.73	6.00E+00	4.90			6.00E+00	4.90E+00
54	2614.16	1.28E+02	23.43	7.38E+00	1.57E+00	1.21E+02	2.35E+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 : 11/11/2015 7:18:25AM

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	53.62	1.12E+02	78.82			1.12E+02	7.88E+01
2	76.42	1.01E+03	173.45			1.01E+03	1.73E+02
3	92.48	3.01E+02	112.92	5.70E+01	9.03E+00	2.44E+02	1.13E+02
4	104.92	8.45E+01	59.11			8.45E+01	5.91E+01
5	128.15	5.52E+01	68.13			5.52E+01	6.81E+01
6	186.05	2.21E+02	72.03	4.72E+01	7.97E+00	1.74E+02	7.25E+01
7	209.93	7.83E+01	75.87			7.83E+01	7.59E+01
8	239.12	1.11E+03	101.12	2.36E+01	1.35E+01	1.09E+03	1.02E+02
9	270.23	5.74E+01	52.89			5.74E+01	5.29E+01
10	276.53	6.32E+01	45.18			6.32E+01	4.52E+01
11	295.33	2.89E+02	70.83	8.57E+00	6.10E+00	2.80E+02	7.11E+01
12	300.47	5.98E+01	45.12			5.98E+01	4.51E+01
13	338.18	1.67E+02	64.50			1.67E+02	6.45E+01
14	351.94	5.21E+02	67.68	1.40E+01	5.55E+00	5.07E+02	6.79E+01
15	462.26	5.43E+01	39.41			5.43E+01	3.94E+01
16	510.89	1.47E+02	50.04	8.41E+01	5.50E+00	6.27E+01	5.03E+01
17	583.24	2.56E+02	51.91	7.32E+00	4.08E+00	2.49E+02	5.21E+01
18	609.35	3.84E+02	50.92	1.30E+01	3.89E+00	3.71E+02	5.11E+01

Analysis Report for 1510092-03

CP5003S03-04

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
19	727.26	6.87E+01	39.24			6.87E+01	3.92E+01
20	835.42	1.65E+01	20.34			1.65E+01	2.03E+01
21	841.17	2.70E+01	24.55			2.70E+01	2.45E+01
22	860.13	4.57E+01	35.59			4.57E+01	3.56E+01
23	911.29	2.14E+02	38.80	5.60E+00	3.32E+00	2.08E+02	3.89E+01
24	934.06	3.22E+01	21.74			3.22E+01	2.17E+01
25	969.32	1.18E+02	39.19			1.18E+02	3.92E+01
26	1006.74	2.16E+01	22.39			2.16E+01	2.24E+01
27	1120.26	9.38E+01	41.86	3.93E+00	2.96E+00	8.99E+01	4.20E+01
28	1156.00	2.79E+01	26.10			2.79E+01	2.61E+01
29	1237.48	5.02E+01	32.76			5.02E+01	3.28E+01
30	1255.47	1.66E+01	15.56			1.66E+01	1.56E+01
31	1288.16	1.83E+01	17.52			1.83E+01	1.75E+01
32	1297.08	2.65E+01	18.30			2.65E+01	1.83E+01
33	1380.07	3.88E+01	33.35			3.88E+01	3.33E+01
34	1409.82	3.89E+01	18.14			3.89E+01	1.81E+01
35	1460.83	6.96E+02	55.43	1.12E+01	2.55E+00	6.85E+02	5.55E+01
36	1498.67	2.92E+01	14.85			2.92E+01	1.48E+01
37	1509.25	1.59E+01	9.18			1.59E+01	9.18E+00
38	1515.82	6.00E+00	7.35			6.00E+00	7.35E+00
39	1593.86	1.52E+01	17.31			1.52E+01	1.73E+01
40	1633.44	2.45E+01	14.44			2.45E+01	1.44E+01
41	1659.88	1.05E+01	10.02			1.05E+01	1.00E+01
42	1730.10	1.17E+01	9.19			1.17E+01	9.19E+00
M 43	1760.12	6.48E+00	0.00			6.48E+00	0.00E+00
m 44	1764.37	9.15E+01	20.00	4.23E+00	2.21E+00	8.72E+01	2.01E+01
45	1792.55	4.17E+00	6.04			4.17E+00	6.04E+00
46	1846.12	9.00E+00	12.37			9.00E+00	1.24E+01
47	1939.07	1.14E+01	9.00			1.14E+01	9.00E+00
48	2051.51	7.25E+00	9.80			7.25E+00	9.80E+00
49	2067.11	7.50E+00	8.28			7.50E+00	8.28E+00
50	2084.67	9.67E+00	8.26			9.67E+00	8.26E+00
51	2103.33	2.53E+01	11.93			2.53E+01	1.19E+01
52	2202.45	2.25E+01	14.16			2.25E+01	1.42E+01
53	2536.73	6.00E+00	4.90			6.00E+00	4.90E+00
54	2614.16	1.28E+02	23.43	7.38E+00	1.57E+00	1.21E+02	2.35E+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 1510092-03
CP5003S03-04

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	1.000	1460.81 *	10.67	1.89E+01	2.48E+00
MN-54	0.945	834.83 *	99.97	3.37E-02	4.17E-02
GA-67	0.558	93.31 *	35.70	3.39E+02	1.50E+03
		208.95 *	2.24	2.53E+03	1.10E+04
		300.22 *	16.00	3.45E+02	1.54E+03
TL-208	0.978	583.14 *	30.22	1.18E+00	2.68E-01
		860.37 *	4.48	1.98E+00	1.56E+00
		2614.66 *	35.85	1.15E+00	2.40E-01
BI-212	0.765	727.17 *	11.80	9.92E-01	5.73E-01
		1620.62	2.75		
PB-212	0.964	238.63 *	44.60	1.88E+00	2.44E-01
		300.09 *	3.41	1.58E+00	1.20E+00
BI-214	0.927	609.31 *	46.30	1.19E+00	1.93E-01
		1120.29 *	15.10	1.44E+00	6.82E-01
		1764.49 *	15.80	1.82E+00	4.45E-01
		2204.22	4.98		
PB-214	0.999	295.21 *	19.19	1.30E+00	3.52E-01
		351.92 *	37.19	1.37E+00	2.19E-01
RA-226	0.996	186.21 *	3.28	3.46E+00	6.49E+00
AC-228	0.993	338.32 *	11.40	1.43E+00	5.67E-01
		911.07 *	27.70	1.54E+00	3.16E-01
		969.11 *	16.60	1.52E+00	5.24E-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 : 11/11/2015 7:18:25AM
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	53.62	3.10966E-02	35.21		
2	76.42	2.79591E-01	8.62		
4	104.92	2.34741E-02	34.97	Tol.	EU-155
5	128.15	1.53296E-02	61.73		

Analysis Report for 1510092-03
CP5003S03-04

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
9	270.23	1.59532E-02	46.05		
10	276.53	1.75572E-02	35.74		
15	462.26	1.50855E-02	36.29		
16	510.89	1.74063E-02	40.17	Sum	
21	841.17	7.49413E-03	45.49		
24	934.06	8.95503E-03	33.71		
26	1006.74	5.99138E-03	51.91		
28	1156.00	7.76369E-03	46.68	Sum	
29	1237.48	1.39323E-02	32.65		
30	1255.47	4.60784E-03	46.91		
31	1288.16	5.09028E-03	47.81		
32	1297.08	7.36806E-03	34.50		
33	1380.07	1.07657E-02	43.02		
34	1409.82	1.08088E-02	23.31		
36	1498.67	8.10458E-03	25.45		
37	1509.25	4.42901E-03	28.78		
38	1515.82	1.66667E-03	61.24		
39	1593.86	4.21007E-03	57.09		
40	1633.44	6.80556E-03	29.47		
41	1659.88	2.91667E-03	47.74		
42	1730.10	3.25926E-03	39.17	Sum	
M 43	1760.12	1.79977E-03	0.00		
45	1792.55	1.15741E-03	72.50		
46	1846.12	2.50000E-03	68.72		
47	1939.07	3.17460E-03	39.38	Sum	
48	2051.51	2.01389E-03	67.57		
49	2067.11	2.08333E-03	55.18		
50	2084.67	2.68519E-03	42.73		
51	2103.33	7.01885E-03	23.60	S-Esc	
52	2202.45	6.25000E-03	31.47		
53	2536.73	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 1510092-03
CP5003S03-04

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	1.00	1460.81 *	10.67	1.89E+01	2.48E+00
MN-54	0.94	834.83 *	99.97	3.37E-02	4.17E-02
GA-67	0.55	93.31 *	35.70	3.39E+02	1.50E+03
		208.95 *	2.24	2.53E+03	1.10E+04
		300.22 *	16.00	3.45E+02	1.54E+03
		583.14 *	30.22	1.18E+00	2.68E-01
TL-208	0.97	860.37 *	4.48	1.98E+00	1.56E+00
		2614.66 *	35.85	1.15E+00	2.40E-01
		727.17 *	11.80	9.92E-01	5.73E-01
BI-212	0.76	1620.62	2.75		
		238.63 *	44.60	1.88E+00	2.44E-01
PB-212	0.96	300.09 *	3.41	1.58E+00	1.20E+00
		609.31 *	46.30	1.19E+00	1.93E-01
BI-214	0.92	1120.29 *	15.10	1.44E+00	6.82E-01
		1764.49 *	15.80	1.82E+00	4.45E-01
		2204.22	4.98		
		295.21 *	19.19	1.30E+00	3.52E-01
PB-214	0.99	351.92 *	37.19	1.37E+00	2.19E-01
		186.21 *	3.28	3.46E+00	6.49E+00
RA-226	0.99	338.32 *	11.40	1.43E+00	5.67E-01
AC-228	0.99	911.07 *	27.70	1.54E+00	3.16E-01
		969.11 *	16.60	1.52E+00	5.24E-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	1.000	1.89E+01	2.48E+00	
MN-54	0.945	3.37E-02	4.17E-02	
GA-67	0.558	2.34E+02	1.01E+03	
TL-208	0.978	1.17E+00	1.78E-01	
BI-212	0.765	9.92E-01	5.73E-01	

Analysis Report for 1510092-03
CP5003S03-04

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
PB-212	0.964	1.83E+00	2.41E-01	
BI-214	0.927	1.30E+00	1.72E-01	
PB-214	0.999	1.35E+00	1.86E-01	
RA-226	0.996	3.46E+00	6.49E+00	
AC-228	0.993	1.51E+00	2.44E-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 1510092-03
CP5003S03-04

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 7:18:25AM
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	53.62	3.10966E-02	35.21		
2	76.42	2.79591E-01	8.62		
4	104.92	2.34741E-02	34.97	Tol.	EU-155
5	128.15	1.53296E-02	61.73		
9	270.23	1.59532E-02	46.05		
10	276.53	1.75572E-02	35.74		
15	462.26	1.50855E-02	36.29		
16	510.89	1.74063E-02	40.17	Sum	
21	841.17	7.49413E-03	45.49		
24	934.06	8.95503E-03	33.71		
26	1006.74	5.99138E-03	51.91		
28	1156.00	7.76369E-03	46.68	Sum	
29	1237.48	1.39323E-02	32.65		
30	1255.47	4.60784E-03	46.91		
31	1288.16	5.09028E-03	47.81		
32	1297.08	7.36806E-03	34.50		
33	1380.07	1.07657E-02	43.02		
34	1409.82	1.08088E-02	23.31		
36	1498.67	8.10458E-03	25.45		
37	1509.25	4.42901E-03	28.78		
38	1515.82	1.66667E-03	61.24		
39	1593.86	4.21007E-03	57.09		
40	1633.44	6.80556E-03	29.47		
41	1659.88	2.91667E-03	47.74		
42	1730.10	3.25926E-03	39.17	Sum	
M 43	1760.12	1.79977E-03	0.00		
45	1792.55	1.15741E-03	72.50		
46	1846.12	2.50000E-03	68.72		
47	1939.07	3.17460E-03	39.38	Sum	
48	2051.51	2.01389E-03	67.57		
49	2067.11	2.08333E-03	55.18		
50	2084.67	2.68519E-03	42.73		
51	2103.33	7.01885E-03	23.60	S-Esc	
52	2202.45	6.25000E-03	31.47		
53	2536.73	1.66667E-03	40.82		

Analysis Report for 1510092-03
CP5003S03-04

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	-2.73E-02	7.77E-01	7.77E-01
+	NA-22	1274.54	99.94	6.84E-04	7.71E-02	7.71E-02
+	NA-24	1368.53	99.99	2.99E+13	4.61E+13	3.48E+14
		2754.09	99.86	0.00E+00		4.61E+13
+	AL-26	1808.65	99.76	-8.00E-03	5.81E-02	5.81E-02
+	K-40	1460.81	* 10.67	1.89E+01	9.12E-01	9.12E-01
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	2.70E-03	5.26E-02	5.26E-02
		78.34	96.00	3.25E-01		7.98E-02
+	SC-46	889.25	99.98	-1.40E-02	9.83E-02	9.83E-02
		1120.51	99.99	2.07E-01		1.73E-01
+	V-48	983.52	99.98	1.64E-01	3.30E-01	3.30E-01
		1312.10	97.50	-1.02E-01		3.53E-01
+	CR-51	320.08	9.83	4.58E-01	1.26E+00	1.26E+00
+	MN-54	834.83	* 99.97	3.37E-02	6.83E-02	6.83E-02
+	CO-56	846.75	99.96	-2.26E-02	8.14E-02	8.14E-02
		1037.75	14.03	-2.73E-01		7.00E-01
		1238.25	67.00	1.41E-01		2.39E-01
		1771.40	15.51	2.83E-02		5.33E-01
		2598.48	16.90	4.48E-03		3.23E-01
+	CO-57	122.06	85.51	1.03E-02	6.08E-02	6.08E-02
		136.48	10.60	-3.37E-02		5.03E-01
+	CO-58	810.76	99.40	-2.10E-02	9.72E-02	9.72E-02
+	FE-59	1099.22	56.50	6.87E-02	2.51E-01	2.51E-01
		1291.56	43.20	1.28E-01		3.33E-01
+	CO-60	1173.22	100.00	2.22E-02	7.75E-02	9.10E-02
		1332.49	100.00	-1.19E-02		7.75E-02
+	ZN-65	1115.52	50.75	-1.17E-02	1.97E-01	1.97E-01
+	GA-67	93.31	* 35.70	3.39E+02	2.53E+02	2.53E+02
		208.95	* 2.24	2.53E+03		4.02E+03
		300.22	* 16.00	3.45E+02		4.18E+02
+	SE-75	121.11	16.70	9.44E-02	1.01E-01	3.49E-01

Analysis Report for 1510092-03
CP5003S03-04

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	SE-75	136.00	59.20	-5.52E-03	1.01E-01	1.01E-01
		264.65	59.80	3.37E-02		1.01E-01
		279.53	25.20	4.54E-02		2.53E-01
		400.65	11.40	-3.24E-02		5.70E-01
+	RB-82	776.52	13.00	1.94E-01	1.33E+00	1.33E+00
+	RB-83	520.41	46.00	-4.32E-02	1.56E-01	1.56E-01
		529.64	30.30	-1.16E-02		2.48E-01
		552.65	16.40	-1.08E-01		4.37E-01
+	KR-85	513.99	0.43	-2.08E+01	1.47E+01	1.47E+01
+	SR-85	513.99	99.27	-1.28E-01	9.03E-02	9.03E-02
+	Y-88	898.02	93.40	3.07E-03	8.11E-02	9.76E-02
		1836.01	99.38	-8.33E-03		8.11E-02
+	NB-93M	16.57	9.43	-5.95E+03	5.66E+03	5.66E+03
+	NB-94	702.63	100.00	1.54E-02	7.30E-02	7.30E-02
		871.10	100.00	-5.80E-03		7.44E-02
+	NB-95	765.79	99.81	9.70E-02	1.59E-01	1.59E-01
+	NB-95M	235.69	25.00	-1.15E+03	1.76E+02	1.76E+02
+	ZR-95	724.18	43.70	-1.62E-02	1.94E-01	2.82E-01
		756.72	55.30	-2.41E-04		1.94E-01
+	MO-99	181.06	6.20	3.52E+02	1.94E+03	3.16E+03
		739.58	12.80	-5.75E+02		1.94E+03
		778.00	4.50	-2.49E+03		5.61E+03
+	RU-103	497.08	89.00	3.94E-02	1.07E-01	1.07E-01
+	RU-106	621.84	9.80	3.10E-01	7.50E-01	7.50E-01
+	AG-108M	433.93	89.90	-1.53E-02	6.26E-02	6.26E-02
		614.37	90.40	-3.08E-02		6.70E-02
		722.95	90.50	-1.08E-02		7.80E-02
+	CD-109	88.03	3.72	1.72E+00	1.90E+00	1.90E+00
+	AG-110M	657.75	93.14	3.70E-03	8.48E-02	8.48E-02
		677.61	10.53	-2.16E-01		6.88E-01
		706.67	16.46	-4.54E-02		4.79E-01
		763.93	21.98	-1.37E-01		3.81E-01
		884.67	71.63	-6.06E-02		1.05E-01
		1384.27	23.94	1.39E-02		3.12E-01
+	CD-113M	263.70	0.02	-1.79E+01	2.15E+02	2.15E+02
+	SN-113	255.12	1.93	5.21E-01	1.10E-01	3.31E+00
		391.69	64.90	3.25E-02		1.10E-01
+	TE123M	159.00	84.10	3.41E-02	7.66E-02	7.66E-02
+	SB-124	602.71	97.87	2.43E-02	1.02E-01	1.02E-01
		645.85	7.26	-7.22E-01		1.30E+00
		722.78	11.10	-1.28E-01		9.25E-01
		1691.02	49.00	1.05E-02		1.98E-01
+	I-125	35.49	6.49	-3.55E-03	5.80E+00	5.80E+00
+	SB-125	176.33	6.89	2.93E-01	1.83E-01	8.25E-01
		427.89	29.33	-9.39E-02		1.83E-01
		463.38	10.35	4.45E-01		6.79E-01
		600.56	17.80	1.31E-01		3.91E-01
		635.90	11.32	-2.57E-01		5.61E-01

Analysis Report for 1510092-03
CP5003S03-04

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	SB-126	414.70	83.30	-2.31E-02	3.89E-01	3.89E-01
		666.33	99.60	-3.74E-02		4.30E-01
		695.00	99.60	2.13E-01		4.76E-01
		720.50	53.80	2.59E-02		8.31E-01
+	SN-126	87.57	37.00	1.65E-01	1.82E-01	1.82E-01
+	SB-127	473.00	25.00	8.87E-01	6.55E+01	7.81E+01
		685.20	35.70	3.23E+00		6.55E+01
		783.80	14.70	2.61E+01		1.76E+02
+	I-129	29.78	57.00	-4.74E-01	1.18E+00	1.18E+00
		33.60	13.20	8.09E-01		2.67E+00
		39.58	7.52	4.22E-01		2.25E+00
+	I-131	284.30	6.05	-2.15E+00	1.01E+00	1.34E+01
		364.48	81.20	-8.51E-01		1.01E+00
		636.97	7.26	-2.07E+00		1.49E+01
		722.89	1.80	-9.06E+00		6.52E+01
+	TE-132	49.72	13.10	-1.78E+02	6.94E+01	6.06E+02
		228.16	88.00	2.10E+01		6.94E+01
+	BA-133	81.00	33.00	3.75E-02	8.88E-02	1.36E-01
		302.84	17.80	-5.55E-03		3.29E-01
		356.01	60.00	4.62E-03		8.88E-02
+	I-133	529.87	86.30	2.59E+09	1.49E+10	1.49E+10
+	XE-133	81.00	38.00	2.41E+00	8.79E+00	8.79E+00
+	CS-134	563.23	8.38	-4.19E-02	8.59E-02	6.82E-01
		569.32	15.43	-6.13E-02		3.54E-01
		604.70	97.60	5.54E-03		8.59E-02
		795.84	85.40	7.65E-02		1.11E-01
		801.93	8.73	1.84E-01		9.22E-01
+	CS-135	268.24	16.00	-1.28E-01	3.62E-01	3.62E-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	2.66E+00	4.18E-01	4.07E+00
		163.89	4.61	9.65E-01		6.53E+00
		176.55	13.56	1.10E+00		2.26E+00
		273.65	12.66	-2.48E+00		2.43E+00
		340.57	48.50	-1.10E+00		7.02E-01
		818.50	99.70	1.43E-01		4.18E-01
		1048.07	79.60	6.41E-02		5.49E-01
		1235.34	19.70	1.92E+00		3.47E+00
+	CS-137	661.65	85.12	-1.34E-02	8.63E-02	8.63E-02
+	LA-138	788.74	34.00	4.43E-02	1.08E-01	2.18E-01
		1435.80	66.00	-1.74E-02		1.08E-01
+	CE-139	165.85	80.35	6.84E-02	8.11E-02	8.11E-02
+	BA-140	162.64	6.70	-1.38E+00	1.36E+00	4.64E+00
		304.84	4.50	-1.42E+00		6.91E+00
		423.70	3.20	3.51E+00		1.04E+01
		437.55	2.00	7.17E+00		1.76E+01
		537.32	25.00	-2.80E-01		1.36E+00
+	LA-140	328.77	20.50	1.15E+00	5.47E-01	1.72E+00

Analysis Report for 1510092-03
CP5003S03-04

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	LA-140	487.03	45.50	1.22E-01	5.47E-01	6.97E-01
		815.85	23.50	-9.29E-01		1.67E+00
		1596.49	95.49	-2.87E-02		5.47E-01
+	CE-141	145.44	48.40	8.15E-02	2.22E-01	2.22E-01
+	CE-143	57.36	11.80	-2.68E+06	2.61E+06	6.13E+06
		293.26	42.00	-1.45E+06		2.61E+06
		664.55	5.20	6.30E+06		1.95E+07
+	CE-144	133.54	10.80	2.80E-01	5.19E-01	5.19E-01
+	PM-144	476.78	42.00	-4.71E-03	6.52E-02	1.34E-01
		618.01	98.60	-1.10E-02		6.52E-02
		696.49	99.49	2.59E-02		8.29E-02
+	PM-145	36.85	21.70	-1.15E-02	5.14E-01	1.00E+00
		37.36	39.70	-5.89E-03		5.14E-01
		42.30	15.10	5.94E-01		9.08E-01
		72.40	2.31	-1.39E+00		2.16E+00
+	PM-146	453.90	39.94	1.44E-02	1.35E-01	1.35E-01
		735.90	14.01	3.12E-02		4.99E-01
		747.13	13.10	-3.21E-01		5.04E-01
+	ND-147	91.11	28.90	-4.62E-01	1.84E+00	1.84E+00
		531.02	13.10	1.83E+00		3.78E+00
+	PM-149	285.90	3.10	-6.46E+03	4.50E+04	4.50E+04
+	EU-152	121.78	20.50	3.98E-02	2.34E-01	2.34E-01
		244.69	5.40	-3.14E-01		9.91E-01
		344.27	19.13	-7.17E-02		2.76E-01
		778.89	9.20	-3.53E-01		7.18E-01
		964.01	10.40	7.85E-02		9.36E-01
		1085.78	7.22	-5.34E-01		1.02E+00
		1112.02	9.60	-7.53E-02		8.60E-01
		1407.95	14.94	1.04E-01		5.84E-01
+	GD-153	97.43	31.30	4.86E-02	1.69E-01	1.69E-01
		103.18	22.20	2.35E-02		2.39E-01
+	EU-154	123.07	40.50	4.03E-02	1.17E-01	1.17E-01
		723.30	19.70	-5.01E-02		3.61E-01
		873.19	11.50	-1.36E-01		6.53E-01
		996.32	10.30	-3.51E-01		6.97E-01
		1004.76	17.90	-4.58E-02		5.07E-01
		1274.45	35.50	1.89E-03		2.14E-01
+	EU-155	86.50	30.90	2.43E-01	2.16E-01	2.16E-01
		105.30	20.70	1.64E-01		2.40E-01
+	EU-156	811.77	10.40	-9.41E-01	2.79E+00	2.79E+00
		1153.47	7.20	2.57E+00		5.94E+00
		1230.71	8.90	1.23E-01		4.82E+00
+	HO-166M	184.41	72.60	3.80E-02	9.19E-02	9.19E-02
		280.45	29.60	3.21E-02		1.79E-01
		410.94	11.10	2.73E-01		5.46E-01
		711.69	54.10	-1.33E-02		1.32E-01
+	TM-171	66.72	0.14	6.45E+00	3.73E+01	3.73E+01
+	HF-172	81.75	4.52	-1.00E+00	4.50E-01	1.01E+00
		125.81	11.30	-4.81E-01		4.50E-01

Analysis Report for 1510092-03
CP5003S03-04

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	LU-172	181.53	20.60	-1.01E-02	3.83E+00	7.41E+00
		810.06	16.63	-2.67E+00		1.23E+01
		912.12	15.25	8.41E+01		3.02E+01
		1093.66	62.50	1.66E-01		3.83E+00
+	LU-173	100.72	5.24	4.69E-01	3.11E-01	9.37E-01
		272.11	21.20	1.46E-01		3.11E-01
+	HF-175	343.40	84.00	-3.24E-02	8.32E-02	8.32E-02
+	LU-176	88.34	13.30	4.58E-01	5.65E-02	5.07E-01
		201.83	86.00	-8.52E-02		6.32E-02
		306.78	94.00	-4.86E-03		5.65E-02
+	TA-182	67.75	41.20	7.54E-03	1.47E-01	1.47E-01
		1121.30	34.90	4.44E-01		4.53E-01
		1189.05	16.23	3.89E-01		7.36E-01
		1221.41	26.98	5.72E-02		4.63E-01
		1231.02	11.44	-1.34E-01		1.01E+00
+	IR-192	308.46	29.68	-8.75E-02	1.63E-01	2.44E-01
		468.07	48.10	3.97E-02		1.63E-01
+	HG-203	279.19	77.30	-7.87E-03	1.14E-01	1.14E-01
+	BI-207	569.67	97.72	-9.41E-03	5.43E-02	5.43E-02
		1063.62	74.90	1.17E-02		1.08E-01
+	TL-208	583.14	* 30.22	1.18E+00	1.54E-01	3.37E-01
		860.37	* 4.48	1.98E+00		2.47E+00
		2614.66	* 35.85	1.15E+00		1.54E-01
+	BI-210M	262.00	45.00	3.72E-03	1.10E-01	1.10E-01
		300.00	23.00	1.41E-01		2.70E-01
+	PB-210	46.50	4.25	2.94E+00	2.54E+00	2.54E+00
+	PB-211	404.84	2.90	-3.36E-01	1.94E+00	1.94E+00
		831.96	2.90	5.50E-01		2.85E+00
+	BI-212	727.17	* 11.80	9.92E-01	8.83E-01	8.83E-01
		1620.62	2.75	1.48E+00		2.92E+00
+	PB-212	238.63	* 44.60	1.88E+00	2.26E-01	2.26E-01
		300.09	* 3.41	1.58E+00		1.91E+00
+	BI-214	609.31	* 46.30	1.19E+00	1.85E-01	1.85E-01
		1120.29	* 15.10	1.44E+00		1.03E+00
		1764.49	* 15.80	1.82E+00		2.16E-01
		2204.22	4.98	7.74E-01		1.76E+00
+	PB-214	295.21	* 19.19	1.30E+00	2.33E-01	4.91E-01
		351.92	* 37.19	1.37E+00		2.33E-01
+	RN-219	401.80	6.50	-3.87E-01	7.92E-01	7.92E-01
+	RA-223	323.87	3.88	-3.66E-01	1.36E+00	1.36E+00
+	RA-224	240.98	3.95	1.11E+01	2.94E+00	2.94E+00
+	RA-225	40.00	31.00	4.52E-01	2.41E+00	2.41E+00
+	RA-226	186.21	* 3.28	3.46E+00	2.26E+00	2.26E+00
+	TH-227	50.10	8.40	-2.64E-01	7.28E-01	9.00E-01
		236.00	11.50	-4.78E+00		7.28E-01
		256.20	6.30	1.33E-01		8.33E-01
+	AC-228	338.32	* 11.40	1.43E+00	3.37E-01	8.56E-01
		911.07	* 27.70	1.54E+00		3.37E-01

Analysis Report for 1510092-03
CP5003S03-04

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	AC-228	969.11	*	16.60	1.52E+00	3.37E-01	7.29E-01
+	TH-230	48.44		16.90	-5.29E-01	4.84E-01	4.84E-01
		62.85		4.60	1.08E+00		1.30E+00
		67.67		0.37	6.90E-01		1.34E+01
+	PA-231	283.67		1.60	-4.87E-01	2.53E+00	3.03E+00
		302.67		2.30	-4.27E-02		2.53E+00
+	TH-231	25.64		14.70	-2.19E+00	7.58E-01	1.57E+01
		84.21		6.40	7.95E-01		7.58E-01
+	PA-233	311.98		38.60	1.05E-01	3.24E-01	3.24E-01
+	PA-234	131.20		20.40	2.34E-02	2.60E-01	2.60E-01
		733.99		8.80	-2.38E-01		7.61E-01
		946.00		12.00	-9.74E-03		6.47E-01
+	PA-234M	1001.03		0.92	6.06E-01	8.99E+00	8.99E+00
+	TH-234	63.29		3.80	1.30E+00	1.56E+00	1.56E+00
+	U-235	143.76		10.50	-8.57E-02	4.98E-01	4.98E-01
		163.35		4.70	-3.37E-01		1.13E+00
		205.31		4.70	2.92E-01		1.22E+00
+	NP-237	86.50		12.60	5.88E-01	5.23E-01	5.23E-01
+	NP-239	106.10		22.70	3.62E+02	3.23E+03	3.23E+03
		228.18		10.70	2.48E+03		8.17E+03
		277.60		14.10	1.68E+03		5.83E+03
+	AM-241	59.54		35.90	1.79E-02	1.55E-01	1.55E-01
+	AM-243	74.67		66.00	-2.36E-01	1.07E-01	1.07E-01
+	CM-243	209.75		3.29	1.98E+00	3.98E-01	1.96E+00
		228.14		10.60	1.69E-01		5.59E-01
		277.60		14.00	1.15E-01		3.98E-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

: 00367

Analysis Report for 1510092-03
CP5003S03-04

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	7.77E-01	7.77E-01	-2.73E-02	3.64E-01
NA-22	1274.54	99.94	7.71E-02	7.71E-02	6.84E-04	3.49E-02
NA-24	1368.53	99.99	3.48E+14	4.61E+13	2.99E+13	1.54E+14
	2754.09	99.86	4.61E+13		0.00E+00	0.00E+00
AL-26	1808.65	99.76	5.81E-02	5.81E-02	-8.00E-03	2.45E-02
+ K-40	1460.81	*	10.67	9.12E-01	1.89E+01	4.18E-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	5.26E-02	5.26E-02	2.70E-03	2.55E-02
	78.34	96.00	7.98E-02		3.25E-01	3.92E-02
SC-46	889.25	99.98	9.83E-02	9.83E-02	-1.40E-02	4.56E-02
	1120.51	99.99	1.73E-01		2.07E-01	8.22E-02
V-48	983.52	99.98	3.30E-01	3.30E-01	1.64E-01	1.53E-01
	1312.10	97.50	3.53E-01		-1.02E-01	1.61E-01
CR-51	320.08	9.83	1.26E+00	1.26E+00	4.58E-01	6.00E-01
+ MN-54	834.83	*	99.97	6.83E-02	3.37E-02	3.14E-02
CO-56	846.75	99.96	8.14E-02	8.14E-02	-2.26E-02	3.72E-02
	1037.75	14.03	7.00E-01		-2.73E-01	3.21E-01
	1238.25	67.00	2.39E-01		1.41E-01	1.13E-01
	1771.40	15.51	5.33E-01		2.83E-02	2.28E-01
	2598.48	16.90	3.23E-01		4.48E-03	1.25E-01
CO-57	122.06	85.51	6.08E-02	6.08E-02	1.03E-02	2.95E-02
	136.48	10.60	5.03E-01		-3.37E-02	2.44E-01
CO-58	810.76	99.40	9.72E-02	9.72E-02	-2.10E-02	4.51E-02
FE-59	1099.22	56.50	2.51E-01	2.51E-01	6.87E-02	1.16E-01
	1291.56	43.20	3.33E-01		1.28E-01	1.52E-01
CO-60	1173.22	100.00	9.10E-02	7.75E-02	2.22E-02	4.21E-02
	1332.49	100.00	7.75E-02		-1.19E-02	3.50E-02
ZN-65	1115.52	50.75	1.97E-01	1.97E-01	-1.17E-02	9.13E-02
+ GA-67	93.31	*	35.70	2.53E+02	3.39E+02	1.24E+02
	208.95	*	2.24	4.02E+03	2.53E+03	1.97E+03
	300.22	*	16.00	4.18E+02	3.45E+02	2.01E+02
SE-75	121.11	16.70	3.49E-01	1.01E-01	9.44E-02	1.70E-01
	136.00	59.20	1.01E-01		-5.52E-03	4.92E-02
	264.65	59.80	1.01E-01		3.37E-02	4.82E-02
	279.53	25.20	2.53E-01		4.54E-02	1.21E-01
	400.65	11.40	5.70E-01		-3.24E-02	2.69E-01
RB-82	776.52	13.00	1.33E+00	1.33E+00	1.94E-01	6.22E-01
RB-83	520.41	46.00	1.56E-01	1.56E-01	-4.32E-02	7.32E-02
	529.64	30.30	2.48E-01		-1.16E-02	1.16E-01
	552.65	16.40	4.37E-01		-1.08E-01	2.04E-01
KR-85	513.99	0.43	1.47E+01	1.47E+01	-2.08E+01	6.91E+00
SR-85	513.99	99.27	9.03E-02	9.03E-02	-1.28E-01	4.26E-02
Y-88	898.02	93.40	9.76E-02	8.11E-02	3.07E-03	4.52E-02
	1836.01	99.38	8.11E-02		-8.33E-03	3.49E-02
NB-93M	16.57	9.43	5.66E+03	5.66E+03	-5.95E+03	2.75E+03
NB-94	702.63	100.00	7.30E-02	7.30E-02	1.54E-02	3.43E-02
	871.10	100.00	7.44E-02		-5.80E-03	3.46E-02
NB-95	765.79	99.81	1.59E-01	1.59E-01	9.70E-02	7.47E-02
NB-95M	235.69	25.00	1.76E+02	1.76E+02	-1.15E+03	8.57E+01
ZR-95	724.18	43.70	2.82E-01	1.94E-01	-1.62E-02	1.34E-01
	756.72	55.30	1.94E-01		-2.41E-04	9.11E-02

Analysis Report for 1510092-03

CP5003S03-04

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	3.16E+03	1.94E+03	3.52E+02	1.53E+03
	739.58	12.80	1.94E+03		-5.75E+02	9.02E+02
	778.00	4.50	5.61E+03		-2.49E+03	2.60E+03
RU-103	497.08	89.00	1.07E-01	1.07E-01	3.94E-02	5.00E-02
RU-106	621.84	9.80	7.50E-01	7.50E-01	3.10E-01	3.53E-01
AG-108M	433.93	89.90	6.26E-02	6.26E-02	-1.53E-02	2.96E-02
	614.37	90.40	6.70E-02		-3.08E-02	3.13E-02
	722.95	90.50	7.80E-02		-1.08E-02	3.65E-02
CD-109	88.03	3.72	1.90E+00	1.90E+00	1.72E+00	9.34E-01
AG-110M	657.75	93.14	8.48E-02	8.48E-02	3.70E-03	3.99E-02
	677.61	10.53	6.88E-01		-2.16E-01	3.21E-01
	706.67	16.46	4.79E-01		-4.54E-02	2.24E-01
	763.93	21.98	3.81E-01		-1.37E-01	1.79E-01
	884.67	71.63	1.05E-01		-6.06E-02	4.86E-02
	1384.27	23.94	3.12E-01		1.39E-02	1.38E-01
CD-113M	263.70	0.02	2.15E+02	2.15E+02	-1.79E+01	1.03E+02
SN-113	255.12	1.93	3.31E+00	1.10E-01	5.21E-01	1.59E+00
	391.69	64.90	1.10E-01		3.25E-02	5.23E-02
TE123M	159.00	84.10	7.66E-02	7.66E-02	3.41E-02	3.72E-02
SB-124	602.71	97.87	1.02E-01	1.02E-01	2.43E-02	4.78E-02
	645.85	7.26	1.30E+00		-7.22E-01	6.06E-01
	722.78	11.10	9.25E-01		-1.28E-01	4.32E-01
	1691.02	49.00	1.98E-01		1.05E-02	8.62E-02
I-125	35.49	6.49	5.80E+00	5.80E+00	-3.55E-03	2.81E+00
SB-125	176.33	6.89	8.25E-01	1.83E-01	2.93E-01	4.00E-01
	427.89	29.33	1.83E-01		-9.39E-02	8.59E-02
	463.38	10.35	6.79E-01		4.45E-01	3.23E-01
	600.56	17.80	3.91E-01		1.31E-01	1.84E-01
	635.90	11.32	5.61E-01		-2.57E-01	2.62E-01
SB-126	414.70	83.30	3.89E-01	3.89E-01	-2.31E-02	1.83E-01
	666.33	99.60	4.30E-01		-3.74E-02	2.02E-01
	695.00	99.60	4.76E-01		2.13E-01	2.24E-01
	720.50	53.80	8.31E-01		2.59E-02	3.89E-01
SN-126	87.57	37.00	1.82E-01	1.82E-01	1.65E-01	8.95E-02
SB-127	473.00	25.00	7.81E+01	6.55E+01	8.87E-01	3.67E+01
	685.20	35.70	6.55E+01		3.23E+00	3.06E+01
	783.80	14.70	1.76E+02		2.61E+01	8.19E+01
I-129	29.78	57.00	1.18E+00	1.18E+00	-4.74E-01	5.69E-01
	33.60	13.20	2.67E+00		8.09E-01	1.30E+00
	39.58	7.52	2.25E+00		4.22E-01	1.09E+00
I-131	284.30	6.05	1.34E+01	1.01E+00	-2.15E+00	6.35E+00
	364.48	81.20	1.01E+00		-8.51E-01	4.75E-01
	636.97	7.26	1.49E+01		-2.07E+00	6.95E+00
	722.89	1.80	6.52E+01		-9.06E+00	3.05E+01
TE-132	49.72	13.10	6.06E+02	6.94E+01	-1.78E+02	2.94E+02
	228.16	88.00	6.94E+01		2.10E+01	3.35E+01
BA-133	81.00	33.00	1.36E-01	8.88E-02	3.75E-02	6.62E-02
	302.84	17.80	3.29E-01		-5.55E-03	1.57E-01
	356.01	60.00	8.88E-02		4.62E-03	4.21E-02
I-133	529.87	86.30	1.49E+10	1.49E+10	2.59E+09	6.99E+09
XE-133	81.00	38.00	8.79E+00	8.79E+00	2.41E+00	4.26E+00
CS-134	563.23	8.38	6.82E-01	8.59E-02	-4.19E-02	3.18E-01
	569.32	15.43	3.54E-01		-6.13E-02	1.64E-01

Analysis Report for 1510092-03
CP5003S03-04

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	8.59E-02	8.59E-02	5.54E-03	4.09E-02	
	795.84	85.40	1.11E-01		7.65E-02	5.26E-02	
	801.93	8.73	9.22E-01		1.84E-01	4.32E-01	
CS-135	268.24	16.00	3.62E-01	3.62E-01	-1.28E-01	1.74E-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	1.00E+26	
	CS-136	153.22	7.46	4.07E+00	4.18E-01	2.66E+00	1.98E+00
		163.89	4.61	6.53E+00		9.65E-01	3.17E+00
176.55		13.56	2.26E+00		1.10E+00	1.10E+00	
CS-137	273.65	12.66	2.43E+00		-2.48E+00	1.16E+00	
	340.57	48.50	7.02E-01		-1.10E+00	3.36E-01	
	818.50	99.70	4.18E-01		1.43E-01	1.95E-01	
LA-138	1048.07	79.60	5.49E-01		6.41E-02	2.53E-01	
	1235.34	19.70	3.47E+00		1.92E+00	1.64E+00	
	661.65	85.12	8.63E-02	8.63E-02	-1.34E-02	4.06E-02	
CE-139	788.74	34.00	2.18E-01	1.08E-01	4.43E-02	1.02E-01	
	1435.80	66.00	1.08E-01		-1.74E-02	4.81E-02	
	165.85	80.35	8.11E-02	8.11E-02	6.84E-02	3.93E-02	
BA-140	162.64	6.70	4.64E+00	1.36E+00	-1.38E+00	2.25E+00	
	304.84	4.50	6.91E+00		-1.42E+00	3.29E+00	
	423.70	3.20	1.04E+01		3.51E+00	4.93E+00	
LA-140	437.55	2.00	1.76E+01		7.17E+00	8.34E+00	
	537.32	25.00	1.36E+00		-2.80E-01	6.38E-01	
	328.77	20.50	1.72E+00	5.47E-01	1.15E+00	8.23E-01	
CE-141	487.03	45.50	6.97E-01		1.22E-01	3.27E-01	
	815.85	23.50	1.67E+00		-9.29E-01	7.73E-01	
	1596.49	95.49	5.47E-01		-2.87E-02	2.48E-01	
CE-143	145.44	48.40	2.22E-01	2.22E-01	8.15E-02	1.08E-01	
	57.36	11.80	6.13E+06	2.61E+06	-2.68E+06	2.96E+06	
	293.26	42.00	2.61E+06		-1.45E+06	1.26E+06	
CE-144	664.55	5.20	1.95E+07		6.30E+06	9.17E+06	
	133.54	10.80	5.19E-01	5.19E-01	2.80E-01	2.52E-01	
	476.78	42.00	1.34E-01	6.52E-02	-4.71E-03	6.29E-02	
PM-144	618.01	98.60	6.52E-02		-1.10E-02	3.04E-02	
	696.49	99.49	8.29E-02		2.59E-02	3.91E-02	
	36.85	21.70	1.00E+00	5.14E-01	-1.15E-02	4.86E-01	
PM-145	37.36	39.70	5.14E-01		-5.89E-03	2.50E-01	
	42.30	15.10	9.08E-01		5.94E-01	4.42E-01	
	72.40	2.31	2.16E+00		-1.39E+00	1.05E+00	
PM-146	453.90	39.94	1.35E-01	1.35E-01	1.44E-02	6.35E-02	
	735.90	14.01	4.99E-01		3.12E-02	2.33E-01	
	747.13	13.10	5.04E-01		-3.21E-01	2.34E-01	
ND-147	91.11	28.90	1.84E+00	1.84E+00	-4.62E-01	9.05E-01	
	531.02	13.10	3.78E+00		1.83E+00	1.78E+00	
	285.90	3.10	4.50E+04	4.50E+04	-6.46E+03	2.14E+04	
EU-152	121.78	20.50	2.34E-01	2.34E-01	3.98E-02	1.14E-01	
	244.69	5.40	9.91E-01		-3.14E-01	4.76E-01	
	344.27	19.13	2.76E-01		-7.17E-02	1.31E-01	
PM-149	778.89	9.20	7.18E-01		-3.53E-01	3.33E-01	
	964.01	10.40	9.36E-01		7.85E-02	4.40E-01	
	1085.78	7.22	1.02E+00		-5.34E-01	4.63E-01	
1112.02	9.60	8.60E-01		-7.53E-02	3.96E-01		

Analysis Report for 1510092-03

CP5003S03-04

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	5.84E-01	2.34E-01	1.04E-01	2.66E-01	
GD-153	97.43	31.30	1.69E-01	1.69E-01	4.86E-02	8.21E-02	
	103.18	22.20	2.39E-01		2.35E-02	1.16E-01	
EU-154	123.07	40.50	1.17E-01	1.17E-01	4.03E-02	5.69E-02	
	723.30	19.70	3.61E-01		-5.01E-02	1.69E-01	
	873.19	11.50	6.53E-01		-1.36E-01	3.03E-01	
	996.32	10.30	6.97E-01		-3.51E-01	3.20E-01	
	1004.76	17.90	5.07E-01		-4.58E-02	2.37E-01	
	1274.45	35.50	2.14E-01		1.89E-03	9.65E-02	
EU-155	86.50	30.90	2.16E-01	2.16E-01	2.43E-01	1.06E-01	
	105.30	20.70	2.40E-01		1.64E-01	1.17E-01	
EU-156	811.77	10.40	2.79E+00	2.79E+00	-9.41E-01	1.29E+00	
	1153.47	7.20	5.94E+00		2.57E+00	2.76E+00	
	1230.71	8.90	4.82E+00		1.23E-01	2.23E+00	
HO-166M	184.41	72.60	9.19E-02	9.19E-02	3.80E-02	4.47E-02	
	280.45	29.60	1.79E-01		3.21E-02	8.54E-02	
	410.94	11.10	5.46E-01		2.73E-01	2.60E-01	
	711.69	54.10	1.32E-01		-1.33E-02	6.19E-02	
TM-171	66.72	0.14	3.73E+01	3.73E+01	6.45E+00	1.81E+01	
HF-172	81.75	4.52	1.01E+00	4.50E-01	-1.00E+00	4.89E-01	
	125.81	11.30	4.50E-01		-4.81E-01	2.18E-01	
LU-172	181.53	20.60	7.41E+00	3.83E+00	-1.01E-02	3.58E+00	
	810.06	16.63	1.23E+01		-2.67E+00	5.72E+00	
	912.12	15.25	3.02E+01		8.41E+01	1.46E+01	
	1093.66	62.50	3.83E+00		1.66E-01	1.77E+00	
LU-173	100.72	5.24	9.37E-01	3.11E-01	4.69E-01	4.55E-01	
	272.11	21.20	3.11E-01		1.46E-01	1.50E-01	
HF-175	343.40	84.00	8.32E-02	8.32E-02	-3.24E-02	3.94E-02	
LU-176	88.34	13.30	5.07E-01	5.65E-02	4.58E-01	2.49E-01	
	201.83	86.00	6.32E-02		-8.52E-02	3.05E-02	
	306.78	94.00	5.65E-02		-4.86E-03	2.69E-02	
TA-182	67.75	41.20	1.47E-01	1.47E-01	7.54E-03	7.12E-02	
	1121.30	34.90	4.53E-01		4.44E-01	2.15E-01	
	1189.05	16.23	7.36E-01		3.89E-01	3.42E-01	
	1221.41	26.98	4.63E-01		5.72E-02	2.15E-01	
	1231.02	11.44	1.01E+00		-1.34E-01	4.69E-01	
IR-192	308.46	29.68	2.44E-01	1.63E-01	-8.75E-02	1.16E-01	
	468.07	48.10	1.63E-01		3.97E-02	7.71E-02	
HG-203	279.19	77.30	1.14E-01	1.14E-01	-7.87E-03	5.44E-02	
BI-207	569.67	97.72	5.43E-02	5.43E-02	-9.41E-03	2.52E-02	
	1063.62	74.90	1.08E-01		1.17E-02	4.99E-02	
+ TL-208	583.14	*	30.22	3.37E-01	1.54E-01	1.18E+00	1.62E-01
	860.37	*	4.48	2.47E+00		1.98E+00	1.18E+00
	2614.66	*	35.85	1.54E-01		1.15E+00	6.43E-02
BI-210M	262.00	45.00	1.10E-01	1.10E-01	3.72E-03	5.26E-02	
	300.00	23.00	2.70E-01		1.41E-01	1.30E-01	
PB-210	46.50	4.25	2.54E+00	2.54E+00	2.94E+00	1.24E+00	
PB-211	404.84	2.90	1.94E+00	1.94E+00	-3.36E-01	9.17E-01	
	831.96	2.90	2.85E+00		5.50E-01	1.33E+00	
+ BI-212	727.17	*	11.80	8.83E-01	8.83E-01	9.92E-01	4.22E-01
	1620.62		2.75	2.92E+00		1.48E+00	1.30E+00
+ PB-212	238.63	*	44.60	2.26E-01	2.26E-01	1.88E+00	1.11E-01
	300.09	*	3.41	1.91E+00		1.58E+00	9.21E-01

Analysis Report for 1510092-03
CP5003S03-04

	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	1.85E-01	1.85E-01	1.19E+00	8.84E-02
		1120.29	*	15.10	1.03E+00		1.44E+00	4.92E-01
		1764.49	*	15.80	2.16E-01		1.82E+00	7.99E-02
		2204.22		4.98	1.76E+00		7.74E-01	7.85E-01
+	PB-214	295.21	*	19.19	4.91E-01	2.33E-01	1.30E+00	2.39E-01
		351.92	*	37.19	2.33E-01		1.37E+00	1.13E-01
	RN-219	401.80		6.50	7.92E-01	7.92E-01	-3.87E-01	3.73E-01
	RA-223	323.87		3.88	1.36E+00	1.36E+00	-3.66E-01	6.45E-01
	RA-224	240.98		3.95	2.94E+00	2.94E+00	1.11E+01	1.44E+00
	RA-225	40.00		31.00	2.41E+00	2.41E+00	4.52E-01	1.17E+00
+	RA-226	186.21	*	3.28	2.26E+00	2.26E+00	3.46E+00	1.11E+00
	TH-227	50.10		8.40	9.00E-01	7.28E-01	-2.64E-01	4.36E-01
		236.00		11.50	7.28E-01		-4.78E+00	3.55E-01
		256.20		6.30	8.33E-01		1.33E-01	3.99E-01
+	AC-228	338.32	*	11.40	8.56E-01	3.37E-01	1.43E+00	4.16E-01
		911.07	*	27.70	3.37E-01		1.54E+00	1.58E-01
		969.11	*	16.60	7.29E-01		1.52E+00	3.47E-01
	TH-230	48.44		16.90	4.84E-01	4.84E-01	-5.29E-01	2.35E-01
		62.85		4.60	1.30E+00		1.08E+00	6.32E-01
		67.67		0.37	1.34E+01		6.90E-01	6.52E+00
	PA-231	283.67		1.60	3.03E+00	2.53E+00	-4.87E-01	1.44E+00
		302.67		2.30	2.53E+00		-4.27E-02	1.21E+00
	TH-231	25.64		14.70	1.57E+01	7.58E-01	-2.19E+00	7.64E+00
		84.21		6.40	7.58E-01		7.95E-01	3.68E-01
	PA-233	311.98		38.60	3.24E-01	3.24E-01	1.05E-01	1.54E-01
	PA-234	131.20		20.40	2.60E-01	2.60E-01	2.34E-02	1.27E-01
		733.99		8.80	7.61E-01		-2.38E-01	3.54E-01
		946.00		12.00	6.47E-01		-9.74E-03	3.00E-01
	PA-234M	1001.03		0.92	8.99E+00	8.99E+00	6.06E-01	4.17E+00
	TH-234	63.29		3.80	1.56E+00	1.56E+00	1.30E+00	7.59E-01
	U-235	143.76		10.50	4.98E-01	4.98E-01	-8.57E-02	2.42E-01
		163.35		4.70	1.13E+00		-3.37E-01	5.48E-01
		205.31		4.70	1.22E+00		2.92E-01	5.92E-01
	NP-237	86.50		12.60	5.23E-01	5.23E-01	5.88E-01	2.56E-01
	NP-239	106.10		22.70	3.23E+03	3.23E+03	3.62E+02	1.57E+03
		228.18		10.70	8.17E+03		2.48E+03	3.95E+03
		277.60		14.10	5.83E+03		1.68E+03	2.79E+03
	AM-241	59.54		35.90	1.55E-01	1.55E-01	1.79E-02	7.52E-02
	AM-243	74.67		66.00	1.07E-01	1.07E-01	-2.36E-01	5.23E-02
	CM-243	209.75		3.29	1.96E+00	3.98E-01	1.98E+00	9.49E-01
		228.14		10.60	5.59E-01		1.69E-01	2.70E-01
		277.60		14.00	3.98E-01		1.15E-01	1.91E-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

Analysis Report for 1510092-03
CP5003S03-04

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: CP5003S03-04

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	3	184	
9:	590	1197	1178	479	640	1685	305	156	
17:	154	119	122	148	108	110	119	132	
25:	125	132	116	127	103	102	108	110	
33:	141	123	117	121	121	118	122	136	
41:	147	135	149	115	128	161	197	122	
49:	116	102	122	103	121	137	98	97	
57:	68	104	106	124	114	115	161	181	
65:	130	113	121	133	110	123	147	126	
73:	130	170	447	236	530	410	115	119	
81:	121	120	110	160	163	109	218	210	
89:	120	206	151	140	263	161	100	79	
97:	83	83	101	85	82	70	67	93	
105:	115	94	67	76	98	70	79	90	
113:	79	81	99	82	73	65	86	75	
121:	76	69	78	76	62	76	87	84	
129:	111	79	77	80	87	78	69	90	
137:	66	62	66	68	67	73	75	89	
145:	71	74	88	72	66	60	82	80	
153:	73	79	72	68	70	64	84	69	
161:	66	59	61	84	69	76	68	63	
169:	54	50	73	63	63	67	79	66	
177:	73	52	60	52	65	58	58	52	
185:	93	201	106	43	58	51	67	68	
193:	50	56	49	48	46	60	63	61	
201:	54	51	61	41	82	57	54	55	
209:	102	97	50	55	53	37	50	47	
217:	52	58	51	51	53	42	44	52	
225:	45	49	60	56	53	52	52	53	
233:	38	47	53	56	42	329	579	128	
241:	125	118	48	32	35	40	42	39	
249:	36	37	32	29	38	38	36	39	
257:	29	37	31	33	35	24	29	33	
265:	30	34	28	25	43	76	62	31	
273:	27	44	40	39	40	51	24	26	
281:	28	31	25	27	26	22	28	39	
289:	34	37	36	34	26	57	193	141	
297:	39	23	38	55	53	34	29	30	
305:	29	25	30	33	25	29	35	27	
313:	26	27	25	17	29	29	33	21	
321:	30	29	21	27	27	25	28	52	
329:	25	29	33	25	30	30	20	20	
337:	36	136	78	20	21	24	21	22	
345:	21	30	29	24	32	32	126	379	
353:	88	24	24	27	24	15	20	21	
361:	25	20	17	26	17	14	28	19	

369: 24 28 11 28 24 22 18 20

Sample Title: CP5003S03-04

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	17	25	36	26	18	18	21	20
385:	15	17	30	36	27	29	21	29
393:	23	21	18	23	21	21	29	19
401:	14	18	19	20	18	28	22	27
409:	29	27	22	21	24	13	19	18
417:	15	15	18	11	18	17	26	20
425:	24	16	21	17	18	13	26	17
433:	19	16	22	23	24	23	18	24
441:	12	12	18	25	16	17	19	14
449:	18	12	10	17	21	21	11	11
457:	26	9	20	23	17	26	51	22
465:	18	22	14	18	18	20	18	9
473:	17	21	16	14	14	14	16	16
481:	9	11	15	12	15	18	16	16
489:	10	12	15	17	12	6	14	15
497:	13	16	13	14	11	16	22	16
505:	11	25	13	12	26	73	86	37
513:	19	12	14	14	13	14	18	12
521:	9	18	21	16	12	8	14	11
529:	18	12	21	20	20	16	13	19
537:	15	17	11	12	20	16	11	8
545:	5	12	11	9	12	10	16	14
553:	15	9	20	15	13	18	11	14
561:	10	12	15	16	10	15	12	13
569:	9	10	12	14	11	12	16	12
577:	9	13	15	16	17	56	163	87
585:	11	8	12	17	12	15	15	5
593:	9	9	10	16	5	13	12	19
601:	10	19	10	9	7	14	15	53
609:	210	130	16	12	9	11	7	6
617:	5	12	13	10	12	8	13	14
625:	16	11	10	9	17	6	10	13
633:	5	15	12	7	11	7	9	11
641:	14	11	15	6	4	8	13	10
649:	14	13	15	14	16	8	10	13
657:	10	15	17	6	15	14	10	11
665:	16	14	7	7	12	11	8	9
673:	10	10	11	10	9	8	14	6
681:	11	15	7	14	6	12	8	4
689:	10	9	7	8	17	14	14	15
697:	9	12	10	12	14	4	10	15
705:	14	10	9	10	8	16	10	7
713:	9	14	16	9	11	12	15	9
721:	11	5	11	7	9	18	47	33
729:	7	9	9	10	10	11	11	4
737:	6	13	10	7	10	10	9	10
745:	6	6	8	5	10	11	12	14
753:	8	9	17	10	13	7	11	10
761:	8	9	13	7	12	9	18	18
769:	13	12	6	10	13	11	12	6
777:	5	9	8	11	6	8	11	7
785:	13	11	9	13	2	9	10	7
793:	9	26	23	16	8	11	12	10

801: 12 4 14 8 13 5 13 10

Sample Title: CP5003S03-04

Channel	1	2	3	4	5	6	7	8
809:	4	8	7	10	5	5	14	3
817:	8	8	8	10	13	8	10	9
825:	9	4	8	5	10	14	9	8
833:	8	10	18	12	7	8	10	13
841:	15	14	7	4	7	5	6	4
849:	6	9	8	10	10	11	5	10
857:	11	7	20	23	25	6	8	8
865:	7	7	9	10	8	4	6	12
873:	10	7	11	7	8	11	10	6
881:	8	8	5	8	11	4	3	8
889:	13	8	11	9	6	10	8	8
897:	9	6	7	11	4	5	9	4
905:	6	3	4	5	9	59	113	43
913:	12	10	10	5	8	11	6	3
921:	7	5	9	7	6	7	8	5
929:	8	4	8	10	9	13	16	3
937:	3	4	3	5	7	7	5	6
945:	7	10	11	6	9	7	10	7
953:	12	7	11	2	7	6	7	8
961:	11	9	5	21	19	7	12	49
969:	74	26	10	3	3	8	3	10
977:	5	5	4	5	12	5	15	5
985:	7	5	6	5	5	6	7	7
993:	14	1	3	7	4	0	12	10
1001:	8	13	4	9	9	12	12	8
1009:	6	2	7	7	6	6	5	8
1017:	4	5	3	4	7	5	7	6
1025:	11	9	4	5	5	9	5	11
1033:	10	4	4	6	7	6	6	8
1041:	4	6	8	4	11	6	5	7
1049:	4	5	8	4	8	8	5	7
1057:	7	7	4	6	5	5	9	8
1065:	11	4	7	7	4	4	6	6
1073:	8	7	6	9	6	6	3	4
1081:	7	4	2	8	4	6	10	3
1089:	10	9	5	8	4	5	9	7
1097:	9	4	8	7	8	8	4	6
1105:	3	7	8	6	5	5	10	6
1113:	6	8	6	11	11	9	33	39
1121:	21	6	6	6	11	7	4	7
1129:	15	10	8	10	8	8	7	4
1137:	8	6	8	10	10	8	6	3
1145:	8	10	7	7	4	8	7	6
1153:	8	12	12	8	4	10	2	3
1161:	5	8	7	5	8	10	3	5
1169:	10	8	6	7	10	8	6	6
1177:	7	3	4	7	6	6	10	8
1185:	11	8	8	10	11	12	4	7
1193:	5	1	5	8	6	6	12	10
1201:	10	8	7	14	6	7	10	9
1209:	9	6	4	5	6	10	4	11
1217:	9	7	4	15	13	10	6	8
1225:	8	6	11	7	2	11	8	6

1233: 10 9 9 15 17 25 10 8

Sample Title: CP5003S03-04

Channel	1	2	3	4	5	6	7	8
1241:	3	8	8	7	5	9	11	8
1249:	8	10	4	8	5	12	7	10
1257:	0	4	2	9	7	10	6	3
1265:	5	4	5	7	3	4	1	5
1273:	4	4	6	4	6	4	6	6
1281:	6	5	7	2	3	7	7	7
1289:	11	3	2	5	6	6	2	2
1297:	4	6	6	3	0	0	4	1
1305:	3	3	4	5	3	3	8	6
1313:	8	2	6	4	12	5	10	4
1321:	7	6	5	6	1	5	4	6
1329:	1	4	3	5	6	6	4	3
1337:	6	1	3	3	3	6	4	2
1345:	3	1	1	8	6	3	2	2
1353:	2	1	4	0	8	6	1	2
1361:	2	5	1	3	4	2	2	3
1369:	4	1	5	3	3	1	1	6
1377:	12	14	1	3	3	3	2	5
1385:	2	2	4	7	0	3	3	2
1393:	4	2	1	3	4	1	1	2
1401:	7	6	2	0	3	4	7	9
1409:	8	4	3	6	7	0	2	3
1417:	6	3	2	4	4	2	2	0
1425:	3	2	5	1	5	5	3	2
1433:	5	5	1	3	2	4	3	4
1441:	1	2	4	0	1	4	1	5
1449:	2	5	2	2	2	2	1	1
1457:	6	16	103	290	232	51	6	4
1465:	3	1	2	2	2	4	3	0
1473:	1	2	2	1	1	2	3	0
1481:	3	2	3	1	2	2	1	2
1489:	4	4	3	1	1	4	3	7
1497:	1	8	1	2	1	1	3	2
1505:	0	0	2	5	7	2	1	1
1513:	0	2	3	3	1	0	1	4
1521:	1	0	1	2	0	0	1	2
1529:	1	2	3	1	1	0	1	1
1537:	3	2	0	1	0	0	2	0
1545:	1	0	0	2	3	3	1	3
1553:	2	0	3	1	2	2	2	5
1561:	2	1	2	3	0	2	2	2
1569:	1	2	2	1	2	2	0	1
1577:	1	3	2	5	2	5	2	1
1585:	1	1	4	7	5	6	6	9
1593:	6	5	3	3	0	2	1	2
1601:	2	3	0	3	0	2	1	1
1609:	4	1	3	1	2	2	1	3
1617:	2	1	2	5	2	5	2	2
1625:	1	1	0	0	3	6	4	3
1633:	2	2	3	2	4	2	0	1
1641:	2	2	2	2	1	1	0	0
1649:	3	0	1	1	1	0	1	1
1657:	1	2	3	3	4	0	1	1

1665: 2 0 1 0 0 3 1 2

Sample Title: CP5003S03-04

Channel	1	2	3	4	5	6	7	8
1673:	3	1	5	0	4	2	2	0
1681:	1	1	3	2	3	4	1	2
1689:	2	0	2	0	4	0	1	1
1697:	2	1	0	2	1	2	0	0
1705:	2	3	0	1	0	0	1	2
1713:	0	2	2	1	1	1	1	3
1721:	1	0	0	1	2	0	1	3
1729:	5	3	3	0	0	2	1	2
1737:	0	2	0	1	0	1	1	0
1745:	0	1	0	1	0	0	0	0
1753:	1	1	0	2	2	0	0	3
1761:	2	5	25	31	24	5	3	2
1769:	3	1	0	0	1	2	0	0
1777:	1	3	0	0	1	0	0	0
1785:	2	2	1	0	2	0	2	3
1793:	1	0	0	0	1	1	0	0
1801:	2	3	1	2	1	1	1	2
1809:	1	0	1	1	2	1	0	0
1817:	0	2	1	0	3	1	2	2
1825:	1	0	0	2	1	2	2	1
1833:	1	0	2	1	4	1	1	2
1841:	0	3	3	0	2	2	4	4
1849:	0	2	1	0	2	2	1	0
1857:	0	0	0	0	1	0	3	0
1865:	0	1	2	1	1	1	3	2
1873:	1	0	2	3	1	1	0	0
1881:	1	3	1	0	1	3	3	2
1889:	3	3	2	3	1	1	0	0
1897:	2	0	0	3	0	2	2	1
1905:	0	0	4	3	0	0	5	0
1913:	2	3	0	0	2	1	0	1
1921:	1	1	2	1	1	0	2	2
1929:	1	1	0	1	0	1	2	2
1937:	0	2	1	3	3	0	0	0
1945:	0	0	1	1	1	0	1	1
1953:	2	2	3	2	2	1	1	0
1961:	0	2	1	2	3	1	2	0
1969:	1	2	0	0	2	3	0	0
1977:	2	1	0	1	1	2	0	0
1985:	0	0	1	0	1	0	0	1
1993:	1	2	0	4	0	2	2	0
2001:	1	1	0	1	2	2	2	0
2009:	1	3	1	1	0	1	3	3
2017:	2	3	1	1	1	1	0	1
2025:	0	1	1	0	2	0	0	2
2033:	0	1	1	0	1	3	1	0
2041:	1	3	3	1	1	1	2	1
2049:	0	3	3	2	1	0	0	2
2057:	0	1	1	2	0	1	0	0
2065:	2	4	3	2	0	1	3	1
2073:	3	2	0	2	0	1	0	1
2081:	1	2	1	1	4	2	0	0
2089:	0	0	4	0	0	1	1	1

2097: 0 2 2 1 4 5 4 4

Sample Title: CP5003S03-04

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2105:	3	3	0	0	2	0	0	0
2113:	1	2	0	4	3	1	1	1
2121:	1	1	2	3	0	1	0	3
2129:	1	1	1	0	1	2	0	0
2137:	1	0	0	2	1	1	0	1
2145:	0	1	1	1	1	0	0	2
2153:	2	0	0	1	2	3	0	0
2161:	0	2	4	1	0	1	2	1
2169:	1	0	3	0	0	2	3	3
2177:	2	0	3	2	2	1	0	0
2185:	0	0	2	1	1	1	0	3
2193:	0	1	0	3	1	3	0	0
2201:	5	2	5	5	4	1	0	1
2209:	0	1	3	0	2	0	2	1
2217:	2	0	0	1	0	1	1	0
2225:	1	0	0	3	1	1	1	1
2233:	1	0	1	2	1	1	1	0
2241:	2	2	0	1	1	2	1	1
2249:	0	1	0	1	0	1	1	0
2257:	0	2	0	2	4	1	1	1
2265:	4	0	1	0	1	0	0	0
2273:	2	0	0	1	1	2	0	1
2281:	0	1	2	2	1	1	0	0
2289:	2	0	0	0	1	1	1	0
2297:	2	4	3	1	0	3	0	0
2305:	1	0	0	1	0	0	1	2
2313:	2	1	3	0	2	2	0	1
2321:	0	2	1	3	0	2	2	2
2329:	0	1	0	0	2	0	1	1
2337:	0	2	0	3	1	2	0	2
2345:	2	0	0	0	0	0	0	0
2353:	1	2	1	1	1	1	2	1
2361:	2	0	0	1	1	1	0	0
2369:	2	0	0	0	0	1	0	2
2377:	2	0	2	0	0	1	1	1
2385:	0	1	2	0	2	2	1	0
2393:	0	0	1	1	1	2	1	2
2401:	2	1	0	2	0	1	2	0
2409:	2	2	1	1	0	1	0	0
2417:	2	0	1	0	0	0	2	1
2425:	0	2	0	1	0	0	0	1
2433:	2	1	0	1	1	1	3	0
2441:	0	0	0	0	1	2	3	1
2449:	2	0	2	1	0	1	0	0
2457:	0	0	1	0	1	1	0	0
2465:	0	1	0	0	0	0	1	0
2473:	0	1	0	1	0	1	0	1
2481:	1	0	0	0	0	0	1	1
2489:	0	1	0	0	1	0	1	0
2497:	1	0	0	0	0	1	0	0
2505:	0	1	0	0	0	0	1	0
2513:	0	1	0	0	0	1	0	0
2521:	0	1	1	0	0	0	0	1

2529: 0 0 0 0 0 0 0 2 2

Sample Title: CP5003S03-04

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2537:	2	0	0	0	1	0	0	0
2545:	0	0	0	0	2	0	0	0
2553:	0	0	1	0	1	0	0	0
2561:	0	0	1	1	0	0	1	0
2569:	2	1	0	0	0	0	1	0
2577:	1	1	0	1	1	0	1	2
2585:	1	1	0	0	0	0	0	0
2593:	0	1	1	0	0	0	0	2
2601:	0	0	1	0	1	0	1	0
2609:	0	3	8	20	35	36	21	7
2617:	1	0	1	0	1	1	2	0
2625:	1	1	0	0	0	1	0	0
2633:	0	0	2	0	1	0	1	0
2641:	0	0	0	0	1	0	0	0
2649:	0	0	0	1	1	2	0	0
2657:	0	0	0	1	1	0	1	1
2665:	1	0	1	0	0	0	1	0
2673:	0	0	0	0	0	0	1	0
2681:	0	0	0	0	0	0	1	0
2689:	0	0	0	0	0	0	0	0
2697:	0	0	2	0	0	1	0	0
2705:	1	0	0	1	1	1	0	0
2713:	1	0	0	1	0	1	0	0
2721:	0	1	0	1	1	0	2	0
2729:	0	2	0	1	0	0	0	1
2737:	0	1	0	0	0	0	0	0
2745:	0	0	1	0	0	0	0	0
2753:	0	0	0	0	0	0	2	0
2761:	0	0	0	0	1	0	1	1
2769:	2	0	0	0	0	0	0	0
2777:	0	1	0	0	1	0	2	0
2785:	1	0	0	0	0	0	1	0
2793:	0	0	0	1	0	0	1	0
2801:	0	1	0	1	0	0	0	0
2809:	2	0	0	0	0	0	1	0
2817:	0	0	1	0	0	0	0	1
2825:	0	0	0	0	0	2	1	0
2833:	0	0	1	0	0	0	0	0
2841:	0	0	0	0	0	1	0	0
2849:	1	0	0	1	0	0	0	0
2857:	0	0	0	0	0	1	0	0
2865:	0	0	0	0	0	0	1	0
2873:	1	1	1	0	1	0	2	0
2881:	1	0	0	0	0	0	0	0
2889:	0	0	0	2	0	0	0	0
2897:	0	0	0	0	0	0	0	0
2905:	1	0	0	0	0	0	1	0
2913:	0	0	0	0	0	0	0	0
2921:	1	0	0	1	1	0	1	0
2929:	0	1	0	0	0	0	0	0
2937:	0	0	0	0	0	2	0	0
2945:	0	0	0	1	0	0	0	0
2953:	0	0	0	0	0	0	0	0

2961: 1 0 0 0 0 0 0 0 0

Sample Title: CP5003S03-04

Channel	1	2	3	4	5	6	7	8	9
2969:	0	0	0	0	0	1	1	0	
2977:	0	0	0	0	0	1	0	0	
2985:	1	0	0	1	0	0	0	1	
2993:	0	0	1	0	0	0	0	0	
3001:	0	1	0	0	1	0	0	0	
3009:	0	0	0	0	0	0	0	1	
3017:	0	0	1	0	0	0	1	0	
3025:	0	0	1	0	2	0	0	0	
3033:	0	0	0	0	0	0	1	0	
3041:	0	1	0	0	0	0	0	1	
3049:	0	0	0	0	0	0	1	0	
3057:	1	0	0	0	0	0	0	0	
3065:	0	0	0	0	0	0	0	0	
3073:	1	0	0	0	0	0	0	0	
3081:	1	0	0	2	0	1	0	0	
3089:	1	0	0	0	1	0	0	0	
3097:	1	0	0	0	0	0	0	0	
3105:	0	0	1	0	0	0	0	1	
3113:	0	0	0	0	0	0	0	0	
3121:	0	0	0	1	1	0	2	0	
3129:	0	0	0	0	0	0	0	0	
3137:	0	0	1	0	0	0	0	2	
3145:	0	0	0	0	0	0	0	0	
3153:	0	0	0	0	0	0	0	0	
3161:	0	0	0	2	0	0	0	0	
3169:	0	0	0	0	0	0	0	0	
3177:	0	0	1	0	0	0	0	1	
3185:	0	0	0	0	0	1	0	1	
3193:	1	0	1	0	2	2	0	0	
3201:	0	0	0	0	0	0	0	0	
3209:	1	0	0	0	1	0	0	0	
3217:	0	1	1	0	0	1	1	0	
3225:	0	0	0	0	0	0	0	1	
3233:	0	0	0	1	0	0	0	1	
3241:	1	1	0	0	0	0	0	0	
3249:	0	0	0	0	0	0	0	0	
3257:	0	0	0	0	1	0	0	0	
3265:	0	0	1	0	0	0	0	1	
3273:	0	0	0	0	0	1	0	0	
3281:	0	0	0	0	0	0	1	0	
3289:	2	0	1	0	0	0	0	1	
3297:	0	0	0	0	0	0	0	0	
3305:	0	1	1	0	0	0	0	0	
3313:	0	0	1	0	0	0	0	0	
3321:	1	0	0	0	0	2	0	0	
3329:	0	0	0	0	0	0	0	0	
3337:	0	0	0	0	0	0	2	0	
3345:	0	1	0	0	0	0	0	0	
3353:	0	1	1	0	0	0	0	0	
3361:	0	0	0	0	0	0	0	0	
3369:	0	1	0	0	0	1	0	0	
3377:	0	0	0	1	0	0	0	0	
3385:	0	0	0	0	0	0	0	0	

3393: 0 0 1 0 0 0 0 0 0

Sample Title: CP5003S03-04

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	0	0	1	0	0
3417:	0	0	0	0	0	0	0	0	0
3425:	0	0	0	0	1	0	0	0	2
3433:	0	0	1	0	0	0	0	1	0
3441:	2	0	1	0	0	0	0	0	0
3449:	0	0	0	2	0	0	0	0	0
3457:	0	0	0	0	0	0	0	0	0
3465:	0	0	0	0	0	0	0	0	0
3473:	0	0	0	1	0	1	0	0	0
3481:	0	0	0	1	0	0	0	0	0
3489:	0	0	0	0	1	1	0	0	0
3497:	0	0	0	0	0	0	0	2	0
3505:	0	1	1	0	0	0	0	0	0
3513:	1	1	0	0	0	0	0	0	0
3521:	1	0	0	0	0	0	0	0	0
3529:	0	0	0	0	0	0	0	0	0
3537:	0	1	0	1	0	0	0	0	0
3545:	1	0	0	0	1	0	1	0	0
3553:	0	0	0	0	0	0	0	0	0
3561:	0	0	0	0	0	0	0	0	0
3569:	1	0	0	0	0	0	0	0	1
3577:	0	0	0	0	1	2	1	0	0
3585:	0	0	0	0	0	0	0	0	1
3593:	1	0	0	0	0	0	0	0	1
3601:	0	1	0	0	0	0	0	0	0
3609:	0	0	0	1	0	0	1	0	0
3617:	0	0	0	0	0	0	0	0	1
3625:	0	1	1	1	0	0	0	0	0
3633:	0	0	0	0	0	0	0	0	0
3641:	0	0	2	0	0	0	0	0	0
3649:	1	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	0	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	0	1	0	0	0	0
3689:	0	0	0	0	0	0	0	0	1
3697:	0	0	0	0	0	0	0	0	0
3705:	0	0	0	0	0	0	1	0	0
3713:	0	0	0	1	0	1	0	0	0
3721:	0	1	0	0	0	1	0	0	0
3729:	1	0	1	0	0	0	0	0	0
3737:	0	0	0	0	0	0	0	0	0
3745:	0	0	0	1	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	0	1	0	0
3785:	0	0	0	1	0	1	0	0	0
3793:	0	0	0	0	0	0	0	0	1
3801:	2	0	0	0	0	0	0	0	1
3809:	0	0	0	0	0	1	0	0	0
3817:	0	0	0	0	0	0	0	0	0

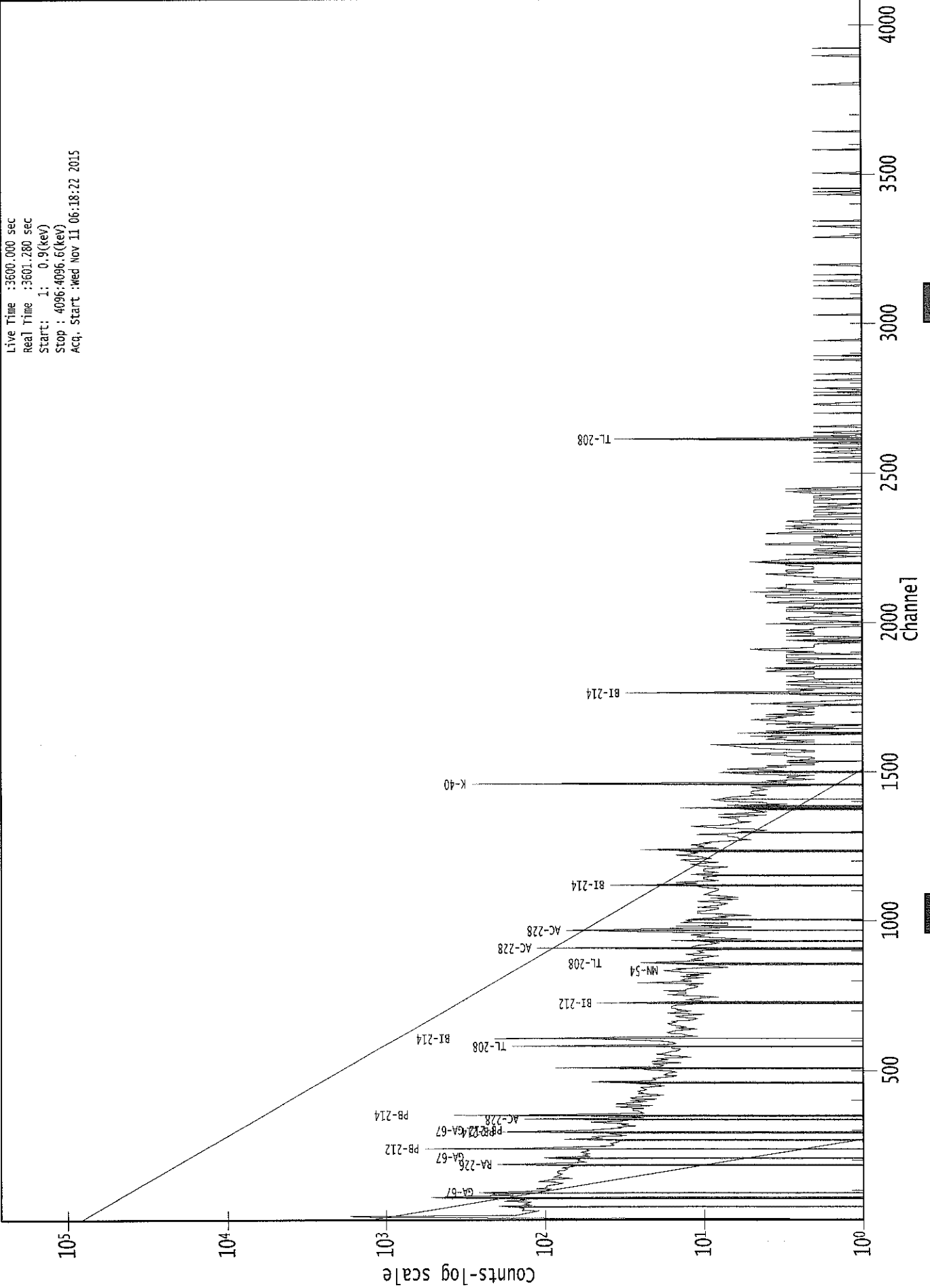
3825: 0 0 1 0 0 0 0 0 0

Sample Title: CP5003S03-04

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	0	0	0	0	0
3849:	1	1	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	0	0	0
3881:	0	0	0	0	0	0	0	0
3889:	0	0	0	0	1	0	0	0
3897:	0	2	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:	1	0	2	0	0	0	0	0
3929:	0	0	0	0	0	0	0	0
3937:	0	0	1	0	0	0	0	0
3945:	0	0	0	0	0	0	0	0
3953:	0	0	0	1	0	0	0	0
3961:	0	0	0	1	0	0	0	0
3969:	0	0	0	0	0	0	0	0
3977:	0	0	0	0	0	1	0	0
3985:	0	0	0	0	0	0	0	0
3993:	0	0	1	0	0	0	0	0
4001:	0	0	0	0	1	0	1	0
4009:	0	0	0	0	0	1	0	0
4017:	1	0	1	0	0	0	0	0
4025:	0	0	0	0	0	0	0	0
4033:	0	0	0	0	0	0	0	1
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	0	0	0	0
4073:	1	0	0	0	0	0	0	0
4081:	0	0	1	0	0	0	0	0
4089:	0	0	0	0	0	0	0	0

0000029461.CNF

Live Time :3600.000 sec
Real Time :3601.280 sec
Start: 1: 0.9(keV)
Stop: 4096.4096.6(keV)
Acq. Start :Wed Nov 11 06:18:22 2015



Analysis Report for 1510092-04
CP5003S03-04

✓
11111

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510092-04
Sample Description : CP5003S03-04
Sample Type : SOIL

Sample Size : 5.454E+02 grams
Facility : Countroom

Sample Taken On : 10/9/2015 3:55:58PM
Acquisition Started : 11/11/2015 7:21:03AM

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 : 29465

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510092-04
CP5003S03-04

PEAK LOCATE REPORT

Peak Locate Performed on : 11/11/2015 8:21:19AM
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	76.30	76.39	0.0000	0.00
2	87.37	87.45	0.0000	0.00
3	129.17	129.23	0.0000	0.00
4	144.69	144.73	0.0000	0.00
5	162.53	162.57	0.0000	0.00
6	186.38	186.41	0.0000	0.00
7	226.19	226.20	0.0000	0.00
8	238.75	238.75	0.0000	0.00
9	241.95	241.95	0.0000	0.00
10	269.99	269.97	0.0000	0.00
11	295.20	295.17	0.0000	0.00
12	300.12	300.08	0.0000	0.00
13	338.38	338.32	0.0000	0.00
14	351.88	351.82	0.0000	0.00
15	462.91	462.79	0.0000	0.00
16	510.86	510.71	0.0000	0.00
17	539.15	538.99	0.0000	0.00
18	583.22	583.04	0.0000	0.00
19	609.28	609.09	0.0000	0.00
20	723.87	723.62	0.0000	0.00
21	727.23	726.98	0.0000	0.00
22	767.35	767.09	0.0000	0.00
23	784.09	783.81	0.0000	0.00
24	795.18	794.90	0.0000	0.00
25	818.57	818.28	0.0000	0.00
26	860.59	860.28	0.0000	0.00
27	911.45	911.13	0.0000	0.00
28	935.12	934.78	0.0000	0.00
29	965.29	964.94	0.0000	0.00
30	969.15	968.80	0.0000	0.00
31	1001.37	1001.01	0.0000	0.00
32	1120.66	1120.26	0.0000	0.00
33	1155.53	1155.11	0.0000	0.00
34	1237.96	1237.51	0.0000	0.00
35	1333.52	1333.04	0.0000	0.00
36	1378.12	1377.62	0.0000	0.00
37	1408.24	1407.74	0.0000	0.00
38	1455.82	1455.30	0.0000	0.00
39	1460.87	1460.35	0.0000	0.00
40	1523.41	1522.87	0.0000	0.00
41	1531.16	1530.62	0.0000	0.00
42	1559.54	1558.99	0.0000	0.00

Analysis Report for 1510092-04
CP5003S03-04

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
43	1590.24	1589.68	0.0000	0.00
44	1728.71	1728.11	0.0000	0.00
45	1764.22	1763.62	0.0000	0.00
46	1974.25	1973.60	0.0000	0.00
47	2103.15	2102.48	0.0000	0.00
48	2117.70	2117.02	0.0000	0.00
49	2204.09	2203.40	0.0000	0.00
50	2261.28	2260.58	0.0000	0.00
51	2345.94	2345.23	0.0000	0.00
52	2416.68	2415.96	0.0000	0.00
53	2577.87	2577.13	0.0000	0.00
54	2613.99	2613.25	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510092-04
CP5003S03-04

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/11/2015 8:21:19AM

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	76.30	72 -	82	76.39	1.23E+03	154.73	2.50E+03	3.87
2	87.37	86 -	89	87.45	8.45E+01	69.14	1.12E+03	1.61
3	129.17	125 -	133	129.23	1.21E+02	93.24	1.26E+03	1.67
4	144.69	141 -	148	144.73	1.27E+02	80.07	9.75E+02	4.10
5	162.53	160 -	165	162.57	6.10E+01	62.45	7.30E+02	3.62
6	186.38	182 -	191	186.41	2.27E+02	92.59	1.08E+03	2.04
7	226.19	224 -	229	226.20	4.26E+01	50.08	4.67E+02	2.93
M 8	238.75	234 -	245	238.75	8.42E+02	74.85	3.90E+02	1.55
m 9	241.95	234 -	245	241.95	1.69E+02	52.44	3.37E+02	1.56
10	269.99	265 -	273	269.97	6.51E+01	64.63	6.02E+02	2.17
11	295.20	292 -	298	295.17	2.91E+02	57.23	3.76E+02	1.48
12	300.12	299 -	302	300.08	4.35E+01	34.58	2.53E+02	3.22
13	338.38	335 -	342	338.32	1.81E+02	56.32	4.08E+02	1.94
14	351.88	347 -	356	351.82	5.22E+02	68.15	3.67E+02	1.48
15	462.91	460 -	465	462.79	3.73E+01	33.93	1.99E+02	1.14
16	510.86	506 -	515	510.71	1.87E+02	53.02	2.94E+02	1.69
17	539.15	536 -	542	538.99	2.63E+01	28.30	1.27E+02	1.11
18	583.22	578 -	587	583.04	2.52E+02	54.14	2.75E+02	1.69
19	609.28	604 -	613	609.09	3.48E+02	54.79	2.30E+02	1.65
M 20	723.87	721 -	730	723.62	2.16E+01	20.65	7.18E+01	2.18
m 21	727.23	721 -	730	726.98	7.45E+01	30.27	1.24E+02	2.18
22	767.35	761 -	774	767.09	8.29E+01	46.44	2.02E+02	3.19
23	784.09	780 -	787	783.81	5.02E+01	26.53	8.36E+01	1.49
24	795.18	791 -	799	794.90	5.53E+01	26.31	7.35E+01	2.12
25	818.57	814 -	824	818.28	3.18E+01	32.27	1.24E+02	6.67
26	860.59	856 -	864	860.28	3.95E+01	33.23	1.39E+02	1.61
27	911.45	907 -	916	911.13	2.14E+02	42.32	1.31E+02	1.87
28	935.12	931 -	939	934.78	2.36E+01	28.67	1.11E+02	1.63
M 29	965.29	962 -	972	964.94	4.14E+01	29.56	1.01E+02	2.19
m 30	969.15	962 -	972	968.80	1.40E+02	31.59	6.76E+01	2.19
31	1001.37	995 -	1005	1001.01	2.58E+01	31.71	1.18E+02	4.49
32	1120.66	1115 -	1124	1120.26	7.73E+01	33.82	1.18E+02	1.81
33	1155.53	1148 -	1164	1155.11	3.99E+01	43.09	1.62E+02	11.27
34	1237.96	1233 -	1241	1237.51	3.62E+01	28.10	9.96E+01	1.71
35	1333.52	1330 -	1337	1333.04	1.85E+01	17.78	4.10E+01	1.71
36	1378.12	1373 -	1383	1377.62	3.05E+01	23.12	5.50E+01	2.31
37	1408.24	1405 -	1413	1407.74	1.45E+01	18.17	4.50E+01	1.87
M 38	1455.82	1453 -	1476	1455.30	1.32E+01	6.63	3.97E+00	2.79
m 39	1460.87	1453 -	1476	1460.35	7.16E+02	53.52	3.45E+00	2.42
40	1523.41	1520 -	1526	1522.87	1.05E+01	10.04	1.09E+01	3.55

Analysis Report for 1510092-04
CP5003S03-04

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1531.16	1527 -	1534	1530.62	1.14E+01	10.77	1.13E+01	1.89
42	1559.54	1555 -	1562	1558.99	1.31E+01	8.72	3.80E+00	3.67
43	1590.24	1582 -	1599	1589.68	6.33E+01	23.22	2.15E+01	6.51
44	1728.71	1723 -	1732	1728.11	1.45E+01	12.77	1.50E+01	1.78
45	1764.22	1760 -	1770	1763.62	6.15E+01	20.42	2.50E+01	2.52
46	1974.25	1970 -	1977	1973.60	1.08E+01	8.25	4.31E+00	4.84
47	2103.15	2099 -	2106	2102.48	2.10E+01	11.49	8.00E+00	3.09
48	2117.70	2113 -	2119	2117.02	8.17E+00	10.44	1.37E+01	1.25
49	2204.09	2198 -	2207	2203.40	1.60E+01	14.28	1.99E+01	1.85
50	2261.28	2257 -	2263	2260.58	7.91E+00	8.28	6.18E+00	2.88
51	2345.94	2340 -	2347	2345.23	6.63E+00	6.93	2.75E+00	2.46
52	2416.68	2411 -	2419	2415.96	8.50E+00	10.99	1.30E+01	5.65
53	2577.87	2573 -	2579	2577.13	4.58E+00	6.02	2.83E+00	2.72
54	2613.99	2606 -	2618	2613.25	1.20E+02	23.20	7.14E+00	2.30

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 : 11/11/2015 8:21:19AM

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	76.30	72 -	82	1.23E+03	154.73	2.50E+03	1.13E+02	
2	87.37	86 -	89	8.45E+01	69.14	1.12E+03	5.48E+01	
3	129.17	125 -	133	1.21E+02	93.24	1.26E+03	2.79E+01	
4	144.69	141 -	148	1.27E+02	80.07	9.75E+02	6.32E+01	
5	162.53	160 -	165	6.10E+01	62.45	7.30E+02	4.97E+01	
6	186.38	182 -	191	2.27E+02	92.59	1.08E+03	7.20E+01	
7	226.19	224 -	229	4.26E+01	50.08	4.67E+02	3.97E+01	
M	8	238.75	234 -	245	8.42E+02	74.85	3.90E+02	3.25E+01
m	9	241.95	234 -	245	1.69E+02	52.44	3.37E+02	3.02E+01
10	269.99	265 -	273	6.51E+01	64.63	6.02E+02	5.14E+01	
11	295.20	292 -	298	2.91E+02	57.23	3.76E+02	4.98E+01	
12	300.12	299 -	302	4.35E+01	34.58	2.53E+02	2.63E+01	
13	338.38	335 -	342	1.81E+02	56.32	4.08E+02	4.07E+01	
14	351.88	347 -	356	5.22E+02	68.15	3.67E+02	4.16E+01	

: 00389

Analysis Report for 1510092-04

CP5003S03-04

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	15	462.91	460 -	465	3.73E+01	33.93	1.99E+02	2.60E+01
	16	510.86	506 -	515	1.87E+02	53.02	2.94E+02	3.73E+01
	17	539.15	536 -	542	2.63E+01	28.30	1.27E+02	2.17E+01
	18	583.22	578 -	587	2.52E+02	54.14	2.75E+02	3.61E+01
	19	609.28	604 -	613	3.48E+02	54.79	2.30E+02	3.30E+01
M	20	723.87	721 -	730	2.16E+01	20.65	7.18E+01	1.39E+01
m	21	727.23	721 -	730	7.45E+01	30.27	1.24E+02	1.83E+01
	22	767.35	761 -	774	8.29E+01	46.44	2.02E+02	3.51E+01
	23	784.09	780 -	787	5.02E+01	26.53	8.36E+01	1.84E+01
	24	795.18	791 -	799	5.53E+01	26.31	7.35E+01	1.78E+01
	25	818.57	814 -	824	3.18E+01	32.27	1.24E+02	2.49E+01
	26	860.59	856 -	864	3.95E+01	33.23	1.39E+02	2.53E+01
	27	911.45	907 -	916	2.14E+02	42.32	1.31E+02	2.52E+01
	28	935.12	931 -	939	2.36E+01	28.67	1.11E+02	2.22E+01
M	29	965.29	962 -	972	4.14E+01	29.56	1.01E+02	1.65E+01
m	30	969.15	962 -	972	1.40E+02	31.59	6.76E+01	1.35E+01
	31	1001.37	995 -	1005	2.58E+01	31.71	1.18E+02	2.47E+01
	32	1120.66	1115 -	1124	7.73E+01	33.82	1.18E+02	2.38E+01
	33	1155.53	1148 -	1164	3.99E+01	43.09	1.62E+02	1.42E+01
	34	1237.96	1233 -	1241	3.62E+01	28.10	9.96E+01	2.09E+01
	35	1333.52	1330 -	1337	1.85E+01	17.78	4.10E+01	1.28E+01
	36	1378.12	1373 -	1383	3.05E+01	23.12	5.50E+01	1.67E+01
	37	1408.24	1405 -	1413	1.45E+01	18.17	4.50E+01	1.36E+01
M	38	1455.82	1453 -	1476	1.32E+01	6.63	3.97E+00	3.28E+00
m	39	1460.87	1453 -	1476	7.16E+02	53.52	3.45E+00	3.05E+00
	40	1523.41	1520 -	1526	1.05E+01	10.04	1.09E+01	6.29E+00
	41	1531.16	1527 -	1534	1.14E+01	10.77	1.13E+01	6.91E+00
	42	1559.54	1555 -	1562	1.31E+01	8.72	3.80E+00	3.99E+00
	43	1590.24	1582 -	1599	6.33E+01	23.22	2.15E+01	1.39E+01
	44	1728.71	1723 -	1732	1.45E+01	12.77	1.50E+01	8.42E+00
	45	1764.22	1760 -	1770	6.15E+01	20.42	2.50E+01	1.08E+01
	46	1974.25	1970 -	1977	1.08E+01	8.25	4.31E+00	4.08E+00
	47	2103.15	2099 -	2106	2.10E+01	11.49	8.00E+00	5.70E+00
	48	2117.70	2113 -	2119	8.17E+00	10.44	1.37E+01	7.18E+00
	49	2204.09	2198 -	2207	1.60E+01	14.28	1.99E+01	9.72E+00
	50	2261.28	2257 -	2263	7.91E+00	8.28	6.18E+00	4.99E+00
	51	2345.94	2340 -	2347	6.63E+00	6.93	2.75E+00	3.81E+00
	52	2416.68	2411 -	2419	8.50E+00	10.99	1.30E+01	7.66E+00
	53	2577.87	2573 -	2579	4.58E+00	6.02	2.83E+00	3.48E+00
	54	2613.99	2606 -	2618	1.20E+02	23.20	7.14E+00	6.18E+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 1510092-04
CP5003S03-04

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/11/2015 8:21:19AM

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	76.30	72 -	82	76.39	1.23E+03	154.73	2.50E+03	.....
2	87.37	86 -	89	87.45	8.45E+01	69.14	1.12E+03	SN-126 CD-109 NP-237 EU-155 LU-176
3	129.17	125 -	133	129.23	1.21E+02	93.24	1.26E+03	.....
4	144.69	141 -	148	144.73	1.27E+02	80.07	9.75E+02	CE-141 U-235
5	162.53	160 -	165	162.57	6.10E+01	62.45	7.30E+02	BA-140 U-235
6	186.38	182 -	191	186.41	2.27E+02	92.59	1.08E+03	RA-226
7	226.19	224 -	229	226.20	4.26E+01	50.08	4.67E+02	.....
M 8	238.75	234 -	245	238.75	8.42E+02	74.85	3.90E+02	PB-212
9	241.95	234 -	245	241.95	1.69E+02	52.44	3.37E+02	RA-224
10	269.99	265 -	273	269.97	6.51E+01	64.63	6.02E+02	.....
11	295.20	292 -	298	295.17	2.91E+02	57.23	3.76E+02	PB-214
12	300.12	299 -	302	300.08	4.35E+01	34.58	2.53E+02	PB-212 GA-67 BI-210M
13	338.38	335 -	342	338.32	1.81E+02	56.32	4.08E+02	AC-228
14	351.88	347 -	356	351.82	5.22E+02	68.15	3.67E+02	PB-214
15	462.91	460 -	465	462.79	3.73E+01	33.93	1.99E+02	SB-125
16	510.86	506 -	515	510.71	1.87E+02	53.02	2.94E+02	.....
17	539.15	536 -	542	538.99	2.63E+01	28.30	1.27E+02	.....
18	583.22	578 -	587	583.04	2.52E+02	54.14	2.75E+02	TL-208
19	609.28	604 -	613	609.09	3.48E+02	54.79	2.30E+02	BI-214
M 20	723.87	721 -	730	723.62	2.16E+01	20.65	7.18E+01	ZR-95 EU-154 AG-108M I-131
m 21	727.23	721 -	730	726.98	7.45E+01	30.27	1.24E+02	BI-212
22	767.35	761 -	774	767.09	8.29E+01	46.44	2.02E+02	.....
23	784.09	780 -	787	783.81	5.02E+01	26.53	8.36E+01	SB-127
24	795.18	791 -	799	794.90	5.53E+01	26.31	7.35E+01	CS-134
25	818.57	814 -	824	818.28	3.18E+01	32.27	1.24E+02	CS-136
26	860.59	856 -	864	860.28	3.95E+01	33.23	1.39E+02	TL-208
27	911.45	907 -	916	911.13	2.14E+02	42.32	1.31E+02	AC-228 LU-172
28	935.12	931 -	939	934.78	2.36E+01	28.67	1.11E+02	.....
M 29	965.29	962 -	972	964.94	4.14E+01	29.56	1.01E+02	.....

Analysis Report for 1510092-04
CP5003S03-04

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
m	30	969.15	962 -	972	968.80	1.40E+02	31.59	6.76E+01	AC-228
	31	1001.37	995 -	1005	1001.01	2.58E+01	31.71	1.18E+02	PA-234M
	32	1120.66	1115 -	1124	1120.26	7.73E+01	33.82	1.18E+02	SC-46 BI-214 TA-182
	33	1155.53	1148 -	1164	1155.11	3.99E+01	43.09	1.62E+02	.....
	34	1237.96	1233 -	1241	1237.51	3.62E+01	28.10	9.96E+01	CO-56
	35	1333.52	1330 -	1337	1333.04	1.85E+01	17.78	4.10E+01	.....
	36	1378.12	1373 -	1383	1377.62	3.05E+01	23.12	5.50E+01	.....
	37	1408.24	1405 -	1413	1407.74	1.45E+01	18.17	4.50E+01	EU-152
M	38	1455.82	1453 -	1476	1455.30	1.32E+01	6.63	3.97E+00	.....
m	39	1460.87	1453 -	1476	1460.35	7.16E+02	53.52	3.45E+00	K-40
	40	1523.41	1520 -	1526	1522.87	1.05E+01	10.04	1.09E+01	.....
	41	1531.16	1527 -	1534	1530.62	1.14E+01	10.77	1.13E+01	.....
	42	1559.54	1555 -	1562	1558.99	1.31E+01	8.72	3.80E+00	.....
	43	1590.24	1582 -	1599	1589.68	6.33E+01	23.22	2.15E+01	.....
	44	1728.71	1723 -	1732	1728.11	1.45E+01	12.77	1.50E+01	.....
	45	1764.22	1760 -	1770	1763.62	6.15E+01	20.42	2.50E+01	BI-214
	46	1974.25	1970 -	1977	1973.60	1.08E+01	8.25	4.31E+00	.....
	47	2103.15	2099 -	2106	2102.48	2.10E+01	11.49	8.00E+00	.....
	48	2117.70	2113 -	2119	2117.02	8.17E+00	10.44	1.37E+01	.....
	49	2204.09	2198 -	2207	2203.40	1.60E+01	14.28	1.99E+01	BI-214
	50	2261.28	2257 -	2263	2260.58	7.91E+00	8.28	6.18E+00	.....
	51	2345.94	2340 -	2347	2345.23	6.63E+00	6.93	2.75E+00	.....
	52	2416.68	2411 -	2419	2415.96	8.50E+00	10.99	1.30E+01	.....
	53	2577.87	2573 -	2579	2577.13	4.58E+00	6.02	2.83E+00	.....
	54	2613.99	2606 -	2618	2613.25	1.20E+02	23.20	7.14E+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 : 11/11/2015 8:21:19AM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	76.30	1.23E+03	154.73	2.74E-02	3.34E-03
2	87.37	8.45E+01	69.14	2.84E-02	4.44E-03
3	129.17	1.21E+02	93.24	2.60E-02	2.78E-03

Analysis Report for 1510092-04
CP5003S03-04

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	4	144.69	1.27E+02	80.07	2.45E-02	2.31E-03
	5	162.53	6.10E+01	62.45	2.29E-02	1.77E-03
	6	186.38	2.27E+02	92.59	2.11E-02	1.65E-03
	7	226.19	4.26E+01	50.08	1.85E-02	1.61E-03
M	8	238.75	8.42E+02	74.85	1.79E-02	1.60E-03
m	9	241.95	1.69E+02	52.44	1.77E-02	1.60E-03
	10	269.99	6.51E+01	64.63	1.64E-02	1.57E-03
	11	295.20	2.91E+02	57.23	1.55E-02	1.48E-03
	12	300.12	4.35E+01	34.58	1.53E-02	1.46E-03
	13	338.38	1.81E+02	56.32	1.41E-02	1.27E-03
	14	351.88	5.22E+02	68.15	1.37E-02	1.21E-03
	15	462.91	3.73E+01	33.93	1.13E-02	9.47E-04
	16	510.86	1.87E+02	53.02	1.06E-02	8.98E-04
	17	539.15	2.63E+01	28.30	1.02E-02	8.70E-04
	18	583.22	2.52E+02	54.14	9.58E-03	8.25E-04
	19	609.28	3.48E+02	54.79	9.27E-03	7.98E-04
M	20	723.87	2.16E+01	20.65	8.12E-03	7.05E-04
m	21	727.23	7.45E+01	30.27	8.09E-03	7.03E-04
	22	767.35	8.29E+01	46.44	7.75E-03	6.77E-04
	23	784.09	5.02E+01	26.53	7.62E-03	6.67E-04
	24	795.18	5.53E+01	26.31	7.53E-03	6.59E-04
	25	818.57	3.18E+01	32.27	7.36E-03	6.44E-04
	26	860.59	3.95E+01	33.23	7.07E-03	6.17E-04
	27	911.45	2.14E+02	42.32	6.74E-03	5.86E-04
	28	935.12	2.36E+01	28.67	6.60E-03	5.74E-04
M	29	965.29	4.14E+01	29.56	6.44E-03	5.59E-04
m	30	969.15	1.40E+02	31.59	6.41E-03	5.57E-04
	31	1001.37	2.58E+01	31.71	6.25E-03	5.41E-04
	32	1120.66	7.73E+01	33.82	5.70E-03	4.80E-04
	33	1155.53	3.99E+01	43.09	5.56E-03	4.62E-04
	34	1237.96	3.62E+01	28.10	5.27E-03	4.83E-04
	35	1333.52	1.85E+01	17.78	4.98E-03	5.26E-04
	36	1378.12	3.05E+01	23.12	4.87E-03	5.08E-04
	37	1408.24	1.45E+01	18.17	4.79E-03	4.95E-04
M	38	1455.82	1.32E+01	6.63	4.68E-03	4.75E-04
m	39	1460.87	7.16E+02	53.52	4.67E-03	4.73E-04
	40	1523.41	1.05E+01	10.04	4.55E-03	4.47E-04
	41	1531.16	1.14E+01	10.77	4.53E-03	4.44E-04
	42	1559.54	1.31E+01	8.72	4.48E-03	4.32E-04
	43	1590.24	6.33E+01	23.22	4.43E-03	4.20E-04
	44	1728.71	1.45E+01	12.77	4.23E-03	3.62E-04
	45	1764.22	6.15E+01	20.42	4.19E-03	3.48E-04
	46	1974.25	1.08E+01	8.25	4.01E-03	3.18E-04
	47	2103.15	2.10E+01	11.49	3.95E-03	3.18E-04
	48	2117.70	8.17E+00	10.44	3.95E-03	3.18E-04
	49	2204.09	1.60E+01	14.28	3.93E-03	3.18E-04
	50	2261.28	7.91E+00	8.28	3.93E-03	3.18E-04
	51	2345.94	6.63E+00	6.93	3.94E-03	3.18E-04
	52	2416.68	8.50E+00	10.99	3.95E-03	3.18E-04
	53	2577.87	4.58E+00	6.02	4.03E-03	3.18E-04
	54	2613.99	1.20E+02	23.20	4.05E-03	3.18E-04

Analysis Report for 1510092-04
CP5003S03-04

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 : 11/11/2015 8:21:19AM

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	76.30	1.23E+03	154.73			1.23E+03	1.55E+02
2	87.37	8.45E+01	69.14	1.46E+00	7.88E+00	8.30E+01	6.96E+01
3	129.17	1.21E+02	93.24			1.21E+02	9.32E+01
4	144.69	1.27E+02	80.07	8.10E+00	1.90E+01	1.19E+02	8.23E+01
5	162.53	6.10E+01	62.45			6.10E+01	6.24E+01
6	186.38	2.27E+02	92.59	4.72E+01	7.97E+00	1.80E+02	9.29E+01
7	226.19	4.26E+01	50.08			4.26E+01	5.01E+01
M 8	238.75	8.42E+02	74.85	2.36E+01	1.35E+01	8.18E+02	7.60E+01
m 9	241.95	1.69E+02	52.44	6.38E+00	3.91E+00	1.63E+02	5.26E+01
10	269.99	6.51E+01	64.63			6.51E+01	6.46E+01
11	295.20	2.91E+02	57.23	8.57E+00	6.10E+00	2.82E+02	5.76E+01
12	300.12	4.35E+01	34.58			4.35E+01	3.46E+01
13	338.38	1.81E+02	56.32			1.81E+02	5.63E+01
14	351.88	5.22E+02	68.15	1.40E+01	5.55E+00	5.08E+02	6.84E+01
15	462.91	3.73E+01	33.93			3.73E+01	3.39E+01
16	510.86	1.87E+02	53.02	8.41E+01	5.50E+00	1.03E+02	5.33E+01
17	539.15	2.63E+01	28.30			2.63E+01	2.83E+01
18	583.22	2.52E+02	54.14	7.32E+00	4.08E+00	2.44E+02	5.43E+01
19	609.28	3.48E+02	54.79	1.30E+01	3.89E+00	3.35E+02	5.49E+01
M 20	723.87	2.16E+01	20.65			2.16E+01	2.06E+01
m 21	727.23	7.45E+01	30.27			7.45E+01	3.03E+01
22	767.35	8.29E+01	46.44			8.29E+01	4.64E+01
23	784.09	5.02E+01	26.53			5.02E+01	2.65E+01
24	795.18	5.53E+01	26.31			5.53E+01	2.63E+01
25	818.57	3.18E+01	32.27			3.18E+01	3.23E+01
26	860.59	3.95E+01	33.23			3.95E+01	3.32E+01
27	911.45	2.14E+02	42.32	5.60E+00	3.32E+00	2.08E+02	4.24E+01
28	935.12	2.36E+01	28.67			2.36E+01	2.87E+01
M 29	965.29	4.14E+01	29.56			4.14E+01	2.96E+01
m 30	969.15	1.40E+02	31.59			1.40E+02	3.16E+01
31	1001.37	2.58E+01	31.71			2.58E+01	3.17E+01
32	1120.66	7.73E+01	33.82	3.93E+00	2.96E+00	7.33E+01	3.40E+01
33	1155.53	3.99E+01	43.09			3.99E+01	4.31E+01
34	1237.96	3.62E+01	28.10			3.62E+01	2.81E+01
35	1333.52	1.85E+01	17.78	4.94E+00	2.44E+00	1.36E+01	1.79E+01

Analysis Report for 1510092-04

CP5003S03-04

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	36	1378.12	3.05E+01	23.12		3.05E+01	2.31E+01
	37	1408.24	1.45E+01	18.17		1.45E+01	1.82E+01
M	38	1455.82	1.32E+01	6.63		1.32E+01	6.63E+00
m	39	1460.87	7.16E+02	53.52	1.12E+01	2.55E+00	7.05E+02
	40	1523.41	1.05E+01	10.04		1.05E+01	1.00E+01
	41	1531.16	1.14E+01	10.77		1.14E+01	1.08E+01
	42	1559.54	1.31E+01	8.72		1.31E+01	8.72E+00
	43	1590.24	6.33E+01	23.22		6.33E+01	2.32E+01
	44	1728.71	1.45E+01	12.77		1.45E+01	1.28E+01
	45	1764.22	6.15E+01	20.42	4.23E+00	2.21E+00	5.73E+01
	46	1974.25	1.08E+01	8.25		1.08E+01	8.25E+00
	47	2103.15	2.10E+01	11.49		2.10E+01	1.15E+01
	48	2117.70	8.17E+00	10.44		8.17E+00	1.04E+01
	49	2204.09	1.60E+01	14.28	5.94E-01	1.16E+00	1.54E+01
	50	2261.28	7.91E+00	8.28		7.91E+00	8.28E+00
	51	2345.94	6.63E+00	6.93		6.63E+00	6.93E+00
	52	2416.68	8.50E+00	10.99		8.50E+00	1.10E+01
	53	2577.87	4.58E+00	6.02		4.58E+00	6.02E+00
	54	2613.99	1.20E+02	23.20	7.38E+00	1.57E+00	1.13E+02

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 : 11/11/2015 8:21:19AM
 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	76.30	1.23E+03	154.73		1.23E+03	1.55E+02
	2	87.37	8.45E+01	69.14	1.46E+00	7.88E+00	8.30E+01
	3	129.17	1.21E+02	93.24		1.21E+02	9.32E+01
	4	144.69	1.27E+02	80.07	8.10E+00	1.90E+01	1.19E+02
	5	162.53	6.10E+01	62.45		6.10E+01	6.24E+01
	6	186.38	2.27E+02	92.59	4.72E+01	7.97E+00	1.80E+02
	7	226.19	4.26E+01	50.08		4.26E+01	5.01E+01
M	8	238.75	8.42E+02	74.85	2.36E+01	1.35E+01	8.18E+02
m	9	241.95	1.69E+02	52.44	6.38E+00	3.91E+00	1.63E+02

Analysis Report for 1510092-04
CP5003S03-04

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
10	269.99	6.51E+01	64.63			6.51E+01	6.46E+01
11	295.20	2.91E+02	57.23	8.57E+00	6.10E+00	2.82E+02	5.76E+01
12	300.12	4.35E+01	34.58			4.35E+01	3.46E+01
13	338.38	1.81E+02	56.32			1.81E+02	5.63E+01
14	351.88	5.22E+02	68.15	1.40E+01	5.55E+00	5.08E+02	6.84E+01
15	462.91	3.73E+01	33.93			3.73E+01	3.39E+01
16	510.86	1.87E+02	53.02	8.41E+01	5.50E+00	1.03E+02	5.33E+01
17	539.15	2.63E+01	28.30			2.63E+01	2.83E+01
18	583.22	2.52E+02	54.14	7.32E+00	4.08E+00	2.44E+02	5.43E+01
19	609.28	3.48E+02	54.79	1.30E+01	3.89E+00	3.35E+02	5.49E+01
M	20	723.87	2.16E+01			2.16E+01	2.06E+01
m	21	727.23	7.45E+01			7.45E+01	3.03E+01
	22	767.35	8.29E+01			8.29E+01	4.64E+01
	23	784.09	5.02E+01			5.02E+01	2.65E+01
	24	795.18	5.53E+01			5.53E+01	2.63E+01
	25	818.57	3.18E+01			3.18E+01	3.23E+01
	26	860.59	3.95E+01			3.95E+01	3.32E+01
	27	911.45	2.14E+02	5.60E+00	3.32E+00	2.08E+02	4.24E+01
	28	935.12	2.36E+01			2.36E+01	2.87E+01
M	29	965.29	4.14E+01			4.14E+01	2.96E+01
m	30	969.15	1.40E+02			1.40E+02	3.16E+01
	31	1001.37	2.58E+01			2.58E+01	3.17E+01
	32	1120.66	7.73E+01	3.93E+00	2.96E+00	7.33E+01	3.40E+01
	33	1155.53	3.99E+01			3.99E+01	4.31E+01
	34	1237.96	3.62E+01			3.62E+01	2.81E+01
	35	1333.52	1.85E+01	4.94E+00	2.44E+00	1.36E+01	1.79E+01
	36	1378.12	3.05E+01			3.05E+01	2.31E+01
	37	1408.24	1.45E+01			1.45E+01	1.82E+01
M	38	1455.82	1.32E+01			1.32E+01	6.63E+00
m	39	1460.87	7.16E+02	1.12E+01	2.55E+00	7.05E+02	5.36E+01
	40	1523.41	1.05E+01			1.05E+01	1.00E+01
	41	1531.16	1.14E+01			1.14E+01	1.08E+01
	42	1559.54	1.31E+01			1.31E+01	8.72E+00
	43	1590.24	6.33E+01			6.33E+01	2.32E+01
	44	1728.71	1.45E+01			1.45E+01	1.28E+01
	45	1764.22	6.15E+01	4.23E+00	2.21E+00	5.73E+01	2.05E+01
	46	1974.25	1.08E+01			1.08E+01	8.25E+00
	47	2103.15	2.10E+01			2.10E+01	1.15E+01
	48	2117.70	8.17E+00			8.17E+00	1.04E+01
	49	2204.09	1.60E+01	5.94E-01	1.16E+00	1.54E+01	1.43E+01
	50	2261.28	7.91E+00			7.91E+00	8.28E+00
	51	2345.94	6.63E+00			6.63E+00	6.93E+00
	52	2416.68	8.50E+00			8.50E+00	1.10E+01
	53	2577.87	4.58E+00			4.58E+00	6.02E+00
	54	2613.99	1.20E+02	7.38E+00	1.57E+00	1.13E+02	2.33E+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 1510092-04

CP5003S03-04

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	1.95E+01	2.50E+00
CD-109	0.931	88.03 *	3.72	1.14E+00	9.70E-01
SN-126	0.993	87.57 *	37.00	1.09E-01	9.27E-02
TL-208	0.964	583.14 *	30.22	1.16E+00	2.77E-01
		860.37 *	4.48	1.72E+00	1.45E+00
		2614.66 *	35.85	1.07E+00	2.36E-01
BI-212	0.765	727.17 *	11.80	1.08E+00	4.47E-01
		1620.62	2.75		
PB-212	0.998	238.63 *	44.60	1.41E+00	1.82E-01
		300.09 *	3.41	1.15E+00	9.19E-01
BI-214	0.993	609.31 *	46.30	1.07E+00	1.99E-01
		1120.29 *	15.10	1.17E+00	5.52E-01
		1764.49 *	15.80	1.19E+00	4.39E-01
		2204.22 *	4.98	1.09E+00	1.01E+00
PB-214	1.000	295.21 *	19.19	1.31E+00	2.95E-01
		351.92 *	37.19	1.37E+00	2.20E-01
RA-224	0.860	240.98 *	3.95	3.20E+00	1.07E+00
RA-226	0.995	186.21 *	3.28	3.59E+00	6.82E+00
AC-228	0.988	338.32 *	11.40	1.55E+00	5.02E-01
		911.07 *	27.70	1.53E+00	3.40E-01
		969.11 *	16.60	1.81E+00	4.38E-01
PA-234M	0.981	1001.03 *	0.92	6.18E+00	7.62E+00
U-235	0.557	143.76 *	10.50	6.37E-01	4.54E-01
		163.35 *	4.70	7.79E-01	8.10E-01
		205.31	4.70		
NP-237	0.888	86.50 *	12.60	3.19E-01	2.72E-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 1510092-04
CP5003S03-04

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 8:21:19AM
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	76.30	3.40570E-01	6.31		
3	129.17	3.35961E-02	38.55		
7	226.19	1.18307E-02	58.79		
10	269.99	1.80912E-02	49.62		
15	462.91	1.03579E-02	45.49	Sum	
16	510.86	2.86196E-02	25.87		
17	539.15	7.29630E-03	53.87	Sum	
M 20	723.87	5.99529E-03	47.83	Tol.	ZR-95 AG-108M I-131 EU-154
22	767.35	2.30344E-02	28.00		
23	784.09	1.39387E-02	26.44	Tol.	SB-127
24	795.18	1.53472E-02	23.81	Sum	
25	818.57	8.83865E-03	50.71		
28	935.12	6.55415E-03	60.76	Sum	
M 29	965.29	1.14867E-02	35.75	Sum	
33	1155.53	1.10709E-02	54.06	Sum	
34	1237.96	1.00614E-02	38.79		
35	1333.52	3.76978E-03	66.11		
36	1378.12	8.47222E-03	37.90		
37	1408.24	4.02402E-03	62.72	Tol.	EU-152
M 38	1455.82	3.66728E-03	25.12		
40	1523.41	2.92535E-03	47.66		
41	1531.16	3.15359E-03	47.43		
42	1559.54	3.63889E-03	33.27		
43	1590.24	1.75713E-02	18.35		
44	1728.71	4.03409E-03	43.96	Sum	
46	1974.25	3.01282E-03	38.01		
47	2103.15	5.83333E-03	27.36	S-Esc	
48	2117.70	2.26852E-03	63.92		
50	2261.28	2.19697E-03	52.32		
51	2345.94	1.84028E-03	52.29		
52	2416.68	2.36111E-03	64.64		
53	2577.87	1.27315E-03	65.68		

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 1510092-04
CP5003S03-04

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	1.95E+01	2.50E+00
CD-109	0.93	88.03	*	3.72	1.14E+00	9.70E-01
SN-126	0.99	87.57	*	37.00	1.09E-01	9.27E-02
TL-208	0.96	583.14	*	30.22	1.16E+00	2.77E-01
		860.37	*	4.48	1.72E+00	1.45E+00
		2614.66	*	35.85	1.07E+00	2.36E-01
BI-212	0.76	727.17	*	11.80	1.08E+00	4.47E-01
		1620.62		2.75		
PB-212	0.99	238.63	*	44.60	1.41E+00	1.82E-01
		300.09	*	3.41	1.15E+00	9.19E-01
BI-214	0.99	609.31	*	46.30	1.07E+00	1.99E-01
		1120.29	*	15.10	1.17E+00	5.52E-01
		1764.49	*	15.80	1.19E+00	4.39E-01
		2204.22	*	4.98	1.09E+00	1.01E+00
PB-214	1.00	295.21	*	19.19	1.31E+00	2.95E-01
		351.92	*	37.19	1.37E+00	2.20E-01
RA-224	0.86	240.98	*	3.95	3.20E+00	1.07E+00
RA-226	0.99	186.21	*	3.28	3.59E+00	6.82E+00
AC-228	0.98	338.32	*	11.40	1.55E+00	5.02E-01
		911.07	*	27.70	1.53E+00	3.40E-01
		969.11	*	16.60	1.81E+00	4.38E-01
PA-234M	0.98	1001.03	*	0.92	6.18E+00	7.62E+00
U-235	0.55	143.76	*	10.50	6.37E-01	4.54E-01
		163.35	*	4.70	7.79E-01	8.10E-01
		205.31		4.70		
NP-237	0.88	86.50	*	12.60	3.19E-01	2.72E-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

Analysis Report for 1510092-04
CP5003S03-04

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40	0.999	1.95E+01	2.50E+00	
?	CD-109	0.931	1.14E+00	9.70E-01	
?	SN-126	0.993	1.09E-01	9.27E-02	
X	CE-141	0.908			
	TL-208	0.964	1.12E+00	1.78E-01	
	BI-212	0.765	1.08E+00	4.47E-01	
	PB-212	0.998	1.40E+00	1.79E-01	
	BI-214	0.993	1.10E+00	1.70E-01	
	PB-214	1.000	1.35E+00	1.77E-01	
	RA-224	0.860	3.20E+00	1.07E+00	
	RA-226	0.995	3.59E+00	6.82E+00	
	AC-228	0.988	1.62E+00	2.37E-01	
	PA-234M	0.981	6.18E+00	7.62E+00	
	U-235	0.557	6.71E-01	3.96E-01	
?	NP-237	0.888	3.19E-01	2.72E-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 1510092-04
CP5003S03-04

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 8:21:19AM
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	76.30	3.40570E-01	6.31		
3	129.17	3.35961E-02	38.55		
7	226.19	1.18307E-02	58.79		
10	269.99	1.80912E-02	49.62		
15	462.91	1.03579E-02	45.49	Sum	
16	510.86	2.86196E-02	25.87		
17	539.15	7.29630E-03	53.87	Sum	
M 20	723.87	5.99529E-03	47.83	Tol.	ZR-95 AG-108M I-131 EU-154
22	767.35	2.30344E-02	28.00		
23	784.09	1.39387E-02	26.44	Tol.	SB-127
24	795.18	1.53472E-02	23.81	Sum	
25	818.57	8.83865E-03	50.71		
28	935.12	6.55415E-03	60.76	Sum	
M 29	965.29	1.14867E-02	35.75	Sum	
33	1155.53	1.10709E-02	54.06	Sum	
34	1237.96	1.00614E-02	38.79		
35	1333.52	3.76978E-03	66.11		
36	1378.12	8.47222E-03	37.90		
37	1408.24	4.02402E-03	62.72	Tol.	EU-152
M 38	1455.82	3.66728E-03	25.12		
40	1523.41	2.92535E-03	47.66		
41	1531.16	3.15359E-03	47.43		
42	1559.54	3.63889E-03	33.27		
43	1590.24	1.75713E-02	18.35		
44	1728.71	4.03409E-03	43.96	Sum	
46	1974.25	3.01282E-03	38.01		
47	2103.15	5.83333E-03	27.36	S-Esc	
48	2117.70	2.26852E-03	63.92		
50	2261.28	2.19697E-03	52.32		
51	2345.94	1.84028E-03	52.29		
52	2416.68	2.36111E-03	64.64		
53	2577.87	1.27315E-03	65.68		

Analysis Report for 1510092-04
CP5003S03-04

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	-9.88E-03	7.58E-01	7.58E-01
+	NA-22	1274.54	99.94	2.11E-02	8.89E-02	8.89E-02
+	NA-24	1368.53	99.99	4.49E+13	4.83E+13	3.73E+14
		2754.09	99.86	0.00E+00		4.83E+13
+	AL-26	1808.65	99.76	1.97E-02	6.05E-02	6.05E-02
+	K-40	1460.81	* 10.67	1.95E+01	7.21E-01	7.21E-01
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	-1.83E-05	5.35E-02	5.35E-02
		78.34	96.00	3.15E-01		7.77E-02
+	SC-46	889.25	99.98	-6.03E-02	8.33E-02	8.33E-02
		1120.51	99.99	2.70E-01		1.69E-01
+	V-48	983.52	99.98	-1.47E-01	2.64E-01	2.64E-01
		1312.10	97.50	-1.33E-01		3.11E-01
+	CR-51	320.08	9.83	1.96E-01	1.23E+00	1.23E+00
+	MN-54	834.83	99.97	2.49E-02	8.90E-02	8.90E-02
+	CO-56	846.75	99.96	-3.22E-02	8.70E-02	8.70E-02
		1037.75	14.03	-2.40E-01		7.01E-01
		1238.25	67.00	1.17E-01		2.18E-01
		1771.40	15.51	-9.44E-03		5.33E-01
		2598.48	16.90	1.34E-02		3.23E-01
+	CO-57	122.06	85.51	4.37E-02	6.16E-02	6.16E-02
		136.48	10.60	-5.81E-02		4.98E-01
+	CO-58	810.76	99.40	1.34E-02	9.57E-02	9.57E-02
+	FE-59	1099.22	56.50	5.46E-02	2.35E-01	2.35E-01
		1291.56	43.20	-6.74E-02		2.69E-01
+	CO-60	1173.22	100.00	-1.56E-02	8.22E-02	9.27E-02
		1332.49	100.00	4.19E-03		8.22E-02
+	ZN-65	1115.52	50.75	-1.63E-02	1.75E-01	1.75E-01
+	GA-67	93.31	35.70	2.46E+02	1.86E+02	1.86E+02
		208.95	2.24	2.08E+03		2.90E+03
		300.22	16.00	1.76E+02		3.92E+02
+	SE-75	121.11	16.70	-3.99E-02	9.66E-02	3.40E-01

Analysis Report for 1510092-04
CP5003S03-04

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
SE-75	136.00	59.20	-5.73E-02	9.66E-02	9.66E-02
	264.65	59.80	3.00E-02		1.08E-01
	279.53	25.20	3.26E-02		2.60E-01
	400.65	11.40	2.65E-01		5.99E-01
+ RB-82	776.52	13.00	-1.04E-01	1.23E+00	1.23E+00
+ RB-83	520.41	46.00	4.34E-02	1.56E-01	1.56E-01
	529.64	30.30	-9.82E-02		2.26E-01
	552.65	16.40	4.08E-02		4.00E-01
+ KR-85	513.99	0.43	-2.29E+01	1.46E+01	1.46E+01
+ SR-85	513.99	99.27	-1.41E-01	8.98E-02	8.98E-02
+ Y-88	898.02	93.40	-4.05E-02	6.26E-02	8.68E-02
	1836.01	99.38	-2.86E-02		6.26E-02
+ NB-93M	16.57	9.43	-8.31E+03	5.61E+03	5.61E+03
+ NB-94	702.63	100.00	7.44E-03	6.81E-02	7.43E-02
	871.10	100.00	3.28E-02		6.81E-02
+ NB-95	765.79	99.81	1.50E-01	1.79E-01	1.79E-01
+ NB-95M	235.69	25.00	-1.02E+03	1.85E+02	1.85E+02
+ ZR-95	724.18	43.70	1.86E-01	1.85E-01	2.99E-01
	756.72	55.30	3.64E-02		1.85E-01
	181.06	6.20	5.25E+02		2.11E+03
+ MO-99	739.58	12.80	3.93E+02	2.11E+03	2.11E+03
	778.00	4.50	-4.66E+02		5.85E+03
	497.08	89.00	-4.85E-02		1.07E-01
+ RU-103	497.08	89.00	-4.85E-02	1.07E-01	1.07E-01
+ RU-106	621.84	9.80	5.78E-01	8.09E-01	8.09E-01
+ AG-108M	433.93	89.90	-5.44E-03	5.76E-02	5.76E-02
	614.37	90.40	-1.74E-02		7.33E-02
	722.95	90.50	-1.52E-01		8.40E-02
+ CD-109	88.03	* 3.72	1.14E+00	1.55E+00	1.55E+00
+ AG-110M	657.75	93.14	-4.17E-02	8.25E-02	8.25E-02
	677.61	10.53	1.39E-01		7.51E-01
	706.67	16.46	1.60E-01		4.76E-01
	763.93	21.98	-4.92E-02		4.28E-01
	884.67	71.63	3.68E-03		1.06E-01
	1384.27	23.94	3.89E-02		3.25E-01
	263.70	0.02	9.79E+01		2.29E+02
+ CD-113M	263.70	0.02	9.79E+01	2.29E+02	2.29E+02
+ SN-113	255.12	1.93	1.15E+00	1.02E-01	3.34E+00
	391.69	64.90	1.67E-02		1.02E-01
+ TE123M	159.00	84.10	1.54E-02	7.52E-02	7.52E-02
+ SB-124	602.71	97.87	-2.23E-02	1.00E-01	1.00E-01
	645.85	7.26	4.17E-02		1.36E+00
	722.78	11.10	-1.81E+00		9.97E-01
	1691.02	49.00	-8.14E-02		1.93E-01
+ I-125	35.49	6.49	-1.85E+00	5.44E+00	5.44E+00
+ SB-125	176.33	6.89	3.02E-01	1.95E-01	7.83E-01
	427.89	29.33	7.58E-02		1.95E-01
	463.38	10.35	3.42E-01		6.34E-01
	600.56	17.80	1.15E-01		3.87E-01
	635.90	11.32	2.83E-02		5.73E-01

Analysis Report for 1510092-04
CP5003S03-04

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	SB-126	414.70	83.30	3.22E-02	3.84E-01	3.84E-01
		666.33	99.60	-4.98E-02		4.59E-01
		695.00	99.60	9.68E-02		4.62E-01
		720.50	53.80	2.02E-01		8.17E-01
+	SN-126	87.57	* 37.00	1.09E-01	1.48E-01	1.48E-01
+	SB-127	473.00	25.00	-6.47E+00	6.96E+01	7.50E+01
		685.20	35.70	-1.95E+01		6.96E+01
		783.80	14.70	1.78E+02		1.98E+02
+	I-129	29.78	57.00	-3.79E-01	1.21E+00	1.21E+00
		33.60	13.20	-1.28E+00		2.44E+00
		39.58	7.52	8.60E-01		2.23E+00
+	I-131	284.30	6.05	1.92E+00	1.05E+00	1.44E+01
		364.48	81.20	6.45E-02		1.05E+00
		636.97	7.26	3.22E+00		1.53E+01
		722.89	1.80	-1.28E+02		7.05E+01
+	TE-132	49.72	13.10	-5.39E+01	6.44E+01	6.23E+02
		228.16	88.00	1.03E+01		6.44E+01
+	BA-133	81.00	33.00	-9.32E-02	8.95E-02	1.24E-01
		302.84	17.80	1.23E-01		3.21E-01
		356.01	60.00	2.24E-02		8.95E-02
+	I-133	529.87	86.30	-4.85E+09	1.38E+10	1.38E+10
+	XE-133	81.00	38.00	-6.04E+00	8.01E+00	8.01E+00
+	CS-134	563.23	8.38	2.55E-01	9.09E-02	7.12E-01
		569.32	15.43	5.60E-02		3.76E-01
		604.70	97.60	7.22E-03		9.09E-02
		795.84	85.40	8.45E-02		1.00E-01
		801.93	8.73	-1.48E-01		8.01E-01
+	CS-135	268.24	16.00	-1.12E-02	3.73E-01	3.73E-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	7.88E-01	4.48E-01	3.88E+00
		163.89	4.61	3.84E-01		6.56E+00
		176.55	13.56	-9.85E-01		2.16E+00
		273.65	12.66	-1.09E+00		2.27E+00
		340.57	48.50	-2.12E-01		7.83E-01
		818.50	99.70	4.06E-01		4.48E-01
		1048.07	79.60	-6.42E-02		5.45E-01
		1235.34	19.70	1.80E-01		2.95E+00
+	CS-137	661.65	85.12	4.50E-03	8.99E-02	8.99E-02
+	LA-138	788.74	34.00	-2.40E-02	9.40E-02	2.04E-01
		1435.80	66.00	2.40E-02		9.40E-02
+	CE-139	165.85	80.35	1.33E-02	7.80E-02	7.80E-02
+	BA-140	162.64	6.70	3.48E+00	1.22E+00	4.82E+00
		304.84	4.50	-9.70E-01		6.88E+00
		423.70	3.20	5.55E+00		1.03E+01
		437.55	2.00	-2.00E-01		1.55E+01
		537.32	25.00	-5.30E-01		1.22E+00
+	LA-140	328.77	20.50	9.65E-01	4.70E-01	1.79E+00

Analysis Report for 1510092-04
CP5003S03-04

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
LA-140	487.03	45.50	-2.44E-01	4.70E-01	6.94E-01
	815.85	23.50	-7.03E-01		1.78E+00
	1596.49	95.49	9.15E-02		4.70E-01
+ CE-141	145.44 *	48.40	2.77E-01	3.10E-01	3.10E-01
+ CE-143	57.36	11.80	-3.90E+05	2.63E+06	6.54E+06
	293.26	42.00	8.76E+05		2.63E+06
	664.55	5.20	9.81E+06		2.13E+07
+ CE-144	133.54	10.80	-1.30E-01	4.79E-01	4.79E-01
+ PM-144	476.78	42.00	-1.71E-03	7.47E-02	1.31E-01
	618.01	98.60	-1.49E-02		7.47E-02
	696.49	99.49	2.05E-02		7.94E-02
+ PM-145	36.85	21.70	-3.73E-01	4.96E-01	9.66E-01
	37.36	39.70	-1.92E-01		4.96E-01
	42.30	15.10	-5.40E-01		8.41E-01
	72.40	2.31	-8.61E-01		2.19E+00
+ PM-146	453.90	39.94	-5.57E-02	1.33E-01	1.33E-01
	735.90	14.01	4.45E-02		5.13E-01
	747.13	13.10	-1.73E-01		5.00E-01
+ ND-147	91.11	28.90	1.70E+00	1.78E+00	1.78E+00
	531.02	13.10	6.94E-01		3.39E+00
+ PM-149	285.90	3.10	-5.48E+03	4.77E+04	4.77E+04
+ EU-152	121.78	20.50	1.68E-01	2.37E-01	2.37E-01
	244.69	5.40	1.74E-01		1.04E+00
	344.27	19.13	8.49E-02		2.65E-01
	778.89	9.20	-1.05E-01		7.78E-01
	964.01	10.40	-2.80E+00		1.01E+00
	1085.78	7.22	7.53E-02		1.05E+00
	1112.02	9.60	3.91E-02		9.18E-01
	1407.95	14.94	1.54E-01		5.36E-01
+ GD-153	97.43	31.30	-2.30E-03	1.67E-01	1.67E-01
	103.18	22.20	-1.92E-01		2.21E-01
+ EU-154	123.07	40.50	-5.32E-03	1.18E-01	1.18E-01
	723.30	19.70	-7.04E-01		3.89E-01
	873.19	11.50	4.11E-02		6.15E-01
	996.32	10.30	1.02E-01		7.71E-01
	1004.76	17.90	-2.20E-02		4.47E-01
	1274.45	35.50	5.85E-02		2.46E-01
+ EU-155	86.50	30.90	-1.70E-01	2.10E-01	2.10E-01
	105.30	20.70	-1.00E-01		2.29E-01
+ EU-156	811.77	10.40	-4.58E-01	2.82E+00	2.82E+00
	1153.47	7.20	4.49E+00		6.04E+00
	1230.71	8.90	-6.64E-01		4.49E+00
+ HO-166M	184.41	72.60	1.06E-02	8.93E-02	8.93E-02
	280.45	29.60	2.31E-02		1.84E-01
	410.94	11.10	1.63E-01		5.23E-01
	711.69	54.10	1.03E-02		1.19E-01
+ TM-171	66.72	0.14	-6.97E+00	3.78E+01	3.78E+01
+ HF-172	81.75	4.52	-1.06E+00	4.48E-01	9.60E-01
	125.81	11.30	-6.42E-01		4.48E-01

Analysis Report for 1510092-04
CP5003S03-04

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	LU-172	181.53	20.60	2.25E+00	3.88E+00	7.71E+00
		810.06	16.63	1.71E+00		1.22E+01
		912.12	15.25	8.79E+01		3.06E+01
		1093.66	62.50	8.67E-01		3.88E+00
+	LU-173	100.72	5.24	-1.68E-03	3.02E-01	9.12E-01
		272.11	21.20	2.66E-01		3.02E-01
+	HF-175	343.40	84.00	4.34E-02	8.61E-02	8.61E-02
+	LU-176	88.34	13.30	8.07E-01	5.55E-02	4.99E-01
		201.83	86.00	-5.28E-03		6.51E-02
		306.78	94.00	2.75E-02		5.55E-02
+	TA-182	67.75	41.20	-5.11E-05	1.49E-01	1.49E-01
		1121.30	34.90	7.10E-01		4.49E-01
		1189.05	16.23	-1.57E-01		6.89E-01
		1221.41	26.98	8.21E-03		4.31E-01
		1231.02	11.44	-1.74E-01		9.68E-01
+	IR-192	308.46	29.68	-6.14E-02	1.68E-01	2.28E-01
		468.07	48.10	5.54E-02		1.68E-01
+	HG-203	279.19	77.30	8.29E-02	1.21E-01	1.21E-01
+	BI-207	569.67	97.72	8.61E-03	5.78E-02	5.78E-02
		1063.62	74.90	-1.62E-02		1.03E-01
+	TL-208	583.14	* 30.22	1.16E+00	1.72E-01	3.60E-01
		860.37	* 4.48	1.72E+00		2.32E+00
		2614.66	* 35.85	1.07E+00		1.72E-01
+	BI-210M	262.00	45.00	1.82E-02	1.16E-01	1.16E-01
		300.00	23.00	1.18E-01		2.63E-01
+	PB-210	46.50	4.25	3.50E+00	2.59E+00	2.59E+00
+	PB-211	404.84	2.90	-8.85E-02	1.81E+00	1.81E+00
		831.96	2.90	-6.43E-01		2.61E+00
+	BI-212	727.17	* 11.80	1.08E+00	8.16E-01	8.16E-01
		1620.62	2.75	1.34E+00		2.81E+00
+	PB-212	238.63	* 44.60	1.41E+00	2.34E-01	2.34E-01
		300.09	* 3.41	1.15E+00		1.46E+00
+	BI-214	609.31	* 46.30	1.07E+00	2.25E-01	2.25E-01
		1120.29	* 15.10	1.17E+00		8.14E-01
		1764.49	* 15.80	1.19E+00		5.32E-01
		2204.22	* 4.98	1.09E+00		1.58E+00
+	PB-214	295.21	* 19.19	1.31E+00	2.36E-01	4.79E-01
		351.92	* 37.19	1.37E+00		2.36E-01
+	RN-219	401.80	6.50	-5.26E-01	8.40E-01	8.40E-01
+	RA-223	323.87	3.88	6.60E-01	1.44E+00	1.44E+00
+	RA-224	240.98	* 3.95	3.20E+00	2.60E+00	2.60E+00
+	RA-225	40.00	31.00	9.25E-01	2.39E+00	2.39E+00
+	RA-226	186.21	* 3.28	3.59E+00	2.97E+00	2.97E+00
+	TH-227	50.10	8.40	-7.93E-02	7.60E-01	9.17E-01
		236.00	11.50	-4.19E+00		7.60E-01
		256.20	6.30	-2.15E-03		8.33E-01
+	AC-228	338.32	* 11.40	1.55E+00	3.98E-01	7.20E-01
		911.07	* 27.70	1.53E+00		3.98E-01

Analysis Report for 1510092-04
 CP5003S03-04

	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	3.98E-01	6.59E-01
+	TH-230	48.44		16.90	-5.26E-01	4.98E-01	4.98E-01
		62.85		4.60	9.93E-01		1.31E+00
		67.67		0.37	-4.67E-03		1.37E+01
+	PA-231	283.67		1.60	4.33E-01	2.47E+00	3.26E+00
		302.67		2.30	9.44E-01		2.47E+00
+	TH-231	25.64		14.70	-1.90E+00	7.33E-01	1.43E+01
		84.21		6.40	6.29E-01		7.33E-01
+	PA-233	311.98		38.60	-2.25E-03	2.95E-01	2.95E-01
+	PA-234	131.20		20.40	3.07E-01	2.64E-01	2.64E-01
		733.99		8.80	8.77E-02		8.17E-01
		946.00		12.00	1.27E-01		6.74E-01
+	PA-234M	1001.03	*	0.92	6.18E+00	1.25E+01	1.25E+01
+	TH-234	63.29		3.80	1.19E+00	1.58E+00	1.58E+00
+	U-235	143.76	*	10.50	6.37E-01	7.12E-01	7.12E-01
		163.35	*	4.70	7.79E-01		1.30E+00
		205.31		4.70	6.63E-01		1.23E+00
+	NP-237	86.50	*	12.60	3.19E-01	4.35E-01	4.35E-01
+	NP-239	106.10		22.70	1.82E+03	3.23E+03	3.23E+03
		228.18		10.70	1.22E+03		7.61E+03
		277.60		14.10	5.03E+03		6.10E+03
+	AM-241	59.54		35.90	7.25E-03	1.53E-01	1.53E-01
+	AM-243	74.67		66.00	-1.52E-01	1.10E-01	1.10E-01
+	CM-243	209.75		3.29	1.62E+00	4.11E-01	1.92E+00
		228.14		10.60	8.23E-02		5.14E-01
		277.60		14.00	3.39E-01		4.11E-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

Analysis Report for 1510092-04
CP5003S03-04

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	7.58E-01	7.58E-01	-9.88E-03	3.54E-01
NA-22	1274.54	99.94	8.89E-02	8.89E-02	2.11E-02	4.08E-02
NA-24	1368.53	99.99	3.73E+14	4.83E+13	4.49E+13	1.66E+14
	2754.09	99.86	4.83E+13		0.00E+00	0.00E+00
AL-26	1808.65	99.76	6.05E-02	6.05E-02	1.97E-02	2.57E-02
+ K-40	1460.81	* 10.67	7.21E-01	7.21E-01	1.95E+01	3.23E-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	-1.83E-05	2.59E-02
	78.34	96.00	7.77E-02		3.15E-01	3.81E-02
SC-46	889.25	99.98	8.33E-02	8.33E-02	-6.03E-02	3.81E-02
	1120.51	99.99	1.69E-01		2.70E-01	8.03E-02
V-48	983.52	99.98	2.64E-01	2.64E-01	-1.47E-01	1.20E-01
	1312.10	97.50	3.11E-01		-1.33E-01	1.40E-01
CR-51	320.08	9.83	1.23E+00	1.23E+00	1.96E-01	5.85E-01
MN-54	834.83	99.97	8.90E-02	8.90E-02	2.49E-02	4.17E-02
CO-56	846.75	99.96	8.70E-02	8.70E-02	-3.22E-02	4.00E-02
	1037.75	14.03	7.01E-01		-2.40E-01	3.21E-01
	1238.25	67.00	2.18E-01		1.17E-01	1.02E-01
	1771.40	15.51	5.33E-01		-9.44E-03	2.28E-01
	2598.48	16.90	3.23E-01		1.34E-02	1.25E-01
CO-57	122.06	85.51	6.16E-02	6.16E-02	4.37E-02	2.99E-02
	136.48	10.60	4.98E-01		-5.81E-02	2.41E-01
CO-58	810.76	99.40	9.57E-02	9.57E-02	1.34E-02	4.44E-02
FE-59	1099.22	56.50	2.35E-01	2.35E-01	5.46E-02	1.08E-01
	1291.56	43.20	2.69E-01		-6.74E-02	1.21E-01
CO-60	1173.22	100.00	9.27E-02	8.22E-02	-1.56E-02	4.29E-02
	1332.49	100.00	8.22E-02		4.19E-03	3.73E-02
ZN-65	1115.52	50.75	1.75E-01	1.75E-01	-1.63E-02	8.02E-02
GA-67	93.31	35.70	1.86E+02	1.86E+02	2.46E+02	9.10E+01
	208.95	2.24	2.90E+03		2.08E+03	1.40E+03
	300.22	16.00	3.92E+02		1.76E+02	1.88E+02
SE-75	121.11	16.70	3.40E-01	9.66E-02	-3.99E-02	1.65E-01
	136.00	59.20	9.66E-02		-5.73E-02	4.68E-02
	264.65	59.80	1.08E-01		3.00E-02	5.18E-02
	279.53	25.20	2.60E-01		3.26E-02	1.25E-01
	400.65	11.40	5.99E-01		2.65E-01	2.84E-01
RB-82	776.52	13.00	1.23E+00	1.23E+00	-1.04E-01	5.72E-01
RB-83	520.41	46.00	1.56E-01	1.56E-01	4.34E-02	7.32E-02
	529.64	30.30	2.26E-01		-9.82E-02	1.05E-01
	552.65	16.40	4.00E-01		4.08E-02	1.85E-01
KR-85	513.99	0.43	1.46E+01	1.46E+01	-2.29E+01	6.88E+00
SR-85	513.99	99.27	8.98E-02	8.98E-02	-1.41E-01	4.24E-02
Y-88	898.02	93.40	8.68E-02	6.26E-02	-4.05E-02	3.98E-02
	1836.01	99.38	6.26E-02		-2.86E-02	2.56E-02
NB-93M	16.57	9.43	5.61E+03	5.61E+03	-8.31E+03	2.73E+03
NB-94	702.63	100.00	7.43E-02	6.81E-02	7.44E-03	3.49E-02
	871.10	100.00	6.81E-02		3.28E-02	3.14E-02
NB-95	765.79	99.81	1.79E-01	1.79E-01	1.50E-01	8.49E-02
NB-95M	235.69	25.00	1.85E+02	1.85E+02	-1.02E+03	9.02E+01
ZR-95	724.18	43.70	2.99E-01	1.85E-01	1.86E-01	1.42E-01
	756.72	55.30	1.85E-01		3.64E-02	8.62E-02

Analysis Report for 1510092-04
CP5003S03-04

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	3.25E+03	2.11E+03	5.25E+02	1.57E+03
	739.58	12.80	2.11E+03		3.93E+02	9.85E+02
	778.00	4.50	5.85E+03		-4.66E+02	2.72E+03
RU-103	497.08	89.00	1.07E-01	1.07E-01	-4.85E-02	5.00E-02
RU-106	621.84	9.80	8.09E-01	8.09E-01	5.78E-01	3.83E-01
AG-108M	433.93	89.90	5.76E-02	5.76E-02	-5.44E-03	2.70E-02
	614.37	90.40	7.33E-02		-1.74E-02	3.44E-02
	722.95	90.50	8.40E-02		-1.52E-01	3.95E-02
+ CD-109	88.03	* 3.72	1.55E+00	1.55E+00	1.14E+00	7.55E-01
AG-110M	657.75	93.14	8.25E-02	8.25E-02	-4.17E-02	3.87E-02
	677.61	10.53	7.51E-01		1.39E-01	3.53E-01
	706.67	16.46	4.76E-01		1.60E-01	2.23E-01
	763.93	21.98	4.28E-01		-4.92E-02	2.02E-01
	884.67	71.63	1.06E-01		3.68E-03	4.91E-02
	1384.27	23.94	3.25E-01		3.89E-02	1.45E-01
CD-113M	263.70	0.02	2.29E+02	2.29E+02	9.79E+01	1.09E+02
SN-113	255.12	1.93	3.34E+00	1.02E-01	1.15E+00	1.60E+00
	391.69	64.90	1.02E-01		1.67E-02	4.81E-02
TE123M	159.00	84.10	7.52E-02	7.52E-02	1.54E-02	3.64E-02
SB-124	602.71	97.87	1.00E-01	1.00E-01	-2.23E-02	4.73E-02
	645.85	7.26	1.36E+00		4.17E-02	6.36E-01
	722.78	11.10	9.97E-01		-1.81E+00	4.68E-01
	1691.02	49.00	1.93E-01		-8.14E-02	8.33E-02
I-125	35.49	6.49	5.44E+00	5.44E+00	-1.85E+00	2.63E+00
SB-125	176.33	6.89	7.83E-01	1.95E-01	3.02E-01	3.79E-01
	427.89	29.33	1.95E-01		7.58E-02	9.22E-02
	463.38	10.35	6.34E-01		3.42E-01	3.01E-01
	600.56	17.80	3.87E-01		1.15E-01	1.82E-01
	635.90	11.32	5.73E-01		2.83E-02	2.68E-01
	414.70	83.30	3.84E-01		3.84E-01	3.22E-02	1.81E-01
SB-126	666.33	99.60	4.59E-01	3.84E-01	-4.98E-02	2.16E-01
	695.00	99.60	4.62E-01		9.68E-02	2.17E-01
	720.50	53.80	8.17E-01		2.02E-01	3.82E-01
	87.57	* 37.00	1.48E-01		1.48E-01	1.09E-01	7.23E-02
+ SN-126	473.00	25.00	7.50E+01	6.96E+01	-6.47E+00	3.51E+01
	685.20	35.70	6.96E+01		-1.95E+01	3.26E+01
	783.80	14.70	1.98E+02		1.78E+02	9.33E+01
I-129	29.78	57.00	1.21E+00	1.21E+00	-3.79E-01	5.88E-01
	33.60	13.20	2.44E+00		-1.28E+00	1.18E+00
	39.58	7.52	2.23E+00		8.60E-01	1.08E+00
I-131	284.30	6.05	1.44E+01	1.05E+00	1.92E+00	6.89E+00
	364.48	81.20	1.05E+00		6.45E-02	4.94E-01
	636.97	7.26	1.53E+01		3.22E+00	7.17E+00
	722.89	1.80	7.05E+01		-1.28E+02	3.31E+01
TE-132	49.72	13.10	6.23E+02	6.44E+01	-5.39E+01	3.02E+02
	228.16	88.00	6.44E+01		1.03E+01	3.10E+01
BA-133	81.00	33.00	1.24E-01	8.95E-02	-9.32E-02	5.98E-02
	302.84	17.80	3.21E-01		1.23E-01	1.54E-01
	356.01	60.00	8.95E-02		2.24E-02	4.25E-02
I-133	529.87	86.30	1.38E+10	1.38E+10	-4.85E+09	6.44E+09
XE-133	81.00	38.00	8.01E+00	8.01E+00	-6.04E+00	3.87E+00
CS-134	563.23	8.38	7.12E-01	9.09E-02	2.55E-01	3.33E-01
	569.32	15.43	3.76E-01		5.60E-02	1.75E-01

Analysis Report for 1510092-04
CP5003S03-04

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	9.09E-02	9.09E-02	7.22E-03	4.34E-02		
	795.84	85.40	1.00E-01		8.45E-02	4.71E-02		
	801.93	8.73	8.01E-01		-1.48E-01	3.71E-01		
CS-135	268.24	16.00	3.73E-01	3.73E-01	-1.12E-02	1.79E-01		
	1131.51	22.50	1.00E+26		1.00E+26	1.00E+26		
@ I-135	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+20		
@ CS-136	153.22	7.46	3.88E+00	4.48E-01	7.88E-01	1.88E+00		
	163.89	4.61	6.56E+00		3.84E-01	3.18E+00		
	176.55	13.56	2.16E+00		-9.85E-01	1.04E+00		
	273.65	12.66	2.27E+00		-1.09E+00	1.08E+00		
	340.57	48.50	7.83E-01		-2.12E-01	3.76E-01		
	818.50	99.70	4.48E-01		4.06E-01	2.10E-01		
	1048.07	79.60	5.45E-01		-6.42E-02	2.51E-01		
	1235.34	19.70	2.95E+00		1.80E-01	1.38E+00		
	CS-137	661.65	85.12		8.99E-02	8.99E-02	4.50E-03	4.24E-02
	LA-138	788.74	34.00		2.04E-01	9.40E-02	-2.40E-02	9.46E-02
1435.80		66.00	9.40E-02	2.40E-02	4.10E-02			
CE-139	165.85	80.35	7.80E-02	7.80E-02	1.33E-02	3.78E-02		
BA-140	162.64	6.70	4.82E+00	1.22E+00	3.48E+00	2.34E+00		
	304.84	4.50	6.88E+00		-9.70E-01	3.28E+00		
	423.70	3.20	1.03E+01		5.55E+00	4.85E+00		
	437.55	2.00	1.55E+01		-2.00E-01	7.30E+00		
	537.32	25.00	1.22E+00		-5.30E-01	5.68E-01		
LA-140	328.77	20.50	1.79E+00	4.70E-01	9.65E-01	8.58E-01		
	487.03	45.50	6.94E-01		-2.44E-01	3.25E-01		
	815.85	23.50	1.78E+00		-7.03E-01	8.26E-01		
	1596.49	95.49	4.70E-01		9.15E-02	2.09E-01		
CE-141	145.44	* 48.40	3.10E-01	3.10E-01	2.77E-01	1.52E-01		
CE-143	57.36	11.80	6.54E+06	2.63E+06	-3.90E+05	3.16E+06		
	293.26	42.00	2.63E+06		8.76E+05	1.28E+06		
	664.55	5.20	2.13E+07		9.81E+06	1.00E+07		
CE-144	133.54	10.80	4.79E-01	4.79E-01	-1.30E-01	2.32E-01		
PM-144	476.78	42.00	1.31E-01	7.47E-02	-1.71E-03	6.12E-02		
	618.01	98.60	7.47E-02		-1.49E-02	3.52E-02		
	696.49	99.49	7.94E-02		2.05E-02	3.73E-02		
PM-145	36.85	21.70	9.66E-01	4.96E-01	-3.73E-01	4.68E-01		
	37.36	39.70	4.96E-01		-1.92E-01	2.40E-01		
	42.30	15.10	8.41E-01		-5.40E-01	4.08E-01		
	72.40	2.31	2.19E+00		-8.61E-01	1.07E+00		
PM-146	453.90	39.94	1.33E-01	1.33E-01	-5.57E-02	6.23E-02		
	735.90	14.01	5.13E-01		4.45E-02	2.40E-01		
	747.13	13.10	5.00E-01		-1.73E-01	2.32E-01		
ND-147	91.11	28.90	1.78E+00	1.78E+00	1.70E+00	8.71E-01		
	531.02	13.10	3.39E+00		6.94E-01	1.59E+00		
PM-149	285.90	3.10	4.77E+04	4.77E+04	-5.48E+03	2.28E+04		
EU-152	121.78	20.50	2.37E-01	2.37E-01	1.68E-01	1.15E-01		
	244.69	5.40	1.04E+00		1.74E-01	5.01E-01		
	344.27	19.13	2.65E-01		8.49E-02	1.25E-01		
	778.89	9.20	7.78E-01		-1.05E-01	3.63E-01		
	964.01	10.40	1.01E+00		-2.80E+00	4.78E-01		
	1085.78	7.22	1.05E+00		7.53E-02	4.82E-01		
	1112.02	9.60	9.18E-01		3.91E-02	4.25E-01		

Analysis Report for 1510092-04
CP5003S03-04

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	5.36E-01	2.37E-01	1.54E-01	2.42E-01
GD-153	97.43	31.30	1.67E-01	1.67E-01	-2.30E-03	8.10E-02
	103.18	22.20	2.21E-01		-1.92E-01	1.07E-01
EU-154	123.07	40.50	1.18E-01	1.18E-01	-5.32E-03	5.74E-02
	723.30	19.70	3.89E-01		-7.04E-01	1.83E-01
	873.19	11.50	6.15E-01		4.11E-02	2.84E-01
	996.32	10.30	7.71E-01		1.02E-01	3.57E-01
	1004.76	17.90	4.47E-01		-2.20E-02	2.07E-01
	1274.45	35.50	2.46E-01		5.85E-02	1.13E-01
EU-155	86.50	30.90	2.10E-01	2.10E-01	-1.70E-01	1.03E-01
	105.30	20.70	2.29E-01		-1.00E-01	1.11E-01
EU-156	811.77	10.40	2.82E+00	2.82E+00	-4.58E-01	1.30E+00
	1153.47	7.20	6.04E+00		4.49E+00	2.81E+00
	1230.71	8.90	4.49E+00		-6.64E-01	2.07E+00
HO-166M	184.41	72.60	8.93E-02	8.93E-02	1.06E-02	4.34E-02
	280.45	29.60	1.84E-01		2.31E-02	8.81E-02
	410.94	11.10	5.23E-01		1.63E-01	2.48E-01
	711.69	54.10	1.19E-01		1.03E-02	5.53E-02
TM-171	66.72	0.14	3.78E+01	3.78E+01	-6.97E+00	1.84E+01
HF-172	81.75	4.52	9.60E-01	4.48E-01	-1.06E+00	4.65E-01
	125.81	11.30	4.48E-01		-6.42E-01	2.17E-01
LU-172	181.53	20.60	7.71E+00	3.88E+00	2.25E+00	3.73E+00
	810.06	16.63	1.22E+01		1.71E+00	5.65E+00
	912.12	15.25	3.06E+01		8.79E+01	1.48E+01
	1093.66	62.50	3.88E+00		8.67E-01	1.79E+00
LU-173	100.72	5.24	9.12E-01	3.02E-01	-1.68E-03	4.43E-01
	272.11	21.20	3.02E-01		2.66E-01	1.45E-01
HF-175	343.40	84.00	8.61E-02	8.61E-02	4.34E-02	4.08E-02
LU-176	88.34	13.30	4.99E-01	5.55E-02	8.07E-01	2.45E-01
	201.83	86.00	6.51E-02		-5.28E-03	3.15E-02
	306.78	94.00	5.55E-02		2.75E-02	2.65E-02
TA-182	67.75	41.20	1.49E-01	1.49E-01	-5.11E-05	7.25E-02
	1121.30	34.90	4.49E-01		7.10E-01	2.13E-01
	1189.05	16.23	6.89E-01		-1.57E-01	3.19E-01
	1221.41	26.98	4.31E-01		8.21E-03	2.00E-01
	1231.02	11.44	9.68E-01		-1.74E-01	4.46E-01
IR-192	308.46	29.68	2.28E-01	1.68E-01	-6.14E-02	1.08E-01
	468.07	48.10	1.68E-01		5.54E-02	7.96E-02
HG-203	279.19	77.30	1.21E-01	1.21E-01	8.29E-02	5.79E-02
BI-207	569.67	97.72	5.78E-02	5.78E-02	8.61E-03	2.69E-02
	1063.62	74.90	1.03E-01		-1.62E-02	4.72E-02
+ TL-208	583.14	* 30.22	3.60E-01	1.72E-01	1.16E+00	1.74E-01
	860.37	* 4.48	2.32E+00		1.72E+00	1.10E+00
	2614.66	* 35.85	1.72E-01		1.07E+00	7.34E-02
BI-210M	262.00	45.00	1.16E-01	1.16E-01	1.82E-02	5.56E-02
	300.00	23.00	2.63E-01		1.18E-01	1.26E-01
PB-210	46.50	4.25	2.59E+00	2.59E+00	3.50E+00	1.26E+00
PB-211	404.84	2.90	1.81E+00	1.81E+00	-8.85E-02	8.55E-01
	831.96	2.90	2.61E+00		-6.43E-01	1.22E+00
+ BI-212	727.17	* 11.80	8.16E-01	8.16E-01	1.08E+00	3.89E-01
	1620.62	2.75	2.81E+00		1.34E+00	1.25E+00
+ PB-212	238.63	* 44.60	2.34E-01	2.34E-01	1.41E+00	1.15E-01
	300.09	* 3.41	1.46E+00		1.15E+00	6.94E-01

Analysis Report for 1510092-04
CP5003S03-04

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	2.25E-01	2.25E-01	1.07E+00	1.08E-01
		1120.29 *	15.10	8.14E-01		1.17E+00	3.86E-01
		1764.49 *	15.80	5.32E-01		1.19E+00	2.38E-01
		2204.22 *	4.98	1.58E+00		1.09E+00	6.93E-01
+	PB-214	295.21 *	19.19	4.79E-01	2.36E-01	1.31E+00	2.33E-01
		351.92 *	37.19	2.36E-01		1.37E+00	1.14E-01
	RN-219	401.80	6.50	8.40E-01	8.40E-01	-5.26E-01	3.97E-01
	RA-223	323.87	3.88	1.44E+00	1.44E+00	6.60E-01	6.87E-01
+	RA-224	240.98 *	3.95	2.60E+00	2.60E+00	3.20E+00	1.27E+00
	RA-225	40.00	31.00	2.39E+00	2.39E+00	9.25E-01	1.16E+00
+	RA-226	186.21 *	3.28	2.97E+00	2.97E+00	3.59E+00	1.46E+00
	TH-227	50.10	8.40	9.17E-01	7.60E-01	-7.93E-02	4.45E-01
		236.00	11.50	7.60E-01		-4.19E+00	3.71E-01
		256.20	6.30	8.33E-01		-2.15E-03	3.99E-01
+	AC-228	338.32 *	11.40	7.20E-01	3.98E-01	1.55E+00	3.49E-01
		911.07 *	27.70	3.98E-01		1.53E+00	1.89E-01
		969.11 *	16.60	6.59E-01		1.81E+00	3.12E-01
	TH-230	48.44	16.90	4.98E-01	4.98E-01	-5.26E-01	2.42E-01
		62.85	4.60	1.31E+00		9.93E-01	6.40E-01
		67.67	0.37	1.37E+01		-4.67E-03	6.63E+00
	PA-231	283.67	1.60	3.26E+00	2.47E+00	4.33E-01	1.56E+00
		302.67	2.30	2.47E+00		9.44E-01	1.18E+00
	TH-231	25.64	14.70	1.43E+01	7.33E-01	-1.90E+00	6.93E+00
		84.21	6.40	7.33E-01		6.29E-01	3.56E-01
	PA-233	311.98	38.60	2.95E-01	2.95E-01	-2.25E-03	1.40E-01
	PA-234	131.20	20.40	2.64E-01	2.64E-01	3.07E-01	1.28E-01
		733.99	8.80	8.17E-01		8.77E-02	3.82E-01
		946.00	12.00	6.74E-01		1.27E-01	3.13E-01
+	PA-234M	1001.03 *	0.92	1.25E+01	1.25E+01	6.18E+00	5.92E+00
	TH-234	63.29	3.80	1.58E+00	1.58E+00	1.19E+00	7.69E-01
+	U-235	143.76 *	10.50	7.12E-01	7.12E-01	6.37E-01	3.49E-01
		163.35 *	4.70	1.30E+00		7.79E-01	6.35E-01
		205.31	4.70	1.23E+00		6.63E-01	5.96E-01
+	NP-237	86.50 *	12.60	4.35E-01	4.35E-01	3.19E-01	2.12E-01
	NP-239	106.10	22.70	3.23E+03	3.23E+03	1.82E+03	1.57E+03
		228.18	10.70	7.61E+03		1.22E+03	3.66E+03
		277.60	14.10	6.10E+03		5.03E+03	2.93E+03
		AM-241	59.54	35.90		1.53E-01	1.53E-01	7.25E-03	7.41E-02
	AM-243	74.67	66.00	1.10E-01	1.10E-01	-1.52E-01	5.39E-02
	CM-243	209.75	3.29	1.92E+00	4.11E-01	1.62E+00	9.33E-01
		228.14	10.60	5.14E-01		8.23E-02	2.48E-01
		277.60	14.00	4.11E-01		3.39E-01	1.97E-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 1510092-04
CP5003S03-04

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: CP5003S03-04

Elapsed Live time: 3600
 Elapsed Real Time: 3601

Channel	0	0	0	0	0	0	0	183
1:	0	0	0	0	0	0	0	183
9:	540	1180	1132	431	561	1674	311	149
17:	148	124	133	143	130	133	114	108
25:	92	103	112	105	115	110	109	128
33:	107	110	98	116	101	117	135	143
41:	118	121	129	142	132	160	206	133
49:	112	115	127	114	112	101	85	97
57:	99	98	107	117	110	116	164	189
65:	143	127	120	131	126	125	141	118
73:	158	166	481	259	490	394	116	97
81:	112	85	120	158	127	119	210	205
89:	113	189	120	134	256	163	105	75
97:	81	83	90	90	69	68	66	73
105:	86	87	84	102	82	80	89	82
113:	85	63	87	71	73	73	55	86
121:	70	74	78	76	69	90	75	72
129:	120	100	72	79	74	62	64	64
137:	70	70	78	78	57	79	81	93
145:	96	82	80	47	65	69	78	65
153:	63	75	67	64	70	71	63	61
161:	74	81	72	77	61	59	66	69
169:	59	63	57	51	63	53	72	58
177:	65	54	48	75	64	60	55	53
185:	109	159	107	53	61	61	50	46
193:	63	75	60	58	50	59	56	54
201:	48	54	73	56	60	64	46	49
209:	122	79	47	50	59	57	55	56
217:	54	50	43	47	55	53	40	39
225:	52	54	54	42	35	42	38	40
233:	47	40	46	60	63	366	575	99
241:	102	133	83	33	27	38	37	33
249:	31	40	45	35	34	37	28	52
257:	32	30	37	35	26	33	38	40
265:	29	31	40	32	48	68	58	35
273:	25	40	25	31	49	52	35	26
281:	29	28	24	29	34	38	29	26
289:	38	31	26	17	28	48	219	118
297:	26	23	45	54	47	24	37	26
305:	33	24	21	33	26	19	24	28
313:	20	27	22	30	24	25	24	36
321:	22	28	26	35	31	26	25	59
329:	44	27	26	31	34	27	24	29
337:	40	118	110	21	23	20	31	21
345:	22	14	17	21	25	28	130	317
353:	99	20	27	21	21	27	16	25
361:	19	24	12	19	27	19	20	20

369: 14 28 26 28 15 20 20 14

Sample Title: CP5003S03-04

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	20	20	23	25	10	24	25	27
385:	25	22	23	16	27	25	24	21
393:	22	12	15	23	18	20	24	26
401:	23	22	15	16	28	16	18	17
409:	29	26	22	20	15	22	18	14
417:	17	16	11	17	12	14	24	23
425:	15	23	10	19	26	20	11	16
433:	17	18	18	12	17	19	18	21
441:	12	15	15	20	17	10	19	17
449:	20	15	23	10	13	18	20	17
457:	17	22	14	21	15	20	50	21
465:	10	22	13	24	18	21	20	14
473:	13	13	13	11	15	9	22	15
481:	15	12	19	16	10	23	15	14
489:	12	19	17	19	14	22	11	16
497:	20	12	12	24	12	15	13	18
505:	14	17	16	21	34	59	100	34
513:	20	13	20	8	12	19	13	8
521:	20	11	15	11	7	14	16	12
529:	9	14	11	19	19	14	9	7
537:	11	23	9	14	14	12	8	10
545:	9	11	14	7	11	11	10	6
553:	12	14	12	9	13	12	10	16
561:	11	17	19	11	11	8	11	12
569:	17	15	9	14	12	9	10	9
577:	16	12	13	10	19	61	157	81
585:	14	10	12	15	11	10	13	15
593:	10	10	6	10	13	14	16	7
601:	9	16	11	14	10	19	16	57
609:	202	107	16	11	11	10	8	14
617:	10	14	15	12	14	20	13	18
625:	9	7	8	10	9	14	10	6
633:	8	6	12	11	6	12	14	15
641:	7	17	11	13	13	8	13	11
649:	8	8	12	7	13	12	10	12
657:	12	12	15	10	10	22	11	16
665:	17	12	12	9	11	13	10	10
673:	7	13	9	14	15	5	16	10
681:	14	10	8	12	13	8	10	13
689:	11	14	10	11	19	13	9	5
697:	14	12	11	8	12	8	21	14
705:	8	8	11	6	7	7	9	10
713:	8	12	7	6	5	12	15	9
721:	4	13	13	17	8	18	49	17
729:	10	9	11	10	10	11	9	10
737:	10	9	10	9	8	14	6	10
745:	9	6	6	9	10	5	9	10
753:	8	4	17	9	7	9	13	5
761:	10	11	13	15	14	12	22	21
769:	19	11	9	14	9	4	10	8
777:	10	11	2	9	11	12	13	7
785:	13	21	6	4	9	4	1	7
793:	6	22	22	9	7	13	5	6

801: 10 9 13 6 5 8 11 6

Sample Title: CP5003S03-04

Channel	1	2	3	4	5	6	7	8
809:	4	14	10	7	3	6	9	8
817:	11	9	12	13	12	7	4	3
825:	10	7	10	9	6	15	5	7
833:	4	11	16	11	12	16	8	9
841:	10	7	2	6	11	7	8	6
849:	5	5	11	7	5	7	12	12
857:	4	6	16	33	18	10	5	5
865:	4	2	4	5	3	11	6	8
873:	5	9	7	4	9	8	4	10
881:	9	8	8	6	7	6	4	6
889:	7	7	7	2	12	9	6	5
897:	4	5	10	5	6	5	7	8
905:	9	13	3	7	9	59	114	54
913:	13	8	4	8	3	9	5	9
921:	4	5	6	2	3	5	7	5
929:	7	8	6	4	13	17	7	10
937:	9	6	7	4	5	5	6	9
945:	8	9	5	11	11	13	6	7
953:	9	7	7	7	7	7	5	5
961:	9	8	11	17	27	14	13	55
969:	66	20	5	3	4	3	9	9
977:	7	9	7	2	6	10	5	7
985:	2	1	11	2	5	9	11	6
993:	6	11	3	7	7	9	8	11
1001:	14	10	4	10	2	6	5	10
1009:	3	6	10	4	7	6	2	10
1017:	5	4	5	5	7	11	7	5
1025:	7	3	4	6	8	7	3	5
1033:	4	9	7	6	2	1	7	9
1041:	8	11	3	11	6	5	11	4
1049:	7	5	7	9	5	6	5	6
1057:	13	7	14	3	7	10	10	3
1065:	9	1	3	6	9	4	9	10
1073:	10	3	10	8	5	4	5	6
1081:	6	9	4	4	8	6	6	3
1089:	6	4	2	9	11	5	6	11
1097:	6	8	7	4	3	5	7	3
1105:	9	10	3	13	7	12	6	7
1113:	4	8	9	4	5	7	24	43
1121:	21	14	5	4	3	7	9	8
1129:	10	5	4	10	6	5	4	8
1137:	9	4	8	6	6	7	10	8
1145:	8	6	5	4	5	7	10	9
1153:	9	15	7	6	4	6	8	6
1161:	4	11	6	4	6	6	5	11
1169:	7	5	7	5	14	9	5	8
1177:	6	10	9	6	10	6	6	12
1185:	8	10	5	7	5	5	12	8
1193:	2	13	3	8	6	11	6	5
1201:	7	8	7	12	9	3	10	7
1209:	9	7	7	6	7	6	2	8
1217:	6	13	10	3	5	7	9	7
1225:	7	9	8	7	8	7	7	4

1233: 6 9 7 7 12 19 10 12

Sample Title: CP5003S03-04

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1241:	4	8	5	15	6	7	11	7
1249:	6	9	6	10	6	6	6	2
1257:	8	7	7	3	5	6	5	4
1265:	3	2	5	8	4	6	2	6
1273:	3	7	9	7	7	2	7	6
1281:	10	5	4	5	3	5	4	4
1289:	9	3	2	2	3	2	3	6
1297:	3	5	4	4	2	5	5	4
1305:	1	8	5	6	5	5	3	3
1313:	8	1	2	6	5	4	4	3
1321:	4	7	5	4	6	7	5	4
1329:	3	1	5	10	6	4	4	5
1337:	4	2	1	5	2	4	2	1
1345:	2	2	4	2	1	6	1	1
1353:	4	3	4	5	2	2	1	8
1361:	4	3	3	3	1	5	4	4
1369:	1	3	4	2	3	2	4	8
1377:	12	13	1	5	5	2	3	2
1385:	4	3	4	2	3	1	1	5
1393:	2	3	2	4	3	4	3	1
1401:	9	4	2	0	2	2	7	11
1409:	5	2	4	2	2	5	3	3
1417:	1	0	3	1	4	2	3	3
1425:	3	2	2	0	4	1	1	2
1433:	3	0	4	1	0	6	2	2
1441:	4	5	4	4	3	5	2	1
1449:	3	2	5	1	0	2	6	2
1457:	4	12	121	258	232	77	9	2
1465:	3	1	1	1	2	1	3	3
1473:	1	3	6	0	0	1	1	3
1481:	1	2	3	3	0	0	3	5
1489:	4	0	2	4	3	2	3	1
1497:	2	1	1	4	2	1	4	3
1505:	2	3	1	5	5	2	1	2
1513:	1	2	3	1	1	2	0	1
1521:	2	3	3	4	2	1	1	3
1529:	2	1	5	4	1	0	1	0
1537:	3	1	0	0	0	2	2	2
1545:	1	5	1	3	2	0	2	0
1553:	2	0	1	0	2	3	3	4
1561:	2	0	0	1	2	1	1	2
1569:	2	0	0	1	0	1	2	2
1577:	3	2	4	4	1	2	4	3
1585:	3	4	9	12	8	2	5	7
1593:	6	2	2	2	1	2	0	0
1601:	0	3	1	2	1	0	2	3
1609:	1	1	4	2	2	0	1	5
1617:	2	2	2	5	3	0	1	2
1625:	0	3	3	1	3	3	5	2
1633:	1	1	0	1	1	1	3	2
1641:	0	0	1	1	1	2	0	1
1649:	2	1	2	2	0	0	2	2
1657:	2	1	1	3	6	3	2	1

1665: 1 2 0 0 2 0 3 2

Sample Title: CP5003S03-04

Channel	1	2	3	4	5	6	7	8
1673:	3	1	0	4	2	0	2	0
1681:	1	3	2	2	2	1	0	0
1689:	1	0	2	4	1	5	3	4
1697:	1	1	0	1	2	3	1	3
1705:	1	1	0	0	0	0	2	1
1713:	2	2	2	1	2	1	1	2
1721:	0	0	1	1	0	2	3	4
1729:	7	2	2	0	2	0	0	0
1737:	0	0	1	0	0	1	0	0
1745:	0	1	3	1	1	0	2	0
1753:	3	3	0	1	0	0	1	0
1761:	5	7	18	23	12	3	1	2
1769:	1	2	1	0	1	2	2	1
1777:	1	1	2	0	1	2	0	0
1785:	2	1	0	0	1	0	0	3
1793:	2	2	0	2	0	1	1	2
1801:	1	0	0	2	2	2	0	2
1809:	2	1	0	0	1	1	0	0
1817:	1	0	0	2	0	1	1	1
1825:	0	1	0	1	1	0	1	1
1833:	0	1	1	0	0	2	1	1
1841:	2	4	2	0	3	4	2	0
1849:	2	1	1	2	2	1	4	1
1857:	1	0	0	1	0	3	0	1
1865:	1	0	1	2	0	2	0	1
1873:	3	2	1	0	1	1	2	1
1881:	1	1	4	1	1	5	0	3
1889:	1	0	0	0	2	0	1	1
1897:	2	0	1	1	0	1	1	1
1905:	0	0	0	2	1	1	1	2
1913:	2	0	1	0	0	2	0	0
1921:	2	0	2	1	1	0	1	2
1929:	0	0	2	0	0	1	1	1
1937:	1	1	3	1	1	1	0	1
1945:	1	0	1	0	1	1	1	0
1953:	1	2	2	1	1	0	4	0
1961:	1	1	1	0	2	0	0	0
1969:	0	0	2	1	4	0	4	2
1977:	0	1	1	0	2	1	2	0
1985:	1	0	0	2	1	2	1	1
1993:	0	1	1	0	1	1	1	0
2001:	1	0	1	2	1	2	1	1
2009:	1	2	3	0	1	0	3	1
2017:	1	1	1	0	0	1	0	1
2025:	1	1	0	1	0	3	2	2
2033:	1	2	3	0	1	1	2	0
2041:	1	0	0	0	0	1	1	0
2049:	2	0	4	0	0	1	3	1
2057:	0	2	0	2	0	1	0	1
2065:	0	2	0	1	2	4	4	2
2073:	0	3	0	0	1	2	1	0
2081:	1	1	0	0	1	0	0	0
2089:	0	2	1	1	2	0	1	0

2097: 0 1 0 1 7 3 9 3

Sample Title: CP5003S03-04

Channel	1	2	3	4	5	6	7	8	9
2105:	2	0	1	0	1	2	1	2	
2113:	1	3	1	1	3	6	0	1	
2121:	0	0	0	0	2	0	1	2	
2129:	2	1	0	1	1	1	0	2	
2137:	0	0	2	0	0	1	1	0	
2145:	3	0	0	2	1	0	1	0	
2153:	3	0	0	1	3	0	0	1	
2161:	2	1	1	1	0	1	1	0	
2169:	1	1	2	1	2	1	2	1	
2177:	1	1	0	0	1	3	2	1	
2185:	1	0	1	4	1	0	1	1	
2193:	3	0	1	0	2	1	0	1	
2201:	2	4	9	5	2	2	0	1	
2209:	1	1	1	3	1	2	1	1	
2217:	1	2	2	1	1	2	1	0	
2225:	0	0	2	0	1	1	0	2	
2233:	2	4	0	2	0	0	0	0	
2241:	3	0	1	0	1	1	1	5	
2249:	0	0	0	1	0	0	2	1	
2257:	1	2	0	4	0	4	0	1	
2265:	1	2	0	1	2	0	0	1	
2273:	2	1	1	0	0	0	0	1	
2281:	1	1	0	0	2	2	0	0	
2289:	0	1	3	0	1	1	3	0	
2297:	1	1	2	0	0	1	1	2	
2305:	4	0	3	0	1	1	0	1	
2313:	2	2	0	1	3	2	1	1	
2321:	0	0	1	0	2	0	1	0	
2329:	0	1	2	2	0	1	0	2	
2337:	0	1	0	0	0	0	0	0	
2345:	2	4	0	1	2	0	2	0	
2353:	1	0	2	2	0	3	0	1	
2361:	0	1	2	3	0	2	3	4	
2369:	1	0	0	0	0	0	3	0	
2377:	2	2	0	0	1	0	2	0	
2385:	1	0	0	2	0	0	2	3	
2393:	1	1	1	1	0	1	1	1	
2401:	1	0	4	0	0	0	1	1	
2409:	0	3	0	1	3	2	1	3	
2417:	2	3	0	0	0	0	1	1	
2425:	0	1	0	1	1	1	0	1	
2433:	0	0	1	0	1	3	1	1	
2441:	0	3	1	2	2	1	2	0	
2449:	0	0	0	0	1	0	1	1	
2457:	2	0	0	0	1	1	0	0	
2465:	0	1	1	2	1	1	0	0	
2473:	1	2	0	1	0	0	1	0	
2481:	1	2	1	1	0	0	0	0	
2489:	0	0	0	0	0	0	0	2	
2497:	1	1	0	1	0	2	2	1	
2505:	0	0	0	0	1	2	0	0	
2513:	0	2	0	2	0	1	0	0	
2521:	1	0	0	0	0	0	1	0	

2529: 1 0 1 1 1 0 0 0

Sample Title: CP5003S03-04

Channel	1	2	3	4	5	6	7	8
2537:	1	1	0	0	1	1	0	2
2545:	0	0	0	0	1	0	1	0
2553:	0	0	1	1	0	1	1	0
2561:	0	0	1	0	0	1	0	0
2569:	0	0	0	0	0	0	0	2
2577:	1	3	0	1	0	0	1	0
2585:	0	0	0	1	0	2	0	0
2593:	0	0	0	1	1	1	0	1
2601:	0	0	1	1	0	1	1	1
2609:	1	2	10	16	35	42	10	1
2617:	4	0	0	1	0	0	0	0
2625:	1	1	1	0	2	1	0	0
2633:	0	1	0	2	0	0	0	2
2641:	0	0	0	1	0	0	1	1
2649:	0	0	0	0	0	0	0	1
2657:	1	0	1	1	0	1	1	0
2665:	1	0	1	0	0	0	0	0
2673:	1	1	0	2	0	0	0	0
2681:	0	0	0	0	0	0	0	0
2689:	1	2	0	0	0	0	0	1
2697:	0	0	0	0	0	1	0	1
2705:	0	1	0	0	1	0	0	0
2713:	0	0	0	1	0	1	0	1
2721:	0	0	0	0	0	0	2	0
2729:	1	0	0	0	0	0	2	0
2737:	0	2	1	0	0	3	1	1
2745:	1	0	0	0	0	0	0	0
2753:	0	0	0	0	0	0	0	1
2761:	1	0	0	0	0	1	0	0
2769:	0	1	1	0	0	1	0	0
2777:	0	1	0	0	0	1	0	0
2785:	0	0	0	1	0	0	0	0
2793:	0	0	1	0	0	0	0	0
2801:	1	0	0	0	0	0	0	0
2809:	0	0	0	0	1	1	0	1
2817:	0	0	0	1	0	0	0	0
2825:	0	0	0	0	0	0	0	0
2833:	0	1	0	0	0	0	0	0
2841:	0	0	1	0	1	0	1	0
2849:	0	0	0	0	1	0	0	0
2857:	0	0	2	1	0	0	0	0
2865:	1	0	0	0	1	0	0	0
2873:	0	0	0	1	0	0	1	0
2881:	0	1	0	0	0	1	0	1
2889:	0	0	0	0	1	2	1	0
2897:	0	0	0	0	0	0	0	1
2905:	0	0	0	1	1	0	0	0
2913:	0	0	0	0	0	0	0	1
2921:	0	1	1	0	1	0	0	0
2929:	1	0	0	0	1	0	0	0
2937:	0	0	0	0	0	0	0	0
2945:	0	1	0	0	0	0	1	0
2953:	0	0	0	0	1	0	0	0

2961: 0 1 0 2 0 1 0 0

Sample Title: CP5003S03-04

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	1	0	0	0	0	0
3001:	0	0	0	0	1	0	0	0
3009:	1	0	1	0	0	0	0	0
3017:	0	0	0	0	0	0	0	1
3025:	0	0	1	0	0	0	0	0
3033:	0	1	1	0	0	0	0	1
3041:	1	0	0	0	0	0	0	1
3049:	0	0	1	1	1	0	0	1
3057:	0	1	0	0	0	0	0	1
3065:	0	1	0	0	0	0	0	0
3073:	0	0	1	0	0	2	0	0
3081:	0	0	1	0	0	0	0	0
3089:	0	0	0	0	0	0	0	0
3097:	0	0	0	0	0	2	0	0
3105:	0	0	0	2	0	0	0	0
3113:	0	1	0	0	2	1	0	0
3121:	0	0	1	0	0	0	1	1
3129:	0	0	0	0	1	0	0	2
3137:	0	0	0	0	0	0	1	1
3145:	0	0	1	1	0	0	0	0
3153:	0	0	0	0	0	0	0	1
3161:	0	0	0	1	0	0	0	0
3169:	0	0	0	0	0	0	0	0
3177:	0	0	0	0	0	1	0	0
3185:	0	0	1	0	0	0	0	0
3193:	0	0	1	1	0	0	1	0
3201:	1	0	0	0	0	1	0	0
3209:	0	1	1	1	1	0	0	1
3217:	0	0	1	0	0	0	0	0
3225:	0	0	1	0	0	1	0	0
3233:	0	0	0	0	1	1	0	0
3241:	0	0	0	0	0	0	1	0
3249:	1	1	0	0	0	0	0	0
3257:	1	0	0	0	2	0	0	0
3265:	0	0	0	0	1	0	1	0
3273:	0	0	0	0	0	0	0	1
3281:	0	0	0	0	0	0	0	0
3289:	1	0	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	1	0	0	0
3321:	0	0	0	0	0	0	0	0
3329:	0	1	0	1	0	1	0	0
3337:	0	1	0	0	0	0	0	0
3345:	0	0	0	0	0	0	0	1
3353:	1	1	1	1	1	0	0	1
3361:	0	1	0	0	0	0	0	1
3369:	0	0	0	0	0	0	1	0
3377:	0	0	0	0	0	0	0	0
3385:	0	0	0	0	1	1	0	0

3393: 0 0 0 0 0 0 0 0 0

Sample Title: CP5003S03-04

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	0	0	0	0	1
3417:	0	0	0	0	0	0	0	0	0
3425:	0	0	0	0	1	1	0	0	0
3433:	0	0	0	2	1	0	0	0	0
3441:	0	0	0	0	1	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:	0	1	0	0	0	0	0	0	0
3473:	0	1	0	0	0	0	0	0	0
3481:	0	0	0	0	0	0	0	0	0
3489:	0	0	0	0	0	0	0	0	0
3497:	0	0	0	0	0	0	0	1	0
3505:	0	0	1	0	0	0	0	0	0
3513:	0	0	0	0	0	0	0	0	0
3521:	1	1	0	2	0	0	0	0	0
3529:	0	1	0	1	1	0	0	0	2
3537:	0	0	0	0	0	0	0	0	0
3545:	0	0	1	0	0	0	1	0	0
3553:	0	0	0	0	0	0	0	0	0
3561:	0	0	0	0	0	0	0	0	0
3569:	0	0	0	1	0	0	0	0	0
3577:	0	0	0	0	0	0	0	0	0
3585:	0	0	1	0	0	0	0	0	0
3593:	0	0	1	0	1	0	0	0	0
3601:	1	0	0	0	0	0	0	0	0
3609:	0	0	0	0	0	0	0	2	1
3617:	0	0	0	0	0	0	0	1	0
3625:	0	0	0	0	0	0	0	0	0
3633:	0	0	0	1	0	0	0	0	0
3641:	0	0	0	0	0	0	0	0	0
3649:	0	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	1	0	0	0
3665:	1	0	0	0	0	0	0	0	0
3673:	0	0	0	0	0	0	0	0	0
3681:	0	0	0	0	0	0	0	0	0
3689:	0	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	1	0	0
3713:	1	2	0	0	0	0	0	0	0
3721:	0	0	0	0	1	0	0	1	0
3729:	0	0	0	1	0	0	0	0	0
3737:	0	0	0	0	0	0	1	0	0
3745:	0	0	0	0	0	0	0	0	0
3753:	0	0	0	0	1	0	0	0	0
3761:	0	0	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	1	1	0
3777:	0	0	0	0	1	0	0	0	0
3785:	0	0	0	0	0	0	0	0	0
3793:	0	0	0	0	0	0	0	0	0
3801:	0	1	0	0	0	2	0	1	0
3809:	0	0	0	0	1	0	0	0	0
3817:	2	0	0	0	1	0	0	0	0

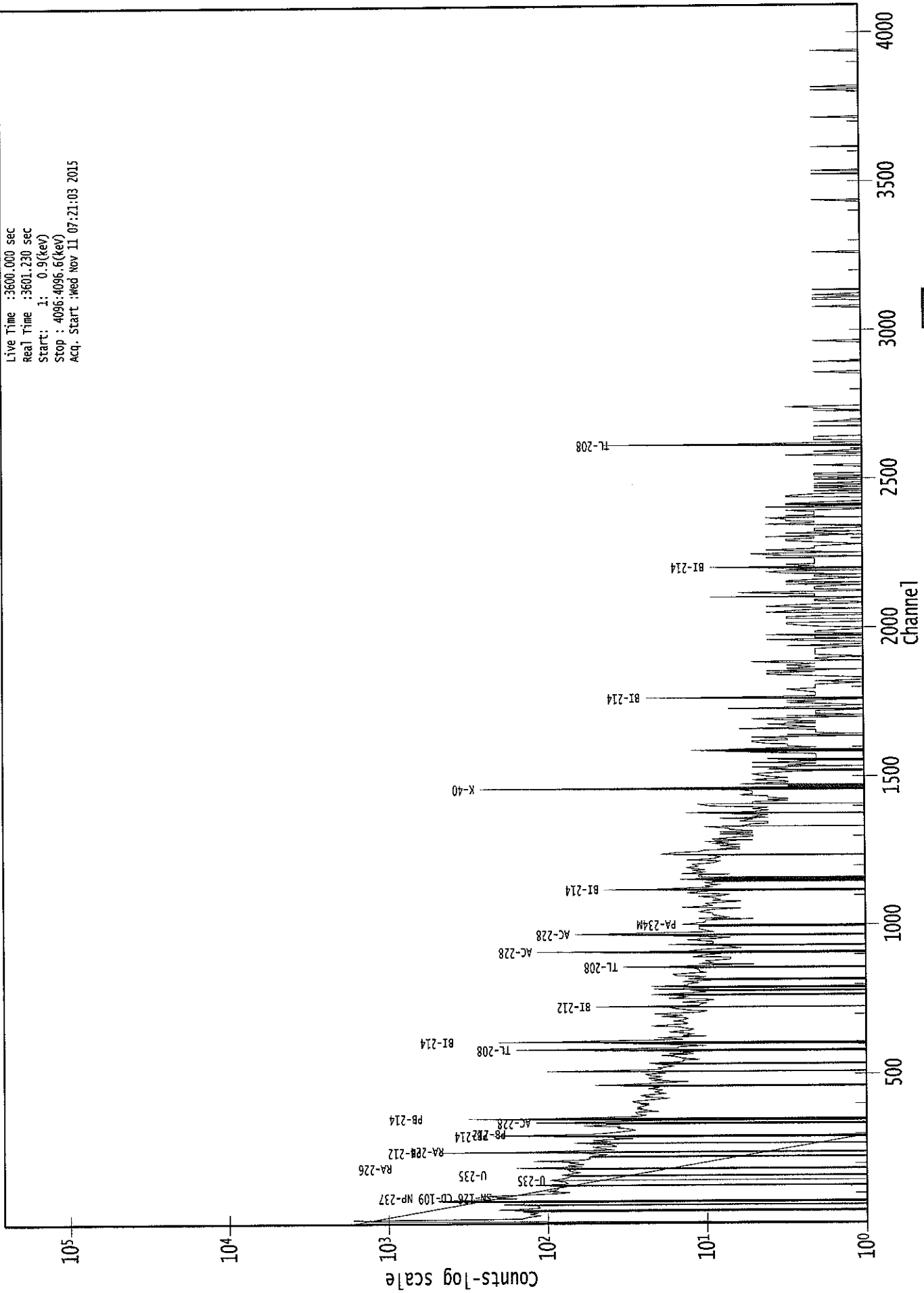
3825: 0 0 0 0 0 1 0 0

Sample Title: CP5003S03-04

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3833:	0	0	0	0	0	0	1	1
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	1
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:	0	0	0	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	0	0	0	0
3921:	0	0	0	0	0	0	0	0
3929:	0	0	0	0	0	0	1	0
3937:	0	2	0	1	0	0	0	0
3945:	0	0	0	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	1	0	0
3977:	0	0	0	0	0	0	0	0
3985:	0	0	0	0	0	0	0	0
3993:	0	0	0	1	1	1	0	0
4001:	0	1	0	0	0	0	0	1
4009:	0	0	0	0	0	0	0	0
4017:	0	0	0	0	0	0	0	0
4025:	0	0	0	0	0	1	1	0
4033:	0	0	0	0	1	0	0	0
4041:	0	0	0	0	0	1	0	0
4049:	0	0	0	0	0	0	0	0
4057:	0	0	0	0	0	0	0	1
4065:	0	1	0	0	0	0	1	0
4073:	0	0	0	0	0	0	0	0
4081:	0	0	0	0	1	1	0	0
4089:	0	0	0	0	0	0	0	0

0000029465.CNF

Live Time : 3600.000 sec
Real Time : 3601.230 sec
Start: 1: 0.9(kev)
Stop : 4096:4096.6(kev)
Acq. Start : wed Nov 11 07:21:03 2015



Analysis Report for 1510092-05
CP5003S06-07

11/11

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510092-05
Sample Description : CP5003S06-07
Sample Type : SOIL

Sample Size : 5.423E+02 grams
Facility : Countroom

Sample Taken On : 10/9/2015 3:56:52PM
Acquisition Started : 11/11/2015 6:18:33AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE3
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3615.5 seconds

Dead Time : 0.43 %

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 : 29462

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

: 00425

Analysis Report for 1510092-05
CP5003S06-07

PEAK LOCATE REPORT

Peak Locate Performed on : 11/11/2015 7:18:49AM
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	58.91	59.13	0.0000	0.00
2	63.74	63.96	0.0000	0.00
3	76.18	76.39	0.0000	0.00
4	87.81	88.02	0.0000	0.00
5	93.58	93.78	0.0000	0.00
6	186.09	186.25	0.0000	0.00
7	209.82	209.96	0.0000	0.00
8	238.92	239.05	0.0000	0.00
9	242.04	242.17	0.0000	0.00
10	254.69	254.81	0.0000	0.00
11	270.53	270.64	0.0000	0.00
12	277.41	277.52	0.0000	0.00
13	295.54	295.64	0.0000	0.00
14	300.53	300.63	0.0000	0.00
15	307.56	307.65	0.0000	0.00
16	328.54	328.62	0.0000	0.00
17	338.65	338.73	0.0000	0.00
18	349.27	349.34	0.0000	0.00
19	352.28	352.35	0.0000	0.00
20	463.91	463.92	0.0000	0.00
21	507.41	507.41	0.0000	0.00
22	511.00	510.99	0.0000	0.00
23	583.40	583.36	0.0000	0.00
24	609.81	609.75	0.0000	0.00
25	727.76	727.65	0.0000	0.00
26	767.76	767.63	0.0000	0.00
27	772.84	772.70	0.0000	0.00
28	795.30	795.16	0.0000	0.00
29	860.47	860.29	0.0000	0.00
30	911.64	911.44	0.0000	0.00
31	965.25	965.03	0.0000	0.00
32	969.36	969.14	0.0000	0.00
33	1071.45	1071.19	0.0000	0.00
34	1121.02	1120.73	0.0000	0.00
35	1287.51	1287.16	0.0000	0.00
36	1319.36	1318.99	0.0000	0.00
37	1377.81	1377.42	0.0000	0.00
38	1400.65	1400.25	0.0000	0.00
39	1412.53	1412.12	0.0000	0.00
40	1461.16	1460.74	0.0000	0.00
41	1508.52	1508.08	0.0000	0.00
42	1515.79	1515.35	0.0000	0.00

Analysis Report for 1510092-05
CP5003S06-07

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1591.52	1591.05	0.0000	0.00
44	1629.36	1628.88	0.0000	0.00
45	1729.51	1729.00	0.0000	0.00
46	1764.90	1764.37	0.0000	0.00
47	1869.81	1869.25	0.0000	0.00
48	1896.07	1895.50	0.0000	0.00
49	1906.70	1906.12	0.0000	0.00
50	2001.94	2001.33	0.0000	0.00
51	2028.66	2028.04	0.0000	0.00
52	2104.68	2104.04	0.0000	0.00
53	2140.08	2139.43	0.0000	0.00
54	2170.03	2169.38	0.0000	0.00
55	2204.40	2203.73	0.0000	0.00
56	2301.72	2301.03	0.0000	0.00
57	2308.70	2308.00	0.0000	0.00
58	2615.08	2614.30	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510092-05
CP5003S06-07

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/11/2015 7:18:49AM

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)
M	1	58.91	56 -	70	59.13	8.70E+01	82.16	1.16E+03	1.97
m	2	63.74	56 -	70	63.96	2.24E+02	86.67	1.31E+03	1.98
	3	76.18	71 -	83	76.39	1.25E+03	177.47	3.08E+03	3.89
	4	87.81	86 -	91	88.02	1.57E+02	91.10	1.54E+03	1.73
	5	93.58	91 -	97	93.78	2.93E+02	95.43	1.35E+03	1.93
	6	186.09	183 -	191	186.25	2.08E+02	80.70	8.76E+02	1.84
	7	209.82	207 -	214	209.96	7.19E+01	69.05	7.28E+02	2.10
M	8	238.92	235 -	246	239.05	8.51E+02	70.19	3.42E+02	1.68
m	9	242.04	235 -	246	242.17	1.81E+02	74.14	3.74E+02	1.89
	10	254.69	251 -	258	254.81	6.71E+01	51.11	3.88E+02	2.78
	11	270.53	268 -	275	270.64	8.65E+01	53.89	4.31E+02	2.45
	12	277.41	275 -	280	277.52	3.65E+01	40.61	2.97E+02	2.93
M	13	295.54	292 -	303	295.64	2.37E+02	43.30	2.15E+02	1.80
m	14	300.53	292 -	303	300.63	6.26E+01	39.38	2.28E+02	2.15
	15	307.56	304 -	314	307.65	6.03E+01	61.00	4.69E+02	6.12
M	16	328.54	322 -	343	328.62	5.72E+01	44.16	3.07E+02	2.18
m	17	338.65	322 -	343	338.73	1.30E+02	38.99	2.26E+02	1.81
M	18	349.27	348 -	356	349.34	2.55E+01	15.94	5.63E+01	1.47
m	19	352.28	348 -	356	352.35	4.24E+02	50.55	2.00E+02	1.70
	20	463.91	460 -	469	463.92	6.87E+01	44.51	2.41E+02	2.40
M	21	507.41	506 -	516	507.41	1.54E+01	15.22	6.22E+01	2.34
m	22	511.00	506 -	516	510.99	1.25E+02	39.14	1.56E+02	2.58
	23	583.40	578 -	588	583.36	2.31E+02	49.08	1.98E+02	2.00
	24	609.81	605 -	615	609.75	2.54E+02	50.89	2.11E+02	1.92
	25	727.76	723 -	730	727.65	4.00E+01	32.50	1.60E+02	1.75
M	26	767.76	762 -	775	767.63	3.02E+01	35.44	1.42E+02	3.71
m	27	772.84	762 -	775	772.70	2.19E+01	24.78	7.65E+01	2.34
	28	795.30	790 -	799	795.16	5.91E+01	30.53	9.78E+01	1.46
	29	860.47	857 -	863	860.29	3.81E+01	21.91	5.98E+01	1.70
	30	911.64	907 -	916	911.44	1.81E+02	34.73	6.58E+01	2.17
M	31	965.25	963 -	976	965.03	3.80E+01	17.55	3.88E+01	1.96
m	32	969.36	963 -	976	969.14	7.29E+01	28.74	8.45E+01	2.38
	33	1071.45	1066 -	1076	1071.19	2.79E+01	29.06	9.42E+01	5.71
	34	1121.02	1115 -	1126	1120.73	6.55E+01	32.06	9.51E+01	2.08
	35	1287.51	1284 -	1291	1287.16	2.04E+01	17.09	3.32E+01	1.97
	36	1319.36	1316 -	1321	1318.99	1.07E+01	12.12	2.05E+01	2.57
	37	1377.81	1373 -	1381	1377.42	2.04E+01	18.50	3.93E+01	3.03
	38	1400.65	1396 -	1404	1400.25	2.00E+01	14.04	1.80E+01	2.00
	39	1412.53	1410 -	1415	1412.12	8.97E+00	10.44	1.41E+01	1.91
	40	1461.16	1455 -	1467	1460.74	5.37E+02	49.77	3.74E+01	2.22

Analysis Report for 1510092-05
CP5003S06-07

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1508.52	1503 -	1512	1508.08	1.36E+01	13.86	1.89E+01	1.82
42	1515.79	1513 -	1518	1515.35	1.10E+01	8.60	6.00E+00	2.32
43	1591.52	1586 -	1596	1591.05	3.15E+01	18.20	2.69E+01	2.01
44	1629.36	1625 -	1633	1628.88	1.21E+01	8.73	3.79E+00	2.71
45	1729.51	1725 -	1733	1729.00	1.43E+01	10.79	9.47E+00	3.12
46	1764.90	1761 -	1767	1764.37	5.37E+01	15.89	6.63E+00	2.70
47	1869.81	1866 -	1871	1869.25	4.42E+00	5.74	3.17E+00	2.57
48	1896.07	1893 -	1898	1895.50	8.00E+00	5.66	0.00E+00	1.33
49	1906.70	1903 -	1909	1906.12	7.50E+00	8.28	7.00E+00	1.45
50	2001.94	1998 -	2004	2001.33	9.00E+00	6.00	0.00E+00	2.98
51	2028.66	2024 -	2030	2028.04	4.00E+00	6.02	4.00E+00	2.89
52	2104.68	2097 -	2107	2104.04	1.58E+01	13.81	1.84E+01	3.27
53	2140.08	2137 -	2142	2139.43	7.00E+00	5.29	0.00E+00	2.22
54	2170.03	2165 -	2172	2169.38	8.00E+00	5.66	0.00E+00	4.48
55	2204.40	2201 -	2206	2203.73	1.08E+01	9.33	8.47E+00	1.14
56	2301.72	2298 -	2303	2301.03	6.56E+00	6.40	2.88E+00	2.61
57	2308.70	2305 -	2310	2308.00	5.00E+00	4.47	0.00E+00	1.50
58	2615.08	2610 -	2618	2614.30	8.70E+01	18.65	0.00E+00	3.09

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 : 11/11/2015 7:18:49AM

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
M	1	58.91	56 -	70	8.70E+01	82.16	1.16E+03	5.61E+01
m	2	63.74	56 -	70	2.24E+02	86.67	1.31E+03	5.95E+01
	3	76.18	71 -	83	1.25E+03	177.47	3.08E+03	1.67E+02
	4	87.81	86 -	91	1.57E+02	91.10	1.54E+03	7.20E+01
	5	93.58	91 -	97	2.93E+02	95.43	1.35E+03	7.32E+01
	6	186.09	183 -	191	2.08E+02	80.70	8.76E+02	6.20E+01
	7	209.82	207 -	214	7.19E+01	69.05	7.28E+02	5.50E+01
M	8	238.92	235 -	246	8.51E+02	70.19	3.42E+02	3.04E+01
m	9	242.04	235 -	246	1.81E+02	74.14	3.74E+02	3.18E+01
	10	254.69	251 -	258	6.71E+01	51.11	3.88E+02	3.98E+01

: 00429

Analysis Report for 1510092-05
CP5003S06-07

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	11	270.53	268 -	275	8.65E+01	53.89	4.31E+02	4.16E+01
	12	277.41	275 -	280	3.65E+01	40.61	2.97E+02	3.19E+01
M	13	295.54	292 -	303	2.37E+02	43.30	2.15E+02	2.41E+01
m	14	300.53	292 -	303	6.26E+01	39.38	2.28E+02	2.48E+01
	15	307.56	304 -	314	6.03E+01	61.00	4.69E+02	4.85E+01
M	16	328.54	322 -	343	5.72E+01	44.16	3.07E+02	2.88E+01
m	17	338.65	322 -	343	1.30E+02	38.99	2.26E+02	2.47E+01
M	18	349.27	348 -	356	2.55E+01	15.94	5.63E+01	1.23E+01
m	19	352.28	348 -	356	4.24E+02	50.55	2.00E+02	2.32E+01
	20	463.91	460 -	469	6.87E+01	44.51	2.41E+02	3.40E+01
M	21	507.41	506 -	516	1.54E+01	15.22	6.22E+01	1.30E+01
m	22	511.00	506 -	516	1.25E+02	39.14	1.56E+02	2.05E+01
	23	583.40	578 -	588	2.31E+02	49.08	1.98E+02	3.17E+01
	24	609.81	605 -	615	2.54E+02	50.89	2.11E+02	3.26E+01
	25	727.76	723 -	730	4.00E+01	32.50	1.60E+02	2.76E+01
M	26	767.76	762 -	775	3.02E+01	35.44	1.42E+02	1.96E+01
m	27	772.84	762 -	775	2.19E+01	24.78	7.65E+01	1.44E+01
	28	795.30	790 -	799	5.91E+01	30.53	9.78E+01	2.17E+01
	29	860.47	857 -	863	3.81E+01	21.91	5.98E+01	1.49E+01
	30	911.64	907 -	916	1.81E+02	34.73	6.58E+01	1.80E+01
M	31	965.25	963 -	976	3.80E+01	17.55	3.88E+01	1.02E+01
m	32	969.36	963 -	976	7.29E+01	28.74	8.45E+01	1.51E+01
	33	1071.45	1066 -	1076	2.79E+01	29.06	9.42E+01	2.23E+01
	34	1121.02	1115 -	1126	6.55E+01	32.06	9.51E+01	2.28E+01
	35	1287.51	1284 -	1291	2.04E+01	17.09	3.32E+01	1.19E+01
	36	1319.36	1316 -	1321	1.07E+01	12.12	2.05E+01	8.38E+00
	37	1377.81	1373 -	1381	2.04E+01	18.50	3.93E+01	1.33E+01
	38	1400.65	1396 -	1404	2.00E+01	14.04	1.80E+01	8.89E+00
	39	1412.53	1410 -	1415	8.97E+00	10.44	1.41E+01	7.03E+00
	40	1461.16	1455 -	1467	5.37E+02	49.77	3.74E+01	1.49E+01
	41	1508.52	1503 -	1512	1.36E+01	13.86	1.89E+01	9.65E+00
	42	1515.79	1513 -	1518	1.10E+01	8.60	6.00E+00	4.50E+00
	43	1591.52	1586 -	1596	3.15E+01	18.20	2.69E+01	1.18E+01
	44	1629.36	1625 -	1633	1.21E+01	8.73	3.79E+00	4.34E+00
	45	1729.51	1725 -	1733	1.43E+01	10.79	9.47E+00	6.34E+00
	46	1764.90	1761 -	1767	5.37E+01	15.89	6.63E+00	5.05E+00
	47	1869.81	1866 -	1871	4.42E+00	5.74	3.17E+00	3.22E+00
	48	1896.07	1893 -	1898	8.00E+00	5.66	0.00E+00	0.00E+00
	49	1906.70	1903 -	1909	7.50E+00	8.28	7.00E+00	5.10E+00
	50	2001.94	1998 -	2004	9.00E+00	6.00	0.00E+00	0.00E+00
	51	2028.66	2024 -	2030	4.00E+00	6.02	4.00E+00	3.70E+00
	52	2104.68	2097 -	2107	1.58E+01	13.81	1.84E+01	9.28E+00
	53	2140.08	2137 -	2142	7.00E+00	5.29	0.00E+00	0.00E+00
	54	2170.03	2165 -	2172	8.00E+00	5.66	0.00E+00	0.00E+00
	55	2204.40	2201 -	2206	1.08E+01	9.33	8.47E+00	5.45E+00
	56	2301.72	2298 -	2303	6.56E+00	6.40	2.88E+00	3.16E+00
	57	2308.70	2305 -	2310	5.00E+00	4.47	0.00E+00	0.00E+00
	58	2615.08	2610 -	2618	8.70E+01	18.65	0.00E+00	0.00E+00

Analysis Report for 1510092-05
CP5003S06-07

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 : 11/11/2015 7:18:49AM

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
M	1	58.91	56 -	70	59.13	8.70E+01	82.16	1.16E+03	AM-241
m	2	63.74	56 -	70	63.96	2.24E+02	86.67	1.31E+03	TH-234 TH-230
	3	76.18	71 -	83	76.39	1.25E+03	177.47	3.08E+03	.....
	4	87.81	86 -	91	88.02	1.57E+02	91.10	1.54E+03	CD-109 SN-126 LU-176
	5	93.58	91 -	97	93.78	2.93E+02	95.43	1.35E+03	GA-67
	6	186.09	183 -	191	186.25	2.08E+02	80.70	8.76E+02	RA-226
	7	209.82	207 -	214	209.96	7.19E+01	69.05	7.28E+02	CM-243 GA-67
M	8	238.92	235 -	246	239.05	8.51E+02	70.19	3.42E+02	PB-212
m	9	242.04	235 -	246	242.17	1.81E+02	74.14	3.74E+02	.....
	10	254.69	251 -	258	254.81	6.71E+01	51.11	3.88E+02	SN-113
	11	270.53	268 -	275	270.64	8.65E+01	53.89	4.31E+02	.....
	12	277.41	275 -	280	277.52	3.65E+01	40.61	2.97E+02	CM-243 NP-239
M	13	295.54	292 -	303	295.64	2.37E+02	43.30	2.15E+02	PB-214
m	14	300.53	292 -	303	300.63	6.26E+01	39.38	2.28E+02	GA-67 PB-212 BI-210M
	15	307.56	304 -	314	307.65	6.03E+01	61.00	4.69E+02	LU-176 IR-192
M	16	328.54	322 -	343	328.62	5.72E+01	44.16	3.07E+02	LA-140
m	17	338.65	322 -	343	338.73	1.30E+02	38.99	2.26E+02	AC-228
M	18	349.27	348 -	356	349.34	2.55E+01	15.94	5.63E+01	.....
m	19	352.28	348 -	356	352.35	4.24E+02	50.55	2.00E+02	PB-214
	20	463.91	460 -	469	463.92	6.87E+01	44.51	2.41E+02	SB-125
M	21	507.41	506 -	516	507.41	1.54E+01	15.22	6.22E+01	.....
m	22	511.00	506 -	516	510.99	1.25E+02	39.14	1.56E+02	.....

Analysis Report for 1510092-05
CP5003S06-07

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	23	583.40	578 -	588	583.36	2.31E+02	49.08	1.98E+02	TL-208
	24	609.81	605 -	615	609.75	2.54E+02	50.89	2.11E+02	BI-214
	25	727.76	723 -	730	727.65	4.00E+01	32.50	1.60E+02	BI-212
M	26	767.76	762 -	775	767.63	3.02E+01	35.44	1.42E+02	.....
m	27	772.84	762 -	775	772.70	2.19E+01	24.78	7.65E+01	.....
	28	795.30	790 -	799	795.16	5.91E+01	30.53	9.78E+01	CS-134
	29	860.47	857 -	863	860.29	3.81E+01	21.91	5.98E+01	TL-208
	30	911.64	907 -	916	911.44	1.81E+02	34.73	6.58E+01	LU-172 AC-228
M	31	965.25	963 -	976	965.03	3.80E+01	17.55	3.88E+01	.....
m	32	969.36	963 -	976	969.14	7.29E+01	28.74	8.45E+01	AC-228
	33	1071.45	1066 -	1076	1071.19	2.79E+01	29.06	9.42E+01	.....
	34	1121.02	1115 -	1126	1120.73	6.55E+01	32.06	9.51E+01	TA-182 SC-46 BI-214
	35	1287.51	1284 -	1291	1287.16	2.04E+01	17.09	3.32E+01	.....
	36	1319.36	1316 -	1321	1318.99	1.07E+01	12.12	2.05E+01	.....
	37	1377.81	1373 -	1381	1377.42	2.04E+01	18.50	3.93E+01	.....
	38	1400.65	1396 -	1404	1400.25	2.00E+01	14.04	1.80E+01	.....
	39	1412.53	1410 -	1415	1412.12	8.97E+00	10.44	1.41E+01	.....
	40	1461.16	1455 -	1467	1460.74	5.37E+02	49.77	3.74E+01	K-40
	41	1508.52	1503 -	1512	1508.08	1.36E+01	13.86	1.89E+01	.....
	42	1515.79	1513 -	1518	1515.35	1.10E+01	8.60	6.00E+00	.....
	43	1591.52	1586 -	1596	1591.05	3.15E+01	18.20	2.69E+01	.....
	44	1629.36	1625 -	1633	1628.88	1.21E+01	8.73	3.79E+00	.....
	45	1729.51	1725 -	1733	1729.00	1.43E+01	10.79	9.47E+00	.....
	46	1764.90	1761 -	1767	1764.37	5.37E+01	15.89	6.63E+00	BI-214
	47	1869.81	1866 -	1871	1869.25	4.42E+00	5.74	3.17E+00	.....
	48	1896.07	1893 -	1898	1895.50	8.00E+00	5.66	0.00E+00	.....
	49	1906.70	1903 -	1909	1906.12	7.50E+00	8.28	7.00E+00	.....
	50	2001.94	1998 -	2004	2001.33	9.00E+00	6.00	0.00E+00	.....
	51	2028.66	2024 -	2030	2028.04	4.00E+00	6.02	4.00E+00	.....
	52	2104.68	2097 -	2107	2104.04	1.58E+01	13.81	1.84E+01	.....
	53	2140.08	2137 -	2142	2139.43	7.00E+00	5.29	0.00E+00	.....
	54	2170.03	2165 -	2172	2169.38	8.00E+00	5.66	0.00E+00	.....
	55	2204.40	2201 -	2206	2203.73	1.08E+01	9.33	8.47E+00	BI-214
	56	2301.72	2298 -	2303	2301.03	6.56E+00	6.40	2.88E+00	.....
	57	2308.70	2305 -	2310	2308.00	5.00E+00	4.47	0.00E+00	.....
	58	2615.08	2610 -	2618	2614.30	8.70E+01	18.65	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

Analysis Report for 1510092-05
CP5003S06-07

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/11/2015 7:18:49AM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
M	1	58.91	8.70E+01	82.16	2.03E-02	1.58E-03
m	2	63.74	2.24E+02	86.67	2.17E-02	1.72E-03
	3	76.18	1.25E+03	177.47	2.38E-02	2.13E-03
	4	87.81	1.57E+02	91.10	2.44E-02	2.52E-03
	5	93.58	2.93E+02	95.43	2.44E-02	2.39E-03
	6	186.09	2.08E+02	80.70	1.83E-02	1.42E-03
	7	209.82	7.19E+01	69.05	1.68E-02	1.31E-03
M	8	238.92	8.51E+02	70.19	1.52E-02	1.18E-03
m	9	242.04	1.81E+02	74.14	1.51E-02	1.17E-03
	10	254.69	6.71E+01	51.11	1.45E-02	1.11E-03
	11	270.53	8.65E+01	53.89	1.38E-02	1.04E-03
	12	277.41	3.65E+01	40.61	1.35E-02	1.00E-03
M	13	295.54	2.37E+02	43.30	1.28E-02	9.74E-04
m	14	300.53	6.26E+01	39.38	1.26E-02	9.67E-04
	15	307.56	6.03E+01	61.00	1.24E-02	9.57E-04
M	16	328.54	5.72E+01	44.16	1.17E-02	9.27E-04
m	17	338.65	1.30E+02	38.99	1.14E-02	9.12E-04
M	18	349.27	2.55E+01	15.94	1.11E-02	8.97E-04
m	19	352.28	4.24E+02	50.55	1.11E-02	8.93E-04
	20	463.91	6.87E+01	44.51	8.72E-03	7.65E-04
M	21	507.41	1.54E+01	15.22	8.06E-03	7.22E-04
m	22	511.00	1.25E+02	39.14	8.01E-03	7.18E-04
	23	583.40	2.31E+02	49.08	7.14E-03	6.46E-04
	24	609.81	2.54E+02	50.89	6.87E-03	6.20E-04
	25	727.76	4.00E+01	32.50	5.89E-03	5.14E-04
M	26	767.76	3.02E+01	35.44	5.62E-03	4.81E-04
m	27	772.84	2.19E+01	24.78	5.59E-03	4.77E-04
	28	795.30	5.91E+01	30.53	5.45E-03	4.59E-04
	29	860.47	3.81E+01	21.91	5.10E-03	4.05E-04
	30	911.64	1.81E+02	34.73	4.85E-03	3.72E-04
M	31	965.25	3.80E+01	17.55	4.62E-03	3.62E-04
m	32	969.36	7.29E+01	28.74	4.60E-03	3.61E-04
	33	1071.45	2.79E+01	29.06	4.23E-03	3.42E-04
	34	1121.02	6.55E+01	32.06	4.07E-03	3.33E-04
	35	1287.51	2.04E+01	17.09	3.64E-03	2.98E-04
	36	1319.36	1.07E+01	12.12	3.57E-03	2.91E-04
	37	1377.81	2.04E+01	18.50	3.45E-03	2.82E-04
	38	1400.65	2.00E+01	14.04	3.40E-03	2.78E-04
	39	1412.53	8.97E+00	10.44	3.38E-03	2.77E-04
	40	1461.16	5.37E+02	49.77	3.29E-03	2.69E-04
	41	1508.52	1.36E+01	13.86	3.21E-03	2.62E-04
	42	1515.79	1.10E+01	8.60	3.20E-03	2.61E-04
	43	1591.52	3.15E+01	18.20	3.08E-03	2.50E-04
	44	1629.36	1.21E+01	8.73	3.03E-03	2.44E-04
	45	1729.51	1.43E+01	10.79	2.90E-03	2.29E-04

Analysis Report for 1510092-05
 CP5003S06-07

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
46	1764.90	5.37E+01	15.89	2.86E-03	2.24E-04
47	1869.81	4.42E+00	5.74	2.74E-03	2.13E-04
48	1896.07	8.00E+00	5.66	2.72E-03	2.13E-04
49	1906.70	7.50E+00	8.28	2.71E-03	2.13E-04
50	2001.94	9.00E+00	6.00	2.62E-03	2.13E-04
51	2028.66	4.00E+00	6.02	2.60E-03	2.13E-04
52	2104.68	1.58E+01	13.81	2.54E-03	2.13E-04
53	2140.08	7.00E+00	5.29	2.51E-03	2.13E-04
54	2170.03	8.00E+00	5.66	2.49E-03	2.13E-04
55	2204.40	1.08E+01	9.33	2.46E-03	2.13E-04
56	2301.72	6.56E+00	6.40	2.40E-03	2.13E-04
57	2308.70	5.00E+00	4.47	2.40E-03	2.13E-04
58	2615.08	8.70E+01	18.65	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 : 11/11/2015 7:18:49AM

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.
M	1	58.91	8.70E+01	82.16		8.70E+01	8.22E+01
m	2	63.74	2.24E+02	86.67	5.52E+01	1.69E+02	8.91E+01
	3	76.18	1.25E+03	177.47		1.25E+03	1.77E+02
	4	87.81	1.57E+02	91.10	1.52E+01	1.42E+02	9.13E+01
	5	93.58	2.93E+02	95.43	9.04E+01	2.03E+02	9.90E+01
	6	186.09	2.08E+02	80.70	3.93E+01	1.69E+02	8.10E+01
	7	209.82	7.19E+01	69.05		7.19E+01	6.91E+01
M	8	238.92	8.51E+02	70.19	1.34E+01	8.38E+02	7.02E+01
m	9	242.04	1.81E+02	74.14	2.69E+00	1.78E+02	7.41E+01
	10	254.69	6.71E+01	51.11		6.71E+01	5.11E+01
	11	270.53	8.65E+01	53.89		8.65E+01	5.39E+01
	12	277.41	3.65E+01	40.61		3.65E+01	4.06E+01
M	13	295.54	2.37E+02	43.30		2.37E+02	4.33E+01
m	14	300.53	6.26E+01	39.38		6.26E+01	3.94E+01
	15	307.56	6.03E+01	61.00		6.03E+01	6.10E+01
M	16	328.54	5.72E+01	44.16		5.72E+01	4.42E+01
m	17	338.65	1.30E+02	38.99		1.30E+02	3.90E+01

Analysis Report for 1510092-05
CP5003S06-07

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	18	349.27	2.55E+01	15.94			2.55E+01	1.59E+01
m	19	352.28	4.24E+02	50.55	3.99E+00	4.73E+00	4.20E+02	5.08E+01
	20	463.91	6.87E+01	44.51			6.87E+01	4.45E+01
M	21	507.41	1.54E+01	15.22			1.54E+01	1.52E+01
m	22	511.00	1.25E+02	39.14	5.78E+01	4.60E+00	6.69E+01	3.94E+01
	23	583.40	2.31E+02	49.08	5.96E+00	3.46E+00	2.25E+02	4.92E+01
	24	609.81	2.54E+02	50.89	6.71E+00	3.44E+00	2.48E+02	5.10E+01
	25	727.76	4.00E+01	32.50			4.00E+01	3.25E+01
M	26	767.76	3.02E+01	35.44			3.02E+01	3.54E+01
m	27	772.84	2.19E+01	24.78			2.19E+01	2.48E+01
	28	795.30	5.91E+01	30.53			5.91E+01	3.05E+01
	29	860.47	3.81E+01	21.91			3.81E+01	2.19E+01
	30	911.64	1.81E+02	34.73	2.32E+00	2.73E+00	1.79E+02	3.48E+01
M	31	965.25	3.80E+01	17.55			3.80E+01	1.75E+01
m	32	969.36	7.29E+01	28.74			7.29E+01	2.87E+01
	33	1071.45	2.79E+01	29.06			2.79E+01	2.91E+01
	34	1121.02	6.55E+01	32.06			6.55E+01	3.21E+01
	35	1287.51	2.04E+01	17.09			2.04E+01	1.71E+01
	36	1319.36	1.07E+01	12.12			1.07E+01	1.21E+01
	37	1377.81	2.04E+01	18.50			2.04E+01	1.85E+01
	38	1400.65	2.00E+01	14.04			2.00E+01	1.40E+01
	39	1412.53	8.97E+00	10.44			8.97E+00	1.04E+01
	40	1461.16	5.37E+02	49.77			5.37E+02	4.98E+01
	41	1508.52	1.36E+01	13.86			1.36E+01	1.39E+01
	42	1515.79	1.10E+01	8.60			1.10E+01	8.60E+00
	43	1591.52	3.15E+01	18.20			3.15E+01	1.82E+01
	44	1629.36	1.21E+01	8.73			1.21E+01	8.73E+00
	45	1729.51	1.43E+01	10.79			1.43E+01	1.08E+01
	46	1764.90	5.37E+01	15.89	1.45E+00	1.16E+00	5.22E+01	1.59E+01
	47	1869.81	4.42E+00	5.74			4.42E+00	5.74E+00
	48	1896.07	8.00E+00	5.66			8.00E+00	5.66E+00
	49	1906.70	7.50E+00	8.28			7.50E+00	8.28E+00
	50	2001.94	9.00E+00	6.00			9.00E+00	6.00E+00
	51	2028.66	4.00E+00	6.02			4.00E+00	6.02E+00
	52	2104.68	1.58E+01	13.81			1.58E+01	1.38E+01
	53	2140.08	7.00E+00	5.29			7.00E+00	5.29E+00
	54	2170.03	8.00E+00	5.66			8.00E+00	5.66E+00
	55	2204.40	1.08E+01	9.33			1.08E+01	9.33E+00
	56	2301.72	6.56E+00	6.40			6.56E+00	6.40E+00
	57	2308.70	5.00E+00	4.47			5.00E+00	4.47E+00
	58	2615.08	8.70E+01	18.65			8.70E+01	1.87E+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 1510092-05
CP5003S06-07

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/11/2015 7:18:49AM
 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	58.91	8.70E+01	82.16			8.70E+01	8.22E+01
m	2	63.74	2.24E+02	86.67	5.52E+01	2.05E+01	1.69E+02	8.91E+01
	3	76.18	1.25E+03	177.47			1.25E+03	1.77E+02
	4	87.81	1.57E+02	91.10	1.52E+01	5.37E+00	1.42E+02	9.13E+01
	5	93.58	2.93E+02	95.43	9.04E+01	2.62E+01	2.03E+02	9.90E+01
	6	186.09	2.08E+02	80.70	3.93E+01	6.56E+00	1.69E+02	8.10E+01
	7	209.82	7.19E+01	69.05			7.19E+01	6.91E+01
M	8	238.92	8.51E+02	70.19	1.34E+01	2.14E+00	8.38E+02	7.02E+01
m	9	242.04	1.81E+02	74.14	2.69E+00	1.46E+00	1.78E+02	7.41E+01
	10	254.69	6.71E+01	51.11			6.71E+01	5.11E+01
	11	270.53	8.65E+01	53.89			8.65E+01	5.39E+01
	12	277.41	3.65E+01	40.61			3.65E+01	4.06E+01
M	13	295.54	2.37E+02	43.30			2.37E+02	4.33E+01
m	14	300.53	6.26E+01	39.38			6.26E+01	3.94E+01
	15	307.56	6.03E+01	61.00			6.03E+01	6.10E+01
M	16	328.54	5.72E+01	44.16			5.72E+01	4.42E+01
m	17	338.65	1.30E+02	38.99			1.30E+02	3.90E+01
M	18	349.27	2.55E+01	15.94			2.55E+01	1.59E+01
m	19	352.28	4.24E+02	50.55	3.99E+00	4.73E+00	4.20E+02	5.08E+01
	20	463.91	6.87E+01	44.51			6.87E+01	4.45E+01
M	21	507.41	1.54E+01	15.22			1.54E+01	1.52E+01
m	22	511.00	1.25E+02	39.14	5.78E+01	4.60E+00	6.69E+01	3.94E+01
	23	583.40	2.31E+02	49.08	5.96E+00	3.46E+00	2.25E+02	4.92E+01
	24	609.81	2.54E+02	50.89	6.71E+00	3.44E+00	2.48E+02	5.10E+01
	25	727.76	4.00E+01	32.50			4.00E+01	3.25E+01
M	26	767.76	3.02E+01	35.44			3.02E+01	3.54E+01
m	27	772.84	2.19E+01	24.78			2.19E+01	2.48E+01
	28	795.30	5.91E+01	30.53			5.91E+01	3.05E+01
	29	860.47	3.81E+01	21.91			3.81E+01	2.19E+01
	30	911.64	1.81E+02	34.73	2.32E+00	2.73E+00	1.79E+02	3.48E+01
M	31	965.25	3.80E+01	17.55			3.80E+01	1.75E+01
m	32	969.36	7.29E+01	28.74			7.29E+01	2.87E+01
	33	1071.45	2.79E+01	29.06			2.79E+01	2.91E+01
	34	1121.02	6.55E+01	32.06			6.55E+01	3.21E+01
	35	1287.51	2.04E+01	17.09			2.04E+01	1.71E+01
	36	1319.36	1.07E+01	12.12			1.07E+01	1.21E+01
	37	1377.81	2.04E+01	18.50			2.04E+01	1.85E+01
	38	1400.65	2.00E+01	14.04			2.00E+01	1.40E+01
	39	1412.53	8.97E+00	10.44			8.97E+00	1.04E+01
	40	1461.16	5.37E+02	49.77			5.37E+02	4.98E+01
	41	1508.52	1.36E+01	13.86			1.36E+01	1.39E+01

Analysis Report for 1510092-05
CP5003S06-07

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
42	1515.79	1.10E+01	8.60			1.10E+01	8.60E+00
43	1591.52	3.15E+01	18.20			3.15E+01	1.82E+01
44	1629.36	1.21E+01	8.73			1.21E+01	8.73E+00
45	1729.51	1.43E+01	10.79			1.43E+01	1.08E+01
46	1764.90	5.37E+01	15.89	1.45E+00	1.16E+00	5.22E+01	1.59E+01
47	1869.81	4.42E+00	5.74			4.42E+00	5.74E+00
48	1896.07	8.00E+00	5.66			8.00E+00	5.66E+00
49	1906.70	7.50E+00	8.28			7.50E+00	8.28E+00
50	2001.94	9.00E+00	6.00			9.00E+00	6.00E+00
51	2028.66	4.00E+00	6.02			4.00E+00	6.02E+00
52	2104.68	1.58E+01	13.81			1.58E+01	1.38E+01
53	2140.08	7.00E+00	5.29			7.00E+00	5.29E+00
54	2170.03	8.00E+00	5.66			8.00E+00	5.66E+00
55	2204.40	1.08E+01	9.33			1.08E+01	9.33E+00
56	2301.72	6.56E+00	6.40			6.56E+00	6.40E+00
57	2308.70	5.00E+00	4.47			5.00E+00	4.47E+00
58	2615.08	8.70E+01	18.65			8.70E+01	1.87E+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	0.980	1460.81 *	10.67	2.12E+01	2.65E+00
GA-67	0.596	93.31 *	35.70	3.30E+02	1.46E+03
		208.95 *	2.24	2.72E+03	1.18E+04
		300.22 *	16.00	4.40E+02	1.95E+03
CD-109	0.992	88.03 *	3.72	2.27E+00	1.49E+00
SN-126	0.991	87.57 *	37.00	2.18E-01	1.42E-01
TL-208	0.981	583.14 *	30.22	1.44E+00	3.42E-01
		860.37 *	4.48	2.31E+00	1.34E+00
		2614.66 *	35.85	1.50E+00	3.52E-01
BI-212	0.726	727.17 *	11.80	7.97E-01	6.51E-01
		1620.62	2.75		
PB-212	0.985	238.63 *	44.60	1.71E+00	1.95E-01
		300.09 *	3.41	2.01E+00	1.27E+00
BI-214	0.958	609.31 *	46.30	1.08E+00	2.42E-01

: 00437

Analysis Report for 1510092-05
CP5003S06-07

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
BI-214	0.958	1120.29 *	15.10	1.47E+00	7.31E-01
		1764.49 *	15.80	1.60E+00	5.04E-01
		2204.22 *	4.98	1.22E+00	1.06E+00
PB-214	0.980	295.21 *	19.19	1.33E+00	2.64E-01
		351.92 *	37.19	1.41E+00	2.06E-01
RA-226	0.998	186.21 *	3.28	3.90E+00	7.38E+00
AC-228	0.969	338.32 *	11.40	1.38E+00	4.29E-01
		911.07 *	27.70	1.84E+00	3.86E-01
		969.11 *	16.60	1.32E+00	5.31E-01
TH-234	0.968	63.29 *	3.80	2.84E+00	1.51E+00
AM-241	0.938	59.54 *	35.90	1.65E-01	1.56E-01
CM-243	0.368	209.75 *	3.29	1.81E+00	1.74E+00
		228.14	10.60		
		277.60 *	14.00	2.68E-01	2.99E-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 : 11/11/2015 7:18:49AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m 3	76.18	3.48358E-01	7.08		
m 9	242.04	4.95027E-02	20.80		
10	254.69	1.86516E-02	38.06	Tol.	SN-113
11	270.53	2.40250E-02	31.15		
15	307.56	1.67580E-02	50.56	Tol.	LU-176 IR-192
M 16	328.54	1.58850E-02	38.61	Tol.	LA-140
M 18	349.27	7.08045E-03	31.26		
20	463.91	1.90932E-02	32.38	Sum	
M 21	507.41	4.26775E-03	49.54		
m 22	511.00	1.85706E-02	29.47	Sum	
M 26	767.76	8.39257E-03	58.66		
m 27	772.84	6.09645E-03	56.46		
28	795.30	1.64198E-02	25.82	Sum	
M 31	965.25	1.05423E-02	23.12		

Analysis Report for 1510092-05
CP5003S06-07

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
33	1071.45	7.75556E-03	52.04		
35	1287.51	5.66066E-03	41.93		
36	1319.36	2.98280E-03	56.45		
37	1377.81	5.65278E-03	45.45		
38	1400.65	5.55556E-03	35.09		
39	1412.53	2.49132E-03	58.20		
41	1508.52	3.76812E-03	51.07		
42	1515.79	3.05556E-03	39.10		
43	1591.52	8.75926E-03	28.86		
44	1629.36	3.36310E-03	36.06		
45	1729.51	3.96199E-03	37.84		
47	1869.81	1.22685E-03	65.03		
48	1896.07	2.22222E-03	35.36		
49	1906.70	2.08333E-03	55.18		
50	2001.94	2.50000E-03	33.33		
51	2028.66	1.11111E-03	75.26		
52	2104.68	4.39444E-03	43.65	S-Esc	
53	2140.08	1.94444E-03	37.80		
54	2170.03	2.22222E-03	35.36		
56	2301.72	1.82292E-03	48.79		
57	2308.70	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	2.12E+01	2.65E+00
GA-67	0.59	93.31 *	35.70	3.30E+02	1.46E+03
		208.95 *	2.24	2.72E+03	1.18E+04
		300.22 *	16.00	4.40E+02	1.95E+03
CD-109	0.99	88.03 *	3.72	2.27E+00	1.49E+00
SN-126	0.99	87.57 *	37.00	2.18E-01	1.42E-01
TL-208	0.98	583.14 *	30.22	1.44E+00	3.42E-01

Analysis Report for 1510092-05
CP5003S06-07

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
TL-208	0.98	860.37 *		4.48	2.31E+00	1.34E+00
		2614.66 *		35.85	1.50E+00	3.52E-01
BI-212	0.72	727.17 *		11.80	7.97E-01	6.51E-01
		1620.62		2.75		
PB-212	0.98	238.63 *		44.60	1.71E+00	1.95E-01
		300.09 *		3.41	2.01E+00	1.27E+00
BI-214	0.95	609.31 *		46.30	1.08E+00	2.42E-01
		1120.29 *		15.10	1.47E+00	7.31E-01
		1764.49 *		15.80	1.60E+00	5.04E-01
		2204.22 *		4.98	1.22E+00	1.06E+00
PB-214	0.98	295.21 *		19.19	1.33E+00	2.64E-01
		351.92 *		37.19	1.41E+00	2.06E-01
RA-226	0.99	186.21 *		3.28	3.90E+00	7.38E+00
AC-228	0.96	338.32 *		11.40	1.38E+00	4.29E-01
		911.07 *		27.70	1.84E+00	3.86E-01
		969.11 *		16.60	1.32E+00	5.31E-01
TH-234	0.96	63.29 *		3.80	2.84E+00	1.51E+00
AM-241	0.93	59.54 *		35.90	1.65E-01	1.56E-01
CM-243	0.36	209.75 *		3.29	1.81E+00	1.74E+00
		228.14		10.60		
		277.60 *		14.00	2.68E-01	2.99E-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	0.980	2.12E+01	2.65E+00	
GA-67	0.596	2.69E+02	1.15E+03	
? CD-109	0.992	2.27E+00	1.49E+00	
? SN-126	0.991	2.18E-01	1.42E-01	
TL-208	0.981	1.50E+00	2.41E-01	
BI-212	0.726	7.97E-01	6.51E-01	

Analysis Report for 1510092-05
CP5003S06-07

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
PB-212	0.985	1.69E+00	1.94E-01	
BI-214	0.958	1.20E+00	2.05E-01	
PB-214	0.980	1.38E+00	1.62E-01	
RA-226	0.998	3.90E+00	7.38E+00	
AC-228	0.969	1.56E+00	2.52E-01	
TH-234	0.968	2.84E+00	1.51E+00	
AM-241	0.938	1.65E-01	1.56E-01	
CM-243	0.368	3.07E-01	2.95E-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 1510092-05
CP5003S06-07

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 7:18:49AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	3	76.18	3.48358E-01	7.08	
m	9	242.04	4.95027E-02	20.80	
	10	254.69	1.86516E-02	38.06	Tol. SN-113
	11	270.53	2.40250E-02	31.15	
	15	307.56	1.67580E-02	50.56	Tol. LU-176 IR-192
M	16	328.54	1.58850E-02	38.61	Tol. LA-140
M	18	349.27	7.08045E-03	31.26	
	20	463.91	1.90932E-02	32.38	Sum
M	21	507.41	4.26775E-03	49.54	
m	22	511.00	1.85706E-02	29.47	Sum
M	26	767.76	8.39257E-03	58.66	
m	27	772.84	6.09645E-03	56.46	
	28	795.30	1.64198E-02	25.82	Sum
M	31	965.25	1.05423E-02	23.12	
	33	1071.45	7.75556E-03	52.04	
	35	1287.51	5.66066E-03	41.93	
	36	1319.36	2.98280E-03	56.45	
	37	1377.81	5.65278E-03	45.45	
	38	1400.65	5.55556E-03	35.09	
	39	1412.53	2.49132E-03	58.20	
	41	1508.52	3.76812E-03	51.07	
	42	1515.79	3.05556E-03	39.10	
	43	1591.52	8.75926E-03	28.86	
	44	1629.36	3.36310E-03	36.06	
	45	1729.51	3.96199E-03	37.84	
	47	1869.81	1.22685E-03	65.03	
	48	1896.07	2.22222E-03	35.36	
	49	1906.70	2.08333E-03	55.18	
	50	2001.94	2.50000E-03	33.33	
	51	2028.66	1.11111E-03	75.26	
	52	2104.68	4.39444E-03	43.65	S-Esc
	53	2140.08	1.94444E-03	37.80	
	54	2170.03	2.22222E-03	35.36	
	56	2301.72	1.82292E-03	48.79	

Analysis Report for 1510092-05
 CP5003S06-07

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
57	2308.70	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)
+	BE-7	477.59	10.42	3.07E-01	1.14E+00	1.14E+00
+	NA-22	1274.54	99.94	-1.19E-01	1.30E-01	1.30E-01
+	NA-24	1368.53	99.99	4.11E+14	3.51E+14	5.70E+14
		2754.09	99.86	-5.44E+13		3.51E+14
+	AL-26	1808.65	99.76	1.51E-02	7.42E-02	7.42E-02
+	K-40	1460.81	* 10.67	2.12E+01	1.28E+00	1.28E+00
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	-1.15E-02	8.05E-02	8.05E-02
		78.34	96.00	2.72E-01		1.02E-01
+	SC-46	889.25	99.98	-1.93E-02	1.12E-01	1.12E-01
		1120.51	99.99	1.70E-01		2.01E-01
+	V-48	983.52	99.98	2.85E-03	4.21E-01	4.21E-01
		1312.10	97.50	2.18E-01		5.48E-01
+	CR-51	320.08	9.83	-1.50E-01	1.60E+00	1.60E+00
+	MN-54	834.83	99.97	-3.69E-02	1.08E-01	1.08E-01
+	CO-56	846.75	99.96	-1.61E-02	1.31E-01	1.31E-01
		1037.75	14.03	-3.21E-02		9.83E-01
		1238.25	67.00	8.43E-02		2.77E-01
		1771.40	15.51	-2.03E+00		5.01E-01
		2598.48	16.90	-2.38E-01		5.23E-01
+	CO-57	122.06	85.51	-5.89E-03	7.09E-02	7.09E-02
		136.48	10.60	2.22E-01		6.04E-01
+	CO-58	810.76	99.40	-2.66E-02	1.22E-01	1.22E-01
+	FE-59	1099.22	56.50	-1.19E-01	3.08E-01	3.08E-01
		1291.56	43.20	0.00E+00		4.43E-01
+	CO-60	1173.22	100.00	-7.37E-03	1.22E-01	1.22E-01
		1332.49	100.00	3.36E-02		1.27E-01
+	ZN-65	1115.52	50.75	-3.66E-03	2.27E-01	2.27E-01

Analysis Report for 1510092-05
CP5003S06-07

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	GA-67	93.31	*	35.70	3.30E+02	2.58E+02	2.58E+02
		208.95	*	2.24	2.72E+03		4.26E+03
		300.22	*	16.00	4.40E+02		6.97E+02
+	SE-75	121.11		16.70	2.53E-02	1.18E-01	3.99E-01
		136.00		59.20	2.80E-02		1.18E-01
		264.65		59.80	-2.33E-02		1.38E-01
		279.53		25.20	-3.11E-02		3.47E-01
		400.65		11.40	2.36E-03		8.41E-01
+	RB-82	776.52		13.00	-1.21E-01	1.67E+00	1.67E+00
+	RB-83	520.41		46.00	3.24E-03	2.35E-01	2.35E-01
		529.64		30.30	-1.58E-02		3.53E-01
		552.65		16.40	1.39E-01		6.69E-01
+	KR-85	513.99		0.43	2.24E+01	2.56E+01	2.56E+01
+	SR-85	513.99		99.27	1.38E-01	1.58E-01	1.58E-01
+	Y-88	898.02		93.40	3.99E-02	9.31E-02	1.13E-01
		1836.01		99.38	2.75E-02		9.31E-02
+	NB-93M	16.57		9.43	4.00E+01	9.20E+01	9.20E+01
+	NB-94	702.63		100.00	1.16E-02	9.87E-02	9.87E-02
		871.10		100.00	9.56E-03		1.01E-01
+	NB-95	765.79		99.81	1.31E-01	2.13E-01	2.13E-01
+	NB-95M	235.69		25.00	7.38E+00	2.67E+02	2.67E+02
+	ZR-95	724.18		43.70	4.48E-02	2.21E-01	3.61E-01
		756.72		55.30	-5.59E-02		2.21E-01
+	MO-99	181.06		6.20	1.10E+02	2.70E+03	3.49E+03
		739.58		12.80	-4.91E+02		2.70E+03
		778.00		4.50	-2.82E+03		7.11E+03
+	RU-103	497.08		89.00	-4.88E-02	1.41E-01	1.41E-01
+	RU-106	621.84		9.80	4.29E-01	9.20E-01	9.20E-01
+	AG-108M	433.93		89.90	-1.80E-02	8.17E-02	8.17E-02
		614.37		90.40	-3.93E-03		1.10E-01
		722.95		90.50	9.16E-03		1.10E-01
+	CD-109	88.03	*	3.72	2.27E+00	2.36E+00	2.36E+00
+	AG-110M	657.75		93.14	5.75E-02	1.16E-01	1.16E-01
		677.61		10.53	-3.81E-01		8.62E-01
		706.67		16.46	-2.79E-01		6.30E-01
		763.93		21.98	2.30E-02		5.08E-01
		884.67		71.63	7.23E-02		1.44E-01
		1384.27		23.94	1.84E-02		3.93E-01
+	CD-113M	263.70		0.02	3.62E+01	3.07E+02	3.07E+02
+	SN-113	255.12		1.93	2.37E+00	1.39E-01	4.46E+00
		391.69		64.90	-4.54E-02		1.39E-01
+	TE123M	159.00		84.10	2.72E-02	8.33E-02	8.33E-02
+	SB-124	602.71		97.87	2.34E-02	1.28E-01	1.28E-01
		645.85		7.26	-5.95E-01		1.57E+00
		722.78		11.10	1.09E-01		1.30E+00
		1691.02		49.00	-9.30E-03		2.33E-01
+	I-125	35.49		6.49	-7.06E-01	3.60E+00	3.60E+00
+	SB-125	176.33		6.89	-3.07E-01	2.67E-01	8.47E-01

Analysis Report for 1510092-05
CP5003S06-07

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	SB-125	427.89	29.33	-8.07E-03	2.67E-01	2.67E-01
		463.38	10.35	6.84E-01		9.33E-01
		600.56	17.80	1.83E-01		5.04E-01
		635.90	11.32	-4.48E-01		7.65E-01
+	SB-126	414.70	83.30	-4.11E-01	5.93E-01	5.93E-01
		666.33	99.60	2.32E-01		6.07E-01
		695.00	99.60	5.95E-02		6.19E-01
		720.50	53.80	1.45E-01		1.13E+00
+	SN-126	87.57	* 37.00	2.18E-01	2.26E-01	2.26E-01
+	SB-127	473.00	25.00	1.15E+01	8.26E+01	1.09E+02
		685.20	35.70	-3.33E+01		8.26E+01
		783.80	14.70	1.39E+02		2.64E+02
+	I-129	29.78	57.00	2.68E-01	5.10E-01	5.10E-01
		33.60	13.20	2.73E-01		1.46E+00
		39.58	7.52	5.12E-01		1.68E+00
+	I-131	284.30	6.05	-5.86E+00	1.49E+00	2.02E+01
		364.48	81.20	-3.02E-01		1.49E+00
		636.97	7.26	-2.30E-01		2.04E+01
		722.89	1.80	7.67E+00		9.18E+01
+	TE-132	49.72	13.10	-1.10E+03	8.27E+01	6.79E+02
		228.16	88.00	-1.82E+01		8.27E+01
+	BA-133	81.00	33.00	-1.26E+00	1.84E-01	2.00E-01
		302.84	17.80	2.02E-01		4.38E-01
		356.01	60.00	1.49E-02		1.84E-01
+	I-133	529.87	86.30	-9.14E+08	2.04E+10	2.04E+10
+	XE-133	81.00	38.00	-8.10E+01	1.29E+01	1.29E+01
+	CS-134	563.23	8.38	-2.99E-01	9.74E-02	1.06E+00
		569.32	15.43	1.35E-01		6.06E-01
		604.70	97.60	2.54E-02		9.74E-02
		795.84	85.40	1.27E-01		1.42E-01
		801.93	8.73	1.03E-01		1.04E+00
+	CS-135	268.24	16.00	4.59E-02	4.98E-01	4.98E-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	-6.88E-01	4.88E-01	4.31E+00
		163.89	4.61	-3.13E+00		6.79E+00
		176.55	13.56	6.94E-01		2.44E+00
		273.65	12.66	-8.27E-01		3.45E+00
		340.57	48.50	1.65E+00		1.14E+00
		818.50	99.70	-4.96E-04		4.88E-01
		1048.07	79.60	3.84E-02		6.89E-01
		1235.34	19.70	1.32E+00		3.97E+00
+	CS-137	661.65	85.12	3.88E-03	1.17E-01	1.17E-01
+	LA-138	788.74	34.00	1.51E-01	1.54E-01	2.96E-01
		1435.80	66.00	2.51E-02		1.54E-01
+	CE-139	165.85	80.35	1.87E-02	8.54E-02	8.54E-02
+	BA-140	162.64	6.70	8.79E-01	1.97E+00	5.05E+00
		304.84	4.50	-7.56E+00		9.43E+00

Analysis Report for 1510092-05
CP5003S06-07

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	BA-140	423.70	3.20	-4.25E+00	1.97E+00	1.47E+01
		437.55	2.00	1.11E+01		2.33E+01
		537.32	25.00	2.41E-01		1.97E+00
+	LA-140	328.77	20.50	2.51E+00	7.55E-01	2.40E+00
		487.03	45.50	3.07E-01		1.08E+00
		815.85	23.50	-8.59E-01		2.08E+00
		1596.49	95.49	4.49E-02		7.55E-01
+	CE-141	145.44	48.40	-1.55E-02	2.40E-01	2.40E-01
+	CE-143	57.36	11.80	-8.86E+05	3.29E+06	9.41E+06
		293.26	42.00	6.44E+03		3.29E+06
		664.55	5.20	1.64E+06		2.62E+07
+	CE-144	133.54	10.80	-1.16E-01	5.61E-01	5.61E-01
+	PM-144	476.78	42.00	1.76E-02	8.92E-02	1.98E-01
		618.01	98.60	-4.58E-02		8.92E-02
		696.49	99.49	3.24E-02		1.10E-01
+	PM-145	36.85	21.70	-3.01E-01	3.56E-01	6.69E-01
		37.36	39.70	-1.89E-01		3.56E-01
		42.30	15.10	-5.60E-01		7.20E-01
		72.40	2.31	-3.86E+00		3.92E+00
+	PM-146	453.90	39.94	2.37E-02	1.86E-01	1.86E-01
		735.90	14.01	-2.45E-01		6.38E-01
		747.13	13.10	5.43E-01		8.18E-01
+	ND-147	91.11	28.90	-1.79E+00	2.04E+00	2.04E+00
		531.02	13.10	-1.03E-01		4.90E+00
+	PM-149	285.90	3.10	5.08E+04	6.97E+04	6.97E+04
+	EU-152	121.78	20.50	-2.27E-02	2.73E-01	2.73E-01
		244.69	5.40	1.28E-01		1.56E+00
		344.27	19.13	1.48E-02		3.92E-01
		778.89	9.20	-7.59E-02		9.87E-01
		964.01	10.40	-1.08E-01		1.24E+00
		1085.78	7.22	-7.76E-02		1.53E+00
		1112.02	9.60	-5.70E-01		9.49E-01
		1407.95	14.94	9.80E-02		7.39E-01
+	GD-153	97.43	31.30	5.51E-02	1.91E-01	1.91E-01
		103.18	22.20	-1.69E-01		2.58E-01
+	EU-154	123.07	40.50	-1.23E-02	1.39E-01	1.39E-01
		723.30	19.70	4.24E-02		5.08E-01
		873.19	11.50	3.11E-01		8.97E-01
		996.32	10.30	-4.56E-01		9.78E-01
		1004.76	17.90	-1.48E-01		6.27E-01
		1274.45	35.50	-3.28E-01		3.59E-01
+	EU-155	86.50	30.90	2.33E-01	2.49E-01	2.49E-01
		105.30	20.70	-1.41E-02		2.63E-01
+	EU-156	811.77	10.40	1.41E-01	3.85E+00	3.85E+00
		1153.47	7.20	2.14E-01		6.96E+00
		1230.71	8.90	2.51E+00		7.13E+00
+	HO-166M	184.41	72.60	2.10E-01	1.04E-01	1.04E-01
		280.45	29.60	-1.80E-02		2.41E-01
		410.94	11.10	7.33E-02		7.57E-01

Analysis Report for 1510092-05
CP5003S06-07

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	HO-166M	711.69	54.10	7.29E-02	1.04E-01	1.82E-01
+	TM-171	66.72	0.14	-4.17E+01	5.78E+01	5.78E+01
+	HF-172	81.75	4.52	-6.11E+00	5.14E-01	1.49E+00
		125.81	11.30	-2.87E-01		5.14E-01
+	LU-172	181.53	20.60	-1.52E+00	5.06E+00	7.95E+00
		810.06	16.63	-4.88E+00		1.55E+01
		912.12	15.25	9.89E+01		3.77E+01
		1093.66	62.50	1.04E+00		5.06E+00
+	LU-173	100.72	5.24	4.19E-01	4.01E-01	1.08E+00
		272.11	21.20	4.64E-01		4.01E-01
+	HF-175	343.40	84.00	5.48E-02	1.30E-01	1.30E-01
+	LU-176	88.34	13.30	8.03E-01	7.99E-02	5.86E-01
		201.83	86.00	-2.45E-02		8.30E-02
		306.78	94.00	2.09E-02		7.99E-02
+	TA-182	67.75	41.20	-3.20E-02	2.25E-01	2.25E-01
		1121.30	34.90	5.47E-01		5.44E-01
		1189.05	16.23	4.49E-01		9.71E-01
		1221.41	26.98	-1.33E-01		5.92E-01
		1231.02	11.44	-1.74E-01		1.42E+00
+	IR-192	308.46	29.68	6.99E-02	2.22E-01	3.44E-01
		468.07	48.10	1.69E-02		2.22E-01
+	HG-203	279.19	77.30	-2.02E-02	1.52E-01	1.52E-01
+	BI-207	569.67	97.72	4.69E-02	9.41E-02	9.41E-02
		1063.62	74.90	3.73E-03		1.40E-01
+	TL-208	583.14	* 30.22	1.44E+00	4.67E-02	4.29E-01
		860.37	* 4.48	2.31E+00		1.97E+00
		2614.66	* 35.85	1.50E+00		4.67E-02
+	BI-210M	262.00	45.00	-1.22E-02	1.52E-01	1.52E-01
		300.00	23.00	-1.13E+00		3.40E-01
+	PB-210	46.50	4.25	3.01E+00	2.45E+00	2.45E+00
+	PB-211	404.84	2.90	-2.56E+00	2.79E+00	2.79E+00
		831.96	2.90	-4.39E-01		3.39E+00
+	BI-212	727.17	* 11.80	7.97E-01	1.16E+00	1.16E+00
		1620.62	2.75	1.63E+00		3.62E+00
+	PB-212	238.63	* 44.60	1.71E+00	2.58E-01	2.58E-01
		300.09	* 3.41	2.01E+00		3.19E+00
+	BI-214	609.31	* 46.30	1.08E+00	2.99E-01	2.99E-01
		1120.29	* 15.10	1.47E+00		1.09E+00
		1764.49	* 15.80	1.60E+00		4.21E-01
		2204.22	* 4.98	1.22E+00		1.54E+00
+	PB-214	295.21	* 19.19	1.33E+00	2.58E-01	5.57E-01
		351.92	* 37.19	1.41E+00		2.58E-01
+	RN-219	401.80	6.50	1.91E-01	1.26E+00	1.26E+00
+	RA-223	323.87	3.88	-1.86E+00	1.93E+00	1.93E+00
+	RA-224	240.98	3.95	2.21E+01	3.81E+00	3.81E+00
+	RA-225	40.00	31.00	5.59E-01	1.84E+00	1.84E+00
+	RA-226	186.21	* 3.28	3.90E+00	2.98E+00	2.98E+00
+	TH-227	50.10	8.40	-1.64E+00	1.02E+00	1.02E+00

Analysis Report for 1510092-05
CP5003S06-07

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	TH-227	236.00		11.50	3.06E-02	1.02E+00	1.11E+00
		256.20		6.30	8.89E-02		1.12E+00
+	AC-228	338.32	*	11.40	1.38E+00	4.06E-01	1.88E+00
		911.07	*	27.70	1.84E+00		4.06E-01
		969.11	*	16.60	1.32E+00		1.12E+00
+	TH-230	48.44		16.90	5.00E-01	5.76E-01	5.76E-01
		62.85		4.60	2.62E+00		1.86E+00
		67.67		0.37	-2.93E+00		2.06E+01
+	PA-231	283.67		1.60	-1.33E+00	3.37E+00	4.59E+00
		302.67		2.30	1.55E+00		3.37E+00
+	TH-231	25.64		14.70	-3.97E+00	1.03E+00	3.48E+00
		84.21		6.40	3.15E-01		1.03E+00
+	PA-233	311.98		38.60	7.75E-02	4.47E-01	4.47E-01
+	PA-234	131.20		20.40	7.91E-02	2.79E-01	2.79E-01
		733.99		8.80	-1.66E-01		9.93E-01
		946.00		12.00	-1.11E-01		8.66E-01
+	PA-234M	1001.03		0.92	2.49E+00	1.26E+01	1.26E+01
+	TH-234	63.29	*	3.80	2.84E+00	4.63E+00	4.63E+00
+	U-235	143.76		10.50	9.79E-02	5.54E-01	5.54E-01
		163.35		4.70	-5.50E-01		1.19E+00
		205.31		4.70	2.16E-01		1.59E+00
+	NP-237	86.50		12.60	5.65E-01	6.04E-01	6.04E-01
+	NP-239	106.10		22.70	-4.23E+02	3.52E+03	3.52E+03
		228.18		10.70	-2.15E+03		9.74E+03
		277.60		14.10	-5.21E+02		7.51E+03
+	AM-241	59.54	*	35.90	1.65E-01	5.14E-01	5.14E-01
+	AM-243	74.67		66.00	2.28E-01	1.59E-01	1.59E-01
+	CM-243	209.75	*	3.29	1.81E+00	4.88E-01	2.83E+00
		228.14		10.60	-1.47E-01		6.67E-01
		277.60	*	14.00	2.68E-01		4.88E-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 1510092-05
CP5003S06-07

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	1.14E+00	1.14E+00	3.07E-01	5.38E-01
NA-22	1274.54	99.94	1.30E-01	1.30E-01	-1.19E-01	5.97E-02
NA-24	1368.53	99.99	5.70E+14	3.51E+14	4.11E+14	2.57E+14
	2754.09	99.86	3.51E+14		-5.44E+13	1.31E+14
AL-26	1808.65	99.76	7.42E-02	7.42E-02	1.51E-02	3.04E-02
+ K-40	1460.81	* 10.67	1.28E+00	1.28E+00	2.12E+01	5.88E-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	8.05E-02	8.05E-02	-1.15E-02	3.94E-02
	78.34	96.00	1.02E-01		2.72E-01	5.00E-02
SC-46	889.25	99.98	1.12E-01	1.12E-01	-1.93E-02	5.11E-02
	1120.51	99.99	2.01E-01		1.70E-01	9.43E-02
V-48	983.52	99.98	4.21E-01	4.21E-01	2.85E-03	1.94E-01
	1312.10	97.50	5.48E-01		2.18E-01	2.52E-01
CR-51	320.08	9.83	1.60E+00	1.60E+00	-1.50E-01	7.65E-01
MN-54	834.83	99.97	1.08E-01	1.08E-01	-3.69E-02	5.00E-02
CO-56	846.75	99.96	1.31E-01	1.31E-01	-1.61E-02	6.05E-02
	1037.75	14.03	9.83E-01		-3.21E-02	4.51E-01
	1238.25	67.00	2.77E-01		8.43E-02	1.29E-01
	1771.40	15.51	5.01E-01		-2.03E+00	1.94E-01
	2598.48	16.90	5.23E-01		-2.38E-01	1.96E-01
CO-57	122.06	85.51	7.09E-02	7.09E-02	-5.89E-03	3.44E-02
	136.48	10.60	6.04E-01		2.22E-01	2.93E-01
CO-58	810.76	99.40	1.22E-01	1.22E-01	-2.66E-02	5.64E-02
FE-59	1099.22	56.50	3.08E-01	3.08E-01	-1.19E-01	1.41E-01
	1291.56	43.20	4.43E-01		0.00E+00	2.02E-01
CO-60	1173.22	100.00	1.22E-01	1.22E-01	-7.37E-03	5.63E-02
	1332.49	100.00	1.27E-01		3.36E-02	5.82E-02
ZN-65	1115.52	50.75	2.27E-01	2.27E-01	-3.66E-03	1.03E-01
+ GA-67	93.31	* 35.70	2.58E+02	2.58E+02	3.30E+02	1.27E+02
	208.95	* 2.24	4.26E+03		2.72E+03	2.08E+03
	300.22	* 16.00	6.97E+02		4.40E+02	3.39E+02
SE-75	121.11	16.70	3.99E-01	1.18E-01	2.53E-02	1.94E-01
	136.00	59.20	1.18E-01		2.80E-02	5.74E-02
	264.65	59.80	1.38E-01		-2.33E-02	6.63E-02
	279.53	25.20	3.47E-01		-3.11E-02	1.67E-01
	400.65	11.40	8.41E-01		2.36E-03	4.01E-01
RB-82	776.52	13.00	1.67E+00	1.67E+00	-1.21E-01	7.70E-01
RB-83	520.41	46.00	2.35E-01	2.35E-01	3.24E-03	1.11E-01
	529.64	30.30	3.53E-01		-1.58E-02	1.66E-01
	552.65	16.40	6.69E-01		1.39E-01	3.15E-01
KR-85	513.99	0.43	2.56E+01	2.56E+01	2.24E+01	1.22E+01
SR-85	513.99	99.27	1.58E-01	1.58E-01	1.38E-01	7.54E-02
Y-88	898.02	93.40	1.13E-01	9.31E-02	3.99E-02	5.13E-02
	1836.01	99.38	9.31E-02		2.75E-02	3.82E-02
NB-93M	16.57	9.43	9.20E+01	9.20E+01	4.00E+01	4.48E+01

Analysis Report for 1510092-05
CP5003S06-07

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	9.87E-02	9.87E-02	1.16E-02	4.63E-02
	871.10	100.00	1.01E-01		9.56E-03	4.69E-02
NB-95	765.79	99.81	2.13E-01	2.13E-01	1.31E-01	1.00E-01
NB-95M	235.69	25.00	2.67E+02	2.67E+02	7.38E+00	1.31E+02
ZR-95	724.18	43.70	3.61E-01	2.21E-01	4.48E-02	1.70E-01
	756.72	55.30	2.21E-01		-5.59E-02	1.02E-01
MO-99	181.06	6.20	3.49E+03	2.70E+03	1.10E+02	1.69E+03
	739.58	12.80	2.70E+03		-4.91E+02	1.26E+03
	778.00	4.50	7.11E+03		-2.82E+03	3.28E+03
RU-103	497.08	89.00	1.41E-01	1.41E-01	-4.88E-02	6.60E-02
RU-106	621.84	9.80	9.20E-01	9.20E-01	4.29E-01	4.30E-01
AG-108M	433.93	89.90	8.17E-02	8.17E-02	-1.80E-02	3.86E-02
	614.37	90.40	1.10E-01		-3.93E-03	5.20E-02
	722.95	90.50	1.10E-01		9.16E-03	5.14E-02
	88.03	3.72	2.36E+00	2.36E+00	2.27E+00	1.16E+00
+ CD-109 AG-110M	657.75	93.14	1.16E-01	1.16E-01	5.75E-02	5.46E-02
	677.61	10.53	8.62E-01		-3.81E-01	4.00E-01
	706.67	16.46	6.30E-01		-2.79E-01	2.95E-01
	763.93	21.98	5.08E-01		2.30E-02	2.38E-01
	884.67	71.63	1.44E-01		7.23E-02	6.64E-02
	1384.27	23.94	3.93E-01		1.84E-02	1.72E-01
	263.70	0.02	3.07E+02	3.07E+02	3.62E+01	1.48E+02
	255.12	1.93	4.46E+00	1.39E-01	2.37E+00	2.15E+00
	391.69	64.90	1.39E-01		-4.54E-02	6.58E-02
	159.00	84.10	8.33E-02	8.33E-02	2.72E-02	4.03E-02
TE123M SB-124	602.71	97.87	1.28E-01	1.28E-01	2.34E-02	5.98E-02
	645.85	7.26	1.57E+00		-5.95E-01	7.27E-01
	722.78	11.10	1.30E+00		1.09E-01	6.09E-01
	1691.02	49.00	2.33E-01		-9.30E-03	9.74E-02
	35.49	6.49	3.60E+00	3.60E+00	-7.06E-01	1.75E+00
SB-125	176.33	6.89	8.47E-01	2.67E-01	-3.07E-01	4.09E-01
	427.89	29.33	2.67E-01		-8.07E-03	1.27E-01
	463.38	10.35	9.33E-01		6.84E-01	4.45E-01
	600.56	17.80	5.04E-01		1.83E-01	2.36E-01
	635.90	11.32	7.65E-01		-4.48E-01	3.57E-01
	414.70	83.30	5.93E-01	5.93E-01	-4.11E-01	2.82E-01
SB-126	666.33	99.60	6.07E-01		2.32E-01	2.85E-01
	695.00	99.60	6.19E-01		5.95E-02	2.90E-01
	720.50	53.80	1.13E+00		1.45E-01	5.30E-01
	87.57	37.00	2.26E-01	2.26E-01	2.18E-01	1.11E-01
	473.00	25.00	1.09E+02	8.26E+01	1.15E+01	5.15E+01
+ SN-126 SB-127	685.20	35.70	8.26E+01		-3.33E+01	3.83E+01
	783.80	14.70	2.64E+02		1.39E+02	1.24E+02
	29.78	57.00	5.10E-01	5.10E-01	2.68E-01	2.48E-01
	33.60	13.20	1.46E+00		2.73E-01	7.09E-01
I-129	39.58	7.52	1.68E+00		5.12E-01	8.19E-01
	284.30	6.05	2.02E+01	1.49E+00	-5.86E+00	9.73E+00
	364.48	81.20	1.49E+00		-3.02E-01	7.09E-01
I-131	636.97	7.26	2.04E+01		-2.30E-01	9.54E+00
	722.89	1.80	9.18E+01		7.67E+00	4.30E+01
	49.72	13.10	6.79E+02	8.27E+01	-1.10E+03	3.31E+02
	228.16	88.00	8.27E+01		-1.82E+01	4.00E+01
BA-133	81.00	33.00	2.00E-01	1.84E-01	-1.26E+00	9.76E-02

Analysis Report for 1510092-05
CP5003S06-07

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	4.38E-01	1.84E-01	2.02E-01	2.11E-01
	356.01	60.00	1.84E-01		1.49E-02	8.90E-02
I-133	529.87	86.30	2.04E+10	2.04E+10	-9.14E+08	9.59E+09
XE-133	81.00	38.00	1.29E+01	1.29E+01	-8.10E+01	6.29E+00
CS-134	563.23	8.38	1.06E+00	9.74E-02	-2.99E-01	4.99E-01
	569.32	15.43	6.06E-01		1.35E-01	2.86E-01
	604.70	97.60	9.74E-02		2.54E-02	4.59E-02
	795.84	85.40	1.42E-01		1.27E-01	6.69E-02
	801.93	8.73	1.04E+00		1.03E-01	4.81E-01
CS-135	268.24	16.00	4.98E-01	4.98E-01	4.59E-02	2.41E-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	4.31E+00	4.88E-01	-6.88E-01	2.09E+00
	163.89	4.61	6.79E+00		-3.13E+00	3.28E+00
	176.55	13.56	2.44E+00		6.94E-01	1.18E+00
	273.65	12.66	3.45E+00		-8.27E-01	1.66E+00
	340.57	48.50	1.14E+00		1.65E+00	5.49E-01
	818.50	99.70	4.88E-01		-4.96E-04	2.25E-01
	1048.07	79.60	6.89E-01		3.84E-02	3.14E-01
	1235.34	19.70	3.97E+00		1.32E+00	1.84E+00
CS-137	661.65	85.12	1.17E-01	1.17E-01	3.88E-03	5.50E-02
LA-138	788.74	34.00	2.96E-01	1.54E-01	1.51E-01	1.38E-01
	1435.80	66.00	1.54E-01		2.51E-02	6.86E-02
CE-139	165.85	80.35	8.54E-02	8.54E-02	1.87E-02	4.13E-02
BA-140	162.64	6.70	5.05E+00	1.97E+00	8.79E-01	2.44E+00
	304.84	4.50	9.43E+00		-7.56E+00	4.52E+00
	423.70	3.20	1.47E+01		-4.25E+00	6.99E+00
	437.55	2.00	2.33E+01		1.11E+01	1.10E+01
	537.32	25.00	1.97E+00		2.41E-01	9.29E-01
LA-140	328.77	20.50	2.40E+00	7.55E-01	2.51E+00	1.15E+00
	487.03	45.50	1.08E+00		3.07E-01	5.11E-01
	815.85	23.50	2.08E+00		-8.59E-01	9.52E-01
	1596.49	95.49	7.55E-01		4.49E-02	3.40E-01
CE-141	145.44	48.40	2.40E-01	2.40E-01	-1.55E-02	1.16E-01
CE-143	57.36	11.80	9.41E+06	3.29E+06	-8.86E+05	4.59E+06
	293.26	42.00	3.29E+06		6.44E+03	1.60E+06
	664.55	5.20	2.62E+07		1.64E+06	1.23E+07
CE-144	133.54	10.80	5.61E-01	5.61E-01	-1.16E-01	2.72E-01
PM-144	476.78	42.00	1.98E-01	8.92E-02	1.76E-02	9.35E-02
	618.01	98.60	8.92E-02		-4.58E-02	4.16E-02
	696.49	99.49	1.10E-01		3.24E-02	5.16E-02
PM-145	36.85	21.70	6.69E-01	3.56E-01	-3.01E-01	3.25E-01
	37.36	39.70	3.56E-01		-1.89E-01	1.73E-01
	42.30	15.10	7.20E-01		-5.60E-01	3.50E-01
	72.40	2.31	3.92E+00		-3.86E+00	1.92E+00
PM-146	453.90	39.94	1.86E-01	1.86E-01	2.37E-02	8.76E-02
	735.90	14.01	6.38E-01		-2.45E-01	2.96E-01
	747.13	13.10	8.18E-01		5.43E-01	3.84E-01
ND-147	91.11	28.90	2.04E+00	2.04E+00	-1.79E+00	1.00E+00
	531.02	13.10	4.90E+00		-1.03E-01	2.31E+00
PM-149	285.90	3.10	6.97E+04	6.97E+04	5.08E+04	3.36E+04
EU-152	121.78	20.50	2.73E-01	2.73E-01	-2.27E-02	1.33E-01

Analysis Report for 1510092-05
CP5003S08-07

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	1.56E+00	2.73E-01	1.28E-01	7.57E-01
	344.27	19.13	3.92E-01		1.48E-02	1.87E-01
	778.89	9.20	9.87E-01		-7.59E-02	4.57E-01
	964.01	10.40	1.24E+00		-1.08E-01	5.83E-01
	1085.78	7.22	1.53E+00		-7.76E-02	7.02E-01
	1112.02	9.60	9.49E-01		-5.70E-01	4.27E-01
	1407.95	14.94	7.39E-01		9.80E-02	3.32E-01
GD-153	97.43	31.30	1.91E-01	1.91E-01	5.51E-02	9.30E-02
	103.18	22.20	2.58E-01		-1.69E-01	1.25E-01
EU-154	123.07	40.50	1.39E-01	1.39E-01	-1.23E-02	6.74E-02
	723.30	19.70	5.08E-01		4.24E-02	2.38E-01
	873.19	11.50	8.97E-01		3.11E-01	4.16E-01
	996.32	10.30	9.78E-01		-4.56E-01	4.48E-01
	1004.76	17.90	6.27E-01		-1.48E-01	2.90E-01
EU-155	1274.45	35.50	3.59E-01	2.49E-01	-3.28E-01	1.65E-01
	86.50	30.90	2.49E-01		2.33E-01	1.22E-01
	105.30	20.70	2.63E-01		-1.41E-02	1.27E-01
EU-156	811.77	10.40	3.85E+00	3.85E+00	1.41E-01	1.77E+00
	1153.47	7.20	6.96E+00		2.14E-01	3.19E+00
	1230.71	8.90	7.13E+00		2.51E+00	3.32E+00
HO-166M	184.41	72.60	1.04E-01	1.04E-01	2.10E-01	5.08E-02
	280.45	29.60	2.41E-01		-1.80E-02	1.16E-01
	410.94	11.10	7.57E-01		7.33E-02	3.61E-01
	711.69	54.10	1.82E-01		7.29E-02	8.53E-02
TM-171	66.72	0.14	5.78E+01	5.78E+01	-4.17E+01	2.83E+01
HF-172	81.75	4.52	1.49E+00	5.14E-01	-6.11E+00	7.26E-01
	125.81	11.30	5.14E-01		-2.87E-01	2.50E-01
LU-172	181.53	20.60	7.95E+00	5.06E+00	-1.52E+00	3.83E+00
	810.06	16.63	1.55E+01		-4.88E+00	7.15E+00
	912.12	15.25	3.77E+01		9.89E+01	1.81E+01
	1093.66	62.50	5.06E+00		1.04E+00	2.32E+00
LU-173	100.72	5.24	1.08E+00	4.01E-01	4.19E-01	5.22E-01
	272.11	21.20	4.01E-01		4.64E-01	1.94E-01
HF-175	343.40	84.00	1.30E-01	1.30E-01	5.48E-02	6.22E-02
LU-176	88.34	13.30	5.86E-01	7.99E-02	8.03E-01	2.87E-01
	201.83	86.00	8.30E-02		-2.45E-02	4.02E-02
	306.78	94.00	7.99E-02		2.09E-02	3.83E-02
TA-182	67.75	41.20	2.25E-01	2.25E-01	-3.20E-02	1.10E-01
	1121.30	34.90	5.44E-01		5.47E-01	2.56E-01
	1189.05	16.23	9.71E-01		4.49E-01	4.49E-01
	1221.41	26.98	5.92E-01		-1.33E-01	2.74E-01
	1231.02	11.44	1.42E+00		-1.74E-01	6.56E-01
IR-192	308.46	29.68	3.44E-01	2.22E-01	6.99E-02	1.65E-01
	468.07	48.10	2.22E-01		1.69E-02	1.05E-01
HG-203	279.19	77.30	1.52E-01	1.52E-01	-2.02E-02	7.32E-02
BI-207	569.67	97.72	9.41E-02	9.41E-02	4.69E-02	4.44E-02
	1063.62	74.90	1.40E-01		3.73E-03	6.40E-02
+ TL-208	583.14	*	30.22	4.67E-02	1.44E+00	2.06E-01
	860.37	*	4.48		1.97E+00	2.31E+00
	2614.66	*	35.85		4.67E-02	1.50E+00
BI-210M	262.00		1.52E-01	1.52E-01	-1.22E-02	7.30E-02
	300.00		3.40E-01		-1.13E+00	1.63E-01
PB-210	46.50	4.25	2.45E+00	2.45E+00	3.01E+00	1.19E+00

Analysis Report for 1510092-05
CP5003S06-07

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	2.79E+00	2.79E+00	-2.56E+00	1.33E+00
	831.96	2.90	3.39E+00		-4.39E-01	1.57E+00
+ BI-212	727.17 *	11.80	1.16E+00	1.16E+00	7.97E-01	5.51E-01
	1620.62	2.75	3.62E+00		1.63E+00	1.59E+00
+ PB-212	238.63 *	44.60	2.58E-01	2.58E-01	1.71E+00	1.26E-01
	300.09 *	3.41	3.19E+00		2.01E+00	1.55E+00
+ BI-214	609.31 *	46.30	2.99E-01	2.99E-01	1.08E+00	1.44E-01
	1120.29 *	15.10	1.09E+00		1.47E+00	5.12E-01
	1764.49 *	15.80	4.21E-01		1.60E+00	1.69E-01
	2204.22 *	4.98	1.54E+00		1.22E+00	6.15E-01
+ PB-214	295.21 *	19.19	5.57E-01	2.58E-01	1.33E+00	2.71E-01
	351.92 *	37.19	2.58E-01		1.41E+00	1.24E-01
RN-219	401.80	6.50	1.26E+00	1.26E+00	1.91E-01	6.00E-01
RA-223	323.87	3.88	1.93E+00	1.93E+00	-1.86E+00	9.23E-01
RA-224	240.98	3.95	3.81E+00	3.81E+00	2.21E+01	1.87E+00
RA-225	40.00	31.00	1.84E+00	1.84E+00	5.59E-01	8.94E-01
+ RA-226	186.21 *	3.28	2.98E+00	2.98E+00	3.90E+00	1.46E+00
TH-227	50.10	8.40	1.02E+00	1.02E+00	-1.64E+00	4.95E-01
	236.00	11.50	1.11E+00		3.06E-02	5.44E-01
	256.20	6.30	1.12E+00		8.89E-02	5.38E-01
+ AC-228	338.32 *	11.40	1.88E+00	4.06E-01	1.38E+00	9.26E-01
	911.07 *	27.70	4.06E-01		1.84E+00	1.89E-01
	969.11 *	16.60	1.12E+00		1.32E+00	5.36E-01
TH-230	48.44	16.90	5.76E-01	5.76E-01	5.00E-01	2.81E-01
	62.85	4.60	1.86E+00		2.62E+00	9.11E-01
	67.67	0.37	2.06E+01		-2.93E+00	1.01E+01
PA-231	283.67	1.60	4.59E+00	3.37E+00	-1.33E+00	2.21E+00
	302.67	2.30	3.37E+00		1.55E+00	1.62E+00
TH-231	25.64	14.70	3.48E+00	1.03E+00	-3.97E+00	1.69E+00
	84.21	6.40	1.03E+00		3.15E-01	5.04E-01
PA-233	311.98	38.60	4.47E-01	4.47E-01	7.75E-02	2.14E-01
PA-234	131.20	20.40	2.79E-01	2.79E-01	7.91E-02	1.35E-01
	733.99	8.80	9.93E-01		-1.66E-01	4.60E-01
	946.00	12.00	8.66E-01		-1.11E-01	4.00E-01
PA-234M	1001.03	0.92	1.26E+01	1.26E+01	2.49E+00	5.85E+00
+ TH-234	63.29 *	3.80	4.63E+00	4.63E+00	2.84E+00	2.29E+00
U-235	143.76	10.50	5.54E-01	5.54E-01	9.79E-02	2.69E-01
	163.35	4.70	1.19E+00		-5.50E-01	5.76E-01
	205.31	4.70	1.59E+00		2.16E-01	7.70E-01
NP-237	86.50	12.60	6.04E-01	6.04E-01	5.65E-01	2.96E-01
NP-239	106.10	22.70	3.52E+03	3.52E+03	-4.23E+02	1.71E+03
	228.18	10.70	9.74E+03		-2.15E+03	4.71E+03
	277.60	14.10	7.51E+03		-5.21E+02	3.61E+03
+ AM-241	59.54 *	35.90	5.14E-01	5.14E-01	1.65E-01	2.54E-01
AM-243	74.67	66.00	1.59E-01	1.59E-01	2.28E-01	7.83E-02
+ CM-243	209.75 *	3.29	2.83E+00	4.88E-01	1.81E+00	1.38E+00
	228.14	10.60	6.67E-01		-1.47E-01	3.22E-01
	277.60 *	14.00	4.88E-01		2.68E-01	2.34E-01

Analysis Report for 1510092-05
CP5003S06-07

- + = 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: CP5003S06-07

Elapsed Live time: 3600

Elapsed Real Time: 3616

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	6	179	181	149	137	105	112	109
17:	98	88	89	81	86	80	94	77
25:	92	84	58	71	100	89	75	90
33:	86	85	85	75	84	73	83	91
41:	96	93	79	77	80	106	172	101
49:	97	88	101	85	100	118	91	89
57:	117	123	143	108	138	112	161	223
65:	147	127	144	144	146	117	134	149
73:	171	157	417	292	397	500	146	112
81:	117	109	92	138	166	87	207	208
89:	128	158	137	121	239	213	102	95
97:	59	74	83	91	76	67	71	70
105:	75	93	70	75	86	85	69	78
113:	77	74	58	79	76	64	67	77
121:	66	79	80	73	76	92	67	64
129:	95	81	62	65	65	61	79	79
137:	83	67	72	73	73	66	67	77
145:	79	62	65	61	73	71	62	62
153:	66	67	64	64	63	59	52	69
161:	68	53	50	66	62	49	60	60
169:	60	57	39	54	59	43	55	58
177:	54	53	64	55	51	37	58	42
185:	60	156	127	53	52	48	50	49
193:	50	45	50	38	53	46	52	56
201:	37	46	42	60	51	63	48	57
209:	80	77	50	45	49	30	48	54
217:	51	49	44	41	53	37	49	39
225:	39	39	54	40	26	44	36	45
233:	37	45	32	45	45	136	549	215
241:	74	130	69	31	32	33	26	35
249:	24	25	28	29	35	34	45	37
257:	33	20	25	32	36	30	28	27
265:	30	41	26	22	40	54	62	38
273:	30	32	24	34	36	39	30	22
281:	23	27	33	29	35	28	36	43
289:	35	30	25	22	26	30	116	127
297:	40	21	33	34	45	28	17	19
305:	36	32	28	21	24	33	30	24
313:	26	22	26	27	23	20	16	25
321:	27	16	26	24	27	23	31	42
329:	47	23	22	28	13	20	27	30
337:	22	73	82	34	25	25	17	29
345:	19	27	14	13	31	22	53	236
353:	176	30	23	23	28	22	24	21
361:	23	20	14	17	19	18	25	20

369: 15 24 22 14 14 17 15 24

Sample Title: CP5003S06-07

Channel	1	2	3	4	5	6	7	8
377:	17	16	30	20	14	17	23	16
385:	20	31	21	21	19	22	12	22
393:	14	18	14	15	23	12	20	19
401:	18	19	22	25	20	19	22	11
409:	27	39	16	15	27	10	24	15
417:	19	18	20	22	25	13	19	18
425:	15	17	18	23	16	11	11	18
433:	11	13	11	19	16	15	20	22
441:	12	18	9	13	12	13	16	20
449:	8	10	11	13	14	18	12	8
457:	15	15	14	13	21	14	33	35
465:	23	10	16	15	9	13	14	13
473:	10	16	16	11	9	17	13	13
481:	15	13	8	16	16	9	21	15
489:	16	13	14	16	11	10	7	12
497:	5	9	9	19	9	13	15	17
505:	13	8	18	10	18	45	56	46
513:	18	16	17	8	10	12	11	19
521:	14	13	13	14	13	13	14	11
529:	9	14	8	16	15	13	12	11
537:	12	14	10	17	10	8	13	11
545:	13	12	10	15	9	12	19	14
553:	6	13	9	12	10	10	14	18
561:	8	11	18	14	7	10	12	19
569:	14	17	6	16	12	14	9	14
577:	12	6	13	15	11	21	110	106
585:	20	7	13	8	10	10	6	9
593:	12	13	11	14	4	12	10	9
601:	9	18	12	9	8	10	14	16
609:	98	131	34	9	11	16	13	8
617:	8	9	5	13	10	12	9	12
625:	8	8	4	11	13	16	11	10
633:	8	7	8	8	8	17	10	15
641:	15	9	7	3	9	4	11	11
649:	9	9	6	7	9	13	11	12
657:	12	11	17	10	13	9	6	13
665:	18	14	11	12	8	10	6	6
673:	15	10	8	5	7	9	7	11
681:	9	9	8	6	2	8	8	14
689:	8	12	11	5	14	10	15	12
697:	14	9	10	10	13	15	16	11
705:	3	8	10	11	10	16	9	10
713:	9	9	11	5	8	11	8	8
721:	14	11	12	8	9	11	27	37
729:	13	3	10	7	9	7	5	10
737:	6	9	9	9	13	5	12	13
745:	9	9	12	9	15	12	9	3
753:	16	8	7	9	7	8	5	5
761:	9	6	8	8	12	10	17	12
769:	17	9	8	18	13	7	5	5
777:	5	9	7	10	6	10	14	5
785:	12	20	10	7	7	6	4	10
793:	15	6	29	16	12	8	2	5

801: 8 6 9 11 6 9 8 7

Sample Title: CP5003S06-07

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	7	6	7	7	4	8	9	5
817:	7	2	5	12	4	8	5	2
825:	5	6	7	9	5	10	11	3
833:	8	6	12	8	10	10	10	9
841:	12	13	8	7	11	7	3	8
849:	9	8	6	7	4	7	11	5
857:	3	6	10	16	25	5	3	6
865:	3	5	7	12	3	12	7	7
873:	6	7	7	9	3	7	3	5
881:	3	10	6	8	5	5	8	4
889:	4	6	6	3	5	6	5	4
897:	6	7	3	6	4	2	2	10
905:	4	5	5	5	13	26	74	59
913:	16	7	7	2	2	7	3	5
921:	5	9	9	5	2	6	8	9
929:	7	3	2	6	3	5	10	2
937:	11	6	11	10	7	6	6	7
945:	9	7	6	8	6	10	7	6
953:	4	10	8	7	2	5	7	8
961:	6	6	3	13	19	19	9	19
969:	54	21	10	4	7	5	4	6
977:	8	7	3	7	9	6	5	10
985:	3	4	8	6	6	4	8	7
993:	4	6	3	8	3	13	4	8
1001:	9	5	3	14	11	5	6	7
1009:	5	12	3	6	3	6	5	1
1017:	7	7	4	5	9	11	3	3
1025:	8	7	9	5	4	6	12	7
1033:	6	7	1	7	4	7	7	8
1041:	7	9	2	5	5	4	4	7
1049:	6	6	4	3	9	4	8	2
1057:	7	7	7	6	3	4	6	9
1065:	7	5	4	9	10	6	10	9
1073:	11	6	3	2	4	2	3	9
1081:	10	7	7	7	9	4	3	8
1089:	5	3	7	7	5	4	8	7
1097:	7	0	4	11	6	3	7	9
1105:	6	8	9	7	0	4	5	5
1113:	4	5	4	6	6	7	12	26
1121:	18	8	6	9	6	5	2	1
1129:	5	4	10	4	7	8	8	12
1137:	9	6	8	3	5	7	11	6
1145:	5	1	8	2	6	6	5	5
1153:	7	7	7	4	9	5	9	7
1161:	5	3	4	6	5	5	6	6
1169:	6	5	3	11	11	7	4	5
1177:	9	6	3	3	8	5	4	8
1185:	1	8	6	4	9	6	10	9
1193:	8	3	2	10	7	5	7	9
1201:	6	8	6	10	7	10	8	6
1209:	9	7	9	11	8	11	4	5
1217:	13	7	5	10	6	9	7	7
1225:	8	8	12	12	10	6	5	6

1233: 10 3 9 5 6 19 10 5

Sample Title: CP5003S06-07

Channel	1	2	3	4	5	6	7	8	9
1241:	3	6	7	2	5	4	9	7	
1249:	1	2	9	5	6	7	9	4	
1257:	5	4	4	6	2	4	4	5	
1265:	6	8	5	9	7	6	6	3	
1273:	7	8	1	3	6	4	5	12	
1281:	5	6	2	4	5	5	9	6	
1289:	2	4	2	1	5	3	3	5	
1297:	1	5	9	2	0	6	2	3	
1305:	6	7	4	6	7	5	10	4	
1313:	4	4	2	2	3	5	4	7	
1321:	0	3	1	6	2	3	4	3	
1329:	4	3	7	4	6	4	5	4	
1337:	3	4	4	4	3	6	4	3	
1345:	3	3	2	3	4	6	2	1	
1353:	9	1	1	6	4	3	5	3	
1361:	3	1	1	3	3	3	4	1	
1369:	5	4	1	5	1	1	5	6	
1377:	9	10	7	1	0	3	1	3	
1385:	1	5	0	2	3	3	1	2	
1393:	3	2	1	1	3	4	2	4	
1401:	7	4	3	1	1	4	4	4	
1409:	2	1	4	6	3	2	0	2	
1417:	1	3	2	4	0	2	1	2	
1425:	4	3	1	3	4	0	6	3	
1433:	1	2	1	3	2	2	2	2	
1441:	2	1	0	0	0	4	2	1	
1449:	1	3	3	3	2	1	3	3	
1457:	0	5	43	163	230	95	7	1	
1465:	3	3	0	2	3	3	3	0	
1473:	0	2	2	2	2	2	2	5	
1481:	3	2	1	1	0	2	2	2	
1489:	2	3	2	1	3	2	2	0	
1497:	0	0	2	3	1	2	1	2	
1505:	3	2	1	5	6	1	2	0	
1513:	1	2	5	4	2	0	1	1	
1521:	0	1	1	0	4	2	3	3	
1529:	0	2	0	0	0	1	4	0	
1537:	1	0	5	0	2	2	2	1	
1545:	3	1	4	1	0	1	1	1	
1553:	1	1	1	0	0	2	1	1	
1561:	3	1	1	0	0	0	0	1	
1569:	1	0	1	2	0	0	0	0	
1577:	3	0	1	1	3	0	4	4	
1585:	1	2	4	3	6	0	6	12	
1593:	7	3	1	1	1	3	0	0	
1601:	0	1	0	3	1	0	1	3	
1609:	2	0	0	1	0	0	1	1	
1617:	3	3	0	4	3	0	2	1	
1625:	0	2	0	5	2	3	1	1	
1633:	0	0	1	1	3	0	0	3	
1641:	0	2	0	0	1	1	0	0	
1649:	3	1	2	1	0	3	3	1	
1657:	2	2	2	2	3	2	3	2	

1665: 2 4 1 1 2 0 1 1

Sample Title: CP5003S06-07

Channel	1	2	3	4	5	6	7	8	9
1673:	1	2	0	0	2	2	2	3	3
1681:	0	1	2	1	2	3	0	0	0
1689:	0	1	1	1	0	3	0	0	0
1697:	0	1	0	1	2	1	3	3	3
1705:	1	3	2	1	1	1	1	1	3
1713:	1	2	1	0	1	2	1	1	3
1721:	1	1	0	0	0	2	0	0	3
1729:	6	3	4	1	0	2	1	1	2
1737:	1	2	2	1	0	0	2	1	1
1745:	0	1	1	1	1	0	1	0	3
1753:	1	0	0	0	0	0	0	0	2
1761:	0	5	10	13	20	9	0	0	0
1769:	0	0	0	2	0	1	1	0	0
1777:	1	1	1	1	0	2	0	0	1
1785:	2	2	1	1	0	0	0	0	2
1793:	3	0	2	3	0	0	0	0	1
1801:	0	2	0	3	0	0	0	0	2
1809:	1	0	1	0	1	0	0	0	1
1817:	2	1	2	2	1	1	3	1	1
1825:	0	0	0	0	0	0	0	0	1
1833:	0	1	0	2	0	2	1	0	0
1841:	1	1	0	1	1	2	4	0	0
1849:	2	0	0	0	1	0	0	1	1
1857:	0	2	0	1	1	0	0	0	0
1865:	1	0	0	2	1	3	0	0	0
1873:	0	0	1	3	0	0	4	0	0
1881:	2	0	0	0	0	1	2	0	3
1889:	1	1	3	0	0	1	4	1	1
1897:	2	0	0	1	1	1	0	0	2
1905:	1	4	2	2	0	1	1	0	0
1913:	1	0	1	3	0	1	1	1	0
1921:	0	0	0	1	1	0	1	1	1
1929:	0	0	1	0	1	2	0	0	0
1937:	3	1	1	0	3	1	2	1	1
1945:	0	0	1	0	3	0	1	0	2
1953:	0	0	2	2	0	1	0	0	1
1961:	2	0	2	1	2	3	0	0	3
1969:	0	0	1	0	1	0	1	1	2
1977:	0	1	0	0	2	1	0	0	0
1985:	2	0	2	0	1	1	1	1	1
1993:	1	1	3	0	0	0	1	1	1
2001:	3	2	2	0	0	0	1	1	0
2009:	0	0	0	0	1	0	1	1	0
2017:	0	1	0	0	0	0	1	0	0
2025:	0	0	3	0	3	0	0	0	1
2033:	0	1	2	0	2	1	1	1	1
2041:	0	2	2	1	1	1	0	0	0
2049:	0	0	0	1	1	1	1	1	0
2057:	0	0	1	1	0	1	1	0	0
2065:	1	0	1	0	1	0	0	0	1
2073:	1	0	2	0	2	0	1	0	2
2081:	0	1	0	1	0	0	0	0	2
2089:	1	0	1	1	1	0	0	0	2

2097: 1 1 0 1 3 3 3 6

Sample Title: CP5003S06-07

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2105:	1	6	0	0	2	0	1	1
2113:	1	0	1	0	2	1	1	2
2121:	1	0	0	2	0	1	2	0
2129:	0	1	1	3	0	1	2	0
2137:	0	1	3	2	1	0	0	1
2145:	0	0	1	0	1	1	0	2
2153:	1	2	1	1	0	0	0	0
2161:	0	1	0	0	0	0	2	0
2169:	1	3	2	0	0	0	1	2
2177:	2	0	1	2	1	1	0	2
2185:	1	0	0	0	1	0	1	0
2193:	1	0	0	0	0	0	3	1
2201:	1	3	1	8	2	0	1	0
2209:	2	3	1	2	0	3	3	0
2217:	0	0	0	1	2	1	2	1
2225:	0	0	1	1	2	0	1	0
2233:	0	1	2	0	0	0	2	1
2241:	0	1	1	0	1	0	3	0
2249:	1	0	0	1	1	0	0	0
2257:	1	0	0	0	1	1	0	1
2265:	0	1	1	0	1	1	1	0
2273:	1	1	1	1	3	0	0	2
2281:	1	1	1	0	0	1	0	1
2289:	2	1	1	0	2	3	2	1
2297:	1	0	1	2	2	3	0	0
2305:	0	0	1	3	1	0	0	0
2313:	1	0	1	1	0	1	3	1
2321:	0	0	0	0	0	2	3	3
2329:	0	2	1	2	1	1	1	0
2337:	0	2	1	2	0	3	3	1
2345:	0	1	1	1	1	1	1	0
2353:	1	1	3	0	1	1	1	2
2361:	0	0	0	0	0	0	0	3
2369:	1	1	1	0	3	2	2	1
2377:	0	0	0	1	0	1	0	1
2385:	1	1	1	1	1	1	0	0
2393:	3	0	0	2	1	0	2	1
2401:	2	3	1	1	1	1	1	1
2409:	3	1	1	4	0	0	1	3
2417:	0	0	0	0	1	1	1	0
2425:	1	1	1	0	0	0	2	0
2433:	0	0	0	1	0	0	0	0
2441:	1	0	0	1	0	0	3	2
2449:	0	0	1	0	0	1	1	0
2457:	0	0	0	3	0	0	0	0
2465:	3	0	0	0	0	1	0	1
2473:	0	1	1	0	0	1	0	0
2481:	0	1	1	0	1	0	0	1
2489:	2	2	1	1	0	0	0	0
2497:	0	0	0	0	1	1	0	0
2505:	0	0	0	0	0	0	0	0
2513:	0	1	0	0	1	0	2	0
2521:	1	0	1	0	0	1	1	0

2529: 0 1 0 1 2 0 2 0

Sample Title: CP5003S06-07

Channel	0	1	0	1	2	0	2	0
2537:	0	0	0	0	0	0	0	0
2545:	0	0	0	0	1	0	1	1
2553:	0	1	0	0	1	0	1	0
2561:	0	0	0	0	0	1	1	0
2569:	0	0	0	0	1	1	0	0
2577:	0	0	0	0	1	0	2	0
2585:	0	0	1	0	0	0	1	2
2593:	0	0	0	0	0	0	0	0
2601:	2	1	0	0	1	1	0	0
2609:	0	0	0	0	8	16	22	27
2617:	3	0	0	0	0	3	0	11
2625:	1	0	0	0	0	1	1	2
2633:	0	0	0	1	1	1	0	0
2641:	0	0	2	0	0	0	0	0
2649:	0	0	0	0	1	0	0	1
2657:	0	1	1	0	0	1	1	0
2665:	0	0	0	0	0	0	0	2
2673:	0	0	1	0	0	0	1	1
2681:	0	0	0	0	0	0	1	0
2689:	0	0	0	0	0	0	0	0
2697:	0	0	0	0	0	1	0	0
2705:	0	0	0	0	0	0	0	1
2713:	2	0	0	1	0	0	2	0
2721:	0	0	0	1	0	0	0	0
2729:	0	0	1	0	0	0	0	0
2737:	0	0	0	0	1	0	0	0
2745:	0	0	1	0	0	0	0	2
2753:	0	0	1	0	0	0	1	1
2761:	0	0	0	1	0	0	0	0
2769:	0	0	0	0	0	0	0	0
2777:	1	0	0	1	0	0	0	1
2785:	0	0	1	0	0	0	0	0
2793:	0	0	1	0	0	0	0	0
2801:	0	0	0	1	0	0	0	2
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	0	0	0	0	0	2
2841:	0	0	0	1	0	1	0	1
2849:	0	0	0	0	0	0	0	0
2857:	2	1	0	0	0	0	0	0
2865:	0	0	1	0	0	1	0	1
2873:	0	0	1	0	0	1	0	0
2881:	0	0	0	0	0	0	0	1
2889:	1	1	0	1	0	0	0	0
2897:	0	0	0	0	0	0	0	0
2905:	0	0	0	0	0	0	0	1
2913:	0	1	0	0	0	0	0	0
2921:	0	1	0	1	0	1	1	1
2929:	0	0	0	0	0	0	1	0
2937:	0	0	0	0	0	0	0	0
2945:	1	0	0	0	0	0	0	0
2953:	1	0	1	0	0	0	0	1

2961: 0 0 0 0 0 0 0 0 0

Sample Title: CP5003S06-07

Channel	1	2	3	4	5	6	7	8	9
2969:	0	0	0	0	0	1	0	1	
2977:	1	0	1	0	1	0	0	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	2	0	0	
3009:	0	0	0	1	0	0	0	0	
3017:	0	0	0	0	0	1	0	0	
3025:	0	0	0	0	1	0	0	0	
3033:	0	1	0	0	0	1	0	0	
3041:	0	0	1	0	0	0	0	1	
3049:	0	0	0	0	0	0	0	0	
3057:	0	1	0	1	1	0	0	0	
3065:	0	1	0	0	0	0	0	1	
3073:	0	0	1	0	0	0	0	1	
3081:	0	0	0	0	0	0	1	0	
3089:	0	0	0	0	0	0	0	1	
3097:	0	0	0	0	1	0	0	0	
3105:	0	0	1	0	0	0	0	0	
3113:	0	0	0	0	0	0	0	1	
3121:	0	0	1	1	1	1	0	0	
3129:	0	0	1	0	0	0	0	0	
3137:	1	0	0	0	0	0	0	0	
3145:	0	0	1	0	0	0	0	0	
3153:	0	0	1	0	0	1	0	0	
3161:	0	0	0	0	0	0	1	0	
3169:	0	0	0	0	0	0	0	0	
3177:	0	1	0	0	0	0	0	0	
3185:	0	0	1	0	0	0	0	0	
3193:	0	0	0	0	0	0	0	1	
3201:	0	0	0	1	0	0	1	0	
3209:	0	0	0	0	0	1	0	1	
3217:	1	0	0	0	1	1	0	0	
3225:	0	0	0	0	0	0	1	0	
3233:	0	0	0	1	0	1	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	0	
3265:	0	0	0	0	0	0	0	0	
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	0	1	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	0	0	0	0	1	0	
3337:	0	0	0	0	0	0	0	0	
3345:	1	1	0	0	0	1	0	0	
3353:	0	0	0	0	0	0	0	0	
3361:	0	0	0	1	0	0	0	1	
3369:	0	0	0	0	0	1	0	0	
3377:	0	0	0	0	0	0	1	0	
3385:	0	0	1	0	0	0	0	0	

3393: 0 0 0 0 0 0 0 0 0

Sample Title: CP5003S06-07

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	0	0	0	0	0
3417:	1	0	1	0	0	0	0	0	0
3425:	0	0	0	0	1	0	0	0	0
3433:	1	0	0	0	0	0	1	0	0
3441:	0	0	0	0	1	0	0	0	0
3449:	0	0	0	0	0	0	0	0	0
3457:	0	0	0	1	0	1	0	0	0
3465:	0	0	0	0	0	0	0	0	0
3473:	1	0	0	0	1	0	0	0	0
3481:	0	0	0	0	0	0	0	0	0
3489:	0	0	0	0	1	0	0	0	0
3497:	0	0	0	0	0	1	1	0	0
3505:	0	0	0	0	0	0	0	0	0
3513:	0	0	0	1	0	0	0	0	1
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	0	0	0	0	0
3545:	0	0	0	0	0	0	0	0	0
3553:	0	2	0	0	0	0	0	0	0
3561:	0	0	0	0	0	0	0	0	0
3569:	0	0	0	0	0	0	0	0	1
3577:	0	0	0	0	1	0	0	0	0
3585:	1	0	1	1	0	1	1	0	0
3593:	1	0	2	0	0	0	0	0	1
3601:	0	0	0	0	0	0	0	0	0
3609:	1	0	0	1	0	0	0	0	0
3617:	0	0	1	0	0	0	1	0	0
3625:	0	0	0	0	0	0	0	0	0
3633:	0	1	1	0	1	0	0	0	0
3641:	1	0	0	0	0	0	0	0	0
3649:	0	0	0	0	0	0	0	0	0
3657:	1	1	0	0	0	0	0	0	0
3665:	0	0	1	0	0	0	1	0	0
3673:	0	0	0	0	0	0	1	0	0
3681:	0	0	0	0	0	0	0	0	0
3689:	1	0	0	1	0	0	0	0	0
3697:	0	0	1	0	1	1	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	2	0	0	0	1	0
3729:	0	0	0	0	0	0	1	0	0
3737:	0	1	0	0	0	2	0	0	0
3745:	0	0	0	0	0	0	0	0	0
3753:	0	0	0	0	1	1	0	0	0
3761:	0	0	0	0	0	1	0	0	0
3769:	0	0	1	0	0	0	0	0	0
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:	0	0	0	0	0	0	0	0	0
3809:	1	1	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	1	0	0

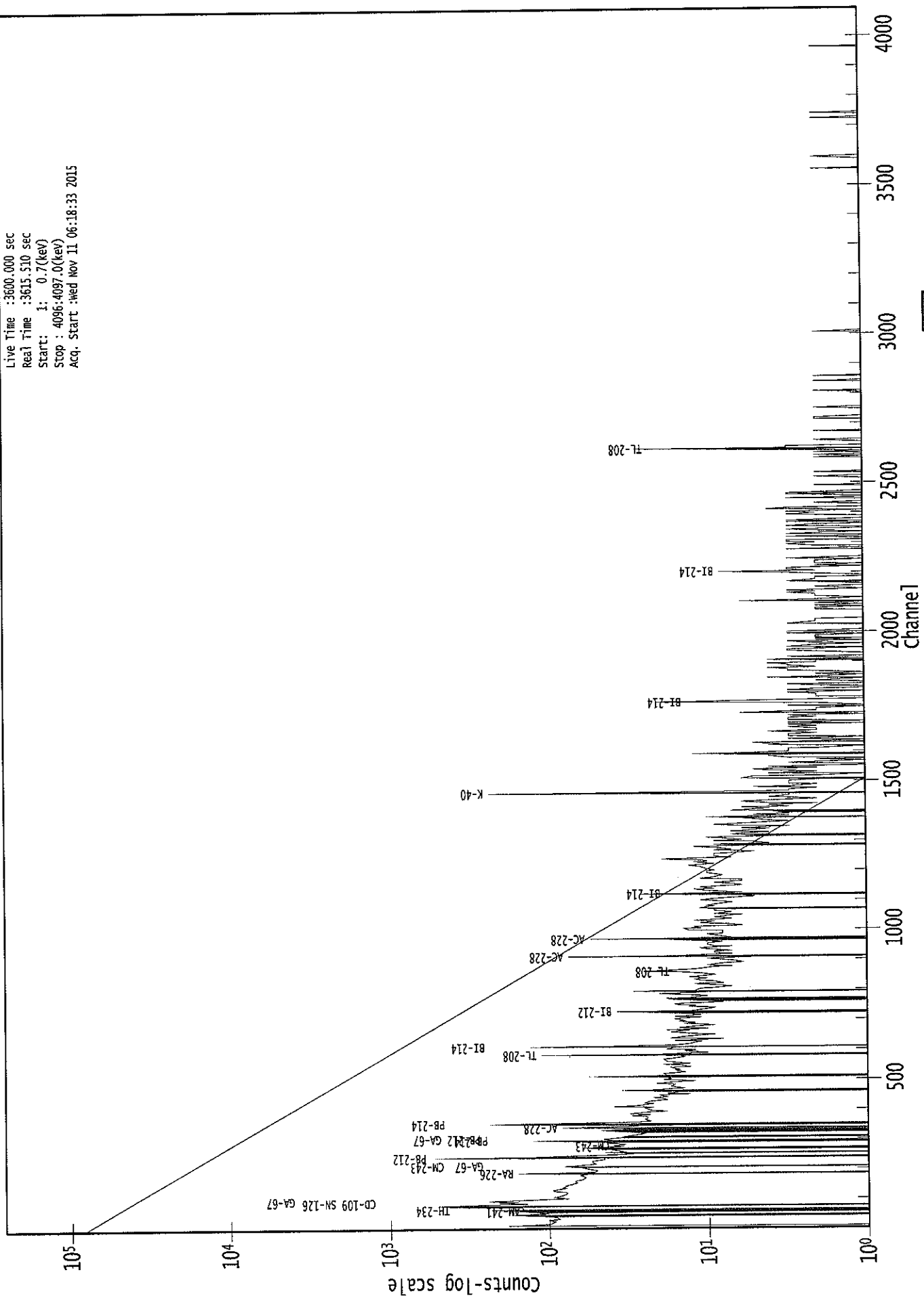
3825: 0 0 0 0 0 0 0 0 0

Sample Title: CP5003S06-07

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	1	0	0	0	0
3849:	0	0	1	0	0	0	0	0
3857:	0	0	0	0	0	0	0	0
3865:	0	0	0	0	0	1	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	1	0	0	0
3897:	0	0	0	1	0	1	0	0
3905:	0	0	0	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	1	1	0	0	0
3937:	0	0	0	0	0	0	0	0
3945:	0	1	1	1	0	0	0	0
3953:	0	0	0	0	0	0	0	0
3961:	0	0	2	1	0	0	0	0
3969:	0	0	0	0	0	0	0	0
3977:	0	1	0	0	0	1	0	0
3985:	0	0	0	0	0	0	0	0
3993:	0	0	0	0	0	1	0	0
4001:	0	0	0	1	0	0	0	0
4009:	0	0	0	0	1	0	0	0
4017:	0	1	0	0	0	0	0	0
4025:	0	0	0	0	0	0	0	0
4033:	0	0	0	1	0	0	1	1
4041:	0	0	0	0	0	0	0	0
4049:	0	0	0	0	0	0	0	0
4057:	0	0	0	0	0	1	0	0
4065:	0	0	0	0	0	0	0	0
4073:	1	0	0	0	0	0	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	0	0	0	0	1

0000029462.CNF

Live Time : 3600.000 sec
Real Time : 3615.510 sec
Start : 1: 0.7(keV)
Stop : 4096:4097.0(keV)
Acq. Start : wed Nov 11 06:18:33 2015



Analysis Report for 1510092-06
CP5003S09-10

C
11/11

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510092-06
Sample Description : CP5003S09-10
Sample Type : SOIL

Sample Size : 5.441E+02 grams
Facility : Countroom

Sample Taken On : 10/9/2015 3:58:09PM
Acquisition Started : 11/11/2015 6:18:39AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE4
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3675.4 seconds

Dead Time : 2.05 %

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 : 29463

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

: 00466

Analysis Report for 1510092-06
CP5003S09-10

PEAK LOCATE REPORT

Peak Locate Performed on : 11/11/2015 7:19:55AM
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	76.25	75.52	0.0000	0.00
2	87.64	86.91	0.0000	0.00
3	93.32	92.60	0.0000	0.00
4	154.38	153.68	0.0000	0.00
5	186.44	185.75	0.0000	0.00
6	209.33	208.65	0.0000	0.00
7	239.40	238.74	0.0000	0.00
8	276.75	276.10	0.0000	0.00
9	295.26	294.62	0.0000	0.00
10	327.98	327.36	0.0000	0.00
11	339.04	338.42	0.0000	0.00
12	352.27	351.66	0.0000	0.00
13	441.15	440.57	0.0000	0.00
14	462.97	462.41	0.0000	0.00
15	504.87	504.32	0.0000	0.00
16	583.20	582.69	0.0000	0.00
17	609.76	609.26	0.0000	0.00
18	728.72	728.29	0.0000	0.00
19	787.63	787.22	0.0000	0.00
20	795.31	794.91	0.0000	0.00
21	806.38	805.98	0.0000	0.00
22	911.55	911.21	0.0000	0.00
23	938.37	938.04	0.0000	0.00
24	970.21	969.90	0.0000	0.00
25	1002.84	1002.55	0.0000	0.00
26	1120.32	1120.10	0.0000	0.00
27	1242.13	1241.98	0.0000	0.00
28	1335.44	1335.34	0.0000	0.00
29	1461.10	1461.07	0.0000	0.00
30	1503.10	1503.10	0.0000	0.00
31	1510.79	1510.79	0.0000	0.00
32	1518.97	1518.97	0.0000	0.00
33	1540.90	1540.93	0.0000	0.00
34	1591.76	1591.82	0.0000	0.00
35	1729.86	1730.00	0.0000	0.00
36	1764.18	1764.35	0.0000	0.00
37	1965.20	1965.50	0.0000	0.00
38	2204.11	2204.57	0.0000	0.00
39	2615.33	2616.10	0.0000	0.00

Analysis Report for 1510092-06
CP5003S09-10

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510092-06
CP5003S09-10

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/11/2015 7:19:55AM

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)
m	1	76.25	59 -	80	75.52	7.85E+02	129.63	1.75E+03	3.77
M	2	87.64	81 -	97	86.91	3.42E+02	123.19	1.71E+03	6.70
m	3	93.32	81 -	97	92.60	1.81E+02	87.91	1.04E+03	2.68
	4	154.38	150 -	158	153.68	7.12E+01	72.68	7.68E+02	3.77
	5	186.44	181 -	190	185.75	1.32E+02	77.04	7.67E+02	2.88
	6	209.33	205 -	211	208.65	4.89E+01	54.63	5.06E+02	2.30
	7	239.40	234 -	245	238.74	5.62E+02	86.81	6.64E+02	2.61
	8	276.75	274 -	278	276.10	3.14E+01	30.20	1.71E+02	2.75
	9	295.26	289 -	303	294.62	1.79E+02	76.62	5.52E+02	3.36
	10	327.98	322 -	333	327.36	6.71E+01	59.46	4.10E+02	2.40
	11	339.04	334 -	343	338.42	7.81E+01	51.13	3.26E+02	3.22
	12	352.27	347 -	356	351.66	2.17E+02	52.83	2.75E+02	2.20
	13	441.15	438 -	443	440.57	3.87E+01	24.72	8.86E+01	3.81
	14	462.97	458 -	466	462.41	3.70E+01	34.19	1.56E+02	2.00
M	15	504.87	502 -	515	504.32	2.48E+01	18.44	9.21E+01	3.33
	16	583.20	575 -	590	582.69	1.67E+02	52.42	2.09E+02	2.88
	17	609.76	602 -	616	609.26	1.45E+02	52.80	2.31E+02	2.74
	18	728.72	724 -	733	728.29	3.34E+01	29.14	9.51E+01	5.54
	19	787.63	784 -	790	787.22	1.68E+01	21.57	7.04E+01	3.38
	20	795.31	791 -	802	794.91	3.40E+01	30.07	9.60E+01	3.91
	21	806.38	802 -	812	805.98	2.12E+01	27.35	8.95E+01	2.72
	22	911.55	905 -	916	911.21	8.30E+01	33.17	9.60E+01	2.52
	23	938.37	934 -	942	938.04	1.95E+01	20.57	5.09E+01	7.01
	24	970.21	964 -	977	969.90	5.34E+01	32.95	9.32E+01	1.60
	25	1002.84	997 -	1008	1002.55	3.02E+01	23.41	5.16E+01	3.06
	26	1120.32	1114 -	1125	1120.10	4.07E+01	27.13	8.85E+01	2.19
	27	1242.13	1232 -	1254	1241.98	5.20E+01	45.33	1.30E+02	8.28
	28	1335.44	1331 -	1340	1335.34	1.42E+01	12.77	1.56E+01	2.76
	29	1461.10	1453 -	1465	1461.07	2.61E+02	34.80	2.10E+01	3.04
	30	1503.10	1499 -	1506	1503.10	1.17E+01	10.77	1.06E+01	1.59
	31	1510.79	1507 -	1515	1510.79	1.90E+01	8.72	0.00E+00	5.30
	32	1518.97	1516 -	1521	1518.97	6.50E+00	6.40	3.00E+00	2.49
	33	1540.90	1535 -	1547	1540.93	1.62E+01	10.87	5.63E+00	6.61
	34	1591.76	1585 -	1597	1591.82	1.48E+01	18.31	3.24E+01	2.86
	35	1729.86	1726 -	1733	1730.00	1.20E+01	6.93	0.00E+00	1.20
	36	1764.18	1760 -	1768	1764.35	2.30E+01	9.59	0.00E+00	4.64
	37	1965.20	1961 -	1967	1965.50	6.00E+00	4.90	0.00E+00	1.16
	38	2204.11	2200 -	2207	2204.57	7.00E+00	5.29	0.00E+00	1.98
	39	2615.33	2611 -	2620	2616.10	4.10E+01	12.81	0.00E+00	2.28

Analysis Report for 1510092-06
CP5003S09-10

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 : 11/11/2015 7:19:55AM

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
m	1	76.25	59 -	80	7.85E+02	129.63	1.75E+03	6.88E+01
M	2	87.64	81 -	97	3.42E+02	123.19	1.71E+03	6.79E+01
m	3	93.32	81 -	97	1.81E+02	87.91	1.04E+03	5.31E+01
	4	154.38	150 -	158	7.12E+01	72.68	7.68E+02	5.81E+01
	5	186.44	181 -	190	1.32E+02	77.04	7.67E+02	6.05E+01
	6	209.33	205 -	211	4.89E+01	54.63	5.06E+02	4.34E+01
	7	239.40	234 -	245	5.62E+02	86.81	6.64E+02	5.98E+01
	8	276.75	274 -	278	3.14E+01	30.20	1.71E+02	2.30E+01
	9	295.26	289 -	303	1.79E+02	76.62	5.52E+02	5.90E+01
	10	327.98	322 -	333	6.71E+01	59.46	4.10E+02	4.70E+01
	11	339.04	334 -	343	7.81E+01	51.13	3.26E+02	3.94E+01
	12	352.27	347 -	356	2.17E+02	52.83	2.75E+02	3.61E+01
	13	441.15	438 -	443	3.87E+01	24.72	8.86E+01	1.76E+01
	14	462.97	458 -	466	3.70E+01	34.19	1.56E+02	2.63E+01
M	15	504.87	502 -	515	2.48E+01	18.44	9.21E+01	1.58E+01
	16	583.20	575 -	590	1.67E+02	52.42	2.09E+02	3.75E+01
	17	609.76	602 -	616	1.45E+02	52.80	2.31E+02	3.86E+01
	18	728.72	724 -	733	3.34E+01	29.14	9.51E+01	2.20E+01
	19	787.63	784 -	790	1.68E+01	21.57	7.04E+01	1.64E+01
	20	795.31	791 -	802	3.40E+01	30.07	9.60E+01	2.28E+01
	21	806.38	802 -	812	2.12E+01	27.35	8.95E+01	2.12E+01
	22	911.55	905 -	916	8.30E+01	33.17	9.60E+01	2.28E+01
	23	938.37	934 -	942	1.95E+01	20.57	5.09E+01	1.53E+01
	24	970.21	964 -	977	5.34E+01	32.95	9.32E+01	2.43E+01
	25	1002.84	997 -	1008	3.02E+01	23.41	5.16E+01	1.70E+01
	26	1120.32	1114 -	1125	4.07E+01	27.13	8.85E+01	2.55E+01
	27	1242.13	1232 -	1254	5.20E+01	45.33	1.30E+02	3.53E+01
	28	1335.44	1331 -	1340	1.42E+01	12.77	1.56E+01	8.47E+00
	29	1461.10	1453 -	1465	2.61E+02	34.80	2.10E+01	1.07E+01
	30	1503.10	1499 -	1506	1.17E+01	10.77	1.06E+01	6.84E+00
	31	1510.79	1507 -	1515	1.90E+01	8.72	0.00E+00	0.00E+00

Analysis Report for 1510092-06
CP5003S09-10

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
32	1518.97	1516 -	1521	6.50E+00	6.40	3.00E+00	3.18E+00
33	1540.90	1535 -	1547	1.62E+01	10.87	5.63E+00	6.01E+00
34	1591.76	1585 -	1597	1.48E+01	18.31	3.24E+01	1.37E+01
35	1729.86	1726 -	1733	1.20E+01	6.93	0.00E+00	0.00E+00
36	1764.18	1760 -	1768	2.30E+01	9.59	0.00E+00	0.00E+00
37	1965.20	1961 -	1967	6.00E+00	4.90	0.00E+00	0.00E+00
38	2204.11	2200 -	2207	7.00E+00	5.29	0.00E+00	0.00E+00
39	2615.33	2611 -	2620	4.10E+01	12.81	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 : 11/11/2015 7:19:55AM

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	76.25	59 -	80	75.52	7.85E+02	129.63	1.75E+03	.....
M	2	87.64	81 -	97	86.91	3.42E+02	123.19	1.71E+03	SN-126 CD-109 LU-176
m	3	93.32	81 -	97	92.60	1.81E+02	87.91	1.04E+03	GA-67
	4	154.38	150 -	158	153.68	7.12E+01	72.68	7.68E+02	.....
	5	186.44	181 -	190	185.75	1.32E+02	77.04	7.67E+02	RA-226
	6	209.33	205 -	211	208.65	4.89E+01	54.63	5.06E+02	GA-67 CM-243
	7	239.40	234 -	245	238.74	5.62E+02	86.81	6.64E+02	PB-212
	8	276.75	274 -	278	276.10	3.14E+01	30.20	1.71E+02	CM-243 NP-239
	9	295.26	289 -	303	294.62	1.79E+02	76.62	5.52E+02	PB-214
	10	327.98	322 -	333	327.36	6.71E+01	59.46	4.10E+02	LA-140
	11	339.04	334 -	343	338.42	7.81E+01	51.13	3.26E+02	AC-228
	12	352.27	347 -	356	351.66	2.17E+02	52.83	2.75E+02	PB-214
	13	441.15	438 -	443	440.57	3.87E+01	24.72	8.86E+01	.....
	14	462.97	458 -	466	462.41	3.70E+01	34.19	1.56E+02	SB-125

: 00471

Analysis Report for 1510092-06
 CP5003S09-10

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
M	15	504.87	502 -	515	504.32	2.48E+01	18.44	9.21E+01	.....
	16	583.20	575 -	590	582.69	1.67E+02	52.42	2.09E+02	TL-208
	17	609.76	602 -	616	609.26	1.45E+02	52.80	2.31E+02	BI-214
	18	728.72	724 -	733	728.29	3.34E+01	29.14	9.51E+01	.....
	19	787.63	784 -	790	787.22	1.68E+01	21.57	7.04E+01	.....
	20	795.31	791 -	802	794.91	3.40E+01	30.07	9.60E+01	CS-134
	21	806.38	802 -	812	805.98	2.12E+01	27.35	8.95E+01	.....
	22	911.55	905 -	916	911.21	8.30E+01	33.17	9.60E+01	AC-228 LU-172
	23	938.37	934 -	942	938.04	1.95E+01	20.57	5.09E+01	.....
	24	970.21	964 -	977	969.90	5.34E+01	32.95	9.32E+01	.....
	25	1002.84	997 -	1008	1002.55	3.02E+01	23.41	5.16E+01	.....
	26	1120.32	1114 -	1125	1120.10	4.07E+01	27.13	8.85E+01	BI-214 SC-46 TA-182
	27	1242.13	1232 -	1254	1241.98	5.20E+01	45.33	1.30E+02	.....
	28	1335.44	1331 -	1340	1335.34	1.42E+01	12.77	1.56E+01	.....
	29	1461.10	1453 -	1465	1461.07	2.61E+02	34.80	2.10E+01	K-40
	30	1503.10	1499 -	1506	1503.10	1.17E+01	10.77	1.06E+01	.....
	31	1510.79	1507 -	1515	1510.79	1.90E+01	8.72	0.00E+00	.....
	32	1518.97	1516 -	1521	1518.97	6.50E+00	6.40	3.00E+00	.....
	33	1540.90	1535 -	1547	1540.93	1.62E+01	10.87	5.63E+00	.....
	34	1591.76	1585 -	1597	1591.82	1.48E+01	18.31	3.24E+01	.....
	35	1729.86	1726 -	1733	1730.00	1.20E+01	6.93	0.00E+00	.....
	36	1764.18	1760 -	1768	1764.35	2.30E+01	9.59	0.00E+00	BI-214
	37	1965.20	1961 -	1967	1965.50	6.00E+00	4.90	0.00E+00	.....
	38	2204.11	2200 -	2207	2204.57	7.00E+00	5.29	0.00E+00	BI-214
	39	2615.33	2611 -	2620	2616.10	4.10E+01	12.81	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 2.00sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/11/2015 7:19:55AM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
m	1	76.25	7.85E+02	129.63	2.12E-02	1.69E-03
M	2	87.64	3.42E+02	123.19	1.97E-02	1.63E-03

Analysis Report for 1510092-06
CP5003S09-10

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
m	3	93.32	1.81E+02	87.91	1.90E-02	1.62E-03
	4	154.38	7.12E+01	72.68	1.35E-02	1.30E-03
	5	186.44	1.32E+02	77.04	1.16E-02	1.15E-03
	6	209.33	4.89E+01	54.63	1.05E-02	1.08E-03
	7	239.40	5.62E+02	86.81	9.39E-03	9.85E-04
	8	276.75	3.14E+01	30.20	8.26E-03	8.69E-04
	9	295.26	1.79E+02	76.62	7.78E-03	8.43E-04
	10	327.98	6.71E+01	59.46	7.06E-03	8.07E-04
	11	339.04	7.81E+01	51.13	6.85E-03	7.95E-04
	12	352.27	2.17E+02	52.83	6.60E-03	7.80E-04
	13	441.15	3.87E+01	24.72	5.32E-03	6.64E-04
	14	462.97	3.70E+01	34.19	5.08E-03	6.32E-04
M	15	504.87	2.48E+01	18.44	4.66E-03	5.70E-04
	16	583.20	1.67E+02	52.42	4.05E-03	4.55E-04
	17	609.76	1.45E+02	52.80	3.87E-03	4.16E-04
	18	728.72	3.34E+01	29.14	3.25E-03	3.03E-04
	19	787.63	1.68E+01	21.57	3.01E-03	2.70E-04
	20	795.31	3.40E+01	30.07	2.98E-03	2.65E-04
	21	806.38	2.12E+01	27.35	2.94E-03	2.59E-04
	22	911.55	8.30E+01	33.17	2.61E-03	2.06E-04
	23	938.37	1.95E+01	20.57	2.54E-03	2.03E-04
	24	970.21	5.34E+01	32.95	2.46E-03	1.99E-04
	25	1002.84	3.02E+01	23.41	2.38E-03	1.94E-04
	26	1120.32	4.07E+01	27.13	2.14E-03	1.79E-04
	27	1242.13	5.20E+01	45.33	1.95E-03	1.91E-04
	28	1335.44	1.42E+01	12.77	1.82E-03	2.15E-04
	29	1461.10	2.61E+02	34.80	1.68E-03	1.89E-04
	30	1503.10	1.17E+01	10.77	1.64E-03	1.80E-04
	31	1510.79	1.90E+01	8.72	1.64E-03	1.79E-04
	32	1518.97	6.50E+00	6.40	1.63E-03	1.77E-04
	33	1540.90	1.62E+01	10.87	1.61E-03	1.72E-04
	34	1591.76	1.48E+01	18.31	1.56E-03	1.62E-04
	35	1729.86	1.20E+01	6.93	1.46E-03	1.33E-04
	36	1764.18	2.30E+01	9.59	1.43E-03	1.26E-04
	37	1965.20	6.00E+00	4.90	1.32E-03	1.11E-04
	38	2204.11	7.00E+00	5.29	1.21E-03	1.11E-04
	39	2615.33	4.10E+01	12.81	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 : 11/11/2015 7:19:55AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

: 00473

Analysis Report for 1510092-06
CP5003S09-10

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
m	1	76.25	7.85E+02	129.63			7.85E+02	1.30E+02
M	2	87.64	3.42E+02	123.19			3.42E+02	1.23E+02
m	3	93.32	1.81E+02	87.91	5.44E+01	8.36E+00	1.27E+02	8.83E+01
	4	154.38	7.12E+01	72.68			7.12E+01	7.27E+01
	5	186.44	1.32E+02	77.04	1.43E+01	7.33E+00	1.17E+02	7.74E+01
	6	209.33	4.89E+01	54.63			4.89E+01	5.46E+01
	7	239.40	5.62E+02	86.81	1.09E+01	6.39E+00	5.51E+02	8.70E+01
	8	276.75	3.14E+01	30.20			3.14E+01	3.02E+01
	9	295.26	1.79E+02	76.62			1.79E+02	7.66E+01
	10	327.98	6.71E+01	59.46			6.71E+01	5.95E+01
	11	339.04	7.81E+01	51.13			7.81E+01	5.11E+01
	12	352.27	2.17E+02	52.83	8.07E+00	5.01E+00	2.09E+02	5.31E+01
	13	441.15	3.87E+01	24.72			3.87E+01	2.47E+01
	14	462.97	3.70E+01	34.19			3.70E+01	3.42E+01
M	15	504.87	2.48E+01	18.44			2.48E+01	1.84E+01
	16	583.20	1.67E+02	52.42			1.67E+02	5.24E+01
	17	609.76	1.45E+02	52.80	5.16E+00	1.63E+00	1.40E+02	5.28E+01
	18	728.72	3.34E+01	29.14			3.34E+01	2.91E+01
	19	787.63	1.68E+01	21.57			1.68E+01	2.16E+01
	20	795.31	3.40E+01	30.07			3.40E+01	3.01E+01
	21	806.38	2.12E+01	27.35			2.12E+01	2.73E+01
	22	911.55	8.30E+01	33.17	1.01E+00	2.85E+00	8.20E+01	3.33E+01
	23	938.37	1.95E+01	20.57			1.95E+01	2.06E+01
	24	970.21	5.34E+01	32.95			5.34E+01	3.30E+01
	25	1002.84	3.02E+01	23.41			3.02E+01	2.34E+01
	26	1120.32	4.07E+01	27.13			4.07E+01	2.71E+01
	27	1242.13	5.20E+01	45.33			5.20E+01	4.53E+01
	28	1335.44	1.42E+01	12.77			1.42E+01	1.28E+01
	29	1461.10	2.61E+02	34.80			2.61E+02	3.48E+01
	30	1503.10	1.17E+01	10.77			1.17E+01	1.08E+01
	31	1510.79	1.90E+01	8.72			1.90E+01	8.72E+00
	32	1518.97	6.50E+00	6.40			6.50E+00	6.40E+00
	33	1540.90	1.62E+01	10.87			1.62E+01	1.09E+01
	34	1591.76	1.48E+01	18.31			1.48E+01	1.83E+01
	35	1729.86	1.20E+01	6.93			1.20E+01	6.93E+00
	36	1764.18	2.30E+01	9.59	1.11E-01	9.77E-01	2.29E+01	9.64E+00
	37	1965.20	6.00E+00	4.90			6.00E+00	4.90E+00
	38	2204.11	7.00E+00	5.29			7.00E+00	5.29E+00
	39	2615.33	4.10E+01	12.81			4.10E+01	1.28E+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 1510092-06
CP5003S09-10

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/11/2015 7:19:55AM

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.
m	1	76.25	7.85E+02	129.63			7.85E+02	1.30E+02
M	2	87.64	3.42E+02	123.19			3.42E+02	1.23E+02
m	3	93.32	1.81E+02	87.91	5.44E+01	8.36E+00	1.27E+02	8.83E+01
	4	154.38	7.12E+01	72.68			7.12E+01	7.27E+01
	5	186.44	1.32E+02	77.04	1.43E+01	7.33E+00	1.17E+02	7.74E+01
	6	209.33	4.89E+01	54.63			4.89E+01	5.46E+01
	7	239.40	5.62E+02	86.81	1.09E+01	6.39E+00	5.51E+02	8.70E+01
	8	276.75	3.14E+01	30.20			3.14E+01	3.02E+01
	9	295.26	1.79E+02	76.62			1.79E+02	7.66E+01
	10	327.98	6.71E+01	59.46			6.71E+01	5.95E+01
	11	339.04	7.81E+01	51.13			7.81E+01	5.11E+01
	12	352.27	2.17E+02	52.83	8.07E+00	5.01E+00	2.09E+02	5.31E+01
	13	441.15	3.87E+01	24.72			3.87E+01	2.47E+01
	14	462.97	3.70E+01	34.19			3.70E+01	3.42E+01
M	15	504.87	2.48E+01	18.44			2.48E+01	1.84E+01
	16	583.20	1.67E+02	52.42			1.67E+02	5.24E+01
	17	609.76	1.45E+02	52.80	5.16E+00	1.63E+00	1.40E+02	5.28E+01
	18	728.72	3.34E+01	29.14			3.34E+01	2.91E+01
	19	787.63	1.68E+01	21.57			1.68E+01	2.16E+01
	20	795.31	3.40E+01	30.07			3.40E+01	3.01E+01
	21	806.38	2.12E+01	27.35			2.12E+01	2.73E+01
	22	911.55	8.30E+01	33.17	1.01E+00	2.85E+00	8.20E+01	3.33E+01
	23	938.37	1.95E+01	20.57			1.95E+01	2.06E+01
	24	970.21	5.34E+01	32.95			5.34E+01	3.30E+01
	25	1002.84	3.02E+01	23.41			3.02E+01	2.34E+01
	26	1120.32	4.07E+01	27.13			4.07E+01	2.71E+01
	27	1242.13	5.20E+01	45.33			5.20E+01	4.53E+01
	28	1335.44	1.42E+01	12.77			1.42E+01	1.28E+01
	29	1461.10	2.61E+02	34.80			2.61E+02	3.48E+01
	30	1503.10	1.17E+01	10.77			1.17E+01	1.08E+01
	31	1510.79	1.90E+01	8.72			1.90E+01	8.72E+00
	32	1518.97	6.50E+00	6.40			6.50E+00	6.40E+00
	33	1540.90	1.62E+01	10.87			1.62E+01	1.09E+01
	34	1591.76	1.48E+01	18.31			1.48E+01	1.83E+01
	35	1729.86	1.20E+01	6.93			1.20E+01	6.93E+00
	36	1764.18	2.30E+01	9.59	1.11E-01	9.77E-01	2.29E+01	9.64E+00
	37	1965.20	6.00E+00	4.90			6.00E+00	4.90E+00
	38	2204.11	7.00E+00	5.29			7.00E+00	5.29E+00
	39	2615.33	4.10E+01	12.81			4.10E+01	1.28E+01

Analysis Report for 1510092-06
CP5003S09-10

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	0.987	1460.81	*	10.67	2.00E+01	3.51E+00
GA-67	0.398	93.31	*	35.70	2.66E+02	1.18E+03
		208.95	*	2.24	2.93E+03	1.29E+04
		300.22		16.00		
CD-109	0.976	88.03	*	3.72	6.77E+00	2.54E+00
SN-126	0.999	87.57	*	37.00	6.49E-01	2.40E-01
TL-208	0.851	583.14	*	30.22	1.88E+00	6.28E-01
		860.37		4.48		
		2614.66	*	35.85	1.47E+00	4.85E-01
PB-212	0.811	238.63	*	44.60	1.82E+00	3.44E-01
		300.09		3.41		
BI-214	0.979	609.31	*	46.30	1.08E+00	4.23E-01
		1120.29	*	15.10	1.74E+00	1.17E+00
		1764.49	*	15.80	1.39E+00	5.99E-01
		2204.22	*	4.98	1.61E+00	1.22E+00
PB-214	0.987	295.21	*	19.19	1.65E+00	7.30E-01
		351.92	*	37.19	1.17E+00	3.29E-01
RA-226	0.992	186.21	*	3.28	4.25E+00	8.28E+00
AC-228	0.551	338.32	*	11.40	1.38E+00	9.18E-01
		911.07	*	27.70	1.57E+00	6.47E-01
		969.11		16.60		
CM-243	0.309	209.75	*	3.29	1.95E+00	2.19E+00
		228.14		10.60		
		277.60	*	14.00	3.76E-01	3.63E-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 1510092-06
CP5003S09-10

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 7:19:55AM
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	1	76.25	2.17973E-01	8.26	
	4	154.38	1.97708E-02	51.06	
	10	327.98	1.86295E-02	44.33	Sum
	13	441.15	1.07480E-02	31.94	
	14	462.97	1.02742E-02	46.21	Sum
M	15	504.87	6.88455E-03	37.20	Sum
	18	728.72	9.29012E-03	43.56	
	19	787.63	4.66346E-03	64.24	
	20	795.31	9.44444E-03	44.22	Sum
	21	806.38	5.89646E-03	64.42	
	23	938.37	5.42593E-03	52.65	
	24	970.21	1.48278E-02	30.87	
	25	1002.84	8.38294E-03	38.78	
	27	1242.13	1.44326E-02	43.62	
	28	1335.44	3.94571E-03	44.94	
	30	1503.10	3.25163E-03	46.00	
	31	1510.79	5.27778E-03	22.94	
	32	1518.97	1.80556E-03	49.25	
	33	1540.90	4.49561E-03	33.60	
	34	1591.76	4.10842E-03	61.90	
	35	1729.86	3.33333E-03	28.87	Sum
	37	1965.20	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 1510092-06
 CP5003S09-10

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.98	1460.81 *	10.67	2.00E+01	3.51E+00
GA-67	0.39	93.31 *	35.70	2.66E+02	1.18E+03
		208.95 *	2.24	2.93E+03	1.29E+04
		300.22	16.00		
CD-109	0.97	88.03 *	3.72	6.77E+00	2.54E+00
SN-126	0.99	87.57 *	37.00	6.49E-01	2.40E-01
TL-208	0.85	583.14 *	30.22	1.88E+00	6.28E-01
		860.37	4.48		
		2614.66 *	35.85	1.47E+00	4.85E-01
PB-212	0.81	238.63 *	44.60	1.82E+00	3.44E-01
		300.09	3.41		
BI-214	0.97	609.31 *	46.30	1.08E+00	4.23E-01
		1120.29 *	15.10	1.74E+00	1.17E+00
		1764.49 *	15.80	1.39E+00	5.99E-01
		2204.22 *	4.98	1.61E+00	1.22E+00
PB-214	0.98	295.21 *	19.19	1.65E+00	7.30E-01
		351.92 *	37.19	1.17E+00	3.29E-01
RA-226	0.99	186.21 *	3.28	4.25E+00	8.28E+00
AC-228	0.55	338.32 *	11.40	1.38E+00	9.18E-01
		911.07 *	27.70	1.57E+00	6.47E-01
		969.11	16.60		
CM-243	0.30	209.75 *	3.29	1.95E+00	2.19E+00
		228.14	10.60		
		277.60 *	14.00	3.76E-01	3.63E-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	0.987	2.00E+01	3.51E+00	

Analysis Report for 1510092-06
CP5003S09-10

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	GA-67	0.398	2.72E+02	1.17E+03
?	CD-109	0.976	6.77E+00	2.54E+00
?	SN-126	0.999	6.49E-01	2.40E-01
	TL-208	0.851	1.62E+00	3.84E-01
	PB-212	0.811	1.82E+00	3.44E-01
	BI-214	0.979	1.25E+00	3.20E-01
	PB-214	0.987	1.25E+00	3.00E-01
	RA-226	0.992	4.25E+00	8.28E+00
	AC-228	0.551	1.50E+00	5.29E-01
	CM-243	0.309	4.13E-01	3.59E-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 1510092-06
CP5003S09-10

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 7:19:55AM
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	1	76.25	2.17973E-01	8.26	
	4	154.38	1.97708E-02	51.06	
	10	327.98	1.86295E-02	44.33	Sum
	13	441.15	1.07480E-02	31.94	
	14	462.97	1.02742E-02	46.21	Sum
M	15	504.87	6.88455E-03	37.20	Sum
	18	728.72	9.29012E-03	43.56	
	19	787.63	4.66346E-03	64.24	
	20	795.31	9.44444E-03	44.22	Sum
	21	806.38	5.89646E-03	64.42	
	23	938.37	5.42593E-03	52.65	
	24	970.21	1.48278E-02	30.87	
	25	1002.84	8.38294E-03	38.78	
	27	1242.13	1.44326E-02	43.62	
	28	1335.44	3.94571E-03	44.94	
	30	1503.10	3.25163E-03	46.00	
	31	1510.79	5.27778E-03	22.94	
	32	1518.97	1.80556E-03	49.25	
	33	1540.90	4.49561E-03	33.60	
	34	1591.76	4.10842E-03	61.90	
	35	1729.86	3.33333E-03	28.87	Sum
	37	1965.20	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

: 00480

Analysis Report for 1510092-06
CP5003S09-10

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)	
+	BE-7	477.59	10.42	-4.51E-01	1.93E+00	1.93E+00
+	NA-22	1274.54	99.94	2.97E-02	2.13E-01	2.13E-01
+	NA-24	1368.53	99.99	7.95E+13	7.37E+14	9.34E+14
		2754.09	99.86	2.05E+14		7.37E+14
+	AL-26	1808.65	99.76	9.00E-02	1.78E-01	1.78E-01
+	K-40	1460.81	* 10.67	2.00E+01	1.85E+00	1.85E+00
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	-1.92E-01	9.36E-02	9.36E-02
		78.34	96.00	3.03E-01		1.23E-01
+	SC-46	889.25	99.98	2.72E-02	2.32E-01	2.32E-01
		1120.51	99.99	3.28E-01		3.63E-01
+	V-48	983.52	99.98	1.72E-01	6.61E-01	6.61E-01
		1312.10	97.50	8.45E-02		9.13E-01
+	CR-51	320.08	9.83	1.76E-01	2.76E+00	2.76E+00
+	MN-54	834.83	99.97	3.28E-02	2.02E-01	2.02E-01
+	CO-56	846.75	99.96	-8.10E-02	2.18E-01	2.18E-01
		1037.75	14.03	-5.70E-01		1.76E+00
		1238.25	67.00	2.33E-01		5.40E-01
		1771.40	15.51	-1.34E+00		1.17E+00
		2598.48	16.90	-1.68E-01		9.39E-01
+	CO-57	122.06	85.51	-5.06E-02	1.17E-01	1.17E-01
		136.48	10.60	-2.62E-01		1.01E+00
+	CO-58	810.76	99.40	6.97E-03	2.33E-01	2.33E-01
+	FE-59	1099.22	56.50	5.45E-02	5.61E-01	5.61E-01
		1291.56	43.20	1.79E-01		7.71E-01
+	CO-60	1173.22	100.00	-5.26E-02	1.91E-01	2.06E-01
		1332.49	100.00	1.42E-02		1.91E-01
+	ZN-65	1115.52	50.75	-5.03E-02	4.45E-01	4.45E-01
+	GA-67	93.31	* 35.70	2.66E+02	5.21E+02	5.21E+02
		208.95	* 2.24	2.93E+03		5.37E+03
		300.22	16.00	-5.59E+02		8.67E+02
+	SE-75	121.11	16.70	-3.87E-01	2.00E-01	6.53E-01
		136.00	59.20	-8.26E-02		2.00E-01
		264.65	59.80	-1.62E-01		2.30E-01
		279.53	25.20	-1.08E-01		5.50E-01
		400.65	11.40	1.06E+00		1.45E+00
+	RB-82	776.52	13.00	7.31E-01	3.32E+00	3.32E+00
+	RB-83	520.41	46.00	1.14E-02	3.79E-01	3.79E-01
		529.64	30.30	-4.43E-02		5.68E-01
		552.65	16.40	8.47E-02		1.12E+00
+	KR-85	513.99	0.43	3.36E-01	4.38E+01	4.38E+01
+	SR-85	513.99	99.27	2.07E-03	2.70E-01	2.70E-01
+	Y-88	898.02	93.40	-2.98E-02	2.11E-01	2.11E-01
		1836.01	99.38	2.25E-02		2.41E-01
+	NB-93M	16.57	9.43	1.17E+00	5.02E-01	5.02E-01
+	NB-94	702.63	100.00	-1.14E-02	1.61E-01	1.69E-01
		871.10	100.00	2.31E-02		1.61E-01

Analysis Report for 1510092-06
CP5003S09-10

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	NB-95	765.79	99.81	1.06E-01	3.50E-01	3.50E-01
+	NB-95M	235.69	25.00	9.13E+00	3.79E+02	3.79E+02
+	ZR-95	724.18	43.70	6.94E-02	4.26E-01	6.17E-01
		756.72	55.30	-1.08E-01		4.26E-01
+	MO-99	181.06	6.20	-8.18E+02	4.53E+03	6.51E+03
		739.58	12.80	9.74E+02		4.53E+03
		778.00	4.50	-1.50E+03		1.38E+04
+	RU-103	497.08	89.00	-6.50E-02	2.74E-01	2.74E-01
+	RU-106	621.84	9.80	1.44E-01	1.63E+00	1.63E+00
+	AG-108M	433.93	89.90	-5.44E-02	1.51E-01	1.51E-01
		614.37	90.40	-8.83E-04		2.17E-01
		722.95	90.50	7.99E-03		1.99E-01
+	CD-109	88.03	* 3.72	6.77E+00	5.05E+00	5.05E+00
+	AG-110M	657.75	93.14	-6.02E-02	1.82E-01	1.82E-01
		677.61	10.53	4.30E-01		1.59E+00
		706.67	16.46	1.55E-01		1.07E+00
		763.93	21.98	-4.59E-02		8.85E-01
		884.67	71.63	-5.46E-03		2.69E-01
		1384.27	23.94	-4.12E-01		8.40E-01
+	CD-113M	263.70	0.02	-3.00E+02	4.91E+02	4.91E+02
+	SN-113	255.12	1.93	-1.54E+00	2.31E-01	7.00E+00
		391.69	64.90	-1.14E-01		2.31E-01
+	TE123M	159.00	84.10	9.07E-03	1.52E-01	1.52E-01
+	SB-124	602.71	97.87	2.27E-02	2.29E-01	2.29E-01
		645.85	7.26	-1.70E+00		2.86E+00
		722.78	11.10	-3.18E-01		2.17E+00
		1691.02	49.00	-5.52E-02		2.97E-01
+	I-125	35.49	6.49	2.37E-02	1.22E+00	1.22E+00
+	SB-125	176.33	6.89	-2.46E-01	4.88E-01	1.58E+00
		427.89	29.33	1.98E-01		4.88E-01
		463.38	10.35	3.22E-01		1.41E+00
		600.56	17.80	2.20E-01		8.67E-01
		635.90	11.32	-2.58E-01		1.31E+00
+	SB-126	414.70	83.30	-1.35E-01	9.06E-01	9.06E-01
		666.33	99.60	5.80E-01		1.02E+00
		695.00	99.60	9.43E-02		1.10E+00
		720.50	53.80	-2.80E-01		1.78E+00
+	SN-126	87.57	* 37.00	6.49E-01	4.83E-01	4.83E-01
+	SB-127	473.00	25.00	1.98E+01	1.60E+02	1.88E+02
		685.20	35.70	-9.67E+00		1.60E+02
		783.80	14.70	-1.78E+02		4.14E+02
+	I-129	29.78	57.00	4.11E-03	9.35E-02	9.35E-02
		33.60	13.20	1.50E-01		4.12E-01
		39.58	7.52	-3.29E-01		7.53E-01
+	I-131	284.30	6.05	6.35E-01	2.55E+00	3.10E+01
		364.48	81.20	3.00E-01		2.55E+00
		636.97	7.26	1.93E+00		3.43E+01
		722.89	1.80	-2.24E+01		1.53E+02

Analysis Report for 1510092-06
CP5003S09-10

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	TE-132	49.72	13.10	1.47E+02	1.32E+02	5.22E+02
		228.16	88.00	-9.19E+00		1.32E+02
+	BA-133	81.00	33.00	-2.81E-01	3.05E-01	3.32E-01
		302.84	17.80	5.11E-02		6.96E-01
		356.01	60.00	1.08E-02		3.05E-01
+	I-133	529.87	86.30	-2.56E+09	3.28E+10	3.28E+10
+	XE-133	81.00	38.00	-1.81E+01	2.14E+01	2.14E+01
+	CS-134	563.23	8.38	4.20E-01	1.92E-01	1.91E+00
		569.32	15.43	1.35E-01		9.62E-01
		604.70	97.60	8.71E-03		1.92E-01
		795.84	85.40	1.11E-01		2.30E-01
		801.93	8.73	4.67E-01		2.15E+00
+	CS-135	268.24	16.00	4.02E-01	7.70E-01	7.70E-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	2.74E+00	7.83E-01	7.83E+00
		163.89	4.61	6.84E+00		1.32E+01
		176.55	13.56	-6.82E-01		4.37E+00
		273.65	12.66	2.41E+00		5.60E+00
		340.57	48.50	2.03E+00		1.70E+00
		818.50	99.70	-5.43E-01		7.83E-01
		1048.07	79.60	2.96E-01		1.28E+00
		1235.34	19.70	-1.96E+00		7.10E+00
+	CS-137	661.65	85.12	2.40E-02	1.93E-01	1.93E-01
+	LA-138	788.74	34.00	-4.03E-03	2.53E-01	5.51E-01
		1435.80	66.00	-3.59E-02		2.53E-01
+	CE-139	165.85	80.35	3.31E-02	1.59E-01	1.59E-01
+	BA-140	162.64	6.70	3.15E+00	3.29E+00	9.28E+00
		304.84	4.50	4.42E+00		1.64E+01
		423.70	3.20	2.62E+00		2.45E+01
		437.55	2.00	-4.41E+00		4.11E+01
		537.32	25.00	4.96E-01		3.29E+00
+	LA-140	328.77	20.50	3.44E+00	1.25E+00	4.00E+00
		487.03	45.50	7.35E-02		1.70E+00
		815.85	23.50	4.10E-01		3.80E+00
		1596.49	95.49	1.99E-01		1.25E+00
+	CE-141	145.44	48.40	1.38E-01	4.24E-01	4.24E-01
+	CE-143	57.36	11.80	2.28E+05	5.03E+06	8.67E+06
		293.26	42.00	7.64E+06		5.03E+06
		664.55	5.20	1.75E+07		4.44E+07
+	CE-144	133.54	10.80	1.65E-01	9.91E-01	9.91E-01
+	PM-144	476.78	42.00	-1.19E-01	1.57E-01	3.32E-01
		618.01	98.60	1.28E-02		1.57E-01
		696.49	99.49	6.84E-03		1.82E-01
+	PM-145	36.85	21.70	-1.38E-01	1.38E-01	2.52E-01
		37.36	39.70	-5.95E-02		1.38E-01
		42.30	15.10	1.08E-01		3.97E-01
		72.40	2.31	6.79E+00		4.82E+00

Analysis Report for 1510092-06
CP5003S09-10

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	PM-146	453.90	39.94	1.25E-01	3.55E-01	3.55E-01
		735.90	14.01	-8.07E-02		1.08E+00
		747.13	13.10	3.20E-01		1.32E+00
+	ND-147	91.11	28.90	5.99E+00	2.97E+00	2.97E+00
		531.02	13.10	4.93E-02		7.90E+00
+	PM-149	285.90	3.10	3.92E+04	9.98E+04	9.98E+04
+	EU-152	121.78	20.50	-1.95E-01	4.50E-01	4.50E-01
		244.69	5.40	1.45E-01		2.63E+00
		344.27	19.13	3.51E-02		6.41E-01
		778.89	9.20	-1.99E-01		1.83E+00
		964.01	10.40	-2.22E-02		1.83E+00
		1085.78	7.22	1.04E+00		2.76E+00
		1112.02	9.60	-8.78E-01		1.91E+00
		1407.95	14.94	0.00E+00		1.11E+00
+	GD-153	97.43	31.30	-2.01E-02	3.17E-01	3.17E-01
		103.18	22.20	5.97E-02		4.27E-01
+	EU-154	123.07	40.50	-6.95E-02	2.33E-01	2.33E-01
		723.30	19.70	3.70E-02		9.21E-01
		873.19	11.50	-3.52E-01		1.36E+00
		996.32	10.30	-4.31E-01		1.63E+00
		1004.76	17.90	3.23E-01		1.10E+00
		1274.45	35.50	8.23E-02		5.89E-01
+	EU-155	86.50	30.90	1.22E-01	3.36E-01	3.36E-01
		105.30	20.70	1.04E-01		4.24E-01
+	EU-156	811.77	10.40	3.74E-01	6.68E+00	6.68E+00
		1153.47	7.20	4.21E+00		1.38E+01
		1230.71	8.90	5.83E-01		1.22E+01
+	HO-166M	184.41	72.60	1.88E-01	1.69E-01	1.69E-01
		280.45	29.60	-8.43E-02		3.79E-01
		410.94	11.10	-1.48E-01		1.11E+00
		711.69	54.10	-6.44E-02		2.78E-01
+	TM-171	66.72	0.14	4.38E+00	6.57E+01	6.57E+01
+	HF-172	81.75	4.52	-6.52E+00	9.08E-01	2.35E+00
		125.81	11.30	7.67E-01		9.08E-01
+	LU-172	181.53	20.60	8.83E-01	8.66E+00	1.63E+01
		810.06	16.63	8.83E-01		2.95E+01
		912.12	15.25	7.75E+01		5.50E+01
		1093.66	62.50	-3.53E+00		8.66E+00
+	LU-173	100.72	5.24	6.58E-02	6.18E-01	1.69E+00
		272.11	21.20	2.76E-01		6.18E-01
+	HF-175	343.40	84.00	1.10E-02	2.17E-01	2.17E-01
+	LU-176	88.34	13.30	7.91E-01	1.31E-01	7.99E-01
		201.83	86.00	-6.22E-03		1.31E-01
		306.78	94.00	2.87E-02		1.31E-01
+	TA-182	67.75	41.20	-5.35E-01	2.61E-01	2.61E-01
		1121.30	34.90	6.01E-01		9.36E-01
		1189.05	16.23	1.17E-01		1.82E+00
		1221.41	26.98	5.17E-01		1.16E+00
		1231.02	11.44	1.25E-01		2.61E+00

Analysis Report for 1510092-06
CP5003S09-10

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	IR-192	308.46	29.68	6.07E-02	3.74E-01	5.66E-01
		468.07	48.10	6.45E-02		3.74E-01
+	HG-203	279.19	77.30	-4.75E-02	2.41E-01	2.41E-01
+	BI-207	569.67	97.72	2.08E-02	1.48E-01	1.48E-01
		1063.62	74.90	4.46E-02		2.51E-01
+	TL-208	583.14	* 30.22	1.88E+00	9.72E-02	8.77E-01
		860.37	4.48	2.28E+00		3.94E+00
		2614.66	* 35.85	1.47E+00		9.72E-02
+	BI-210M	262.00	45.00	9.40E-02	2.56E-01	2.56E-01
		300.00	23.00	3.33E-01		6.34E-01
+	PB-210	46.50	4.25	-3.43E-01	1.47E+00	1.47E+00
+	PB-211	404.84	2.90	-1.49E+00	4.38E+00	4.38E+00
		831.96	2.90	-2.25E-01		6.31E+00
+	BI-212	727.17	11.80	1.30E+00	1.63E+00	1.63E+00
		1620.62	2.75	8.69E-01		5.43E+00
+	PB-212	238.63	* 44.60	1.82E+00	4.06E-01	4.06E-01
		300.09	3.41	2.25E+00		4.28E+00
+	BI-214	609.31	* 46.30	1.08E+00	2.83E-01	6.18E-01
		1120.29	* 15.10	1.74E+00		2.29E+00
		1764.49	* 15.80	1.39E+00		2.83E-01
		2204.22	* 4.98	1.61E+00		6.21E-01
+	PB-214	295.21	* 19.19	1.65E+00	4.27E-01	1.12E+00
		351.92	* 37.19	1.17E+00		4.27E-01
+	RN-219	401.80	6.50	1.35E+00	2.09E+00	2.09E+00
+	RA-223	323.87	3.88	-1.65E-01	3.28E+00	3.28E+00
+	RA-224	240.98	3.95	2.17E+01	5.07E+00	5.07E+00
+	RA-225	40.00	31.00	-3.69E-01	8.45E-01	8.45E-01
+	RA-226	186.21	* 3.28	4.25E+00	4.53E+00	4.53E+00
+	TH-227	50.10	8.40	2.23E-01	7.92E-01	7.92E-01
		236.00	11.50	3.79E-02		1.57E+00
		256.20	6.30	3.93E-01		1.78E+00
+	AC-228	338.32	* 11.40	1.38E+00	9.29E-01	1.44E+00
		911.07	* 27.70	1.57E+00		9.29E-01
		969.11	16.60	1.47E+00		1.51E+00
+	TH-230	48.44	16.90	5.08E-02	3.81E-01	3.81E-01
		62.85	4.60	1.38E+00		1.84E+00
		67.67	0.37	-4.88E+01		2.38E+01
+	PA-231	283.67	1.60	-1.39E-01	5.35E+00	7.05E+00
		302.67	2.30	3.93E-01		5.35E+00
+	TH-231	25.64	14.70	-1.84E-01	3.57E-01	3.57E-01
		84.21	6.40	-6.47E+00		1.50E+00
+	PA-233	311.98	38.60	1.48E-01	7.42E-01	7.42E-01
+	PA-234	131.20	20.40	2.09E-02	4.88E-01	4.88E-01
		733.99	8.80	-1.94E-01		1.67E+00
		946.00	12.00	2.65E-01		1.52E+00
+	PA-234M	1001.03	0.92	9.85E+00	2.18E+01	2.18E+01
+	TH-234	63.29	3.80	7.27E-01	2.24E+00	2.24E+00

Analysis Report for 1510092-06
CP5003S09-10

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	U-235	143.76	10.50	3.71E-01	9.67E-01	9.67E-01
		163.35	4.70	1.20E+00		2.31E+00
		205.31	4.70	-6.94E-02		2.54E+00
+	NP-237	86.50	12.60	2.96E-01	8.14E-01	8.14E-01
+	NP-239	106.10	22.70	1.39E+03	5.67E+03	5.67E+03
		228.18	10.70	3.82E+03		1.58E+04
		277.60	14.10	-3.88E+03		1.20E+04
+	AM-241	59.54	35.90	-4.55E-03	2.22E-01	2.22E-01
+	AM-243	74.67	66.00	7.79E-01	1.83E-01	1.83E-01
+	CM-243	209.75	* 3.29	1.95E+00	5.84E-01	3.57E+00
		228.14		-7.41E-02		1.07E+00
		277.60	* 14.00	3.76E-01		5.84E-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	1.93E+00	1.93E+00	-4.51E-01	9.11E-01
	NA-22	1274.54	99.94	2.13E-01	2.13E-01	2.97E-02	9.62E-02
	NA-24	1368.53	99.99	9.34E+14	7.37E+14	7.95E+13	4.13E+14
		2754.09	99.86	7.37E+14		2.05E+14	2.76E+14
	AL-26	1808.65	99.76	1.78E-01	1.78E-01	9.00E-02	7.59E-02
+	K-40	1460.81	* 10.67	1.85E+00	1.85E+00	2.00E+01	8.20E-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	9.36E-02	9.36E-02	-1.92E-01	4.59E-02
		78.34	96.00	1.23E-01		3.03E-01	6.06E-02
	SC-46	889.25	99.98	2.32E-01	2.32E-01	2.72E-02	1.07E-01

Analysis Report for 1510092-06
CP5003S09-10

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
SC-46	1120.51	99.99	3.63E-01	2.32E-01	3.28E-01	1.70E-01
V-48	983.52	99.98	6.61E-01	6.61E-01	1.72E-01	2.99E-01
	1312.10	97.50	9.13E-01		8.45E-02	4.14E-01
CR-51	320.08	9.83	2.76E+00	2.76E+00	1.76E-01	1.32E+00
MN-54	834.83	99.97	2.02E-01	2.02E-01	3.28E-02	9.41E-02
CO-56	846.75	99.96	2.18E-01	2.18E-01	-8.10E-02	1.00E-01
	1037.75	14.03	1.76E+00		-5.70E-01	8.05E-01
	1238.25	67.00	5.40E-01		2.33E-01	2.51E-01
	1771.40	15.51	1.17E+00		-1.34E+00	4.72E-01
	2598.48	16.90	9.39E-01		-1.68E-01	3.33E-01
CO-57	122.06	85.51	1.17E-01	1.17E-01	-5.06E-02	5.70E-02
	136.48	10.60	1.01E+00		-2.62E-01	4.90E-01
CO-58	810.76	99.40	2.33E-01	2.33E-01	6.97E-03	1.07E-01
FE-59	1099.22	56.50	5.61E-01	5.61E-01	5.45E-02	2.56E-01
	1291.56	43.20	7.71E-01		1.79E-01	3.47E-01
CO-60	1173.22	100.00	2.06E-01	1.91E-01	-5.26E-02	9.36E-02
	1332.49	100.00	1.91E-01		1.42E-02	8.52E-02
ZN-65	1115.52	50.75	4.45E-01	4.45E-01	-5.03E-02	2.04E-01
+ GA-67	93.31	* 35.70	5.21E+02	5.21E+02	2.66E+02	2.58E+02
	208.95	* 2.24	5.37E+03		2.93E+03	2.60E+03
	300.22	16.00	8.67E+02		-5.59E+02	4.18E+02
SE-75	121.11	16.70	6.53E-01	2.00E-01	-3.87E-01	3.18E-01
	136.00	59.20	2.00E-01		-8.26E-02	9.72E-02
	264.65	59.80	2.30E-01		-1.62E-01	1.11E-01
	279.53	25.20	5.50E-01		-1.08E-01	2.64E-01
	400.65	11.40	1.45E+00		1.06E+00	6.89E-01
RB-82	776.52	13.00	3.32E+00	3.32E+00	7.31E-01	1.54E+00
RB-83	520.41	46.00	3.79E-01	3.79E-01	1.14E-02	1.78E-01
	529.64	30.30	5.68E-01		-4.43E-02	2.66E-01
	552.65	16.40	1.12E+00		8.47E-02	5.27E-01
KR-85	513.99	0.43	4.38E+01	4.38E+01	3.36E-01	2.10E+01
SR-85	513.99	99.27	2.70E-01	2.70E-01	2.07E-03	1.29E-01
Y-88	898.02	93.40	2.11E-01	2.11E-01	-2.98E-02	9.63E-02
	1836.01	99.38	2.41E-01		2.25E-02	1.04E-01
NB-93M	16.57	9.43	5.02E-01	5.02E-01	1.17E+00	2.44E-01
NB-94	702.63	100.00	1.69E-01	1.61E-01	-1.14E-02	7.92E-02
	871.10	100.00	1.61E-01		2.31E-02	7.35E-02
NB-95	765.79	99.81	3.50E-01	3.50E-01	1.06E-01	1.63E-01
NB-95M	235.69	25.00	3.79E+02	3.79E+02	9.13E+00	1.85E+02
ZR-95	724.18	43.70	6.17E-01	4.26E-01	6.94E-02	2.90E-01
	756.72	55.30	4.26E-01		-1.08E-01	1.98E-01
MO-99	181.06	6.20	6.51E+03	4.53E+03	-8.18E+02	3.16E+03
	739.58	12.80	4.53E+03		9.74E+02	2.10E+03
	778.00	4.50	1.38E+04		-1.50E+03	6.39E+03
RU-103	497.08	89.00	2.74E-01	2.74E-01	-6.50E-02	1.29E-01
RU-106	621.84	9.80	1.63E+00	1.63E+00	1.44E-01	7.62E-01
AG-108M	433.93	89.90	1.51E-01	1.51E-01	-5.44E-02	7.18E-02
	614.37	90.40	2.17E-01		-8.83E-04	1.03E-01
	722.95	90.50	1.99E-01		7.99E-03	9.33E-02
+ CD-109	88.03	* 3.72	5.05E+00	5.05E+00	6.77E+00	2.50E+00
AG-110M	657.75	93.14	1.82E-01	1.82E-01	-6.02E-02	8.46E-02
	677.61	10.53	1.59E+00		4.30E-01	7.41E-01
	706.67	16.46	1.07E+00		1.55E-01	4.98E-01

Analysis Report for 1510092-06
CP5003S09-10

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
AG-110M	763.93	21.98	8.85E-01	1.82E-01	-4.59E-02	4.12E-01
	884.67	71.63	2.69E-01		-5.46E-03	1.24E-01
	1384.27	23.94	8.40E-01		-4.12E-01	3.72E-01
CD-113M	263.70	0.02	4.91E+02	4.91E+02	-3.00E+02	2.36E+02
SN-113	255.12	1.93	7.00E+00	2.31E-01	-1.54E+00	3.37E+00
	391.69	64.90	2.31E-01		-1.14E-01	1.10E-01
TE123M	159.00	84.10	1.52E-01	1.52E-01	9.07E-03	7.39E-02
SB-124	602.71	97.87	2.29E-01	2.29E-01	2.27E-02	1.08E-01
	645.85	7.26	2.86E+00		-1.70E+00	1.33E+00
	722.78	11.10	2.17E+00		-3.18E-01	1.01E+00
	1691.02	49.00	2.97E-01		-5.52E-02	1.11E-01
I-125	35.49	6.49	1.22E+00	1.22E+00	2.37E-02	5.96E-01
SB-125	176.33	6.89	1.58E+00	4.88E-01	-2.46E-01	7.66E-01
	427.89	29.33	4.88E-01		1.98E-01	2.32E-01
	463.38	10.35	1.41E+00		3.22E-01	6.67E-01
	600.56	17.80	8.67E-01		2.20E-01	4.06E-01
	635.90	11.32	1.31E+00		-2.58E-01	6.10E-01
SB-126	414.70	83.30	9.06E-01	9.06E-01	-1.35E-01	4.29E-01
	666.33	99.60	1.02E+00		5.80E-01	4.77E-01
	695.00	99.60	1.10E+00		9.43E-02	5.15E-01
	720.50	53.80	1.78E+00		-2.80E-01	8.27E-01
+ SN-126	87.57	* 37.00	4.83E-01	4.83E-01	6.49E-01	2.39E-01
SB-127	473.00	25.00	1.88E+02	1.60E+02	1.98E+01	8.85E+01
	685.20	35.70	1.60E+02		-9.67E+00	7.46E+01
	783.80	14.70	4.14E+02		-1.78E+02	1.92E+02
I-129	29.78	57.00	9.35E-02	9.35E-02	4.11E-03	4.56E-02
	33.60	13.20	4.12E-01		1.50E-01	2.01E-01
	39.58	7.52	7.53E-01		-3.29E-01	3.68E-01
I-131	284.30	6.05	3.10E+01	2.55E+00	6.35E-01	1.49E+01
	364.48	81.20	2.55E+00		3.00E-01	1.21E+00
	636.97	7.26	3.43E+01		1.93E+00	1.60E+01
	722.89	1.80	1.53E+02		-2.24E+01	7.14E+01
TE-132	49.72	13.10	5.22E+02	1.32E+02	1.47E+02	2.55E+02
	228.16	88.00	1.32E+02		-9.19E+00	6.39E+01
BA-133	81.00	33.00	3.32E-01	3.05E-01	-2.81E-01	1.63E-01
	302.84	17.80	6.96E-01		5.11E-02	3.34E-01
	356.01	60.00	3.05E-01		1.08E-02	1.48E-01
I-133	529.87	86.30	3.28E+10	3.28E+10	-2.56E+09	1.54E+10
XE-133	81.00	38.00	2.14E+01	2.14E+01	-1.81E+01	1.05E+01
CS-134	563.23	8.38	1.91E+00	1.92E-01	4.20E-01	8.99E-01
	569.32	15.43	9.62E-01		1.35E-01	4.51E-01
	604.70	97.60	1.92E-01		8.71E-03	9.10E-02
	795.84	85.40	2.30E-01		1.11E-01	1.07E-01
	801.93	8.73	2.15E+00		4.67E-01	1.00E+00
CS-135	268.24	16.00	7.70E-01	7.70E-01	4.02E-01	3.71E-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	7.83E+00	7.83E-01	2.74E+00	3.81E+00
	163.89	4.61	1.32E+01		6.84E+00	6.40E+00
	176.55	13.56	4.37E+00		-6.82E-01	2.12E+00
	273.65	12.66	5.60E+00		2.41E+00	2.70E+00
	340.57	48.50	1.70E+00		2.03E+00	8.17E-01

Analysis Report for 1510092-06
CP5003S09-10

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)		
CS-136	818.50	99.70	7.83E-01	7.83E-01	-5.43E-01	3.56E-01		
	1048.07	79.60	1.28E+00		2.96E-01	5.82E-01		
	1235.34	19.70	7.10E+00		-1.96E+00	3.28E+00		
CS-137	661.65	85.12	1.93E-01	1.93E-01	2.40E-02	9.04E-02		
	788.74	34.00	5.51E-01		2.53E-01	-4.03E-03	2.57E-01	
LA-138	1435.80	66.00	2.53E-01	1.59E-01	-3.59E-02	1.10E-01		
	165.85	80.35	1.59E-01		1.59E-01	3.31E-02	7.75E-02	
BA-140	162.64	6.70	9.28E+00	3.29E+00	3.15E+00	4.51E+00		
	304.84	4.50	1.64E+01		4.42E+00	7.88E+00		
	423.70	3.20	2.45E+01		2.62E+00	1.16E+01		
	437.55	2.00	4.11E+01		-4.41E+00	1.95E+01		
	537.32	25.00	3.29E+00		4.96E-01	1.54E+00		
LA-140	328.77	20.50	4.00E+00	1.25E+00	3.44E+00	1.92E+00		
	487.03	45.50	1.70E+00		7.35E-02	8.02E-01		
	815.85	23.50	3.80E+00		4.10E-01	1.74E+00		
	1596.49	95.49	1.25E+00		1.99E-01	5.50E-01		
CE-141	145.44	48.40	4.24E-01	4.24E-01	1.38E-01	2.06E-01		
CE-143	57.36	11.80	8.67E+06	5.03E+06	2.28E+05	4.25E+06		
	293.26	42.00	5.03E+06		7.64E+06	2.44E+06		
	664.55	5.20	4.44E+07		1.75E+07	2.08E+07		
CE-144	133.54	10.80	9.91E-01	9.91E-01	1.65E-01	4.83E-01		
PM-144	476.78	42.00	3.32E-01	1.57E-01	-1.19E-01	1.56E-01		
	618.01	98.60	1.57E-01		1.28E-02	7.31E-02		
	696.49	99.49	1.82E-01		6.84E-03	8.52E-02		
PM-145	36.85	21.70	2.52E-01	1.38E-01	-1.38E-01	1.23E-01		
	37.36	39.70	1.38E-01		-5.95E-02	6.75E-02		
	42.30	15.10	3.97E-01		1.08E-01	1.94E-01		
	72.40	2.31	4.82E+00		6.79E+00	2.37E+00		
PM-146	453.90	39.94	3.55E-01	3.55E-01	1.25E-01	1.68E-01		
	735.90	14.01	1.08E+00		-8.07E-02	4.99E-01		
	747.13	13.10	1.32E+00		3.20E-01	6.16E-01		
ND-147	91.11	28.90	2.97E+00	2.97E+00	5.99E+00	1.46E+00		
	531.02	13.10	7.90E+00		4.93E-02	3.70E+00		
PM-149	285.90	3.10	9.98E+04	9.98E+04	3.92E+04	4.78E+04		
EU-152	121.78	20.50	4.50E-01	4.50E-01	-1.95E-01	2.19E-01		
	244.69	5.40	2.63E+00		1.45E-01	1.28E+00		
	344.27	19.13	6.41E-01		3.51E-02	3.06E-01		
	778.89	9.20	1.83E+00		-1.99E-01	8.47E-01		
	964.01	10.40	1.83E+00		-2.22E-02	8.41E-01		
	1085.78	7.22	2.76E+00		1.04E+00	1.26E+00		
	1112.02	9.60	1.91E+00		-8.78E-01	8.66E-01		
	1407.95	14.94	1.11E+00		0.00E+00	4.80E-01		
	GD-153	97.43	31.30		3.17E-01	3.17E-01	-2.01E-02	1.55E-01
		103.18	22.20		4.27E-01		5.97E-02	2.08E-01
EU-154	123.07	40.50	2.33E-01	2.33E-01	-6.95E-02	1.13E-01		
	723.30	19.70	9.21E-01		3.70E-02	4.31E-01		
	873.19	11.50	1.36E+00		-3.52E-01	6.20E-01		
	996.32	10.30	1.63E+00		-4.31E-01	7.41E-01		
	1004.76	17.90	1.10E+00		3.23E-01	5.04E-01		
EU-155	1274.45	35.50	5.89E-01	3.36E-01	8.23E-02	2.66E-01		
	86.50	30.90	3.36E-01		1.22E-01	1.65E-01		
EU-156	105.30	20.70	4.24E-01	6.68E+00	1.04E-01	2.07E-01		
	811.77	10.40	6.68E+00		3.74E-01	3.07E+00		

Analysis Report for 1510092-06
CP5003S09-10

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
EU-156	1153.47	7.20	1.38E+01	6.68E+00	4.21E+00	6.35E+00
	1230.71	8.90	1.22E+01		5.83E-01	5.63E+00
HO-166M	184.41	72.60	1.69E-01	1.69E-01	1.88E-01	8.24E-02
	280.45	29.60	3.79E-01		-8.43E-02	1.82E-01
	410.94	11.10	1.11E+00		-1.48E-01	5.27E-01
	711.69	54.10	2.78E-01		-6.44E-02	1.29E-01
TM-171	66.72	0.14	6.57E+01	6.57E+01	4.38E+00	3.22E+01
HF-172	81.75	4.52	2.35E+00	9.08E-01	-6.52E+00	1.15E+00
	125.81	11.30	9.08E-01		7.67E-01	4.43E-01
LU-172	181.53	20.60	1.63E+01	8.66E+00	8.83E-01	7.92E+00
	810.06	16.63	2.95E+01		8.83E-01	1.36E+01
	912.12	15.25	5.50E+01		7.75E+01	2.61E+01
	1093.66	62.50	8.66E+00		-3.53E+00	3.93E+00
LU-173	100.72	5.24	1.69E+00	6.18E-01	6.58E-02	8.22E-01
	272.11	21.20	6.18E-01		2.76E-01	2.98E-01
HF-175	343.40	84.00	2.17E-01	2.17E-01	1.10E-02	1.04E-01
LU-176	88.34	13.30	7.99E-01	1.31E-01	7.91E-01	3.92E-01
	201.83	86.00	1.31E-01		-6.22E-03	6.34E-02
	306.78	94.00	1.31E-01		2.87E-02	6.28E-02
TA-182	67.75	41.20	2.61E-01	2.61E-01	-5.35E-01	1.28E-01
	1121.30	34.90	9.36E-01		6.01E-01	4.38E-01
	1189.05	16.23	1.82E+00		1.17E-01	8.40E-01
	1221.41	26.98	1.16E+00		5.17E-01	5.38E-01
	1231.02	11.44	2.61E+00		1.25E-01	1.21E+00
IR-192	308.46	29.68	5.66E-01	3.74E-01	6.07E-02	2.71E-01
	468.07	48.10	3.74E-01		6.45E-02	1.77E-01
HG-203	279.19	77.30	2.41E-01	2.41E-01	-4.75E-02	1.16E-01
BI-207	569.67	97.72	1.48E-01	1.48E-01	2.08E-02	6.93E-02
	1063.62	74.90	2.51E-01		4.46E-02	1.14E-01
+ TL-208	583.14	*	30.22	9.72E-02	1.88E+00	4.23E-01
	860.37		4.48		2.28E+00	1.82E+00
	2614.66	*	35.85		1.47E+00	0.00E+00
BI-210M	262.00		45.00	2.56E-01	9.40E-02	1.23E-01
	300.00		23.00		3.33E-01	3.07E-01
PB-210	46.50	4.25	1.47E+00	1.47E+00	-3.43E-01	7.20E-01
PB-211	404.84	2.90	4.38E+00	4.38E+00	-1.49E+00	2.08E+00
	831.96	2.90	6.31E+00		-2.25E-01	2.93E+00
BI-212	727.17	11.80	1.63E+00	1.63E+00	1.30E+00	7.66E-01
	1620.62	2.75	5.43E+00		8.69E-01	2.27E+00
+ PB-212	238.63	*	44.60	4.06E-01	1.82E+00	1.99E-01
	300.09		3.41		2.25E+00	2.07E+00
+ BI-214	609.31	*	46.30	2.83E-01	1.08E+00	2.99E-01
	1120.29	*	15.10		1.74E+00	1.09E+00
	1764.49	*	15.80		1.39E+00	5.92E-02
	2204.22	*	4.98		1.61E+00	0.00E+00
+ PB-214	295.21	*	19.19	4.27E-01	1.65E+00	5.45E-01
	351.92	*	37.19		1.17E+00	2.06E-01
RN-219	401.80	6.50	2.09E+00	2.09E+00	1.35E+00	9.96E-01
RA-223	323.87	3.88	3.28E+00	3.28E+00	-1.65E-01	1.57E+00
RA-224	240.98	3.95	5.07E+00	5.07E+00	2.17E+01	2.49E+00
RA-225	40.00	31.00	8.45E-01	8.45E-01	-3.69E-01	4.12E-01
+ RA-226	186.21	*	3.28	4.53E+00	4.25E+00	2.22E+00
TH-227	50.10	8.40	7.92E-01	7.92E-01	2.23E-01	3.87E-01

Analysis Report for 1510092-06
CP5003S09-10

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
TH-227	236.00	11.50	1.57E+00	7.92E-01	3.79E-02	7.68E-01
	256.20	6.30	1.78E+00		3.93E-01	8.58E-01
+ AC-228	338.32 *	11.40	1.44E+00	9.29E-01	1.38E+00	6.98E-01
	911.07 *	27.70	9.29E-01		1.57E+00	4.39E-01
	969.11	16.60	1.51E+00		1.47E+00	7.07E-01
TH-230	48.44	16.90	3.81E-01	3.81E-01	5.08E-02	1.86E-01
	62.85	4.60	1.84E+00		1.38E+00	9.04E-01
	67.67	0.37	2.38E+01		-4.88E+01	1.17E+01
PA-231	283.67	1.60	7.05E+00	5.35E+00	-1.39E-01	3.38E+00
	302.67	2.30	5.35E+00		3.93E-01	2.57E+00
TH-231	25.64	14.70	3.57E-01	3.57E-01	-1.84E-01	1.74E-01
	84.21	6.40	1.50E+00		-6.47E+00	7.33E-01
PA-233	311.98	38.60	7.42E-01	7.42E-01	1.48E-01	3.56E-01
PA-234	131.20	20.40	4.88E-01	4.88E-01	2.09E-02	2.38E-01
	733.99	8.80	1.67E+00		-1.94E-01	7.67E-01
	946.00	12.00	1.52E+00		2.65E-01	6.97E-01
PA-234M	1001.03	0.92	2.18E+01	2.18E+01	9.85E+00	1.00E+01
TH-234	63.29	3.80	2.24E+00	2.24E+00	7.27E-01	1.10E+00
U-235	143.76	10.50	9.67E-01	9.67E-01	3.71E-01	4.71E-01
	163.35	4.70	2.31E+00		1.20E+00	1.12E+00
	205.31	4.70	2.54E+00		-6.94E-02	1.23E+00
NP-237	86.50	12.60	8.14E-01	8.14E-01	2.96E-01	3.99E-01
NP-239	106.10	22.70	5.67E+03	5.67E+03	1.39E+03	2.76E+03
	228.18	10.70	1.58E+04		3.82E+03	7.63E+03
	277.60	14.10	1.20E+04		-3.88E+03	5.78E+03
AM-241	59.54	35.90	2.22E-01	2.22E-01	-4.55E-03	1.09E-01
AM-243	74.67	66.00	1.83E-01	1.83E-01	7.79E-01	9.02E-02
+ CM-243	209.75 *	3.29	3.57E+00	5.84E-01	1.95E+00	1.73E+00
	228.14	10.60	1.07E+00		-7.41E-02	5.15E-01
	277.60 *	14.00	5.84E-01		3.76E-01	2.76E-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

: 00491

Analysis Report for 1510092-06
CP5003S09-10

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: CP5003S09-10

Elapsed Live time: 3600
 Elapsed Real Time: 3675

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	23	110
17:	105	90	81	66	73	66	68	54
25:	75	64	53	56	66	65	69	58
33:	63	59	63	66	58	63	54	60
41:	59	62	82	58	83	86	77	63
49:	56	58	75	89	87	68	60	94
57:	82	99	74	89	97	139	111	108
65:	102	95	99	106	92	103	106	99
73:	150	220	249	252	255	151	70	73
81:	81	83	116	95	109	119	119	106
89:	115	103	114	132	125	103	66	62
97:	53	71	56	58	53	56	57	73
105:	53	70	56	59	59	55	47	55
113:	59	63	57	57	51	51	52	41
121:	49	64	65	53	70	62	52	70
129:	71	56	43	63	54	55	58	50
137:	55	46	57	43	50	64	55	54
145:	56	55	44	55	44	43	43	63
153:	59	62	54	51	43	37	47	48
161:	48	54	52	46	53	47	54	40
169:	45	48	51	46	47	48	39	33
177:	39	43	44	41	44	37	41	60
185:	76	81	59	36	44	37	33	41
193:	27	43	37	40	30	43	37	42
201:	32	40	43	37	37	36	39	60
209:	51	47	32	39	31	37	36	33
217:	37	36	34	30	28	37	32	33
225:	29	37	31	29	31	27	27	40
233:	27	26	28	39	116	212	170	96
241:	68	43	45	27	24	33	21	31
249:	27	27	18	23	28	19	29	17
257:	33	24	20	29	28	22	16	23
265:	30	17	26	24	33	36	28	30
273:	23	18	31	23	32	13	17	15
281:	28	16	22	21	23	22	21	16
289:	12	29	19	18	37	56	66	59
297:	29	22	20	29	19	20	20	24
305:	19	23	19	30	13	23	21	19
313:	18	17	28	16	18	18	16	16
321:	18	14	23	17	20	23	37	35
329:	25	25	21	15	17	19	14	19
337:	37	39	42	27	15	19	10	20
345:	17	11	17	14	14	36	82	102
353:	41	21	17	10	17	18	14	21
361:	9	15	14	13	15	22	14	16

369: 9 18 13 13 8 17 10 15

Sample Title: CP5003S09-10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	14	7	16	15	14	18	13	16
385:	13	13	18	19	9	12	18	13
393:	8	9	12	19	19	14	16	19
401:	13	16	13	11	17	7	11	11
409:	22	14	7	15	8	13	10	11
417:	15	10	13	12	6	18	10	14
425:	13	21	13	14	13	13	18	9
433:	18	8	14	15	10	9	19	16
441:	15	19	5	7	11	16	12	3
449:	14	16	9	9	15	17	12	15
457:	8	11	12	10	6	22	24	13
465:	11	6	10	12	10	12	12	10
473:	8	11	9	9	7	15	9	12
481:	11	13	13	8	6	7	8	8
489:	11	14	9	9	8	6	12	13
497:	9	9	8	9	17	7	9	20
505:	9	5	9	8	23	38	40	21
513:	7	12	8	8	10	9	8	9
521:	7	10	10	8	9	6	10	7
529:	9	10	9	3	11	8	6	10
537:	6	9	14	12	5	10	10	7
545:	5	10	6	8	8	11	12	4
553:	10	6	9	10	13	5	10	8
561:	12	11	15	7	8	9	11	7
569:	11	8	6	6	10	5	6	5
577:	10	11	12	7	16	47	56	41
585:	16	10	12	5	8	9	6	3
593:	5	9	3	9	9	10	6	9
601:	9	8	6	9	9	12	7	41
609:	60	52	19	13	6	8	5	6
617:	8	7	6	13	5	7	8	6
625:	9	9	8	7	7	11	4	6
633:	7	5	13	5	7	6	8	8
641:	8	5	7	6	5	6	7	9
649:	4	7	10	13	8	6	6	8
657:	7	10	6	8	6	4	8	11
665:	13	7	9	9	6	5	5	5
673:	3	3	6	8	11	8	8	8
681:	5	8	6	4	11	3	6	15
689:	7	3	12	6	5	14	6	10
697:	13	7	4	6	12	6	6	7
705:	10	11	6	7	6	2	12	3
713:	1	9	6	7	5	2	4	8
721:	7	6	10	5	7	13	14	12
729:	10	5	8	6	1	5	4	7
737:	6	4	7	6	7	7	4	5
745:	6	6	10	7	6	12	6	6
753:	2	7	5	10	8	9	4	5
761:	7	6	7	8	5	8	8	10
769:	9	7	7	5	8	8	8	10
777:	6	8	4	5	2	3	9	4
785:	6	13	10	9	8	2	6	9
793:	11	8	10	4	7	7	6	7

801: 4 3 5 8 10 11 5 4

Sample Title: CP5003S09-10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	5	5	7	3	6	4	4	5
817:	4	2	5	5	2	2	7	6
825:	6	8	4	10	3	3	5	4
833:	2	8	9	13	7	9	5	10
841:	4	4	4	4	6	6	6	3
849:	9	1	10	3	5	1	3	6
857:	3	0	9	8	6	9	3	5
865:	3	4	3	6	4	1	7	3
873:	5	2	8	3	3	5	6	5
881:	1	5	6	7	9	1	6	6
889:	2	6	9	2	5	3	2	6
897:	0	7	3	7	5	3	3	6
905:	2	3	3	8	6	19	31	36
913:	13	4	4	2	6	6	8	5
921:	2	9	5	5	1	3	3	6
929:	8	5	5	5	2	6	7	1
937:	6	5	8	4	7	1	3	2
945:	8	7	4	5	11	2	5	7
953:	3	1	2	4	5	5	5	6
961:	3	3	5	4	6	2	7	9
969:	26	14	6	3	8	9	2	2
977:	2	3	4	4	0	2	4	6
985:	6	3	1	2	5	1	11	3
993:	1	6	2	4	2	7	3	4
1001:	5	11	4	8	3	3	5	1
1009:	2	5	4	1	6	3	3	3
1017:	4	6	7	5	2	5	4	3
1025:	3	2	5	4	4	2	5	2
1033:	7	2	4	6	4	5	3	4
1041:	2	9	3	8	5	5	2	5
1049:	3	2	3	2	1	3	3	3
1057:	2	4	5	2	8	5	0	5
1065:	5	4	2	1	5	5	3	3
1073:	7	0	8	3	3	6	3	2
1081:	4	3	5	4	3	7	4	4
1089:	4	5	0	4	5	4	4	3
1097:	4	6	5	4	2	4	3	2
1105:	2	5	7	3	1	3	3	4
1113:	2	4	5	6	5	5	6	16
1121:	14	8	7	8	1	4	8	2
1129:	0	3	1	7	3	1	2	5
1137:	7	5	1	4	5	5	3	2
1145:	5	7	3	4	4	4	3	4
1153:	5	6	6	5	8	3	4	2
1161:	5	5	4	2	6	2	4	6
1169:	4	3	3	4	6	3	8	2
1177:	2	7	4	5	5	4	7	7
1185:	5	4	5	6	7	5	3	9
1193:	6	4	6	4	4	9	6	8
1201:	7	6	7	3	7	4	5	5
1209:	3	2	4	6	4	2	4	6
1217:	4	8	3	6	6	8	7	4
1225:	8	2	4	7	6	6	2	6

1233: 4 4 9 4 4 6 11 12

Sample Title: CP5003S09-10

Channel	1	2	3	4	5	6	7	8
1241:	4	5	8	5	3	3	7	3
1249:	2	5	4	6	2	0	4	6
1257:	3	3	5	2	3	3	3	7
1265:	5	4	4	1	4	3	3	3
1273:	5	3	5	2	2	5	3	5
1281:	1	6	1	1	1	1	5	1
1289:	1	3	3	5	3	4	3	3
1297:	4	4	3	6	3	1	5	4
1305:	5	3	3	7	2	7	3	3
1313:	0	2	2	6	4	2	3	4
1321:	3	2	1	2	3	3	6	4
1329:	3	0	1	2	1	4	2	6
1337:	1	3	2	0	2	1	1	2
1345:	1	3	0	2	2	0	1	1
1353:	5	3	2	3	3	2	2	1
1361:	4	1	1	0	1	3	4	1
1369:	5	3	1	2	3	1	2	2
1377:	7	5	1	1	4	4	4	1
1385:	0	4	0	2	2	3	4	3
1393:	0	2	1	2	3	3	2	3
1401:	0	2	3	1	2	1	1	0
1409:	1	3	5	1	1	3	1	0
1417:	1	2	0	0	1	0	3	1
1425:	1	2	2	0	1	0	4	0
1433:	0	2	4	2	2	1	3	1
1441:	3	2	2	1	0	3	4	1
1449:	2	2	0	0	2	1	2	3
1457:	2	4	21	52	77	74	22	11
1465:	0	1	1	2	2	1	1	2
1473:	0	5	1	0	1	0	2	1
1481:	1	1	3	2	3	1	2	1
1489:	1	1	1	1	0	1	0	2
1497:	2	1	2	3	0	1	3	6
1505:	2	0	0	3	2	4	3	3
1513:	2	2	0	0	1	2	1	4
1521:	0	1	0	2	3	0	0	0
1529:	2	1	2	2	1	0	1	0
1537:	1	4	3	1	1	1	3	2
1545:	1	1	0	0	1	1	0	1
1553:	2	0	2	1	1	1	0	0
1561:	2	1	1	2	3	1	1	1
1569:	0	1	1	1	0	0	2	1
1577:	0	0	1	1	1	1	0	2
1585:	0	2	1	3	3	2	1	4
1593:	5	6	3	1	0	3	1	0
1601:	0	0	0	0	0	0	0	1
1609:	0	0	1	0	1	1	0	0
1617:	1	0	1	2	2	1	0	1
1625:	1	1	2	0	3	1	1	2
1633:	1	2	1	1	2	1	2	2
1641:	1	1	1	0	1	0	0	0
1649:	1	2	1	2	0	2	1	0
1657:	0	1	1	1	1	0	4	2

1665: 0 1 1 0 1 0 0 1

Sample Title: CP5003S09-10

Channel	1	2	3	4	5	6	7	8
1673:	2	1	2	1	0	2	2	0
1681:	2	0	0	0	1	1	0	0
1689:	0	0	1	0	1	0	1	0
1697:	0	1	0	0	1	1	0	1
1705:	0	2	0	0	0	2	1	1
1713:	0	2	1	0	1	1	1	1
1721:	3	1	0	0	0	0	0	2
1729:	1	6	1	2	0	0	0	2
1737:	0	2	1	0	1	0	0	2
1745:	1	1	0	0	0	0	1	0
1753:	1	0	1	3	1	0	0	0
1761:	2	2	3	5	4	4	3	0
1769:	0	0	0	0	1	0	0	1
1777:	1	2	2	1	0	0	1	1
1785:	0	0	0	1	0	1	0	0
1793:	3	0	0	2	1	0	2	0
1801:	0	0	0	1	0	1	1	1
1809:	2	0	1	2	2	0	1	0
1817:	0	0	0	0	1	1	0	1
1825:	0	1	1	1	1	2	1	1
1833:	2	0	1	2	0	0	1	2
1841:	3	0	1	1	0	0	1	1
1849:	1	0	1	0	1	0	1	0
1857:	1	0	0	1	0	0	0	1
1865:	1	1	1	1	1	1	0	0
1873:	0	4	0	1	1	0	1	2
1881:	0	2	0	2	0	0	1	0
1889:	3	1	0	1	0	0	2	0
1897:	0	0	0	2	0	2	0	0
1905:	0	0	1	0	0	0	0	3
1913:	0	0	0	0	0	0	2	0
1921:	1	1	2	0	0	0	0	0
1929:	0	0	3	0	2	0	2	0
1937:	0	0	0	2	0	3	2	0
1945:	0	1	0	0	2	0	0	1
1953:	1	1	0	0	0	0	0	0
1961:	0	0	0	1	1	4	0	0
1969:	0	3	0	0	1	1	0	0
1977:	0	0	0	0	0	0	2	0
1985:	1	0	1	0	0	0	0	0
1993:	0	2	1	0	0	1	0	1
2001:	1	0	2	1	1	0	1	0
2009:	0	0	0	0	1	0	1	0
2017:	0	1	0	1	2	1	0	1
2025:	0	0	1	0	0	0	0	0
2033:	3	0	0	0	1	0	1	1
2041:	2	1	1	1	3	0	1	1
2049:	1	0	1	0	0	0	0	0
2057:	0	0	1	0	1	0	1	0
2065:	0	2	0	0	1	0	2	1
2073:	2	0	2	3	0	1	1	0
2081:	1	1	0	0	1	1	1	1
2089:	0	1	0	1	2	1	0	0

2097: 2 1 0 0 0 1 3 2

Sample Title: CP5003S09-10

Channel	1	2	3	4	5	6	7	8	9
2105:	0	2	1	1	0	0	0	0	0
2113:	2	1	1	1	1	3	1	0	0
2121:	1	0	0	2	1	0	1	0	0
2129:	2	0	2	1	1	0	0	0	0
2137:	0	0	1	0	0	0	2	0	0
2145:	0	0	0	3	0	1	0	0	0
2153:	0	1	0	2	0	1	0	0	3
2161:	0	0	0	0	4	0	1	0	0
2169:	0	0	1	0	1	2	0	0	0
2177:	1	0	0	0	0	1	0	1	0
2185:	0	0	0	0	1	0	1	0	0
2193:	2	0	0	1	1	0	0	0	0
2201:	1	0	0	1	3	2	0	0	0
2209:	1	1	0	1	1	0	0	0	0
2217:	0	1	0	1	0	1	0	0	0
2225:	0	0	0	0	1	0	0	0	2
2233:	0	2	0	0	2	1	0	0	2
2241:	2	0	1	1	0	0	2	0	0
2249:	0	0	0	0	0	0	1	1	1
2257:	1	1	1	1	0	0	0	1	1
2265:	1	3	0	0	2	0	0	0	1
2273:	0	2	1	0	0	0	3	0	0
2281:	0	0	1	1	1	0	0	0	0
2289:	0	0	1	1	0	0	1	0	0
2297:	1	1	0	2	2	0	1	2	0
2305:	0	1	0	3	1	1	1	0	0
2313:	1	1	1	0	2	0	0	0	0
2321:	0	0	0	0	1	0	1	0	0
2329:	2	0	1	1	2	1	2	1	0
2337:	0	0	0	3	0	0	0	0	0
2345:	1	0	2	0	0	0	2	1	0
2353:	1	2	0	0	0	0	1	0	0
2361:	1	2	3	1	2	1	2	1	0
2369:	0	0	2	1	0	0	2	0	0
2377:	0	0	1	0	2	0	2	0	0
2385:	1	1	2	1	1	0	1	0	0
2393:	0	0	0	1	0	2	2	0	0
2401:	0	0	0	0	3	0	1	0	0
2409:	0	1	0	0	1	1	0	0	0
2417:	1	0	0	0	0	0	0	0	0
2425:	0	0	1	1	0	0	2	0	0
2433:	0	0	1	1	0	0	0	0	1
2441:	0	2	2	0	0	1	0	0	0
2449:	1	0	1	0	2	2	1	0	0
2457:	0	1	0	2	0	2	1	0	0
2465:	0	0	0	0	0	0	0	0	0
2473:	2	0	0	0	0	1	0	0	0
2481:	1	1	0	0	1	0	1	0	0
2489:	1	0	0	0	0	0	0	0	0
2497:	0	0	0	1	0	0	0	0	0
2505:	2	0	0	1	0	0	0	0	1
2513:	1	1	0	0	1	0	0	0	0
2521:	0	1	0	0	1	1	0	1	1

2529: 0 0 0 0 1 1 1 0

Sample Title: CP5003S09-10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2537:	0	0	0	0	1	0	0	0
2545:	0	1	0	0	0	0	0	0
2553:	0	0	0	0	0	0	0	0
2561:	0	0	0	1	0	0	0	0
2569:	0	0	0	1	0	1	0	0
2577:	0	0	0	0	1	1	0	1
2585:	0	1	0	2	0	0	0	1
2593:	0	0	0	0	0	0	0	1
2601:	1	0	0	0	0	1	0	0
2609:	0	0	0	0	0	6	6	14
2617:	10	3	2	0	0	0	0	0
2625:	1	0	0	0	0	0	0	0
2633:	0	0	0	0	0	0	0	0
2641:	1	0	0	0	0	0	1	0
2649:	0	0	0	0	0	1	1	0
2657:	0	0	0	0	1	0	0	2
2665:	0	1	0	0	0	0	1	0
2673:	0	0	0	0	0	0	0	0
2681:	0	0	0	0	0	0	0	0
2689:	0	1	1	0	0	0	0	0
2697:	0	0	0	0	0	1	0	0
2705:	0	0	1	0	0	0	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	0	0	2
2737:	1	0	0	0	0	0	0	0
2745:	0	0	0	0	0	0	1	0
2753:	0	2	0	0	0	0	0	0
2761:	0	0	0	0	0	0	0	0
2769:	1	0	0	0	1	1	0	0
2777:	0	0	0	0	0	0	1	0
2785:	1	0	1	2	0	0	1	1
2793:	0	0	0	1	0	1	0	0
2801:	1	0	0	0	0	0	0	0
2809:	0	0	0	0	0	0	0	1
2817:	0	0	0	0	0	0	0	0
2825:	0	2	0	0	1	0	0	0
2833:	1	0	0	0	0	0	0	0
2841:	0	0	0	0	0	0	1	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	0	1	0
2873:	0	0	0	0	0	0	0	0
2881:	0	2	0	0	0	0	1	0
2889:	0	0	0	0	0	0	0	0
2897:	0	0	0	0	0	1	0	1
2905:	0	0	0	0	0	1	0	0
2913:	0	1	0	0	0	0	0	0
2921:	0	0	0	0	1	0	1	0
2929:	0	1	0	0	0	0	0	0
2937:	0	0	0	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

Sample Title: CP5003S09-10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2969:	0	1	0	0	1	0	0	0
2977:	0	0	0	0	0	0	0	0
2985:	0	0	0	0	0	0	0	0
2993:	2	0	0	0	0	0	1	0
3001:	0	0	0	0	0	0	0	0
3009:	0	0	0	0	0	1	0	0
3017:	0	0	0	0	0	0	0	1
3025:	0	0	0	0	0	0	0	0
3033:	0	1	0	0	0	1	0	0
3041:	0	0	0	1	0	0	0	0
3049:	0	0	0	2	0	0	0	0
3057:	1	0	0	0	1	0	0	1
3065:	0	1	0	0	0	1	0	0
3073:	0	0	1	0	1	0	0	1
3081:	0	0	0	0	0	0	0	0
3089:	0	0	1	0	0	0	0	0
3097:	2	0	1	0	1	0	0	1
3105:	1	0	0	0	0	0	0	0
3113:	0	1	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	0	0	0	0	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	0	0	0	0	0
3169:	0	0	1	0	0	0	0	1
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	1
3201:	0	0	0	1	0	0	0	0
3209:	0	0	0	0	0	0	0	0
3217:	0	0	0	0	0	0	0	0
3225:	1	0	0	0	0	0	0	1
3233:	0	0	0	0	0	1	0	0
3241:	0	0	0	0	0	0	1	0
3249:	0	0	0	0	0	1	0	0
3257:	0	0	0	0	0	2	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:	1	0	0	0	0	0	0	0
3297:	0	0	0	0	0	1	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	0	1	0	0	0	0
3337:	0	0	0	0	0	0	0	0
3345:	1	0	0	0	0	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	1
3377:	1	1	0	0	0	0	0	1
3385:	0	0	0	0	0	0	0	0

3393: 0 0 0 1 0 0 0 0

Sample Title: CP5003S09-10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3401:	0	0	0	0	0	0	0	0
3409:	0	1	0	0	0	0	0	1
3417:	0	0	0	0	0	2	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	1	0	0	0
3449:	0	0	0	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	0	0	0	0	0	0	0
3481:	0	1	0	0	0	0	0	0
3489:	0	0	0	0	0	0	0	0
3497:	1	0	0	0	0	0	0	0
3505:	0	0	1	0	0	0	0	0
3513:	0	0	0	0	0	0	0	0
3521:	0	0	1	0	2	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	0	0
3553:	0	0	1	0	0	0	1	0
3561:	0	0	0	1	0	0	0	1
3569:	0	0	0	0	0	0	0	0
3577:	0	0	0	0	0	0	1	0
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	0
3609:	0	1	0	0	0	0	0	0
3617:	0	0	0	0	0	0	0	1
3625:	0	0	0	0	0	0	0	0
3633:	0	0	0	0	0	0	0	1
3641:	0	0	0	0	0	0	0	0
3649:	0	1	0	0	0	0	1	0
3657:	1	0	0	0	1	0	0	0
3665:	0	0	0	0	0	0	0	0
3673:	0	0	0	0	1	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	0	1	0	0
3713:	0	0	0	0	0	0	0	1
3721:	0	0	0	0	0	0	0	0
3729:	0	0	0	0	0	0	0	0
3737:	0	0	0	1	0	2	1	0
3745:	0	0	0	0	0	0	0	0
3753:	0	0	0	0	0	0	0	0
3761:	1	1	0	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0
3777:	0	0	1	1	0	0	0	0
3785:	0	0	1	0	0	0	0	0
3793:	1	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	1	0	0

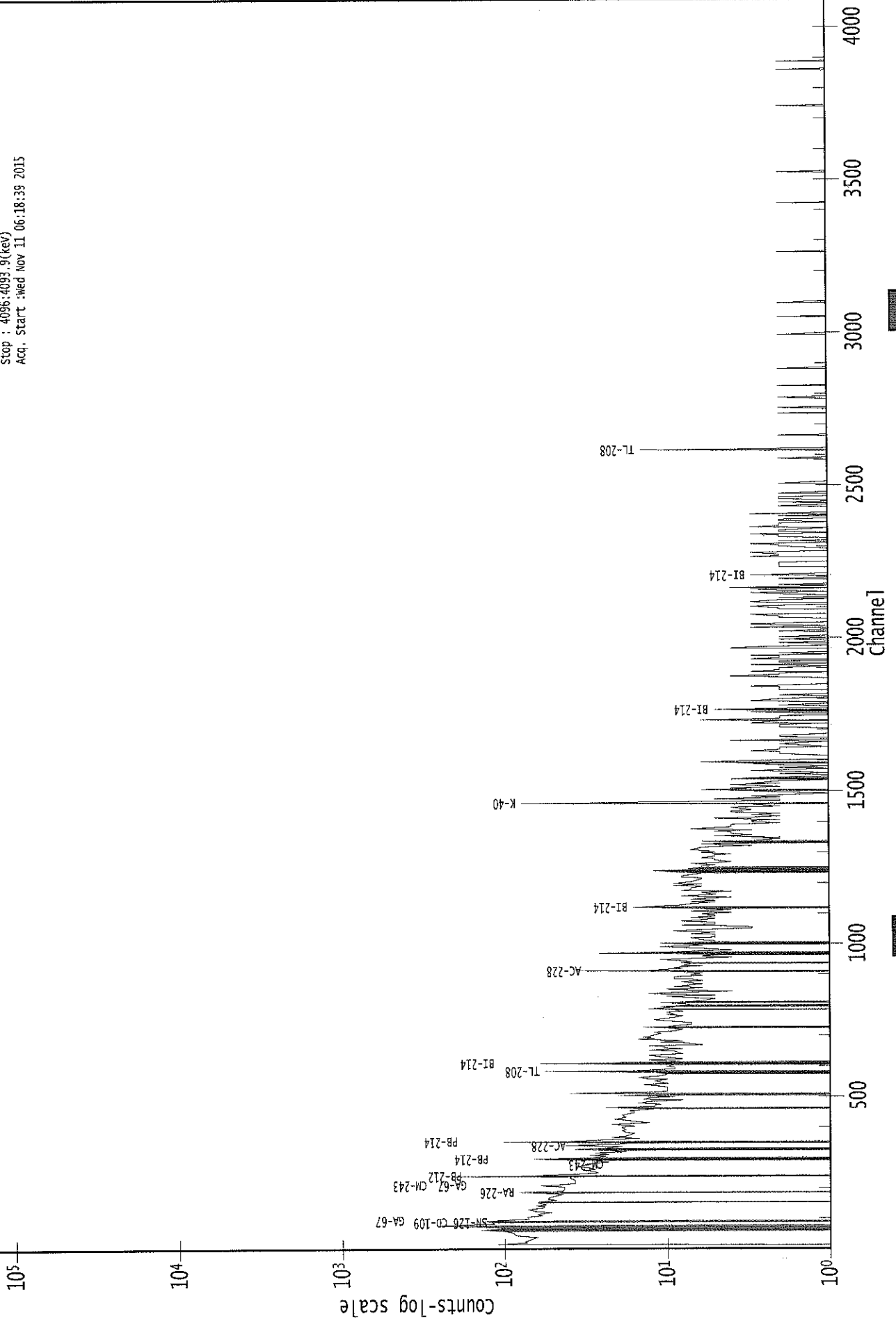
3825: 0 0 0 0 0 0 0 0

Sample Title: CP5003S09-10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3833:	0	0	0	0	0	1	0	0
3841:	0	0	0	0	0	0	0	0
3849:	0	0	1	0	0	0	0	0
3857:	0	0	0	0	2	0	0	0
3865:	0	0	0	0	0	0	1	0
3873:	0	0	0	0	0	1	0	0
3881:	0	0	0	0	0	0	2	0
3889:	0	0	0	0	0	0	0	0
3897:	0	0	0	0	0	0	0	0
3905:	0	0	0	0	0	1	0	0
3913:	0	0	0	0	0	0	0	0
3921:	0	0	1	0	1	0	0	0
3929:	0	0	0	0	0	0	0	0
3937:	0	1	0	0	0	1	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	0	0	0
3969:	0	0	0	0	0	0	0	0
3977:	0	0	0	0	0	0	1	1
3985:	0	0	0	0	0	0	0	0
3993:	0	0	0	0	0	0	0	0
4001:	0	0	0	0	0	0	0	1
4009:	0	0	0	0	0	0	0	0
4017:	0	0	0	0	0	0	1	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	0
4049:	0	0	0	0	0	0	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

0000029463.CNF


Live Time :3600.000 sec
Real Time :3675.350 sec
Start: 1: 1.8(kev)
Stop : 4096:493.9(kev)
Acq. Start :Wed Nov 11 06:18:39 2015



ROI Type: 2

ROI Type: 1

Analysis Report for 1510092-07
CP5003S12-13


11/11

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510092-07
Sample Description : CP5003S12-13
Sample Type : SOIL

Sample Size : 5.417E+02 grams
Facility : Countroom

Sample Taken On : 10/9/2015 3:58:38PM
Acquisition Started : 11/11/2015 7:21:10AM

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 : 29466

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510092-07
CP5003S12-13

PEAK LOCATE REPORT

Peak Locate Performed on : 11/11/2015 8:21:35AM
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	52.19	52.41	0.0000	0.00
2	75.10	75.32	0.0000	0.00
3	77.61	77.82	0.0000	0.00
4	87.94	88.15	0.0000	0.00
5	92.64	92.85	0.0000	0.00
6	99.67	99.87	0.0000	0.00
7	128.70	128.89	0.0000	0.00
8	142.84	143.02	0.0000	0.00
9	186.16	186.31	0.0000	0.00
10	209.37	209.51	0.0000	0.00
11	238.96	239.09	0.0000	0.00
12	242.05	242.17	0.0000	0.00
13	270.73	270.85	0.0000	0.00
14	277.69	277.79	0.0000	0.00
15	295.55	295.65	0.0000	0.00
16	300.37	300.47	0.0000	0.00
17	329.21	329.29	0.0000	0.00
18	338.63	338.71	0.0000	0.00
19	352.24	352.31	0.0000	0.00
20	431.16	431.19	0.0000	0.00
21	462.87	462.89	0.0000	0.00
22	510.98	510.97	0.0000	0.00
23	583.67	583.63	0.0000	0.00
24	609.71	609.65	0.0000	0.00
25	727.96	727.84	0.0000	0.00
26	770.88	770.74	0.0000	0.00
27	861.53	861.36	0.0000	0.00
28	911.64	911.44	0.0000	0.00
29	933.56	933.35	0.0000	0.00
30	969.35	969.12	0.0000	0.00
31	1078.49	1078.22	0.0000	0.00
32	1084.27	1084.00	0.0000	0.00
33	1087.24	1086.97	0.0000	0.00
34	1121.02	1120.73	0.0000	0.00
35	1144.30	1144.01	0.0000	0.00
36	1238.61	1238.27	0.0000	0.00
37	1261.62	1261.28	0.0000	0.00
38	1318.20	1317.83	0.0000	0.00
39	1377.33	1376.94	0.0000	0.00
40	1407.08	1406.68	0.0000	0.00
41	1461.24	1460.82	0.0000	0.00
42	1496.66	1496.23	0.0000	0.00

Analysis Report for 1510092-07
CP5003S12-13

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
43	1502.62	1502.18	0.0000	0.00
44	1538.34	1537.89	0.0000	0.00
45	1562.98	1562.52	0.0000	0.00
46	1588.71	1588.25	0.0000	0.00
47	1592.72	1592.25	0.0000	0.00
48	1660.75	1660.25	0.0000	0.00
49	1685.04	1684.54	0.0000	0.00
50	1730.08	1729.56	0.0000	0.00
51	1764.98	1764.45	0.0000	0.00
52	1881.92	1881.35	0.0000	0.00
53	1895.82	1895.25	0.0000	0.00
54	2112.21	2111.57	0.0000	0.00
55	2134.25	2133.61	0.0000	0.00
56	2204.78	2204.11	0.0000	0.00
57	2447.13	2446.40	0.0000	0.00
58	2614.85	2614.07	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510092-07
CP5003S12-13

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/11/2015 8:21:35AM

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	52.19	50 -	55	52.41	7.53E+01	78.86	1.18E+03	2.19
M	2	75.10	71 -	82	75.32	4.78E+02	93.47	1.22E+03	1.83
m	3	77.61	71 -	82	77.82	6.95E+02	99.76	1.14E+03	1.83
m	4	87.94	83 -	97	88.15	3.02E+02	75.60	9.46E+02	1.68
m	5	92.64	83 -	97	92.85	3.00E+02	78.23	8.78E+02	1.69
	6	99.67	98 -	103	99.87	6.94E+01	69.58	9.05E+02	1.67
	7	128.70	123 -	134	128.89	2.09E+02	117.63	1.62E+03	5.18
	8	142.84	139 -	148	143.02	8.52E+01	94.80	1.24E+03	4.01
	9	186.16	183 -	188	186.31	1.73E+02	64.12	6.85E+02	2.00
	10	209.37	205 -	214	209.51	9.47E+01	86.96	1.02E+03	2.61
M	11	238.96	234 -	246	239.09	9.43E+02	73.11	3.94E+02	1.83
m	12	242.05	234 -	246	242.17	1.75E+02	78.17	4.48E+02	1.89
	13	270.73	268 -	274	270.85	5.62E+01	52.31	4.60E+02	2.13
	14	277.69	275 -	281	277.79	4.05E+01	49.82	4.13E+02	1.10
M	15	295.55	293 -	304	295.65	2.54E+02	47.01	2.76E+02	1.67
m	16	300.37	293 -	304	300.47	5.03E+01	43.83	3.50E+02	2.04
	17	329.21	325 -	333	329.29	5.28E+01	54.92	4.20E+02	2.02
	18	338.63	334 -	343	338.71	1.50E+02	61.00	4.48E+02	1.69
	19	352.24	347 -	356	352.31	4.48E+02	67.49	3.93E+02	1.97
	20	431.16	426 -	435	431.19	4.30E+01	43.75	2.46E+02	4.05
	21	462.87	459 -	467	462.89	6.05E+01	43.01	2.47E+02	2.09
	22	510.98	507 -	517	510.97	1.49E+02	50.11	2.62E+02	2.23
	23	583.67	579 -	587	583.63	2.56E+02	44.91	1.53E+02	1.95
	24	609.71	605 -	614	609.65	3.09E+02	53.73	2.37E+02	1.78
	25	727.96	722 -	732	727.84	4.20E+01	40.08	1.90E+02	2.11
	26	770.88	766 -	775	770.74	5.26E+01	36.39	1.57E+02	5.68
	27	861.53	856 -	865	861.36	2.72E+01	32.42	1.34E+02	1.79
	28	911.64	905 -	916	911.44	1.51E+02	49.27	2.28E+02	2.18
	29	933.56	924 -	940	933.35	6.79E+01	42.24	1.42E+02	11.97
	30	969.35	966 -	973	969.12	4.67E+01	36.17	1.85E+02	1.62
M	31	1078.49	1076 -	1090	1078.22	1.81E+01	14.70	3.28E+01	2.48
m	32	1084.27	1076 -	1090	1084.00	2.31E+01	20.49	5.88E+01	2.25
m	33	1087.24	1076 -	1090	1086.97	1.93E+01	20.49	6.35E+01	2.48
	34	1121.02	1117 -	1126	1120.73	6.58E+01	34.15	1.26E+02	2.38
	35	1144.30	1141 -	1149	1144.01	1.95E+01	24.09	7.89E+01	3.35
	36	1238.61	1234 -	1241	1238.27	2.90E+01	27.20	1.04E+02	1.48
	37	1261.62	1256 -	1266	1261.28	2.50E+01	25.24	7.19E+01	6.34
	38	1318.20	1313 -	1321	1317.83	1.85E+01	19.14	4.50E+01	1.45
	39	1377.33	1373 -	1380	1376.94	3.11E+01	15.62	1.98E+01	3.14
	40	1407.08	1404 -	1410	1406.68	1.50E+01	11.53	1.20E+01	3.01

Analysis Report for 1510092-07

CP5003S12-13

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1461.24	1456 -	1465	1460.82	5.28E+02	48.19	3.00E+01	2.16
42	1496.66	1494 -	1498	1496.23	1.00E+01	8.41	6.00E+00	1.54
43	1502.62	1500 -	1504	1502.18	1.05E+01	8.03	5.00E+00	2.55
44	1538.34	1535 -	1542	1537.89	8.47E+00	11.49	1.71E+01	1.45
45	1562.98	1559 -	1566	1562.52	9.83E+00	8.00	4.33E+00	3.59
M 46	1588.71	1585 -	1597	1588.25	2.78E+01	11.49	1.51E+01	2.71
m 47	1592.72	1585 -	1597	1592.25	1.85E+01	15.10	1.42E+01	2.71
48	1660.75	1657 -	1664	1660.25	8.62E+00	9.17	8.77E+00	1.85
49	1685.04	1682 -	1687	1684.54	6.31E+00	6.40	3.38E+00	2.81
50	1730.08	1726 -	1732	1729.56	1.17E+01	9.19	6.67E+00	1.69
51	1764.98	1759 -	1769	1764.45	5.95E+01	17.90	1.10E+01	2.36
52	1881.92	1877 -	1885	1881.35	7.67E+00	9.41	8.67E+00	2.20
53	1895.82	1892 -	1897	1895.25	4.42E+00	5.74	3.17E+00	2.57
54	2112.21	2108 -	2114	2111.57	7.00E+00	5.29	0.00E+00	2.22
55	2134.25	2131 -	2136	2133.61	6.81E+00	6.40	2.38E+00	3.02
56	2204.78	2201 -	2207	2204.11	1.21E+01	9.19	5.87E+00	1.88
57	2447.13	2443 -	2449	2446.40	5.00E+00	7.52	6.00E+00	1.19
58	2614.85	2609 -	2618	2614.07	5.76E+01	16.28	4.88E+00	2.60

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 : 11/11/2015 8:21:35AM

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	52.19	50 -	55	7.53E+01	78.86	1.18E+03	6.32E+01
M 2	75.10	71 -	82	4.78E+02	93.47	1.22E+03	5.75E+01
m 3	77.61	71 -	82	6.95E+02	99.76	1.14E+03	5.55E+01
m 4	87.94	83 -	97	3.02E+02	75.60	9.46E+02	5.06E+01
m 5	92.64	83 -	97	3.00E+02	78.23	8.78E+02	4.87E+01
6	99.67	98 -	103	6.94E+01	69.58	9.05E+02	5.55E+01
7	128.70	123 -	134	2.09E+02	117.63	1.62E+03	9.37E+01
8	142.84	139 -	148	8.52E+01	94.80	1.24E+03	7.64E+01
9	186.16	183 -	188	1.73E+02	64.12	6.85E+02	4.81E+01
10	209.37	205 -	214	9.47E+01	86.96	1.02E+03	6.97E+01

: 00508

Analysis Report for 1510092-07

CP5003S12-13

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
M	11	238.96	234 -	246	9.43E+02	73.11	3.94E+02	3.26E+01
m	12	242.05	234 -	246	1.75E+02	78.17	4.48E+02	3.48E+01
	13	270.73	268 -	274	5.62E+01	52.31	4.60E+02	4.12E+01
	14	277.69	275 -	281	4.05E+01	49.82	4.13E+02	3.96E+01
M	15	295.55	293 -	304	2.54E+02	47.01	2.76E+02	2.73E+01
m	16	300.37	293 -	304	5.03E+01	43.83	3.50E+02	3.07E+01
	17	329.21	325 -	333	5.28E+01	54.92	4.20E+02	4.35E+01
	18	338.63	334 -	343	1.50E+02	61.00	4.48E+02	4.59E+01
	19	352.24	347 -	356	4.48E+02	67.49	3.93E+02	4.32E+01
	20	431.16	426 -	435	4.30E+01	43.75	2.46E+02	3.43E+01
	21	462.87	459 -	467	6.05E+01	43.01	2.47E+02	3.30E+01
	22	510.98	507 -	517	1.49E+02	50.11	2.62E+02	3.60E+01
	23	583.67	579 -	587	2.56E+02	44.91	1.53E+02	2.59E+01
	24	609.71	605 -	614	3.09E+02	53.73	2.37E+02	3.34E+01
	25	727.96	722 -	732	4.20E+01	40.08	1.90E+02	3.12E+01
	26	770.88	766 -	775	5.26E+01	36.39	1.57E+02	2.74E+01
	27	861.53	856 -	865	2.72E+01	32.42	1.34E+02	2.52E+01
	28	911.64	905 -	916	1.51E+02	49.27	2.28E+02	3.51E+01
	29	933.56	924 -	940	6.79E+01	42.24	1.42E+02	3.20E+01
	30	969.35	966 -	973	4.67E+01	36.17	1.85E+02	2.75E+01
M	31	1078.49	1076 -	1090	1.81E+01	14.70	3.28E+01	9.42E+00
m	32	1084.27	1076 -	1090	2.31E+01	20.49	5.88E+01	1.26E+01
m	33	1087.24	1076 -	1090	1.93E+01	20.49	6.35E+01	1.31E+01
	34	1121.02	1117 -	1126	6.58E+01	34.15	1.26E+02	2.47E+01
	35	1144.30	1141 -	1149	1.95E+01	24.09	7.89E+01	1.84E+01
	36	1238.61	1234 -	1241	2.90E+01	27.20	1.04E+02	2.05E+01
	37	1261.62	1256 -	1266	2.50E+01	25.24	7.19E+01	1.90E+01
	38	1318.20	1313 -	1321	1.85E+01	19.14	4.50E+01	1.41E+01
	39	1377.33	1373 -	1380	3.11E+01	15.62	1.98E+01	8.99E+00
	40	1407.08	1404 -	1410	1.50E+01	11.53	1.20E+01	7.02E+00
	41	1461.24	1456 -	1465	5.28E+02	48.19	3.00E+01	1.19E+01
	42	1496.66	1494 -	1498	1.00E+01	8.41	6.00E+00	4.56E+00
	43	1502.62	1500 -	1504	1.05E+01	8.03	5.00E+00	3.90E+00
	44	1538.34	1535 -	1542	8.47E+00	11.49	1.71E+01	8.14E+00
	45	1562.98	1559 -	1566	9.83E+00	8.00	4.33E+00	4.08E+00
M	46	1588.71	1585 -	1597	2.78E+01	11.49	1.51E+01	6.40E+00
m	47	1592.72	1585 -	1597	1.85E+01	15.10	1.42E+01	6.19E+00
	48	1660.75	1657 -	1664	8.62E+00	9.17	8.77E+00	5.79E+00
	49	1685.04	1682 -	1687	6.31E+00	6.40	3.38E+00	3.26E+00
	50	1730.08	1726 -	1732	1.17E+01	9.19	6.67E+00	5.06E+00
	51	1764.98	1759 -	1769	5.95E+01	17.90	1.10E+01	7.47E+00
	52	1881.92	1877 -	1885	7.67E+00	9.41	8.67E+00	6.25E+00
	53	1895.82	1892 -	1897	4.42E+00	5.74	3.17E+00	3.22E+00
	54	2112.21	2108 -	2114	7.00E+00	5.29	0.00E+00	0.00E+00
	55	2134.25	2131 -	2136	6.81E+00	6.40	2.38E+00	3.05E+00
	56	2204.78	2201 -	2207	1.21E+01	9.19	5.87E+00	4.95E+00
	57	2447.13	2443 -	2449	5.00E+00	7.52	6.00E+00	4.97E+00
	58	2614.85	2609 -	2618	5.76E+01	16.28	4.88E+00	4.85E+00

Analysis Report for 1510092-07
CP5003S12-13

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 : 11/11/2015 8:21:35AM

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	50 -	55	52.41	7.53E+01	78.86	1.18E+03	.....
M	2	71 -	82	75.32	4.78E+02	93.47	1.22E+03	AM-243
m	3	71 -	82	77.82	6.95E+02	99.76	1.14E+03	TI-44
m	4	83 -	97	88.15	3.02E+02	75.60	9.46E+02	CD-109 SN-126 LU-176
m	5	83 -	97	92.85	3.00E+02	78.23	8.78E+02	GA-67
	6	98 -	103	99.87	6.94E+01	69.58	9.05E+02	.....
	7	123 -	134	128.89	2.09E+02	117.63	1.62E+03	.....
	8	139 -	148	143.02	8.52E+01	94.80	1.24E+03	U-235
	9	183 -	188	186.31	1.73E+02	64.12	6.85E+02	RA-226
	10	205 -	214	209.51	9.47E+01	86.96	1.02E+03	CM-243 GA-67
M	11	234 -	246	239.09	9.43E+02	73.11	3.94E+02	PB-212
m	12	234 -	246	242.17	1.75E+02	78.17	4.48E+02	.....
	13	268 -	274	270.85	5.62E+01	52.31	4.60E+02	.....
	14	275 -	281	277.79	4.05E+01	49.82	4.13E+02	CM-243 NP-239
M	15	293 -	304	295.65	2.54E+02	47.01	2.76E+02	PB-214
m	16	293 -	304	300.47	5.03E+01	43.83	3.50E+02	GA-67 PB-212 BI-210M
	17	325 -	333	329.29	5.28E+01	54.92	4.20E+02	LA-140
	18	334 -	343	338.71	1.50E+02	61.00	4.48E+02	AC-228
	19	347 -	356	352.31	4.48E+02	67.49	3.93E+02	PB-214
	20	426 -	435	431.19	4.30E+01	43.75	2.46E+02	.....
	21	459 -	467	462.89	6.05E+01	43.01	2.47E+02	SB-125
	22	507 -	517	510.97	1.49E+02	50.11	2.62E+02	.....
	23	579 -	587	583.63	2.56E+02	44.91	1.53E+02	TL-208
	24	605 -	614	609.65	3.09E+02	53.73	2.37E+02	BI-214

Analysis Report for 1510092-07

CP5003S12-13

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	25	727.96	722 -	732	727.84	4.20E+01	40.08	1.90E+02	BI-212
	26	770.88	766 -	775	770.74	5.26E+01	36.39	1.57E+02	.....
	27	861.53	856 -	865	861.36	2.72E+01	32.42	1.34E+02	.....
	28	911.64	905 -	916	911.44	1.51E+02	49.27	2.28E+02	LU-172 AC-228
	29	933.56	924 -	940	933.35	6.79E+01	42.24	1.42E+02	.....
	30	969.35	966 -	973	969.12	4.67E+01	36.17	1.85E+02	AC-228
M	31	1078.49	1076 -	1090	1078.22	1.81E+01	14.70	3.28E+01	.....
m	32	1084.27	1076 -	1090	1084.00	2.31E+01	20.49	5.88E+01	.....
m	33	1087.24	1076 -	1090	1086.97	1.93E+01	20.49	6.35E+01	.....
	34	1121.02	1117 -	1126	1120.73	6.58E+01	34.15	1.26E+02	TA-182 SC-46 BI-214
	35	1144.30	1141 -	1149	1144.01	1.95E+01	24.09	7.89E+01	.....
	36	1238.61	1234 -	1241	1238.27	2.90E+01	27.20	1.04E+02	CO-56
	37	1261.62	1256 -	1266	1261.28	2.50E+01	25.24	7.19E+01	.....
	38	1318.20	1313 -	1321	1317.83	1.85E+01	19.14	4.50E+01	.....
	39	1377.33	1373 -	1380	1376.94	3.11E+01	15.62	1.98E+01	.....
	40	1407.08	1404 -	1410	1406.68	1.50E+01	11.53	1.20E+01	EU-152
	41	1461.24	1456 -	1465	1460.82	5.28E+02	48.19	3.00E+01	K-40
	42	1496.66	1494 -	1498	1496.23	1.00E+01	8.41	6.00E+00	.....
	43	1502.62	1500 -	1504	1502.18	1.05E+01	8.03	5.00E+00	.....
	44	1538.34	1535 -	1542	1537.89	8.47E+00	11.49	1.71E+01	.....
	45	1562.98	1559 -	1566	1562.52	9.83E+00	8.00	4.33E+00	.....
M	46	1588.71	1585 -	1597	1588.25	2.78E+01	11.49	1.51E+01	.....
m	47	1592.72	1585 -	1597	1592.25	1.85E+01	15.10	1.42E+01	.....
	48	1660.75	1657 -	1664	1660.25	8.62E+00	9.17	8.77E+00	.....
	49	1685.04	1682 -	1687	1684.54	6.31E+00	6.40	3.38E+00	.....
	50	1730.08	1726 -	1732	1729.56	1.17E+01	9.19	6.67E+00	.....
	51	1764.98	1759 -	1769	1764.45	5.95E+01	17.90	1.10E+01	BI-214
	52	1881.92	1877 -	1885	1881.35	7.67E+00	9.41	8.67E+00	.....
	53	1895.82	1892 -	1897	1895.25	4.42E+00	5.74	3.17E+00	.....
	54	2112.21	2108 -	2114	2111.57	7.00E+00	5.29	0.00E+00	.....
	55	2134.25	2131 -	2136	2133.61	6.81E+00	6.40	2.38E+00	.....
	56	2204.78	2201 -	2207	2204.11	1.21E+01	9.19	5.87E+00	BI-214
	57	2447.13	2443 -	2449	2446.40	5.00E+00	7.52	6.00E+00	.....
	58	2614.85	2609 -	2618	2614.07	5.76E+01	16.28	4.88E+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 : 11/11/2015 8:21:35AM

: 00511

Analysis Report for 1510092-07
CP5003S12-13

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	52.19	7.53E+01	78.86	1.78E-02	1.58E-03
M	2	75.10	4.78E+02	93.47	2.37E-02	2.10E-03
m	3	77.61	6.95E+02	99.76	2.39E-02	2.18E-03
m	4	87.94	3.02E+02	75.60	2.44E-02	2.52E-03
m	5	92.64	3.00E+02	78.23	2.44E-02	2.42E-03
	6	99.67	6.94E+01	69.58	2.43E-02	2.25E-03
	7	128.70	2.09E+02	117.63	2.26E-02	1.70E-03
	8	142.84	8.52E+01	94.80	2.15E-02	1.63E-03
	9	186.16	1.73E+02	64.12	1.83E-02	1.42E-03
	10	209.37	9.47E+01	86.96	1.68E-02	1.31E-03
M	11	238.96	9.43E+02	73.11	1.52E-02	1.18E-03
m	12	242.05	1.75E+02	78.17	1.51E-02	1.17E-03
	13	270.73	5.62E+01	52.31	1.38E-02	1.04E-03
	14	277.69	4.05E+01	49.82	1.35E-02	1.00E-03
M	15	295.55	2.54E+02	47.01	1.28E-02	9.74E-04
m	16	300.37	5.03E+01	43.83	1.26E-02	9.67E-04
	17	329.21	5.28E+01	54.92	1.17E-02	9.26E-04
	18	338.63	1.50E+02	61.00	1.14E-02	9.12E-04
	19	352.24	4.48E+02	67.49	1.11E-02	8.93E-04
	20	431.16	4.30E+01	43.75	9.29E-03	7.98E-04
	21	462.87	6.05E+01	43.01	8.73E-03	7.66E-04
	22	510.98	1.49E+02	50.11	8.01E-03	7.18E-04
	23	583.67	2.56E+02	44.91	7.13E-03	6.46E-04
	24	609.71	3.09E+02	53.73	6.87E-03	6.20E-04
	25	727.96	4.20E+01	40.08	5.89E-03	5.14E-04
	26	770.88	5.26E+01	36.39	5.60E-03	4.79E-04
	27	861.53	2.72E+01	32.42	5.09E-03	4.04E-04
	28	911.64	1.51E+02	49.27	4.85E-03	3.72E-04
	29	933.56	6.79E+01	42.24	4.75E-03	3.68E-04
	30	969.35	4.67E+01	36.17	4.60E-03	3.61E-04
M	31	1078.49	1.81E+01	14.70	4.21E-03	3.41E-04
m	32	1084.27	2.31E+01	20.49	4.19E-03	3.40E-04
m	33	1087.24	1.93E+01	20.49	4.18E-03	3.39E-04
	34	1121.02	6.58E+01	34.15	4.07E-03	3.33E-04
	35	1144.30	1.95E+01	24.09	4.01E-03	3.29E-04
	36	1238.61	2.90E+01	27.20	3.75E-03	3.09E-04
	37	1261.62	2.50E+01	25.24	3.70E-03	3.04E-04
	38	1318.20	1.85E+01	19.14	3.57E-03	2.92E-04
	39	1377.33	3.11E+01	15.62	3.45E-03	2.82E-04
	40	1407.08	1.50E+01	11.53	3.39E-03	2.77E-04
	41	1461.24	5.28E+02	48.19	3.29E-03	2.69E-04
	42	1496.66	1.00E+01	8.41	3.23E-03	2.64E-04
	43	1502.62	1.05E+01	8.03	3.22E-03	2.63E-04
	44	1538.34	8.47E+00	11.49	3.16E-03	2.58E-04
	45	1562.98	9.83E+00	8.00	3.13E-03	2.54E-04
M	46	1588.71	2.78E+01	11.49	3.09E-03	2.50E-04
m	47	1592.72	1.85E+01	15.10	3.08E-03	2.50E-04
	48	1660.75	8.62E+00	9.17	2.99E-03	2.39E-04
	49	1685.04	6.31E+00	6.40	2.95E-03	2.36E-04
	50	1730.08	1.17E+01	9.19	2.90E-03	2.29E-04

Analysis Report for 1510092-07
CP5003S12-13

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
51	1764.98	5.95E+01	17.90	2.86E-03	2.24E-04
52	1881.92	7.67E+00	9.41	2.73E-03	2.13E-04
53	1895.82	4.42E+00	5.74	2.72E-03	2.13E-04
54	2112.21	7.00E+00	5.29	2.53E-03	2.13E-04
55	2134.25	6.81E+00	6.40	2.51E-03	2.13E-04
56	2204.78	1.21E+01	9.19	2.46E-03	2.13E-04
57	2447.13	5.00E+00	7.52	2.32E-03	2.13E-04
58	2614.85	5.76E+01	16.28	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 : 11/11/2015 8:21:35AM

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	7.53E+01	78.86			7.53E+01	7.89E+01
M	2	4.78E+02	93.47			4.78E+02	9.35E+01
m	3	6.95E+02	99.76			6.95E+02	9.98E+01
m	4	3.02E+02	75.60	1.52E+01	5.37E+00	2.87E+02	7.58E+01
m	5	3.00E+02	78.23	9.04E+01	2.62E+01	2.10E+02	8.25E+01
	6	6.94E+01	69.58			6.94E+01	6.96E+01
	7	2.09E+02	117.63			2.09E+02	1.18E+02
	8	8.52E+01	94.80			8.52E+01	9.48E+01
	9	1.73E+02	64.12	3.93E+01	6.56E+00	1.33E+02	6.45E+01
M	10	9.47E+01	86.96			9.47E+01	8.70E+01
m	11	9.43E+02	73.11	1.34E+01	2.14E+00	9.29E+02	7.31E+01
	12	1.75E+02	78.17	2.69E+00	1.46E+00	1.72E+02	7.82E+01
	13	5.62E+01	52.31			5.62E+01	5.23E+01
	14	4.05E+01	49.82			4.05E+01	4.98E+01
M	15	2.54E+02	47.01			2.54E+02	4.70E+01
m	16	5.03E+01	43.83			5.03E+01	4.38E+01
	17	5.28E+01	54.92			5.28E+01	5.49E+01
	18	1.50E+02	61.00			1.50E+02	6.10E+01
	19	4.48E+02	67.49	3.99E+00	4.73E+00	4.44E+02	6.77E+01
	20	4.30E+01	43.75			4.30E+01	4.37E+01
	21	6.05E+01	43.01			6.05E+01	4.30E+01
	22	1.49E+02	50.11	5.78E+01	4.60E+00	9.11E+01	5.03E+01

Analysis Report for 1510092-07

CP5003S12-13

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
23	583.67	2.56E+02	44.91	5.96E+00	3.46E+00	2.50E+02	4.50E+01
24	609.71	3.09E+02	53.73	6.71E+00	3.44E+00	3.03E+02	5.38E+01
25	727.96	4.20E+01	40.08			4.20E+01	4.01E+01
26	770.88	5.26E+01	36.39			5.26E+01	3.64E+01
27	861.53	2.72E+01	32.42			2.72E+01	3.24E+01
28	911.64	1.51E+02	49.27	2.32E+00	2.73E+00	1.49E+02	4.94E+01
29	933.56	6.79E+01	42.24			6.79E+01	4.22E+01
30	969.35	4.67E+01	36.17			4.67E+01	3.62E+01
M	31	1078.49	1.81E+01	14.70		1.81E+01	1.47E+01
m	32	1084.27	2.31E+01	20.49		2.31E+01	2.05E+01
m	33	1087.24	1.93E+01	20.49		1.93E+01	2.05E+01
	34	1121.02	6.58E+01	34.15		6.58E+01	3.41E+01
	35	1144.30	1.95E+01	24.09		1.95E+01	2.41E+01
	36	1238.61	2.90E+01	27.20		2.90E+01	2.72E+01
	37	1261.62	2.50E+01	25.24		2.50E+01	2.52E+01
	38	1318.20	1.85E+01	19.14		1.85E+01	1.91E+01
	39	1377.33	3.11E+01	15.62		3.11E+01	1.56E+01
	40	1407.08	1.50E+01	11.53		1.50E+01	1.15E+01
	41	1461.24	5.28E+02	48.19		5.28E+02	4.82E+01
	42	1496.66	1.00E+01	8.41		1.00E+01	8.41E+00
	43	1502.62	1.05E+01	8.03		1.05E+01	8.03E+00
	44	1538.34	8.47E+00	11.49		8.47E+00	1.15E+01
	45	1562.98	9.83E+00	8.00		9.83E+00	8.00E+00
M	46	1588.71	2.78E+01	11.49		2.78E+01	1.15E+01
m	47	1592.72	1.85E+01	15.10		1.85E+01	1.51E+01
	48	1660.75	8.62E+00	9.17		8.62E+00	9.17E+00
	49	1685.04	6.31E+00	6.40		6.31E+00	6.40E+00
	50	1730.08	1.17E+01	9.19		1.17E+01	9.19E+00
	51	1764.98	5.95E+01	17.90	1.45E+00	1.16E+00	5.80E+01
	52	1881.92	7.67E+00	9.41		7.67E+00	9.41E+00
	53	1895.82	4.42E+00	5.74		4.42E+00	5.74E+00
	54	2112.21	7.00E+00	5.29		7.00E+00	5.29E+00
	55	2134.25	6.81E+00	6.40		6.81E+00	6.40E+00
	56	2204.78	1.21E+01	9.19		1.21E+01	9.19E+00
	57	2447.13	5.00E+00	7.52		5.00E+00	7.52E+00
	58	2614.85	5.76E+01	16.28		5.76E+01	1.63E+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 1510092-07

CP5003S12-13

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/11/2015 8:21:35AM
 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	52.19	7.53E+01	78.86			7.53E+01	7.89E+01
M	2	75.10	4.78E+02	93.47			4.78E+02	9.35E+01
m	3	77.61	6.95E+02	99.76			6.95E+02	9.98E+01
m	4	87.94	3.02E+02	75.60	1.52E+01	5.37E+00	2.87E+02	7.58E+01
m	5	92.64	3.00E+02	78.23	9.04E+01	2.62E+01	2.10E+02	8.25E+01
	6	99.67	6.94E+01	69.58			6.94E+01	6.96E+01
	7	128.70	2.09E+02	117.63			2.09E+02	1.18E+02
	8	142.84	8.52E+01	94.80			8.52E+01	9.48E+01
	9	186.16	1.73E+02	64.12	3.93E+01	6.56E+00	1.33E+02	6.45E+01
	10	209.37	9.47E+01	86.96			9.47E+01	8.70E+01
M	11	238.96	9.43E+02	73.11	1.34E+01	2.14E+00	9.29E+02	7.31E+01
m	12	242.05	1.75E+02	78.17	2.69E+00	1.46E+00	1.72E+02	7.82E+01
	13	270.73	5.62E+01	52.31			5.62E+01	5.23E+01
	14	277.69	4.05E+01	49.82			4.05E+01	4.98E+01
M	15	295.55	2.54E+02	47.01			2.54E+02	4.70E+01
m	16	300.37	5.03E+01	43.83			5.03E+01	4.38E+01
	17	329.21	5.28E+01	54.92			5.28E+01	5.49E+01
	18	338.63	1.50E+02	61.00			1.50E+02	6.10E+01
	19	352.24	4.48E+02	67.49	3.99E+00	4.73E+00	4.44E+02	6.77E+01
	20	431.16	4.30E+01	43.75			4.30E+01	4.37E+01
	21	462.87	6.05E+01	43.01			6.05E+01	4.30E+01
	22	510.98	1.49E+02	50.11	5.78E+01	4.60E+00	9.11E+01	5.03E+01
	23	583.67	2.56E+02	44.91	5.96E+00	3.46E+00	2.50E+02	4.50E+01
	24	609.71	3.09E+02	53.73	6.71E+00	3.44E+00	3.03E+02	5.38E+01
	25	727.96	4.20E+01	40.08			4.20E+01	4.01E+01
	26	770.88	5.26E+01	36.39			5.26E+01	3.64E+01
	27	861.53	2.72E+01	32.42			2.72E+01	3.24E+01
	28	911.64	1.51E+02	49.27	2.32E+00	2.73E+00	1.49E+02	4.94E+01
	29	933.56	6.79E+01	42.24			6.79E+01	4.22E+01
	30	969.35	4.67E+01	36.17			4.67E+01	3.62E+01
M	31	1078.49	1.81E+01	14.70			1.81E+01	1.47E+01
m	32	1084.27	2.31E+01	20.49			2.31E+01	2.05E+01
m	33	1087.24	1.93E+01	20.49			1.93E+01	2.05E+01
	34	1121.02	6.58E+01	34.15			6.58E+01	3.41E+01
	35	1144.30	1.95E+01	24.09			1.95E+01	2.41E+01
	36	1238.61	2.90E+01	27.20			2.90E+01	2.72E+01
	37	1261.62	2.50E+01	25.24			2.50E+01	2.52E+01
	38	1318.20	1.85E+01	19.14			1.85E+01	1.91E+01
	39	1377.33	3.11E+01	15.62			3.11E+01	1.56E+01
	40	1407.08	1.50E+01	11.53			1.50E+01	1.15E+01
	41	1461.24	5.28E+02	48.19			5.28E+02	4.82E+01

: 00515

Analysis Report for 1510092-07

CP5003S12-13

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	42 1496.66	1.00E+01	8.41			1.00E+01	8.41E+00
	43 1502.62	1.05E+01	8.03			1.05E+01	8.03E+00
	44 1538.34	8.47E+00	11.49			8.47E+00	1.15E+01
	45 1562.98	9.83E+00	8.00			9.83E+00	8.00E+00
M	46 1588.71	2.78E+01	11.49			2.78E+01	1.15E+01
m	47 1592.72	1.85E+01	15.10			1.85E+01	1.51E+01
	48 1660.75	8.62E+00	9.17			8.62E+00	9.17E+00
	49 1685.04	6.31E+00	6.40			6.31E+00	6.40E+00
	50 1730.08	1.17E+01	9.19			1.17E+01	9.19E+00
	51 1764.98	5.95E+01	17.90	1.45E+00	1.16E+00	5.80E+01	1.79E+01
	52 1881.92	7.67E+00	9.41			7.67E+00	9.41E+00
	53 1895.82	4.42E+00	5.74			4.42E+00	5.74E+00
	54 2112.21	7.00E+00	5.29			7.00E+00	5.29E+00
	55 2134.25	6.81E+00	6.40			6.81E+00	6.40E+00
	56 2204.78	1.21E+01	9.19			1.21E+01	9.19E+00
	57 2447.13	5.00E+00	7.52			5.00E+00	7.52E+00
	58 2614.85	5.76E+01	16.28			5.76E+01	1.63E+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	0.971	1460.81 *	10.67	2.08E+01	2.59E+00
GA-67	0.576	93.31 *	35.70	3.45E+02	1.53E+03
		208.95 *	2.24	3.61E+03	1.57E+04
		300.22 *	16.00	3.57E+02	1.60E+03
CD-109	0.999	88.03 *	3.72	4.60E+00	1.33E+00
SN-126	0.978	87.57 *	37.00	4.40E-01	1.25E-01
TL-208	0.866	583.14 *	30.22	1.61E+00	3.24E-01
		860.37 *	4.48		
		2614.66 *	35.85	9.94E-01	2.97E-01
BI-212	0.693	727.17 *	11.80	8.38E-01	8.03E-01
		1620.62 *	2.75		
PB-212	0.983	238.63 *	44.60	1.90E+00	2.10E-01
		300.09 *	3.41	1.62E+00	1.41E+00
BI-214	0.961	609.31 *	46.30	1.32E+00	2.63E-01

: 00516

Analysis Report for 1510092-07
 CP5003S12-13

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
BI-214	0.961	1120.29 *	15.10	1.48E+00	7.79E-01
		1764.49 *	15.80	1.78E+00	5.68E-01
		2204.22 *	4.98	1.36E+00	1.05E+00
PB-214	0.983	295.21 *	19.19	1.43E+00	2.86E-01
		351.92 *	37.19	1.50E+00	2.58E-01
RA-226	1.000	186.21 *	3.28	3.08E+00	5.83E+00
AC-228	0.969	338.32 *	11.40	1.59E+00	6.61E-01
		911.07 *	27.70	1.53E+00	5.23E-01
		969.11 *	16.60	8.48E-01	6.59E-01
AM-243	0.971	74.67 *	66.00	4.24E-01	9.11E-02
CM-243	0.367	209.75 *	3.29	2.38E+00	2.19E+00
		228.14 *	10.60		
		277.60 *	14.00	2.98E-01	3.67E-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 : 11/11/2015 8:21:35AM
 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	52.19	2.09276E-02	52.34	
m	3	77.61	1.93130E-01	7.17	Tol. TI-44
	6	99.67	1.92774E-02	50.13	D-Esc
	7	128.70	5.80090E-02	28.16	
	8	142.84	2.36674E-02	55.63	Tol. U-235
m	12	242.05	4.78391E-02	22.70	
	13	270.73	1.56031E-02	46.56	
	17	329.21	1.46715E-02	51.99	Tol. LA-140
	20	431.16	1.19311E-02	50.93	Sum
	21	462.87	1.68131E-02	35.53	Sum
	22	510.98	2.53166E-02	27.61	
	26	770.88	1.45992E-02	34.62	
	27	861.53	7.56797E-03	59.50	Sum
	29	933.56	1.88739E-02	31.08	
M	31	1078.49	5.04130E-03	40.49	
m	32	1084.27	6.41308E-03	44.38	

Analysis Report for 1510092-07
CP5003S12-13

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m	33	1087.24	5.36012E-03	53.10	
	35	1144.30	5.42844E-03	61.63	
	36	1238.61	8.06927E-03	46.82	Tol. CO-56
	37	1261.62	6.95811E-03	50.39	
	38	1318.20	5.13889E-03	51.74	
	39	1377.33	8.64499E-03	25.10	
	40	1407.08	4.17328E-03	38.38	Tol. EU-152
	42	1496.66	2.77778E-03	42.06	
	43	1502.62	2.91667E-03	38.24	
	44	1538.34	2.35294E-03	67.82	
	45	1562.98	2.73148E-03	40.68	
M	46	1588.71	7.73578E-03	20.63	
m	47	1592.72	5.13414E-03	40.85	D-Esc
	48	1660.75	2.39316E-03	53.19	
	49	1685.04	1.75347E-03	50.72	
	50	1730.08	3.24074E-03	39.40	Sum
	52	1881.92	2.12963E-03	61.35	Sum
	53	1895.82	1.22685E-03	65.03	
	54	2112.21	1.94444E-03	37.80	
	55	2134.25	1.89236E-03	47.00	
	57	2447.13	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

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	2.08E+01	2.59E+00
GA-67	0.57	93.31 *	35.70	3.45E+02	1.53E+03
		208.95 *	2.24	3.61E+03	1.57E+04
		300.22 *	16.00	3.57E+02	1.60E+03
CD-109	0.99	88.03 *	3.72	4.60E+00	1.33E+00
SN-126	0.97	87.57 *	37.00	4.40E-01	1.25E-01
TL-208	0.86	583.14 *	30.22	1.61E+00	3.24E-01

Analysis Report for 1510092-07

CP5003S12-13

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
TL-208	0.86	860.37	4.48		
		2614.66 *	35.85	9.94E-01	2.97E-01
BI-212	0.69	727.17 *	11.80	8.38E-01	8.03E-01
		1620.62	2.75		
PB-212	0.98	238.63 *	44.60	1.90E+00	2.10E-01
		300.09 *	3.41	1.62E+00	1.41E+00
BI-214	0.96	609.31 *	46.30	1.32E+00	2.63E-01
		1120.29 *	15.10	1.48E+00	7.79E-01
		1764.49 *	15.80	1.78E+00	5.68E-01
		2204.22 *	4.98	1.36E+00	1.05E+00
PB-214	0.98	295.21 *	19.19	1.43E+00	2.86E-01
		351.92 *	37.19	1.50E+00	2.58E-01
RA-226	1.00	186.21 *	3.28	3.08E+00	5.83E+00
AC-228	0.96	338.32 *	11.40	1.59E+00	6.61E-01
		911.07 *	27.70	1.53E+00	5.23E-01
		969.11 *	16.60	8.48E-01	6.59E-01
AM-243	0.97	74.67 *	66.00	4.24E-01	9.11E-02
CM-243	0.36	209.75 *	3.29	2.38E+00	2.19E+00
		228.14	10.60		
		277.60 *	14.00	2.98E-01	3.67E-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	0.971	2.08E+01	2.59E+00	
GA-67	0.576	2.83E+02	1.21E+03	
? CD-109	0.999	4.60E+00	1.33E+00	
? SN-126	0.978	4.40E-01	1.25E-01	
TL-208	0.866	1.27E+00	2.19E-01	
BI-212	0.693	8.38E-01	8.03E-01	
PB-212	0.983	1.87E+00	2.08E-01	

Analysis Report for 1510092-07
CP5003S12-13

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
BI-214	0.961	1.41E+00	2.23E-01	
PB-214	0.983	1.47E+00	1.92E-01	
RA-226	1.000	3.08E+00	5.83E+00	
AC-228	0.969	1.36E+00	3.48E-01	
AM-243	0.971	4.24E-01	9.11E-02	
CM-243	0.367	3.50E-01	3.62E-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 1510092-07
CP5003S12-13

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 8:21:35AM
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	52.19	2.09276E-02		
m	3	77.61	1.93130E-01		TI-44
	6	99.67	1.92774E-02	D-Esc	
	7	128.70	5.80090E-02		
	8	142.84	2.36674E-02	Tol.	U-235
m	12	242.05	4.78391E-02		
	13	270.73	1.56031E-02		
	17	329.21	1.46715E-02	Tol.	LA-140
	20	431.16	1.19311E-02	Sum	
	21	462.87	1.68131E-02	Sum	
	22	510.98	2.53166E-02		
	26	770.88	1.45992E-02		
	27	861.53	7.56797E-03	Sum	
	29	933.56	1.88739E-02		
M	31	1078.49	5.04130E-03		
m	32	1084.27	6.41308E-03		
m	33	1087.24	5.36012E-03		
	35	1144.30	5.42844E-03		
	36	1238.61	8.06927E-03	Tol.	CO-56
	37	1261.62	6.95811E-03		
	38	1318.20	5.13889E-03		
	39	1377.33	8.64499E-03		
	40	1407.08	4.17328E-03	Tol.	EU-152
	42	1496.66	2.77778E-03		
	43	1502.62	2.91667E-03		
	44	1538.34	2.35294E-03		
	45	1562.98	2.73148E-03		
M	46	1588.71	7.73578E-03		
m	47	1592.72	5.13414E-03	D-Esc	
	48	1660.75	2.39316E-03		
	49	1685.04	1.75347E-03		
	50	1730.08	3.24074E-03	Sum	
	52	1881.92	2.12963E-03	Sum	
	53	1895.82	1.22685E-03		
	54	2112.21	1.94444E-03		

Analysis Report for 1510092-07
CP5003S12-13

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
55	2134.25	1.89236E-03	47.00		
57	2447.13	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

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	3.97E-01	1.27E+00	1.27E+00
+	NA-22	1274.54	99.94	-1.36E-02	1.33E-01	1.33E-01
+	NA-24	1368.53	99.99	1.02E+14	2.52E+14	5.98E+14
		2754.09	99.86	3.42E+13		2.52E+14
+	AL-26	1808.65	99.76	4.95E-03	9.64E-02	9.64E-02
+	K-40	1460.81	* 10.67	2.08E+01	1.05E+00	1.05E+00
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	3.55E-02	8.31E-02	8.31E-02
		78.34	96.00	2.57E-01		1.02E-01
+	SC-46	889.25	99.98	-1.78E-02	1.23E-01	1.23E-01
		1120.51	99.99	2.22E-01		2.28E-01
+	V-48	983.52	99.98	1.97E-01	4.72E-01	4.72E-01
		1312.10	97.50	1.85E-01		5.14E-01
+	CR-51	320.08	9.83	-4.52E-01	1.68E+00	1.68E+00
+	MN-54	834.83	99.97	-1.38E-02	1.08E-01	1.08E-01
+	CO-56	846.75	99.96	-5.43E-03	1.34E-01	1.34E-01
		1037.75	14.03	2.70E-02		9.39E-01
		1238.25	67.00	1.81E-01		3.22E-01
		1771.40	15.51	-4.18E-02		6.63E-01
		2598.48	16.90	3.24E-02		3.58E-01
+	CO-57	122.06	85.51	-3.19E-04	7.20E-02	7.20E-02
		136.48	10.60	2.09E-02		5.68E-01
+	CO-58	810.76	99.40	3.96E-02	1.29E-01	1.29E-01
+	FE-59	1099.22	56.50	-2.41E-01	3.05E-01	3.05E-01
		1291.56	43.20	1.78E-01		5.73E-01
+	CO-60	1173.22	100.00	-6.81E-02	1.12E-01	1.34E-01
		1332.49	100.00	9.90E-04		1.12E-01

Analysis Report for 1510092-07

CP5003S12-13

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	ZN-65	1115.52		50.75	6.80E-02	2.41E-01	2.41E-01
+	GA-67	93.31	*	35.70	3.45E+02	4.19E+02	4.19E+02
		208.95	*	2.24	3.61E+03		5.42E+03
		300.22	*	16.00	3.57E+02		8.25E+02
+	SE-75	121.11		16.70	-1.09E-01	1.11E-01	4.01E-01
		136.00		59.20	4.16E-03		1.11E-01
		264.65		59.80	2.71E-02		1.44E-01
		279.53		25.20	-5.33E-02		3.55E-01
		400.65		11.40	1.83E-01		8.80E-01
+	RB-82	776.52		13.00	4.33E-01	1.93E+00	1.93E+00
+	RB-83	520.41		46.00	-7.89E-02	2.24E-01	2.24E-01
		529.64		30.30	2.05E-01		3.82E-01
		552.65		16.40	-9.58E-03		6.95E-01
+	KR-85	513.99		0.43	3.69E+01	2.73E+01	2.73E+01
+	SR-85	513.99		99.27	2.27E-01	1.68E-01	1.68E-01
+	Y-88	898.02		93.40	-1.42E-02	1.03E-01	1.28E-01
		1836.01		99.38	-1.20E-02		1.03E-01
+	NB-93M	16.57		9.43	4.48E+01	9.07E+01	9.07E+01
+	NB-94	702.63		100.00	-4.77E-03	9.79E-02	1.03E-01
		871.10		100.00	1.83E-02		9.79E-02
+	NB-95	765.79		99.81	5.45E-02	2.11E-01	2.11E-01
+	NB-95M	235.69		25.00	6.18E+02	2.80E+02	2.80E+02
+	ZR-95	724.18		43.70	-2.74E-01	2.61E-01	3.46E-01
		756.72		55.30	9.43E-02		2.61E-01
+	MO-99	181.06		6.20	4.20E+02	2.54E+03	3.79E+03
		739.58		12.80	-1.38E+03		2.54E+03
		778.00		4.50	1.51E+02		7.87E+03
+	RU-103	497.08		89.00	-4.73E-02	1.52E-01	1.52E-01
+	RU-106	621.84		9.80	-4.93E-01	9.82E-01	9.82E-01
+	AG-108M	433.93		89.90	-1.05E-03	8.82E-02	8.82E-02
		614.37		90.40	2.23E-02		1.24E-01
		722.95		90.50	1.91E-02		1.06E-01
+	CD-109	88.03	*	3.72	4.60E+00	4.01E+00	4.01E+00
+	AG-110M	657.75		93.14	1.09E-02	1.12E-01	1.12E-01
		677.61		10.53	2.51E-01		1.01E+00
		706.67		16.46	-6.07E-02		6.44E-01
		763.93		21.98	3.31E-02		4.51E-01
		884.67		71.63	1.15E-02		1.35E-01
		1384.27		23.94	9.40E-02		4.53E-01
+	CD-113M	263.70		0.02	9.88E+01	3.13E+02	3.13E+02
+	SN-113	255.12		1.93	7.75E-01	1.62E-01	4.64E+00
		391.69		64.90	8.89E-02		1.62E-01
+	TE123M	159.00		84.10	5.08E-04	8.31E-02	8.31E-02
+	SB-124	602.71		97.87	-2.63E-02	1.25E-01	1.25E-01
		645.85		7.26	-5.82E-01		1.74E+00
		722.78		11.10	2.27E-01		1.26E+00
		1691.02		49.00	-3.03E-02		2.43E-01
+	I-125	35.49		6.49	1.67E+00	3.61E+00	3.61E+00

Analysis Report for 1510092-07

CP5003S12-13

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	SB-125	176.33	6.89	-2.82E-01	2.75E-01	9.34E-01
		427.89	29.33	-4.79E-02		2.75E-01
		463.38	10.35	9.42E-01		9.55E-01
		600.56	17.80	2.46E-01		5.30E-01
		635.90	11.32	-2.76E-02		8.03E-01
+	SB-126	414.70	83.30	-2.87E-01	5.95E-01	5.95E-01
		666.33	99.60	1.09E-01		6.43E-01
		695.00	99.60	3.37E-01		6.36E-01
		720.50	53.80	4.14E-01		1.17E+00
+	SN-126	87.57	* 37.00	4.40E-01	3.84E-01	3.84E-01
+	SB-127	473.00	25.00	-4.99E+01	9.57E+01	1.13E+02
		685.20	35.70	-3.12E+01		9.57E+01
		783.80	14.70	1.19E+02		2.46E+02
+	I-129	29.78	57.00	5.73E-03	4.87E-01	4.87E-01
		33.60	13.20	-1.38E-01		1.42E+00
		39.58	7.52	-2.77E-01		1.65E+00
+	I-131	284.30	6.05	-5.94E+00	1.54E+00	1.92E+01
		364.48	81.20	-7.19E-01		1.54E+00
		636.97	7.26	5.02E+00		2.09E+01
		722.89	1.80	1.60E+01		8.92E+01
+	TE-132	49.72	13.10	-1.98E+02	9.34E+01	7.43E+02
		228.16	88.00	3.89E+01		9.34E+01
+	BA-133	81.00	33.00	-1.12E+00	1.93E-01	2.03E-01
		302.84	17.80	4.71E-02		4.73E-01
		356.01	60.00	1.13E-02		1.93E-01
+	I-133	529.87	86.30	1.22E+10	2.28E+10	2.28E+10
+	XE-133	81.00	38.00	-7.27E+01	1.32E+01	1.32E+01
+	CS-134	563.23	8.38	5.89E-01	9.75E-02	1.18E+00
		569.32	15.43	-2.56E-01		5.43E-01
		604.70	97.60	-7.18E-03		9.75E-02
		795.84	85.40	2.25E-02		1.21E-01
		801.93	8.73	1.51E-02		1.04E+00
+	CS-135	268.24	16.00	1.57E-01	5.01E-01	5.01E-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	6.98E-01	4.64E-01	4.37E+00
		163.89	4.61	-7.19E-01		7.06E+00
		176.55	13.56	-4.63E-01		2.58E+00
		273.65	12.66	2.54E-01		3.65E+00
		340.57	48.50	2.35E+00		1.19E+00
		818.50	99.70	-2.46E-01		4.64E-01
		1048.07	79.60	8.51E-02		7.88E-01
		1235.34	19.70	-5.22E-02		4.14E+00
+	CS-137	661.65	85.12	-1.77E-02	1.19E-01	1.19E-01
+	LA-138	788.74	34.00	1.61E-02	1.41E-01	2.90E-01
		1435.80	66.00	-8.25E-02		1.41E-01
+	CE-139	165.85	80.35	3.53E-02	8.63E-02	8.63E-02
+	BA-140	162.64	6.70	-2.42E+00	1.93E+00	4.98E+00

Analysis Report for 1510092-07
CP5003S12-13

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	BA-140	304.84	4.50	3.93E-01	1.93E+00	9.76E+00
		423.70	3.20	3.72E+00		1.44E+01
		437.55	2.00	-2.91E+00		2.33E+01
		537.32	25.00	-1.92E+00		1.93E+00
+	LA-140	328.77	20.50	1.90E+00	7.69E-01	2.42E+00
		487.03	45.50	-1.26E-01		9.87E-01
		815.85	23.50	8.28E-01		2.31E+00
		1596.49	95.49	-2.77E-02		7.69E-01
+	CE-141	145.44	48.40	2.20E-02	2.40E-01	2.40E-01
+	CE-143	57.36	11.80	8.52E+05	3.52E+06	1.00E+07
		293.26	42.00	-7.13E+04		3.52E+06
		664.55	5.20	1.80E+07		2.91E+07
+	CE-144	133.54	10.80	1.05E-01	5.87E-01	5.87E-01
+	PM-144	476.78	42.00	1.87E-02	1.01E-01	2.18E-01
		618.01	98.60	-2.46E-02		1.01E-01
		696.49	99.49	1.33E-02		1.08E-01
+	PM-145	36.85	21.70	-2.28E-01	3.58E-01	6.63E-01
		37.36	39.70	5.18E-02		3.58E-01
		42.30	15.10	-3.82E-01		7.52E-01
		72.40	2.31	-6.30E+00		3.86E+00
+	PM-146	453.90	39.94	-5.13E-02	1.98E-01	1.98E-01
		735.90	14.01	-1.63E-01		6.28E-01
		747.13	13.10	0.00E+00		7.48E-01
+	ND-147	91.11	28.90	-4.78E-01	2.17E+00	2.17E+00
		531.02	13.10	2.38E+00		5.33E+00
+	PM-149	285.90	3.10	2.59E+04	6.49E+04	6.49E+04
+	EU-152	121.78	20.50	-1.23E-03	2.77E-01	2.77E-01
		244.69	5.40	4.39E-02		1.66E+00
		344.27	19.13	-2.11E-02		3.92E-01
		778.89	9.20	4.20E-01		1.08E+00
		964.01	10.40	3.80E-01		1.18E+00
		1085.78	7.22	1.03E+00		1.73E+00
		1112.02	9.60	-2.76E-02		1.12E+00
		1407.95	14.94	-1.03E-01		6.88E-01
+	GD-153	97.43	31.30	-1.56E-01	2.06E-01	2.06E-01
		103.18	22.20	-7.22E-02		2.62E-01
+	EU-154	123.07	40.50	-2.09E-02	1.41E-01	1.41E-01
		723.30	19.70	8.84E-02		4.92E-01
		873.19	11.50	7.85E-02		8.01E-01
		996.32	10.30	-2.45E-02		1.05E+00
		1004.76	17.90	-1.72E-01		5.41E-01
		1274.45	35.50	-3.75E-02		3.67E-01
+	EU-155	86.50	30.90	1.23E-01	2.51E-01	2.51E-01
		105.30	20.70	2.70E-02		2.68E-01
+	EU-156	811.77	10.40	-6.07E-01	3.82E+00	3.82E+00
		1153.47	7.20	4.00E+00		7.92E+00
		1230.71	8.90	4.49E+00		7.15E+00
+	HO-166M	184.41	72.60	1.84E-01	1.07E-01	1.07E-01
		280.45	29.60	-1.13E-01		2.44E-01

Analysis Report for 1510092-07

CP5003S12-13

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	HO-166M	410.94	11.10	3.49E-01	1.07E-01	8.17E-01
		711.69	54.10	-4.22E-02		1.69E-01
+	TM-171	66.72	0.14	-6.79E+01	5.85E+01	5.85E+01
+	HF-172	81.75	4.52	-5.50E+00	5.47E-01	1.50E+00
		125.81	11.30	-1.53E-01		5.47E-01
+	LU-172	181.53	20.60	3.14E-01	5.36E+00	8.82E+00
		810.06	16.63	6.19E+00		1.65E+01
		912.12	15.25	9.21E+01		3.97E+01
		1093.66	62.50	2.72E+00		5.36E+00
+	LU-173	100.72	5.24	7.36E-01	4.12E-01	1.14E+00
		272.11	21.20	2.97E-01		4.12E-01
+	HF-175	343.40	84.00	-6.61E-03	1.34E-01	1.34E-01
+	LU-176	88.34	13.30	3.19E-01	8.02E-02	6.13E-01
		201.83	86.00	1.19E-02		8.97E-02
		306.78	94.00	2.73E-02		8.02E-02
+	TA-182	67.75	41.20	9.92E-02	2.32E-01	2.32E-01
		1121.30	34.90	7.45E-01		6.14E-01
		1189.05	16.23	4.52E-01		1.08E+00
		1221.41	26.98	3.67E-01		6.29E-01
		1231.02	11.44	5.65E-01		1.46E+00
+	IR-192	308.46	29.68	7.14E-02	2.09E-01	3.32E-01
		468.07	48.10	-5.66E-02		2.09E-01
+	HG-203	279.19	77.30	9.97E-02	1.61E-01	1.61E-01
+	BI-207	569.67	97.72	-2.88E-02	8.59E-02	8.59E-02
		1063.62	74.90	-1.34E-02		1.35E-01
+	TL-208	583.14	* 30.22	1.61E+00	2.14E-01	3.57E-01
		860.37	4.48	9.56E-01		2.53E+00
		2614.66	* 35.85	9.94E-01		2.14E-01
+	BI-210M	262.00	45.00	-9.00E-02	1.56E-01	1.56E-01
		300.00	23.00	-1.31E+00		3.65E-01
+	PB-210	46.50	4.25	2.55E+00	2.56E+00	2.56E+00
+	PB-211	404.84	2.90	-3.52E+00	2.88E+00	2.88E+00
		831.96	2.90	-1.00E+00		3.03E+00
+	BI-212	727.17	* 11.80	8.38E-01	1.30E+00	1.30E+00
		1620.62	2.75	8.29E-01		3.33E+00
+	PB-212	238.63	* 44.60	1.90E+00	2.95E-01	2.95E-01
		300.09	* 3.41	1.62E+00		3.74E+00
+	BI-214	609.31	* 46.30	1.32E+00	3.06E-01	3.06E-01
		1120.29	* 15.10	1.48E+00		1.17E+00
		1764.49	* 15.80	1.78E+00		5.61E-01
		2204.22	* 4.98	1.36E+00		1.42E+00
+	PB-214	295.21	* 19.19	1.43E+00	3.03E-01	6.46E-01
		351.92	* 37.19	1.50E+00		3.03E-01
+	RN-219	401.80	6.50	3.26E-01	1.29E+00	1.29E+00
+	RA-223	323.87	3.88	-2.37E-01	1.97E+00	1.97E+00
+	RA-224	240.98	3.95	2.45E+01	4.01E+00	4.01E+00
+	RA-225	40.00	31.00	-3.03E-01	1.81E+00	1.81E+00
+	RA-226	186.21	* 3.28	3.08E+00	2.35E+00	2.35E+00

Analysis Report for 1510092-07
CP5003S12-13

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	TH-227	50.10		8.40	-2.93E-01	1.10E+00	1.10E+00
		236.00		11.50	2.54E+00		1.15E+00
		256.20		6.30	9.15E-03		1.15E+00
+	AC-228	338.32	*	11.40	1.59E+00	7.56E-01	1.01E+00
		911.07	*	27.70	1.53E+00		7.56E-01
		969.11	*	16.60	8.48E-01		1.05E+00
+	TH-230	48.44		16.90	4.60E-01	6.03E-01	6.03E-01
		62.85		4.60	4.38E-01		1.90E+00
		67.67		0.37	9.07E+00		2.12E+01
+	PA-231	283.67		1.60	-1.34E+00	3.64E+00	4.35E+00
		302.67		2.30	3.62E-01		3.64E+00
+	TH-231	25.64		14.70	-1.12E+00	1.02E+00	3.58E+00
		84.21		6.40	-2.72E+00		1.02E+00
+	PA-233	311.98		38.60	4.91E-02	4.22E-01	4.22E-01
+	PA-234	131.20		20.40	3.11E-01	3.14E-01	3.14E-01
		733.99		8.80	1.99E-01		1.02E+00
		946.00		12.00	1.29E-01		8.25E-01
+	PA-234M	1001.03		0.92	-1.68E+00	1.09E+01	1.09E+01
+	TH-234	63.29		3.80	1.74E+00	2.29E+00	2.29E+00
+	U-235	143.76		10.50	3.20E-01	5.73E-01	5.73E-01
		163.35		4.70	-1.26E-01		1.24E+00
		205.31		4.70	-2.34E-01		1.65E+00
+	NP-237	86.50		12.60	2.98E-01	6.09E-01	6.09E-01
+	NP-239	106.10		22.70	1.69E+02	3.63E+03	3.63E+03
		228.18		10.70	4.60E+03		1.10E+04
		277.60		14.10	5.25E+03		8.27E+03
+	AM-241	59.54		35.90	-2.19E-01	2.33E-01	2.33E-01
+	AM-243	74.67	*	66.00	4.24E-01	2.06E-01	2.06E-01
+	CM-243	209.75	*	3.29	2.38E+00	6.03E-01	3.57E+00
		228.14		10.60	3.11E-01		7.46E-01
		277.60	*	14.00	2.98E-01		6.03E-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 1510092-07
CP5003S12-13

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	1.27E+00	1.27E+00	3.97E-01	6.04E-01
NA-22	1274.54	99.94	1.33E-01	1.33E-01	-1.36E-02	6.11E-02
NA-24	1368.53	99.99	5.98E+14	2.52E+14	1.02E+14	2.70E+14
	2754.09	99.86	2.52E+14		3.42E+13	7.96E+13
AL-26	1808.65	99.76	9.64E-02	9.64E-02	4.95E-03	4.15E-02
+ K-40	1460.81	* 10.67	1.05E+00	1.05E+00	2.08E+01	4.70E-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	8.31E-02	8.31E-02	3.55E-02	4.07E-02
	78.34	96.00	1.02E-01		2.57E-01	5.00E-02
SC-46	889.25	99.98	1.23E-01	1.23E-01	-1.78E-02	5.66E-02
	1120.51	99.99	2.28E-01		2.22E-01	1.08E-01
V-48	983.52	99.98	4.72E-01	4.72E-01	1.97E-01	2.19E-01
	1312.10	97.50	5.14E-01		1.85E-01	2.35E-01
CR-51	320.08	9.83	1.68E+00	1.68E+00	-4.52E-01	8.05E-01
MN-54	834.83	99.97	1.08E-01	1.08E-01	-1.38E-02	5.01E-02
CO-56	846.75	99.96	1.34E-01	1.34E-01	-5.43E-03	6.23E-02
	1037.75	14.03	9.39E-01		2.70E-02	4.29E-01
	1238.25	67.00	3.22E-01		1.81E-01	1.51E-01
	1771.40	15.51	6.63E-01		-4.18E-02	2.75E-01
	2598.48	16.90	3.58E-01		3.24E-02	1.13E-01
CO-57	122.06	85.51	7.20E-02	7.20E-02	-3.19E-04	3.50E-02
	136.48	10.60	5.68E-01		2.09E-02	2.75E-01
CO-58	810.76	99.40	1.29E-01	1.29E-01	3.96E-02	5.95E-02
FE-59	1099.22	56.50	3.05E-01	3.05E-01	-2.41E-01	1.39E-01
	1291.56	43.20	5.73E-01		1.78E-01	2.67E-01
CO-60	1173.22	100.00	1.34E-01	1.12E-01	-6.81E-02	6.22E-02
	1332.49	100.00	1.12E-01		9.90E-04	5.05E-02
ZN-65	1115.52	50.75	2.41E-01	2.41E-01	6.80E-02	1.10E-01
+ GA-67	93.31	* 35.70	4.19E+02	4.19E+02	3.45E+02	2.07E+02
	208.95	* 2.24	5.42E+03		3.61E+03	2.66E+03
	300.22	* 16.00	8.25E+02		3.57E+02	4.03E+02
SE-75	121.11	16.70	4.01E-01	1.11E-01	-1.09E-01	1.95E-01
	136.00	59.20	1.11E-01		4.16E-03	5.39E-02
	264.65	59.80	1.44E-01		2.71E-02	6.91E-02
	279.53	25.20	3.55E-01		-5.33E-02	1.71E-01
	400.65	11.40	8.80E-01		1.83E-01	4.20E-01
RB-82	776.52	13.00	1.93E+00	1.93E+00	4.33E-01	9.04E-01
RB-83	520.41	46.00	2.24E-01	2.24E-01	-7.89E-02	1.05E-01
	529.64	30.30	3.82E-01		2.05E-01	1.81E-01
	552.65	16.40	6.95E-01		-9.58E-03	3.28E-01
KR-85	513.99	0.43	2.73E+01	2.73E+01	3.69E+01	1.31E+01
SR-85	513.99	99.27	1.68E-01	1.68E-01	2.27E-01	8.07E-02
Y-88	898.02	93.40	1.28E-01	1.03E-01	-1.42E-02	5.89E-02
	1836.01	99.38	1.03E-01		-1.20E-02	4.33E-02
NB-93M	16.57	9.43	9.07E+01	9.07E+01	4.48E+01	4.42E+01

Analysis Report for 1510092-07
CP5003S12-13

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	1.03E-01	9.79E-02	-4.77E-03	4.84E-02
	871.10	100.00	9.79E-02		1.83E-02	4.52E-02
NB-95	765.79	99.81	2.11E-01	2.11E-01	5.45E-02	9.90E-02
NB-95M	235.69	25.00	2.80E+02	2.80E+02	6.18E+02	1.38E+02
ZR-95	724.18	43.70	3.46E-01	2.61E-01	-2.74E-01	1.63E-01
	756.72	55.30	2.61E-01		9.43E-02	1.22E-01
MO-99	181.06	6.20	3.79E+03	2.54E+03	4.20E+02	1.83E+03
	739.58	12.80	2.54E+03		-1.38E+03	1.17E+03
	778.00	4.50	7.87E+03		1.51E+02	3.65E+03
RU-103	497.08	89.00	1.52E-01	1.52E-01	-4.73E-02	7.15E-02
RU-106	621.84	9.80	9.82E-01	9.82E-01	-4.93E-01	4.61E-01
AG-108M	433.93	89.90	8.82E-02	8.82E-02	-1.05E-03	4.18E-02
	614.37	90.40	1.24E-01		2.23E-02	5.89E-02
	722.95	90.50	1.06E-01		1.91E-02	4.96E-02
+ CD-109	88.03	*	3.72	4.01E+00	4.01E+00	4.60E+00
AG-110M	657.75	93.14	1.12E-01	1.12E-01	1.09E-02	5.24E-02
	677.61	10.53	1.01E+00		2.51E-01	4.76E-01
	706.67	16.46	6.44E-01		-6.07E-02	3.01E-01
	763.93	21.98	4.51E-01		3.31E-02	2.09E-01
	884.67	71.63	1.35E-01		1.15E-02	6.18E-02
	1384.27	23.94	4.53E-01		9.40E-02	2.01E-01
CD-113M	263.70	0.02	3.13E+02	3.13E+02	9.88E+01	1.51E+02
SN-113	255.12	1.93	4.64E+00	1.62E-01	7.75E-01	2.24E+00
	391.69	64.90	1.62E-01		8.89E-02	7.75E-02
TE123M	159.00	84.10	8.31E-02	8.31E-02	5.08E-04	4.02E-02
SB-124	602.71	97.87	1.25E-01	1.25E-01	-2.63E-02	5.87E-02
	645.85	7.26	1.74E+00		-5.82E-01	8.11E-01
	722.78	11.10	1.26E+00		2.27E-01	5.89E-01
	1691.02	49.00	2.43E-01		-3.03E-02	1.03E-01
I-125	35.49	6.49	3.61E+00	3.61E+00	1.67E+00	1.76E+00
SB-125	176.33	6.89	9.34E-01	2.75E-01	-2.82E-01	4.52E-01
	427.89	29.33	2.75E-01		-4.79E-02	1.31E-01
	463.38	10.35	9.55E-01		9.42E-01	4.56E-01
	600.56	17.80	5.30E-01		2.46E-01	2.50E-01
	635.90	11.32	8.03E-01		-2.76E-02	3.76E-01
SB-126	414.70	83.30	5.95E-01	5.95E-01	-2.87E-01	2.83E-01
	666.33	99.60	6.43E-01		1.09E-01	3.03E-01
	695.00	99.60	6.36E-01		3.37E-01	2.99E-01
	720.50	53.80	1.17E+00		4.14E-01	5.50E-01
+ SN-126	87.57	*	37.00	3.84E-01	3.84E-01	4.40E-01
SB-127	473.00	25.00	1.13E+02	9.57E+01	-4.99E+01	5.36E+01
	685.20	35.70	9.57E+01		-3.12E+01	4.48E+01
	783.80	14.70	2.46E+02		1.19E+02	1.15E+02
I-129	29.78	57.00	4.87E-01	4.87E-01	5.73E-03	2.37E-01
	33.60	13.20	1.42E+00		-1.38E-01	6.90E-01
	39.58	7.52	1.65E+00		-2.77E-01	8.03E-01
I-131	284.30	6.05	1.92E+01	1.54E+00	-5.94E+00	9.23E+00
	364.48	81.20	1.54E+00		-7.19E-01	7.34E-01
	636.97	7.26	2.09E+01		5.02E+00	9.78E+00
	722.89	1.80	8.92E+01		1.60E+01	4.17E+01
TE-132	49.72	13.10	7.43E+02	9.34E+01	-1.98E+02	3.62E+02
	228.16	88.00	9.34E+01		3.89E+01	4.53E+01
BA-133	81.00	33.00	2.03E-01	1.93E-01	-1.12E+00	9.93E-02

Analysis Report for 1510092-07

CP5003S12-13

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	4.73E-01	1.93E-01	4.71E-02	2.28E-01
	356.01	60.00	1.93E-01		1.13E-02	9.34E-02
I-133	529.87	86.30	2.28E+10	2.28E+10	1.22E+10	1.08E+10
XE-133	81.00	38.00	1.32E+01	1.32E+01	-7.27E+01	6.43E+00
CS-134	563.23	8.38	1.18E+00	9.75E-02	5.89E-01	5.57E-01
	569.32	15.43	5.43E-01		-2.56E-01	2.54E-01
	604.70	97.60	9.75E-02		-7.18E-03	4.59E-02
	795.84	85.40	1.21E-01		2.25E-02	5.62E-02
	801.93	8.73	1.04E+00		1.51E-02	4.77E-01
CS-135	268.24	16.00	5.01E-01	5.01E-01	1.57E-01	2.42E-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	4.37E+00	4.64E-01	6.98E-01	2.12E+00
	163.89	4.61	7.06E+00		-7.19E-01	3.41E+00
	176.55	13.56	2.58E+00		-4.63E-01	1.25E+00
	273.65	12.66	3.65E+00		2.54E-01	1.77E+00
	340.57	48.50	1.19E+00		2.35E+00	5.74E-01
	818.50	99.70	4.64E-01		-2.46E-01	2.12E-01
	1048.07	79.60	7.88E-01		8.51E-02	3.64E-01
	1235.34	19.70	4.14E+00		-5.22E-02	1.93E+00
CS-137	661.65	85.12	1.19E-01	1.19E-01	-1.77E-02	5.60E-02
LA-138	788.74	34.00	2.90E-01	1.41E-01	1.61E-02	1.35E-01
	1435.80	66.00	1.41E-01		-8.25E-02	6.21E-02
CE-139	165.85	80.35	8.63E-02	8.63E-02	3.53E-02	4.18E-02
BA-140	162.64	6.70	4.98E+00	1.93E+00	-2.42E+00	2.41E+00
	304.84	4.50	9.76E+00		3.93E-01	4.68E+00
	423.70	3.20	1.44E+01		3.72E+00	6.85E+00
	437.55	2.00	2.33E+01		-2.91E+00	1.11E+01
	537.32	25.00	1.93E+00		-1.92E+00	9.05E-01
LA-140	328.77	20.50	2.42E+00	7.69E-01	1.90E+00	1.17E+00
	487.03	45.50	9.87E-01		-1.26E-01	4.65E-01
	815.85	23.50	2.31E+00		8.28E-01	1.07E+00
	1596.49	95.49	7.69E-01		-2.77E-02	3.47E-01
CE-141	145.44	48.40	2.40E-01	2.40E-01	2.20E-02	1.16E-01
CE-143	57.36	11.80	1.00E+07	3.52E+06	8.52E+05	4.91E+06
	293.26	42.00	3.52E+06		-7.13E+04	1.71E+06
	664.55	5.20	2.91E+07		1.80E+07	1.38E+07
CE-144	133.54	10.80	5.87E-01	5.87E-01	1.05E-01	2.85E-01
PM-144	476.78	42.00	2.18E-01	1.01E-01	1.87E-02	1.03E-01
	618.01	98.60	1.01E-01		-2.46E-02	4.76E-02
	696.49	99.49	1.08E-01		1.33E-02	5.08E-02
PM-145	36.85	21.70	6.63E-01	3.58E-01	-2.28E-01	3.22E-01
	37.36	39.70	3.58E-01		5.18E-02	1.74E-01
	42.30	15.10	7.52E-01		-3.82E-01	3.66E-01
	72.40	2.31	3.86E+00		-6.30E+00	1.90E+00
PM-146	453.90	39.94	1.98E-01	1.98E-01	-5.13E-02	9.37E-02
	735.90	14.01	6.28E-01		-1.63E-01	2.91E-01
	747.13	13.10	7.48E-01		0.00E+00	3.49E-01
ND-147	91.11	28.90	2.17E+00	2.17E+00	-4.78E-01	1.06E+00
	531.02	13.10	5.33E+00		2.38E+00	2.52E+00
PM-149	285.90	3.10	6.49E+04	6.49E+04	2.59E+04	3.12E+04
EU-152	121.78	20.50	2.77E-01	2.77E-01	-1.23E-03	1.35E-01

Analysis Report for 1510092-07

CP5003S12-13

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	1.66E+00	2.77E-01	4.39E-02	8.06E-01
	344.27	19.13	3.92E-01		-2.11E-02	1.87E-01
	778.89	9.20	1.08E+00		4.20E-01	5.03E-01
	964.01	10.40	1.18E+00		3.80E-01	5.51E-01
	1085.78	7.22	1.73E+00		1.03E+00	8.02E-01
	1112.02	9.60	1.12E+00		-2.76E-02	5.14E-01
	1407.95	14.94	6.88E-01		-1.03E-01	3.07E-01
GD-153	97.43	31.30	2.06E-01	2.06E-01	-1.56E-01	1.00E-01
	103.18	22.20	2.62E-01		-7.22E-02	1.27E-01
EU-154	123.07	40.50	1.41E-01	1.41E-01	-2.09E-02	6.83E-02
	723.30	19.70	4.92E-01		8.84E-02	2.30E-01
	873.19	11.50	8.01E-01		7.85E-02	3.68E-01
	996.32	10.30	1.05E+00		-2.45E-02	4.86E-01
	1004.76	17.90	5.41E-01		-1.72E-01	2.47E-01
EU-155	1274.45	35.50	3.67E-01	2.51E-01	-3.75E-02	1.69E-01
	86.50	30.90	2.51E-01		1.23E-01	1.23E-01
EU-156	105.30	20.70	2.68E-01	3.82E+00	2.70E-02	1.30E-01
	811.77	10.40	3.82E+00		-6.07E-01	1.76E+00
HO-166M	1153.47	7.20	7.92E+00	1.07E-01	4.00E+00	3.67E+00
	1230.71	8.90	7.15E+00		4.49E+00	3.33E+00
	184.41	72.60	1.07E-01		1.84E-01	5.19E-02
	280.45	29.60	2.44E-01		-1.13E-01	1.17E-01
TM-171	410.94	11.10	8.17E-01	5.85E+01	3.49E-01	3.91E-01
	711.69	54.10	1.69E-01		-4.22E-02	7.88E-02
	66.72	0.14	5.85E+01		-6.79E+01	2.86E+01
HF-172	81.75	4.52	1.50E+00	5.47E-01	-5.50E+00	7.32E-01
	125.81	11.30	5.47E-01		-1.53E-01	2.66E-01
LU-172	181.53	20.60	8.82E+00	5.36E+00	3.14E-01	4.26E+00
	810.06	16.63	1.65E+01		6.19E+00	7.64E+00
	912.12	15.25	3.97E+01		9.21E+01	1.91E+01
	1093.66	62.50	5.36E+00		2.72E+00	2.47E+00
LU-173	100.72	5.24	1.14E+00	4.12E-01	7.36E-01	5.57E-01
	272.11	21.20	4.12E-01		2.97E-01	1.99E-01
HF-175	343.40	84.00	1.34E-01	1.34E-01	-6.61E-03	6.41E-02
LU-176	88.34	13.30	6.13E-01	8.02E-02	3.19E-01	3.01E-01
	201.83	86.00	8.97E-02		1.19E-02	4.36E-02
	306.78	94.00	8.02E-02		2.73E-02	3.85E-02
TA-182	67.75	41.20	2.32E-01	2.32E-01	9.92E-02	1.14E-01
	1121.30	34.90	6.14E-01		7.45E-01	2.91E-01
	1189.05	16.23	1.08E+00		4.52E-01	5.03E-01
	1221.41	26.98	6.29E-01		3.67E-01	2.92E-01
	1231.02	11.44	1.46E+00		5.65E-01	6.75E-01
IR-192	308.46	29.68	3.32E-01	2.09E-01	7.14E-02	1.59E-01
	468.07	48.10	2.09E-01		-5.66E-02	9.82E-02
HG-203	279.19	77.30	1.61E-01	1.61E-01	9.97E-02	7.76E-02
BI-207	569.67	97.72	8.59E-02	8.59E-02	-2.88E-02	4.03E-02
	1063.62	74.90	1.35E-01		-1.34E-02	6.16E-02
+ TL-208	583.14	* 30.22	3.57E-01	2.14E-01	1.61E+00	1.70E-01
	860.37	4.48	2.53E+00		9.56E-01	1.18E+00
BI-210M	2614.66	* 35.85	2.14E-01	1.56E-01	9.94E-01	8.37E-02
	262.00	45.00	1.56E-01		-9.00E-02	7.50E-02
PB-210	300.00	23.00	3.65E-01	2.56E+00	-1.31E+00	1.76E-01
	46.50	4.25	2.56E+00		2.55E+00	1.25E+00

Analysis Report for 1510092-07
CP5003S12-13

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	2.88E+00	2.88E+00	-3.52E+00	1.37E+00
	831.96	2.90	3.03E+00		-1.00E+00	1.39E+00
+ BI-212	727.17 *	11.80	1.30E+00	1.30E+00	8.38E-01	6.23E-01
	1620.62	2.75	3.33E+00		8.29E-01	1.44E+00
+ PB-212	238.63 *	44.60	2.95E-01	2.95E-01	1.90E+00	1.45E-01
	300.09 *	3.41	3.74E+00		1.62E+00	1.83E+00
+ BI-214	609.31 *	46.30	3.06E-01	3.06E-01	1.32E+00	1.47E-01
	1120.29 *	15.10	1.17E+00		1.48E+00	5.57E-01
	1764.49 *	15.80	5.61E-01		1.78E+00	2.39E-01
	2204.22 *	4.98	1.42E+00		1.36E+00	5.60E-01
+ PB-214	295.21 *	19.19	6.46E-01	3.03E-01	1.43E+00	3.15E-01
	351.92 *	37.19	3.03E-01		1.50E+00	1.47E-01
RN-219	401.80	6.50	1.29E+00	1.29E+00	3.26E-01	6.13E-01
RA-223	323.87	3.88	1.97E+00	1.97E+00	-2.37E-01	9.45E-01
RA-224	240.98	3.95	4.01E+00	4.01E+00	2.45E+01	1.97E+00
RA-225	40.00	31.00	1.81E+00	1.81E+00	-3.03E-01	8.78E-01
+ RA-226	186.21 *	3.28	2.35E+00	2.35E+00	3.08E+00	1.14E+00
TH-227	50.10	8.40	1.10E+00	1.10E+00	-2.93E-01	5.37E-01
	236.00	11.50	1.15E+00		2.54E+00	5.66E-01
	256.20	6.30	1.15E+00		9.15E-03	5.54E-01
+ AC-228	338.32 *	11.40	1.01E+00	7.56E-01	1.59E+00	4.89E-01
	911.07 *	27.70	7.56E-01		1.53E+00	3.64E-01
	969.11 *	16.60	1.05E+00		8.48E-01	4.99E-01
TH-230	48.44	16.90	6.03E-01	6.03E-01	4.60E-01	2.95E-01
	62.85	4.60	1.90E+00		4.38E-01	9.30E-01
	67.67	0.37	2.12E+01		9.07E+00	1.04E+01
PA-231	283.67	1.60	4.35E+00	3.64E+00	-1.34E+00	2.09E+00
	302.67	2.30	3.64E+00		3.62E-01	1.75E+00
TH-231	25.64	14.70	3.58E+00	1.02E+00	-1.12E+00	1.74E+00
	84.21	6.40	1.02E+00		-2.72E+00	5.00E-01
PA-233	311.98	38.60	4.22E-01	4.22E-01	4.91E-02	2.02E-01
PA-234	131.20	20.40	3.14E-01	3.14E-01	3.11E-01	1.53E-01
	733.99	8.80	1.02E+00		1.99E-01	4.73E-01
	946.00	12.00	8.25E-01		1.29E-01	3.79E-01
PA-234M	1001.03	0.92	1.09E+01	1.09E+01	-1.68E+00	5.01E+00
TH-234	63.29	3.80	2.29E+00	2.29E+00	1.74E+00	1.12E+00
U-235	143.76	10.50	5.73E-01	5.73E-01	3.20E-01	2.78E-01
	163.35	4.70	1.24E+00		-1.26E-01	5.98E-01
	205.31	4.70	1.65E+00		-2.34E-01	8.00E-01
NP-237	86.50	12.60	6.09E-01	6.09E-01	2.98E-01	2.98E-01
NP-239	106.10	22.70	3.63E+03	3.63E+03	1.69E+02	1.76E+03
	228.18	10.70	1.10E+04		4.60E+03	5.35E+03
	277.60	14.10	8.27E+03		5.25E+03	3.99E+03
AM-241	59.54	35.90	2.33E-01	2.33E-01	-2.19E-01	1.14E-01
+ AM-243	74.67 *	66.00	2.06E-01	2.06E-01	4.24E-01	1.02E-01
+ CM-243	209.75 *	3.29	3.57E+00	6.03E-01	2.38E+00	1.75E+00
	228.14	10.60	7.46E-01		3.11E-01	3.62E-01
	277.60 *	14.00	6.03E-01		2.98E-01	2.92E-01

Analysis Report for 1510092-07
CP5003S12-13

- + = 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: CP5003S12-13

Elapsed Live time: 3600
 Elapsed Real Time: 3616

Channel	1	2	3	4	5	6	7	8	9
1:	0	0	0	0	0	0	0	0	0
9:	8	162	190	152	139	105	97	106	
17:	109	94	74	74	76	86	99	92	
25:	76	89	73	73	79	78	83	74	
33:	80	78	70	95	80	80	66	89	
41:	85	98	92	95	94	113	188	111	
49:	101	100	113	130	119	102	102	92	
57:	124	120	129	168	143	117	182	227	
65:	142	147	142	167	126	140	128	157	
73:	153	173	386	335	398	481	149	118	
81:	123	118	87	131	149	98	175	259	
89:	127	195	161	120	272	207	97	89	
97:	81	82	100	113	77	75	75	68	
105:	75	92	83	79	78	84	63	64	
113:	73	76	64	84	94	71	68	85	
121:	80	63	76	82	82	87	81	89	
129:	101	106	79	94	89	54	78	68	
137:	65	60	63	66	76	77	78	86	
145:	71	64	66	56	68	54	79	54	
153:	59	71	65	64	64	52	64	77	
161:	51	58	61	68	51	63	62	59	
169:	55	45	56	68	72	69	64	56	
177:	62	70	66	72	56	56	56	58	
185:	75	138	135	53	63	65	48	58	
193:	58	55	57	59	57	42	65	67	
201:	50	58	50	56	57	62	55	57	
209:	81	83	68	45	51	44	49	46	
217:	58	54	39	48	37	51	46	58	
225:	49	38	45	53	56	48	61	43	
233:	34	48	50	46	64	156	563	265	
241:	98	126	87	40	35	33	40	41	
249:	40	42	34	37	39	32	33	32	
257:	43	37	27	36	32	28	31	27	
265:	38	38	32	27	27	54	62	46	
273:	35	35	36	39	34	51	29	32	
281:	26	25	23	21	38	34	21	38	
289:	25	27	21	34	19	33	123	156	
297:	45	26	22	54	52	27	27	27	
305:	33	27	24	28	34	21	27	17	
313:	20	18	27	17	23	18	28	31	
321:	21	31	17	34	26	27	26	45	
329:	40	28	30	23	18	19	24	25	
337:	21	61	100	44	27	25	28	24	
345:	16	22	13	26	16	17	54	237	
353:	208	35	21	18	26	26	24	28	
361:	23	22	29	15	16	21	21	17	

369: 22 24 20 18 29 19 28 27

Sample Title: CP5003S12-13

Channel								
377:	23	16	12	17	17	23	15	21
385:	22	20	22	17	23	20	29	23
393:	30	22	20	19	18	22	18	23
401:	19	33	25	8	23	17	20	21
409:	40	36	20	25	13	15	21	22
417:	19	13	21	15	19	24	21	10
425:	17	12	16	17	12	24	20	21
433:	20	15	9	12	19	15	20	17
441:	23	20	29	20	17	24	18	13
449:	16	24	15	7	22	13	9	25
457:	13	13	15	21	10	23	36	40
465:	14	12	13	14	14	8	12	16
473:	17	16	18	12	20	20	19	11
481:	18	13	13	7	14	10	16	9
489:	20	11	13	14	12	14	10	12
497:	7	17	14	9	16	13	17	11
505:	15	9	9	17	24	35	69	56
513:	18	12	11	12	17	11	9	10
521:	13	12	11	13	13	11	10	21
529:	15	9	10	25	13	9	11	13
537:	14	12	10	15	17	19	6	10
545:	14	14	17	14	8	16	5	14
553:	16	13	17	11	13	17	16	14
561:	19	16	20	16	12	10	8	9
569:	17	6	12	12	15	11	20	14
577:	13	7	12	10	10	24	91	133
585:	41	7	4	11	13	15	8	13
593:	11	14	10	7	12	23	12	13
601:	12	10	9	9	11	8	17	23
609:	107	176	47	13	14	12	15	10
617:	16	14	4	14	13	15	14	9
625:	10	16	12	18	11	12	12	11
633:	10	13	9	9	12	9	11	13
641:	7	10	10	10	6	6	13	13
649:	9	13	15	12	7	11	13	8
657:	12	10	12	9	15	12	12	11
665:	18	23	9	8	11	8	14	7
673:	11	9	11	7	7	16	14	17
681:	7	8	11	14	8	10	13	10
689:	18	8	10	11	17	9	7	9
697:	13	17	9	7	15	13	13	12
705:	12	11	8	15	7	7	13	6
713:	11	8	11	8	11	10	13	12
721:	14	8	9	3	11	11	28	30
729:	14	7	10	6	7	13	8	7
737:	6	5	7	8	11	8	10	10
745:	9	10	11	5	7	13	7	12
753:	11	11	17	4	11	9	10	8
761:	9	2	10	7	13	6	7	17
769:	22	15	13	19	19	9	4	9
777:	13	11	5	8	7	10	10	4
785:	9	15	10	8	5	8	7	8
793:	10	9	9	15	8	5	6	9

801: 7 7 4 7 6 6 7 8

Sample Title: CP5003S12-13

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	5	4	6	9	13	6	4	6
817:	9	8	4	5	3	9	5	9
825:	2	8	6	6	4	8	5	11
833:	4	4	7	9	9	13	10	12
841:	7	9	8	9	8	7	6	9
849:	8	9	8	8	8	7	7	9
857:	5	7	5	14	19	10	10	8
865:	7	4	9	8	11	6	8	5
873:	6	6	8	4	2	4	7	4
881:	6	8	5	7	5	5	3	3
889:	7	9	11	6	5	11	7	6
897:	5	9	11	3	5	7	6	12
905:	9	10	7	7	8	30	77	70
913:	20	8	10	9	8	13	10	6
921:	7	6	5	7	4	5	10	12
929:	12	5	2	10	12	12	12	3
937:	12	11	8	2	3	5	10	4
945:	3	9	10	6	2	7	6	9
953:	4	2	4	4	3	5	8	3
961:	4	8	7	14	16	10	8	23
969:	44	25	9	12	8	13	7	7
977:	9	7	4	7	6	8	8	8
985:	9	10	5	7	8	12	2	9
993:	5	11	5	7	8	8	4	8
1001:	8	3	7	3	6	6	3	9
1009:	5	6	5	4	6	9	8	9
1017:	11	7	6	3	8	12	10	6
1025:	6	3	10	8	4	5	6	4
1033:	4	4	7	8	1	1	10	4
1041:	6	7	5	7	12	8	7	3
1049:	6	5	7	10	3	2	8	2
1057:	9	9	3	3	3	8	8	6
1065:	4	5	6	5	5	3	2	10
1073:	4	3	6	0	4	11	5	9
1081:	4	5	9	14	6	5	13	5
1089:	4	2	8	4	9	8	9	6
1097:	6	5	6	2	7	5	11	7
1105:	6	8	3	4	6	5	5	6
1113:	3	5	9	10	5	4	16	33
1121:	29	15	7	7	8	5	6	9
1129:	8	6	8	3	6	7	9	6
1137:	11	5	4	5	1	10	8	9
1145:	8	4	6	8	5	6	12	7
1153:	7	6	8	8	7	1	6	7
1161:	6	3	6	5	4	7	11	6
1169:	7	7	7	7	5	11	9	10
1177:	17	12	10	6	12	11	12	8
1185:	8	8	8	6	17	8	11	7
1193:	6	6	8	11	7	6	7	12
1201:	6	8	5	6	5	8	5	7
1209:	10	13	4	8	4	8	9	3
1217:	6	6	14	11	6	4	11	6
1225:	4	7	9	7	7	13	11	5

1233: 9 3 7 5 10 24 14 11

Sample Title: CP5003S12-13

Channel	1	2	3	4	5	6	7	8	9
1241:	7	7	11	9	3	7	8	4	
1249:	8	7	5	4	8	3	3	3	
1257:	3	4	8	8	11	5	5	4	
1265:	8	2	5	5	6	3	7	6	
1273:	3	6	5	5	8	3	6	5	
1281:	5	6	8	3	8	4	6	5	
1289:	11	6	9	7	7	3	7	6	
1297:	4	5	6	2	6	3	6	1	
1305:	7	3	4	5	6	6	3	4	
1313:	1	3	4	6	4	6	11	4	
1321:	2	3	5	1	3	3	1	1	
1329:	5	4	3	1	5	3	4	4	
1337:	5	4	3	3	4	1	4	4	
1345:	2	2	5	1	4	3	2	3	
1353:	3	4	2	2	0	7	5	5	
1361:	8	3	3	4	3	4	4	2	
1369:	5	3	3	1	2	3	3	9	
1377:	8	11	4	1	1	3	3	3	
1385:	2	2	3	4	3	0	1	2	
1393:	3	2	0	0	6	5	2	3	
1401:	6	1	0	3	2	6	4	4	
1409:	2	0	1	1	5	2	2	3	
1417:	6	4	3	4	4	3	3	1	
1425:	1	5	1	5	4	4	3	1	
1433:	1	2	1	4	2	3	1	1	
1441:	5	2	5	1	2	2	2	0	
1449:	1	3	2	0	4	0	3	0	
1457:	3	7	23	159	234	100	15	2	
1465:	0	3	2	3	5	4	2	1	
1473:	0	0	1	0	3	0	2	4	
1481:	1	1	3	0	3	3	3	1	
1489:	0	2	4	2	1	2	0	7	
1497:	4	0	0	1	4	1	7	0	
1505:	1	2	0	2	4	3	2	2	
1513:	0	3	2	1	2	1	1	3	
1521:	1	1	2	0	0	2	0	2	
1529:	2	0	1	0	1	1	0	2	
1537:	2	6	3	2	1	1	2	0	
1545:	2	4	2	5	1	0	3	2	
1553:	3	0	1	0	2	0	0	2	
1561:	0	3	4	1	2	0	1	1	
1569:	0	3	2	1	0	0	0	5	
1577:	3	0	2	3	1	2	4	1	
1585:	2	2	2	10	5	3	1	8	
1593:	7	4	3	4	0	1	1	1	
1601:	1	1	1	0	2	1	3	2	
1609:	0	2	1	4	0	1	1	0	
1617:	1	1	1	3	4	1	0	3	
1625:	0	2	1	2	3	1	5	1	
1633:	0	1	0	2	1	2	2	2	
1641:	1	1	1	1	0	0	0	0	
1649:	2	0	1	1	1	1	2	0	
1657:	0	1	0	5	5	1	1	0	

1665: 2 3 2 2 3 1 0 1

Sample Title: CP5003S12-13

Channel	1	2	3	4	5	6	7	8
1673:	1	1	0	1	2	2	0	3
1681:	0	0	1	3	2	2	0	1
1689:	2	0	0	5	0	1	1	1
1697:	2	2	0	0	0	0	2	2
1705:	0	3	2	0	0	1	1	0
1713:	1	2	0	1	1	2	1	1
1721:	3	0	2	0	0	2	0	0
1729:	4	7	2	0	0	4	1	1
1737:	0	2	1	0	1	1	0	0
1745:	1	2	0	0	3	0	0	1
1753:	0	2	1	0	3	1	0	1
1761:	3	1	6	22	20	9	2	1
1769:	0	1	0	0	2	0	2	1
1777:	1	1	0	1	1	1	0	2
1785:	0	0	3	1	0	1	0	0
1793:	0	1	1	2	1	0	2	0
1801:	2	1	1	0	3	0	3	4
1809:	0	3	0	0	1	1	2	1
1817:	1	2	0	1	0	2	2	0
1825:	1	1	0	1	1	1	3	1
1833:	0	1	0	1	1	2	0	1
1841:	2	1	1	1	4	1	2	2
1849:	2	0	0	0	0	0	1	1
1857:	1	0	2	2	1	0	0	0
1865:	1	1	0	0	1	0	0	1
1873:	2	0	0	0	0	1	1	0
1881:	2	4	3	1	0	2	0	1
1889:	0	0	1	0	0	2	1	3
1897:	0	0	0	0	0	1	1	1
1905:	0	0	1	2	1	0	0	0
1913:	1	0	2	1	2	0	0	1
1921:	2	0	0	0	0	0	0	1
1929:	2	0	2	2	0	0	0	2
1937:	0	0	1	0	1	3	1	0
1945:	0	0	0	0	1	1	1	1
1953:	0	3	0	2	0	1	1	0
1961:	0	1	1	0	2	1	0	2
1969:	1	2	0	0	1	0	0	1
1977:	0	0	1	0	2	2	0	4
1985:	1	0	3	1	1	2	2	1
1993:	3	1	2	0	0	1	1	1
2001:	1	0	1	0	1	0	0	1
2009:	1	0	0	0	0	1	2	0
2017:	1	2	1	1	0	0	3	1
2025:	0	1	2	0	1	0	1	1
2033:	0	1	1	0	1	0	1	0
2041:	1	2	2	1	1	1	1	2
2049:	0	1	0	2	0	3	3	0
2057:	0	1	1	2	1	1	1	2
2065:	0	1	2	1	2	0	2	2
2073:	0	1	0	0	2	1	0	2
2081:	0	0	0	0	2	1	0	0
2089:	1	2	0	1	1	2	2	0

2097: 0 1 1 1 1 3 2 2

Sample Title: CP5003S12-13

Channel	1	2	3	4	5	6	7	8
2105:	3	0	0	0	0	1	2	3
2113:	1	0	0	0	1	1	1	1
2121:	0	2	0	2	2	0	0	1
2129:	2	0	1	1	2	2	2	0
2137:	0	0	2	3	0	1	1	0
2145:	1	1	0	2	0	1	0	1
2153:	1	1	0	0	2	0	0	0
2161:	0	2	1	0	1	1	0	1
2169:	0	1	0	0	0	1	1	0
2177:	1	0	0	0	0	1	1	0
2185:	0	1	0	1	3	0	2	1
2193:	2	0	1	2	0	1	2	2
2201:	0	2	3	4	6	0	0	0
2209:	1	1	2	0	2	0	0	1
2217:	1	0	0	1	1	3	0	2
2225:	0	1	1	0	0	0	1	3
2233:	0	0	0	0	4	0	1	1
2241:	0	1	0	3	2	1	1	0
2249:	2	1	1	2	1	1	1	0
2257:	1	1	2	1	2	3	1	1
2265:	0	1	1	0	1	0	0	0
2273:	1	1	2	0	0	1	1	2
2281:	0	0	0	2	0	0	0	2
2289:	1	0	0	1	0	3	0	1
2297:	0	0	3	0	0	0	0	0
2305:	0	1	1	1	1	2	1	1
2313:	1	0	0	0	2	1	0	2
2321:	0	0	1	0	1	2	0	1
2329:	0	2	2	0	3	0	1	2
2337:	2	0	0	0	0	0	2	0
2345:	2	2	1	3	0	1	0	1
2353:	0	0	1	2	0	1	3	1
2361:	0	2	2	0	0	0	2	1
2369:	0	0	0	0	1	1	0	1
2377:	0	1	1	1	0	0	0	2
2385:	1	2	1	1	1	1	0	1
2393:	0	1	2	1	0	0	1	0
2401:	1	0	2	1	1	2	2	0
2409:	0	0	0	3	1	1	0	2
2417:	0	0	2	3	0	0	0	0
2425:	0	3	1	0	0	1	0	2
2433:	0	0	0	0	0	0	0	0
2441:	0	2	0	1	1	4	1	1
2449:	0	0	0	1	1	1	0	1
2457:	1	0	1	0	0	2	2	1
2465:	2	4	0	0	3	1	0	0
2473:	2	1	0	0	1	1	0	0
2481:	0	0	1	1	0	0	1	0
2489:	0	0	0	0	0	0	1	0
2497:	0	0	0	0	0	0	0	0
2505:	0	0	0	0	0	0	0	0
2513:	0	0	0	1	1	0	0	1
2521:	0	0	0	0	2	0	0	0

2529: 2 0 0 2 0 0 0 1

Sample Title: CP5003S12-13

Channel	1	2	3	4	5	6	7	8
2537:	0	1	3	0	0	0	0	0
2545:	1	1	0	0	1	0	0	0
2553:	0	2	1	0	1	0	0	0
2561:	0	0	1	0	0	1	0	0
2569:	0	1	0	0	0	0	0	0
2577:	0	0	0	0	0	0	0	1
2585:	0	0	0	0	1	0	0	0
2593:	0	0	0	0	0	0	0	0
2601:	0	1	0	1	0	1	1	0
2609:	0	0	0	4	13	22	15	5
2617:	1	0	1	0	0	0	0	0
2625:	1	0	1	0	0	1	0	0
2633:	1	1	1	0	1	1	0	0
2641:	0	0	1	0	1	1	0	1
2649:	0	0	0	0	0	0	0	0
2657:	0	0	0	0	0	0	0	0
2665:	0	0	0	1	0	0	0	0
2673:	0	0	0	0	0	0	0	0
2681:	0	0	0	0	0	0	0	0
2689:	1	0	0	0	1	2	0	0
2697:	0	0	0	1	0	1	0	1
2705:	1	0	0	0	0	0	0	0
2713:	1	0	0	1	1	1	0	0
2721:	0	0	0	0	0	1	0	2
2729:	0	0	0	0	0	0	0	1
2737:	0	0	0	0	0	0	0	0
2745:	0	0	0	0	0	1	0	0
2753:	0	0	0	0	0	0	0	0
2761:	0	0	0	0	0	0	0	2
2769:	0	1	0	0	0	0	0	0
2777:	1	0	2	0	2	0	0	0
2785:	0	0	0	1	0	0	0	0
2793:	0	1	0	0	0	0	1	0
2801:	0	0	1	1	0	1	0	1
2809:	1	0	0	0	0	1	0	1
2817:	0	0	0	0	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	1	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	0	0	0	0
2873:	1	0	0	0	0	0	0	0
2881:	0	0	1	0	0	0	0	0
2889:	0	0	1	0	1	0	1	0
2897:	0	1	0	1	0	0	0	1
2905:	1	0	1	0	0	1	1	0
2913:	0	0	0	0	0	0	1	1
2921:	0	0	0	1	0	1	0	2
2929:	0	0	0	0	0	0	0	0
2937:	0	0	0	0	1	0	0	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 0 0 0

Sample Title: CP5003S12-13

Channel								
2969:	1	0	0	0	1	0	0	0
2977:	0	1	0	0	0	1	0	0
2985:	0	0	0	0	0	0	0	0
2993:	0	0	0	0	0	0	0	0
3001:	0	0	1	0	0	0	1	0
3009:	1	1	1	0	0	0	0	0
3017:	0	0	0	0	2	0	0	0
3025:	0	0	0	0	0	0	0	0
3033:	0	0	0	1	0	0	0	0
3041:	0	0	0	0	0	0	0	0
3049:	0	0	1	0	2	0	0	0
3057:	0	0	0	0	0	1	0	0
3065:	0	0	0	1	0	0	0	0
3073:	0	0	1	0	1	0	0	0
3081:	0	0	0	0	0	0	0	1
3089:	0	0	0	0	0	0	0	0
3097:	1	1	0	0	0	1	0	0
3105:	0	0	0	0	0	1	0	0
3113:	1	0	0	0	0	0	0	0
3121:	1	0	0	1	1	0	1	0
3129:	0	1	0	0	0	0	0	0
3137:	0	0	0	0	0	1	1	0
3145:	1	2	0	0	0	0	0	1
3153:	1	0	0	0	1	0	0	0
3161:	0	0	0	0	0	0	0	0
3169:	0	0	0	1	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	1	0	0	0
3201:	0	0	0	0	0	0	0	0
3209:	0	0	1	0	0	0	0	0
3217:	0	0	1	0	0	0	0	0
3225:	0	0	1	0	1	0	0	0
3233:	1	0	0	1	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	1	0	1	0	1	0
3265:	0	0	0	0	0	2	0	0
3273:	0	1	0	0	0	1	0	0
3281:	0	0	1	0	0	0	0	0
3289:	0	0	1	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	1	0
3321:	0	0	0	0	0	1	0	0
3329:	0	0	0	0	1	0	0	0
3337:	1	0	0	0	0	0	0	0
3345:	0	0	0	0	0	0	0	0
3353:	1	1	0	0	1	0	0	0
3361:	0	1	0	0	0	0	0	0
3369:	1	1	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 2 1 0

Sample Title: CP5003S12-13

Channel	1	2	3	4	5	6	7	8	9
3401:	0	1	0	0	0	1	0	0	0
3409:	0	1	0	0	0	1	0	0	0
3417:	0	0	0	0	0	0	2	0	0
3425:	0	1	1	1	0	0	0	1	0
3433:	0	0	0	0	0	0	0	0	0
3441:	0	0	0	1	0	0	0	0	0
3449:	0	0	0	0	1	0	0	0	0
3457:	1	0	0	0	0	0	1	0	0
3465:	0	0	0	0	0	0	0	0	0
3473:	0	0	0	0	0	0	0	0	0
3481:	0	0	0	0	0	0	0	0	0
3489:	1	0	0	0	0	0	0	0	0
3497:	0	0	0	0	0	0	0	0	0
3505:	0	0	0	0	0	1	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	1	0	0	0	0	0
3537:	0	0	0	0	0	0	1	0	0
3545:	0	0	0	0	0	0	0	0	0
3553:	0	0	0	0	0	0	0	0	0
3561:	1	0	0	0	0	0	0	0	0
3569:	0	0	1	0	0	0	1	0	0
3577:	0	0	0	0	0	0	0	0	0
3585:	0	0	0	0	0	0	1	0	0
3593:	0	0	0	0	0	1	0	1	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	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	0
3657:	0	0	1	1	0	1	0	0	0
3665:	1	0	0	0	0	0	0	0	0
3673:	1	0	1	0	0	0	0	0	0
3681:	1	0	0	0	1	0	0	0	0
3689:	0	0	0	0	1	0	0	0	0
3697:	0	1	0	0	0	0	2	0	0
3705:	0	0	0	0	0	0	0	0	0
3713:	0	0	1	0	0	0	0	0	0
3721:	0	0	0	0	0	0	0	0	0
3729:	0	0	0	0	0	1	0	0	0
3737:	1	0	0	0	0	1	0	0	0
3745:	0	0	0	0	1	0	0	0	0
3753:	0	0	0	0	0	0	0	0	0
3761:	0	0	0	1	1	1	0	0	0
3769:	0	0	0	0	0	0	0	0	0
3777:	0	1	0	1	1	0	0	0	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:	1	0	0	1	0	0	1	0	0
3817:	0	0	0	0	0	0	0	0	0

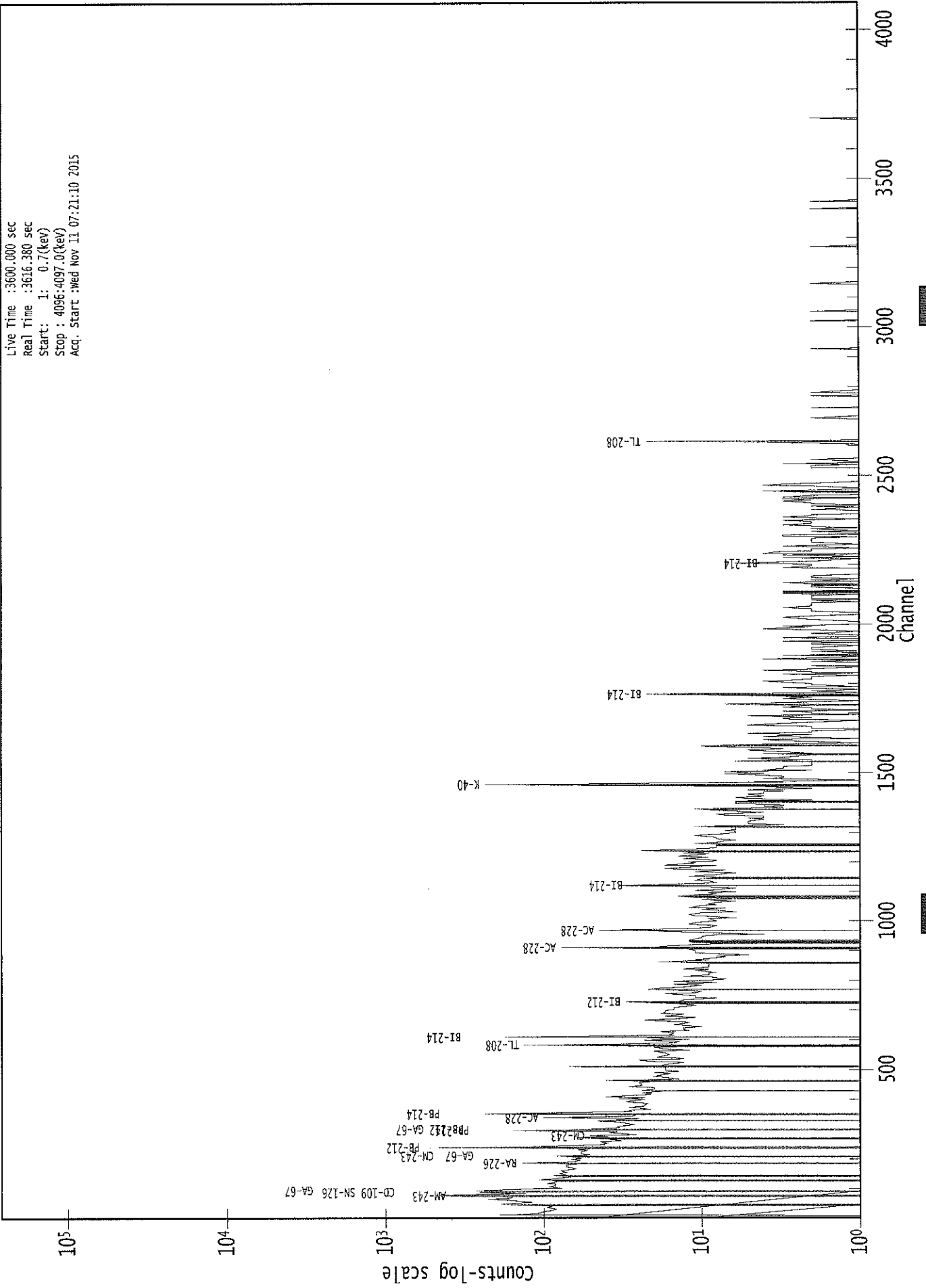
3825: 0 0 0 1 0 1 0 0

Sample Title: CP5003S12-13

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	1	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:	0	0	0	0	0	1	1	0
3897:	0	0	0	0	0	1	0	0
3905:	0	0	0	0	0	1	0	0
3913:	0	0	0	0	0	0	0	0
3921:	0	0	0	0	0	0	0	1
3929:	0	0	0	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	1	0	0	0	1
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	0
3985:	0	0	0	0	0	0	0	0
3993:	0	0	0	0	0	1	0	0
4001:	0	0	0	0	1	0	0	0
4009:	0	0	0	1	0	0	0	0
4017:	0	0	0	0	0	0	0	0
4025:	0	0	0	0	0	0	0	0
4033:	0	1	0	0	0	1	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	0
4065:	0	0	0	0	0	0	0	0
4073:	1	0	0	0	1	0	1	0
4081:	0	0	1	0	0	1	0	0
4089:	0	0	0	1	0	2	0	0

0000029466.CNF

Live Time :3600.000 sec
Real Time :3616.380 sec
Start: 1: 0.7(kev)
Stop : 4096:4097.0(kev)
Acq. Start :Wed Nov 11 07:21:10 2015



Analysis Report for 1510092-08
CP5003S14-15

✓
11/11

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510092-08
Sample Description : CP5003S14-15
Sample Type : SOIL

Sample Size : 5.516E+02 grams
Facility : Countroom

Sample Taken On : 10/9/2015 3:59:04PM
Acquisition Started : 11/11/2015 7:21:17AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE4
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3676.1 seconds

Dead Time : 2.07 %

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 : 29467

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510092-08
CP5003S14-15

PEAK LOCATE REPORT

Peak Locate Performed on : 11/11/2015 8:22:34AM
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	46.09	45.35	0.0000	0.00
2	76.06	75.33	0.0000	0.00
3	87.46	86.73	0.0000	0.00
4	93.37	92.65	0.0000	0.00
5	186.64	185.95	0.0000	0.00
6	199.24	198.56	0.0000	0.00
7	239.41	238.75	0.0000	0.00
8	270.31	269.66	0.0000	0.00
9	295.48	294.84	0.0000	0.00
10	338.92	338.31	0.0000	0.00
11	352.52	351.91	0.0000	0.00
12	525.43	524.89	0.0000	0.00
13	582.96	582.46	0.0000	0.00
14	609.75	609.26	0.0000	0.00
15	682.08	681.62	0.0000	0.00
16	728.63	728.20	0.0000	0.00
17	794.12	793.72	0.0000	0.00
18	800.68	800.28	0.0000	0.00
19	912.08	911.74	0.0000	0.00
20	934.40	934.07	0.0000	0.00
21	954.26	953.95	0.0000	0.00
22	968.36	968.05	0.0000	0.00
23	1182.75	1182.56	0.0000	0.00
24	1238.45	1238.29	0.0000	0.00
25	1247.07	1246.92	0.0000	0.00
26	1320.06	1319.95	0.0000	0.00
27	1345.65	1345.56	0.0000	0.00
28	1361.55	1361.46	0.0000	0.00
29	1378.65	1378.57	0.0000	0.00
30	1461.12	1461.09	0.0000	0.00
31	1498.45	1498.45	0.0000	0.00
32	1514.64	1514.64	0.0000	0.00
33	1591.77	1591.83	0.0000	0.00
34	1728.87	1729.01	0.0000	0.00
35	1765.24	1765.40	0.0000	0.00
36	1814.58	1814.78	0.0000	0.00
37	2084.96	2085.34	0.0000	0.00
38	2149.97	2150.40	0.0000	0.00
39	2406.39	2407.00	0.0000	0.00
40	2615.26	2616.03	0.0000	0.00

Analysis Report for 1510092-08
CP5003S14-15

? = Adjacent peak noted
Errors quoted at 2.00sigma

Analysis Report for 1510092-08

CP5003S14-15

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/11/2015 8:22:34AM

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	46.09	42 -	49	45.35	1.03E+02	80.10	1.01E+03	2.64	
2	76.06	69 -	81	75.33	7.83E+02	152.00	2.34E+03	4.28	
3	87.46	84 -	89	86.73	8.94E+01	77.82	1.14E+03	2.19	
4	93.37	90 -	97	92.65	1.41E+02	89.04	1.19E+03	2.55	
5	186.64	181 -	192	185.95	1.34E+02	88.97	9.19E+02	3.54	
6	199.24	195 -	201	198.56	6.66E+01	53.42	4.61E+02	3.30	
7	239.41	234 -	244	238.75	5.53E+02	82.21	5.94E+02	2.86	
8	270.31	267 -	272	269.66	5.44E+01	37.76	2.35E+02	2.28	
9	295.48	290 -	298	294.84	9.63E+01	54.94	4.05E+02	2.20	
10	338.92	334 -	342	338.31	8.52E+01	46.56	2.76E+02	2.64	
11	352.52	347 -	358	351.91	2.55E+02	59.33	3.14E+02	2.30	
12	525.43	522 -	528	524.89	3.29E+01	25.03	8.22E+01	2.92	
13	582.96	576 -	587	582.46	1.41E+02	44.23	1.73E+02	3.07	
14	609.75	603 -	615	609.26	1.42E+02	49.44	2.19E+02	2.89	
15	682.08	677 -	685	681.62	2.36E+01	27.08	9.68E+01	2.58	
16	728.63	719 -	735	728.20	5.37E+01	42.67	1.53E+02	7.04	
M	17	794.12	785 -	811	793.72	2.53E+01	25.07	1.03E+02	3.11
m	18	800.68	785 -	811	800.28	2.30E+01	25.31	7.89E+01	3.11
19	912.08	905 -	917	911.74	9.11E+01	35.33	1.04E+02	2.59	
20	934.40	930 -	937	934.07	2.10E+01	18.97	4.19E+01	3.39	
M	21	954.26	948 -	976	953.95	1.42E+01	19.95	2.66E+01	3.81
m	22	968.36	948 -	976	968.05	6.01E+01	25.50	4.98E+01	3.81
23	1182.75	1180 -	1186	1182.56	1.60E+01	14.76	2.80E+01	1.97	
M	24	1238.45	1232 -	1251	1238.29	1.97E+01	27.64	8.85E+01	4.69
m	25	1247.07	1232 -	1251	1246.92	1.52E+01	22.02	4.05E+01	4.70
26	1320.06	1315 -	1326	1319.95	2.26E+01	18.22	3.09E+01	8.73	
27	1345.65	1339 -	1352	1345.56	2.00E+01	14.35	1.40E+01	3.12	
28	1361.55	1354 -	1370	1361.46	2.68E+01	19.31	2.43E+01	3.40	
29	1378.65	1372 -	1382	1378.57	1.20E+01	14.59	2.20E+01	4.63	
30	1461.12	1454 -	1467	1461.09	2.64E+02	37.87	4.18E+01	2.43	
31	1498.45	1496 -	1501	1498.45	4.86E+00	6.78	4.29E+00	1.04	
32	1514.64	1512 -	1518	1514.64	6.50E+00	8.03	7.00E+00	2.84	
33	1591.77	1586 -	1597	1591.83	1.92E+01	14.83	1.76E+01	6.93	
34	1728.87	1724 -	1732	1729.01	1.16E+01	8.73	4.71E+00	2.96	
35	1765.24	1761 -	1768	1765.40	2.00E+01	8.94	0.00E+00	1.54	
36	1814.58	1810 -	1817	1814.78	4.71E+00	6.63	4.57E+00	1.27	
37	2084.96	2082 -	2088	2085.34	7.44E+00	6.95	3.11E+00	2.27	
38	2149.97	2148 -	2153	2150.40	5.00E+00	4.47	0.00E+00	1.70	
39	2406.39	2404 -	2409	2407.00	7.00E+00	5.29	0.00E+00	1.92	
40	2615.26	2611 -	2620	2616.03	3.30E+01	11.49	0.00E+00	2.62	

Analysis Report for 1510092-08

CP5003S14-15

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 : 11/11/2015 8:22:34AM

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	46.09	42 -	49	1.03E+02	80.10	1.01E+03	6.37E+01	
2	76.06	69 -	81	7.83E+02	152.00	2.34E+03	1.16E+02	
3	87.46	84 -	89	8.94E+01	77.82	1.14E+03	6.21E+01	
4	93.37	90 -	97	1.41E+02	89.04	1.19E+03	7.05E+01	
5	186.64	181 -	192	1.34E+02	88.97	9.19E+02	7.06E+01	
6	199.24	195 -	201	6.66E+01	53.42	4.61E+02	4.18E+01	
7	239.41	234 -	244	5.53E+02	82.21	5.94E+02	5.54E+01	
8	270.31	267 -	272	5.44E+01	37.76	2.35E+02	2.86E+01	
9	295.48	290 -	298	9.63E+01	54.94	4.05E+02	4.22E+01	
10	338.92	334 -	342	8.52E+01	46.56	2.76E+02	3.51E+01	
11	352.52	347 -	358	2.55E+02	59.33	3.14E+02	4.11E+01	
12	525.43	522 -	528	3.29E+01	25.03	8.22E+01	1.83E+01	
13	582.96	576 -	587	1.41E+02	44.23	1.73E+02	3.07E+01	
14	609.75	603 -	615	1.42E+02	49.44	2.19E+02	3.56E+01	
15	682.08	677 -	685	2.36E+01	27.08	9.68E+01	2.08E+01	
16	728.63	719 -	735	5.37E+01	42.67	1.53E+02	3.29E+01	
M	17	794.12	785 -	811	2.53E+01	25.07	1.03E+02	1.67E+01
m	18	800.68	785 -	811	2.30E+01	25.31	7.89E+01	1.46E+01
	19	912.08	905 -	917	9.11E+01	35.33	1.04E+02	2.44E+01
	20	934.40	930 -	937	2.10E+01	18.97	4.19E+01	1.37E+01
M	21	954.26	948 -	976	1.42E+01	19.95	2.66E+01	8.48E+00
m	22	968.36	948 -	976	6.01E+01	25.50	4.98E+01	1.16E+01
	23	1182.75	1180 -	1186	1.60E+01	14.76	2.80E+01	1.02E+01
M	24	1238.45	1232 -	1251	1.97E+01	27.64	8.85E+01	1.55E+01
m	25	1247.07	1232 -	1251	1.52E+01	22.02	4.05E+01	1.05E+01
	26	1320.06	1315 -	1326	2.26E+01	18.22	3.09E+01	1.28E+01
	27	1345.65	1339 -	1352	2.00E+01	14.35	1.40E+01	9.23E+00
	28	1361.55	1354 -	1370	2.68E+01	19.31	2.43E+01	1.34E+01
	29	1378.65	1372 -	1382	1.20E+01	14.59	2.20E+01	1.06E+01
	30	1461.12	1454 -	1467	2.64E+02	37.87	4.18E+01	1.60E+01
	31	1498.45	1496 -	1501	4.86E+00	6.78	4.29E+00	4.24E+00

Analysis Report for 1510092-08

CP5003S14-15

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
32	1514.64	1512 -	1518	6.50E+00	8.03	7.00E+00	5.10E+00
33	1591.77	1586 -	1597	1.92E+01	14.83	1.76E+01	9.83E+00
34	1728.87	1724 -	1732	1.16E+01	8.73	4.71E+00	4.48E+00
35	1765.24	1761 -	1768	2.00E+01	8.94	0.00E+00	0.00E+00
36	1814.58	1810 -	1817	4.71E+00	6.63	4.57E+00	4.12E+00
37	2084.96	2082 -	2088	7.44E+00	6.95	3.11E+00	3.53E+00
38	2149.97	2148 -	2153	5.00E+00	4.47	0.00E+00	0.00E+00
39	2406.39	2404 -	2409	7.00E+00	5.29	0.00E+00	0.00E+00
40	2615.26	2611 -	2620	3.30E+01	11.49	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 : 11/11/2015 8:22:34AM

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	46.09	42 -	49	45.35	1.03E+02	80.10	1.01E+03	PB-210
2	76.06	69 -	81	75.33	7.83E+02	152.00	2.34E+03	.....
3	87.46	84 -	89	86.73	8.94E+01	77.82	1.14E+03	SN-126 CD-109 LU-176 NP-237 EU-155
4	93.37	90 -	97	92.65	1.41E+02	89.04	1.19E+03	GA-67
5	186.64	181 -	192	185.95	1.34E+02	88.97	9.19E+02	RA-226
6	199.24	195 -	201	198.56	6.66E+01	53.42	4.61E+02	.....
7	239.41	234 -	244	238.75	5.53E+02	82.21	5.94E+02	PB-212
8	270.31	267 -	272	269.66	5.44E+01	37.76	2.35E+02	.....
9	295.48	290 -	298	294.84	9.63E+01	54.94	4.05E+02	PB-214
10	338.92	334 -	342	338.31	8.52E+01	46.56	2.76E+02	AC-228
11	352.52	347 -	358	351.91	2.55E+02	59.33	3.14E+02	PB-214
12	525.43	522 -	528	524.89	3.29E+01	25.03	8.22E+01	.....
13	582.96	576 -	587	582.46	1.41E+02	44.23	1.73E+02	TL-208

Analysis Report for 1510092-08

CP5003S14-15

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	14	609.75	603 -	615	609.26	1.42E+02	49.44	2.19E+02	BI-214
	15	682.08	677 -	685	681.62	2.36E+01	27.08	9.68E+01	.....
	16	728.63	719 -	735	728.20	5.37E+01	42.67	1.53E+02	.....
M	17	794.12	785 -	811	793.72	2.53E+01	25.07	1.03E+02	.....
m	18	800.68	785 -	811	800.28	2.30E+01	25.31	7.89E+01	.....
	19	912.08	905 -	917	911.74	9.11E+01	35.33	1.04E+02	LU-172
	20	934.40	930 -	937	934.07	2.10E+01	18.97	4.19E+01	.....
M	21	954.26	948 -	976	953.95	1.42E+01	19.95	2.66E+01	.....
m	22	968.36	948 -	976	968.05	6.01E+01	25.50	4.98E+01	AC-228
	23	1182.75	1180 -	1186	1182.56	1.60E+01	14.76	2.80E+01	.....
M	24	1238.45	1232 -	1251	1238.29	1.97E+01	27.64	8.85E+01	CO-56
m	25	1247.07	1232 -	1251	1246.92	1.52E+01	22.02	4.05E+01	.....
	26	1320.06	1315 -	1326	1319.95	2.26E+01	18.22	3.09E+01	.....
	27	1345.65	1339 -	1352	1345.56	2.00E+01	14.35	1.40E+01	.....
	28	1361.55	1354 -	1370	1361.46	2.68E+01	19.31	2.43E+01	.....
	29	1378.65	1372 -	1382	1378.57	1.20E+01	14.59	2.20E+01	.....
	30	1461.12	1454 -	1467	1461.09	2.64E+02	37.87	4.18E+01	K-40
	31	1498.45	1496 -	1501	1498.45	4.86E+00	6.78	4.29E+00	.....
	32	1514.64	1512 -	1518	1514.64	6.50E+00	8.03	7.00E+00	.....
	33	1591.77	1586 -	1597	1591.83	1.92E+01	14.83	1.76E+01	.....
	34	1728.87	1724 -	1732	1729.01	1.16E+01	8.73	4.71E+00	.....
	35	1765.24	1761 -	1768	1765.40	2.00E+01	8.94	0.00E+00	BI-214
	36	1814.58	1810 -	1817	1814.78	4.71E+00	6.63	4.57E+00	.....
	37	2084.96	2082 -	2088	2085.34	7.44E+00	6.95	3.11E+00	.....
	38	2149.97	2148 -	2153	2150.40	5.00E+00	4.47	0.00E+00	.....
	39	2406.39	2404 -	2409	2407.00	7.00E+00	5.29	0.00E+00	.....
	40	2615.26	2611 -	2620	2616.03	3.30E+01	11.49	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 : 11/11/2015 8:22:34AM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	46.09	1.03E+02	80.10	2.64E-02	1.78E-03
2	76.06	7.83E+02	152.00	2.13E-02	1.69E-03
3	87.46	8.94E+01	77.82	1.97E-02	1.63E-03

: 00551

Analysis Report for 1510092-08

CP5003S14-15

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty	
4	93.37	1.41E+02	89.04	1.89E-02	1.61E-03	
5	186.64	1.34E+02	88.97	1.16E-02	1.15E-03	
6	199.24	6.66E+01	53.42	1.10E-02	1.11E-03	
7	239.41	5.53E+02	82.21	9.39E-03	9.85E-04	
8	270.31	5.44E+01	37.76	8.43E-03	8.89E-04	
9	295.48	9.63E+01	54.94	7.78E-03	8.43E-04	
10	338.92	8.52E+01	46.56	6.85E-03	7.95E-04	
11	352.52	2.55E+02	59.33	6.60E-03	7.80E-04	
12	525.43	3.29E+01	25.03	4.48E-03	5.40E-04	
13	582.96	1.41E+02	44.23	4.05E-03	4.56E-04	
14	609.75	1.42E+02	49.44	3.87E-03	4.16E-04	
15	682.08	2.36E+01	27.08	3.47E-03	3.29E-04	
16	728.63	5.37E+01	42.67	3.25E-03	3.03E-04	
M	17	794.12	2.53E+01	25.07	2.98E-03	2.66E-04
m	18	800.68	2.30E+01	25.31	2.96E-03	2.62E-04
	19	912.08	9.11E+01	35.33	2.61E-03	2.06E-04
	20	934.40	2.10E+01	18.97	2.55E-03	2.03E-04
M	21	954.26	1.42E+01	19.95	2.50E-03	2.01E-04
m	22	968.36	6.01E+01	25.50	2.46E-03	1.99E-04
	23	1182.75	1.60E+01	14.76	2.04E-03	1.75E-04
M	24	1238.45	1.97E+01	27.64	1.95E-03	1.90E-04
m	25	1247.07	1.52E+01	22.02	1.94E-03	1.93E-04
	26	1320.06	2.26E+01	18.22	1.84E-03	2.12E-04
	27	1345.65	2.00E+01	14.35	1.81E-03	2.13E-04
	28	1361.55	2.68E+01	19.31	1.79E-03	2.10E-04
	29	1378.65	1.20E+01	14.59	1.77E-03	2.06E-04
	30	1461.12	2.64E+02	37.87	1.68E-03	1.89E-04
	31	1498.45	4.86E+00	6.78	1.65E-03	1.81E-04
	32	1514.64	6.50E+00	8.03	1.63E-03	1.78E-04
	33	1591.77	1.92E+01	14.83	1.56E-03	1.62E-04
	34	1728.87	1.16E+01	8.73	1.46E-03	1.33E-04
	35	1765.24	2.00E+01	8.94	1.43E-03	1.26E-04
	36	1814.58	4.71E+00	6.63	1.40E-03	1.15E-04
	37	2084.96	7.44E+00	6.95	1.26E-03	1.11E-04
	38	2149.97	5.00E+00	4.47	1.23E-03	1.11E-04
	39	2406.39	7.00E+00	5.29	1.13E-03	1.11E-04
	40	2615.26	3.30E+01	11.49	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 : 11/11/2015 8:22:34AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

: 00552

Analysis Report for 1510092-08

CP5003S14-15

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
1	46.09	1.03E+02	80.10	2.00E+01	7.38E+00	8.33E+01	8.04E+01
2	76.06	7.83E+02	152.00			7.83E+02	1.52E+02
3	87.46	8.94E+01	77.82			8.94E+01	7.78E+01
4	93.37	1.41E+02	89.04	5.44E+01	8.36E+00	8.66E+01	8.94E+01
5	186.64	1.34E+02	88.97	1.43E+01	7.33E+00	1.19E+02	8.93E+01
6	199.24	6.66E+01	53.42			6.66E+01	5.34E+01
7	239.41	5.53E+02	82.21	1.09E+01	6.39E+00	5.42E+02	8.25E+01
8	270.31	5.44E+01	37.76			5.44E+01	3.78E+01
9	295.48	9.63E+01	54.94			9.63E+01	5.49E+01
10	338.92	8.52E+01	46.56			8.52E+01	4.66E+01
11	352.52	2.55E+02	59.33	8.07E+00	5.01E+00	2.47E+02	5.95E+01
12	525.43	3.29E+01	25.03			3.29E+01	2.50E+01
13	582.96	1.41E+02	44.23			1.41E+02	4.42E+01
14	609.75	1.42E+02	49.44	5.16E+00	1.63E+00	1.37E+02	4.95E+01
15	682.08	2.36E+01	27.08			2.36E+01	2.71E+01
16	728.63	5.37E+01	42.67			5.37E+01	4.27E+01
M	17	794.12	2.53E+01	25.07		2.53E+01	2.51E+01
m	18	800.68	2.30E+01	25.31		2.30E+01	2.53E+01
	19	912.08	9.11E+01	35.33		9.11E+01	3.53E+01
	20	934.40	2.10E+01	18.97		2.10E+01	1.90E+01
M	21	954.26	1.42E+01	19.95		1.42E+01	1.99E+01
m	22	968.36	6.01E+01	25.50		6.01E+01	2.55E+01
	23	1182.75	1.60E+01	14.76		1.60E+01	1.48E+01
M	24	1238.45	1.97E+01	27.64		1.97E+01	2.76E+01
m	25	1247.07	1.52E+01	22.02		1.52E+01	2.20E+01
	26	1320.06	2.26E+01	18.22		2.26E+01	1.82E+01
	27	1345.65	2.00E+01	14.35		2.00E+01	1.44E+01
	28	1361.55	2.68E+01	19.31		2.68E+01	1.93E+01
	29	1378.65	1.20E+01	14.59		1.20E+01	1.46E+01
	30	1461.12	2.64E+02	37.87		2.64E+02	3.79E+01
	31	1498.45	4.86E+00	6.78		4.86E+00	6.78E+00
	32	1514.64	6.50E+00	8.03		6.50E+00	8.03E+00
	33	1591.77	1.92E+01	14.83		1.92E+01	1.48E+01
	34	1728.87	1.16E+01	8.73		1.16E+01	8.73E+00
	35	1765.24	2.00E+01	8.94	1.11E-01	9.77E-01	1.99E+01
	36	1814.58	4.71E+00	6.63		4.71E+00	6.63E+00
	37	2084.96	7.44E+00	6.95		7.44E+00	6.95E+00
	38	2149.97	5.00E+00	4.47		5.00E+00	4.47E+00
	39	2406.39	7.00E+00	5.29		7.00E+00	5.29E+00
	40	2615.26	3.30E+01	11.49		3.30E+01	1.15E+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 1510092-08

CP5003S14-15

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/11/2015 8:22:34AM

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	46.09	1.03E+02	80.10	2.00E+01	7.38E+00	8.33E+01	8.04E+01
2	76.06	7.83E+02	152.00			7.83E+02	1.52E+02
3	87.46	8.94E+01	77.82			8.94E+01	7.78E+01
4	93.37	1.41E+02	89.04	5.44E+01	8.36E+00	8.66E+01	8.94E+01
5	186.64	1.34E+02	88.97	1.43E+01	7.33E+00	1.19E+02	8.93E+01
6	199.24	6.66E+01	53.42			6.66E+01	5.34E+01
7	239.41	5.53E+02	82.21	1.09E+01	6.39E+00	5.42E+02	8.25E+01
8	270.31	5.44E+01	37.76			5.44E+01	3.78E+01
9	295.48	9.63E+01	54.94			9.63E+01	5.49E+01
10	338.92	8.52E+01	46.56			8.52E+01	4.66E+01
11	352.52	2.55E+02	59.33	8.07E+00	5.01E+00	2.47E+02	5.95E+01
12	525.43	3.29E+01	25.03			3.29E+01	2.50E+01
13	582.96	1.41E+02	44.23			1.41E+02	4.42E+01
14	609.75	1.42E+02	49.44	5.16E+00	1.63E+00	1.37E+02	4.95E+01
15	682.08	2.36E+01	27.08			2.36E+01	2.71E+01
16	728.63	5.37E+01	42.67			5.37E+01	4.27E+01
M	17	794.12	2.53E+01			2.53E+01	2.51E+01
m	18	800.68	2.30E+01			2.30E+01	2.53E+01
	19	912.08	9.11E+01			9.11E+01	3.53E+01
	20	934.40	2.10E+01			2.10E+01	1.90E+01
M	21	954.26	1.42E+01			1.42E+01	1.99E+01
m	22	968.36	6.01E+01			6.01E+01	2.55E+01
	23	1182.75	1.60E+01			1.60E+01	1.48E+01
M	24	1238.45	1.97E+01			1.97E+01	2.76E+01
m	25	1247.07	1.52E+01			1.52E+01	2.20E+01
	26	1320.06	2.26E+01			2.26E+01	1.82E+01
	27	1345.65	2.00E+01			2.00E+01	1.44E+01
	28	1361.55	2.68E+01			2.68E+01	1.93E+01
	29	1378.65	1.20E+01			1.20E+01	1.46E+01
	30	1461.12	2.64E+02			2.64E+02	3.79E+01
	31	1498.45	4.86E+00			4.86E+00	6.78E+00
	32	1514.64	6.50E+00			6.50E+00	8.03E+00
	33	1591.77	1.92E+01			1.92E+01	1.48E+01
	34	1728.87	1.16E+01			1.16E+01	8.73E+00
	35	1765.24	2.00E+01	1.11E-01	9.77E-01	1.99E+01	9.00E+00
	36	1814.58	4.71E+00			4.71E+00	6.63E+00
	37	2084.96	7.44E+00			7.44E+00	6.95E+00
	38	2149.97	5.00E+00			5.00E+00	4.47E+00
	39	2406.39	7.00E+00			7.00E+00	5.29E+00
	40	2615.26	3.30E+01			3.30E+01	1.15E+01

Analysis Report for 1510092-08
CP5003S14-15

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

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.985	1460.81 *	10.67	2.00E+01	3.67E+00
GA-67	0.364	93.31 *	35.70	1.80E+02	8.16E+02
		208.95	2.24		
		300.22	16.00		
CD-109	0.948	88.03 *	3.72	1.75E+00	1.53E+00
SN-126	0.998	87.57 *	37.00	1.67E-01	1.46E-01
TL-208	0.856	583.14 *	30.22	1.57E+00	5.23E-01
		860.37	4.48		
		2614.66 *	35.85	1.17E+00	4.25E-01
PB-210	0.973	46.50 *	4.25	1.01E+00	9.82E-01
PB-212	0.809	238.63 *	44.60	1.76E+00	3.25E-01
		300.09	3.41		
BI-214	0.646	609.31 *	46.30	1.04E+00	3.92E-01
		1120.29	15.10		
		1764.49 *	15.80	1.19E+00	5.51E-01
		2204.22	4.98		
PB-214	0.959	295.21 *	19.19	8.78E-01	5.10E-01
		351.92 *	37.19	1.37E+00	3.68E-01
RA-226	0.971	186.21 *	3.28	4.27E+00	8.45E+00
NP-237	0.865	86.50 *	12.60	4.91E-01	4.29E-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 1510092-08
CP5003S14-15

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 8:22:34AM
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	76.06	2.17573E-01	9.70		
6	199.24	1.84863E-02	40.14		
8	270.31	1.51227E-02	34.68		
10	338.92	2.36578E-02	27.33	Tol.	AC-228
12	525.43	9.13851E-03	38.05		
15	682.08	6.55864E-03	57.35		
16	728.63	1.49060E-02	39.76		
M	17	794.12	7.01488E-03	49.65	
m	18	800.68	6.37777E-03	55.12	
19	912.08	2.53186E-02	19.38	Tol.	IU-172
20	934.40	5.84656E-03	45.07		
M	21	954.26	3.93361E-03	70.44	
m	22	968.36	1.67038E-02	21.20	Tol. AC-228
23	1182.75	4.44444E-03	46.14		
M	24	1238.45	5.46022E-03	70.31	Tol. CO-56
m	25	1247.07	4.21986E-03	72.48	
26	1320.06	6.26462E-03	40.40		
27	1345.65	5.55556E-03	35.88		
28	1361.55	7.45370E-03	35.98		
29	1378.65	3.33333E-03	60.81		
31	1498.45	1.34921E-03	69.82		
32	1514.64	1.80556E-03	61.78		
33	1591.77	5.33730E-03	38.60		
34	1728.87	3.23413E-03	37.50		
36	1814.58	1.30952E-03	70.35	Sum	
37	2084.96	2.06790E-03	46.65		
38	2149.97	1.38889E-03	44.72		
39	2406.39	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

Analysis Report for 1510092-08
CP5003S14-15

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	2.00E+01	3.67E+00
GA-67	0.36	93.31 *	35.70	1.80E+02	8.16E+02
		208.95	2.24		
		300.22	16.00		
CD-109	0.94	88.03 *	3.72	1.75E+00	1.53E+00
SN-126	0.99	87.57 *	37.00	1.67E-01	1.46E-01
TL-208	0.85	583.14 *	30.22	1.57E+00	5.23E-01
		860.37	4.48		
		2614.66 *	35.85	1.17E+00	4.25E-01
PB-210	0.97	46.50 *	4.25	1.01E+00	9.82E-01
PB-212	0.80	238.63 *	44.60	1.76E+00	3.25E-01
		300.09	3.41		
BI-214	0.64	609.31 *	46.30	1.04E+00	3.92E-01
		1120.29	15.10		
		1764.49 *	15.80	1.19E+00	5.51E-01
		2204.22	4.98		
PB-214	0.95	295.21 *	19.19	8.78E-01	5.10E-01
		351.92 *	37.19	1.37E+00	3.68E-01
RA-226	0.97	186.21 *	3.28	4.27E+00	8.45E+00
NP-237	0.86	86.50 *	12.60	4.91E-01	4.29E-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 2.00sigma

INTERFERENCE CORRECTED REPORT

Analysis Report for 1510092-08
CP5003S14-15

<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	0.985	2.00E+01	3.67E+00	
GA-67	0.364	1.80E+02	8.16E+02	
? CD-109	0.948	1.75E+00	1.53E+00	
? SN-126	0.998	1.67E-01	1.46E-01	
TL-208	0.856	1.33E+00	3.30E-01	
PB-210	0.973	1.01E+00	9.82E-01	
PB-212	0.809	1.76E+00	3.25E-01	
BI-214	0.646	1.09E+00	3.19E-01	
PB-214	0.959	1.20E+00	2.98E-01	
RA-226	0.971	4.27E+00	8.45E+00	
? NP-237	0.865	4.91E-01	4.29E-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 1510092-08
CP5003S14-15

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 8:22:34AM
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	76.06	2.17573E-01	9.70			
6	199.24	1.84863E-02	40.14			
8	270.31	1.51227E-02	34.68			
10	338.92	2.36578E-02	27.33	Tol.	AC-228	
12	525.43	9.13851E-03	38.05			
15	682.08	6.55864E-03	57.35			
16	728.63	1.49060E-02	39.76			
M	17	794.12	7.01488E-03	49.65		
m	18	800.68	6.37777E-03	55.12		
19	912.08	2.53186E-02	19.38	Tol.	LU-172	
20	934.40	5.84656E-03	45.07			
M	21	954.26	3.93361E-03	70.44		
m	22	968.36	1.67038E-02	21.20	Tol.	AC-228
23	1182.75	4.44444E-03	46.14			
M	24	1238.45	5.46022E-03	70.31	Tol.	CO-56
m	25	1247.07	4.21986E-03	72.48		
26	1320.06	6.26462E-03	40.40			
27	1345.65	5.55556E-03	35.88			
28	1361.55	7.45370E-03	35.98			
29	1378.65	3.33333E-03	60.81			
31	1498.45	1.34921E-03	69.82			
32	1514.64	1.80556E-03	61.78			
33	1591.77	5.33730E-03	38.60			
34	1728.87	3.23413E-03	37.50			
36	1814.58	1.30952E-03	70.35	Sum		
37	2084.96	2.06790E-03	46.65			
38	2149.97	1.38889E-03	44.72			
39	2406.39	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

Analysis Report for 1510092-08
CP5003S14-15

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	-5.67E-01	1.82E+00	1.82E+00
+ NA-22	1274.54	99.94	-2.78E-03	1.80E-01	1.80E-01
+ NA-24	1368.53	99.99	-4.70E+13	5.21E+14	8.27E+14
	2754.09	99.86	-1.18E+14		5.21E+14
+ AL-26	1808.65	99.76	0.00E+00	1.17E-01	1.17E-01
+ K-40	1460.81	* 10.67	2.00E+01	2.63E+00	2.63E+00
+ @ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+ TI-44	67.88	94.40	4.52E-03	9.44E-02	9.44E-02
	78.34	96.00	3.17E-01		1.22E-01
+ SC-46	889.25	99.98	3.29E-02	2.24E-01	2.24E-01
	1120.51	99.99	2.41E-01		3.42E-01
+ V-48	983.52	99.98	1.99E-01	7.47E-01	7.61E-01
	1312.10	97.50	-8.84E-02		7.47E-01
+ CR-51	320.08	9.83	-3.75E-01	2.61E+00	2.61E+00
+ MN-54	834.83	99.97	2.75E-02	2.04E-01	2.04E-01
+ CO-56	846.75	99.96	-1.04E-01	2.22E-01	2.22E-01
	1037.75	14.03	-6.59E-01		1.56E+00
	1238.25	67.00	3.53E-01		5.41E-01
	1771.40	15.51	-1.51E+00		1.15E+00
	2598.48	16.90	2.00E-01		9.26E-01
+ CO-57	122.06	85.51	-2.74E-02	1.16E-01	1.16E-01
	136.48	10.60	-6.48E-01		9.85E-01
+ CO-58	810.76	99.40	-1.47E-02	2.40E-01	2.40E-01
+ FE-59	1099.22	56.50	-1.10E-01	6.02E-01	6.02E-01
	1291.56	43.20	-2.93E-01		7.61E-01
+ CO-60	1173.22	100.00	9.39E-02	1.56E-01	2.25E-01
	1332.49	100.00	-1.22E-02		1.56E-01
+ ZN-65	1115.52	50.75	-6.44E-01	4.44E-01	4.44E-01
+ GA-67	93.31	* 35.70	1.80E+02	3.05E+02	3.05E+02
	208.95	2.24	3.87E+03		5.45E+03
	300.22	16.00	2.87E+02		8.66E+02
+ SE-75	121.11	16.70	-1.21E-01	2.01E-01	6.66E-01
	136.00	59.20	-2.57E-02		2.01E-01
	264.65	59.80	-8.80E-02		2.30E-01
	279.53	25.20	2.74E-01		5.58E-01
	400.65	11.40	-1.94E-01		1.31E+00
+ RB-82	776.52	13.00	-1.53E+00	3.07E+00	3.07E+00
+ RB-83	520.41	46.00	-4.14E-02	4.32E-01	4.32E-01
	529.64	30.30	-1.18E-01		5.68E-01
	552.65	16.40	-4.97E-01		9.72E-01

Analysis Report for 1510092-08
CP5003S14-15

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	KR-85	513.99	0.43	3.45E+01	4.29E+01	4.29E+01
+	SR-85	513.99	99.27	2.12E-01	2.64E-01	2.64E-01
+	Y-88	898.02	93.40	-4.64E-03	2.03E-01	2.28E-01
		1836.01	99.38	-2.44E-02		2.03E-01
+	NB-93M	16.57	9.43	8.05E-01	4.41E-01	4.41E-01
+	NB-94	702.63	100.00	-3.11E-02	1.64E-01	1.69E-01
		871.10	100.00	-4.49E-02		1.64E-01
+	NB-95	765.79	99.81	2.04E-01	3.55E-01	3.55E-01
+	NB-95M	235.69	25.00	6.28E+01	3.82E+02	3.82E+02
+	ZR-95	724.18	43.70	4.13E-01	4.31E-01	5.95E-01
		756.72	55.30	8.23E-03		4.31E-01
+	MO-99	181.06	6.20	1.01E+03	4.90E+03	6.71E+03
		739.58	12.80	1.12E+03		4.90E+03
		778.00	4.50	9.38E+02		1.42E+04
+	RU-103	497.08	89.00	-2.87E-02	2.57E-01	2.57E-01
+	RU-106	621.84	9.80	5.65E-01	1.59E+00	1.59E+00
+	AG-108M	433.93	89.90	-7.07E-04	1.40E-01	1.40E-01
		614.37	90.40	1.50E-02		2.22E-01
		722.95	90.50	6.79E-02		1.93E-01
+	CD-109	88.03	*	3.72	1.75E+00	2.48E+00
+	AG-110M	657.75	93.14	-2.63E-02	1.71E-01	1.71E-01
		677.61	10.53	-3.15E-02		1.70E+00
		706.67	16.46	4.37E-01		1.13E+00
		763.93	21.98	1.31E-02		8.79E-01
		884.67	71.63	-1.14E-01		2.52E-01
		1384.27	23.94	2.58E-01		8.82E-01
+	CD-113M	263.70	0.02	-9.14E+01	4.99E+02	4.99E+02
+	SN-113	255.12	1.93	-6.55E-01	2.44E-01	7.29E+00
		391.69	64.90	1.25E-01		2.44E-01
+	TE123M	159.00	84.10	1.14E-01	1.53E-01	1.53E-01
+	SB-124	602.71	97.87	-3.83E-02	2.31E-01	2.31E-01
		645.85	7.26	7.65E-01		3.09E+00
		722.78	11.10	-1.02E+00		2.13E+00
		1691.02	49.00	-1.47E-01		3.57E-01
+	I-125	35.49	6.49	-4.09E-01	1.15E+00	1.15E+00
+	SB-125	176.33	6.89	7.24E-01	4.34E-01	1.63E+00
		427.89	29.33	-2.15E-01		4.34E-01
		463.38	10.35	1.02E+00		1.42E+00
		600.56	17.80	-2.48E-01		8.66E-01
		635.90	11.32	-1.93E-01		1.25E+00
+	SB-126	414.70	83.30	-5.07E-01	9.48E-01	9.52E-01
		666.33	99.60	-2.69E-01		9.48E-01
		695.00	99.60	6.76E-01		1.14E+00
		720.50	53.80	4.78E-02		1.64E+00
+	SN-126	87.57	*	37.00	1.67E-01	2.37E-01
+	SB-127	473.00	25.00	-5.11E+01	1.60E+02	1.75E+02
		685.20	35.70	-4.57E+01		1.60E+02
		783.80	14.70	1.21E+02		4.21E+02

Analysis Report for 1510092-08
CP5003S14-15

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	I-129	29.78	57.00	-1.34E-02	8.89E-02	8.89E-02
		33.60	13.20	-2.66E-01		3.79E-01
		39.58	7.52	-1.37E-01		7.17E-01
+	I-131	284.30	6.05	-1.90E+01	2.57E+00	2.99E+01
		364.48	81.20	1.15E+00		2.57E+00
		636.97	7.26	-1.19E+01		3.17E+01
		722.89	1.80	-7.21E+01		1.51E+02
+	TE-132	49.72	13.10	9.73E+01	1.28E+02	5.31E+02
		228.16	88.00	-8.46E+01		1.28E+02
+	BA-133	81.00	33.00	-7.71E-03	3.12E-01	3.29E-01
		302.84	17.80	-9.86E-03		7.03E-01
		356.01	60.00	6.37E-01		3.12E-01
+	I-133	529.87	86.30	-7.07E+09	3.39E+10	3.39E+10
+	XE-133	81.00	38.00	-5.00E-01	2.13E+01	2.13E+01
+	CS-134	563.23	8.38	6.29E-01	1.95E-01	1.85E+00
		569.32	15.43	3.99E-01		1.05E+00
		604.70	97.60	-6.33E-03		1.95E-01
		795.84	85.40	9.31E-02		2.33E-01
		801.93	8.73	-6.57E-01		2.20E+00
+	CS-135	268.24	16.00	-1.25E-01	7.58E-01	7.58E-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	9.09E-01	8.93E-01	7.80E+00
		163.89	4.61	-5.88E+00		1.24E+01
		176.55	13.56	2.01E+00		4.52E+00
		273.65	12.66	-4.93E-01		5.48E+00
		340.57	48.50	-2.68E-02		1.66E+00
		818.50	99.70	1.07E-02		8.93E-01
		1048.07	79.60	4.40E-01		1.33E+00
		1235.34	19.70	3.79E+00		7.52E+00
+	CS-137	661.65	85.12	7.04E-03	1.76E-01	1.76E-01
+	LA-138	788.74	34.00	-4.68E-01	2.57E-01	4.56E-01
		1435.80	66.00	-9.27E-02		2.57E-01
+	CE-139	165.85	80.35	-4.24E-02	1.49E-01	1.49E-01
+	BA-140	162.64	6.70	-1.81E-01	3.34E+00	9.07E+00
		304.84	4.50	3.30E+00		1.59E+01
		423.70	3.20	9.29E+00		2.50E+01
		437.55	2.00	-7.93E+00		3.79E+01
		537.32	25.00	7.23E-02		3.34E+00
+	LA-140	328.77	20.50	1.17E+00	1.08E+00	3.64E+00
		487.03	45.50	1.94E-01		1.75E+00
		815.85	23.50	1.11E+00		4.01E+00
		1596.49	95.49	-5.37E-02		1.08E+00
+	CE-141	145.44	48.40	3.01E-01	4.26E-01	4.26E-01
+	CE-143	57.36	11.80	-9.77E+06	4.90E+06	8.69E+06
		293.26	42.00	6.09E+06		4.90E+06
		664.55	5.20	-1.03E+07		4.06E+07
+	CE-144	133.54	10.80	3.13E-01	9.95E-01	9.95E-01

Analysis Report for 1510092-08

CP5003S14-15

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	PM-144	476.78	42.00	-4.72E-02	1.51E-01	3.19E-01
		618.01	98.60	-4.89E-02		1.51E-01
		696.49	99.49	6.36E-02		1.94E-01
+	PM-145	36.85	21.70	2.33E-02	1.34E-01	2.43E-01
		37.36	39.70	-3.59E-02		1.34E-01
		42.30	15.10	1.73E-02		4.06E-01
		72.40	2.31	6.93E+00		4.80E+00
+	PM-146	453.90	39.94	7.61E-02	3.15E-01	3.15E-01
		735.90	14.01	-1.17E-01		1.19E+00
		747.13	13.10	-3.10E-01		1.26E+00
+	ND-147	91.11	28.90	5.47E+00	2.89E+00	2.89E+00
		531.02	13.10	9.09E-03		8.11E+00
+	PM-149	285.90	3.10	-6.80E+04	9.66E+04	9.66E+04
+	EU-152	121.78	20.50	-1.05E-01	4.48E-01	4.48E-01
		244.69	5.40	-6.13E-01		2.52E+00
		344.27	19.13	-5.26E-02		5.93E-01
		778.89	9.20	1.23E-01		1.86E+00
		964.01	10.40	-4.98E-01		2.21E+00
		1085.78	7.22	3.88E-01		2.63E+00
		1112.02	9.60	1.41E-01		2.17E+00
		1407.95	14.94	-2.19E-01		1.12E+00
+	GD-153	97.43	31.30	-7.06E-02	3.11E-01	3.11E-01
		103.18	22.20	-5.74E-02		4.27E-01
+	EU-154	123.07	40.50	-1.13E-01	2.30E-01	2.30E-01
		723.30	19.70	3.14E-01		8.91E-01
		873.19	11.50	2.63E-01		1.57E+00
		996.32	10.30	-4.73E-02		1.70E+00
		1004.76	17.90	-3.90E-01		8.81E-01
		1274.45	35.50	-7.69E-03		4.98E-01
+	EU-155	86.50	30.90	1.93E-01	3.29E-01	3.29E-01
		105.30	20.70	4.32E-01		4.37E-01
+	EU-156	811.77	10.40	-1.63E+00	7.27E+00	7.27E+00
		1153.47	7.20	4.87E+00		1.31E+01
		1230.71	8.90	-2.74E+00		1.14E+01
+	HO-166M	184.41	72.60	1.59E-01	1.68E-01	1.68E-01
		280.45	29.60	2.02E-01		3.95E-01
		410.94	11.10	3.47E-01		1.21E+00
		711.69	54.10	2.99E-02		2.93E-01
+	TM-171	66.72	0.14	2.07E+01	6.51E+01	6.51E+01
+	HF-172	81.75	4.52	-5.82E-02	8.76E-01	2.31E+00
		125.81	11.30	-1.23E-01		8.76E-01
+	LU-172	181.53	20.60	1.77E+00	9.58E+00	1.62E+01
		810.06	16.63	-1.88E+00		3.05E+01
		912.12	15.25	9.44E+01		5.62E+01
		1093.66	62.50	-9.48E-01		9.58E+00
+	LU-173	100.72	5.24	-1.01E+00	5.93E-01	1.65E+00
		272.11	21.20	-1.87E-01		5.93E-01
+	HF-175	343.40	84.00	-1.64E-02	2.05E-01	2.05E-01
+	LU-176	88.34	13.30	7.02E-01	1.22E-01	7.76E-01

Analysis Report for 1510092-08
CP5003S14-15

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	LU-176	201.83	86.00	-7.62E-03	1.22E-01	1.34E-01
		306.78	94.00	-5.46E-02		1.22E-01
+	TA-182	67.75	41.20	1.26E-02	2.63E-01	2.63E-01
		1121.30	34.90	6.16E-01		9.05E-01
		1189.05	16.23	4.52E-01		1.54E+00
		1221.41	26.98	-4.83E-01		1.03E+00
		1231.02	11.44	-5.86E-01		2.43E+00
+	IR-192	308.46	29.68	-5.16E-01	3.75E-01	5.00E-01
		468.07	48.10	-8.20E-02		3.75E-01
+	HG-203	279.19	77.30	1.20E-01	2.45E-01	2.45E-01
+	BI-207	569.67	97.72	6.13E-02	1.62E-01	1.62E-01
		1063.62	74.90	4.46E-02		2.80E-01
+	TL-208	583.14	* 30.22	1.57E+00	9.59E-02	7.13E-01
		860.37	4.48	6.58E-01		4.10E+00
		2614.66	* 35.85	1.17E+00		9.59E-02
+	BI-210M	262.00	45.00	-9.41E-03	2.54E-01	2.54E-01
		300.00	23.00	1.44E-01		6.25E-01
+	PB-210	46.50	* 4.25	1.01E+00	1.60E+00	1.60E+00
+	PB-211	404.84	2.90	-4.12E-01	4.44E+00	4.44E+00
		831.96	2.90	-5.11E-01		6.57E+00
+	BI-212	727.17	11.80	6.66E-01	1.60E+00	1.60E+00
		1620.62	2.75	-5.77E-02		6.26E+00
+	PB-212	238.63	* 44.60	1.76E+00	3.73E-01	3.73E-01
		300.09	3.41	9.70E-01		4.22E+00
+	BI-214	609.31	* 46.30	1.04E+00	2.80E-01	5.65E-01
		1120.29	15.10	1.22E+00		1.73E+00
		1764.49	* 15.80	1.19E+00		2.80E-01
		2204.22	4.98	2.04E+00		4.83E+00
+	PB-214	295.21	* 19.19	8.78E-01	4.76E-01	7.95E-01
		351.92	* 37.19	1.37E+00		4.76E-01
+	RN-219	401.80	6.50	2.08E-01	1.94E+00	1.94E+00
+	RA-223	323.87	3.88	-6.96E-02	3.08E+00	3.08E+00
+	RA-224	240.98	3.95	2.01E+01	4.94E+00	4.94E+00
+	RA-225	40.00	31.00	-1.53E-01	8.05E-01	8.05E-01
+	RA-226	186.21	* 3.28	4.27E+00	5.20E+00	5.20E+00
+	TH-227	50.10	8.40	1.46E-01	7.97E-01	7.97E-01
		236.00	11.50	2.58E-01		1.57E+00
		256.20	6.30	-5.90E-01		1.80E+00
+	AC-228	338.32	11.40	1.14E+00	1.04E+00	1.26E+00
		911.07	27.70	1.63E+00		1.04E+00
		969.11	16.60	1.42E+00		1.52E+00
+	TH-230	48.44	16.90	8.31E-02	3.96E-01	3.96E-01
		62.85	4.60	2.16E+00		1.85E+00
		67.67	0.37	1.15E+00		2.40E+01
+	PA-231	283.67	1.60	-4.73E+00	5.41E+00	6.81E+00
		302.67	2.30	-7.58E-02		5.41E+00
+	TH-231	25.64	14.70	3.79E-02	3.48E-01	3.48E-01
		84.21	6.40	-4.04E-02		1.50E+00

Analysis Report for 1510092-08
CP5003S14-15

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	PA-233	311.98	38.60	1.71E-01	6.85E-01	6.85E-01
+	PA-234	131.20	20.40	4.15E-01	4.91E-01	4.91E-01
		733.99	8.80	-1.46E-01		1.83E+00
		946.00	12.00	2.17E-01		1.11E+00
+	PA-234M	1001.03	0.92	1.86E+00	1.80E+01	1.80E+01
+	TH-234	63.29	3.80	1.68E+00	2.25E+00	2.25E+00
+	U-235	143.76	10.50	9.09E-02	9.61E-01	9.61E-01
		163.35	4.70	-1.03E+00		2.18E+00
		205.31	4.70	4.86E-01		2.43E+00
+	NP-237	86.50	* 12.60	4.91E-01	6.96E-01	6.96E-01
+	NP-239	106.10	22.70	5.84E+03	5.92E+03	5.92E+03
		228.18	10.70	-2.25E+03		1.53E+04
		277.60	14.10	4.07E+03		1.26E+04
+	AM-241	59.54	35.90	6.36E-02	2.19E-01	2.19E-01
+	AM-243	74.67	66.00	7.75E-01	1.82E-01	1.82E-01
+	CM-243	209.75	3.29	3.09E+00	8.51E-01	3.65E+00
		228.14	10.60	-6.76E-01		1.02E+00
		277.60	14.00	2.75E-01		8.51E-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	1.82E+00	1.82E+00	-5.67E-01	8.53E-01
NA-22	1274.54	99.94	1.80E-01	1.80E-01	-2.78E-03	8.00E-02
NA-24	1368.53	99.99	8.27E+14	5.21E+14	-4.70E+13	3.58E+14
	2754.09	99.86	5.21E+14		-1.18E+14	1.65E+14

Analysis Report for 1510092-08

CP5003S14-15

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
AL-26	1808.65	99.76	1.17E-01	1.17E-01	0.00E+00	4.52E-02
+ K-40	1460.81	* 10.67	2.63E+00	2.63E+00	2.00E+01	1.21E+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	9.44E-02	9.44E-02	4.52E-03	4.63E-02
	78.34	96.00	1.22E-01		3.17E-01	5.99E-02
SC-46	889.25	99.98	2.24E-01	2.24E-01	3.29E-02	1.03E-01
	1120.51	99.99	3.42E-01		2.41E-01	1.60E-01
V-48	983.52	99.98	7.61E-01	7.47E-01	1.99E-01	3.49E-01
	1312.10	97.50	7.47E-01		-8.84E-02	3.31E-01
CR-51	320.08	9.83	2.61E+00	2.61E+00	-3.75E-01	1.24E+00
MN-54	834.83	99.97	2.04E-01	2.04E-01	2.75E-02	9.51E-02
CO-56	846.75	99.96	2.22E-01	2.22E-01	-1.04E-01	1.02E-01
	1037.75	14.03	1.56E+00		-6.59E-01	7.03E-01
	1238.25	67.00	5.41E-01		3.53E-01	2.52E-01
	1771.40	15.51	1.15E+00		-1.51E+00	4.66E-01
	2598.48	16.90	9.26E-01		2.00E-01	3.28E-01
CO-57	122.06	85.51	1.16E-01	1.16E-01	-2.74E-02	5.67E-02
	136.48	10.60	9.85E-01		-6.48E-01	4.80E-01
CO-58	810.76	99.40	2.40E-01	2.40E-01	-1.47E-02	1.11E-01
FE-59	1099.22	56.50	6.02E-01	6.02E-01	-1.10E-01	2.76E-01
	1291.56	43.20	7.61E-01		-2.93E-01	3.43E-01
CO-60	1173.22	100.00	2.25E-01	1.56E-01	9.39E-02	1.03E-01
	1332.49	100.00	1.56E-01		-1.22E-02	6.79E-02
ZN-65	1115.52	50.75	4.44E-01	4.44E-01	-6.44E-01	2.04E-01
+ GA-67	93.31	* 35.70	3.05E+02	3.05E+02	1.80E+02	1.50E+02
	208.95	2.24	5.45E+03		3.87E+03	2.65E+03
	300.22	16.00	8.66E+02		2.87E+02	4.18E+02
SE-75	121.11	16.70	6.66E-01	2.01E-01	-1.21E-01	3.25E-01
	136.00	59.20	2.01E-01		-2.57E-02	9.79E-02
	264.65	59.80	2.30E-01		-8.80E-02	1.11E-01
	279.53	25.20	5.58E-01		2.74E-01	2.68E-01
	400.65	11.40	1.31E+00		-1.94E-01	6.24E-01
RB-82	776.52	13.00	3.07E+00	3.07E+00	-1.53E+00	1.42E+00
RB-83	520.41	46.00	4.32E-01	4.32E-01	-4.14E-02	2.05E-01
	529.64	30.30	5.68E-01		-1.18E-01	2.66E-01
	552.65	16.40	9.72E-01		-4.97E-01	4.52E-01
KR-85	513.99	0.43	4.29E+01	4.29E+01	3.45E+01	2.05E+01
SR-85	513.99	99.27	2.64E-01	2.64E-01	2.12E-01	1.26E-01
Y-88	898.02	93.40	2.28E-01	2.03E-01	-4.64E-03	1.05E-01
	1836.01	99.38	2.03E-01		-2.44E-02	8.51E-02
NB-93M	16.57	9.43	4.41E-01	4.41E-01	8.05E-01	2.14E-01
NB-94	702.63	100.00	1.69E-01	1.64E-01	-3.11E-02	7.93E-02
	871.10	100.00	1.64E-01		-4.49E-02	7.53E-02
NB-95	765.79	99.81	3.55E-01	3.55E-01	2.04E-01	1.66E-01
NB-95M	235.69	25.00	3.82E+02	3.82E+02	6.28E+01	1.87E+02
ZR-95	724.18	43.70	5.95E-01	4.31E-01	4.13E-01	2.79E-01
	756.72	55.30	4.31E-01		8.23E-03	2.00E-01
MO-99	181.06	6.20	6.71E+03	4.90E+03	1.01E+03	3.26E+03
	739.58	12.80	4.90E+03		1.12E+03	2.28E+03
	778.00	4.50	1.42E+04		9.38E+02	6.60E+03
RU-103	497.08	89.00	2.57E-01	2.57E-01	-2.87E-02	1.21E-01
RU-106	621.84	9.80	1.59E+00	1.59E+00	5.65E-01	7.40E-01
AG-108M	433.93	89.90	1.40E-01	1.40E-01	-7.07E-04	6.61E-02

Analysis Report for 1510092-08
CP5003S14-15

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
AG-108M	614.37	90.40	2.22E-01	1.40E-01	1.50E-02	1.06E-01
	722.95	90.50	1.93E-01		6.79E-02	9.01E-02
+ CD-109	88.03 *	3.72	2.48E+00	2.48E+00	1.75E+00	1.21E+00
AG-110M	657.75	93.14	1.71E-01	1.71E-01	-2.63E-02	7.96E-02
	677.61	10.53	1.70E+00		-3.15E-02	7.95E-01
	706.67	16.46	1.13E+00		4.37E-01	5.30E-01
	763.93	21.98	8.79E-01		1.31E-02	4.10E-01
	884.67	71.63	2.52E-01		-1.14E-01	1.15E-01
	1384.27	23.94	8.82E-01		2.58E-01	3.93E-01
CD-113M	263.70	0.02	4.99E+02	4.99E+02	-9.14E+01	2.40E+02
SN-113	255.12	1.93	7.29E+00	2.44E-01	-6.55E-01	3.51E+00
	391.69	64.90	2.44E-01		1.25E-01	1.16E-01
TE123M	159.00	84.10	1.53E-01	1.53E-01	1.14E-01	7.47E-02
SB-124	602.71	97.87	2.31E-01	2.31E-01	-3.83E-02	1.08E-01
	645.85	7.26	3.09E+00		7.65E-01	1.44E+00
	722.78	11.10	2.13E+00		-1.02E+00	9.91E-01
	1691.02	49.00	3.57E-01		-1.47E-01	1.42E-01
I-125	35.49	6.49	1.15E+00	1.15E+00	-4.09E-01	5.60E-01
SB-125	176.33	6.89	1.63E+00	4.34E-01	7.24E-01	7.91E-01
	427.89	29.33	4.34E-01		-2.15E-01	2.05E-01
	463.38	10.35	1.42E+00		1.02E+00	6.73E-01
	600.56	17.80	8.66E-01		-2.48E-01	4.06E-01
	635.90	11.32	1.25E+00		-1.93E-01	5.81E-01
SB-126	414.70	83.30	9.52E-01	9.48E-01	-5.07E-01	4.52E-01
	666.33	99.60	9.48E-01		-2.69E-01	4.42E-01
	695.00	99.60	1.14E+00		6.76E-01	5.38E-01
	720.50	53.80	1.64E+00		4.78E-02	7.54E-01
+ SN-126	87.57 *	37.00	2.37E-01	2.37E-01	1.67E-01	1.16E-01
SB-127	473.00	25.00	1.75E+02	1.60E+02	-5.11E+01	8.21E+01
	685.20	35.70	1.60E+02		-4.57E+01	7.47E+01
	783.80	14.70	4.21E+02		1.21E+02	1.96E+02
I-129	29.78	57.00	8.89E-02	8.89E-02	-1.34E-02	4.34E-02
	33.60	13.20	3.79E-01		-2.66E-01	1.85E-01
	39.58	7.52	7.17E-01		-1.37E-01	3.49E-01
I-131	284.30	6.05	2.99E+01	2.57E+00	-1.90E+01	1.43E+01
	364.48	81.20	2.57E+00		1.15E+00	1.23E+00
	636.97	7.26	3.17E+01		-1.19E+01	1.47E+01
	722.89	1.80	1.51E+02		-7.21E+01	7.01E+01
TE-132	49.72	13.10	5.31E+02	1.28E+02	9.73E+01	2.60E+02
	228.16	88.00	1.28E+02		-8.46E+01	6.16E+01
BA-133	81.00	33.00	3.29E-01	3.12E-01	-7.71E-03	1.62E-01
	302.84	17.80	7.03E-01		-9.86E-03	3.38E-01
	356.01	60.00	3.12E-01		6.37E-01	1.51E-01
I-133	529.87	86.30	3.39E+10	3.39E+10	-7.07E+09	1.59E+10
XE-133	81.00	38.00	2.13E+01	2.13E+01	-5.00E-01	1.05E+01
CS-134	563.23	8.38	1.85E+00	1.95E-01	6.29E-01	8.72E-01
	569.32	15.43	1.05E+00		3.99E-01	4.97E-01
	604.70	97.60	1.95E-01		-6.33E-03	9.26E-02
	795.84	85.40	2.33E-01		9.31E-02	1.09E-01
	801.93	8.73	2.20E+00		-6.57E-01	1.03E+00
CS-135	268.24	16.00	7.58E-01	7.58E-01	-1.25E-01	3.66E-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

Analysis Report for 1510092-08

CP5003S14-15

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
@ I-135	1678.03	9.54	1.00E+26	1.00E+26	1.00E+26	1.00E+20
CS-136	153.22	7.46	7.80E+00	8.93E-01	9.09E-01	3.80E+00
	163.89	4.61	1.24E+01		-5.88E+00	6.04E+00
	176.55	13.56	4.52E+00		2.01E+00	2.20E+00
	273.65	12.66	5.48E+00		-4.93E-01	2.64E+00
	340.57	48.50	1.66E+00		-2.68E-02	7.99E-01
	818.50	99.70	8.93E-01		1.07E-02	4.11E-01
	1048.07	79.60	1.33E+00		4.40E-01	6.08E-01
	1235.34	19.70	7.52E+00		3.79E+00	3.49E+00
CS-137	661.65	85.12	1.76E-01	1.76E-01	7.04E-03	8.22E-02
LA-138	788.74	34.00	4.56E-01	2.57E-01	-4.68E-01	2.10E-01
	1435.80	66.00	2.57E-01		-9.27E-02	1.12E-01
CE-139	165.85	80.35	1.49E-01	1.49E-01	-4.24E-02	7.25E-02
BA-140	162.64	6.70	9.07E+00	3.34E+00	-1.81E-01	4.41E+00
	304.84	4.50	1.59E+01		3.30E+00	7.65E+00
	423.70	3.20	2.50E+01		9.29E+00	1.19E+01
	437.55	2.00	3.79E+01		-7.93E+00	1.79E+01
	537.32	25.00	3.34E+00		7.23E-02	1.57E+00
LA-140	328.77	20.50	3.64E+00	1.08E+00	1.17E+00	1.75E+00
	487.03	45.50	1.75E+00		1.94E-01	8.24E-01
	815.85	23.50	4.01E+00		1.11E+00	1.85E+00
	1596.49	95.49	1.08E+00		-5.37E-02	4.67E-01
CE-141	145.44	48.40	4.26E-01	4.26E-01	3.01E-01	2.08E-01
CE-143	57.36	11.80	8.69E+06	4.90E+06	-9.77E+06	4.25E+06
	293.26	42.00	4.90E+06		6.09E+06	2.37E+06
	664.55	5.20	4.06E+07		-1.03E+07	1.89E+07
CE-144	133.54	10.80	9.95E-01	9.95E-01	3.13E-01	4.85E-01
PM-144	476.78	42.00	3.19E-01	1.51E-01	-4.72E-02	1.50E-01
	618.01	98.60	1.51E-01		-4.89E-02	7.04E-02
	696.49	99.49	1.94E-01		6.36E-02	9.14E-02
PM-145	36.85	21.70	2.43E-01	1.34E-01	2.33E-02	1.19E-01
	37.36	39.70	1.34E-01		-3.59E-02	6.55E-02
	42.30	15.10	4.06E-01		1.73E-02	1.98E-01
	72.40	2.31	4.80E+00		6.93E+00	2.36E+00
PM-146	453.90	39.94	3.15E-01	3.15E-01	7.61E-02	1.49E-01
	735.90	14.01	1.19E+00		-1.17E-01	5.55E-01
	747.13	13.10	1.26E+00		-3.10E-01	5.87E-01
ND-147	91.11	28.90	2.89E+00	2.89E+00	5.47E+00	1.42E+00
	531.02	13.10	8.11E+00		9.09E-03	3.80E+00
PM-149	285.90	3.10	9.66E+04	9.66E+04	-6.80E+04	4.62E+04
EU-152	121.78	20.50	4.48E-01	4.48E-01	-1.05E-01	2.18E-01
	244.69	5.40	2.52E+00		-6.13E-01	1.22E+00
	344.27	19.13	5.93E-01		-5.26E-02	2.82E-01
	778.89	9.20	1.86E+00		1.23E-01	8.66E-01
	964.01	10.40	2.21E+00		-4.98E-01	1.03E+00
	1085.78	7.22	2.63E+00		3.88E-01	1.20E+00
	1112.02	9.60	2.17E+00		1.41E-01	9.95E-01
	1407.95	14.94	1.12E+00		-2.19E-01	4.90E-01
GD-153	97.43	31.30	3.11E-01	3.11E-01	-7.06E-02	1.52E-01
	103.18	22.20	4.27E-01		-5.74E-02	2.08E-01
EU-154	123.07	40.50	2.30E-01	2.30E-01	-1.13E-01	1.12E-01
	723.30	19.70	8.91E-01		3.14E-01	4.17E-01
	873.19	11.50	1.57E+00		2.63E-01	7.28E-01

Analysis Report for 1510092-08

CP5003S14-15

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)	
EU-154	996.32	10.30	1.70E+00	2.30E-01	-4.73E-02	7.75E-01	
	1004.76	17.90	8.81E-01		-3.90E-01	3.97E-01	
	1274.45	35.50	4.98E-01		-7.69E-03	2.21E-01	
EU-155	86.50	30.90	3.29E-01	3.29E-01	1.93E-01	1.61E-01	
	105.30	20.70	4.37E-01		4.32E-01	2.14E-01	
EU-156	811.77	10.40	7.27E+00	7.27E+00	-1.63E+00	3.37E+00	
	1153.47	7.20	1.31E+01		4.87E+00	5.99E+00	
	1230.71	8.90	1.14E+01		-2.74E+00	5.21E+00	
HO-166M	184.41	72.60	1.68E-01	1.68E-01	1.59E-01	8.17E-02	
	280.45	29.60	3.95E-01		2.02E-01	1.90E-01	
	410.94	11.10	1.21E+00		3.47E-01	5.75E-01	
	711.69	54.10	2.93E-01		2.99E-02	1.36E-01	
TM-171	66.72	0.14	6.51E+01	6.51E+01	2.07E+01	3.20E+01	
HF-172	81.75	4.52	2.31E+00	8.76E-01	-5.82E-02	1.14E+00	
	125.81	11.30	8.76E-01		-1.23E-01	4.27E-01	
LU-172	181.53	20.60	1.62E+01	9.58E+00	1.77E+00	7.89E+00	
	810.06	16.63	3.05E+01		-1.88E+00	1.42E+01	
	912.12	15.25	5.62E+01		9.44E+01	2.67E+01	
	1093.66	62.50	9.58E+00		-9.48E-01	4.39E+00	
LU-173	100.72	5.24	1.65E+00	5.93E-01	-1.01E+00	8.04E-01	
	272.11	21.20	5.93E-01		-1.87E-01	2.86E-01	
HF-175	343.40	84.00	2.05E-01	2.05E-01	-1.64E-02	9.80E-02	
LU-176	88.34	13.30	7.76E-01	1.22E-01	7.02E-01	3.81E-01	
	201.83	86.00	1.34E-01		-7.62E-03	6.50E-02	
	306.78	94.00	1.22E-01		-5.46E-02	5.85E-02	
TA-182	67.75	41.20	2.63E-01	2.63E-01	1.26E-02	1.29E-01	
	1121.30	34.90	9.05E-01		6.16E-01	4.23E-01	
	1189.05	16.23	1.54E+00		4.52E-01	7.03E-01	
	1221.41	26.98	1.03E+00		-4.83E-01	4.74E-01	
	1231.02	11.44	2.43E+00		-5.86E-01	1.11E+00	
	308.46	29.68	5.00E-01		3.75E-01	-5.16E-01	2.39E-01
468.07	48.10	3.75E-01	-8.20E-02	1.77E-01			
HG-203	279.19	77.30	2.45E-01	2.45E-01	1.20E-01	1.18E-01	
BI-207	569.67	97.72	1.62E-01	1.62E-01	6.13E-02	7.64E-02	
	1063.62	74.90	2.80E-01		4.46E-02	1.29E-01	
+ TL-208	583.14	*	30.22	9.59E-02	1.57E+00	3.41E-01	
	860.37		4.48		4.10E+00	6.58E-01	1.90E+00
	2614.66	*	35.85		9.59E-02	1.17E+00	0.00E+00
BI-210M	262.00		45.00	2.54E-01	-9.41E-03	1.22E-01	
	300.00		23.00		6.25E-01	1.44E-01	3.02E-01
+ PB-210	46.50	*	4.25	1.60E+00	1.01E+00	7.84E-01	
	404.84		2.90		4.44E+00	-4.12E-01	2.11E+00
PB-211	831.96		2.90	6.57E+00	-5.11E-01	3.06E+00	
	727.17		11.80		1.60E+00	6.66E-01	7.51E-01
+ PB-212	1620.62		2.75	6.26E+00	-5.77E-02	2.70E+00	
	238.63	*	44.60		3.73E-01	1.76E+00	1.82E-01
+ BI-214	300.09		3.41	4.22E+00	9.70E-01	2.04E+00	
	609.31	*	46.30		5.65E-01	1.04E+00	2.72E-01
+ PB-214	1120.29		15.10	1.73E+00	1.22E+00	8.07E-01	
	1764.49	*	15.80		2.80E-01	1.19E+00	5.85E-02
	2204.22		4.98		4.83E+00	2.04E+00	2.11E+00
+ PB-214	295.21	*	19.19	7.95E-01	8.78E-01	3.85E-01	
	351.92	*	37.19		4.76E-01	1.37E+00	2.31E-01

Analysis Report for 1510092-08
CP5003S14-15

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
RN-219	401.80	6.50	1.94E+00	1.94E+00	2.08E-01	9.24E-01
RA-223	323.87	3.88	3.08E+00	3.08E+00	-6.96E-02	1.48E+00
RA-224	240.98	3.95	4.94E+00	4.94E+00	2.01E+01	2.42E+00
RA-225	40.00	31.00	8.05E-01	8.05E-01	-1.53E-01	3.92E-01
+ RA-226	186.21 *	3.28	5.20E+00	5.20E+00	4.27E+00	2.55E+00
TH-227	50.10	8.40	7.97E-01	7.97E-01	1.46E-01	3.90E-01
	236.00	11.50	1.57E+00		2.58E-01	7.69E-01
	256.20	6.30	1.80E+00		-5.90E-01	8.65E-01
AC-228	338.32	11.40	1.26E+00	1.04E+00	1.14E+00	6.05E-01
	911.07	27.70	1.04E+00		1.63E+00	4.93E-01
	969.11	16.60	1.52E+00		1.42E+00	7.15E-01
TH-230	48.44	16.90	3.96E-01	3.96E-01	8.31E-02	1.94E-01
	62.85	4.60	1.85E+00		2.16E+00	9.08E-01
	67.67	0.37	2.40E+01		1.15E+00	1.18E+01
PA-231	283.67	1.60	6.81E+00	5.41E+00	-4.73E+00	3.26E+00
	302.67	2.30	5.41E+00		-7.58E-02	2.60E+00
TH-231	25.64	14.70	3.48E-01	3.48E-01	3.79E-02	1.70E-01
	84.21	6.40	1.50E+00		-4.04E-02	7.34E-01
PA-233	311.98	38.60	6.85E-01	6.85E-01	1.71E-01	3.27E-01
PA-234	131.20	20.40	4.91E-01	4.91E-01	4.15E-01	2.40E-01
	733.99	8.80	1.83E+00		-1.46E-01	8.50E-01
	946.00	12.00	1.11E+00		2.17E-01	4.92E-01
PA-234M	1001.03	0.92	1.80E+01	1.80E+01	1.86E+00	8.16E+00
TH-234	63.29	3.80	2.25E+00	2.25E+00	1.68E+00	1.10E+00
U-235	143.76	10.50	9.61E-01	9.61E-01	9.09E-02	4.68E-01
	163.35	4.70	2.18E+00		-1.03E+00	1.06E+00
	205.31	4.70	2.43E+00		4.86E-01	1.18E+00
+ NP-237	86.50 *	12.60	6.96E-01	6.96E-01	4.91E-01	3.41E-01
NP-239	106.10	22.70	5.92E+03	5.92E+03	5.84E+03	2.89E+03
	228.18	10.70	1.53E+04		-2.25E+03	7.40E+03
	277.60	14.10	1.26E+04		4.07E+03	6.07E+03
AM-241	59.54	35.90	2.19E-01	2.19E-01	6.36E-02	1.07E-01
AM-243	74.67	66.00	1.82E-01	1.82E-01	7.75E-01	8.97E-02
CM-243	209.75	3.29	3.65E+00	8.51E-01	3.09E+00	1.77E+00
	228.14	10.60	1.02E+00		-6.76E-01	4.92E-01
	277.60	14.00	8.51E-01		2.75E-01	4.09E-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 1510092-08
CP5003S14-15

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: CP5003S14-15

Elapsed Live time: 3600
 Elapsed Real Time: 3676

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	11	69
17:	87	77	71	59	60	68	65	68
25:	81	44	69	56	50	61	62	42
33:	63	56	49	62	45	65	57	81
41:	50	59	58	86	82	115	75	71
49:	62	78	82	70	67	68	66	70
57:	89	92	73	114	101	111	127	120
65:	110	100	93	98	98	108	111	122
73:	157	216	229	265	258	143	79	88
81:	78	88	105	86	103	125	139	113
89:	93	96	105	122	122	89	81	63
97:	56	67	48	43	68	58	72	54
105:	84	67	57	56	72	56	51	51
113:	80	49	58	64	54	63	62	53
121:	71	57	50	43	52	60	61	60
129:	76	57	66	62	48	58	50	46
137:	60	45	66	39	63	53	51	63
145:	50	46	54	51	64	49	40	43
153:	52	62	46	55	59	48	49	57
161:	39	51	51	32	43	52	35	46
169:	46	52	36	42	59	42	45	51
177:	42	39	46	51	30	43	44	63
185:	72	76	66	35	41	51	35	37
193:	36	41	40	36	47	52	53	45
201:	24	31	42	30	44	34	34	41
209:	71	37	32	41	40	27	35	33
217:	41	31	32	42	33	36	22	36
225:	28	24	28	30	27	21	43	31
233:	39	27	29	43	142	198	154	81
241:	66	61	31	18	27	26	24	31
249:	32	24	34	23	34	32	27	17
257:	22	31	29	17	35	21	26	22
265:	24	28	22	27	40	42	26	15
273:	17	28	18	32	31	25	23	29
281:	18	18	15	19	14	24	17	20
289:	24	20	22	24	34	48	60	35
297:	36	20	26	26	35	26	19	21
305:	12	21	14	22	21	14	12	15
313:	24	22	19	10	21	14	16	15
321:	16	17	24	10	17	20	32	29
329:	20	18	16	22	24	15	13	26
337:	32	45	43	22	17	10	14	14
345:	17	12	13	12	20	32	96	100
353:	44	24	18	22	16	15	12	22
361:	14	16	14	17	16	17	14	15

369: 12 14 11 19 14 6 12 19

Sample Title: CP5003S14-15

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	14	10	13	14	12	11	7	9
385:	13	22	10	18	20	13	14	18
393:	18	14	11	10	11	8	20	10
401:	16	14	16	13	14	11	16	15
409:	18	18	11	7	18	18	11	13
417:	11	10	14	18	16	21	15	12
425:	10	11	11	9	15	13	8	13
433:	9	12	8	13	12	15	11	11
441:	16	16	13	15	9	9	3	8
449:	15	10	7	7	10	16	9	8
457:	10	11	10	11	14	16	18	14
465:	10	14	12	9	8	8	8	16
473:	13	9	6	4	10	6	12	9
481:	13	14	8	10	13	15	10	8
489:	8	9	10	10	7	8	16	13
497:	6	9	7	8	8	8	13	8
505:	8	12	12	10	25	30	28	22
513:	11	17	10	12	9	6	18	16
521:	9	11	10	16	12	17	5	3
529:	4	10	5	11	9	15	8	9
537:	12	7	10	7	9	11	10	9
545:	5	10	9	8	3	5	8	6
553:	13	6	6	4	11	8	9	14
561:	8	9	8	7	9	9	15	8
569:	6	11	14	11	12	10	9	8
577:	9	18	13	15	16	38	38	48
585:	17	6	2	10	9	12	4	8
593:	8	15	16	8	11	9	8	8
601:	7	10	9	7	10	13	13	40
609:	50	54	20	13	8	7	8	7
617:	13	4	10	4	5	4	13	3
625:	11	4	6	4	6	7	7	4
633:	7	8	7	7	4	9	4	6
641:	9	9	8	9	4	11	2	11
649:	6	8	4	8	6	5	5	9
657:	9	7	6	3	9	11	4	8
665:	5	4	8	9	9	5	11	10
673:	9	8	12	4	9	7	9	6
681:	7	10	8	13	3	6	4	6
689:	9	9	9	12	4	12	10	10
697:	9	9	11	7	6	3	11	6
705:	5	13	7	9	8	9	6	5
713:	2	4	10	5	5	5	5	3
721:	5	4	9	5	8	17	15	12
729:	8	4	5	13	7	8	2	6
737:	5	8	7	10	8	8	8	9
745:	10	2	4	5	8	7	5	4
753:	9	7	10	7	8	3	3	8
761:	6	4	9	9	4	8	8	9
769:	15	7	6	5	9	6	4	6
777:	5	5	7	7	12	6	3	8
785:	6	4	6	5	4	3	6	4
793:	10	14	7	7	6	5	13	12

801: 8 4 5 4 10 5 13 8

Sample Title: CP5003S14-15

Channel	1	2	3	4	5	6	7	8
809:	9	4	2	3	7	4	3	7
817:	7	7	6	4	3	4	7	4
825:	6	9	5	8	9	7	6	10
833:	4	10	6	4	8	8	8	4
841:	5	7	2	6	4	3	7	4
849:	6	7	8	7	9	5	4	5
857:	3	4	8	14	8	3	8	2
865:	2	8	5	2	5	3	5	3
873:	6	7	6	7	9	6	3	6
881:	7	2	8	2	2	5	3	6
889:	7	5	7	3	6	5	2	7
897:	4	6	7	6	2	5	4	7
905:	3	3	4	3	7	20	37	28
913:	16	7	5	8	2	4	8	2
921:	8	2	7	4	5	10	5	5
929:	4	6	3	5	7	8	8	5
937:	0	2	6	5	3	2	8	5
945:	2	1	0	2	2	0	3	3
953:	6	8	3	4	3	5	4	7
961:	7	4	10	5	6	8	11	12
969:	23	15	3	5	2	3	4	4
977:	2	2	8	3	0	2	7	4
985:	7	7	4	5	7	2	6	4
993:	4	1	5	7	4	2	5	4
1001:	2	4	4	4	3	2	2	3
1009:	4	7	4	4	3	2	5	7
1017:	4	2	3	3	6	2	5	2
1025:	6	2	0	4	2	6	2	5
1033:	5	1	3	3	5	3	5	3
1041:	1	2	4	8	6	4	4	1
1049:	4	5	4	3	3	3	5	2
1057:	5	2	4	4	7	4	6	5
1065:	7	5	5	7	7	4	1	1
1073:	2	3	2	1	5	3	5	0
1081:	1	4	1	4	6	6	6	5
1089:	1	3	5	5	4	7	7	4
1097:	6	7	1	5	5	5	2	8
1105:	3	5	0	7	6	5	3	4
1113:	1	6	6	4	2	6	9	13
1121:	14	15	3	2	3	6	4	1
1129:	3	5	4	4	6	5	6	2
1137:	6	4	3	3	4	4	5	4
1145:	3	3	3	2	8	3	2	5
1153:	2	5	4	7	5	3	5	3
1161:	6	5	4	3	5	2	4	4
1169:	5	8	3	3	7	4	3	5
1177:	6	6	2	2	4	10	7	4
1185:	3	0	4	6	3	5	5	3
1193:	7	3	3	7	8	4	1	3
1201:	4	5	5	8	3	6	5	5
1209:	9	2	5	7	6	7	8	4
1217:	7	1	7	4	4	2	2	5
1225:	11	10	6	4	4	2	6	4

1233: 3 6 7 5 11 8 8 5

Sample Title: CP5003S14-15

Channel	1	2	3	4	5	6	7	8	9
1241:	6	5	6	2	3	7	6	3	
1249:	5	2	1	2	5	3	5	1	
1257:	6	2	2	2	3	1	0	4	
1265:	2	3	1	5	2	1	1	3	
1273:	6	1	3	4	1	2	1	3	
1281:	3	5	3	2	3	3	4	1	
1289:	1	1	5	5	3	3	5	4	
1297:	5	9	2	1	4	4	2	4	
1305:	2	2	4	1	2	1	1	8	
1313:	4	0	2	2	5	4	6	3	
1321:	4	2	2	3	5	0	3	0	
1329:	4	1	3	2	2	2	1	0	
1337:	3	0	1	0	3	0	2	6	
1345:	1	5	1	2	2	1	3	0	
1353:	1	1	0	3	3	5	2	6	
1361:	2	3	2	3	1	3	1	1	
1369:	3	0	1	1	1	2	1	0	
1377:	5	2	4	3	4	0	2	3	
1385:	2	3	1	5	0	1	1	2	
1393:	1	1	2	3	1	1	1	2	
1401:	4	2	2	4	1	2	2	1	
1409:	1	3	2	0	4	1	1	1	
1417:	0	0	0	5	1	2	1	1	
1425:	2	2	4	0	2	2	2	4	
1433:	1	2	1	2	1	4	0	1	
1441:	2	4	3	0	4	1	1	2	
1449:	2	4	2	2	0	2	4	1	
1457:	3	6	17	44	93	78	21	8	
1465:	4	1	3	1	3	1	0	1	
1473:	2	1	1	1	1	0	0	2	
1481:	0	2	3	1	1	2	2	0	
1489:	3	0	2	2	3	1	1	1	
1497:	0	4	1	1	0	0	0	0	
1505:	2	1	0	0	1	4	0	1	
1513:	1	3	2	2	1	0	1	2	
1521:	1	0	2	2	2	0	0	0	
1529:	1	2	1	1	0	2	0	1	
1537:	0	2	1	3	1	0	2	1	
1545:	1	1	2	2	1	0	0	0	
1553:	1	2	0	0	0	3	1	1	
1561:	1	2	1	0	2	1	3	1	
1569:	0	0	3	1	1	1	0	0	
1577:	0	1	1	1	0	1	2	0	
1585:	2	0	1	3	3	2	4	4	
1593:	4	4	2	1	0	1	0	1	
1601:	1	1	1	1	0	3	1	2	
1609:	0	1	1	0	0	1	2	2	
1617:	2	1	1	2	2	2	2	1	
1625:	0	0	4	0	0	2	2	1	
1633:	1	1	0	0	0	1	1	0	
1641:	0	2	1	1	0	3	1	1	
1649:	1	0	1	1	0	0	1	1	
1657:	1	2	0	0	2	1	0	2	

1665: 0 1 0 0 1 2 1 1

Sample Title: CP5003S14-15

Channel	1	2	3	4	5	6	7	8
1673:	0	1	0	0	2	2	1	3
1681:	1	1	0	1	2	2	1	1
1689:	0	0	0	0	1	1	1	1
1697:	1	0	1	1	0	0	1	0
1705:	1	0	1	1	0	0	0	1
1713:	3	1	1	1	2	3	0	0
1721:	0	1	1	0	1	1	2	1
1729:	4	2	3	0	0	0	0	0
1737:	1	1	0	1	1	0	1	1
1745:	0	2	0	1	1	2	0	1
1753:	2	1	1	0	2	1	0	0
1761:	0	0	1	2	9	4	4	0
1769:	0	0	0	0	0	0	0	1
1777:	1	0	1	0	1	1	2	2
1785:	0	0	2	0	1	0	0	1
1793:	1	1	2	1	1	1	0	0
1801:	0	1	0	1	0	0	0	0
1809:	1	0	0	1	0	1	4	1
1817:	0	0	1	1	0	1	0	0
1825:	1	0	1	2	1	0	1	1
1833:	1	0	2	0	0	3	0	1
1841:	0	2	1	0	0	1	1	3
1849:	0	0	1	0	0	0	0	0
1857:	0	0	1	2	3	0	2	0
1865:	0	1	1	0	0	1	1	1
1873:	0	3	1	0	1	0	0	2
1881:	0	0	1	0	1	1	0	0
1889:	1	1	1	0	1	2	3	0
1897:	0	0	2	1	0	0	0	0
1905:	0	1	0	0	1	0	1	0
1913:	0	0	2	0	1	0	0	2
1921:	0	0	1	0	1	0	1	1
1929:	1	1	0	0	1	2	2	0
1937:	0	0	1	1	1	0	0	0
1945:	0	0	1	0	0	0	0	0
1953:	1	0	0	0	1	0	1	0
1961:	1	0	1	0	1	0	3	1
1969:	0	0	0	0	0	1	1	0
1977:	1	1	0	0	0	0	0	0
1985:	0	0	0	1	0	1	0	1
1993:	0	0	0	1	0	1	0	4
2001:	0	1	0	0	0	0	1	1
2009:	0	0	1	0	0	2	0	1
2017:	0	1	2	0	0	0	0	0
2025:	1	2	0	1	0	1	1	0
2033:	0	0	3	0	0	2	1	0
2041:	0	0	1	1	1	0	0	0
2049:	1	1	0	0	0	2	2	1
2057:	1	0	0	0	1	0	1	2
2065:	0	1	0	0	2	0	2	2
2073:	0	1	1	1	1	0	2	0
2081:	0	1	0	1	3	3	1	0
2089:	0	0	1	0	1	1	0	1

2097: 1 0 0 0 2 0 0 1

Sample Title: CP5003S14-15

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2105:	2	1	2	0	1	0	1	1
2113:	0	1	1	0	0	1	1	0
2121:	1	0	1	0	0	0	0	2
2129:	0	0	0	0	1	0	1	1
2137:	2	0	1	1	0	1	0	0
2145:	1	2	0	0	0	3	2	0
2153:	0	0	0	0	0	1	0	0
2161:	1	0	1	2	1	0	1	1
2169:	0	1	0	1	1	0	0	0
2177:	0	0	1	1	0	0	0	2
2185:	3	0	0	0	1	1	1	1
2193:	0	1	2	0	0	1	3	1
2201:	1	0	2	2	2	3	1	3
2209:	0	1	0	0	0	0	1	0
2217:	0	1	0	0	0	1	3	0
2225:	1	1	1	1	1	1	0	0
2233:	0	0	1	0	1	0	1	0
2241:	0	1	1	0	1	1	1	0
2249:	1	1	1	0	0	1	1	0
2257:	0	1	2	1	0	0	1	0
2265:	1	1	1	0	2	1	0	0
2273:	0	0	1	0	0	0	1	0
2281:	0	1	2	1	0	0	0	2
2289:	1	3	1	1	2	1	0	1
2297:	0	1	1	0	1	0	1	0
2305:	1	3	1	2	1	1	0	2
2313:	1	3	1	1	0	2	0	0
2321:	1	0	0	1	0	1	2	1
2329:	1	1	0	0	2	1	0	0
2337:	0	3	0	1	1	1	1	1
2345:	0	0	1	2	1	0	1	1
2353:	0	1	1	1	3	1	0	2
2361:	0	0	1	0	1	1	0	0
2369:	1	0	2	1	1	2	0	1
2377:	1	1	0	3	0	0	0	0
2385:	0	0	0	0	0	0	2	0
2393:	1	0	1	0	0	0	0	1
2401:	0	2	0	0	1	1	2	3
2409:	0	0	1	0	1	0	0	1
2417:	1	0	0	0	1	0	0	1
2425:	0	0	0	2	1	2	0	1
2433:	0	0	1	0	0	0	0	0
2441:	2	0	0	2	0	0	0	2
2449:	1	2	0	0	1	3	0	1
2457:	0	1	0	0	1	1	1	0
2465:	1	0	1	1	0	0	0	0
2473:	0	0	0	1	1	0	0	1
2481:	0	0	1	0	0	0	0	0
2489:	0	0	2	1	0	1	1	1
2497:	1	0	0	0	1	1	0	0
2505:	0	0	1	1	0	1	0	0
2513:	0	1	0	0	0	0	1	0
2521:	0	0	1	0	0	0	0	0

2529: 0 0 0 0 0 0 0 0 0

Sample Title: CP5003S14-15

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2537:	0	0	1	0	0	0	0	0
2545:	0	0	0	0	0	0	0	0
2553:	0	0	0	0	1	0	0	0
2561:	1	1	0	0	0	0	0	1
2569:	0	0	1	0	0	0	0	0
2577:	0	0	1	0	0	0	0	0
2585:	0	0	0	0	1	0	0	0
2593:	0	0	0	0	0	0	1	0
2601:	0	1	0	0	0	0	0	0
2609:	0	0	0	1	0	3	7	11
2617:	7	1	3	0	0	0	0	0
2625:	0	0	0	0	0	0	0	0
2633:	0	0	0	0	0	0	0	0
2641:	0	1	0	1	0	0	0	0
2649:	1	0	0	0	1	1	0	0
2657:	0	0	0	0	0	0	0	1
2665:	0	0	0	0	0	0	0	0
2673:	0	0	0	0	1	0	0	0
2681:	0	1	0	0	0	0	0	1
2689:	0	0	1	0	0	0	0	0
2697:	1	0	0	0	0	1	1	0
2705:	0	0	1	0	0	0	0	0
2713:	0	0	0	0	0	0	0	1
2721:	0	0	0	0	0	0	1	0
2729:	0	2	0	0	1	0	0	0
2737:	0	0	0	0	1	0	1	0
2745:	0	0	0	0	0	0	0	0
2753:	1	0	0	0	0	0	0	0
2761:	0	1	0	0	0	0	0	0
2769:	0	0	0	0	0	0	1	1
2777:	0	0	0	0	0	0	0	0
2785:	0	0	1	0	0	0	0	0
2793:	0	0	0	0	0	1	0	0
2801:	0	0	1	0	0	0	0	0
2809:	1	0	2	0	0	1	0	0
2817:	0	0	0	0	1	1	1	0
2825:	0	0	0	0	0	0	0	0
2833:	0	0	1	0	0	0	1	0
2841:	0	0	0	2	0	0	1	0
2849:	0	0	0	0	1	1	0	0
2857:	0	0	0	0	1	0	0	0
2865:	0	0	0	0	0	0	0	0
2873:	0	1	0	0	0	0	0	0
2881:	1	0	0	0	0	0	0	0
2889:	0	0	0	0	0	0	0	0
2897:	0	0	1	0	0	0	0	0
2905:	0	1	0	0	0	0	0	0
2913:	0	0	0	1	0	1	0	1
2921:	0	0	0	1	0	1	0	0
2929:	1	0	0	0	0	0	1	0
2937:	0	0	0	0	0	0	0	0
2945:	0	0	0	0	0	0	1	0
2953:	0	0	0	0	0	0	0	0

2961: 0 0 0 0 0 1 0 1

Sample Title: CP5003S14-15

Channel								
2969:	0	0	0	0	0	1	0	0
2977:	0	0	0	0	0	0	0	0
2985:	0	1	0	0	0	0	1	0
2993:	0	0	0	1	1	1	0	0
3001:	0	0	0	0	0	0	0	0
3009:	0	0	0	0	0	0	0	0
3017:	0	0	1	0	0	0	0	0
3025:	0	0	0	0	0	0	0	1
3033:	0	0	2	0	0	1	0	0
3041:	0	0	0	0	0	0	0	0
3049:	0	0	0	0	1	0	0	0
3057:	0	0	0	0	0	0	0	1
3065:	0	0	0	0	0	0	0	0
3073:	0	0	0	0	0	0	0	0
3081:	0	0	0	0	2	0	0	0
3089:	0	0	0	0	0	0	0	0
3097:	0	0	1	0	0	0	0	0
3105:	0	0	0	0	0	1	0	0
3113:	0	0	0	1	0	0	0	0
3121:	0	0	1	0	0	0	0	0
3129:	0	0	1	1	0	0	0	0
3137:	0	0	0	0	0	0	0	0
3145:	0	0	1	0	0	0	0	0
3153:	0	0	0	0	0	0	0	0
3161:	0	0	0	0	0	0	0	1
3169:	0	0	1	0	0	1	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	1	0	0	1
3201:	0	1	0	0	0	1	0	0
3209:	0	0	0	0	1	0	0	0
3217:	0	0	0	0	0	1	0	0
3225:	0	0	0	0	0	1	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	1	0	0	1
3257:	0	0	0	0	0	0	0	0
3265:	0	0	1	0	0	0	0	0
3273:	0	0	0	0	0	0	0	0
3281:	0	0	0	1	0	0	0	0
3289:	0	0	0	0	0	1	0	0
3297:	0	0	0	0	1	0	0	0
3305:	0	0	0	0	0	0	0	1
3313:	1	0	0	0	1	0	0	0
3321:	0	0	0	0	1	0	0	0
3329:	0	0	0	0	0	0	0	0
3337:	0	1	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 1 0 0 0 0 0 1

Sample Title: CP5003S14-15

Channel								
3401:	0	2	0	0	0	0	0	0
3409:	0	0	0	1	0	2	0	0
3417:	0	0	0	0	1	1	0	0
3425:	0	0	2	2	0	0	0	0
3433:	0	0	0	1	1	0	0	0
3441:	0	0	0	0	0	0	0	0
3449:	0	0	0	0	0	1	0	0
3457:	1	1	0	0	0	1	0	0
3465:	0	0	0	0	0	0	0	0
3473:	1	0	0	0	2	0	0	1
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	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	1	0	0
3529:	0	1	0	1	0	0	1	0
3537:	0	0	0	0	0	0	0	0
3545:	1	0	0	0	0	0	0	1
3553:	0	0	0	0	0	0	0	0
3561:	0	0	0	0	0	0	1	0
3569:	0	1	0	0	0	0	0	0
3577:	1	0	0	0	0	0	0	0
3585:	0	0	0	0	0	0	0	0
3593:	1	0	0	0	0	0	0	0
3601:	0	0	0	0	0	0	1	0
3609:	0	0	0	0	0	0	0	0
3617:	0	0	1	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	0
3649:	1	0	0	0	0	0	0	0
3657:	0	0	0	1	0	0	0	0
3665:	0	0	1	1	0	0	0	0
3673:	0	0	0	0	1	2	0	0
3681:	0	0	1	0	0	0	0	0
3689:	1	0	0	0	0	1	0	0
3697:	0	0	1	0	0	0	0	0
3705:	0	0	0	0	0	0	0	0
3713:	0	0	0	0	0	0	0	0
3721:	1	0	0	0	0	1	0	0
3729:	0	0	0	0	0	0	0	0
3737:	0	0	0	0	0	0	1	1
3745:	0	0	0	0	1	0	1	0
3753:	0	1	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	0	0	0	0	0	1
3785:	0	0	0	0	0	0	0	0
3793:	0	0	0	0	1	0	0	0
3801:	0	0	0	0	1	0	0	0
3809:	0	0	0	1	0	0	0	0
3817:	0	0	1	0	0	0	0	1

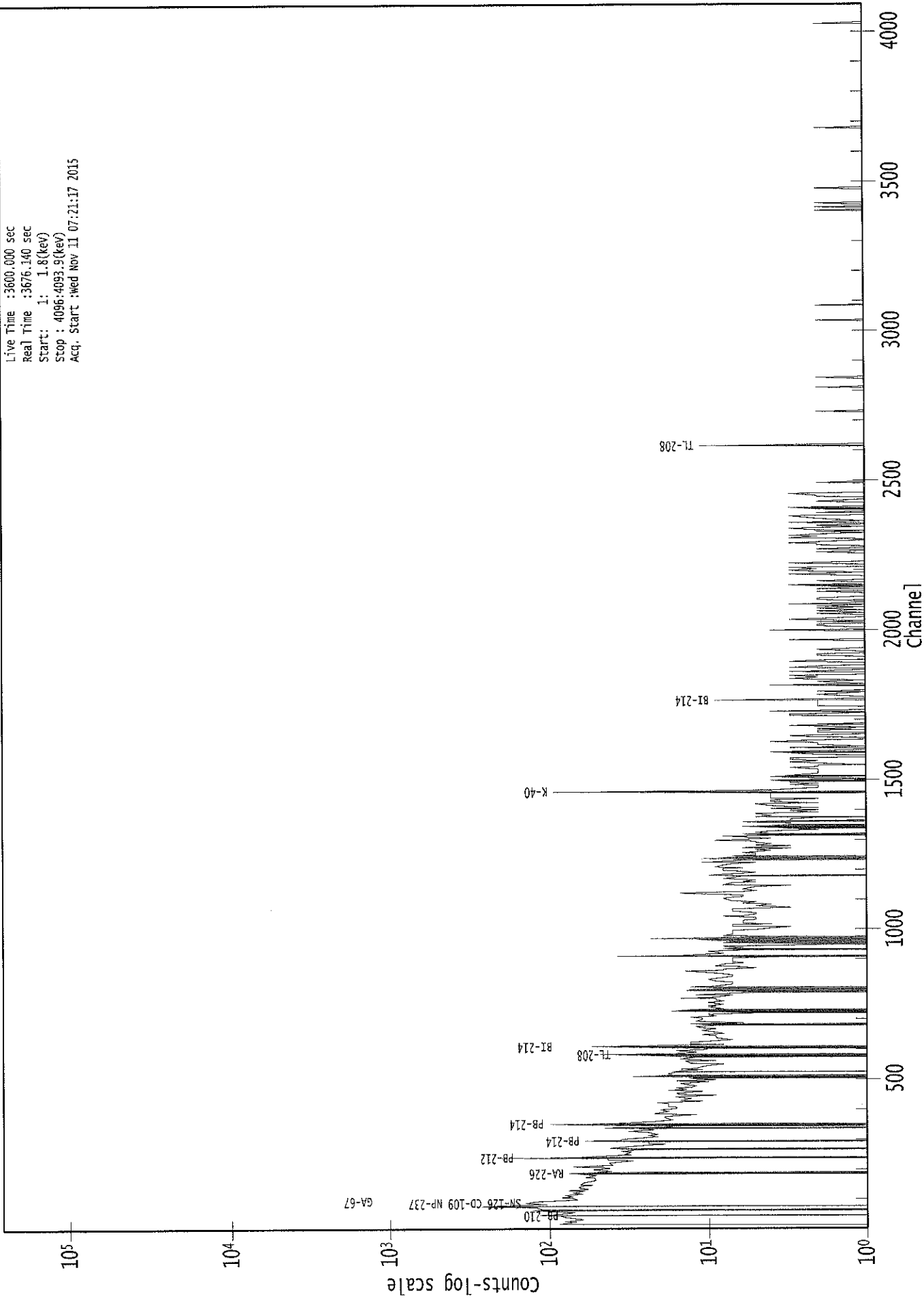
3825: 0 0 0 1 0 0 0 0

Sample Title: CP5003S14-15

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:	1	0	0	0	0	1	0	1
3865:	0	0	0	0	1	1	0	0
3873:	0	0	0	0	0	0	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	0	1	1
3905:	0	0	0	0	0	0	0	0
3913:	0	0	0	1	0	0	0	0
3921:	0	0	0	0	0	0	0	0
3929:	0	1	0	0	0	0	0	0
3937:	0	0	0	0	0	1	0	0
3945:	0	0	0	1	0	0	0	0
3953:	0	0	0	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	0	0	0	0
3985:	0	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	1	1	0	0	0	0	0
4017:	0	0	0	0	0	0	0	0
4025:	0	2	0	0	0	0	0	1
4033:	0	0	0	0	0	0	1	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	1
4065:	0	0	0	0	0	0	0	0
4073:	0	0	0	0	0	0	0	0
4081:	0	0	0	0	1	0	1	0
4089:	0	0	0	0	0	0	0	0

0000029467.CNF

Live Time : 3600.000 sec
Real Time : 3676.140 sec
Start : 1: 1.8(keV)
Stop : 4096.4093.9(keV)
Acq. Start : Wed Nov 11 07:21:17 2015



Analysis Report for 1510092-09
CP5003S16-17

C
11111

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510092-09
Sample Description : CP5003S16-17
Sample Type : SOIL

Sample Size : 5.347E+02 grams
Facility : Countroom

Sample Taken On : 10/9/2015 3:59:34PM
Acquisition Started : 11/11/2015 7:20:56AM

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) : 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 : 29464

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510092-09
CP5003S16-17

PEAK LOCATE REPORT

Peak Locate Performed on : 11/11/2015 8:21:00AM
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	46.40	46.75	0.0000	0.00
2	62.97	63.32	0.0000	0.00
3	76.17	76.51	0.0000	0.00
4	87.80	88.13	0.0000	0.00
5	92.58	92.92	0.0000	0.00
6	99.89	100.23	0.0000	0.00
7	129.10	129.42	0.0000	0.00
8	144.45	144.77	0.0000	0.00
9	185.49	185.79	0.0000	0.00
10	209.29	209.59	0.0000	0.00
11	238.70	238.99	0.0000	0.00
12	241.81	242.10	0.0000	0.00
13	257.64	257.92	0.0000	0.00
14	263.23	263.51	0.0000	0.00
15	270.36	270.63	0.0000	0.00
16	277.03	277.31	0.0000	0.00
17	295.38	295.65	0.0000	0.00
18	299.81	300.07	0.0000	0.00
19	328.82	329.08	0.0000	0.00
20	338.53	338.78	0.0000	0.00
21	352.11	352.36	0.0000	0.00
22	409.48	409.71	0.0000	0.00
23	463.19	463.40	0.0000	0.00
24	511.35	511.54	0.0000	0.00
25	583.38	583.55	0.0000	0.00
26	609.41	609.57	0.0000	0.00
27	703.90	704.03	0.0000	0.00
28	727.26	727.38	0.0000	0.00
29	732.50	732.62	0.0000	0.00
30	768.49	768.59	0.0000	0.00
31	794.70	794.80	0.0000	0.00
32	823.66	823.75	0.0000	0.00
33	838.90	838.99	0.0000	0.00
34	860.68	860.76	0.0000	0.00
35	911.50	911.55	0.0000	0.00
36	934.77	934.81	0.0000	0.00
37	968.21	968.24	0.0000	0.00
38	1067.06	1067.06	0.0000	0.00
39	1120.60	1120.58	0.0000	0.00
40	1154.16	1154.13	0.0000	0.00
41	1236.48	1236.42	0.0000	0.00
42	1334.13	1334.03	0.0000	0.00

Analysis Report for 1510092-09
CP5003S16-17

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
43	1380.82	1380.70	0.0000	0.00
44	1461.19	1461.05	0.0000	0.00
45	1511.28	1511.12	0.0000	0.00
46	1555.52	1555.34	0.0000	0.00
47	1561.04	1560.86	0.0000	0.00
48	1580.62	1580.44	0.0000	0.00
49	1588.67	1588.48	0.0000	0.00
50	1631.00	1630.80	0.0000	0.00
51	1730.48	1730.23	0.0000	0.00
52	1764.98	1764.72	0.0000	0.00
53	1835.83	1835.55	0.0000	0.00
54	1847.55	1847.26	0.0000	0.00
55	1867.10	1866.81	0.0000	0.00
56	2103.73	2103.35	0.0000	0.00
57	2118.69	2118.30	0.0000	0.00
58	2172.60	2172.19	0.0000	0.00
59	2194.72	2194.30	0.0000	0.00
60	2204.47	2204.05	0.0000	0.00
61	2434.95	2434.43	0.0000	0.00
62	2447.28	2446.76	0.0000	0.00
63	2614.69	2614.11	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510092-09
CP5003S16-17

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/11/2015 8:21:00AM

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	46.40	44 -	49	46.75	1.07E+02	75.03	1.05E+03	1.05
2	62.97	59 -	66	63.32	2.82E+02	111.80	1.90E+03	1.56
3	76.17	71 -	80	76.51	1.39E+03	153.47	2.57E+03	3.84
M 4	87.80	83 -	98	88.13	2.73E+02	68.53	8.40E+02	1.48
m 5	92.58	83 -	98	92.92	3.20E+02	72.06	7.67E+02	1.49
6	99.89	98 -	102	100.23	7.69E+01	62.18	7.82E+02	2.15
7	129.10	127 -	132	129.42	6.68E+01	70.86	9.50E+02	1.65
8	144.45	141 -	148	144.77	1.03E+02	86.23	1.17E+03	2.43
9	185.49	181 -	190	185.79	2.62E+02	96.88	1.19E+03	1.64
10	209.29	206 -	213	209.59	6.62E+01	76.84	9.40E+02	1.37
M 11	238.70	233 -	246	238.99	1.10E+03	79.02	3.77E+02	1.65
m 12	241.81	233 -	246	242.10	2.90E+02	86.80	4.83E+02	2.24
13	257.64	255 -	261	257.92	6.26E+01	51.41	4.31E+02	3.60
M 14	263.23	262 -	274	263.51	4.13E+01	32.25	2.28E+02	1.99
m 15	270.36	262 -	274	270.63	8.49E+01	46.50	3.42E+02	2.07
16	277.03	275 -	281	277.31	7.40E+01	50.93	4.20E+02	4.08
M 17	295.38	292 -	302	295.65	3.57E+02	51.78	2.98E+02	1.66
m 18	299.81	292 -	302	300.07	5.89E+01	45.32	3.41E+02	2.06
19	328.82	323 -	334	329.08	8.27E+01	73.27	6.29E+02	1.97
20	338.53	335 -	342	338.78	2.28E+02	58.38	4.17E+02	1.58
21	352.11	347 -	357	352.36	6.01E+02	78.68	5.01E+02	1.81
22	409.48	407 -	413	409.71	4.62E+01	40.28	2.60E+02	3.34
23	463.19	460 -	467	463.40	4.86E+01	41.57	2.55E+02	1.97
24	511.35	507 -	517	511.54	1.94E+02	56.81	3.19E+02	2.16
25	583.38	579 -	589	583.55	3.14E+02	61.15	3.34E+02	2.01
26	609.41	604 -	613	609.57	4.65E+02	56.48	1.89E+02	1.80
27	703.90	696 -	712	704.03	7.21E+01	63.52	3.56E+02	12.63
M 28	727.26	722 -	736	727.38	5.59E+01	30.59	1.13E+02	2.48
m 29	732.50	722 -	736	732.62	1.98E+01	26.23	1.07E+02	2.49
30	768.49	765 -	771	768.59	3.48E+01	30.83	1.48E+02	1.81
31	794.70	790 -	798	794.80	4.60E+01	33.47	1.44E+02	2.40
32	823.66	821 -	828	823.75	2.18E+01	23.41	7.83E+01	4.00
33	838.90	835 -	842	838.99	4.11E+01	31.75	1.34E+02	3.93
34	860.68	857 -	864	860.76	4.46E+01	29.87	1.17E+02	2.00
35	911.50	908 -	918	911.55	2.14E+02	44.71	1.47E+02	2.00
36	934.77	932 -	937	934.81	1.58E+01	20.17	6.85E+01	1.45
37	968.21	963 -	973	968.24	1.60E+02	43.79	1.71E+02	1.86
38	1067.06	1062 -	1072	1067.06	3.20E+01	29.40	9.59E+01	8.16
39	1120.60	1115 -	1124	1120.58	9.31E+01	37.71	1.50E+02	1.86
40	1154.16	1144 -	1165	1154.13	8.10E+01	56.43	2.20E+02	15.28

Analysis Report for 1510092-09

CP5003S16-17

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1236.48	1228 - 1242		1236.42	4.67E+01	48.20	2.25E+02	8.14
42	1334.13	1332 - 1336		1334.03	1.26E+01	15.17	3.68E+01	2.56
43	1380.82	1372 - 1389		1380.70	6.78E+01	27.59	4.23E+01	11.36
44	1461.19	1456 - 1466		1461.05	8.49E+02	60.34	3.21E+01	2.02
45	1511.28	1506 - 1516		1511.12	2.57E+01	16.28	2.06E+01	2.20
M 46	1555.52	1554 - 1563		1555.34	6.75E+00	5.74	6.00E+00	3.59
m 47	1561.04	1554 - 1563		1560.86	9.00E+00	10.25	1.40E+01	3.60
m 48	1580.62	1577 - 1595		1580.44	1.73E+01	9.82	7.00E+00	2.98
m 49	1588.67	1577 - 1595		1588.48	3.11E+01	13.44	9.00E+00	2.99
50	1631.00	1627 - 1637		1630.80	1.22E+01	13.22	1.76E+01	1.15
51	1730.48	1727 - 1734		1730.23	1.42E+01	12.81	1.36E+01	2.88
52	1764.98	1759 - 1770		1764.72	7.52E+01	18.65	5.64E+00	2.42
53	1835.83	1832 - 1840		1835.55	8.50E+00	9.62	9.00E+00	1.62
54	1847.55	1843 - 1852		1847.26	1.96E+01	12.25	1.09E+01	2.30
55	1867.10	1862 - 1869		1866.81	9.71E+00	8.00	4.58E+00	2.76
56	2103.73	2099 - 2108		2103.35	1.13E+01	14.87	2.53E+01	1.25
57	2118.69	2115 - 2123		2118.30	8.84E+00	11.17	1.43E+01	3.77
58	2172.60	2170 - 2176		2172.19	7.50E+00	8.28	7.00E+00	3.23
59	2194.72	2189 - 2198		2194.30	9.54E+00	8.54	4.92E+00	1.56
60	2204.47	2200 - 2209		2204.05	2.91E+01	12.37	5.81E+00	1.29
61	2434.95	2432 - 2437		2434.43	6.89E+00	7.35	4.22E+00	2.87
62	2447.28	2443 - 2451		2446.76	1.15E+01	10.22	9.00E+00	4.62
63	2614.69	2610 - 2618		2614.11	1.33E+02	24.34	9.71E+00	2.93

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 : 11/11/2015 8:21:00AM

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	46.40	44 -	49	1.07E+02	75.03	1.05E+03	5.93E+01
2	62.97	59 -	66	2.82E+02	111.80	1.90E+03	8.77E+01
3	76.17	71 -	80	1.39E+03	153.47	2.57E+03	1.10E+02
M 4	87.80	83 -	98	2.73E+02	68.53	8.40E+02	4.77E+01
m 5	92.58	83 -	98	3.20E+02	72.06	7.67E+02	4.55E+01

: 00587

Analysis Report for 1510092-09

CP5003S16-17

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level	
6	99.89	98 -	102	7.69E+01	62.18	7.82E+02	4.90E+01	
7	129.10	127 -	132	6.68E+01	70.86	9.50E+02	5.67E+01	
8	144.45	141 -	148	1.03E+02	86.23	1.17E+03	6.89E+01	
9	185.49	181 -	190	2.62E+02	96.88	1.19E+03	7.51E+01	
10	209.29	206 -	213	6.62E+01	76.84	9.40E+02	6.17E+01	
M	11	238.70	233 -	246	1.10E+03	79.02	3.77E+02	3.19E+01
m	12	241.81	233 -	246	2.90E+02	86.80	4.83E+02	3.61E+01
13	257.64	255 -	261	6.26E+01	51.41	4.31E+02	4.02E+01	
M	14	263.23	262 -	274	4.13E+01	32.25	2.28E+02	2.48E+01
m	15	270.36	262 -	274	8.49E+01	46.50	3.42E+02	3.04E+01
16	277.03	275 -	281	7.40E+01	50.93	4.20E+02	3.94E+01	
M	17	295.38	292 -	302	3.57E+02	51.78	2.98E+02	2.84E+01
m	18	299.81	292 -	302	5.89E+01	45.32	3.41E+02	3.04E+01
19	328.82	323 -	334	8.27E+01	73.27	6.29E+02	5.83E+01	
20	338.53	335 -	342	2.28E+02	58.38	4.17E+02	4.11E+01	
21	352.11	347 -	357	6.01E+02	78.68	5.01E+02	5.06E+01	
22	409.48	407 -	413	4.62E+01	40.28	2.60E+02	3.12E+01	
23	463.19	460 -	467	4.86E+01	41.57	2.55E+02	3.22E+01	
24	511.35	507 -	517	1.94E+02	56.81	3.19E+02	4.07E+01	
25	583.38	579 -	589	3.14E+02	61.15	3.34E+02	4.10E+01	
26	609.41	604 -	613	4.65E+02	56.48	1.89E+02	3.00E+01	
27	703.90	696 -	712	7.21E+01	63.52	3.56E+02	5.03E+01	
M	28	727.26	722 -	736	5.59E+01	30.59	1.13E+02	1.75E+01
m	29	732.50	722 -	736	1.98E+01	26.23	1.07E+02	1.70E+01
30	768.49	765 -	771	3.48E+01	30.83	1.48E+02	2.34E+01	
31	794.70	790 -	798	4.60E+01	33.47	1.44E+02	2.51E+01	
32	823.66	821 -	828	2.18E+01	23.41	7.83E+01	1.76E+01	
33	838.90	835 -	842	4.11E+01	31.75	1.34E+02	2.39E+01	
34	860.68	857 -	864	4.46E+01	29.87	1.17E+02	2.20E+01	
35	911.50	908 -	918	2.14E+02	44.71	1.47E+02	1.53E+01	
36	934.77	932 -	937	1.58E+01	20.17	6.85E+01	1.52E+01	
37	968.21	963 -	973	1.60E+02	43.79	1.71E+02	2.94E+01	
38	1067.06	1062 -	1072	3.20E+01	29.40	9.59E+01	2.23E+01	
39	1120.60	1115 -	1124	9.31E+01	37.71	1.50E+02	2.66E+01	
40	1154.16	1144 -	1165	8.10E+01	56.43	2.20E+02	4.40E+01	
41	1236.48	1228 -	1242	4.67E+01	48.20	2.25E+02	3.80E+01	
42	1334.13	1332 -	1336	1.26E+01	15.17	3.68E+01	1.10E+01	
43	1380.82	1372 -	1389	6.78E+01	27.59	4.23E+01	1.82E+01	
44	1461.19	1456 -	1466	8.49E+02	60.34	3.21E+01	1.29E+01	
45	1511.28	1506 -	1516	2.57E+01	16.28	2.06E+01	1.05E+01	
M	46	1555.52	1554 -	1563	6.75E+00	5.74	6.00E+00	4.03E+00
m	47	1561.04	1554 -	1563	9.00E+00	10.25	1.40E+01	6.15E+00
M	48	1580.62	1577 -	1595	1.73E+01	9.82	7.00E+00	4.35E+00
m	49	1588.67	1577 -	1595	3.11E+01	13.44	9.00E+00	4.93E+00
50	1631.00	1627 -	1637	1.22E+01	13.22	1.76E+01	9.23E+00	
51	1730.48	1727 -	1734	1.42E+01	12.81	1.36E+01	8.51E+00	
52	1764.98	1759 -	1770	7.52E+01	18.65	5.64E+00	5.65E+00	
53	1835.83	1832 -	1840	8.50E+00	9.62	9.00E+00	6.29E+00	
54	1847.55	1843 -	1852	1.96E+01	12.25	1.09E+01	6.96E+00	
55	1867.10	1862 -	1869	9.71E+00	8.00	4.58E+00	4.12E+00	
56	2103.73	2099 -	2108	1.13E+01	14.87	2.53E+01	1.09E+01	

Analysis Report for 1510092-09

CP5003S16-17

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
57	2118.69	2115 -	2123	8.84E+00	11.17	1.43E+01	7.77E+00
58	2172.60	2170 -	2176	7.50E+00	8.28	7.00E+00	5.10E+00
59	2194.72	2189 -	2198	9.54E+00	8.54	4.92E+00	4.85E+00
60	2204.47	2200 -	2209	2.91E+01	12.37	5.81E+00	4.97E+00
61	2434.95	2432 -	2437	6.89E+00	7.35	4.22E+00	4.23E+00
62	2447.28	2443 -	2451	1.15E+01	10.22	9.00E+00	6.29E+00
63	2614.69	2610 -	2618	1.33E+02	24.34	9.71E+00	6.36E+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 : 11/11/2015 8:21:00AM

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	46.40	44 -	49	46.75	1.07E+02	75.03	1.05E+03	PB-210
2	62.97	59 -	66	63.32	2.82E+02	111.80	1.90E+03	TH-230 TH-234
3	76.17	71 -	80	76.51	1.39E+03	153.47	2.57E+03	.....
M 4	87.80	83 -	98	88.13	2.73E+02	68.53	8.40E+02	SN-126 CD-109 LU-176
m 5	92.58	83 -	98	92.92	3.20E+02	72.06	7.67E+02	GA-67
6	99.89	98 -	102	100.23	7.69E+01	62.18	7.82E+02	LU-173
7	129.10	127 -	132	129.42	6.68E+01	70.86	9.50E+02	.....
8	144.45	141 -	148	144.77	1.03E+02	86.23	1.17E+03	U-235 CE-141
9	185.49	181 -	190	185.79	2.62E+02	96.88	1.19E+03	RA-226
10	209.29	206 -	213	209.59	6.62E+01	76.84	9.40E+02	GA-67 CM-243
M 11	238.70	233 -	246	238.99	1.10E+03	79.02	3.77E+02	PB-212
m 12	241.81	233 -	246	242.10	2.90E+02	86.80	4.83E+02	RA-224
13	257.64	255 -	261	257.92	6.26E+01	51.41	4.31E+02	.....
M 14	263.23	262 -	274	263.51	4.13E+01	32.25	2.28E+02	CD-113M

Analysis Report for 1510092-09

CP5003S16-17

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
m	15	270.36	262 -	274	270.63	8.49E+01	46.50	3.42E+02	.....
	16	277.03	275 -	281	277.31	7.40E+01	50.93	4.20E+02	CM-243 NP-239
M	17	295.38	292 -	302	295.65	3.57E+02	51.78	2.98E+02	PB-214
m	18	299.81	292 -	302	300.07	5.89E+01	45.32	3.41E+02	BI-210M PB-212 GA-67
	19	328.82	323 -	334	329.08	8.27E+01	73.27	6.29E+02	LA-140
	20	338.53	335 -	342	338.78	2.28E+02	58.38	4.17E+02	AC-228
	21	352.11	347 -	357	352.36	6.01E+02	78.68	5.01E+02	PB-214
	22	409.48	407 -	413	409.71	4.62E+01	40.28	2.60E+02	.....
	23	463.19	460 -	467	463.40	4.86E+01	41.57	2.55E+02	SB-125
	24	511.35	507 -	517	511.54	1.94E+02	56.81	3.19E+02	.....
	25	583.38	579 -	589	583.55	3.14E+02	61.15	3.34E+02	TL-208
	26	609.41	604 -	613	609.57	4.65E+02	56.48	1.89E+02	BI-214
	27	703.90	696 -	712	704.03	7.21E+01	63.52	3.56E+02	.....
M	28	727.26	722 -	736	727.38	5.59E+01	30.59	1.13E+02	BI-212
m	29	732.50	722 -	736	732.62	1.98E+01	26.23	1.07E+02	.....
	30	768.49	765 -	771	768.59	3.48E+01	30.83	1.48E+02	.....
	31	794.70	790 -	798	794.80	4.60E+01	33.47	1.44E+02	.....
	32	823.66	821 -	828	823.75	2.18E+01	23.41	7.83E+01	.....
	33	838.90	835 -	842	838.99	4.11E+01	31.75	1.34E+02	.....
	34	860.68	857 -	864	860.76	4.46E+01	29.87	1.17E+02	TL-208
	35	911.50	908 -	918	911.55	2.14E+02	44.71	1.47E+02	AC-228 LU-172
	36	934.77	932 -	937	934.81	1.58E+01	20.17	6.85E+01	.....
	37	968.21	963 -	973	968.24	1.60E+02	43.79	1.71E+02	AC-228
	38	1067.06	1062 -	1072	1067.06	3.20E+01	29.40	9.59E+01	.....
	39	1120.60	1115 -	1124	1120.58	9.31E+01	37.71	1.50E+02	SC-46 BI-214 TA-182
	40	1154.16	1144 -	1165	1154.13	8.10E+01	56.43	2.20E+02	EU-156
	41	1236.48	1228 -	1242	1236.42	4.67E+01	48.20	2.25E+02	.....
	42	1334.13	1332 -	1336	1334.03	1.26E+01	15.17	3.68E+01	.....
	43	1380.82	1372 -	1389	1380.70	6.78E+01	27.59	4.23E+01	.....
	44	1461.19	1456 -	1466	1461.05	8.49E+02	60.34	3.21E+01	K-40
	45	1511.28	1506 -	1516	1511.12	2.57E+01	16.28	2.06E+01	.....
M	46	1555.52	1554 -	1563	1555.34	6.75E+00	5.74	6.00E+00	.....
m	47	1561.04	1554 -	1563	1560.86	9.00E+00	10.25	1.40E+01	.....
M	48	1580.62	1577 -	1595	1580.44	1.73E+01	9.82	7.00E+00	.....
m	49	1588.67	1577 -	1595	1588.48	3.11E+01	13.44	9.00E+00	.....
	50	1631.00	1627 -	1637	1630.80	1.22E+01	13.22	1.76E+01	.....
	51	1730.48	1727 -	1734	1730.23	1.42E+01	12.81	1.36E+01	.....
	52	1764.98	1759 -	1770	1764.72	7.52E+01	18.65	5.64E+00	BI-214
	53	1835.83	1832 -	1840	1835.55	8.50E+00	9.62	9.00E+00	Y-88
	54	1847.55	1843 -	1852	1847.26	1.96E+01	12.25	1.09E+01	.....
	55	1867.10	1862 -	1869	1866.81	9.71E+00	8.00	4.58E+00	.....
	56	2103.73	2099 -	2108	2103.35	1.13E+01	14.87	2.53E+01	.....
	57	2118.69	2115 -	2123	2118.30	8.84E+00	11.17	1.43E+01	.....
	58	2172.60	2170 -	2176	2172.19	7.50E+00	8.28	7.00E+00	.....
	59	2194.72	2189 -	2198	2194.30	9.54E+00	8.54	4.92E+00	.....
	60	2204.47	2200 -	2209	2204.05	2.91E+01	12.37	5.81E+00	BI-214
	61	2434.95	2432 -	2437	2434.43	6.89E+00	7.35	4.22E+00	.....
	62	2447.28	2443 -	2451	2446.76	1.15E+01	10.22	9.00E+00	.....

Analysis Report for 1510092-09
CP5003S16-17

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
63	2614.69	2610 -	2618	2614.11	1.33E+02	24.34	9.71E+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 : 11/11/2015 8:21:00AM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	46.40	1.07E+02	75.03	1.67E-02	1.78E-03
	2	62.97	2.82E+02	111.80	2.48E-02	1.90E-03
	3	76.17	1.39E+03	153.47	2.76E-02	2.34E-03
M	4	87.80	2.73E+02	68.53	2.85E-02	2.73E-03
m	5	92.58	3.20E+02	72.06	2.86E-02	2.65E-03
	6	99.89	7.69E+01	62.18	2.85E-02	2.51E-03
	7	129.10	6.68E+01	70.86	2.67E-02	2.09E-03
	8	144.45	1.03E+02	86.23	2.55E-02	2.12E-03
	9	185.49	2.62E+02	96.88	2.24E-02	2.03E-03
	10	209.29	6.62E+01	76.84	2.09E-02	1.86E-03
M	11	238.70	1.10E+03	79.02	1.92E-02	1.64E-03
m	12	241.81	2.90E+02	86.80	1.91E-02	1.62E-03
	13	257.64	6.26E+01	51.41	1.83E-02	1.50E-03
M	14	263.23	4.13E+01	32.25	1.80E-02	1.46E-03
m	15	270.36	8.49E+01	46.50	1.77E-02	1.40E-03
	16	277.03	7.40E+01	50.93	1.74E-02	1.35E-03
M	17	295.38	3.57E+02	51.78	1.67E-02	1.31E-03
m	18	299.81	5.89E+01	45.32	1.65E-02	1.30E-03
	19	328.82	8.27E+01	73.27	1.55E-02	1.24E-03
	20	338.53	2.28E+02	58.38	1.52E-02	1.22E-03
	21	352.11	6.01E+02	78.68	1.48E-02	1.19E-03
	22	409.48	4.62E+01	40.28	1.32E-02	1.10E-03
	23	463.19	4.86E+01	41.57	1.21E-02	1.04E-03
	24	511.35	1.94E+02	56.81	1.12E-02	9.90E-04
	25	583.38	3.14E+02	61.15	1.02E-02	9.15E-04
	26	609.41	4.65E+02	56.48	9.83E-03	8.88E-04
	27	703.90	7.21E+01	63.52	8.78E-03	7.96E-04
M	28	727.26	5.59E+01	30.59	8.55E-03	7.75E-04
m	29	732.50	1.98E+01	26.23	8.51E-03	7.71E-04

Analysis Report for 1510092-09
CP5003S16-17

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	30	768.49	3.48E+01	30.83	8.19E-03	7.38E-04
	31	794.70	4.60E+01	33.47	7.97E-03	7.15E-04
	32	823.66	2.18E+01	23.41	7.75E-03	6.89E-04
	33	838.90	4.11E+01	31.75	7.64E-03	6.75E-04
	34	860.68	4.46E+01	29.87	7.48E-03	6.56E-04
	35	911.50	2.14E+02	44.71	7.15E-03	6.15E-04
	36	934.77	1.58E+01	20.17	7.00E-03	6.03E-04
	37	968.21	1.60E+02	43.79	6.81E-03	5.86E-04
	38	1067.06	3.20E+01	29.40	6.30E-03	5.34E-04
	39	1120.60	9.31E+01	37.71	6.07E-03	5.07E-04
	40	1154.16	8.10E+01	56.43	5.93E-03	4.89E-04
	41	1236.48	4.67E+01	48.20	5.62E-03	4.68E-04
	42	1334.13	1.26E+01	15.17	5.31E-03	4.51E-04
	43	1380.82	6.78E+01	27.59	5.18E-03	4.39E-04
	44	1461.19	8.49E+02	60.34	4.97E-03	4.19E-04
	45	1511.28	2.57E+01	16.28	4.85E-03	4.07E-04
M	46	1555.52	6.75E+00	5.74	4.76E-03	3.96E-04
m	47	1561.04	9.00E+00	10.25	4.75E-03	3.94E-04
M	48	1580.62	1.73E+01	9.82	4.71E-03	3.89E-04
m	49	1588.67	3.11E+01	13.44	4.69E-03	3.87E-04
	50	1631.00	1.22E+01	13.22	4.61E-03	3.77E-04
	51	1730.48	1.42E+01	12.81	4.45E-03	3.52E-04
	52	1764.98	7.52E+01	18.65	4.40E-03	3.44E-04
	53	1835.83	8.50E+00	9.62	4.30E-03	3.26E-04
	54	1847.55	1.96E+01	12.25	4.28E-03	3.26E-04
	55	1867.10	9.71E+00	8.00	4.26E-03	3.26E-04
	56	2103.73	1.13E+01	14.87	4.02E-03	3.26E-04
	57	2118.69	8.84E+00	11.17	4.01E-03	3.26E-04
	58	2172.60	7.50E+00	8.28	3.97E-03	3.26E-04
	59	2194.72	9.54E+00	8.54	3.95E-03	3.26E-04
	60	2204.47	2.91E+01	12.37	3.95E-03	3.26E-04
	61	2434.95	6.89E+00	7.35	3.84E-03	3.26E-04
	62	2447.28	1.15E+01	10.22	3.83E-03	3.26E-04
	63	2614.69	1.33E+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 : 11/11/2015 8:21:00AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028941.CNF

Analysis Report for 1510092-09

CP5003S16-17

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	46.40	1.07E+02	75.03	4.50E+01	8.46E+00	6.16E+01	7.55E+01
	2	62.97	2.82E+02	111.80	7.80E+01	1.33E+01	2.04E+02	1.13E+02
	3	76.17	1.39E+03	153.47			1.39E+03	1.53E+02
M	4	87.80	2.73E+02	68.53			2.73E+02	6.85E+01
m	5	92.58	3.20E+02	72.06	1.34E+02	9.83E+00	1.86E+02	7.27E+01
	6	99.89	7.69E+01	62.18			7.69E+01	6.22E+01
	7	129.10	6.68E+01	70.86			6.68E+01	7.09E+01
	8	144.45	1.03E+02	86.23	7.18E+00	7.25E+00	9.60E+01	8.65E+01
	9	185.49	2.62E+02	96.88	6.41E+01	7.38E+00	1.98E+02	9.72E+01
	10	209.29	6.62E+01	76.84			6.62E+01	7.68E+01
M	11	238.70	1.10E+03	79.02	2.34E+01	6.34E+00	1.08E+03	7.93E+01
m	12	241.81	2.90E+02	86.80			2.90E+02	8.68E+01
	13	257.64	6.26E+01	51.41			6.26E+01	5.14E+01
M	14	263.23	4.13E+01	32.25			4.13E+01	3.22E+01
m	15	270.36	8.49E+01	46.50			8.49E+01	4.65E+01
	16	277.03	7.40E+01	50.93			7.40E+01	5.09E+01
M	17	295.38	3.57E+02	51.78	4.17E+00	5.50E+00	3.52E+02	5.21E+01
m	18	299.81	5.89E+01	45.32			5.89E+01	4.53E+01
	19	328.82	8.27E+01	73.27			8.27E+01	7.33E+01
	20	338.53	2.28E+02	58.38	2.22E-01	4.54E+00	2.27E+02	5.86E+01
	21	352.11	6.01E+02	78.68	8.83E+00	4.91E+00	5.93E+02	7.88E+01
	22	409.48	4.62E+01	40.28			4.62E+01	4.03E+01
	23	463.19	4.86E+01	41.57			4.86E+01	4.16E+01
	24	511.35	1.94E+02	56.81	8.12E+01	5.49E+00	1.12E+02	5.71E+01
	25	583.38	3.14E+02	61.15	6.34E+00	3.74E+00	3.07E+02	6.13E+01
	26	609.41	4.65E+02	56.48	5.20E+00	3.69E+00	4.60E+02	5.66E+01
	27	703.90	7.21E+01	63.52			7.21E+01	6.35E+01
M	28	727.26	5.59E+01	30.59			5.59E+01	3.06E+01
m	29	732.50	1.98E+01	26.23			1.98E+01	2.62E+01
	30	768.49	3.48E+01	30.83			3.48E+01	3.08E+01
	31	794.70	4.60E+01	33.47			4.60E+01	3.35E+01
	32	823.66	2.18E+01	23.41			2.18E+01	2.34E+01
	33	838.90	4.11E+01	31.75			4.11E+01	3.17E+01
	34	860.68	4.46E+01	29.87			4.46E+01	2.99E+01
	35	911.50	2.14E+02	44.71	3.28E+00	2.53E+00	2.11E+02	4.48E+01
	36	934.77	1.58E+01	20.17			1.58E+01	2.02E+01
	37	968.21	1.60E+02	43.79			1.60E+02	4.38E+01
	38	1067.06	3.20E+01	29.40			3.20E+01	2.94E+01
	39	1120.60	9.31E+01	37.71	2.28E+00	2.55E+00	9.08E+01	3.78E+01
	40	1154.16	8.10E+01	56.43			8.10E+01	5.64E+01
	41	1236.48	4.67E+01	48.20			4.67E+01	4.82E+01
	42	1334.13	1.26E+01	15.17			1.26E+01	1.52E+01
	43	1380.82	6.78E+01	27.59			6.78E+01	2.76E+01
	44	1461.19	8.49E+02	60.34	6.46E+00	2.33E+00	8.43E+02	6.04E+01
	45	1511.28	2.57E+01	16.28			2.57E+01	1.63E+01
M	46	1555.52	6.75E+00	5.74			6.75E+00	5.74E+00
m	47	1561.04	9.00E+00	10.25			9.00E+00	1.02E+01
M	48	1580.62	1.73E+01	9.82			1.73E+01	9.82E+00
m	49	1588.67	3.11E+01	13.44			3.11E+01	1.34E+01
	50	1631.00	1.22E+01	13.22			1.22E+01	1.32E+01
	51	1730.48	1.42E+01	12.81			1.42E+01	1.28E+01
	52	1764.98	7.52E+01	18.65			7.52E+01	1.87E+01
	53	1835.83	8.50E+00	9.62			8.50E+00	9.62E+00
	54	1847.55	1.96E+01	12.25			1.96E+01	1.22E+01

Analysis Report for 1510092-09

CP5003S16-17

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
55	1867.10	9.71E+00	8.00			9.71E+00	8.00E+00
56	2103.73	1.13E+01	14.87			1.13E+01	1.49E+01
57	2118.69	8.84E+00	11.17			8.84E+00	1.12E+01
58	2172.60	7.50E+00	8.28			7.50E+00	8.28E+00
59	2194.72	9.54E+00	8.54			9.54E+00	8.54E+00
60	2204.47	2.91E+01	12.37			2.91E+01	1.24E+01
61	2434.95	6.89E+00	7.35			6.89E+00	7.35E+00
62	2447.28	1.15E+01	10.22			1.15E+01	1.02E+01
63	2614.69	1.33E+02	24.34	3.47E+00	1.48E+00	1.30E+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 : 11/11/2015 8:21:00AM
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	46.40	1.07E+02	75.03	4.50E+01	8.46E+00	6.16E+01	7.55E+01
2	62.97	2.82E+02	111.80	7.80E+01	1.33E+01	2.04E+02	1.13E+02
3	76.17	1.39E+03	153.47			1.39E+03	1.53E+02
M 4	87.80	2.73E+02	68.53			2.73E+02	6.85E+01
m 5	92.58	3.20E+02	72.06	1.34E+02	9.83E+00	1.86E+02	7.27E+01
6	99.89	7.69E+01	62.18			7.69E+01	6.22E+01
7	129.10	6.68E+01	70.86			6.68E+01	7.09E+01
8	144.45	1.03E+02	86.23	7.18E+00	7.25E+00	9.60E+01	8.65E+01
9	185.49	2.62E+02	96.88	6.41E+01	7.38E+00	1.98E+02	9.72E+01
10	209.29	6.62E+01	76.84			6.62E+01	7.68E+01
M 11	238.70	1.10E+03	79.02	2.34E+01	6.34E+00	1.08E+03	7.93E+01
m 12	241.81	2.90E+02	86.80			2.90E+02	8.68E+01
13	257.64	6.26E+01	51.41			6.26E+01	5.14E+01
M 14	263.23	4.13E+01	32.25			4.13E+01	3.22E+01
m 15	270.36	8.49E+01	46.50			8.49E+01	4.65E+01
16	277.03	7.40E+01	50.93			7.40E+01	5.09E+01
M 17	295.38	3.57E+02	51.78	4.17E+00	5.50E+00	3.52E+02	5.21E+01
m 18	299.81	5.89E+01	45.32			5.89E+01	4.53E+01
19	328.82	8.27E+01	73.27			8.27E+01	7.33E+01

Analysis Report for 1510092-09

CP5003S16-17

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
20	338.53	2.28E+02	58.38	2.22E-01	4.54E+00	2.27E+02	5.86E+01
21	352.11	6.01E+02	78.68	8.83E+00	4.91E+00	5.93E+02	7.88E+01
22	409.48	4.62E+01	40.28			4.62E+01	4.03E+01
23	463.19	4.86E+01	41.57			4.86E+01	4.16E+01
24	511.35	1.94E+02	56.81	8.12E+01	5.49E+00	1.12E+02	5.71E+01
25	583.38	3.14E+02	61.15	6.34E+00	3.74E+00	3.07E+02	6.13E+01
26	609.41	4.65E+02	56.48	5.20E+00	3.69E+00	4.60E+02	5.66E+01
27	703.90	7.21E+01	63.52			7.21E+01	6.35E+01
M 28	727.26	5.59E+01	30.59			5.59E+01	3.06E+01
m 29	732.50	1.98E+01	26.23			1.98E+01	2.62E+01
30	768.49	3.48E+01	30.83			3.48E+01	3.08E+01
31	794.70	4.60E+01	33.47			4.60E+01	3.35E+01
32	823.66	2.18E+01	23.41			2.18E+01	2.34E+01
33	838.90	4.11E+01	31.75			4.11E+01	3.17E+01
34	860.68	4.46E+01	29.87			4.46E+01	2.99E+01
35	911.50	2.14E+02	44.71	3.28E+00	2.53E+00	2.11E+02	4.48E+01
36	934.77	1.58E+01	20.17			1.58E+01	2.02E+01
37	968.21	1.60E+02	43.79			1.60E+02	4.38E+01
38	1067.06	3.20E+01	29.40			3.20E+01	2.94E+01
39	1120.60	9.31E+01	37.71	2.28E+00	2.55E+00	9.08E+01	3.78E+01
40	1154.16	8.10E+01	56.43			8.10E+01	5.64E+01
41	1236.48	4.67E+01	48.20			4.67E+01	4.82E+01
42	1334.13	1.26E+01	15.17			1.26E+01	1.52E+01
43	1380.82	6.78E+01	27.59			6.78E+01	2.76E+01
44	1461.19	8.49E+02	60.34	6.46E+00	2.33E+00	8.43E+02	6.04E+01
45	1511.28	2.57E+01	16.28			2.57E+01	1.63E+01
M 46	1555.52	6.75E+00	5.74			6.75E+00	5.74E+00
m 47	1561.04	9.00E+00	10.25			9.00E+00	1.02E+01
M 48	1580.62	1.73E+01	9.82			1.73E+01	9.82E+00
m 49	1588.67	3.11E+01	13.44			3.11E+01	1.34E+01
50	1631.00	1.22E+01	13.22			1.22E+01	1.32E+01
51	1730.48	1.42E+01	12.81			1.42E+01	1.28E+01
52	1764.98	7.52E+01	18.65			7.52E+01	1.87E+01
53	1835.83	8.50E+00	9.62			8.50E+00	9.62E+00
54	1847.55	1.96E+01	12.25			1.96E+01	1.22E+01
55	1867.10	9.71E+00	8.00			9.71E+00	8.00E+00
56	2103.73	1.13E+01	14.87			1.13E+01	1.49E+01
57	2118.69	8.84E+00	11.17			8.84E+00	1.12E+01
58	2172.60	7.50E+00	8.28			7.50E+00	8.28E+00
59	2194.72	9.54E+00	8.54			9.54E+00	8.54E+00
60	2204.47	2.91E+01	12.37			2.91E+01	1.24E+01
61	2434.95	6.89E+00	7.35			6.89E+00	7.35E+00
62	2447.28	1.15E+01	10.22			1.15E+01	1.02E+01
63	2614.69	1.33E+02	24.34	3.47E+00	1.48E+00	1.30E+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

Analysis Report for 1510092-09
CP5003S16-17

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	0.977	1460.81 *	10.67	2.23E+01	2.51E+00
GA-67	0.568	93.31 *	35.70	2.65E+02	1.17E+03
		208.95 *	2.24	2.06E+03	9.08E+03
		300.22 *	16.00	3.24E+02	1.45E+03
		88.03 *	3.72	3.79E+00	1.04E+00
CD-109	0.991	263.70 *	0.02	1.41E+02	1.10E+02
CD-113M	0.966	87.57 *	37.00	3.63E-01	9.77E-02
SN-126	0.992	145.44 *	48.40	2.19E-01	2.05E-01
CE-141	0.852	583.14 *	30.22	1.41E+00	3.07E-01
		860.37 *	4.48	1.87E+00	1.26E+00
		2614.66 *	35.85	1.34E+00	2.77E-01
PB-210	0.998	46.50 *	4.25	1.22E+00	1.50E+00
BI-212	0.765	727.17 *	11.80	7.77E-01	4.31E-01
		1620.62	2.75		
PB-212	0.998	238.63 *	44.60	1.76E+00	1.99E-01
		300.09 *	3.41	1.47E+00	1.14E+00
BI-214	0.989	609.31 *	46.30	1.42E+00	2.17E-01
		1120.29 *	15.10	1.39E+00	5.91E-01
		1764.49 *	15.80	1.52E+00	3.95E-01
		2204.22 *	4.98	2.08E+00	9.00E-01
PB-214	0.995	295.21 *	19.19	1.55E+00	2.59E-01
		351.92 *	37.19	1.52E+00	2.36E-01
RA-224	0.896	240.98 *	3.95	5.41E+00	1.68E+00
RA-226	0.920	186.21 *	3.28	3.77E+00	7.16E+00
AC-228	0.947	338.32 *	11.40	1.85E+00	4.98E-01
		911.07 *	27.70	1.50E+00	3.43E-01
		969.11 *	16.60	1.98E+00	5.70E-01
TH-234	0.984	63.29 *	3.80	3.04E+00	1.69E+00
CM-243	0.345	209.75 *	3.29	1.36E+00	1.58E+00
		228.14	10.60		
		277.60 *	14.00	4.27E-01	2.96E-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 1510092-09
 CP5003S16-17

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 8:21:00AM
 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	76.17	3.87022E-01	5.51		
6	99.89	2.13705E-02	40.41	Tol.	LU-173
7	129.10	1.85435E-02	53.07		
m 13	257.64	1.73761E-02	41.09		
m 15	270.36	2.35772E-02	27.39		
19	328.82	2.29761E-02	44.29	Sum	
22	409.48	1.28330E-02	43.60		
23	463.19	1.34943E-02	42.78	Sum	
24	511.35	3.12024E-02	25.40		
27	703.90	2.00189E-02	44.07	Sum	
m 29	732.50	5.51262E-03	66.09		
30	768.49	9.66998E-03	44.28	Sum	
31	794.70	1.27778E-02	36.38	Sum	
32	823.66	6.06785E-03	53.58		
33	838.90	1.14043E-02	38.67		
36	934.77	4.37778E-03	64.00	Sum	
38	1067.06	8.90278E-03	45.87		
40	1154.16	2.25000E-02	34.83	Sum	
41	1236.48	1.29612E-02	51.65		
42	1334.13	3.49462E-03	60.31		
43	1380.82	1.88421E-02	20.33		
45	1511.28	7.13735E-03	31.68		
M 46	1555.52	1.87412E-03	42.57		
m 47	1561.04	2.50091E-03	56.91		
M 48	1580.62	4.80032E-03	28.42		
m 49	1588.67	8.65198E-03	21.57	Sum	
50	1631.00	3.38624E-03	54.22		
51	1730.48	3.94841E-03	45.05	Sum	
53	1835.83	2.36111E-03	56.57	Tol.	Y-88
54	1847.55	5.43333E-03	31.31	Sum	
55	1867.10	2.69676E-03	41.20		
56	2103.73	3.14815E-03	65.59	S-Esc	
57	2118.69	2.45660E-03	63.15		
58	2172.60	2.08333E-03	55.18		
59	2194.72	2.65046E-03	44.77		
61	2434.95	1.91358E-03	53.34		
62	2447.28	3.19444E-03	44.45	Sum	

Analysis Report for 1510092-09
CP5003S16-17

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	2.23E+01	2.51E+00
GA-67	0.56	93.31	*	35.70	2.65E+02	1.17E+03
		208.95	*	2.24	2.06E+03	9.08E+03
		300.22	*	16.00	3.24E+02	1.45E+03
		88.03	*	3.72	3.79E+00	1.04E+00
CD-109	0.99	88.03	*	3.72	3.79E+00	1.04E+00
CD-113M	0.96	263.70	*	0.02	1.41E+02	1.10E+02
SN-126	0.99	87.57	*	37.00	3.63E-01	9.77E-02
CE-141	0.85	145.44	*	48.40	2.19E-01	2.05E-01
TL-208	0.99	583.14	*	30.22	1.41E+00	3.07E-01
		860.37	*	4.48	1.87E+00	1.26E+00
		2614.66	*	35.85	1.34E+00	2.77E-01
PB-210	0.99	46.50	*	4.25	1.22E+00	1.50E+00
BI-212	0.76	727.17	*	11.80	7.77E-01	4.31E-01
		1620.62		2.75		
PB-212	0.99	238.63	*	44.60	1.76E+00	1.99E-01
		300.09	*	3.41	1.47E+00	1.14E+00
BI-214	0.98	609.31	*	46.30	1.42E+00	2.17E-01
		1120.29	*	15.10	1.39E+00	5.91E-01
		1764.49	*	15.80	1.52E+00	3.95E-01
		2204.22	*	4.98	2.08E+00	9.00E-01
PB-214	0.99	295.21	*	19.19	1.55E+00	2.59E-01
		351.92	*	37.19	1.52E+00	2.36E-01
RA-224	0.89	240.98	*	3.95	5.41E+00	1.68E+00
RA-226	0.92	186.21	*	3.28	3.77E+00	7.16E+00
AC-228	0.94	338.32	*	11.40	1.85E+00	4.98E-01
		911.07	*	27.70	1.50E+00	3.43E-01
		969.11	*	16.60	1.98E+00	5.70E-01
TH-234	0.98	63.29	*	3.80	3.04E+00	1.69E+00
CM-243	0.34	209.75	*	3.29	1.36E+00	1.58E+00
		228.14		10.60		
		277.60	*	14.00	4.27E-01	2.96E-01

Analysis Report for 1510092-09
CP5003S16-17

* = 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	0.977	2.23E+01	2.51E+00	
GA-67	0.568	2.18E+02	9.32E+02	
? CD-109	0.991	3.79E+00	1.04E+00	
CD-113M	0.966	1.41E+02	1.10E+02	
? SN-126	0.992	3.63E-01	9.77E-02	
CE-141	0.852	2.19E-01	2.05E-01	
TL-208	0.995	1.38E+00	2.03E-01	
PB-210	0.998	1.22E+00	1.50E+00	
BI-212	0.765	7.77E-01	4.31E-01	
PB-212	0.998	1.72E+00	1.96E-01	
BI-214	0.989	1.46E+00	1.77E-01	
PB-214	0.995	1.53E+00	1.74E-01	
RA-224	0.896	5.41E+00	1.68E+00	
RA-226	0.920	3.77E+00	7.16E+00	
AC-228	0.947	1.68E+00	2.53E-01	
TH-234	0.984	3.04E+00	1.69E+00	
CM-243	0.345	4.54E-01	2.91E-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 1510092-09
 CP5003S16-17

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 8:21:00AM
 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	76.17	3.87022E-01	5.51		
6	99.89	2.13705E-02	40.41	Tol.	LU-173
7	129.10	1.85435E-02	53.07		
13	257.64	1.73761E-02	41.09		
m 15	270.36	2.35772E-02	27.39		
19	328.82	2.29761E-02	44.29	Sum	
22	409.48	1.28330E-02	43.60		
23	463.19	1.34943E-02	42.78	Sum	
24	511.35	3.12024E-02	25.40		
27	703.90	2.00189E-02	44.07	Sum	
m 29	732.50	5.51262E-03	66.09		
30	768.49	9.66998E-03	44.28	Sum	
31	794.70	1.27778E-02	36.38	Sum	
32	823.66	6.06785E-03	53.58		
33	838.90	1.14043E-02	38.67		
36	934.77	4.37778E-03	64.00	Sum	
38	1067.06	8.90278E-03	45.87		
40	1154.16	2.25000E-02	34.83	Sum	
41	1236.48	1.29612E-02	51.65		
42	1334.13	3.49462E-03	60.31		
43	1380.82	1.88421E-02	20.33		
45	1511.28	7.13735E-03	31.68		
M 46	1555.52	1.87412E-03	42.57		
m 47	1561.04	2.50091E-03	56.91		
M 48	1580.62	4.80032E-03	28.42		
m 49	1588.67	8.65198E-03	21.57	Sum	
50	1631.00	3.38624E-03	54.22		
51	1730.48	3.94841E-03	45.05	Sum	
53	1835.83	2.36111E-03	56.57	Tol.	Y-88
54	1847.55	5.43333E-03	31.31	Sum	
55	1867.10	2.69676E-03	41.20		
56	2103.73	3.14815E-03	65.59	S-Esc	
57	2118.69	2.45660E-03	63.15		
58	2172.60	2.08333E-03	55.18		
59	2194.72	2.65046E-03	44.77		

Analysis Report for 1510092-09
CP5003S16-17

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
61	2434.95	1.91358E-03	53.34		
62	2447.28	3.19444E-03	44.45	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	-5.04E-01	8.93E-01	8.93E-01
+	NA-22	1274.54	99.94	-2.28E-03	8.22E-02	8.22E-02
+	NA-24	1368.53	99.99	4.78E+13	2.15E+14	3.90E+14
		2754.09	99.86	0.00E+00		2.15E+14
+	AL-26	1808.65	99.76	1.62E-02	6.73E-02	6.73E-02
+	K-40	1460.81	* 10.67	2.23E+01	7.97E-01	7.97E-01
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	1.56E-02	7.17E-02	7.17E-02
		78.34	96.00	2.34E-01		9.19E-02
+	SC-46	889.25	99.98	-2.16E-02	8.99E-02	8.99E-02
		1120.51	99.99	2.76E-01		1.78E-01
+	V-48	983.52	99.98	1.33E-02	2.89E-01	2.89E-01
		1312.10	97.50	3.87E-02		3.34E-01
+	CR-51	320.08	9.83	7.00E-02	1.20E+00	1.20E+00
+	MN-54	834.83	99.97	-6.78E-03	9.32E-02	9.32E-02
+	CO-56	846.75	99.96	1.61E-02	8.71E-02	8.71E-02
		1037.75	14.03	-3.38E-02		7.02E-01
		1238.25	67.00	1.30E-01		2.27E-01
		1771.40	15.51	4.59E-03		3.88E-01
		2598.48	16.90	-7.78E-03		3.82E-01
+	CO-57	122.06	85.51	-1.75E-02	6.06E-02	6.06E-02
		136.48	10.60	-7.95E-02		5.24E-01
+	CO-58	810.76	99.40	-1.02E-02	1.07E-01	1.07E-01
+	FE-59	1099.22	56.50	-5.81E-02	2.43E-01	2.43E-01
		1291.56	43.20	-1.30E-01		2.67E-01
+	CO-60	1173.22	100.00	2.79E-02	9.69E-02	9.69E-02
		1332.49	100.00	1.94E-02		9.87E-02

Analysis Report for 1510092-09
CP5003S16-17

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	ZN-65	1115.52	50.75	-7.33E-03	2.03E-01	2.03E-01
+	GA-67	93.31	* 35.70	2.65E+02	3.96E+02	3.96E+02
		208.95	* 2.24	2.06E+03		3.92E+03
		300.22	* 16.00	3.24E+02		6.05E+02
+	SE-75	121.11	16.70	-9.67E-02	1.04E-01	3.40E-01
		136.00	59.20	-4.94E-03		1.05E-01
		264.65	59.80	1.75E-02		1.04E-01
		279.53	25.20	-3.01E-02		2.62E-01
		400.65	11.40	-1.88E-01		5.52E-01
+	RB-82	776.52	13.00	-9.40E-01	1.39E+00	1.39E+00
+	RB-83	520.41	46.00	-9.96E-02	1.79E-01	1.79E-01
		529.64	30.30	1.33E-02		3.12E-01
		552.65	16.40	-4.73E-02		5.00E-01
+	KR-85	513.99	0.43	3.75E+01	2.23E+01	2.23E+01
+	SR-85	513.99	99.27	2.31E-01	1.37E-01	1.37E-01
+	Y-88	898.02	93.40	4.64E-02	7.92E-02	1.03E-01
		1836.01	99.38	3.86E-02		7.92E-02
+	NB-93M	16.57	9.43	-2.02E+01	8.06E+01	8.06E+01
+	NB-94	702.63	100.00	1.59E-02	6.43E-02	8.40E-02
		871.10	100.00	-9.48E-04		6.43E-02
+	NB-95	765.79	99.81	-1.14E-02	1.64E-01	1.64E-01
+	NB-95M	235.69	25.00	-1.17E+03	1.51E+02	1.51E+02
+	ZR-95	724.18	43.70	-5.46E-02	1.84E-01	2.72E-01
		756.72	55.30	2.17E-02		1.84E-01
+	MO-99	181.06	6.20	-1.51E+02	2.17E+03	3.13E+03
		739.58	12.80	7.47E+02		2.17E+03
		778.00	4.50	-2.07E+03		6.21E+03
+	RU-103	497.08	89.00	-1.61E-02	1.32E-01	1.32E-01
+	RU-106	621.84	9.80	-9.94E-02	7.26E-01	7.26E-01
+	AG-108M	433.93	89.90	-3.70E-02	6.58E-02	6.58E-02
		614.37	90.40	-3.18E-03		7.14E-02
		722.95	90.50	2.06E-02		8.28E-02
+	CD-109	88.03	* 3.72	3.79E+00	3.83E+00	3.83E+00
+	AG-110M	657.75	93.14	-2.46E-02	7.99E-02	7.99E-02
		677.61	10.53	-1.17E-01		6.76E-01
		706.67	16.46	-2.94E-01		5.10E-01
		763.93	21.98	-7.38E-02		3.49E-01
		884.67	71.63	5.57E-03		1.03E-01
		1384.27	23.94	-1.04E-01		3.34E-01
+	CD-113M	263.70	* 0.02	1.41E+02	4.16E+02	4.16E+02
+	SN-113	255.12	1.93	2.41E-01	1.00E-01	3.32E+00
		391.69	64.90	-4.21E-03		1.00E-01
+	TE123M	159.00	84.10	-7.82E-03	7.66E-02	7.66E-02
+	SB-124	602.71	97.87	-1.14E-02	9.56E-02	9.56E-02
		645.85	7.26	6.88E-01		1.31E+00
		722.78	11.10	2.44E-01		9.83E-01
		1691.02	49.00	-6.94E-03		1.47E-01
+	I-125	35.49	6.49	-1.14E+00	3.43E+00	3.43E+00

Analysis Report for 1510092-09
CP5003S16-17

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	SB-125	176.33	6.89	-8.78E-02	2.14E-01	7.51E-01
		427.89	29.33	-5.40E-02		2.14E-01
		463.38	10.35	4.73E-01		7.08E-01
		600.56	17.80	-5.43E-02		3.72E-01
		635.90	11.32	1.21E-01		6.12E-01
+	SB-126	414.70	83.30	2.07E-02	4.32E-01	4.71E-01
		666.33	99.60	1.85E-01		4.61E-01
		695.00	99.60	3.95E-02		4.32E-01
		720.50	53.80	1.86E-01		7.83E-01
+	SN-126	87.57	* 37.00	3.63E-01	3.67E-01	3.67E-01
+	SB-127	473.00	25.00	1.09E+01	7.32E+01	9.02E+01
		685.20	35.70	1.21E+01		7.32E+01
		783.80	14.70	1.03E+02		2.03E+02
+	I-129	29.78	57.00	-2.89E-01	4.84E-01	4.84E-01
		33.60	13.20	-4.04E-01		1.36E+00
		39.58	7.52	5.73E-01		1.53E+00
+	I-131	284.30	6.05	2.39E+00	9.83E-01	1.49E+01
		364.48	81.20	-6.84E-01		9.83E-01
		636.97	7.26	4.95E+00		1.53E+01
		722.89	1.80	1.73E+01		6.95E+01
+	TE-132	49.72	13.10	2.05E+02	6.53E+01	6.13E+02
		228.16	88.00	1.03E+01		6.53E+01
+	BA-133	81.00	33.00	1.04E-01	8.80E-02	1.77E-01
		302.84	17.80	9.22E-02		3.08E-01
		356.01	60.00	-6.60E-01		8.80E-02
+	I-133	529.87	86.30	7.95E+08	1.86E+10	1.86E+10
+	XE-133	81.00	38.00	6.73E+00	1.15E+01	1.15E+01
+	CS-134	563.23	8.38	3.92E-01	7.59E-02	8.55E-01
		569.32	15.43	2.40E-01		4.46E-01
		604.70	97.60	-9.95E-03		7.59E-02
		795.84	85.40	4.79E-02		1.06E-01
		801.93	8.73	2.12E-01		9.17E-01
+	CS-135	268.24	16.00	3.16E-01	3.69E-01	3.69E-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	1.00E+26		1.00E+26
+	CS-136	153.22	7.46	1.10E+00	3.88E-01	4.07E+00
		163.89	4.61	3.11E+00		6.78E+00
		176.55	13.56	-2.44E-01		2.09E+00
		273.65	12.66	-3.30E+00		2.28E+00
		340.57	48.50	1.33E+00		8.84E-01
		818.50	99.70	2.53E-02		3.88E-01
		1048.07	79.60	-1.73E-01		5.12E-01
		1235.34	19.70	-2.73E-01		3.16E+00
+	CS-137	661.65	85.12	-4.65E-02	8.40E-02	8.40E-02
+	LA-138	788.74	34.00	6.12E-02	1.12E-01	2.26E-01
		1435.80	66.00	6.75E-02		1.12E-01
+	CE-139	165.85	80.35	2.40E-03	8.03E-02	8.03E-02
+	BA-140	162.64	6.70	2.46E-01	1.47E+00	4.84E+00

Analysis Report for 1510092-09
CP5003S16-17

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
BA-140	304.84	4.50	-1.66E+00	1.47E+00	6.53E+00
	423.70	3.20	-1.12E+00		1.14E+01
	437.55	2.00	-8.05E+00		1.77E+01
	537.32	25.00	-5.72E-01		1.47E+00
+ LA-140	328.77	20.50	1.21E+00	3.35E-01	1.78E+00
	487.03	45.50	-2.15E-02		7.80E-01
	815.85	23.50	1.61E+00		1.97E+00
+ CE-141	1596.49	95.49	-5.54E-03		3.35E-01
	145.44	* 48.40	2.19E-01	3.23E-01	3.23E-01
+ CE-143	57.36	11.80	-1.27E+06	2.90E+06	8.27E+06
	293.26	42.00	8.12E+06		2.90E+06
	664.55	5.20	1.43E+07		2.07E+07
+ CE-144	133.54	10.80	3.51E-01	5.24E-01	5.24E-01
+ PM-144	476.78	42.00	-4.79E-03	6.91E-02	1.59E-01
	618.01	98.60	-9.26E-04		6.91E-02
	696.49	99.49	2.47E-03		7.82E-02
+ PM-145	36.85	21.70	-1.10E-01	3.39E-01	6.35E-01
	37.36	39.70	2.21E-03		3.39E-01
	42.30	15.10	-1.54E-01		6.49E-01
	72.40	2.31	-2.31E+00		3.52E+00
+ PM-146	453.90	39.94	1.57E-02	1.62E-01	1.62E-01
	735.90	14.01	-1.22E-01		4.74E-01
	747.13	13.10	2.63E-03		5.35E-01
+ ND-147	91.11	28.90	-4.56E+00	1.98E+00	1.98E+00
	531.02	13.10	1.39E+00		4.41E+00
+ PM-149	285.90	3.10	-5.70E+03	4.72E+04	4.72E+04
+ EU-152	121.78	20.50	-6.75E-02	2.33E-01	2.33E-01
	244.69	5.40	-6.40E-01		1.08E+00
	344.27	19.13	1.62E-02		2.84E-01
	778.89	9.20	-1.84E-01		8.09E-01
	964.01	10.40	-6.51E-02		9.63E-01
	1085.78	7.22	-6.06E-01		9.50E-01
	1112.02	9.60	1.09E-01		9.33E-01
	1407.95	14.94	1.94E-01		5.06E-01
	97.43	31.30	-1.54E-01	1.81E-01	1.81E-01
	103.18	22.20	1.39E-01		2.46E-01
+ EU-154	123.07	40.50	-5.09E-02	1.20E-01	1.20E-01
	723.30	19.70	9.53E-02		3.83E-01
	873.19	11.50	-2.76E-01		5.64E-01
	996.32	10.30	-8.85E-02		7.00E-01
	1004.76	17.90	-1.15E-01		4.01E-01
	1274.45	35.50	-6.30E-03		2.28E-01
	86.50	30.90	1.86E-01	2.36E-01	2.36E-01
+ EU-155	105.30	20.70	1.44E-01		2.55E-01
	811.77	10.40	-4.97E-01	3.27E+00	3.27E+00
+ EU-156	1153.47	7.20	2.77E-01		6.20E+00
	1230.71	8.90	1.18E+00		5.13E+00
	184.41	72.60	2.17E-01	9.67E-02	9.67E-02
+ HO-166M	280.45	29.60	4.37E-02		1.83E-01

Analysis Report for 1510092-09
CP5003S16-17

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
HO-166M	410.94	11.10	2.48E-01	9.67E-02	6.19E-01
	711.69	54.10	3.04E-02		1.43E-01
+ TM-171	66.72	0.14	5.04E+00	5.07E+01	5.07E+01
+ HF-172	81.75	4.52	7.78E-01	4.63E-01	1.33E+00
	125.81	11.30	1.67E-01		4.63E-01
+ LU-172	181.53	20.60	-3.55E+00	3.90E+00	7.57E+00
	810.06	16.63	1.47E+00		1.35E+01
	912.12	15.25	7.71E+01		2.95E+01
	1093.66	62.50	-3.30E-01		3.90E+00
+ LU-173	100.72	5.24	5.16E-01	2.85E-01	1.02E+00
	272.11	21.20	9.61E-02		2.85E-01
+ HF-175	343.40	84.00	5.07E-03	8.76E-02	8.76E-02
+ LU-176	88.34	13.30	1.09E+00	5.22E-02	5.58E-01
	201.83	86.00	-3.92E-02		6.30E-02
	306.78	94.00	1.03E-02		5.22E-02
+ TA-182	67.75	41.20	4.35E-02	2.00E-01	2.00E-01
	1121.30	34.90	5.99E-01		4.72E-01
	1189.05	16.23	-6.92E-02		7.05E-01
	1221.41	26.98	-2.37E-01		4.30E-01
	1231.02	11.44	2.51E-01		1.10E+00
+ IR-192	308.46	29.68	-8.18E-02	1.74E-01	2.13E-01
	468.07	48.10	6.60E-03		1.74E-01
+ HG-203	279.19	77.30	-5.11E-03	1.17E-01	1.17E-01
+ BI-207	569.67	97.72	6.84E-03	6.68E-02	6.68E-02
	1063.62	74.90	-7.01E-02		1.03E-01
+ TL-208	583.14	* 30.22	1.41E+00	1.76E-01	3.90E-01
	860.37	* 4.48	1.87E+00		1.95E+00
	2614.66	* 35.85	1.34E+00		1.76E-01
+ BI-210M	262.00	45.00	-3.58E-02	1.11E-01	1.11E-01
	300.00	23.00	-6.03E-01		2.49E-01
+ PB-210	46.50	* 4.25	1.22E+00	2.46E+00	2.46E+00
+ PB-211	404.84	2.90	9.35E-02	1.88E+00	1.88E+00
	831.96	2.90	8.89E-01		2.82E+00
+ BI-212	727.17	* 11.80	7.77E-01	1.07E+00	1.07E+00
	1620.62	2.75	1.12E+00		2.41E+00
+ PB-212	238.63	* 44.60	1.76E+00	2.50E-01	2.50E-01
	300.09	* 3.41	1.47E+00		2.74E+00
+ BI-214	609.31	* 46.30	1.42E+00	1.96E-01	1.96E-01
	1120.29	* 15.10	1.39E+00		8.65E-01
	1764.49	* 15.80	1.52E+00		2.83E-01
	2204.22	* 4.98	2.08E+00		9.04E-01
+ PB-214	295.21	* 19.19	1.55E+00	2.68E-01	4.80E-01
	351.92	* 37.19	1.52E+00		2.68E-01
+ RN-219	401.80	6.50	-1.26E-01	8.21E-01	8.21E-01
+ RA-223	323.87	3.88	-1.29E+00	1.32E+00	1.32E+00
+ RA-224	240.98	* 3.95	5.41E+00	2.86E+00	2.86E+00
+ RA-225	40.00	31.00	6.25E-01	1.67E+00	1.67E+00
+ RA-226	186.21	* 3.28	3.77E+00	2.97E+00	2.97E+00

Analysis Report for 1510092-09
CP5003S16-17

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	TH-227	50.10		8.40	3.04E-01	6.21E-01	9.08E-01
		236.00		11.50	-4.82E+00		6.21E-01
		256.20		6.30	-1.48E-02		8.38E-01
+	AC-228	338.32	*	11.40	1.85E+00	4.17E-01	6.92E-01
		911.07	*	27.70	1.50E+00		4.17E-01
		969.11	*	16.60	1.98E+00		7.64E-01
+	TH-230	48.44		16.90	1.35E-01	5.24E-01	5.24E-01
		62.85		4.60	2.55E+00		1.72E+00
		67.67		0.37	3.98E+00		1.83E+01
+	PA-231	283.67		1.60	1.40E+00	2.37E+00	3.40E+00
		302.67		2.30	7.09E-01		2.37E+00
+	TH-231	25.64		14.70	2.98E-01	1.01E+00	4.00E+00
		84.21		6.40	-2.65E+00		1.01E+00
+	PA-233	311.98		38.60	-1.60E-01	2.75E-01	2.75E-01
+	PA-234	131.20		20.40	1.10E-02	2.61E-01	2.61E-01
		733.99		8.80	1.90E-01		7.87E-01
		946.00		12.00	-4.51E-02		6.28E-01
+	PA-234M	1001.03		0.92	2.11E+00	8.57E+00	8.57E+00
+	TH-234	63.29	*	3.80	3.04E+00	2.71E+00	2.71E+00
+	U-235	143.76		10.50	3.93E-01	5.35E-01	5.35E-01
		163.35		4.70	5.45E-01		1.19E+00
		205.31		4.70	1.61E-01		1.15E+00
+	NP-237	86.50		12.60	4.51E-01	5.71E-01	5.71E-01
+	NP-239	106.10		22.70	1.94E+03	3.44E+03	3.44E+03
		228.18		10.70	1.22E+03		7.71E+03
		277.60		14.10	5.64E+03		6.09E+03
+	AM-241	59.54		35.90	-2.53E-01	1.93E-01	1.93E-01
+	AM-243	74.67		66.00	-1.55E-01	1.45E-01	1.45E-01
+	CM-243	209.75	*	3.29	1.36E+00	4.71E-01	2.59E+00
		228.14		10.60	8.22E-02		5.22E-01
		277.60	*	14.00	4.27E-01		4.71E-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 1510092-09
CP5003S16-17

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	8.93E-01	8.93E-01	-5.04E-01	4.23E-01
NA-22	1274.54	99.94	8.22E-02	8.22E-02	-2.28E-03	3.76E-02
NA-24	1368.53	99.99	3.90E+14	2.15E+14	4.78E+13	1.75E+14
	2754.09	99.86	2.15E+14		0.00E+00	8.06E+13
AL-26	1808.65	99.76	6.73E-02	6.73E-02	1.62E-02	2.93E-02
+ K-40	1460.81	* 10.67	7.97E-01	7.97E-01	2.23E+01	3.62E-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	7.17E-02	7.17E-02	1.56E-02	3.51E-02
	78.34	96.00	9.19E-02		2.34E-01	4.52E-02
SC-46	889.25	99.98	8.99E-02	8.99E-02	-2.16E-02	4.15E-02
	1120.51	99.99	1.78E-01		2.76E-01	8.50E-02
V-48	983.52	99.98	2.89E-01	2.89E-01	1.33E-02	1.33E-01
	1312.10	97.50	3.34E-01		3.87E-02	1.52E-01
CR-51	320.08	9.83	1.20E+00	1.20E+00	7.00E-02	5.74E-01
MN-54	834.83	99.97	9.32E-02	9.32E-02	-6.78E-03	4.40E-02
CO-56	846.75	99.96	8.71E-02	8.71E-02	1.61E-02	4.02E-02
	1037.75	14.03	7.02E-01		-3.38E-02	3.23E-01
	1238.25	67.00	2.27E-01		1.30E-01	1.07E-01
	1771.40	15.51	3.88E-01		4.59E-03	1.57E-01
	2598.48	16.90	3.82E-01		-7.78E-03	1.52E-01
CO-57	122.06	85.51	6.06E-02	6.06E-02	-1.75E-02	2.94E-02
	136.48	10.60	5.24E-01		-7.95E-02	2.54E-01
CO-58	810.76	99.40	1.07E-01	1.07E-01	-1.02E-02	4.99E-02
FE-59	1099.22	56.50	2.43E-01	2.43E-01	-5.81E-02	1.12E-01
	1291.56	43.20	2.67E-01		-1.30E-01	1.20E-01
CO-60	1173.22	100.00	9.69E-02	9.69E-02	2.79E-02	4.52E-02
	1332.49	100.00	9.87E-02		1.94E-02	4.57E-02
ZN-65	1115.52	50.75	2.03E-01	2.03E-01	-7.33E-03	9.50E-02
+ GA-67	93.31	* 35.70	3.96E+02	3.96E+02	2.65E+02	1.96E+02
	208.95	* 2.24	3.92E+03		2.06E+03	1.92E+03
	300.22	* 16.00	6.05E+02		3.24E+02	2.95E+02
SE-75	121.11	16.70	3.40E-01	1.04E-01	-9.67E-02	1.65E-01
	136.00	59.20	1.05E-01		-4.94E-03	5.11E-02
	264.65	59.80	1.04E-01		1.75E-02	4.98E-02
	279.53	25.20	2.62E-01		-3.01E-02	1.26E-01
	400.65	11.40	5.52E-01		-1.88E-01	2.61E-01
RB-82	776.52	13.00	1.39E+00	1.39E+00	-9.40E-01	6.50E-01
RB-83	520.41	46.00	1.79E-01	1.79E-01	-9.96E-02	8.45E-02
	529.64	30.30	3.12E-01		1.33E-02	1.48E-01
	552.65	16.40	5.00E-01		-4.73E-02	2.36E-01
KR-85	513.99	0.43	2.23E+01	2.23E+01	3.75E+01	1.07E+01
SR-85	513.99	99.27	1.37E-01	1.37E-01	2.31E-01	6.62E-02
Y-88	898.02	93.40	1.03E-01	7.92E-02	4.64E-02	4.82E-02
	1836.01	99.38	7.92E-02		3.86E-02	3.41E-02
NB-93M	16.57	9.43	8.06E+01	8.06E+01	-2.02E+01	3.78E+01

Analysis Report for 1510092-09
CP5003S16-17

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	8.40E-02	6.43E-02	1.59E-02	3.98E-02	
	871.10	100.00	6.43E-02		-9.48E-04	2.96E-02	
NB-95	765.79	99.81	1.64E-01	1.64E-01	-1.14E-02	7.75E-02	
NB-95M	235.69	25.00	1.51E+02	1.51E+02	-1.17E+03	7.35E+01	
ZR-95	724.18	43.70	2.72E-01	1.84E-01	-5.46E-02	1.29E-01	
	756.72	55.30	1.84E-01		2.17E-02	8.61E-02	
MO-99	181.06	6.20	3.13E+03	2.17E+03	-1.51E+02	1.52E+03	
	739.58	12.80	2.17E+03		7.47E+02	1.02E+03	
	778.00	4.50	6.21E+03		-2.07E+03	2.91E+03	
RU-103	497.08	89.00	1.32E-01	1.32E-01	-1.61E-02	6.25E-02	
RU-106	621.84	9.80	7.26E-01	7.26E-01	-9.94E-02	3.42E-01	
AG-108M	433.93	89.90	6.58E-02	6.58E-02	-3.70E-02	3.12E-02	
	614.37	90.40	7.14E-02		-3.18E-03	3.35E-02	
	722.95	90.50	8.28E-02		2.06E-02	3.90E-02	
+ CD-109	88.03	*	3.72	3.83E+00	3.83E+00	3.79E+00	1.90E+00
	AG-110M	657.75	93.14	7.99E-02	7.99E-02	-2.46E-02	3.76E-02
		677.61	10.53	6.76E-01		-1.17E-01	3.16E-01
		706.67	16.46	5.10E-01		-2.94E-01	2.41E-01
		763.93	21.98	3.49E-01		-7.38E-02	1.63E-01
		884.67	71.63	1.03E-01		5.57E-03	4.78E-02
+ CD-113M	1384.27	23.94	3.34E-01		-1.04E-01	1.50E-01	
	263.70	*	0.02	4.16E+02	4.16E+02	1.41E+02	2.03E+02
	SN-113	255.12	1.93	3.32E+00	1.00E-01	2.41E-01	1.60E+00
		391.69	64.90	1.00E-01		-4.21E-03	4.74E-02
	TE123M	159.00	84.10	7.66E-02	7.66E-02	-7.82E-03	3.72E-02
SB-124	602.71	97.87	9.56E-02	9.56E-02	-1.14E-02	4.50E-02	
	645.85	7.26	1.31E+00		6.88E-01	6.16E-01	
	722.78	11.10	9.83E-01		2.44E-01	4.62E-01	
	1691.02	49.00	1.47E-01		-6.94E-03	6.09E-02	
I-125	35.49	6.49	3.43E+00	3.43E+00	-1.14E+00	1.67E+00	
SB-125	176.33	6.89	7.51E-01	2.14E-01	-8.78E-02	3.63E-01	
	427.89	29.33	2.14E-01		-5.40E-02	1.02E-01	
	463.38	10.35	7.08E-01		4.73E-01	3.39E-01	
	600.56	17.80	3.72E-01		-5.43E-02	1.75E-01	
	635.90	11.32	6.12E-01		1.21E-01	2.88E-01	
	SB-126	414.70	83.30	4.71E-01	4.32E-01	2.07E-02	2.25E-01
666.33		99.60	4.61E-01		1.85E-01	2.18E-01	
695.00		99.60	4.32E-01		3.95E-02	2.03E-01	
720.50		53.80	7.83E-01		1.86E-01	3.66E-01	
+ SN-126	87.57	*	37.00	3.67E-01	3.63E-01	1.82E-01	
	SB-127	473.00	25.00	9.02E+01	7.32E+01	1.09E+01	4.28E+01
		685.20	35.70	7.32E+01		1.21E+01	3.45E+01
	783.80	14.70	2.03E+02		1.03E+02	9.56E+01	
I-129	29.78	57.00	4.84E-01	4.84E-01	-2.89E-01	2.34E-01	
	33.60	13.20	1.36E+00		-4.04E-01	6.62E-01	
	39.58	7.52	1.53E+00		5.73E-01	7.46E-01	
I-131	284.30	6.05	1.49E+01	9.83E-01	2.39E+00	7.13E+00	
	364.48	81.20	9.83E-01		-6.84E-01	4.64E-01	
	636.97	7.26	1.53E+01		4.95E+00	7.17E+00	
	722.89	1.80	6.95E+01		1.73E+01	3.27E+01	
TE-132	49.72	13.10	6.13E+02	6.53E+01	2.05E+02	2.99E+02	
	228.16	88.00	6.53E+01		1.03E+01	3.15E+01	
BA-133	81.00	33.00	1.77E-01	8.80E-02	1.04E-01	8.66E-02	

Analysis Report for 1510092-09
CP5003S16-17

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	3.08E-01	8.80E-02	9.22E-02	1.48E-01
	356.01	60.00	8.80E-02		-6.60E-01	4.18E-02
I-133	529.87	86.30	1.86E+10	1.86E+10	7.95E+08	8.85E+09
XE-133	81.00	38.00	1.15E+01	1.15E+01	6.73E+00	5.61E+00
CS-134	563.23	8.38	8.55E-01	7.59E-02	3.92E-01	4.05E-01
	569.32	15.43	4.46E-01		2.40E-01	2.11E-01
	604.70	97.60	7.59E-02		-9.95E-03	3.59E-02
	795.84	85.40	1.06E-01		4.79E-02	5.02E-02
	801.93	8.73	9.17E-01		2.12E-01	4.30E-01
	268.24	16.00	3.69E-01	3.69E-01	3.16E-01	1.78E-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	4.07E+00	3.88E-01	1.10E+00	1.98E+00
	163.89	4.61	6.78E+00		3.11E+00	3.29E+00
	176.55	13.56	2.09E+00		-2.44E-01	1.01E+00
	273.65	12.66	2.28E+00		-3.30E+00	1.09E+00
	340.57	48.50	8.84E-01		1.33E+00	4.28E-01
	818.50	99.70	3.88E-01		2.53E-02	1.81E-01
	1048.07	79.60	5.12E-01		-1.73E-01	2.35E-01
	1235.34	19.70	3.16E+00		-2.73E-01	1.48E+00
CS-137	661.65	85.12	8.40E-02	8.40E-02	-4.65E-02	3.96E-02
LA-138	788.74	34.00	2.26E-01	1.12E-01	6.12E-02	1.06E-01
	1435.80	66.00	1.12E-01		6.75E-02	5.02E-02
CE-139	165.85	80.35	8.03E-02	8.03E-02	2.40E-03	3.90E-02
BA-140	162.64	6.70	4.84E+00	1.47E+00	2.46E-01	2.35E+00
	304.84	4.50	6.53E+00		-1.66E+00	3.11E+00
	423.70	3.20	1.14E+01		-1.12E+00	5.43E+00
	437.55	2.00	1.77E+01		-8.05E+00	8.39E+00
	537.32	25.00	1.47E+00		-5.72E-01	6.95E-01
	328.77	20.50	1.78E+00	3.35E-01	1.21E+00	8.56E-01
LA-140	487.03	45.50	7.80E-01		-2.15E-02	3.69E-01
	815.85	23.50	1.97E+00		1.61E+00	9.23E-01
	1596.49	95.49	3.35E-01		-5.54E-03	1.42E-01
	145.44	* 48.40	3.23E-01	3.23E-01	2.19E-01	1.58E-01
CE-143	57.36	11.80	8.27E+06	2.90E+06	-1.27E+06	4.03E+06
	293.26	42.00	2.90E+06		8.12E+06	1.41E+06
	664.55	5.20	2.07E+07		1.43E+07	9.77E+06
CE-144	133.54	10.80	5.24E-01	5.24E-01	3.51E-01	2.55E-01
PM-144	476.78	42.00	1.59E-01	6.91E-02	-4.79E-03	7.53E-02
	618.01	98.60	6.91E-02		-9.26E-04	3.25E-02
	696.49	99.49	7.82E-02		2.47E-03	3.68E-02
PM-145	36.85	21.70	6.35E-01	3.39E-01	-1.10E-01	3.09E-01
	37.36	39.70	3.39E-01		2.21E-03	1.65E-01
	42.30	15.10	6.49E-01		-1.54E-01	3.15E-01
	72.40	2.31	3.52E+00		-2.31E+00	1.73E+00
PM-146	453.90	39.94	1.62E-01	1.62E-01	1.57E-02	7.71E-02
	735.90	14.01	4.74E-01		-1.22E-01	2.21E-01
	747.13	13.10	5.35E-01		2.63E-03	2.50E-01
ND-147	91.11	28.90	1.98E+00	1.98E+00	-4.56E+00	9.73E-01
	531.02	13.10	4.41E+00		1.39E+00	2.10E+00
PM-149	285.90	3.10	4.72E+04	4.72E+04	-5.70E+03	2.26E+04
EU-152	121.78	20.50	2.33E-01	2.33E-01	-6.75E-02	1.13E-01

Analysis Report for 1510092-09

CP5003S16-17

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	1.08E+00	2.33E-01	-6.40E-01	5.20E-01
	344.27	19.13	2.84E-01		1.62E-02	1.35E-01
	778.89	9.20	8.09E-01		-1.84E-01	3.79E-01
	964.01	10.40	9.63E-01		-6.51E-02	4.55E-01
	1085.78	7.22	9.50E-01		-6.06E-01	4.32E-01
	1112.02	9.60	9.33E-01		1.09E-01	4.34E-01
	1407.95	14.94	5.06E-01		1.94E-01	2.28E-01
GD-153	97.43	31.30	1.81E-01	1.81E-01	-1.54E-01	8.83E-02
	103.18	22.20	2.46E-01		1.39E-01	1.19E-01
EU-154	123.07	40.50	1.20E-01	1.20E-01	-5.09E-02	5.81E-02
	723.30	19.70	3.83E-01		9.53E-02	1.80E-01
	873.19	11.50	5.64E-01		-2.76E-01	2.59E-01
	996.32	10.30	7.00E-01		-8.85E-02	3.22E-01
	1004.76	17.90	4.01E-01		-1.15E-01	1.84E-01
EU-155	1274.45	35.50	2.28E-01	2.36E-01	-6.30E-03	1.04E-01
	86.50	30.90	2.36E-01		1.86E-01	1.16E-01
	105.30	20.70	2.55E-01		1.44E-01	1.24E-01
EU-156	811.77	10.40	3.27E+00	3.27E+00	-4.97E-01	1.53E+00
	1153.47	7.20	6.20E+00		2.77E-01	2.90E+00
	1230.71	8.90	5.13E+00		1.18E+00	2.40E+00
HO-166M	184.41	72.60	9.67E-02	9.67E-02	2.17E-01	4.72E-02
	280.45	29.60	1.83E-01		4.37E-02	8.78E-02
	410.94	11.10	6.19E-01		2.48E-01	2.96E-01
	711.69	54.10	1.43E-01		3.04E-02	6.73E-02
TM-171	66.72	0.14	5.07E+01	5.07E+01	5.04E+00	2.48E+01
HF-172	81.75	4.52	1.33E+00	4.63E-01	7.78E-01	6.47E-01
	125.81	11.30	4.63E-01		1.67E-01	2.25E-01
LU-172	181.53	20.60	7.57E+00	3.90E+00	-3.55E+00	3.67E+00
	810.06	16.63	1.35E+01		1.47E+00	6.31E+00
	912.12	15.25	2.95E+01		7.71E+01	1.42E+01
	1093.66	62.50	3.90E+00		-3.30E-01	1.81E+00
LU-173	100.72	5.24	1.02E+00	2.85E-01	5.16E-01	4.98E-01
	272.11	21.20	2.85E-01		9.61E-02	1.37E-01
HF-175	343.40	84.00	8.76E-02	8.76E-02	5.07E-03	4.17E-02
LU-176	88.34	13.30	5.58E-01	5.22E-02	1.09E+00	2.74E-01
	201.83	86.00	6.30E-02		-3.92E-02	3.05E-02
	306.78	94.00	5.22E-02		1.03E-02	2.48E-02
TA-182	67.75	41.20	2.00E-01	2.00E-01	4.35E-02	9.80E-02
	1121.30	34.90	4.72E-01		5.99E-01	2.25E-01
	1189.05	16.23	7.05E-01		-6.92E-02	3.28E-01
	1221.41	26.98	4.30E-01		-2.37E-01	2.00E-01
	1231.02	11.44	1.10E+00		2.51E-01	5.13E-01
IR-192	308.46	29.68	2.13E-01	1.74E-01	-8.18E-02	1.01E-01
	468.07	48.10	1.74E-01		6.60E-03	8.24E-02
HG-203	279.19	77.30	1.17E-01	1.17E-01	-5.11E-03	5.63E-02
BI-207	569.67	97.72	6.68E-02	6.68E-02	6.84E-03	3.15E-02
	1063.62	74.90	1.03E-01		-7.01E-02	4.74E-02
+ TL-208	583.14	*	30.22	1.76E-01	1.41E+00	1.89E-01
	860.37	*	4.48		1.87E+00	9.20E-01
	2614.66	*	35.85		1.34E+00	7.40E-02
BI-210M	262.00		1.11E-01	1.11E-01	-3.58E-02	5.30E-02
	300.00		2.49E-01		-6.03E-01	1.19E-01
+ PB-210	46.50	*	4.25	2.46E+00	1.22E+00	1.20E+00

Analysis Report for 1510092-09
CP5003S16-17

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	9.35E-02	8.89E-01
	831.96	2.90	2.82E+00		8.89E-01	1.33E+00
+ BI-212	727.17 *	11.80	1.07E+00	1.07E+00	7.77E-01	5.15E-01
	1620.62	2.75	2.41E+00		1.12E+00	1.06E+00
+ PB-212	238.63 *	44.60	2.50E-01	2.50E-01	1.76E+00	1.23E-01
	300.09 *	3.41	2.74E+00		1.47E+00	1.34E+00
+ BI-214	609.31 *	46.30	1.96E-01	1.96E-01	1.42E+00	9.37E-02
	1120.29 *	15.10	8.65E-01		1.39E+00	4.12E-01
	1764.49 *	15.80	2.83E-01		1.52E+00	1.14E-01
	2204.22 *	4.98	9.04E-01		2.08E+00	3.55E-01
+ PB-214	295.21 *	19.19	4.80E-01	2.68E-01	1.55E+00	2.34E-01
	351.92 *	37.19	2.68E-01		1.52E+00	1.30E-01
	401.80	6.50	8.21E-01	8.21E-01	-1.26E-01	3.89E-01
	323.87	3.88	1.32E+00	1.32E+00	-1.29E+00	6.30E-01
+ RA-224	240.98 *	3.95	2.86E+00	2.86E+00	5.41E+00	1.40E+00
	40.00	31.00	1.67E+00	1.67E+00	6.25E-01	8.13E-01
+ RA-226	186.21 *	3.28	2.97E+00	2.97E+00	3.77E+00	1.46E+00
TH-227	50.10	8.40	9.08E-01	6.21E-01	3.04E-01	4.42E-01
	236.00	11.50	6.21E-01		-4.82E+00	3.02E-01
	256.20	6.30	8.38E-01		-1.48E-02	4.03E-01
+ AC-228	338.32 *	11.40	6.92E-01	4.17E-01	1.85E+00	3.35E-01
	911.07 *	27.70	4.17E-01		1.50E+00	1.99E-01
	969.11 *	16.60	7.64E-01		1.98E+00	3.65E-01
TH-230	48.44	16.90	5.24E-01	5.24E-01	1.35E-01	2.56E-01
	62.85	4.60	1.72E+00		2.55E+00	8.41E-01
	67.67	0.37	1.83E+01		3.98E+00	8.96E+00
PA-231	283.67	1.60	3.40E+00	2.37E+00	1.40E+00	1.63E+00
	302.67	2.30	2.37E+00		7.09E-01	1.14E+00
TH-231	25.64	14.70	4.00E+00	1.01E+00	2.98E-01	1.94E+00
	84.21	6.40	1.01E+00		-2.65E+00	4.92E-01
PA-233	311.98	38.60	2.75E-01	2.75E-01	-1.60E-01	1.31E-01
PA-234	131.20	20.40	2.61E-01	2.61E-01	1.10E-02	1.27E-01
	733.99	8.80	7.87E-01		1.90E-01	3.68E-01
	946.00	12.00	6.28E-01		-4.51E-02	2.91E-01
PA-234M	1001.03	0.92	8.57E+00	8.57E+00	2.11E+00	3.97E+00
+ TH-234	63.29 *	3.80	2.71E+00	2.71E+00	3.04E+00	1.33E+00
U-235	143.76	10.50	5.35E-01	5.35E-01	3.93E-01	2.60E-01
	163.35	4.70	1.19E+00		5.45E-01	5.78E-01
	205.31	4.70	1.15E+00		1.61E-01	5.57E-01
NP-237	86.50	12.60	5.71E-01	5.71E-01	4.51E-01	2.80E-01
NP-239	106.10	22.70	3.44E+03	3.44E+03	1.94E+03	1.67E+03
	228.18	10.70	7.71E+03		1.22E+03	3.72E+03
	277.60	14.10	6.09E+03		5.64E+03	2.93E+03
AM-241	59.54	35.90	1.93E-01	1.93E-01	-2.53E-01	9.42E-02
AM-243	74.67	66.00	1.45E-01	1.45E-01	-1.55E-01	7.16E-02
+ CM-243	209.75 *	3.29	2.59E+00	4.71E-01	1.36E+00	1.27E+00
	228.14	10.60	5.22E-01		8.22E-02	2.52E-01
	277.60 *	14.00	4.71E-01		4.27E-01	2.27E-01

Analysis Report for 1510092-09
CP5003S16-17

-
- + = 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
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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: CP5003S16-17

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	78	89	81	85	88	85
25:	81	68	58	66	60	71	82	57
33:	91	71	75	74	77	86	77	88
41:	84	74	73	83	90	93	189	94
49:	82	107	97	89	88	118	103	106
57:	98	102	110	133	112	141	189	267
65:	152	129	132	148	149	144	141	160
73:	152	195	439	338	452	546	144	109
81:	120	137	89	142	177	129	210	287
89:	144	184	187	152	311	244	115	97
97:	96	78	100	112	114	64	81	87
105:	105	102	90	98	87	103	84	78
113:	101	89	88	79	78	78	70	80
121:	82	63	69	78	86	86	73	89
129:	108	124	69	79	79	92	85	86
137:	63	77	83	75	76	80	79	110
145:	99	90	77	76	66	68	73	71
153:	78	94	92	68	77	73	76	79
161:	68	82	79	83	79	76	73	65
169:	72	67	62	59	70	66	65	56
177:	56	70	52	59	53	62	78	68
185:	87	194	130	60	63	64	62	66
193:	53	51	59	61	61	71	72	60
201:	72	62	52	47	67	51	62	59
209:	83	113	58	56	54	63	49	57
217:	65	60	67	44	54	62	54	59
225:	46	47	67	34	50	62	56	39
233:	46	57	48	51	61	207	719	229
241:	109	168	108	45	43	39	27	31
249:	35	37	44	37	52	34	34	47
257:	36	52	47	29	33	24	46	42
265:	34	27	35	37	39	57	72	44
273:	35	17	40	42	42	53	48	31
281:	28	34	48	31	38	36	30	37
289:	36	29	29	33	25	30	172	203
297:	56	33	31	55	49	24	32	32
305:	35	20	23	26	31	21	19	34
313:	23	18	34	25	34	21	35	33
321:	29	27	27	28	31	24	30	57
329:	48	34	32	36	30	20	31	29
337:	35	77	146	62	34	22	31	33
345:	23	27	26	29	24	24	72	341
353:	229	42	24	20	21	18	25	23
361:	27	22	20	20	21	19	19	30

369: 26 28 25 24 19 26 24 11

Sample Title: CP5003S16-17

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	30	29	22	21	25	21	19	30
385:	24	11	16	21	16	26	16	33
393:	17	20	23	28	23	25	19	21
401:	19	21	23	24	24	24	16	34
409:	23	36	27	22	18	17	24	21
417:	25	20	21	22	14	17	30	21
425:	18	14	23	19	20	16	21	11
433:	23	20	17	13	14	21	26	11
441:	20	22	19	15	16	28	14	8
449:	21	17	15	17	20	15	20	16
457:	28	16	18	15	18	25	32	39
465:	14	19	14	17	18	16	17	12
473:	21	26	12	15	17	13	17	16
481:	19	15	18	14	17	16	13	17
489:	11	16	14	14	13	15	16	15
497:	18	23	20	14	21	23	22	14
505:	24	17	19	14	25	43	90	70
513:	25	14	23	18	12	12	13	16
521:	19	18	12	13	24	19	15	20
529:	17	18	20	21	23	18	15	19
537:	8	10	18	15	11	19	8	14
545:	15	15	13	12	13	16	8	17
553:	14	9	15	14	15	15	15	13
561:	15	18	23	11	10	21	13	8
569:	16	8	15	19	16	5	16	10
577:	20	14	13	16	13	37	142	162
585:	35	13	15	15	20	13	10	15
593:	11	17	11	15	17	13	16	17
601:	11	11	8	10	15	12	15	35
609:	150	243	56	15	9	11	13	14
617:	11	9	16	8	9	11	14	18
625:	11	22	10	16	12	12	17	10
633:	17	18	8	8	17	10	8	13
641:	6	8	11	12	9	13	12	13
649:	8	11	6	12	15	14	9	12
657:	4	18	18	10	11	16	10	9
665:	16	25	16	10	10	8	10	9
673:	8	11	11	12	7	8	8	13
681:	12	16	9	16	11	12	17	8
689:	11	11	9	9	13	10	12	10
697:	10	14	19	12	19	21	23	17
705:	11	12	13	15	13	13	19	9
713:	11	13	16	7	8	4	10	16
721:	11	6	10	13	14	16	38	37
729:	7	11	7	18	10	10	11	4
737:	11	5	12	14	17	9	13	10
745:	12	11	8	9	8	11	11	7
753:	15	12	5	14	10	11	10	10
761:	8	9	9	9	10	13	10	22
769:	31	17	6	17	18	11	16	6
777:	7	14	12	9	11	15	8	13
785:	16	22	9	8	11	5	10	13
793:	13	13	24	23	14	3	13	7

801: 16 13 9 14 6 10 11 12

Sample Title: CP5003S16-17

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	7	9	8	11	16	12	11	13
817:	10	7	9	6	2	12	9	10
825:	13	7	6	2	9	11	14	11
833:	12	13	12	15	14	15	18	14
841:	16	4	7	4	9	7	10	7
849:	6	6	7	6	4	9	10	9
857:	9	8	7	27	27	11	7	7
865:	5	3	10	3	10	7	8	2
873:	9	6	7	6	11	10	11	3
881:	11	6	6	5	10	9	3	10
889:	8	5	9	6	7	11	8	10
897:	10	12	7	8	10	1	9	11
905:	8	11	10	6	15	22	104	83
913:	25	5	8	12	5	3	9	4
921:	11	7	11	6	12	7	7	8
929:	8	7	5	7	4	10	18	9
937:	2	9	4	3	8	9	7	7
945:	8	5	6	10	12	10	6	5
953:	7	9	10	5	7	7	11	5
961:	5	11	4	17	24	26	10	26
969:	62	37	19	8	12	4	10	6
977:	8	6	6	4	5	6	8	4
985:	5	6	10	10	4	4	6	6
993:	5	4	5	9	9	4	9	8
1001:	8	11	8	7	5	4	6	3
1009:	9	6	5	11	9	8	7	10
1017:	5	4	5	5	4	10	9	4
1025:	4	7	10	4	5	9	9	10
1033:	6	9	8	2	10	4	6	9
1041:	6	7	5	5	11	3	8	2
1049:	9	4	6	7	12	4	8	10
1057:	5	8	11	8	5	6	12	9
1065:	4	2	9	10	11	9	6	2
1073:	5	7	8	7	11	4	10	11
1081:	5	10	2	4	6	4	6	9
1089:	4	5	11	5	10	9	11	4
1097:	3	12	8	10	11	4	6	9
1105:	7	7	7	5	9	5	13	7
1113:	9	8	9	9	7	10	15	36
1121:	52	15	10	5	8	14	8	10
1129:	2	10	5	10	7	12	6	8
1137:	11	6	8	5	5	6	5	5
1145:	4	6	10	13	12	12	7	5
1153:	11	9	15	14	8	8	8	8
1161:	8	13	5	6	4	6	6	5
1169:	10	9	6	13	11	5	10	10
1177:	10	5	8	10	4	12	12	8
1185:	5	10	6	8	14	5	10	7
1193:	8	14	6	6	7	17	10	17
1201:	5	2	8	10	8	6	8	3
1209:	14	3	13	9	12	9	7	6
1217:	11	6	8	7	10	10	9	9
1225:	14	14	9	7	9	10	7	16

1233: 14 6 6 6 15 18 18 12

Sample Title: CP5003S16-17

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1241:	10	5	9	11	7	6	10	7
1249:	9	9	4	5	11	4	6	9
1257:	3	5	8	7	8	4	7	7
1265:	6	6	8	5	8	7	7	4
1273:	6	3	4	7	7	6	2	8
1281:	8	3	6	16	2	8	6	7
1289:	3	4	4	2	4	3	6	4
1297:	3	4	3	9	11	4	6	2
1305:	8	3	4	5	5	5	3	6
1313:	6	2	8	6	3	6	2	2
1321:	3	6	2	1	5	2	6	4
1329:	5	8	11	2	10	10	8	1
1337:	3	2	4	3	2	6	3	3
1345:	1	6	5	5	4	4	1	5
1353:	4	2	7	2	5	5	3	4
1361:	2	4	6	2	4	3	6	5
1369:	4	3	2	2	4	2	5	6
1377:	9	14	11	2	3	2	4	2
1385:	4	6	6	7	0	1	3	3
1393:	2	3	3	5	5	1	4	3
1401:	8	7	3	2	3	4	4	6
1409:	7	3	1	1	4	3	4	4
1417:	3	5	0	2	0	3	0	4
1425:	5	4	3	0	5	1	1	4
1433:	2	4	4	5	3	2	6	0
1441:	1	4	4	1	0	1	5	4
1449:	3	6	3	3	2	4	3	1
1457:	2	8	25	198	388	194	34	7
1465:	6	2	0	2	4	2	4	5
1473:	0	3	7	3	3	1	1	3
1481:	1	7	0	2	3	1	5	3
1489:	4	3	5	4	3	3	2	2
1497:	2	2	3	1	2	4	3	0
1505:	1	2	1	2	6	8	4	3
1513:	4	3	2	1	0	3	2	1
1521:	2	1	1	2	3	5	2	2
1529:	1	5	1	2	3	1	0	1
1537:	1	1	5	2	1	1	2	5
1545:	4	1	1	0	2	0	1	3
1553:	1	1	4	1	2	1	0	5
1561:	2	4	0	2	3	1	3	3
1569:	0	2	3	1	0	1	1	1
1577:	0	1	3	8	1	2	3	1
1585:	2	4	2	14	3	3	3	3
1593:	4	2	0	1	1	3	0	2
1601:	1	1	2	1	2	3	2	3
1609:	2	5	1	2	5	3	0	0
1617:	1	1	2	4	3	4	2	4
1625:	0	1	0	2	3	2	7	1
1633:	1	2	2	1	0	2	1	1
1641:	0	1	5	1	0	2	0	2
1649:	0	1	2	1	2	1	2	2
1657:	0	0	2	1	3	1	2	1

1665: 2 3 0 3 2 1 1 1

Sample Title: CP5003S16-17

Channel	1	2	3	4	5	6	7	8	9
1673:	4	2	1	1	2	1	3	1	
1681:	3	1	1	3	0	2	1	1	
1689:	0	2	1	0	3	1	0	2	
1697:	4	1	5	1	2	1	1	1	
1705:	2	0	2	1	1	3	0	1	
1713:	1	1	1	1	1	1	2	1	
1721:	1	3	1	3	3	3	2	5	
1729:	1	7	3	1	2	0	0	0	
1737:	2	3	0	1	1	2	1	1	
1745:	2	0	0	1	1	1	1	2	
1753:	1	1	0	0	0	1	0	1	
1761:	1	1	10	22	27	10	3	2	
1769:	1	0	0	1	0	2	2	0	
1777:	3	1	0	3	1	1	2	0	
1785:	2	0	2	3	0	3	0	1	
1793:	1	1	3	2	0	0	0	0	
1801:	1	3	2	2	3	2	0	3	
1809:	3	2	2	0	2	1	3	2	
1817:	2	1	1	0	1	0	1	1	
1825:	3	0	1	0	0	2	1	0	
1833:	0	3	5	1	1	2	1	0	
1841:	1	0	0	2	1	2	7	7	
1849:	3	1	2	0	2	1	2	1	
1857:	2	1	1	0	1	0	1	0	
1865:	1	3	3	4	0	0	0	1	
1873:	1	1	3	1	2	3	2	1	
1881:	1	3	0	1	0	2	3	1	
1889:	1	1	1	1	1	0	0	1	
1897:	1	1	0	0	2	1	0	1	
1905:	2	0	1	1	1	2	1	0	
1913:	1	1	0	2	1	1	1	2	
1921:	2	0	0	5	2	2	0	1	
1929:	2	1	1	1	1	4	3	1	
1937:	0	0	1	1	0	1	0	1	
1945:	0	1	1	2	0	1	0	0	
1953:	3	0	0	4	0	2	1	1	
1961:	0	0	2	0	0	0	3	2	
1969:	0	1	2	1	2	0	2	1	
1977:	0	0	1	0	2	0	1	1	
1985:	0	2	0	1	2	2	1	0	
1993:	0	1	0	1	2	0	2	0	
2001:	0	0	0	2	2	0	1	2	
2009:	1	1	1	1	2	2	0	0	
2017:	0	3	3	2	0	0	2	1	
2025:	1	1	0	3	1	0	1	1	
2033:	1	2	0	0	1	2	2	0	
2041:	0	0	0	1	2	0	0	1	
2049:	0	0	1	1	0	0	0	0	
2057:	0	0	1	0	2	2	0	3	
2065:	1	2	0	1	3	0	1	1	
2073:	0	1	1	1	0	2	1	1	
2081:	0	1	0	0	1	3	0	2	
2089:	1	1	0	0	2	1	0	1	

2097: 0 1 1 0 2 3 8 2

Sample Title: CP5003S16-17

Channel	1	2	3	4	5	6	7	8
2105:	4	1	1	2	1	3	1	1
2113:	2	1	0	1	4	2	4	3
2121:	1	1	0	2	0	1	0	1
2129:	0	3	0	0	0	0	0	3
2137:	1	1	2	1	1	0	1	2
2145:	0	0	1	0	1	1	1	2
2153:	1	2	0	2	1	2	3	0
2161:	1	0	0	0	1	1	3	1
2169:	0	1	3	2	3	1	1	0
2177:	1	1	2	3	0	3	1	0
2185:	1	0	1	1	0	1	1	1
2193:	1	2	4	1	1	0	0	0
2201:	1	3	4	15	3	3	2	1
2209:	0	1	1	2	1	1	1	2
2217:	1	0	2	1	0	1	0	1
2225:	1	0	0	0	0	0	1	1
2233:	2	1	1	2	0	1	1	1
2241:	1	2	1	1	0	1	2	2
2249:	0	2	0	3	0	3	1	2
2257:	0	1	0	1	0	2	1	2
2265:	1	0	4	2	1	1	1	2
2273:	2	1	1	1	1	2	0	2
2281:	1	0	2	3	1	0	1	1
2289:	1	0	0	0	4	0	2	2
2297:	0	2	1	0	1	2	1	1
2305:	2	1	1	1	4	2	0	1
2313:	1	1	0	0	1	0	3	0
2321:	1	0	1	1	4	2	2	0
2329:	2	3	4	1	0	2	0	1
2337:	0	1	3	0	3	2	0	0
2345:	1	1	1	1	1	0	0	0
2353:	1	1	2	2	0	4	0	4
2361:	2	1	0	2	1	0	1	3
2369:	0	2	2	2	2	0	0	1
2377:	0	1	0	1	1	0	0	0
2385:	1	2	0	0	2	1	0	1
2393:	0	1	2	2	2	1	1	0
2401:	1	3	1	0	0	1	1	2
2409:	2	0	0	0	1	1	0	2
2417:	1	1	0	0	1	3	1	0
2425:	0	0	0	0	1	0	1	1
2433:	3	0	4	1	0	0	1	0
2441:	0	1	0	3	1	2	3	5
2449:	1	1	0	1	0	0	1	1
2457:	1	2	2	1	0	0	1	0
2465:	2	1	1	0	0	1	0	0
2473:	1	1	0	2	1	0	1	0
2481:	0	0	1	2	2	0	0	0
2489:	1	0	2	0	0	0	0	0
2497:	0	0	1	0	0	1	2	1
2505:	0	0	2	1	0	1	1	0
2513:	1	0	0	0	0	0	0	3
2521:	0	1	1	0	3	0	1	0

2529: 0 0 1 0 0 1 0 0

Sample Title: CP5003S16-17

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2537:	0	0	2	0	2	0	0	0
2545:	0	1	0	0	0	1	0	1
2553:	0	0	0	0	0	0	3	1
2561:	0	0	0	0	0	0	1	0
2569:	0	0	0	1	0	0	1	0
2577:	1	1	0	0	0	0	0	1
2585:	0	0	0	0	0	2	0	1
2593:	0	0	0	1	0	1	0	0
2601:	2	1	0	0	3	0	1	1
2609:	0	0	2	11	26	43	40	14
2617:	2	0	2	0	0	0	0	1
2625:	1	0	1	0	1	0	0	0
2633:	1	1	0	1	2	0	0	0
2641:	0	1	0	0	0	1	0	0
2649:	1	0	1	0	0	0	0	0
2657:	1	0	1	1	2	0	0	0
2665:	0	1	0	0	0	0	1	0
2673:	2	0	1	0	0	0	0	0
2681:	0	1	1	0	0	1	0	0
2689:	2	0	0	0	1	0	0	0
2697:	0	0	0	0	0	0	0	0
2705:	0	0	2	0	0	0	0	0
2713:	1	1	0	0	0	2	0	1
2721:	2	0	1	0	0	1	1	0
2729:	2	1	0	0	0	0	1	0
2737:	1	1	1	0	0	0	0	1
2745:	1	0	1	0	0	0	2	0
2753:	0	0	1	0	0	0	0	1
2761:	0	0	1	0	0	1	1	0
2769:	0	1	0	0	0	0	0	0
2777:	0	0	0	1	2	0	0	0
2785:	0	0	1	0	0	0	0	2
2793:	0	0	0	0	1	0	0	0
2801:	0	0	0	0	0	0	0	0
2809:	0	0	0	0	0	0	1	1
2817:	0	0	0	0	1	0	0	0
2825:	0	0	1	1	0	0	0	0
2833:	0	0	0	0	1	0	0	1
2841:	0	0	0	0	0	1	0	0
2849:	0	0	0	0	1	0	0	0
2857:	0	0	0	0	0	1	0	0
2865:	0	0	0	0	0	1	1	0
2873:	1	0	0	0	0	0	0	0
2881:	0	0	0	0	0	0	0	0
2889:	1	0	1	0	0	0	1	0
2897:	0	0	0	0	0	0	0	0
2905:	0	0	0	0	0	0	1	0
2913:	0	0	0	1	0	0	0	1
2921:	0	0	0	0	0	0	0	0
2929:	0	1	1	0	0	0	0	0
2937:	0	0	0	1	0	0	0	0
2945:	1	1	0	1	0	0	0	0
2953:	0	0	0	1	1	0	0	0

2961: 0 0 0 0 0 1 0 0

Sample Title: CP5003S16-17

Channel	1	0	0	1	0	0	1	0
2969:	1	0	0	1	0	0	1	0
2977:	0	0	0	0	0	1	0	0
2985:	0	0	0	0	0	0	0	1
2993:	0	0	0	0	0	0	1	1
3001:	0	0	0	0	1	0	0	0
3009:	0	0	0	0	0	0	0	1
3017:	0	0	0	0	0	0	0	0
3025:	0	0	1	0	0	0	0	0
3033:	0	0	1	0	0	0	0	0
3041:	1	1	0	0	0	0	0	1
3049:	0	1	1	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	0	0	0	0	0
3081:	0	0	0	0	0	0	0	0
3089:	1	0	0	0	0	0	0	1
3097:	0	0	0	0	0	0	0	1
3105:	0	0	0	1	0	0	0	0
3113:	0	0	0	0	0	0	0	0
3121:	0	2	1	0	1	0	0	0
3129:	0	0	0	0	1	0	0	0
3137:	0	0	0	0	0	0	0	0
3145:	1	0	1	0	0	0	0	0
3153:	0	0	0	1	0	1	1	0
3161:	0	0	0	0	1	0	0	0
3169:	0	0	2	1	0	1	0	0
3177:	1	0	0	1	0	0	0	1
3185:	0	0	0	0	0	0	1	0
3193:	0	0	1	1	0	0	1	0
3201:	0	0	1	0	0	0	0	0
3209:	0	0	0	0	0	0	1	0
3217:	2	0	0	1	0	0	0	0
3225:	1	0	0	0	0	0	0	0
3233:	1	0	0	0	0	0	0	0
3241:	0	0	0	1	0	0	0	1
3249:	0	0	0	0	0	1	0	1
3257:	0	0	0	0	1	0	0	0
3265:	1	0	0	1	0	0	0	0
3273:	0	0	0	0	0	1	0	0
3281:	1	0	0	1	0	0	0	1
3289:	1	0	0	0	0	0	0	0
3297:	0	0	0	0	0	1	0	0
3305:	1	0	0	0	1	0	1	0
3313:	0	0	1	0	0	0	1	1
3321:	0	0	1	0	0	1	0	0
3329:	0	0	0	0	0	0	0	0
3337:	0	0	0	1	0	0	0	1
3345:	0	1	0	0	0	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	1
3377:	0	0	0	0	1	0	0	0
3385:	0	0	0	0	0	0	0	0

3393: 0 1 0 1 0 0 0 0

Sample Title: CP5003S16-17

Channel	1	2	3	4	5	6	7	8	9
3401:	0	0	0	0	0	0	0	1	0
3409:	0	0	0	0	0	0	0	0	0
3417:	0	0	0	1	0	0	0	0	0
3425:	0	0	1	0	0	0	0	0	0
3433:	0	0	0	1	0	0	0	0	0
3441:	0	0	0	0	0	0	0	0	0
3449:	0	0	0	0	0	0	0	0	0
3457:	1	0	0	0	0	0	0	0	0
3465:	0	0	0	0	0	1	0	0	0
3473:	0	1	1	0	0	0	0	0	0
3481:	0	0	0	0	0	0	1	0	0
3489:	0	0	0	0	0	0	0	0	0
3497:	0	1	0	2	0	0	0	0	0
3505:	0	1	0	0	0	0	0	0	0
3513:	0	0	1	0	0	0	0	0	0
3521:	0	1	0	0	0	0	0	0	0
3529:	0	1	0	0	0	0	0	0	0
3537:	0	0	0	0	0	0	0	0	0
3545:	0	0	0	0	0	0	0	0	0
3553:	0	0	0	0	0	0	0	0	1
3561:	0	0	0	0	0	0	1	0	0
3569:	0	0	0	0	0	0	0	0	0
3577:	0	0	0	0	0	0	0	0	0
3585:	0	0	0	0	0	0	0	2	0
3593:	0	1	0	0	0	0	0	0	0
3601:	0	0	0	0	0	1	0	0	1
3609:	0	1	1	0	0	0	0	0	0
3617:	0	0	0	0	0	0	0	1	0
3625:	0	0	0	1	0	0	1	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	0	0	0	0	0	1	0
3657:	1	0	0	0	0	0	0	2	0
3665:	0	0	0	0	0	0	0	1	0
3673:	2	0	0	0	0	0	0	0	0
3681:	0	0	1	1	0	0	0	0	0
3689:	0	0	0	0	0	1	0	0	0
3697:	1	0	0	0	0	1	0	1	0
3705:	1	0	0	0	0	0	0	1	0
3713:	0	0	1	0	0	0	0	0	0
3721:	0	0	0	0	0	1	0	0	0
3729:	0	0	0	0	0	0	0	0	1
3737:	0	0	0	0	0	0	1	1	0
3745:	0	0	1	0	0	0	1	0	0
3753:	0	0	0	0	0	1	0	0	0
3761:	0	0	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0	0
3777:	0	0	0	1	0	0	0	0	0
3785:	0	0	0	0	0	0	1	0	0
3793:	1	0	0	0	0	1	0	0	0
3801:	1	0	0	1	0	0	1	0	1
3809:	0	0	0	0	0	1	0	0	0
3817:	0	0	0	1	0	0	0	0	0

3825: 1 0 0 0 0 0 0 0 0

Sample Title: CP5003S16-17

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	0	0	0	0	0
3849:	0	0	1	0	0	2	0	1
3857:	1	0	0	0	0	0	0	0
3865:	0	0	0	0	0	0	0	1
3873:	0	0	0	0	0	0	2	0
3881:	0	0	0	1	0	0	0	0
3889:	0	0	0	0	1	0	0	0
3897:	0	0	0	0	1	0	0	0
3905:	0	0	0	0	1	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	1	0	0	0	0	0	1
3945:	0	0	0	0	1	0	0	0
3953:	0	0	1	0	0	0	0	0
3961:	1	1	1	1	0	0	0	0
3969:	0	0	1	0	1	0	0	0
3977:	0	0	1	0	0	0	0	0
3985:	0	0	0	0	0	0	0	0
3993:	0	0	0	0	0	0	0	1
4001:	0	0	0	0	0	0	0	1
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	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	1	0	0	0	0	0
4073:	0	0	0	1	0	0	0	0
4081:	0	1	0	0	0	0	0	0
4089:	0	0	0	0	0	0	0	0

Analysis Report for 1510092-10
CP5001S03-04

C
11/11

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510092-10
Sample Description : CP5001S03-04
Sample Type : SOIL

Sample Size : 5.063E+02 grams
Facility : Countroom

Sample Taken On : 10/9/2015 4:00:02PM
Acquisition Started : 11/11/2015 8:24:08AM

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) : 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 : 29468

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510092-10
CP5001S03-04

PEAK LOCATE REPORT

Peak Locate Performed on : 11/11/2015 9:24:13AM
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	63.37	63.72	0.0000	0.00
2	74.94	75.28	0.0000	0.00
3	77.44	77.79	0.0000	0.00
4	88.11	88.45	0.0000	0.00
5	93.16	93.49	0.0000	0.00
6	128.33	128.65	0.0000	0.00
7	186.36	186.66	0.0000	0.00
8	208.43	208.72	0.0000	0.00
9	238.73	239.01	0.0000	0.00
10	241.90	242.19	0.0000	0.00
11	270.38	270.66	0.0000	0.00
12	277.94	278.22	0.0000	0.00
13	295.54	295.81	0.0000	0.00
14	300.37	300.64	0.0000	0.00
15	323.02	323.28	0.0000	0.00
16	338.50	338.76	0.0000	0.00
17	352.08	352.33	0.0000	0.00
18	361.83	362.08	0.0000	0.00
19	393.20	393.44	0.0000	0.00
20	410.17	410.40	0.0000	0.00
21	463.40	463.61	0.0000	0.00
22	511.04	511.24	0.0000	0.00
23	583.45	583.62	0.0000	0.00
24	609.59	609.76	0.0000	0.00
25	727.81	727.93	0.0000	0.00
26	742.74	742.85	0.0000	0.00
27	755.09	755.20	0.0000	0.00
28	765.89	766.00	0.0000	0.00
29	771.71	771.81	0.0000	0.00
30	782.76	782.87	0.0000	0.00
31	786.14	786.24	0.0000	0.00
32	795.41	795.51	0.0000	0.00
33	841.66	841.74	0.0000	0.00
34	860.98	861.05	0.0000	0.00
35	911.46	911.51	0.0000	0.00
36	934.20	934.24	0.0000	0.00
37	964.95	964.99	0.0000	0.00
38	969.16	969.20	0.0000	0.00
39	988.28	988.30	0.0000	0.00
40	1033.24	1033.25	0.0000	0.00
41	1120.23	1120.21	0.0000	0.00
42	1136.04	1136.01	0.0000	0.00

Analysis Report for 1510092-10
CP5001S03-04

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1239.20	1239.13	0.0000	0.00
44	1259.93	1259.86	0.0000	0.00
45	1299.15	1299.07	0.0000	0.00
46	1378.61	1378.50	0.0000	0.00
47	1401.67	1401.55	0.0000	0.00
48	1408.56	1408.44	0.0000	0.00
49	1456.14	1456.00	0.0000	0.00
50	1461.18	1461.03	0.0000	0.00
51	1507.42	1507.26	0.0000	0.00
52	1509.94	1509.78	0.0000	0.00
53	1540.35	1540.18	0.0000	0.00
54	1606.60	1606.41	0.0000	0.00
55	1622.36	1622.16	0.0000	0.00
56	1726.09	1725.85	0.0000	0.00
57	1730.24	1730.00	0.0000	0.00
58	1764.95	1764.70	0.0000	0.00
59	1816.78	1816.50	0.0000	0.00
60	1925.98	1925.67	0.0000	0.00
61	2103.97	2103.59	0.0000	0.00
62	2112.78	2112.40	0.0000	0.00
63	2182.16	2181.75	0.0000	0.00
64	2204.90	2204.48	0.0000	0.00
65	2264.02	2263.57	0.0000	0.00
66	2323.85	2323.38	0.0000	0.00
67	2421.73	2421.22	0.0000	0.00
68	2447.99	2447.48	0.0000	0.00
69	2614.74	2614.16	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510092-10
CP5001S03-04

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/11/2015 9:24:13AM

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	63.37	60 - 67	63.72	2.20E+02	115.33	2.07E+03	1.31
M	2	74.94	72 - 81	75.28	5.11E+02	96.29	1.32E+03	1.60
m	3	77.44	72 - 81	77.79	8.50E+02	104.77	1.18E+03	1.61
	4	88.11	86 - 91	88.45	2.12E+02	97.90	1.75E+03	1.25
	5	93.16	91 - 97	93.49	2.79E+02	106.27	1.74E+03	1.78
	6	128.33	125 - 132	128.65	1.05E+02	84.57	1.13E+03	1.29
	7	186.36	183 - 190	186.66	1.92E+02	79.40	9.20E+02	1.92
	8	208.43	204 - 213	208.72	1.16E+02	88.05	1.04E+03	2.04
M	9	238.73	233 - 246	239.01	1.03E+03	78.18	4.40E+02	1.60
m	10	241.90	233 - 246	242.19	2.70E+02	83.71	4.90E+02	2.03
	11	270.38	267 - 274	270.66	1.02E+02	60.89	5.47E+02	2.01
	12	277.94	275 - 281	278.22	4.83E+01	49.12	3.99E+02	1.81
M	13	295.54	290 - 304	295.81	3.78E+02	52.19	2.75E+02	1.62
m	14	300.37	290 - 304	300.64	6.52E+01	43.84	3.30E+02	2.09
	15	323.02	321 - 325	323.28	3.19E+01	33.87	2.22E+02	1.33
	16	338.50	335 - 343	338.76	1.72E+02	63.06	5.01E+02	1.57
	17	352.08	348 - 356	352.33	6.18E+02	69.54	3.62E+02	1.81
	18	361.83	359 - 365	362.08	3.75E+01	39.17	2.51E+02	2.35
	19	393.20	389 - 397	393.44	4.24E+01	47.69	3.23E+02	3.49
	20	410.17	406 - 414	410.40	4.24E+01	50.12	3.61E+02	2.25
	21	463.40	460 - 469	463.61	7.33E+01	47.93	2.89E+02	2.08
	22	511.04	508 - 516	511.24	2.22E+02	47.24	2.07E+02	2.12
	23	583.45	578 - 588	583.62	3.12E+02	59.26	3.01E+02	1.92
	24	609.59	604 - 615	609.76	4.20E+02	61.55	2.62E+02	1.84
	25	727.81	724 - 731	727.93	4.71E+01	36.22	1.86E+02	1.76
	26	742.74	740 - 747	742.85	2.71E+01	30.13	1.36E+02	4.07
	27	755.09	752 - 758	755.20	2.58E+01	23.79	8.45E+01	3.57
M	28	765.89	762 - 774	766.00	1.80E+01	23.92	8.40E+01	1.89
m	29	771.71	762 - 774	771.81	2.77E+01	24.58	8.40E+01	2.08
M	30	782.76	781 - 788	782.87	2.05E+01	16.73	5.02E+01	2.77
m	31	786.14	781 - 788	786.24	2.56E+01	20.26	6.76E+01	1.81
	32	795.41	791 - 799	795.51	4.56E+01	33.41	1.43E+02	2.06
	33	841.66	835 - 850	841.74	6.25E+01	45.69	1.83E+02	3.84
	34	860.98	858 - 863	861.05	2.11E+01	24.21	9.77E+01	2.32
	35	911.46	906 - 918	911.51	1.81E+02	51.15	2.27E+02	2.23
	36	934.20	931 - 938	934.24	3.64E+01	28.64	1.13E+02	1.89
M	37	964.95	960 - 974	964.99	3.69E+01	23.07	8.79E+01	2.06
m	38	969.16	960 - 974	969.20	1.22E+02	32.54	9.64E+01	2.19
	39	988.28	986 - 991	988.30	1.50E+01	18.17	5.40E+01	1.55
	40	1033.24	1030 - 1036	1033.25	1.96E+01	21.09	6.68E+01	3.23

Analysis Report for 1510092-10
 CP5001S03-04

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1120.23	1116 - 1124		1120.21	1.33E+02	33.00	8.68E+01	2.17
42	1136.04	1134 - 1139		1136.01	1.57E+01	18.17	5.27E+01	2.78
43	1239.20	1234 - 1244		1239.13	4.99E+01	34.99	1.34E+02	1.91
44	1259.93	1257 - 1264		1259.86	2.26E+01	21.07	5.67E+01	3.93
45	1299.15	1292 - 1306		1299.07	3.05E+01	32.36	9.69E+01	8.08
46	1378.61	1374 - 1383		1378.50	5.43E+01	17.97	1.55E+01	3.18
47	1401.67	1397 - 1405		1401.55	1.85E+01	15.80	2.70E+01	4.50
48	1408.56	1405 - 1412		1408.44	2.70E+01	15.87	2.40E+01	1.51
M	49	1456.14	1455 - 1467	1456.00	1.04E+01	6.78	9.04E+00	2.19
m	50	1461.18	1455 - 1467	1461.03	7.57E+02	56.16	2.89E+01	2.23
M	51	1507.42	1506 - 1513	1507.26	1.11E+01	5.74	4.29E+00	2.68
m	52	1509.94	1506 - 1513	1509.78	1.52E+01	13.01	1.79E+01	2.44
	53	1540.35	1535 - 1545	1540.18	1.73E+01	13.67	1.35E+01	2.24
	54	1606.60	1601 - 1612	1606.41	2.24E+01	11.66	5.24E+00	7.95
	55	1622.36	1614 - 1635	1622.16	2.30E+01	25.85	4.61E+01	7.24
M	56	1726.09	1723 - 1734	1725.85	1.18E+01	6.96	9.55E-01	4.95
m	57	1730.24	1723 - 1734	1730.00	2.71E+01	13.13	9.68E+00	2.30
	58	1764.95	1761 - 1767	1764.70	7.32E+01	17.67	3.67E+00	2.05
	59	1816.78	1814 - 1818	1816.50	6.00E+00	4.90	0.00E+00	1.88
	60	1925.98	1924 - 1929	1925.67	5.00E+00	7.07	6.00E+00	1.28
	61	2103.97	2099 - 2108	2103.59	1.98E+01	10.63	4.50E+00	2.78
	62	2112.78	2110 - 2116	2112.40	5.80E+00	8.03	8.40E+00	3.31
	63	2182.16	2178 - 2184	2181.75	8.00E+00	5.66	0.00E+00	3.24
	64	2204.90	2201 - 2209	2204.48	3.63E+01	13.28	5.44E+00	4.74
	65	2264.02	2259 - 2266	2263.57	7.85E+00	7.48	4.30E+00	2.00
	66	2323.85	2319 - 2327	2323.38	8.23E+00	10.99	1.35E+01	1.75
	67	2421.73	2419 - 2423	2421.22	6.13E+00	6.67	3.75E+00	1.84
	68	2447.99	2444 - 2451	2447.48	1.00E+01	9.38	8.00E+00	2.36
	69	2614.74	2609 - 2620	2614.16	1.16E+02	22.63	6.79E+00	2.50

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 : 11/11/2015 9:24:13AM

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
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Analysis Report for 1510092-10
CP5001S03-04

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	1	63.37	60 -	67	2.20E+02	115.33	2.07E+03	9.16E+01
M	2	74.94	72 -	81	5.11E+02	96.29	1.32E+03	5.97E+01
m	3	77.44	72 -	81	8.50E+02	104.77	1.18E+03	5.65E+01
	4	88.11	86 -	91	2.12E+02	97.90	1.75E+03	7.68E+01
	5	93.16	91 -	97	2.79E+02	106.27	1.74E+03	8.29E+01
	6	128.33	125 -	132	1.05E+02	84.57	1.13E+03	6.74E+01
	7	186.36	183 -	190	1.92E+02	79.40	9.20E+02	6.12E+01
	8	208.43	204 -	213	1.16E+02	88.05	1.04E+03	7.02E+01
M	9	238.73	233 -	246	1.03E+03	78.18	4.40E+02	3.45E+01
m	10	241.90	233 -	246	2.70E+02	83.71	4.90E+02	3.64E+01
	11	270.38	267 -	274	1.02E+02	60.89	5.47E+02	4.72E+01
	12	277.94	275 -	281	4.83E+01	49.12	3.99E+02	3.87E+01
M	13	295.54	290 -	304	3.78E+02	52.19	2.75E+02	2.73E+01
m	14	300.37	290 -	304	6.52E+01	43.84	3.30E+02	2.99E+01
	15	323.02	321 -	325	3.19E+01	33.87	2.22E+02	2.62E+01
	16	338.50	335 -	343	1.72E+02	63.06	5.01E+02	4.72E+01
	17	352.08	348 -	356	6.18E+02	69.54	3.62E+02	4.00E+01
	18	361.83	359 -	365	3.75E+01	39.17	2.51E+02	3.06E+01
	19	393.20	389 -	397	4.24E+01	47.69	3.23E+02	3.77E+01
	20	410.17	406 -	414	4.24E+01	50.12	3.61E+02	3.98E+01
	21	463.40	460 -	469	7.33E+01	47.93	2.89E+02	3.68E+01
	22	511.04	508 -	516	2.22E+02	47.24	2.07E+02	3.02E+01
	23	583.45	578 -	588	3.12E+02	59.26	3.01E+02	3.91E+01
	24	609.59	604 -	615	4.20E+02	61.55	2.62E+02	3.77E+01
	25	727.81	724 -	731	4.71E+01	36.22	1.86E+02	2.76E+01
	26	742.74	740 -	747	2.71E+01	30.13	1.36E+02	2.32E+01
	27	755.09	752 -	758	2.58E+01	23.79	8.45E+01	1.77E+01
M	28	765.89	762 -	774	1.80E+01	23.92	8.40E+01	1.51E+01
m	29	771.71	762 -	774	2.77E+01	24.58	8.40E+01	1.51E+01
M	30	782.76	781 -	788	2.05E+01	16.73	5.02E+01	1.16E+01
m	31	786.14	781 -	788	2.56E+01	20.26	6.76E+01	1.35E+01
	32	795.41	791 -	799	4.56E+01	33.41	1.43E+02	2.51E+01
	33	841.66	835 -	850	6.25E+01	45.69	1.83E+02	3.52E+01
	34	860.98	858 -	863	2.11E+01	24.21	9.77E+01	1.84E+01
	35	911.46	906 -	918	1.81E+02	51.15	2.27E+02	3.57E+01
	36	934.20	931 -	938	3.64E+01	28.64	1.13E+02	2.13E+01
M	37	964.95	960 -	974	3.69E+01	23.07	8.79E+01	1.54E+01
m	38	969.16	960 -	974	1.22E+02	32.54	9.64E+01	1.61E+01
	39	988.28	986 -	991	1.50E+01	18.17	5.40E+01	1.35E+01
	40	1033.24	1030 -	1036	1.96E+01	21.09	6.68E+01	1.57E+01
	41	1120.23	1116 -	1124	1.33E+02	33.00	8.68E+01	1.94E+01
	42	1136.04	1134 -	1139	1.57E+01	18.17	5.27E+01	1.34E+01
	43	1239.20	1234 -	1244	4.99E+01	34.99	1.34E+02	2.63E+01
	44	1259.93	1257 -	1264	2.26E+01	21.07	5.67E+01	1.55E+01
	45	1299.15	1292 -	1306	3.05E+01	32.36	9.69E+01	2.50E+01
	46	1378.61	1374 -	1383	5.43E+01	17.97	1.55E+01	8.46E+00
	47	1401.67	1397 -	1405	1.85E+01	15.80	2.70E+01	1.09E+01
	48	1408.56	1405 -	1412	2.70E+01	15.87	2.40E+01	9.86E+00
M	49	1456.14	1455 -	1467	1.04E+01	6.78	9.04E+00	4.94E+00
m	50	1461.18	1455 -	1467	7.57E+02	56.16	2.89E+01	8.84E+00
M	51	1507.42	1506 -	1513	1.11E+01	5.74	4.29E+00	3.40E+00

Analysis Report for 1510092-10
 CP5001S03-04

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
m	52	1509.94	1506 -	1513	1.52E+01	13.01	1.79E+01	6.95E+00
	53	1540.35	1535 -	1545	1.73E+01	13.67	1.35E+01	8.92E+00
	54	1606.60	1601 -	1612	2.24E+01	11.66	5.24E+00	5.60E+00
	55	1622.36	1614 -	1635	2.30E+01	25.85	4.61E+01	1.97E+01
M	56	1726.09	1723 -	1734	1.18E+01	6.96	9.55E-01	1.61E+00
m	57	1730.24	1723 -	1734	2.71E+01	13.13	9.68E+00	5.12E+00
	58	1764.95	1761 -	1767	7.32E+01	17.67	3.67E+00	3.64E+00
	59	1816.78	1814 -	1818	6.00E+00	4.90	0.00E+00	0.00E+00
	60	1925.98	1924 -	1929	5.00E+00	7.07	6.00E+00	4.50E+00
	61	2103.97	2099 -	2108	1.98E+01	10.63	4.50E+00	4.79E+00
	62	2112.78	2110 -	2116	5.80E+00	8.03	8.40E+00	5.28E+00
	63	2182.16	2178 -	2184	8.00E+00	5.66	0.00E+00	0.00E+00
	64	2204.90	2201 -	2209	3.63E+01	13.28	5.44E+00	4.59E+00
	65	2264.02	2259 -	2266	7.85E+00	7.48	4.30E+00	4.08E+00
	66	2323.85	2319 -	2327	8.23E+00	10.99	1.35E+01	7.70E+00
	67	2421.73	2419 -	2423	6.13E+00	6.67	3.75E+00	3.68E+00
	68	2447.99	2444 -	2451	1.00E+01	9.38	8.00E+00	5.70E+00
	69	2614.74	2609 -	2620	1.16E+02	22.63	6.79E+00	5.79E+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 : 11/11/2015 9:24:13AM

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	63.37	60 -	67	63.72	2.20E+02	115.33	2.07E+03	TH-234 TH-230
M	2	74.94	72 -	81	75.28	5.11E+02	96.29	1.32E+03	AM-243
m	3	77.44	72 -	81	77.79	8.50E+02	104.77	1.18E+03	TI-44
	4	88.11	86 -	91	88.45	2.12E+02	97.90	1.75E+03	CD-109 LU-176 SN-126

Analysis Report for 1510092-10

CP5001S03-04

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	5	93.16	91 -	97	93.49	2.79E+02	106.27	1.74E+03	GA-67
	6	128.33	125 -	132	128.65	1.05E+02	84.57	1.13E+03	.....
	7	186.36	183 -	190	186.66	1.92E+02	79.40	9.20E+02	RA-226
	8	208.43	204 -	213	208.72	1.16E+02	88.05	1.04E+03	GA-67
M	9	238.73	233 -	246	239.01	1.03E+03	78.18	4.40E+02	PB-212
m	10	241.90	233 -	246	242.19	2.70E+02	83.71	4.90E+02	RA-224
	11	270.38	267 -	274	270.66	1.02E+02	60.89	5.47E+02	.....
	12	277.94	275 -	281	278.22	4.83E+01	49.12	3.99E+02	CM-243 NP-239
M	13	295.54	290 -	304	295.81	3.78E+02	52.19	2.75E+02	PB-214
m	14	300.37	290 -	304	300.64	6.52E+01	43.84	3.30E+02	GA-67 PB-212 BI-210M
	15	323.02	321 -	325	323.28	3.19E+01	33.87	2.22E+02	RA-223
	16	338.50	335 -	343	338.76	1.72E+02	63.06	5.01E+02	AC-228
	17	352.08	348 -	356	352.33	6.18E+02	69.54	3.62E+02	PB-214
	18	361.83	359 -	365	362.08	3.75E+01	39.17	2.51E+02	.....
	19	393.20	389 -	397	393.44	4.24E+01	47.69	3.23E+02	.....
	20	410.17	406 -	414	410.40	4.24E+01	50.12	3.61E+02	HO-166M
	21	463.40	460 -	469	463.61	7.33E+01	47.93	2.89E+02	SB-125
	22	511.04	508 -	516	511.24	2.22E+02	47.24	2.07E+02	.....
	23	583.45	578 -	588	583.62	3.12E+02	59.26	3.01E+02	TL-208
	24	609.59	604 -	615	609.76	4.20E+02	61.55	2.62E+02	BI-214
	25	727.81	724 -	731	727.93	4.71E+01	36.22	1.86E+02	BI-212
	26	742.74	740 -	747	742.85	2.71E+01	30.13	1.36E+02	.....
	27	755.09	752 -	758	755.20	2.58E+01	23.79	8.45E+01	.....
M	28	765.89	762 -	774	766.00	1.80E+01	23.92	8.40E+01	NB-95
m	29	771.71	762 -	774	771.81	2.77E+01	24.58	8.40E+01	.....
M	30	782.76	781 -	788	782.87	2.05E+01	16.73	5.02E+01	.....
m	31	786.14	781 -	788	786.24	2.56E+01	20.26	6.76E+01	.....
	32	795.41	791 -	799	795.51	4.56E+01	33.41	1.43E+02	CS-134
	33	841.66	835 -	850	841.74	6.25E+01	45.69	1.83E+02	.....
	34	860.98	858 -	863	861.05	2.11E+01	24.21	9.77E+01	TL-208
	35	911.46	906 -	918	911.51	1.81E+02	51.15	2.27E+02	AC-228 LU-172
	36	934.20	931 -	938	934.24	3.64E+01	28.64	1.13E+02	.....
M	37	964.95	960 -	974	964.99	3.69E+01	23.07	8.79E+01	EU-152
m	38	969.16	960 -	974	969.20	1.22E+02	32.54	9.64E+01	AC-228
	39	988.28	986 -	991	988.30	1.50E+01	18.17	5.40E+01	.....
	40	1033.24	1030 -	1036	1033.25	1.96E+01	21.09	6.68E+01	.....
	41	1120.23	1116 -	1124	1120.21	1.33E+02	33.00	8.68E+01	BI-214 SC-46
	42	1136.04	1134 -	1139	1136.01	1.57E+01	18.17	5.27E+01	.....
	43	1239.20	1234 -	1244	1239.13	4.99E+01	34.99	1.34E+02	CO-56
	44	1259.93	1257 -	1264	1259.86	2.26E+01	21.07	5.67E+01	I-135
	45	1299.15	1292 -	1306	1299.07	3.05E+01	32.36	9.69E+01	.....
	46	1378.61	1374 -	1383	1378.50	5.43E+01	17.97	1.55E+01	.....
	47	1401.67	1397 -	1405	1401.55	1.85E+01	15.80	2.70E+01	.....
	48	1408.56	1405 -	1412	1408.44	2.70E+01	15.87	2.40E+01	EU-152
M	49	1456.14	1455 -	1467	1456.00	1.04E+01	6.78	9.04E+00	.....
m	50	1461.18	1455 -	1467	1461.03	7.57E+02	56.16	2.89E+01	K-40
M	51	1507.42	1506 -	1513	1507.26	1.11E+01	5.74	4.29E+00	.....
m	52	1509.94	1506 -	1513	1509.78	1.52E+01	13.01	1.79E+01	.....
	53	1540.35	1535 -	1545	1540.18	1.73E+01	13.67	1.35E+01	.....

Analysis Report for 1510092-10
CP5001S03-04

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	54	1606.60	1601 -	1612	1606.41	2.24E+01	11.66	5.24E+00	.....
	55	1622.36	1614 -	1635	1622.16	2.30E+01	25.85	4.61E+01	.....
M	56	1726.09	1723 -	1734	1725.85	1.18E+01	6.96	9.55E-01	.....
m	57	1730.24	1723 -	1734	1730.00	2.71E+01	13.13	9.68E+00	.....
	58	1764.95	1761 -	1767	1764.70	7.32E+01	17.67	3.67E+00	BI-214
	59	1816.78	1814 -	1818	1816.50	6.00E+00	4.90	0.00E+00	.....
	60	1925.98	1924 -	1929	1925.67	5.00E+00	7.07	6.00E+00	.....
	61	2103.97	2099 -	2108	2103.59	1.98E+01	10.63	4.50E+00	.....
	62	2112.78	2110 -	2116	2112.40	5.80E+00	8.03	8.40E+00	.....
	63	2182.16	2178 -	2184	2181.75	8.00E+00	5.66	0.00E+00	.....
	64	2204.90	2201 -	2209	2204.48	3.63E+01	13.28	5.44E+00	BI-214
	65	2264.02	2259 -	2266	2263.57	7.85E+00	7.48	4.30E+00	.....
	66	2323.85	2319 -	2327	2323.38	8.23E+00	10.99	1.35E+01	.....
	67	2421.73	2419 -	2423	2421.22	6.13E+00	6.67	3.75E+00	.....
	68	2447.99	2444 -	2451	2447.48	1.00E+01	9.38	8.00E+00	.....
	69	2614.74	2609 -	2620	2614.16	1.16E+02	22.63	6.79E+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 : 11/11/2015 9:24:13AM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	63.37	2.20E+02	115.33	2.49E-02	1.91E-03
M	2	74.94	5.11E+02	96.29	2.75E-02	2.30E-03
m	3	77.44	8.50E+02	104.77	2.78E-02	2.38E-03
	4	88.11	2.12E+02	97.90	2.85E-02	2.74E-03
	5	93.16	2.79E+02	106.27	2.86E-02	2.64E-03
	6	128.33	1.05E+02	84.57	2.68E-02	2.08E-03
	7	186.36	1.92E+02	79.40	2.24E-02	2.02E-03
	8	208.43	1.16E+02	88.05	2.09E-02	1.86E-03
M	9	238.73	1.03E+03	78.18	1.92E-02	1.64E-03
m	10	241.90	2.70E+02	83.71	1.91E-02	1.61E-03
	11	270.38	1.02E+02	60.89	1.77E-02	1.40E-03
	12	277.94	4.83E+01	49.12	1.74E-02	1.35E-03
M	13	295.54	3.78E+02	52.19	1.67E-02	1.31E-03
m	14	300.37	6.52E+01	43.84	1.65E-02	1.30E-03

Analysis Report for 1510092-10
CP5001S03-04

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	15	323.02	3.19E+01	33.87	1.57E-02	1.25E-03
	16	338.50	1.72E+02	63.06	1.52E-02	1.22E-03
	17	352.08	6.18E+02	69.54	1.48E-02	1.19E-03
	18	361.83	3.75E+01	39.17	1.45E-02	1.17E-03
	19	393.20	4.24E+01	47.69	1.36E-02	1.11E-03
	20	410.17	4.24E+01	50.12	1.32E-02	1.09E-03
	21	463.40	7.33E+01	47.93	1.21E-02	1.04E-03
	22	511.04	2.22E+02	47.24	1.12E-02	9.90E-04
	23	583.45	3.12E+02	59.26	1.02E-02	9.15E-04
	24	609.59	4.20E+02	61.55	9.82E-03	8.88E-04
	25	727.81	4.71E+01	36.22	8.55E-03	7.75E-04
	26	742.74	2.71E+01	30.13	8.41E-03	7.62E-04
	27	755.09	2.58E+01	23.79	8.30E-03	7.50E-04
M	28	765.89	1.80E+01	23.92	8.21E-03	7.41E-04
m	29	771.71	2.77E+01	24.58	8.16E-03	7.36E-04
M	30	782.76	2.05E+01	16.73	8.07E-03	7.26E-04
m	31	786.14	2.56E+01	20.26	8.04E-03	7.23E-04
	32	795.41	4.56E+01	33.41	7.97E-03	7.14E-04
	33	841.66	6.25E+01	45.69	7.62E-03	6.73E-04
	34	860.98	2.11E+01	24.21	7.48E-03	6.56E-04
	35	911.46	1.81E+02	51.15	7.15E-03	6.15E-04
	36	934.20	3.64E+01	28.64	7.01E-03	6.04E-04
M	37	964.95	3.69E+01	23.07	6.83E-03	5.88E-04
m	38	969.16	1.22E+02	32.54	6.80E-03	5.85E-04
	39	988.28	1.50E+01	18.17	6.70E-03	5.75E-04
	40	1033.24	1.96E+01	21.09	6.47E-03	5.52E-04
	41	1120.23	1.33E+02	33.00	6.07E-03	5.07E-04
	42	1136.04	1.57E+01	18.17	6.00E-03	4.98E-04
	43	1239.20	4.99E+01	34.99	5.61E-03	4.68E-04
	44	1259.93	2.26E+01	21.07	5.54E-03	4.64E-04
	45	1299.15	3.05E+01	32.36	5.41E-03	4.57E-04
	46	1378.61	5.43E+01	17.97	5.18E-03	4.40E-04
	47	1401.67	1.85E+01	15.80	5.12E-03	4.34E-04
	48	1408.56	2.70E+01	15.87	5.10E-03	4.32E-04
M	49	1456.14	1.04E+01	6.78	4.98E-03	4.20E-04
m	50	1461.18	7.57E+02	56.16	4.97E-03	4.19E-04
M	51	1507.42	1.11E+01	5.74	4.86E-03	4.08E-04
m	52	1509.94	1.52E+01	13.01	4.86E-03	4.07E-04
	53	1540.35	1.73E+01	13.67	4.79E-03	3.99E-04
	54	1606.60	2.24E+01	11.66	4.66E-03	3.83E-04
	55	1622.36	2.30E+01	25.85	4.63E-03	3.79E-04
M	56	1726.09	1.18E+01	6.96	4.45E-03	3.53E-04
m	57	1730.24	2.71E+01	13.13	4.45E-03	3.52E-04
	58	1764.95	7.32E+01	17.67	4.40E-03	3.44E-04
	59	1816.78	6.00E+00	4.90	4.32E-03	3.31E-04
	60	1925.98	5.00E+00	7.07	4.19E-03	3.26E-04
	61	2103.97	1.98E+01	10.63	4.02E-03	3.26E-04
	62	2112.78	5.80E+00	8.03	4.01E-03	3.26E-04
	63	2182.16	8.00E+00	5.66	3.96E-03	3.26E-04
	64	2204.90	3.63E+01	13.28	3.95E-03	3.26E-04
	65	2264.02	7.85E+00	7.48	3.91E-03	3.26E-04
	66	2323.85	8.23E+00	10.99	3.88E-03	3.26E-04
	67	2421.73	6.13E+00	6.67	3.84E-03	3.26E-04

Analysis Report for 1510092-10
CP5001S03-04

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
68	2447.99	1.00E+01	9.38	3.83E-03	3.26E-04
69	2614.74	1.16E+02	22.63	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 : 11/11/2015 9:24:13AM

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	63.37	2.20E+02	115.33	7.80E+01	1.33E+01	1.42E+02	1.16E+02
M	2	74.94	5.11E+02	96.29	5.09E+00	4.37E+00	5.06E+02	9.64E+01
m	3	77.44	8.50E+02	104.77	9.75E+00	8.28E+00	8.40E+02	1.05E+02
	4	88.11	2.12E+02	97.90			2.12E+02	9.79E+01
	5	93.16	2.79E+02	106.27	1.34E+02	9.83E+00	1.45E+02	1.07E+02
	6	128.33	1.05E+02	84.57			1.05E+02	8.46E+01
	7	186.36	1.92E+02	79.40	6.41E+01	7.38E+00	1.28E+02	7.97E+01
	8	208.43	1.16E+02	88.05			1.16E+02	8.80E+01
M	9	238.73	1.03E+03	78.18	2.34E+01	6.34E+00	1.00E+03	7.84E+01
m	10	241.90	2.70E+02	83.71			2.70E+02	8.37E+01
	11	270.38	1.02E+02	60.89			1.02E+02	6.09E+01
	12	277.94	4.83E+01	49.12			4.83E+01	4.91E+01
M	13	295.54	3.78E+02	52.19	4.17E+00	5.50E+00	3.74E+02	5.25E+01
m	14	300.37	6.52E+01	43.84			6.52E+01	4.38E+01
	15	323.02	3.19E+01	33.87			3.19E+01	3.39E+01
	16	338.50	1.72E+02	63.06	2.22E-01	4.54E+00	1.71E+02	6.32E+01
	17	352.08	6.18E+02	69.54	8.83E+00	4.91E+00	6.09E+02	6.97E+01
	18	361.83	3.75E+01	39.17	3.31E-01	4.16E+00	3.71E+01	3.94E+01
	19	393.20	4.24E+01	47.69			4.24E+01	4.77E+01
	20	410.17	4.24E+01	50.12			4.24E+01	5.01E+01
	21	463.40	7.33E+01	47.93			7.33E+01	4.79E+01
	22	511.04	2.22E+02	47.24	8.12E+01	5.49E+00	1.40E+02	4.76E+01
	23	583.45	3.12E+02	59.26	6.34E+00	3.74E+00	3.05E+02	5.94E+01
	24	609.59	4.20E+02	61.55	5.20E+00	3.69E+00	4.15E+02	6.17E+01
	25	727.81	4.71E+01	36.22			4.71E+01	3.62E+01
	26	742.74	2.71E+01	30.13			2.71E+01	3.01E+01
	27	755.09	2.58E+01	23.79			2.58E+01	2.38E+01
M	28	765.89	1.80E+01	23.92			1.80E+01	2.39E+01

Analysis Report for 1510092-10

CP5001S03-04

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
m	29	771.71	2.77E+01	24.58			2.77E+01	2.46E+01
M	30	782.76	2.05E+01	16.73			2.05E+01	1.67E+01
m	31	786.14	2.56E+01	20.26			2.56E+01	2.03E+01
	32	795.41	4.56E+01	33.41			4.56E+01	3.34E+01
	33	841.66	6.25E+01	45.69			6.25E+01	4.57E+01
	34	860.98	2.11E+01	24.21			2.11E+01	2.42E+01
	35	911.46	1.81E+02	51.15	3.28E+00	2.53E+00	1.78E+02	5.12E+01
	36	934.20	3.64E+01	28.64			3.64E+01	2.86E+01
M	37	964.95	3.69E+01	23.07			3.69E+01	2.31E+01
m	38	969.16	1.22E+02	32.54			1.22E+02	3.25E+01
	39	988.28	1.50E+01	18.17			1.50E+01	1.82E+01
	40	1033.24	1.96E+01	21.09			1.96E+01	2.11E+01
	41	1120.23	1.33E+02	33.00	2.28E+00	2.55E+00	1.30E+02	3.31E+01
	42	1136.04	1.57E+01	18.17			1.57E+01	1.82E+01
	43	1239.20	4.99E+01	34.99			4.99E+01	3.50E+01
	44	1259.93	2.26E+01	21.07			2.26E+01	2.11E+01
	45	1299.15	3.05E+01	32.36			3.05E+01	3.24E+01
	46	1378.61	5.43E+01	17.97			5.43E+01	1.80E+01
	47	1401.67	1.85E+01	15.80			1.85E+01	1.58E+01
	48	1408.56	2.70E+01	15.87			2.70E+01	1.59E+01
M	49	1456.14	1.04E+01	6.78			1.04E+01	6.78E+00
m	50	1461.18	7.57E+02	56.16	6.46E+00	2.33E+00	7.51E+02	5.62E+01
M	51	1507.42	1.11E+01	5.74			1.11E+01	5.74E+00
m	52	1509.94	1.52E+01	13.01			1.52E+01	1.30E+01
	53	1540.35	1.73E+01	13.67			1.73E+01	1.37E+01
	54	1606.60	2.24E+01	11.66			2.24E+01	1.17E+01
	55	1622.36	2.30E+01	25.85			2.30E+01	2.58E+01
M	56	1726.09	1.18E+01	6.96			1.18E+01	6.96E+00
m	57	1730.24	2.71E+01	13.13			2.71E+01	1.31E+01
	58	1764.95	7.32E+01	17.67			7.32E+01	1.77E+01
	59	1816.78	6.00E+00	4.90			6.00E+00	4.90E+00
	60	1925.98	5.00E+00	7.07			5.00E+00	7.07E+00
	61	2103.97	1.98E+01	10.63			1.98E+01	1.06E+01
	62	2112.78	5.80E+00	8.03			5.80E+00	8.03E+00
	63	2182.16	8.00E+00	5.66			8.00E+00	5.66E+00
	64	2204.90	3.63E+01	13.28			3.63E+01	1.33E+01
	65	2264.02	7.85E+00	7.48			7.85E+00	7.48E+00
	66	2323.85	8.23E+00	10.99			8.23E+00	1.10E+01
	67	2421.73	6.13E+00	6.67			6.13E+00	6.67E+00
	68	2447.99	1.00E+01	9.38			1.00E+01	9.38E+00
	69	2614.74	1.16E+02	22.63	3.47E+00	1.48E+00	1.12E+02	2.27E+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 1510092-10
CP5001S03-04

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/11/2015 9:24:13AM
 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	63.37	2.20E+02	115.33	7.80E+01	1.33E+01	1.42E+02	1.16E+02
M	2	74.94	5.11E+02	96.29	5.09E+00	4.37E+00	5.06E+02	9.64E+01
m	3	77.44	8.50E+02	104.77	9.75E+00	8.28E+00	8.40E+02	1.05E+02
	4	88.11	2.12E+02	97.90			2.12E+02	9.79E+01
	5	93.16	2.79E+02	106.27	1.34E+02	9.83E+00	1.45E+02	1.07E+02
	6	128.33	1.05E+02	84.57			1.05E+02	8.46E+01
	7	186.36	1.92E+02	79.40	6.41E+01	7.38E+00	1.28E+02	7.97E+01
	8	208.43	1.16E+02	88.05			1.16E+02	8.80E+01
M	9	238.73	1.03E+03	78.18	2.34E+01	6.34E+00	1.00E+03	7.84E+01
m	10	241.90	2.70E+02	83.71			2.70E+02	8.37E+01
	11	270.38	1.02E+02	60.89			1.02E+02	6.09E+01
	12	277.94	4.83E+01	49.12			4.83E+01	4.91E+01
M	13	295.54	3.78E+02	52.19	4.17E+00	5.50E+00	3.74E+02	5.25E+01
m	14	300.37	6.52E+01	43.84			6.52E+01	4.38E+01
	15	323.02	3.19E+01	33.87			3.19E+01	3.39E+01
	16	338.50	1.72E+02	63.06	2.22E-01	4.54E+00	1.71E+02	6.32E+01
	17	352.08	6.18E+02	69.54	8.83E+00	4.91E+00	6.09E+02	6.97E+01
	18	361.83	3.75E+01	39.17	3.31E-01	4.16E+00	3.71E+01	3.94E+01
	19	393.20	4.24E+01	47.69			4.24E+01	4.77E+01
	20	410.17	4.24E+01	50.12			4.24E+01	5.01E+01
	21	463.40	7.33E+01	47.93			7.33E+01	4.79E+01
	22	511.04	2.22E+02	47.24	8.12E+01	5.49E+00	1.40E+02	4.76E+01
	23	583.45	3.12E+02	59.26	6.34E+00	3.74E+00	3.05E+02	5.94E+01
	24	609.59	4.20E+02	61.55	5.20E+00	3.69E+00	4.15E+02	6.17E+01
	25	727.81	4.71E+01	36.22			4.71E+01	3.62E+01
	26	742.74	2.71E+01	30.13			2.71E+01	3.01E+01
	27	755.09	2.58E+01	23.79			2.58E+01	2.38E+01
M	28	765.89	1.80E+01	23.92			1.80E+01	2.39E+01
m	29	771.71	2.77E+01	24.58			2.77E+01	2.46E+01
M	30	782.76	2.05E+01	16.73			2.05E+01	1.67E+01
m	31	786.14	2.56E+01	20.26			2.56E+01	2.03E+01
	32	795.41	4.56E+01	33.41			4.56E+01	3.34E+01
	33	841.66	6.25E+01	45.69			6.25E+01	4.57E+01
	34	860.98	2.11E+01	24.21			2.11E+01	2.42E+01
	35	911.46	1.81E+02	51.15	3.28E+00	2.53E+00	1.78E+02	5.12E+01
	36	934.20	3.64E+01	28.64			3.64E+01	2.86E+01
M	37	964.95	3.69E+01	23.07			3.69E+01	2.31E+01
m	38	969.16	1.22E+02	32.54			1.22E+02	3.25E+01
	39	988.28	1.50E+01	18.17			1.50E+01	1.82E+01
	40	1033.24	1.96E+01	21.09			1.96E+01	2.11E+01
	41	1120.23	1.33E+02	33.00	2.28E+00	2.55E+00	1.30E+02	3.31E+01

Analysis Report for 1510092-10
CP5001S03-04

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
42	1136.04	1.57E+01	18.17			1.57E+01	1.82E+01
43	1239.20	4.99E+01	34.99			4.99E+01	3.50E+01
44	1259.93	2.26E+01	21.07			2.26E+01	2.11E+01
45	1299.15	3.05E+01	32.36			3.05E+01	3.24E+01
46	1378.61	5.43E+01	17.97			5.43E+01	1.80E+01
47	1401.67	1.85E+01	15.80			1.85E+01	1.58E+01
48	1408.56	2.70E+01	15.87			2.70E+01	1.59E+01
M	49	1456.14	1.04E+01			1.04E+01	6.78E+00
m	50	1461.18	7.57E+02	6.46E+00	2.33E+00	7.51E+02	5.62E+01
M	51	1507.42	1.11E+01			1.11E+01	5.74E+00
m	52	1509.94	1.52E+01			1.52E+01	1.30E+01
	53	1540.35	1.73E+01			1.73E+01	1.37E+01
	54	1606.60	2.24E+01			2.24E+01	1.17E+01
	55	1622.36	2.30E+01			2.30E+01	2.58E+01
M	56	1726.09	1.18E+01			1.18E+01	6.96E+00
m	57	1730.24	2.71E+01			2.71E+01	1.31E+01
	58	1764.95	7.32E+01			7.32E+01	1.77E+01
	59	1816.78	6.00E+00			6.00E+00	4.90E+00
	60	1925.98	5.00E+00			5.00E+00	7.07E+00
	61	2103.97	1.98E+01			1.98E+01	1.06E+01
	62	2112.78	5.80E+00			5.80E+00	8.03E+00
	63	2182.16	8.00E+00			8.00E+00	5.66E+00
	64	2204.90	3.63E+01			3.63E+01	1.33E+01
	65	2264.02	7.85E+00			7.85E+00	7.48E+00
	66	2323.85	8.23E+00			8.23E+00	1.10E+01
	67	2421.73	6.13E+00			6.13E+00	6.67E+00
	68	2447.99	1.00E+01			1.00E+01	9.38E+00
	69	2614.74	1.16E+02	3.47E+00	1.48E+00	1.12E+02	2.27E+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	0.979	1460.81	* 10.67	2.10E+01	2.41E+00
GA-67	0.602	93.31	* 35.70	2.21E+02	9.86E+02
		208.95	* 2.24	3.84E+03	1.66E+04

Analysis Report for 1510092-10
 CP5001S03-04

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
GA-67	0.602	300.22 *	16.00	3.83E+02	1.71E+03
NB-95	0.994	765.79 *	99.81	6.21E-02	8.28E-02
CD-109	0.999	88.03 *	3.72	3.12E+00	1.48E+00
SN-126	0.954	87.57 *	37.00	2.98E-01	1.41E-01
TL-208	0.989	583.14 *	30.22	1.47E+00	3.16E-01
		860.37 *	4.48	9.36E-01	1.07E+00
		2614.66 *	35.85	1.22E+00	2.69E-01
BI-212	0.714	727.17 *	11.80	6.93E-01	5.36E-01
		1620.62	2.75		
PB-212	0.998	238.63 *	44.60	1.74E+00	2.01E-01
		300.09 *	3.41	1.72E+00	1.16E+00
BI-214	0.982	609.31 *	46.30	1.35E+00	2.35E-01
		1120.29 *	15.10	2.11E+00	5.64E-01
		1764.49 *	15.80	1.56E+00	3.97E-01
		2204.22 *	4.98	2.74E+00	1.03E+00
PB-214	0.992	295.21 *	19.19	1.73E+00	2.79E-01
		351.92 *	37.19	1.65E+00	2.31E-01
RA-223	0.890	323.87 *	3.88	7.77E-01	8.28E-01
RA-224	0.872	240.98 *	3.95	5.31E+00	1.71E+00
RA-226	0.996	186.21 *	3.28	2.58E+00	5.00E+00
AC-228	0.987	338.32 *	11.40	1.47E+00	5.55E-01
		911.07 *	27.70	1.34E+00	4.01E-01
		969.11 *	16.60	1.60E+00	4.49E-01
TH-234	0.999	63.29 *	3.80	2.22E+00	1.82E+00
AM-243	0.989	74.67 *	66.00	4.14E-01	8.61E-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 : 11/11/2015 9:24:13AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m 3	77.44	2.33268E-01	6.26		
6	128.33	2.92390E-02	40.17		
11	270.38	2.82222E-02	29.97		
12	277.94	1.34274E-02	50.81	Tol.	NP-239

Analysis Report for 1510092-10
CP5001S03-04

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
					CM-243
18	361.83	1.03144E-02	53.04		
19	393.20	1.17797E-02	56.22	Sum	
20	410.17	1.17856E-02	59.06	Sum	
21	463.40	2.03479E-02	32.71		
22	511.04	3.89759E-02	16.95		
26	742.74	7.52339E-03	55.63	D-Esc	
27	755.09	7.15686E-03	46.17		
m	29	771.71	7.70680E-03	44.29	
M	30	782.76	5.69696E-03	40.79	
m	31	786.14	7.11218E-03	39.57	
	32	795.41	1.26638E-02	36.64	Sum
	33	841.66	1.73485E-02	36.58	Sum
	36	934.20	1.01165E-02	39.31	
M	37	964.95	1.02401E-02	31.28	Tol. EU-152
	39	988.28	4.16667E-03	60.55	
	40	1033.24	5.44287E-03	53.81	Sum
	42	1136.04	4.35185E-03	57.98	
	43	1239.20	1.38568E-02	35.07	Tol. CO-56
	44	1259.93	6.29085E-03	46.52	Tol. I-135
	45	1299.15	8.47925E-03	53.01	
	46	1378.61	1.50762E-02	16.56	
	47	1401.67	5.13889E-03	42.69	
	48	1408.56	7.50000E-03	29.40	Tol. EU-152
M	49	1456.14	2.90040E-03	32.48	Sum
M	51	1507.42	3.08750E-03	25.84	
m	52	1509.94	4.23355E-03	42.68	
	53	1540.35	4.79167E-03	39.61	
	54	1606.60	6.21667E-03	26.05	
	55	1622.36	6.37681E-03	56.29	
M	56	1726.09	3.27085E-03	29.57	
m	57	1730.24	7.53852E-03	24.20	Sum
	59	1816.78	1.66667E-03	40.82	
	60	1925.98	1.38889E-03	70.71	
	61	2103.97	5.48611E-03	26.91	S-Esc
	62	2112.78	1.61111E-03	69.23	
	63	2182.16	2.22222E-03	35.36	
	65	2264.02	2.18056E-03	47.66	
	66	2323.85	2.28704E-03	66.73	
	67	2421.73	1.70139E-03	54.46	
	68	2447.99	2.77778E-03	46.90	

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 1510092-10
CP5001S03-04

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	2.10E+01	2.41E+00
GA-67	0.60	93.31	*	35.70	2.21E+02	9.86E+02
		208.95	*	2.24	3.84E+03	1.66E+04
		300.22	*	16.00	3.83E+02	1.71E+03
		765.79	*	99.81	6.21E-02	8.28E-02
NB-95	0.99	765.79	*	99.81	6.21E-02	8.28E-02
CD-109	0.99	88.03	*	3.72	3.12E+00	1.48E+00
SN-126	0.95	87.57	*	37.00	2.98E-01	1.41E-01
TL-208	0.98	583.14	*	30.22	1.47E+00	3.16E-01
		860.37	*	4.48	9.36E-01	1.07E+00
		2614.66	*	35.85	1.22E+00	2.69E-01
		727.17	*	11.80	6.93E-01	5.36E-01
BI-212	0.71	727.17	*	11.80	6.93E-01	5.36E-01
PB-212	0.99	1620.62		2.75		
		238.63	*	44.60	1.74E+00	2.01E-01
PB-212	0.99	300.09	*	3.41	1.72E+00	1.16E+00
		609.31	*	46.30	1.35E+00	2.35E-01
BI-214	0.98	1120.29	*	15.10	2.11E+00	5.64E-01
		1764.49	*	15.80	1.56E+00	3.97E-01
		2204.22	*	4.98	2.74E+00	1.03E+00
		295.21	*	19.19	1.73E+00	2.79E-01
PB-214	0.99	351.92	*	37.19	1.65E+00	2.31E-01
		323.87	*	3.88	7.77E-01	8.28E-01
RA-223	0.89	323.87	*	3.88	7.77E-01	8.28E-01
RA-224	0.87	240.98	*	3.95	5.31E+00	1.71E+00
RA-226	0.99	186.21	*	3.28	2.58E+00	5.00E+00
AC-228	0.98	338.32	*	11.40	1.47E+00	5.55E-01
		911.07	*	27.70	1.34E+00	4.01E-01
		969.11	*	16.60	1.60E+00	4.49E-01
TH-234	0.99	63.29	*	3.80	2.22E+00	1.82E+00
AM-243	0.98	74.67	*	66.00	4.14E-01	8.61E-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

Analysis Report for 1510092-10
CP5001S03-04

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	0.979	2.10E+01	2.41E+00	
GA-67	0.602	1.66E+02	7.22E+02	
NB-95	0.994	6.21E-02	8.28E-02	
? CD-109	0.999	3.12E+00	1.48E+00	
? SN-126	0.954	2.98E-01	1.41E-01	
TL-208	0.989	1.31E+00	2.01E-01	
BI-212	0.714	6.93E-01	5.36E-01	
PB-212	0.998	1.72E+00	1.99E-01	
BI-214	0.982	1.53E+00	1.87E-01	
PB-214	0.992	1.68E+00	1.78E-01	
RA-223	0.890	7.77E-01	8.28E-01	
RA-224	0.872	5.31E+00	1.71E+00	
RA-226	0.996	2.58E+00	5.00E+00	
AC-228	0.987	1.46E+00	2.63E-01	
TH-234	0.999	2.22E+00	1.82E+00	
AM-243	0.989	4.14E-01	8.61E-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 1510092-10
CP5001S03-04

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 9:24:13AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m 3	77.44	2.33268E-01	6.26		
6	128.33	2.92390E-02	40.17		
11	270.38	2.82222E-02	29.97		
12	277.94	1.34274E-02	50.81	Tol.	NP-239 CM-243
18	361.83	1.03144E-02	53.04		
19	393.20	1.17797E-02	56.22	Sum	
20	410.17	1.17856E-02	59.06	Sum	
21	463.40	2.03479E-02	32.71		
22	511.04	3.89759E-02	16.95		
26	742.74	7.52339E-03	55.63	D-Esc	
27	755.09	7.15686E-03	46.17		
m 29	771.71	7.70680E-03	44.29		
M 30	782.76	5.69696E-03	40.79		
m 31	786.14	7.11218E-03	39.57		
32	795.41	1.26638E-02	36.64	Sum	
33	841.66	1.73485E-02	36.58	Sum	
36	934.20	1.01165E-02	39.31		
M 37	964.95	1.02401E-02	31.28	Tol.	EU-152
39	988.28	4.16667E-03	60.55		
40	1033.24	5.44287E-03	53.81	Sum	
42	1136.04	4.35185E-03	57.98		
43	1239.20	1.38568E-02	35.07	Tol.	CO-56
44	1259.93	6.29085E-03	46.52	Tol.	I-135
45	1299.15	8.47925E-03	53.01		
46	1378.61	1.50762E-02	16.56		
47	1401.67	5.13889E-03	42.69		
48	1408.56	7.50000E-03	29.40	Tol.	EU-152
M 49	1456.14	2.90040E-03	32.48	Sum	
M 51	1507.42	3.08750E-03	25.84		
m 52	1509.94	4.23355E-03	42.68		
53	1540.35	4.79167E-03	39.61		
54	1606.60	6.21667E-03	26.05		
55	1622.36	6.37681E-03	56.29		
M 56	1726.09	3.27085E-03	29.57		

Analysis Report for 1510092-10
CP5001S03-04

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m 57	1730.24	7.53852E-03	24.20	Sum	
59	1816.78	1.66667E-03	40.82		
60	1925.98	1.38889E-03	70.71		
61	2103.97	5.48611E-03	26.91	S-Esc	
62	2112.78	1.61111E-03	69.23		
63	2182.16	2.22222E-03	35.36		
65	2264.02	2.18056E-03	47.66		
66	2323.85	2.28704E-03	66.73		
67	2421.73	1.70139E-03	54.46		
68	2447.99	2.77778E-03	46.90		

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	5.58E-01	1.00E+00	1.00E+00
+	NA-22	1274.54	99.94	2.78E-02	8.79E-02	8.79E-02
+	NA-24	1368.53	99.99	6.85E+13	2.39E+14	4.02E+14
		2754.09	99.86	-8.37E+13		2.39E+14
+	AL-26	1808.65	99.76	9.22E-03	5.44E-02	5.44E-02
+	K-40	1460.81	* 10.67	2.10E+01	1.03E+00	1.03E+00
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	-2.34E-02	7.39E-02	7.39E-02
		78.34	96.00	3.50E-01		9.88E-02
+	SC-46	889.25	99.98	-8.08E-03	9.58E-02	9.58E-02
		1120.51	99.99	4.36E-01		2.03E-01
+	V-48	983.52	99.98	5.63E-02	3.34E-01	3.34E-01
		1312.10	97.50	3.02E-01		3.72E-01
+	CR-51	320.08	9.83	3.98E-02	1.25E+00	1.25E+00
+	MN-54	834.83	99.97	5.28E-03	8.31E-02	8.31E-02
+	CO-56	846.75	99.96	2.31E-02	9.95E-02	9.95E-02
		1037.75	14.03	3.17E-01		7.93E-01
		1238.25	67.00	1.47E-01		2.41E-01

Analysis Report for 1510092-10
CP5001S03-04

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)	
	CO-56	1771.40	15.51	-4.91E-01	9.95E-02	4.84E-01
		2598.48	16.90	1.86E-01		4.63E-01
+	CO-57	122.06	85.51	-3.37E-03	6.20E-02	6.20E-02
		136.48	10.60	-2.37E-01		5.24E-01
+	CO-58	810.76	99.40	-2.31E-02	9.24E-02	9.24E-02
+	FE-59	1099.22	56.50	-3.84E-02	2.79E-01	2.79E-01
		1291.56	43.20	-1.51E-02		2.87E-01
+	CO-60	1173.22	100.00	4.67E-02	9.28E-02	1.00E-01
		1332.49	100.00	5.33E-02		9.28E-02
+	ZN-65	1115.52	50.75	2.02E-02	2.15E-01	2.15E-01
+	GA-67	93.31	*	35.70	2.21E+02	2.64E+02
		208.95	*	2.24	3.84E+03	4.73E+03
		300.22	*	16.00	3.83E+02	8.15E+02
+	SE-75	121.11	16.70	8.96E-03	1.04E-01	3.56E-01
		136.00	59.20	7.59E-03		1.04E-01
		264.65	59.80	2.18E-02		1.12E-01
		279.53	25.20	-2.33E-02		2.57E-01
		400.65	11.40	3.60E-02		5.75E-01
+	RB-82	776.52	13.00	-4.86E-02	1.30E+00	1.30E+00
+	RB-83	520.41	46.00	9.23E-02	1.89E-01	1.89E-01
		529.64	30.30	2.20E-02		2.78E-01
		552.65	16.40	-1.74E-01		5.31E-01
+	KR-85	513.99	0.43	3.78E+01	2.35E+01	2.35E+01
+	SR-85	513.99	99.27	2.33E-01	1.45E-01	1.45E-01
+	Y-88	898.02	93.40	2.72E-03	6.06E-02	9.67E-02
		1836.01	99.38	-1.93E-02		6.06E-02
+	NB-93M	16.57	9.43	-7.19E+01	7.05E+01	7.05E+01
+	NB-94	702.63	100.00	-2.68E-02	7.19E-02	7.94E-02
		871.10	100.00	2.13E-02		7.19E-02
+	NB-95	765.79	*	99.81	6.21E-02	2.18E-01
+	NB-95M	235.69	25.00	-1.35E+03	1.53E+02	1.53E+02
+	ZR-95	724.18	43.70	6.24E-02	2.03E-01	2.86E-01
		756.72	55.30	2.17E-02		2.03E-01
+	MO-99	181.06	6.20	1.95E+03	2.32E+03	3.31E+03
		739.58	12.80	-7.81E+00		2.32E+03
		778.00	4.50	-2.20E+02		6.06E+03
+	RU-103	497.08	89.00	2.41E-02	1.30E-01	1.30E-01
+	RU-106	621.84	9.80	-1.49E-01	7.24E-01	7.24E-01
+	AG-108M	433.93	89.90	-4.06E-02	6.55E-02	6.55E-02
		614.37	90.40	1.35E-02		7.67E-02
		722.95	90.50	1.06E-02		8.84E-02
+	CD-109	88.03	*	3.72	3.12E+00	2.30E+00
+	AG-110M	657.75	93.14	1.68E-02	7.89E-02	7.89E-02
		677.61	10.53	1.20E-01		7.38E-01
		706.67	16.46	5.45E-02		5.25E-01
		763.93	21.98	-3.99E-01		3.84E-01
		884.67	71.63	-2.32E-02		1.12E-01
		1384.27	23.94	5.35E-02		3.15E-01

Analysis Report for 1510092-10
CP5001S03-04

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	CD-113M	263.70	0.02	-3.16E+01	2.39E+02	2.39E+02
+	SN-113	255.12	1.93	6.14E-01	1.07E-01	3.57E+00
		391.69	64.90	1.33E-03		1.07E-01
+	TE123M	159.00	84.10	3.47E-03	7.41E-02	7.41E-02
+	SB-124	602.71	97.87	-3.78E-03	9.64E-02	9.64E-02
		645.85	7.26	9.04E-01		1.48E+00
		722.78	11.10	1.26E-01		1.05E+00
		1691.02	49.00	4.81E-02		1.84E-01
+	I-125	35.49	6.49	7.45E-01	3.43E+00	3.43E+00
+	SB-125	176.33	6.89	3.67E-01	2.31E-01	7.93E-01
		427.89	29.33	1.67E-01		2.31E-01
		463.38	10.35	9.72E-01		7.85E-01
		600.56	17.80	2.05E-02		3.75E-01
		635.90	11.32	8.80E-02		5.75E-01
+	SB-126	414.70	83.30	8.89E-02	4.24E-01	5.32E-01
		666.33	99.60	2.85E-02		4.24E-01
		695.00	99.60	1.80E-02		4.66E-01
		720.50	53.80	3.98E-02		9.12E-01
+	SN-126	87.57	* 37.00	2.98E-01	2.20E-01	2.20E-01
+	SB-127	473.00	25.00	-2.34E+01	6.72E+01	9.29E+01
		685.20	35.70	-9.34E+00		6.72E+01
		783.80	14.70	1.97E+02		2.13E+02
+	I-129	29.78	57.00	-1.20E-01	5.08E-01	5.08E-01
		33.60	13.20	-6.27E-02		1.44E+00
		39.58	7.52	-1.39E+00		1.47E+00
+	I-131	284.30	6.05	9.17E-01	1.08E+00	1.47E+01
		364.48	81.20	-1.20E-01		1.08E+00
		636.97	7.26	2.35E+00		1.46E+01
		722.89	1.80	8.96E+00		7.45E+01
+	TE-132	49.72	13.10	-1.03E+03	6.88E+01	6.39E+02
		228.16	88.00	-1.79E+00		6.88E+01
+	BA-133	81.00	33.00	-9.44E-02	9.22E-02	1.85E-01
		302.84	17.80	1.20E-02		3.27E-01
		356.01	60.00	1.06E-02		9.22E-02
+	I-133	529.87	86.30	1.36E+09	1.72E+10	1.72E+10
+	XE-133	81.00	38.00	-6.15E+00	1.21E+01	1.21E+01
+	CS-134	563.23	8.38	1.37E-01	7.50E-02	8.92E-01
		569.32	15.43	1.60E-01		4.66E-01
		604.70	97.60	-3.64E-03		7.50E-02
		795.84	85.40	1.27E-01		1.13E-01
		801.93	8.73	-1.10E-01		9.02E-01
+	CS-135	268.24	16.00	3.18E-01	4.04E-01	4.04E-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	9.52E-01	3.81E-01	4.16E+00
		163.89	4.61	-2.02E-01		6.57E+00
		176.55	13.56	1.02E+00		2.21E+00
		273.65	12.66	-3.72E+00		2.43E+00

Analysis Report for 1510092-10
CP5001S03-04

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	CS-136	340.57	48.50	9.75E-01	3.81E-01	8.59E-01
		818.50	99.70	-1.01E-01		3.81E-01
		1048.07	79.60	9.37E-02		6.07E-01
		1235.34	19.70	2.58E-01		3.22E+00
+	CS-137	661.65	85.12	4.42E-03	8.09E-02	8.09E-02
+	LA-138	788.74	34.00	1.28E-02	1.03E-01	2.26E-01
		1435.80	66.00	2.20E-02		1.03E-01
+	CE-139	165.85	80.35	4.71E-03	7.96E-02	7.96E-02
+	BA-140	162.64	6.70	1.75E+00	1.53E+00	4.70E+00
		304.84	4.50	5.37E-01		7.00E+00
		423.70	3.20	2.02E+00		1.17E+01
		437.55	2.00	3.93E-01		1.84E+01
		537.32	25.00	-4.72E-01		1.53E+00
+	LA-140	328.77	20.50	1.04E+00	4.59E-01	1.76E+00
		487.03	45.50	2.44E-01		8.51E-01
		815.85	23.50	4.83E-01		1.75E+00
		1596.49	95.49	1.70E-01		4.59E-01
+	CE-141	145.44	48.40	1.06E-01	2.30E-01	2.30E-01
+	CE-143	57.36	11.80	1.48E+06	3.19E+06	9.41E+06
		293.26	42.00	8.96E+06		3.19E+06
		664.55	5.20	2.18E+06		1.93E+07
+	CE-144	133.54	10.80	7.31E-02	5.12E-01	5.12E-01
+	PM-144	476.78	42.00	-6.76E-02	7.13E-02	1.64E-01
		618.01	98.60	8.24E-03		7.13E-02
		696.49	99.49	1.50E-03		7.99E-02
+	PM-145	36.85	21.70	3.17E-01	3.17E-01	6.25E-01
		37.36	39.70	-3.00E-01		3.17E-01
		42.30	15.10	1.44E-01		6.92E-01
		72.40	2.31	-3.33E+00		3.63E+00
+	PM-146	453.90	39.94	2.87E-02	1.67E-01	1.67E-01
		735.90	14.01	9.60E-02		5.43E-01
		747.13	13.10	1.81E-01		5.95E-01
+	ND-147	91.11	28.90	-6.14E+00	2.02E+00	2.02E+00
		531.02	13.10	2.29E-01		4.00E+00
+	PM-149	285.90	3.10	3.63E+04	5.12E+04	5.12E+04
+	EU-152	121.78	20.50	-1.30E-02	2.39E-01	2.39E-01
		244.69	5.40	-4.97E-01		1.18E+00
		344.27	19.13	2.37E-03		2.86E-01
		778.89	9.20	8.25E-02		7.81E-01
		964.01	10.40	-2.24E+00		8.96E-01
		1085.78	7.22	8.51E-02		1.14E+00
		1112.02	9.60	2.48E-01		9.54E-01
		1407.95	14.94	3.18E-01		6.06E-01
+	GD-153	97.43	31.30	1.16E-01	1.91E-01	1.91E-01
		103.18	22.20	2.26E-01		2.62E-01
+	EU-154	123.07	40.50	-2.42E-02	1.19E-01	1.19E-01
		723.30	19.70	4.92E-02		4.09E-01
		873.19	11.50	1.20E-01		6.59E-01
		996.32	10.30	-4.44E-01		7.00E-01

Analysis Report for 1510092-10
CP5001S03-04

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)	
	EU-154	1004.76	17.90	-4.71E-02	1.19E-01	4.58E-01
		1274.45	35.50	7.70E-02		2.43E-01
+	EU-155	86.50	30.90	5.72E-02	2.41E-01	2.41E-01
		105.30	20.70	8.77E-02		2.60E-01
+	EU-156	811.77	10.40	-5.24E-01	2.74E+00	2.74E+00
		1153.47	7.20	8.47E-01		5.89E+00
		1230.71	8.90	1.66E+00		4.93E+00
+	HO-166M	184.41	72.60	1.11E-01	9.36E-02	9.36E-02
		280.45	29.60	-4.83E-02		1.69E-01
		410.94	11.10	3.89E-01		6.74E-01
		711.69	54.10	-9.08E-02		1.28E-01
+	TM-171	66.72	0.14	1.04E+00	5.27E+01	5.27E+01
+	HF-172	81.75	4.52	-4.64E-01	4.74E-01	1.41E+00
		125.81	11.30	-1.22E-01		4.74E-01
+	LU-172	181.53	20.60	2.29E+00	4.58E+00	7.61E+00
		810.06	16.63	-4.89E+00		1.19E+01
		912.12	15.25	8.63E+01		3.09E+01
		1093.66	62.50	2.50E+00		4.58E+00
+	LU-173	100.72	5.24	-3.45E-01	3.25E-01	1.03E+00
		272.11	21.20	4.01E-01		3.25E-01
+	HF-175	343.40	84.00	7.20E-03	9.12E-02	9.12E-02
+	LU-176	88.34	13.30	5.92E-01	5.79E-02	5.78E-01
		201.83	86.00	1.83E-02		6.60E-02
		306.78	94.00	3.51E-03		5.79E-02
+	TA-182	67.75	41.20	-6.53E-02	2.07E-01	2.07E-01
		1121.30	34.90	1.00E+00		5.32E-01
		1189.05	16.23	4.22E-01		7.39E-01
		1221.41	26.98	9.55E-02		4.47E-01
		1231.02	11.44	3.54E-01		1.05E+00
+	IR-192	308.46	29.68	7.56E-02	1.80E-01	2.50E-01
		468.07	48.10	-3.88E-02		1.80E-01
+	HG-203	279.19	77.30	9.02E-02	1.19E-01	1.19E-01
+	BI-207	569.67	97.72	1.41E-02	6.99E-02	6.99E-02
		1063.62	74.90	1.80E-02		1.11E-01
+	TL-208	583.14	* 30.22	1.47E+00	1.75E-01	3.94E-01
		860.37	* 4.48	9.36E-01		1.75E+00
		2614.66	* 35.85	1.22E+00		1.75E-01
+	BI-210M	262.00	45.00	1.16E-03	1.24E-01	1.24E-01
		300.00	23.00	-7.67E-01		2.70E-01
+	PB-210	46.50	4.25	9.93E-01	2.19E+00	2.19E+00
+	PB-211	404.84	2.90	1.84E-01	1.81E+00	1.81E+00
		831.96	2.90	1.08E+00		2.77E+00
+	BI-212	727.17	* 11.80	6.93E-01	8.50E-01	8.50E-01
		1620.62	2.75	6.47E-03		2.61E+00
+	PB-212	238.63	* 44.60	1.74E+00	2.84E-01	2.84E-01
		300.09	* 3.41	1.72E+00		3.66E+00
+	BI-214	609.31	* 46.30	1.35E+00	2.13E-01	2.57E-01
		1120.29	* 15.10	2.11E+00		6.82E-01

Analysis Report for 1510092-10
CP5001S03-04

Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	BI-214	1764.49	*	15.80	1.56E+00	2.13E-01
		2204.22	*	4.98	2.74E+00	8.96E-01
+	PB-214	295.21	*	19.19	1.73E+00	2.26E-01
		351.92	*	37.19	1.65E+00	2.26E-01
+	RN-219	401.80		6.50	8.07E-02	8.20E-01
+	RA-223	323.87	*	3.88	7.77E-01	1.35E+00
+	RA-224	240.98	*	3.95	5.31E+00	3.23E+00
+	RA-225	40.00		31.00	-1.52E+00	1.61E+00
+	RA-226	186.21	*	3.28	2.58E+00	2.60E+00
+	TH-227	50.10		8.40	-1.51E+00	6.24E-01
		236.00		11.50	-5.50E+00	6.24E-01
		256.20		6.30	-1.47E-02	8.97E-01
+	AC-228	338.32	*	11.40	1.47E+00	5.59E-01
		911.07	*	27.70	1.34E+00	5.59E-01
		969.11	*	16.60	1.60E+00	9.44E-01
+	TH-230	48.44		16.90	3.45E-01	5.23E-01
		62.85		4.60	2.76E+00	1.82E+00
		67.67		0.37	-5.97E+00	1.89E+01
+	PA-231	283.67		1.60	-1.35E+00	2.51E+00
		302.67		2.30	9.24E-02	2.51E+00
+	TH-231	25.64		14.70	-2.26E+00	1.06E+00
		84.21		6.40	8.19E-01	1.06E+00
+	PA-233	311.98		38.60	2.99E-02	3.15E-01
+	PA-234	131.20		20.40	1.20E-02	2.63E-01
		733.99		8.80	3.94E-02	8.59E-01
		946.00		12.00	-5.39E-01	5.17E-01
+	PA-234M	1001.03		0.92	4.21E-01	9.12E+00
+	TH-234	63.29	*	3.80	2.22E+00	2.97E+00
+	U-235	143.76		10.50	3.05E-01	5.40E-01
		163.35		4.70	-3.53E-02	1.15E+00
		205.31		4.70	-1.19E+00	1.22E+00
+	NP-237	86.50		12.60	1.38E-01	5.84E-01
+	NP-239	106.10		22.70	1.20E+03	3.55E+03
		228.18		10.70	-2.13E+02	8.16E+03
		277.60		14.10	4.24E+03	6.09E+03
+	AM-241	59.54		35.90	1.00E-02	2.17E-01
+	AM-243	74.67	*	66.00	4.14E-01	1.68E-01
+	CM-243	209.75		3.29	2.61E+00	4.06E-01
		228.14		10.60	-1.42E-02	5.45E-01
		277.60		14.00	2.82E-01	4.06E-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 1510092-10
CP5001S03-04

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	1.00E+00	1.00E+00	5.58E-01	4.76E-01
NA-22	1274.54	99.94	8.79E-02	8.79E-02	2.78E-02	4.02E-02
NA-24	1368.53	99.99	4.02E+14	2.39E+14	6.85E+13	1.79E+14
	2754.09	99.86	2.39E+14		-8.37E+13	8.93E+13
AL-26	1808.65	99.76	5.44E-02	5.44E-02	9.22E-03	2.26E-02
+ K-40	1460.81	* 10.67	1.03E+00	1.03E+00	2.10E+01	4.75E-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	7.39E-02	7.39E-02	-2.34E-02	3.62E-02
	78.34	96.00	9.88E-02		3.50E-01	4.86E-02
SC-46	889.25	99.98	9.58E-02	9.58E-02	-8.08E-03	4.43E-02
	1120.51	99.99	2.03E-01		4.36E-01	9.72E-02
V-48	983.52	99.98	3.34E-01	3.34E-01	5.63E-02	1.54E-01
	1312.10	97.50	3.72E-01		3.02E-01	1.70E-01
CR-51	320.08	9.83	1.25E+00	1.25E+00	3.98E-02	5.96E-01
MN-54	834.83	99.97	8.31E-02	8.31E-02	5.28E-03	3.87E-02
CO-56	846.75	99.96	9.95E-02	9.95E-02	2.31E-02	4.62E-02
	1037.75	14.03	7.93E-01		3.17E-01	3.67E-01
	1238.25	67.00	2.41E-01		1.47E-01	1.13E-01
	1771.40	15.51	4.84E-01		-4.91E-01	2.03E-01
	2598.48	16.90	4.63E-01		1.86E-01	1.90E-01
CO-57	122.06	85.51	6.20E-02	6.20E-02	-3.37E-03	3.00E-02
	136.48	10.60	5.24E-01		-2.37E-01	2.54E-01
CO-58	810.76	99.40	9.24E-02	9.24E-02	-2.31E-02	4.26E-02
FE-59	1099.22	56.50	2.79E-01	2.79E-01	-3.84E-02	1.30E-01
	1291.56	43.20	2.87E-01		-1.51E-02	1.29E-01
CO-60	1173.22	100.00	1.00E-01	9.28E-02	4.67E-02	4.66E-02
	1332.49	100.00	9.28E-02		5.33E-02	4.26E-02
ZN-65	1115.52	50.75	2.15E-01	2.15E-01	2.02E-02	1.00E-01
+ GA-67	93.31	* 35.70	2.64E+02	2.64E+02	2.21E+02	1.30E+02
	208.95	* 2.24	4.73E+03		3.84E+03	2.32E+03
	300.22	* 16.00	8.15E+02		3.83E+02	4.00E+02
SE-75	121.11	16.70	3.56E-01	1.04E-01	8.96E-03	1.73E-01
	136.00	59.20	1.04E-01		7.59E-03	5.07E-02
	264.65	59.80	1.12E-01		2.18E-02	5.39E-02
	279.53	25.20	2.57E-01		-2.33E-02	1.23E-01
	400.65	11.40	5.75E-01		3.60E-02	2.72E-01
RB-82	776.52	13.00	1.30E+00	1.30E+00	-4.86E-02	6.04E-01

Analysis Report for 1510092-10
CP5001S03-04

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	1.89E-01	1.89E-01	9.23E-02	8.93E-02
	529.64	30.30	2.78E-01		2.20E-02	1.31E-01
	552.65	16.40	5.31E-01		-1.74E-01	2.50E-01
KR-85	513.99	0.43	2.35E+01	2.35E+01	3.78E+01	1.13E+01
SR-85	513.99	99.27	1.45E-01	1.45E-01	2.33E-01	6.98E-02
Y-88	898.02	93.40	9.67E-02	6.06E-02	2.72E-03	4.47E-02
	1836.01	99.38	6.06E-02		-1.93E-02	2.45E-02
NB-93M	16.57	9.43	7.05E+01	7.05E+01	-7.19E+01	3.26E+01
NB-94	702.63	100.00	7.94E-02	7.19E-02	-2.68E-02	3.74E-02
	871.10	100.00	7.19E-02		2.13E-02	3.32E-02
+ NB-95	765.79	* 99.81	2.18E-01	2.18E-01	6.21E-02	1.04E-01
NB-95M	235.69	25.00	1.53E+02	1.53E+02	-1.35E+03	7.43E+01
ZR-95	724.18	43.70	2.86E-01	2.03E-01	6.24E-02	1.36E-01
	756.72	55.30	2.03E-01		2.17E-02	9.53E-02
MO-99	181.06	6.20	3.31E+03	2.32E+03	1.95E+03	1.60E+03
	739.58	12.80	2.32E+03		-7.81E+00	1.09E+03
	778.00	4.50	6.06E+03		-2.20E+02	2.82E+03
RU-103	497.08	89.00	1.30E-01	1.30E-01	2.41E-02	6.16E-02
RU-106	621.84	9.80	7.24E-01	7.24E-01	-1.49E-01	3.40E-01
AG-108M	433.93	89.90	6.55E-02	6.55E-02	-4.06E-02	3.10E-02
	614.37	90.40	7.67E-02		1.35E-02	3.61E-02
	722.95	90.50	8.84E-02		1.06E-02	4.16E-02
+ CD-109	88.03	* 3.72	2.30E+00	2.30E+00	3.12E+00	1.13E+00
AG-110M	657.75	93.14	7.89E-02	7.89E-02	1.68E-02	3.69E-02
	677.61	10.53	7.38E-01		1.20E-01	3.46E-01
	706.67	16.46	5.25E-01		5.45E-02	2.47E-01
	763.93	21.98	3.84E-01		-3.99E-01	1.80E-01
	884.67	71.63	1.12E-01		-2.32E-02	5.20E-02
	1384.27	23.94	3.15E-01		5.35E-02	1.40E-01
CD-113M	263.70	0.02	2.39E+02	2.39E+02	-3.16E+01	1.15E+02
SN-113	255.12	1.93	3.57E+00	1.07E-01	6.14E-01	1.71E+00
	391.69	64.90	1.07E-01		1.33E-03	5.07E-02
TE123M	159.00	84.10	7.41E-02	7.41E-02	3.47E-03	3.59E-02
SB-124	602.71	97.87	9.64E-02	9.64E-02	-3.78E-03	4.52E-02
	645.85	7.26	1.48E+00		9.04E-01	6.99E-01
	722.78	11.10	1.05E+00		1.26E-01	4.94E-01
	1691.02	49.00	1.84E-01		4.81E-02	7.88E-02
	I-125	35.49	6.49	3.43E+00	3.43E+00	7.45E-01	1.66E+00
SB-125	176.33	6.89	7.93E-01	2.31E-01	3.67E-01	3.84E-01
	427.89	29.33	2.31E-01		1.67E-01	1.10E-01
	463.38	10.35	7.85E-01		9.72E-01	3.76E-01
	600.56	17.80	3.75E-01		2.05E-02	1.76E-01
	635.90	11.32	5.75E-01		8.80E-02	2.68E-01
SB-126	414.70	83.30	5.32E-01	4.24E-01	8.89E-02	2.55E-01
	666.33	99.60	4.24E-01		2.85E-02	1.98E-01
	695.00	99.60	4.66E-01		1.80E-02	2.19E-01
	720.50	53.80	9.12E-01		3.98E-02	4.29E-01
+ SN-126	87.57	* 37.00	2.20E-01	2.20E-01	2.98E-01	1.08E-01
SB-127	473.00	25.00	9.29E+01	6.72E+01	-2.34E+01	4.40E+01
	685.20	35.70	6.72E+01		-9.34E+00	3.13E+01
	783.80	14.70	2.13E+02		1.97E+02	1.00E+02
I-129	29.78	57.00	5.08E-01	5.08E-01	-1.20E-01	2.46E-01
	33.60	13.20	1.44E+00		-6.27E-02	6.97E-01

Analysis Report for 1510092-10
CP5001S03-04

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	1.47E+00	5.08E-01	-1.39E+00	7.14E-01
I-131	284.30	6.05	1.47E+01	1.08E+00	9.17E-01	7.04E+00
	364.48	81.20	1.08E+00		-1.20E-01	5.12E-01
	636.97	7.26	1.46E+01		2.35E+00	6.82E+00
	722.89	1.80	7.45E+01		8.96E+00	3.51E+01
TE-132	49.72	13.10	6.39E+02	6.88E+01	-1.03E+03	3.11E+02
	228.16	88.00	6.88E+01		-1.79E+00	3.32E+01
BA-133	81.00	33.00	1.85E-01	9.22E-02	-9.44E-02	9.05E-02
	302.84	17.80	3.27E-01		1.20E-02	1.56E-01
	356.01	60.00	9.22E-02		1.06E-02	4.38E-02
I-133	529.87	86.30	1.72E+10	1.72E+10	1.36E+09	8.11E+09
XE-133	81.00	38.00	1.21E+01	1.21E+01	-6.15E+00	5.89E+00
CS-134	563.23	8.38	8.92E-01	7.50E-02	1.37E-01	4.22E-01
	569.32	15.43	4.66E-01		1.60E-01	2.20E-01
	604.70	97.60	7.50E-02		-3.64E-03	3.53E-02
	795.84	85.40	1.13E-01		1.27E-01	5.33E-02
	801.93	8.73	9.02E-01		-1.10E-01	4.21E-01
CS-135	268.24	16.00	4.04E-01	4.04E-01	3.18E-01	1.95E-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	4.16E+00	3.81E-01	9.52E-01	2.02E+00
	163.89	4.61	6.57E+00		-2.02E-01	3.18E+00
	176.55	13.56	2.21E+00		1.02E+00	1.07E+00
	273.65	12.66	2.43E+00		-3.72E+00	1.16E+00
	340.57	48.50	8.59E-01		9.75E-01	4.14E-01
	818.50	99.70	3.81E-01		-1.01E-01	1.76E-01
	1048.07	79.60	6.07E-01		9.37E-02	2.81E-01
	1235.34	19.70	3.22E+00		2.58E-01	1.51E+00
CS-137	661.65	85.12	8.09E-02	8.09E-02	4.42E-03	3.79E-02
LA-138	788.74	34.00	2.26E-01	1.03E-01	1.28E-02	1.06E-01
	1435.80	66.00	1.03E-01		2.20E-02	4.53E-02
CE-139	165.85	80.35	7.96E-02	7.96E-02	4.71E-03	3.86E-02
BA-140	162.64	6.70	4.70E+00	1.53E+00	1.75E+00	2.28E+00
	304.84	4.50	7.00E+00		5.37E-01	3.34E+00
	423.70	3.20	1.17E+01		2.02E+00	5.58E+00
	437.55	2.00	1.84E+01		3.93E-01	8.74E+00
	537.32	25.00	1.53E+00		-4.72E-01	7.24E-01
LA-140	328.77	20.50	1.76E+00	4.59E-01	1.04E+00	8.41E-01
	487.03	45.50	8.51E-01		2.44E-01	4.03E-01
	815.85	23.50	1.75E+00		4.83E-01	8.13E-01
	1596.49	95.49	4.59E-01		1.70E-01	2.03E-01
CE-141	145.44	48.40	2.30E-01	2.30E-01	1.06E-01	1.12E-01
CE-143	57.36	11.80	9.41E+06	3.19E+06	1.48E+06	4.59E+06
	293.26	42.00	3.19E+06		8.96E+06	1.55E+06
	664.55	5.20	1.93E+07		2.18E+06	9.04E+06
CE-144	133.54	10.80	5.12E-01	5.12E-01	7.31E-02	2.48E-01
PM-144	476.78	42.00	1.64E-01	7.13E-02	-6.76E-02	7.78E-02
	618.01	98.60	7.13E-02		8.24E-03	3.34E-02
	696.49	99.49	7.99E-02		1.50E-03	3.75E-02
PM-145	36.85	21.70	6.25E-01	3.17E-01	3.17E-01	3.03E-01
	37.36	39.70	3.17E-01		-3.00E-01	1.54E-01
	42.30	15.10	6.92E-01		1.44E-01	3.36E-01

Analysis Report for 1510092-10
CP5001S03-04

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	3.63E+00	3.17E-01	-3.33E+00	1.78E+00
PM-146	453.90	39.94	1.67E-01	1.67E-01	2.87E-02	7.95E-02
	735.90	14.01	5.43E-01		9.60E-02	2.54E-01
	747.13	13.10	5.95E-01		1.81E-01	2.79E-01
ND-147	91.11	28.90	2.02E+00	2.02E+00	-6.14E+00	9.91E-01
	531.02	13.10	4.00E+00		2.29E-01	1.89E+00
PM-149	285.90	3.10	5.12E+04	5.12E+04	3.63E+04	2.45E+04
EU-152	121.78	20.50	2.39E-01	2.39E-01	-1.30E-02	1.16E-01
	244.69	5.40	1.18E+00		-4.97E-01	5.71E-01
	344.27	19.13	2.86E-01		2.37E-03	1.36E-01
	778.89	9.20	7.81E-01		8.25E-02	3.63E-01
	964.01	10.40	8.96E-01		-2.24E+00	4.20E-01
	1085.78	7.22	1.14E+00		8.51E-02	5.24E-01
	1112.02	9.60	9.54E-01		2.48E-01	4.43E-01
	1407.95	14.94	6.06E-01		3.18E-01	2.77E-01
GD-153	97.43	31.30	1.91E-01	1.91E-01	1.16E-01	9.29E-02
	103.18	22.20	2.62E-01		2.26E-01	1.27E-01
EU-154	123.07	40.50	1.19E-01	1.19E-01	-2.42E-02	5.79E-02
	723.30	19.70	4.09E-01		4.92E-02	1.93E-01
	873.19	11.50	6.59E-01		1.20E-01	3.06E-01
	996.32	10.30	7.00E-01		-4.44E-01	3.21E-01
	1004.76	17.90	4.58E-01		-4.71E-02	2.12E-01
	1274.45	35.50	2.43E-01		7.70E-02	1.11E-01
EU-155	86.50	30.90	2.41E-01	2.41E-01	5.72E-02	1.18E-01
	105.30	20.70	2.60E-01		8.77E-02	1.26E-01
EU-156	811.77	10.40	2.74E+00	2.74E+00	-5.24E-01	1.26E+00
	1153.47	7.20	5.89E+00		8.47E-01	2.74E+00
	1230.71	8.90	4.93E+00		1.66E+00	2.29E+00
HO-166M	184.41	72.60	9.36E-02	9.36E-02	1.11E-01	4.56E-02
	280.45	29.60	1.69E-01		-4.83E-02	8.07E-02
	410.94	11.10	6.74E-01		3.89E-01	3.23E-01
	711.69	54.10	1.28E-01		-9.08E-02	5.95E-02
TM-171	66.72	0.14	5.27E+01	5.27E+01	1.04E+00	2.58E+01
HF-172	81.75	4.52	1.41E+00	4.74E-01	-4.64E-01	6.89E-01
	125.81	11.30	4.74E-01		-1.22E-01	2.30E-01
LU-172	181.53	20.60	7.61E+00	4.58E+00	2.29E+00	3.68E+00
	810.06	16.63	1.19E+01		-4.89E+00	5.51E+00
	912.12	15.25	3.09E+01		8.63E+01	1.49E+01
	1093.66	62.50	4.58E+00		2.50E+00	2.14E+00
LU-173	100.72	5.24	1.03E+00	3.25E-01	-3.45E-01	5.00E-01
	272.11	21.20	3.25E-01		4.01E-01	1.57E-01
HF-175	343.40	84.00	9.12E-02	9.12E-02	7.20E-03	4.34E-02
LU-176	88.34	13.30	5.78E-01	5.79E-02	5.92E-01	2.84E-01
	201.83	86.00	6.60E-02		1.83E-02	3.19E-02
	306.78	94.00	5.79E-02		3.51E-03	2.77E-02
TA-182	67.75	41.20	2.07E-01	2.07E-01	-6.53E-02	1.01E-01
	1121.30	34.90	5.32E-01		1.00E+00	2.55E-01
	1189.05	16.23	7.39E-01		4.22E-01	3.44E-01
	1221.41	26.98	4.47E-01		9.55E-02	2.07E-01
	1231.02	11.44	1.05E+00		3.54E-01	4.88E-01
IR-192	308.46	29.68	2.50E-01	1.80E-01	7.56E-02	1.19E-01
	468.07	48.10	1.80E-01		-3.88E-02	8.51E-02
HG-203	279.19	77.30	1.19E-01	1.19E-01	9.02E-02	5.70E-02

Analysis Report for 1510092-10
CP5001S03-04

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	6.99E-02	6.99E-02	1.41E-02	3.30E-02
	1063.62	74.90	1.11E-01		1.80E-02	5.11E-02
+ TL-208	583.14 *	30.22	3.94E-01	1.75E-01	1.47E+00	1.91E-01
	860.37 *	4.48	1.75E+00		9.36E-01	8.15E-01
	2614.66 *	35.85	1.75E-01		1.22E+00	7.26E-02
BI-210M	262.00	45.00	1.24E-01	1.24E-01	1.16E-03	5.95E-02
	300.00	23.00	2.70E-01		-7.67E-01	1.30E-01
PB-210	46.50	4.25	2.19E+00	2.19E+00	9.93E-01	1.07E+00
PB-211	404.84	2.90	1.81E+00	1.81E+00	1.84E-01	8.54E-01
	831.96	2.90	2.77E+00		1.08E+00	1.29E+00
+ BI-212	727.17 *	11.80	8.50E-01	8.50E-01	6.93E-01	4.05E-01
	1620.62	2.75	2.61E+00		6.47E-03	1.15E+00
+ PB-212	238.63 *	44.60	2.84E-01	2.84E-01	1.74E+00	1.40E-01
	300.09 *	3.41	3.66E+00		1.72E+00	1.79E+00
+ BI-214	609.31 *	46.30	2.57E-01	2.13E-01	1.35E+00	1.24E-01
	1120.29 *	15.10	6.82E-01		2.11E+00	3.19E-01
	1764.49 *	15.80	2.13E-01		1.56E+00	7.77E-02
	2204.22 *	4.98	8.96E-01		2.74E+00	3.46E-01
+ PB-214	295.21 *	19.19	6.41E-01	2.26E-01	1.73E+00	3.14E-01
	351.92 *	37.19	2.26E-01		1.65E+00	1.09E-01
RN-219	401.80	6.50	8.20E-01	8.20E-01	8.07E-02	3.87E-01
+ RA-223	323.87 *	3.88	1.35E+00	1.35E+00	7.77E-01	6.40E-01
+ RA-224	240.98 *	3.95	3.23E+00	3.23E+00	5.31E+00	1.59E+00
RA-225	40.00	31.00	1.61E+00	1.61E+00	-1.52E+00	7.80E-01
+ RA-226	186.21 *	3.28	2.60E+00	2.60E+00	2.58E+00	1.27E+00
TH-227	50.10	8.40	9.38E-01	6.24E-01	-1.51E+00	4.56E-01
	236.00	11.50	6.24E-01		-5.50E+00	3.03E-01
	256.20	6.30	8.97E-01		-1.47E-02	4.31E-01
+ AC-228	338.32 *	11.40	8.35E-01	5.59E-01	1.47E+00	4.06E-01
	911.07 *	27.70	5.59E-01		1.34E+00	2.69E-01
	969.11 *	16.60	9.44E-01		1.60E+00	4.54E-01
TH-230	48.44	16.90	5.23E-01	5.23E-01	3.45E-01	2.55E-01
	62.85	4.60	1.82E+00		2.76E+00	8.91E-01
	67.67	0.37	1.89E+01		-5.97E+00	9.23E+00
PA-231	283.67	1.60	3.23E+00	2.51E+00	-1.35E+00	1.54E+00
	302.67	2.30	2.51E+00		9.24E-02	1.20E+00
TH-231	25.64	14.70	4.23E+00	1.06E+00	-2.26E+00	2.05E+00
	84.21	6.40	1.06E+00		8.19E-01	5.18E-01
PA-233	311.98	38.60	3.15E-01	3.15E-01	2.99E-02	1.50E-01
PA-234	131.20	20.40	2.63E-01	2.63E-01	1.20E-02	1.28E-01
	733.99	8.80	8.59E-01		3.94E-02	4.02E-01
	946.00	12.00	5.17E-01		-5.39E-01	2.34E-01
PA-234M	1001.03	0.92	9.12E+00	9.12E+00	4.21E-01	4.23E+00
+ TH-234	63.29 *	3.80	2.97E+00	2.97E+00	2.22E+00	1.46E+00
U-235	143.76	10.50	5.40E-01	5.40E-01	3.05E-01	2.62E-01
	163.35	4.70	1.15E+00		-3.53E-02	5.56E-01
	205.31	4.70	1.22E+00		-1.19E+00	5.92E-01
NP-237	86.50	12.60	5.84E-01	5.84E-01	1.38E-01	2.86E-01
NP-239	106.10	22.70	3.55E+03	3.55E+03	1.20E+03	1.73E+03
	228.18	10.70	8.16E+03		-2.13E+02	3.94E+03
	277.60	14.10	6.09E+03		4.24E+03	2.92E+03
AM-241	59.54	35.90	2.17E-01	2.17E-01	1.00E-02	1.06E-01
+ AM-243	74.67 *	66.00	1.68E-01	1.68E-01	4.14E-01	8.27E-02

Analysis Report for 1510092-10
 CP5001S03-04

<i>Nuclide Name</i>	<i>Energy (keV)</i>	<i>Yield(%)</i>	<i>Line MDA (pCi/grams)</i>	<i>Nuclide MDA (pCi/grams)</i>	<i>Activity (pCi/grams)</i>	<i>Dec. Level (pCi/grams)</i>
CM-243	209.75	3.29	1.98E+00	4.06E-01	2.61E+00	9.62E-01
	228.14	10.60	5.45E-01		-1.42E-02	2.63E-01
	277.60	14.00	4.06E-01		2.82E-01	1.95E-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

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: CP5001S03-04

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	52	89	85	79	102	86
25:	79	72	65	57	70	56	74	76
33:	75	64	77	74	74	53	58	55
41:	80	90	92	80	70	93	143	102
49:	78	93	91	84	109	113	92	104
57:	116	126	134	131	148	141	160	259
65:	159	131	124	129	145	140	165	129
73:	151	157	438	336	458	600	134	130
81:	100	104	118	155	162	116	192	278
89:	138	182	183	120	281	259	115	96
97:	97	84	107	95	62	89	72	96
105:	99	91	79	82	89	85	83	81
113:	87	87	91	82	76	77	76	79
121:	53	77	72	67	67	83	82	88
129:	90	120	70	68	78	67	71	74
137:	70	73	64	86	67	78	81	88
145:	89	81	76	61	64	71	76	72
153:	80	80	70	72	67	70	59	62
161:	53	55	78	78	64	57	76	55
169:	57	60	61	50	70	57	63	67
177:	56	51	62	49	66	71	49	51
185:	61	157	148	66	67	53	58	59
193:	69	56	50	77	53	47	56	72
201:	60	56	48	52	57	65	55	61
209:	92	98	59	54	45	63	40	56
217:	69	50	49	45	41	45	40	51
225:	52	55	56	33	53	57	51	51
233:	47	43	54	56	57	172	698	231
241:	95	167	117	48	40	37	41	37
249:	36	38	38	34	41	42	41	45
257:	41	40	44	46	38	30	42	41
265:	36	39	35	40	36	80	68	48
273:	35	33	31	32	42	49	32	33
281:	29	23	26	40	27	34	32	44
289:	25	30	36	27	36	38	133	247
297:	55	34	28	53	56	33	29	26
305:	29	32	30	22	37	30	31	22
313:	25	28	26	22	27	21	34	28
321:	25	32	30	38	18	21	21	55
329:	46	29	22	26	37	30	32	26
337:	35	82	129	36	27	31	24	27
345:	22	28	26	19	30	29	62	343
353:	235	43	23	15	21	21	16	19
361:	33	29	25	23	18	17	24	25

369: 24 24 20 32 25 25 17 25

Sample Title: CP5001S03-04

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	14	22	30	20	26	22	20	24
385:	24	22	25	18	19	16	25	24
393:	33	17	28	24	18	17	22	23
401:	19	19	17	18	23	12	22	16
409:	26	37	37	22	27	24	21	29
417:	22	23	13	24	19	21	20	16
425:	14	15	24	19	13	30	23	11
433:	9	16	18	11	17	15	21	26
441:	10	24	16	23	13	21	21	16
449:	20	16	25	13	18	19	15	20
457:	15	16	15	10	15	18	45	44
465:	21	17	18	15	15	17	7	23
473:	13	12	20	19	18	22	10	10
481:	25	14	14	16	8	17	12	17
489:	27	14	13	14	15	14	11	12
497:	21	21	11	15	13	13	16	23
505:	18	14	14	9	24	53	102	64
513:	28	21	13	11	12	14	12	15
521:	17	10	16	19	14	8	8	16
529:	13	16	11	11	19	13	16	20
537:	9	11	15	17	5	11	19	10
545:	12	13	19	16	13	14	15	14
553:	10	17	11	13	16	17	17	18
561:	15	13	23	14	12	13	14	11
569:	19	10	15	16	8	13	10	14
577:	17	15	16	13	21	25	137	163
585:	30	17	16	9	14	12	13	18
593:	10	11	12	13	7	11	12	15
601:	8	8	12	12	10	11	11	28
609:	157	230	46	15	9	17	5	15
617:	10	14	12	8	12	10	12	10
625:	13	11	14	13	10	8	11	10
633:	7	11	6	5	15	11	12	6
641:	8	9	15	12	9	17	11	9
649:	17	6	12	15	5	7	15	8
657:	10	4	10	12	12	14	8	5
665:	13	14	11	10	10	7	7	13
673:	10	14	12	11	17	13	4	8
681:	11	9	8	16	7	7	8	10
689:	12	9	12	10	14	9	8	16
697:	9	15	15	9	15	7	20	12
705:	13	15	12	19	8	10	9	13
713:	5	9	12	15	9	16	6	9
721:	18	11	14	12	12	12	28	37
729:	15	15	9	12	10	10	12	13
737:	10	13	7	6	12	16	17	13
745:	14	8	9	11	8	14	8	3
753:	7	17	11	10	12	8	5	16
761:	7	7	11	13	8	16	12	20
769:	26	11	10	21	15	5	9	10
777:	7	14	10	3	9	8	17	10
785:	12	20	15	5	9	8	10	3
793:	9	14	29	23	11	12	6	8

801: 6 15 16 7 9 16 9 10

Sample Title: CP5001S03-04

Channel	-----	-----	-----	-----	-----	-----	-----
809:	4	8	2	10	7	8	4
817:	7	13	9	8	5	4	7
825:	2	9	11	8	12	11	9
833:	13	6	6	8	12	10	15
841:	9	9	11	10	8	7	8
849:	10	5	6	4	9	3	4
857:	15	7	8	16	20	15	8
865:	11	6	4	4	4	10	12
873:	5	10	8	5	6	12	12
881:	5	7	12	9	8	7	2
889:	8	9	8	10	8	6	6
897:	6	9	11	8	4	7	10
905:	9	3	8	4	5	30	85
913:	29	10	8	5	6	14	12
921:	6	12	5	5	6	7	14
929:	6	6	7	9	11	24	6
937:	10	7	8	8	5	11	2
945:	6	7	7	2	3	9	5
953:	10	12	8	8	10	10	3
961:	4	4	8	13	26	12	30
969:	60	44	16	10	12	5	8
977:	6	7	6	9	14	11	6
985:	3	6	7	8	12	6	6
993:	5	6	5	6	6	4	12
1001:	12	9	7	4	9	9	6
1009:	6	4	8	5	5	5	13
1017:	1	12	7	8	7	10	11
1025:	6	9	10	7	7	2	8
1033:	12	9	11	3	7	6	7
1041:	9	4	2	8	6	5	14
1049:	9	8	3	11	6	10	8
1057:	6	4	7	10	9	5	7
1065:	10	6	6	8	1	15	7
1073:	8	4	8	6	6	4	4
1081:	5	8	9	7	3	9	12
1089:	4	6	6	6	9	11	8
1097:	13	10	5	7	13	6	8
1105:	9	4	7	8	8	10	9
1113:	9	10	4	3	9	15	52
1121:	51	14	12	3	9	5	7
1129:	8	4	9	8	7	3	8
1137:	10	5	4	4	5	7	7
1145:	7	9	8	9	7	4	10
1153:	9	6	11	12	10	4	11
1161:	10	7	10	6	7	10	4
1169:	6	9	11	5	4	13	9
1177:	7	7	7	5	10	6	7
1185:	3	10	9	7	7	13	7
1193:	8	3	11	11	7	9	3
1201:	7	5	3	8	7	14	5
1209:	10	4	2	8	10	9	11
1217:	5	5	7	7	8	9	11
1225:	9	3	5	4	7	12	12

1233: 7 8 7 6 9 26 21 8

Sample Title: CP5001S03-04

Channel	1	2	3	4	5	6	7	8
1241:	9	11	7	5	5	2	6	11
1249:	8	7	5	6	11	8	8	5
1257:	4	10	7	10	11	5	3	1
1265:	5	3	9	5	7	4	4	8
1273:	4	6	3	6	8	4	2	7
1281:	5	5	5	8	5	9	3	3
1289:	7	3	3	4	3	5	5	10
1297:	10	2	6	4	4	3	9	5
1305:	6	3	3	2	6	7	5	7
1313:	6	5	3	1	2	0	2	5
1321:	4	4	3	3	5	2	1	4
1329:	7	4	5	6	3	10	7	5
1337:	3	3	5	5	4	6	5	3
1345:	7	2	3	3	4	4	0	5
1353:	3	5	1	5	4	8	1	3
1361:	4	2	1	3	4	7	3	3
1369:	2	2	2	5	1	0	1	6
1377:	10	16	14	7	1	7	0	2
1385:	5	4	2	1	2	6	0	3
1393:	3	2	2	2	1	2	5	1
1401:	6	8	6	3	0	3	7	14
1409:	4	3	6	2	1	3	1	3
1417:	3	5	4	1	1	3	1	5
1425:	3	3	1	2	3	7	2	3
1433:	2	2	2	1	4	5	3	2
1441:	1	2	2	7	6	1	3	3
1449:	6	0	3	1	3	2	1	6
1457:	0	3	30	168	360	160	31	12
1465:	1	3	2	3	2	3	3	3
1473:	1	1	0	5	1	4	3	2
1481:	2	1	1	3	1	5	3	7
1489:	2	1	5	0	2	1	0	4
1497:	1	2	0	3	4	4	3	2
1505:	1	1	6	3	5	8	2	2
1513:	1	2	2	5	3	5	2	6
1521:	3	2	5	5	2	7	2	2
1529:	3	1	1	0	4	2	1	2
1537:	1	3	6	4	2	2	2	1
1545:	0	0	2	4	1	0	3	4
1553:	0	4	7	1	1	0	4	1
1561:	0	1	2	2	2	2	2	2
1569:	1	2	2	2	1	1	2	0
1577:	2	1	3	1	5	2	0	5
1585:	0	1	1	14	4	4	0	7
1593:	4	4	3	0	4	4	1	1
1601:	0	1	3	4	4	3	2	1
1609:	2	4	1	0	0	0	1	2
1617:	1	3	0	5	5	3	1	3
1625:	4	2	1	1	2	4	3	2
1633:	2	1	0	4	2	3	2	2
1641:	2	1	1	3	1	1	1	1
1649:	0	2	4	0	0	2	0	3
1657:	2	1	2	1	8	4	3	1

1665: 1 3 1 3 0 1 3 1

Sample Title: CP5001S03-04

Channel	1	2	3	4	5	6	7	8	9
1673:	0	1	2	0	2	1	0	3	
1681:	0	1	4	1	0	1	0	2	
1689:	1	1	1	2	3	2	2	1	
1697:	0	0	2	0	2	2	1	2	
1705:	1	1	0	0	2	2	2	0	
1713:	1	1	2	3	1	1	1	3	
1721:	0	0	0	2	1	4	2	5	
1729:	11	12	4	2	1	0	2	2	
1737:	2	2	1	0	3	1	2	1	
1745:	1	1	0	0	3	2	1	0	
1753:	2	1	2	2	3	2	2	1	
1761:	0	2	4	23	34	12	0	0	
1769:	1	2	1	1	2	2	0	2	
1777:	0	0	2	2	2	1	2	1	
1785:	2	1	0	1	3	1	1	2	
1793:	1	0	2	2	2	2	2	0	
1801:	2	2	1	1	1	1	1	0	
1809:	1	2	2	1	0	0	0	3	
1817:	3	0	0	1	0	1	1	2	
1825:	0	1	1	0	0	2	0	3	
1833:	0	2	0	0	0	3	1	1	
1841:	2	2	1	0	1	0	3	7	
1849:	2	1	0	3	2	2	2	1	
1857:	1	0	1	1	4	1	0	2	
1865:	1	0	2	2	1	0	2	0	
1873:	0	0	0	2	2	0	0	2	
1881:	0	0	3	1	1	2	2	0	
1889:	0	0	1	1	1	0	2	2	
1897:	2	0	1	0	0	0	1	1	
1905:	1	1	1	2	0	0	2	0	
1913:	2	2	2	1	1	1	0	1	
1921:	4	1	1	0	4	2	1	1	
1929:	0	1	1	1	1	0	1	2	
1937:	2	5	0	2	0	1	2	0	
1945:	0	0	2	0	1	1	3	1	
1953:	4	1	1	1	0	3	1	0	
1961:	0	1	2	2	0	0	3	1	
1969:	0	1	1	3	1	0	0	2	
1977:	1	0	2	3	1	0	3	1	
1985:	1	1	3	3	1	1	1	0	
1993:	0	0	4	1	0	1	1	0	
2001:	0	0	2	1	1	2	0	0	
2009:	0	1	1	3	0	1	1	3	
2017:	0	2	1	2	3	0	0	1	
2025:	3	0	0	1	1	2	2	0	
2033:	0	0	0	0	0	0	1	0	
2041:	1	2	0	1	1	0	1	1	
2049:	1	0	2	0	2	1	2	1	
2057:	0	5	1	0	4	1	0	0	
2065:	0	0	0	0	0	1	0	2	
2073:	0	0	2	0	0	3	3	1	
2081:	2	1	0	2	0	0	1	1	
2089:	1	0	0	1	0	1	0	3	

2097: 0 1 0 3 0 3 5 5

Sample Title: CP5001S03-04

Channel	1	2	3	4	5	6	7	8
2105:	2	2	2	0	0	0	2	2
2113:	3	2	1	0	2	2	0	1
2121:	1	0	1	2	0	2	0	0
2129:	0	0	1	0	0	0	0	0
2137:	0	0	0	1	1	2	1	0
2145:	0	0	1	0	1	1	3	1
2153:	0	1	0	0	0	0	0	1
2161:	0	1	0	0	1	0	0	1
2169:	1	1	2	0	1	0	3	1
2177:	0	0	0	1	3	1	3	0
2185:	0	2	0	1	1	0	2	0
2193:	0	1	1	1	0	1	0	0
2201:	0	3	8	10	8	3	6	1
2209:	0	1	0	0	2	0	5	3
2217:	1	5	1	0	5	3	1	1
2225:	1	1	1	0	2	0	1	1
2233:	2	0	1	3	1	1	2	1
2241:	2	3	0	0	0	2	1	0
2249:	1	1	1	1	3	1	1	0
2257:	1	0	1	0	0	2	1	3
2265:	3	0	0	1	1	0	3	1
2273:	0	0	1	0	1	0	1	0
2281:	2	0	0	0	0	1	3	0
2289:	0	1	0	2	1	0	2	2
2297:	0	0	2	4	0	0	2	2
2305:	1	3	0	2	1	0	0	1
2313:	0	0	2	1	2	0	1	1
2321:	0	1	5	4	0	1	2	0
2329:	2	2	0	0	1	1	0	1
2337:	1	0	0	1	1	1	0	1
2345:	2	1	0	0	3	1	0	2
2353:	1	3	1	1	1	1	0	1
2361:	1	0	1	1	0	1	2	1
2369:	0	0	1	1	2	0	1	0
2377:	1	1	1	1	0	0	0	3
2385:	0	2	0	1	0	0	0	0
2393:	2	0	0	4	1	0	1	1
2401:	1	1	0	0	0	1	1	0
2409:	2	0	0	0	0	0	0	2
2417:	2	1	1	2	2	3	0	0
2425:	0	0	1	1	1	1	2	0
2433:	2	0	2	0	0	1	1	1
2441:	0	2	0	1	1	1	4	4
2449:	2	1	0	1	0	0	0	1
2457:	2	1	1	3	1	0	0	1
2465:	0	0	0	0	0	1	1	1
2473:	0	0	0	1	0	0	0	0
2481:	0	1	0	0	0	1	1	2
2489:	1	1	1	0	0	0	2	0
2497:	0	0	0	1	1	2	0	0
2505:	2	1	0	0	0	0	0	0
2513:	1	0	0	0	0	0	0	0
2521:	0	1	2	0	1	0	0	0

2529: 1 0 0 1 0 1 0 0

Sample Title: CP5001S03-04

Channel	1	2	3	4	5	6	7	8	9
2537:	0	0	2	0	0	1	1	0	0
2545:	1	0	0	0	1	0	1	0	0
2553:	0	0	0	0	0	1	0	1	0
2561:	0	1	0	1	0	1	1	0	0
2569:	0	1	0	1	0	0	0	0	1
2577:	0	0	0	0	1	0	1	0	0
2585:	0	1	0	0	1	0	0	0	1
2593:	0	1	2	1	0	1	0	0	2
2601:	0	0	0	0	0	0	0	0	0
2609:	0	1	2	8	24	41	25	10	0
2617:	4	2	2	0	1	0	1	0	1
2625:	0	1	0	0	0	0	0	0	0
2633:	0	0	0	0	0	1	0	0	0
2641:	1	1	0	0	1	0	3	0	0
2649:	0	2	1	1	0	1	0	2	0
2657:	0	0	0	1	0	0	1	0	0
2665:	0	0	0	0	2	0	0	0	0
2673:	0	0	0	0	0	1	0	0	0
2681:	1	0	0	0	1	0	2	1	0
2689:	0	0	0	1	1	0	2	0	0
2697:	0	0	0	0	1	0	0	0	0
2705:	1	0	0	0	0	0	0	1	0
2713:	0	1	2	1	0	0	1	0	1
2721:	0	1	0	1	0	1	0	1	0
2729:	0	0	1	0	0	0	0	0	1
2737:	0	0	1	0	0	0	1	0	0
2745:	0	0	2	1	0	0	1	0	0
2753:	0	0	0	1	1	0	1	0	0
2761:	0	0	0	1	0	1	0	1	0
2769:	1	0	0	0	0	0	0	0	0
2777:	0	0	0	0	0	0	0	0	0
2785:	0	0	0	0	0	1	0	0	0
2793:	1	0	0	0	0	1	1	1	0
2801:	0	1	0	2	0	1	0	0	0
2809:	0	0	0	0	1	0	0	0	0
2817:	0	0	1	0	0	1	0	0	0
2825:	0	0	0	1	0	0	1	0	0
2833:	0	0	0	0	0	0	0	0	0
2841:	0	0	0	1	1	1	0	0	0
2849:	0	0	0	0	0	1	1	0	0
2857:	0	0	0	0	0	0	0	0	0
2865:	0	0	0	0	0	2	1	0	0
2873:	0	1	0	0	0	1	0	0	0
2881:	0	1	1	0	0	0	1	0	0
2889:	2	1	0	0	0	0	0	0	0
2897:	0	0	2	0	0	0	0	1	0
2905:	1	0	0	0	0	0	0	0	0
2913:	0	0	0	0	0	0	0	0	0
2921:	0	0	0	0	0	1	0	1	0
2929:	0	0	1	0	0	0	0	0	0
2937:	3	0	0	1	1	0	0	0	0
2945:	1	0	0	0	0	0	0	0	0
2953:	1	0	0	1	1	0	0	0	0

2961: 0 1 0 1 0 0 0 0

Sample Title: CP5001S03-04

Channel	1	2	3	4	5	6	7	8	9
2969:	0	0	0	0	0	1	0	0	0
2977:	0	1	0	0	0	2	0	0	0
2985:	0	0	0	0	1	0	0	0	0
2993:	0	1	0	0	0	0	0	0	0
3001:	0	0	0	0	0	0	0	0	0
3009:	0	0	1	0	0	1	0	0	0
3017:	0	0	3	0	1	1	0	0	0
3025:	0	0	0	1	0	0	0	0	0
3033:	0	0	2	1	0	0	1	1	1
3041:	0	0	1	0	0	1	0	0	0
3049:	0	0	0	0	0	0	0	0	0
3057:	0	0	0	0	0	0	0	0	0
3065:	0	0	0	0	0	2	0	0	1
3073:	0	0	0	0	0	0	0	0	0
3081:	0	0	1	2	1	1	0	0	1
3089:	0	0	0	0	0	0	0	0	0
3097:	1	1	0	0	0	1	0	0	0
3105:	0	0	0	0	0	0	0	0	0
3113:	0	0	0	1	0	0	0	0	0
3121:	1	0	0	0	0	0	0	0	0
3129:	1	0	0	0	0	0	0	0	2
3137:	0	0	0	0	2	0	0	0	0
3145:	0	0	0	0	1	1	1	0	0
3153:	0	0	0	1	0	0	0	0	0
3161:	0	0	0	0	0	1	0	0	1
3169:	0	0	0	0	0	0	0	0	0
3177:	0	0	0	1	0	0	0	0	1
3185:	0	0	0	0	0	0	2	1	1
3193:	0	0	2	1	1	2	0	0	0
3201:	0	0	0	0	0	0	1	0	0
3209:	1	0	0	0	0	1	0	0	0
3217:	0	0	0	0	0	0	0	0	0
3225:	0	0	0	1	0	0	0	0	0
3233:	0	0	0	0	0	0	0	0	0
3241:	1	0	0	0	1	0	1	0	0
3249:	2	1	0	0	1	0	0	0	1
3257:	0	0	0	0	1	0	0	0	0
3265:	0	0	0	0	0	0	0	0	0
3273:	0	0	0	0	0	1	0	0	0
3281:	0	0	0	0	0	1	0	0	0
3289:	0	0	0	0	0	0	0	0	1
3297:	0	0	0	0	0	1	1	1	0
3305:	0	0	3	0	0	0	1	1	1
3313:	1	0	0	0	2	1	1	1	0
3321:	0	0	0	2	0	0	1	0	0
3329:	0	1	0	0	0	0	0	0	1
3337:	0	0	0	0	0	0	0	0	1
3345:	0	0	0	0	1	0	0	0	0
3353:	0	0	0	0	0	0	0	0	1
3361:	0	0	0	0	0	0	0	0	0
3369:	0	0	0	0	0	0	0	0	0
3377:	0	0	1	0	0	0	0	0	0
3385:	0	0	0	0	1	1	0	0	0

3393: 1 0 0 0 0 0 0 0 0

Sample Title: CP5001S03-04

Channel	1	0	1	0	0	0	0	0
3401:	1	0	1	0	0	0	0	0
3409:	0	0	0	0	0	0	1	0
3417:	0	0	0	0	0	1	0	0
3425:	1	0	0	0	1	1	0	0
3433:	1	0	0	0	0	0	0	0
3441:	0	0	0	0	0	0	0	0
3449:	0	0	1	0	0	0	0	0
3457:	0	0	0	0	0	0	0	0
3465:	0	0	0	1	1	0	0	0
3473:	0	1	0	0	0	0	0	0
3481:	0	0	0	0	0	2	0	0
3489:	0	0	0	0	0	0	0	0
3497:	0	1	0	0	0	0	0	0
3505:	0	1	0	0	0	0	0	0
3513:	1	1	0	1	0	0	0	1
3521:	1	0	0	0	0	0	0	0
3529:	0	1	0	0	0	0	0	0
3537:	1	1	2	0	0	1	0	0
3545:	0	0	0	0	1	0	0	0
3553:	1	0	0	0	0	1	0	0
3561:	0	0	0	0	0	0	0	0
3569:	0	1	0	0	1	0	0	0
3577:	0	0	0	0	0	0	0	0
3585:	0	0	0	0	0	0	0	0
3593:	0	1	0	0	1	0	0	0
3601:	0	0	0	0	0	0	0	0
3609:	0	0	0	0	0	0	0	0
3617:	0	0	1	0	0	0	0	0
3625:	1	0	0	0	0	0	0	0
3633:	0	0	0	1	0	1	0	0
3641:	0	0	0	0	0	1	0	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	1	0	0	0	0
3665:	1	0	0	0	0	0	0	0
3673:	0	0	0	0	0	0	0	0
3681:	1	0	0	0	0	0	0	0
3689:	0	0	0	0	0	0	0	0
3697:	1	0	0	1	0	0	0	0
3705:	0	0	0	0	0	0	0	0
3713:	1	0	0	0	0	0	0	0
3721:	0	1	0	0	0	0	0	1
3729:	0	0	0	0	0	0	1	1
3737:	0	0	0	0	0	0	0	0
3745:	0	1	1	0	0	0	0	0
3753:	0	0	0	0	0	0	0	0
3761:	1	0	0	0	1	0	0	0
3769:	1	0	0	0	1	0	0	0
3777:	0	0	0	0	1	0	0	1
3785:	1	0	0	1	1	0	1	0
3793:	0	0	0	0	0	0	1	0
3801:	0	0	0	0	0	0	0	0
3809:	0	0	0	0	0	1	0	2
3817:	0	2	0	0	0	1	1	0

3825: 0 1 0 0 0 0 0 0 0

Sample Title: CP5001S03-04

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	1	1	1	1	1
3849:	0	1	0	1	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	0	1	1
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:	0	0	0	0	0	0	0	0
3913:	0	0	0	1	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	1	0	0	0	0	1
3945:	0	0	0	0	2	1	0	0
3953:	0	0	0	0	0	0	0	0
3961:	0	0	0	0	0	0	0	2
3969:	0	0	0	1	0	0	0	0
3977:	0	0	0	0	0	0	0	0
3985:	0	0	0	0	0	0	0	0
3993:	0	0	0	0	0	0	0	0
4001:	0	0	0	0	1	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	1
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	1	0	0	1	0
4065:	0	0	0	0	0	0	0	0
4073:	0	0	0	0	0	0	0	0
4081:	1	0	0	1	0	0	1	0
4089:	0	0	0	0	0	0	0	0

Analysis Report for 1510092-11
CP5001S06-07


Ulll

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510092-11
Sample Description : CP5001S06-07
Sample Type : SOIL

Sample Size : 5.602E+02 grams
Facility : Countroom

Sample Taken On : 10/9/2015 4:00:48PM
Acquisition Started : 11/11/2015 8:24:15AM

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 : 29469

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510092-11
CP5001S06-07

PEAK LOCATE REPORT

Peak Locate Performed on : 11/11/2015 9:24:32AM
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	76.42	76.51	0.0000	0.00
2	87.30	87.38	0.0000	0.00
3	156.99	157.04	0.0000	0.00
4	167.00	167.04	0.0000	0.00
5	183.53	183.55	0.0000	0.00
6	186.08	186.10	0.0000	0.00
7	206.24	206.26	0.0000	0.00
8	209.11	209.12	0.0000	0.00
9	238.77	238.77	0.0000	0.00
10	241.79	241.79	0.0000	0.00
11	270.89	270.87	0.0000	0.00
12	275.16	275.13	0.0000	0.00
13	295.30	295.27	0.0000	0.00
14	300.25	300.21	0.0000	0.00
15	338.35	338.30	0.0000	0.00
16	352.05	351.98	0.0000	0.00
17	402.88	402.79	0.0000	0.00
18	409.33	409.24	0.0000	0.00
19	452.80	452.69	0.0000	0.00
20	462.90	462.77	0.0000	0.00
21	510.81	510.67	0.0000	0.00
22	528.66	528.51	0.0000	0.00
23	583.08	582.90	0.0000	0.00
24	609.35	609.16	0.0000	0.00
25	612.02	611.83	0.0000	0.00
26	665.82	665.60	0.0000	0.00
27	727.40	727.15	0.0000	0.00
28	734.34	734.09	0.0000	0.00
29	768.79	768.52	0.0000	0.00
30	775.12	774.85	0.0000	0.00
31	787.41	787.14	0.0000	0.00
32	795.59	795.31	0.0000	0.00
33	836.31	836.01	0.0000	0.00
34	860.89	860.59	0.0000	0.00
35	876.40	876.08	0.0000	0.00
36	904.68	904.36	0.0000	0.00
37	911.35	911.03	0.0000	0.00
38	935.74	935.40	0.0000	0.00
39	969.56	969.21	0.0000	0.00
40	1069.25	1068.86	0.0000	0.00
41	1075.07	1074.68	0.0000	0.00
42	1120.31	1119.90	0.0000	0.00

Analysis Report for 1510092-11
CP5001S06-07

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1379.27	1378.78	0.0000	0.00
44	1461.00	1460.47	0.0000	0.00
45	1508.48	1507.94	0.0000	0.00
46	1582.73	1582.18	0.0000	0.00
47	1590.10	1589.54	0.0000	0.00
48	1631.50	1630.93	0.0000	0.00
49	1637.49	1636.92	0.0000	0.00
50	1728.74	1728.15	0.0000	0.00
51	1758.50	1757.90	0.0000	0.00
52	1764.85	1764.25	0.0000	0.00
53	1829.77	1829.15	0.0000	0.00
54	1896.41	1895.77	0.0000	0.00
55	1918.79	1918.15	0.0000	0.00
56	1952.73	1952.08	0.0000	0.00
57	1975.90	1975.25	0.0000	0.00
58	2074.49	2073.82	0.0000	0.00
59	2104.10	2103.42	0.0000	0.00
60	2203.71	2203.01	0.0000	0.00
61	2269.45	2268.75	0.0000	0.00
62	2345.46	2344.75	0.0000	0.00
63	2614.25	2613.51	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510092-11
CP5001S06-07

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/11/2015 9:24:32AM

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	76.42	72 -	81	76.51	1.19E+03	138.76	2.11E+03	3.58
2	87.30	86 -	89	87.38	9.51E+01	66.21	1.01E+03	1.44
3	156.99	154 -	160	157.04	9.06E+01	65.88	7.15E+02	4.21
4	167.00	163 -	170	167.04	7.15E+01	73.67	8.43E+02	1.25
M	5	182 -	190	183.55	5.75E+01	33.85	2.87E+02	1.75
m	6	182 -	190	186.10	1.83E+02	55.94	4.92E+02	1.76
M	7	205 -	211	206.26	3.15E+01	25.57	1.95E+02	1.44
m	8	205 -	211	209.12	5.44E+01	43.22	4.21E+02	1.50
M	9	235 -	246	238.77	8.97E+02	75.73	4.24E+02	1.51
m	10	235 -	246	241.79	2.17E+02	75.99	4.75E+02	2.16
M	11	266 -	281	270.87	5.69E+01	36.17	2.57E+02	1.46
m	12	266 -	281	275.13	3.82E+01	33.17	2.39E+02	1.47
M	13	290 -	310	295.27	3.09E+02	49.96	2.48E+02	1.65
m	14	290 -	310	300.21	6.99E+01	36.28	2.28E+02	1.66
m	15	324 -	346	338.30	1.67E+02	42.26	2.38E+02	1.71
16	352.05	348 -	355	351.98	5.37E+02	65.82	3.64E+02	1.35
17	402.88	401 -	405	402.79	2.29E+01	28.28	1.60E+02	2.18
18	409.33	406 -	413	409.24	4.39E+01	41.18	2.48E+02	1.90
19	452.80	449 -	456	452.69	4.43E+01	33.88	1.57E+02	2.18
20	462.90	458 -	467	462.77	9.01E+01	45.98	2.52E+02	1.57
21	510.81	506 -	515	510.67	2.05E+02	48.92	2.24E+02	2.44
22	528.66	526 -	532	528.51	2.29E+01	28.45	1.32E+02	1.41
23	583.08	579 -	587	582.90	2.88E+02	47.34	1.69E+02	1.69
M	24	603 -	614	609.16	4.35E+02	45.71	1.00E+02	1.83
m	25	603 -	614	611.83	2.38E+01	44.79	8.38E+01	1.87
26	665.82	663 -	668	665.60	2.90E+01	23.98	9.00E+01	2.27
27	727.40	724 -	729	727.15	5.29E+01	24.90	7.83E+01	2.19
28	734.34	731 -	739	734.09	2.74E+01	29.71	1.23E+02	4.74
29	768.79	765 -	772	768.52	4.78E+01	33.88	1.50E+02	3.02
M	30	773 -	790	774.85	1.90E+01	16.12	4.65E+01	2.70
m	31	773 -	790	787.14	2.60E+01	25.61	7.84E+01	2.71
32	795.59	792 -	799	795.31	3.73E+01	26.53	9.35E+01	1.73
33	836.31	831 -	842	836.01	3.73E+01	34.76	1.33E+02	7.41
34	860.89	856 -	865	860.59	4.56E+01	33.08	1.31E+02	2.33
35	876.40	866 -	883	876.08	4.62E+01	47.51	1.86E+02	14.55
M	36	900 -	917	904.36	1.69E+01	24.41	6.95E+01	2.59
m	37	900 -	917	911.03	1.72E+02	31.65	6.81E+01	1.96
38	935.74	931 -	940	935.40	3.73E+01	30.51	1.03E+02	6.39
39	969.56	965 -	975	969.21	1.32E+02	44.40	1.62E+02	2.28
M	40	1063 -	1088	1068.86	2.12E+01	29.87	1.10E+02	3.65

Analysis Report for 1510092-11
CP5001S06-07

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
m	41	1075.07	1063 - 1088		1074.68	1.58E+01	23.58	7.08E+01	2.75
	42	1120.31	1116 - 1124		1119.90	7.55E+01	31.72	1.09E+02	2.14
	43	1379.27	1373 - 1387		1378.78	3.90E+01	26.94	6.00E+01	3.15
	44	1461.00	1457 - 1466		1460.47	7.11E+02	55.67	3.94E+01	2.30
	45	1508.48	1502 - 1513		1507.94	1.81E+01	21.07	4.18E+01	6.25
	46	1582.73	1580 - 1584		1582.18	1.24E+01	10.84	1.53E+01	2.62
	47	1590.10	1585 - 1595		1589.54	3.70E+01	18.63	2.40E+01	2.05
	48	1631.50	1627 - 1634		1630.93	1.06E+01	9.38	6.71E+00	1.55
	49	1637.49	1635 - 1640		1636.92	7.35E+00	8.89	1.13E+01	2.73
	50	1728.74	1723 - 1733		1728.15	2.60E+01	15.06	1.59E+01	3.88
M	51	1758.50	1757 - 1769		1757.90	6.55E+00	3.61	1.96E+00	2.73
m	52	1764.85	1757 - 1769		1764.25	7.51E+01	18.00	4.01E+00	2.73
	53	1829.77	1824 - 1833		1829.15	1.20E+01	10.86	1.00E+01	3.19
	54	1896.41	1893 - 1899		1895.77	9.15E+00	8.75	7.69E+00	1.63
	55	1918.79	1915 - 1920		1918.15	6.59E+00	8.43	8.82E+00	2.52
	56	1952.73	1949 - 1954		1952.08	6.40E+00	8.19	7.20E+00	1.84
	57	1975.90	1972 - 1978		1975.25	8.00E+00	5.66	0.00E+00	3.70
	58	2074.49	2069 - 2077		2073.82	6.94E+00	7.50	4.11E+00	2.71
	59	2104.10	2097 - 2107		2103.42	1.65E+01	13.81	1.70E+01	5.29
	60	2203.71	2197 - 2208		2203.01	1.71E+01	10.77	5.70E+00	1.33
	61	2269.45	2264 - 2273		2268.75	8.69E+00	10.10	8.62E+00	1.38
	62	2345.46	2341 - 2347		2344.75	8.00E+00	5.66	0.00E+00	1.16
	63	2614.25	2607 - 2618		2613.51	1.27E+02	22.54	0.00E+00	3.08

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 : 11/11/2015 9:24:32AM

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	76.42	72 -	81	1.19E+03	138.76	2.11E+03	1.54E+02
	2	87.30	86 -	89	9.51E+01	66.21	1.01E+03	5.20E+01
	3	156.99	154 -	160	9.06E+01	65.88	7.15E+02	5.18E+01
	4	167.00	163 -	170	7.15E+01	73.67	8.43E+02	5.89E+01
M	5	183.53	182 -	190	5.75E+01	33.85	2.87E+02	2.79E+01

Analysis Report for 1510092-11

CP5001S06-07

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
m	6	186.08	182 -	190	1.83E+02	55.94	4.92E+02	3.65E+01
M	7	206.24	205 -	211	3.15E+01	25.57	1.95E+02	2.29E+01
m	8	209.11	205 -	211	5.44E+01	43.22	4.21E+02	3.37E+01
M	9	238.77	235 -	246	8.97E+02	75.73	4.24E+02	3.39E+01
m	10	241.79	235 -	246	2.17E+02	75.99	4.75E+02	3.58E+01
M	11	270.89	266 -	281	5.69E+01	36.17	2.57E+02	2.63E+01
m	12	275.16	266 -	281	3.82E+01	33.17	2.39E+02	2.54E+01
M	13	295.30	290 -	310	3.09E+02	49.96	2.48E+02	2.59E+01
m	14	300.25	290 -	310	6.99E+01	36.28	2.28E+02	2.48E+01
m	15	338.35	324 -	346	1.67E+02	42.26	2.38E+02	2.53E+01
	16	352.05	348 -	355	5.37E+02	65.82	3.64E+02	3.84E+01
	17	402.88	401 -	405	2.29E+01	28.28	1.60E+02	2.19E+01
	18	409.33	406 -	413	4.39E+01	41.18	2.48E+02	3.21E+01
	19	452.80	449 -	456	4.43E+01	33.88	1.57E+02	2.56E+01
	20	462.90	458 -	467	9.01E+01	45.98	2.52E+02	3.44E+01
	21	510.81	506 -	515	2.05E+02	48.92	2.24E+02	3.26E+01
	22	528.66	526 -	532	2.29E+01	28.45	1.32E+02	2.20E+01
	23	583.08	579 -	587	2.88E+02	47.34	1.69E+02	2.71E+01
M	24	609.35	603 -	614	4.35E+02	45.71	1.00E+02	1.65E+01
m	25	612.02	603 -	614	2.38E+01	44.79	8.38E+01	1.51E+01
	26	665.82	663 -	668	2.90E+01	23.98	9.00E+01	1.76E+01
	27	727.40	724 -	729	5.29E+01	24.90	7.83E+01	1.66E+01
	28	734.34	731 -	739	2.74E+01	29.71	1.23E+02	2.29E+01
	29	768.79	765 -	772	4.78E+01	33.88	1.50E+02	2.54E+01
M	30	775.12	773 -	790	1.90E+01	16.12	4.65E+01	1.12E+01
m	31	787.41	773 -	790	2.60E+01	25.61	7.84E+01	1.46E+01
	32	795.59	792 -	799	3.73E+01	26.53	9.35E+01	1.94E+01
	33	836.31	831 -	842	3.73E+01	34.76	1.33E+02	2.67E+01
	34	860.89	856 -	865	4.56E+01	33.08	1.31E+02	2.48E+01
	35	876.40	866 -	883	4.62E+01	47.51	1.86E+02	3.74E+01
M	36	904.68	900 -	917	1.69E+01	24.41	6.95E+01	1.37E+01
m	37	911.35	900 -	917	1.72E+02	31.65	6.81E+01	1.36E+01
	38	935.74	931 -	940	3.73E+01	30.51	1.03E+02	2.30E+01
	39	969.56	965 -	975	1.32E+02	44.40	1.62E+02	3.12E+01
M	40	1069.25	1063 -	1088	2.12E+01	29.87	1.10E+02	1.73E+01
m	41	1075.07	1063 -	1088	1.58E+01	23.58	7.08E+01	1.38E+01
	42	1120.31	1116 -	1124	7.55E+01	31.72	1.09E+02	2.18E+01
	43	1379.27	1373 -	1387	3.90E+01	26.94	6.00E+01	1.96E+01
	44	1461.00	1457 -	1466	7.11E+02	55.67	3.94E+01	1.31E+01
	45	1508.48	1502 -	1513	1.81E+01	21.07	4.18E+01	1.58E+01
	46	1582.73	1580 -	1584	1.24E+01	10.84	1.53E+01	6.78E+00
	47	1590.10	1585 -	1595	3.70E+01	18.63	2.40E+01	1.16E+01
	48	1631.50	1627 -	1634	1.06E+01	9.38	6.71E+00	5.54E+00
	49	1637.49	1635 -	1640	7.35E+00	8.89	1.13E+01	5.79E+00
	50	1728.74	1723 -	1733	2.60E+01	15.06	1.59E+01	9.10E+00
M	51	1758.50	1757 -	1769	6.55E+00	3.61	1.96E+00	2.30E+00
m	52	1764.85	1757 -	1769	7.51E+01	18.00	4.01E+00	3.29E+00
	53	1829.77	1824 -	1833	1.20E+01	10.86	1.00E+01	6.88E+00
	54	1896.41	1893 -	1899	9.15E+00	8.75	7.69E+00	5.19E+00
	55	1918.79	1915 -	1920	6.59E+00	8.43	8.82E+00	5.49E+00
	56	1952.73	1949 -	1954	6.40E+00	8.19	7.20E+00	5.29E+00

Analysis Report for 1510092-11
CP5001S06-07

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
57	1975.90	1972 -	1978	8.00E+00	5.66	0.00E+00	0.00E+00
58	2074.49	2069 -	2077	6.94E+00	7.50	4.11E+00	4.39E+00
59	2104.10	2097 -	2107	1.65E+01	13.81	1.70E+01	9.18E+00
60	2203.71	2197 -	2208	1.71E+01	10.77	5.70E+00	5.66E+00
61	2269.45	2264 -	2273	8.69E+00	10.10	8.62E+00	6.74E+00
62	2345.46	2341 -	2347	8.00E+00	5.66	0.00E+00	0.00E+00
63	2614.25	2607 -	2618	1.27E+02	22.54	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 : 11/11/2015 9:24:32AM

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	76.42	72 -	81	76.51	1.19E+03	138.76	2.11E+03	.....
2	87.30	86 -	89	87.38	9.51E+01	66.21	1.01E+03	SN-126 CD-109 NP-237 EU-155
3	156.99	154 -	160	157.04	9.06E+01	65.88	7.15E+02	.....
4	167.00	163 -	170	167.04	7.15E+01	73.67	8.43E+02	.....
M 5	183.53	182 -	190	183.55	5.75E+01	33.85	2.87E+02	HO-166M
m 6	186.08	182 -	190	186.10	1.83E+02	55.94	4.92E+02	RA-226
M 7	206.24	205 -	211	206.26	3.15E+01	25.57	1.95E+02	U-235
m 8	209.11	205 -	211	209.12	5.44E+01	43.22	4.21E+02	GA-67 CM-243
M 9	238.77	235 -	246	238.77	8.97E+02	75.73	4.24E+02	PB-212
M 10	241.79	235 -	246	241.79	2.17E+02	75.99	4.75E+02	RA-224
M 11	270.89	266 -	281	270.87	5.69E+01	36.17	2.57E+02	.....
m 12	275.16	266 -	281	275.13	3.82E+01	33.17	2.39E+02	.....
M 13	295.30	290 -	310	295.27	3.09E+02	49.96	2.48E+02	PB-214
m 14	300.25	290 -	310	300.21	6.99E+01	36.28	2.28E+02	GA-67 PB-212

Analysis Report for 1510092-11

CP5001S06-07

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
									BI-210M
m	15	338.35	324 -	346	338.30	1.67E+02	42.26	2.38E+02	AC-228
	16	352.05	348 -	355	351.98	5.37E+02	65.82	3.64E+02	PB-214
	17	402.88	401 -	405	402.79	2.29E+01	28.28	1.60E+02	.....
	18	409.33	406 -	413	409.24	4.39E+01	41.18	2.48E+02	.....
	19	452.80	449 -	456	452.69	4.43E+01	33.88	1.57E+02	.....
	20	462.90	458 -	467	462.77	9.01E+01	45.98	2.52E+02	SB-125
	21	510.81	506 -	515	510.67	2.05E+02	48.92	2.24E+02	.....
	22	528.66	526 -	532	528.51	2.29E+01	28.45	1.32E+02	RB-83
	23	583.08	579 -	587	582.90	2.88E+02	47.34	1.69E+02	TL-208
M	24	609.35	603 -	614	609.16	4.35E+02	45.71	1.00E+02	BI-214
m	25	612.02	603 -	614	611.83	2.38E+01	44.79	8.38E+01	.....
	26	665.82	663 -	668	665.60	2.90E+01	23.98	9.00E+01	SB-126
	27	727.40	724 -	729	727.15	5.29E+01	24.90	7.83E+01	BI-212
	28	734.34	731 -	739	734.09	2.74E+01	29.71	1.23E+02	PA-234
	29	768.79	765 -	772	768.52	4.78E+01	33.88	1.50E+02	.....
M	30	775.12	773 -	790	774.85	1.90E+01	16.12	4.65E+01	.....
m	31	787.41	773 -	790	787.14	2.60E+01	25.61	7.84E+01	.....
	32	795.59	792 -	799	795.31	3.73E+01	26.53	9.35E+01	CS-134
	33	836.31	831 -	842	836.01	3.73E+01	34.76	1.33E+02	.....
	34	860.89	856 -	865	860.59	4.56E+01	33.08	1.31E+02	TL-208
	35	876.40	866 -	883	876.08	4.62E+01	47.51	1.86E+02	.....
M	36	904.68	900 -	917	904.36	1.69E+01	24.41	6.95E+01	.....
m	37	911.35	900 -	917	911.03	1.72E+02	31.65	6.81E+01	AC-228 LU-172
	38	935.74	931 -	940	935.40	3.73E+01	30.51	1.03E+02	.....
	39	969.56	965 -	975	969.21	1.32E+02	44.40	1.62E+02	AC-228
M	40	1069.25	1063 -	1088	1068.86	2.12E+01	29.87	1.10E+02	.....
m	41	1075.07	1063 -	1088	1074.68	1.58E+01	23.58	7.08E+01	.....
	42	1120.31	1116 -	1124	1119.90	7.55E+01	31.72	1.09E+02	BI-214 SC-46 TA-182
	43	1379.27	1373 -	1387	1378.78	3.90E+01	26.94	6.00E+01	.....
	44	1461.00	1457 -	1466	1460.47	7.11E+02	55.67	3.94E+01	K-40
	45	1508.48	1502 -	1513	1507.94	1.81E+01	21.07	4.18E+01	.....
	46	1582.73	1580 -	1584	1582.18	1.24E+01	10.84	1.53E+01	.....
	47	1590.10	1585 -	1595	1589.54	3.70E+01	18.63	2.40E+01	.....
	48	1631.50	1627 -	1634	1630.93	1.06E+01	9.38	6.71E+00	.....
	49	1637.49	1635 -	1640	1636.92	7.35E+00	8.89	1.13E+01	.....
	50	1728.74	1723 -	1733	1728.15	2.60E+01	15.06	1.59E+01	.....
M	51	1758.50	1757 -	1769	1757.90	6.55E+00	3.61	1.96E+00	.....
m	52	1764.85	1757 -	1769	1764.25	7.51E+01	18.00	4.01E+00	BI-214
	53	1829.77	1824 -	1833	1829.15	1.20E+01	10.86	1.00E+01	.....
	54	1896.41	1893 -	1899	1895.77	9.15E+00	8.75	7.69E+00	.....
	55	1918.79	1915 -	1920	1918.15	6.59E+00	8.43	8.82E+00	.....
	56	1952.73	1949 -	1954	1952.08	6.40E+00	8.19	7.20E+00	.....
	57	1975.90	1972 -	1978	1975.25	8.00E+00	5.66	0.00E+00	.....
	58	2074.49	2069 -	2077	2073.82	6.94E+00	7.50	4.11E+00	.....
	59	2104.10	2097 -	2107	2103.42	1.65E+01	13.81	1.70E+01	.....
	60	2203.71	2197 -	2208	2203.01	1.71E+01	10.77	5.70E+00	BI-214
	61	2269.45	2264 -	2273	2268.75	8.69E+00	10.10	8.62E+00	.....
	62	2345.46	2341 -	2347	2344.75	8.00E+00	5.66	0.00E+00	.....
	63	2614.25	2607 -	2618	2613.51	1.27E+02	22.54	0.00E+00	TL-208

: 00673

Analysis Report for 1510092-11
CP5001S06-07

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 : 11/11/2015 9:24:32AM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	76.42	1.19E+03	138.76	2.74E-02	3.35E-03
	2	87.30	9.51E+01	66.21	2.84E-02	4.43E-03
	3	156.99	9.06E+01	65.88	2.34E-02	1.94E-03
	4	167.00	7.15E+01	73.67	2.26E-02	1.67E-03
M	5	183.53	5.75E+01	33.85	2.13E-02	1.66E-03
m	6	186.08	1.83E+02	55.94	2.11E-02	1.65E-03
M	7	206.24	3.15E+01	25.57	1.97E-02	1.63E-03
m	8	209.11	5.44E+01	43.22	1.95E-02	1.63E-03
M	9	238.77	8.97E+02	75.73	1.79E-02	1.60E-03
m	10	241.79	2.17E+02	75.99	1.77E-02	1.60E-03
M	11	270.89	5.69E+01	36.17	1.64E-02	1.57E-03
m	12	275.16	3.82E+01	33.17	1.62E-02	1.56E-03
M	13	295.30	3.09E+02	49.96	1.55E-02	1.48E-03
m	14	300.25	6.99E+01	36.28	1.53E-02	1.46E-03
m	15	338.35	1.67E+02	42.26	1.41E-02	1.27E-03
	16	352.05	5.37E+02	65.82	1.37E-02	1.21E-03
	17	402.88	2.29E+01	28.28	1.25E-02	1.01E-03
	18	409.33	4.39E+01	41.18	1.24E-02	1.00E-03
	19	452.80	4.43E+01	33.88	1.15E-02	9.57E-04
	20	462.90	9.01E+01	45.98	1.13E-02	9.47E-04
	21	510.81	2.05E+02	48.92	1.06E-02	8.98E-04
	22	528.66	2.29E+01	28.45	1.03E-02	8.80E-04
	23	583.08	2.88E+02	47.34	9.58E-03	8.25E-04
M	24	609.35	4.35E+02	45.71	9.27E-03	7.98E-04
m	25	612.02	2.38E+01	44.79	9.24E-03	7.96E-04
	26	665.82	2.90E+01	23.98	8.66E-03	7.42E-04
	27	727.40	5.29E+01	24.90	8.09E-03	7.03E-04
	28	734.34	2.74E+01	29.71	8.02E-03	6.98E-04
	29	768.79	4.78E+01	33.88	7.74E-03	6.76E-04
M	30	775.12	1.90E+01	16.12	7.69E-03	6.72E-04
m	31	787.41	2.60E+01	25.61	7.59E-03	6.64E-04
	32	795.59	3.73E+01	26.53	7.53E-03	6.59E-04
	33	836.31	3.73E+01	34.76	7.23E-03	6.33E-04
	34	860.89	4.56E+01	33.08	7.06E-03	6.17E-04

Analysis Report for 1510092-11
CP5001S06-07

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	35	876.40	4.62E+01	47.51	6.96E-03	6.07E-04
M	36	904.68	1.69E+01	24.41	6.78E-03	5.90E-04
m	37	911.35	1.72E+02	31.65	6.74E-03	5.87E-04
	38	935.74	3.73E+01	30.51	6.60E-03	5.74E-04
	39	969.56	1.32E+02	44.40	6.41E-03	5.57E-04
M	40	1069.25	2.12E+01	29.87	5.92E-03	5.06E-04
m	41	1075.07	1.58E+01	23.58	5.90E-03	5.03E-04
	42	1120.31	7.55E+01	31.72	5.70E-03	4.80E-04
	43	1379.27	3.90E+01	26.94	4.86E-03	5.07E-04
	44	1461.00	7.11E+02	55.67	4.67E-03	4.73E-04
	45	1508.48	1.81E+01	21.07	4.57E-03	4.54E-04
	46	1582.73	1.24E+01	10.84	4.44E-03	4.23E-04
	47	1590.10	3.70E+01	18.63	4.43E-03	4.20E-04
	48	1631.50	1.06E+01	9.38	4.36E-03	4.03E-04
	49	1637.49	7.35E+00	8.89	4.35E-03	4.00E-04
	50	1728.74	2.60E+01	15.06	4.23E-03	3.62E-04
M	51	1758.50	6.55E+00	3.61	4.19E-03	3.50E-04
m	52	1764.85	7.51E+01	18.00	4.18E-03	3.47E-04
	53	1829.77	1.20E+01	10.86	4.12E-03	3.20E-04
	54	1896.41	9.15E+00	8.75	4.06E-03	3.18E-04
	55	1918.79	6.59E+00	8.43	4.04E-03	3.18E-04
	56	1952.73	6.40E+00	8.19	4.02E-03	3.18E-04
	57	1975.90	8.00E+00	5.66	4.01E-03	3.18E-04
	58	2074.49	6.94E+00	7.50	3.96E-03	3.18E-04
	59	2104.10	1.65E+01	13.81	3.95E-03	3.18E-04
	60	2203.71	1.71E+01	10.77	3.93E-03	3.18E-04
	61	2269.45	8.69E+00	10.10	3.93E-03	3.18E-04
	62	2345.46	8.00E+00	5.66	3.94E-03	3.18E-04
	63	2614.25	1.27E+02	22.54	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 : 11/11/2015 9:24:32AM

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	76.42	1.19E+03	138.76			1.19E+03	1.39E+02

Analysis Report for 1510092-11
CP5001S06-07

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	2	87.30	9.51E+01	66.21	1.46E+00	7.88E+00	9.36E+01	6.67E+01
	3	156.99	9.06E+01	65.88	0.00E+00	0.00E+00	9.06E+01	6.59E+01
	4	167.00	7.15E+01	73.67			7.15E+01	7.37E+01
M	5	183.53	5.75E+01	33.85			5.75E+01	3.38E+01
m	6	186.08	1.83E+02	55.94	4.72E+01	7.97E+00	1.36E+02	5.65E+01
M	7	206.24	3.15E+01	25.57			3.15E+01	2.56E+01
m	8	209.11	5.44E+01	43.22			5.44E+01	4.32E+01
M	9	238.77	8.97E+02	75.73	2.36E+01	1.35E+01	8.73E+02	7.69E+01
m	10	241.79	2.17E+02	75.99	6.38E+00	3.91E+00	2.11E+02	7.61E+01
M	11	270.89	5.69E+01	36.17			5.69E+01	3.62E+01
m	12	275.16	3.82E+01	33.17			3.82E+01	3.32E+01
M	13	295.30	3.09E+02	49.96	8.57E+00	6.10E+00	3.00E+02	5.03E+01
m	14	300.25	6.99E+01	36.28			6.99E+01	3.63E+01
m	15	338.35	1.67E+02	42.26			1.67E+02	4.23E+01
	16	352.05	5.37E+02	65.82	1.40E+01	5.55E+00	5.23E+02	6.61E+01
	17	402.88	2.29E+01	28.28			2.29E+01	2.83E+01
	18	409.33	4.39E+01	41.18			4.39E+01	4.12E+01
	19	452.80	4.43E+01	33.88			4.43E+01	3.39E+01
	20	462.90	9.01E+01	45.98			9.01E+01	4.60E+01
	21	510.81	2.05E+02	48.92	8.41E+01	5.50E+00	1.21E+02	4.92E+01
	22	528.66	2.29E+01	28.45			2.29E+01	2.84E+01
	23	583.08	2.88E+02	47.34	7.32E+00	4.08E+00	2.81E+02	4.75E+01
M	24	609.35	4.35E+02	45.71	1.30E+01	3.89E+00	4.22E+02	4.59E+01
m	25	612.02	2.38E+01	44.79			2.38E+01	4.48E+01
	26	665.82	2.90E+01	23.98			2.90E+01	2.40E+01
	27	727.40	5.29E+01	24.90			5.29E+01	2.49E+01
	28	734.34	2.74E+01	29.71			2.74E+01	2.97E+01
	29	768.79	4.78E+01	33.88			4.78E+01	3.39E+01
M	30	775.12	1.90E+01	16.12			1.90E+01	1.61E+01
m	31	787.41	2.60E+01	25.61			2.60E+01	2.56E+01
	32	795.59	3.73E+01	26.53			3.73E+01	2.65E+01
	33	836.31	3.73E+01	34.76			3.73E+01	3.48E+01
	34	860.89	4.56E+01	33.08			4.56E+01	3.31E+01
	35	876.40	4.62E+01	47.51			4.62E+01	4.75E+01
M	36	904.68	1.69E+01	24.41			1.69E+01	2.44E+01
m	37	911.35	1.72E+02	31.65	5.60E+00	3.32E+00	1.66E+02	3.18E+01
	38	935.74	3.73E+01	30.51			3.73E+01	3.05E+01
	39	969.56	1.32E+02	44.40			1.32E+02	4.44E+01
M	40	1069.25	2.12E+01	29.87			2.12E+01	2.99E+01
m	41	1075.07	1.58E+01	23.58			1.58E+01	2.36E+01
	42	1120.31	7.55E+01	31.72	3.93E+00	2.96E+00	7.16E+01	3.19E+01
	43	1379.27	3.90E+01	26.94			3.90E+01	2.69E+01
	44	1461.00	7.11E+02	55.67	1.12E+01	2.55E+00	7.00E+02	5.57E+01
	45	1508.48	1.81E+01	21.07			1.81E+01	2.11E+01
	46	1582.73	1.24E+01	10.84			1.24E+01	1.08E+01
	47	1590.10	3.70E+01	18.63			3.70E+01	1.86E+01
	48	1631.50	1.06E+01	9.38			1.06E+01	9.38E+00
	49	1637.49	7.35E+00	8.89			7.35E+00	8.89E+00
	50	1728.74	2.60E+01	15.06			2.60E+01	1.51E+01
M	51	1758.50	6.55E+00	3.61			6.55E+00	3.61E+00
m	52	1764.85	7.51E+01	18.00	4.23E+00	2.21E+00	7.09E+01	1.81E+01
	53	1829.77	1.20E+01	10.86			1.20E+01	1.09E+01
	54	1896.41	9.15E+00	8.75			9.15E+00	8.75E+00
	55	1918.79	6.59E+00	8.43			6.59E+00	8.43E+00

Analysis Report for 1510092-11

CP5001S06-07

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
56	1952.73	6.40E+00	8.19			6.40E+00	8.19E+00
57	1975.90	8.00E+00	5.66			8.00E+00	5.66E+00
58	2074.49	6.94E+00	7.50			6.94E+00	7.50E+00
59	2104.10	1.65E+01	13.81			1.65E+01	1.38E+01
60	2203.71	1.71E+01	10.77	5.94E-01	1.16E+00	1.66E+01	1.08E+01
61	2269.45	8.69E+00	10.10			8.69E+00	1.01E+01
62	2345.46	8.00E+00	5.66			8.00E+00	5.66E+00
63	2614.25	1.27E+02	22.54	7.38E+00	1.57E+00	1.20E+02	2.26E+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 : 11/11/2015 9:24:32AM
 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	76.42	1.19E+03	138.76		1.19E+03	1.39E+02
	2	87.30	9.51E+01	66.21	1.46E+00	7.88E+00	9.36E+01
	3	156.99	9.06E+01	65.88	0.00E+00	0.00E+00	9.06E+01
	4	167.00	7.15E+01	73.67			7.15E+01
M	5	183.53	5.75E+01	33.85			5.75E+01
m	6	186.08	1.83E+02	55.94	4.72E+01	7.97E+00	1.36E+02
M	7	206.24	3.15E+01	25.57			3.15E+01
m	8	209.11	5.44E+01	43.22			5.44E+01
M	9	238.77	8.97E+02	75.73	2.36E+01	1.35E+01	8.73E+02
m	10	241.79	2.17E+02	75.99	6.38E+00	3.91E+00	2.11E+02
M	11	270.89	5.69E+01	36.17			5.69E+01
m	12	275.16	3.82E+01	33.17			3.82E+01
M	13	295.30	3.09E+02	49.96	8.57E+00	6.10E+00	3.00E+02
m	14	300.25	6.99E+01	36.28			6.99E+01
m	15	338.35	1.67E+02	42.26			1.67E+02
	16	352.05	5.37E+02	65.82	1.40E+01	5.55E+00	5.23E+02
	17	402.88	2.29E+01	28.28			2.29E+01
	18	409.33	4.39E+01	41.18			4.39E+01
	19	452.80	4.43E+01	33.88			4.43E+01
	20	462.90	9.01E+01	45.98			9.01E+01

Analysis Report for 1510092-11

CP5001S06-07

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	21	510.81	2.05E+02	48.92	8.41E+01	5.50E+00	1.21E+02	4.92E+01
	22	528.66	2.29E+01	28.45			2.29E+01	2.84E+01
	23	583.08	2.88E+02	47.34	7.32E+00	4.08E+00	2.81E+02	4.75E+01
M	24	609.35	4.35E+02	45.71	1.30E+01	3.89E+00	4.22E+02	4.59E+01
m	25	612.02	2.38E+01	44.79			2.38E+01	4.48E+01
	26	665.82	2.90E+01	23.98			2.90E+01	2.40E+01
	27	727.40	5.29E+01	24.90			5.29E+01	2.49E+01
	28	734.34	2.74E+01	29.71			2.74E+01	2.97E+01
	29	768.79	4.78E+01	33.88			4.78E+01	3.39E+01
M	30	775.12	1.90E+01	16.12			1.90E+01	1.61E+01
m	31	787.41	2.60E+01	25.61			2.60E+01	2.56E+01
	32	795.59	3.73E+01	26.53			3.73E+01	2.65E+01
	33	836.31	3.73E+01	34.76			3.73E+01	3.48E+01
	34	860.89	4.56E+01	33.08			4.56E+01	3.31E+01
	35	876.40	4.62E+01	47.51			4.62E+01	4.75E+01
M	36	904.68	1.69E+01	24.41			1.69E+01	2.44E+01
m	37	911.35	1.72E+02	31.65	5.60E+00	3.32E+00	1.66E+02	3.18E+01
	38	935.74	3.73E+01	30.51			3.73E+01	3.05E+01
	39	969.56	1.32E+02	44.40			1.32E+02	4.44E+01
M	40	1069.25	2.12E+01	29.87			2.12E+01	2.99E+01
m	41	1075.07	1.58E+01	23.58			1.58E+01	2.36E+01
	42	1120.31	7.55E+01	31.72	3.93E+00	2.96E+00	7.16E+01	3.19E+01
	43	1379.27	3.90E+01	26.94			3.90E+01	2.69E+01
	44	1461.00	7.11E+02	55.67	1.12E+01	2.55E+00	7.00E+02	5.57E+01
	45	1508.48	1.81E+01	21.07			1.81E+01	2.11E+01
	46	1582.73	1.24E+01	10.84			1.24E+01	1.08E+01
	47	1590.10	3.70E+01	18.63			3.70E+01	1.86E+01
	48	1631.50	1.06E+01	9.38			1.06E+01	9.38E+00
	49	1637.49	7.35E+00	8.89			7.35E+00	8.89E+00
	50	1728.74	2.60E+01	15.06			2.60E+01	1.51E+01
M	51	1758.50	6.55E+00	3.61			6.55E+00	3.61E+00
m	52	1764.85	7.51E+01	18.00	4.23E+00	2.21E+00	7.09E+01	1.81E+01
	53	1829.77	1.20E+01	10.86			1.20E+01	1.09E+01
	54	1896.41	9.15E+00	8.75			9.15E+00	8.75E+00
	55	1918.79	6.59E+00	8.43			6.59E+00	8.43E+00
	56	1952.73	6.40E+00	8.19			6.40E+00	8.19E+00
	57	1975.90	8.00E+00	5.66			8.00E+00	5.66E+00
	58	2074.49	6.94E+00	7.50			6.94E+00	7.50E+00
	59	2104.10	1.65E+01	13.81			1.65E+01	1.38E+01
	60	2203.71	1.71E+01	10.77	5.94E-01	1.16E+00	1.66E+01	1.08E+01
	61	2269.45	8.69E+00	10.10			8.69E+00	1.01E+01
	62	2345.46	8.00E+00	5.66			8.00E+00	5.66E+00
	63	2614.25	1.27E+02	22.54	7.38E+00	1.57E+00	1.20E+02	2.26E+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 1510092-11
CP5001S06-07

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	0.994	1460.81 *	10.67	1.88E+01	2.46E+00
CD-109	0.917	88.03 *	3.72	1.25E+00	9.12E-01
SN-126	0.988	87.57 *	37.00	1.19E-01	8.70E-02
EU-155	0.301	86.50 *	30.90	1.45E-01	1.06E-01
		105.30	20.70		
TL-208	0.984	583.14 *	30.22	1.30E+00	2.47E-01
		860.37 *	4.48	1.93E+00	1.41E+00
		2614.66 *	35.85	1.10E+00	2.26E-01
BI-212	0.759	727.17 *	11.80	7.43E-01	3.56E-01
		1620.62	2.75		
PB-212	0.997	238.63 *	44.60	1.47E+00	1.84E-01
		300.09 *	3.41	1.80E+00	9.48E-01
BI-214	0.993	609.31 *	46.30	1.32E+00	1.83E-01
		1120.29 *	15.10	1.11E+00	5.05E-01
		1764.49 *	15.80	1.44E+00	3.86E-01
		2204.22 *	4.98	1.13E+00	7.47E-01
PB-214	0.998	295.21 *	19.19	1.36E+00	2.62E-01
		351.92 *	37.19	1.37E+00	2.12E-01
RA-224	0.900	240.98 *	3.95	4.04E+00	1.50E+00
RA-226	0.997	186.21 *	3.28	2.63E+00	4.95E+00
AC-228	0.984	338.32 *	11.40	1.39E+00	3.74E-01
		911.07 *	27.70	1.19E+00	2.51E-01
		969.11 *	16.60	1.66E+00	5.77E-01
NP-237	0.904	86.50 *	12.60	3.51E-01	2.56E-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 1510092-11
 CP5001S06-07

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 9:24:32AM
 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	76.42	3.31746E-01	5.81		
3	156.99	2.51612E-02	36.36		
4	167.00	1.98653E-02	51.51		
M 5	183.53	1.59588E-02	29.46	Tol.	HO-166M
M 7	206.24	8.75070E-03	40.59	Tol.	U-235
m 8	209.11	1.50976E-02	39.76	Tol.	GA-67 CM-243
M 11	270.89	1.57919E-02	31.81		
m 12	275.16	1.06047E-02	43.44		
17	402.88	6.36327E-03	61.72		
18	409.33	1.21941E-02	46.91		
19	452.80	1.23080E-02	38.23		
20	462.90	2.50412E-02	25.50	Tol.	SB-125
21	510.81	3.36360E-02	20.33		
22	528.66	6.34988E-03	62.22	Tol.	RB-83
m 25	612.02	6.61869E-03	93.99		
26	665.82	8.05180E-03	41.36		
28	734.34	7.62172E-03	54.13	Tol.	PA-234
29	768.79	1.32893E-02	35.41	Sum	
M 30	775.12	5.29138E-03	42.32		
m 31	787.41	7.21817E-03	49.28		
32	795.59	1.03489E-02	35.61	Sum	
33	836.31	1.03526E-02	46.63		
35	876.40	1.28227E-02	51.46		
M 36	904.68	4.70480E-03	72.07	Sum	
38	935.74	1.03636E-02	40.89	Sum	
M 40	1069.25	5.87915E-03	70.58		
m 41	1075.07	4.39652E-03	74.49		
43	1379.27	1.08333E-02	34.54		
45	1508.48	5.02137E-03	58.28		
46	1582.73	3.43056E-03	43.89		
47	1590.10	1.02806E-02	25.18		
48	1631.50	2.95635E-03	44.07		
49	1637.49	2.04060E-03	60.50		
50	1728.74	7.23039E-03	28.93	Sum	
M 51	1758.50	1.82021E-03	27.51		
53	1829.77	3.33333E-03	45.26	Sum	
54	1896.41	2.54274E-03	47.77		
55	1918.79	1.83081E-03	63.92		
56	1952.73	1.77778E-03	63.95		
57	1975.90	2.22222E-03	35.36		
58	2074.49	1.92901E-03	54.00		
59	2104.10	4.58333E-03	41.85	S-Esc	
61	2269.45	2.41453E-03	58.09		
62	2345.46	2.22222E-03	35.36		

Analysis Report for 1510092-11
CP5001S06-07

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	1.88E+01	2.46E+00
CD-109	0.91	88.03	*	3.72	1.25E+00	9.12E-01
SN-126	0.98	87.57	*	37.00	1.19E-01	8.70E-02
EU-155	0.30	86.50	*	30.90	1.45E-01	1.06E-01
		105.30		20.70		
TL-208	0.98	583.14	*	30.22	1.30E+00	2.47E-01
		860.37	*	4.48	1.93E+00	1.41E+00
		2614.66	*	35.85	1.10E+00	2.26E-01
BI-212	0.75	727.17	*	11.80	7.43E-01	3.56E-01
		1620.62		2.75		
PB-212	0.99	238.63	*	44.60	1.47E+00	1.84E-01
		300.09	*	3.41	1.80E+00	9.48E-01
BI-214	0.99	609.31	*	46.30	1.32E+00	1.83E-01
		1120.29	*	15.10	1.11E+00	5.05E-01
		1764.49	*	15.80	1.44E+00	3.86E-01
		2204.22	*	4.98	1.13E+00	7.47E-01
PB-214	0.99	295.21	*	19.19	1.36E+00	2.62E-01
		351.92	*	37.19	1.37E+00	2.12E-01
RA-224	0.90	240.98	*	3.95	4.04E+00	1.50E+00
RA-226	0.99	186.21	*	3.28	2.63E+00	4.95E+00
AC-228	0.98	338.32	*	11.40	1.39E+00	3.74E-01
		911.07	*	27.70	1.19E+00	2.51E-01
		969.11	*	16.60	1.66E+00	5.77E-01
NP-237	0.90	86.50	*	12.60	3.51E-01	2.56E-01

Analysis Report for 1510092-11
CP5001S06-07

* = 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

<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	0.994	1.88E+01	2.46E+00	
?	CD-109	0.917	1.25E+00	9.12E-01	
?	SN-126	0.988	1.19E-01	8.70E-02	
?	EU-155	0.301	1.45E-01	1.06E-01	
	TL-208	0.984	1.20E+00	1.65E-01	
	BI-212	0.759	7.43E-01	3.56E-01	
	PB-212	0.997	1.48E+00	1.81E-01	
	BI-214	0.993	1.31E+00	1.54E-01	
	PB-214	0.998	1.37E+00	1.65E-01	
	RA-224	0.900	4.04E+00	1.50E+00	
	RA-226	0.997	2.63E+00	4.95E+00	
	AC-228	0.984	1.30E+00	1.96E-01	
?	NP-237	0.904	3.51E-01	2.56E-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 1510092-11
CP5001S06-07

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 9:24:32AM
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	76.42	3.31746E-01	5.81		
3	156.99	2.51612E-02	36.36		
4	167.00	1.98653E-02	51.51		
M 5	183.53	1.59588E-02	29.46	Tol.	HO-166M
M 7	206.24	8.75070E-03	40.59	Tol.	U-235
m 8	209.11	1.50976E-02	39.76	Tol.	GA-67 CM-243
M 11	270.89	1.57919E-02	31.81		
m 12	275.16	1.06047E-02	43.44		
17	402.88	6.36327E-03	61.72		
18	409.33	1.21941E-02	46.91		
19	452.80	1.23080E-02	38.23		
20	462.90	2.50412E-02	25.50	Tol.	SB-125
21	510.81	3.36360E-02	20.33		
22	528.66	6.34988E-03	62.22	Tol.	RB-83
m 25	612.02	6.61869E-03	93.99		
26	665.82	8.05180E-03	41.36		
28	734.34	7.62172E-03	54.13	Tol.	PA-234
29	768.79	1.32893E-02	35.41	Sum	
M 30	775.12	5.29138E-03	42.32		
m 31	787.41	7.21817E-03	49.28		
32	795.59	1.03489E-02	35.61	Sum	
33	836.31	1.03526E-02	46.63		
35	876.40	1.28227E-02	51.46		
M 36	904.68	4.70480E-03	72.07	Sum	
38	935.74	1.03636E-02	40.89	Sum	
M 40	1069.25	5.87915E-03	70.58		
m 41	1075.07	4.39652E-03	74.49		
43	1379.27	1.08333E-02	34.54		
45	1508.48	5.02137E-03	58.28		
46	1582.73	3.43056E-03	43.89		
47	1590.10	1.02806E-02	25.18		
48	1631.50	2.95635E-03	44.07		
49	1637.49	2.04060E-03	60.50		
50	1728.74	7.23039E-03	28.93	Sum	

Analysis Report for 1510092-11
CP5001S06-07

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
M 51	1758.50	1.82021E-03	27.51	Sum	
53	1829.77	3.33333E-03	45.26		
54	1896.41	2.54274E-03	47.77		
55	1918.79	1.83081E-03	63.92		
56	1952.73	1.77778E-03	63.95		
57	1975.90	2.22222E-03	35.36		
58	2074.49	1.92901E-03	54.00	S-Esc	
59	2104.10	4.58333E-03	41.85		
61	2269.45	2.41453E-03	58.09		
62	2345.46	2.22222E-03	35.36		

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	1.79E-01	7.72E-01	7.72E-01
+	NA-22	1274.54	99.94	3.27E-02	7.28E-02	7.28E-02
+	NA-24	1368.53	99.99	9.28E+13	4.92E+13	3.64E+14
		2754.09	99.86	0.00E+00		4.92E+13
+	AL-26	1808.65	99.76	8.32E-04	6.32E-02	6.32E-02
+	K-40	1460.81	* 10.67	1.88E+01	8.45E-01	8.45E-01
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	-1.46E-02	5.09E-02	5.09E-02
		78.34	96.00	2.92E-01		7.55E-02
+	SC-46	889.25	99.98	-2.68E-03	9.09E-02	9.09E-02
		1120.51	99.99	2.39E-01		1.65E-01
+	V-48	983.52	99.98	8.49E-02	2.91E-01	2.91E-01
		1312.10	97.50	-1.33E-01		3.22E-01
+	CR-51	320.08	9.83	-4.81E-01	1.16E+00	1.16E+00
+	MN-54	834.83	99.97	1.93E-04	8.12E-02	8.12E-02
+	CO-56	846.75	99.96	1.58E-02	8.97E-02	8.97E-02
		1037.75	14.03	-1.33E-01		6.97E-01
		1238.25	67.00	1.46E-01		2.28E-01

Analysis Report for 1510092-11
CP5001S06-07

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)	
	CO-56	1771.40	15.51	1.38E-01	8.97E-02	5.19E-01
		2598.48	16.90	-6.98E-02		2.82E-01
+	CO-57	122.06	85.51	-1.42E-02	5.77E-02	5.77E-02
		136.48	10.60	1.37E-02		4.97E-01
+	CO-58	810.76	99.40	1.78E-02	1.04E-01	1.04E-01
+	FE-59	1099.22	56.50	1.51E-01	2.31E-01	2.31E-01
		1291.56	43.20	-9.21E-02		3.21E-01
+	CO-60	1173.22	100.00	4.36E-02	6.93E-02	9.02E-02
		1332.49	100.00	7.59E-03		6.93E-02
+	ZN-65	1115.52	50.75	1.25E-02	1.75E-01	1.75E-01
+	GA-67	93.31	35.70	2.01E+02	1.72E+02	1.72E+02
		208.95	2.24	-1.04E+02		2.72E+03
		300.22	16.00	-1.82E+01		3.72E+02
+	SE-75	121.11	16.70	2.55E-01	9.51E-02	3.36E-01
		136.00	59.20	-1.62E-02		9.89E-02
		264.65	59.80	-3.90E-02		9.51E-02
		279.53	25.20	1.19E-01		2.59E-01
		400.65	11.40	1.29E-01		5.49E-01
+	RB-82	776.52	13.00	1.60E-01	1.32E+00	1.32E+00
+	RB-83	520.41	46.00	2.18E-02	1.50E-01	1.50E-01
		529.64	30.30	1.35E-01		2.36E-01
		552.65	16.40	1.05E-01		4.19E-01
+	KR-85	513.99	0.43	-1.01E+01	1.48E+01	1.48E+01
+	SR-85	513.99	99.27	-6.25E-02	9.13E-02	9.13E-02
+	Y-88	898.02	93.40	1.95E-02	7.36E-02	9.26E-02
		1836.01	99.38	-8.92E-03		7.36E-02
+	NB-93M	16.57	9.43	-1.35E+04	5.11E+03	5.11E+03
+	NB-94	702.63	100.00	2.04E-02	7.01E-02	7.23E-02
		871.10	100.00	5.28E-03		7.01E-02
+	NB-95	765.79	99.81	4.62E-02	1.84E-01	1.84E-01
+	NB-95M	235.69	25.00	-1.29E+03	1.67E+02	1.67E+02
+	ZR-95	724.18	43.70	2.86E-03	1.90E-01	2.61E-01
		756.72	55.30	8.81E-02		1.90E-01
+	MO-99	181.06	6.20	2.34E+02	2.13E+03	3.02E+03
		739.58	12.80	2.21E+02		2.13E+03
		778.00	4.50	-1.09E+03		5.88E+03
+	RU-103	497.08	89.00	1.66E-02	1.01E-01	1.01E-01
+	RU-106	621.84	9.80	-3.21E-02	6.94E-01	6.94E-01
+	AG-108M	433.93	89.90	-1.13E-02	5.34E-02	5.34E-02
		614.37	90.40	6.94E-03		7.09E-02
		722.95	90.50	1.51E-02		8.22E-02
+	CD-109	88.03	*	3.72	1.25E+00	1.43E+00
+	AG-110M	657.75	93.14	2.19E-02	7.89E-02	7.89E-02
		677.61	10.53	1.76E-01		7.01E-01
		706.67	16.46	9.48E-02		4.43E-01
		763.93	21.98	6.13E-02		4.23E-01
		884.67	71.63	-3.38E-02		1.01E-01
		1384.27	23.94	6.79E-02		3.22E-01

Analysis Report for 1510092-11
CP5001S06-07

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	CD-113M	263.70	0.02	-2.06E+01	2.18E+02	2.18E+02
+	SN-113	255.12	1.93	-1.53E+00	9.85E-02	3.28E+00
		391.69	64.90	-4.71E-03		9.85E-02
+	TE123M	159.00	84.10	-1.53E-02	6.97E-02	6.97E-02
+	SB-124	602.71	97.87	1.13E-03	9.90E-02	9.90E-02
		645.85	7.26	9.09E-01		1.46E+00
		722.78	11.10	1.79E-01		9.76E-01
		1691.02	49.00	-1.86E-02		1.40E-01
+	I-125	35.49	6.49	2.75E+00	5.62E+00	5.62E+00
+	SB-125	176.33	6.89	1.03E-01	1.91E-01	7.40E-01
		427.89	29.33	3.72E-02		1.91E-01
		463.38	10.35	5.02E-01		6.56E-01
		600.56	17.80	4.47E-03		3.89E-01
		635.90	11.32	2.03E-01		5.94E-01
+	SB-126	414.70	83.30	1.49E-01	3.73E-01	3.73E-01
		666.33	99.60	8.86E-02		4.39E-01
		695.00	99.60	3.26E-02		4.40E-01
		720.50	53.80	-1.84E-01		7.87E-01
+	SN-126	87.57	* 37.00	1.19E-01	1.37E-01	1.37E-01
+	SB-127	473.00	25.00	-2.24E+00	6.56E+01	7.72E+01
		685.20	35.70	-1.83E+00		6.56E+01
		783.80	14.70	9.73E+01		1.91E+02
+	I-129	29.78	57.00	5.51E-01	1.24E+00	1.24E+00
		33.60	13.20	1.07E+00		2.50E+00
		39.58	7.52	1.84E-01		2.09E+00
+	I-131	284.30	6.05	3.76E+00	1.05E+00	1.34E+01
		364.48	81.20	7.87E-02		1.05E+00
		636.97	7.26	-1.61E+00		1.45E+01
		722.89	1.80	1.27E+01		6.93E+01
+	TE-132	49.72	13.10	1.87E+02	6.54E+01	6.07E+02
		228.16	88.00	3.41E+01		6.54E+01
+	BA-133	81.00	33.00	-3.02E-02	8.28E-02	1.19E-01
		302.84	17.80	-3.61E-01		2.96E-01
		356.01	60.00	-1.15E-02		8.28E-02
+	I-133	529.87	86.30	4.81E+09	1.43E+10	1.43E+10
+	XE-133	81.00	38.00	-1.97E+00	7.75E+00	7.75E+00
+	CS-134	563.23	8.38	5.75E-02	8.85E-02	6.74E-01
		569.32	15.43	2.79E-02		3.72E-01
		604.70	97.60	-6.59E-01		8.85E-02
		795.84	85.40	9.10E-02		9.52E-02
		801.93	8.73	-2.80E-01		8.13E-01
+	CS-135	268.24	16.00	-2.70E-01	3.41E-01	3.41E-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	1.04E+00	3.61E-01	3.70E+00
		163.89	4.61	4.27E+00		6.26E+00
		176.55	13.56	2.50E-01		2.05E+00
		273.65	12.66	-2.87E+00		2.39E+00

Analysis Report for 1510092-11
CP5001S06-07

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)	
CS-136	340.57	48.50	-3.87E-01	3.61E-01	7.44E-01	
	818.50	99.70	-3.48E-02		3.61E-01	
	1048.07	79.60	-5.48E-02		5.53E-01	
	1235.34	19.70	1.31E+00		3.08E+00	
+ CS-137	661.65	85.12	5.35E-03	7.65E-02	7.65E-02	
+ LA-138	788.74	34.00	1.25E-01	8.37E-02	2.09E-01	
	1435.80	66.00	-1.04E-02		8.37E-02	
+ CE-139	165.85	80.35	2.77E-02	7.52E-02	7.52E-02	
+ BA-140	162.64	6.70	4.39E-01	1.06E+00	4.22E+00	
	304.84	4.50	-4.14E-03		6.69E+00	
	423.70	3.20	-1.46E+00		9.21E+00	
	437.55	2.00	-1.45E+00		1.44E+01	
	537.32	25.00	-5.62E-01		1.06E+00	
+ LA-140	328.77	20.50	1.13E+00	4.40E-01	1.82E+00	
	487.03	45.50	-2.20E-01		6.69E-01	
	815.85	23.50	-1.42E+00		1.46E+00	
	1596.49	95.49	-1.03E-01		4.40E-01	
+ CE-141	145.44	48.40	3.95E-02	1.99E-01	1.99E-01	
+ CE-143	57.36	11.80	-5.91E+04	2.67E+06	6.65E+06	
	293.26	42.00	4.72E+05		2.67E+06	
	664.55	5.20	4.52E+04		2.01E+07	
+ CE-144	133.54	10.80	-1.06E-01	4.82E-01	4.82E-01	
+ PM-144	476.78	42.00	3.10E-02	7.07E-02	1.33E-01	
	618.01	98.60	4.36E-02		7.07E-02	
	696.49	99.49	9.80E-03		7.69E-02	
+ PM-145	36.85	21.70	1.18E-01	4.88E-01	9.51E-01	
	37.36	39.70	6.06E-02		4.88E-01	
	42.30	15.10	-5.47E-02		8.43E-01	
	72.40	2.31	-1.04E+00		2.05E+00	
+ PM-146	453.90	39.94	8.16E-02	1.35E-01	1.35E-01	
	735.90	14.01	-3.48E-02		5.03E-01	
	747.13	13.10	-1.37E-01		4.61E-01	
+ ND-147	91.11	28.90	1.20E+00	1.65E+00	1.65E+00	
	531.02	13.10	7.85E-02		3.04E+00	
+ PM-149	285.90	3.10	-3.29E+02	4.48E+04	4.48E+04	
+ EU-152	121.78	20.50	-5.48E-02	2.22E-01	2.22E-01	
	244.69	5.40	-1.57E+00		1.01E+00	
	344.27	19.13	4.55E-02		2.70E-01	
	778.89	9.20	-3.19E-01		7.74E-01	
	964.01	10.40	1.63E-03		8.64E-01	
	1085.78	7.22	2.89E-01		1.05E+00	
	1112.02	9.60	1.64E-01		8.46E-01	
	1407.95	14.94	1.52E-01		4.88E-01	
	97.43	31.30	8.86E-02		1.56E-01	1.56E-01
	103.18	22.20	-1.02E-01			2.16E-01
+ EU-154	123.07	40.50	-7.19E-02	1.12E-01	1.12E-01	
	723.30	19.70	6.96E-02		3.80E-01	
	873.19	11.50	-3.94E-01		5.87E-01	
	996.32	10.30	-3.47E-01		6.23E-01	

Analysis Report for 1510092-11
CP5001S06-07

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)	
	EU-154	1004.76	17.90	-1.88E-01	1.12E-01	3.66E-01
		1274.45	35.50	9.06E-02		2.01E-01
+	EU-155	86.50	* 30.90	1.45E-01	1.66E-01	1.66E-01
		105.30	20.70	-1.08E-01		2.22E-01
+	EU-156	811.77	10.40	7.49E-01	3.11E+00	3.11E+00
		1153.47	7.20	3.50E-02		5.34E+00
		1230.71	8.90	5.65E-01		4.75E+00
+	HO-166M	184.41	72.60	5.50E-02	8.56E-02	8.56E-02
		280.45	29.60	8.37E-02		1.83E-01
		410.94	11.10	1.55E-01		4.98E-01
		711.69	54.10	-3.88E-02		1.20E-01
+	TM-171	66.72	0.14	1.14E+01	3.64E+01	3.64E+01
+	HF-172	81.75	4.52	-7.27E-01	4.17E-01	8.66E-01
		125.81	11.30	-6.16E-01		4.17E-01
+	LU-172	181.53	20.60	9.09E-01	3.02E+00	7.20E+00
		810.06	16.63	2.27E+00		1.33E+01
		912.12	15.25	6.39E+01		2.70E+01
		1093.66	62.50	-4.03E-01		3.02E+00
+	LU-173	100.72	5.24	4.53E-01	2.98E-01	8.87E-01
		272.11	21.20	-9.23E-02		2.98E-01
+	HF-175	343.40	84.00	3.81E-03	8.55E-02	8.55E-02
+	LU-176	88.34	13.30	4.14E-01	5.43E-02	4.67E-01
		201.83	86.00	-1.74E-02		5.84E-02
		306.78	94.00	2.19E-02		5.43E-02
+	TA-182	67.75	41.20	-4.07E-02	1.42E-01	1.42E-01
		1121.30	34.90	5.99E-01		4.43E-01
		1189.05	16.23	-1.20E-01		6.21E-01
		1221.41	26.98	5.68E-02		4.44E-01
		1231.02	11.44	-6.69E-01		9.87E-01
+	IR-192	308.46	29.68	8.90E-02	1.55E-01	2.31E-01
		468.07	48.10	-1.25E-02		1.55E-01
+	HG-203	279.19	77.30	8.39E-02	1.18E-01	1.18E-01
+	BI-207	569.67	97.72	4.29E-03	5.71E-02	5.71E-02
		1063.62	74.90	5.09E-03		1.05E-01
+	TL-208	583.14	* 30.22	1.30E+00	1.11E-01	2.69E-01
		860.37	* 4.48	1.93E+00		2.22E+00
		2614.66	* 35.85	1.10E+00		1.11E-01
+	BI-210M	262.00	45.00	-1.39E-02	1.08E-01	1.08E-01
		300.00	23.00	-1.21E-02		2.47E-01
+	PB-210	46.50	4.25	4.28E+00	2.50E+00	2.50E+00
+	PB-211	404.84	2.90	-6.07E-01	1.86E+00	1.86E+00
		831.96	2.90	1.66E-01		2.52E+00
+	BI-212	727.17	* 11.80	7.43E-01	5.05E-01	5.05E-01
		1620.62	2.75	2.47E-01		1.86E+00
+	PB-212	238.63	* 44.60	1.47E+00	2.40E-01	2.40E-01
		300.09	* 3.41	1.80E+00		4.51E+00
+	BI-214	609.31	* 46.30	1.32E+00	2.16E-01	2.16E-01
		1120.29	* 15.10	1.11E+00		7.33E-01

Analysis Report for 1510092-11
CP5001S06-07

Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	BI-214	1764.49	*	15.80	1.44E+00	3.38E-01
		2204.22	*	4.98	1.13E+00	9.91E-01
+	PB-214	295.21	*	19.19	1.36E+00	7.97E-01
		351.92	*	37.19	1.37E+00	2.13E-01
+	RN-219	401.80		6.50	2.30E-01	8.14E-01
+	RA-223	323.87		3.88	4.16E-01	1.42E+00
+	RA-224	240.98	*	3.95	4.04E+00	2.71E+00
+	RA-225	40.00		31.00	1.98E-01	2.25E+00
+	RA-226	186.21	*	3.28	2.63E+00	2.36E+00
+	TH-227	50.10		8.40	2.73E-01	6.83E-01
		236.00		11.50	-5.26E+00	6.83E-01
		256.20		6.30	7.35E-04	8.28E-01
+	AC-228	338.32	*	11.40	1.39E+00	5.41E-01
		911.07	*	27.70	1.19E+00	5.41E-01
		969.11	*	16.60	1.66E+00	8.21E-01
+	TH-230	48.44		16.90	-5.34E-01	4.77E-01
		62.85		4.60	1.72E+00	1.28E+00
		67.67		0.37	-3.72E+00	1.30E+01
+	PA-231	283.67		1.60	8.47E-01	2.28E+00
		302.67		2.30	-2.78E+00	2.28E+00
+	TH-231	25.64		14.70	8.58E-01	6.94E-01
		84.21		6.40	9.36E-01	6.94E-01
+	PA-233	311.98		38.60	-5.68E-02	2.81E-01
+	PA-234	131.20		20.40	1.78E-01	2.54E-01
		733.99		8.80	5.59E-01	8.00E-01
		946.00		12.00	3.21E-01	6.87E-01
+	PA-234M	1001.03		0.92	8.37E-02	7.41E+00
+	TH-234	63.29		3.80	2.07E+00	1.54E+00
+	U-235	143.76		10.50	-1.12E-01	4.47E-01
		163.35		4.70	1.06E-01	1.02E+00
		205.31		4.70	8.54E-02	1.14E+00
+	NP-237	86.50	*	12.60	3.51E-01	4.03E-01
+	NP-239	106.10		22.70	4.51E+01	3.12E+03
		228.18		10.70	4.05E+03	7.75E+03
		277.60		14.10	1.15E+03	6.03E+03
+	AM-241	59.54		35.90	-8.45E-02	1.43E-01
+	AM-243	74.67		66.00	-2.48E-01	1.00E-01
+	CM-243	209.75		3.29	5.88E-01	4.02E-01
		228.14		10.60	2.70E-01	5.18E-01
		277.60		14.00	7.65E-02	4.02E-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 1510092-11
CP5001S06-07

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	7.72E-01	7.72E-01	1.79E-01	3.62E-01
NA-22	1274.54	99.94	7.28E-02	7.28E-02	3.27E-02	3.28E-02
NA-24	1368.53	99.99	3.64E+14	4.92E+13	9.28E+13	1.61E+14
	2754.09	99.86	4.92E+13		0.00E+00	0.00E+00
AL-26	1808.65	99.76	6.32E-02	6.32E-02	8.32E-04	2.72E-02
+ K-40	1460.81	* 10.67	8.45E-01	8.45E-01	1.88E+01	3.86E-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	5.09E-02	5.09E-02	-1.46E-02	2.47E-02
	78.34	96.00	7.55E-02		2.92E-01	3.71E-02
SC-46	889.25	99.98	9.09E-02	9.09E-02	-2.68E-03	4.20E-02
	1120.51	99.99	1.65E-01		2.39E-01	7.85E-02
V-48	983.52	99.98	2.91E-01	2.91E-01	8.49E-02	1.33E-01
	1312.10	97.50	3.22E-01		-1.33E-01	1.46E-01
CR-51	320.08	9.83	1.16E+00	1.16E+00	-4.81E-01	5.51E-01
MN-54	834.83	99.97	8.12E-02	8.12E-02	1.93E-04	3.79E-02
CO-56	846.75	99.96	8.97E-02	8.97E-02	1.58E-02	4.15E-02
	1037.75	14.03	6.97E-01		-1.33E-01	3.20E-01
	1238.25	67.00	2.28E-01		1.46E-01	1.07E-01
	1771.40	15.51	5.19E-01		1.38E-01	2.22E-01
	2598.48	16.90	2.82E-01		-6.98E-02	1.05E-01
CO-57	122.06	85.51	5.77E-02	5.77E-02	-1.42E-02	2.80E-02
	136.48	10.60	4.97E-01		1.37E-02	2.41E-01
CO-58	810.76	99.40	1.04E-01	1.04E-01	1.78E-02	4.87E-02
FE-59	1099.22	56.50	2.31E-01	2.31E-01	1.51E-01	1.06E-01
	1291.56	43.20	3.21E-01		-9.21E-02	1.47E-01
CO-60	1173.22	100.00	9.02E-02	6.93E-02	4.36E-02	4.18E-02
	1332.49	100.00	6.93E-02		7.59E-03	3.10E-02
ZN-65	1115.52	50.75	1.75E-01	1.75E-01	1.25E-02	8.08E-02
GA-67	93.31	35.70	1.72E+02	1.72E+02	2.01E+02	8.44E+01
	208.95	2.24	2.72E+03		-1.04E+02	1.32E+03
	300.22	16.00	3.72E+02		-1.82E+01	1.78E+02
SE-75	121.11	16.70	3.36E-01	9.51E-02	2.55E-01	1.63E-01
	136.00	59.20	9.89E-02		-1.62E-02	4.80E-02
	264.65	59.80	9.51E-02		-3.90E-02	4.54E-02
	279.53	25.20	2.59E-01		1.19E-01	1.24E-01
	400.65	11.40	5.49E-01		1.29E-01	2.59E-01
RB-82	776.52	13.00	1.32E+00	1.32E+00	1.60E-01	6.16E-01

Analysis Report for 1510092-11
CP5001S06-07

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	1.50E-01	1.50E-01	2.18E-02	7.03E-02
	529.64	30.30	2.36E-01		1.35E-01	1.10E-01
	552.65	16.40	4.19E-01		1.05E-01	1.95E-01
KR-85	513.99	0.43	1.48E+01	1.48E+01	-1.01E+01	7.01E+00
SR-85	513.99	99.27	9.13E-02	9.13E-02	-6.25E-02	4.32E-02
Y-88	898.02	93.40	9.26E-02	7.36E-02	1.95E-02	4.28E-02
	1836.01	99.38	7.36E-02		-8.92E-03	3.13E-02
NB-93M	16.57	9.43	5.11E+03	5.11E+03	-1.35E+04	2.48E+03
NB-94	702.63	100.00	7.23E-02	7.01E-02	2.04E-02	3.40E-02
	871.10	100.00	7.01E-02		5.28E-03	3.24E-02
NB-95	765.79	99.81	1.84E-01	1.84E-01	4.62E-02	8.76E-02
NB-95M	235.69	25.00	1.67E+02	1.67E+02	-1.29E+03	8.16E+01
ZR-95	724.18	43.70	2.61E-01	1.90E-01	2.86E-03	1.23E-01
	756.72	55.30	1.90E-01		8.81E-02	8.88E-02
MO-99	181.06	6.20	3.02E+03	2.13E+03	2.34E+02	1.46E+03
	739.58	12.80	2.13E+03		2.21E+02	9.96E+02
	778.00	4.50	5.88E+03		-1.09E+03	2.74E+03
RU-103	497.08	89.00	1.01E-01	1.01E-01	1.66E-02	4.74E-02
RU-106	621.84	9.80	6.94E-01	6.94E-01	-3.21E-02	3.25E-01
AG-108M	433.93	89.90	5.34E-02	5.34E-02	-1.13E-02	2.50E-02
	614.37	90.40	7.09E-02		6.94E-03	3.33E-02
	722.95	90.50	8.22E-02		1.51E-02	3.87E-02
	88.03	3.72	1.43E+00	1.43E+00	1.25E+00	6.99E-01
+ CD-109	657.75	93.14	7.89E-02	7.89E-02	2.19E-02	3.70E-02
	677.61	10.53	7.01E-01		1.76E-01	3.29E-01
	706.67	16.46	4.43E-01		9.48E-02	2.07E-01
	763.93	21.98	4.23E-01		6.13E-02	2.00E-01
	884.67	71.63	1.01E-01		-3.38E-02	4.63E-02
	1384.27	23.94	3.22E-01		6.79E-02	1.44E-01
	263.70	0.02	2.18E+02	2.18E+02	-2.06E+01	1.04E+02
SN-113	255.12	1.93	3.28E+00	9.85E-02	-1.53E+00	1.57E+00
	391.69	64.90	9.85E-02		-4.71E-03	4.66E-02
TE123M	159.00	84.10	6.97E-02	6.97E-02	-1.53E-02	3.37E-02
SB-124	602.71	97.87	9.90E-02	9.90E-02	1.13E-03	4.66E-02
	645.85	7.26	1.46E+00		9.09E-01	6.88E-01
	722.78	11.10	9.76E-01		1.79E-01	4.59E-01
	1691.02	49.00	1.40E-01		-1.86E-02	5.74E-02
	35.49	6.49	5.62E+00	5.62E+00	2.75E+00	2.73E+00
SB-125	176.33	6.89	7.40E-01	1.91E-01	1.03E-01	3.57E-01
	427.89	29.33	1.91E-01		3.72E-02	9.03E-02
	463.38	10.35	6.56E-01		5.02E-01	3.12E-01
	600.56	17.80	3.89E-01		4.47E-03	1.83E-01
	635.90	11.32	5.94E-01		2.03E-01	2.79E-01
SB-126	414.70	83.30	3.73E-01	3.73E-01	1.49E-01	1.75E-01
	666.33	99.60	4.39E-01		8.86E-02	2.06E-01
	695.00	99.60	4.40E-01		3.26E-02	2.07E-01
	720.50	53.80	7.87E-01		-1.84E-01	3.68E-01
+ SN-126	87.57	37.00	1.37E-01	1.37E-01	1.19E-01	6.69E-02
	473.00	25.00	7.72E+01	6.56E+01	-2.24E+00	3.63E+01
	685.20	35.70	6.56E+01		-1.83E+00	3.07E+01
SB-127	783.80	14.70	1.91E+02		9.73E+01	8.98E+01
	29.78	57.00	1.24E+00	1.24E+00	5.51E-01	6.01E-01
	33.60	13.20	2.50E+00		1.07E+00	1.21E+00
I-129						

Analysis Report for 1510092-11

CP5001S06-07

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	2.09E+00	1.24E+00	1.84E-01	1.01E+00
I-131	284.30	6.05	1.34E+01	1.05E+00	3.76E+00	6.37E+00
	364.48	81.20	1.05E+00		7.87E-02	4.95E-01
	636.97	7.26	1.45E+01		-1.61E+00	6.77E+00
	722.89	1.80	6.93E+01		1.27E+01	3.26E+01
TE-132	49.72	13.10	6.07E+02	6.54E+01	1.87E+02	2.94E+02
	228.16	88.00	6.54E+01		3.41E+01	3.15E+01
BA-133	81.00	33.00	1.19E-01	8.28E-02	-3.02E-02	5.75E-02
	302.84	17.80	2.96E-01		-3.61E-01	1.41E-01
	356.01	60.00	8.28E-02		-1.15E-02	3.92E-02
I-133	529.87	86.30	1.43E+10	1.43E+10	4.81E+09	6.67E+09
XE-133	81.00	38.00	7.75E+00	7.75E+00	-1.97E+00	3.75E+00
CS-134	563.23	8.38	6.74E-01	8.85E-02	5.75E-02	3.14E-01
	569.32	15.43	3.72E-01		2.79E-02	1.73E-01
	604.70	97.60	8.85E-02		-6.59E-01	4.22E-02
	795.84	85.40	9.52E-02		9.10E-02	4.47E-02
	801.93	8.73	8.13E-01		-2.80E-01	3.78E-01
CS-135	268.24	16.00	3.41E-01	3.41E-01	-2.70E-01	1.64E-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	3.70E+00	3.61E-01	1.04E+00	1.79E+00
	163.89	4.61	6.26E+00		4.27E+00	3.04E+00
	176.55	13.56	2.05E+00		2.50E-01	9.92E-01
	273.65	12.66	2.39E+00		-2.87E+00	1.15E+00
	340.57	48.50	7.44E-01		-3.87E-01	3.57E-01
	818.50	99.70	3.61E-01		-3.48E-02	1.67E-01
	1048.07	79.60	5.53E-01		-5.48E-02	2.55E-01
	1235.34	19.70	3.08E+00		1.31E+00	1.44E+00
CS-137	661.65	85.12	7.65E-02	7.65E-02	5.35E-03	3.58E-02
LA-138	788.74	34.00	2.09E-01	8.37E-02	1.25E-01	9.75E-02
	1435.80	66.00	8.37E-02		-1.04E-02	3.60E-02
CE-139	165.85	80.35	7.52E-02	7.52E-02	2.77E-02	3.64E-02
BA-140	162.64	6.70	4.22E+00	1.06E+00	4.39E-01	2.04E+00
	304.84	4.50	6.69E+00		-4.14E-03	3.19E+00
	423.70	3.20	9.21E+00		-1.46E+00	4.33E+00
	437.55	2.00	1.44E+01		-1.45E+00	6.74E+00
	537.32	25.00	1.06E+00		-5.62E-01	4.89E-01
LA-140	328.77	20.50	1.82E+00	4.40E-01	1.13E+00	8.74E-01
	487.03	45.50	6.69E-01		-2.20E-01	3.13E-01
	815.85	23.50	1.46E+00		-1.42E+00	6.69E-01
	1596.49	95.49	4.40E-01		-1.03E-01	1.95E-01
CE-141	145.44	48.40	1.99E-01	1.99E-01	3.95E-02	9.63E-02
CE-143	57.36	11.80	6.65E+06	2.67E+06	-5.91E+04	3.22E+06
	293.26	42.00	2.67E+06		4.72E+05	1.30E+06
	664.55	5.20	2.01E+07		4.52E+04	9.47E+06
CE-144	133.54	10.80	4.82E-01	4.82E-01	-1.06E-01	2.34E-01
PM-144	476.78	42.00	1.33E-01	7.07E-02	3.10E-02	6.25E-02
	618.01	98.60	7.07E-02		4.36E-02	3.32E-02
	696.49	99.49	7.69E-02		9.80E-03	3.61E-02
PM-145	36.85	21.70	9.51E-01	4.88E-01	1.18E-01	4.61E-01
	37.36	39.70	4.88E-01		6.06E-02	2.37E-01
	42.30	15.10	8.43E-01		-5.47E-02	4.10E-01

Analysis Report for 1510092-11

CP5001S06-07

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	2.05E+00	4.88E-01	-1.04E+00	9.93E-01
PM-146	453.90	39.94	1.35E-01	1.35E-01	8.16E-02	6.33E-02
	735.90	14.01	5.03E-01		-3.48E-02	2.35E-01
	747.13	13.10	4.61E-01		-1.37E-01	2.13E-01
ND-147	91.11	28.90	1.65E+00	1.65E+00	1.20E+00	8.08E-01
	531.02	13.10	3.04E+00		7.85E-02	1.41E+00
PM-149	285.90	3.10	4.48E+04	4.48E+04	-3.29E+02	2.14E+04
EU-152	121.78	20.50	2.22E-01	2.22E-01	-5.48E-02	1.08E-01
	244.69	5.40	1.01E+00		-1.57E+00	4.87E-01
	344.27	19.13	2.70E-01		4.55E-02	1.28E-01
	778.89	9.20	7.74E-01		-3.19E-01	3.61E-01
	964.01	10.40	8.64E-01		1.63E-03	4.05E-01
	1085.78	7.22	1.05E+00		2.89E-01	4.81E-01
	1112.02	9.60	8.46E-01		1.64E-01	3.90E-01
	1407.95	14.94	4.88E-01		1.52E-01	2.19E-01
GD-153	97.43	31.30	1.56E-01	1.56E-01	8.86E-02	7.59E-02
	103.18	22.20	2.16E-01		-1.02E-01	1.05E-01
EU-154	123.07	40.50	1.12E-01	1.12E-01	-7.19E-02	5.45E-02
	723.30	19.70	3.80E-01		6.96E-02	1.79E-01
	873.19	11.50	5.87E-01		-3.94E-01	2.71E-01
	996.32	10.30	6.23E-01		-3.47E-01	2.83E-01
	1004.76	17.90	3.66E-01		-1.88E-01	1.67E-01
	1274.45	35.50	2.01E-01		9.06E-02	9.08E-02
+ EU-155	86.50	* 30.90	1.66E-01	1.66E-01	1.45E-01	8.11E-02
	105.30	20.70	2.22E-01		-1.08E-01	1.08E-01
EU-156	811.77	10.40	3.11E+00	3.11E+00	7.49E-01	1.45E+00
	1153.47	7.20	5.34E+00		3.50E-02	2.47E+00
	1230.71	8.90	4.75E+00		5.65E-01	2.20E+00
HO-166M	184.41	72.60	8.56E-02	8.56E-02	5.50E-02	4.16E-02
	280.45	29.60	1.83E-01		8.37E-02	8.77E-02
	410.94	11.10	4.98E-01		1.55E-01	2.36E-01
	711.69	54.10	1.20E-01		-3.88E-02	5.61E-02
TM-171	66.72	0.14	3.64E+01	3.64E+01	1.14E+01	1.77E+01
HF-172	81.75	4.52	8.66E-01	4.17E-01	-7.27E-01	4.18E-01
	125.81	11.30	4.17E-01		-6.16E-01	2.02E-01
LU-172	181.53	20.60	7.20E+00	3.02E+00	9.09E-01	3.48E+00
	810.06	16.63	1.33E+01		2.27E+00	6.23E+00
	912.12	15.25	2.70E+01		6.39E+01	1.30E+01
	1093.66	62.50	3.02E+00		-4.03E-01	1.36E+00
LU-173	100.72	5.24	8.87E-01	2.98E-01	4.53E-01	4.31E-01
	272.11	21.20	2.98E-01		-9.23E-02	1.43E-01
HF-175	343.40	84.00	8.55E-02	8.55E-02	3.81E-03	4.06E-02
LU-176	88.34	13.30	4.67E-01	5.43E-02	4.14E-01	2.29E-01
	201.83	86.00	5.84E-02		-1.74E-02	2.82E-02
	306.78	94.00	5.43E-02		2.19E-02	2.59E-02
TA-182	67.75	41.20	1.42E-01	1.42E-01	-4.07E-02	6.90E-02
	1121.30	34.90	4.43E-01		5.99E-01	2.10E-01
	1189.05	16.23	6.21E-01		-1.20E-01	2.86E-01
	1221.41	26.98	4.44E-01		5.68E-02	2.07E-01
	1231.02	11.44	9.87E-01		-6.69E-01	4.57E-01
IR-192	308.46	29.68	2.31E-01	1.55E-01	8.90E-02	1.10E-01
	468.07	48.10	1.55E-01		-1.25E-02	7.30E-02
HG-203	279.19	77.30	1.18E-01	1.18E-01	8.39E-02	5.64E-02

Analysis Report for 1510092-11

CP5001S06-07

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	5.71E-02	5.71E-02	4.29E-03	2.66E-02
	1063.62	74.90	1.05E-01		5.09E-03	4.86E-02
+ TL-208	583.14 *	30.22	2.69E-01	1.11E-01	1.30E+00	1.28E-01
	860.37 *	4.48	2.22E+00		1.93E+00	1.05E+00
	2614.66 *	35.85	1.11E-01		1.10E+00	4.29E-02
BI-210M	262.00	45.00	1.08E-01	1.08E-01	-1.39E-02	5.16E-02
	300.00	23.00	2.47E-01		-1.21E-02	1.19E-01
PB-210	46.50	4.25	2.50E+00	2.50E+00	4.28E+00	1.22E+00
PB-211	404.84	2.90	1.86E+00	1.86E+00	-6.07E-01	8.80E-01
	831.96	2.90	2.52E+00		1.66E-01	1.18E+00
+ BI-212	727.17 *	11.80	5.05E-01	5.05E-01	7.43E-01	2.34E-01
	1620.62	2.75	1.86E+00		2.47E-01	7.77E-01
+ PB-212	238.63 *	44.60	2.40E-01	2.40E-01	1.47E+00	1.18E-01
	300.09 *	3.41	4.51E+00		1.80E+00	2.22E+00
+ BI-214	609.31 *	46.30	2.16E-01	2.16E-01	1.32E+00	1.04E-01
	1120.29 *	15.10	7.33E-01		1.11E+00	3.45E-01
	1764.49 *	15.80	3.38E-01		1.44E+00	1.42E-01
	2204.22 *	4.98	9.91E-01		1.13E+00	4.03E-01
+ PB-214	295.21 *	19.19	7.97E-01	2.13E-01	1.36E+00	3.92E-01
	351.92 *	37.19	2.13E-01		1.37E+00	1.03E-01
RN-219	401.80	6.50	8.14E-01	8.14E-01	2.30E-01	3.85E-01
RA-223	323.87	3.88	1.42E+00	1.42E+00	4.16E-01	6.78E-01
+ RA-224	240.98 *	3.95	2.71E+00	2.71E+00	4.04E+00	1.33E+00
RA-225	40.00	31.00	2.25E+00	2.25E+00	1.98E-01	1.09E+00
+ RA-226	186.21 *	3.28	2.36E+00	2.36E+00	2.63E+00	1.15E+00
TH-227	50.10	8.40	8.86E-01	6.83E-01	2.73E-01	4.29E-01
	236.00	11.50	6.83E-01		-5.26E+00	3.33E-01
	256.20	6.30	8.28E-01		7.35E-04	3.97E-01
+ AC-228	338.32 *	11.40	1.64E+00	5.41E-01	1.39E+00	8.11E-01
	911.07 *	27.70	5.41E-01		1.19E+00	2.61E-01
	969.11 *	16.60	8.21E-01		1.66E+00	3.94E-01
TH-230	48.44	16.90	4.77E-01	4.77E-01	-5.34E-01	2.31E-01
	62.85	4.60	1.28E+00		1.72E+00	6.23E-01
	67.67	0.37	1.30E+01		-3.72E+00	6.31E+00
PA-231	283.67	1.60	3.01E+00	2.28E+00	8.47E-01	1.43E+00
	302.67	2.30	2.28E+00		-2.78E+00	1.09E+00
TH-231	25.64	14.70	1.47E+01	6.94E-01	8.58E-01	7.14E+00
	84.21	6.40	6.94E-01		9.36E-01	3.37E-01
PA-233	311.98	38.60	2.81E-01	2.81E-01	-5.68E-02	1.33E-01
PA-234	131.20	20.40	2.54E-01	2.54E-01	1.78E-01	1.23E-01
	733.99	8.80	8.00E-01		5.59E-01	3.75E-01
	946.00	12.00	6.87E-01		3.21E-01	3.20E-01
PA-234M	1001.03	0.92	7.41E+00	7.41E+00	8.37E-02	3.39E+00
TH-234	63.29	3.80	1.54E+00	1.54E+00	2.07E+00	7.49E-01
U-235	143.76	10.50	4.47E-01	4.47E-01	-1.12E-01	2.17E-01
	163.35	4.70	1.02E+00		1.06E-01	4.96E-01
	205.31	4.70	1.14E+00		8.54E-02	5.48E-01
+ NP-237	86.50 *	12.60	4.03E-01	4.03E-01	3.51E-01	1.96E-01
NP-239	106.10	22.70	3.12E+03	3.12E+03	4.51E+01	1.52E+03
	228.18	10.70	7.75E+03		4.05E+03	3.74E+03
	277.60	14.10	6.03E+03		1.15E+03	2.89E+03
AM-241	59.54	35.90	1.43E-01	1.43E-01	-8.45E-02	6.94E-02
AM-243	74.67	66.00	1.00E-01	1.00E-01	-2.48E-01	4.90E-02

Analysis Report for 1510092-11
 CP5001S06-07

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	1.78E+00	4.02E-01	5.88E-01	8.64E-01
	228.14	10.60	5.18E-01		2.70E-01	2.49E-01
	277.60	14.00	4.02E-01		7.65E-02	1.93E-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: CP5001S06-07

Elapsed Live time: 3600

Elapsed Real Time: 3601

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	2	152
9:	526	1126	1131	448	539	1718	341	119
17:	148	100	140	120	123	116	117	119
25:	119	113	112	110	112	135	122	109
33:	124	116	111	102	143	97	110	125
41:	132	132	127	136	104	160	215	114
49:	102	132	114	103	98	122	108	110
57:	100	99	101	105	103	130	166	173
65:	114	122	114	133	113	132	116	121
73:	144	149	399	243	511	373	113	114
81:	84	89	98	142	142	83	225	193
89:	100	170	123	117	222	158	74	72
97:	89	55	94	78	62	74	74	74
105:	83	85	76	97	89	80	72	75
113:	98	69	67	75	68	56	85	74
121:	71	70	75	64	69	86	63	66
129:	110	97	75	75	78	77	64	73
137:	79	73	75	69	76	55	65	80
145:	57	66	64	68	71	62	79	63
153:	58	57	75	57	77	76	60	46
161:	47	69	57	58	61	90	61	56
169:	60	50	40	58	61	52	50	67
177:	59	56	50	56	48	46	69	60
185:	90	157	97	61	51	45	59	56
193:	44	58	53	45	50	51	66	56
201:	41	48	46	50	44	68	59	42
209:	94	66	52	60	56	51	36	45
217:	49	48	42	41	48	57	51	44
225:	42	51	49	63	41	39	40	36
233:	46	46	48	48	47	299	591	115
241:	116	131	71	37	34	38	38	32
249:	36	36	33	44	42	36	33	34
257:	41	43	34	38	24	37	29	28
265:	32	38	17	29	43	65	65	31
273:	21	50	55	26	43	52	38	35
281:	23	30	23	24	32	28	25	32
289:	32	22	33	27	37	53	202	137
297:	45	21	25	65	43	25	30	26
305:	25	33	26	30	24	21	21	17
313:	24	30	29	29	24	23	27	22
321:	20	34	34	27	29	26	25	67
329:	42	25	38	34	30	28	24	27
337:	32	107	90	31	22	24	27	24
345:	25	19	22	23	20	25	119	375
353:	107	26	24	22	21	11	19	21
361:	18	20	21	24	26	15	22	26

369: 27 24 19 26 27 27 23 26

Sample Title: CP5001S06-07

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	20	15	19	16	16	23	29	21
385:	27	14	19	18	27	18	22	22
393:	20	21	17	14	33	10	19	14
401:	11	26	27	23	16	21	17	23
409:	29	36	17	13	12	15	20	17
417:	21	11	18	13	15	13	18	16
425:	18	18	16	26	23	16	18	19
433:	9	14	18	13	16	16	12	20
441:	17	16	11	20	16	18	11	16
449:	10	11	17	28	25	11	13	8
457:	7	14	13	19	14	27	51	26
465:	14	18	20	9	17	23	13	20
473:	18	10	20	14	14	13	16	11
481:	15	12	15	25	9	15	18	14
489:	16	15	15	17	8	13	18	10
497:	15	11	13	16	10	14	13	22
505:	9	15	14	22	28	63	84	48
513:	20	15	8	13	9	17	15	14
521:	11	12	12	15	8	8	12	21
529:	13	15	11	9	12	11	7	7
537:	7	13	12	14	14	17	14	18
545:	15	16	16	11	15	15	14	13
553:	9	11	9	9	13	13	16	8
561:	13	13	18	12	9	15	10	12
569:	20	13	11	12	14	15	18	17
577:	15	9	7	16	27	57	154	78
585:	16	9	9	12	10	16	10	9
593:	13	16	11	17	19	13	10	11
601:	14	12	13	12	14	12	11	69
609:	241	130	14	20	8	3	10	15
617:	9	13	11	11	13	13	6	9
625:	14	11	12	12	16	9	10	14
633:	13	13	10	8	11	9	15	5
641:	9	9	11	16	13	15	15	16
649:	9	10	9	3	8	12	8	17
657:	10	13	10	13	7	12	6	11
665:	22	20	12	3	10	8	15	12
673:	8	9	11	11	6	15	14	9
681:	6	11	14	5	9	10	12	7
689:	12	11	8	7	12	9	14	13
697:	7	17	10	14	13	12	16	11
705:	6	10	7	9	9	7	5	16
713:	9	9	12	14	2	11	9	15
721:	8	10	14	8	11	17	29	24
729:	3	3	5	14	13	11	6	13
737:	10	12	5	13	9	12	13	8
745:	11	5	7	7	4	7	4	8
753:	15	8	20	7	8	3	14	11
761:	7	12	18	18	11	12	22	26
769:	23	14	8	7	5	16	7	17
777:	11	7	3	9	10	9	11	13
785:	13	15	9	14	6	3	5	4
793:	2	15	24	11	13	7	8	6

801: 6 5 11 9 14 17 11 12

Sample Title: CP5001S06-07

Channel	1	2	3	4	5	6	7	8	9
809:	11	11	13	5	7	6	4	5	
817:	9	5	4	12	10	10	7	7	
825:	8	6	7	8	7	6	4	5	
833:	13	11	17	12	4	5	12	13	
841:	4	4	8	5	7	4	7	11	
849:	9	9	8	12	12	4	4	8	
857:	5	7	12	24	20	13	8	4	
865:	10	4	7	11	10	11	7	6	
873:	3	5	8	8	11	9	12	7	
881:	7	11	2	5	9	7	4	10	
889:	11	8	4	6	7	8	8	6	
897:	9	10	6	2	9	7	12	8	
905:	13	4	6	2	7	47	84	52	
913:	9	7	5	13	2	12	4	5	
921:	9	7	8	5	7	2	8	6	
929:	8	9	8	7	14	16	11	8	
937:	6	7	9	3	3	14	11	7	
945:	9	5	11	8	14	5	5	5	
953:	8	11	2	8	5	5	6	5	
961:	4	4	12	17	14	13	11	52	
969:	61	31	10	8	5	6	2	4	
977:	11	3	4	8	7	6	8	4	
985:	7	3	6	5	4	5	9	7	
993:	2	4	8	3	5	5	7	10	
1001:	3	5	3	6	5	8	5	4	
1009:	8	9	5	8	7	8	4	6	
1017:	4	3	2	4	9	4	8	7	
1025:	4	1	7	1	5	7	6	5	
1033:	5	7	6	4	9	8	2	7	
1041:	5	12	6	9	9	2	9	9	
1049:	9	4	7	10	5	3	9	7	
1057:	3	10	7	11	5	8	3	11	
1065:	5	5	8	14	9	13	7	7	
1073:	5	10	5	12	10	11	3	3	
1081:	7	4	7	9	8	3	7	4	
1089:	3	6	3	4	5	3	2	6	
1097:	4	7	4	5	10	9	7	1	
1105:	8	7	7	8	4	10	7	7	
1113:	8	5	6	5	4	12	23	41	
1121:	27	7	6	5	8	8	6	5	
1129:	6	4	9	9	7	7	7	4	
1137:	9	9	6	8	7	6	7	13	
1145:	7	6	5	6	7	4	6	6	
1153:	8	9	8	10	10	6	6	5	
1161:	5	5	4	10	5	8	7	5	
1169:	7	13	5	9	9	7	3	7	
1177:	6	3	10	8	6	3	11	8	
1185:	7	6	6	8	6	2	11	5	
1193:	6	8	9	5	8	12	2	7	
1201:	11	5	6	9	4	12	8	12	
1209:	8	9	9	5	9	10	10	8	
1217:	8	12	6	12	9	5	13	4	
1225:	6	10	9	11	13	7	3	6	

1233: 7 6 8 16 13 18 15 8

Sample Title: CP5001S06-07

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1241:	5	12	5	6	4	10	8	6
1249:	8	3	14	10	9	6	4	4
1257:	6	6	6	6	6	5	9	4
1265:	7	8	8	4	2	5	7	4
1273:	3	3	5	2	4	1	2	8
1281:	6	5	7	2	5	5	10	6
1289:	3	11	6	8	3	2	4	9
1297:	3	2	4	7	0	6	9	3
1305:	7	1	2	6	3	6	5	8
1313:	4	0	5	8	7	4	4	4
1321:	2	5	6	3	2	3	4	9
1329:	2	6	4	7	1	1	3	1
1337:	1	0	3	2	1	6	3	5
1345:	3	3	1	5	3	2	3	3
1353:	3	2	5	3	6	2	2	3
1361:	9	2	1	3	1	4	5	1
1369:	3	1	5	3	1	3	5	5
1377:	10	10	8	3	5	5	2	3
1385:	4	2	3	1	1	2	4	2
1393:	1	5	2	1	5	2	5	6
1401:	9	2	4	4	1	5	6	4
1409:	2	3	1	3	4	3	2	4
1417:	3	3	0	4	3	0	4	1
1425:	1	3	1	2	1	2	3	3
1433:	0	4	1	2	0	3	3	1
1441:	2	1	0	2	2	2	3	2
1449:	2	3	3	2	4	2	2	1
1457:	1	19	81	270	256	82	14	2
1465:	3	3	2	2	0	2	0	1
1473:	2	2	3	2	0	4	1	2
1481:	3	1	4	0	2	4	1	2
1489:	0	2	3	0	2	1	3	6
1497:	2	4	1	5	5	2	4	6
1505:	4	0	1	7	7	4	2	2
1513:	0	1	1	0	4	1	0	4
1521:	0	3	3	2	0	2	2	2
1529:	3	2	1	0	1	3	2	1
1537:	0	5	2	3	6	3	2	7
1545:	1	4	0	0	3	1	3	0
1553:	1	1	2	1	0	1	1	0
1561:	1	1	1	2	1	1	1	0
1569:	1	0	2	0	0	2	0	1
1577:	2	3	2	0	5	5	8	2
1585:	2	4	9	11	3	3	4	4
1593:	4	4	1	0	1	1	1	4
1601:	0	5	3	0	1	1	0	0
1609:	1	2	1	0	3	1	0	2
1617:	0	1	0	1	1	0	3	1
1625:	1	1	1	1	2	2	5	2
1633:	1	0	0	5	2	4	2	0
1641:	3	2	2	2	1	3	0	2
1649:	2	0	2	3	0	1	2	0
1657:	1	1	0	5	4	1	2	0

1665: 4 1 0 3 1 0 1 0

Sample Title: CP5001S06-07

Channel	1	2	3	4	5	6	7	8
1673:	0	1	0	1	0	4	0	2
1681:	1	1	2	1	1	2	1	0
1689:	0	0	1	1	1	1	2	0
1697:	1	2	0	1	2	1	2	0
1705:	1	1	0	1	1	1	2	1
1713:	1	0	2	4	0	1	0	2
1721:	3	0	2	2	0	1	9	5
1729:	6	7	1	1	0	1	2	1
1737:	0	1	0	0	1	0	0	0
1745:	0	0	0	1	0	1	2	0
1753:	2	2	0	1	0	3	1	1
1761:	1	3	16	29	15	9	3	1
1769:	0	0	1	3	0	3	1	0
1777:	1	4	1	0	0	2	2	0
1785:	2	0	2	2	2	1	0	1
1793:	0	1	2	0	1	3	1	0
1801:	1	1	1	3	0	1	4	0
1809:	2	2	0	1	3	2	0	2
1817:	3	0	2	1	0	1	1	0
1825:	1	2	1	2	4	1	5	1
1833:	0	1	1	0	2	0	1	1
1841:	1	0	1	0	0	5	0	1
1849:	1	3	0	1	0	0	0	3
1857:	1	0	1	1	1	4	0	1
1865:	1	3	1	2	0	0	1	1
1873:	1	0	1	1	0	1	0	0
1881:	1	1	1	2	2	2	0	3
1889:	2	1	3	0	0	1	5	3
1897:	0	3	1	1	3	1	1	0
1905:	2	1	0	0	0	1	2	3
1913:	1	1	1	0	3	3	4	0
1921:	1	0	0	0	0	2	3	0
1929:	1	0	0	0	2	2	0	2
1937:	0	3	1	1	1	2	1	1
1945:	0	1	1	1	2	1	1	3
1953:	3	0	0	0	1	0	3	1
1961:	1	2	0	3	1	1	2	1
1969:	1	1	0	0	0	3	2	1
1977:	2	0	0	1	0	2	1	1
1985:	1	3	3	1	0	1	1	2
1993:	0	0	1	1	3	1	0	0
2001:	5	1	0	1	0	1	0	0
2009:	1	0	1	0	0	0	1	1
2017:	1	1	1	0	0	1	2	2
2025:	2	0	1	0	1	1	0	0
2033:	0	1	0	0	0	0	1	1
2041:	0	0	0	2	0	0	1	0
2049:	0	0	1	2	1	0	2	0
2057:	1	1	1	0	0	1	1	0
2065:	1	0	2	0	0	1	1	0
2073:	0	4	0	3	0	1	1	0
2081:	0	0	2	1	1	1	1	2
2089:	1	0	0	1	0	0	0	1

2097: 1 0 0 1 5 2 6 2

Sample Title: CP5001S06-07

Channel	1	2	3	4	5	6	7	8
2105:	5	3	0	1	0	0	2	0
2113:	0	2	1	0	1	4	1	1
2121:	1	0	0	2	4	1	1	0
2129:	2	0	1	1	2	0	0	2
2137:	1	0	1	0	2	1	0	0
2145:	1	0	1	0	2	2	0	0
2153:	1	1	1	1	1	0	0	3
2161:	1	1	1	1	0	0	1	0
2169:	0	1	1	0	1	1	1	0
2177:	3	0	0	1	0	3	0	0
2185:	2	2	1	1	2	0	3	0
2193:	3	0	1	1	0	1	1	2
2201:	1	1	8	3	1	1	1	0
2209:	0	1	1	0	0	4	1	0
2217:	0	0	1	1	1	1	0	1
2225:	0	0	1	0	4	0	0	0
2233:	1	1	0	2	2	0	1	1
2241:	1	2	2	1	1	0	0	2
2249:	1	1	1	3	0	2	1	0
2257:	1	1	0	3	1	1	2	0
2265:	2	2	1	0	4	2	1	1
2273:	0	0	0	1	0	0	1	0
2281:	2	1	1	0	1	1	0	0
2289:	2	0	0	2	1	1	1	0
2297:	2	1	0	0	0	1	0	2
2305:	0	0	2	2	2	0	2	1
2313:	0	0	1	1	1	0	0	3
2321:	0	0	0	1	0	1	1	1
2329:	1	0	1	2	2	1	1	1
2337:	4	1	1	0	0	1	1	1
2345:	1	4	0	0	0	2	0	2
2353:	1	0	1	1	1	0	0	0
2361:	0	2	0	0	0	2	3	1
2369:	2	1	1	0	1	3	1	1
2377:	2	1	2	1	0	1	1	1
2385:	2	2	2	0	1	1	0	2
2393:	0	0	2	1	2	1	0	1
2401:	3	1	2	1	1	1	1	1
2409:	2	1	1	1	0	0	0	1
2417:	0	1	0	1	0	1	3	0
2425:	0	2	0	0	2	0	1	0
2433:	0	0	0	0	1	2	1	0
2441:	0	3	1	0	1	3	1	1
2449:	1	1	0	2	1	2	1	2
2457:	0	1	1	0	0	2	0	1
2465:	0	1	3	0	0	2	2	0
2473:	1	0	0	2	1	1	0	0
2481:	1	1	2	0	0	1	0	3
2489:	1	0	0	3	0	2	0	0
2497:	0	0	1	0	1	0	1	0
2505:	1	0	0	0	0	1	0	1
2513:	1	0	1	0	1	0	0	0
2521:	1	1	1	0	1	0	0	0

2529: 0 0 0 1 0 1 0 1

Sample Title: CP5001S06-07

Channel	1	2	3	4	5	6	7	8	9
2537:	2	1	0	1	0	0	0	0	1
2545:	0	0	1	0	0	0	0	0	0
2553:	0	0	1	0	0	1	2	0	0
2561:	0	0	0	0	2	0	0	0	0
2569:	0	1	0	0	0	0	0	0	0
2577:	1	0	0	1	2	0	0	0	0
2585:	0	0	0	1	0	1	1	0	0
2593:	0	0	1	0	0	0	0	0	0
2601:	2	0	1	1	1	0	0	0	1
2609:	1	1	6	21	32	36	17	8	8
2617:	4	0	0	0	0	2	1	0	0
2625:	0	0	0	0	1	0	0	0	0
2633:	0	0	0	0	0	0	0	0	0
2641:	1	0	0	0	0	0	0	0	0
2649:	0	0	0	0	0	0	0	0	0
2657:	2	0	0	2	1	0	1	1	1
2665:	0	1	0	0	0	1	0	0	1
2673:	1	2	1	1	0	0	1	0	0
2681:	0	0	0	1	0	0	0	0	0
2689:	0	0	1	0	1	0	0	0	2
2697:	0	1	0	3	0	0	0	0	0
2705:	0	1	1	0	0	0	0	0	0
2713:	0	0	0	3	1	0	0	0	0
2721:	0	0	0	0	0	0	0	0	0
2729:	0	3	0	0	0	0	0	0	0
2737:	1	0	0	0	0	0	0	0	0
2745:	0	0	0	1	0	0	0	0	0
2753:	0	0	0	0	0	0	0	0	0
2761:	0	0	0	0	0	0	0	0	0
2769:	0	0	1	0	0	0	2	0	0
2777:	0	1	1	0	0	0	0	0	0
2785:	0	0	0	0	0	0	0	0	0
2793:	0	0	0	1	0	0	0	0	0
2801:	1	0	0	0	0	1	0	0	0
2809:	0	0	1	1	2	0	0	0	0
2817:	0	0	0	1	0	0	0	0	1
2825:	0	0	2	0	1	0	0	0	0
2833:	0	1	0	0	0	0	0	1	1
2841:	0	0	1	0	0	0	1	0	0
2849:	0	0	0	0	0	0	1	0	0
2857:	0	0	2	0	1	0	0	0	1
2865:	0	0	0	1	0	0	0	0	1
2873:	0	0	0	0	0	1	1	1	0
2881:	0	0	0	0	0	1	1	1	1
2889:	0	0	0	0	1	0	1	0	1
2897:	0	0	0	0	0	1	0	0	0
2905:	0	0	0	0	1	0	0	0	0
2913:	1	0	0	1	0	0	0	0	2
2921:	0	0	0	0	1	0	0	0	1
2929:	0	0	0	0	0	0	0	0	0
2937:	0	0	1	2	0	0	0	0	1
2945:	0	1	1	0	1	0	0	0	1
2953:	1	0	0	0	0	0	0	0	0

2961: 0 0 1 0 0 1 0 1

Sample Title: CP5001S06-07

Channel	1	2	1	0	0	1	1	0
2969:	1	2	1	0	0	1	1	0
2977:	0	0	0	1	0	1	1	0
2985:	0	0	0	2	2	0	0	0
2993:	0	0	0	1	0	0	0	0
3001:	0	0	0	1	0	0	0	0
3009:	0	0	0	0	0	0	0	0
3017:	0	0	0	1	0	0	0	1
3025:	0	1	1	0	0	0	0	0
3033:	0	0	0	0	0	1	0	1
3041:	1	0	0	0	0	0	0	1
3049:	1	2	1	0	0	1	0	0
3057:	1	0	0	0	0	1	0	0
3065:	0	0	0	0	0	0	0	0
3073:	0	0	0	0	1	0	0	0
3081:	0	0	0	0	0	0	0	0
3089:	0	0	0	0	0	0	0	0
3097:	0	0	1	0	0	1	0	0
3105:	0	0	0	0	3	0	0	0
3113:	1	0	0	0	0	0	0	0
3121:	0	0	0	0	0	0	0	0
3129:	1	0	0	0	0	0	0	0
3137:	0	0	0	0	0	0	0	0
3145:	0	1	0	0	0	1	0	0
3153:	1	1	1	0	0	1	0	1
3161:	0	0	1	0	0	0	0	0
3169:	0	0	1	0	0	0	0	0
3177:	0	0	0	0	1	0	0	0
3185:	0	0	2	0	0	0	1	0
3193:	0	0	1	1	1	1	0	1
3201:	0	0	0	0	0	0	0	1
3209:	0	1	1	0	0	0	0	0
3217:	0	0	0	0	1	0	0	0
3225:	1	0	0	0	0	0	0	0
3233:	0	0	0	0	0	0	0	0
3241:	0	1	1	0	0	0	0	0
3249:	1	0	0	0	1	0	0	0
3257:	0	1	0	1	0	0	0	0
3265:	0	0	0	1	0	0	0	2
3273:	0	1	0	1	0	0	1	0
3281:	0	0	1	0	0	0	0	2
3289:	1	0	0	0	0	0	0	0
3297:	0	0	2	0	0	0	1	0
3305:	0	1	0	0	0	0	0	1
3313:	0	0	0	1	0	1	1	0
3321:	0	0	0	0	0	0	0	0
3329:	0	1	0	0	1	0	1	0
3337:	0	0	0	0	0	0	0	0
3345:	0	0	0	0	0	0	0	0
3353:	0	0	0	0	1	0	0	0
3361:	0	0	0	0	0	0	0	0
3369:	0	1	0	0	0	0	0	0
3377:	0	1	0	0	0	0	0	0
3385:	0	1	0	0	1	0	0	0

3393: 0 0 0 0 0 0 0 0 0

Sample Title: CP5001S06-07

Channel	1	2	3	4	5	6	7	8	9
3401:	0	1	0	0	2	0	0	0	0
3409:	0	0	0	0	0	0	1	0	0
3417:	0	0	0	0	0	0	1	0	0
3425:	1	0	0	0	0	0	0	0	0
3433:	0	1	0	0	0	0	0	0	0
3441:	0	0	0	0	0	0	0	0	0
3449:	1	0	0	0	0	0	0	0	0
3457:	1	0	0	0	0	0	0	0	0
3465:	0	0	0	0	2	0	0	0	0
3473:	0	0	0	0	0	0	0	0	0
3481:	1	0	0	0	0	0	0	0	0
3489:	0	2	0	0	0	2	0	0	1
3497:	0	0	0	0	0	0	0	0	1
3505:	0	0	0	0	0	0	0	0	0
3513:	0	0	0	0	0	0	0	0	0
3521:	1	0	0	0	0	2	0	0	1
3529:	0	0	0	0	0	0	0	0	0
3537:	0	0	0	0	0	0	0	0	0
3545:	0	1	1	1	0	0	0	0	0
3553:	0	0	1	0	0	1	0	0	0
3561:	0	0	0	1	1	0	1	0	0
3569:	0	0	0	1	1	0	0	1	0
3577:	0	0	0	0	0	0	1	0	0
3585:	0	0	0	0	0	0	0	0	0
3593:	0	0	0	0	0	0	0	1	0
3601:	0	0	0	0	0	0	0	1	0
3609:	0	0	0	0	0	0	0	0	1
3617:	0	0	0	0	0	0	0	0	1
3625:	0	0	0	0	0	0	0	1	0
3633:	0	0	0	0	0	0	1	0	1
3641:	0	1	0	0	0	0	1	0	0
3649:	0	0	0	0	0	0	0	1	0
3657:	0	0	0	0	0	0	0	1	0
3665:	1	0	0	1	0	0	0	0	0
3673:	0	0	0	0	0	0	0	0	0
3681:	0	0	1	1	0	0	0	0	0
3689:	0	0	0	0	0	0	0	0	1
3697:	0	0	0	0	0	0	0	0	0
3705:	0	0	0	0	0	1	0	0	0
3713:	0	0	0	0	0	0	0	0	1
3721:	0	0	0	0	0	0	0	0	0
3729:	0	1	0	0	0	0	0	0	0
3737:	0	0	1	0	1	0	0	0	0
3745:	0	0	0	1	0	1	2	0	1
3753:	1	0	0	0	0	0	0	0	0
3761:	0	0	0	0	0	0	0	0	0
3769:	0	0	1	0	0	0	0	0	0
3777:	0	0	0	0	0	0	0	0	0
3785:	0	0	0	1	0	0	0	0	1
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	0	0	0	0	0	0	0

3825: 0 0 0 0 0 0 0 0 0

Sample Title: CP5001S06-07

Channel	1	2	3	4	5	6	7	8	9
3833:	1	0	0	0	0	0	0	0	0
3841:	1	0	0	0	0	0	1	0	0
3849:	0	0	0	0	0	1	0	0	0
3857:	0	0	0	0	0	0	0	0	1
3865:	0	0	0	0	0	0	0	0	0
3873:	0	0	0	1	0	0	0	0	0
3881:	0	0	0	0	1	0	0	0	0
3889:	0	0	1	0	0	0	0	0	0
3897:	0	0	1	0	0	0	0	0	0
3905:	1	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	0	0	1	0	0	0	0	0
3937:	0	0	0	0	1	0	0	0	0
3945:	0	0	0	0	0	0	0	0	0
3953:	0	1	1	0	0	0	0	0	1
3961:	0	0	0	0	0	0	0	0	0
3969:	0	0	0	0	1	1	0	0	0
3977:	1	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	0	0	0
4009:	0	0	0	1	0	0	0	0	1
4017:	0	1	0	0	0	0	0	0	1
4025:	0	0	0	0	0	0	1	0	0
4033:	0	0	0	0	0	1	0	0	0
4041:	0	0	0	1	1	0	0	0	0
4049:	1	0	0	0	0	0	1	1	1
4057:	0	0	0	0	0	0	0	0	0
4065:	0	1	0	1	0	0	0	0	0
4073:	0	1	0	0	0	1	0	0	0
4081:	0	0	0	1	0	0	0	0	0
4089:	0	0	0	0	0	0	0	0	0

Analysis Report for 1510092-12
CP5001S09-10



GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510092-12
Sample Description : CP5001S09-10
Sample Type : SOIL

Sample Size : 5.558E+02 grams
Facility : Countroom

Sample Taken On : 10/9/2015 4:01:14PM
Acquisition Started : 11/11/2015 8:24:25AM

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 : 29470

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

A4
11/11/15

Analysis Report for 1510092-12
CP5001S09-10

PEAK LOCATE REPORT

Peak Locate Performed on : 11/11/2015 9:24:49AM
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	24.88	25.12	0.0000	0.00
2	47.18	47.41	0.0000	0.00
3	76.36	76.58	0.0000	0.00
4	88.00	88.21	0.0000	0.00
5	93.28	93.49	0.0000	0.00
6	99.87	100.07	0.0000	0.00
7	106.00	106.20	0.0000	0.00
8	129.52	129.70	0.0000	0.00
9	177.02	177.18	0.0000	0.00
10	185.98	186.13	0.0000	0.00
11	209.51	209.66	0.0000	0.00
12	238.97	239.10	0.0000	0.00
13	242.05	242.17	0.0000	0.00
14	270.37	270.48	0.0000	0.00
15	295.70	295.80	0.0000	0.00
16	300.46	300.55	0.0000	0.00
17	327.83	327.92	0.0000	0.00
18	335.10	335.18	0.0000	0.00
19	339.10	339.18	0.0000	0.00
20	352.23	352.30	0.0000	0.00
21	402.83	402.87	0.0000	0.00
22	423.77	423.80	0.0000	0.00
23	463.49	463.51	0.0000	0.00
24	511.03	511.02	0.0000	0.00
25	583.73	583.69	0.0000	0.00
26	609.99	609.93	0.0000	0.00
27	657.17	657.09	0.0000	0.00
28	718.28	718.17	0.0000	0.00
29	728.66	728.54	0.0000	0.00
30	795.57	795.43	0.0000	0.00
31	838.01	837.85	0.0000	0.00
32	861.74	861.57	0.0000	0.00
33	911.41	911.22	0.0000	0.00
34	916.37	916.17	0.0000	0.00
35	969.93	969.71	0.0000	0.00
36	1023.56	1023.32	0.0000	0.00
37	1120.60	1120.31	0.0000	0.00
38	1127.76	1127.48	0.0000	0.00
39	1174.98	1174.67	0.0000	0.00
40	1359.51	1359.13	0.0000	0.00
41	1378.18	1377.79	0.0000	0.00
42	1386.49	1386.09	0.0000	0.00

Analysis Report for 1510092-12
CP5001S09-10

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1422.08	1421.67	0.0000	0.00
44	1461.39	1460.97	0.0000	0.00
45	1510.23	1509.79	0.0000	0.00
46	1531.79	1531.35	0.0000	0.00
47	1588.04	1587.57	0.0000	0.00
48	1765.15	1764.62	0.0000	0.00
49	1779.38	1778.84	0.0000	0.00
50	1936.16	1935.57	0.0000	0.00
51	1948.14	1947.55	0.0000	0.00
52	2161.82	2161.16	0.0000	0.00
53	2226.51	2225.83	0.0000	0.00
54	2311.12	2310.42	0.0000	0.00
55	2371.78	2371.07	0.0000	0.00
56	2615.06	2614.28	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510092-12
CP5001S09-10

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/11/2015 9:24:49AM

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	24.88	21 -	30	25.12	1.14E+02	104.10	1.49E+03	3.86
2	47.18	44 -	51	47.41	1.63E+02	97.55	1.47E+03	1.67
3	76.36	71 -	80	76.58	1.02E+03	147.65	2.53E+03	3.76
m 4	88.00	82 -	97	88.21	2.68E+02	86.20	1.21E+03	2.04
m 5	93.28	82 -	97	93.49	2.96E+02	84.92	1.08E+03	2.05
6	99.87	98 -	103	100.07	7.13E+01	66.93	8.19E+02	1.54
7	106.00	104 -	110	106.20	6.86E+01	73.77	9.49E+02	2.40
8	129.52	126 -	133	129.70	7.64E+01	83.38	1.10E+03	2.73
9	177.02	175 -	180	177.18	5.75E+01	55.83	5.75E+02	2.83
10	185.98	181 -	190	186.13	2.42E+02	88.29	9.77E+02	2.08
11	209.51	206 -	212	209.66	7.90E+01	61.65	6.34E+02	1.69
M 12	238.97	233 -	246	239.10	8.79E+02	73.10	3.95E+02	1.66
m 13	242.05	233 -	246	242.17	1.95E+02	77.83	4.51E+02	1.89
14	270.37	267 -	273	270.48	7.02E+01	49.80	4.02E+02	1.61
M 15	295.70	292 -	303	295.80	2.14E+02	45.71	2.81E+02	1.60
m 16	300.46	292 -	303	300.55	5.36E+01	48.74	3.77E+02	2.24
17	327.83	323 -	331	327.92	7.73E+01	50.55	3.43E+02	2.89
M 18	335.10	334 -	344	335.18	2.24E+01	16.58	8.05E+01	1.99
m 19	339.10	334 -	344	339.18	1.93E+02	43.35	2.49E+02	1.99
20	352.23	349 -	356	352.30	4.06E+02	57.10	2.73E+02	2.07
21	402.83	400 -	408	402.87	3.57E+01	45.03	2.95E+02	4.44
22	423.77	420 -	427	423.80	4.88E+01	37.68	2.04E+02	3.24
23	463.49	459 -	467	463.51	6.39E+01	41.72	2.26E+02	1.89
24	511.03	507 -	515	511.02	1.58E+02	41.83	1.74E+02	2.01
25	583.73	580 -	589	583.69	2.02E+02	53.94	2.88E+02	2.04
26	609.99	605 -	615	609.93	3.21E+02	51.25	1.72E+02	1.90
27	657.17	655 -	659	657.09	1.75E+01	17.53	5.29E+01	2.54
28	718.28	716 -	722	718.17	2.69E+01	23.62	8.42E+01	2.74
29	728.66	724 -	733	728.54	5.82E+01	34.70	1.36E+02	3.41
30	795.57	791 -	799	795.43	5.08E+01	30.03	1.06E+02	2.25
31	838.01	832 -	845	837.85	4.09E+01	40.89	1.66E+02	6.23
32	861.74	854 -	870	861.57	7.17E+01	40.30	1.27E+02	8.04
M 33	911.41	905 -	926	911.22	1.38E+02	31.46	8.40E+01	2.39
m 34	916.37	905 -	926	916.17	1.59E+01	22.67	8.40E+01	2.39
35	969.93	966 -	975	969.71	4.12E+01	40.69	1.96E+02	1.80
36	1023.56	1012 -	1039	1023.32	7.59E+01	56.75	1.84E+02	18.24
37	1120.60	1117 -	1124	1120.31	6.40E+01	26.61	7.39E+01	2.09
38	1127.76	1125 -	1130	1127.48	1.86E+01	15.87	3.47E+01	2.36
39	1174.98	1170 -	1180	1174.67	3.05E+01	29.40	9.90E+01	2.81
40	1359.51	1355 -	1363	1359.13	1.40E+01	17.03	3.60E+01	1.67

Analysis Report for 1510092-12
CP5001S09-10

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1378.18	1375 - 1381		1377.79	1.49E+01	13.77	2.22E+01	2.83
42	1386.49	1382 - 1390		1386.09	2.26E+01	15.40	2.29E+01	3.78
43	1422.08	1416 - 1430		1421.67	2.06E+01	17.34	2.48E+01	4.23
44	1461.39	1456 - 1465		1460.97	5.27E+02	47.76	2.48E+01	2.23
45	1510.23	1506 - 1513		1509.79	9.23E+00	10.39	1.15E+01	3.01
46	1531.79	1528 - 1535		1531.35	1.14E+01	10.77	1.12E+01	5.01
47	1588.04	1583 - 1590		1587.57	2.35E+01	13.71	1.50E+01	2.25
48	1765.15	1761 - 1767		1764.62	3.82E+01	15.79	1.75E+01	2.35
49	1779.38	1774 - 1783		1778.84	8.00E+00	10.10	1.00E+01	7.55
50	1936.16	1933 - 1938		1935.57	7.00E+00	5.29	0.00E+00	2.22
51	1948.14	1943 - 1950		1947.55	7.27E+00	8.72	7.45E+00	2.65
52	2161.82	2157 - 2164		2161.16	6.00E+00	6.93	4.00E+00	3.60
53	2226.51	2223 - 2228		2225.83	6.00E+00	4.90	0.00E+00	2.74
54	2311.12	2305 - 2315		2310.42	1.20E+01	6.93	0.00E+00	1.33
55	2371.78	2366 - 2373		2371.07	6.00E+00	8.49	8.00E+00	0.92
56	2615.06	2609 - 2618		2614.28	8.50E+01	18.44	0.00E+00	3.64

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 : 11/11/2015 9:24:49AM

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	24.88	21 -	30	1.14E+02	104.10	1.49E+03	8.38E+01
2	47.18	44 -	51	1.63E+02	97.55	1.47E+03	7.74E+01
3	76.36	71 -	80	1.02E+03	147.65	2.53E+03	1.09E+02
m 4	88.00	82 -	97	2.68E+02	86.20	1.21E+03	5.72E+01
m 5	93.28	82 -	97	2.96E+02	84.92	1.08E+03	5.39E+01
6	99.87	98 -	103	7.13E+01	66.93	8.19E+02	5.32E+01
7	106.00	104 -	110	6.86E+01	73.77	9.49E+02	5.91E+01
8	129.52	126 -	133	7.64E+01	83.38	1.10E+03	6.70E+01
9	177.02	175 -	180	5.75E+01	55.83	5.75E+02	4.42E+01
10	185.98	181 -	190	2.42E+02	88.29	9.77E+02	6.79E+01
11	209.51	206 -	212	7.90E+01	61.65	6.34E+02	4.85E+01
M 12	238.97	233 -	246	8.79E+02	73.10	3.95E+02	3.27E+01

Analysis Report for 1510092-12

CP5001S09-10

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
m	13	242.05	233 -	246	1.95E+02	77.83	4.51E+02	3.49E+01
	14	270.37	267 -	273	7.02E+01	49.80	4.02E+02	3.86E+01
M	15	295.70	292 -	303	2.14E+02	45.71	2.81E+02	2.76E+01
m	16	300.46	292 -	303	5.36E+01	48.74	3.77E+02	3.19E+01
	17	327.83	323 -	331	7.73E+01	50.55	3.43E+02	3.90E+01
M	18	335.10	334 -	344	2.24E+01	16.58	8.05E+01	1.47E+01
m	19	339.10	334 -	344	1.93E+02	43.35	2.49E+02	2.59E+01
	20	352.23	349 -	356	4.06E+02	57.10	2.73E+02	3.32E+01
	21	402.83	400 -	408	3.57E+01	45.03	2.95E+02	3.57E+01
	22	423.77	420 -	427	4.88E+01	37.68	2.04E+02	2.88E+01
	23	463.49	459 -	467	6.39E+01	41.72	2.26E+02	3.17E+01
	24	511.03	507 -	515	1.58E+02	41.83	1.74E+02	2.75E+01
	25	583.73	580 -	589	2.02E+02	53.94	2.88E+02	3.77E+01
	26	609.99	605 -	615	3.21E+02	51.25	1.72E+02	3.01E+01
	27	657.17	655 -	659	1.75E+01	17.53	5.29E+01	1.27E+01
	28	718.28	716 -	722	2.69E+01	23.62	8.42E+01	1.74E+01
	29	728.66	724 -	733	5.82E+01	34.70	1.36E+02	2.56E+01
	30	795.57	791 -	799	5.08E+01	30.03	1.06E+02	2.17E+01
	31	838.01	832 -	845	4.09E+01	40.89	1.66E+02	3.19E+01
	32	861.74	854 -	870	7.17E+01	40.30	1.27E+02	3.01E+01
M	33	911.41	905 -	926	1.38E+02	31.46	8.40E+01	1.51E+01
m	34	916.37	905 -	926	1.59E+01	22.67	8.40E+01	1.51E+01
	35	969.93	966 -	975	4.12E+01	40.69	1.96E+02	3.17E+01
	36	1023.56	1012 -	1039	7.59E+01	56.75	1.84E+02	4.44E+01
	37	1120.60	1117 -	1124	6.40E+01	26.61	7.39E+01	2.67E+01
	38	1127.76	1125 -	1130	1.86E+01	15.87	3.47E+01	1.09E+01
	39	1174.98	1170 -	1180	3.05E+01	29.40	9.90E+01	2.24E+01
	40	1359.51	1355 -	1363	1.40E+01	17.03	3.60E+01	1.26E+01
	41	1378.18	1375 -	1381	1.49E+01	13.77	2.22E+01	9.38E+00
	42	1386.49	1382 -	1390	2.26E+01	15.40	2.29E+01	9.97E+00
	43	1422.08	1416 -	1430	2.06E+01	17.34	2.48E+01	1.21E+01
	44	1461.39	1456 -	1465	5.27E+02	47.76	2.48E+01	1.09E+01
	45	1510.23	1506 -	1513	9.23E+00	10.39	1.15E+01	6.93E+00
	46	1531.79	1528 -	1535	1.14E+01	10.77	1.12E+01	6.89E+00
	47	1588.04	1583 -	1590	2.35E+01	13.71	1.50E+01	7.97E+00
	48	1765.15	1761 -	1767	3.82E+01	15.79	1.75E+01	8.07E+00
	49	1779.38	1774 -	1783	8.00E+00	10.10	1.00E+01	6.88E+00
	50	1936.16	1933 -	1938	7.00E+00	5.29	0.00E+00	0.00E+00
	51	1948.14	1943 -	1950	7.27E+00	8.72	7.45E+00	5.63E+00
	52	2161.82	2157 -	2164	6.00E+00	6.93	4.00E+00	4.03E+00
	53	2226.51	2223 -	2228	6.00E+00	4.90	0.00E+00	0.00E+00
	54	2311.12	2305 -	2315	1.20E+01	6.93	0.00E+00	0.00E+00
	55	2371.78	2366 -	2373	6.00E+00	8.49	8.00E+00	5.70E+00
	56	2615.06	2609 -	2618	8.50E+01	18.44	0.00E+00	0.00E+00

Analysis Report for 1510092-12
CP5001S09-10

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 : 11/11/2015 9:24:49AM

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	24.88	21 -	30	25.12	1.14E+02	104.10	1.49E+03	TH-231
2	47.18	44 -	51	47.41	1.63E+02	97.55	1.47E+03	PB-210
3	76.36	71 -	80	76.58	1.02E+03	147.65	2.53E+03	.....
m 4	88.00	82 -	97	88.21	2.68E+02	86.20	1.21E+03	CD-109 LU-176 SN-126
m 5	93.28	82 -	97	93.49	2.96E+02	84.92	1.08E+03	GA-67
6	99.87	98 -	103	100.07	7.13E+01	66.93	8.19E+02	LU-173
7	106.00	104 -	110	106.20	6.86E+01	73.77	9.49E+02	NP-239 EU-155
8	129.52	126 -	133	129.70	7.64E+01	83.38	1.10E+03	.....
9	177.02	175 -	180	177.18	5.75E+01	55.83	5.75E+02	CS-136 SB-125
10	185.98	181 -	190	186.13	2.42E+02	88.29	9.77E+02	RA-226
11	209.51	206 -	212	209.66	7.90E+01	61.65	6.34E+02	CM-243 GA-67
M 12	238.97	233 -	246	239.10	8.79E+02	73.10	3.95E+02	PB-212
m 13	242.05	233 -	246	242.17	1.95E+02	77.83	4.51E+02	.....
14	270.37	267 -	273	270.48	7.02E+01	49.80	4.02E+02	.....
M 15	295.70	292 -	303	295.80	2.14E+02	45.71	2.81E+02	PB-214
m 16	300.46	292 -	303	300.55	5.36E+01	48.74	3.77E+02	GA-67 PB-212 BI-210M
17	327.83	323 -	331	327.92	7.73E+01	50.55	3.43E+02	LA-140
M 18	335.10	334 -	344	335.18	2.24E+01	16.58	8.05E+01	.....
m 19	339.10	334 -	344	339.18	1.93E+02	43.35	2.49E+02	AC-228
20	352.23	349 -	356	352.30	4.06E+02	57.10	2.73E+02	PB-214
21	402.83	400 -	408	402.87	3.57E+01	45.03	2.95E+02	.....
22	423.77	420 -	427	423.80	4.88E+01	37.68	2.04E+02	BA-140
23	463.49	459 -	467	463.51	6.39E+01	41.72	2.26E+02	SB-125

: 00713

Analysis Report for 1510092-12

CP5001S09-10

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
24	511.03	507 -	515	511.02	1.58E+02	41.83	1.74E+02	.....
25	583.73	580 -	589	583.69	2.02E+02	53.94	2.88E+02	TL-208
26	609.99	605 -	615	609.93	3.21E+02	51.25	1.72E+02	BI-214
27	657.17	655 -	659	657.09	1.75E+01	17.53	5.29E+01	AG-110M
28	718.28	716 -	722	718.17	2.69E+01	23.62	8.42E+01	.....
29	728.66	724 -	733	728.54	5.82E+01	34.70	1.36E+02	.....
30	795.57	791 -	799	795.43	5.08E+01	30.03	1.06E+02	CS-134
31	838.01	832 -	845	837.85	4.09E+01	40.89	1.66E+02	.....
32	861.74	854 -	870	861.57	7.17E+01	40.30	1.27E+02	.....
M 33	911.41	905 -	926	911.22	1.38E+02	31.46	8.40E+01	AC-228 LU-172
m 34	916.37	905 -	926	916.17	1.59E+01	22.67	8.40E+01	.....
35	969.93	966 -	975	969.71	4.12E+01	40.69	1.96E+02	AC-228
36	1023.56	1012 -	1039	1023.32	7.59E+01	56.75	1.84E+02	.....
37	1120.60	1117 -	1124	1120.31	6.40E+01	26.61	7.39E+01	SC-46 BI-214 TA-182
38	1127.76	1125 -	1130	1127.48	1.86E+01	15.87	3.47E+01	.....
39	1174.98	1170 -	1180	1174.67	3.05E+01	29.40	9.90E+01	.....
40	1359.51	1355 -	1363	1359.13	1.40E+01	17.03	3.60E+01	.....
41	1378.18	1375 -	1381	1377.79	1.49E+01	13.77	2.22E+01	.....
42	1386.49	1382 -	1390	1386.09	2.26E+01	15.40	2.29E+01	.....
43	1422.08	1416 -	1430	1421.67	2.06E+01	17.34	2.48E+01	.....
44	1461.39	1456 -	1465	1460.97	5.27E+02	47.76	2.48E+01	K-40
45	1510.23	1506 -	1513	1509.79	9.23E+00	10.39	1.15E+01	.....
46	1531.79	1528 -	1535	1531.35	1.14E+01	10.77	1.12E+01	.....
47	1588.04	1583 -	1590	1587.57	2.35E+01	13.71	1.50E+01	.....
48	1765.15	1761 -	1767	1764.62	3.82E+01	15.79	1.75E+01	BI-214
49	1779.38	1774 -	1783	1778.84	8.00E+00	10.10	1.00E+01	.....
50	1936.16	1933 -	1938	1935.57	7.00E+00	5.29	0.00E+00	.....
51	1948.14	1943 -	1950	1947.55	7.27E+00	8.72	7.45E+00	.....
52	2161.82	2157 -	2164	2161.16	6.00E+00	6.93	4.00E+00	.....
53	2226.51	2223 -	2228	2225.83	6.00E+00	4.90	0.00E+00	.....
54	2311.12	2305 -	2315	2310.42	1.20E+01	6.93	0.00E+00	.....
55	2371.78	2366 -	2373	2371.07	6.00E+00	8.49	8.00E+00	.....
56	2615.06	2609 -	2618	2614.28	8.50E+01	18.44	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 : 11/11/2015 9:24:49AM

: 00714

Analysis Report for 1510092-12
CP5001S09-10

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	24.88	1.14E+02	104.10	2.20E-03	1.58E-03
	2	47.18	1.63E+02	97.55	1.54E-02	1.58E-03
	3	76.36	1.02E+03	147.65	2.38E-02	2.14E-03
m	4	88.00	2.68E+02	86.20	2.44E-02	2.52E-03
m	5	93.28	2.96E+02	84.92	2.44E-02	2.40E-03
	6	99.87	7.13E+01	66.93	2.43E-02	2.25E-03
	7	106.00	6.86E+01	73.77	2.40E-02	2.11E-03
	8	129.52	7.64E+01	83.38	2.25E-02	1.69E-03
	9	177.02	5.75E+01	55.83	1.89E-02	1.46E-03
	10	185.98	2.42E+02	88.29	1.83E-02	1.42E-03
	11	209.51	7.90E+01	61.65	1.68E-02	1.31E-03
M	12	238.97	8.79E+02	73.10	1.52E-02	1.18E-03
m	13	242.05	1.95E+02	77.83	1.51E-02	1.17E-03
	14	270.37	7.02E+01	49.80	1.38E-02	1.04E-03
M	15	295.70	2.14E+02	45.71	1.28E-02	9.73E-04
m	16	300.46	5.36E+01	48.74	1.26E-02	9.67E-04
	17	327.83	7.73E+01	50.55	1.17E-02	9.28E-04
M	18	335.10	2.24E+01	16.58	1.15E-02	9.17E-04
m	19	339.10	1.93E+02	43.35	1.14E-02	9.12E-04
	20	352.23	4.06E+02	57.10	1.11E-02	8.93E-04
	21	402.83	3.57E+01	45.03	9.85E-03	8.26E-04
	22	423.77	4.88E+01	37.68	9.43E-03	8.05E-04
	23	463.49	6.39E+01	41.72	8.72E-03	7.66E-04
	24	511.03	1.58E+02	41.83	8.01E-03	7.18E-04
	25	583.73	2.02E+02	53.94	7.13E-03	6.46E-04
	26	609.99	3.21E+02	51.25	6.86E-03	6.19E-04
	27	657.17	1.75E+01	17.53	6.43E-03	5.72E-04
	28	718.28	2.69E+01	23.62	5.95E-03	5.22E-04
	29	728.66	5.82E+01	34.70	5.88E-03	5.13E-04
	30	795.57	5.08E+01	30.03	5.45E-03	4.58E-04
	31	838.01	4.09E+01	40.89	5.21E-03	4.24E-04
	32	861.74	7.17E+01	40.30	5.09E-03	4.04E-04
M	33	911.41	1.38E+02	31.46	4.85E-03	3.72E-04
m	34	916.37	1.59E+01	22.67	4.83E-03	3.71E-04
	35	969.93	4.12E+01	40.69	4.60E-03	3.61E-04
	36	1023.56	7.59E+01	56.75	4.40E-03	3.51E-04
	37	1120.60	6.40E+01	26.61	4.08E-03	3.33E-04
	38	1127.76	1.86E+01	15.87	4.05E-03	3.32E-04
	39	1174.98	3.05E+01	29.40	3.92E-03	3.23E-04
	40	1359.51	1.40E+01	17.03	3.48E-03	2.85E-04
	41	1378.18	1.49E+01	13.77	3.45E-03	2.82E-04
	42	1386.49	2.26E+01	15.40	3.43E-03	2.80E-04
	43	1422.08	2.06E+01	17.34	3.36E-03	2.75E-04
	44	1461.39	5.27E+02	47.76	3.29E-03	2.69E-04
	45	1510.23	9.23E+00	10.39	3.21E-03	2.62E-04
	46	1531.79	1.14E+01	10.77	3.17E-03	2.59E-04
	47	1588.04	2.35E+01	13.71	3.09E-03	2.50E-04
	48	1765.15	3.82E+01	15.79	2.86E-03	2.24E-04
	49	1779.38	8.00E+00	10.10	2.84E-03	2.22E-04
	50	1936.16	7.00E+00	5.29	2.68E-03	2.13E-04

Analysis Report for 1510092-12
CP5001S09-10

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
51	1948.14	7.27E+00	8.72	2.67E-03	2.13E-04
52	2161.82	6.00E+00	6.93	2.49E-03	2.13E-04
53	2226.51	6.00E+00	4.90	2.45E-03	2.13E-04
54	2311.12	1.20E+01	6.93	2.39E-03	2.13E-04
55	2371.78	6.00E+00	8.49	2.36E-03	2.13E-04
56	2615.06	8.50E+01	18.44	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 : 11/11/2015 9:24:49AM

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	24.88	1.14E+02	104.10			1.14E+02	1.04E+02
2	47.18	1.63E+02	97.55	5.28E+01	1.09E+01	1.11E+02	9.82E+01
3	76.36	1.02E+03	147.65			1.02E+03	1.48E+02
m 4	88.00	2.68E+02	86.20	1.52E+01	5.37E+00	2.53E+02	8.64E+01
m 5	93.28	2.96E+02	84.92	9.04E+01	2.62E+01	2.05E+02	8.89E+01
6	99.87	7.13E+01	66.93			7.13E+01	6.69E+01
7	106.00	6.86E+01	73.77			6.86E+01	7.38E+01
8	129.52	7.64E+01	83.38			7.64E+01	8.34E+01
9	177.02	5.75E+01	55.83			5.75E+01	5.58E+01
10	185.98	2.42E+02	88.29	3.93E+01	6.56E+00	2.02E+02	8.85E+01
11	209.51	7.90E+01	61.65			7.90E+01	6.17E+01
M 12	238.97	8.79E+02	73.10	1.34E+01	2.14E+00	8.65E+02	7.31E+01
m 13	242.05	1.95E+02	77.83	2.69E+00	1.46E+00	1.92E+02	7.78E+01
14	270.37	7.02E+01	49.80			7.02E+01	4.98E+01
M 15	295.70	2.14E+02	45.71			2.14E+02	4.57E+01
m 16	300.46	5.36E+01	48.74			5.36E+01	4.87E+01
17	327.83	7.73E+01	50.55			7.73E+01	5.05E+01
M 18	335.10	2.24E+01	16.58			2.24E+01	1.66E+01
m 19	339.10	1.93E+02	43.35			1.93E+02	4.33E+01
20	352.23	4.06E+02	57.10	3.99E+00	4.73E+00	4.02E+02	5.73E+01
21	402.83	3.57E+01	45.03			3.57E+01	4.50E+01
22	423.77	4.88E+01	37.68			4.88E+01	3.77E+01
23	463.49	6.39E+01	41.72			6.39E+01	4.17E+01
24	511.03	1.58E+02	41.83	5.78E+01	4.60E+00	1.00E+02	4.21E+01

Analysis Report for 1510092-12

CP5001S09-10

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
25	583.73	2.02E+02	53.94	5.96E+00	3.46E+00	1.96E+02	5.40E+01
26	609.99	3.21E+02	51.25	6.71E+00	3.44E+00	3.14E+02	5.14E+01
27	657.17	1.75E+01	17.53			1.75E+01	1.75E+01
28	718.28	2.69E+01	23.62			2.69E+01	2.36E+01
29	728.66	5.82E+01	34.70			5.82E+01	3.47E+01
30	795.57	5.08E+01	30.03			5.08E+01	3.00E+01
31	838.01	4.09E+01	40.89			4.09E+01	4.09E+01
32	861.74	7.17E+01	40.30			7.17E+01	4.03E+01
M 33	911.41	1.38E+02	31.46	2.32E+00	2.73E+00	1.36E+02	3.16E+01
m 34	916.37	1.59E+01	22.67			1.59E+01	2.27E+01
35	969.93	4.12E+01	40.69			4.12E+01	4.07E+01
36	1023.56	7.59E+01	56.75			7.59E+01	5.67E+01
37	1120.60	6.40E+01	26.61	2.00E+00	2.20E+00	6.20E+01	2.67E+01
38	1127.76	1.86E+01	15.87			1.86E+01	1.59E+01
39	1174.98	3.05E+01	29.40			3.05E+01	2.94E+01
40	1359.51	1.40E+01	17.03			1.40E+01	1.70E+01
41	1378.18	1.49E+01	13.77			1.49E+01	1.38E+01
42	1386.49	2.26E+01	15.40			2.26E+01	1.54E+01
43	1422.08	2.06E+01	17.34			2.06E+01	1.73E+01
44	1461.39	5.27E+02	47.76			5.27E+02	4.78E+01
45	1510.23	9.23E+00	10.39			9.23E+00	1.04E+01
46	1531.79	1.14E+01	10.77			1.14E+01	1.08E+01
47	1588.04	2.35E+01	13.71			2.35E+01	1.37E+01
48	1765.15	3.82E+01	15.79	1.45E+00	1.16E+00	3.68E+01	1.58E+01
49	1779.38	8.00E+00	10.10			8.00E+00	1.01E+01
50	1936.16	7.00E+00	5.29			7.00E+00	5.29E+00
51	1948.14	7.27E+00	8.72			7.27E+00	8.72E+00
52	2161.82	6.00E+00	6.93			6.00E+00	6.93E+00
53	2226.51	6.00E+00	4.90			6.00E+00	4.90E+00
54	2311.12	1.20E+01	6.93			1.20E+01	6.93E+00
55	2371.78	6.00E+00	8.49			6.00E+00	8.49E+00
56	2615.06	8.50E+01	18.44			8.50E+01	1.84E+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 : 11/11/2015 9:24:49AM
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

: 00717

Analysis Report for 1510092-12
CP5001S09-10

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	1	24.88	1.14E+02	104.10			1.14E+02	1.04E+02
	2	47.18	1.63E+02	97.55	5.28E+01	1.09E+01	1.11E+02	9.82E+01
	3	76.36	1.02E+03	147.65			1.02E+03	1.48E+02
m	4	88.00	2.68E+02	86.20	1.52E+01	5.37E+00	2.53E+02	8.64E+01
m	5	93.28	2.96E+02	84.92	9.04E+01	2.62E+01	2.05E+02	8.89E+01
	6	99.87	7.13E+01	66.93			7.13E+01	6.69E+01
	7	106.00	6.86E+01	73.77			6.86E+01	7.38E+01
	8	129.52	7.64E+01	83.38			7.64E+01	8.34E+01
	9	177.02	5.75E+01	55.83			5.75E+01	5.58E+01
	10	185.98	2.42E+02	88.29	3.93E+01	6.56E+00	2.02E+02	8.85E+01
	11	209.51	7.90E+01	61.65			7.90E+01	6.17E+01
M	12	238.97	8.79E+02	73.10	1.34E+01	2.14E+00	8.65E+02	7.31E+01
m	13	242.05	1.95E+02	77.83	2.69E+00	1.46E+00	1.92E+02	7.78E+01
	14	270.37	7.02E+01	49.80			7.02E+01	4.98E+01
M	15	295.70	2.14E+02	45.71			2.14E+02	4.57E+01
m	16	300.46	5.36E+01	48.74			5.36E+01	4.87E+01
	17	327.83	7.73E+01	50.55			7.73E+01	5.05E+01
M	18	335.10	2.24E+01	16.58			2.24E+01	1.66E+01
m	19	339.10	1.93E+02	43.35			1.93E+02	4.33E+01
	20	352.23	4.06E+02	57.10	3.99E+00	4.73E+00	4.02E+02	5.73E+01
	21	402.83	3.57E+01	45.03			3.57E+01	4.50E+01
	22	423.77	4.88E+01	37.68			4.88E+01	3.77E+01
	23	463.49	6.39E+01	41.72			6.39E+01	4.17E+01
	24	511.03	1.58E+02	41.83	5.78E+01	4.60E+00	1.00E+02	4.21E+01
	25	583.73	2.02E+02	53.94	5.96E+00	3.46E+00	1.96E+02	5.40E+01
	26	609.99	3.21E+02	51.25	6.71E+00	3.44E+00	3.14E+02	5.14E+01
	27	657.17	1.75E+01	17.53			1.75E+01	1.75E+01
	28	718.28	2.69E+01	23.62			2.69E+01	2.36E+01
	29	728.66	5.82E+01	34.70			5.82E+01	3.47E+01
	30	795.57	5.08E+01	30.03			5.08E+01	3.00E+01
	31	838.01	4.09E+01	40.89			4.09E+01	4.09E+01
	32	861.74	7.17E+01	40.30			7.17E+01	4.03E+01
M	33	911.41	1.38E+02	31.46	2.32E+00	2.73E+00	1.36E+02	3.16E+01
m	34	916.37	1.59E+01	22.67			1.59E+01	2.27E+01
	35	969.93	4.12E+01	40.69			4.12E+01	4.07E+01
	36	1023.56	7.59E+01	56.75			7.59E+01	5.67E+01
	37	1120.60	6.40E+01	26.61	2.00E+00	2.20E+00	6.20E+01	2.67E+01
	38	1127.76	1.86E+01	15.87			1.86E+01	1.59E+01
	39	1174.98	3.05E+01	29.40			3.05E+01	2.94E+01
	40	1359.51	1.40E+01	17.03			1.40E+01	1.70E+01
	41	1378.18	1.49E+01	13.77			1.49E+01	1.38E+01
	42	1386.49	2.26E+01	15.40			2.26E+01	1.54E+01
	43	1422.08	2.06E+01	17.34			2.06E+01	1.73E+01
	44	1461.39	5.27E+02	47.76			5.27E+02	4.78E+01
	45	1510.23	9.23E+00	10.39			9.23E+00	1.04E+01
	46	1531.79	1.14E+01	10.77			1.14E+01	1.08E+01
	47	1588.04	2.35E+01	13.71			2.35E+01	1.37E+01
	48	1765.15	3.82E+01	15.79	1.45E+00	1.16E+00	3.68E+01	1.58E+01
	49	1779.38	8.00E+00	10.10			8.00E+00	1.01E+01
	50	1936.16	7.00E+00	5.29			7.00E+00	5.29E+00
	51	1948.14	7.27E+00	8.72			7.27E+00	8.72E+00
	52	2161.82	6.00E+00	6.93			6.00E+00	6.93E+00
	53	2226.51	6.00E+00	4.90			6.00E+00	4.90E+00
	54	2311.12	1.20E+01	6.93			1.20E+01	6.93E+00

Analysis Report for 1510092-12
CP5001S09-10

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
55	2371.78	6.00E+00	8.49			6.00E+00	8.49E+00
56	2615.06	8.50E+01	18.44			8.50E+01	1.84E+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	0.948	1460.81	*	10.67	2.03E+01	2.51E+00
GA-67	0.602	93.31	*	35.70	3.32E+02	1.47E+03
		208.95	*	2.24	2.96E+03	1.28E+04
		300.22	*	16.00	3.74E+02	1.68E+03
CD-109	1.000	88.03	*	3.72	3.95E+00	1.43E+00
SN-126	0.971	87.57	*	37.00	3.79E-01	1.35E-01
TL-208	0.852	583.14	*	30.22	1.23E+00	3.56E-01
		860.37		4.48		
		2614.66	*	35.85	1.43E+00	3.39E-01
PB-210	0.930	46.50	*	4.25	2.29E+00	2.05E+00
PB-212	0.981	238.63	*	44.60	1.72E+00	1.98E-01
		300.09	*	3.41	1.68E+00	1.53E+00
BI-214	0.877	609.31	*	46.30	1.34E+00	2.49E-01
		1120.29	*	15.10	1.36E+00	5.96E-01
		1764.49	*	15.80	1.10E+00	4.82E-01
		2204.22		4.98		
PB-214	0.978	295.21	*	19.19	1.18E+00	2.67E-01
		351.92	*	37.19	1.32E+00	2.17E-01
RA-226	0.991	186.21	*	3.28	4.55E+00	8.57E+00
AC-228	0.941	338.32	*	11.40	2.00E+00	4.77E-01
		911.07	*	27.70	1.36E+00	3.34E-01
		969.11	*	16.60	7.28E-01	7.22E-01

Analysis Report for 1510092-12
CP5001S09-10

* = 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 : 11/11/2015 9:24:49AM
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	24.88	3.15383E-02	45.84	Tol.	TH-231
3	76.36	2.84520E-01	7.21		
6	99.87	1.98008E-02	46.95	Tol.	LU-173
7	106.00	1.90493E-02	53.79	Tol.	EU-155 NP-239
8	129.52	2.12336E-02	54.54		
9	177.02	1.59831E-02	48.51	Tol.	SB-125 CS-136
m 13	242.05	5.33177E-02	20.28		
14	270.37	1.94988E-02	35.48		
17	327.83	2.14809E-02	32.68	Sum	
M 18	335.10	6.21576E-03	37.05		
21	402.83	9.92638E-03	63.01		
22	423.77	1.35578E-02	38.60	Tol.	BA-140
23	463.49	1.77448E-02	32.66	Tol.	SB-125
24	511.03	2.78211E-02	21.01		
27	657.17	4.87374E-03	49.95	Sum	
28	718.28	7.47786E-03	43.86		
29	728.66	1.61574E-02	29.83		
30	795.57	1.41026E-02	29.58	Sum	
31	838.01	1.13486E-02	50.04		
32	861.74	1.99064E-02	28.11		
m 34	916.37	4.42975E-03	71.08		
36	1023.56	2.10706E-02	37.40		
38	1127.76	5.17747E-03	42.58		
39	1174.98	8.47222E-03	48.20		
40	1359.51	3.88889E-03	60.82	Sum	
41	1378.18	4.13996E-03	46.21		
42	1386.49	6.26634E-03	34.14		
43	1422.08	5.71970E-03	42.11		
45	1510.23	2.56481E-03	56.28		
46	1531.79	3.16993E-03	47.19		
47	1588.04	6.52330E-03	29.19		
49	1779.38	2.22222E-03	63.12		

Analysis Report for 1510092-12
CP5001S09-10

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
50	1936.16	1.94444E-03	37.80		
51	1948.14	2.02020E-03	59.93		
52	2161.82	1.66667E-03	57.74		
53	2226.51	1.66667E-03	40.82		
54	2311.12	3.33333E-03	28.87		
55	2371.78	1.66667E-03	70.71		

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	2.03E+01	2.51E+00
GA-67	0.60	93.31 *	35.70	3.32E+02	1.47E+03
		208.95 *	2.24	2.96E+03	1.28E+04
		300.22 *	16.00	3.74E+02	1.68E+03
CD-109	1.00	88.03 *	3.72	3.95E+00	1.43E+00
SN-126	0.97	87.57 *	37.00	3.79E-01	1.35E-01
TL-208	0.85	583.14 *	30.22	1.23E+00	3.56E-01
		860.37 *	4.48		
		2614.66 *	35.85	1.43E+00	3.39E-01
PB-210	0.93	46.50 *	4.25	2.29E+00	2.05E+00
PB-212	0.98	238.63 *	44.60	1.72E+00	1.98E-01
		300.09 *	3.41	1.68E+00	1.53E+00
BI-214	0.87	609.31 *	46.30	1.34E+00	2.49E-01
		1120.29 *	15.10	1.36E+00	5.96E-01
		1764.49 *	15.80	1.10E+00	4.82E-01
		2204.22 *	4.98		
PB-214	0.97	295.21 *	19.19	1.18E+00	2.67E-01
		351.92 *	37.19	1.32E+00	2.17E-01
RA-226	0.99	186.21 *	3.28	4.55E+00	8.57E+00
AC-228	0.94	338.32 *	11.40	2.00E+00	4.77E-01
		911.07 *	27.70	1.36E+00	3.34E-01
		969.11 *	16.60	7.28E-01	7.22E-01

: 00721

Analysis Report for 1510092-12
CP5001S09-10

* = 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

<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	0.948	2.03E+01	2.51E+00	
GA-67	0.602	2.88E+02	1.24E+03	
? CD-109	1.000	3.95E+00	1.43E+00	
? SN-126	0.971	3.79E-01	1.35E-01	
TL-208	0.852	1.33E+00	2.46E-01	
PB-210	0.930	2.29E+00	2.05E+00	
PB-212	0.981	1.70E+00	1.96E-01	
BI-214	0.877	1.29E+00	2.08E-01	
PB-214	0.978	1.26E+00	1.68E-01	
RA-226	0.991	4.55E+00	8.57E+00	
AC-228	0.941	1.47E+00	2.56E-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 1510092-12
CP5001S09-10

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 9:24:49AM
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	24.88	3.15383E-02	45.84	Tol.	TH-231
3	76.36	2.84520E-01	7.21		
6	99.87	1.98008E-02	46.95	Tol.	LU-173
7	106.00	1.90493E-02	53.79	Tol.	EU-155 NP-239
8	129.52	2.12336E-02	54.54		
9	177.02	1.59831E-02	48.51	Tol.	SB-125 CS-136
m 13	242.05	5.33177E-02	20.28		
14	270.37	1.94988E-02	35.48		
17	327.83	2.14809E-02	32.68	Sum	
M 18	335.10	6.21576E-03	37.05		
21	402.83	9.92638E-03	63.01		
22	423.77	1.35578E-02	38.60	Tol.	BA-140
23	463.49	1.77448E-02	32.66	Tol.	SB-125
24	511.03	2.78211E-02	21.01		
27	657.17	4.87374E-03	49.95	Sum	
28	718.28	7.47786E-03	43.86		
29	728.66	1.61574E-02	29.83		
30	795.57	1.41026E-02	29.58	Sum	
31	838.01	1.13486E-02	50.04		
32	861.74	1.99064E-02	28.11		
m 34	916.37	4.42975E-03	71.08		
36	1023.56	2.10706E-02	37.40		
38	1127.76	5.17747E-03	42.58		
39	1174.98	8.47222E-03	48.20		
40	1359.51	3.88889E-03	60.82	Sum	
41	1378.18	4.13996E-03	46.21		
42	1386.49	6.26634E-03	34.14		
43	1422.08	5.71970E-03	42.11		
45	1510.23	2.56481E-03	56.28		
46	1531.79	3.16993E-03	47.19		
47	1588.04	6.52330E-03	29.19		
49	1779.38	2.22222E-03	63.12		
50	1936.16	1.94444E-03	37.80		

Analysis Report for 1510092-12
CP5001S09-10

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
51	1948.14	2.02020E-03	59.93		
52	2161.82	1.66667E-03	57.74		
53	2226.51	1.66667E-03	40.82		
54	2311.12	3.33333E-03	28.87		
55	2371.78	1.66667E-03	70.71		

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	7.67E-01	1.14E+00	1.14E+00
+	NA-22	1274.54	99.94	-1.91E-02	1.11E-01	1.11E-01
+	NA-24	1368.53	99.99	-1.70E+14	3.76E+14	5.40E+14
		2754.09	99.86	3.88E+13		3.76E+14
+	AL-26	1808.65	99.76	-8.04E-03	6.80E-02	6.80E-02
+	K-40	1460.81	* 10.67	2.03E+01	9.40E-01	9.40E-01
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	3.93E-02	7.97E-02	7.97E-02
		78.34	96.00	2.34E-01		9.63E-02
+	SC-46	889.25	99.98	-3.19E-02	1.22E-01	1.22E-01
		1120.51	99.99	2.82E-01		2.13E-01
+	V-48	983.52	99.98	-1.42E-01	3.57E-01	3.57E-01
		1312.10	97.50	7.44E-02		5.08E-01
+	CR-51	320.08	9.83	2.45E-01	1.61E+00	1.61E+00
+	MN-54	834.83	99.97	1.10E-02	1.13E-01	1.13E-01
+	CO-56	846.75	99.96	-1.89E-02	1.09E-01	1.09E-01
		1037.75	14.03	-5.64E-02		9.38E-01
		1238.25	67.00	3.72E-02		2.77E-01
		1771.40	15.51	-5.16E-01		7.39E-01
		2598.48	16.90	-2.85E-01		3.49E-01
+	CO-57	122.06	85.51	-3.03E-02	6.53E-02	6.53E-02
		136.48	10.60	-3.17E-02		5.45E-01
+	CO-58	810.76	99.40	-4.41E-02	1.21E-01	1.21E-01
+	FE-59	1099.22	56.50	1.28E-01	3.57E-01	3.57E-01

Analysis Report for 1510092-12
CP5001S09-10

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	FE-59	1291.56	43.20	2.97E-01	3.57E-01	5.28E-01
+	CO-60	1173.22	100.00	4.31E-02	1.21E-01	1.30E-01
		1332.49	100.00	3.49E-02		1.21E-01
+	ZN-65	1115.52	50.75	5.52E-02	2.45E-01	2.45E-01
+	GA-67	93.31	* 35.70	3.32E+02	4.52E+02	4.52E+02
		208.95	* 2.24	2.96E+03		3.74E+03
		300.22	* 16.00	3.74E+02		8.10E+02
+	SE-75	121.11	16.70	-1.42E-01	1.06E-01	3.74E-01
		136.00	59.20	-4.40E-02		1.06E-01
		264.65	59.80	2.53E-02		1.33E-01
		279.53	25.20	7.50E-03		3.52E-01
		400.65	11.40	-1.03E-01		8.33E-01
+	RB-82	776.52	13.00	2.19E-01	1.74E+00	1.74E+00
+	RB-83	520.41	46.00	-4.01E-02	2.27E-01	2.27E-01
		529.64	30.30	4.13E-02		3.44E-01
		552.65	16.40	-4.34E-02		6.57E-01
+	KR-85	513.99	0.43	2.25E+00	2.72E+01	2.72E+01
+	SR-85	513.99	99.27	1.39E-02	1.67E-01	1.67E-01
+	Y-88	898.02	93.40	-3.34E-02	7.93E-02	1.25E-01
		1836.01	99.38	-2.66E-02		7.93E-02
+	NB-93M	16.57	9.43	1.93E+01	8.60E+01	8.60E+01
+	NB-94	702.63	100.00	3.91E-02	7.99E-02	9.75E-02
		871.10	100.00	1.04E-03		7.99E-02
+	NB-95	765.79	99.81	-1.47E-02	1.84E-01	1.84E-01
+	NB-95M	235.69	25.00	6.91E+02	2.70E+02	2.70E+02
+	ZR-95	724.18	43.70	-3.10E-01	2.35E-01	3.08E-01
		756.72	55.30	9.16E-02		2.35E-01
+	MO-99	181.06	6.20	-2.12E+03	2.52E+03	3.47E+03
		739.58	12.80	-1.56E+02		2.52E+03
		778.00	4.50	-8.67E+02		7.56E+03
+	RU-103	497.08	89.00	-1.88E-02	1.50E-01	1.50E-01
+	RU-106	621.84	9.80	3.74E-01	9.51E-01	9.51E-01
+	AG-108M	433.93	89.90	-6.74E-02	8.38E-02	8.38E-02
		614.37	90.40	-6.94E-03		1.09E-01
		722.95	90.50	-2.04E-01		9.31E-02
+	CD-109	88.03	* 3.72	3.95E+00	4.31E+00	4.31E+00
+	AG-110M	657.75	93.14	-2.16E-02	9.27E-02	9.27E-02
		677.61	10.53	-7.25E-02		8.69E-01
		706.67	16.46	-3.13E-01		5.67E-01
		763.93	21.98	-2.90E-01		4.32E-01
		884.67	71.63	3.03E-02		1.50E-01
		1384.27	23.94	-3.13E-01		5.00E-01
+	CD-113M	263.70	0.02	1.06E+00	2.86E+02	2.86E+02
+	SN-113	255.12	1.93	-2.28E+00	1.40E-01	4.11E+00
		391.69	64.90	-6.96E-02		1.40E-01
+	TE123M	159.00	84.10	-1.09E-02	7.92E-02	7.92E-02
+	SB-124	602.71	97.87	-1.26E-02	1.22E-01	1.22E-01
		645.85	7.26	3.32E-01		1.87E+00

Analysis Report for 1510092-12
CP5001S09-10

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)	
	SB-124	722.78	11.10	-2.43E+00	1.22E-01	1.10E+00
		1691.02	49.00	6.51E-02		2.57E-01
+	I-125	35.49	6.49	-1.74E+00	3.57E+00	3.57E+00
+	SB-125	176.33	6.89	1.14E-01	2.92E-01	8.63E-01
		427.89	29.33	9.38E-02		2.92E-01
		463.38	10.35	9.36E-01		9.10E-01
		600.56	17.80	7.36E-03		4.88E-01
		635.90	11.32	-7.59E-02		8.17E-01
+	SB-126	414.70	83.30	1.44E-01	5.58E-01	5.75E-01
		666.33	99.60	3.29E-01		5.88E-01
		695.00	99.60	4.95E-02		5.58E-01
		720.50	53.80	5.24E-01		1.11E+00
+	SN-126	87.57	* 37.00	3.79E-01	4.12E-01	4.12E-01
+	SB-127	473.00	25.00	7.11E+00	8.19E+01	1.05E+02
		685.20	35.70	-2.99E+01		8.19E+01
		783.80	14.70	-4.53E+01		2.18E+02
+	I-129	29.78	57.00	-1.73E-02	4.97E-01	4.97E-01
		33.60	13.20	1.49E-01		1.46E+00
		39.58	7.52	-6.11E-01		1.65E+00
+	I-131	284.30	6.05	-6.19E+00	1.60E+00	2.00E+01
		364.48	81.20	5.61E-01		1.60E+00
		636.97	7.26	5.65E+00		2.14E+01
		722.89	1.80	-1.72E+02		7.84E+01
+	TE-132	49.72	13.10	-1.15E+03	8.65E+01	6.97E+02
		228.16	88.00	1.03E+01		8.65E+01
+	BA-133	81.00	33.00	-1.13E+00	1.71E-01	1.94E-01
		302.84	17.80	5.88E-02		4.45E-01
		356.01	60.00	-2.35E-02		1.71E-01
+	I-133	529.87	86.30	2.55E+09	2.13E+10	2.13E+10
+	XE-133	81.00	38.00	-7.37E+01	1.27E+01	1.27E+01
+	CS-134	563.23	8.38	-4.86E-02	9.30E-02	1.04E+00
		569.32	15.43	4.01E-02		5.71E-01
		604.70	97.60	4.12E-03		9.30E-02
		795.84	85.40	1.61E-01		1.40E-01
		801.93	8.73	-7.23E-01		9.36E-01
+	CS-135	268.24	16.00	1.24E-01	4.85E-01	4.85E-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	1.35E+00	5.08E-01	4.31E+00
		163.89	4.61	-2.32E-01		7.09E+00
		176.55	13.56	1.55E+00		2.43E+00
		273.65	12.66	-5.35E-03		3.51E+00
		340.57	48.50	2.15E+00		1.16E+00
		818.50	99.70	1.14E-01		5.08E-01
		1048.07	79.60	-6.73E-02		6.92E-01
		1235.34	19.70	0.00E+00		4.04E+00
+	CS-137	661.65	85.12	-4.34E-02	9.56E-02	9.56E-02
+	LA-138	788.74	34.00	9.31E-02	1.53E-01	2.78E-01

Analysis Report for 1510092-12
CP5001S09-10

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	LA-138	1435.80	66.00	2.55E-02	1.53E-01	1.53E-01
+	CE-139	165.85	80.35	4.97E-02	8.82E-02	8.82E-02
+	BA-140	162.64	6.70	-1.14E+00	1.87E+00	4.95E+00
		304.84	4.50	1.01E+00		9.12E+00
		423.70	3.20	6.48E+00		1.50E+01
		437.55	2.00	-1.77E+00		2.27E+01
		537.32	25.00	2.74E-01		1.87E+00
+	LA-140	328.77	20.50	1.47E+00	6.64E-01	2.26E+00
		487.03	45.50	4.19E-01		1.01E+00
		815.85	23.50	6.13E-01		2.26E+00
		1596.49	95.49	2.98E-01		6.64E-01
+	CE-141	145.44	48.40	1.55E-01	2.49E-01	2.49E-01
+	CE-143	57.36	11.80	2.12E+06	3.37E+06	9.81E+06
		293.26	42.00	-1.26E+05		3.37E+06
		664.55	5.20	1.40E+07		2.58E+07
+	CE-144	133.54	10.80	3.33E-02	5.14E-01	5.14E-01
+	PM-144	476.78	42.00	5.67E-03	7.65E-02	1.92E-01
		618.01	98.60	-4.63E-02		7.65E-02
		696.49	99.49	5.27E-03		9.50E-02
+	PM-145	36.85	21.70	-3.47E-01	3.55E-01	6.63E-01
		37.36	39.70	1.08E-01		3.55E-01
		42.30	15.10	7.59E-02		7.35E-01
		72.40	2.31	-5.67E+00		3.64E+00
+	PM-146	453.90	39.94	9.44E-02	2.04E-01	2.04E-01
		735.90	14.01	-1.28E-01		5.79E-01
		747.13	13.10	-1.07E-01		6.21E-01
+	ND-147	91.11	28.90	-2.14E+00	1.97E+00	1.97E+00
		531.02	13.10	-5.33E-01		4.81E+00
+	PM-149	285.90	3.10	1.34E+04	6.75E+04	6.75E+04
+	EU-152	121.78	20.50	-1.17E-01	2.51E-01	2.51E-01
		244.69	5.40	1.86E-01		1.62E+00
		344.27	19.13	9.48E-02		3.99E-01
		778.89	9.20	-2.04E-01		9.37E-01
		964.01	10.40	4.07E-01		1.23E+00
		1085.78	7.22	-6.15E-02		1.41E+00
		1112.02	9.60	5.33E-01		1.24E+00
		1407.95	14.94	1.79E-01		6.71E-01
+	GD-153	97.43	31.30	-1.84E-01	1.96E-01	1.96E-01
		103.18	22.20	-3.60E-01		2.46E-01
+	EU-154	123.07	40.50	1.97E-04	1.30E-01	1.30E-01
		723.30	19.70	-9.46E-01		4.30E-01
		873.19	11.50	-1.72E-01		6.53E-01
		996.32	10.30	5.05E-02		1.03E+00
		1004.76	17.90	-1.07E-01		5.47E-01
		1274.45	35.50	-5.29E-02		3.07E-01
+	EU-155	86.50	30.90	2.27E-01	2.48E-01	2.48E-01
		105.30	20.70	2.85E-02		2.56E-01
+	EU-156	811.77	10.40	-3.56E+00	3.43E+00	3.43E+00
		1153.47	7.20	3.57E+00		7.33E+00

Analysis Report for 1510092-12
CP5001S09-10

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	EU-156	1230.71	8.90	-3.78E-01	3.43E+00	6.60E+00
+	HO-166M	184.41	72.60	1.78E-01	1.03E-01	1.03E-01
		280.45	29.60	-5.78E-02		2.46E-01
		410.94	11.10	2.10E-01		7.06E-01
		711.69	54.10	0.00E+00		1.65E-01
+	TM-171	66.72	0.14	-7.11E+01	5.55E+01	5.55E+01
+	HF-172	81.75	4.52	-5.14E+00	4.93E-01	1.48E+00
		125.81	11.30	1.09E-01		4.93E-01
+	LU-172	181.53	20.60	-1.57E+01	4.98E+00	8.13E+00
		810.06	16.63	1.01E+00		1.60E+01
		912.12	15.25	6.30E+01		3.45E+01
		1093.66	62.50	-1.34E-01		4.98E+00
+	LU-173	100.72	5.24	2.66E-01	3.94E-01	1.06E+00
		272.11	21.20	-7.92E-02		3.94E-01
+	HF-175	343.40	84.00	3.94E-03	1.29E-01	1.29E-01
+	LU-176	88.34	13.30	5.53E-01	7.14E-02	5.83E-01
		201.83	86.00	4.70E-02		8.22E-02
		306.78	94.00	-1.94E-02		7.14E-02
+	TA-182	67.75	41.20	1.10E-01	2.23E-01	2.23E-01
		1121.30	34.90	6.90E-01		5.62E-01
		1189.05	16.23	4.42E-01		8.68E-01
		1221.41	26.98	2.33E-01		6.23E-01
		1231.02	11.44	3.82E-01		1.43E+00
+	IR-192	308.46	29.68	-7.24E-02	2.01E-01	3.06E-01
		468.07	48.10	-4.58E-02		2.01E-01
+	HG-203	279.19	77.30	6.78E-02	1.59E-01	1.59E-01
+	BI-207	569.67	97.72	2.07E-02	8.86E-02	8.86E-02
		1063.62	74.90	-4.98E-02		1.35E-01
+	TL-208	583.14	* 30.22	1.23E+00	4.55E-02	4.93E-01
		860.37	4.48	1.76E+00		2.48E+00
		2614.66	* 35.85	1.43E+00		4.55E-02
+	BI-210M	262.00	45.00	6.35E-02	1.54E-01	1.54E-01
		300.00	23.00	-8.71E-01		3.57E-01
+	PB-210	46.50	* 4.25	2.29E+00	3.33E+00	3.33E+00
+	PB-211	404.84	2.90	-5.65E-01	2.82E+00	2.82E+00
		831.96	2.90	3.52E-01		3.39E+00
+	BI-212	727.17	11.80	9.67E-01	9.75E-01	9.75E-01
		1620.62	2.75	1.30E-01		3.15E+00
+	PB-212	238.63	* 44.60	1.72E+00	3.09E-01	3.09E-01
		300.09	* 3.41	1.68E+00		3.64E+00
+	BI-214	609.31	* 46.30	1.34E+00	2.71E-01	2.71E-01
		1120.29	* 15.10	1.36E+00		1.24E+00
		1764.49	* 15.80	1.10E+00		5.82E-01
		2204.22	4.98	7.09E-01		2.59E+00
+	PB-214	295.21	* 19.19	1.18E+00	2.30E-01	6.25E-01
		351.92	* 37.19	1.32E+00		2.30E-01
+	RN-219	401.80	6.50	4.60E-01	1.25E+00	1.25E+00
+	RA-223	323.87	3.88	-1.41E-01	1.84E+00	1.84E+00

Analysis Report for 1510092-12
CP5001S09-10

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	RA-224	240.98	3.95	2.35E+01	3.86E+00	3.86E+00
+	RA-225	40.00	31.00	-6.69E-01	1.81E+00	1.81E+00
+	RA-226	186.21	* 3.28	4.55E+00	3.17E+00	3.17E+00
+	TH-227	50.10	8.40	-1.69E+00	1.02E+00	1.02E+00
		236.00	11.50	2.82E+00		1.10E+00
		256.20	6.30	5.04E-02		1.07E+00
+	AC-228	338.32	* 11.40	2.00E+00	9.46E-01	9.65E-01
		911.07	* 27.70	1.36E+00		9.46E-01
		969.11	* 16.60	7.28E-01		1.17E+00
+	TH-230	48.44	16.90	3.92E-01	5.79E-01	5.79E-01
		62.85	4.60	1.25E+00		1.83E+00
		67.67	0.37	1.00E+01		2.04E+01
+	PA-231	283.67	1.60	-1.39E+00	3.42E+00	4.51E+00
		302.67	2.30	4.52E-01		3.42E+00
+	TH-231	25.64	14.70	7.46E-01	1.03E+00	3.75E+00
		84.21	6.40	-2.21E+00		1.03E+00
+	PA-233	311.98	38.60	4.08E-02	4.06E-01	4.06E-01
+	PA-234	131.20	20.40	2.62E-01	2.89E-01	2.89E-01
		733.99	8.80	-2.17E-01		9.09E-01
		946.00	12.00	-1.44E-01		7.70E-01
+	PA-234M	1001.03	0.92	2.10E+00	1.15E+01	1.15E+01
+	TH-234	63.29	3.80	2.26E+00	2.22E+00	2.22E+00
+	U-235	143.76	10.50	1.46E-01	5.58E-01	5.58E-01
		163.35	4.70	-4.05E-02		1.24E+00
		205.31	4.70	3.09E-01		1.49E+00
+	NP-237	86.50	12.60	5.49E-01	6.01E-01	6.01E-01
+	NP-239	106.10	22.70	2.46E+03	3.61E+03	3.61E+03
		228.18	10.70	1.22E+03		1.03E+04
		277.60	14.10	1.42E+03		7.87E+03
+	AM-241	59.54	35.90	-1.72E-01	2.23E-01	2.23E-01
+	AM-243	74.67	66.00	1.91E-01	1.48E-01	1.48E-01
+	CM-243	209.75	3.29	1.68E+00	5.24E-01	2.36E+00
		228.14	10.60	8.12E-02		6.85E-01
		277.60	14.00	9.48E-02		5.24E-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 1510092-12
CP5001S09-10

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	1.14E+00	1.14E+00	7.67E-01	5.40E-01
NA-22	1274.54	99.94	1.11E-01	1.11E-01	-1.91E-02	5.04E-02
NA-24	1368.53	99.99	5.40E+14	3.76E+14	-1.70E+14	2.40E+14
	2754.09	99.86	3.76E+14		3.88E+13	1.41E+14
AL-26	1808.65	99.76	6.80E-02	6.80E-02	-8.04E-03	2.75E-02
+ K-40	1460.81	*	10.67	9.40E-01	2.03E+01	4.18E-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	7.97E-02	7.97E-02	3.93E-02	3.90E-02
	78.34	96.00	9.63E-02		2.34E-01	4.74E-02
SC-46	889.25	99.98	1.22E-01	1.22E-01	-3.19E-02	5.64E-02
	1120.51	99.99	2.13E-01		2.82E-01	1.01E-01
V-48	983.52	99.98	3.57E-01	3.57E-01	-1.42E-01	1.62E-01
	1312.10	97.50	5.08E-01		7.44E-02	2.32E-01
CR-51	320.08	9.83	1.61E+00	1.61E+00	2.45E-01	7.69E-01
MN-54	834.83	99.97	1.13E-01	1.13E-01	1.10E-02	5.25E-02
CO-56	846.75	99.96	1.09E-01	1.09E-01	-1.89E-02	5.00E-02
	1037.75	14.03	9.38E-01		-5.64E-02	4.29E-01
	1238.25	67.00	2.77E-01		3.72E-02	1.29E-01
	1771.40	15.51	7.39E-01		-5.16E-01	3.14E-01
	2598.48	16.90	3.49E-01		-2.85E-01	1.10E-01
CO-57	122.06	85.51	6.53E-02	6.53E-02	-3.03E-02	3.17E-02
	136.48	10.60	5.45E-01		-3.17E-02	2.64E-01
CO-58	810.76	99.40	1.21E-01	1.21E-01	-4.41E-02	5.57E-02
FE-59	1099.22	56.50	3.57E-01	3.57E-01	1.28E-01	1.66E-01
	1291.56	43.20	5.28E-01		2.97E-01	2.45E-01
CO-60	1173.22	100.00	1.30E-01	1.21E-01	4.31E-02	6.01E-02
	1332.49	100.00	1.21E-01		3.49E-02	5.54E-02
ZN-65	1115.52	50.75	2.45E-01	2.45E-01	5.52E-02	1.13E-01
+ GA-67	93.31	*	35.70	4.52E+02	3.32E+02	2.24E+02
	208.95	*	2.24	3.74E+03	2.96E+03	1.82E+03
	300.22	*	16.00	8.10E+02	3.74E+02	3.96E+02
SE-75	121.11	16.70	3.74E-01	1.06E-01	-1.42E-01	1.81E-01
	136.00	59.20	1.06E-01		-4.40E-02	5.14E-02
	264.65	59.80	1.33E-01		2.53E-02	6.40E-02
	279.53	25.20	3.52E-01		7.50E-03	1.70E-01
	400.65	11.40	8.33E-01		-1.03E-01	3.97E-01
RB-82	776.52	13.00	1.74E+00	1.74E+00	2.19E-01	8.10E-01
RB-83	520.41	46.00	2.27E-01	2.27E-01	-4.01E-02	1.07E-01
	529.64	30.30	3.44E-01		4.13E-02	1.62E-01
	552.65	16.40	6.57E-01		-4.34E-02	3.09E-01
KR-85	513.99	0.43	2.72E+01	2.72E+01	2.25E+00	1.31E+01
SR-85	513.99	99.27	1.67E-01	1.67E-01	1.39E-02	8.05E-02

Analysis Report for 1510092-12
CP5001S09-10

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	1.25E-01	7.93E-02	-3.34E-02	5.75E-02
	1836.01	99.38	7.93E-02		-2.66E-02	3.15E-02
NB-93M	16.57	9.43	8.60E+01	8.60E+01	1.93E+01	4.19E+01
NB-94	702.63	100.00	9.75E-02	7.99E-02	3.91E-02	4.57E-02
	871.10	100.00	7.99E-02		1.04E-03	3.63E-02
NB-95	765.79	99.81	1.84E-01	1.84E-01	-1.47E-02	8.60E-02
NB-95M	235.69	25.00	2.70E+02	2.70E+02	6.91E+02	1.33E+02
ZR-95	724.18	43.70	3.08E-01	2.35E-01	-3.10E-01	1.44E-01
	756.72	55.30	2.35E-01		9.16E-02	1.09E-01
MO-99	181.06	6.20	3.47E+03	2.52E+03	-2.12E+03	1.67E+03
	739.58	12.80	2.52E+03		-1.56E+02	1.17E+03
	778.00	4.50	7.56E+03		-8.67E+02	3.50E+03
RU-103	497.08	89.00	1.50E-01	1.50E-01	-1.88E-02	7.06E-02
RU-106	621.84	9.80	9.51E-01	9.51E-01	3.74E-01	4.46E-01
AG-108M	433.93	89.90	8.38E-02	8.38E-02	-6.74E-02	3.97E-02
	614.37	90.40	1.09E-01		-6.94E-03	5.17E-02
	722.95	90.50	9.31E-02		-2.04E-01	4.31E-02
+ CD-109	88.03	*	4.31E+00	4.31E+00	3.95E+00	2.13E+00
AG-110M	657.75	93.14	9.27E-02	9.27E-02	-2.16E-02	4.30E-02
	677.61	10.53	8.69E-01		-7.25E-02	4.04E-01
	706.67	16.46	5.67E-01		-3.13E-01	2.64E-01
	763.93	21.98	4.32E-01		-2.90E-01	2.00E-01
	884.67	71.63	1.50E-01		3.03E-02	6.96E-02
	1384.27	23.94	5.00E-01		-3.13E-01	2.25E-01
CD-113M	263.70	0.02	2.86E+02	2.86E+02	1.06E+00	1.37E+02
SN-113	255.12	1.93	4.11E+00	1.40E-01	-2.28E+00	1.98E+00
	391.69	64.90	1.40E-01		-6.96E-02	6.66E-02
TE123M	159.00	84.10	7.92E-02	7.92E-02	-1.09E-02	3.83E-02
SB-124	602.71	97.87	1.22E-01	1.22E-01	-1.26E-02	5.72E-02
	645.85	7.26	1.87E+00		3.32E-01	8.80E-01
	722.78	11.10	1.10E+00		-2.43E+00	5.12E-01
	1691.02	49.00	2.57E-01		6.51E-02	1.10E-01
I-125	35.49	6.49	3.57E+00	3.57E+00	-1.74E+00	1.74E+00
SB-125	176.33	6.89	8.63E-01	2.92E-01	1.14E-01	4.17E-01
	427.89	29.33	2.92E-01		9.38E-02	1.39E-01
	463.38	10.35	9.10E-01		9.36E-01	4.34E-01
	600.56	17.80	4.88E-01		7.36E-03	2.29E-01
	635.90	11.32	8.17E-01		-7.59E-02	3.84E-01
SB-126	414.70	83.30	5.75E-01	5.58E-01	1.44E-01	2.73E-01
	666.33	99.60	5.88E-01		3.29E-01	2.76E-01
	695.00	99.60	5.58E-01		4.95E-02	2.60E-01
	720.50	53.80	1.11E+00		5.24E-01	5.19E-01
+ SN-126	87.57	*	4.12E-01	4.12E-01	3.79E-01	2.04E-01
SB-127	473.00	25.00	1.05E+02	8.19E+01	7.11E+00	4.93E+01
	685.20	35.70	8.19E+01		-2.99E+01	3.80E+01
	783.80	14.70	2.18E+02		-4.53E+01	1.01E+02
I-129	29.78	57.00	4.97E-01	4.97E-01	-1.73E-02	2.42E-01
	33.60	13.20	1.46E+00		1.49E-01	7.10E-01
	39.58	7.52	1.65E+00		-6.11E-01	8.03E-01
I-131	284.30	6.05	2.00E+01	1.60E+00	-6.19E+00	9.63E+00
	364.48	81.20	1.60E+00		5.61E-01	7.65E-01
	636.97	7.26	2.14E+01		5.65E+00	1.01E+01
	722.89	1.80	7.84E+01		-1.72E+02	3.63E+01

: 00731

Analysis Report for 1510092-12
CP5001S09-10

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	6.97E+02	8.65E+01	-1.15E+03	3.40E+02
	228.16	88.00	8.65E+01		1.03E+01	4.18E+01
BA-133	81.00	33.00	1.94E-01	1.71E-01	-1.13E+00	9.49E-02
	302.84	17.80	4.45E-01		5.88E-02	2.14E-01
	356.01	60.00	1.71E-01		-2.35E-02	8.26E-02
I-133	529.87	86.30	2.13E+10	2.13E+10	2.55E+09	1.00E+10
XE-133	81.00	38.00	1.27E+01	1.27E+01	-7.37E+01	6.18E+00
CS-134	563.23	8.38	1.04E+00	9.30E-02	-4.86E-02	4.87E-01
	569.32	15.43	5.71E-01		4.01E-02	2.69E-01
	604.70	97.60	9.30E-02		4.12E-03	4.37E-02
	795.84	85.40	1.40E-01		1.61E-01	6.60E-02
	801.93	8.73	9.36E-01		-7.23E-01	4.28E-01
CS-135	268.24	16.00	4.85E-01	4.85E-01	1.24E-01	2.34E-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	4.31E+00	5.08E-01	1.35E+00	2.09E+00
	163.89	4.61	7.09E+00		-2.32E-01	3.43E+00
	176.55	13.56	2.43E+00		1.55E+00	1.18E+00
	273.65	12.66	3.51E+00		-5.35E-03	1.70E+00
	340.57	48.50	1.16E+00		2.15E+00	5.62E-01
	818.50	99.70	5.08E-01		1.14E-01	2.35E-01
	1048.07	79.60	6.92E-01		-6.73E-02	3.16E-01
	1235.34	19.70	4.04E+00		0.00E+00	1.88E+00
CS-137	661.65	85.12	9.56E-02	9.56E-02	-4.34E-02	4.44E-02
LA-138	788.74	34.00	2.78E-01	1.53E-01	9.31E-02	1.29E-01
	1435.80	66.00	1.53E-01		2.55E-02	6.84E-02
CE-139	165.85	80.35	8.82E-02	8.82E-02	4.97E-02	4.28E-02
BA-140	162.64	6.70	4.95E+00	1.87E+00	-1.14E+00	2.39E+00
	304.84	4.50	9.12E+00		1.01E+00	4.37E+00
	423.70	3.20	1.50E+01		6.48E+00	7.15E+00
	437.55	2.00	2.27E+01		-1.77E+00	1.08E+01
	537.32	25.00	1.87E+00		2.74E-01	8.79E-01
LA-140	328.77	20.50	2.26E+00	6.64E-01	1.47E+00	1.08E+00
	487.03	45.50	1.01E+00		4.19E-01	4.74E-01
	815.85	23.50	2.26E+00		6.13E-01	1.04E+00
	1596.49	95.49	6.64E-01		2.98E-01	2.95E-01
CE-141	145.44	48.40	2.49E-01	2.49E-01	1.55E-01	1.21E-01
CE-143	57.36	11.80	9.81E+06	3.37E+06	2.12E+06	4.79E+06
	293.26	42.00	3.37E+06		-1.26E+05	1.64E+06
	664.55	5.20	2.58E+07		1.40E+07	1.21E+07
CE-144	133.54	10.80	5.14E-01	5.14E-01	3.33E-02	2.49E-01
PM-144	476.78	42.00	1.92E-01	7.65E-02	5.67E-03	9.07E-02
	618.01	98.60	7.65E-02		-4.63E-02	3.53E-02
	696.49	99.49	9.50E-02		5.27E-03	4.43E-02
PM-145	36.85	21.70	6.63E-01	3.55E-01	-3.47E-01	3.22E-01
	37.36	39.70	3.55E-01		1.08E-01	1.73E-01
	42.30	15.10	7.35E-01		7.59E-02	3.58E-01
	72.40	2.31	3.64E+00		-5.67E+00	1.79E+00
PM-146	453.90	39.94	2.04E-01	2.04E-01	9.44E-02	9.69E-02
	735.90	14.01	5.79E-01		-1.28E-01	2.67E-01
	747.13	13.10	6.21E-01		-1.07E-01	2.86E-01
ND-147	91.11	28.90	1.97E+00	1.97E+00	-2.14E+00	9.65E-01

Analysis Report for 1510092-12
CP5001S09-10

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	4.81E+00	1.97E+00	-5.33E-01	2.26E+00
PM-149	285.90	3.10	6.75E+04	6.75E+04	1.34E+04	3.25E+04
EU-152	121.78	20.50	2.51E-01	2.51E-01	-1.17E-01	1.22E-01
	244.69	5.40	1.62E+00		1.86E-01	7.86E-01
	344.27	19.13	3.99E-01		9.48E-02	1.91E-01
	778.89	9.20	9.37E-01		-2.04E-01	4.33E-01
	964.01	10.40	1.23E+00		4.07E-01	5.76E-01
	1085.78	7.22	1.41E+00		-6.15E-02	6.44E-01
	1112.02	9.60	1.24E+00		5.33E-01	5.72E-01
	1407.95	14.94	6.71E-01		1.79E-01	2.99E-01
GD-153	97.43	31.30	1.96E-01	1.96E-01	-1.84E-01	9.53E-02
	103.18	22.20	2.46E-01		-3.60E-01	1.19E-01
EU-154	123.07	40.50	1.30E-01	1.30E-01	1.97E-04	6.29E-02
	723.30	19.70	4.30E-01		-9.46E-01	1.99E-01
	873.19	11.50	6.53E-01		-1.72E-01	2.95E-01
	996.32	10.30	1.03E+00		5.05E-02	4.73E-01
	1004.76	17.90	5.47E-01		-1.07E-01	2.50E-01
	1274.45	35.50	3.07E-01		-5.29E-02	1.40E-01
EU-155	86.50	30.90	2.48E-01	2.48E-01	2.27E-01	1.22E-01
	105.30	20.70	2.56E-01		2.85E-02	1.24E-01
EU-156	811.77	10.40	3.43E+00	3.43E+00	-3.56E+00	1.57E+00
	1153.47	7.20	7.33E+00		3.57E+00	3.38E+00
	1230.71	8.90	6.60E+00		-3.78E-01	3.06E+00
HO-166M	184.41	72.60	1.03E-01	1.03E-01	1.78E-01	5.03E-02
	280.45	29.60	2.46E-01		-5.78E-02	1.19E-01
	410.94	11.10	7.06E-01		2.10E-01	3.36E-01
	711.69	54.10	1.65E-01		0.00E+00	7.68E-02
TM-171	66.72	0.14	5.55E+01	5.55E+01	-7.11E+01	2.71E+01
HF-172	81.75	4.52	1.48E+00	4.93E-01	-5.14E+00	7.25E-01
	125.81	11.30	4.93E-01		1.09E-01	2.39E-01
LU-172	181.53	20.60	8.13E+00	4.98E+00	-1.57E+01	3.92E+00
	810.06	16.63	1.60E+01		1.01E+00	7.41E+00
	912.12	15.25	3.45E+01		6.30E+01	1.65E+01
	1093.66	62.50	4.98E+00		-1.34E-01	2.28E+00
LU-173	100.72	5.24	1.06E+00	3.94E-01	2.66E-01	5.16E-01
	272.11	21.20	3.94E-01		-7.92E-02	1.91E-01
HF-175	343.40	84.00	1.29E-01	1.29E-01	3.94E-03	6.20E-02
LU-176	88.34	13.30	5.83E-01	7.14E-02	5.53E-01	2.86E-01
	201.83	86.00	8.22E-02		4.70E-02	3.99E-02
	306.78	94.00	7.14E-02		-1.94E-02	3.42E-02
TA-182	67.75	41.20	2.23E-01	2.23E-01	1.10E-01	1.09E-01
	1121.30	34.90	5.62E-01		6.90E-01	2.65E-01
	1189.05	16.23	8.68E-01		4.42E-01	3.99E-01
	1221.41	26.98	6.23E-01		2.33E-01	2.90E-01
	1231.02	11.44	1.43E+00		3.82E-01	6.64E-01
IR-192	308.46	29.68	3.06E-01	2.01E-01	-7.24E-02	1.46E-01
	468.07	48.10	2.01E-01		-4.58E-02	9.46E-02
HG-203	279.19	77.30	1.59E-01	1.59E-01	6.78E-02	7.66E-02
BI-207	569.67	97.72	8.86E-02	8.86E-02	2.07E-02	4.17E-02
	1063.62	74.90	1.35E-01		-4.98E-02	6.17E-02
+ TL-208	583.14	* 30.22	4.93E-01	4.55E-02	1.23E+00	2.38E-01
	860.37	4.48	2.48E+00		1.76E+00	1.16E+00
	2614.66	* 35.85	4.55E-02		1.43E+00	0.00E+00

Analysis Report for 1510092-12
CP5001S09-10

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	1.54E-01	1.54E-01	6.35E-02	7.39E-02
	300.00	23.00	3.57E-01		-8.71E-01	1.72E-01
+ PB-210	46.50 *	4.25	3.33E+00	3.33E+00	2.29E+00	1.63E+00
PB-211	404.84	2.90	2.82E+00	2.82E+00	-5.65E-01	1.34E+00
	831.96	2.90	3.39E+00		3.52E-01	1.57E+00
BI-212	727.17	11.80	9.75E-01	9.75E-01	9.67E-01	4.61E-01
	1620.62	2.75	3.15E+00		1.30E-01	1.35E+00
+ PB-212	238.63 *	44.60	3.09E-01	3.09E-01	1.72E+00	1.52E-01
	300.09 *	3.41	3.64E+00		1.68E+00	1.78E+00
+ BI-214	609.31 *	46.30	2.71E-01	2.71E-01	1.34E+00	1.30E-01
	1120.29 *	15.10	1.24E+00		1.36E+00	5.90E-01
	1764.49 *	15.80	5.82E-01		1.10E+00	2.50E-01
	2204.22	4.98	2.59E+00		7.09E-01	1.15E+00
+ PB-214	295.21 *	19.19	6.25E-01	2.30E-01	1.18E+00	3.05E-01
	351.92 *	37.19	2.30E-01		1.32E+00	1.11E-01
RN-219	401.80	6.50	1.25E+00	1.25E+00	4.60E-01	5.96E-01
RA-223	323.87	3.88	1.84E+00	1.84E+00	-1.41E-01	8.79E-01
RA-224	240.98	3.95	3.86E+00	3.86E+00	2.35E+01	1.90E+00
RA-225	40.00	31.00	1.81E+00	1.81E+00	-6.69E-01	8.79E-01
+ RA-226	186.21 *	3.28	3.17E+00	3.17E+00	4.55E+00	1.55E+00
TH-227	50.10	8.40	1.02E+00	1.02E+00	-1.69E+00	4.99E-01
	236.00	11.50	1.10E+00		2.82E+00	5.41E-01
	256.20	6.30	1.07E+00		5.04E-02	5.14E-01
+ AC-228	338.32 *	11.40	9.65E-01	9.46E-01	2.00E+00	4.68E-01
	911.07 *	27.70	9.46E-01		1.36E+00	4.60E-01
	969.11 *	16.60	1.17E+00		7.28E-01	5.62E-01
TH-230	48.44	16.90	5.79E-01	5.79E-01	3.92E-01	2.83E-01
	62.85	4.60	1.83E+00		1.25E+00	8.94E-01
	67.67	0.37	2.04E+01		1.00E+01	9.96E+00
PA-231	283.67	1.60	4.51E+00	3.42E+00	-1.39E+00	2.17E+00
	302.67	2.30	3.42E+00		4.52E-01	1.65E+00
TH-231	25.64	14.70	3.75E+00	1.03E+00	7.46E-01	1.83E+00
	84.21	6.40	1.03E+00		-2.21E+00	5.02E-01
PA-233	311.98	38.60	4.06E-01	4.06E-01	4.08E-02	1.94E-01
PA-234	131.20	20.40	2.89E-01	2.89E-01	2.62E-01	1.40E-01
	733.99	8.80	9.09E-01		-2.17E-01	4.19E-01
	946.00	12.00	7.70E-01		-1.44E-01	3.52E-01
PA-234M	1001.03	0.92	1.15E+01	1.15E+01	2.10E+00	5.28E+00
TH-234	63.29	3.80	2.22E+00	2.22E+00	2.26E+00	1.09E+00
U-235	143.76	10.50	5.58E-01	5.58E-01	1.46E-01	2.71E-01
	163.35	4.70	1.24E+00		-4.05E-02	6.00E-01
	205.31	4.70	1.49E+00		3.09E-01	7.22E-01
NP-237	86.50	12.60	6.01E-01	6.01E-01	5.49E-01	2.95E-01
NP-239	106.10	22.70	3.61E+03	3.61E+03	2.46E+03	1.75E+03
	228.18	10.70	1.03E+04		1.22E+03	4.96E+03
	277.60	14.10	7.87E+03		1.42E+03	3.79E+03
AM-241	59.54	35.90	2.23E-01	2.23E-01	-1.72E-01	1.09E-01
AM-243	74.67	66.00	1.48E-01	1.48E-01	1.91E-01	7.30E-02
CM-243	209.75	3.29	2.36E+00	5.24E-01	1.68E+00	1.15E+00
	228.14	10.60	6.85E-01		8.12E-02	3.31E-01
	277.60	14.00	5.24E-01		9.48E-02	2.52E-01

Analysis Report for 1510092-12
CP5001S09-10

- + = 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

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: CP5001S09-10

Elapsed Live time: 3600

Elapsed Real Time: 3616

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	5	174	169	133	126	109	87	106
17:	96	85	80	72	64	74	94	102
25:	89	110	81	87	87	71	89	90
33:	98	91	80	84	85	75	89	94
41:	79	103	103	90	91	125	180	130
49:	87	111	85	92	111	118	102	123
57:	109	120	126	131	127	148	178	209
65:	128	146	139	136	136	142	127	148
73:	134	159	365	280	372	463	128	112
81:	125	102	105	151	134	126	179	253
89:	138	148	154	104	212	212	93	82
97:	81	83	91	106	73	75	53	67
105:	75	93	91	77	70	70	77	66
113:	83	79	70	89	73	76	71	75
121:	67	62	64	65	84	67	63	80
129:	105	104	88	59	60	67	58	63
137:	66	57	80	71	64	67	64	91
145:	79	74	68	76	61	71	73	57
153:	69	70	66	58	59	67	50	75
161:	43	65	56	68	67	63	66	70
169:	65	44	54	62	56	47	53	68
177:	61	58	55	50	43	59	56	55
185:	73	130	142	60	62	50	52	54
193:	57	38	63	48	41	41	58	53
201:	42	56	44	56	46	44	46	47
209:	75	96	51	37	54	50	51	39
217:	56	55	43	57	43	37	45	41
225:	47	45	41	39	53	45	39	46
233:	39	40	50	41	50	143	562	251
241:	83	141	81	41	32	37	36	35
249:	26	31	32	22	37	19	32	34
257:	38	25	35	41	27	30	19	35
265:	37	32	18	29	36	50	72	37
273:	29	35	25	36	43	39	33	27
281:	26	38	22	38	29	32	29	41
289:	32	28	28	30	25	28	98	144
297:	54	26	24	52	43	32	23	30
305:	21	28	21	21	15	25	25	23
313:	28	20	23	23	22	26	33	20
321:	18	23	20	23	27	20	35	43
329:	41	25	15	19	24	16	32	21
337:	22	53	118	38	31	28	25	17
345:	26	18	25	17	16	27	62	195
353:	180	26	19	18	17	16	19	25
361:	20	30	23	19	24	28	20	16

369: 22 14 17 7 21 17 18 21

Sample Title: CP5001S09-10

Channel	1	2	3	4	5	6	7	8	9
377:	27	16	22	21	17	17	15	23	
385:	19	14	14	27	25	18	11	20	
393:	18	18	20	29	19	16	15	12	
401:	23	28	24	21	25	19	18	13	
409:	24	28	13	18	16	20	19	17	
417:	20	15	10	15	17	16	21	22	
425:	27	20	13	13	24	27	17	16	
433:	14	23	13	15	12	24	14	19	
441:	17	10	21	11	17	19	10	9	
449:	7	16	15	17	18	11	25	20	
457:	11	14	15	15	15	17	36	40	
465:	12	14	13	9	12	13	12	21	
473:	8	7	14	12	10	16	19	16	
481:	12	12	10	13	17	13	14	10	
489:	15	13	13	8	11	18	9	8	
497:	11	13	14	12	17	14	18	12	
505:	15	9	4	15	13	40	76	45	
513:	26	15	11	14	17	15	10	14	
521:	13	13	8	17	13	6	16	15	
529:	11	11	14	9	11	15	11	18	
537:	7	12	9	11	10	13	12	5	
545:	19	13	11	13	13	8	13	12	
553:	13	20	13	7	15	10	17	11	
561:	16	15	14	10	10	10	17	7	
569:	12	16	14	11	12	15	9	10	
577:	14	16	19	19	8	27	106	103	
585:	30	16	10	12	15	8	7	10	
593:	13	9	16	10	15	11	15	11	
601:	9	9	9	14	9	11	6	25	
609:	104	161	50	17	6	13	5	5	
617:	7	5	9	10	9	11	15	12	
625:	12	13	9	12	8	9	9	8	
633:	11	5	8	19	18	7	12	15	
641:	15	7	18	5	13	9	12	14	
649:	12	8	13	5	8	6	4	10	
657:	13	12	5	6	6	12	10	6	
665:	14	13	17	11	9	7	7	8	
673:	10	7	8	9	6	7	11	4	
681:	15	15	4	7	6	6	8	9	
689:	10	10	3	6	9	12	10	5	
697:	13	11	5	17	7	19	9	9	
705:	10	7	13	5	5	9	11	8	
713:	14	12	4	5	13	15	16	6	
721:	8	6	8	9	9	8	21	24	
729:	18	15	6	11	5	6	7	7	
737:	5	9	8	10	7	7	13	5	
745:	9	9	3	7	5	8	5	6	
753:	6	8	8	12	7	7	8	9	
761:	4	9	8	6	8	7	10	11	
769:	15	14	12	10	10	6	12	9	
777:	5	11	6	5	6	7	10	5	
785:	6	9	9	9	13	5	9	5	
793:	8	13	24	20	9	10	6	4	

801: 4 9 3 3 10 10 12 11

Sample Title: CP5001S09-10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
809:	7	6	6	5	4	8	3	11
817:	8	9	7	6	6	6	6	6
825:	7	7	5	7	9	7	8	5
833:	9	10	10	13	15	4	8	12
841:	14	8	4	6	6	5	2	8
849:	6	5	8	5	4	4	7	6
857:	8	8	14	17	14	4	6	4
865:	7	12	8	4	8	4	3	8
873:	3	4	3	4	3	7	3	12
881:	5	8	10	7	7	6	9	2
889:	9	6	8	6	10	7	8	9
897:	7	6	4	6	6	3	12	7
905:	5	10	7	8	10	23	63	52
913:	12	6	8	13	4	7	5	3
921:	3	5	11	8	3	4	8	5
929:	3	5	9	6	10	12	9	6
937:	10	8	7	5	5	5	8	5
945:	10	3	4	6	4	4	11	7
953:	10	6	3	6	4	3	4	4
961:	7	10	9	11	17	14	9	12
969:	40	34	7	3	4	7	9	4
977:	7	5	6	1	5	1	9	5
985:	4	7	4	10	2	2	3	5
993:	9	5	8	7	3	9	7	12
1001:	5	3	5	7	7	6	7	5
1009:	4	6	1	2	4	5	10	9
1017:	9	3	8	6	4	5	5	7
1025:	4	5	7	6	6	4	7	10
1033:	6	8	7	4	9	5	3	7
1041:	4	5	9	5	2	8	6	9
1049:	3	4	6	7	3	5	8	4
1057:	9	6	7	1	9	2	7	6
1065:	5	9	8	8	7	6	4	5
1073:	4	5	2	3	8	7	5	4
1081:	12	4	3	9	8	5	3	4
1089:	6	3	5	3	8	8	5	9
1097:	5	9	10	4	6	12	7	4
1105:	4	9	2	6	3	7	11	7
1113:	5	13	5	8	4	4	17	36
1121:	24	10	4	2	5	5	8	10
1129:	6	2	3	8	4	6	7	4
1137:	10	5	6	5	7	4	7	6
1145:	5	5	4	9	2	5	9	7
1153:	2	7	10	8	5	2	6	12
1161:	3	7	1	11	2	4	9	7
1169:	3	6	6	6	12	10	9	6
1177:	7	7	8	3	6	5	8	3
1185:	5	5	5	7	3	11	7	5
1193:	4	3	8	8	9	9	7	11
1201:	5	5	9	6	11	8	7	5
1209:	6	5	5	12	8	10	10	7
1217:	6	9	9	9	13	6	6	8
1225:	9	4	6	4	7	8	10	9

1233: 10 8 11 5 8 12 9 9

Sample Title: CP5001S09-10

Channel	1	2	3	4	5	6	7	8	9
1241:	6	5	9	4	4	10	5	4	
1249:	10	3	2	4	7	7	6	8	
1257:	8	9	6	6	4	6	5	5	
1265:	7	6	5	5	1	3	1	2	
1273:	3	9	3	4	2	6	4	7	
1281:	8	4	6	9	5	4	4	6	
1289:	5	5	6	11	10	1	6	2	
1297:	4	3	5	3	2	1	5	8	
1305:	7	7	5	7	4	4	5	9	
1313:	1	2	4	3	4	1	4	1	
1321:	4	1	7	1	1	2	5	3	
1329:	5	6	5	1	8	3	1	6	
1337:	3	3	4	1	2	3	1	6	
1345:	2	5	2	3	4	7	6	3	
1353:	0	3	1	4	3	2	7	9	
1361:	1	3	2	2	3	2	0	5	
1369:	2	3	3	2	3	5	0	5	
1377:	6	8	5	2	0	2	4	2	
1385:	3	9	5	2	6	1	2	1	
1393:	3	2	3	1	6	2	1	1	
1401:	2	2	4	2	3	2	3	4	
1409:	6	0	2	1	1	1	0	0	
1417:	3	0	4	6	4	1	1	2	
1425:	3	1	2	3	3	0	3	2	
1433:	5	2	4	0	1	4	2	1	
1441:	4	1	0	2	2	3	2	5	
1449:	1	4	1	3	3	2	3	1	
1457:	3	4	28	126	228	126	22	1	
1465:	0	1	0	2	1	0	1	2	
1473:	1	1	3	1	0	2	2	2	
1481:	1	1	0	5	1	0	1	1	
1489:	0	3	2	3	1	3	2	2	
1497:	1	0	1	2	7	1	1	2	
1505:	1	1	0	3	3	4	2	2	
1513:	0	1	1	0	2	0	3	0	
1521:	1	2	3	2	1	3	1	1	
1529:	4	0	4	3	4	1	0	1	
1537:	0	0	2	2	1	1	3	1	
1545:	0	1	3	0	2	4	3	1	
1553:	1	3	2	2	1	0	0	1	
1561:	1	0	0	1	2	1	3	1	
1569:	3	0	1	2	3	1	1	5	
1577:	0	1	2	3	2	1	0	2	
1585:	2	3	5	10	9	0	3	2	
1593:	4	2	2	2	2	3	3	2	
1601:	2	0	1	1	0	3	1	0	
1609:	0	1	2	1	1	1	0	0	
1617:	0	0	1	1	4	2	2	3	
1625:	5	1	1	2	0	3	4	3	
1633:	3	2	1	1	1	1	2	0	
1641:	2	2	1	3	1	2	0	1	
1649:	0	0	1	0	2	0	1	1	
1657:	0	1	0	2	2	1	1	3	

1665: 0 2 3 1 2 2 0 2

Sample Title: CP5001S09-10

Channel	1	2	3	4	5	6	7	8	9
1673:	2	1	2	0	2	0	1	1	1
1681:	2	1	2	2	2	1	0	0	4
1689:	2	1	1	2	1	1	0	0	0
1697:	0	1	0	1	0	1	1	1	2
1705:	0	0	1	1	0	0	4	0	1
1713:	0	3	0	0	0	2	0	0	2
1721:	0	2	0	0	2	1	3	0	0
1729:	3	2	1	1	2	1	0	0	1
1737:	1	4	0	0	1	1	0	0	0
1745:	2	0	0	2	0	1	0	0	1
1753:	1	1	0	0	2	3	0	0	1
1761:	1	1	4	18	14	9	0	3	3
1769:	1	1	0	2	1	0	3	0	1
1777:	1	0	1	2	3	2	0	0	1
1785:	1	0	0	1	2	0	1	0	0
1793:	0	0	2	1	0	0	1	0	0
1801:	0	4	1	0	2	1	0	0	0
1809:	1	2	0	0	0	0	1	0	1
1817:	2	0	0	0	0	2	1	0	0
1825:	0	1	2	0	0	1	0	0	0
1833:	0	3	0	1	0	1	0	2	2
1841:	1	2	0	2	0	1	3	5	1
1849:	0	2	1	2	2	0	0	0	0
1857:	2	2	0	0	0	1	0	2	2
1865:	1	1	2	0	0	0	1	0	0
1873:	2	1	0	0	1	0	0	3	3
1881:	0	0	1	2	1	1	2	1	1
1889:	2	1	1	0	2	2	1	2	2
1897:	0	1	1	1	0	0	3	0	0
1905:	0	1	0	2	2	0	0	0	1
1913:	2	3	0	0	1	0	1	0	0
1921:	1	1	2	3	2	2	0	0	1
1929:	2	0	2	0	0	1	2	3	3
1937:	1	0	0	1	1	1	1	1	1
1945:	1	0	5	0	3	0	0	0	1
1953:	1	0	3	0	1	0	1	1	1
1961:	3	2	1	0	0	1	3	1	1
1969:	2	2	1	1	1	3	0	0	1
1977:	0	0	0	1	1	0	0	0	0
1985:	0	0	1	0	0	1	2	4	4
1993:	1	1	3	1	1	0	1	1	1
2001:	0	0	1	0	0	0	0	2	2
2009:	2	0	2	1	1	0	0	3	3
2017:	0	2	0	0	2	2	0	1	1
2025:	0	1	2	1	0	1	0	1	1
2033:	1	1	0	1	1	3	1	2	2
2041:	0	1	1	0	1	0	0	0	0
2049:	1	1	1	0	1	2	1	0	0
2057:	2	1	1	0	0	0	2	0	0
2065:	1	1	1	0	0	3	1	1	1
2073:	1	1	0	1	3	1	0	1	1
2081:	0	0	0	2	1	0	1	1	1
2089:	0	1	0	0	3	1	0	0	0

2097: 1 1 1 0 1 1 2 0

Sample Title: CP5001S09-10

Channel	1	2	3	4	5	6	7	8
2105:	2	0	1	2	0	0	1	0
2113:	2	2	1	3	1	1	2	1
2121:	1	0	0	2	1	1	0	1
2129:	1	0	0	0	2	0	0	0
2137:	0	0	0	0	1	1	2	0
2145:	2	2	1	0	1	1	0	2
2153:	0	0	0	1	0	0	1	2
2161:	2	2	1	0	0	0	1	1
2169:	2	0	3	0	0	1	0	0
2177:	0	0	2	0	0	1	0	0
2185:	2	3	0	2	0	0	0	1
2193:	1	0	1	0	2	2	1	0
2201:	1	2	1	6	4	2	2	2
2209:	2	1	1	2	0	1	2	0
2217:	1	1	0	3	0	0	0	0
2225:	3	1	2	0	0	0	1	1
2233:	0	3	1	0	2	3	1	2
2241:	0	1	0	1	2	1	0	1
2249:	0	0	1	0	1	0	2	0
2257:	0	2	1	1	2	0	1	2
2265:	0	0	1	0	2	0	0	3
2273:	1	0	0	0	0	1	1	0
2281:	1	0	3	1	1	1	2	0
2289:	0	0	0	1	0	2	0	2
2297:	0	0	1	1	1	0	0	0
2305:	0	1	0	1	1	4	1	2
2313:	1	1	0	0	2	1	1	0
2321:	2	2	1	1	2	0	0	3
2329:	0	1	1	2	1	0	2	0
2337:	1	1	3	1	2	2	1	0
2345:	1	0	3	1	1	0	1	1
2353:	1	2	1	4	2	1	2	1
2361:	0	1	0	0	1	0	1	1
2369:	1	1	0	6	0	1	0	1
2377:	1	2	2	1	0	1	0	2
2385:	2	0	0	3	0	1	0	1
2393:	1	1	1	1	1	2	1	1
2401:	1	0	0	0	0	0	0	1
2409:	0	0	0	1	3	2	1	0
2417:	2	0	3	0	0	2	1	0
2425:	0	1	0	1	0	0	0	1
2433:	0	0	1	0	1	0	0	0
2441:	0	1	0	0	0	1	2	0
2449:	0	2	1	0	0	0	1	0
2457:	1	0	0	0	0	0	1	1
2465:	1	0	0	3	2	1	0	1
2473:	1	1	0	0	0	1	0	0
2481:	0	1	1	1	3	1	0	0
2489:	0	1	0	0	0	0	0	2
2497:	0	0	1	0	1	1	1	2
2505:	0	0	0	0	0	1	1	0
2513:	1	0	0	0	0	0	1	0
2521:	0	0	0	1	0	0	0	0

2529: 0 1 1 0 0 0 0 1

Sample Title: CP5001S09-10

Channel	1	2	3	4	5	6	7	8	9
2537:	1	0	0	0	0	0	0	0	0
2545:	0	0	1	0	0	0	0	0	0
2553:	0	0	0	0	0	0	0	2	1
2561:	0	1	1	0	1	0	1	1	0
2569:	0	2	0	1	0	0	0	2	0
2577:	0	0	0	0	0	0	0	0	0
2585:	0	0	1	0	1	0	1	1	0
2593:	2	0	0	0	0	0	0	0	0
2601:	1	0	0	0	0	1	0	0	0
2609:	0	1	1	3	20	22	22	13	1
2617:	3	0	0	0	0	0	1	1	1
2625:	0	0	0	0	0	0	0	0	1
2633:	0	0	0	0	0	0	0	0	1
2641:	0	0	0	0	1	1	0	0	0
2649:	0	0	0	0	0	1	0	0	0
2657:	0	0	0	0	1	0	0	0	1
2665:	0	0	0	0	1	0	0	0	1
2673:	0	0	0	0	0	0	0	0	1
2681:	0	0	0	0	0	0	0	0	0
2689:	1	0	0	0	0	1	0	0	0
2697:	0	0	0	0	0	0	1	0	1
2705:	0	0	0	0	0	0	0	0	1
2713:	0	0	0	0	0	1	0	0	0
2721:	0	0	0	0	0	0	0	0	1
2729:	0	0	0	1	0	0	0	0	0
2737:	0	0	0	0	0	3	1	0	0
2745:	0	0	0	0	0	1	0	0	0
2753:	1	1	0	0	0	0	1	0	0
2761:	0	0	0	0	0	0	2	0	0
2769:	0	0	2	1	1	0	0	0	1
2777:	0	1	0	0	2	0	0	0	0
2785:	0	0	0	1	0	0	0	0	1
2793:	0	0	0	0	0	1	0	0	1
2801:	0	0	1	0	1	1	0	0	0
2809:	0	1	0	0	0	2	0	0	1
2817:	0	0	0	0	0	0	0	0	1
2825:	0	1	1	0	0	1	0	0	0
2833:	0	0	0	0	0	0	0	0	0
2841:	0	0	1	1	0	1	0	0	0
2849:	0	0	0	0	0	0	0	0	1
2857:	0	0	0	0	0	0	0	0	0
2865:	0	0	0	0	0	0	0	0	1
2873:	0	0	0	0	0	0	0	0	1
2881:	0	0	0	0	0	1	0	0	0
2889:	0	0	0	0	0	0	0	0	1
2897:	0	0	0	2	0	0	0	0	0
2905:	1	0	0	0	0	0	0	0	0
2913:	0	0	0	0	1	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	2	1	1	0	0	0
2945:	0	0	1	0	0	0	0	0	0
2953:	1	2	0	0	0	0	0	0	0

2961: 1 0 0 0 0 0 0 0 1

Sample Title: CP5001S09-10

Channel	1	2	3	4	5	6	7	8	9
2969:	0	1	0	0	0	1	0	0	0
2977:	0	0	0	0	0	1	0	0	0
2985:	1	0	0	0	0	0	1	0	0
2993:	1	1	0	0	0	1	0	0	0
3001:	0	0	0	0	0	0	1	0	0
3009:	0	0	0	0	0	0	0	0	0
3017:	0	0	1	1	1	0	0	0	0
3025:	0	0	0	0	0	0	0	0	1
3033:	0	0	0	0	0	0	0	0	0
3041:	0	0	0	0	0	0	0	0	0
3049:	0	0	1	1	0	0	0	0	0
3057:	0	0	0	0	0	0	0	0	1
3065:	0	0	0	0	0	0	0	0	0
3073:	0	0	1	1	0	1	0	0	2
3081:	0	0	0	0	0	0	0	0	0
3089:	0	0	1	0	1	0	0	0	0
3097:	0	0	0	0	0	1	0	0	0
3105:	0	0	0	0	0	0	0	0	0
3113:	1	0	1	0	0	0	0	0	0
3121:	0	0	0	0	1	0	0	0	0
3129:	0	0	0	0	1	0	0	0	0
3137:	0	1	0	0	0	0	0	0	0
3145:	0	0	0	0	0	0	0	0	0
3153:	0	1	0	0	1	0	1	0	0
3161:	0	0	0	0	0	0	0	0	0
3169:	1	0	0	0	0	0	0	0	0
3177:	0	0	0	0	0	0	0	0	0
3185:	0	0	0	0	0	0	0	0	0
3193:	0	0	1	0	1	0	0	0	0
3201:	0	0	0	0	0	0	0	0	0
3209:	0	0	0	0	0	1	0	0	0
3217:	0	0	0	0	0	0	0	0	0
3225:	0	0	1	1	0	0	0	0	0
3233:	0	0	0	0	0	0	0	0	0
3241:	1	0	0	0	0	0	0	0	0
3249:	0	0	0	0	0	0	0	0	0
3257:	0	0	0	1	0	0	0	0	0
3265:	1	1	1	0	1	0	0	0	1
3273:	1	0	0	0	0	0	0	0	0
3281:	0	0	0	0	0	0	0	0	0
3289:	0	0	0	0	0	1	0	0	0
3297:	0	0	0	1	0	0	0	0	0
3305:	0	0	0	0	0	1	0	0	0
3313:	0	0	0	0	0	0	0	0	0
3321:	0	0	0	0	0	0	0	0	0
3329:	0	0	0	0	0	0	0	0	0
3337:	0	1	0	0	0	0	0	0	0
3345:	1	1	0	0	0	0	0	0	0
3353:	0	0	0	0	0	0	0	0	0
3361:	1	1	0	1	0	0	0	0	0
3369:	0	0	0	0	0	0	0	0	0
3377:	0	0	0	0	0	0	0	0	0
3385:	0	1	0	0	0	0	1	0	0

3393: 0 0 0 0 0 0 1 1

Sample Title: CP5001S09-10

Channel	1	2	3	4	5	6	7	8
3401:	0	0	0	0	1	0	1	0
3409:	0	0	0	1	0	0	0	0
3417:	0	0	0	0	0	1	1	1
3425:	0	0	0	0	0	0	0	0
3433:	0	0	0	0	1	0	0	0
3441:	0	0	0	0	0	0	0	0
3449:	0	0	0	0	1	0	0	0
3457:	0	0	0	0	0	0	0	0
3465:	0	0	0	0	0	0	0	1
3473:	0	1	0	0	0	0	0	0
3481:	0	0	1	0	1	0	0	0
3489:	0	0	2	0	0	1	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:	0	0	0	0	1	1	0	0
3529:	0	0	0	0	1	0	0	0
3537:	0	1	0	0	0	0	0	0
3545:	0	1	0	0	0	0	0	0
3553:	0	0	0	0	0	0	0	1
3561:	0	0	0	0	0	0	0	0
3569:	0	0	0	0	0	0	0	0
3577:	0	0	0	0	1	0	0	0
3585:	0	0	0	1	0	0	0	0
3593:	0	0	0	1	0	0	0	0
3601:	0	0	0	0	0	0	0	0
3609:	1	1	0	0	0	0	0	0
3617:	0	1	0	1	0	0	0	0
3625:	0	0	0	1	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	1
3657:	0	0	1	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	1	1	0	0	0	0	0
3689:	0	1	0	0	0	0	0	0
3697:	0	0	1	0	0	0	0	0
3705:	0	1	0	0	0	0	1	1
3713:	0	0	0	0	0	0	0	0
3721:	0	0	0	1	0	0	0	0
3729:	0	0	1	1	0	0	0	0
3737:	0	1	1	0	0	0	0	0
3745:	0	0	0	0	0	0	0	0
3753:	0	0	0	1	1	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	0	0
3785:	0	0	0	0	0	0	0	0
3793:	0	0	0	0	0	0	0	0
3801:	0	1	0	0	0	0	0	0
3809:	0	0	0	0	0	0	0	0
3817:	1	0	0	0	0	0	0	0

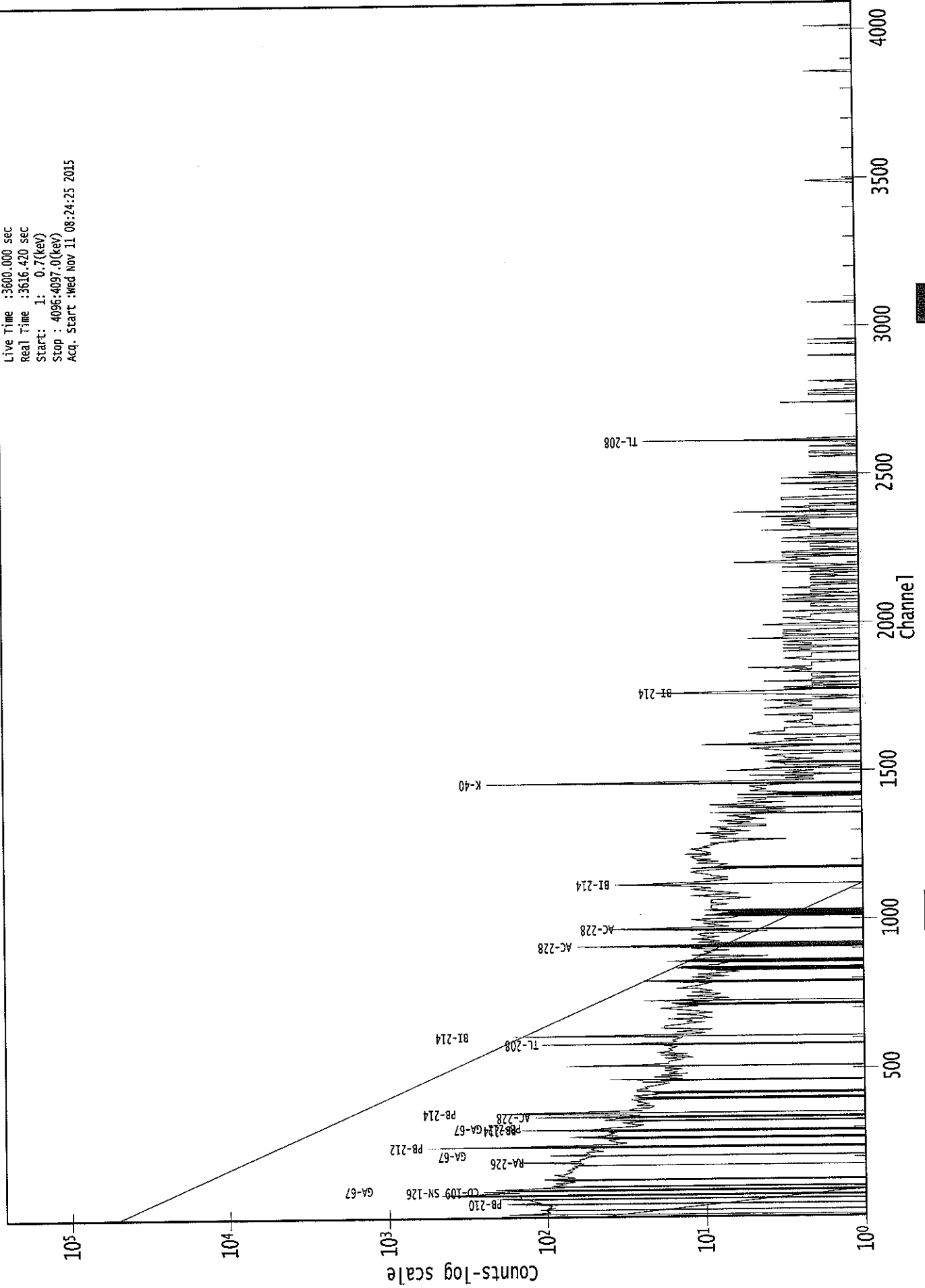
3825: 0 0 1 1 0 0 0 0

Sample Title: CP5001S09-10

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3833:	0	0	0	0	0	0	0	1
3841:	0	0	0	1	0	0	1	0
3849:	0	0	0	0	0	1	0	0
3857:	0	0	2	0	0	0	0	0
3865:	0	1	0	0	0	0	0	0
3873:	0	0	0	0	0	0	0	0
3881:	0	0	1	0	0	0	1	0
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	1
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	0	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	0
3977:	0	0	0	1	0	0	0	0
3985:	0	0	0	0	0	0	0	0
3993:	0	0	1	0	0	0	0	0
4001:	1	0	0	0	0	0	0	0
4009:	0	1	2	0	0	0	0	0
4017:	0	1	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:	1	0	0	0	0	0	0	0
4049:	0	0	0	0	0	0	1	0
4057:	0	0	0	0	1	0	1	1
4065:	0	0	0	0	1	0	0	0
4073:	0	0	0	1	0	0	0	0
4081:	0	0	0	0	0	0	1	1
4089:	0	0	0	0	0	0	0	0

0000029470.CNF

Live Time : 3600.000 sec
Real Time : 3616.420 sec
Start : 1: 0.7(keV)
Stop : 4096:4097.0(keV)
Acq. Start : Wed Nov 11 08:24:25 2015



ROI Type: 2

ROI Type: 1

Analysis Report for 1510092-13
CP5001S11-12

Handwritten mark
11/11

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510092-13
Sample Description : CP5001S11-12
Sample Type : SOIL

Sample Size : 5.357E+02 grams
Facility : Countroom

Sample Taken On : 10/9/2015 4:01:39PM
Acquisition Started : 11/11/2015 8:24:33AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE4
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3665.9 seconds

Dead Time : 1.80 %

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 : 29471

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

: 00747

Analysis Report for 1510092-13
CP5001S11-12

PEAK LOCATE REPORT

Peak Locate Performed on : 11/11/2015 9:25:40AM
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	46.93	46.18	0.0000	0.00
2	66.76	66.03	0.0000	0.00
3	76.20	75.47	0.0000	0.00
4	86.55	85.82	0.0000	0.00
5	103.66	102.93	0.0000	0.00
6	186.28	185.60	0.0000	0.00
7	239.57	238.91	0.0000	0.00
8	270.73	270.08	0.0000	0.00
9	295.87	295.24	0.0000	0.00
10	328.36	327.73	0.0000	0.00
11	338.34	337.72	0.0000	0.00
12	352.15	351.54	0.0000	0.00
13	365.83	365.23	0.0000	0.00
14	371.64	371.03	0.0000	0.00
15	523.22	522.68	0.0000	0.00
16	538.30	537.77	0.0000	0.00
17	559.43	558.92	0.0000	0.00
18	582.85	582.34	0.0000	0.00
19	609.76	609.26	0.0000	0.00
20	663.63	663.17	0.0000	0.00
21	692.73	692.28	0.0000	0.00
22	727.39	726.96	0.0000	0.00
23	805.29	804.89	0.0000	0.00
24	835.81	835.43	0.0000	0.00
25	863.08	862.71	0.0000	0.00
26	872.83	872.47	0.0000	0.00
27	911.83	911.49	0.0000	0.00
28	968.07	967.76	0.0000	0.00
29	997.70	997.41	0.0000	0.00
30	1077.64	1077.39	0.0000	0.00
31	1108.99	1108.76	0.0000	0.00
32	1124.31	1124.09	0.0000	0.00
33	1237.55	1237.39	0.0000	0.00
34	1272.53	1272.39	0.0000	0.00
35	1407.67	1407.61	0.0000	0.00
36	1461.35	1461.32	0.0000	0.00
37	1605.60	1605.66	0.0000	0.00
38	1629.26	1629.33	0.0000	0.00
39	1764.77	1764.93	0.0000	0.00
40	1837.60	1837.81	0.0000	0.00
41	2447.23	2447.88	0.0000	0.00
42	2615.33	2616.10	0.0000	0.00

Analysis Report for 1510092-13
CP5001S11-12

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510092-13
CP5001S11-12

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/11/2015 9:25:40AM

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	46.93	41 -	50	46.18	1.02E+02	98.91	1.34E+03	2.84
M 2	66.76	58 -	81	66.03	3.14E+02	165.35	2.57E+03	6.66
m 3	76.20	58 -	81	75.47	1.00E+03	138.75	1.89E+03	4.55
4	86.55	82 -	90	85.82	2.43E+02	105.73	1.58E+03	5.16
5	103.66	99 -	105	102.93	6.38E+01	67.98	7.92E+02	1.84
6	186.28	181 -	190	185.60	1.32E+02	77.86	7.92E+02	2.57
7	239.57	233 -	245	238.91	5.86E+02	95.16	7.78E+02	2.46
8	270.73	266 -	274	270.08	5.16E+01	54.44	4.27E+02	3.52
9	295.87	291 -	302	295.24	1.54E+02	68.99	5.24E+02	2.40
10	328.36	324 -	332	327.73	5.15E+01	46.87	3.07E+02	4.25
11	338.34	333 -	343	337.72	8.04E+01	57.39	3.97E+02	2.01
12	352.15	347 -	358	351.54	2.50E+02	63.97	3.94E+02	2.23
13	365.83	363 -	368	365.23	2.29E+01	26.38	1.22E+02	1.60
14	371.64	368 -	373	371.03	2.53E+01	26.46	1.19E+02	1.95
m 15	523.22	491 -	525	522.68	2.69E+01	23.80	9.10E+01	3.67
16	538.30	526 -	550	537.77	6.58E+01	67.90	2.98E+02	21.44
17	559.43	551 -	566	558.92	5.26E+01	42.52	1.59E+02	12.58
18	582.85	576 -	585	582.34	1.48E+02	35.48	9.58E+01	2.07
19	609.76	604 -	615	609.26	1.53E+02	46.30	1.91E+02	2.33
20	663.63	660 -	666	663.17	1.75E+01	22.58	7.89E+01	2.66
21	692.73	689 -	695	692.28	1.73E+01	22.30	7.95E+01	4.48
22	727.39	722 -	731	726.96	3.46E+01	32.16	1.23E+02	2.20
23	805.29	798 -	814	804.89	6.91E+01	37.78	1.06E+02	11.91
24	835.81	826 -	844	835.43	6.12E+01	40.81	1.24E+02	8.08
25	863.08	858 -	869	862.71	3.01E+01	24.41	5.78E+01	8.65
26	872.83	870 -	875	872.47	1.60E+01	13.56	2.40E+01	3.55
27	911.83	907 -	917	911.49	7.52E+01	29.00	7.37E+01	2.27
28	968.07	963 -	974	967.76	7.65E+01	26.38	5.11E+01	2.36
29	997.70	992 -	1004	997.41	2.08E+01	26.32	7.24E+01	4.54
30	1077.64	1075 -	1080	1077.39	1.16E+01	12.12	1.87E+01	1.21
31	1108.99	1104 -	1112	1108.76	2.00E+01	14.04	1.80E+01	2.12
32	1124.31	1113 -	1141	1124.09	9.46E+01	48.02	1.23E+02	15.46
33	1237.55	1234 -	1241	1237.39	2.20E+01	22.36	6.99E+01	4.79
34	1272.53	1268 -	1277	1272.39	1.59E+01	20.35	5.01E+01	3.61
35	1407.67	1405 -	1410	1407.61	1.36E+01	11.00	1.08E+01	1.58
36	1461.35	1456 -	1467	1461.32	2.79E+02	34.12	5.30E+00	3.43
37	1605.60	1601 -	1610	1605.66	1.38E+01	9.43	4.50E+00	2.89
38	1629.26	1627 -	1632	1629.33	4.25E+00	5.74	3.50E+00	1.09
39	1764.77	1759 -	1769	1764.93	3.51E+01	13.50	5.84E+00	2.17
40	1837.60	1834 -	1840	1837.81	5.43E+00	6.34	3.14E+00	1.84

Analysis Report for 1510092-13
CP5001S11-12

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	2447.23	2443 - 2450		2447.88	8.00E+00	5.66	0.00E+00	1.66
42	2615.33	2612 - 2620		2616.10	3.00E+01	10.95	0.00E+00	3.18

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 : 11/11/2015 9:25:40AM

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	46.93	41 -	50	1.02E+02	98.91	1.34E+03	7.96E+01
M	2	66.76	58 -	81	3.14E+02	165.35	2.57E+03	8.34E+01
m	3	76.20	58 -	81	1.00E+03	138.75	1.89E+03	7.14E+01
	4	86.55	82 -	90	2.43E+02	105.73	1.58E+03	8.31E+01
	5	103.66	99 -	105	6.38E+01	67.98	7.92E+02	5.43E+01
	6	186.28	181 -	190	1.32E+02	77.86	7.92E+02	6.11E+01
	7	239.57	233 -	245	5.86E+02	95.16	7.78E+02	6.73E+01
	8	270.73	266 -	274	5.16E+01	54.44	4.27E+02	4.32E+01
	9	295.87	291 -	302	1.54E+02	68.99	5.24E+02	5.29E+01
	10	328.36	324 -	332	5.15E+01	46.87	3.07E+02	3.67E+01
	11	338.34	333 -	343	8.04E+01	57.39	3.97E+02	4.48E+01
	12	352.15	347 -	358	2.50E+02	63.97	3.94E+02	4.57E+01
	13	365.83	363 -	368	2.29E+01	26.38	1.22E+02	2.02E+01
	14	371.64	368 -	373	2.53E+01	26.46	1.19E+02	2.01E+01
m	15	523.22	491 -	525	2.69E+01	23.80	9.10E+01	1.57E+01
	16	538.30	526 -	550	6.58E+01	67.90	2.98E+02	5.42E+01
	17	559.43	551 -	566	5.26E+01	42.52	1.59E+02	3.29E+01
	18	582.85	576 -	585	1.48E+02	35.48	9.58E+01	2.12E+01
	19	609.76	604 -	615	1.53E+02	46.30	1.91E+02	3.22E+01
	20	663.63	660 -	666	1.75E+01	22.58	7.89E+01	1.72E+01
	21	692.73	689 -	695	1.73E+01	22.30	7.95E+01	1.70E+01
	22	727.39	722 -	731	3.46E+01	32.16	1.23E+02	2.46E+01
	23	805.29	798 -	814	6.91E+01	37.78	1.06E+02	2.79E+01
	24	835.81	826 -	844	6.12E+01	40.81	1.24E+02	3.10E+01
	25	863.08	858 -	869	3.01E+01	24.41	5.78E+01	1.79E+01

: 00751

Analysis Report for 1510092-13
CP5001S11-12

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
26	872.83	870 -	875	1.60E+01	13.56	2.40E+01	9.00E+00
27	911.83	907 -	917	7.52E+01	29.00	7.37E+01	1.91E+01
28	968.07	963 -	974	7.65E+01	26.38	5.11E+01	1.62E+01
29	997.70	992 -	1004	2.08E+01	26.32	7.24E+01	2.03E+01
30	1077.64	1075 -	1080	1.16E+01	12.12	1.87E+01	8.24E+00
31	1108.99	1104 -	1112	2.00E+01	14.04	1.80E+01	8.89E+00
32	1124.31	1113 -	1141	9.46E+01	48.02	1.23E+02	3.61E+01
33	1237.55	1234 -	1241	2.20E+01	22.36	6.99E+01	1.67E+01
34	1272.53	1268 -	1277	1.59E+01	20.35	5.01E+01	1.54E+01
35	1407.67	1405 -	1410	1.36E+01	11.00	1.08E+01	6.71E+00
36	1461.35	1456 -	1467	2.79E+02	34.12	5.30E+00	5.61E+00
37	1605.60	1601 -	1610	1.38E+01	9.43	4.50E+00	4.79E+00
38	1629.26	1627 -	1632	4.25E+00	5.74	3.50E+00	3.29E+00
39	1764.77	1759 -	1769	3.51E+01	13.50	5.84E+00	5.32E+00
40	1837.60	1834 -	1840	5.43E+00	6.34	3.14E+00	3.54E+00
41	2447.23	2443 -	2450	8.00E+00	5.66	0.00E+00	0.00E+00
42	2615.33	2612 -	2620	3.00E+01	10.95	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 : 11/11/2015 9:25:40AM

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	46.93	41 -	50	46.18	1.02E+02	98.91	1.34E+03	PB-210
M 2	66.76	58 -	81	66.03	3.14E+02	165.35	2.57E+03	TM-171 TH-230 TA-182
m 3	76.20	58 -	81	75.47	1.00E+03	138.75	1.89E+03	.....
m 4	86.55	82 -	90	85.82	2.43E+02	105.73	1.58E+03	NP-237 EU-155
m 5	103.66	99 -	105	102.93	6.38E+01	67.98	7.92E+02	GD-153

Analysis Report for 1510092-13

CP5001S11-12

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
6	186.28	181 -	190	185.60	1.32E+02	77.86	7.92E+02	RA-226
7	239.57	233 -	245	238.91	5.86E+02	95.16	7.78E+02	PB-212
8	270.73	266 -	274	270.08	5.16E+01	54.44	4.27E+02	.....
9	295.87	291 -	302	295.24	1.54E+02	68.99	5.24E+02	PB-214
10	328.36	324 -	332	327.73	5.15E+01	46.87	3.07E+02	LA-140
11	338.34	333 -	343	337.72	8.04E+01	57.39	3.97E+02	AC-228
12	352.15	347 -	358	351.54	2.50E+02	63.97	3.94E+02	PB-214
13	365.83	363 -	368	365.23	2.29E+01	26.38	1.22E+02	.....
14	371.64	368 -	373	371.03	2.53E+01	26.46	1.19E+02	.....
m 15	523.22	491 -	525	522.68	2.69E+01	23.80	9.10E+01	.....
16	538.30	526 -	550	537.77	6.58E+01	67.90	2.98E+02	BA-140
17	559.43	551 -	566	558.92	5.26E+01	42.52	1.59E+02	.....
18	582.85	576 -	585	582.34	1.48E+02	35.48	9.58E+01	TL-208
19	609.76	604 -	615	609.26	1.53E+02	46.30	1.91E+02	BI-214
20	663.63	660 -	666	663.17	1.75E+01	22.58	7.89E+01	CE-143
21	692.73	689 -	695	692.28	1.73E+01	22.30	7.95E+01	.....
22	727.39	722 -	731	726.96	3.46E+01	32.16	1.23E+02	BI-212
23	805.29	798 -	814	804.89	6.91E+01	37.78	1.06E+02	.....
24	835.81	826 -	844	835.43	6.12E+01	40.81	1.24E+02	MN-54
25	863.08	858 -	869	862.71	3.01E+01	24.41	5.78E+01	.....
26	872.83	870 -	875	872.47	1.60E+01	13.56	2.40E+01	EU-154
27	911.83	907 -	917	911.49	7.52E+01	29.00	7.37E+01	LU-172 AC-228
28	968.07	963 -	974	967.76	7.65E+01	26.38	5.11E+01	.....
29	997.70	992 -	1004	997.41	2.08E+01	26.32	7.24E+01	.....
30	1077.64	1075 -	1080	1077.39	1.16E+01	12.12	1.87E+01	.....
31	1108.99	1104 -	1112	1108.76	2.00E+01	14.04	1.80E+01	.....
32	1124.31	1113 -	1141	1124.09	9.46E+01	48.02	1.23E+02	.....
33	1237.55	1234 -	1241	1237.39	2.20E+01	22.36	6.99E+01	CO-56
34	1272.53	1268 -	1277	1272.39	1.59E+01	20.35	5.01E+01	.....
35	1407.67	1405 -	1410	1407.61	1.36E+01	11.00	1.08E+01	EU-152
36	1461.35	1456 -	1467	1461.32	2.79E+02	34.12	5.30E+00	K-40
37	1605.60	1601 -	1610	1605.66	1.38E+01	9.43	4.50E+00	.....
38	1629.26	1627 -	1632	1629.33	4.25E+00	5.74	3.50E+00	.....
39	1764.77	1759 -	1769	1764.93	3.51E+01	13.50	5.84E+00	BI-214
40	1837.60	1834 -	1840	1837.81	5.43E+00	6.34	3.14E+00	.....
41	2447.23	2443 -	2450	2447.88	8.00E+00	5.66	0.00E+00	.....
42	2615.33	2612 -	2620	2616.10	3.00E+01	10.95	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

Analysis Report for 1510092-13
CP5001S11-12

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/11/2015 9:25:40AM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	46.93	1.02E+02	98.91	2.62E-02	1.78E-03
M	2	66.76	3.14E+02	165.35	2.27E-02	1.74E-03
m	3	76.20	1.00E+03	138.75	2.12E-02	1.69E-03
	4	86.55	2.43E+02	105.73	1.98E-02	1.64E-03
	5	103.66	6.38E+01	67.98	1.78E-02	1.58E-03
	6	186.28	1.32E+02	77.86	1.16E-02	1.15E-03
	7	239.57	5.86E+02	95.16	9.39E-03	9.84E-04
	8	270.73	5.16E+01	54.44	8.42E-03	8.87E-04
	9	295.87	1.54E+02	68.99	7.77E-03	8.42E-04
	10	328.36	5.15E+01	46.87	7.05E-03	8.06E-04
	11	338.34	8.04E+01	57.39	6.86E-03	7.95E-04
	12	352.15	2.50E+02	63.97	6.61E-03	7.80E-04
	13	365.83	2.29E+01	26.38	6.37E-03	7.65E-04
	14	371.64	2.53E+01	26.46	6.28E-03	7.58E-04
m	15	523.22	2.69E+01	23.80	4.50E-03	5.43E-04
	16	538.30	6.58E+01	67.90	4.38E-03	5.21E-04
	17	559.43	5.26E+01	42.52	4.22E-03	4.90E-04
	18	582.85	1.48E+02	35.48	4.05E-03	4.56E-04
	19	609.76	1.53E+02	46.30	3.87E-03	4.16E-04
	20	663.63	1.75E+01	22.58	3.56E-03	3.39E-04
	21	692.73	1.73E+01	22.30	3.41E-03	3.23E-04
	22	727.39	3.46E+01	32.16	3.25E-03	3.03E-04
	23	805.29	6.91E+01	37.78	2.94E-03	2.60E-04
	24	835.81	6.12E+01	40.81	2.84E-03	2.43E-04
	25	863.08	3.01E+01	24.41	2.75E-03	2.28E-04
	26	872.83	1.60E+01	13.56	2.72E-03	2.22E-04
	27	911.83	7.52E+01	29.00	2.61E-03	2.06E-04
	28	968.07	7.65E+01	26.38	2.46E-03	1.99E-04
	29	997.70	2.08E+01	26.32	2.39E-03	1.95E-04
	30	1077.64	1.16E+01	12.12	2.22E-03	1.85E-04
	31	1108.99	2.00E+01	14.04	2.16E-03	1.81E-04
	32	1124.31	9.46E+01	48.02	2.14E-03	1.79E-04
	33	1237.55	2.20E+01	22.36	1.95E-03	1.90E-04
	34	1272.53	1.59E+01	20.35	1.91E-03	1.99E-04
	35	1407.67	1.36E+01	11.00	1.74E-03	2.00E-04
	36	1461.35	2.79E+02	34.12	1.68E-03	1.89E-04
	37	1605.60	1.38E+01	9.43	1.55E-03	1.59E-04
	38	1629.26	4.25E+00	5.74	1.53E-03	1.54E-04
	39	1764.77	3.51E+01	13.50	1.43E-03	1.26E-04
	40	1837.60	5.43E+00	6.34	1.39E-03	1.11E-04
	41	2447.23	8.00E+00	5.66	1.12E-03	1.11E-04
	42	2615.33	3.00E+01	10.95	1.07E-03	1.11E-04

Analysis Report for 1510092-13
CP5001S11-12

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 : 11/11/2015 9:25:40AM

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	46.93	1.02E+02	98.91	2.00E+01	7.38E+00	8.17E+01	9.92E+01
M	2	66.76	3.14E+02	165.35			3.14E+02	1.65E+02
m	3	76.20	1.00E+03	138.75			1.00E+03	1.39E+02
	4	86.55	2.43E+02	105.73			2.43E+02	1.06E+02
	5	103.66	6.38E+01	67.98			6.38E+01	6.80E+01
	6	186.28	1.32E+02	77.86	1.43E+01	7.33E+00	1.18E+02	7.82E+01
	7	239.57	5.86E+02	95.16	1.09E+01	6.39E+00	5.75E+02	9.54E+01
	8	270.73	5.16E+01	54.44			5.16E+01	5.44E+01
	9	295.87	1.54E+02	68.99			1.54E+02	6.90E+01
	10	328.36	5.15E+01	46.87			5.15E+01	4.69E+01
	11	338.34	8.04E+01	57.39			8.04E+01	5.74E+01
	12	352.15	2.50E+02	63.97	8.07E+00	5.01E+00	2.42E+02	6.42E+01
	13	365.83	2.29E+01	26.38			2.29E+01	2.64E+01
	14	371.64	2.53E+01	26.46			2.53E+01	2.65E+01
m	15	523.22	2.69E+01	23.80			2.69E+01	2.38E+01
	16	538.30	6.58E+01	67.90			6.58E+01	6.79E+01
	17	559.43	5.26E+01	42.52	7.18E+00	3.73E+00	4.54E+01	4.27E+01
	18	582.85	1.48E+02	35.48			1.48E+02	3.55E+01
	19	609.76	1.53E+02	46.30	5.16E+00	1.63E+00	1.48E+02	4.63E+01
	20	663.63	1.75E+01	22.58			1.75E+01	2.26E+01
	21	692.73	1.73E+01	22.30			1.73E+01	2.23E+01
	22	727.39	3.46E+01	32.16			3.46E+01	3.22E+01
	23	805.29	6.91E+01	37.78			6.91E+01	3.78E+01
	24	835.81	6.12E+01	40.81			6.12E+01	4.08E+01
	25	863.08	3.01E+01	24.41			3.01E+01	2.44E+01
	26	872.83	1.60E+01	13.56			1.60E+01	1.36E+01
	27	911.83	7.52E+01	29.00	1.01E+00	2.85E+00	7.42E+01	2.91E+01
	28	968.07	7.65E+01	26.38			7.65E+01	2.64E+01
	29	997.70	2.08E+01	26.32			2.08E+01	2.63E+01
	30	1077.64	1.16E+01	12.12			1.16E+01	1.21E+01
	31	1108.99	2.00E+01	14.04			2.00E+01	1.40E+01
	32	1124.31	9.46E+01	48.02			9.46E+01	4.80E+01
	33	1237.55	2.20E+01	22.36			2.20E+01	2.24E+01
	34	1272.53	1.59E+01	20.35			1.59E+01	2.03E+01
	35	1407.67	1.36E+01	11.00			1.36E+01	1.10E+01

Analysis Report for 1510092-13
CP5001S11-12

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
36	1461.35	2.79E+02	34.12			2.79E+02	3.41E+01
37	1605.60	1.38E+01	9.43			1.38E+01	9.43E+00
38	1629.26	4.25E+00	5.74			4.25E+00	5.74E+00
39	1764.77	3.51E+01	13.50	1.11E-01	9.77E-01	3.50E+01	1.35E+01
40	1837.60	5.43E+00	6.34			5.43E+00	6.34E+00
41	2447.23	8.00E+00	5.66			8.00E+00	5.66E+00
42	2615.33	3.00E+01	10.95			3.00E+01	1.10E+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 : 11/11/2015 9:25:40AM
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.
M 1	46.93	1.02E+02	98.91	2.00E+01	7.38E+00	8.17E+01	9.92E+01
m 2	66.76	3.14E+02	165.35			3.14E+02	1.65E+02
m 3	76.20	1.00E+03	138.75			1.00E+03	1.39E+02
4	86.55	2.43E+02	105.73			2.43E+02	1.06E+02
5	103.66	6.38E+01	67.98			6.38E+01	6.80E+01
6	186.28	1.32E+02	77.86	1.43E+01	7.33E+00	1.18E+02	7.82E+01
7	239.57	5.86E+02	95.16	1.09E+01	6.39E+00	5.75E+02	9.54E+01
8	270.73	5.16E+01	54.44			5.16E+01	5.44E+01
9	295.87	1.54E+02	68.99			1.54E+02	6.90E+01
10	328.36	5.15E+01	46.87			5.15E+01	4.69E+01
11	338.34	8.04E+01	57.39			8.04E+01	5.74E+01
12	352.15	2.50E+02	63.97	8.07E+00	5.01E+00	2.42E+02	6.42E+01
13	365.83	2.29E+01	26.38			2.29E+01	2.64E+01
14	371.64	2.53E+01	26.46			2.53E+01	2.65E+01
m 15	523.22	2.69E+01	23.80			2.69E+01	2.38E+01
16	538.30	6.58E+01	67.90			6.58E+01	6.79E+01
17	559.43	5.26E+01	42.52	7.18E+00	3.73E+00	4.54E+01	4.27E+01
18	582.85	1.48E+02	35.48			1.48E+02	3.55E+01
19	609.76	1.53E+02	46.30	5.16E+00	1.63E+00	1.48E+02	4.63E+01
20	663.63	1.75E+01	22.58			1.75E+01	2.26E+01
21	692.73	1.73E+01	22.30			1.73E+01	2.23E+01

Analysis Report for 1510092-13
CP5001S11-12

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
22	727.39	3.46E+01	32.16			3.46E+01	3.22E+01
23	805.29	6.91E+01	37.78			6.91E+01	3.78E+01
24	835.81	6.12E+01	40.81			6.12E+01	4.08E+01
25	863.08	3.01E+01	24.41			3.01E+01	2.44E+01
26	872.83	1.60E+01	13.56			1.60E+01	1.36E+01
27	911.83	7.52E+01	29.00	1.01E+00	2.85E+00	7.42E+01	2.91E+01
28	968.07	7.65E+01	26.38			7.65E+01	2.64E+01
29	997.70	2.08E+01	26.32			2.08E+01	2.63E+01
30	1077.64	1.16E+01	12.12			1.16E+01	1.21E+01
31	1108.99	2.00E+01	14.04			2.00E+01	1.40E+01
32	1124.31	9.46E+01	48.02			9.46E+01	4.80E+01
33	1237.55	2.20E+01	22.36			2.20E+01	2.24E+01
34	1272.53	1.59E+01	20.35			1.59E+01	2.03E+01
35	1407.67	1.36E+01	11.00			1.36E+01	1.10E+01
36	1461.35	2.79E+02	34.12			2.79E+02	3.41E+01
37	1605.60	1.38E+01	9.43			1.38E+01	9.43E+00
38	1629.26	4.25E+00	5.74			4.25E+00	5.74E+00
39	1764.77	3.51E+01	13.50	1.11E-01	9.77E-01	3.50E+01	1.35E+01
40	1837.60	5.43E+00	6.34			5.43E+00	6.34E+00
41	2447.23	8.00E+00	5.66			8.00E+00	5.66E+00
42	2615.33	3.00E+01	10.95			3.00E+01	1.10E+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	0.955	1460.81	* 10.67	2.18E+01	3.64E+00
MN-54	0.857	834.83	* 99.97	3.25E-01	2.18E-01
EU-155	0.381	86.50	* 30.90	5.63E-01	2.50E-01
		105.30	20.70		
TM-171	1.000	66.72	* 0.14	1.43E+02	7.61E+01
TA-182	0.318	67.75	* 41.20	5.75E-01	3.05E-01
		1121.30	34.90		
		1189.05	16.23		
		1221.41	26.98		
		1231.02	11.44		

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Analysis Report for 1510092-13
CP5001S11-12

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
TL-208	0.846	583.14 *	30.22	1.70E+00	4.49E-01
		860.37	4.48		
		2614.66 *	35.85	1.09E+00	4.15E-01
PB-210	0.971	46.50 *	4.25	1.03E+00	1.25E+00
BI-212	0.773	727.17 *	11.80	1.26E+00	1.18E+00
		1620.62	2.75		
PB-212	0.774	238.63 *	44.60	1.92E+00	3.78E-01
		300.09	3.41		
BI-214	0.660	609.31 *	46.30	1.15E+00	3.83E-01
		1120.29	15.10		
		1764.49 *	15.80	2.16E+00	8.58E-01
		2204.22	4.98		
PB-214	0.971	295.21 *	19.19	1.45E+00	6.67E-01
		351.92 *	37.19	1.38E+00	4.01E-01
RA-226	0.999	186.21 *	3.28	4.33E+00	8.45E+00
AC-228	0.542	338.32 *	11.40	1.44E+00	1.04E+00
		911.07 *	27.70	1.44E+00	5.76E-01
		969.11	16.60		
NP-237	1.000	86.50 *	12.60	1.36E+00	6.04E-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 : 11/11/2015 9:25:40AM
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	76.20	2.77926E-01	6.93		
5	103.66	1.77144E-02	53.30	Tol.	GD-153
8	270.73	1.43239E-02	52.78		
10	328.36	1.42961E-02	45.54	Tol.	LA-140
13	365.83	6.36905E-03	57.53		
14	371.64	7.03595E-03	52.23	Sum	
m 15	523.22	7.48562E-03	44.16		
16	538.30	1.82733E-02	51.61	Sum	
17	559.43	1.26226E-02	46.97		
20	663.63	4.86842E-03	64.41	Tol.	CE-143

Analysis Report for 1510092-13
CP5001S11-12

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
21	692.73	4.79776E-03	64.57		
23	805.29	1.91872E-02	27.35		
25	863.08	8.35687E-03	40.57		
26	872.83	4.44444E-03	42.39	Tol.	EU-154
28	968.07	2.12364E-02	17.25		
29	997.70	5.77973E-03	63.25	Sum	
30	1077.64	3.23413E-03	52.07		
31	1108.99	5.55556E-03	35.09		
32	1124.31	2.62856E-02	25.37		
33	1237.55	6.12086E-03	50.74		
34	1272.53	4.42412E-03	63.88		
35	1407.67	3.77924E-03	40.43	Tol.	EU-152
37	1605.60	3.81944E-03	34.31		
38	1629.26	1.18056E-03	67.58		
40	1837.60	1.50794E-03	58.43		
41	2447.23	2.22222E-03	35.36		

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

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty	
K-40	0.95	1460.81	*	10.67	2.18E+01	3.64E+00
MN-54	0.85	834.83	*	99.97	3.25E-01	2.18E-01
EU-155	0.38	86.50	*	30.90	5.63E-01	2.50E-01
		105.30		20.70		
TM-171	1.00	66.72	*	0.14	1.43E+02	7.61E+01
TA-182	0.31	67.75	*	41.20	5.75E-01	3.05E-01
		1121.30		34.90		
		1189.05		16.23		
		1221.41		26.98		
		1231.02		11.44		
TL-208	0.84	583.14	*	30.22	1.70E+00	4.49E-01
		860.37		4.48		

Analysis Report for 1510092-13
CP5001S11-12

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
TL-208	0.84	2614.66 *		35.85	1.09E+00	4.15E-01
PB-210	0.97	46.50 *		4.25	1.03E+00	1.25E+00
BI-212	0.77	727.17 *		11.80	1.26E+00	1.18E+00
		1620.62		2.75		
PB-212	0.77	238.63 *		44.60	1.92E+00	3.78E-01
		300.09		3.41		
BI-214	0.66	609.31 *		46.30	1.15E+00	3.83E-01
		1120.29		15.10		
		1764.49 *		15.80	2.16E+00	8.58E-01
		2204.22		4.98		
PB-214	0.97	295.21 *		19.19	1.45E+00	6.67E-01
		351.92 *		37.19	1.38E+00	4.01E-01
RA-226	0.99	186.21 *		3.28	4.33E+00	8.45E+00
AC-228	0.54	338.32 *		11.40	1.44E+00	1.04E+00
		911.07 *		27.70	1.44E+00	5.76E-01
		969.11		16.60		
NP-237	1.00	86.50 *		12.60	1.36E+00	6.04E-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
	0.955	2.18E+01	3.64E+00	
	0.857	3.25E-01	2.18E-01	
? EU-155	0.381	5.63E-01	2.50E-01	
? TM-171	1.000	1.43E+02	7.61E+01	
? TA-182	0.318	5.75E-01	3.05E-01	
TL-208	0.846	1.37E+00	3.05E-01	
PB-210	0.971	1.03E+00	1.25E+00	
BI-212	0.773	1.26E+00	1.18E+00	
PB-212	0.774	1.92E+00	3.78E-01	
BI-214	0.660	1.32E+00	3.50E-01	

Analysis Report for 1510092-13
CP5001S11-12

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
PB-214	0.971	1.40E+00	3.43E-01	
RA-226	0.999	4.33E+00	8.45E+00	
AC-228	0.542	1.44E+00	5.04E-01	
? NP-237	1.000	1.36E+00	6.04E-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 1510092-13
CP5001S11-12

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 9:25:40AM
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	76.20	2.77926E-01		
	5	103.66	1.77144E-02		
	8	270.73	1.43239E-02		
	10	328.36	1.42961E-02		
	13	365.83	6.36905E-03		
	14	371.64	7.03595E-03		
m	15	523.22	7.48562E-03		
	16	538.30	1.82733E-02		
	17	559.43	1.26226E-02		
	20	663.63	4.86842E-03		
	21	692.73	4.79776E-03		
	23	805.29	1.91872E-02		
	25	863.08	8.35687E-03		
	26	872.83	4.44444E-03		
	28	968.07	2.12364E-02		
	29	997.70	5.77973E-03		
	30	1077.64	3.23413E-03		
	31	1108.99	5.55556E-03		
	32	1124.31	2.62856E-02		
	33	1237.55	6.12086E-03		
	34	1272.53	4.42412E-03		
	35	1407.67	3.77924E-03		
	37	1605.60	3.81944E-03		
	38	1629.26	1.18056E-03		
	40	1837.60	1.50794E-03		
	41	2447.23	2.22222E-03		

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 1510092-13
CP5001S11-12

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	8.66E-03	2.11E+00	2.11E+00
+	NA-22	1274.54	99.94	1.41E-01	2.48E-01	2.48E-01
+	NA-24	1368.53	99.99	2.66E+14	5.62E+14	1.07E+15
		2754.09	99.86	7.64E+13		5.62E+14
+	AL-26	1808.65	99.76	-3.33E-03	1.50E-01	1.50E-01
+	K-40	1460.81	*	10.67	2.18E+01	1.09E+00
+	AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	-2.24E-01	9.80E-02	9.80E-02
		78.34	96.00	2.96E-01		1.28E-01
+	SC-46	889.25	99.98	1.05E-01	2.38E-01	2.38E-01
		1120.51	99.99	3.63E-01		3.64E-01
+	V-48	983.52	99.98	9.60E-02	7.50E-01	7.50E-01
		1312.10	97.50	1.07E-02		8.33E-01
+	CR-51	320.08	9.83	2.35E-01	2.99E+00	2.99E+00
+	MN-54	834.83	*	99.97	3.25E-01	3.43E-01
+	CO-56	846.75	99.96	3.85E-02	2.28E-01	2.28E-01
		1037.75	14.03	1.53E-01		1.79E+00
		1238.25	67.00	2.48E-01		5.70E-01
		1771.40	15.51	0.00E+00		1.47E+00
		2598.48	16.90	-1.37E-01		7.56E-01
+	CO-57	122.06	85.51	-3.80E-02	1.18E-01	1.18E-01
		136.48	10.60	-7.57E-01		1.04E+00
+	CO-58	810.76	99.40	5.24E-02	2.45E-01	2.45E-01
+	FE-59	1099.22	56.50	2.18E-01	5.93E-01	5.93E-01
		1291.56	43.20	9.89E-02		7.58E-01
+	CO-60	1173.22	100.00	-7.34E-02	2.15E-01	2.22E-01
		1332.49	100.00	-8.29E-03		2.15E-01
+	ZN-65	1115.52	50.75	-4.87E-01	4.52E-01	4.52E-01
+	GA-67	93.31	35.70	1.92E+02	3.00E+02	3.00E+02
		208.95	2.24	4.32E+03		5.92E+03
		300.22	16.00	-8.77E+01		9.05E+02
+	SE-75	121.11	16.70	2.08E-02	2.09E-01	6.74E-01
		136.00	59.20	-9.94E-02		2.09E-01
		264.65	59.80	3.15E-02		2.37E-01
		279.53	25.20	-1.37E-01		5.92E-01
		400.65	11.40	5.88E-01		1.47E+00
+	RB-82	776.52	13.00	6.33E-01	3.71E+00	3.71E+00
+	RB-83	520.41	46.00	-1.09E-01	3.90E-01	3.90E-01
		529.64	30.30	-1.26E-01		6.06E-01
		552.65	16.40	8.57E-02		1.13E+00
+	KR-85	513.99	0.43	6.36E+01	4.50E+01	4.50E+01
+	SR-85	513.99	99.27	3.92E-01	2.78E-01	2.78E-01

Analysis Report for 1510092-13
CP5001S11-12

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	Y-88	898.02	93.40	-3.74E-02	1.99E-01	2.28E-01
		1836.01	99.38	2.41E-02		1.99E-01
+	NB-93M	16.57	9.43	1.09E+00	4.79E-01	4.79E-01
+	NB-94	702.63	100.00	2.82E-02	1.67E-01	1.72E-01
		871.10	100.00	2.11E-02		1.67E-01
+	NB-95	765.79	99.81	1.72E-01	3.82E-01	3.82E-01
+	NB-95M	235.69	25.00	2.19E+01	4.06E+02	4.06E+02
+	ZR-95	724.18	43.70	8.22E-04	3.79E-01	6.65E-01
		756.72	55.30	-3.91E-01		3.79E-01
+	MO-99	181.06	6.20	8.26E+02	4.83E+03	6.93E+03
		739.58	12.80	1.30E+02		4.83E+03
		778.00	4.50	5.55E+03		1.69E+04
+	RU-103	497.08	89.00	1.48E-01	3.07E-01	3.07E-01
+	RU-106	621.84	9.80	4.28E-01	1.81E+00	1.81E+00
+	AG-108M	433.93	89.90	-3.59E-02	1.52E-01	1.52E-01
		614.37	90.40	1.21E-02		2.23E-01
		722.95	90.50	3.79E-03		2.21E-01
+	CD-109	88.03	3.72	2.38E+00	3.10E+00	3.10E+00
+	AG-110M	657.75	93.14	1.45E-02	1.87E-01	1.87E-01
		677.61	10.53	4.39E-01		1.67E+00
		706.67	16.46	-1.07E-01		1.10E+00
		763.93	21.98	1.59E-01		9.56E-01
		884.67	71.63	1.47E-02		2.73E-01
		1384.27	23.94	-6.05E-02		8.34E-01
+	CD-113M	263.70	0.02	8.71E+01	5.13E+02	5.13E+02
+	SN-113	255.12	1.93	-2.97E-01	2.56E-01	7.42E+00
		391.69	64.90	1.46E-03		2.56E-01
+	TE123M	159.00	84.10	-4.76E-02	1.55E-01	1.55E-01
+	SB-124	602.71	97.87	2.94E-02	2.30E-01	2.30E-01
		645.85	7.26	-5.72E-01		2.91E+00
		722.78	11.10	1.92E-01		2.51E+00
		1691.02	49.00	2.12E-01		4.67E-01
+	I-125	35.49	6.49	-3.90E-01	1.22E+00	1.22E+00
+	SB-125	176.33	6.89	-1.63E-01	4.90E-01	1.66E+00
		427.89	29.33	1.51E-02		4.90E-01
		463.38	10.35	4.45E-01		1.44E+00
		600.56	17.80	1.37E-01		8.86E-01
		635.90	11.32	4.77E-01		1.43E+00
+	SB-126	414.70	83.30	6.13E-03	1.00E+00	1.02E+00
		666.33	99.60	-4.59E-02		1.00E+00
		695.00	99.60	5.12E-02		1.13E+00
		720.50	53.80	-2.36E-02		2.08E+00
+	SN-126	87.57	37.00	2.27E-01	2.96E-01	2.96E-01
+	SB-127	473.00	25.00	-2.34E+00	1.47E+02	1.94E+02
		685.20	35.70	-3.04E+01		1.47E+02
		783.80	14.70	8.98E+01		4.64E+02
+	I-129	29.78	57.00	2.97E-02	9.20E-02	9.20E-02
		33.60	13.20	-1.08E-01		4.04E-01

Analysis Report for 1510092-13
 CP5001S11-12

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	I-129	39.58	7.52	-1.98E-02	9.20E-02	7.68E-01
+	I-131	284.30	6.05	-3.94E+00	2.46E+00	3.39E+01
		364.48	81.20	-4.88E-01		2.46E+00
		636.97	7.26	9.14E+00		3.66E+01
		722.89	1.80	1.36E+01		1.78E+02
+	TE-132	49.72	13.10	-3.74E+00	1.51E+02	5.65E+02
		228.16	88.00	3.41E+01		1.51E+02
+	BA-133	81.00	33.00	-4.31E-01	3.32E-01	3.47E-01
		302.84	17.80	2.35E-03		7.57E-01
		356.01	60.00	7.93E-01		3.32E-01
+	I-133	529.87	86.30	-7.78E+09	3.74E+10	3.74E+10
+	XE-133	81.00	38.00	-2.80E+01	2.26E+01	2.26E+01
+	CS-134	563.23	8.38	8.70E-01	1.93E-01	1.79E+00
		569.32	15.43	2.26E-01		8.95E-01
		604.70	97.60	-1.92E-02		1.93E-01
		795.84	85.40	2.20E-02		2.27E-01
		801.93	8.73	7.33E-01		2.45E+00
+	CS-135	268.24	16.00	-9.03E-02	7.97E-01	7.97E-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	4.25E+00	7.99E-01	8.35E+00
		163.89	4.61	-3.54E+00		1.30E+01
		176.55	13.56	-4.55E-01		4.61E+00
		273.65	12.66	5.62E-01		5.93E+00
		340.57	48.50	2.04E+00		1.74E+00
		818.50	99.70	-3.85E-02		7.99E-01
		1048.07	79.60	-6.04E-01		1.18E+00
		1235.34	19.70	-2.98E-01		7.94E+00
+	CS-137	661.65	85.12	7.96E-03	1.99E-01	1.99E-01
+	LA-138	788.74	34.00	-2.26E-02	2.92E-01	5.40E-01
		1435.80	66.00	1.41E-02		2.92E-01
+	CE-139	165.85	80.35	-5.27E-02	1.60E-01	1.60E-01
+	BA-140	162.64	6.70	9.49E-01	3.09E+00	9.47E+00
		304.84	4.50	1.87E+00		1.75E+01
		423.70	3.20	3.40E+00		2.51E+01
		437.55	2.00	-3.69E-01		3.87E+01
		537.32	25.00	-1.23E+00		3.09E+00
+	LA-140	328.77	20.50	1.67E+00	1.08E+00	3.96E+00
		487.03	45.50	5.44E-01		1.90E+00
		815.85	23.50	-7.31E-01		3.55E+00
		1596.49	95.49	-2.58E-01		1.08E+00
+	CE-141	145.44	48.40	2.50E-02	4.58E-01	4.58E-01
+	CE-143	57.36	11.80	2.35E+05	5.37E+06	9.25E+06
		293.26	42.00	-8.08E+04		5.37E+06
		664.55	5.20	-6.39E+06		4.47E+07
+	CE-144	133.54	10.80	-2.79E-02	1.02E+00	1.02E+00
+	PM-144	476.78	42.00	2.95E-02	1.69E-01	3.66E-01
		618.01	98.60	-1.48E-02		1.69E-01

Analysis Report for 1510092-13
CP5001S11-12

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	PM-144	696.49	99.49	1.65E-02	1.69E-01	1.95E-01
+	PM-145	36.85	21.70	-5.04E-03	1.41E-01	2.58E-01
		37.36	39.70	-3.30E-02		1.41E-01
		42.30	15.10	9.76E-03		4.18E-01
		72.40	2.31	1.05E+01		5.14E+00
+	PM-146	453.90	39.94	-1.82E-01	3.31E-01	3.31E-01
		735.90	14.01	-2.90E-01		1.15E+00
		747.13	13.10	-2.63E-01		1.24E+00
+	ND-147	91.11	28.90	2.59E+00	3.07E+00	3.07E+00
		531.02	13.10	7.65E-01		8.76E+00
+	PM-149	285.90	3.10	5.22E+04	1.14E+05	1.14E+05
+	EU-152	121.78	20.50	-1.46E-01	4.54E-01	4.54E-01
		244.69	5.40	-2.43E-01		2.71E+00
		344.27	19.13	-5.60E-02		6.63E-01
		778.89	9.20	7.20E-01		2.19E+00
		964.01	10.40	-2.87E-01		2.22E+00
		1085.78	7.22	1.02E+00		2.84E+00
		1112.02	9.60	-6.72E-01		2.08E+00
		1407.95	14.94	9.63E-02		1.38E+00
+	GD-153	97.43	31.30	5.72E-02	3.25E-01	3.25E-01
		103.18	22.20	-2.77E-02		4.44E-01
+	EU-154	123.07	40.50	-1.16E-01	2.33E-01	2.33E-01
		723.30	19.70	1.75E-02		1.02E+00
		873.19	11.50	-7.85E-01		1.38E+00
		996.32	10.30	1.00E+00		1.96E+00
		1004.76	17.90	2.36E-01		9.90E-01
		1274.45	35.50	3.89E-01		6.86E-01
+	EU-155	86.50	* 30.90	5.63E-01	3.92E-01	3.92E-01
		105.30	20.70	2.21E-02		4.54E-01
+	EU-156	811.77	10.40	8.72E-01	7.17E+00	7.17E+00
		1153.47	7.20	-7.48E+00		1.24E+01
		1230.71	8.90	-3.86E+00		1.20E+01
+	HO-166M	184.41	72.60	1.45E-01	1.74E-01	1.74E-01
		280.45	29.60	1.26E-01		4.23E-01
		410.94	11.10	4.90E-01		1.27E+00
		711.69	54.10	-9.79E-02		3.02E-01
+	TM-171	66.72	* 0.14	1.43E+02	1.70E+02	1.70E+02
+	HF-172	81.75	4.52	-8.47E+00	8.87E-01	2.45E+00
		125.81	11.30	-3.73E-02		8.87E-01
+	LU-172	181.53	20.60	2.98E+00	1.04E+01	1.69E+01
		810.06	16.63	6.69E+00		3.13E+01
		912.12	15.25	7.58E+01		5.28E+01
		1093.66	62.50	-2.20E-01		1.04E+01
+	LU-173	100.72	5.24	-6.82E-01	6.48E-01	1.78E+00
		272.11	21.20	2.68E-01		6.48E-01
+	HF-175	343.40	84.00	-1.75E-02	2.12E-01	2.12E-01
+	LU-176	88.34	13.30	7.83E-02	1.37E-01	8.30E-01
		201.83	86.00	-8.10E-02		1.38E-01
		306.78	94.00	3.20E-03		1.37E-01

Analysis Report for 1510092-13
CP5001S11-12

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	TA-182	67.75	*	41.20	5.75E-01	6.83E-01	6.83E-01
		1121.30		34.90	4.55E-01		9.39E-01
		1189.05		16.23	5.40E-01		1.93E+00
		1221.41		26.98	8.52E-01		1.19E+00
		1231.02		11.44	-8.22E-01		2.55E+00
+	IR-192	308.46		29.68	-1.66E-01	3.73E-01	5.76E-01
		468.07		48.10	-1.73E-01		3.73E-01
+	HG-203	279.19		77.30	-6.00E-02	2.59E-01	2.59E-01
+	BI-207	569.67		97.72	3.47E-02	1.37E-01	1.37E-01
		1063.62		74.90	-1.59E-01		2.24E-01
+	TL-208	583.14	*	30.22	1.70E+00	9.87E-02	5.17E-01
		860.37		4.48	-1.70E-01		3.96E+00
		2614.66	*	35.85	1.09E+00		9.87E-02
+	BI-210M	262.00		45.00	1.19E-02	2.57E-01	2.57E-01
		300.00		23.00	4.22E-01		6.70E-01
+	PB-210	46.50	*	4.25	1.03E+00	2.06E+00	2.06E+00
+	PB-211	404.84		2.90	7.94E-01	4.81E+00	4.81E+00
		831.96		2.90	2.11E+00		6.56E+00
+	BI-212	727.17	*	11.80	1.26E+00	1.90E+00	1.90E+00
		1620.62		2.75	3.67E+00		6.66E+00
+	PB-212	238.63	*	44.60	1.92E+00	4.63E-01	4.63E-01
		300.09		3.41	2.85E+00		4.52E+00
+	BI-214	609.31	*	46.30	1.15E+00	5.28E-01	5.28E-01
		1120.29		15.10	1.83E+00		1.84E+00
		1764.49	*	15.80	2.16E+00		8.37E-01
		2204.22		4.98	1.47E+00		4.39E+00
+	PB-214	295.21	*	19.19	1.45E+00	5.42E-01	1.02E+00
		351.92	*	37.19	1.38E+00		5.42E-01
+	RN-219	401.80		6.50	-1.20E-01	2.09E+00	2.09E+00
+	RA-223	323.87		3.88	-7.90E-01	3.34E+00	3.34E+00
+	RA-224	240.98		3.95	2.19E+01	5.24E+00	5.24E+00
+	RA-225	40.00		31.00	-2.23E-02	8.64E-01	8.64E-01
+	RA-226	186.21	*	3.28	4.33E+00	4.65E+00	4.65E+00
+	TH-227	50.10		8.40	-5.56E-03	8.41E-01	8.41E-01
		236.00		11.50	8.94E-02		1.65E+00
		256.20		6.30	-7.07E-01		1.85E+00
+	AC-228	338.32	*	11.40	1.44E+00	8.02E-01	1.66E+00
		911.07	*	27.70	1.44E+00		8.02E-01
		969.11		16.60	2.09E+00		1.60E+00
+	TH-230	48.44		16.90	2.68E-02	4.11E-01	4.11E-01
		62.85		4.60	3.00E-01		1.86E+00
		67.67		0.37	-5.69E+01		2.49E+01
+	PA-231	283.67		1.60	-4.15E+00	5.82E+00	7.49E+00
		302.67		2.30	1.81E-02		5.82E+00
+	TH-231	25.64		14.70	-2.64E-01	3.48E-01	3.48E-01
		84.21		6.40	-5.94E+00		1.60E+00
+	PA-233	311.98		38.60	-1.63E-01	7.56E-01	7.56E-01
+	PA-234	131.20		20.40	6.80E-02	4.92E-01	4.92E-01

Analysis Report for 1510092-13
CP5001S11-12

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
PA-234	733.99	8.80	-6.98E-01	4.92E-01	1.74E+00
	946.00	12.00	1.28E-01		1.56E+00
+ PA-234M	1001.03	0.92	1.22E+00	2.14E+01	2.14E+01
+ TH-234	63.29	3.80	1.96E-01	2.29E+00	2.29E+00
+ U-235	143.76	10.50	-5.05E-03	1.04E+00	1.04E+00
	163.35	4.70	-6.18E-01		2.27E+00
	205.31	4.70	1.16E-01		2.64E+00
+ NP-237	86.50	* 12.60	1.36E+00	9.48E-01	9.48E-01
+ NP-239	106.10	22.70	3.03E+02	6.22E+03	6.22E+03
	228.18	10.70	4.19E+03		1.80E+04
	277.60	14.10	-2.58E+03		1.32E+04
+ AM-241	59.54	35.90	-1.31E-02	2.24E-01	2.24E-01
+ AM-243	74.67	66.00	7.57E-01	1.91E-01	1.91E-01
+ CM-243	209.75	3.29	1.82E+00	8.78E-01	3.88E+00
	228.14	10.60	2.70E-01		1.20E+00
	277.60	14.00	-1.72E-01		8.78E-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
- ? = 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	2.11E+00	2.11E+00	8.66E-03	1.00E+00
NA-22	1274.54	99.94	2.48E-01	2.48E-01	1.41E-01	1.14E-01
NA-24	1368.53	99.99	1.07E+15	5.62E+14	2.66E+14	4.73E+14
	2754.09	99.86	5.62E+14		7.64E+13	1.78E+14
AL-26	1808.65	99.76	1.50E-01	1.50E-01	-3.33E-03	6.15E-02
+ K-40	1460.81	* 10.67	1.09E+00	1.09E+00	2.18E+01	4.38E-01

Analysis Report for 1510092-13
CP5001S11-12

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	9.80E-02	9.80E-02	-2.24E-01	4.81E-02
	78.34	96.00	1.28E-01		2.96E-01	6.32E-02
SC-46	889.25	99.98	2.38E-01	2.38E-01	1.05E-01	1.10E-01
	1120.51	99.99	3.64E-01		3.63E-01	1.70E-01
V-48	983.52	99.98	7.50E-01	7.50E-01	9.60E-02	3.43E-01
	1312.10	97.50	8.33E-01		1.07E-02	3.73E-01
CR-51	320.08	9.83	2.99E+00	2.99E+00	2.35E-01	1.43E+00
+ MN-54	834.83	* 99.97	3.43E-01	3.43E-01	3.25E-01	1.65E-01
CO-56	846.75	99.96	2.28E-01	2.28E-01	3.85E-02	1.05E-01
	1037.75	14.03	1.79E+00		1.53E-01	8.18E-01
	1238.25	67.00	5.70E-01		2.48E-01	2.66E-01
	1771.40	15.51	1.47E+00		0.00E+00	6.20E-01
	2598.48	16.90	7.56E-01		-1.37E-01	2.39E-01
CO-57	122.06	85.51	1.18E-01	1.18E-01	-3.80E-02	5.75E-02
	136.48	10.60	1.04E+00		-7.57E-01	5.09E-01
CO-58	810.76	99.40	2.45E-01	2.45E-01	5.24E-02	1.13E-01
FE-59	1099.22	56.50	5.93E-01	5.93E-01	2.18E-01	2.71E-01
	1291.56	43.20	7.58E-01		9.89E-02	3.40E-01
CO-60	1173.22	100.00	2.22E-01	2.15E-01	-7.34E-02	1.02E-01
	1332.49	100.00	2.15E-01		-8.29E-03	9.72E-02
ZN-65	1115.52	50.75	4.52E-01	4.52E-01	-4.87E-01	2.07E-01
GA-67	93.31	35.70	3.00E+02	3.00E+02	1.92E+02	1.47E+02
	208.95	2.24	5.92E+03		4.32E+03	2.88E+03
	300.22	16.00	9.05E+02		-8.77E+01	4.36E+02
SE-75	121.11	16.70	6.74E-01	2.09E-01	2.08E-02	3.29E-01
	136.00	59.20	2.09E-01		-9.94E-02	1.02E-01
	264.65	59.80	2.37E-01		3.15E-02	1.14E-01
	279.53	25.20	5.92E-01		-1.37E-01	2.85E-01
	400.65	11.40	1.47E+00		5.88E-01	7.02E-01
RB-82	776.52	13.00	3.71E+00	3.71E+00	6.33E-01	1.74E+00
RB-83	520.41	46.00	3.90E-01	3.90E-01	-1.09E-01	1.83E-01
	529.64	30.30	6.06E-01		-1.26E-01	2.85E-01
	552.65	16.40	1.13E+00		8.57E-02	5.32E-01
KR-85	513.99	0.43	4.50E+01	4.50E+01	6.36E+01	2.16E+01
SR-85	513.99	99.27	2.78E-01	2.78E-01	3.92E-01	1.33E-01
Y-88	898.02	93.40	2.28E-01	1.99E-01	-3.74E-02	1.04E-01
	1836.01	99.38	1.99E-01		2.41E-02	8.26E-02
NB-93M	16.57	9.43	4.79E-01	4.79E-01	1.09E+00	2.33E-01
NB-94	702.63	100.00	1.72E-01	1.67E-01	2.82E-02	8.04E-02
	871.10	100.00	1.67E-01		2.11E-02	7.65E-02
NB-95	765.79	99.81	3.82E-01	3.82E-01	1.72E-01	1.79E-01
NB-95M	235.69	25.00	4.06E+02	4.06E+02	2.19E+01	1.99E+02
ZR-95	724.18	43.70	6.65E-01	3.79E-01	8.22E-04	3.14E-01
	756.72	55.30	3.79E-01		-3.91E-01	1.74E-01
MO-99	181.06	6.20	6.93E+03	4.83E+03	8.26E+02	3.37E+03
	739.58	12.80	4.83E+03		1.30E+02	2.24E+03
	778.00	4.50	1.69E+04		5.55E+03	7.91E+03
RU-103	497.08	89.00	3.07E-01	3.07E-01	1.48E-01	1.46E-01
RU-106	621.84	9.80	1.81E+00	1.81E+00	4.28E-01	8.49E-01
AG-108M	433.93	89.90	1.52E-01	1.52E-01	-3.59E-02	7.23E-02
	614.37	90.40	2.23E-01		1.21E-02	1.06E-01
	722.95	90.50	2.21E-01		3.79E-03	1.04E-01

Analysis Report for 1510092-13
CP5001S11-12

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	3.10E+00	3.10E+00	2.38E+00	1.52E+00
AG-110M	657.75	93.14	1.87E-01	1.87E-01	1.45E-02	8.73E-02
	677.61	10.53	1.67E+00		4.39E-01	7.77E-01
	706.67	16.46	1.10E+00		-1.07E-01	5.14E-01
	763.93	21.98	9.56E-01		1.59E-01	4.48E-01
	884.67	71.63	2.73E-01		1.47E-02	1.26E-01
	1384.27	23.94	8.34E-01		-6.05E-02	3.68E-01
CD-113M	263.70	0.02	5.13E+02	5.13E+02	8.71E+01	2.47E+02
SN-113	255.12	1.93	7.42E+00	2.56E-01	-2.97E-01	3.57E+00
	391.69	64.90	2.56E-01		1.46E-03	1.22E-01
TE123M	159.00	84.10	1.55E-01	1.55E-01	-4.76E-02	7.53E-02
SB-124	602.71	97.87	2.30E-01	2.30E-01	2.94E-02	1.08E-01
	645.85	7.26	2.91E+00		-5.72E-01	1.35E+00
	722.78	11.10	2.51E+00		1.92E-01	1.18E+00
	1691.02	49.00	4.67E-01		2.12E-01	1.96E-01
I-125	35.49	6.49	1.22E+00	1.22E+00	-3.90E-01	5.96E-01
SB-125	176.33	6.89	1.66E+00	4.90E-01	-1.63E-01	8.05E-01
	427.89	29.33	4.90E-01		1.51E-02	2.33E-01
	463.38	10.35	1.44E+00		4.45E-01	6.84E-01
	600.56	17.80	8.86E-01		1.37E-01	4.15E-01
	635.90	11.32	1.43E+00		4.77E-01	6.68E-01
SB-126	414.70	83.30	1.02E+00	1.00E+00	6.13E-03	4.86E-01
	666.33	99.60	1.00E+00		-4.59E-02	4.66E-01
	695.00	99.60	1.13E+00		5.12E-02	5.32E-01
	720.50	53.80	2.08E+00		-2.36E-02	9.74E-01
SN-126	87.57	37.00	2.96E-01	2.96E-01	2.27E-01	1.45E-01
SB-127	473.00	25.00	1.94E+02	1.47E+02	-2.34E+00	9.17E+01
	685.20	35.70	1.47E+02		-3.04E+01	6.82E+01
	783.80	14.70	4.64E+02		8.98E+01	2.17E+02
I-129	29.78	57.00	9.20E-02	9.20E-02	2.97E-02	4.48E-02
	33.60	13.20	4.04E-01		-1.08E-01	1.97E-01
	39.58	7.52	7.68E-01		-1.98E-02	3.75E-01
I-131	284.30	6.05	3.39E+01	2.46E+00	-3.94E+00	1.63E+01
	364.48	81.20	2.46E+00		-4.88E-01	1.17E+00
	636.97	7.26	3.66E+01		9.14E+00	1.71E+01
	722.89	1.80	1.78E+02		1.36E+01	8.35E+01
TE-132	49.72	13.10	5.65E+02	1.51E+02	-3.74E+00	2.76E+02
	228.16	88.00	1.51E+02		3.41E+01	7.33E+01
BA-133	81.00	33.00	3.47E-01	3.32E-01	-4.31E-01	1.71E-01
	302.84	17.80	7.57E-01		2.35E-03	3.64E-01
	356.01	60.00	3.32E-01		7.93E-01	1.61E-01
I-133	529.87	86.30	3.74E+10	3.74E+10	-7.78E+09	1.76E+10
XE-133	81.00	38.00	2.26E+01	2.26E+01	-2.80E+01	1.11E+01
CS-134	563.23	8.38	1.79E+00	1.93E-01	8.70E-01	8.40E-01
	569.32	15.43	8.95E-01		2.26E-01	4.17E-01
	604.70	97.60	1.93E-01		-1.92E-02	9.12E-02
	795.84	85.40	2.27E-01		2.20E-02	1.06E-01
	801.93	8.73	2.45E+00		7.33E-01	1.15E+00
CS-135	268.24	16.00	7.97E-01	7.97E-01	-9.03E-02	3.85E-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	8.35E+00	7.99E-01	4.25E+00	4.07E+00

Analysis Report for 1510092-13
CP5001S11-12

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	1.30E+01	7.99E-01	-3.54E+00	6.33E+00	
	176.55	13.56	4.61E+00		-4.55E-01	2.24E+00	
	273.65	12.66	5.93E+00		5.62E-01	2.87E+00	
	340.57	48.50	1.74E+00		2.04E+00	8.37E-01	
	818.50	99.70	7.99E-01		-3.85E-02	3.63E-01	
	1048.07	79.60	1.18E+00		-6.04E-01	5.31E-01	
	1235.34	19.70	7.94E+00		-2.98E-01	3.70E+00	
CS-137	661.65	85.12	1.99E-01	1.99E-01	7.96E-03	9.30E-02	
LA-138	788.74	34.00	5.40E-01	2.92E-01	-2.26E-02	2.51E-01	
	1435.80	66.00	2.92E-01		1.41E-02	1.29E-01	
CE-139	165.85	80.35	1.60E-01	1.60E-01	-5.27E-02	7.78E-02	
BA-140	162.64	6.70	9.47E+00	3.09E+00	9.49E-01	4.61E+00	
	304.84	4.50	1.75E+01		1.87E+00	8.44E+00	
	423.70	3.20	2.51E+01		3.40E+00	1.19E+01	
	437.55	2.00	3.87E+01		-3.69E-01	1.83E+01	
	537.32	25.00	3.09E+00		-1.23E+00	1.44E+00	
	537.32	25.00	3.09E+00		-1.23E+00	1.44E+00	
LA-140	328.77	20.50	3.96E+00	1.08E+00	1.67E+00	1.90E+00	
	487.03	45.50	1.90E+00		5.44E-01	8.98E-01	
	815.85	23.50	3.55E+00		-7.31E-01	1.61E+00	
	1596.49	95.49	1.08E+00		-2.58E-01	4.64E-01	
CE-141	145.44	48.40	4.58E-01	4.58E-01	2.50E-02	2.23E-01	
CE-143	57.36	11.80	9.25E+06	5.37E+06	2.35E+05	4.53E+06	
	293.26	42.00	5.37E+06		-8.08E+04	2.60E+06	
	664.55	5.20	4.47E+07		-6.39E+06	2.08E+07	
CE-144	133.54	10.80	1.02E+00	1.02E+00	-2.79E-02	4.98E-01	
PM-144	476.78	42.00	3.66E-01	1.69E-01	2.95E-02	1.73E-01	
	618.01	98.60	1.69E-01		-1.48E-02	7.92E-02	
	696.49	99.49	1.95E-01		1.65E-02	9.13E-02	
PM-145	36.85	21.70	2.58E-01	1.41E-01	-5.04E-03	1.26E-01	
	37.36	39.70	1.41E-01		-3.30E-02	6.87E-02	
	42.30	15.10	4.18E-01		9.76E-03	2.04E-01	
	72.40	2.31	5.14E+00		1.05E+01	2.53E+00	
PM-146	453.90	39.94	3.31E-01	3.31E-01	-1.82E-01	1.56E-01	
	735.90	14.01	1.15E+00		-2.90E-01	5.33E-01	
	747.13	13.10	1.24E+00		-2.63E-01	5.73E-01	
ND-147	91.11	28.90	3.07E+00	3.07E+00	2.59E+00	1.51E+00	
	531.02	13.10	8.76E+00		7.65E-01	4.12E+00	
PM-149	285.90	3.10	1.14E+05	1.14E+05	5.22E+04	5.50E+04	
EU-152	121.78	20.50	4.54E-01	4.54E-01	-1.46E-01	2.21E-01	
	244.69	5.40	2.71E+00		-2.43E-01	1.32E+00	
	344.27	19.13	6.63E-01		-5.60E-02	3.17E-01	
	778.89	9.20	2.19E+00		7.20E-01	1.03E+00	
	964.01	10.40	2.22E+00		-2.87E-01	1.03E+00	
	1085.78	7.22	2.84E+00		1.02E+00	1.30E+00	
	1112.02	9.60	2.08E+00		-6.72E-01	9.48E-01	
	1407.95	14.94	1.38E+00		9.63E-02	6.17E-01	
	97.43	31.30	3.25E-01		3.25E-01	5.72E-02	1.59E-01
	103.18	22.20	4.44E-01			-2.77E-02	2.17E-01
	EU-154	123.07	40.50		2.33E-01	2.33E-01	-1.16E-01	1.14E-01
723.30		19.70	1.02E+00	1.75E-02	4.81E-01		
873.19		11.50	1.38E+00	-7.85E-01	6.30E-01		
996.32		10.30	1.96E+00	1.00E+00	9.02E-01		
1004.76		17.90	9.90E-01	2.36E-01	4.50E-01		

Analysis Report for 1510092-13
CP5001S11-12

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	1274.45	35.50	6.86E-01	2.33E-01	3.89E-01	3.15E-01
+	EU-154					
	86.50	* 30.90	3.92E-01	3.92E-01	5.63E-01	1.93E-01
	105.30	20.70	4.54E-01		2.21E-02	2.22E-01
	EU-156			7.17E+00	8.72E-01	3.31E+00
	811.77	10.40	7.17E+00			
	1153.47	7.20	1.24E+01		-7.48E+00	5.63E+00
	1230.71	8.90	1.20E+01		-3.86E+00	5.50E+00
	HO-166M			1.74E-01	1.45E-01	8.48E-02
	184.41	72.60	1.74E-01		1.26E-01	2.03E-01
	280.45	29.60	4.23E-01		4.90E-01	6.05E-01
	410.94	11.10	1.27E+00		-9.79E-02	1.40E-01
	711.69	54.10	3.02E-01			
+	TM-171	* 0.14	1.70E+02	1.70E+02	1.43E+02	8.46E+01
	HF-172			8.87E-01	-8.47E+00	1.20E+00
	125.81	11.30	8.87E-01		-3.73E-02	4.33E-01
	LU-172			1.04E+01	2.98E+00	8.22E+00
	181.53	20.60	1.69E+01		6.69E+00	1.45E+01
	810.06	16.63	3.13E+01		7.58E+01	2.50E+01
	912.12	15.25	5.28E+01		-2.20E-01	4.81E+00
	1093.66	62.50	1.04E+01		-6.82E-01	8.70E-01
	LU-173			6.48E-01	2.68E-01	3.13E-01
	100.72	5.24	1.78E+00		-1.75E-02	1.02E-01
	272.11	21.20	6.48E-01		7.83E-02	4.08E-01
	HF-175			2.12E-01	-8.10E-02	6.68E-02
	343.40	84.00	2.12E-01		3.20E-03	6.56E-02
	LU-176			1.37E-01	5.75E-01	3.39E-01
	88.34	13.30	8.30E-01		4.55E-01	4.38E-01
	201.83	86.00	1.38E-01		5.40E-01	8.95E-01
	306.78	94.00	1.37E-01		8.52E-01	5.52E-01
+	TA-182	* 41.20	6.83E-01	6.83E-01	5.75E-01	3.39E-01
	67.75				4.55E-01	4.38E-01
	1121.30	34.90	9.39E-01		5.40E-01	8.95E-01
	1189.05	16.23	1.93E+00		8.52E-01	5.52E-01
	1221.41	26.98	1.19E+00		-8.22E-01	1.17E+00
	1231.02	11.44	2.55E+00		-1.66E-01	2.77E-01
	IR-192			3.73E-01	-1.73E-01	1.76E-01
	308.46	29.68	5.76E-01		-6.00E-02	1.25E-01
	468.07	48.10	3.73E-01		3.47E-02	6.41E-02
	HG-203			2.59E-01	-1.59E-01	1.01E-01
	279.19	77.30	2.59E-01		1.70E+00	2.43E-01
	BI-207			1.37E-01	-1.70E-01	1.83E+00
	569.67	97.72	1.37E-01		1.09E+00	0.00E+00
	1063.62	74.90	2.24E-01		1.19E-02	1.24E-01
+	TL-208	* 30.22	5.17E-01	9.87E-02	1.70E+00	2.43E-01
	583.14				-1.70E-01	1.83E+00
	860.37	4.48	3.96E+00		1.09E+00	0.00E+00
	2614.66	* 35.85	9.87E-02		1.19E-02	1.24E-01
	BI-210M			2.57E-01	4.22E-01	3.24E-01
	262.00	45.00	2.57E-01		1.03E+00	1.01E+00
	300.00	23.00	6.70E-01		7.94E-01	2.29E+00
+	PB-210	* 4.25	2.06E+00	2.06E+00	2.11E+00	3.05E+00
	46.50			4.81E+00	2.94E-01	2.29E+00
	PB-211			4.81E+00	2.11E+00	3.05E+00
	404.84	2.90	4.81E+00		1.26E+00	8.98E-01
	831.96	2.90	6.56E+00		3.67E+00	2.88E+00
+	BI-212	* 11.80	1.90E+00	1.90E+00	1.92E+00	2.27E-01
	727.17				2.85E+00	2.19E+00
	1620.62	2.75	6.66E+00		1.15E+00	2.54E-01
+	PB-212	* 44.60	4.63E-01	4.63E-01	1.15E+00	2.54E-01
	238.63				1.83E+00	8.60E-01
	300.09	3.41	4.52E+00		2.16E+00	3.35E-01
+	BI-214	* 46.30	5.28E-01	5.28E-01	1.47E+00	1.88E+00
	609.31				1.45E+00	4.98E-01
	1120.29	15.10	1.84E+00		1.38E+00	2.63E-01
	1764.49	* 15.80	8.37E-01		-1.20E-01	9.97E-01
	2204.22	4.98	4.39E+00		-7.90E-01	1.60E+00
+	PB-214	* 19.19	1.02E+00	5.42E-01		
	295.21					
	351.92	* 37.19	5.42E-01			
	RN-219			2.09E+00	-1.20E-01	9.97E-01
	401.80	6.50	2.09E+00			
	RA-223			3.34E+00	-7.90E-01	1.60E+00
	323.87	3.88	3.34E+00			

Analysis Report for 1510092-13
CP5001S11-12

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	5.24E+00	5.24E+00	2.19E+01	2.57E+00
RA-225	40.00	31.00	8.64E-01	8.64E-01	-2.23E-02	4.22E-01
+ RA-226	186.21 *	3.28	4.65E+00	4.65E+00	4.33E+00	2.28E+00
TH-227	50.10	8.40	8.41E-01	8.41E-01	-5.56E-03	4.12E-01
	236.00	11.50	1.65E+00		8.94E-02	8.10E-01
	256.20	6.30	1.85E+00		-7.07E-01	8.93E-01
+ AC-228	338.32 *	11.40	1.66E+00	8.02E-01	1.44E+00	8.04E-01
	911.07 *	27.70	8.02E-01		1.44E+00	3.75E-01
	969.11	16.60	1.60E+00		2.09E+00	7.53E-01
TH-230	48.44	16.90	4.11E-01	4.11E-01	2.68E-02	2.01E-01
	62.85	4.60	1.86E+00		3.00E-01	9.10E-01
	67.67	0.37	2.49E+01		-5.69E+01	1.22E+01
PA-231	283.67	1.60	7.49E+00	5.82E+00	-4.15E+00	3.60E+00
	302.67	2.30	5.82E+00		1.81E-02	2.80E+00
TH-231	25.64	14.70	3.48E-01	3.48E-01	-2.64E-01	1.70E-01
	84.21	6.40	1.60E+00		-5.94E+00	7.87E-01
PA-233	311.98	38.60	7.56E-01	7.56E-01	-1.63E-01	3.62E-01
PA-234	131.20	20.40	4.92E-01	4.92E-01	6.80E-02	2.40E-01
	733.99	8.80	1.74E+00		-6.98E-01	8.04E-01
	946.00	12.00	1.56E+00		1.28E-01	7.16E-01
PA-234M	1001.03	0.92	2.14E+01	2.14E+01	1.22E+00	9.86E+00
TH-234	63.29	3.80	2.29E+00	2.29E+00	1.96E-01	1.12E+00
U-235	143.76	10.50	1.04E+00	1.04E+00	-5.05E-03	5.06E-01
	163.35	4.70	2.27E+00		-6.18E-01	1.11E+00
	205.31	4.70	2.64E+00		1.16E-01	1.28E+00
+ NP-237	86.50 *	12.60	9.48E-01	9.48E-01	1.36E+00	4.67E-01
NP-239	106.10	22.70	6.22E+03	6.22E+03	3.03E+02	3.04E+03
	228.18	10.70	1.80E+04		4.19E+03	8.72E+03
	277.60	14.10	1.32E+04		-2.58E+03	6.34E+03
AM-241	59.54	35.90	2.24E-01	2.24E-01	-1.31E-02	1.10E-01
AM-243	74.67	66.00	1.91E-01	1.91E-01	7.57E-01	9.43E-02
CM-243	209.75	3.29	3.88E+00	8.78E-01	1.82E+00	1.88E+00
	228.14	10.60	1.20E+00		2.70E-01	5.80E-01
	277.60	14.00	8.78E-01		-1.72E-01	4.22E-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

No Action Level results available for reporting purposes.

Analysis Report for 1510092-13
CP5001S11-12

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: CP5001S11-12

Elapsed Live time: 3600
Elapsed Real Time: 3666

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	20	85
17:	79	88	73	72	66	62	53	59
25:	59	56	49	69	57	58	54	70
33:	61	46	72	41	67	64	60	70
41:	66	59	72	62	95	105	107	78
49:	62	65	67	89	70	88	70	80
57:	89	74	85	88	116	113	117	117
65:	101	88	100	117	121	116	104	123
73:	167	249	245	280	255	141	97	92
81:	82	73	121	104	124	157	115	128
89:	113	98	95	126	129	106	63	50
97:	72	55	61	62	58	61	81	85
105:	52	59	65	63	73	60	53	60
113:	58	42	73	58	54	52	52	57
121:	59	62	48	57	49	58	52	66
129:	62	61	66	55	50	48	53	50
137:	75	68	49	56	67	65	66	57
145:	70	62	43	58	51	58	64	59
153:	62	68	51	50	43	51	48	42
161:	48	46	52	55	34	56	41	52
169:	45	57	54	53	54	39	37	42
177:	52	50	43	37	40	43	43	52
185:	76	85	63	49	41	36	45	42
193:	49	37	34	53	40	40	42	53
201:	32	39	46	39	36	50	46	57
209:	47	48	41	35	38	31	35	47
217:	30	33	27	38	35	38	33	41
225:	34	34	38	43	33	39	45	35
233:	36	32	40	45	99	216	190	99
241:	58	72	34	30	24	27	27	30
249:	34	27	34	30	32	28	17	28
257:	19	23	27	29	17	35	29	23
265:	17	25	22	24	34	39	38	35
273:	22	26	26	22	33	33	19	16
281:	25	26	22	31	17	29	18	27
289:	25	22	16	20	36	61	78	48
297:	24	28	23	28	31	23	25	17
305:	29	22	21	28	13	24	19	19
313:	17	19	28	27	17	23	21	21
321:	21	14	18	15	19	32	25	26
329:	29	23	20	16	19	27	17	26
337:	34	45	26	26	21	15	23	14
345:	13	20	6	18	24	44	95	119
353:	48	24	14	13	21	21	17	16
361:	12	11	7	14	25	17	13	8

369: 14 13 21 21 8 11 14 12

Sample Title: CP5001S11-12

Channel	1	2	3	4	5	6	7	8
377:	17	15	16	14	13	22	15	18
385:	14	11	18	20	23	14	11	19
393:	11	14	12	23	12	15	11	18
401:	19	15	13	15	16	14	11	18
409:	15	18	14	12	19	17	15	9
417:	10	13	12	15	14	14	12	4
425:	17	14	19	20	11	12	17	16
433:	11	13	11	16	9	16	14	5
441:	10	10	5	13	10	15	14	13
449:	14	10	9	6	13	12	10	17
457:	5	13	16	11	12	11	25	16
465:	6	8	11	7	12	13	6	13
473:	13	10	7	13	15	14	8	14
481:	12	9	16	13	12	16	10	13
489:	8	9	4	9	15	8	11	23
497:	13	13	9	9	11	9	11	14
505:	10	8	14	15	31	33	40	15
513:	13	14	12	7	6	10	6	7
521:	10	7	16	12	4	9	10	11
529:	11	3	7	15	12	9	6	11
537:	7	6	5	6	6	11	10	9
545:	8	4	12	9	13	5	6	7
553:	12	12	7	6	4	8	13	8
561:	7	12	12	7	9	2	7	4
569:	5	10	9	9	8	8	3	7
577:	8	9	7	7	25	30	61	39
585:	3	6	5	8	5	8	8	8
593:	8	5	10	6	9	10	13	7
601:	11	3	9	8	8	7	12	42
609:	71	45	23	11	8	8	5	10
617:	8	10	14	6	7	6	11	14
625:	7	7	10	8	8	3	6	6
633:	8	6	7	10	9	6	13	6
641:	6	7	10	6	7	6	4	3
649:	8	7	7	5	5	4	7	11
657:	8	11	4	9	8	4	10	11
665:	10	5	5	5	8	8	7	5
673:	5	7	7	8	8	9	6	6
681:	8	5	4	7	6	10	4	3
689:	4	9	7	8	13	13	3	12
697:	9	10	4	7	7	9	4	14
705:	7	7	4	11	3	4	12	6
713:	7	7	6	5	7	9	8	7
721:	10	8	12	6	11	10	17	12
729:	9	5	6	2	10	6	7	4
737:	3	6	9	5	10	7	4	3
745:	8	7	5	5	9	5	6	8
753:	6	4	1	6	4	2	6	5
761:	10	9	10	8	8	5	11	7
769:	11	10	9	6	4	14	12	7
777:	8	9	9	7	6	5	6	9
785:	7	10	8	5	5	6	6	6
793:	8	3	13	9	4	4	11	7

801: 11 12 11 6 6 10 5 6

Sample Title: CP5001S11-12

Channel	1	2	3	4	5	6	7	8
809:	7	10	4	6	5	1	4	2
817:	5	3	3	8	2	5	1	10
825:	2	4	7	2	7	6	3	8
833:	4	13	11	6	9	3	7	5
841:	12	6	5	5	2	8	5	4
849:	5	6	1	4	4	4	7	5
857:	5	1	7	10	7	6	5	2
865:	6	2	8	4	1	3	5	6
873:	7	6	1	3	4	7	6	8
881:	5	1	7	2	8	7	4	4
889:	3	4	6	6	5	6	3	2
897:	2	7	4	7	5	5	3	7
905:	4	3	2	5	7	14	24	31
913:	9	3	8	6	3	5	5	7
921:	8	5	5	7	6	2	5	3
929:	5	4	4	3	7	8	5	4
937:	5	2	2	4	6	3	8	5
945:	6	4	4	8	3	3	5	3
953:	7	5	9	3	3	5	4	4
961:	7	1	1	8	10	10	8	17
969:	21	9	4	7	3	4	2	3
977:	2	4	2	5	6	4	7	5
985:	4	3	2	6	3	4	2	3
993:	3	4	6	2	8	9	8	3
1001:	5	3	2	1	5	6	2	7
1009:	5	4	3	6	5	2	7	1
1017:	5	3	4	5	3	3	8	4
1025:	3	7	3	1	4	3	6	2
1033:	3	1	1	5	4	7	3	8
1041:	5	2	7	3	5	5	3	2
1049:	3	4	3	0	8	4	2	6
1057:	5	6	4	3	3	1	2	3
1065:	4	4	3	4	3	7	1	7
1073:	1	3	2	3	9	3	3	1
1081:	1	2	4	2	5	4	8	6
1089:	6	3	4	6	4	6	6	5
1097:	7	3	5	6	2	3	1	1
1105:	1	3	3	5	8	4	4	0
1113:	2	4	2	7	7	2	12	12
1121:	15	9	4	5	2	6	4	8
1129:	1	3	3	9	5	10	1	5
1137:	4	4	4	5	1	5	4	2
1145:	4	6	5	4	8	2	3	2
1153:	2	5	7	2	3	4	6	9
1161:	4	5	2	8	2	8	3	7
1169:	5	4	5	4	3	6	5	4
1177:	4	7	5	4	5	3	6	10
1185:	6	6	5	3	4	8	10	6
1193:	7	6	4	1	5	8	5	9
1201:	3	5	6	7	5	1	4	4
1209:	4	4	4	5	7	3	4	4
1217:	6	7	6	4	4	3	9	3
1225:	13	3	2	3	4	7	8	6

1233: 1 5 8 4 9 7 13 7

Sample Title: CP5001S11-12

Channel	1	5	8	4	9	7	13	7
1241:	4	7	7	1	8	7	0	5
1249:	5	4	6	5	2	3	4	3
1257:	6	3	3	3	4	0	6	3
1265:	4	3	1	1	3	2	6	4
1273:	8	7	2	5	3	5	2	2
1281:	6	5	9	3	3	2	3	1
1289:	2	4	1	2	4	6	3	2
1297:	3	2	4	5	3	3	3	3
1305:	2	1	8	3	2	2	3	4
1313:	3	3	4	1	1	2	3	3
1321:	5	1	3	4	2	3	3	3
1329:	3	1	2	3	7	3	3	4
1337:	3	5	4	1	3	2	1	1
1345:	3	2	3	1	3	3	1	0
1353:	1	2	3	3	2	3	0	4
1361:	2	2	1	1	3	3	1	3
1369:	4	2	2	2	1	2	2	1
1377:	4	0	6	1	2	1	0	2
1385:	5	2	2	4	1	0	2	1
1393:	2	2	2	2	4	0	2	3
1401:	3	2	7	1	4	2	3	7
1409:	3	0	0	4	3	0	1	0
1417:	1	2	5	1	1	3	4	2
1425:	0	4	1	1	1	2	1	1
1433:	3	3	2	2	5	1	1	2
1441:	1	3	4	1	1	0	1	1
1449:	3	1	2	0	1	2	1	0
1457:	2	2	22	53	78	72	40	10
1465:	1	2	0	0	2	1	2	0
1473:	0	4	1	1	1	2	4	1
1481:	3	4	1	1	3	1	3	0
1489:	0	0	2	3	2	1	3	4
1497:	0	0	3	2	2	2	5	1
1505:	1	1	5	1	0	3	2	3
1513:	1	2	1	0	1	0	1	3
1521:	0	0	0	1	1	0	3	1
1529:	2	0	1	2	0	1	3	3
1537:	0	1	2	1	0	0	0	2
1545:	1	2	1	2	1	3	1	0
1553:	0	1	0	4	2	3	1	1
1561:	0	0	2	3	0	0	0	0
1569:	2	2	1	1	1	0	0	2
1577:	2	0	0	1	2	0	3	0
1585:	1	1	1	2	3	2	4	5
1593:	2	3	1	2	1	1	2	1
1601:	0	1	3	0	5	2	2	0
1609:	2	0	0	2	1	2	0	4
1617:	2	1	0	2	2	2	0	0
1625:	1	0	0	0	4	1	1	0
1633:	1	0	0	1	1	1	2	1
1641:	0	0	0	1	2	2	0	1
1649:	0	1	1	0	1	1	1	0
1657:	0	0	0	2	0	2	0	0

1665: 0 0 1 0 0 0 1 2

Sample Title: CP5001S11-12

Channel	1	2	3	4	5	6	7	8
1673:	0	0	1	1	2	0	0	1
1681:	2	0	2	0	0	0	0	2
1689:	0	0	2	1	2	1	1	0
1697:	0	1	0	2	0	0	1	1
1705:	0	1	0	1	0	0	2	1
1713:	0	1	1	2	1	1	0	1
1721:	1	1	3	2	1	1	2	1
1729:	1	2	0	3	2	2	0	2
1737:	0	1	0	0	1	1	0	0
1745:	0	0	0	1	1	1	0	2
1753:	0	1	2	1	1	1	0	2
1761:	0	0	3	7	14	8	3	1
1769:	0	0	2	1	0	0	2	1
1777:	0	0	0	1	0	0	0	0
1785:	2	0	1	3	2	1	0	0
1793:	1	0	0	1	0	0	2	1
1801:	0	2	0	0	0	1	1	2
1809:	0	0	1	0	1	1	1	1
1817:	0	2	0	0	1	1	0	2
1825:	1	0	0	0	0	2	0	0
1833:	0	0	1	0	1	2	3	0
1841:	1	0	1	0	0	3	0	0
1849:	1	1	0	1	3	1	1	1
1857:	0	2	2	0	1	1	1	2
1865:	0	0	0	1	0	2	0	1
1873:	1	0	0	0	2	0	1	1
1881:	1	1	2	1	0	2	0	1
1889:	1	1	3	0	2	2	2	1
1897:	2	0	0	2	1	0	1	2
1905:	0	0	0	1	1	1	2	2
1913:	0	0	0	0	2	0	1	0
1921:	0	0	1	2	0	0	1	0
1929:	0	1	1	2	0	1	1	2
1937:	0	0	0	0	0	0	1	2
1945:	0	1	1	1	0	0	0	0
1953:	1	0	1	0	0	1	0	1
1961:	0	1	0	0	1	1	0	0
1969:	0	0	0	0	1	0	0	2
1977:	0	1	0	0	0	1	0	0
1985:	0	1	0	1	1	1	1	1
1993:	1	0	1	0	0	0	0	0
2001:	1	0	0	1	0	0	0	0
2009:	1	1	1	0	1	1	0	0
2017:	0	0	0	2	0	1	1	1
2025:	1	0	0	0	1	0	1	1
2033:	1	0	0	1	1	1	1	0
2041:	0	0	1	1	0	0	0	2
2049:	0	0	1	1	1	0	0	1
2057:	0	0	0	1	1	0	0	0
2065:	0	1	0	2	0	0	1	1
2073:	1	0	1	2	1	0	0	2
2081:	0	1	2	1	1	0	2	1
2089:	0	0	0	0	1	0	1	0

2097: 0 0 1 1 1 1 3 0

Sample Title: CP5001S11-12

Channel	1	2	3	4	5	6	7	8
2105:	1	2	1	1	0	1	0	2
2113:	0	0	1	2	2	1	1	2
2121:	2	0	0	0	1	1	1	0
2129:	3	0	0	1	0	1	0	1
2137:	0	1	0	0	1	0	0	1
2145:	0	1	1	0	1	1	1	1
2153:	2	1	0	0	0	0	1	0
2161:	0	0	1	1	0	2	0	0
2169:	1	1	0	1	0	0	0	0
2177:	0	0	0	0	0	0	1	0
2185:	1	0	0	0	0	0	0	0
2193:	2	0	2	2	1	1	0	0
2201:	1	0	0	2	2	2	1	2
2209:	1	1	0	1	0	3	1	0
2217:	0	0	1	0	0	0	0	0
2225:	0	1	3	1	0	0	1	1
2233:	0	0	0	2	0	1	1	1
2241:	0	0	1	1	0	0	0	0
2249:	1	2	0	0	0	0	0	1
2257:	1	3	0	1	0	0	2	2
2265:	0	1	1	0	1	0	1	2
2273:	1	1	1	0	1	1	2	0
2281:	0	0	0	0	1	0	1	1
2289:	1	0	0	1	0	1	1	1
2297:	0	0	0	0	0	0	1	0
2305:	0	1	0	0	0	0	0	0
2313:	2	1	0	1	0	1	1	0
2321:	0	0	3	0	1	1	0	2
2329:	0	0	1	1	0	1	0	0
2337:	0	0	2	1	0	1	1	0
2345:	0	1	1	2	0	1	1	0
2353:	0	2	3	0	1	1	1	0
2361:	1	0	1	3	1	0	0	1
2369:	1	0	2	2	0	0	0	0
2377:	1	3	0	4	1	1	2	0
2385:	0	0	3	1	0	2	0	1
2393:	0	0	0	0	0	0	2	0
2401:	0	0	1	0	1	0	0	0
2409:	1	1	3	1	1	2	2	2
2417:	1	0	0	0	2	0	0	0
2425:	0	0	0	0	0	1	0	1
2433:	0	0	0	0	0	0	0	0
2441:	0	0	0	0	0	1	1	4
2449:	2	0	0	1	1	0	0	1
2457:	1	0	0	0	3	0	0	1
2465:	1	0	0	0	0	1	1	0
2473:	1	1	0	0	0	1	1	0
2481:	0	0	1	0	1	0	0	0
2489:	0	0	1	1	0	1	0	0
2497:	0	0	0	0	0	0	0	0
2505:	2	1	1	0	0	0	0	1
2513:	0	0	0	0	0	0	3	0
2521:	0	0	1	0	0	0	0	0

2529: 0 0 0 0 0 0 1 1

Sample Title: CP5001S11-12

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2537:	0	0	1	0	0	1	1	0
2545:	2	0	1	0	0	0	0	0
2553:	0	0	1	0	0	0	0	0
2561:	0	0	0	0	0	0	0	0
2569:	0	0	1	1	0	0	1	1
2577:	0	0	0	1	0	0	0	1
2585:	0	1	0	0	0	0	0	0
2593:	0	0	0	0	0	1	0	0
2601:	0	0	0	0	1	0	0	1
2609:	0	2	0	0	2	3	5	7
2617:	8	3	2	0	0	0	0	1
2625:	0	0	0	0	0	0	0	0
2633:	0	0	0	0	1	0	0	0
2641:	0	0	1	0	0	1	1	0
2649:	0	0	0	0	0	0	0	0
2657:	0	0	1	0	0	0	0	0
2665:	0	0	0	0	1	0	0	0
2673:	0	0	1	0	0	0	0	1
2681:	0	0	0	0	0	1	0	0
2689:	0	0	0	0	0	1	0	0
2697:	0	1	0	0	0	1	1	0
2705:	0	0	0	0	0	1	0	0
2713:	0	0	0	0	0	0	0	0
2721:	0	0	1	0	0	0	0	0
2729:	0	0	0	0	0	0	0	0
2737:	0	0	0	0	0	1	0	0
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	1	1	0	0	0
2777:	0	0	0	0	0	0	1	0
2785:	0	0	1	0	0	0	0	0
2793:	0	1	0	0	0	0	0	0
2801:	0	0	0	0	0	0	0	0
2809:	0	0	0	0	0	0	1	0
2817:	2	0	0	1	0	0	0	0
2825:	0	0	0	0	0	0	0	1
2833:	0	1	0	0	0	0	1	0
2841:	0	0	0	0	1	0	0	0
2849:	0	0	0	0	0	0	0	0
2857:	1	0	0	0	0	1	1	0
2865:	0	0	0	1	0	0	0	0
2873:	0	0	0	1	0	1	0	0
2881:	0	0	0	0	0	0	0	1
2889:	0	1	0	0	0	1	0	0
2897:	0	1	0	0	0	0	0	0
2905:	0	0	0	0	0	0	0	1
2913:	0	0	0	0	0	0	0	0
2921:	0	0	0	1	1	0	0	0
2929:	0	0	0	0	0	0	0	0
2937:	0	0	0	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

Sample Title: CP5001S11-12

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2969:	0	0	1	0	0	0	0	0
2977:	0	0	0	1	0	0	0	0
2985:	1	0	0	0	0	0	1	1
2993:	0	0	0	0	0	0	0	0
3001:	1	0	0	1	1	0	0	0
3009:	1	0	0	0	0	0	1	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	0	0
3041:	0	1	0	0	0	0	0	0
3049:	1	0	0	0	1	0	0	0
3057:	0	0	0	0	0	0	0	0
3065:	0	0	0	0	0	0	0	0
3073:	0	0	0	0	0	0	1	0
3081:	0	0	0	0	1	0	0	0
3089:	0	0	1	0	0	0	0	1
3097:	0	0	0	0	0	0	1	1
3105:	0	0	1	0	1	0	0	0
3113:	0	0	0	0	0	0	0	0
3121:	0	0	0	0	0	0	0	0
3129:	1	0	0	0	0	0	0	1
3137:	0	0	0	0	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	0	0	0
3177:	0	0	1	0	0	0	0	0
3185:	0	0	0	0	0	0	0	0
3193:	0	0	2	0	1	1	1	0
3201:	0	0	1	0	0	1	0	2
3209:	0	0	0	0	0	0	0	1
3217:	0	0	0	0	0	0	0	0
3225:	1	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	0	0	0	0
3257:	1	0	0	0	0	1	0	0
3265:	0	0	0	0	0	0	0	1
3273:	0	0	0	0	0	0	0	0
3281:	1	0	0	0	0	1	0	1
3289:	0	0	0	0	0	0	0	0
3297:	0	0	0	0	0	0	1	0
3305:	0	0	0	0	0	0	0	0
3313:	0	0	0	0	1	1	0	0
3321:	0	0	0	0	0	0	0	0
3329:	0	1	0	0	0	0	0	0
3337:	1	0	0	0	0	0	1	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	1
3369:	0	0	0	0	1	0	0	0
3377:	1	1	0	0	1	0	0	0
3385:	1	0	0	0	0	1	0	0

3393: 0 1 0 0 0 0 0 0

Sample Title: CP5001S11-12

Channel	1	2	3	4	5	6	7	8	9
3401:	0	0	0	1	0	0	0	1	
3409:	0	0	0	0	1	0	0	0	0
3417:	0	0	0	0	0	0	0	0	0
3425:	0	1	0	0	0	0	1	1	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	0	0	0
3457:	0	0	0	0	0	0	0	0	0
3465:	0	0	0	0	0	0	0	0	0
3473:	0	0	0	0	0	0	0	0	1
3481:	0	0	1	1	0	0	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	0	1	0	0	0	0
3513:	0	0	0	0	0	0	0	0	0
3521:	0	0	2	0	0	0	0	0	0
3529:	0	1	0	0	0	0	0	0	0
3537:	0	1	0	0	0	0	0	0	0
3545:	0	0	0	0	0	0	0	0	0
3553:	0	0	0	0	0	0	0	0	0
3561:	0	0	0	0	0	0	0	0	0
3569:	0	0	0	0	0	0	0	0	0
3577:	2	0	1	0	0	0	0	0	0
3585:	1	0	0	0	0	0	0	0	0
3593:	0	0	0	0	1	0	0	0	0
3601:	1	0	0	0	0	0	0	0	0
3609:	0	0	0	0	0	0	1	0	0
3617:	0	0	0	0	0	0	0	0	0
3625:	0	0	0	0	0	0	0	0	0
3633:	1	0	0	0	0	0	1	0	0
3641:	0	0	0	0	0	0	0	0	0
3649:	0	0	0	0	1	0	0	0	0
3657:	1	0	0	0	0	0	1	1	0
3665:	0	0	0	0	0	0	0	0	1
3673:	0	0	0	0	0	0	0	0	0
3681:	0	0	0	0	0	1	0	0	0
3689:	0	0	0	0	0	0	0	0	0
3697:	0	0	0	0	0	0	1	0	0
3705:	0	0	0	0	0	0	0	0	0
3713:	0	0	2	0	0	0	0	0	0
3721:	0	0	0	0	0	1	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	0
3753:	0	0	1	0	0	0	0	0	0
3761:	0	0	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0	0
3777:	0	0	0	0	0	0	0	0	0
3785:	0	0	0	0	0	0	0	0	1
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:	1	0	0	0	0	1	0	0	0

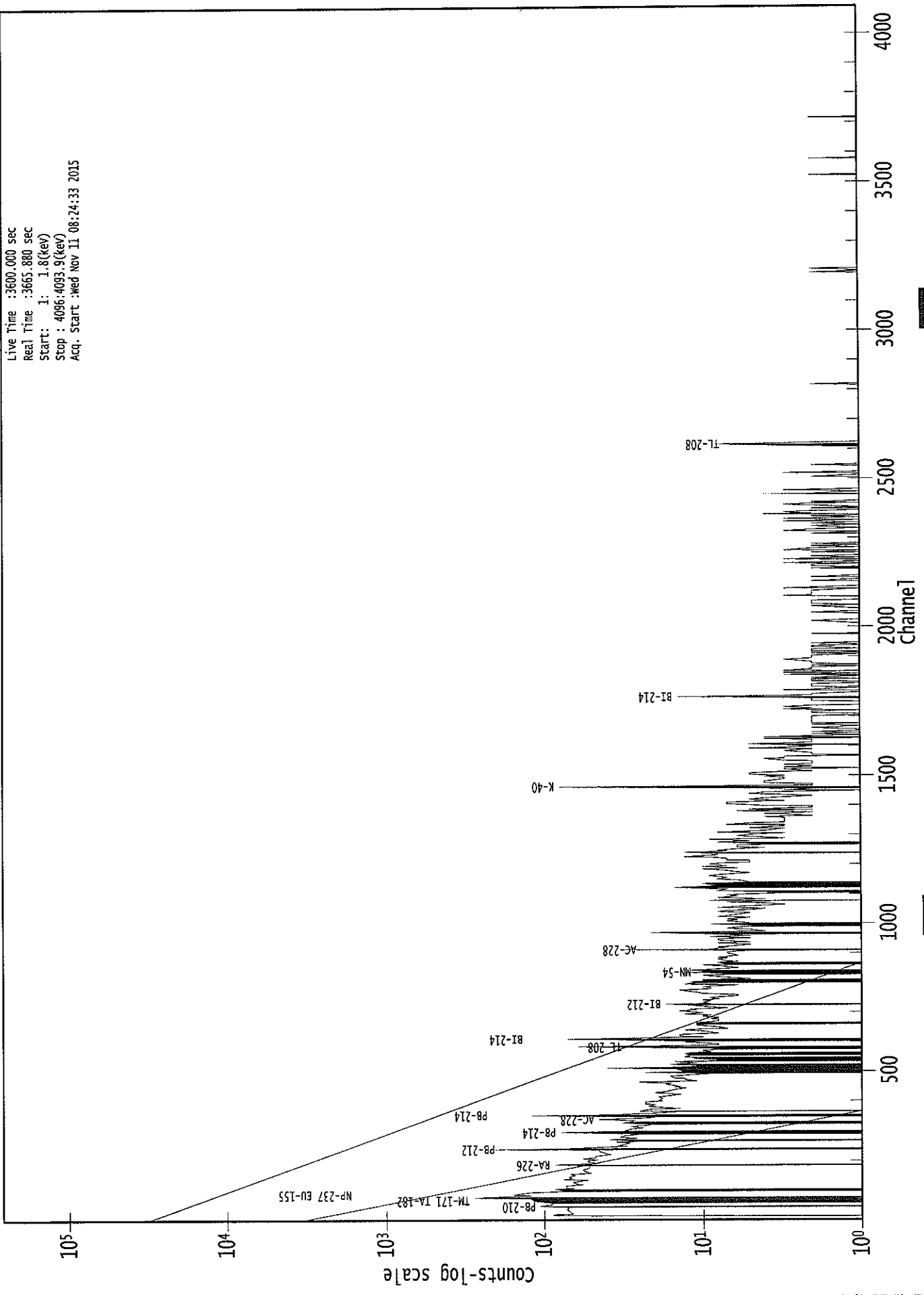
3825: 0 0 0 0 0 0 0 0

Sample Title: CP5001S11-12

Channel								
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	0	1	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	0	0	1
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	1	0
3905:	0	0	0	0	0	1	1	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	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	0	0	0
3969:	0	0	0	0	0	0	0	0
3977:	0	0	0	0	0	0	1	0
3985:	0	0	0	0	0	0	0	0
3993:	0	0	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:	0	0	0	0	0	0	0	0
4033:	0	1	0	0	0	0	0	1
4041:	0	0	0	0	0	0	0	0
4049:	0	0	0	0	0	0	0	0
4057:	1	0	0	1	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	0	0	0	0	0	0
4089:	0	0	0	0	0	0	0	0

0000029471.CNF

Live Time :3600.000 sec
Real Time :3665.880 sec
Start: 1: 1.8(kev)
Stop : 4096:4093.9(kev)
Acq. Start :Wed Nov 11 08:24:33 2015



Analysis Report for 1510092-14
CP5001S13-14



GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510092-14
Sample Description : CP5001S13-14
Sample Type : SOIL

Sample Size : 5.290E+02 grams
Facility : Countroom

Sample Taken On : 10/9/2015 4:02:20PM
Acquisition Started : 11/11/2015 9:32:31AM

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 : 29472

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510092-14
CP5001S13-14

PEAK LOCATE REPORT

Peak Locate Performed on : 11/11/2015 10:32:35AM
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	46.09	46.44	0.0000	0.00
2	74.94	75.28	0.0000	0.00
3	77.52	77.86	0.0000	0.00
4	84.70	85.03	0.0000	0.00
5	88.17	88.51	0.0000	0.00
6	92.98	93.32	0.0000	0.00
7	99.60	99.94	0.0000	0.00
8	186.15	186.45	0.0000	0.00
9	209.64	209.93	0.0000	0.00
10	220.61	220.90	0.0000	0.00
11	238.76	239.04	0.0000	0.00
12	241.94	242.23	0.0000	0.00
13	270.14	270.41	0.0000	0.00
14	295.39	295.65	0.0000	0.00
15	300.05	300.31	0.0000	0.00
16	314.44	314.70	0.0000	0.00
17	338.61	338.86	0.0000	0.00
18	352.11	352.36	0.0000	0.00
19	463.33	463.54	0.0000	0.00
20	511.36	511.55	0.0000	0.00
21	583.45	583.62	0.0000	0.00
22	609.49	609.65	0.0000	0.00
23	727.11	727.23	0.0000	0.00
24	768.60	768.71	0.0000	0.00
25	794.94	795.03	0.0000	0.00
26	861.53	861.60	0.0000	0.00
27	911.64	911.69	0.0000	0.00
28	934.46	934.51	0.0000	0.00
29	969.39	969.42	0.0000	0.00
30	1115.80	1115.78	0.0000	0.00
31	1120.43	1120.41	0.0000	0.00
32	1212.11	1212.06	0.0000	0.00
33	1239.02	1238.96	0.0000	0.00
34	1373.18	1373.07	0.0000	0.00
35	1377.93	1377.81	0.0000	0.00
36	1410.41	1410.29	0.0000	0.00
37	1456.14	1456.00	0.0000	0.00
38	1461.26	1461.12	0.0000	0.00
39	1509.11	1508.94	0.0000	0.00
40	1620.37	1620.17	0.0000	0.00
41	1635.82	1635.61	0.0000	0.00
42	1730.59	1730.35	0.0000	0.00

Analysis Report for 1510092-14
CP5001S13-14

<i>Peak No.</i>	<i>Energy (keV)</i>	<i>Centroid Channel</i>	<i>Centroid Uncertainty</i>	<i>Peak Significance</i>
43	1764.98	1764.72	0.0000	0.00
44	1847.29	1847.00	0.0000	0.00
45	1972.05	1971.72	0.0000	0.00
46	1982.30	1981.96	0.0000	0.00
47	2003.01	2002.67	0.0000	0.00
48	2026.81	2026.46	0.0000	0.00
49	2104.02	2103.63	0.0000	0.00
50	2118.12	2117.73	0.0000	0.00
51	2178.84	2178.43	0.0000	0.00
52	2204.31	2203.88	0.0000	0.00
53	2362.45	2361.97	0.0000	0.00
54	2614.84	2614.26	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510092-14
CP5001S13-14

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/11/2015 10:32:35AM

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	46.09	43 - 49	46.44	1.28E+02	82.40	1.15E+03	1.18
M	2	74.94	72 - 83	75.28	4.39E+02	96.58	1.34E+03	1.60
m	3	77.52	72 - 83	77.86	7.79E+02	104.44	1.30E+03	1.61
M	4	84.70	83 - 97	85.03	1.68E+02	50.19	6.54E+02	2.38
m	5	88.17	83 - 97	88.51	4.32E+02	110.02	1.67E+03	2.63
m	6	92.98	83 - 97	93.32	4.35E+02	110.22	1.59E+03	2.64
	7	99.60	98 - 103	99.94	6.35E+01	71.48	9.47E+02	1.65
	8	186.15	183 - 190	186.45	2.38E+02	83.21	9.87E+02	1.66
	9	209.64	208 - 213	209.93	7.29E+01	57.40	6.06E+02	1.50
	10	220.61	218 - 224	220.90	5.50E+01	61.34	6.44E+02	3.23
M	11	238.76	233 - 247	239.04	9.92E+02	76.49	3.93E+02	1.67
m	12	241.94	233 - 247	242.23	3.22E+02	86.16	5.02E+02	2.31
	13	270.14	266 - 274	270.41	1.11E+02	64.31	5.70E+02	2.13
M	14	295.39	292 - 303	295.65	3.51E+02	51.98	3.00E+02	1.67
m	15	300.05	292 - 303	300.31	9.19E+01	52.33	4.20E+02	2.23
	16	314.44	312 - 317	314.70	3.41E+01	40.50	3.02E+02	3.27
	17	338.61	335 - 342	338.86	2.44E+02	57.79	3.90E+02	1.42
	18	352.11	348 - 357	352.36	6.08E+02	76.51	4.85E+02	1.80
	19	463.33	459 - 468	463.54	6.28E+01	53.58	3.72E+02	1.81
	20	511.36	507 - 517	511.55	2.36E+02	51.56	2.21E+02	2.65
	21	583.45	580 - 588	583.62	3.19E+02	53.34	2.38E+02	1.98
	22	609.49	605 - 615	609.65	4.61E+02	60.42	2.39E+02	1.87
	23	727.11	722 - 732	727.23	1.04E+02	43.16	1.93E+02	2.15
	24	768.60	766 - 772	768.71	2.40E+01	30.71	1.54E+02	1.34
	25	794.94	791 - 798	795.03	4.07E+01	30.27	1.21E+02	1.93
	26	861.53	857 - 867	861.60	6.05E+01	31.44	1.01E+02	1.96
	27	911.64	907 - 917	911.69	1.90E+02	43.81	1.56E+02	1.96
	28	934.46	932 - 938	934.51	2.23E+01	23.80	8.54E+01	1.38
	29	969.39	966 - 974	969.42	9.01E+01	43.10	2.02E+02	2.07
M	30	1115.80	1113 - 1125	1115.78	2.65E+01	15.22	1.94E+01	2.43
m	31	1120.43	1113 - 1125	1120.41	9.23E+01	24.70	4.29E+01	2.09
	32	1212.11	1210 - 1215	1212.06	2.53E+01	20.83	6.74E+01	2.36
	33	1239.02	1234 - 1243	1238.96	5.17E+01	35.41	1.49E+02	1.97
M	34	1373.18	1372 - 1383	1373.07	1.15E+01	7.35	5.04E+00	2.38
m	35	1377.93	1372 - 1383	1377.81	3.20E+01	16.06	2.92E+01	2.38
	36	1410.41	1404 - 1417	1410.29	2.57E+01	24.41	5.05E+01	9.45
M	37	1456.14	1455 - 1473	1456.00	1.87E+01	9.66	2.39E+01	2.19
m	38	1461.26	1455 - 1473	1461.12	8.45E+02	59.61	3.94E+01	2.10
	39	1509.11	1502 - 1515	1508.94	3.08E+01	20.90	3.45E+01	1.27
	40	1620.37	1614 - 1627	1620.17	1.70E+01	17.89	2.80E+01	4.82

Analysis Report for 1510092-14
CP5001S13-14

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1635.82	1628 -	1643	1635.61	2.12E+01	18.00	2.35E+01	12.34
42	1730.59	1726 -	1733	1730.35	2.83E+01	14.42	1.53E+01	1.47
43	1764.98	1760 -	1771	1764.72	6.79E+01	19.29	1.41E+01	2.55
44	1847.29	1842 -	1852	1847.00	2.16E+01	14.52	1.69E+01	2.20
45	1972.05	1968 -	1975	1971.72	6.94E+00	7.21	4.11E+00	2.47
46	1982.30	1979 -	1984	1981.96	7.00E+00	7.62	6.00E+00	1.17
47	2003.01	2000 -	2005	2002.67	5.00E+00	7.07	6.00E+00	2.73
48	2026.81	2020 -	2029	2026.46	7.69E+00	10.10	1.06E+01	3.35
49	2104.02	2100 -	2107	2103.63	1.65E+01	10.58	6.90E+00	1.26
50	2118.12	2113 -	2122	2117.73	1.00E+01	10.49	1.00E+01	6.28
51	2178.84	2176 -	2180	2178.43	7.00E+00	5.29	0.00E+00	1.47
52	2204.31	2200 -	2210	2203.88	2.14E+01	13.13	1.32E+01	3.45
53	2362.45	2358 -	2365	2361.97	7.38E+00	9.80	9.25E+00	1.12
54	2614.84	2610 -	2619	2614.26	1.15E+02	21.45	0.00E+00	2.79

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 : 11/11/2015 10:32:35AM

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	46.09	43 -	49	1.28E+02	82.40	1.15E+03	2.87E+01
M	2	74.94	72 -	83	4.39E+02	96.58	1.34E+03	6.02E+01
m	3	77.52	72 -	83	7.79E+02	104.44	1.30E+03	5.94E+01
M	4	84.70	83 -	97	1.68E+02	50.19	6.54E+02	4.20E+01
m	5	88.17	83 -	97	4.32E+02	110.02	1.67E+03	6.72E+01
m	6	92.98	83 -	97	4.35E+02	110.22	1.59E+03	6.56E+01
	7	99.60	98 -	103	6.35E+01	71.48	9.47E+02	5.73E+01
	8	186.15	183 -	190	2.38E+02	83.21	9.87E+02	6.35E+01
	9	209.64	208 -	213	7.29E+01	57.40	6.06E+02	4.50E+01
	10	220.61	218 -	224	5.50E+01	61.34	6.44E+02	4.89E+01
M	11	238.76	233 -	247	9.92E+02	76.49	3.93E+02	3.26E+01
m	12	241.94	233 -	247	3.22E+02	86.16	5.02E+02	3.68E+01
	13	270.14	266 -	274	1.11E+02	64.31	5.70E+02	4.99E+01
M	14	295.39	292 -	303	3.51E+02	51.98	3.00E+02	2.85E+01

Analysis Report for 1510092-14

CP5001S13-14

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
m	15	300.05	292 -	303	9.19E+01	52.33	4.20E+02	3.37E+01
	16	314.44	312 -	317	3.41E+01	40.50	3.02E+02	3.19E+01
	17	338.61	335 -	342	2.44E+02	57.79	3.90E+02	4.00E+01
	18	352.11	348 -	357	6.08E+02	76.51	4.85E+02	4.81E+01
	19	463.33	459 -	468	6.28E+01	53.58	3.72E+02	4.21E+01
	20	511.36	507 -	517	2.36E+02	51.56	2.21E+02	3.40E+01
	21	583.45	580 -	588	3.19E+02	53.34	2.38E+02	3.26E+01
	22	609.49	605 -	615	4.61E+02	60.42	2.39E+02	3.50E+01
	23	727.11	722 -	732	1.04E+02	43.16	1.93E+02	3.12E+01
	24	768.60	766 -	772	2.40E+01	30.71	1.54E+02	2.39E+01
	25	794.94	791 -	798	4.07E+01	30.27	1.21E+02	2.26E+01
	26	861.53	857 -	867	6.05E+01	31.44	1.01E+02	2.25E+01
	27	911.64	907 -	917	1.90E+02	43.81	1.56E+02	2.80E+01
	28	934.46	932 -	938	2.23E+01	23.80	8.54E+01	1.80E+01
	29	969.39	966 -	974	9.01E+01	43.10	2.02E+02	3.18E+01
M	30	1115.80	1113 -	1125	2.65E+01	15.22	1.94E+01	7.24E+00
m	31	1120.43	1113 -	1125	9.23E+01	24.70	4.29E+01	1.08E+01
	32	1212.11	1210 -	1215	2.53E+01	20.83	6.74E+01	1.50E+01
	33	1239.02	1234 -	1243	5.17E+01	35.41	1.49E+02	2.66E+01
M	34	1373.18	1372 -	1383	1.15E+01	7.35	5.04E+00	3.69E+00
m	35	1377.93	1372 -	1383	3.20E+01	16.06	2.92E+01	8.88E+00
	36	1410.41	1404 -	1417	2.57E+01	24.41	5.05E+01	1.83E+01
M	37	1456.14	1455 -	1473	1.87E+01	9.66	2.39E+01	8.04E+00
m	38	1461.26	1455 -	1473	8.45E+02	59.61	3.94E+01	1.03E+01
	39	1509.11	1502 -	1515	3.08E+01	20.90	3.45E+01	1.46E+01
	40	1620.37	1614 -	1627	1.70E+01	17.89	2.80E+01	1.30E+01
	41	1635.82	1628 -	1643	2.12E+01	18.00	2.35E+01	1.27E+01
	42	1730.59	1726 -	1733	2.83E+01	14.42	1.53E+01	8.00E+00
	43	1764.98	1760 -	1771	6.79E+01	19.29	1.41E+01	8.23E+00
	44	1847.29	1842 -	1852	2.16E+01	14.52	1.69E+01	9.17E+00
	45	1972.05	1968 -	1975	6.94E+00	7.21	4.11E+00	4.05E+00
	46	1982.30	1979 -	1984	7.00E+00	7.62	6.00E+00	4.50E+00
	47	2003.01	2000 -	2005	5.00E+00	7.07	6.00E+00	4.50E+00
	48	2026.81	2020 -	2029	7.69E+00	10.10	1.06E+01	6.94E+00
	49	2104.02	2100 -	2107	1.65E+01	10.58	6.90E+00	5.56E+00
	50	2118.12	2113 -	2122	1.00E+01	10.49	1.00E+01	6.88E+00
	51	2178.84	2176 -	2180	7.00E+00	5.29	0.00E+00	0.00E+00
	52	2204.31	2200 -	2210	2.14E+01	13.13	1.32E+01	7.66E+00
	53	2362.45	2358 -	2365	7.38E+00	9.80	9.25E+00	6.70E+00
	54	2614.84	2610 -	2619	1.15E+02	21.45	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 1510092-14
CP5001S13-14

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/11/2015 10:32:35AM

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
M	1	46.09	43 - 49	46.44	1.28E+02	82.40	1.15E+03	PB-210
m	2	74.94	72 - 83	75.28	4.39E+02	96.58	1.34E+03	AM-243
M	3	77.52	72 - 83	77.86	7.79E+02	104.44	1.30E+03	TI-44
m	4	84.70	83 - 97	85.03	1.68E+02	50.19	6.54E+02	TH-231
M	5	88.17	83 - 97	88.51	4.32E+02	110.02	1.67E+03	CD-109
								LU-176
								SN-126
m	6	92.98	83 - 97	93.32	4.35E+02	110.22	1.59E+03	GA-67
	7	99.60	98 - 103	99.94	6.35E+01	71.48	9.47E+02	.....
	8	186.15	183 - 190	186.45	2.38E+02	83.21	9.87E+02	RA-226
	9	209.64	208 - 213	209.93	7.29E+01	57.40	6.06E+02	CM-243
								GA-67
M	10	220.61	218 - 224	220.90	5.50E+01	61.34	6.44E+02	.....
m	11	238.76	233 - 247	239.04	9.92E+02	76.49	3.93E+02	PB-212
M	12	241.94	233 - 247	242.23	3.22E+02	86.16	5.02E+02	RA-224
m	13	270.14	266 - 274	270.41	1.11E+02	64.31	5.70E+02	.....
M	14	295.39	292 - 303	295.65	3.51E+02	51.98	3.00E+02	PB-214
m	15	300.05	292 - 303	300.31	9.19E+01	52.33	4.20E+02	PB-212
								BI-210M
								GA-67
	16	314.44	312 - 317	314.70	3.41E+01	40.50	3.02E+02	.....
	17	338.61	335 - 342	338.86	2.44E+02	57.79	3.90E+02	AC-228
	18	352.11	348 - 357	352.36	6.08E+02	76.51	4.85E+02	PB-214
	19	463.33	459 - 468	463.54	6.28E+01	53.58	3.72E+02	SB-125
	20	511.36	507 - 517	511.55	2.36E+02	51.56	2.21E+02	.....
	21	583.45	580 - 588	583.62	3.19E+02	53.34	2.38E+02	TL-208
	22	609.49	605 - 615	609.65	4.61E+02	60.42	2.39E+02	BI-214
	23	727.11	722 - 732	727.23	1.04E+02	43.16	1.93E+02	BI-212
	24	768.60	766 - 772	768.71	2.40E+01	30.71	1.54E+02	.....
	25	794.94	791 - 798	795.03	4.07E+01	30.27	1.21E+02	CS-134
	26	861.53	857 - 867	861.60	6.05E+01	31.44	1.01E+02	.....
	27	911.64	907 - 917	911.69	1.90E+02	43.81	1.56E+02	LU-172
								AC-228
	28	934.46	932 - 938	934.51	2.23E+01	23.80	8.54E+01	.....
	29	969.39	966 - 974	969.42	9.01E+01	43.10	2.02E+02	AC-228
M	30	1115.80	1113 - 1125	1115.78	2.65E+01	15.22	1.94E+01	ZN-65
m	31	1120.43	1113 - 1125	1120.41	9.23E+01	24.70	4.29E+01	SC-46
								BI-214
								TA-182
	32	1212.11	1210 - 1215	1212.06	2.53E+01	20.83	6.74E+01	.....
	33	1239.02	1234 - 1243	1238.96	5.17E+01	35.41	1.49E+02	CO-56

Analysis Report for 1510092-14
CP5001S13-14

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
M	34	1373.18	1372 -	1383	1373.07	1.15E+01	7.35	5.04E+00	.....
m	35	1377.93	1372 -	1383	1377.81	3.20E+01	16.06	2.92E+01	.....
	36	1410.41	1404 -	1417	1410.29	2.57E+01	24.41	5.05E+01	.....
M	37	1456.14	1455 -	1473	1456.00	1.87E+01	9.66	2.39E+01	.....
m	38	1461.26	1455 -	1473	1461.12	8.45E+02	59.61	3.94E+01	K-40
	39	1509.11	1502 -	1515	1508.94	3.08E+01	20.90	3.45E+01	.....
	40	1620.37	1614 -	1627	1620.17	1.70E+01	17.89	2.80E+01	BI-212
	41	1635.82	1628 -	1643	1635.61	2.12E+01	18.00	2.35E+01	.....
	42	1730.59	1726 -	1733	1730.35	2.83E+01	14.42	1.53E+01	.....
	43	1764.98	1760 -	1771	1764.72	6.79E+01	19.29	1.41E+01	BI-214
	44	1847.29	1842 -	1852	1847.00	2.16E+01	14.52	1.69E+01	.....
	45	1972.05	1968 -	1975	1971.72	6.94E+00	7.21	4.11E+00	.....
	46	1982.30	1979 -	1984	1981.96	7.00E+00	7.62	6.00E+00	.....
	47	2003.01	2000 -	2005	2002.67	5.00E+00	7.07	6.00E+00	.....
	48	2026.81	2020 -	2029	2026.46	7.69E+00	10.10	1.06E+01	.....
	49	2104.02	2100 -	2107	2103.63	1.65E+01	10.58	6.90E+00	.....
	50	2118.12	2113 -	2122	2117.73	1.00E+01	10.49	1.00E+01	.....
	51	2178.84	2176 -	2180	2178.43	7.00E+00	5.29	0.00E+00	.....
	52	2204.31	2200 -	2210	2203.88	2.14E+01	13.13	1.32E+01	BI-214
	53	2362.45	2358 -	2365	2361.97	7.38E+00	9.80	9.25E+00	.....
	54	2614.84	2610 -	2619	2614.26	1.15E+02	21.45	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 : 11/11/2015 10:32:35AM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	46.09	1.28E+02	82.40	1.65E-02	1.78E-03
M	2	74.94	4.39E+02	96.58	2.75E-02	2.30E-03
m	3	77.52	7.79E+02	104.44	2.78E-02	2.39E-03
M	4	84.70	1.68E+02	50.19	2.84E-02	2.63E-03
m	5	88.17	4.32E+02	110.02	2.85E-02	2.74E-03
m	6	92.98	4.35E+02	110.22	2.86E-02	2.64E-03
	7	99.60	6.35E+01	71.48	2.85E-02	2.51E-03
	8	186.15	2.38E+02	83.21	2.24E-02	2.03E-03
	9	209.64	7.29E+01	57.40	2.09E-02	1.85E-03

Analysis Report for 1510092-14
CP5001S13-14

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	10	220.61	5.50E+01	61.34	2.02E-02	1.77E-03
M	11	238.76	9.92E+02	76.49	1.92E-02	1.64E-03
m	12	241.94	3.22E+02	86.16	1.91E-02	1.61E-03
	13	270.14	1.11E+02	64.31	1.77E-02	1.41E-03
M	14	295.39	3.51E+02	51.98	1.67E-02	1.31E-03
m	15	300.05	9.19E+01	52.33	1.65E-02	1.30E-03
	16	314.44	3.41E+01	40.50	1.60E-02	1.27E-03
	17	338.61	2.44E+02	57.79	1.52E-02	1.22E-03
	18	352.11	6.08E+02	76.51	1.48E-02	1.19E-03
	19	463.33	6.28E+01	53.58	1.21E-02	1.04E-03
	20	511.36	2.36E+02	51.56	1.12E-02	9.90E-04
	21	583.45	3.19E+02	53.34	1.02E-02	9.15E-04
	22	609.49	4.61E+02	60.42	9.82E-03	8.88E-04
	23	727.11	1.04E+02	43.16	8.56E-03	7.76E-04
	24	768.60	2.40E+01	30.71	8.19E-03	7.38E-04
	25	794.94	4.07E+01	30.27	7.97E-03	7.15E-04
	26	861.53	6.05E+01	31.44	7.48E-03	6.55E-04
	27	911.64	1.90E+02	43.81	7.15E-03	6.15E-04
	28	934.46	2.23E+01	23.80	7.01E-03	6.03E-04
	29	969.39	9.01E+01	43.10	6.80E-03	5.85E-04
M	30	1115.80	2.65E+01	15.22	6.09E-03	5.09E-04
m	31	1120.43	9.23E+01	24.70	6.07E-03	5.07E-04
	32	1212.11	2.53E+01	20.83	5.71E-03	4.72E-04
	33	1239.02	5.17E+01	35.41	5.61E-03	4.68E-04
M	34	1373.18	1.15E+01	7.35	5.20E-03	4.41E-04
m	35	1377.93	3.20E+01	16.06	5.18E-03	4.40E-04
	36	1410.41	2.57E+01	24.41	5.10E-03	4.32E-04
M	37	1456.14	1.87E+01	9.66	4.98E-03	4.20E-04
m	38	1461.26	8.45E+02	59.61	4.97E-03	4.19E-04
	39	1509.11	3.08E+01	20.90	4.86E-03	4.07E-04
	40	1620.37	1.70E+01	17.89	4.63E-03	3.80E-04
	41	1635.82	2.12E+01	18.00	4.61E-03	3.76E-04
	42	1730.59	2.83E+01	14.42	4.45E-03	3.52E-04
	43	1764.98	6.79E+01	19.29	4.40E-03	3.44E-04
	44	1847.29	2.16E+01	14.52	4.28E-03	3.26E-04
	45	1972.05	6.94E+00	7.21	4.14E-03	3.26E-04
	46	1982.30	7.00E+00	7.62	4.13E-03	3.26E-04
	47	2003.01	5.00E+00	7.07	4.11E-03	3.26E-04
	48	2026.81	7.69E+00	10.10	4.09E-03	3.26E-04
	49	2104.02	1.65E+01	10.58	4.02E-03	3.26E-04
	50	2118.12	1.00E+01	10.49	4.01E-03	3.26E-04
	51	2178.84	7.00E+00	5.29	3.97E-03	3.26E-04
	52	2204.31	2.14E+01	13.13	3.95E-03	3.26E-04
	53	2362.45	7.38E+00	9.80	3.86E-03	3.26E-04
	54	2614.84	1.15E+02	21.45	3.79E-03	3.26E-04

Analysis Report for 1510092-14
CP5001S13-14

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 : 11/11/2015 10:32:35AM

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	46.09	1.28E+02	82.40	4.50E+01	8.46E+00	8.31E+01	8.28E+01
M	2	74.94	4.39E+02	96.58	5.09E+00	4.37E+00	4.34E+02	9.67E+01
m	3	77.52	7.79E+02	104.44	9.75E+00	8.28E+00	7.70E+02	1.05E+02
M	4	84.70	1.68E+02	50.19	2.38E+00	8.92E+00	1.66E+02	5.10E+01
m	5	88.17	4.32E+02	110.02			4.32E+02	1.10E+02
m	6	92.98	4.35E+02	110.22	1.34E+02	9.83E+00	3.01E+02	1.11E+02
	7	99.60	6.35E+01	71.48			6.35E+01	7.15E+01
	8	186.15	2.38E+02	83.21	6.41E+01	7.38E+00	1.74E+02	8.35E+01
	9	209.64	7.29E+01	57.40			7.29E+01	5.74E+01
	10	220.61	5.50E+01	61.34			5.50E+01	6.13E+01
M	11	238.76	9.92E+02	76.49	2.34E+01	6.34E+00	9.69E+02	7.68E+01
m	12	241.94	3.22E+02	86.16			3.22E+02	8.62E+01
	13	270.14	1.11E+02	64.31			1.11E+02	6.43E+01
M	14	295.39	3.51E+02	51.98	4.17E+00	5.50E+00	3.47E+02	5.23E+01
m	15	300.05	9.19E+01	52.33			9.19E+01	5.23E+01
	16	314.44	3.41E+01	40.50			3.41E+01	4.05E+01
	17	338.61	2.44E+02	57.79	2.22E-01	4.54E+00	2.44E+02	5.80E+01
	18	352.11	6.08E+02	76.51	8.83E+00	4.91E+00	6.00E+02	7.67E+01
	19	463.33	6.28E+01	53.58			6.28E+01	5.36E+01
	20	511.36	2.36E+02	51.56	8.12E+01	5.49E+00	1.55E+02	5.19E+01
	21	583.45	3.19E+02	53.34	6.34E+00	3.74E+00	3.13E+02	5.35E+01
	22	609.49	4.61E+02	60.42	5.20E+00	3.69E+00	4.55E+02	6.05E+01
	23	727.11	1.04E+02	43.16			1.04E+02	4.32E+01
	24	768.60	2.40E+01	30.71			2.40E+01	3.07E+01
	25	794.94	4.07E+01	30.27			4.07E+01	3.03E+01
	26	861.53	6.05E+01	31.44			6.05E+01	3.14E+01
	27	911.64	1.90E+02	43.81	3.28E+00	2.53E+00	1.86E+02	4.39E+01
	28	934.46	2.23E+01	23.80			2.23E+01	2.38E+01
	29	969.39	9.01E+01	43.10			9.01E+01	4.31E+01
M	30	1115.80	2.65E+01	15.22			2.65E+01	1.52E+01
m	31	1120.43	9.23E+01	24.70	2.28E+00	2.55E+00	9.00E+01	2.48E+01
	32	1212.11	2.53E+01	20.83			2.53E+01	2.08E+01
	33	1239.02	5.17E+01	35.41			5.17E+01	3.54E+01
M	34	1373.18	1.15E+01	7.35			1.15E+01	7.35E+00
m	35	1377.93	3.20E+01	16.06			3.20E+01	1.61E+01

Analysis Report for 1510092-14

CP5001S13-14

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	36	1410.41	2.57E+01	24.41		2.57E+01	2.44E+01
	37	1456.14	1.87E+01	9.66		1.87E+01	9.66E+00
m	38	1461.26	8.45E+02	59.61	6.46E+00	2.33E+00	8.39E+02
	39	1509.11	3.08E+01	20.90		3.08E+01	2.09E+01
	40	1620.37	1.70E+01	17.89		1.70E+01	1.79E+01
	41	1635.82	2.12E+01	18.00		2.12E+01	1.80E+01
	42	1730.59	2.83E+01	14.42		2.83E+01	1.44E+01
	43	1764.98	6.79E+01	19.29		6.79E+01	1.93E+01
	44	1847.29	2.16E+01	14.52		2.16E+01	1.45E+01
	45	1972.05	6.94E+00	7.21		6.94E+00	7.21E+00
	46	1982.30	7.00E+00	7.62		7.00E+00	7.62E+00
	47	2003.01	5.00E+00	7.07		5.00E+00	7.07E+00
	48	2026.81	7.69E+00	10.10		7.69E+00	1.01E+01
	49	2104.02	1.65E+01	10.58		1.65E+01	1.06E+01
	50	2118.12	1.00E+01	10.49		1.00E+01	1.05E+01
	51	2178.84	7.00E+00	5.29		7.00E+00	5.29E+00
	52	2204.31	2.14E+01	13.13		2.14E+01	1.31E+01
	53	2362.45	7.38E+00	9.80		7.38E+00	9.80E+00
	54	2614.84	1.15E+02	21.45	3.47E+00	1.48E+00	1.12E+02

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 : 11/11/2015 10:32:35AM

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	46.09	1.28E+02	82.40	4.50E+01	8.46E+00	8.31E+01
M	2	74.94	4.39E+02	96.58	5.09E+00	4.37E+00	4.34E+02
m	3	77.52	7.79E+02	104.44	9.75E+00	8.28E+00	7.70E+02
M	4	84.70	1.68E+02	50.19	2.38E+00	8.92E+00	1.66E+02
m	5	88.17	4.32E+02	110.02			4.32E+02
m	6	92.98	4.35E+02	110.22	1.34E+02	9.83E+00	3.01E+02
	7	99.60	6.35E+01	71.48			6.35E+01
	8	186.15	2.38E+02	83.21	6.41E+01	7.38E+00	1.74E+02
	9	209.64	7.29E+01	57.40			7.29E+01

: 00796

Analysis Report for 1510092-14

CP5001S13-14

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	10	220.61	5.50E+01	61.34			5.50E+01	6.13E+01
M	11	238.76	9.92E+02	76.49	2.34E+01	6.34E+00	9.69E+02	7.68E+01
m	12	241.94	3.22E+02	86.16			3.22E+02	8.62E+01
	13	270.14	1.11E+02	64.31			1.11E+02	6.43E+01
M	14	295.39	3.51E+02	51.98	4.17E+00	5.50E+00	3.47E+02	5.23E+01
m	15	300.05	9.19E+01	52.33			9.19E+01	5.23E+01
	16	314.44	3.41E+01	40.50			3.41E+01	4.05E+01
	17	338.61	2.44E+02	57.79	2.22E-01	4.54E+00	2.44E+02	5.80E+01
	18	352.11	6.08E+02	76.51	8.83E+00	4.91E+00	6.00E+02	7.67E+01
	19	463.33	6.28E+01	53.58			6.28E+01	5.36E+01
	20	511.36	2.36E+02	51.56	8.12E+01	5.49E+00	1.55E+02	5.19E+01
	21	583.45	3.19E+02	53.34	6.34E+00	3.74E+00	3.13E+02	5.35E+01
	22	609.49	4.61E+02	60.42	5.20E+00	3.69E+00	4.55E+02	6.05E+01
	23	727.11	1.04E+02	43.16			1.04E+02	4.32E+01
	24	768.60	2.40E+01	30.71			2.40E+01	3.07E+01
	25	794.94	4.07E+01	30.27			4.07E+01	3.03E+01
	26	861.53	6.05E+01	31.44			6.05E+01	3.14E+01
	27	911.64	1.90E+02	43.81	3.28E+00	2.53E+00	1.86E+02	4.39E+01
	28	934.46	2.23E+01	23.80			2.23E+01	2.38E+01
	29	969.39	9.01E+01	43.10			9.01E+01	4.31E+01
M	30	1115.80	2.65E+01	15.22			2.65E+01	1.52E+01
m	31	1120.43	9.23E+01	24.70	2.28E+00	2.55E+00	9.00E+01	2.48E+01
	32	1212.11	2.53E+01	20.83			2.53E+01	2.08E+01
	33	1239.02	5.17E+01	35.41			5.17E+01	3.54E+01
M	34	1373.18	1.15E+01	7.35			1.15E+01	7.35E+00
m	35	1377.93	3.20E+01	16.06			3.20E+01	1.61E+01
	36	1410.41	2.57E+01	24.41			2.57E+01	2.44E+01
M	37	1456.14	1.87E+01	9.66			1.87E+01	9.66E+00
m	38	1461.26	8.45E+02	59.61	6.46E+00	2.33E+00	8.39E+02	5.97E+01
	39	1509.11	3.08E+01	20.90			3.08E+01	2.09E+01
	40	1620.37	1.70E+01	17.89			1.70E+01	1.79E+01
	41	1635.82	2.12E+01	18.00			2.12E+01	1.80E+01
	42	1730.59	2.83E+01	14.42			2.83E+01	1.44E+01
	43	1764.98	6.79E+01	19.29			6.79E+01	1.93E+01
	44	1847.29	2.16E+01	14.52			2.16E+01	1.45E+01
	45	1972.05	6.94E+00	7.21			6.94E+00	7.21E+00
	46	1982.30	7.00E+00	7.62			7.00E+00	7.62E+00
	47	2003.01	5.00E+00	7.07			5.00E+00	7.07E+00
	48	2026.81	7.69E+00	10.10			7.69E+00	1.01E+01
	49	2104.02	1.65E+01	10.58			1.65E+01	1.06E+01
	50	2118.12	1.00E+01	10.49			1.00E+01	1.05E+01
	51	2178.84	7.00E+00	5.29			7.00E+00	5.29E+00
	52	2204.31	2.14E+01	13.13			2.14E+01	1.31E+01
	53	2362.45	7.38E+00	9.80			7.38E+00	9.80E+00
	54	2614.84	1.15E+02	21.45	3.47E+00	1.48E+00	1.12E+02	2.15E+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 1510092-14
CP5001S13-14

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	0.968	1460.81 *	10.67	2.25E+01	2.52E+00
ZN-65	0.988	1115.52 *	50.75	1.34E-01	7.75E-02
GA-67	0.595	93.31 *	35.70	4.43E+02	1.96E+03
		208.95 *	2.24	2.34E+03	1.01E+04
		300.22 *	16.00	5.21E+02	2.32E+03
CD-109	0.997	88.03 *	3.72	6.07E+00	1.69E+00
SN-126	0.944	87.57 *	37.00	5.81E-01	1.58E-01
TL-208	0.881	583.14 *	30.22	1.44E+00	2.79E-01
		860.37 *	4.48		
		2614.66 *	35.85	1.16E+00	2.46E-01
PB-210	0.974	46.50 *	4.25	1.68E+00	1.69E+00
BI-212	0.998	727.17 *	11.80	1.47E+00	6.21E-01
		1620.62 *	2.75	1.89E+00	2.00E+00
PB-212	0.998	238.63 *	44.60	1.60E+00	1.87E-01
		300.09 *	3.41	2.32E+00	1.33E+00
BI-214	0.989	609.31 *	46.30	1.42E+00	2.28E-01
		1120.29 *	15.10	1.39E+00	4.02E-01
		1764.49 *	15.80	1.39E+00	4.09E-01
		2204.22 *	4.98	1.54E+00	9.56E-01
PB-214	0.995	295.21 *	19.19	1.54E+00	2.61E-01
		351.92 *	37.19	1.55E+00	2.34E-01
RA-224	0.863	240.98 *	3.95	6.06E+00	1.70E+00
RA-226	0.999	186.21 *	3.28	3.36E+00	6.36E+00
AC-228	0.968	338.32 *	11.40	2.00E+00	5.02E-01
		911.07 *	27.70	1.34E+00	3.35E-01
		969.11 *	16.60	1.13E+00	5.50E-01
TH-231	0.367	25.64 *	14.70		
		84.21 *	6.40	1.29E+00	4.16E-01
AM-243	0.989	74.67 *	66.00	3.40E-01	8.08E-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

Analysis Report for 1510092-14
CP5001S13-14

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 10:32:35AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m 3	77.52	2.13796E-01	6.81	Tol.	TI-44
7	99.60	1.76487E-02	56.25		
10	220.61	1.52778E-02	55.76		
13	270.14	3.08670E-02	28.94	Sum	
16	314.44	9.46697E-03	59.41	Sum	
19	463.33	1.74543E-02	42.64	Tol.	SB-125
20	511.36	4.31085E-02	16.71		
24	768.60	6.66667E-03	63.98	Sum	
25	794.94	1.13009E-02	37.20	Sum	
26	861.53	1.67955E-02	26.00		
28	934.46	6.20086E-03	53.30		
32	1212.11	7.02919E-03	41.16	Sum	
33	1239.02	1.43607E-02	34.25		
M 34	1373.18	3.20008E-03	31.89		
m 35	1377.93	8.89026E-03	25.09		
36	1410.41	7.15142E-03	47.41	Sum	
M 37	1456.14	5.18160E-03	25.88		
39	1509.11	8.54456E-03	33.98		
41	1635.82	5.89646E-03	42.40		
42	1730.59	7.87037E-03	25.45	Sum	
44	1847.29	5.99074E-03	33.66	Sum	
45	1972.05	1.92901E-03	51.92	Sum	
46	1982.30	1.94444E-03	54.40		
47	2003.01	1.38889E-03	70.71	Sum	
48	2026.81	2.13675E-03	65.65	Sum	
49	2104.02	4.59722E-03	31.97	S-Esc	
50	2118.12	2.77778E-03	52.44		
51	2178.84	1.94444E-03	37.80		
53	2362.45	2.04861E-03	66.43		

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 1510092-14
CP5001S13-14

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	2.25E+01	2.52E+00
ZN-65	0.98	1115.52	*	50.75	1.34E-01	7.75E-02
GA-67	0.59	93.31	*	35.70	4.43E+02	1.96E+03
		208.95	*	2.24	2.34E+03	1.01E+04
		300.22	*	16.00	5.21E+02	2.32E+03
CD-109	0.99	88.03	*	3.72	6.07E+00	1.69E+00
SN-126	0.94	87.57	*	37.00	5.81E-01	1.58E-01
TL-208	0.88	583.14	*	30.22	1.44E+00	2.79E-01
		860.37		4.48		
PB-210	0.97	2614.66	*	35.85	1.16E+00	2.46E-01
		46.50	*	4.25	1.68E+00	1.69E+00
BI-212	0.99	727.17	*	11.80	1.47E+00	6.21E-01
		1620.62	*	2.75	1.89E+00	2.00E+00
PB-212	0.99	238.63	*	44.60	1.60E+00	1.87E-01
		300.09	*	3.41	2.32E+00	1.33E+00
BI-214	0.98	609.31	*	46.30	1.42E+00	2.28E-01
		1120.29	*	15.10	1.39E+00	4.02E-01
		1764.49	*	15.80	1.39E+00	4.09E-01
		2204.22	*	4.98	1.54E+00	9.56E-01
PB-214	0.99	295.21	*	19.19	1.54E+00	2.61E-01
		351.92	*	37.19	1.55E+00	2.34E-01
RA-224	0.86	240.98	*	3.95	6.06E+00	1.70E+00
RA-226	0.99	186.21	*	3.28	3.36E+00	6.36E+00
AC-228	0.96	338.32	*	11.40	2.00E+00	5.02E-01
		911.07	*	27.70	1.34E+00	3.35E-01
		969.11	*	16.60	1.13E+00	5.50E-01
TH-231	0.36	25.64		14.70		
		84.21	*	6.40	1.29E+00	4.16E-01
AM-243	0.98	74.67	*	66.00	3.40E-01	8.08E-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

Analysis Report for 1510092-14
CP5001S13-14

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.968	2.25E+01	2.52E+00	
ZN-65	0.988	1.34E-01	7.75E-02	
GA-67	0.595	3.88E+02	1.66E+03	
? CD-109	0.997	6.07E+00	1.69E+00	
? SN-126	0.944	5.81E-01	1.58E-01	
TL-208	0.881	1.29E+00	1.84E-01	
PB-210	0.974	1.68E+00	1.69E+00	
BI-212	0.998	1.51E+00	5.93E-01	
PB-212	0.998	1.58E+00	1.85E-01	
BI-214	0.989	1.41E+00	1.76E-01	
PB-214	0.995	1.54E+00	1.74E-01	
RA-224	0.863	6.06E+00	1.70E+00	
RA-226	0.999	3.36E+00	6.36E+00	
AC-228	0.968	1.46E+00	2.49E-01	
TH-231	0.367	1.29E+00	4.16E-01	
AM-243	0.989	3.40E-01	8.08E-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 1510092-14
CP5001S13-14

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 10:32:35AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m 3	77.52	2.13796E-01	6.81	Tol.	TI-44
7	99.60	1.76487E-02	56.25		
10	220.61	1.52778E-02	55.76		
13	270.14	3.08670E-02	28.94	Sum	
16	314.44	9.46697E-03	59.41	Sum	
19	463.33	1.74543E-02	42.64	Tol.	SB-125
20	511.36	4.31085E-02	16.71		
24	768.60	6.66667E-03	63.98	Sum	
25	794.94	1.13009E-02	37.20	Sum	
26	861.53	1.67955E-02	26.00		
28	934.46	6.20086E-03	53.30		
32	1212.11	7.02919E-03	41.16	Sum	
33	1239.02	1.43607E-02	34.25		
M 34	1373.18	3.20008E-03	31.89		
m 35	1377.93	8.89026E-03	25.09		
36	1410.41	7.15142E-03	47.41	Sum	
M 37	1456.14	5.18160E-03	25.88		
39	1509.11	8.54456E-03	33.98		
41	1635.82	5.89646E-03	42.40		
42	1730.59	7.87037E-03	25.45	Sum	
44	1847.29	5.99074E-03	33.66	Sum	
45	1972.05	1.92901E-03	51.92	Sum	
46	1982.30	1.94444E-03	54.40		
47	2003.01	1.38889E-03	70.71	Sum	
48	2026.81	2.13675E-03	65.65	Sum	
49	2104.02	4.59722E-03	31.97	S-Esc	
50	2118.12	2.77778E-03	52.44		
51	2178.84	1.94444E-03	37.80		
53	2362.45	2.04861E-03	66.43		

Analysis Report for 1510092-14
CP5001S13-14

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.00sigma

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	6.55E-01	9.26E-01	9.26E-01
+	NA-22	1274.54	99.94	6.62E-03	8.60E-02	8.60E-02
+	NA-24	1368.53	99.99	-1.94E+13	2.92E+14	3.81E+14
		2754.09	99.86	1.12E+14		2.92E+14
+	AL-26	1808.65	99.76	-1.15E-02	4.93E-02	4.93E-02
+	K-40	1460.81	* 10.67	2.25E+01	1.65E+00	1.65E+00
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	2.19E-02	7.22E-02	7.22E-02
		78.34	96.00	2.90E-01		9.48E-02
+	SC-46	889.25	99.98	-3.46E-02	9.01E-02	9.01E-02
		1120.51	99.99	1.91E-01		1.69E-01
+	V-48	983.52	99.98	-1.63E-01	2.87E-01	2.87E-01
		1312.10	97.50	-2.19E-01		2.91E-01
+	CR-51	320.08	9.83	-1.16E-01	1.23E+00	1.23E+00
+	MN-54	834.83	99.97	9.45E-04	8.77E-02	8.77E-02
+	CO-56	846.75	99.96	4.90E-03	8.90E-02	8.90E-02
		1037.75	14.03	4.35E-01		8.24E-01
		1238.25	67.00	2.37E-01		2.51E-01
		1771.40	15.51	-2.78E-02		3.92E-01
		2598.48	16.90	-3.93E-02		2.17E-01
+	CO-57	122.06	85.51	6.16E-03	6.30E-02	6.30E-02
		136.48	10.60	-2.02E-01		5.14E-01
+	CO-58	810.76	99.40	-2.06E-02	1.01E-01	1.01E-01
+	FE-59	1099.22	56.50	-1.52E-01	2.65E-01	2.65E-01
		1291.56	43.20	8.48E-02		3.23E-01
+	CO-60	1173.22	100.00	8.10E-03	7.27E-02	9.51E-02
		1332.49	100.00	1.06E-02		7.27E-02
+	ZN-65	1115.52	* 50.75	1.34E-01	2.22E-01	2.22E-01
+	GA-67	93.31	* 35.70	4.43E+02	4.01E+02	4.01E+02
		208.95	* 2.24	2.34E+03		2.98E+03
		300.22	* 16.00	5.21E+02		6.85E+02
+	SE-75	121.11	16.70	-1.88E-01	9.89E-02	3.50E-01

Analysis Report for 1510092-14
CP5001S13-14

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)	
	SE-75	136.00	59.20	-6.72E-02	9.89E-02	1.00E-01
		264.65	59.80	-2.06E-02		9.89E-02
		279.53	25.20	4.75E-02		2.81E-01
		400.65	11.40	2.38E-01		5.78E-01
+	RB-82	776.52	13.00	-2.08E-01	1.23E+00	1.23E+00
+	RB-83	520.41	46.00	5.34E-02	1.85E-01	1.85E-01
		529.64	30.30	3.59E-02		2.68E-01
		552.65	16.40	-3.15E-01		4.74E-01
+	KR-85	513.99	0.43	3.65E+01	2.23E+01	2.23E+01
+	SR-85	513.99	99.27	2.25E-01	1.37E-01	1.37E-01
+	Y-88	898.02	93.40	-4.66E-02	6.17E-02	9.43E-02
		1836.01	99.38	-1.47E-03		6.17E-02
+	NB-93M	16.57	9.43	-9.07E+01	7.26E+01	7.26E+01
+	NB-94	702.63	100.00	2.37E-02	7.07E-02	7.60E-02
		871.10	100.00	-8.09E-03		7.07E-02
+	NB-95	765.79	99.81	2.92E-02	1.69E-01	1.69E-01
+	NB-95M	235.69	25.00	-1.23E+03	1.45E+02	1.45E+02
+	ZR-95	724.18	43.70	-9.80E-02	1.75E-01	2.84E-01
		756.72	55.30	-9.31E-02		1.75E-01
+	MO-99	181.06	6.20	-6.60E+02	2.07E+03	3.48E+03
		739.58	12.80	-6.30E+02		2.07E+03
		778.00	4.50	-4.15E+03		5.41E+03
+	RU-103	497.08	89.00	1.64E-03	1.21E-01	1.21E-01
+	RU-106	621.84	9.80	9.03E-02	6.63E-01	6.63E-01
+	AG-108M	433.93	89.90	-1.55E-02	6.24E-02	6.24E-02
		614.37	90.40	-6.51E-03		7.29E-02
		722.95	90.50	0.00E+00		8.04E-02
+	CD-109	88.03	* 3.72	6.07E+00	3.80E+00	3.80E+00
+	AG-110M	657.75	93.14	-2.64E-03	8.44E-02	8.44E-02
		677.61	10.53	1.55E-01		7.36E-01
		706.67	16.46	1.91E-01		4.97E-01
		763.93	21.98	1.55E-01		3.67E-01
		884.67	71.63	-4.29E-02		1.04E-01
		1384.27	23.94	1.63E-01		2.82E-01
+	CD-113M	263.70	0.02	1.67E+01	2.19E+02	2.19E+02
+	SN-113	255.12	1.93	6.73E-01	9.72E-02	3.50E+00
		391.69	64.90	-3.52E-02		9.72E-02
+	TE123M	159.00	84.10	2.19E-02	7.66E-02	7.66E-02
+	SB-124	602.71	97.87	2.89E-02	1.07E-01	1.07E-01
		645.85	7.26	8.20E-01		1.43E+00
		722.78	11.10	0.00E+00		9.55E-01
		1691.02	49.00	2.30E-02		1.70E-01
+	I-125	35.49	6.49	5.80E-01	3.34E+00	3.34E+00
+	SB-125	176.33	6.89	-2.55E-01	2.09E-01	7.75E-01
		427.89	29.33	-1.17E-02		2.09E-01
		463.38	10.35	8.80E-01		7.88E-01
		600.56	17.80	2.59E-01		4.17E-01
		635.90	11.32	2.79E-01		6.51E-01

Analysis Report for 1510092-14
CP5001S13-14

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	SB-126	414.70	83.30	-1.12E-01	4.47E-01	4.98E-01
		666.33	99.60	1.10E-01		4.86E-01
		695.00	99.60	-2.71E-02		4.47E-01
		720.50	53.80	1.54E-01		8.36E-01
+	SN-126	87.57	* 37.00	5.81E-01	3.64E-01	3.64E-01
+	SB-127	473.00	25.00	-2.41E+01	6.39E+01	8.41E+01
		685.20	35.70	-5.85E+01		6.39E+01
		783.80	14.70	5.88E+01		1.85E+02
+	I-129	29.78	57.00	-2.48E-01	4.93E-01	4.93E-01
		33.60	13.20	-1.17E-01		1.35E+00
		39.58	7.52	-9.47E-01		1.41E+00
+	I-131	284.30	6.05	-8.91E+00	1.08E+00	1.45E+01
		364.48	81.20	-8.14E-02		1.08E+00
		636.97	7.26	6.07E+00		1.69E+01
		722.89	1.80	0.00E+00		6.80E+01
+	TE-132	49.72	13.10	1.86E+01	6.72E+01	6.35E+02
		228.16	88.00	2.98E+01		6.72E+01
+	BA-133	81.00	33.00	-8.67E-01	9.32E-02	1.84E-01
		302.84	17.80	-1.61E-02		3.23E-01
		356.01	60.00	-7.76E-01		9.32E-02
+	I-133	529.87	86.30	2.30E+09	1.72E+10	1.72E+10
+	XE-133	81.00	38.00	-5.68E+01	1.21E+01	1.21E+01
+	CS-134	563.23	8.38	-1.35E-01	8.26E-02	7.95E-01
		569.32	15.43	3.98E-02		4.22E-01
		604.70	97.60	9.43E-03		8.26E-02
		795.84	85.40	2.69E-02		9.86E-02
		801.93	8.73	-1.97E-01		8.63E-01
+	CS-135	268.24	16.00	3.11E-01	3.76E-01	3.76E-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	-8.04E-01	4.04E-01	4.01E+00
		163.89	4.61	-2.45E+00		6.08E+00
		176.55	13.56	-7.10E-01		2.16E+00
		273.65	12.66	-1.67E+00		2.38E+00
		340.57	48.50	1.15E+00		8.83E-01
		818.50	99.70	1.77E-01		4.04E-01
		1048.07	79.60	-1.38E-01		5.62E-01
		1235.34	19.70	3.76E-01		3.15E+00
+	CS-137	661.65	85.12	2.10E-02	9.17E-02	9.17E-02
+	LA-138	788.74	34.00	1.81E-02	1.03E-01	2.25E-01
		1435.80	66.00	-1.20E-02		1.03E-01
+	CE-139	165.85	80.35	2.06E-02	7.55E-02	7.55E-02
+	BA-140	162.64	6.70	1.40E+00	1.38E+00	4.46E+00
		304.84	4.50	1.24E+00		6.95E+00
		423.70	3.20	3.14E+00		1.19E+01
		437.55	2.00	1.73E+00		1.84E+01
		537.32	25.00	-8.44E-01		1.38E+00
+	LA-140	328.77	20.50	9.00E-01	4.41E-01	1.74E+00

Analysis Report for 1510092-14
CP5001S13-14

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
LA-140	487.03	45.50	1.65E-01	4.41E-01	7.85E-01
	815.85	23.50	5.43E-01		1.86E+00
	1596.49	95.49	1.46E-01		4.41E-01
+ CE-141	145.44	48.40	5.03E-02	2.25E-01	2.25E-01
+ CE-143	57.36	11.80	-7.40E+06	3.06E+06	8.71E+06
	293.26	42.00	8.34E+06		3.06E+06
	664.55	5.20	7.19E+06		2.25E+07
+ CE-144	133.54	10.80	-1.93E-01	4.94E-01	4.94E-01
+ PM-144	476.78	42.00	5.08E-02	6.82E-02	1.56E-01
	618.01	98.60	7.03E-03		6.82E-02
	696.49	99.49	-3.57E-02		7.28E-02
+ PM-145	36.85	21.70	-1.15E-01	3.15E-01	6.01E-01
	37.36	39.70	-5.35E-02		3.15E-01
	42.30	15.10	-9.92E-02		6.44E-01
	72.40	2.31	-3.36E+00		3.44E+00
+ PM-146	453.90	39.94	-8.25E-03	1.55E-01	1.55E-01
	735.90	14.01	-3.31E-01		4.79E-01
	747.13	13.10	1.96E-02		5.63E-01
+ ND-147	91.11	28.90	-4.06E+00	1.98E+00	1.98E+00
	531.02	13.10	1.87E+00		3.82E+00
+ PM-149	285.90	3.10	-3.49E+04	4.70E+04	4.70E+04
+ EU-152	121.78	20.50	2.37E-02	2.42E-01	2.42E-01
	244.69	5.40	-9.13E-02		1.14E+00
	344.27	19.13	7.63E-03		2.90E-01
	778.89	9.20	-3.79E-01		7.06E-01
	964.01	10.40	1.13E-01		8.99E-01
	1085.78	7.22	-5.97E-01		1.14E+00
	1112.02	9.60	2.07E-01		8.00E-01
	1407.95	14.94	2.45E-01		5.43E-01
+ GD-153	97.43	31.30	3.17E-02	1.88E-01	1.88E-01
	103.18	22.20	6.17E-02		2.36E-01
+ EU-154	123.07	40.50	-6.69E-04	1.23E-01	1.23E-01
	723.30	19.70	0.00E+00		3.72E-01
	873.19	11.50	2.71E-01		6.31E-01
	996.32	10.30	1.31E-01		7.89E-01
	1004.76	17.90	-1.11E-01		4.05E-01
	1274.45	35.50	1.83E-02		2.38E-01
+ EU-155	86.50	30.90	-8.26E-02	2.27E-01	2.27E-01
	105.30	20.70	7.96E-02		2.42E-01
+ EU-156	811.77	10.40	-3.84E-01	3.12E+00	3.12E+00
	1153.47	7.20	9.83E-01		5.65E+00
	1230.71	8.90	6.71E-01		4.84E+00
+ HO-166M	184.41	72.60	1.69E-01	9.57E-02	9.57E-02
	280.45	29.60	-1.52E-02		1.94E-01
	410.94	11.10	4.20E-02		6.27E-01
	711.69	54.10	-6.63E-02		1.19E-01
+ TM-171	66.72	0.14	-1.02E+02	5.06E+01	5.06E+01
+ HF-172	81.75	4.52	-1.14E+00	4.61E-01	1.38E+00
	125.81	11.30	-3.18E-01		4.61E-01

Analysis Report for 1510092-14
CP5001S13-14

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)	
+	LU-172	181.53	20.60	-1.58E+00	4.34E+00	8.06E+00
		810.06	16.63	3.31E-01		1.35E+01
		912.12	15.25	7.19E+01		2.88E+01
		1093.66	62.50	-9.20E-01		4.34E+00
+	LU-173	100.72	5.24	2.87E-01	3.08E-01	1.00E+00
		272.11	21.20	3.75E-01		3.08E-01
+	HF-175	343.40	84.00	4.25E-03	8.70E-02	8.70E-02
+	LU-176	88.34	13.30	1.06E+00	5.67E-02	5.50E-01
		201.83	86.00	-4.36E-02		6.28E-02
		306.78	94.00	1.08E-02		5.67E-02
+	TA-182	67.75	41.20	6.11E-02	2.02E-01	2.02E-01
		1121.30	34.90	6.57E-01		4.53E-01
		1189.05	16.23	1.70E-01		7.56E-01
		1221.41	26.98	-4.72E-02		4.35E-01
		1231.02	11.44	1.43E-01		1.03E+00
+	IR-192	308.46	29.68	-7.12E-02	1.77E-01	2.31E-01
		468.07	48.10	1.69E-02		1.77E-01
+	HG-203	279.19	77.30	1.16E-01	1.31E-01	1.31E-01
+	BI-207	569.67	97.72	-8.99E-03	6.37E-02	6.37E-02
		1063.62	74.90	2.32E-02		1.07E-01
+	TL-208	583.14	* 30.22	1.44E+00	9.70E-02	3.17E-01
		860.37	4.48	1.28E+00		1.83E+00
		2614.66	* 35.85	1.16E+00		9.70E-02
+	BI-210M	262.00	45.00	3.98E-02	1.18E-01	1.18E-01
		300.00	23.00	-4.75E-01		2.74E-01
+	PB-210	46.50	* 4.25	1.68E+00	2.75E+00	2.75E+00
+	PB-211	404.84	2.90	-9.42E-01	1.73E+00	1.73E+00
		831.96	2.90	-4.98E-02		2.75E+00
		727.17	* 11.80	1.47E+00	9.17E-01	9.17E-01
+	BI-212	1620.62	* 2.75	1.89E+00		3.21E+00
	PB-212	238.63	* 44.60	1.60E+00	2.73E-01	2.73E-01
+		300.09	* 3.41	2.32E+00		3.05E+00
	BI-214	609.31	* 46.30	1.42E+00	2.29E-01	2.29E-01
+		1120.29	* 15.10	1.39E+00		7.13E-01
		1764.49	* 15.80	1.39E+00		3.92E-01
		2204.22	* 4.98	1.54E+00		1.30E+00
	PB-214	295.21	* 19.19	1.54E+00	2.58E-01	5.26E-01
+		351.92	* 37.19	1.55E+00		2.58E-01
	RN-219	401.80	6.50	-9.02E-02	8.15E-01	8.15E-01
+	RA-223	323.87	3.88	-5.43E-01	1.41E+00	1.41E+00
+	RA-224	240.98	* 3.95	6.06E+00	3.12E+00	3.12E+00
+	RA-225	40.00	31.00	-1.04E+00	1.55E+00	1.55E+00
+	RA-226	186.21	* 3.28	3.36E+00	2.57E+00	2.57E+00
+	TH-227	50.10	8.40	2.70E-02	5.86E-01	9.22E-01
		236.00	11.50	-4.95E+00		5.86E-01
		256.20	6.30	3.75E-01		8.95E-01
	AC-228	338.32	* 11.40	2.00E+00	4.24E-01	6.81E-01
	911.07	* 27.70	1.34E+00		4.24E-01	

Analysis Report for 1510092-14
 CP5001S13-14

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	AC-228	969.11	*	16.60	1.13E+00	4.24E-01	8.34E-01
+	TH-230	48.44		16.90	4.47E-02	5.21E-01	5.21E-01
		62.85		4.60	1.96E+00		1.72E+00
		67.67		0.37	5.59E+00		1.84E+01
+	PA-231	283.67		1.60	-7.14E-01	2.48E+00	3.24E+00
		302.67		2.30	-1.24E-01		2.48E+00
+	TH-231	25.64		14.70	7.77E-01	2.04E+00	4.14E+00
		84.21	*	6.40	1.29E+00		2.04E+00
+	PA-233	311.98		38.60	8.93E-03	3.14E-01	3.14E-01
+	PA-234	131.20		20.40	5.32E-02	2.56E-01	2.56E-01
		733.99		8.80	8.91E-03		8.22E-01
		946.00		12.00	-1.63E-01		5.72E-01
+	PA-234M	1001.03		0.92	2.95E+00	9.22E+00	9.22E+00
+	TH-234	63.29		3.80	1.57E+00	2.04E+00	2.04E+00
+	U-235	143.76		10.50	2.42E-01	5.13E-01	5.13E-01
		163.35		4.70	-4.27E-01		1.06E+00
		205.31		4.70	6.61E-01		1.15E+00
+	NP-237	86.50		12.60	-2.00E-01	5.49E-01	5.49E-01
+	NP-239	106.10		22.70	1.10E+03	3.35E+03	3.35E+03
		228.18		10.70	3.55E+03		8.00E+03
		277.60		14.10	5.29E+03		6.62E+03
+	AM-241	59.54		35.90	-1.42E-02	2.05E-01	2.05E-01
+	AM-243	74.67	*	66.00	3.40E-01	1.92E-01	1.92E-01
+	CM-243	209.75		3.29	2.20E+00	4.35E-01	1.81E+00
		228.14		10.60	2.34E-01		5.27E-01
		277.60		14.00	3.47E-01		4.35E-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

Analysis Report for 1510092-14
CP5001S13-14

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	9.26E-01	9.26E-01	6.55E-01	4.39E-01
NA-22	1274.54	99.94	8.60E-02	8.60E-02	6.62E-03	3.94E-02
NA-24	1368.53	99.99	3.81E+14	2.92E+14	-1.94E+13	1.68E+14
	2754.09	99.86	2.92E+14		1.12E+14	1.16E+14
AL-26	1808.65	99.76	4.93E-02	4.93E-02	-1.15E-02	2.02E-02
+ K-40	1460.81	* 10.67	1.65E+00	1.65E+00	2.25E+01	7.89E-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	7.22E-02	7.22E-02	2.19E-02	3.53E-02
	78.34	96.00	9.48E-02		2.90E-01	4.67E-02
SC-46	889.25	99.98	9.01E-02	9.01E-02	-3.46E-02	4.16E-02
	1120.51	99.99	1.69E-01		1.91E-01	8.01E-02
V-48	983.52	99.98	2.87E-01	2.87E-01	-1.63E-01	1.32E-01
	1312.10	97.50	2.91E-01		-2.19E-01	1.31E-01
CR-51	320.08	9.83	1.23E+00	1.23E+00	-1.16E-01	5.89E-01
MN-54	834.83	99.97	8.77E-02	8.77E-02	9.45E-04	4.12E-02
CO-56	846.75	99.96	8.90E-02	8.90E-02	4.90E-03	4.11E-02
	1037.75	14.03	8.24E-01		4.35E-01	3.84E-01
	1238.25	67.00	2.51E-01		2.37E-01	1.19E-01
	1771.40	15.51	3.92E-01		-2.78E-02	1.59E-01
	2598.48	16.90	2.17E-01		-3.93E-02	6.86E-02
CO-57	122.06	85.51	6.30E-02	6.30E-02	6.16E-03	3.06E-02
	136.48	10.60	5.14E-01		-2.02E-01	2.50E-01
CO-58	810.76	99.40	1.01E-01	1.01E-01	-2.06E-02	4.70E-02
FE-59	1099.22	56.50	2.65E-01	2.65E-01	-1.52E-01	1.23E-01
	1291.56	43.20	3.23E-01		8.48E-02	1.48E-01
CO-60	1173.22	100.00	9.51E-02	7.27E-02	8.10E-03	4.42E-02
	1332.49	100.00	7.27E-02		1.06E-02	3.27E-02
+ ZN-65	1115.52	* 50.75	2.22E-01	2.22E-01	1.34E-01	1.04E-01
+ GA-67	93.31	* 35.70	4.01E+02	4.01E+02	4.43E+02	1.98E+02
	208.95	* 2.24	2.98E+03		2.34E+03	1.44E+03
	300.22	* 16.00	6.85E+02		5.21E+02	3.35E+02
SE-75	121.11	16.70	3.50E-01	9.89E-02	-1.88E-01	1.70E-01
	136.00	59.20	1.00E-01		-6.72E-02	4.86E-02
	264.65	59.80	9.89E-02		-2.06E-02	4.73E-02
	279.53	25.20	2.81E-01		4.75E-02	1.35E-01
	400.65	11.40	5.78E-01		2.38E-01	2.74E-01
RB-82	776.52	13.00	1.23E+00	1.23E+00	-2.08E-01	5.69E-01
RB-83	520.41	46.00	1.85E-01	1.85E-01	5.34E-02	8.75E-02
	529.64	30.30	2.68E-01		3.59E-02	1.26E-01
	552.65	16.40	4.74E-01		-3.15E-01	2.23E-01
KR-85	513.99	0.43	2.23E+01	2.23E+01	3.65E+01	1.07E+01
SR-85	513.99	99.27	1.37E-01	1.37E-01	2.25E-01	6.63E-02
Y-88	898.02	93.40	9.43E-02	6.17E-02	-4.66E-02	4.36E-02
	1836.01	99.38	6.17E-02		-1.47E-03	2.53E-02
NB-93M	16.57	9.43	7.26E+01	7.26E+01	-9.07E+01	3.38E+01
NB-94	702.63	100.00	7.60E-02	7.07E-02	2.37E-02	3.58E-02
	871.10	100.00	7.07E-02		-8.09E-03	3.27E-02
NB-95	765.79	99.81	1.69E-01	1.69E-01	2.92E-02	8.00E-02
NB-95M	235.69	25.00	1.45E+02	1.45E+02	-1.23E+03	7.04E+01
ZR-95	724.18	43.70	2.84E-01	1.75E-01	-9.80E-02	1.35E-01
	756.72	55.30	1.75E-01		-9.31E-02	8.15E-02

Analysis Report for 1510092-14
CP5001S13-14

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	3.48E+03	2.07E+03	-6.60E+02	1.69E+03
	739.58	12.80	2.07E+03		-6.30E+02	9.67E+02
	778.00	4.50	5.41E+03		-4.15E+03	2.50E+03
RU-103	497.08	89.00	1.21E-01	1.21E-01	1.64E-03	5.70E-02
RU-106	621.84	9.80	6.63E-01	6.63E-01	9.03E-02	3.10E-01
AG-108M	433.93	89.90	6.24E-02	6.24E-02	-1.55E-02	2.95E-02
	614.37	90.40	7.29E-02		-6.51E-03	3.43E-02
	722.95	90.50	8.04E-02		0.00E+00	3.77E-02
+ CD-109	88.03	* 3.72	3.80E+00	3.80E+00	6.07E+00	1.88E+00
AG-110M	657.75	93.14	8.44E-02	8.44E-02	-2.64E-03	3.98E-02
	677.61	10.53	7.36E-01		1.55E-01	3.46E-01
	706.67	16.46	4.97E-01		1.91E-01	2.34E-01
	763.93	21.98	3.67E-01		1.55E-01	1.72E-01
	884.67	71.63	1.04E-01		-4.29E-02	4.78E-02
	1384.27	23.94	2.82E-01		1.63E-01	1.24E-01
CD-113M	263.70	0.02	2.19E+02	2.19E+02	1.67E+01	1.05E+02
SN-113	255.12	1.93	3.50E+00	9.72E-02	6.73E-01	1.68E+00
	391.69	64.90	9.72E-02		-3.52E-02	4.60E-02
TE123M	159.00	84.10	7.66E-02	7.66E-02	2.19E-02	3.71E-02
SB-124	602.71	97.87	1.07E-01	1.07E-01	2.89E-02	5.06E-02
	645.85	7.26	1.43E+00		8.20E-01	6.73E-01
	722.78	11.10	9.55E-01		0.00E+00	4.48E-01
	1691.02	49.00	1.70E-01		2.30E-02	7.22E-02
I-125	35.49	6.49	3.34E+00	3.34E+00	5.80E-01	1.62E+00
SB-125	176.33	6.89	7.75E-01	2.09E-01	-2.55E-01	3.75E-01
	427.89	29.33	2.09E-01		-1.17E-02	9.95E-02
	463.38	10.35	7.88E-01		8.80E-01	3.79E-01
	600.56	17.80	4.17E-01		2.59E-01	1.97E-01
	635.90	11.32	6.51E-01		2.79E-01	3.07E-01
	414.70	83.30	4.98E-01		4.47E-01	-1.12E-01	2.38E-01
SB-126	666.33	99.60	4.86E-01	4.47E-01	1.10E-01	2.30E-01
	695.00	99.60	4.47E-01		-2.71E-02	2.10E-01
	720.50	53.80	8.36E-01		1.54E-01	3.92E-01
	87.57	* 37.00	3.64E-01		3.64E-01	5.81E-01	1.80E-01
+ SN-126	87.57	* 37.00	3.64E-01	3.64E-01	5.81E-01	1.80E-01
SB-127	473.00	25.00	8.41E+01	6.39E+01	-2.41E+01	3.97E+01
	685.20	35.70	6.39E+01		-5.85E+01	2.98E+01
	783.80	14.70	1.85E+02		5.88E+01	8.66E+01
I-129	29.78	57.00	4.93E-01	4.93E-01	-2.48E-01	2.39E-01
	33.60	13.20	1.35E+00		-1.17E-01	6.55E-01
	39.58	7.52	1.41E+00		-9.47E-01	6.84E-01
I-131	284.30	6.05	1.45E+01	1.08E+00	-8.91E+00	6.96E+00
	364.48	81.20	1.08E+00		-8.14E-02	5.14E-01
	636.97	7.26	1.69E+01		6.07E+00	7.98E+00
	722.89	1.80	6.80E+01		0.00E+00	3.19E+01
TE-132	49.72	13.10	6.35E+02	6.72E+01	1.86E+01	3.09E+02
	228.16	88.00	6.72E+01		2.98E+01	3.24E+01
BA-133	81.00	33.00	1.84E-01	9.32E-02	-8.67E-01	8.98E-02
	302.84	17.80	3.23E-01		-1.61E-02	1.55E-01
	356.01	60.00	9.32E-02		-7.76E-01	4.44E-02
I-133	529.87	86.30	1.72E+10	1.72E+10	2.30E+09	8.09E+09
XE-133	81.00	38.00	1.21E+01	1.21E+01	-5.68E+01	5.89E+00
CS-134	563.23	8.38	7.95E-01	8.26E-02	-1.35E-01	3.75E-01
	569.32	15.43	4.22E-01		3.98E-02	1.99E-01

Analysis Report for 1510092-14
CP5001S13-14

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	8.26E-02	8.26E-02	9.43E-03	3.93E-02
	795.84	85.40	9.86E-02		2.69E-02	4.64E-02
	801.93	8.73	8.63E-01		-1.97E-01	4.03E-01
CS-135	268.24	16.00	3.76E-01	3.76E-01	3.11E-01	1.81E-01
	1131.51	22.50	1.00E+26		1.00E+26	1.00E+26
@ I-135	1260.41	28.60	1.00E+26	1.00E+26	1.00E+26	1.00E+26
@	1678.03	9.54	1.00E+26	1.00E+26	1.00E+26	1.00E+26
CS-136	153.22	7.46	4.01E+00	4.04E-01	-8.04E-01	1.95E+00
	163.89	4.61	6.08E+00		-2.45E+00	2.94E+00
	176.55	13.56	2.16E+00		-7.10E-01	1.05E+00
	273.65	12.66	2.38E+00		-1.67E+00	1.14E+00
	340.57	48.50	8.83E-01		1.15E+00	4.27E-01
	818.50	99.70	4.04E-01		1.77E-01	1.88E-01
	1048.07	79.60	5.62E-01		-1.38E-01	2.60E-01
	1235.34	19.70	3.15E+00		3.76E-01	1.48E+00
CS-137	661.65	85.12	9.17E-02	9.17E-02	2.10E-02	4.34E-02
LA-138	788.74	34.00	2.25E-01	1.03E-01	1.81E-02	1.06E-01
	1435.80	66.00	1.03E-01		-1.20E-02	4.56E-02
CE-139	165.85	80.35	7.55E-02	7.55E-02	2.06E-02	3.66E-02
BA-140	162.64	6.70	4.46E+00	1.38E+00	1.40E+00	2.16E+00
	304.84	4.50	6.95E+00		1.24E+00	3.32E+00
	423.70	3.20	1.19E+01		3.14E+00	5.67E+00
	437.55	2.00	1.84E+01		1.73E+00	8.77E+00
	537.32	25.00	1.38E+00		-8.44E-01	6.48E-01
LA-140	328.77	20.50	1.74E+00	4.41E-01	9.00E-01	8.36E-01
	487.03	45.50	7.85E-01		1.65E-01	3.71E-01
	815.85	23.50	1.86E+00		5.43E-01	8.69E-01
	1596.49	95.49	4.41E-01		1.46E-01	1.95E-01
CE-141	145.44	48.40	2.25E-01	2.25E-01	5.03E-02	1.09E-01
CE-143	57.36	11.80	8.71E+06	3.06E+06	-7.40E+06	4.25E+06
	293.26	42.00	3.06E+06		8.34E+06	1.49E+06
	664.55	5.20	2.25E+07		7.19E+06	1.07E+07
CE-144	133.54	10.80	4.94E-01	4.94E-01	-1.93E-01	2.40E-01
PM-144	476.78	42.00	1.56E-01	6.82E-02	5.08E-02	7.41E-02
	618.01	98.60	6.82E-02		7.03E-03	3.20E-02
	696.49	99.49	7.28E-02		-3.57E-02	3.41E-02
PM-145	36.85	21.70	6.01E-01	3.15E-01	-1.15E-01	2.92E-01
	37.36	39.70	3.15E-01		-5.35E-02	1.53E-01
	42.30	15.10	6.44E-01		-9.92E-02	3.13E-01
	72.40	2.31	3.44E+00		-3.36E+00	1.69E+00
PM-146	453.90	39.94	1.55E-01	1.55E-01	-8.25E-03	7.33E-02
	735.90	14.01	4.79E-01		-3.31E-01	2.23E-01
	747.13	13.10	5.63E-01		1.96E-02	2.64E-01
ND-147	91.11	28.90	1.98E+00	1.98E+00	-4.06E+00	9.70E-01
	531.02	13.10	3.82E+00		1.87E+00	1.81E+00
PM-149	285.90	3.10	4.70E+04	4.70E+04	-3.49E+04	2.24E+04
EU-152	121.78	20.50	2.42E-01	2.42E-01	2.37E-02	1.18E-01
	244.69	5.40	1.14E+00		-9.13E-02	5.49E-01
	344.27	19.13	2.90E-01		7.63E-03	1.38E-01
	778.89	9.20	7.06E-01		-3.79E-01	3.27E-01
	964.01	10.40	8.99E-01		1.13E-01	4.23E-01
	1085.78	7.22	1.14E+00		-5.97E-01	5.28E-01
	1112.02	9.60	8.00E-01		2.07E-01	3.67E-01

Analysis Report for 1510092-14
CP5001S13-14

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	5.43E-01	2.42E-01	2.45E-01	2.46E-01
GD-153	97.43	31.30	1.88E-01	1.88E-01	3.17E-02	9.17E-02
	103.18	22.20	2.36E-01		6.17E-02	1.15E-01
EU-154	123.07	40.50	1.23E-01	1.23E-01	-6.69E-04	6.00E-02
	723.30	19.70	3.72E-01		0.00E+00	1.75E-01
	873.19	11.50	6.31E-01		2.71E-01	2.93E-01
	996.32	10.30	7.89E-01		1.31E-01	3.66E-01
	1004.76	17.90	4.05E-01		-1.11E-01	1.86E-01
	1274.45	35.50	2.38E-01		1.83E-02	1.09E-01
EU-155	86.50	30.90	2.27E-01	2.27E-01	-8.26E-02	1.11E-01
	105.30	20.70	2.42E-01		7.96E-02	1.18E-01
EU-156	811.77	10.40	3.12E+00	3.12E+00	-3.84E-01	1.45E+00
	1153.47	7.20	5.65E+00		9.83E-01	2.62E+00
	1230.71	8.90	4.84E+00		6.71E-01	2.25E+00
HO-166M	184.41	72.60	9.57E-02	9.57E-02	1.69E-01	4.67E-02
	280.45	29.60	1.94E-01		-1.52E-02	9.31E-02
	410.94	11.10	6.27E-01		4.20E-02	3.00E-01
	711.69	54.10	1.19E-01		-6.63E-02	5.52E-02
TM-171	66.72	0.14	5.06E+01	5.06E+01	-1.02E+02	2.48E+01
HF-172	81.75	4.52	1.38E+00	4.61E-01	-1.14E+00	6.76E-01
	125.81	11.30	4.61E-01		-3.18E-01	2.24E-01
LU-172	181.53	20.60	8.06E+00	4.34E+00	-1.58E+00	3.91E+00
	810.06	16.63	1.35E+01		3.31E-01	6.31E+00
	912.12	15.25	2.88E+01		7.19E+01	1.39E+01
	1093.66	62.50	4.34E+00		-9.20E-01	2.02E+00
LU-173	100.72	5.24	1.00E+00	3.08E-01	2.87E-01	4.88E-01
	272.11	21.20	3.08E-01		3.75E-01	1.48E-01
HF-175	343.40	84.00	8.70E-02	8.70E-02	4.25E-03	4.14E-02
LU-176	88.34	13.30	5.50E-01	5.67E-02	1.06E+00	2.70E-01
	201.83	86.00	6.28E-02		-4.36E-02	3.04E-02
	306.78	94.00	5.67E-02		1.08E-02	2.71E-02
TA-182	67.75	41.20	2.02E-01	2.02E-01	6.11E-02	9.87E-02
	1121.30	34.90	4.53E-01		6.57E-01	2.15E-01
	1189.05	16.23	7.56E-01		1.70E-01	3.53E-01
	1221.41	26.98	4.35E-01		-4.72E-02	2.02E-01
	1231.02	11.44	1.03E+00		1.43E-01	4.79E-01
IR-192	308.46	29.68	2.31E-01	1.77E-01	-7.12E-02	1.10E-01
	468.07	48.10	1.77E-01		1.69E-02	8.40E-02
HG-203	279.19	77.30	1.31E-01	1.31E-01	1.16E-01	6.32E-02
BI-207	569.67	97.72	6.37E-02	6.37E-02	-8.99E-03	3.00E-02
	1063.62	74.90	1.07E-01		2.32E-02	4.94E-02
+ TL-208	583.14	* 30.22	3.17E-01	9.70E-02	1.44E+00	1.52E-01
	860.37	4.48	1.83E+00		1.28E+00	8.58E-01
	2614.66	* 35.85	9.70E-02		1.16E+00	3.44E-02
BI-210M	262.00	45.00	1.18E-01	1.18E-01	3.98E-02	5.65E-02
	300.00	23.00	2.74E-01		-4.75E-01	1.32E-01
+ PB-210	46.50	* 4.25	2.75E+00	2.75E+00	1.68E+00	1.35E+00
PB-211	404.84	2.90	1.73E+00	1.73E+00	-9.42E-01	8.18E-01
	831.96	2.90	2.75E+00		-4.98E-02	1.29E+00
+ BI-212	727.17	* 11.80	9.17E-01	9.17E-01	1.47E+00	4.39E-01
	1620.62	* 2.75	3.21E+00		1.89E+00	1.45E+00
+ PB-212	238.63	* 44.60	2.73E-01	2.73E-01	1.60E+00	1.34E-01
	300.09	* 3.41	3.05E+00		2.32E+00	1.49E+00

Analysis Report for 1510092-14
CP5001S13-14

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	2.29E-01	2.29E-01	1.42E+00	1.10E-01
		1120.29 *	15.10	7.13E-01		1.39E+00	3.35E-01
		1764.49 *	15.80	3.92E-01		1.39E+00	1.68E-01
		2204.22 *	4.98	1.30E+00		1.54E+00	5.53E-01
+	PB-214	295.21 *	19.19	5.26E-01	2.58E-01	1.54E+00	2.57E-01
		351.92 *	37.19	2.58E-01		1.55E+00	1.25E-01
	RN-219	401.80	6.50	8.15E-01	8.15E-01	-9.02E-02	3.86E-01
	RA-223	323.87	3.88	1.41E+00	1.41E+00	-5.43E-01	6.75E-01
+	RA-224	240.98 *	3.95	3.12E+00	3.12E+00	6.06E+00	1.53E+00
		40.00	31.00	1.55E+00		1.55E+00	-1.04E+00	7.49E-01
+	RA-226	186.21 *	3.28	2.57E+00	2.57E+00	3.36E+00	1.26E+00
		50.10	8.40	9.22E-01		5.86E-01	2.70E-02	4.49E-01
	TH-227	236.00	11.50	5.86E-01		-4.95E+00	2.84E-01
		256.20	6.30	8.95E-01		3.75E-01	4.31E-01
		338.32 *	11.40	6.81E-01	4.24E-01	2.00E+00	3.30E-01
+	AC-228	911.07 *	27.70	4.24E-01		1.34E+00	2.03E-01
		969.11 *	16.60	8.34E-01		1.13E+00	4.00E-01
		48.44	16.90	5.21E-01	5.21E-01	4.47E-02	2.54E-01
	TH-230	62.85	4.60	1.72E+00		1.96E+00	8.43E-01
		67.67	0.37	1.84E+01		5.59E+00	9.02E+00
		283.67	1.60	3.24E+00	2.48E+00	-7.14E-01	1.55E+00
	PA-231	302.67	2.30	2.48E+00		-1.24E-01	1.19E+00
		25.64	14.70	4.14E+00	2.04E+00	7.77E-01	2.01E+00
+	TH-231	84.21 *	6.40	2.04E+00		1.29E+00	1.01E+00
		311.98	38.60	3.14E-01	3.14E-01	8.93E-03	1.50E-01
	PA-234	131.20	20.40	2.56E-01	2.56E-01	5.32E-02	1.24E-01
		733.99	8.80	8.22E-01		8.91E-03	3.85E-01
	PA-234M	946.00	12.00	5.72E-01		-1.63E-01	2.63E-01
		1001.03	0.92	9.22E+00	9.22E+00	2.95E+00	4.30E+00
	TH-234	63.29	3.80	2.04E+00	2.04E+00	1.57E+00	1.00E+00
	U-235	143.76	10.50	5.13E-01	5.13E-01	2.42E-01	2.49E-01
		163.35	4.70	1.06E+00		-4.27E-01	5.14E-01
		205.31	4.70	1.15E+00		6.61E-01	5.56E-01
	NP-237	86.50	12.60	5.49E-01	5.49E-01	-2.00E-01	2.69E-01
	NP-239	106.10	22.70	3.35E+03	3.35E+03	1.10E+03	1.63E+03
		228.18	10.70	8.00E+03		3.55E+03	3.86E+03
		277.60	14.10	6.62E+03		5.29E+03	3.19E+03
	AM-241	59.54	35.90	2.05E-01	2.05E-01	-1.42E-02	1.00E-01
+	AM-243	74.67 *	66.00	1.92E-01	1.92E-01	3.40E-01	9.47E-02
		209.75	3.29	1.81E+00	4.35E-01	2.20E+00	8.79E-01
		228.14	10.60	5.27E-01		2.34E-01	2.54E-01
	CM-243	277.60	14.00	4.35E-01		3.47E-01	2.10E-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 1510092-14
CP5001S13-14

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: CP5001S13-14

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	1	60	108	94	86	86	90
25:	80	61	70	75	63	78	58	68
33:	82	72	72	59	81	70	58	71
41:	70	68	78	98	75	93	168	101
49:	89	90	102	92	96	91	86	82
57:	84	116	126	137	163	119	169	267
65:	130	139	131	144	149	134	133	143
73:	160	180	401	337	432	589	146	132
81:	132	123	98	152	148	134	168	266
89:	137	202	187	136	278	233	118	98
97:	97	94	104	116	84	78	61	77
105:	85	96	87	79	90	93	83	81
113:	90	75	82	110	80	86	68	83
121:	71	80	75	85	83	76	72	84
129:	105	104	77	84	81	70	64	66
137:	82	74	85	90	76	69	81	98
145:	90	73	71	79	76	78	77	58
153:	79	92	74	75	81	69	85	61
161:	68	63	54	72	63	57	69	63
169:	64	62	64	51	50	61	58	59
177:	60	66	69	73	74	59	77	67
185:	58	191	140	76	68	54	60	58
193:	49	49	64	63	55	65	64	53
201:	67	62	51	52	71	65	47	45
209:	68	101	65	53	44	63	55	61
217:	51	41	53	68	56	60	54	45
225:	47	53	47	58	50	52	47	42
233:	46	46	48	50	52	172	642	249
241:	104	170	127	45	41	38	35	33
249:	27	48	43	32	44	51	37	45
257:	44	51	37	44	36	50	33	31
265:	32	25	41	39	33	64	68	44
273:	43	39	30	32	60	58	53	35
281:	42	31	47	31	34	23	33	36
289:	52	31	29	31	29	32	166	203
297:	58	34	40	61	68	27	29	31
305:	30	45	22	28	32	32	25	23
313:	31	36	35	38	22	30	33	29
321:	28	29	22	41	28	34	27	54
329:	51	25	29	30	30	29	28	33
337:	33	82	163	44	36	20	22	37
345:	25	27	32	21	36	24	69	347
353:	238	35	23	35	23	22	30	24
361:	20	26	23	16	34	25	19	28

369: 22 23 18 27 15 21 18 26

Sample Title: CP5001S13-14

Channel	18	23	18	27	15	21	18	26
377:	18	25	21	24	23	14	21	26
385:	20	23	27	20	36	17	24	17
393:	23	22	25	18	20	20	20	20
401:	22	32	17	13	20	26	16	20
409:	22	47	21	21	29	18	30	25
417:	20	17	13	24	22	22	18	27
425:	21	15	20	19	18	19	11	14
433:	16	12	16	15	20	14	16	21
441:	27	18	24	14	13	18	30	16
449:	12	15	12	11	16	25	14	24
457:	14	20	20	14	20	24	55	44
465:	16	16	22	18	17	16	12	11
473:	10	15	17	16	13	16	15	18
481:	20	11	9	13	13	12	16	20
489:	19	9	16	15	14	13	17	18
497:	12	12	15	11	11	16	10	17
505:	16	15	11	16	16	57	90	72
513:	29	20	14	15	7	9	16	12
521:	17	16	17	21	15	16	11	17
529:	14	13	10	18	12	14	7	10
537:	17	13	10	11	13	13	22	7
545:	7	17	16	10	17	16	6	16
553:	9	9	10	15	17	18	12	8
561:	18	13	19	8	10	17	11	17
569:	12	11	10	9	14	13	12	14
577:	16	20	22	8	20	31	136	161
585:	36	19	15	12	12	16	14	12
593:	14	11	17	10	7	18	10	15
601:	17	16	18	13	11	14	20	32
609:	172	237	42	12	14	15	11	9
617:	13	10	12	11	10	5	11	9
625:	12	7	8	16	10	12	7	11
633:	12	16	15	15	13	14	11	14
641:	10	13	13	16	10	18	11	11
649:	12	7	8	16	11	12	11	11
657:	8	15	14	13	18	19	10	17
665:	15	16	14	18	14	9	9	13
673:	10	11	8	10	16	8	8	20
681:	13	5	16	4	11	12	9	6
689:	7	18	12	9	19	9	14	16
697:	5	9	10	10	14	12	15	17
705:	10	13	15	9	12	11	6	9
713:	7	6	11	11	13	13	14	8
721:	12	3	14	14	12	16	44	43
729:	17	11	14	13	7	11	10	13
737:	8	6	8	15	10	11	10	16
745:	7	11	10	9	9	13	11	10
753:	17	5	15	13	6	8	8	8
761:	11	11	12	10	14	8	8	21
769:	35	11	10	8	14	10	7	12
777:	7	3	8	9	6	9	13	11
785:	9	15	10	6	11	13	9	12
793:	12	13	25	17	9	4	6	10

801: 11 9 14 6 11 12 17 7

Sample Title: CP5001S13-14

Channel	1	2	3	4	5	6	7	8
809:	7	14	7	7	12	11	7	7
817:	10	9	11	11	6	8	4	5
825:	14	9	6	7	12	12	11	14
833:	7	9	11	17	11	10	16	6
841:	8	6	10	7	9	4	5	11
849:	9	5	7	5	9	14	9	2
857:	5	7	8	15	24	12	5	9
865:	6	12	8	3	9	13	3	14
873:	6	6	5	9	7	4	5	13
881:	6	6	9	7	7	7	2	10
889:	10	7	5	8	14	7	7	6
897:	5	6	5	14	9	7	12	9
905:	8	5	7	5	12	15	70	94
913:	26	11	11	7	10	6	11	2
921:	8	4	7	4	10	9	9	8
929:	10	10	9	5	12	12	18	5
937:	7	6	5	8	7	5	7	6
945:	8	2	6	4	11	8	10	7
953:	7	10	7	9	8	4	8	7
961:	7	8	5	13	23	20	6	28
969:	56	53	11	7	6	4	7	10
977:	5	8	14	8	7	3	9	10
985:	2	3	8	5	9	7	5	5
993:	10	6	6	10	5	13	7	8
1001:	10	14	8	3	7	7	1	4
1009:	9	5	9	8	6	12	6	7
1017:	4	9	8	12	7	4	6	7
1025:	3	5	4	5	9	6	6	7
1033:	6	7	13	13	4	5	10	8
1041:	9	2	9	10	1	8	3	13
1049:	7	9	10	7	8	9	11	9
1057:	7	4	3	8	4	5	10	10
1065:	5	9	7	8	5	8	10	9
1073:	4	9	9	6	10	7	8	18
1081:	9	9	7	14	9	2	9	8
1089:	2	12	9	9	9	14	13	6
1097:	4	12	13	7	8	11	10	11
1105:	7	5	4	8	8	6	8	2
1113:	1	5	12	14	4	8	11	45
1121:	37	16	5	6	5	6	5	10
1129:	9	8	8	13	10	7	6	13
1137:	8	10	10	7	7	11	3	4
1145:	8	6	4	10	11	7	7	7
1153:	7	10	10	10	5	4	6	8
1161:	5	7	6	6	7	7	3	9
1169:	9	13	8	10	6	5	6	12
1177:	8	7	10	7	10	3	8	8
1185:	7	14	7	10	6	15	9	7
1193:	7	11	14	12	9	15	10	2
1201:	8	6	14	5	11	7	11	11
1209:	6	4	15	16	11	9	4	8
1217:	6	8	12	5	5	11	15	3
1225:	15	6	11	11	8	7	6	10

1233: 9 8 6 10 6 29 26 13

Sample Title: CP5001S13-14

Channel	1	2	3	4	5	6	7	8	9
1241:	13	8	7	6	9	12	5	9	
1249:	10	5	3	6	6	6	8	8	
1257:	3	5	5	5	6	5	6	3	
1265:	7	4	13	8	6	5	2	4	
1273:	11	11	5	4	4	6	5	2	
1281:	7	10	7	7	7	5	7	5	
1289:	9	8	2	2	10	4	4	3	
1297:	6	3	3	7	7	1	4	4	
1305:	9	3	5	6	4	3	4	5	
1313:	1	4	4	7	7	5	2	3	
1321:	3	6	2	3	5	5	2	7	
1329:	0	3	7	4	3	3	7	0	
1337:	4	4	3	9	1	0	5	9	
1345:	7	5	4	2	2	4	4	3	
1353:	0	3	3	5	3	4	3	4	
1361:	2	1	2	2	5	5	0	4	
1369:	3	3	0	1	6	2	1	2	
1377:	11	17	4	3	2	1	0	7	
1385:	4	0	4	0	1	0	6	3	
1393:	2	4	4	1	3	3	2	5	
1401:	5	5	3	3	3	2	9	6	
1409:	9	1	2	2	3	5	1	5	
1417:	0	2	7	3	2	2	2	3	
1425:	5	6	2	1	4	1	3	5	
1433:	4	3	1	6	2	2	3	4	
1441:	2	1	2	4	1	2	2	5	
1449:	2	0	4	4	5	6	2	12	
1457:	2	5	23	180	383	234	34	9	
1465:	5	3	6	3	1	3	1	1	
1473:	3	2	2	1	1	3	3	3	
1481:	1	1	2	2	2	1	4	2	
1489:	1	1	5	2	1	2	4	2	
1497:	2	2	3	6	1	2	3	5	
1505:	2	2	1	3	12	4	5	2	
1513:	4	3	0	2	2	0	1	1	
1521:	0	4	3	3	3	1	2	1	
1529:	0	3	3	2	2	2	2	2	
1537:	3	2	1	0	1	2	3	2	
1545:	1	2	1	1	2	0	2	1	
1553:	4	0	3	1	1	2	2	0	
1561:	2	0	1	4	1	0	2	2	
1569:	1	0	2	0	2	1	1	1	
1577:	2	1	3	2	3	7	2	3	
1585:	4	1	1	6	8	4	2	3	
1593:	10	2	1	3	1	1	2	2	
1601:	1	2	2	1	2	3	7	0	
1609:	3	3	3	1	0	2	2	0	
1617:	2	2	4	3	5	2	4	1	
1625:	1	1	2	0	0	4	6	2	
1633:	1	1	3	2	2	1	3	2	
1641:	2	4	0	1	0	3	1	0	
1649:	1	1	0	1	1	0	2	1	
1657:	2	2	0	1	3	3	0	0	

1665: 2 2 2 3 1 3 2 1

Sample Title: CP5001S13-14

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1673:	0	3	1	2	2	0	0	2
1681:	1	3	1	1	3	0	0	2
1689:	0	3	2	2	2	0	2	2
1697:	0	1	1	0	5	3	1	0
1705:	2	0	4	0	1	0	0	2
1713:	1	1	0	0	0	3	0	1
1721:	0	1	0	2	2	2	2	1
1729:	7	8	15	1	0	0	0	0
1737:	2	0	1	0	0	1	1	2
1745:	2	1	2	0	1	1	1	1
1753:	3	0	0	4	1	2	0	0
1761:	1	0	6	23	25	13	3	2
1769:	1	1	0	2	0	0	2	0
1777:	1	2	0	1	1	2	1	3
1785:	2	1	1	1	3	0	1	1
1793:	2	0	2	1	0	3	2	1
1801:	1	1	3	0	1	5	0	0
1809:	0	1	0	1	2	2	0	0
1817:	3	1	1	1	0	1	2	1
1825:	0	1	0	3	3	1	0	1
1833:	0	0	0	1	2	4	0	3
1841:	1	0	2	2	2	3	8	6
1849:	3	3	1	0	2	1	4	1
1857:	1	0	0	1	2	2	0	1
1865:	2	1	0	1	0	0	0	1
1873:	1	2	1	2	1	2	1	1
1881:	1	2	1	0	0	3	1	1
1889:	3	3	2	0	2	2	0	0
1897:	2	1	1	3	3	0	1	0
1905:	0	0	0	0	2	2	0	0
1913:	2	3	1	1	0	0	0	1
1921:	0	3	0	1	0	2	1	1
1929:	4	1	0	1	0	1	1	1
1937:	1	1	0	0	1	4	1	1
1945:	3	1	0	0	1	0	1	1
1953:	0	0	0	0	2	0	1	1
1961:	1	1	1	2	0	0	0	0
1969:	1	0	2	3	2	1	0	1
1977:	0	0	0	2	1	2	5	0
1985:	2	0	0	3	3	1	1	2
1993:	1	2	0	1	2	1	1	0
2001:	1	3	2	2	0	1	0	4
2009:	2	2	0	2	2	1	1	1
2017:	1	1	1	1	1	1	0	0
2025:	2	3	2	3	0	0	0	0
2033:	1	2	1	0	1	1	1	2
2041:	0	1	2	2	0	3	2	1
2049:	1	1	2	0	1	0	0	1
2057:	1	0	0	1	1	1	1	1
2065:	2	3	0	1	4	2	0	0
2073:	1	1	0	1	0	1	1	1
2081:	1	0	0	0	4	0	1	0
2089:	2	1	1	3	1	0	1	1

2097: 1 2 2 0 3 3 1 9

Sample Title: CP5001S13-14

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2105:	3	1	0	0	2	0	1	1
2113:	0	2	1	1	2	3	3	2
2121:	1	0	1	1	0	0	1	0
2129:	0	0	0	1	0	3	0	0
2137:	1	1	0	1	1	1	2	1
2145:	1	1	1	0	1	2	1	0
2153:	1	3	0	1	0	0	0	0
2161:	1	2	1	1	1	0	0	3
2169:	0	2	1	1	1	1	0	0
2177:	1	2	4	0	0	1	3	0
2185:	1	1	1	0	2	2	1	2
2193:	0	0	1	2	0	1	0	0
2201:	0	3	7	6	6	3	1	1
2209:	1	0	2	5	1	3	3	2
2217:	0	3	1	0	2	1	2	1
2225:	2	1	2	0	0	0	1	1
2233:	1	2	0	0	0	1	1	0
2241:	1	1	0	0	2	0	1	0
2249:	0	0	1	1	2	2	2	0
2257:	3	4	1	1	0	1	0	2
2265:	0	1	1	1	2	1	1	1
2273:	1	0	3	0	1	1	1	0
2281:	1	1	0	0	0	1	3	0
2289:	2	1	0	1	2	1	1	0
2297:	1	0	0	1	1	2	3	2
2305:	0	0	3	1	0	2	1	2
2313:	0	0	0	1	1	0	2	1
2321:	1	0	0	0	1	1	0	1
2329:	1	1	1	1	0	1	1	0
2337:	0	1	5	2	1	0	2	2
2345:	2	3	1	1	1	1	0	1
2353:	2	2	1	2	1	2	1	1
2361:	1	5	1	1	0	0	0	2
2369:	0	0	1	2	0	1	0	0
2377:	1	0	2	0	2	2	0	0
2385:	1	1	1	0	1	1	0	2
2393:	1	1	5	0	2	1	1	2
2401:	1	0	1	0	2	0	0	0
2409:	1	0	1	1	0	2	0	0
2417:	1	0	3	0	0	2	2	1
2425:	0	3	2	0	0	0	1	0
2433:	4	1	0	0	3	1	0	1
2441:	1	0	0	1	2	0	4	3
2449:	0	1	1	1	1	1	1	0
2457:	1	1	0	0	0	1	1	0
2465:	0	0	1	0	0	0	2	0
2473:	0	0	1	1	2	0	0	1
2481:	0	0	1	2	0	0	1	3
2489:	0	0	0	3	0	0	2	0
2497:	0	0	2	0	0	0	1	1
2505:	0	0	0	0	3	0	0	0
2513:	1	0	0	1	0	0	0	0
2521:	1	0	2	0	0	0	1	0

2529: 0 0 1 0 0 0 0 0 0

Sample Title: CP5001S13-14

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2537:	0	1	1	0	0	1	1	0
2545:	0	0	1	1	0	3	0	0
2553:	1	1	1	0	1	1	1	2
2561:	0	0	0	0	0	0	0	2
2569:	0	0	2	1	0	1	1	0
2577:	0	0	0	1	1	0	1	0
2585:	2	1	0	0	0	0	0	1
2593:	0	0	0	0	0	0	0	0
2601:	1	0	0	0	0	0	1	0
2609:	0	0	2	5	24	34	37	7
2617:	5	1	0	0	0	1	0	0
2625:	1	1	0	0	0	0	1	1
2633:	2	0	1	1	0	0	0	0
2641:	0	1	0	0	0	0	1	0
2649:	1	0	0	0	0	0	0	0
2657:	0	0	1	0	0	0	1	0
2665:	1	0	0	0	1	1	0	0
2673:	0	1	1	0	0	1	0	0
2681:	0	0	0	2	1	2	1	1
2689:	1	0	1	0	0	0	2	1
2697:	1	0	0	0	1	0	0	2
2705:	0	0	0	0	0	0	0	0
2713:	0	1	2	1	0	0	0	0
2721:	0	0	0	1	1	0	0	0
2729:	0	1	0	0	0	0	1	0
2737:	0	0	0	0	0	0	0	1
2745:	0	0	0	0	2	1	0	0
2753:	1	0	1	0	0	0	0	0
2761:	0	1	1	0	0	1	0	0
2769:	0	0	0	0	0	0	1	0
2777:	1	0	0	0	0	0	1	0
2785:	0	0	0	0	0	0	0	0
2793:	2	0	0	0	0	0	0	2
2801:	0	0	0	0	0	0	0	0
2809:	0	0	0	0	1	1	1	0
2817:	0	0	0	0	0	0	0	0
2825:	0	1	1	0	0	1	0	1
2833:	0	0	0	0	1	0	0	1
2841:	0	0	1	2	0	1	0	0
2849:	0	1	0	1	0	1	0	0
2857:	0	0	0	0	0	1	0	0
2865:	0	0	0	0	0	2	0	0
2873:	0	0	0	0	0	0	0	1
2881:	0	0	0	0	1	0	1	0
2889:	0	0	0	0	0	0	0	1
2897:	0	0	1	1	1	0	0	1
2905:	0	0	0	0	0	1	1	0
2913:	1	1	0	0	0	0	0	0
2921:	0	1	1	0	1	0	1	0
2929:	0	0	1	0	1	1	1	0
2937:	1	0	0	0	0	0	1	1
2945:	1	0	0	1	0	0	0	0
2953:	1	1	2	1	1	0	0	0

2961: 0 0 0 0 0 1 0 0

Sample Title: CP5001S13-14

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2969:	0	0	0	0	0	0	0	0
2977:	0	0	0	0	1	0	0	0
2985:	0	1	0	1	1	0	0	0
2993:	1	0	0	1	0	1	0	0
3001:	0	2	0	0	1	0	0	0
3009:	0	1	0	0	0	0	0	0
3017:	0	0	0	0	0	2	0	0
3025:	1	0	0	0	0	0	0	0
3033:	2	0	1	0	0	0	0	0
3041:	0	1	0	1	0	0	0	1
3049:	1	1	0	0	0	0	0	0
3057:	0	0	0	0	0	0	0	0
3065:	1	2	0	1	0	2	0	0
3073:	0	0	0	0	0	0	0	0
3081:	0	0	1	1	1	0	0	1
3089:	0	0	0	0	0	0	0	0
3097:	0	0	0	0	0	0	0	1
3105:	0	0	0	1	0	0	0	0
3113:	0	0	0	0	0	0	0	0
3121:	0	0	0	0	2	0	0	1
3129:	0	0	0	0	1	0	0	0
3137:	1	0	0	0	0	1	2	1
3145:	0	0	0	0	0	0	0	0
3153:	0	0	0	0	0	0	0	0
3161:	0	0	0	0	1	0	1	0
3169:	0	1	0	0	0	1	0	0
3177:	0	0	1	0	2	0	0	1
3185:	0	0	0	0	0	0	0	0
3193:	0	0	0	0	1	3	0	0
3201:	0	0	0	0	0	0	0	0
3209:	0	0	0	0	0	0	0	0
3217:	0	1	0	0	0	0	0	0
3225:	1	0	0	0	0	0	0	0
3233:	0	0	0	0	0	0	0	0
3241:	0	0	0	0	2	0	1	0
3249:	0	0	0	0	0	1	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	0	0	0	0
3281:	0	1	0	0	0	0	1	0
3289:	0	0	0	0	0	0	0	0
3297:	1	0	1	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:	0	0	0	0	0	1	0	0
3337:	0	0	0	0	1	0	0	0
3345:	0	0	1	0	0	0	0	0
3353:	0	0	0	0	0	1	0	0
3361:	0	0	0	0	0	1	0	0
3369:	0	0	0	0	0	1	0	0
3377:	0	0	0	0	0	0	1	0
3385:	2	0	0	0	0	0	0	0

3393: 0 0 0 0 0 0 0 0 0

Sample Title: CP5001S13-14

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	1
3417:	0	0	0	0	0	0	0	0	0
3425:	0	0	0	0	0	0	0	0	0
3433:	0	0	0	0	0	0	0	0	0
3441:	0	0	1	0	0	0	0	1	0
3449:	0	0	0	1	0	0	0	0	0
3457:	0	0	0	0	0	0	1	0	1
3465:	0	0	0	0	0	0	0	0	0
3473:	0	0	1	0	0	0	0	0	0
3481:	0	0	0	0	0	0	0	0	0
3489:	0	0	0	0	0	0	0	0	0
3497:	0	0	0	0	0	0	1	0	0
3505:	0	0	0	0	0	0	0	0	0
3513:	0	0	0	0	0	0	0	1	0
3521:	0	0	0	1	0	0	0	0	0
3529:	0	0	0	0	0	0	0	0	0
3537:	0	0	0	0	0	0	0	0	0
3545:	0	0	0	1	0	0	1	0	0
3553:	0	0	0	1	0	0	0	0	0
3561:	0	0	0	0	0	0	0	1	0
3569:	1	0	0	1	0	0	0	1	0
3577:	0	0	0	0	0	0	0	0	0
3585:	0	1	0	1	1	0	0	0	0
3593:	0	0	0	0	0	1	0	0	0
3601:	0	0	0	0	0	1	0	1	0
3609:	0	0	0	0	0	0	0	0	0
3617:	1	0	0	0	0	0	0	0	0
3625:	0	0	1	0	0	0	0	0	0
3633:	0	0	0	0	0	1	0	0	0
3641:	0	0	0	0	0	0	0	0	0
3649:	0	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	0	0	0	0
3665:	1	0	0	0	0	0	2	0	0
3673:	0	0	1	0	0	0	0	0	0
3681:	0	0	0	0	0	0	0	0	0
3689:	0	0	0	0	0	0	0	1	1
3697:	0	0	0	1	0	0	0	0	0
3705:	0	0	0	0	0	0	1	0	0
3713:	0	0	0	0	0	0	1	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	1	0	0	0	1	0
3745:	1	0	0	0	0	0	0	0	0
3753:	0	0	0	0	0	0	0	0	0
3761:	0	0	0	0	0	1	0	0	0
3769:	0	0	0	0	0	0	1	0	1
3777:	0	0	0	0	0	0	0	0	0
3785:	0	0	0	0	0	1	0	0	0
3793:	0	0	1	0	0	0	0	0	0
3801:	1	0	0	1	0	0	0	0	0
3809:	0	2	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0	0

3825: 0 0 0 0 0 0 0 0 0

Sample Title: CP5001S13-14

Channel	1	2	3	4	5	6	7	8	9
3833:	1	0	0	0	0	0	0	0	0
3841:	0	0	0	0	0	0	1	0	0
3849:	0	0	0	0	0	0	0	0	0
3857:	0	0	0	0	0	0	2	0	0
3865:	1	0	0	0	0	0	0	0	0
3873:	0	0	1	0	0	0	1	0	0
3881:	1	0	1	0	0	0	0	0	0
3889:	0	1	0	0	0	0	0	0	0
3897:	0	0	0	0	0	0	0	0	0
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	1	0	0
3929:	0	1	0	0	0	0	0	0	0
3937:	0	0	0	0	0	1	0	0	0
3945:	0	1	0	0	0	0	0	0	0
3953:	1	1	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	0
3977:	1	0	0	0	0	0	0	1	0
3985:	0	0	1	0	0	0	0	0	0
3993:	0	0	0	0	0	0	0	0	0
4001:	0	0	0	0	0	0	0	0	0
4009:	0	0	0	0	0	0	0	0	0
4017:	0	0	0	0	0	0	0	0	0
4025:	0	0	0	0	0	0	0	0	1
4033:	0	0	0	0	0	0	0	0	0
4041:	1	0	1	1	0	0	0	0	0
4049:	0	0	1	0	0	0	1	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	0	0	0	0	0	0
4081:	0	0	0	0	0	0	0	0	0
4089:	1	1	0	0	0	0	0	0	0

Analysis Report for 1510092-15
CP5001S16-17

Handwritten mark
// // //

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510092-15
Sample Description : CP5001S16-17
Sample Type : SOIL

Sample Size : 5.462E+02 grams
Facility : Countroom

Sample Taken On : 10/9/2015 4:02:46PM
Acquisition Started : 11/11/2015 9:32:37AM

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) : 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 : 29473

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510092-15
CP5001S16-17

PEAK LOCATE REPORT

Peak Locate Performed on : 11/11/2015 10:32:54AM
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	47.01	47.12	0.0000	0.00
2	63.58	63.68	0.0000	0.00
3	76.45	76.53	0.0000	0.00
4	86.20	86.28	0.0000	0.00
5	92.58	92.66	0.0000	0.00
6	129.66	129.71	0.0000	0.00
7	144.27	144.32	0.0000	0.00
8	183.37	183.40	0.0000	0.00
9	186.27	186.29	0.0000	0.00
10	209.58	209.59	0.0000	0.00
11	238.77	238.77	0.0000	0.00
12	241.74	241.74	0.0000	0.00
13	270.38	270.36	0.0000	0.00
14	295.28	295.24	0.0000	0.00
15	300.06	300.03	0.0000	0.00
16	329.12	329.06	0.0000	0.00
17	338.55	338.49	0.0000	0.00
18	352.05	351.99	0.0000	0.00
19	410.59	410.49	0.0000	0.00
20	463.04	462.92	0.0000	0.00
21	510.99	510.84	0.0000	0.00
22	516.01	515.87	0.0000	0.00
23	573.90	573.73	0.0000	0.00
24	583.24	583.06	0.0000	0.00
25	609.27	609.08	0.0000	0.00
26	655.91	655.70	0.0000	0.00
27	665.52	665.31	0.0000	0.00
28	727.35	727.10	0.0000	0.00
29	768.12	767.86	0.0000	0.00
30	860.24	859.93	0.0000	0.00
31	874.30	873.99	0.0000	0.00
32	911.40	911.07	0.0000	0.00
33	969.19	968.85	0.0000	0.00
34	1120.49	1120.09	0.0000	0.00
35	1167.36	1166.94	0.0000	0.00
36	1239.92	1239.47	0.0000	0.00
37	1377.72	1377.23	0.0000	0.00
38	1461.02	1460.50	0.0000	0.00
39	1509.16	1508.63	0.0000	0.00
40	1630.37	1629.80	0.0000	0.00
41	1730.36	1729.77	0.0000	0.00
42	1747.14	1746.53	0.0000	0.00

Analysis Report for 1510092-15
CP5001S16-17

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1764.46	1763.86	0.0000	0.00
44	1841.79	1841.16	0.0000	0.00
45	1847.88	1847.25	0.0000	0.00
46	1878.57	1877.93	0.0000	0.00
47	2142.07	2141.39	0.0000	0.00
48	2203.87	2203.18	0.0000	0.00
49	2293.29	2292.58	0.0000	0.00
50	2614.31	2613.57	0.0000	0.00
51	2991.96	2991.20	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510092-15
CP5001S16-17

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/11/2015 10:32:54AM

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	47.01	43 -	50	47.12	1.83E+02	108.04	1.81E+03	1.38	
2	63.58	61 -	66	63.68	1.52E+02	89.02	1.46E+03	2.02	
3	76.45	72 -	83	76.53	8.86E+02	165.86	2.98E+03	3.67	
4	86.20	83 -	89	86.28	9.39E+01	99.78	1.76E+03	4.41	
5	92.58	89 -	96	92.66	2.98E+02	108.20	1.68E+03	1.86	
6	129.66	126 -	133	129.71	8.45E+01	87.48	1.22E+03	1.86	
7	144.27	142 -	148	144.32	7.24E+01	69.94	8.37E+02	4.11	
M	8	183.37	181 -	191	183.40	4.94E+01	49.52	4.91E+02	1.59
m	9	186.27	181 -	191	186.29	1.98E+02	55.64	4.77E+02	1.60
10	209.58	207 -	213	209.59	6.64E+01	63.28	6.81E+02	1.48	
M	11	238.77	234 -	245	238.77	9.56E+02	74.09	4.23E+02	1.56
m	12	241.74	234 -	245	241.74	2.03E+02	86.45	5.50E+02	2.28
13	270.38	265 -	275	270.36	1.06E+02	71.98	6.24E+02	1.93	
M	14	295.28	292 -	303	295.24	2.74E+02	50.18	2.98E+02	1.65
m	15	300.06	292 -	303	300.03	5.46E+01	39.92	3.07E+02	1.66
16	329.12	325 -	332	329.06	6.35E+01	53.55	4.35E+02	1.24	
17	338.55	335 -	343	338.49	1.74E+02	59.40	4.34E+02	1.83	
18	352.05	348 -	355	351.99	4.51E+02	67.68	4.60E+02	1.32	
19	410.59	407 -	414	410.49	4.05E+01	43.91	2.91E+02	1.60	
20	463.04	459 -	466	462.92	6.62E+01	40.74	2.34E+02	1.43	
M	21	510.99	501 -	518	510.84	1.90E+02	42.76	1.76E+02	2.59
m	22	516.01	501 -	518	515.87	2.40E+01	28.43	1.32E+02	2.12
23	573.90	569 -	578	573.73	4.66E+01	41.52	2.19E+02	5.99	
24	583.24	579 -	587	583.06	2.59E+02	50.65	2.38E+02	1.72	
25	609.27	604 -	613	609.08	4.06E+02	53.36	1.75E+02	1.69	
26	655.91	653 -	659	655.70	2.16E+01	26.46	1.11E+02	4.19	
27	665.52	663 -	668	665.31	2.46E+01	24.08	9.69E+01	2.94	
28	727.35	722 -	731	727.10	4.93E+01	42.06	2.23E+02	1.66	
29	768.12	765 -	770	767.86	2.75E+01	27.55	1.31E+02	2.62	
30	860.24	855 -	864	859.93	5.57E+01	32.62	1.21E+02	1.89	
31	874.30	869 -	878	873.99	3.44E+01	28.91	9.91E+01	4.90	
32	911.40	907 -	914	911.07	2.01E+02	39.04	1.20E+02	1.83	
33	969.19	965 -	972	968.85	6.38E+01	43.31	2.58E+02	1.76	
34	1120.49	1115 -	1125	1120.09	9.20E+01	33.92	1.04E+02	2.35	
35	1167.36	1164 -	1171	1166.94	2.19E+01	22.36	7.02E+01	4.06	
36	1239.92	1234 -	1245	1239.47	5.91E+01	37.74	1.44E+02	4.44	
37	1377.72	1373 -	1381	1377.23	3.10E+01	17.13	2.41E+01	2.44	
38	1461.02	1457 -	1464	1460.50	7.89E+02	57.24	2.05E+01	2.35	
39	1509.16	1505 -	1511	1508.63	1.35E+01	13.02	2.10E+01	1.27	
40	1630.37	1626 -	1634	1629.80	1.62E+01	11.16	9.52E+00	1.62	

: 00829

Analysis Report for 1510092-15

CP5001S16-17

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	41	1730.36	1726 -	1733	1729.77	1.40E+01	10.20	8.00E+00	3.54
	42	1747.14	1743 -	1749	1746.53	8.30E+00	7.23	3.40E+00	2.68
	43	1764.46	1759 -	1767	1763.86	6.36E+01	16.86	4.76E+00	2.81
M	44	1841.79	1837 -	1860	1841.16	1.11E+01	9.38	1.36E+01	2.78
m	45	1847.88	1837 -	1860	1847.25	1.52E+01	11.14	7.73E+00	2.78
	46	1878.57	1873 -	1883	1877.93	1.50E+01	7.75	0.00E+00	3.17
	47	2142.07	2137 -	2144	2141.39	7.22E+00	7.21	3.56E+00	2.04
	48	2203.87	2198 -	2206	2203.18	1.85E+01	12.68	1.30E+01	2.21
	49	2293.29	2289 -	2296	2292.58	8.83E+00	10.39	1.23E+01	1.08
	50	2614.31	2608 -	2618	2613.57	1.01E+02	22.01	1.09E+01	3.48
	51	2991.96	2988 -	2993	2991.20	5.00E+00	4.47	0.00E+00	2.31

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 : 11/11/2015 10:32:54AM

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	47.01	43 -	50	1.83E+02	108.04	1.81E+03	8.60E+01
	2	63.58	61 -	66	1.52E+02	89.02	1.46E+03	7.03E+01
	3	76.45	72 -	83	8.86E+02	165.86	2.98E+03	1.27E+02
	4	86.20	83 -	89	9.39E+01	99.78	1.76E+03	8.05E+01
	5	92.58	89 -	96	2.98E+02	108.20	1.68E+03	8.43E+01
	6	129.66	126 -	133	8.45E+01	87.48	1.22E+03	7.03E+01
	7	144.27	142 -	148	7.24E+01	69.94	8.37E+02	5.58E+01
M	8	183.37	181 -	191	4.94E+01	49.52	4.91E+02	3.64E+01
m	9	186.27	181 -	191	1.98E+02	55.64	4.77E+02	3.59E+01
	10	209.58	207 -	213	6.64E+01	63.28	6.81E+02	5.03E+01
M	11	238.77	234 -	245	9.56E+02	74.09	4.23E+02	3.38E+01
m	12	241.74	234 -	245	2.03E+02	86.45	5.50E+02	3.86E+01
	13	270.38	265 -	275	1.06E+02	71.98	6.24E+02	5.67E+01
M	14	295.28	292 -	303	2.74E+02	50.18	2.98E+02	2.84E+01
m	15	300.06	292 -	303	5.46E+01	39.92	3.07E+02	2.88E+01
	16	329.12	325 -	332	6.35E+01	53.55	4.35E+02	4.20E+01
	17	338.55	335 -	343	1.74E+02	59.40	4.34E+02	4.37E+01

: 00830

Analysis Report for 1510092-15

CP5001S16-17

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	18	352.05	348 -	355	4.51E+02	67.68	4.60E+02	4.33E+01
	19	410.59	407 -	414	4.05E+01	43.91	2.91E+02	3.45E+01
	20	463.04	459 -	466	6.62E+01	40.74	2.34E+02	3.07E+01
M	21	510.99	501 -	518	1.90E+02	42.76	1.76E+02	2.18E+01
m	22	516.01	501 -	518	2.40E+01	28.43	1.32E+02	1.89E+01
	23	573.90	569 -	578	4.66E+01	41.52	2.19E+02	3.22E+01
	24	583.24	579 -	587	2.59E+02	50.65	2.38E+02	3.21E+01
	25	609.27	604 -	613	4.06E+02	53.36	1.75E+02	2.88E+01
	26	655.91	653 -	659	2.16E+01	26.46	1.11E+02	2.04E+01
	27	665.52	663 -	668	2.46E+01	24.08	9.69E+01	1.80E+01
	28	727.35	722 -	731	4.93E+01	42.06	2.23E+02	3.26E+01
	29	768.12	765 -	770	2.75E+01	27.55	1.31E+02	2.09E+01
	30	860.24	855 -	864	5.57E+01	32.62	1.21E+02	2.38E+01
	31	874.30	869 -	878	3.44E+01	28.91	9.91E+01	2.17E+01
	32	911.40	907 -	914	2.01E+02	39.04	1.20E+02	2.20E+01
	33	969.19	965 -	972	6.38E+01	43.31	2.58E+02	3.31E+01
	34	1120.49	1115 -	1125	9.20E+01	33.92	1.04E+02	2.30E+01
	35	1167.36	1164 -	1171	2.19E+01	22.36	7.02E+01	1.67E+01
	36	1239.92	1234 -	1245	5.91E+01	37.74	1.44E+02	2.83E+01
	37	1377.72	1373 -	1381	3.10E+01	17.13	2.41E+01	1.07E+01
	38	1461.02	1457 -	1464	7.89E+02	57.24	2.05E+01	9.04E+00
	39	1509.16	1505 -	1511	1.35E+01	13.02	2.10E+01	8.83E+00
	40	1630.37	1626 -	1634	1.62E+01	11.16	9.52E+00	6.34E+00
	41	1730.36	1726 -	1733	1.40E+01	10.20	8.00E+00	5.70E+00
	42	1747.14	1743 -	1749	8.30E+00	7.23	3.40E+00	3.59E+00
	43	1764.46	1759 -	1767	6.36E+01	16.86	4.76E+00	4.48E+00
M	44	1841.79	1837 -	1860	1.11E+01	9.38	1.36E+01	6.06E+00
m	45	1847.88	1837 -	1860	1.52E+01	11.14	7.73E+00	4.57E+00
	46	1878.57	1873 -	1883	1.50E+01	7.75	0.00E+00	0.00E+00
	47	2142.07	2137 -	2144	7.22E+00	7.21	3.56E+00	3.95E+00
	48	2203.87	2198 -	2206	1.85E+01	12.68	1.30E+01	7.65E+00
	49	2293.29	2289 -	2296	8.83E+00	10.39	1.23E+01	7.01E+00
	50	2614.31	2608 -	2618	1.01E+02	22.01	1.09E+01	7.46E+00
	51	2991.96	2988 -	2993	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

Analysis Report for 1510092-15
CP5001S16-17

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/11/2015 10:32:54AM

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	47.01	43 -	50	47.12	1.83E+02	108.04	1.81E+03	PB-210
2	63.58	61 -	66	63.68	1.52E+02	89.02	1.46E+03	TH-234 TH-230
3	76.45	72 -	83	76.53	8.86E+02	165.86	2.98E+03	.....
4	86.20	83 -	89	86.28	9.39E+01	99.78	1.76E+03	EU-155 NP-237
5	92.58	89 -	96	92.66	2.98E+02	108.20	1.68E+03	GA-67
6	129.66	126 -	133	129.71	8.45E+01	87.48	1.22E+03	.....
7	144.27	142 -	148	144.32	7.24E+01	69.94	8.37E+02	U-235
M 8	183.37	181 -	191	183.40	4.94E+01	49.52	4.91E+02	.....
m 9	186.27	181 -	191	186.29	1.98E+02	55.64	4.77E+02	RA-226
10	209.58	207 -	213	209.59	6.64E+01	63.28	6.81E+02	CM-243 GA-67
M 11	238.77	234 -	245	238.77	9.56E+02	74.09	4.23E+02	PB-212
m 12	241.74	234 -	245	241.74	2.03E+02	86.45	5.50E+02	RA-224
13	270.38	265 -	275	270.36	1.06E+02	71.98	6.24E+02	.....
M 14	295.28	292 -	303	295.24	2.74E+02	50.18	2.98E+02	PB-214
m 15	300.06	292 -	303	300.03	5.46E+01	39.92	3.07E+02	PB-212 BI-210M GA-67
16	329.12	325 -	332	329.06	6.35E+01	53.55	4.35E+02	LA-140
17	338.55	335 -	343	338.49	1.74E+02	59.40	4.34E+02	AC-228
18	352.05	348 -	355	351.99	4.51E+02	67.68	4.60E+02	PB-214
19	410.59	407 -	414	410.49	4.05E+01	43.91	2.91E+02	HO-166M
20	463.04	459 -	466	462.92	6.62E+01	40.74	2.34E+02	SB-125
M 21	510.99	501 -	518	510.84	1.90E+02	42.76	1.76E+02	.....
m 22	516.01	501 -	518	515.87	2.40E+01	28.43	1.32E+02	.....
23	573.90	569 -	578	573.73	4.66E+01	41.52	2.19E+02	.....
24	583.24	579 -	587	583.06	2.59E+02	50.65	2.38E+02	TL-208
25	609.27	604 -	613	609.08	4.06E+02	53.36	1.75E+02	BI-214
26	655.91	653 -	659	655.70	2.16E+01	26.46	1.11E+02	.....
27	665.52	663 -	668	665.31	2.46E+01	24.08	9.69E+01	SB-126 CE-143
28	727.35	722 -	731	727.10	4.93E+01	42.06	2.23E+02	BI-212
29	768.12	765 -	770	767.86	2.75E+01	27.55	1.31E+02	.....
30	860.24	855 -	864	859.93	5.57E+01	32.62	1.21E+02	TL-208
31	874.30	869 -	878	873.99	3.44E+01	28.91	9.91E+01	.....
32	911.40	907 -	914	911.07	2.01E+02	39.04	1.20E+02	AC-228 LU-172
33	969.19	965 -	972	968.85	6.38E+01	43.31	2.58E+02	AC-228
34	1120.49	1115 -	1125	1120.09	9.20E+01	33.92	1.04E+02	SC-46

Analysis Report for 1510092-15
CP5001S16-17

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
								BI-214 TA-182
35	1167.36	1164 -	1171	1166.94	2.19E+01	22.36	7.02E+01	.....
36	1239.92	1234 -	1245	1239.47	5.91E+01	37.74	1.44E+02	.....
37	1377.72	1373 -	1381	1377.23	3.10E+01	17.13	2.41E+01	.....
38	1461.02	1457 -	1464	1460.50	7.89E+02	57.24	2.05E+01	K-40
39	1509.16	1505 -	1511	1508.63	1.35E+01	13.02	2.10E+01	.....
40	1630.37	1626 -	1634	1629.80	1.62E+01	11.16	9.52E+00	.....
41	1730.36	1726 -	1733	1729.77	1.40E+01	10.20	8.00E+00	.....
42	1747.14	1743 -	1749	1746.53	8.30E+00	7.23	3.40E+00	.....
43	1764.46	1759 -	1767	1763.86	6.36E+01	16.86	4.76E+00	BI-214
M 44	1841.79	1837 -	1860	1841.16	1.11E+01	9.38	1.36E+01	.....
m 45	1847.88	1837 -	1860	1847.25	1.52E+01	11.14	7.73E+00	.....
46	1878.57	1873 -	1883	1877.93	1.50E+01	7.75	0.00E+00	.....
47	2142.07	2137 -	2144	2141.39	7.22E+00	7.21	3.56E+00	.....
48	2203.87	2198 -	2206	2203.18	1.85E+01	12.68	1.30E+01	BI-214
49	2293.29	2289 -	2296	2292.58	8.83E+00	10.39	1.23E+01	.....
50	2614.31	2608 -	2618	2613.57	1.01E+02	22.01	1.09E+01	TL-208
51	2991.96	2988 -	2993	2991.20	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 : 11/11/2015 10:32:54AM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	47.01	1.83E+02	108.04	1.38E-02	1.68E-03
2	63.58	1.52E+02	89.02	2.39E-02	2.08E-03
3	76.45	8.86E+02	165.86	2.74E-02	3.36E-03
4	86.20	9.39E+01	99.78	2.84E-02	4.32E-03
5	92.58	2.98E+02	108.20	2.85E-02	4.30E-03
6	129.66	8.45E+01	87.48	2.60E-02	2.76E-03
7	144.27	7.24E+01	69.94	2.46E-02	2.32E-03
M 8	183.37	4.94E+01	49.52	2.13E-02	1.66E-03
m 9	186.27	1.98E+02	55.64	2.11E-02	1.65E-03
10	209.58	6.64E+01	63.28	1.95E-02	1.63E-03
M 11	238.77	9.56E+02	74.09	1.79E-02	1.60E-03

Analysis Report for 1510092-15
CP5001S16-17

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
m	12	241.74	2.03E+02	86.45	1.77E-02	1.60E-03
	13	270.38	1.06E+02	71.98	1.64E-02	1.57E-03
M	14	295.28	2.74E+02	50.18	1.55E-02	1.48E-03
m	15	300.06	5.46E+01	39.92	1.53E-02	1.46E-03
	16	329.12	6.35E+01	53.55	1.44E-02	1.32E-03
	17	338.55	1.74E+02	59.40	1.41E-02	1.27E-03
	18	352.05	4.51E+02	67.68	1.37E-02	1.21E-03
	19	410.59	4.05E+01	43.91	1.23E-02	1.00E-03
	20	463.04	6.62E+01	40.74	1.13E-02	9.47E-04
M	21	510.99	1.90E+02	42.76	1.06E-02	8.98E-04
m	22	516.01	2.40E+01	28.43	1.05E-02	8.93E-04
	23	573.90	4.66E+01	41.52	9.70E-03	8.34E-04
	24	583.24	2.59E+02	50.65	9.58E-03	8.25E-04
	25	609.27	4.06E+02	53.36	9.27E-03	7.98E-04
	26	655.91	2.16E+01	26.46	8.76E-03	7.51E-04
	27	665.52	2.46E+01	24.08	8.67E-03	7.43E-04
	28	727.35	4.93E+01	42.06	8.09E-03	7.03E-04
	29	768.12	2.75E+01	27.55	7.74E-03	6.77E-04
	30	860.24	5.57E+01	32.62	7.07E-03	6.18E-04
	31	874.30	3.44E+01	28.91	6.98E-03	6.09E-04
	32	911.40	2.01E+02	39.04	6.74E-03	5.87E-04
	33	969.19	6.38E+01	43.31	6.41E-03	5.57E-04
	34	1120.49	9.20E+01	33.92	5.70E-03	4.80E-04
	35	1167.36	2.19E+01	22.36	5.52E-03	4.56E-04
	36	1239.92	5.91E+01	37.74	5.27E-03	4.84E-04
	37	1377.72	3.10E+01	17.13	4.87E-03	5.08E-04
	38	1461.02	7.89E+02	57.24	4.67E-03	4.73E-04
	39	1509.16	1.35E+01	13.02	4.57E-03	4.53E-04
	40	1630.37	1.62E+01	11.16	4.36E-03	4.03E-04
	41	1730.36	1.40E+01	10.20	4.23E-03	3.62E-04
	42	1747.14	8.30E+00	7.23	4.21E-03	3.55E-04
	43	1764.46	6.36E+01	16.86	4.19E-03	3.48E-04
M	44	1841.79	1.11E+01	9.38	4.11E-03	3.18E-04
m	45	1847.88	1.52E+01	11.14	4.10E-03	3.18E-04
	46	1878.57	1.50E+01	7.75	4.08E-03	3.18E-04
	47	2142.07	7.22E+00	7.21	3.94E-03	3.18E-04
	48	2203.87	1.85E+01	12.68	3.93E-03	3.18E-04
	49	2293.29	8.83E+00	10.39	3.93E-03	3.18E-04
	50	2614.31	1.01E+02	22.01	4.05E-03	3.18E-04
	51	2991.96	5.00E+00	4.47	4.44E-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

Analysis Report for 1510092-15

CP5001S16-17

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/11/2015 10:32:54AM

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	47.01	1.83E+02	108.04	6.46E+01	1.16E+01	1.18E+02	1.09E+02
2	63.58	1.52E+02	89.02	4.34E+01	1.15E+01	1.09E+02	8.98E+01
3	76.45	8.86E+02	165.86			8.86E+02	1.66E+02
4	86.20	9.39E+01	99.78			9.39E+01	9.98E+01
5	92.58	2.98E+02	108.20	5.70E+01	9.03E+00	2.41E+02	1.09E+02
6	129.66	8.45E+01	87.48			8.45E+01	8.75E+01
7	144.27	7.24E+01	69.94	8.10E+00	1.90E+01	6.43E+01	7.25E+01
M 8	183.37	4.94E+01	49.52			4.94E+01	4.95E+01
m 9	186.27	1.98E+02	55.64	4.72E+01	7.97E+00	1.50E+02	5.62E+01
10	209.58	6.64E+01	63.28			6.64E+01	6.33E+01
M 11	238.77	9.56E+02	74.09	2.36E+01	1.35E+01	9.32E+02	7.53E+01
m 12	241.74	2.03E+02	86.45	6.38E+00	3.91E+00	1.96E+02	8.65E+01
13	270.38	1.06E+02	71.98			1.06E+02	7.20E+01
M 14	295.28	2.74E+02	50.18	8.57E+00	6.10E+00	2.65E+02	5.05E+01
m 15	300.06	5.46E+01	39.92			5.46E+01	3.99E+01
16	329.12	6.35E+01	53.55			6.35E+01	5.36E+01
17	338.55	1.74E+02	59.40			1.74E+02	5.94E+01
18	352.05	4.51E+02	67.68	1.40E+01	5.55E+00	4.37E+02	6.79E+01
19	410.59	4.05E+01	43.91			4.05E+01	4.39E+01
20	463.04	6.62E+01	40.74			6.62E+01	4.07E+01
M 21	510.99	1.90E+02	42.76	8.41E+01	5.50E+00	1.06E+02	4.31E+01
m 22	516.01	2.40E+01	28.43			2.40E+01	2.84E+01
23	573.90	4.66E+01	41.52			4.66E+01	4.15E+01
24	583.24	2.59E+02	50.65	7.32E+00	4.08E+00	2.52E+02	5.08E+01
25	609.27	4.06E+02	53.36	1.30E+01	3.89E+00	3.93E+02	5.35E+01
26	655.91	2.16E+01	26.46			2.16E+01	2.65E+01
27	665.52	2.46E+01	24.08			2.46E+01	2.41E+01
28	727.35	4.93E+01	42.06			4.93E+01	4.21E+01
29	768.12	2.75E+01	27.55			2.75E+01	2.75E+01
30	860.24	5.57E+01	32.62			5.57E+01	3.26E+01
31	874.30	3.44E+01	28.91			3.44E+01	2.89E+01
32	911.40	2.01E+02	39.04	5.60E+00	3.32E+00	1.96E+02	3.92E+01
33	969.19	6.38E+01	43.31			6.38E+01	4.33E+01
34	1120.49	9.20E+01	33.92	3.93E+00	2.96E+00	8.81E+01	3.41E+01
35	1167.36	2.19E+01	22.36			2.19E+01	2.24E+01
36	1239.92	5.91E+01	37.74			5.91E+01	3.77E+01
37	1377.72	3.10E+01	17.13			3.10E+01	1.71E+01
38	1461.02	7.89E+02	57.24	1.12E+01	2.55E+00	7.78E+02	5.73E+01
39	1509.16	1.35E+01	13.02			1.35E+01	1.30E+01
40	1630.37	1.62E+01	11.16			1.62E+01	1.12E+01
41	1730.36	1.40E+01	10.20			1.40E+01	1.02E+01
42	1747.14	8.30E+00	7.23			8.30E+00	7.23E+00
43	1764.46	6.36E+01	16.86	4.23E+00	2.21E+00	5.94E+01	1.70E+01
M 44	1841.79	1.11E+01	9.38			1.11E+01	9.38E+00

Analysis Report for 1510092-15

CP5001S16-17

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
m	45	1847.88	1.52E+01	11.14			1.52E+01	1.11E+01
	46	1878.57	1.50E+01	7.75			1.50E+01	7.75E+00
	47	2142.07	7.22E+00	7.21			7.22E+00	7.21E+00
	48	2203.87	1.85E+01	12.68	5.94E-01	1.16E+00	1.79E+01	1.27E+01
	49	2293.29	8.83E+00	10.39			8.83E+00	1.04E+01
	50	2614.31	1.01E+02	22.01	7.38E+00	1.57E+00	9.32E+01	2.21E+01
	51	2991.96	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 : 11/11/2015 10:32:54AM

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	47.01	1.83E+02	108.04	6.46E+01	1.16E+01	1.18E+02	1.09E+02
	2	63.58	1.52E+02	89.02	4.34E+01	1.15E+01	1.09E+02	8.98E+01
	3	76.45	8.86E+02	165.86			8.86E+02	1.66E+02
	4	86.20	9.39E+01	99.78			9.39E+01	9.98E+01
	5	92.58	2.98E+02	108.20	5.70E+01	9.03E+00	2.41E+02	1.09E+02
	6	129.66	8.45E+01	87.48			8.45E+01	8.75E+01
	7	144.27	7.24E+01	69.94	8.10E+00	1.90E+01	6.43E+01	7.25E+01
M	8	183.37	4.94E+01	49.52			4.94E+01	4.95E+01
m	9	186.27	1.98E+02	55.64	4.72E+01	7.97E+00	1.50E+02	5.62E+01
	10	209.58	6.64E+01	63.28			6.64E+01	6.33E+01
M	11	238.77	9.56E+02	74.09	2.36E+01	1.35E+01	9.32E+02	7.53E+01
m	12	241.74	2.03E+02	86.45	6.38E+00	3.91E+00	1.96E+02	8.65E+01
	13	270.38	1.06E+02	71.98			1.06E+02	7.20E+01
M	14	295.28	2.74E+02	50.18	8.57E+00	6.10E+00	2.65E+02	5.05E+01
m	15	300.06	5.46E+01	39.92			5.46E+01	3.99E+01
	16	329.12	6.35E+01	53.55			6.35E+01	5.36E+01
	17	338.55	1.74E+02	59.40			1.74E+02	5.94E+01
	18	352.05	4.51E+02	67.68	1.40E+01	5.55E+00	4.37E+02	6.79E+01
	19	410.59	4.05E+01	43.91			4.05E+01	4.39E+01
	20	463.04	6.62E+01	40.74			6.62E+01	4.07E+01
M	21	510.99	1.90E+02	42.76	8.41E+01	5.50E+00	1.06E+02	4.31E+01

: 00836

Analysis Report for 1510092-15
CP5001S16-17

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
m	22	516.01	2.40E+01	28.43			2.40E+01	2.84E+01
	23	573.90	4.66E+01	41.52			4.66E+01	4.15E+01
	24	583.24	2.59E+02	50.65	7.32E+00	4.08E+00	2.52E+02	5.08E+01
	25	609.27	4.06E+02	53.36	1.30E+01	3.89E+00	3.93E+02	5.35E+01
	26	655.91	2.16E+01	26.46			2.16E+01	2.65E+01
	27	665.52	2.46E+01	24.08			2.46E+01	2.41E+01
	28	727.35	4.93E+01	42.06			4.93E+01	4.21E+01
	29	768.12	2.75E+01	27.55			2.75E+01	2.75E+01
	30	860.24	5.57E+01	32.62			5.57E+01	3.26E+01
	31	874.30	3.44E+01	28.91			3.44E+01	2.89E+01
	32	911.40	2.01E+02	39.04	5.60E+00	3.32E+00	1.96E+02	3.92E+01
	33	969.19	6.38E+01	43.31			6.38E+01	4.33E+01
	34	1120.49	9.20E+01	33.92	3.93E+00	2.96E+00	8.81E+01	3.41E+01
	35	1167.36	2.19E+01	22.36			2.19E+01	2.24E+01
	36	1239.92	5.91E+01	37.74			5.91E+01	3.77E+01
	37	1377.72	3.10E+01	17.13			3.10E+01	1.71E+01
	38	1461.02	7.89E+02	57.24	1.12E+01	2.55E+00	7.78E+02	5.73E+01
	39	1509.16	1.35E+01	13.02			1.35E+01	1.30E+01
	40	1630.37	1.62E+01	11.16			1.62E+01	1.12E+01
	41	1730.36	1.40E+01	10.20			1.40E+01	1.02E+01
	42	1747.14	8.30E+00	7.23			8.30E+00	7.23E+00
	43	1764.46	6.36E+01	16.86	4.23E+00	2.21E+00	5.94E+01	1.70E+01
M	44	1841.79	1.11E+01	9.38			1.11E+01	9.38E+00
m	45	1847.88	1.52E+01	11.14			1.52E+01	1.11E+01
	46	1878.57	1.50E+01	7.75			1.50E+01	7.75E+00
	47	2142.07	7.22E+00	7.21			7.22E+00	7.21E+00
	48	2203.87	1.85E+01	12.68	5.94E-01	1.16E+00	1.79E+01	1.27E+01
	49	2293.29	8.83E+00	10.39			8.83E+00	1.04E+01
	50	2614.31	1.01E+02	22.01	7.38E+00	1.57E+00	9.32E+01	2.21E+01
	51	2991.96	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

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	0.993	1460.81	* 10.67	2.14E+01	2.72E+00

: 00837

Analysis Report for 1510092-15
CP5001S16-17

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
GA-67	0.569	93.31 *	35.70	3.43E+02	1.52E+03
		208.95 *	2.24	2.21E+03	9.64E+03
		300.22 *	16.00	3.23E+02	1.45E+03
EU-155	0.352	86.50 *	30.90	1.49E-01	1.60E-01
		105.30	20.70		
TL-208	0.989	583.14 *	30.22	1.19E+00	2.62E-01
		860.37 *	4.48	2.42E+00	1.43E+00
		2614.66 *	35.85	8.82E-01	2.20E-01
PB-210	0.959	46.50 *	4.25	2.78E+00	2.58E+00
BI-212	0.762	727.17 *	11.80	7.11E-01	6.09E-01
		1620.62	2.75		
PB-212	0.997	238.63 *	44.60	1.61E+00	1.94E-01
		300.09 *	3.41	1.44E+00	1.06E+00
BI-214	0.997	609.31 *	46.30	1.26E+00	2.03E-01
		1120.29 *	15.10	1.41E+00	5.56E-01
		1764.49 *	15.80	1.23E+00	3.68E-01
		2204.22 *	4.98	1.26E+00	9.00E-01
PB-214	0.998	295.21 *	19.19	1.23E+00	2.62E-01
		351.92 *	37.19	1.18E+00	2.10E-01
RA-224	0.912	240.98 *	3.95	3.86E+00	1.73E+00
RA-226	0.999	186.21 *	3.28	2.99E+00	5.59E+00
AC-228	0.989	338.32 *	11.40	1.49E+00	5.26E-01
		911.07 *	27.70	1.44E+00	3.14E-01
		969.11 *	16.60	8.24E-01	5.64E-01
TH-234	0.987	63.29 *	3.80	1.65E+00	1.37E+00
NP-237	0.985	86.50 *	12.60	3.61E-01	3.88E-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 : 11/11/2015 10:32:54AM

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	76.45	2.45984E-01	9.36		
6	129.66	2.34792E-02	51.75		
7	144.27	1.78721E-02	56.33	Tol.	U-235

: 00838

Analysis Report for 1510092-15
CP5001S16-17

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
M 8	183.37	1.37251E-02	50.11		
13	270.38	2.94225E-02	33.98		
16	329.12	1.76275E-02	42.20	Tol.	LA-140
19	410.59	1.12425E-02	54.24	Tol.	HO-166M
20	463.04	1.83804E-02	30.79	Tol.	SB-125
M 21	510.99	2.94718E-02	20.32		
m 22	516.01	6.67487E-03	59.15		
23	573.90	1.29363E-02	44.58		
26	655.91	5.99747E-03	61.27	Sum	
27	665.52	6.82268E-03	49.03	Tol.	SB-126 CE-143
29	768.12	7.62545E-03	50.18		
31	874.30	9.56349E-03	41.99		
35	1167.36	6.08918E-03	51.00	Sum	
36	1239.92	1.64239E-02	31.91		
37	1377.72	8.60142E-03	27.66		
39	1509.16	3.75000E-03	48.22		
40	1630.37	4.51058E-03	34.36		
41	1730.36	3.88889E-03	36.42	Sum	
42	1747.14	2.30556E-03	43.54		
M 44	1841.79	3.08989E-03	42.17		
m 45	1847.88	4.21731E-03	36.67	Sum	
46	1878.57	4.16667E-03	25.82		
47	2142.07	2.00617E-03	49.92		
49	2293.29	2.45370E-03	58.82		
51	2991.96	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	0.99	1460.81	* 10.67	2.14E+01	2.72E+00
GA-67	0.56	93.31	* 35.70	3.43E+02	1.52E+03

Analysis Report for 1510092-15
CP5001S16-17

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (pCi/grams)	Activity Uncertainty
GA-67	0.56	208.95 *	2.24	2.21E+03	9.64E+03
		300.22 *	16.00	3.23E+02	1.45E+03
EU-155	0.35	86.50 *	30.90	1.49E-01	1.60E-01
		105.30	20.70		
TL-208	0.98	583.14 *	30.22	1.19E+00	2.62E-01
		860.37 *	4.48	2.42E+00	1.43E+00
		2614.66 *	35.85	8.82E-01	2.20E-01
PB-210	0.95	46.50 *	4.25	2.78E+00	2.58E+00
BI-212	0.76	727.17 *	11.80	7.11E-01	6.09E-01
		1620.62	2.75		
PB-212	0.99	238.63 *	44.60	1.61E+00	1.94E-01
		300.09 *	3.41	1.44E+00	1.06E+00
BI-214	0.99	609.31 *	46.30	1.26E+00	2.03E-01
		1120.29 *	15.10	1.41E+00	5.56E-01
		1764.49 *	15.80	1.23E+00	3.68E-01
		2204.22 *	4.98	1.26E+00	9.00E-01
PB-214	0.99	295.21 *	19.19	1.23E+00	2.62E-01
		351.92 *	37.19	1.18E+00	2.10E-01
RA-224	0.91	240.98 *	3.95	3.86E+00	1.73E+00
RA-226	0.99	186.21 *	3.28	2.99E+00	5.59E+00
AC-228	0.98	338.32 *	11.40	1.49E+00	5.26E-01
		911.07 *	27.70	1.44E+00	3.14E-01
		969.11 *	16.60	8.24E-01	5.64E-01
TH-234	0.98	63.29 *	3.80	1.65E+00	1.37E+00
NP-237	0.98	86.50 *	12.60	3.61E-01	3.88E-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	0.993	2.14E+01	2.72E+00	
GA-67	0.569	2.32E+02	1.00E+03	

Analysis Report for 1510092-15
CP5001S16-17

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
?	EU-155	0.352	1.49E-01	1.60E-01	
	TL-208	0.989	1.03E+00	1.67E-01	
	PB-210	0.959	2.78E+00	2.58E+00	
	BI-212	0.762	7.11E-01	6.09E-01	
	PB-212	0.997	1.57E+00	1.92E-01	
	BI-214	0.997	1.27E+00	1.66E-01	
	PB-214	0.998	1.20E+00	1.64E-01	
	RA-224	0.912	3.86E+00	1.73E+00	
	RA-226	0.999	2.99E+00	5.59E+00	
	AC-228	0.989	1.33E+00	2.43E-01	
	TH-234	0.987	1.65E+00	1.37E+00	
?	NP-237	0.985	3.61E-01	3.88E-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 1510092-15
CP5001S16-17

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 10:32:54AM
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	76.45	2.45984E-01	9.36		
6	129.66	2.34792E-02	51.75		
7	144.27	1.78721E-02	56.33	Tol.	U-235
M 8	183.37	1.37251E-02	50.11		
13	270.38	2.94225E-02	33.98		
16	329.12	1.76275E-02	42.20	Tol.	LA-140
19	410.59	1.12425E-02	54.24	Tol.	HO-166M
20	463.04	1.83804E-02	30.79	Tol.	SB-125
M 21	510.99	2.94718E-02	20.32		
m 22	516.01	6.67487E-03	59.15		
23	573.90	1.29363E-02	44.58		
26	655.91	5.99747E-03	61.27	Sum	
27	665.52	6.82268E-03	49.03	Tol.	SB-126 CE-143
29	768.12	7.62545E-03	50.18		
31	874.30	9.56349E-03	41.99		
35	1167.36	6.08918E-03	51.00	Sum	
36	1239.92	1.64239E-02	31.91		
37	1377.72	8.60142E-03	27.66		
39	1509.16	3.75000E-03	48.22		
40	1630.37	4.51058E-03	34.36		
41	1730.36	3.88889E-03	36.42	Sum	
42	1747.14	2.30556E-03	43.54		
M 44	1841.79	3.08989E-03	42.17		
m 45	1847.88	4.21731E-03	36.67	Sum	
46	1878.57	4.16667E-03	25.82		
47	2142.07	2.00617E-03	49.92		
49	2293.29	2.45370E-03	58.82		
51	2991.96	1.38889E-03	44.72		

Analysis Report for 1510092-15
CP5001S16-17

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	-1.50E-01	7.87E-01	7.87E-01
+	NA-22	1274.54	99.94	-4.06E-03	7.93E-02	7.93E-02
+	NA-24	1368.53	99.99	-1.76E+12	1.45E+14	3.84E+14
		2754.09	99.86	-5.89E+13		1.45E+14
+	AL-26	1808.65	99.76	2.70E-02	7.10E-02	7.10E-02
+	K-40	1460.81	* 10.67	2.14E+01	6.70E-01	6.70E-01
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	1.65E-02	5.36E-02	5.36E-02
		78.34	96.00	2.49E-01		7.47E-02
+	SC-46	889.25	99.98	-5.36E-02	8.97E-02	8.97E-02
		1120.51	99.99	2.99E-01		1.74E-01
+	V-48	983.52	99.98	8.99E-02	3.05E-01	3.05E-01
		1312.10	97.50	9.09E-02		3.41E-01
+	CR-51	320.08	9.83	-2.60E-01	1.20E+00	1.20E+00
+	MN-54	834.83	99.97	2.13E-02	8.55E-02	8.55E-02
+	CO-56	846.75	99.96	-5.20E-03	9.37E-02	9.37E-02
		1037.75	14.03	2.20E-01		8.28E-01
		1238.25	67.00	1.46E-01		2.46E-01
		1771.40	15.51	-9.75E-02		4.72E-01
		2598.48	16.90	0.00E+00		2.89E-01
+	CO-57	122.06	85.51	-3.73E-02	6.03E-02	6.03E-02
		136.48	10.60	1.88E-02		5.09E-01
+	CO-58	810.76	99.40	-7.71E-03	9.40E-02	9.40E-02
+	FE-59	1099.22	56.50	4.06E-02	2.27E-01	2.27E-01
		1291.56	43.20	-1.06E-01		3.21E-01
+	CO-60	1173.22	100.00	2.56E-02	7.86E-02	8.49E-02
		1332.49	100.00	2.21E-02		7.86E-02
+	ZN-65	1115.52	50.75	-1.99E-02	1.55E-01	1.55E-01
+	GA-67	93.31	* 35.70	3.43E+02	2.48E+02	2.48E+02
		208.95	* 2.24	2.21E+03		3.43E+03
		300.22	* 16.00	3.23E+02		7.00E+02
+	SE-75	121.11	16.70	-8.12E-02	9.94E-02	3.46E-01

Analysis Report for 1510092-15
CP5001S16-17

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)		
	SE-75	136.00	59.20	-6.77E-02	9.94E-02	9.94E-02	
		264.65	59.80	2.72E-02		1.07E-01	
		279.53	25.20	-2.07E-02		2.50E-01	
		400.65	11.40	3.29E-01		6.55E-01	
+	RB-82	776.52	13.00	-4.28E-01	1.38E+00	1.38E+00	
+	RB-83	520.41	46.00	0.00E+00	1.54E-01	1.54E-01	
		529.64	30.30	-1.61E-01		2.26E-01	
		552.65	16.40	1.12E-02		4.61E-01	
+	KR-85	513.99	0.43	-1.12E+01	1.64E+01	1.64E+01	
+	SR-85	513.99	99.27	-6.94E-02	1.01E-01	1.01E-01	
+	Y-88	898.02	93.40	-3.22E-02	5.46E-02	9.67E-02	
		1836.01	99.38	-1.34E-02		5.46E-02	
+	NB-93M	16.57	9.43	-1.13E+04	5.35E+03	5.35E+03	
+	NB-94	702.63	100.00	-2.37E-02	7.12E-02	7.33E-02	
		871.10	100.00	-3.30E-02		7.12E-02	
+	NB-95	765.79	99.81	2.29E-02	1.78E-01	1.78E-01	
+	NB-95M	235.69	25.00	-1.42E+03	1.74E+02	1.74E+02	
+	ZR-95	724.18	43.70	4.60E-02	1.83E-01	3.00E-01	
		756.72	55.30	-1.81E-02		1.83E-01	
+	MO-99	181.06	6.20	9.97E+01	1.97E+03	3.17E+03	
		739.58	12.80	-3.58E+02		1.97E+03	
		778.00	4.50	-4.27E+03		5.97E+03	
+	RU-103	497.08	89.00	2.51E-02	1.06E-01	1.06E-01	
+	RU-106	621.84	9.80	2.04E-01	7.20E-01	7.20E-01	
+	AG-108M	433.93	89.90	-1.22E-02	5.65E-02	5.65E-02	
		614.37	90.40	-3.98E-03		7.82E-02	
		722.95	90.50	2.72E-02		9.03E-02	
+	CD-109	88.03	3.72	1.97E+00	1.83E+00	1.83E+00	
+	AG-110M	657.75	93.14	1.18E-02	8.24E-02	8.24E-02	
		677.61	10.53	6.74E-02		7.63E-01	
		706.67	16.46	1.79E-01		5.04E-01	
		763.93	21.98	7.92E-02		4.23E-01	
		884.67	71.63	3.24E-02		1.08E-01	
		1384.27	23.94	1.60E-02		2.84E-01	
+		CD-113M	263.70	0.02	9.25E+01	2.26E+02	2.26E+02
+		SN-113	255.12	1.93	1.30E+00	1.06E-01	3.46E+00
	391.69		64.90	1.02E-02		1.06E-01	
+	TE123M	159.00	84.10	-1.74E-02	7.19E-02	7.19E-02	
+	SB-124	602.71	97.87	-1.16E-02	9.82E-02	9.82E-02	
		645.85	7.26	-1.69E-02		1.38E+00	
		722.78	11.10	3.23E-01		1.07E+00	
		1691.02	49.00	3.04E-02		1.92E-01	
+	I-125	35.49	6.49	-2.41E+00	5.80E+00	5.80E+00	
+	SB-125	176.33	6.89	2.69E-01	2.05E-01	7.66E-01	
		427.89	29.33	6.23E-02		2.05E-01	
		463.38	10.35	7.28E-01		6.90E-01	
		600.56	17.80	6.41E-02		3.93E-01	
		635.90	11.32	-2.61E-01		6.06E-01	

Analysis Report for 1510092-15
CP5001S16-17

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	SB-126	414.70	83.30	-8.40E-03	4.02E-01	4.02E-01
		666.33	99.60	-1.05E-01		4.43E-01
		695.00	99.60	2.65E-01		4.79E-01
		720.50	53.80	5.02E-01		8.87E-01
+	SN-126	87.57	37.00	1.89E-01	1.75E-01	1.75E-01
+	SB-127	473.00	25.00	-1.80E+01	6.69E+01	7.65E+01
		685.20	35.70	-7.37E+00		6.69E+01
		783.80	14.70	6.93E+01		1.95E+02
+	I-129	29.78	57.00	-5.60E-01	1.16E+00	1.16E+00
		33.60	13.20	-3.66E-01		2.54E+00
		39.58	7.52	7.18E-01		2.24E+00
+	I-131	284.30	6.05	-1.03E+01	1.03E+00	1.49E+01
		364.48	81.20	1.00E-01		1.03E+00
		636.97	7.26	-1.15E+01		1.50E+01
		722.89	1.80	2.30E+01		7.64E+01
+	TE-132	49.72	13.10	1.49E+02	6.54E+01	6.20E+02
		228.16	88.00	1.98E+01		6.54E+01
+	BA-133	81.00	33.00	8.28E-02	9.05E-02	1.32E-01
		302.84	17.80	1.26E-02		3.26E-01
		356.01	60.00	1.10E-02		9.05E-02
+	I-133	529.87	86.30	-7.43E+09	1.47E+10	1.47E+10
+	XE-133	81.00	38.00	5.42E+00	8.66E+00	8.66E+00
+	CS-134	563.23	8.38	2.74E-01	8.49E-02	7.39E-01
		569.32	15.43	2.59E-02		3.92E-01
		604.70	97.60	-1.85E-04		8.49E-02
		795.84	85.40	8.59E-02		1.02E-01
		801.93	8.73	1.05E-01		8.66E-01
+	CS-135	268.24	16.00	6.00E-02	3.72E-01	3.72E-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	1.11E+00	3.57E-01	3.94E+00
		163.89	4.61	1.63E+00		6.20E+00
		176.55	13.56	-1.42E-02		2.10E+00
		273.65	12.66	-1.88E+00		2.19E+00
		340.57	48.50	-4.49E-01		7.73E-01
		818.50	99.70	-3.91E-01		3.57E-01
		1048.07	79.60	-6.84E-03		5.17E-01
		1235.34	19.70	-3.71E-01		3.15E+00
+	CS-137	661.65	85.12	5.58E-03	7.89E-02	7.89E-02
+	LA-138	788.74	34.00	1.31E-01	1.16E-01	2.35E-01
		1435.80	66.00	3.51E-02		1.16E-01
+	CE-139	165.85	80.35	-2.83E-02	7.31E-02	7.31E-02
+	BA-140	162.64	6.70	5.21E-01	1.31E+00	4.40E+00
		304.84	4.50	3.91E-01		6.95E+00
		423.70	3.20	1.43E+00		1.02E+01
		437.55	2.00	2.09E+00		1.50E+01
		537.32	25.00	-4.84E-01		1.31E+00
+	LA-140	328.77	20.50	1.65E+00	4.42E-01	1.89E+00

Analysis Report for 1510092-15
CP5001S16-17

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
LA-140	487.03	45.50	8.86E-02	4.42E-01	6.56E-01
	815.85	23.50	9.09E-02		1.71E+00
	1596.49	95.49	6.43E-02		4.42E-01
+	CE-141	145.44	48.40	1.53E-01	2.15E-01
+	CE-143	57.36	11.80	-1.94E+06	2.69E+06
	293.26	42.00	-2.31E+06		2.69E+06
	664.55	5.20	2.70E+06		2.10E+07
+	CE-144	133.54	10.80	-4.85E-02	4.93E-01
+	PM-144	476.78	42.00	-2.58E-02	7.25E-02
	618.01	98.60	-2.33E-03		7.25E-02
	696.49	99.49	5.91E-02		8.28E-02
+	PM-145	36.85	21.70	-2.17E-01	5.29E-01
	37.36	39.70	-1.12E-01		5.29E-01
	42.30	15.10	-6.39E-02		8.46E-01
	72.40	2.31	-6.55E-01		2.12E+00
+	PM-146	453.90	39.94	-6.27E-03	1.33E-01
	735.90	14.01	-2.13E-01		4.61E-01
	747.13	13.10	-8.38E-03		5.51E-01
+	ND-147	91.11	28.90	-2.01E+00	1.77E+00
	531.02	13.10	1.25E+00		3.49E+00
+	PM-149	285.90	3.10	-2.19E+04	5.21E+04
+	EU-152	121.78	20.50	-1.43E-01	2.32E-01
	244.69	5.40	1.27E-01		1.07E+00
	344.27	19.13	-3.78E-02		2.89E-01
	778.89	9.20	-9.16E-02		7.60E-01
	964.01	10.40	6.36E-02		1.04E+00
	1085.78	7.22	9.74E-02		1.14E+00
	1112.02	9.60	-1.51E-01		7.58E-01
	1407.95	14.94	3.68E-01		6.05E-01
+	GD-153	97.43	31.30	1.19E-01	1.66E-01
	103.18	22.20	-2.92E-01		2.25E-01
+	EU-154	123.07	40.50	5.91E-02	1.21E-01
	723.30	19.70	1.26E-01		4.18E-01
	873.19	11.50	4.74E-01		6.98E-01
	996.32	10.30	-6.86E-01		6.13E-01
	1004.76	17.90	1.69E-01		4.81E-01
	1274.45	35.50	-1.12E-02		2.19E-01
+	EU-155	86.50	* 30.90	1.49E-01	2.35E-01
	105.30	20.70	4.47E-02		2.35E-01
+	EU-156	811.77	10.40	1.03E+00	2.96E+00
	1153.47	7.20	3.11E+00		6.01E+00
	1230.71	8.90	-1.04E+00		4.84E+00
+	HO-166M	184.41	72.60	3.07E-02	8.92E-02
	280.45	29.60	-1.46E-02		1.77E-01
	410.94	11.10	2.93E-01		5.45E-01
	711.69	54.10	1.16E-02		1.25E-01
+	TM-171	66.72	0.14	9.13E+00	3.75E+01
+	HF-172	81.75	4.52	1.94E-01	4.46E-01
	125.81	11.30	9.36E-02		4.46E-01

Analysis Report for 1510092-15
CP5001S16-17

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	LU-172	181.53	20.60	-6.14E+00	3.39E+00	7.44E+00
		810.06	16.63	-9.89E-01		1.21E+01
		912.12	15.25	7.67E+01		3.05E+01
		1093.66	62.50	-1.66E-01		3.39E+00
+	LU-173	100.72	5.24	1.75E-01	3.00E-01	9.38E-01
		272.11	21.20	3.94E-01		3.00E-01
+	HF-175	343.40	84.00	-4.13E-04	9.11E-02	9.11E-02
+	LU-176	88.34	13.30	5.25E-01	5.43E-02	4.87E-01
		201.83	86.00	-8.57E-03		6.47E-02
		306.78	94.00	-2.69E-02		5.43E-02
+	TA-182	67.75	41.20	4.62E-02	1.50E-01	1.50E-01
		1121.30	34.90	7.87E-01		4.63E-01
		1189.05	16.23	-1.50E-01		6.57E-01
		1221.41	26.98	3.20E-02		4.55E-01
		1231.02	11.44	-1.87E-01		1.01E+00
+	IR-192	308.46	29.68	-6.28E-02	1.54E-01	2.36E-01
		468.07	48.10	1.17E-02		1.54E-01
+	HG-203	279.19	77.30	4.88E-02	1.11E-01	1.11E-01
+	BI-207	569.67	97.72	3.97E-03	6.02E-02	6.02E-02
		1063.62	74.90	5.62E-04		1.15E-01
+	TL-208	583.14	* 30.22	1.19E+00	1.92E-01	3.23E-01
		860.37	* 4.48	2.42E+00		2.19E+00
		2614.66	* 35.85	8.82E-01		1.92E-01
+	BI-210M	262.00	45.00	3.60E-02	1.13E-01	1.13E-01
		300.00	23.00	2.02E-01		2.74E-01
+	PB-210	46.50	* 4.25	2.78E+00	4.19E+00	4.19E+00
+	PB-211	404.84	2.90	3.80E-01	1.96E+00	1.96E+00
		831.96	2.90	-1.74E+00		2.43E+00
+	BI-212	727.17	* 11.80	7.11E-01	9.78E-01	9.78E-01
		1620.62	2.75	5.90E-01		2.37E+00
+	PB-212	238.63	* 44.60	1.61E+00	2.44E-01	2.44E-01
		300.09	* 3.41	1.44E+00		3.12E+00
+	BI-214	609.31	* 46.30	1.26E+00	1.98E-01	1.98E-01
		1120.29	* 15.10	1.41E+00		7.89E-01
		1764.49	* 15.80	1.23E+00		3.02E-01
		2204.22	* 4.98	1.26E+00		1.29E+00
+	PB-214	295.21	* 19.19	1.23E+00	2.44E-01	5.50E-01
		351.92	* 37.19	1.18E+00		2.44E-01
+	RN-219	401.80	6.50	-5.35E-02	9.17E-01	9.17E-01
+	RA-223	323.87	3.88	5.44E-02	1.39E+00	1.39E+00
+	RA-224	240.98	* 3.95	3.86E+00	2.78E+00	2.78E+00
+	RA-225	40.00	31.00	7.75E-01	2.42E+00	2.42E+00
+	RA-226	186.21	* 3.28	2.99E+00	2.79E+00	2.79E+00
+	TH-227	50.10	8.40	2.16E-01	7.03E-01	8.96E-01
		236.00	11.50	-5.75E+00		7.03E-01
		256.20	6.30	1.68E-01		8.60E-01
+	AC-228	338.32	* 11.40	1.49E+00	3.52E-01	7.72E-01
		911.07	* 27.70	1.44E+00		3.52E-01

Analysis Report for 1510092-15
CP5001S16-17

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	AC-228	969.11	*	16.60	8.24E-01	3.52E-01	8.90E-01
+	TH-230	48.44		16.90	-4.72E-02	5.00E-01	5.00E-01
		62.85		4.60	1.49E+00		1.37E+00
		67.67		0.37	4.23E+00		1.37E+01
+	PA-231	283.67		1.60	-2.31E+00	2.50E+00	3.34E+00
		302.67		2.30	9.70E-02		2.50E+00
+	TH-231	25.64		14.70	-6.12E+00	7.10E-01	1.49E+01
		84.21		6.40	4.60E-01		7.10E-01
+	PA-233	311.98		38.60	1.17E-01	3.29E-01	3.29E-01
+	PA-234	131.20		20.40	2.81E-01	2.71E-01	2.71E-01
		733.99		8.80	2.70E-01		7.77E-01
		946.00		12.00	-1.19E-01		6.68E-01
+	PA-234M	1001.03		0.92	9.57E-01	8.36E+00	8.36E+00
+	TH-234	63.29	*	3.80	1.65E+00	2.22E+00	2.22E+00
+	U-235	143.76		10.50	4.70E-01	4.93E-01	4.93E-01
		163.35		4.70	1.26E-01		1.06E+00
		205.31		4.70	6.82E-01		1.18E+00
+	NP-237	86.50	*	12.60	3.61E-01	6.30E-01	6.30E-01
+	NP-239	106.10		22.70	1.33E+03	3.27E+03	3.27E+03
		228.18		10.70	2.36E+03		7.78E+03
		277.60		14.10	-1.06E+03		5.49E+03
+	AM-241	59.54		35.90	3.22E-02	1.59E-01	1.59E-01
+	AM-243	74.67		66.00	-1.79E-01	1.01E-01	1.01E-01
+	CM-243	209.75		3.29	2.14E+00	3.61E-01	1.85E+00
		228.14		10.60	1.55E-01		5.13E-01
		277.60		14.00	-6.95E-02		3.61E-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
 ? = 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

: 00848

Analysis Report for 1510092-15
CP5001S16-17

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	7.87E-01	7.87E-01	-1.50E-01	3.69E-01
NA-22	1274.54	99.94	7.93E-02	7.93E-02	-4.06E-03	3.60E-02
NA-24	1368.53	99.99	3.84E+14	1.45E+14	-1.76E+12	1.69E+14
	2754.09	99.86	1.45E+14		-5.89E+13	4.57E+13
AL-26	1808.65	99.76	7.10E-02	7.10E-02	2.70E-02	3.10E-02
+ K-40	1460.81	*	10.67	6.70E-01	6.70E-01	2.14E+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	5.36E-02	5.36E-02	1.65E-02	2.60E-02
	78.34	96.00	7.47E-02		2.49E-01	3.66E-02
SC-46	889.25	99.98	8.97E-02	8.97E-02	-5.36E-02	4.13E-02
	1120.51	99.99	1.74E-01		2.99E-01	8.25E-02
V-48	983.52	99.98	3.05E-01	3.05E-01	8.99E-02	1.40E-01
	1312.10	97.50	3.41E-01		9.09E-02	1.55E-01
CR-51	320.08	9.83	1.20E+00	1.20E+00	-2.60E-01	5.70E-01
MN-54	834.83	99.97	8.55E-02	8.55E-02	2.13E-02	4.00E-02
CO-56	846.75	99.96	9.37E-02	9.37E-02	-5.20E-03	4.34E-02
	1037.75	14.03	8.28E-01		2.20E-01	3.85E-01
	1238.25	67.00	2.46E-01		1.46E-01	1.16E-01
	1771.40	15.51	4.72E-01		-9.75E-02	1.98E-01
	2598.48	16.90	2.89E-01		0.00E+00	1.08E-01
CO-57	122.06	85.51	6.03E-02	6.03E-02	-3.73E-02	2.93E-02
	136.48	10.60	5.09E-01		1.88E-02	2.47E-01
CO-58	810.76	99.40	9.40E-02	9.40E-02	-7.71E-03	4.35E-02
FE-59	1099.22	56.50	2.27E-01	2.27E-01	4.06E-02	1.04E-01
	1291.56	43.20	3.21E-01		-1.06E-01	1.47E-01
CO-60	1173.22	100.00	8.49E-02	7.86E-02	2.56E-02	3.90E-02
	1332.49	100.00	7.86E-02		2.21E-02	3.55E-02
ZN-65	1115.52	50.75	1.55E-01	1.55E-01	-1.99E-02	7.04E-02
+ GA-67	93.31	*	35.70	2.48E+02	3.43E+02	1.22E+02
	208.95	*	2.24	3.43E+03	2.21E+03	1.67E+03
	300.22	*	16.00	7.00E+02	3.23E+02	3.42E+02
SE-75	121.11	16.70	3.46E-01	9.94E-02	-8.12E-02	1.68E-01
	136.00	59.20	9.94E-02		-6.77E-02	4.82E-02
	264.65	59.80	1.07E-01		2.72E-02	5.10E-02
	279.53	25.20	2.50E-01		-2.07E-02	1.20E-01
	400.65	11.40	6.55E-01		3.29E-01	3.12E-01
RB-82	776.52	13.00	1.38E+00	1.38E+00	-4.28E-01	6.42E-01
RB-83	520.41	46.00	1.54E-01	1.54E-01	0.00E+00	7.21E-02
	529.64	30.30	2.26E-01		-1.61E-01	1.05E-01
	552.65	16.40	4.61E-01		1.12E-02	2.16E-01
KR-85	513.99	0.43	1.64E+01	1.64E+01	-1.12E+01	7.78E+00
SR-85	513.99	99.27	1.01E-01	1.01E-01	-6.94E-02	4.80E-02
Y-88	898.02	93.40	9.67E-02	5.46E-02	-3.22E-02	4.48E-02
	1836.01	99.38	5.46E-02		-1.34E-02	2.16E-02
NB-93M	16.57	9.43	5.35E+03	5.35E+03	-1.13E+04	2.60E+03
NB-94	702.63	100.00	7.33E-02	7.12E-02	-2.37E-02	3.44E-02
	871.10	100.00	7.12E-02		-3.30E-02	3.30E-02
NB-95	765.79	99.81	1.78E-01	1.78E-01	2.29E-02	8.46E-02
NB-95M	235.69	25.00	1.74E+02	1.74E+02	-1.42E+03	8.47E+01
ZR-95	724.18	43.70	3.00E-01	1.83E-01	4.60E-02	1.43E-01
	756.72	55.30	1.83E-01		-1.81E-02	8.55E-02

Analysis Report for 1510092-15

CP5001S16-17

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	3.17E+03	1.97E+03	9.97E+01	1.53E+03
	739.58	12.80	1.97E+03		-3.58E+02	9.15E+02
	778.00	4.50	5.97E+03		-4.27E+03	2.78E+03
RU-103	497.08	89.00	1.06E-01	1.06E-01	2.51E-02	4.97E-02
RU-106	621.84	9.80	7.20E-01	7.20E-01	2.04E-01	3.38E-01
AG-108M	433.93	89.90	5.65E-02	5.65E-02	-1.22E-02	2.65E-02
	614.37	90.40	7.82E-02		-3.98E-03	3.68E-02
	722.95	90.50	9.03E-02		2.72E-02	4.26E-02
CD-109	88.03	3.72	1.83E+00	1.83E+00	1.97E+00	8.96E-01
AG-110M	657.75	93.14	8.24E-02	8.24E-02	1.18E-02	3.87E-02
	677.61	10.53	7.63E-01		6.74E-02	3.59E-01
	706.67	16.46	5.04E-01		1.79E-01	2.37E-01
	763.93	21.98	4.23E-01		7.92E-02	2.00E-01
	884.67	71.63	1.08E-01		3.24E-02	5.00E-02
	1384.27	23.94	2.84E-01		1.60E-02	1.24E-01
CD-113M	263.70	0.02	2.26E+02	2.26E+02	9.25E+01	1.08E+02
SN-113	255.12	1.93	3.46E+00	1.06E-01	1.30E+00	1.66E+00
	391.69	64.90	1.06E-01		1.02E-02	5.03E-02
TE123M	159.00	84.10	7.19E-02	7.19E-02	-1.74E-02	3.48E-02
SB-124	602.71	97.87	9.82E-02	9.82E-02	-1.16E-02	4.61E-02
	645.85	7.26	1.38E+00		-1.69E-02	6.48E-01
	722.78	11.10	1.07E+00		3.23E-01	5.06E-01
	1691.02	49.00	1.92E-01		3.04E-02	8.33E-02
I-125	35.49	6.49	5.80E+00	5.80E+00	-2.41E+00	2.81E+00
SB-125	176.33	6.89	7.66E-01	2.05E-01	2.69E-01	3.70E-01
	427.89	29.33	2.05E-01		6.23E-02	9.71E-02
	463.38	10.35	6.90E-01		7.28E-01	3.29E-01
	600.56	17.80	3.93E-01		6.41E-02	1.85E-01
	635.90	11.32	6.06E-01		-2.61E-01	2.84E-01
	414.70	83.30	4.02E-01	4.02E-01	-8.40E-03	1.90E-01
SB-126	666.33	99.60	4.43E-01		-1.05E-01	2.08E-01
	695.00	99.60	4.79E-01		2.65E-01	2.25E-01
	720.50	53.80	8.87E-01		5.02E-01	4.17E-01
SN-126	87.57	37.00	1.75E-01	1.75E-01	1.89E-01	8.58E-02
SB-127	473.00	25.00	7.65E+01	6.69E+01	-1.80E+01	3.58E+01
	685.20	35.70	6.69E+01		-7.37E+00	3.12E+01
	783.80	14.70	1.95E+02		6.93E+01	9.17E+01
I-129	29.78	57.00	1.16E+00	1.16E+00	-5.60E-01	5.62E-01
	33.60	13.20	2.54E+00		-3.66E-01	1.23E+00
	39.58	7.52	2.24E+00		7.18E-01	1.09E+00
I-131	284.30	6.05	1.49E+01	1.03E+00	-1.03E+01	7.11E+00
	364.48	81.20	1.03E+00		1.00E-01	4.85E-01
	636.97	7.26	1.50E+01		-1.15E+01	7.02E+00
	722.89	1.80	7.64E+01		2.30E+01	3.61E+01
TE-132	49.72	13.10	6.20E+02	6.54E+01	1.49E+02	3.00E+02
	228.16	88.00	6.54E+01		1.98E+01	3.15E+01
BA-133	81.00	33.00	1.32E-01	9.05E-02	8.28E-02	6.40E-02
	302.84	17.80	3.26E-01		1.26E-02	1.56E-01
	356.01	60.00	9.05E-02		1.10E-02	4.30E-02
I-133	529.87	86.30	1.47E+10	1.47E+10	-7.43E+09	6.84E+09
XE-133	81.00	38.00	8.66E+00	8.66E+00	5.42E+00	4.20E+00
CS-134	563.23	8.38	7.39E-01	8.49E-02	2.74E-01	3.46E-01
	569.32	15.43	3.92E-01		2.59E-02	1.83E-01

Analysis Report for 1510092-15
CP5001S16-17

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	8.49E-02	8.49E-02	-1.85E-04	4.03E-02
	795.84	85.40	1.02E-01		8.59E-02	4.81E-02
	801.93	8.73	8.66E-01		1.05E-01	4.04E-01
CS-135	268.24	16.00	3.72E-01	3.72E-01	6.00E-02	1.79E-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	3.94E+00	3.57E-01	1.11E+00	1.91E+00
	163.89	4.61	6.20E+00		1.63E+00	3.00E+00
	176.55	13.56	2.10E+00		-1.42E-02	1.01E+00
	273.65	12.66	2.19E+00		-1.88E+00	1.04E+00
	340.57	48.50	7.73E-01		-4.49E-01	3.71E-01
	818.50	99.70	3.57E-01		-3.91E-01	1.64E-01
	1048.07	79.60	5.17E-01		-6.84E-03	2.37E-01
	1235.34	19.70	3.15E+00		-3.71E-01	1.47E+00
CS-137	661.65	85.12	7.89E-02	7.89E-02	5.58E-03	3.69E-02
LA-138	788.74	34.00	2.35E-01	1.16E-01	1.31E-01	1.10E-01
	1435.80	66.00	1.16E-01		3.51E-02	5.22E-02
CE-139	165.85	80.35	7.31E-02	7.31E-02	-2.83E-02	3.53E-02
BA-140	162.64	6.70	4.40E+00	1.31E+00	5.21E-01	2.13E+00
	304.84	4.50	6.95E+00		3.91E-01	3.31E+00
	423.70	3.20	1.02E+01		1.43E+00	4.84E+00
	437.55	2.00	1.50E+01		2.09E+00	7.02E+00
	537.32	25.00	1.31E+00		-4.84E-01	6.11E-01
LA-140	328.77	20.50	1.89E+00	4.42E-01	1.65E+00	9.07E-01
	487.03	45.50	6.56E-01		8.86E-02	3.06E-01
	815.85	23.50	1.71E+00		9.09E-02	7.92E-01
	1596.49	95.49	4.42E-01		6.43E-02	1.95E-01
CE-141	145.44	48.40	2.15E-01	2.15E-01	1.53E-01	1.04E-01
CE-143	57.36	11.80	6.65E+06	2.69E+06	-1.94E+06	3.21E+06
	293.26	42.00	2.69E+06		-2.31E+06	1.30E+06
	664.55	5.20	2.10E+07		2.70E+06	9.89E+06
CE-144	133.54	10.80	4.93E-01	4.93E-01	-4.85E-02	2.39E-01
PM-144	476.78	42.00	1.36E-01	7.25E-02	-2.58E-02	6.36E-02
	618.01	98.60	7.25E-02		-2.33E-03	3.41E-02
	696.49	99.49	8.28E-02		5.91E-02	3.90E-02
PM-145	36.85	21.70	1.03E+00	5.29E-01	-2.17E-01	5.00E-01
	37.36	39.70	5.29E-01		-1.12E-01	2.57E-01
	42.30	15.10	8.46E-01		-6.39E-02	4.11E-01
	72.40	2.31	2.12E+00		-6.55E-01	1.03E+00
PM-146	453.90	39.94	1.33E-01	1.33E-01	-6.27E-03	6.26E-02
	735.90	14.01	4.61E-01		-2.13E-01	2.14E-01
	747.13	13.10	5.51E-01		-8.38E-03	2.57E-01
ND-147	91.11	28.90	1.77E+00	1.77E+00	-2.01E+00	8.66E-01
	531.02	13.10	3.49E+00		1.25E+00	1.64E+00
PM-149	285.90	3.10	5.21E+04	5.21E+04	-2.19E+04	2.50E+04
EU-152	121.78	20.50	2.32E-01	2.32E-01	-1.43E-01	1.13E-01
	244.69	5.40	1.07E+00		1.27E-01	5.17E-01
	344.27	19.13	2.89E-01		-3.78E-02	1.37E-01
	778.89	9.20	7.60E-01		-9.16E-02	3.53E-01
	964.01	10.40	1.04E+00		6.36E-02	4.94E-01
	1085.78	7.22	1.14E+00		9.74E-02	5.27E-01
	1112.02	9.60	7.58E-01		-1.51E-01	3.45E-01

Analysis Report for 1510092-15
CP5001S16-17

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	6.05E-01	2.32E-01	3.68E-01	2.77E-01
GD-153	97.43	31.30	1.66E-01	1.66E-01	1.19E-01	8.05E-02
	103.18	22.20	2.25E-01		-2.92E-01	1.09E-01
EU-154	123.07	40.50	1.21E-01	1.21E-01	5.91E-02	5.89E-02
	723.30	19.70	4.18E-01		1.26E-01	1.97E-01
	873.19	11.50	6.98E-01		4.74E-01	3.26E-01
	996.32	10.30	6.13E-01		-6.86E-01	2.78E-01
	1004.76	17.90	4.81E-01		1.69E-01	2.24E-01
	1274.45	35.50	2.19E-01		-1.12E-02	9.95E-02
+ EU-155	86.50 *	30.90	2.60E-01	2.35E-01	1.49E-01	1.28E-01
	105.30	20.70	2.35E-01		4.47E-02	1.14E-01
EU-156	811.77	10.40	2.96E+00	2.96E+00	1.03E+00	1.37E+00
	1153.47	7.20	6.01E+00		3.11E+00	2.80E+00
	1230.71	8.90	4.84E+00		-1.04E+00	2.24E+00
HQ-166M	184.41	72.60	8.92E-02	8.92E-02	3.07E-02	4.34E-02
	280.45	29.60	1.77E-01		-1.46E-02	8.45E-02
	410.94	11.10	5.45E-01		2.93E-01	2.59E-01
	711.69	54.10	1.25E-01		1.16E-02	5.84E-02
TM-171	66.72	0.14	3.75E+01	3.75E+01	9.13E+00	1.82E+01
HF-172	81.75	4.52	9.33E-01	4.46E-01	1.94E-01	4.51E-01
	125.81	11.30	4.46E-01		9.36E-02	2.16E-01
LU-172	181.53	20.60	7.44E+00	3.39E+00	-6.14E+00	3.60E+00
	810.06	16.63	1.21E+01		-9.89E-01	5.59E+00
	912.12	15.25	3.05E+01		7.67E+01	1.47E+01
	1093.66	62.50	3.39E+00		-1.66E-01	1.54E+00
LU-173	100.72	5.24	9.38E-01	3.00E-01	1.75E-01	4.56E-01
	272.11	21.20	3.00E-01		3.94E-01	1.44E-01
HF-175	343.40	84.00	9.11E-02	9.11E-02	-4.13E-04	4.33E-02
LU-176	88.34	13.30	4.87E-01	5.43E-02	5.25E-01	2.39E-01
	201.83	86.00	6.47E-02		-8.57E-03	3.13E-02
	306.78	94.00	5.43E-02		-2.69E-02	2.58E-02
TA-182	67.75	41.20	1.50E-01	1.50E-01	4.62E-02	7.28E-02
	1121.30	34.90	4.63E-01		7.87E-01	2.20E-01
	1189.05	16.23	6.57E-01		-1.50E-01	3.03E-01
	1221.41	26.98	4.55E-01		3.20E-02	2.12E-01
	1231.02	11.44	1.01E+00		-1.87E-01	4.69E-01
IR-192	308.46	29.68	2.36E-01	1.54E-01	-6.28E-02	1.12E-01
	468.07	48.10	1.54E-01		1.17E-02	7.23E-02
HG-203	279.19	77.30	1.11E-01	1.11E-01	4.88E-02	5.30E-02
BI-207	569.67	97.72	6.02E-02	6.02E-02	3.97E-03	2.81E-02
	1063.62	74.90	1.15E-01		5.62E-04	5.33E-02
+ TL-208	583.14 *	30.22	3.23E-01	1.92E-01	1.19E+00	1.55E-01
	860.37 *	4.48	2.19E+00		2.42E+00	1.04E+00
	2614.66 *	35.85	1.92E-01		8.82E-01	8.32E-02
BI-210M	262.00	45.00	1.13E-01	1.13E-01	3.60E-02	5.41E-02
	300.00	23.00	2.74E-01		2.02E-01	1.32E-01
+ PB-210	46.50 *	4.25	4.19E+00	4.19E+00	2.78E+00	2.06E+00
PB-211	404.84	2.90	1.96E+00	1.96E+00	3.80E-01	9.28E-01
	831.96	2.90	2.43E+00		-1.74E+00	1.13E+00
+ BI-212	727.17 *	11.80	9.78E-01	9.78E-01	7.11E-01	4.70E-01
	1620.62	2.75	2.37E+00		5.90E-01	1.03E+00
+ PB-212	238.63 *	44.60	2.44E-01	2.44E-01	1.61E+00	1.20E-01
	300.09 *	3.41	3.12E+00		1.44E+00	1.52E+00

Analysis Report for 1510092-15
CP5001S16-17

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	1.98E-01	1.98E-01	1.26E+00	9.46E-02
		1120.29 *	15.10	7.89E-01		1.41E+00	3.73E-01
		1764.49 *	15.80	3.02E-01		1.23E+00	1.23E-01
		2204.22 *	4.98	1.29E+00		1.26E+00	5.49E-01
+	PB-214	295.21 *	19.19	5.50E-01	2.44E-01	1.23E+00	2.69E-01
		351.92 *	37.19	2.44E-01		1.18E+00	1.19E-01
	RN-219	401.80	6.50	9.17E-01	9.17E-01	-5.35E-02	4.36E-01
	RA-223	323.87	3.88	1.39E+00	1.39E+00	5.44E-02	6.64E-01
+	RA-224	240.98 *	3.95	2.78E+00	2.78E+00	3.86E+00	1.36E+00
	RA-225	40.00	31.00	2.42E+00	2.42E+00	7.75E-01	1.17E+00
+	RA-226	186.21 *	3.28	2.79E+00	2.79E+00	2.99E+00	1.37E+00
	TH-227	50.10	8.40	8.96E-01	7.03E-01	2.16E-01	4.34E-01
		236.00	11.50	7.03E-01		-5.75E+00	3.43E-01
		256.20	6.30	8.60E-01		1.68E-01	4.13E-01
+	AC-228	338.32 *	11.40	7.72E-01	3.52E-01	1.49E+00	3.75E-01
		911.07 *	27.70	3.52E-01		1.44E+00	1.66E-01
		969.11 *	16.60	8.90E-01		8.24E-01	4.27E-01
	TH-230	48.44	16.90	5.00E-01	5.00E-01	-4.72E-02	2.43E-01
		62.85	4.60	1.37E+00		1.49E+00	6.68E-01
		67.67	0.37	1.37E+01		4.23E+00	6.66E+00
	PA-231	283.67	1.60	3.34E+00	2.50E+00	-2.31E+00	1.60E+00
		302.67	2.30	2.50E+00		9.70E-02	1.20E+00
	TH-231	25.64	14.70	1.49E+01	7.10E-01	-6.12E+00	7.21E+00
		84.21	6.40	7.10E-01		4.60E-01	3.45E-01
	PA-233	311.98	38.60	3.29E-01	3.29E-01	1.17E-01	1.57E-01
	PA-234	131.20	20.40	2.71E-01	2.71E-01	2.81E-01	1.32E-01
		733.99	8.80	7.77E-01		2.70E-01	3.62E-01
		946.00	12.00	6.68E-01		-1.19E-01	3.10E-01
	PA-234M	1001.03	0.92	8.36E+00	8.36E+00	9.57E-01	3.85E+00
+	TH-234	63.29 *	3.80	2.22E+00	2.22E+00	1.65E+00	1.09E+00
	U-235	143.76	10.50	4.93E-01	4.93E-01	4.70E-01	2.39E-01
		163.35	4.70	1.06E+00		1.26E-01	5.15E-01
		205.31	4.70	1.18E+00		6.82E-01	5.72E-01
+	NP-237	86.50 *	12.60	6.30E-01	6.30E-01	3.61E-01	3.10E-01
	NP-239	106.10	22.70	3.27E+03	3.27E+03	1.33E+03	1.59E+03
		228.18	10.70	7.78E+03		2.36E+03	3.75E+03
		277.60	14.10	5.49E+03		-1.06E+03	2.62E+03
	AM-241	59.54	35.90	1.59E-01	1.59E-01	3.22E-02	7.69E-02
	AM-243	74.67	66.00	1.01E-01	1.01E-01	-1.79E-01	4.96E-02
	CM-243	209.75	3.29	1.85E+00	3.61E-01	2.14E+00	8.94E-01
		228.14	10.60	5.13E-01		1.55E-01	2.47E-01
		277.60	14.00	3.61E-01		-6.95E-02	1.72E-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 1510092-15
CP5001S16-17

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: CP5001S16-17

Elapsed Live time: 3600

Elapsed Real Time: 3601

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	1	3	162
9:	567	1155	1082	419	590	1652	339	126
17:	128	129	120	105	101	111	126	121
25:	112	116	105	124	95	102	109	111
33:	111	117	116	123	120	140	144	127
41:	131	116	127	122	119	156	202	107
49:	124	133	81	105	111	140	76	90
57:	88	101	114	130	117	120	197	196
65:	141	112	129	131	121	120	134	124
73:	131	149	387	234	454	364	108	126
81:	108	104	88	154	138	108	191	196
89:	101	201	125	131	237	184	92	68
97:	82	87	87	91	70	82	77	72
105:	78	106	87	79	76	63	72	82
113:	85	87	77	72	72	92	81	69
121:	76	76	76	72	88	68	81	70
129:	122	105	93	80	74	75	61	75
137:	73	67	88	70	53	66	77	76
145:	76	79	60	57	63	64	52	74
153:	70	89	72	68	68	68	70	52
161:	52	65	67	67	49	62	61	52
169:	63	67	49	65	51	65	63	58
177:	53	51	53	50	50	46	77	58
185:	82	173	113	48	57	49	42	50
193:	57	55	62	40	62	54	51	57
201:	51	58	63	54	64	54	41	49
209:	93	71	51	56	46	53	54	51
217:	55	36	46	49	59	45	53	52
225:	42	50	42	41	45	48	40	50
233:	46	45	51	49	48	299	618	99
241:	106	119	80	39	31	44	39	39
249:	35	29	42	32	42	44	40	38
257:	34	36	32	27	29	34	30	43
265:	26	35	39	36	37	72	55	37
273:	32	28	21	26	30	33	29	29
281:	39	27	34	31	40	29	42	36
289:	46	39	29	29	41	43	182	140
297:	36	34	36	60	53	28	29	33
305:	29	30	22	27	23	31	30	25
313:	30	32	27	22	28	22	27	18
321:	35	26	28	32	24	27	23	63
329:	41	35	39	29	24	21	29	24
337:	27	113	96	25	32	24	21	26
345:	29	30	36	31	27	26	112	342
353:	97	26	20	29	27	17	23	20
361:	17	18	27	19	15	17	19	19

369: 25 25 20 28 18 19 29 20

Sample Title: CP5001S16-17

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	15	31	23	18	26	26	25	21
385:	32	19	28	26	26	18	29	26
393:	18	23	19	21	24	24	29	25
401:	32	20	27	19	23	21	20	25
409:	22	33	25	23	20	18	15	22
417:	19	13	25	24	13	16	13	18
425:	20	31	19	17	22	20	15	22
433:	10	16	14	16	12	23	12	11
441:	19	14	15	14	15	21	17	16
449:	21	13	14	24	13	22	10	10
457:	22	13	12	17	12	28	53	24
465:	22	15	18	15	17	16	19	9
473:	19	17	10	19	15	16	16	19
481:	13	11	14	11	11	9	19	17
489:	9	12	11	10	17	10	12	14
497:	13	19	12	14	8	15	21	25
505:	18	10	15	18	30	49	93	43
513:	24	9	21	25	13	11	11	19
521:	16	12	16	16	17	19	13	9
529:	15	10	15	15	21	14	12	15
537:	11	13	17	17	15	13	10	14
545:	20	13	8	11	11	16	19	13
553:	11	13	19	13	12	14	9	12
561:	16	21	16	13	9	12	13	13
569:	10	14	20	16	15	23	18	20
577:	14	6	15	15	9	49	159	92
585:	18	9	12	19	7	12	13	10
593:	8	7	13	14	16	15	15	9
601:	13	16	5	9	12	18	13	51
609:	220	124	20	15	11	10	9	16
617:	11	8	15	12	11	16	10	8
625:	7	8	11	14	12	8	14	16
633:	17	8	10	8	11	11	13	11
641:	15	12	9	12	14	15	9	6
649:	15	11	9	11	6	13	17	14
657:	7	13	7	8	15	10	5	15
665:	16	17	11	9	8	11	16	16
673:	13	13	16	9	8	18	10	11
681:	12	7	9	12	10	12	10	6
689:	6	12	4	6	12	17	13	7
697:	15	19	8	12	9	13	17	7
705:	14	11	10	16	10	7	11	9
713:	6	7	10	6	11	9	14	17
721:	16	9	8	12	14	20	44	27
729:	8	11	8	12	10	7	11	9
737:	7	10	1	13	8	10	9	10
745:	11	12	12	7	8	8	9	11
753:	7	7	13	17	3	6	13	9
761:	11	13	22	7	12	10	20	21
769:	23	7	17	14	20	6	13	7
777:	7	9	6	9	10	12	13	5
785:	16	14	8	8	12	12	9	5
793:	9	12	24	16	11	8	8	6

801: 8 10 9 13 10 6 9 4

Sample Title: CP5001S16-17

Channel	1	2	3	4	5	6	7	8
809:	10	5	6	6	13	11	5	4
817:	8	6	6	8	8	13	10	6
825:	6	8	14	12	4	10	4	10
833:	12	6	9	11	10	13	9	11
841:	9	4	9	4	7	6	7	15
849:	5	12	6	6	7	5	6	6
857:	7	10	12	33	25	6	5	6
865:	7	7	7	4	7	6	8	10
873:	8	9	12	13	7	4	5	5
881:	7	12	5	8	9	3	6	6
889:	6	9	6	10	11	10	5	3
897:	12	7	10	10	5	9	7	8
905:	12	13	5	7	13	47	112	61
913:	10	6	6	11	9	2	7	10
921:	7	3	10	10	7	5	10	7
929:	2	10	7	4	10	18	15	6
937:	8	7	10	12	8	10	5	8
945:	5	9	12	9	10	9	10	9
953:	8	10	5	9	7	9	4	11
961:	5	4	13	29	18	18	19	43
969:	56	20	6	13	9	8	6	6
977:	6	4	6	6	5	3	5	8
985:	7	11	2	8	8	6	12	6
993:	4	7	7	6	3	2	2	5
1001:	13	7	7	12	9	8	4	7
1009:	10	9	5	2	11	4	6	4
1017:	7	2	6	9	5	10	4	6
1025:	10	5	8	6	6	11	12	4
1033:	7	9	8	7	8	16	6	5
1041:	11	5	9	7	5	10	5	8
1049:	4	6	2	5	4	8	7	8
1057:	7	6	7	7	4	10	7	8
1065:	11	8	7	11	8	6	10	6
1073:	7	5	5	7	7	5	1	5
1081:	9	8	5	9	5	5	9	7
1089:	7	5	7	3	7	4	5	4
1097:	6	2	8	8	8	5	5	6
1105:	5	5	10	8	6	7	6	4
1113:	2	6	4	5	5	8	31	41
1121:	23	11	7	5	4	5	7	6
1129:	7	10	9	3	8	4	8	6
1137:	9	9	9	7	9	7	4	9
1145:	5	7	7	3	10	11	7	6
1153:	6	12	9	11	5	6	15	6
1161:	6	12	4	3	10	6	12	11
1169:	8	4	3	7	6	2	12	10
1177:	6	8	7	8	5	9	4	7
1185:	5	6	11	8	7	2	7	6
1193:	9	9	8	9	7	8	11	8
1201:	10	7	11	6	7	13	15	11
1209:	11	9	14	9	7	11	11	8
1217:	7	10	8	8	7	4	12	12
1225:	10	8	9	9	6	7	11	4

1233: 9 7 11 8 20 14 13 14

Sample Title: CP5001S16-17

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1241:	12	10	10	9	3	6	8	9
1249:	8	5	11	4	13	2	3	2
1257:	7	8	4	7	9	10	6	5
1265:	4	11	1	5	5	4	2	8
1273:	3	6	4	5	4	5	5	8
1281:	14	8	4	6	3	14	4	7
1289:	4	4	6	5	3	8	4	6
1297:	5	7	6	6	3	7	5	4
1305:	8	8	5	5	5	7	3	5
1313:	1	3	9	0	5	5	7	9
1321:	4	3	4	5	4	4	1	3
1329:	3	4	4	5	9	4	1	3
1337:	5	5	4	8	6	4	4	4
1345:	3	2	3	2	1	4	2	1
1353:	7	2	2	3	3	3	0	7
1361:	2	5	2	4	2	1	5	2
1369:	3	4	2	1	4	2	2	9
1377:	12	7	3	4	0	1	5	5
1385:	2	3	1	5	1	3	1	4
1393:	2	1	3	3	2	1	4	4
1401:	6	5	2	3	2	5	7	15
1409:	4	2	1	3	4	3	3	1
1417:	3	1	5	7	4	1	3	4
1425:	5	0	2	2	2	1	0	1
1433:	5	7	4	4	3	2	3	5
1441:	3	2	1	4	0	1	4	3
1449:	2	1	2	3	2	3	3	1
1457:	1	16	97	278	297	97	13	0
1465:	3	2	5	1	2	4	2	3
1473:	1	1	1	4	3	2	1	4
1481:	4	4	2	1	2	3	0	4
1489:	0	3	4	2	2	0	4	4
1497:	1	4	4	3	3	1	2	2
1505:	1	1	3	5	12	2	0	3
1513:	2	1	0	1	4	2	1	0
1521:	1	2	2	1	5	2	1	1
1529:	3	0	4	0	2	0	2	1
1537:	4	2	2	2	0	1	3	1
1545:	0	1	0	1	0	3	2	1
1553:	3	0	2	2	4	2	4	0
1561:	2	3	2	3	2	0	2	2
1569:	3	4	2	1	1	0	3	1
1577:	2	1	2	3	2	6	2	4
1585:	0	3	5	5	1	2	3	8
1593:	3	2	1	1	0	2	1	1
1601:	3	0	3	1	2	2	6	1
1609:	1	0	2	2	1	2	3	0
1617:	2	1	3	3	4	0	2	0
1625:	0	0	3	2	1	4	7	1
1633:	2	1	1	2	2	2	1	2
1641:	1	0	1	0	1	2	1	2
1649:	1	1	0	1	3	1	1	0
1657:	1	3	2	2	3	1	2	1

1665: 1 1 2 1 1 2 0 1

Sample Title: CP5001S16-17

Channel	1	2	3	4	5	6	7	8
1673:	1	3	1	0	0	1	2	0
1681:	0	0	3	1	2	2	2	1
1689:	2	0	2	4	1	0	1	1
1697:	0	3	0	0	2	2	4	1
1705:	2	2	2	2	2	0	2	0
1713:	2	2	0	2	0	1	0	1
1721:	1	0	0	1	1	0	2	1
1729:	5	5	2	3	0	1	2	0
1737:	2	0	0	2	2	0	0	0
1745:	1	5	1	3	0	1	1	0
1753:	0	1	0	3	1	0	1	1
1761:	2	3	18	22	15	4	0	0
1769:	2	1	0	1	1	1	3	2
1777:	0	2	2	0	1	1	1	0
1785:	0	0	1	1	2	1	1	1
1793:	2	1	0	2	1	0	1	3
1801:	3	1	0	4	1	3	3	1
1809:	1	2	0	1	2	0	0	1
1817:	0	2	1	0	1	2	0	1
1825:	0	0	1	1	2	1	1	0
1833:	0	0	0	2	0	1	1	2
1841:	5	2	2	1	2	3	6	7
1849:	1	1	1	1	1	1	1	2
1857:	1	1	2	0	0	2	0	0
1865:	0	1	3	0	0	1	2	0
1873:	0	2	2	0	1	4	1	3
1881:	1	1	0	0	2	1	1	1
1889:	1	0	2	1	1	2	2	3
1897:	1	0	2	0	1	0	1	2
1905:	1	0	0	2	0	0	0	2
1913:	0	2	0	2	1	2	2	1
1921:	0	0	2	0	3	1	2	2
1929:	1	1	2	0	3	2	0	0
1937:	0	2	1	1	1	2	1	1
1945:	1	1	0	1	1	1	0	2
1953:	1	2	0	2	1	2	0	0
1961:	2	1	1	0	3	1	1	0
1969:	0	0	3	0	1	3	1	2
1977:	0	0	3	1	0	0	0	0
1985:	1	0	0	1	1	2	2	0
1993:	1	1	0	0	0	1	2	0
2001:	1	1	0	1	1	2	1	1
2009:	1	0	2	2	0	1	2	2
2017:	1	0	2	0	1	0	1	0
2025:	2	1	0	1	0	3	0	2
2033:	2	0	1	0	1	1	0	1
2041:	0	0	0	0	2	1	2	0
2049:	2	1	1	0	2	2	1	0
2057:	1	2	1	0	0	0	0	1
2065:	2	1	1	0	0	0	0	1
2073:	1	3	1	1	0	0	1	0
2081:	0	0	2	0	0	0	0	1
2089:	1	0	1	0	3	0	0	2

2097: 0 4 1 1 4 3 1 2

Sample Title: CP5001S16-17

Channel	1	2	3	4	5	6	7	8
2105:	3	1	1	2	1	0	1	1
2113:	0	1	1	0	0	5	3	1
2121:	0	2	0	1	0	0	0	0
2129:	2	0	1	2	0	1	0	0
2137:	0	1	1	0	1	3	3	0
2145:	1	1	0	1	0	3	1	0
2153:	2	1	0	1	0	2	0	0
2161:	2	0	2	2	1	0	1	2
2169:	0	1	0	3	1	1	1	1
2177:	1	2	0	1	0	1	0	1
2185:	1	1	3	0	2	0	1	2
2193:	1	1	1	0	1	0	1	1
2201:	3	1	8	7	4	0	2	1
2209:	0	1	0	1	0	1	0	1
2217:	0	0	2	0	1	0	1	0
2225:	2	2	1	1	1	1	2	2
2233:	0	1	1	0	1	1	1	0
2241:	1	0	1	2	1	0	1	2
2249:	1	1	1	0	1	1	0	1
2257:	0	0	2	0	1	3	1	1
2265:	1	1	0	3	0	4	1	1
2273:	1	2	1	2	0	0	2	2
2281:	0	0	0	0	0	1	2	0
2289:	1	1	2	2	6	0	1	2
2297:	0	1	2	2	2	2	0	3
2305:	2	1	2	1	1	0	0	1
2313:	0	1	1	1	0	0	0	3
2321:	3	0	1	2	4	0	1	2
2329:	1	1	0	1	1	1	2	1
2337:	1	4	1	0	2	0	4	1
2345:	2	1	3	0	0	0	0	1
2353:	0	1	3	3	1	0	2	0
2361:	3	1	2	1	1	1	1	0
2369:	0	2	0	1	1	4	1	1
2377:	0	2	1	0	1	1	1	2
2385:	0	1	1	1	1	0	1	0
2393:	2	0	1	2	0	2	0	0
2401:	0	1	1	1	1	2	0	0
2409:	1	0	1	0	0	1	0	0
2417:	2	0	1	0	0	4	3	1
2425:	1	1	1	2	2	1	1	3
2433:	0	2	2	0	1	2	0	2
2441:	1	1	1	2	4	2	2	2
2449:	1	0	0	0	1	2	2	0
2457:	0	0	0	1	0	2	1	0
2465:	1	0	1	0	1	0	0	1
2473:	0	1	1	0	1	0	0	0
2481:	1	0	0	1	1	0	0	0
2489:	0	1	1	0	0	1	0	0
2497:	0	1	0	0	1	0	2	0
2505:	0	0	0	0	0	1	1	1
2513:	0	0	1	0	0	0	0	0
2521:	1	0	0	1	1	0	0	0

2529: 0 0 0 1 0 0 0 1

Sample Title: CP5001S16-17

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2537:	0	0	1	0	0	0	0	0
2545:	0	0	0	0	0	0	0	1
2553:	1	1	0	0	0	0	0	0
2561:	0	1	1	1	0	0	0	0
2569:	1	1	1	0	1	0	0	0
2577:	0	0	0	0	0	1	1	0
2585:	2	0	1	0	0	0	0	1
2593:	0	0	0	0	0	0	2	0
2601:	1	0	0	1	0	1	2	0
2609:	1	5	3	17	31	19	19	10
2617:	1	0	0	0	0	0	0	0
2625:	0	0	0	0	0	0	2	0
2633:	1	0	0	0	0	0	1	0
2641:	0	0	0	2	0	0	0	1
2649:	0	1	1	0	0	0	2	0
2657:	1	1	0	1	1	0	0	1
2665:	1	0	0	0	0	0	0	0
2673:	0	1	2	0	1	0	0	0
2681:	0	1	0	0	0	0	0	0
2689:	1	1	2	0	0	0	0	0
2697:	0	0	0	1	0	0	1	0
2705:	0	0	0	0	2	0	1	0
2713:	0	0	0	1	0	0	0	0
2721:	1	1	0	0	0	0	0	1
2729:	0	0	0	1	0	0	0	0
2737:	0	1	0	0	0	0	0	0
2745:	0	0	0	1	0	0	0	0
2753:	0	0	1	0	0	0	1	1
2761:	0	0	1	0	0	0	1	1
2769:	0	0	1	0	0	0	0	0
2777:	1	0	0	0	0	0	0	0
2785:	0	0	0	1	0	1	0	0
2793:	0	0	0	0	0	0	1	2
2801:	0	0	0	0	0	0	0	0
2809:	0	1	0	0	1	0	0	0
2817:	1	0	1	0	1	0	0	0
2825:	0	0	0	1	0	1	0	0
2833:	0	1	0	0	0	1	0	1
2841:	0	0	0	0	0	0	0	0
2849:	0	0	0	0	0	0	1	1
2857:	1	1	1	0	0	0	1	0
2865:	0	0	0	0	0	0	1	0
2873:	1	0	0	1	0	0	1	0
2881:	1	0	2	0	0	0	0	0
2889:	0	0	0	1	0	0	0	0
2897:	0	1	1	0	0	0	1	1
2905:	0	0	0	0	0	1	1	2
2913:	0	0	0	0	0	1	0	0
2921:	0	0	0	0	1	1	0	0
2929:	0	0	0	1	0	0	0	0
2937:	0	0	0	0	0	0	1	0
2945:	0	0	0	1	0	0	0	1
2953:	0	0	0	1	0	0	0	0

2961: 0 1 0 0 0 0 0 0 1

Sample Title: CP5001S16-17

Channel	1	2	3	4	5	6	7	8	9
2969:	1	1	1	1	0	0	0	0	0
2977:	0	0	0	0	1	0	0	0	1
2985:	0	0	0	0	0	1	2	2	1
2993:	0	0	0	0	0	1	1	1	0
3001:	0	1	0	0	0	0	0	0	0
3009:	0	0	0	2	0	0	0	0	0
3017:	0	0	0	0	0	1	0	0	1
3025:	0	0	0	0	0	0	0	0	0
3033:	0	0	0	0	1	0	0	0	0
3041:	0	0	0	1	0	0	0	0	0
3049:	0	0	0	0	1	0	0	0	0
3057:	0	0	0	0	1	0	0	0	0
3065:	1	0	0	0	0	0	0	0	0
3073:	0	0	1	1	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:	1	0	0	0	0	0	0	0	0
3105:	0	0	0	0	0	0	0	0	0
3113:	1	1	0	0	0	1	0	0	0
3121:	0	0	0	0	1	0	0	0	0
3129:	0	0	0	0	0	0	1	0	0
3137:	1	0	0	0	0	0	1	0	0
3145:	1	0	0	0	0	0	1	0	0
3153:	0	1	0	0	0	0	2	0	0
3161:	0	0	0	0	0	0	2	0	0
3169:	0	1	0	1	0	0	0	0	0
3177:	0	0	0	0	1	0	0	0	0
3185:	0	0	0	0	0	0	1	1	0
3193:	0	0	1	0	0	2	1	0	0
3201:	0	0	0	1	1	0	0	0	0
3209:	1	0	2	0	0	0	0	0	0
3217:	0	1	0	0	0	0	0	0	0
3225:	0	0	0	0	0	0	0	0	0
3233:	0	0	0	1	0	0	0	0	1
3241:	0	0	0	0	1	0	0	0	0
3249:	0	0	0	0	2	0	0	0	0
3257:	1	0	2	0	1	0	1	0	0
3265:	0	0	0	0	0	0	0	0	0
3273:	0	0	0	0	0	0	0	0	2
3281:	0	0	0	0	0	0	1	0	0
3289:	0	0	0	1	0	0	0	0	0
3297:	0	0	0	0	0	0	0	0	0
3305:	1	0	0	0	0	0	0	0	0
3313:	0	0	0	0	0	0	0	0	0
3321:	0	1	0	3	0	0	0	0	0
3329:	0	1	0	1	0	0	0	0	0
3337:	0	0	0	0	0	0	0	0	0
3345:	0	0	0	0	0	0	0	0	0
3353:	0	0	0	0	0	0	0	0	0
3361:	0	0	0	0	0	0	0	0	1
3369:	0	0	0	0	0	2	0	0	0
3377:	0	0	0	1	0	1	0	0	0
3385:	1	0	0	2	0	0	0	0	1

3393: 1 0 0 0 0 0 0 0

Sample Title: CP5001S16-17

Channel	1	2	3	4	5	6	7	8	9
3401:	0	0	1	1	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	0	0	0	0	0
3433:	1	0	0	0	0	0	0	0	0
3441:	0	0	1	0	0	0	0	0	1
3449:	0	1	0	0	0	0	1	0	1
3457:	0	0	1	0	0	0	1	0	0
3465:	0	0	0	0	0	0	0	0	0
3473:	0	0	0	0	0	0	0	0	0
3481:	0	0	0	0	0	0	0	0	0
3489:	1	0	1	0	0	0	0	1	0
3497:	0	0	1	0	0	0	0	0	0
3505:	0	0	1	0	0	0	0	1	0
3513:	0	0	0	0	0	0	0	0	0
3521:	1	0	0	1	1	1	1	0	0
3529:	0	0	0	0	0	0	1	0	0
3537:	0	0	0	0	0	0	1	0	0
3545:	0	0	0	0	0	0	0	0	0
3553:	1	1	0	0	0	0	0	1	0
3561:	0	1	0	0	0	0	0	0	0
3569:	0	0	1	1	0	0	0	0	1
3577:	0	0	0	0	0	0	0	0	0
3585:	0	0	1	0	0	0	0	0	0
3593:	0	0	0	0	0	0	0	1	1
3601:	0	0	0	0	0	0	0	0	0
3609:	0	0	0	0	0	0	0	0	0
3617:	1	0	1	0	0	0	0	0	0
3625:	0	0	0	0	0	0	0	0	1
3633:	0	0	0	0	0	0	0	0	0
3641:	0	1	0	1	0	0	0	0	0
3649:	0	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	0	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	1	0	0	0	1	0	0	1
3689:	1	0	0	0	0	0	0	0	0
3697:	0	0	1	2	0	0	0	0	0
3705:	0	0	0	1	0	0	0	1	0
3713:	0	0	0	1	0	0	0	0	1
3721:	0	1	1	0	0	0	0	0	0
3729:	0	1	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	0
3753:	0	1	0	0	0	0	1	0	0
3761:	0	0	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0	0
3777:	0	0	0	0	0	0	0	0	0
3785:	0	0	0	0	0	0	0	0	0
3793:	0	1	0	0	0	0	0	0	0
3801:	0	0	0	0	0	0	0	1	0
3809:	0	0	0	0	0	0	0	0	0
3817:	0	0	0	0	0	1	0	0	0

3825: 0 0 0 0 0 0 0 0 0

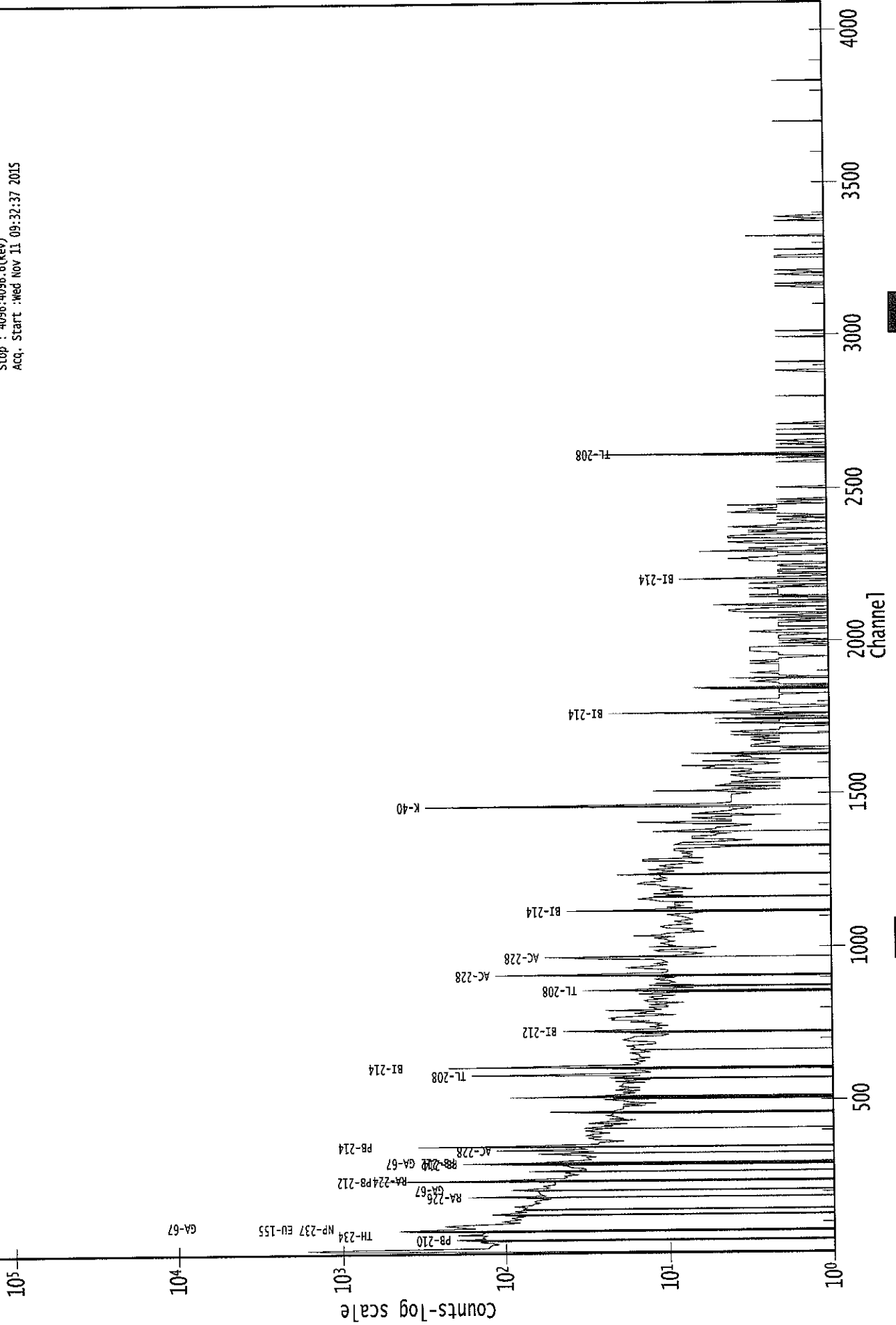
Sample Title: CP5001S16-17

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3833:	2	0	0	0	0	0	0	0
3841:	0	0	0	0	0	0	0	0
3849:	0	0	1	0	0	0	0	0
3857:	0	0	0	0	0	0	0	0
3865:	0	0	0	0	1	0	0	0
3873:	0	0	1	0	0	0	0	0
3881:	0	0	0	0	0	0	1	0
3889:	0	0	0	0	0	0	0	0
3897:	1	0	0	0	0	0	0	0
3905:	0	0	0	0	0	0	0	0
3913:	0	0	0	0	1	0	0	1
3921:	0	0	0	0	0	0	0	0
3929:	0	0	0	1	0	0	1	0
3937:	0	1	0	0	0	1	0	0
3945:	0	0	1	1	0	0	0	1
3953:	1	0	1	0	0	0	0	0
3961:	0	0	0	0	0	0	0	1
3969:	0	0	0	0	0	0	0	0
3977:	0	1	1	0	0	0	0	0
3985:	0	0	0	0	0	0	0	0
3993:	0	0	0	0	0	0	0	0
4001:	1	0	0	1	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	1	0	0	0	0	0
4033:	0	0	1	0	0	0	1	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	1	1
4073:	0	0	0	0	1	0	0	0
4081:	0	0	1	0	1	1	0	0
4089:	0	0	0	0	0	0	0	0

0863A

0000029473.CNF

Live Time :3600.000 sec
Real Time :3601.240 sec
Start: 1: 0.9(kev)
Stop : 4096:4096.6(kev)
Acq. Start :Wed Nov 11 09:32:37 2015



ROI Type: 2

ROI Type: 1

Analysis Report for 1510092-16
CP5001S18-19

[Handwritten signature]
11/11

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510092-16
Sample Description : CP5001S18-19
Sample Type : SOIL

Sample Size : 5.263E+02 grams
Facility : Countroom

Sample Taken On : 10/9/2015 4:03:11PM
Acquisition Started : 11/11/2015 9:32:43AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE3
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3616.8 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 : 29474

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510092-16
CP5001S18-19

PEAK LOCATE REPORT

Peak Locate Performed on : 11/11/2015 10:33:10AM
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	63.52	63.74	0.0000	0.00
2	76.35	76.57	0.0000	0.00
3	88.28	88.49	0.0000	0.00
4	93.20	93.40	0.0000	0.00
5	163.70	163.87	0.0000	0.00
6	169.98	170.14	0.0000	0.00
7	186.44	186.59	0.0000	0.00
8	210.44	210.59	0.0000	0.00
9	238.98	239.11	0.0000	0.00
10	241.94	242.07	0.0000	0.00
11	270.90	271.01	0.0000	0.00
12	278.71	278.82	0.0000	0.00
13	295.57	295.67	0.0000	0.00
14	300.81	300.91	0.0000	0.00
15	338.75	338.83	0.0000	0.00
16	342.11	342.18	0.0000	0.00
17	352.30	352.37	0.0000	0.00
18	402.22	402.26	0.0000	0.00
19	409.81	409.86	0.0000	0.00
20	415.10	415.14	0.0000	0.00
21	463.49	463.51	0.0000	0.00
22	486.53	486.54	0.0000	0.00
23	491.54	491.54	0.0000	0.00
24	508.41	508.41	0.0000	0.00
25	511.61	511.60	0.0000	0.00
26	583.62	583.58	0.0000	0.00
27	596.18	596.13	0.0000	0.00
28	609.67	609.61	0.0000	0.00
29	689.26	689.16	0.0000	0.00
30	727.53	727.42	0.0000	0.00
31	768.78	768.65	0.0000	0.00
32	860.83	860.65	0.0000	0.00
33	911.85	911.65	0.0000	0.00
34	969.66	969.44	0.0000	0.00
35	976.20	975.98	0.0000	0.00
36	1062.58	1062.32	0.0000	0.00
37	1094.89	1094.62	0.0000	0.00
38	1117.71	1117.42	0.0000	0.00
39	1120.77	1120.49	0.0000	0.00
40	1153.69	1153.39	0.0000	0.00
41	1187.29	1186.97	0.0000	0.00
42	1238.87	1238.53	0.0000	0.00

Analysis Report for 1510092-16
CP5001S18-19

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1278.86	1278.51	0.0000	0.00
44	1300.26	1299.90	0.0000	0.00
45	1461.45	1461.03	0.0000	0.00
46	1502.85	1502.41	0.0000	0.00
47	1510.47	1510.03	0.0000	0.00
48	1531.22	1530.77	0.0000	0.00
49	1556.41	1555.96	0.0000	0.00
50	1579.35	1578.89	0.0000	0.00
51	1588.75	1588.28	0.0000	0.00
52	1594.44	1593.97	0.0000	0.00
53	1619.69	1619.21	0.0000	0.00
54	1630.67	1630.18	0.0000	0.00
55	1730.69	1730.17	0.0000	0.00
56	1765.11	1764.58	0.0000	0.00
57	1825.70	1825.15	0.0000	0.00
58	1847.66	1847.11	0.0000	0.00
59	1876.20	1875.64	0.0000	0.00
60	1964.74	1964.15	0.0000	0.00
61	2103.41	2102.77	0.0000	0.00
62	2185.38	2184.71	0.0000	0.00
63	2204.19	2203.52	0.0000	0.00
64	2245.48	2244.80	0.0000	0.00
65	2615.33	2614.55	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510092-16
CP5001S18-19

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/11/2015 10:33:10AM

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	63.52	60 -	67	63.74	1.56E+02	115.97	2.14E+03	1.47	
2	76.35	71 -	82	76.57	1.21E+03	169.34	2.95E+03	3.81	
3	88.28	86 -	91	88.49	1.35E+02	92.98	1.61E+03	1.71	
4	93.20	91 -	97	93.40	2.14E+02	95.90	1.41E+03	1.56	
5	163.70	161 -	167	163.87	5.98E+01	65.52	7.34E+02	2.22	
6	169.98	168 -	173	170.14	4.64E+01	57.81	6.33E+02	1.13	
7	186.44	183 -	190	186.59	1.46E+02	78.66	9.30E+02	1.75	
8	210.44	207 -	214	210.59	8.35E+01	70.26	7.57E+02	1.91	
M	9	238.98	236 -	246	239.11	7.57E+02	67.24	3.50E+02	1.77
m	10	241.94	236 -	246	242.07	1.92E+02	77.51	5.16E+02	2.22
11	270.90	266 -	275	271.01	8.57E+01	65.83	5.71E+02	2.08	
12	278.71	275 -	282	278.82	4.37E+01	53.25	4.35E+02	4.06	
13	295.57	292 -	299	295.67	2.14E+02	62.93	5.21E+02	1.82	
14	300.81	299 -	304	300.91	4.47E+01	41.36	3.03E+02	1.96	
M	15	338.75	334 -	345	338.83	1.59E+02	44.50	2.79E+02	1.90
m	16	342.11	334 -	345	342.18	2.87E+01	42.94	2.20E+02	1.99
17	352.30	347 -	357	352.37	4.13E+02	65.51	3.51E+02	1.97	
18	402.22	399 -	406	402.26	4.89E+01	39.75	2.28E+02	4.15	
M	19	409.81	407 -	424	409.86	4.06E+01	31.46	1.63E+02	2.81
m	20	415.10	407 -	424	415.14	2.75E+01	43.02	2.62E+02	3.01
21	463.49	460 -	467	463.51	3.44E+01	39.85	2.37E+02	2.12	
22	486.53	484 -	488	486.54	1.98E+01	21.51	8.24E+01	1.17	
23	491.54	489 -	495	491.54	2.65E+01	28.08	1.27E+02	1.11	
M	24	508.41	505 -	517	508.41	2.93E+01	34.75	1.83E+02	2.34
m	25	511.61	505 -	517	511.60	1.08E+02	37.78	1.56E+02	2.34
26	583.62	579 -	588	583.58	2.19E+02	47.62	1.97E+02	1.80	
27	596.18	593 -	601	596.13	3.75E+01	32.05	1.35E+02	3.75	
28	609.67	606 -	613	609.61	2.52E+02	46.26	1.89E+02	2.06	
29	689.26	685 -	694	689.16	3.53E+01	35.38	1.55E+02	3.21	
30	727.53	722 -	731	727.42	4.16E+01	37.30	1.75E+02	1.74	
31	768.78	766 -	772	768.65	2.26E+01	27.80	1.27E+02	1.25	
32	860.83	856 -	864	860.65	4.49E+01	26.00	7.63E+01	2.87	
33	911.85	908 -	917	911.65	1.63E+02	35.11	7.87E+01	2.25	
34	969.66	966 -	973	969.44	8.15E+01	33.23	1.17E+02	2.13	
35	976.20	974 -	978	975.98	1.26E+01	13.53	2.88E+01	1.35	
36	1062.58	1058 -	1066	1062.32	2.23E+01	25.87	8.73E+01	3.44	
37	1094.89	1091 -	1101	1094.62	3.72E+01	24.67	6.37E+01	2.73	
M	38	1117.71	1116 -	1123	1117.42	1.31E+01	3.04E+01	3.65	
m	39	1120.77	1116 -	1123	1120.49	6.23E+01	25.87	7.41E+01	2.32
40	1153.69	1144 -	1164	1153.39	7.64E+01	43.39	1.27E+02	16.05	

Analysis Report for 1510092-16

CP5001S18-19

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1187.29	1184 -	1190	1186.97	1.73E+01	19.29	5.34E+01	2.42
42	1238.87	1234 -	1243	1238.53	4.44E+01	29.46	9.51E+01	3.37
43	1278.86	1274 -	1283	1278.51	3.17E+01	21.68	4.67E+01	6.83
44	1300.26	1294 -	1306	1299.90	3.77E+01	19.31	2.66E+01	1.24
45	1461.45	1456 -	1467	1461.03	5.33E+02	49.68	4.29E+01	2.21
46	1502.85	1497 -	1506	1502.41	1.31E+01	13.86	1.97E+01	2.71
47	1510.47	1507 -	1513	1510.03	1.55E+01	10.99	1.10E+01	3.16
48	1531.22	1527 -	1534	1530.77	1.03E+01	10.58	1.14E+01	2.57
49	1556.41	1552 -	1561	1555.96	1.56E+01	11.58	1.09E+01	3.29
50	1579.35	1574 -	1582	1578.89	1.17E+01	8.73	4.57E+00	4.77
51	1588.75	1586 -	1591	1588.28	8.13E+00	10.44	1.58E+01	2.49
52	1594.44	1591 -	1597	1593.97	1.50E+01	10.81	1.00E+01	3.57
53	1619.69	1615 -	1622	1619.21	2.00E+01	10.20	4.00E+00	3.61
54	1630.67	1627 -	1634	1630.18	1.26E+01	11.14	1.27E+01	3.41
55	1730.69	1726 -	1733	1730.17	1.80E+01	8.49	0.00E+00	2.67
56	1765.11	1760 -	1767	1764.58	4.18E+01	15.49	1.24E+01	2.38
57	1825.70	1820 -	1829	1825.15	1.15E+01	9.00	4.93E+00	3.22
58	1847.66	1843 -	1851	1847.11	8.50E+00	9.62	9.00E+00	1.91
59	1876.20	1872 -	1879	1875.64	7.90E+00	7.48	4.20E+00	1.05
60	1964.74	1959 -	1969	1964.15	9.21E+00	8.85	5.58E+00	6.65
61	2103.41	2099 -	2105	2102.77	1.38E+01	9.62	6.35E+00	2.69
62	2185.38	2181 -	2188	2184.71	6.00E+00	8.49	8.00E+00	3.25
63	2204.19	2200 -	2206	2203.52	9.62E+00	8.75	6.77E+00	2.23
64	2245.48	2241 -	2247	2244.80	1.00E+01	6.32	0.00E+00	1.47
65	2615.33	2610 -	2618	2614.55	6.00E+01	15.49	0.00E+00	1.77

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 : 11/11/2015 10:33:10AM

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	63.52	60 -	67	1.56E+02	115.97	2.14E+03	9.31E+01
2	76.35	71 -	82	1.21E+03	169.34	2.95E+03	1.27E+02
3	88.28	86 -	91	1.35E+02	92.98	1.61E+03	7.40E+01

: 00869

Analysis Report for 1510092-16
CP5001S18-19

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	4	93.20	91 -	97	2.14E+02	95.90	1.41E+03	7.51E+01
	5	163.70	161 -	167	5.98E+01	65.52	7.34E+02	5.23E+01
	6	169.98	168 -	173	4.64E+01	57.81	6.33E+02	4.62E+01
	7	186.44	183 -	190	1.46E+02	78.66	9.30E+02	6.15E+01
	8	210.44	207 -	214	8.35E+01	70.26	7.57E+02	5.58E+01
M	9	238.98	236 -	246	7.57E+02	67.24	3.50E+02	3.08E+01
m	10	241.94	236 -	246	1.92E+02	77.51	5.16E+02	3.73E+01
	11	270.90	266 -	275	8.57E+01	65.83	5.71E+02	5.19E+01
	12	278.71	275 -	282	4.37E+01	53.25	4.35E+02	4.24E+01
	13	295.57	292 -	299	2.14E+02	62.93	5.21E+02	4.58E+01
	14	300.81	299 -	304	4.47E+01	41.36	3.03E+02	3.22E+01
M	15	338.75	334 -	345	1.59E+02	44.50	2.79E+02	2.74E+01
m	16	342.11	334 -	345	2.87E+01	42.94	2.20E+02	2.44E+01
	17	352.30	347 -	357	4.13E+02	65.51	3.51E+02	4.22E+01
	18	402.22	399 -	406	4.89E+01	39.75	2.28E+02	3.06E+01
M	19	409.81	407 -	424	4.06E+01	31.46	1.63E+02	2.10E+01
m	20	415.10	407 -	424	2.75E+01	43.02	2.62E+02	2.66E+01
	21	463.49	460 -	467	3.44E+01	39.85	2.37E+02	3.13E+01
	22	486.53	484 -	488	1.98E+01	21.51	8.24E+01	1.61E+01
	23	491.54	489 -	495	2.65E+01	28.08	1.27E+02	2.15E+01
M	24	508.41	505 -	517	2.93E+01	34.75	1.83E+02	2.22E+01
m	25	511.61	505 -	517	1.08E+02	37.78	1.56E+02	2.06E+01
	26	583.62	579 -	588	2.19E+02	47.62	1.97E+02	3.07E+01
	27	596.18	593 -	601	3.75E+01	32.05	1.35E+02	2.44E+01
	28	609.67	606 -	613	2.52E+02	46.26	1.89E+02	2.76E+01
	29	689.26	685 -	694	3.53E+01	35.38	1.55E+02	2.74E+01
	30	727.53	722 -	731	4.16E+01	37.30	1.75E+02	2.88E+01
	31	768.78	766 -	772	2.26E+01	27.80	1.27E+02	2.15E+01
	32	860.83	856 -	864	4.49E+01	26.00	7.63E+01	1.83E+01
	33	911.85	908 -	917	1.63E+02	35.11	7.87E+01	1.98E+01
	34	969.66	966 -	973	8.15E+01	33.23	1.17E+02	2.29E+01
	35	976.20	974 -	978	1.26E+01	13.53	2.88E+01	9.46E+00
	36	1062.58	1058 -	1066	2.23E+01	25.87	8.73E+01	1.98E+01
	37	1094.89	1091 -	1101	3.72E+01	24.67	6.37E+01	1.76E+01
M	38	1117.71	1116 -	1123	1.31E+01	11.46	3.04E+01	9.06E+00
m	39	1120.77	1116 -	1123	6.23E+01	25.87	7.41E+01	1.42E+01
	40	1153.69	1144 -	1164	7.64E+01	43.39	1.27E+02	3.26E+01
	41	1187.29	1184 -	1190	1.73E+01	19.29	5.34E+01	1.43E+01
	42	1238.87	1234 -	1243	4.44E+01	29.46	9.51E+01	2.16E+01
	43	1278.86	1274 -	1283	3.17E+01	21.68	4.67E+01	1.52E+01
	44	1300.26	1294 -	1306	3.77E+01	19.31	2.66E+01	1.23E+01
	45	1461.45	1456 -	1467	5.33E+02	49.68	4.29E+01	1.51E+01
	46	1502.85	1497 -	1506	1.31E+01	13.86	1.97E+01	9.71E+00
	47	1510.47	1507 -	1513	1.55E+01	10.99	1.10E+01	6.30E+00
	48	1531.22	1527 -	1534	1.03E+01	10.58	1.14E+01	6.91E+00
	49	1556.41	1552 -	1561	1.56E+01	11.58	1.09E+01	6.96E+00
	50	1579.35	1574 -	1582	1.17E+01	8.73	4.57E+00	4.46E+00
	51	1588.75	1586 -	1591	8.13E+00	10.44	1.58E+01	7.19E+00
	52	1594.44	1591 -	1597	1.50E+01	10.81	1.00E+01	6.19E+00
	53	1619.69	1615 -	1622	2.00E+01	10.20	4.00E+00	4.03E+00
	54	1630.67	1627 -	1634	1.26E+01	11.14	1.27E+01	7.05E+00

Analysis Report for 1510092-16
CP5001S18-19

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
55	1730.69	1726 -	1733	1.80E+01	8.49	0.00E+00	0.00E+00
56	1765.11	1760 -	1767	4.18E+01	15.49	1.24E+01	7.02E+00
57	1825.70	1820 -	1829	1.15E+01	9.00	4.93E+00	4.85E+00
58	1847.66	1843 -	1851	8.50E+00	9.62	9.00E+00	6.29E+00
59	1876.20	1872 -	1879	7.90E+00	7.48	4.20E+00	4.06E+00
60	1964.74	1959 -	1969	9.21E+00	8.85	5.58E+00	5.29E+00
61	2103.41	2099 -	2105	1.38E+01	9.62	6.35E+00	5.01E+00
62	2185.38	2181 -	2188	6.00E+00	8.49	8.00E+00	5.70E+00
63	2204.19	2200 -	2206	9.62E+00	8.75	6.77E+00	5.07E+00
64	2245.48	2241 -	2247	1.00E+01	6.32	0.00E+00	0.00E+00
65	2615.33	2610 -	2618	6.00E+01	15.49	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 : 11/11/2015 10:33:10AM

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	63.52	60 -	67	63.74	1.56E+02	115.97	2.14E+03	TH-234 TH-230
2	76.35	71 -	82	76.57	1.21E+03	169.34	2.95E+03	.....
3	88.28	86 -	91	88.49	1.35E+02	92.98	1.61E+03	LU-176 CD-109 SN-126
4	93.20	91 -	97	93.40	2.14E+02	95.90	1.41E+03	GA-67
5	163.70	161 -	167	163.87	5.98E+01	65.52	7.34E+02	CS-136 U-235
6	169.98	168 -	173	170.14	4.64E+01	57.81	6.33E+02	.....
7	186.44	183 -	190	186.59	1.46E+02	78.66	9.30E+02	RA-226
8	210.44	207 -	214	210.59	8.35E+01	70.26	7.57E+02	CM-243
M	238.98	236 -	246	239.11	7.57E+02	67.24	3.50E+02	PB-212
m	241.94	236 -	246	242.07	1.92E+02	77.51	5.16E+02	RA-224
11	270.90	266 -	275	271.01	8.57E+01	65.83	5.71E+02	.....

Analysis Report for 1510092-16

CP5001S18-19

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	12	278.71	275 -	282	278.82	4.37E+01	53.25	4.35E+02	HG-203
	13	295.57	292 -	299	295.67	2.14E+02	62.93	5.21E+02	SE-75
	14	300.81	299 -	304	300.91	4.47E+01	41.36	3.03E+02	PB-214
									GA-67
									PB-212
									BI-210M
M	15	338.75	334 -	345	338.83	1.59E+02	44.50	2.79E+02	AC-228
m	16	342.11	334 -	345	342.18	2.87E+01	42.94	2.20E+02	.....
	17	352.30	347 -	357	352.37	4.13E+02	65.51	3.51E+02	PB-214
	18	402.22	399 -	406	402.26	4.89E+01	39.75	2.28E+02	RN-219
M	19	409.81	407 -	424	409.86	4.06E+01	31.46	1.63E+02	.....
m	20	415.10	407 -	424	415.14	2.75E+01	43.02	2.62E+02	SB-126
	21	463.49	460 -	467	463.51	3.44E+01	39.85	2.37E+02	SB-125
	22	486.53	484 -	488	486.54	1.98E+01	21.51	8.24E+01	LA-140
	23	491.54	489 -	495	491.54	2.65E+01	28.08	1.27E+02	.....
M	24	508.41	505 -	517	508.41	2.93E+01	34.75	1.83E+02	.....
m	25	511.61	505 -	517	511.60	1.08E+02	37.78	1.56E+02	.....
	26	583.62	579 -	588	583.58	2.19E+02	47.62	1.97E+02	TL-208
	27	596.18	593 -	601	596.13	3.75E+01	32.05	1.35E+02	.....
	28	609.67	606 -	613	609.61	2.52E+02	46.26	1.89E+02	BI-214
	29	689.26	685 -	694	689.16	3.53E+01	35.38	1.55E+02	.....
	30	727.53	722 -	731	727.42	4.16E+01	37.30	1.75E+02	BI-212
	31	768.78	766 -	772	768.65	2.26E+01	27.80	1.27E+02	.....
	32	860.83	856 -	864	860.65	4.49E+01	26.00	7.63E+01	TL-208
	33	911.85	908 -	917	911.65	1.63E+02	35.11	7.87E+01	LU-172
									AC-228
	34	969.66	966 -	973	969.44	8.15E+01	33.23	1.17E+02	AC-228
	35	976.20	974 -	978	975.98	1.26E+01	13.53	2.88E+01	.....
	36	1062.58	1058 -	1066	1062.32	2.23E+01	25.87	8.73E+01	.....
	37	1094.89	1091 -	1101	1094.62	3.72E+01	24.67	6.37E+01	.....
M	38	1117.71	1116 -	1123	1117.42	1.31E+01	11.46	3.04E+01	.....
m	39	1120.77	1116 -	1123	1120.49	6.23E+01	25.87	7.41E+01	SC-46
									BI-214
									TA-182
	40	1153.69	1144 -	1164	1153.39	7.64E+01	43.39	1.27E+02	EU-156
	41	1187.29	1184 -	1190	1186.97	1.73E+01	19.29	5.34E+01	.....
	42	1238.87	1234 -	1243	1238.53	4.44E+01	29.46	9.51E+01	CO-56
	43	1278.86	1274 -	1283	1278.51	3.17E+01	21.68	4.67E+01	.....
	44	1300.26	1294 -	1306	1299.90	3.77E+01	19.31	2.66E+01	.....
	45	1461.45	1456 -	1467	1461.03	5.33E+02	49.68	4.29E+01	K-40
	46	1502.85	1497 -	1506	1502.41	1.31E+01	13.86	1.97E+01	.....
	47	1510.47	1507 -	1513	1510.03	1.55E+01	10.99	1.10E+01	.....
	48	1531.22	1527 -	1534	1530.77	1.03E+01	10.58	1.14E+01	.....
	49	1556.41	1552 -	1561	1555.96	1.56E+01	11.58	1.09E+01	.....
	50	1579.35	1574 -	1582	1578.89	1.17E+01	8.73	4.57E+00	.....
	51	1588.75	1586 -	1591	1588.28	8.13E+00	10.44	1.58E+01	.....
	52	1594.44	1591 -	1597	1593.97	1.50E+01	10.81	1.00E+01	.....
	53	1619.69	1615 -	1622	1619.21	2.00E+01	10.20	4.00E+00	BI-212
	54	1630.67	1627 -	1634	1630.18	1.26E+01	11.14	1.27E+01	.....
	55	1730.69	1726 -	1733	1730.17	1.80E+01	8.49	0.00E+00	.....
	56	1765.11	1760 -	1767	1764.58	4.18E+01	15.49	1.24E+01	BI-214
	57	1825.70	1820 -	1829	1825.15	1.15E+01	9.00	4.93E+00	.....
	58	1847.66	1843 -	1851	1847.11	8.50E+00	9.62	9.00E+00	.....
	59	1876.20	1872 -	1879	1875.64	7.90E+00	7.48	4.20E+00	.....

: 00872

Analysis Report for 1510092-16
CP5001S18-19

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
60	1964.74	1959 -	1969	1964.15	9.21E+00	8.85	5.58E+00	.....
61	2103.41	2099 -	2105	2102.77	1.38E+01	9.62	6.35E+00	.....
62	2185.38	2181 -	2188	2184.71	6.00E+00	8.49	8.00E+00	.....
63	2204.19	2200 -	2206	2203.52	9.62E+00	8.75	6.77E+00	BI-214
64	2245.48	2241 -	2247	2244.80	1.00E+01	6.32	0.00E+00	.....
65	2615.33	2610 -	2618	2614.55	6.00E+01	15.49	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 : 11/11/2015 10:33:10AM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	63.52	1.56E+02	115.97	2.16E-02	1.72E-03
2	76.35	1.21E+03	169.34	2.38E-02	2.14E-03
3	88.28	1.35E+02	92.98	2.44E-02	2.52E-03
4	93.20	2.14E+02	95.90	2.44E-02	2.40E-03
5	163.70	5.98E+01	65.52	1.99E-02	1.52E-03
6	169.98	4.64E+01	57.81	1.94E-02	1.49E-03
7	186.44	1.46E+02	78.66	1.83E-02	1.42E-03
8	210.44	8.35E+01	70.26	1.67E-02	1.31E-03
M	9	7.57E+02	67.24	1.52E-02	1.18E-03
m	10	1.92E+02	77.51	1.51E-02	1.17E-03
	11	8.57E+01	65.83	1.38E-02	1.03E-03
	12	4.37E+01	53.25	1.34E-02	9.99E-04
	13	2.14E+02	62.93	1.28E-02	9.74E-04
	14	4.47E+01	41.36	1.26E-02	9.66E-04
M	15	1.59E+02	44.50	1.14E-02	9.12E-04
m	16	2.87E+01	42.94	1.13E-02	9.08E-04
	17	4.13E+02	65.51	1.11E-02	8.93E-04
	18	4.89E+01	39.75	9.86E-03	8.27E-04
M	19	4.06E+01	31.46	9.70E-03	8.19E-04
m	20	2.75E+01	43.02	9.60E-03	8.14E-04
	21	3.44E+01	39.85	8.72E-03	7.66E-04
	22	1.98E+01	21.51	8.36E-03	7.43E-04
	23	2.65E+01	28.08	8.29E-03	7.38E-04
M	24	2.93E+01	34.75	8.05E-03	7.21E-04

Analysis Report for 1510092-16
CP5001S18-19

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
m	25	511.61	1.08E+02	37.78	8.00E-03	7.18E-04
	26	583.62	2.19E+02	47.62	7.13E-03	6.46E-04
	27	596.18	3.75E+01	32.05	7.00E-03	6.33E-04
	28	609.67	2.52E+02	46.26	6.87E-03	6.20E-04
	29	689.26	3.53E+01	35.38	6.17E-03	5.45E-04
	30	727.53	4.16E+01	37.30	5.89E-03	5.14E-04
	31	768.78	2.26E+01	27.80	5.61E-03	4.80E-04
	32	860.83	4.49E+01	26.00	5.09E-03	4.05E-04
	33	911.85	1.63E+02	35.11	4.85E-03	3.72E-04
	34	969.66	8.15E+01	33.23	4.60E-03	3.61E-04
	35	976.20	1.26E+01	13.53	4.58E-03	3.60E-04
	36	1062.58	2.23E+01	25.87	4.26E-03	3.44E-04
	37	1094.89	3.72E+01	24.67	4.16E-03	3.38E-04
M	38	1117.71	1.31E+01	11.46	4.08E-03	3.34E-04
m	39	1120.77	6.23E+01	25.87	4.08E-03	3.33E-04
	40	1153.69	7.64E+01	43.39	3.98E-03	3.27E-04
	41	1187.29	1.73E+01	19.29	3.89E-03	3.20E-04
	42	1238.87	4.44E+01	29.46	3.75E-03	3.09E-04
	43	1278.86	3.17E+01	21.68	3.66E-03	3.00E-04
	44	1300.26	3.77E+01	19.31	3.61E-03	2.96E-04
	45	1461.45	5.33E+02	49.68	3.29E-03	2.69E-04
	46	1502.85	1.31E+01	13.86	3.22E-03	2.63E-04
	47	1510.47	1.55E+01	10.99	3.21E-03	2.62E-04
	48	1531.22	1.03E+01	10.58	3.17E-03	2.59E-04
	49	1556.41	1.56E+01	11.58	3.14E-03	2.55E-04
	50	1579.35	1.17E+01	8.73	3.10E-03	2.52E-04
	51	1588.75	8.13E+00	10.44	3.09E-03	2.50E-04
	52	1594.44	1.50E+01	10.81	3.08E-03	2.49E-04
	53	1619.69	2.00E+01	10.20	3.04E-03	2.46E-04
	54	1630.67	1.26E+01	11.14	3.03E-03	2.44E-04
	55	1730.69	1.80E+01	8.49	2.90E-03	2.29E-04
	56	1765.11	4.18E+01	15.49	2.86E-03	2.24E-04
	57	1825.70	1.15E+01	9.00	2.79E-03	2.15E-04
	58	1847.66	8.50E+00	9.62	2.77E-03	2.13E-04
	59	1876.20	7.90E+00	7.48	2.74E-03	2.13E-04
	60	1964.74	9.21E+00	8.85	2.65E-03	2.13E-04
	61	2103.41	1.38E+01	9.62	2.54E-03	2.13E-04
	62	2185.38	6.00E+00	8.49	2.48E-03	2.13E-04
	63	2204.19	9.62E+00	8.75	2.46E-03	2.13E-04
	64	2245.48	1.00E+01	6.32	2.44E-03	2.13E-04
	65	2615.33	6.00E+01	15.49	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 1510092-16

CP5001S18-19

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/11/2015 10:33:10AM

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	63.52	1.56E+02	115.97	5.52E+01	2.05E+01	1.01E+02	1.18E+02
2	76.35	1.21E+03	169.34			1.21E+03	1.69E+02
3	88.28	1.35E+02	92.98	1.52E+01	5.37E+00	1.19E+02	9.31E+01
4	93.20	2.14E+02	95.90	9.04E+01	2.62E+01	1.23E+02	9.94E+01
5	163.70	5.98E+01	65.52			5.98E+01	6.55E+01
6	169.98	4.64E+01	57.81			4.64E+01	5.78E+01
7	186.44	1.46E+02	78.66	3.93E+01	6.56E+00	1.07E+02	7.89E+01
8	210.44	8.35E+01	70.26			8.35E+01	7.03E+01
M 9	238.98	7.57E+02	67.24	1.34E+01	2.14E+00	7.44E+02	6.73E+01
m 10	241.94	1.92E+02	77.51	2.69E+00	1.46E+00	1.89E+02	7.75E+01
11	270.90	8.57E+01	65.83			8.57E+01	6.58E+01
12	278.71	4.37E+01	53.25			4.37E+01	5.33E+01
13	295.57	2.14E+02	62.93			2.14E+02	6.29E+01
14	300.81	4.47E+01	41.36			4.47E+01	4.14E+01
M 15	338.75	1.59E+02	44.50			1.59E+02	4.45E+01
m 16	342.11	2.87E+01	42.94			2.87E+01	4.29E+01
17	352.30	4.13E+02	65.51	3.99E+00	4.73E+00	4.09E+02	6.57E+01
18	402.22	4.89E+01	39.75			4.89E+01	3.97E+01
M 19	409.81	4.06E+01	31.46			4.06E+01	3.15E+01
m 20	415.10	2.75E+01	43.02			2.75E+01	4.30E+01
21	463.49	3.44E+01	39.85			3.44E+01	3.98E+01
22	486.53	1.98E+01	21.51			1.98E+01	2.15E+01
23	491.54	2.65E+01	28.08			2.65E+01	2.81E+01
M 24	508.41	2.93E+01	34.75			2.93E+01	3.47E+01
m 25	511.61	1.08E+02	37.78	5.78E+01	4.60E+00	5.00E+01	3.81E+01
26	583.62	2.19E+02	47.62	5.96E+00	3.46E+00	2.13E+02	4.77E+01
27	596.18	3.75E+01	32.05			3.75E+01	3.21E+01
28	609.67	2.52E+02	46.26	6.71E+00	3.44E+00	2.46E+02	4.64E+01
29	689.26	3.53E+01	35.38			3.53E+01	3.54E+01
30	727.53	4.16E+01	37.30			4.16E+01	3.73E+01
31	768.78	2.26E+01	27.80			2.26E+01	2.78E+01
32	860.83	4.49E+01	26.00			4.49E+01	2.60E+01
33	911.85	1.63E+02	35.11			1.63E+02	3.51E+01
34	969.66	8.15E+01	33.23			8.15E+01	3.32E+01
35	976.20	1.26E+01	13.53			1.26E+01	1.35E+01
36	1062.58	2.23E+01	25.87			2.23E+01	2.59E+01
37	1094.89	3.72E+01	24.67			3.72E+01	2.47E+01
M 38	1117.71	1.31E+01	11.46			1.31E+01	1.15E+01
m 39	1120.77	6.23E+01	25.87	2.00E+00	2.20E+00	6.03E+01	2.60E+01
40	1153.69	7.64E+01	43.39			7.64E+01	4.34E+01
41	1187.29	1.73E+01	19.29			1.73E+01	1.93E+01
42	1238.87	4.44E+01	29.46			4.44E+01	2.95E+01
43	1278.86	3.17E+01	21.68			3.17E+01	2.17E+01
44	1300.26	3.77E+01	19.31			3.77E+01	1.93E+01

Analysis Report for 1510092-16

CP5001S18-19

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
45	1461.45	5.33E+02	49.68			5.33E+02	4.97E+01
46	1502.85	1.31E+01	13.86			1.31E+01	1.39E+01
47	1510.47	1.55E+01	10.99			1.55E+01	1.10E+01
48	1531.22	1.03E+01	10.58			1.03E+01	1.06E+01
49	1556.41	1.56E+01	11.58			1.56E+01	1.16E+01
50	1579.35	1.17E+01	8.73			1.17E+01	8.73E+00
51	1588.75	8.13E+00	10.44			8.13E+00	1.04E+01
52	1594.44	1.50E+01	10.81			1.50E+01	1.08E+01
53	1619.69	2.00E+01	10.20			2.00E+01	1.02E+01
54	1630.67	1.26E+01	11.14			1.26E+01	1.11E+01
55	1730.69	1.80E+01	8.49			1.80E+01	8.49E+00
56	1765.11	4.18E+01	15.49	1.45E+00	1.16E+00	4.03E+01	1.55E+01
57	1825.70	1.15E+01	9.00			1.15E+01	9.00E+00
58	1847.66	8.50E+00	9.62			8.50E+00	9.62E+00
59	1876.20	7.90E+00	7.48			7.90E+00	7.48E+00
60	1964.74	9.21E+00	8.85			9.21E+00	8.85E+00
61	2103.41	1.38E+01	9.62			1.38E+01	9.62E+00
62	2185.38	6.00E+00	8.49			6.00E+00	8.49E+00
63	2204.19	9.62E+00	8.75			9.62E+00	8.75E+00
64	2245.48	1.00E+01	6.32	4.00E-01	7.69E-01	9.60E+00	6.37E+00
65	2615.33	6.00E+01	15.49			6.00E+01	1.55E+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 : 11/11/2015 10:33:10AM
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	63.52	1.56E+02	115.97	5.52E+01	2.05E+01	1.01E+02	1.18E+02
2	76.35	1.21E+03	169.34			1.21E+03	1.69E+02
3	88.28	1.35E+02	92.98	1.52E+01	5.37E+00	1.19E+02	9.31E+01
4	93.20	2.14E+02	95.90	9.04E+01	2.62E+01	1.23E+02	9.94E+01
5	163.70	5.98E+01	65.52			5.98E+01	6.55E+01
6	169.98	4.64E+01	57.81			4.64E+01	5.78E+01
7	186.44	1.46E+02	78.66	3.93E+01	6.56E+00	1.07E+02	7.89E+01

: 00876

Analysis Report for 1510092-16

CP5001S18-19

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	8	210.44	8.35E+01	70.26			8.35E+01	7.03E+01
M	9	238.98	7.57E+02	67.24	1.34E+01	2.14E+00	7.44E+02	6.73E+01
m	10	241.94	1.92E+02	77.51	2.69E+00	1.46E+00	1.89E+02	7.75E+01
	11	270.90	8.57E+01	65.83			8.57E+01	6.58E+01
	12	278.71	4.37E+01	53.25			4.37E+01	5.33E+01
	13	295.57	2.14E+02	62.93			2.14E+02	6.29E+01
	14	300.81	4.47E+01	41.36			4.47E+01	4.14E+01
M	15	338.75	1.59E+02	44.50			1.59E+02	4.45E+01
m	16	342.11	2.87E+01	42.94			2.87E+01	4.29E+01
	17	352.30	4.13E+02	65.51	3.99E+00	4.73E+00	4.09E+02	6.57E+01
	18	402.22	4.89E+01	39.75			4.89E+01	3.97E+01
M	19	409.81	4.06E+01	31.46			4.06E+01	3.15E+01
m	20	415.10	2.75E+01	43.02			2.75E+01	4.30E+01
	21	463.49	3.44E+01	39.85			3.44E+01	3.98E+01
	22	486.53	1.98E+01	21.51			1.98E+01	2.15E+01
	23	491.54	2.65E+01	28.08			2.65E+01	2.81E+01
M	24	508.41	2.93E+01	34.75			2.93E+01	3.47E+01
m	25	511.61	1.08E+02	37.78	5.78E+01	4.60E+00	5.00E+01	3.81E+01
	26	583.62	2.19E+02	47.62	5.96E+00	3.46E+00	2.13E+02	4.77E+01
	27	596.18	3.75E+01	32.05			3.75E+01	3.21E+01
	28	609.67	2.52E+02	46.26	6.71E+00	3.44E+00	2.46E+02	4.64E+01
	29	689.26	3.53E+01	35.38			3.53E+01	3.54E+01
	30	727.53	4.16E+01	37.30			4.16E+01	3.73E+01
	31	768.78	2.26E+01	27.80			2.26E+01	2.78E+01
	32	860.83	4.49E+01	26.00			4.49E+01	2.60E+01
	33	911.85	1.63E+02	35.11			1.63E+02	3.51E+01
	34	969.66	8.15E+01	33.23			8.15E+01	3.32E+01
	35	976.20	1.26E+01	13.53			1.26E+01	1.35E+01
	36	1062.58	2.23E+01	25.87			2.23E+01	2.59E+01
	37	1094.89	3.72E+01	24.67			3.72E+01	2.47E+01
M	38	1117.71	1.31E+01	11.46			1.31E+01	1.15E+01
m	39	1120.77	6.23E+01	25.87	2.00E+00	2.20E+00	6.03E+01	2.60E+01
	40	1153.69	7.64E+01	43.39			7.64E+01	4.34E+01
	41	1187.29	1.73E+01	19.29			1.73E+01	1.93E+01
	42	1238.87	4.44E+01	29.46			4.44E+01	2.95E+01
	43	1278.86	3.17E+01	21.68			3.17E+01	2.17E+01
	44	1300.26	3.77E+01	19.31			3.77E+01	1.93E+01
	45	1461.45	5.33E+02	49.68			5.33E+02	4.97E+01
	46	1502.85	1.31E+01	13.86			1.31E+01	1.39E+01
	47	1510.47	1.55E+01	10.99			1.55E+01	1.10E+01
	48	1531.22	1.03E+01	10.58			1.03E+01	1.06E+01
	49	1556.41	1.56E+01	11.58			1.56E+01	1.16E+01
	50	1579.35	1.17E+01	8.73			1.17E+01	8.73E+00
	51	1588.75	8.13E+00	10.44			8.13E+00	1.04E+01
	52	1594.44	1.50E+01	10.81			1.50E+01	1.08E+01
	53	1619.69	2.00E+01	10.20			2.00E+01	1.02E+01
	54	1630.67	1.26E+01	11.14			1.26E+01	1.11E+01
	55	1730.69	1.80E+01	8.49			1.80E+01	8.49E+00
	56	1765.11	4.18E+01	15.49	1.45E+00	1.16E+00	4.03E+01	1.55E+01
	57	1825.70	1.15E+01	9.00			1.15E+01	9.00E+00
	58	1847.66	8.50E+00	9.62			8.50E+00	9.62E+00
	59	1876.20	7.90E+00	7.48			7.90E+00	7.48E+00
	60	1964.74	9.21E+00	8.85			9.21E+00	8.85E+00
	61	2103.41	1.38E+01	9.62			1.38E+01	9.62E+00

: 00877

Analysis Report for 1510092-16

CP5001S18-19

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
62	2185.38	6.00E+00	8.49			6.00E+00	8.49E+00
63	2204.19	9.62E+00	8.75			9.62E+00	8.75E+00
64	2245.48	1.00E+01	6.32	4.00E-01	7.69E-01	9.60E+00	6.37E+00
65	2615.33	6.00E+01	15.49			6.00E+01	1.55E+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	0.937	1460.81	*	10.67	2.16E+01	2.72E+00
GA-67	0.557	93.31	*	35.70	2.13E+02	9.54E+02
		208.95		2.24		
		300.22	*	16.00	3.33E+02	1.50E+03
CD-109	0.990	88.03	*	3.72	1.97E+00	1.55E+00
SN-126	0.922	87.57	*	37.00	1.89E-01	1.48E-01
HG-203	0.961	279.19	*	77.30	9.77E-02	1.19E-01
TL-208	0.947	583.14	*	30.22	1.41E+00	3.41E-01
		860.37	*	4.48	2.80E+00	1.64E+00
		2614.66	*	35.85	1.07E+00	2.93E-01
BI-212	0.958	727.17	*	11.80	8.54E-01	7.69E-01
		1620.62	*	2.75	3.41E+00	1.76E+00
PB-212	0.976	238.63	*	44.60	1.56E+00	1.86E-01
		300.09	*	3.41	1.48E+00	1.38E+00
BI-214	0.970	609.31	*	46.30	1.10E+00	2.31E-01
		1120.29	*	15.10	1.40E+00	6.13E-01
		1764.49	*	15.80	1.27E+00	5.01E-01
		2204.22	*	4.98	1.12E+00	1.02E+00
PB-214	0.978	295.21	*	19.19	1.24E+00	3.77E-01
		351.92	*	37.19	1.42E+00	2.55E-01
RN-219	0.972	401.80	*	6.50	1.09E+00	8.89E-01
RA-224	0.863	240.98	*	3.95	4.53E+00	1.89E+00
RA-226	0.992	186.21	*	3.28	2.54E+00	5.02E+00
AC-228	0.933	338.32	*	11.40	1.74E+00	5.07E-01
		911.07	*	27.70	1.73E+00	3.96E-01
		969.11	*	16.60	1.52E+00	6.32E-01
TH-234	0.991	63.29	*	3.80	1.75E+00	2.05E+00

: 00878

Analysis Report for 1510092-16
CP5001S18-19

* = 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 : 11/11/2015 10:33:10AM
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	76.35	3.35975E-01	7.00		
5	163.70	1.66097E-02	54.79	Tol.	CS-136 U-235
6	169.98	1.28926E-02	62.28		
8	210.44	2.31854E-02	42.09	Tol.	CM-243
11	270.90	2.37945E-02	38.43		
m 16	342.11	7.97747E-03	74.76	Sum	
M 19	409.81	1.12661E-02	38.79		
m 20	415.10	7.63189E-03	78.29	Sum	
21	463.49	9.56699E-03	57.85	Tol.	SB-125
22	486.53	5.49863E-03	54.34	Sum	
23	491.54	7.36111E-03	52.99		
M 24	508.41	8.12832E-03	59.38		
m 25	511.61	1.38823E-02	38.08		
27	596.18	1.04167E-02	42.74	Sum	
29	689.26	9.81563E-03	50.07		
31	768.78	6.27907E-03	61.49		
35	976.20	3.50309E-03	53.63	Sum	
36	1062.58	6.20370E-03	57.91	Sum	
37	1094.89	1.03200E-02	33.21		
M 38	1117.71	3.64492E-03	43.65		
40	1153.69	2.12321E-02	28.39	Sum	
41	1187.29	4.81061E-03	55.69		
42	1238.87	1.23460E-02	33.14		
43	1278.86	8.79798E-03	34.22		
44	1300.26	1.04766E-02	25.60		
46	1502.85	3.64734E-03	52.76		
47	1510.47	4.30556E-03	35.45		
48	1531.22	2.86458E-03	51.31		
49	1556.41	4.32540E-03	37.17		
50	1579.35	3.25397E-03	37.27	Sum	
51	1588.75	2.25694E-03	64.25	Sum	
52	1594.44	4.16667E-03	36.02		
54	1630.67	3.50877E-03	44.08		

Analysis Report for 1510092-16
CP5001S18-19

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
55	1730.69	5.00000E-03	23.57	Sum	
57	1825.70	3.20437E-03	39.01		
58	1847.66	2.36111E-03	56.57	Sum	
59	1876.20	2.19444E-03	47.36		
60	1964.74	2.55787E-03	48.03		
61	2103.41	3.83987E-03	34.79	S-Esc	
62	2185.38	1.66667E-03	70.71		
64	2245.48	2.66657E-03	33.18		

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	2.16E+01	2.72E+00
GA-67	0.55	93.31 *	35.70	2.13E+02	9.54E+02
		208.95	2.24		
		300.22 *	16.00	3.33E+02	1.50E+03
CD-109	0.99	88.03 *	3.72	1.97E+00	1.55E+00
SN-126	0.92	87.57 *	37.00	1.89E-01	1.48E-01
HG-203	0.96	279.19 *	77.30	9.77E-02	1.19E-01
TL-208	0.94	583.14 *	30.22	1.41E+00	3.41E-01
		860.37 *	4.48	2.80E+00	1.64E+00
		2614.66 *	35.85	1.07E+00	2.93E-01
BI-212	0.95	727.17 *	11.80	8.54E-01	7.69E-01
		1620.62 *	2.75	3.41E+00	1.76E+00
PB-212	0.97	238.63 *	44.60	1.56E+00	1.86E-01
		300.09 *	3.41	1.48E+00	1.38E+00
BI-214	0.97	609.31 *	46.30	1.10E+00	2.31E-01
		1120.29 *	15.10	1.40E+00	6.13E-01
		1764.49 *	15.80	1.27E+00	5.01E-01
		2204.22 *	4.98	1.12E+00	1.02E+00
PB-214	0.97	295.21 *	19.19	1.24E+00	3.77E-01
		351.92 *	37.19	1.42E+00	2.55E-01

Analysis Report for 1510092-16
CP5001S18-19

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
RN-219	0.97	401.80 *		6.50	1.09E+00	8.89E-01
RA-224	0.86	240.98 *		3.95	4.53E+00	1.89E+00
RA-226	0.99	186.21 *		3.28	2.54E+00	5.02E+00
AC-228	0.93	338.32 *		11.40	1.74E+00	5.07E-01
		911.07 *		27.70	1.73E+00	3.96E-01
		969.11 *		16.60	1.52E+00	6.32E-01
TH-234	0.99	63.29 *		3.80	1.75E+00	2.05E+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	0.937	2.16E+01	2.72E+00	
GA-67	0.557	1.58E+02	6.93E+02	
? CD-109	0.990	1.97E+00	1.55E+00	
? SN-126	0.922	1.89E-01	1.48E-01	
HG-203	0.961	9.77E-02	1.19E-01	
TL-208	0.947	1.24E+00	2.20E-01	
BI-212	0.958	1.26E+00	7.05E-01	
PB-212	0.976	1.55E+00	1.85E-01	
BI-214	0.970	1.16E+00	1.95E-01	
PB-214	0.978	1.36E+00	2.11E-01	
RN-219	0.972	1.09E+00	8.89E-01	
RA-224	0.863	4.53E+00	1.89E+00	
RA-226	0.992	2.54E+00	5.02E+00	
AC-228	0.933	1.69E+00	2.80E-01	
TH-234	0.991	1.75E+00	2.05E+00	

Analysis Report for 1510092-16

CP5001S18-19

- ? = 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 1510092-16
CP5001S18-19

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 10:33:10AM
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	76.35	3.35975E-01	7.00		
5	163.70	1.66097E-02	54.79	Tol.	CS-136 U-235
6	169.98	1.28926E-02	62.28		
8	210.44	2.31854E-02	42.09	Tol.	CM-243
11	270.90	2.37945E-02	38.43		
m 16	342.11	7.97747E-03	74.76	Sum	
M 19	409.81	1.12661E-02	38.79		
m 20	415.10	7.63189E-03	78.29	Sum	
21	463.49	9.56699E-03	57.85	Tol.	SB-125
22	486.53	5.49863E-03	54.34	Sum	
23	491.54	7.36111E-03	52.99		
M 24	508.41	8.12832E-03	59.38		
m 25	511.61	1.38823E-02	38.08		
27	596.18	1.04167E-02	42.74	Sum	
29	689.26	9.81563E-03	50.07		
31	768.78	6.27907E-03	61.49		
35	976.20	3.50309E-03	53.63	Sum	
36	1062.58	6.20370E-03	57.91	Sum	
37	1094.89	1.03200E-02	33.21		
M 38	1117.71	3.64492E-03	43.65		
40	1153.69	2.12321E-02	28.39	Sum	
41	1187.29	4.81061E-03	55.69		
42	1238.87	1.23460E-02	33.14		
43	1278.86	8.79798E-03	34.22		
44	1300.26	1.04766E-02	25.60		
46	1502.85	3.64734E-03	52.76		
47	1510.47	4.30556E-03	35.45		
48	1531.22	2.86458E-03	51.31		
49	1556.41	4.32540E-03	37.17		
50	1579.35	3.25397E-03	37.27	Sum	
51	1588.75	2.25694E-03	64.25	Sum	
52	1594.44	4.16667E-03	36.02		
54	1630.67	3.50877E-03	44.08		
55	1730.69	5.00000E-03	23.57	Sum	

Analysis Report for 1510092-16
CP5001S18-19

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
57	1825.70	3.20437E-03	39.01		
58	1847.66	2.36111E-03	56.57	Sum	
59	1876.20	2.19444E-03	47.36		
60	1964.74	2.55787E-03	48.03		
61	2103.41	3.83987E-03	34.79	S-Esc	
62	2185.38	1.66667E-03	70.71		
64	2245.48	2.66657E-03	33.18		

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	7.28E-02	1.17E+00	1.17E+00
+	NA-22	1274.54	99.94	3.37E-02	1.50E-01	1.50E-01
+	NA-24	1368.53	99.99	-2.32E+14	2.86E+14	6.00E+14
		2754.09	99.86	-3.88E+13		2.86E+14
+	AL-26	1808.65	99.76	2.55E-02	8.08E-02	8.08E-02
+	K-40	1460.81	* 10.67	2.16E+01	1.34E+00	1.34E+00
+	@ AR-41	1293.64	99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88	94.40	-1.88E-02	8.27E-02	8.27E-02
		78.34	96.00	2.78E-01		1.05E-01
+	SC-46	889.25	99.98	-9.86E-02	1.21E-01	1.21E-01
		1120.51	99.99	2.30E-01		2.29E-01
+	V-48	983.52	99.98	-4.33E-02	4.36E-01	4.36E-01
		1312.10	97.50	7.30E-02		4.55E-01
+	CR-51	320.08	9.83	2.04E-01	1.76E+00	1.76E+00
+	MN-54	834.83	99.97	3.54E-02	1.18E-01	1.18E-01
+	CO-56	846.75	99.96	3.13E-02	1.47E-01	1.47E-01
		1037.75	14.03	6.74E-01		1.07E+00
		1238.25	67.00	2.90E-01		3.27E-01
		1771.40	15.51	-7.38E-01		8.39E-01
		2598.48	16.90	-2.51E-01		3.69E-01
+	CO-57	122.06	85.51	-2.46E-02	6.78E-02	6.78E-02
		136.48	10.60	-3.03E-01		5.80E-01

Analysis Report for 1510092-16
CP5001S18-19

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	CO-58	810.76	99.40	-1.02E-01	1.21E-01	1.21E-01
+	FE-59	1099.22	56.50	-2.58E-01	3.02E-01	3.02E-01
		1291.56	43.20	5.85E-02		4.57E-01
+	CO-60	1173.22	100.00	1.84E-03	1.22E-01	1.30E-01
		1332.49	100.00	-2.18E-02		1.22E-01
+	ZN-65	1115.52	50.75	-4.16E-02	2.53E-01	2.53E-01
+	GA-67	93.31	* 35.70	2.13E+02	2.80E+02	2.80E+02
		208.95	2.24	2.09E+03		3.91E+03
		300.22	* 16.00	3.33E+02		5.00E+02
+	SE-75	121.11	16.70	-6.94E-02	1.15E-01	3.86E-01
		136.00	59.20	-5.09E-02		1.15E-01
		264.65	59.80	-1.49E-02		1.41E-01
		279.53	25.20	1.52E-01		3.69E-01
		400.65	11.40	4.06E-01		9.15E-01
+	RB-82	776.52	13.00	1.63E-01	1.96E+00	1.96E+00
+	RB-83	520.41	46.00	6.63E-02	2.28E-01	2.28E-01
		529.64	30.30	5.21E-02		3.73E-01
		552.65	16.40	3.26E-02		6.55E-01
+	KR-85	513.99	0.43	3.67E+01	2.69E+01	2.69E+01
+	SR-85	513.99	99.27	2.27E-01	1.66E-01	1.66E-01
+	Y-88	898.02	93.40	-1.11E-01	1.07E-01	1.22E-01
		1836.01	99.38	1.85E-02		1.07E-01
+	NB-93M	16.57	9.43	4.98E+01	9.23E+01	9.23E+01
+	NB-94	702.63	100.00	1.60E-02	9.30E-02	1.10E-01
		871.10	100.00	3.87E-02		9.30E-02
+	NB-95	765.79	99.81	-2.92E-02	2.15E-01	2.15E-01
+	NB-95M	235.69	25.00	1.43E+01	2.68E+02	2.68E+02
+	ZR-95	724.18	43.70	-1.97E-01	2.67E-01	3.49E-01
		756.72	55.30	-1.13E-01		2.67E-01
+	MO-99	181.06	6.20	-5.89E+02	2.88E+03	3.98E+03
		739.58	12.80	6.58E+01		2.88E+03
		778.00	4.50	3.50E+03		8.86E+03
+	RU-103	497.08	89.00	-7.79E-03	1.63E-01	1.63E-01
+	RU-106	621.84	9.80	-1.97E-01	8.75E-01	8.75E-01
+	AG-108M	433.93	89.90	2.58E-02	9.62E-02	9.62E-02
		614.37	90.40	2.98E-02		1.18E-01
		722.95	90.50	7.18E-03		1.08E-01
+	CD-109	88.03	* 3.72	1.97E+00	2.50E+00	2.50E+00
+	AG-110M	657.75	93.14	1.94E-02	1.12E-01	1.12E-01
		677.61	10.53	-3.10E-03		9.53E-01
		706.67	16.46	4.71E-01		7.44E-01
		763.93	21.98	3.37E-02		5.10E-01
		884.67	71.63	2.65E-02		1.56E-01
		1384.27	23.94	-3.51E-01		4.05E-01
+	CD-113M	263.70	0.02	-7.46E+01	3.02E+02	3.02E+02
+	SN-113	255.12	1.93	7.15E-01	1.54E-01	4.80E+00
		391.69	64.90	1.65E-02		1.54E-01

Analysis Report for 1510092-16
CP5001S18-19

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	TE123M	159.00	84.10	-2.26E-02	8.13E-02	8.13E-02
+	SB-124	602.71	97.87	2.23E-02	1.32E-01	1.32E-01
		645.85	7.26	3.73E-01		1.91E+00
		722.78	11.10	8.53E-02		1.28E+00
		1691.02	49.00	5.91E-02		2.51E-01
+	I-125	35.49	6.49	1.11E+00	3.83E+00	3.83E+00
+	SB-125	176.33	6.89	3.69E-02	2.84E-01	9.29E-01
		427.89	29.33	2.68E-02		2.84E-01
		463.38	10.35	5.79E-01		9.49E-01
		600.56	17.80	5.05E-02		4.87E-01
		635.90	11.32	-5.18E-01		7.77E-01
+	SB-126	414.70	83.30	-3.47E-01	5.56E-01	6.16E-01
		666.33	99.60	9.21E-02		6.01E-01
		695.00	99.60	-1.37E-01		5.56E-01
		720.50	53.80	6.63E-02		1.05E+00
+	SN-126	87.57	* 37.00	1.89E-01	2.40E-01	2.40E-01
+	SB-127	473.00	25.00	-9.87E+00	1.01E+02	1.18E+02
		685.20	35.70	1.26E+00		1.01E+02
		783.80	14.70	-2.88E+01		2.51E+02
+	I-129	29.78	57.00	-1.01E-01	5.07E-01	5.07E-01
		33.60	13.20	7.38E-01		1.55E+00
		39.58	7.52	-2.40E-01		1.72E+00
+	I-131	284.30	6.05	-6.56E+00	1.61E+00	2.00E+01
		364.48	81.20	-1.00E+00		1.61E+00
		636.97	7.26	-1.31E+01		1.98E+01
		722.89	1.80	6.07E+00		9.13E+01
+	TE-132	49.72	13.10	-1.12E+03	8.88E+01	7.57E+02
		228.16	88.00	-1.35E+01		8.88E+01
+	BA-133	81.00	33.00	-1.31E+00	1.80E-01	2.10E-01
		302.84	17.80	-2.51E-02		4.59E-01
		356.01	60.00	-2.14E-02		1.80E-01
+	I-133	529.87	86.30	3.34E+09	2.39E+10	2.39E+10
+	XE-133	81.00	38.00	-8.60E+01	1.38E+01	1.38E+01
+	CS-134	563.23	8.38	-2.84E-01	1.00E-01	1.07E+00
		569.32	15.43	7.52E-02		6.09E-01
		604.70	97.60	1.59E-02		1.00E-01
		795.84	85.40	1.04E-02		1.35E-01
		801.93	8.73	-3.00E-01		1.13E+00
+	CS-135	268.24	16.00	2.92E-01	5.00E-01	5.00E-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	1.70E+00	5.76E-01	4.71E+00
		163.89	4.61	5.60E+00		7.59E+00
		176.55	13.56	1.34E-01		2.61E+00
		273.65	12.66	-4.55E-01		3.68E+00
		340.57	48.50	2.63E+00		1.23E+00
		818.50	99.70	-8.25E-02		5.76E-01
		1048.07	79.60	7.28E-02		6.96E-01

Analysis Report for 1510092-16
CP5001S18-19

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	CS-136	1235.34	19.70	-4.63E-02	5.76E-01	4.31E+00
+	CS-137	661.65	85.12	2.95E-02	1.17E-01	1.17E-01
+	LA-138	788.74	34.00	3.69E-02	1.38E-01	3.22E-01
		1435.80	66.00	-3.97E-02		1.38E-01
+	CE-139	165.85	80.35	-7.34E-03	8.86E-02	8.86E-02
+	BA-140	162.64	6.70	3.20E+00	1.97E+00	5.45E+00
		304.84	4.50	1.36E+00		9.96E+00
		423.70	3.20	2.68E-01		1.50E+01
		437.55	2.00	1.10E+01		2.59E+01
		537.32	25.00	3.69E-02		1.97E+00
+	LA-140	328.77	20.50	2.67E-01	7.31E-01	2.43E+00
		487.03	45.50	-5.77E-02		1.00E+00
		815.85	23.50	-2.93E-01		2.39E+00
		1596.49	95.49	3.58E-02		7.31E-01
+	CE-141	145.44	48.40	-3.96E-02	2.41E-01	2.41E-01
+	CE-143	57.36	11.80	4.13E+06	3.84E+06	1.07E+07
		293.26	42.00	-2.05E+05		3.84E+06
		664.55	5.20	-3.95E+06		2.70E+07
+	CE-144	133.54	10.80	-1.22E-01	5.76E-01	5.76E-01
+	PM-144	476.78	42.00	8.60E-02	9.00E-02	2.09E-01
		618.01	98.60	-4.99E-03		9.00E-02
		696.49	99.49	-1.16E-02		9.96E-02
+	PM-145	36.85	21.70	-2.91E-01	3.78E-01	7.06E-01
		37.36	39.70	-1.03E-01		3.78E-01
		42.30	15.10	-7.26E-01		7.55E-01
		72.40	2.31	-4.84E+00		3.99E+00
+	PM-146	453.90	39.94	-2.39E-02	2.16E-01	2.16E-01
		735.90	14.01	-1.08E-01		6.79E-01
		747.13	13.10	-1.74E-01		7.36E-01
+	ND-147	91.11	28.90	3.19E-01	2.16E+00	2.16E+00
		531.02	13.10	-1.83E+00		5.12E+00
+	PM-149	285.90	3.10	-8.78E+03	6.73E+04	6.73E+04
+	EU-152	121.78	20.50	-9.46E-02	2.61E-01	2.61E-01
		244.69	5.40	2.32E-01		1.69E+00
		344.27	19.13	-9.44E-01		3.97E-01
		778.89	9.20	1.59E-01		1.08E+00
		964.01	10.40	2.08E-01		1.24E+00
		1085.78	7.22	1.09E+00		1.69E+00
		1112.02	9.60	-2.32E-01		1.18E+00
		1407.95	14.94	2.62E-01		8.22E-01
+	GD-153	97.43	31.30	7.99E-03	1.94E-01	1.94E-01
		103.18	22.20	-4.45E-02		2.79E-01
+	EU-154	123.07	40.50	1.96E-02	1.37E-01	1.37E-01
		723.30	19.70	3.32E-02		4.99E-01
		873.19	11.50	1.49E-01		8.07E-01
		996.32	10.30	1.95E-01		1.04E+00
		1004.76	17.90	3.59E-02		6.46E-01
		1274.45	35.50	9.33E-02		4.14E-01
+	EU-155	86.50	30.90	1.80E-01	2.58E-01	2.58E-01

Analysis Report for 1510092-16
CP5001S18-19

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	EU-155	105.30	20.70	-1.06E-01	2.58E-01	2.74E-01
+	EU-156	811.77	10.40	-2.25E-01	3.99E+00	3.99E+00
		1153.47	7.20	-1.57E+00		7.68E+00
		1230.71	8.90	2.51E+00		7.39E+00
+	HO-166M	184.41	72.60	1.84E-01	1.08E-01	1.08E-01
		280.45	29.60	-5.57E-02		2.53E-01
		410.94	11.10	5.96E-01		7.87E-01
		711.69	54.10	-6.43E-02		1.63E-01
+	TM-171	66.72	0.14	-5.15E+00	5.82E+01	5.82E+01
+	HF-172	81.75	4.52	-1.63E-01	5.12E-01	1.57E+00
		125.81	11.30	-3.20E-01		5.12E-01
+	LU-172	181.53	20.60	8.92E-02	5.40E+00	9.28E+00
		810.06	16.63	-4.04E+00		1.64E+01
		912.12	15.25	8.85E+01		3.81E+01
		1093.66	62.50	-4.01E-01		5.40E+00
+	LU-173	100.72	5.24	7.11E-01	4.16E-01	1.15E+00
		272.11	21.20	3.86E-01		4.16E-01
+	HF-175	343.40	84.00	-2.19E-01	1.35E-01	1.35E-01
+	LU-176	88.34	13.30	6.41E-01	7.92E-02	5.99E-01
		201.83	86.00	4.60E-02		9.09E-02
		306.78	94.00	-1.32E-02		7.92E-02
+	TA-182	67.75	41.20	-5.25E-02	2.31E-01	2.31E-01
		1121.30	34.90	6.56E-01		6.05E-01
		1189.05	16.23	-5.02E-02		9.37E-01
		1221.41	26.98	-4.95E-02		5.82E-01
		1231.02	11.44	-1.76E-01		1.47E+00
+	IR-192	308.46	29.68	1.45E-01	2.23E-01	3.51E-01
		468.07	48.10	4.33E-02		2.23E-01
+	HG-203	279.19	* 77.30	9.77E-02	1.96E-01	1.96E-01
+	BI-207	569.67	97.72	-3.57E-03	9.35E-02	9.35E-02
		1063.62	74.90	5.31E-02		1.64E-01
+	TL-208	583.14	* 30.22	1.41E+00	4.81E-02	4.29E-01
		860.37	* 4.48	2.80E+00		2.46E+00
		2614.66	* 35.85	1.07E+00		4.81E-02
+	BI-210M	262.00	45.00	-1.57E-02	1.57E-01	1.57E-01
		300.00	23.00	-1.20E+00		3.73E-01
+	PB-210	46.50	4.25	2.51E+00	2.56E+00	2.56E+00
+	PB-211	404.84	2.90	-2.30E+00	2.83E+00	2.83E+00
		831.96	2.90	-1.71E+00		3.55E+00
+	BI-212	727.17	* 11.80	8.54E-01	1.24E+00	1.24E+00
		1620.62	* 2.75	3.41E+00		1.84E+00
+	PB-212	238.63	* 44.60	1.56E+00	2.52E-01	2.52E-01
		300.09	* 3.41	1.48E+00		2.22E+00
+	BI-214	609.31	* 46.30	1.10E+00	2.64E-01	2.64E-01
		1120.29	* 15.10	1.40E+00		9.13E-01
		1764.49	* 15.80	1.27E+00		5.51E-01
		2204.22	* 4.98	1.12E+00		1.49E+00
+	PB-214	295.21	* 19.19	1.24E+00	3.05E-01	5.48E-01

Analysis Report for 1510092-16
CP5001S18-19

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	PB-214	351.92	*	37.19	1.42E+00	3.05E-01	3.05E-01
+	RN-219	401.80	*	6.50	1.09E+00	1.42E+00	1.42E+00
+	RA-223	323.87		3.88	-2.51E+00	1.98E+00	1.98E+00
+	RA-224	240.98	*	3.95	4.53E+00	2.96E+00	2.96E+00
+	RA-225	40.00		31.00	-2.64E-01	1.89E+00	1.89E+00
+	RA-226	186.21	*	3.28	2.54E+00	3.05E+00	3.05E+00
+	TH-227	50.10		8.40	-1.63E+00	1.08E+00	1.10E+00
		236.00		11.50	5.80E-02		1.08E+00
		256.20		6.30	1.53E-01		1.20E+00
+	AC-228	338.32	*	11.40	1.74E+00	4.50E-01	1.15E+00
		911.07	*	27.70	1.73E+00		4.50E-01
		969.11	*	16.60	1.52E+00		9.07E-01
+	TH-230	48.44		16.90	2.64E-01	6.06E-01	6.06E-01
		62.85		4.60	1.79E+00		1.96E+00
		67.67		0.37	-4.79E+00		2.11E+01
+	PA-231	283.67		1.60	-1.47E+00	3.53E+00	4.49E+00
		302.67		2.30	-1.93E-01		3.53E+00
+	TH-231	25.64		14.70	-1.05E+00	1.11E+00	3.66E+00
		84.21		6.40	2.03E-01		1.11E+00
+	PA-233	311.98		38.60	-1.39E-01	4.43E-01	4.43E-01
+	PA-234	131.20		20.40	3.27E-01	3.01E-01	3.01E-01
		733.99		8.80	-5.73E-01		9.97E-01
		946.00		12.00	-1.60E-01		8.75E-01
+	PA-234M	1001.03		0.92	7.39E+00	1.23E+01	1.23E+01
+	TH-234	63.29	*	3.80	1.75E+00	3.36E+00	3.36E+00
+	U-235	143.76		10.50	1.57E-01	5.64E-01	5.64E-01
		163.35		4.70	9.76E-01		1.32E+00
		205.31		4.70	4.79E-01		1.66E+00
+	NP-237	86.50		12.60	4.36E-01	6.25E-01	6.25E-01
+	NP-239	106.10		22.70	-1.43E+03	3.73E+03	3.73E+03
		228.18		10.70	-1.60E+03		1.06E+04
		277.60		14.10	5.68E+03		8.56E+03
+	AM-241	59.54		35.90	-1.37E-02	2.35E-01	2.35E-01
+	AM-243	74.67		66.00	2.20E-01	1.63E-01	1.63E-01
+	CM-243	209.75		3.29	1.73E+00	5.63E-01	2.52E+00
		228.14		10.60	-1.06E-01		6.97E-01
		277.60		14.00	3.73E-01		5.63E-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 1510092-16
CP5001S18-19

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	1.17E+00	1.17E+00	7.28E-02	5.50E-01
NA-22	1274.54	99.94	1.50E-01	1.50E-01	3.37E-02	6.94E-02
NA-24	1368.53	99.99	6.00E+14	2.86E+14	-2.32E+14	2.67E+14
	2754.09	99.86	2.86E+14		-3.88E+13	9.04E+13
AL-26	1808.65	99.76	8.08E-02	8.08E-02	2.55E-02	3.35E-02
+ K-40	1460.81	*	1.34E+00	1.34E+00	2.16E+01	6.14E-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	8.27E-02	8.27E-02	-1.88E-02	4.04E-02
	78.34	96.00	1.05E-01		2.78E-01	5.18E-02
SC-46	889.25	99.98	1.21E-01	1.21E-01	-9.86E-02	5.56E-02
	1120.51	99.99	2.29E-01		2.30E-01	1.08E-01
V-48	983.52	99.98	4.36E-01	4.36E-01	-4.33E-02	2.01E-01
	1312.10	97.50	4.55E-01		7.30E-02	2.04E-01
CR-51	320.08	9.83	1.76E+00	1.76E+00	2.04E-01	8.41E-01
MN-54	834.83	99.97	1.18E-01	1.18E-01	3.54E-02	5.50E-02
CO-56	846.75	99.96	1.47E-01	1.47E-01	3.13E-02	6.86E-02
	1037.75	14.03	1.07E+00		6.74E-01	4.92E-01
	1238.25	67.00	3.27E-01		2.90E-01	1.53E-01
	1771.40	15.51	8.39E-01		-7.38E-01	3.61E-01
	2598.48	16.90	3.69E-01		-2.51E-01	1.17E-01
CO-57	122.06	85.51	6.78E-02	6.78E-02	-2.46E-02	3.28E-02
	136.48	10.60	5.80E-01		-3.03E-01	2.81E-01
CO-58	810.76	99.40	1.21E-01	1.21E-01	-1.02E-01	5.56E-02
FE-59	1099.22	56.50	3.02E-01	3.02E-01	-2.58E-01	1.38E-01
	1291.56	43.20	4.57E-01		5.85E-02	2.08E-01
CO-60	1173.22	100.00	1.30E-01	1.22E-01	1.84E-03	5.99E-02
	1332.49	100.00	1.22E-01		-2.18E-02	5.53E-02
ZN-65	1115.52	50.75	2.53E-01	2.53E-01	-4.16E-02	1.16E-01
+ GA-67	93.31	*	2.80E+02	2.80E+02	2.13E+02	1.38E+02
	208.95	2.24	3.91E+03		2.09E+03	1.90E+03
	300.22	*	5.00E+02		3.33E+02	2.40E+02
SE-75	121.11	16.70	3.86E-01	1.15E-01	-6.94E-02	1.87E-01
	136.00	59.20	1.15E-01		-5.09E-02	5.55E-02
	264.65	59.80	1.41E-01		-1.49E-02	6.75E-02
	279.53	25.20	3.69E-01		1.52E-01	1.78E-01
	400.65	11.40	9.15E-01		4.06E-01	4.37E-01
RB-82	776.52	13.00	1.96E+00	1.96E+00	1.63E-01	9.13E-01
RB-83	520.41	46.00	2.28E-01	2.28E-01	6.63E-02	1.07E-01
	529.64	30.30	3.73E-01		5.21E-02	1.76E-01
	552.65	16.40	6.55E-01		3.26E-02	3.07E-01

Analysis Report for 1510092-16
CP5001S18-19

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	2.69E+01	2.69E+01	3.67E+01	1.29E+01
SR-85	513.99	99.27	1.66E-01	1.66E-01	2.27E-01	7.96E-02
Y-88	898.02	93.40	1.22E-01	1.07E-01	-1.11E-01	5.59E-02
	1836.01	99.38	1.07E-01		1.85E-02	4.46E-02
NB-93M	16.57	9.43	9.23E+01	9.23E+01	4.98E+01	4.49E+01
NB-94	702.63	100.00	1.10E-01	9.30E-02	1.60E-02	5.16E-02
	871.10	100.00	9.30E-02		3.87E-02	4.27E-02
NB-95	765.79	99.81	2.15E-01	2.15E-01	-2.92E-02	1.01E-01
NB-95M	235.69	25.00	2.68E+02	2.68E+02	1.43E+01	1.31E+02
ZR-95	724.18	43.70	3.49E-01	2.67E-01	-1.97E-01	1.64E-01
	756.72	55.30	2.67E-01		-1.13E-01	1.25E-01
MO-99	181.06	6.20	3.98E+03	2.88E+03	-5.89E+02	1.93E+03
	739.58	12.80	2.88E+03		6.58E+01	1.34E+03
	778.00	4.50	8.86E+03		3.50E+03	4.14E+03
RU-103	497.08	89.00	1.63E-01	1.63E-01	-7.79E-03	7.68E-02
RU-106	621.84	9.80	8.75E-01	8.75E-01	-1.97E-01	4.06E-01
AG-108M	433.93	89.90	9.62E-02	9.62E-02	2.58E-02	4.58E-02
	614.37	90.40	1.18E-01		2.98E-02	5.60E-02
	722.95	90.50	1.08E-01		7.18E-03	5.03E-02
+ CD-109	88.03	* 3.72	2.50E+00	2.50E+00	1.97E+00	1.23E+00
AG-110M	657.75	93.14	1.12E-01	1.12E-01	1.94E-02	5.26E-02
	677.61	10.53	9.53E-01		-3.10E-03	4.44E-01
	706.67	16.46	7.44E-01		4.71E-01	3.51E-01
	763.93	21.98	5.10E-01		3.37E-02	2.38E-01
	884.67	71.63	1.56E-01		2.65E-02	7.21E-02
	1384.27	23.94	4.05E-01		-3.51E-01	1.77E-01
CD-113M	263.70	0.02	3.02E+02	3.02E+02	-7.46E+01	1.45E+02
SN-113	255.12	1.93	4.80E+00	1.54E-01	7.15E-01	2.32E+00
	391.69	64.90	1.54E-01		1.65E-02	7.36E-02
TE123M	159.00	84.10	8.13E-02	8.13E-02	-2.26E-02	3.93E-02
SB-124	602.71	97.87	1.32E-01	1.32E-01	2.23E-02	6.17E-02
	645.85	7.26	1.91E+00		3.73E-01	8.95E-01
	722.78	11.10	1.28E+00		8.53E-02	5.98E-01
	1691.02	49.00	2.51E-01		5.91E-02	1.06E-01
I-125	35.49	6.49	3.83E+00	3.83E+00	1.11E+00	1.86E+00
SB-125	176.33	6.89	9.29E-01	2.84E-01	3.69E-02	4.49E-01
	427.89	29.33	2.84E-01		2.68E-02	1.35E-01
	463.38	10.35	9.49E-01		5.79E-01	4.53E-01
	600.56	17.80	4.87E-01		5.05E-02	2.28E-01
	635.90	11.32	7.77E-01		-5.18E-01	3.62E-01
SB-126	414.70	83.30	6.16E-01	5.56E-01	-3.47E-01	2.93E-01
	666.33	99.60	6.01E-01		9.21E-02	2.81E-01
	695.00	99.60	5.56E-01		-1.37E-01	2.58E-01
	720.50	53.80	1.05E+00		6.63E-02	4.89E-01
+ SN-126	87.57	* 37.00	2.40E-01	2.40E-01	1.89E-01	1.18E-01
SB-127	473.00	25.00	1.18E+02	1.01E+02	-9.87E+00	5.55E+01
	685.20	35.70	1.01E+02		1.26E+00	4.72E+01
	783.80	14.70	2.51E+02		-2.88E+01	1.17E+02
I-129	29.78	57.00	5.07E-01	5.07E-01	-1.01E-01	2.47E-01
	33.60	13.20	1.55E+00		7.38E-01	7.53E-01
	39.58	7.52	1.72E+00		-2.40E-01	8.37E-01
I-131	284.30	6.05	2.00E+01	1.61E+00	-6.56E+00	9.60E+00
	364.48	81.20	1.61E+00		-1.00E+00	7.69E-01

Analysis Report for 1510092-16
 CP5001S18-19

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	1.98E+01	1.61E+00	-1.31E+01	9.24E+00
	722.89	1.80	9.13E+01		6.07E+00	4.26E+01
TE-132	49.72	13.10	7.57E+02	8.88E+01	-1.12E+03	3.69E+02
	228.16	88.00	8.88E+01		-1.35E+01	4.29E+01
BA-133	81.00	33.00	2.10E-01	1.80E-01	-1.31E+00	1.03E-01
	302.84	17.80	4.59E-01		-2.51E-02	2.21E-01
	356.01	60.00	1.80E-01		-2.14E-02	8.71E-02
I-133	529.87	86.30	2.39E+10	2.39E+10	3.34E+09	1.13E+10
XE-133	81.00	38.00	1.38E+01	1.38E+01	-8.60E+01	6.73E+00
CS-134	563.23	8.38	1.07E+00	1.00E-01	-2.84E-01	5.02E-01
	569.32	15.43	6.09E-01		7.52E-02	2.87E-01
	604.70	97.60	1.00E-01		1.59E-02	4.73E-02
	795.84	85.40	1.35E-01		1.04E-02	6.32E-02
	801.93	8.73	1.13E+00		-3.00E-01	5.22E-01
CS-135	268.24	16.00	5.00E-01	5.00E-01	2.92E-01	2.41E-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	4.71E+00	5.76E-01	1.70E+00	2.29E+00
	163.89	4.61	7.59E+00		5.60E+00	3.67E+00
	176.55	13.56	2.61E+00		1.34E-01	1.26E+00
	273.65	12.66	3.68E+00		-4.55E-01	1.78E+00
	340.57	48.50	1.23E+00		2.63E+00	5.97E-01
	818.50	99.70	5.76E-01		-8.25E-02	2.67E-01
	1048.07	79.60	6.96E-01		7.28E-02	3.17E-01
	1235.34	19.70	4.31E+00		-4.63E-02	2.01E+00
CS-137	661.65	85.12	1.17E-01	1.17E-01	2.95E-02	5.50E-02
LA-138	788.74	34.00	3.22E-01	1.38E-01	3.69E-02	1.51E-01
	1435.80	66.00	1.38E-01		-3.97E-02	6.03E-02
CE-139	165.85	80.35	8.86E-02	8.86E-02	-7.34E-03	4.29E-02
BA-140	162.64	6.70	5.45E+00	1.97E+00	3.20E+00	2.64E+00
	304.84	4.50	9.96E+00		1.36E+00	4.78E+00
	423.70	3.20	1.50E+01		2.68E-01	7.14E+00
	437.55	2.00	2.59E+01		1.10E+01	1.23E+01
	537.32	25.00	1.97E+00		3.69E-02	9.25E-01
LA-140	328.77	20.50	2.43E+00	7.31E-01	2.67E-01	1.17E+00
	487.03	45.50	1.00E+00		-5.77E-02	4.72E-01
	815.85	23.50	2.39E+00		-2.93E-01	1.10E+00
	1596.49	95.49	7.31E-01		3.58E-02	3.27E-01
CE-141	145.44	48.40	2.41E-01	2.41E-01	-3.96E-02	1.17E-01
CE-143	57.36	11.80	1.07E+07	3.84E+06	4.13E+06	5.25E+06
	293.26	42.00	3.84E+06		-2.05E+05	1.87E+06
	664.55	5.20	2.70E+07		-3.95E+06	1.27E+07
CE-144	133.54	10.80	5.76E-01	5.76E-01	-1.22E-01	2.79E-01
PM-144	476.78	42.00	2.09E-01	9.00E-02	8.60E-02	9.88E-02
	618.01	98.60	9.00E-02		-4.99E-03	4.19E-02
	696.49	99.49	9.96E-02		-1.16E-02	4.64E-02
PM-145	36.85	21.70	7.06E-01	3.78E-01	-2.91E-01	3.43E-01
	37.36	39.70	3.78E-01		-1.03E-01	1.84E-01
	42.30	15.10	7.55E-01		-7.26E-01	3.67E-01
	72.40	2.31	3.99E+00		-4.84E+00	1.96E+00
PM-146	453.90	39.94	2.16E-01	2.16E-01	-2.39E-02	1.02E-01
	735.90	14.01	6.79E-01		-1.08E-01	3.16E-01

Analysis Report for 1510092-16

CP5001S18-19

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	7.36E-01	2.16E-01	-1.74E-01	3.42E-01
ND-147	91.11	28.90	2.16E+00	2.16E+00	3.19E-01	1.06E+00
	531.02	13.10	5.12E+00		-1.83E+00	2.41E+00
PM-149	285.90	3.10	6.73E+04	6.73E+04	-8.78E+03	3.23E+04
EU-152	121.78	20.50	2.61E-01	2.61E-01	-9.46E-02	1.26E-01
	244.69	5.40	1.69E+00		2.32E-01	8.20E-01
	344.27	19.13	3.97E-01		-9.44E-01	1.89E-01
	778.89	9.20	1.08E+00		1.59E-01	5.02E-01
	964.01	10.40	1.24E+00		2.08E-01	5.80E-01
	1085.78	7.22	1.69E+00		1.09E+00	7.80E-01
	1112.02	9.60	1.18E+00		-2.32E-01	5.42E-01
	1407.95	14.94	8.22E-01		2.62E-01	3.73E-01
GD-153	97.43	31.30	1.94E-01	1.94E-01	7.99E-03	9.41E-02
	103.18	22.20	2.79E-01		-4.45E-02	1.35E-01
EU-154	123.07	40.50	1.37E-01	1.37E-01	1.96E-02	6.66E-02
	723.30	19.70	4.99E-01		3.32E-02	2.33E-01
	873.19	11.50	8.07E-01		1.49E-01	3.70E-01
	996.32	10.30	1.04E+00		1.95E-01	4.79E-01
	1004.76	17.90	6.46E-01		3.59E-02	2.99E-01
	1274.45	35.50	4.14E-01		9.33E-02	1.92E-01
EU-155	86.50	30.90	2.58E-01	2.58E-01	1.80E-01	1.27E-01
	105.30	20.70	2.74E-01		-1.06E-01	1.33E-01
EU-156	811.77	10.40	3.99E+00	3.99E+00	-2.25E-01	1.84E+00
	1153.47	7.20	7.68E+00		-1.57E+00	3.54E+00
	1230.71	8.90	7.39E+00		2.51E+00	3.44E+00
HO-166M	184.41	72.60	1.08E-01	1.08E-01	1.84E-01	5.23E-02
	280.45	29.60	2.53E-01		-5.57E-02	1.21E-01
	410.94	11.10	7.87E-01		5.96E-01	3.76E-01
	711.69	54.10	1.63E-01		-6.43E-02	7.58E-02
TM-171	66.72	0.14	5.82E+01	5.82E+01	-5.15E+00	2.84E+01
HF-172	81.75	4.52	1.57E+00	5.12E-01	-1.63E-01	7.65E-01
	125.81	11.30	5.12E-01		-3.20E-01	2.48E-01
LU-172	181.53	20.60	9.28E+00	5.40E+00	8.92E-02	4.49E+00
	810.06	16.63	1.64E+01		-4.04E+00	7.55E+00
	912.12	15.25	3.81E+01		8.85E+01	1.83E+01
	1093.66	62.50	5.40E+00		-4.01E-01	2.48E+00
LU-173	100.72	5.24	1.15E+00	4.16E-01	7.11E-01	5.60E-01
	272.11	21.20	4.16E-01		3.86E-01	2.01E-01
HF-175	343.40	84.00	1.35E-01	1.35E-01	-2.19E-01	6.46E-02
LU-176	88.34	13.30	5.99E-01	7.92E-02	6.41E-01	2.94E-01
	201.83	86.00	9.09E-02		4.60E-02	4.41E-02
	306.78	94.00	7.92E-02		-1.32E-02	3.79E-02
TA-182	67.75	41.20	2.31E-01	2.31E-01	-5.25E-02	1.13E-01
	1121.30	34.90	6.05E-01		6.56E-01	2.86E-01
	1189.05	16.23	9.37E-01		-5.02E-02	4.31E-01
	1221.41	26.98	5.82E-01		-4.95E-02	2.68E-01
	1231.02	11.44	1.47E+00		-1.76E-01	6.83E-01
IR-192	308.46	29.68	3.51E-01	2.23E-01	1.45E-01	1.69E-01
	468.07	48.10	2.23E-01		4.33E-02	1.05E-01
+ HG-203	279.19	* 77.30	1.96E-01	1.96E-01	9.77E-02	9.48E-02
BI-207	569.67	97.72	9.35E-02	9.35E-02	-3.57E-03	4.41E-02
	1063.62	74.90	1.64E-01		5.31E-02	7.59E-02
+ TL-208	583.14	* 30.22	4.29E-01	4.81E-02	1.41E+00	2.06E-01

Analysis Report for 1510092-16
CP5001S18-19

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	2.46E+00	4.81E-02	2.80E+00	1.15E+00
	2614.66	*	35.85	4.81E-02		1.07E+00	0.00E+00
BI-210M	262.00		45.00	1.57E-01	1.57E-01	-1.57E-02	7.56E-02
	300.00		23.00	3.73E-01		-1.20E+00	1.80E-01
PB-210	46.50		4.25	2.56E+00	2.56E+00	2.51E+00	1.25E+00
PB-211	404.84		2.90	2.83E+00	2.83E+00	-2.30E+00	1.35E+00
	831.96		2.90	3.55E+00		-1.71E+00	1.65E+00
+ BI-212	727.17	*	11.80	1.24E+00	1.24E+00	8.54E-01	5.91E-01
	1620.62	*	2.75	1.84E+00		3.41E+00	6.87E-01
+ PB-212	238.63	*	44.60	2.52E-01	2.52E-01	1.56E+00	1.23E-01
	300.09	*	3.41	2.22E+00		1.48E+00	1.07E+00
+ BI-214	609.31	*	46.30	2.64E-01	2.64E-01	1.10E+00	1.26E-01
	1120.29	*	15.10	9.13E-01		1.40E+00	4.25E-01
	1764.49	*	15.80	5.51E-01		1.27E+00	2.33E-01
	2204.22	*	4.98	1.49E+00		1.12E+00	5.90E-01
+ PB-214	295.21	*	19.19	5.48E-01	3.05E-01	1.24E+00	2.66E-01
	351.92	*	37.19	3.05E-01		1.42E+00	1.48E-01
+ RN-219	401.80	*	6.50	1.42E+00	1.42E+00	1.09E+00	6.81E-01
RA-223	323.87		3.88	1.98E+00	1.98E+00	-2.51E+00	9.48E-01
+ RA-224	240.98	*	3.95	2.96E+00	2.96E+00	4.53E+00	1.45E+00
RA-225	40.00		31.00	1.89E+00	1.89E+00	-2.64E-01	9.19E-01
+ RA-226	186.21	*	3.28	3.05E+00	3.05E+00	2.54E+00	1.49E+00
TH-227	50.10		8.40	1.10E+00	1.08E+00	-1.63E+00	5.37E-01
	236.00		11.50	1.08E+00		5.80E-02	5.31E-01
	256.20		6.30	1.20E+00		1.53E-01	5.76E-01
+ AC-228	338.32	*	11.40	1.15E+00	4.50E-01	1.74E+00	5.60E-01
	911.07	*	27.70	4.50E-01		1.73E+00	2.11E-01
	969.11	*	16.60	9.07E-01		1.52E+00	4.28E-01
TH-230	48.44		16.90	6.06E-01	6.06E-01	2.64E-01	2.96E-01
	62.85		4.60	1.96E+00		1.79E+00	9.60E-01
	67.67		0.37	2.11E+01		-4.79E+00	1.03E+01
PA-231	283.67		1.60	4.49E+00	3.53E+00	-1.47E+00	2.15E+00
	302.67		2.30	3.53E+00		-1.93E-01	1.70E+00
TH-231	25.64		14.70	3.66E+00	1.11E+00	-1.05E+00	1.78E+00
	84.21		6.40	1.11E+00		2.03E-01	5.43E-01
PA-233	311.98		38.60	4.43E-01	4.43E-01	-1.39E-01	2.12E-01
PA-234	131.20		20.40	3.01E-01	3.01E-01	3.27E-01	1.46E-01
	733.99		8.80	9.97E-01		-5.73E-01	4.61E-01
	946.00		12.00	8.75E-01		-1.60E-01	4.03E-01
PA-234M	1001.03		0.92	1.23E+01	1.23E+01	7.39E+00	5.69E+00
+ TH-234	63.29	*	3.80	3.36E+00	3.36E+00	1.75E+00	1.66E+00
U-235	143.76		10.50	5.64E-01	5.64E-01	1.57E-01	2.73E-01
	163.35		4.70	1.32E+00		9.76E-01	6.41E-01
	205.31		4.70	1.66E+00		4.79E-01	8.07E-01
NP-237	86.50		12.60	6.25E-01	6.25E-01	4.36E-01	3.06E-01
NP-239	106.10		22.70	3.73E+03	3.73E+03	-1.43E+03	1.81E+03
	228.18		10.70	1.06E+04		-1.60E+03	5.11E+03
	277.60		14.10	8.56E+03		5.68E+03	4.13E+03
AM-241	59.54		35.90	2.35E-01	2.35E-01	-1.37E-02	1.15E-01
AM-243	74.67		66.00	1.63E-01	1.63E-01	2.20E-01	8.01E-02
CM-243	209.75		3.29	2.52E+00	5.63E-01	1.73E+00	1.22E+00
	228.14		10.60	6.97E-01		-1.06E-01	3.37E-01
	277.60		14.00	5.63E-01		3.73E-01	2.71E-01

Analysis Report for 1510092-16
CP5001S18-19

- + = 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: CP5001S18-19

Elapsed Live time: 3600
 Elapsed Real Time: 3617

Channel	-----	-----	-----	-----	-----	-----	-----	-----
1:	0	0	0	0	0	0	0	0
9:	8	174	177	144	132	104	100	93
17:	121	83	72	70	73	74	97	77
25:	82	71	90	78	77	69	78	94
33:	78	89	80	106	81	72	81	94
41:	100	82	94	79	86	116	159	119
49:	95	102	107	101	123	113	89	118
57:	130	116	134	128	136	134	181	230
65:	135	146	136	136	122	134	142	146
73:	162	165	391	285	412	494	149	118
81:	112	111	111	143	167	116	176	199
89:	146	160	145	114	248	175	97	75
97:	67	78	74	93	93	78	82	76
105:	67	80	83	69	100	67	72	66
113:	81	76	79	84	64	65	66	53
121:	65	66	73	64	76	72	70	64
129:	89	86	68	63	99	59	52	73
137:	68	73	63	70	74	64	70	81
145:	75	52	63	53	62	74	77	59
153:	63	90	69	76	50	50	68	52
161:	57	49	78	78	63	58	44	58
169:	63	58	75	52	57	51	60	59
177:	66	63	55	70	57	56	67	56
185:	50	135	135	45	59	64	47	45
193:	62	52	49	52	41	42	56	57
201:	51	58	54	51	63	56	53	45
209:	65	88	69	44	49	49	35	49
217:	50	55	47	41	37	46	45	47
225:	36	42	39	47	41	37	44	42
233:	38	49	35	33	39	146	457	232
241:	94	121	86	42	32	35	40	37
249:	26	37	32	45	29	36	32	45
257:	34	34	38	32	29	32	23	26
265:	30	26	32	30	31	47	64	47
273:	27	38	29	29	38	47	35	24
281:	35	24	21	24	30	31	24	36
289:	26	27	29	30	31	26	122	159
297:	50	27	29	41	45	29	28	24
305:	23	28	28	28	21	26	30	27
313:	24	21	21	24	29	21	22	30
321:	21	28	22	20	29	28	25	51
329:	38	22	24	17	38	23	24	27
337:	26	59	107	44	25	32	20	26
345:	14	17	16	21	23	15	46	207
353:	176	31	18	17	19	12	21	18
361:	28	24	20	25	25	21	16	13

369: 25 30 16 17 18 15 23 22

Sample Title: CP5001S18-19

Channel	-----	-----	-----	-----	-----	-----	-----	-----
377:	12	30	14	21	22	18	12	22
385:	29	15	14	22	20	20	25	15
393:	17	15	30	22	19	19	13	26
401:	20	28	25	20	16	15	11	18
409:	21	33	22	12	13	29	10	22
417:	19	23	19	18	19	20	18	14
425:	18	18	14	14	19	13	23	18
433:	15	15	21	19	20	19	15	22
441:	17	16	16	13	16	16	19	14
449:	13	18	13	19	21	18	22	9
457:	15	19	19	16	18	18	31	31
465:	18	13	8	18	8	11	18	14
473:	10	19	14	11	15	16	18	7
481:	11	11	12	10	12	14	22	3
489:	10	13	14	12	22	9	10	12
497:	21	10	13	15	19	17	10	18
505:	11	15	11	23	20	29	52	54
513:	24	14	11	15	9	8	10	15
521:	12	12	15	6	10	15	18	8
529:	16	18	10	9	13	13	11	16
537:	9	13	9	11	17	7	17	11
545:	10	19	10	8	11	4	9	13
553:	14	14	12	10	10	13	15	16
561:	7	8	20	8	13	10	15	11
569:	12	14	15	12	10	16	12	11
577:	17	11	12	17	11	19	84	122
585:	23	13	8	8	9	10	18	6
593:	9	14	16	16	16	7	9	12
601:	6	9	12	14	13	9	13	17
609:	122	126	39	11	10	15	15	9
617:	9	9	7	6	8	6	9	11
625:	11	10	10	9	10	11	9	14
633:	14	7	7	7	8	11	10	13
641:	15	8	11	10	12	12	12	7
649:	13	10	7	9	10	7	5	18
657:	10	7	16	14	5	10	11	14
665:	11	8	14	10	6	7	15	12
673:	10	8	10	13	10	5	13	6
681:	8	13	6	7	12	6	10	21
689:	13	15	13	7	10	6	7	8
697:	15	5	13	13	12	8	16	10
705:	15	15	18	10	7	17	6	7
713:	5	3	10	7	8	8	8	7
721:	11	7	8	11	12	10	21	31
729:	14	8	7	10	9	8	7	5
737:	5	15	10	6	14	6	11	8
745:	10	11	9	9	7	5	8	13
753:	10	12	12	4	11	8	10	12
761:	15	11	10	8	5	8	9	13
769:	27	12	6	11	11	9	11	9
777:	9	7	11	8	11	4	6	6
785:	12	19	4	10	9	8	11	11
793:	9	11	13	17	8	9	7	10

801: 9 5 12 5 4 8 10 7

Sample Title: CP5001S18-19

Channel	1	2	3	4	5	6	7	8
809:	8	4	11	4	3	5	13	8
817:	4	9	8	7	9	13	12	4
825:	1	7	11	10	6	7	7	6
833:	10	8	13	11	11	6	7	9
841:	7	12	8	10	5	14	14	6
849:	6	9	3	10	8	4	4	5
857:	6	8	8	13	18	12	10	3
865:	5	3	4	5	5	8	5	4
873:	8	7	3	6	5	5	7	3
881:	7	11	9	9	4	6	4	8
889:	6	6	7	3	11	12	5	6
897:	2	5	6	7	8	4	12	7
905:	2	11	7	4	3	25	67	62
913:	17	10	5	6	3	3	11	2
921:	7	6	5	9	11	7	5	7
929:	6	6	6	3	8	5	12	3
937:	4	5	7	8	8	3	5	8
945:	6	3	5	14	6	5	14	8
953:	11	8	9	6	2	8	5	6
961:	3	7	13	11	14	13	9	20
969:	43	39	8	3	5	2	6	13
977:	5	1	4	5	8	6	6	6
985:	7	6	12	8	1	6	2	5
993:	4	8	8	3	4	9	8	4
1001:	10	6	6	7	8	1	15	8
1009:	6	8	7	3	7	7	7	5
1017:	8	6	7	8	5	7	1	6
1025:	6	3	5	4	6	8	7	6
1033:	4	4	8	3	7	5	5	4
1041:	14	3	3	2	6	2	6	5
1049:	3	5	7	7	5	3	5	10
1057:	5	7	6	8	7	10	10	9
1065:	6	3	5	6	5	7	10	4
1073:	7	0	4	10	7	6	10	5
1081:	3	9	7	4	6	6	13	7
1089:	7	0	4	9	6	15	5	4
1097:	7	5	6	5	3	4	8	7
1105:	8	5	5	5	7	5	6	5
1113:	9	4	5	5	11	5	15	29
1121:	28	13	2	9	10	2	3	8
1129:	7	5	5	3	5	5	10	6
1137:	10	8	5	10	8	8	2	3
1145:	6	9	11	5	7	2	6	7
1153:	8	6	9	9	10	9	4	6
1161:	10	3	6	4	3	4	4	8
1169:	7	5	8	9	8	6	5	8
1177:	5	8	6	7	5	5	6	4
1185:	6	10	9	6	6	3	3	8
1193:	6	9	2	9	8	5	6	9
1201:	4	7	7	6	5	9	5	8
1209:	6	9	4	7	8	12	3	7
1217:	8	5	3	6	8	9	8	7
1225:	7	6	15	6	10	10	6	8

1233: 6 7 7 9 11 16 15 13

Sample Title: CP5001S18-19

Channel	6	7	7	9	11	16	15	13
1241:	5	6	3	4	7	7	5	7
1249:	10	3	6	3	6	8	5	7
1257:	5	4	8	4	2	4	4	7
1265:	4	7	5	4	4	10	5	4
1273:	4	3	4	9	10	7	6	3
1281:	4	8	1	2	7	5	7	4
1289:	1	9	4	5	0	1	4	3
1297:	10	2	3	4	2	5	4	5
1305:	6	2	1	3	2	1	3	4
1313:	4	3	4	3	6	1	5	5
1321:	4	4	1	3	4	4	6	4
1329:	5	4	5	6	4	2	2	2
1337:	7	1	4	5	3	3	2	0
1345:	3	3	4	3	2	5	9	3
1353:	1	7	4	3	5	2	4	1
1361:	4	3	4	2	2	2	6	0
1369:	2	3	2	3	4	3	1	5
1377:	5	3	4	4	3	2	1	0
1385:	1	1	4	0	5	3	2	1
1393:	1	1	2	4	2	2	1	3
1401:	7	1	2	2	2	4	3	5
1409:	3	7	4	2	3	4	2	1
1417:	1	2	0	0	4	1	3	1
1425:	2	3	2	0	2	1	4	0
1433:	2	1	5	0	3	1	0	4
1441:	2	2	5	4	0	4	3	2
1449:	5	1	3	2	2	1	1	2
1457:	0	1	22	128	235	131	25	3
1465:	2	2	3	1	1	2	2	0
1473:	1	2	2	2	2	1	0	2
1481:	1	1	2	1	2	3	1	2
1489:	0	0	0	0	1	0	1	3
1497:	0	2	3	3	2	1	6	2
1505:	4	0	1	1	7	3	6	3
1513:	0	2	6	0	1	2	1	1
1521:	0	2	3	3	1	1	1	2
1529:	2	3	2	5	1	0	1	0
1537:	3	4	1	2	1	1	2	3
1545:	3	2	1	0	2	0	0	0
1553:	1	3	4	4	2	2	2	2
1561:	1	1	2	1	2	1	1	1
1569:	0	0	1	1	0	1	1	0
1577:	3	0	3	3	3	0	0	4
1585:	1	1	3	5	5	2	0	3
1593:	5	5	4	2	1	0	3	1
1601:	0	1	2	0	1	1	0	2
1609:	1	1	3	1	1	0	1	2
1617:	2	4	1	6	6	0	0	2
1625:	3	0	1	1	4	4	5	3
1633:	1	0	2	2	0	1	3	4
1641:	0	0	4	1	2	1	0	0
1649:	2	2	0	0	1	2	0	2
1657:	2	1	1	4	2	1	0	0

1665: 0 0 1 1 1 1 1 1

Sample Title: CP5001S18-19

Channel	1	2	3	4	5	6	7	8	9
1673:	1	1	0	2	0	0	0	2	
1681:	0	1	1	2	1	1	2	2	
1689:	1	2	0	0	2	1	0	1	
1697:	0	0	1	1	2	0	0	0	
1705:	3	2	1	2	0	2	0	0	
1713:	0	0	1	0	0	0	3	0	
1721:	1	1	0	0	0	0	2	0	
1729:	2	6	5	3	0	0	1	1	
1737:	2	1	2	1	0	3	0	2	
1745:	1	2	1	0	1	1	2	0	
1753:	2	1	1	0	4	0	0	2	
1761:	0	1	6	12	18	9	0	1	
1769:	4	3	1	0	4	0	0	2	
1777:	1	1	1	0	1	0	0	1	
1785:	0	1	2	1	1	0	1	2	
1793:	2	1	0	0	1	0	0	0	
1801:	0	0	1	0	2	1	1	0	
1809:	0	1	2	1	1	0	0	1	
1817:	1	0	1	0	1	0	1	4	
1825:	2	4	1	1	0	0	1	1	
1833:	1	0	1	1	2	1	1	1	
1841:	1	1	0	1	2	1	3	4	
1849:	1	1	0	1	1	3	0	1	
1857:	1	0	0	1	2	2	0	2	
1865:	0	2	0	0	2	1	0	0	
1873:	1	1	0	6	1	1	0	1	
1881:	3	1	0	1	0	2	2	0	
1889:	1	1	0	2	0	0	0	1	
1897:	1	1	1	1	2	1	1	1	
1905:	0	1	1	0	0	1	3	2	
1913:	0	1	3	0	2	1	0	0	
1921:	2	0	0	2	0	0	0	2	
1929:	1	3	0	0	0	1	0	2	
1937:	1	2	2	1	1	0	0	2	
1945:	1	0	1	1	1	0	2	0	
1953:	0	1	1	1	1	0	0	1	
1961:	2	1	0	0	3	2	2	1	
1969:	0	1	0	0	2	2	0	2	
1977:	1	1	0	1	1	1	1	1	
1985:	2	0	2	0	1	1	1	0	
1993:	2	3	1	0	0	1	0	0	
2001:	1	1	0	3	0	1	1	2	
2009:	0	1	2	0	1	1	0	1	
2017:	3	0	1	0	2	2	0	0	
2025:	0	0	1	0	1	0	1	2	
2033:	0	0	1	0	0	0	1	2	
2041:	1	0	1	2	0	1	1	2	
2049:	1	0	0	0	0	2	3	0	
2057:	0	0	1	1	2	0	1	0	
2065:	0	0	1	1	0	0	0	1	
2073:	1	0	0	1	0	3	1	1	
2081:	3	1	0	0	1	0	0	0	
2089:	1	0	0	0	0	1	0	0	

2097: 0 0 0 1 0 5 6 5

Sample Title: CP5001S18-19

Channel	1	2	3	4	5	6	7	8
2105:	0	2	0	2	1	0	1	0
2113:	2	2	2	1	0	1	1	0
2121:	0	0	1	1	3	0	0	2
2129:	0	0	0	1	2	0	1	1
2137:	1	0	1	1	1	0	1	0
2145:	2	0	1	3	0	0	1	1
2153:	0	0	0	0	2	2	0	1
2161:	1	0	0	1	3	0	0	0
2169:	1	1	1	1	1	1	0	0
2177:	2	0	0	0	1	0	1	3
2185:	1	3	1	0	1	1	0	0
2193:	0	2	2	1	1	0	0	0
2201:	1	1	3	5	3	0	2	0
2209:	3	1	1	0	1	1	1	0
2217:	0	2	0	1	0	2	2	1
2225:	0	1	1	1	1	2	2	1
2233:	2	0	1	0	0	1	0	0
2241:	0	0	2	2	2	4	0	0
2249:	1	0	0	2	0	2	1	2
2257:	1	1	0	2	0	0	0	1
2265:	1	2	2	0	4	0	0	1
2273:	1	0	1	0	2	1	1	2
2281:	2	2	0	0	0	2	1	0
2289:	1	0	1	0	1	0	0	0
2297:	0	0	2	2	1	1	0	2
2305:	0	0	1	2	0	2	0	1
2313:	0	1	0	0	0	0	2	1
2321:	1	2	0	1	1	1	1	2
2329:	0	0	2	1	1	0	1	1
2337:	0	0	3	1	0	1	0	0
2345:	1	0	0	0	0	0	0	0
2353:	1	3	3	1	3	1	0	1
2361:	1	2	2	1	2	2	3	0
2369:	0	1	0	1	0	1	0	0
2377:	0	1	1	0	1	1	1	0
2385:	0	0	0	0	0	1	0	1
2393:	0	1	0	0	3	1	2	2
2401:	1	0	1	0	0	1	3	2
2409:	0	0	2	0	0	0	0	1
2417:	1	0	0	1	0	1	0	1
2425:	0	0	0	0	0	0	1	1
2433:	0	0	1	0	0	1	1	2
2441:	1	0	0	2	1	0	0	2
2449:	1	0	0	1	2	1	0	0
2457:	0	1	2	0	0	0	0	0
2465:	0	1	1	0	3	1	0	0
2473:	0	0	1	0	1	0	0	0
2481:	2	0	0	1	0	0	0	0
2489:	0	0	1	0	1	0	2	1
2497:	0	1	1	1	1	1	0	1
2505:	0	1	0	0	1	3	0	0
2513:	1	1	0	2	0	0	0	0
2521:	1	0	0	0	0	1	0	0

2529: 0 0 0 0 1 0 0 0

Sample Title: CP5001S18-19

Channel	1	0	0	0	1	0	1	1
2537:	1	0	0	0	1	0	1	1
2545:	0	0	1	0	0	0	0	1
2553:	0	0	1	0	1	1	0	0
2561:	1	0	0	0	0	0	0	1
2569:	0	1	1	0	1	1	0	0
2577:	2	0	0	0	0	0	0	0
2585:	0	0	0	0	0	0	0	0
2593:	2	0	0	1	0	0	0	0
2601:	0	0	2	0	0	1	1	0
2609:	0	0	1	2	4	18	29	3
2617:	3	0	0	0	0	0	0	0
2625:	0	0	0	0	1	0	0	0
2633:	2	0	1	2	0	0	1	0
2641:	0	0	0	0	0	0	0	0
2649:	1	0	1	0	0	0	0	1
2657:	0	0	0	0	1	0	0	0
2665:	0	0	0	0	0	0	0	0
2673:	0	0	0	0	0	0	1	0
2681:	0	0	0	0	0	0	0	0
2689:	0	0	1	1	0	0	0	1
2697:	0	0	1	0	0	0	0	3
2705:	0	0	0	0	1	0	0	0
2713:	1	0	0	3	0	1	0	0
2721:	1	0	0	0	0	1	0	1
2729:	2	0	0	0	0	0	1	0
2737:	0	0	0	0	0	0	0	0
2745:	1	1	0	0	0	0	0	0
2753:	0	0	1	0	0	0	0	0
2761:	0	0	0	0	1	0	0	0
2769:	0	0	1	1	0	0	1	0
2777:	0	0	0	1	0	0	1	0
2785:	0	0	0	0	0	0	0	1
2793:	0	0	0	0	0	0	1	0
2801:	0	2	0	1	1	0	0	0
2809:	0	0	0	0	0	0	0	0
2817:	0	0	0	0	1	1	0	0
2825:	0	0	0	0	0	0	0	0
2833:	0	0	0	0	0	0	0	0
2841:	1	0	1	2	0	0	0	0
2849:	0	1	2	0	0	1	0	0
2857:	0	0	0	0	0	2	1	0
2865:	0	0	0	0	0	0	0	0
2873:	1	0	0	0	1	0	0	0
2881:	0	1	0	0	0	0	0	0
2889:	0	0	2	0	0	0	0	0
2897:	0	0	0	0	2	0	0	0
2905:	1	0	0	0	0	0	0	1
2913:	0	0	0	0	0	1	2	0
2921:	1	0	0	0	0	0	0	0
2929:	0	0	0	0	0	0	3	1
2937:	0	0	1	1	0	0	1	1
2945:	0	1	0	0	1	0	1	1
2953:	0	1	0	0	0	0	0	0

2961: 0 0 0 0 0 0 0 0 0

Sample Title: CP5001S18-19

Channel	-----	-----	-----	-----	-----	-----	-----	-----
2969:	0	2	0	0	1	0	1	0
2977:	0	0	0	0	2	1	1	0
2985:	0	0	0	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	1	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	0	1
3041:	0	0	0	0	0	0	0	0
3049:	0	0	0	2	1	0	0	1
3057:	0	0	0	0	1	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	0	0	0
3089:	0	1	1	0	0	1	0	1
3097:	0	1	0	0	0	0	1	0
3105:	0	0	0	0	0	0	0	0
3113:	0	0	0	0	0	1	0	0
3121:	0	0	0	0	0	0	0	0
3129:	1	0	0	0	0	0	0	0
3137:	0	1	0	0	0	0	0	0
3145:	0	0	2	1	0	1	0	0
3153:	0	0	0	0	0	0	1	0
3161:	0	0	0	0	1	0	1	0
3169:	0	0	0	0	0	0	0	0
3177:	0	1	0	0	0	1	0	0
3185:	0	1	1	0	0	0	0	0
3193:	0	1	0	0	1	0	1	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	1
3225:	0	1	0	0	0	0	0	0
3233:	0	0	1	0	0	0	1	0
3241:	0	0	0	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	1
3273:	0	0	0	0	0	0	1	0
3281:	0	0	0	0	0	0	0	0
3289:	0	0	0	0	0	0	0	1
3297:	0	0	1	0	0	0	0	0
3305:	0	0	1	0	1	0	0	0
3313:	0	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	1	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	1
3369:	0	0	0	0	0	0	0	0
3377:	0	0	0	0	0	0	1	0
3385:	0	0	0	0	0	0	0	0

3393: 0 0 0 0 0 0 0 0 0

Sample Title: CP5001S18-19

Channel	-----	-----	-----	-----	-----	-----	-----	-----
3401:	0	0	0	0	0	0	0	0
3409:	0	0	0	0	1	0	0	0
3417:	1	0	0	0	0	0	0	0
3425:	1	0	0	1	0	0	0	0
3433:	0	0	0	0	0	0	0	0
3441:	0	1	0	0	0	0	0	0
3449:	1	0	0	0	0	0	0	0
3457:	0	0	1	0	0	0	0	0
3465:	1	0	0	0	0	0	0	0
3473:	0	0	0	0	1	0	0	1
3481:	0	0	0	0	0	1	0	1
3489:	0	0	0	0	0	0	0	0
3497:	0	0	0	0	1	0	1	0
3505:	0	0	0	0	2	0	0	0
3513:	0	0	0	1	0	0	0	0
3521:	0	0	0	0	0	0	0	0
3529:	0	1	0	1	1	0	0	0
3537:	0	0	0	0	0	0	1	0
3545:	0	0	0	0	1	1	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	0	0	0
3577:	0	0	0	0	0	0	0	0
3585:	0	0	1	0	0	0	0	0
3593:	0	0	1	0	0	1	0	0
3601:	0	0	0	0	2	0	0	0
3609:	1	0	0	0	0	0	0	0
3617:	0	1	0	0	0	0	0	1
3625:	1	0	0	0	0	0	0	0
3633:	0	0	0	0	0	0	0	0
3641:	1	0	0	1	0	0	0	1
3649:	0	0	1	0	0	0	0	0
3657:	0	1	0	0	0	0	0	1
3665:	0	0	1	0	0	0	0	0
3673:	0	0	0	0	0	0	0	1
3681:	0	0	0	0	0	0	0	0
3689:	0	0	0	0	0	0	0	0
3697:	0	0	0	0	1	1	0	0
3705:	0	0	0	0	0	1	1	0
3713:	0	0	0	1	0	0	0	0
3721:	1	0	0	1	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	2	0	0
3761:	1	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	1	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:	1	0	0	1	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 1 0

Sample Title: CP5001S18-19

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	1	0	0	0	0	0
3865:	0	0	0	0	1	0	1	0
3873:	0	0	0	1	0	0	0	0
3881:	0	0	1	0	0	0	0	0
3889:	0	0	0	0	0	1	0	0
3897:	2	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	1	1	0	0	0	0
3929:	0	0	0	1	0	0	0	1
3937:	0	0	0	0	0	0	0	0
3945:	0	1	0	0	0	0	0	1
3953:	0	1	0	0	0	0	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	0
3985:	0	0	0	0	0	0	0	0
3993:	0	0	0	0	0	0	0	0
4001:	0	0	0	0	0	0	1	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	1	0	0	0	1
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	0	0	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	0	1	0	0	0

 ***** GENIE QUALITY ASSURANCE *****

Last Results Report
 11/11/15 6:07:20 AM

(Handwritten mark)
 11/11

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: 11/11/15 5:52:04 AM
 Measurement Date: 11/11/15 5:52:06 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: 4.5520E+000+/- 0.280]	4.6167E+000	2.3075E-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
 11/11/15 6:07:53 AM

1111

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: 11/11/15 5:52:21 AM
 Measurement Date: 11/11/15 5:52:24 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 919.7 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
DAILY BKG CT RATE GE4 [SD: 8.7083E+000+/-163.37]	1.6011E+000	-4.3502E-002 < : : : >
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
 11/11/15 6:07:28 AM

Handwritten mark
 11111

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D000000003B.QCK

Detector: GE3
 Geometry: <None>
 Certificate: <None>
 Sample ID: QA Background Ch
 Sample Desc: QA Count
 Sample Quantity: 1.0000E+000
 Sample Date: 11/11/15 5:52:13 AM
 Measurement Date: 11/11/15 5:52:16 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 903.7 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
DAILY BKG CT RATE GE3 [SD: 2.2850E+003+/-1493.6]	5.1140E+003	1.8940E+000 < : : : >

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
 11/11/15 6:07:11 AM

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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: 11/11/15 5:51:57 AM
 Measurement Date: 11/11/15 5:51:59 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	2.0811E+000	-1.3058E-001
[SD: 2.3017E+000 +/- 1.689]		< : : : >
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
11/11/15 5:40:54 AM

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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: 11/11/15 5:24:41 AM
Elapsed Live Time: 900.0 seconds
Elapsed Real Time: 961.3 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]	5.8776E+001	<	:	:	>
Peak centroid 661.65 keV Boundary Limits: [6.600E+002, 6.630E+002]	6.6124E+002	<	:	:	>
Peak centroid 1332.49 keV Boundary Limits: [1.331E+003, 1.334E+003]	1.3326E+003	<	:	:	>
Peak centroid 1836.1 keV Boundary Limits: [1.834E+003, 1.838E+003] Trend Test: The last 9 samples exhibit a bias trend.	1.8366E+003	<	:	:	>
Peak FWHM Am-241 Boundary Limits: [5.000E-001, 3.000E+000]	2.2205E+000	<	:	:	>
Peak FWHM Cs-137 Boundary Limits: [5.000E-001, 3.000E+000]	2.6746E+000	<	:	:	>
Peak FWHM Co-60 Boundary Limits: [5.000E-001, 3.000E+000]	2.9207E+000	<	:	:	>
Peak FWHM Y-88 Boundary Limits: [5.000E-001, 3.500E+000] Trend Test: The last 9 samples exhibit a bias trend.	3.1791E+000	<	:	:	>
Decay corrected activity Boundary Limits: [1.200E-001, 1.816E-001] Trend Test: The last 9 samples exhibit a bias trend.	1.2357E+005	<	:	:	>
Decay corrected activity Boundary Limits: [4.918E-002, 7.377E-002]	6.3940E+004	<	:	:	>

Decay corrected activity 9.6027E+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 2.1255E+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
 11/11/15 5:40:22 AM

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QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D000000003GAS-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: 11/11/15 5:24:35 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 937.2 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, 6.640E+002]	6.6163E+002	< : : : >
Peak centroid 1332.49 keV Boundary Limits: [1.331E+003, 1.334E+003]	1.3323E+003	< : : : >
Peak centroid 1836.1 keV Boundary Limits: [1.833E+003, 1.838E+003]	1.8357E+003	< : : : >
Peak FWHM Am-241 Boundary Limits: [5.000E-001, 3.000E+000]	1.4868E+000	< : : : >
Peak FWHM Cs-137 Boundary Limits: [5.000E-001, 3.000E+000]	1.9883E+000	< : : : >
Peak FWHM Co-60 Boundary Limits: [5.000E-001, 3.000E+000]	2.1530E+000	< : : : >
Peak FWHM Y-88 Boundary Limits: [5.000E-001, 3.000E+000]	2.4181E+000	< : : : >
Decay corrected activity Boundary Limits: [1.223E-001, 1.834E-001]	1.7667E+005	< : : : >
Decay corrected activity Boundary Limits: [4.969E-002, 7.453E-002] Trend Test: The last 9 samples exhibit a bias trend.	6.7011E+004	< : : : >
Decay corrected activity	1.0038E+005	

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	2.1317E+005	
Boundary Limits: [1.713E-001, 2.569E-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
 11/11/15 5:40:10 AM

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QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D000000002GAS-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: 11/11/15 5:24:28 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 926.4 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	6.6147E+002	
Boundary Limits: [6.600E+002, 6.640E+002]		< : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak centroid 1332.49 ke	1.3321E+003	
Boundary Limits: [1.331E+003, 1.334E+003]		< : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak centroid 1836.1 keV	1.8354E+003	
Boundary Limits: [1.834E+003, 1.838E+003]		< : : >
Peak FWHM Am-241	1.3564E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak FWHM Cs-137	2.1249E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak FWHM Co-60	2.1306E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : >
Peak FWHM Y-88	2.7409E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : >
Decay corrected activity	1.5439E+005	
Boundary Limits: [1.224E-001, 1.836E-001]		< : : >
Trend Test: The last 9 samples exhibit a bias trend.		

Decay corrected activity 6.3553E+004
Boundary Limits: [4.971E-002, 7.457E-002] < : : : >
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 1.0338E+005
Boundary Limits: [7.978E-002, 1.197E-001] < : : : >
Trend Test: The last 9 samples exhibit a bias trend.

Decay corrected activity 2.1484E+005
Boundary Limits: [1.714E-001, 2.571E-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)

 ***** G E N I E Q U A L I T Y A S S U R A N C E *****

Last Results Report
 11/11/15 5:40:00 AM



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: 11/11/15 5:24:22 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 923.7 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]	6.0175E+001	< : : : >
Peak centroid 661.65 keV Boundary Limits: [6.600E+002, 6.630E+002] Trend Test: The last 9 samples exhibit a bias trend.	6.6200E+002	< : : : >
Peak centroid 1332.49 keV Boundary Limits: [1.331E+003, 1.334E+003] Trend Test: The last 9 samples exhibit a bias trend.	1.3327E+003	< : : : >
Peak centroid 1836.01 keV Boundary Limits: [1.834E+003, 1.838E+003]	1.8363E+003	< : : : >
Peak FWHM Am-241 Boundary Limits: [5.000E-001, 3.000E+000]	1.0456E+000	< : : : >
Peak FWHM Cs-137 Boundary Limits: [5.000E-001, 3.000E+000] Trend Test: The last 9 samples exhibit a bias trend.	1.5832E+000	< : : : >
Peak FWHM Co-60 Boundary Limits: [5.000E-001, 3.000E+000] Trend Test: The last 9 samples exhibit a bias trend.	2.0599E+000	< : : : >
Peak FWHM Y-90 Boundary Limits: [5.000E-001, 3.000E+000]	2.3489E+000	< : : : >
Decay corrected activity Boundary Limits: [1.170E-002, 1.754E-002]	1.4258E+004	< : : : >
Decay corrected activity	6.1256E+003	

Boundary Limits: [4.716E-003, 7.075E-003] < : : : >

Decay corrected activity 1.0307E+004
Boundary Limits: [7.572E-003, 1.136E-002] < : : : >

Parameter Description	Value	Deviation/Flags			
[Mean +/- Std. Dev.]		< LU	: SD	: UD	: BS >

Decay corrected activity 1.9909E+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)