AUXIER & ASSOCIATES, INC.

PAP-KAN

STANDARD LEVEL IV
REPORT OF ANALYSIS

WORK ORDER #15-10091-OR

November 25, 2015

Eberline Analytical
Oak Ridge Laboratory
OAK RIDGE, TN

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Eberline Services – Oak Ridge Laboratory

LABORATORY DATA SUPPORT CHECKLIST

MP-001-3

Eberline Services Work Order # 15-10091

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

Date for Partial	Initials	Date	Initials	Checklist Items
		10-15-15	JEB	Sample Log-In
		11/11/15	JG	Data Compilation
		11-19-15	MLT	First Technical Data Review
		11/20/15	MSt	Second Technical Data Review
		11/23/15		Data Entry/Electronic Deliverable
		11/23/15		Case Narrative
		11/25/15		Electronic Deliverable Proof
		11/25/15	MSt	Samples Analyzed within Holding Time Yes? [ ] No? [ ]
		11/25/15	MSt	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: _____ 11/30/15

Laboratory Manager — Date

Copy No. _____

Radiochemistry Services

SECTION I

CHAIN OF CUSTODY

Chain of Custody Record

№ 7132 ~~7129~~

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

EBERLINE SERVICES

Project Name: DAP/KAN	Project Number:
Send Report To: Cecilia Greene	Sampler (Print Name): Ashley Faber
Address:	Sampler (Print Name):
9821 Cogdill Rd, Suite 1	Shipment Method: Fedex
Knoxville, TN 37932	Airbill Number:
Phone: 865-675-3669	Laboratory Receiving:
Fax: Cgreene@aaxier.com	

REC'D OCT 14 2015

15-10091

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Purchase Order #: _____

Field Sample ID		Sample Date	Sample Time	Sample Matrix	Number of Containers	Analysis Requested: Isotopic Uranium	Isotopic Thorium	Gamma Spec	Comments, Special Instructions, etc.	Lab Sample ID (to be completed by lab)
CP18075O3-04	4	10/10/15	0830	S	1	X	X	X	21 Day Growth	
CP18075O5-06	5	10/10/15	0840	S	1	X	X	X		
CP18075O8-09	6	10/10/15	0850	S	1	X	X	X		
CP18075I1-12	7	10/10/15	~~0855~~ 0900	S	1	X	X	X		
CP18075I3-14	8	10/10/15	0910	S	1	X	X	X		
CP18075I6-17	9	10/10/15	0920	S	1	X	X	X		
CP18075I8-19	10	10/10/15	0930	S	1	X	X	X		
CP18075O-21	11	10/10/15	0940	S	1	X	X	X		
CP18075222-23	12	10/10/15	0950	S	1	X	X	X		
CP18055O3-04	13	10/10/15	1000	S	1	X	X	X		
CP18055O5-06	14	10/10/15	1010	S	1	X	X	X		
CP18055O8-09	15	10/10/15	1020	S	1	X	X	X		
CP18055I1-12	16	10/10/15	1030	S	1	X	X	X		
CP18055I3-14	17	10/10/15	1040	S	1	X	X	X		
CP18055I5-16	18	10/10/15	1050	S	1	X	X	X		
CP18055I8-19	19	10/10/15	1100	S	1	X	X	X	21 Day Growth	

Relinquished by: (Signature)	Received by: (Signature)	Date: 10/12/15	Time: 1300
Relinquished by: (Signature)	Received by: (Signature) 10-14-15@1400	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Sample Custodian Remarks (Completed By Laboratory):

QA/QC Level	Turnaround
Level I ☐	Routine ☐
Level II ☐	24 Hour ☐
Level III ☐	1 Week ☐
Other ☐	Other _____

Sample Receipt	
Total # Containers Received?	
COC Seals Present?	
COC Seals Intact?	
Received Containers Intact?	
Temperature?	

EBERLINE SERVICES
Oak Ridge Laboratory

Internal Chain of Custody

Work Order #	15-10091
Lab Deadline	11/5/2015
Analysis	UUISO - Level 4
Sample Matrix	Soil/Solid

Comments

Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
04	36	K1.1
05	38	K1.1
06	35	K1.1
07	37	K1.1
08	33	K1.1
09	35	K1.1
10	36	K1.1
11	32	K1.1
12	36	K1.1
13	34	K1.1
14	35	K1.1
15	39	K1.1
16	41	K1.1
17	36	K1.1
18	41	K1.1
19	39	K1.1

	Location (circle one)					Initials	Date
Received by	Sample Storage (circled)	Rough Prep	Prep	Separations	Count Room 1250	[illegible]	10-19-15
Relinquished by	Sample Storage	Rough Prep (circled)	Prep	Separations	Count Room 0945	[illegible]	10-20-15
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room 945	[illegible]	10-20-15
Relinquished by	Sample Storage	Rough Prep	Prep (circled)	Separations	Count Room	[illegible]	10/22/15 1130
Received by	Sample Storage	Rough Prep	Prep	Separations (circled)	Count Room	[illegible]	10-22-15 1130
Relinquished by	Sample Storage	Rough Prep	Prep	Separations (circled)	Count Room	[illegible]	10-30-15 0821
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room (circled)	[illegible]	[illegible]
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room (circled)	KB	10/30/15 1731
Received by	Sample Storage (circled)	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 #	15-10091
Lab Deadline	11/5/2015
Analysis	ThISO - Level 4
Sample Matrix	Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
	04	36	K1.1
	05	38	K1.1
	06	35	K1.1
	07	37	K1.1
	08	33	K1.1
	09	35	K1.1
	10	36	K1.1
	11	32	K1.1
	12	36	K1.1
	13	34	K1.1
	14	35	K1.1
	15	39	K1.1
	16	41	K1.1
	17	36	K1.1
	18	41	K1.1
	19	39	K1.1

	Location (circle one)					Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1250	Kenseej	10-19-15
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room 0845	Kenseej	10-20-15
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room 9450	Jachecki	10-20-15
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	[illegible] 1130	
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	[illegible] 10/22/15 1130	
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	[illegible] 10/2015 0821	
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	[illegible] 10/28/15	
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	KCB 10/30/15 1442	
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		

EBERLINE SERVICES Oak Ridge Laboratory	Internal Chain of Custody	Work Order #	15-10091
		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	36	K1.1
	05	38	K1.1
	06	35	K1.1
	07	37	K1.1
	08	33	K1.1
	09	35	K1.1
	10	36	K1.1
	11	32	K1.1
	12	36	K1.1
	13	34	K1.1
	14	35	K1.1
	15	39	K1.1
	16	41	K1.1
	17	36	K1.1
	18	41	K1.1
	19	39	K1.1

	Location (circle one)	Initials	Date
Received by	Sample Storage, Rough Prep, Prep, Separations, Count Room 1250	Key Sej	10-19-15
Relinquished by	Sample Storage, Rough Prep, Prep, Separations, Count Room 1044	Key Sej	10-20-15
Received by	Sample Storage, Rough Prep, Prep, Separations, Count Room	KB 10/20/15	1044
Relinquished by	Sample Storage, Rough Prep, Prep, Separations, Count Room	11/11	0725
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		
Received by	Sample Storage, Rough Prep, Prep, Separations, Count Room		
Relinquished by	Sample Storage, Rough Prep, Prep, Separations, Count Room		

SECTION II

SAMPLE ACKNOWLEDGEMENT

Client Name	Contract/PO	Project Type	Date Received	Required Turnaround Days	Eberline Services Work Order
Auxier & Associates, Inc.	PAP-KAN	Environmental	10/14/2015	28	15-10091
Project Name	**Client WO**	**Sample Disp**	**Lab Deadline**	**Internal Deadline**	**Client Deadline**
PAP-KAN	PAP-KAN	H	11/05/2015	11/10/2015	11/11/2015

Internal ID	Client ID	Sample Date	Matrix	Storage	Gamma	ThISO	UUISO																					Ttl
01	LCS	10/15/15	SO	K1.1	X	X	X																					3
02	BLANK	10/15/15	SO	K1.1	X	X	X																					3
03	DUP	10/15/15	SO	K1.1	X	X	X																					3
04	CP1807S03-04	10/10/15 08:30	SO	K1.1	X	X	X																					3
05	CP1807S05-06	10/10/15 08:40	SO	K1.1	X	X	X																					3
06	CP1807S08-09	10/10/15 08:50	SO	K1.1	X	X	X																					3
07	CP1807S11-12	10/10/15 09:00	SO	K1.1	X	X	X																					3
08	CP1807S13-14	10/10/15 09:10	SO	K1.1	X	X	X																					3
09	CP1807S16-17	10/10/15 09:20	SO	K1.1	X	X	X																					3
10	CP1807S18-19	10/10/15 09:30	SO	K1.1	X	X	X																					3
11	CP1807S20-21	10/10/15 09:40	SO	K1.1	X	X	X																					3
12	CP1807S22-23	10/10/15 09:50	SO	K1.1	X	X	X																					3
13	CP1805S03-04	10/10/15 10:00	SO	K1.1	X	X	X																					3
14	CP1805S05-06	10/10/15 10:10	SO	K1.1	X	X	X																					3
15	CP1805S08-09	10/10/15 10:20	SO	K1.1	X	X	X																					3
16	CP1805S11-12	10/10/15 10:30	SO	K1.1	X	X	X																					3
17	CP1805S13-14	10/10/15 10:40	SO	K1.1	X	X	X																					3
18	CP1805S15-16	10/10/15 10:50	SO	K1.1	X	X	X																					3
19	CP1805S18-19	10/10/15 11:00	SO	K1.1	X	X	X																					3
																												0
		Totals Per Analysis (non QA samples)			16	16	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

EBERLINE SERVICES

Sample Log In Report

Oak Ridge Laboratory
601 Scarboro Rd.
Oak Ridge, TN 37830

Voice: (865) 481-0683
Fax: (865) 483-4621

Invoice	
	Accounts Payable
	Auxier & Associates, Inc.
	9821 Cogdill Drive #1
	Knoxville, TN 37932
Voice	865-675-3669
Fax	865-675-3677
Contact	Harvey Cohen
Voice	301-718-8900
Fax	301-718-8909

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

Printed: 10/15/2015 12:49 PM

Eberline Services – Oak Ridge Laboratory

SAMPLE RECEIPT CHECKLIST
MP-001-2

WORK ORDER # 15 - 10091

SAMPLE MATRIX/MATRICES:

(CIRCLE ONE OR BOTH)

AQUEOUS (NON-AQUEOUS)

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

WERE SAMPLES:

Received in good condition?	(Y)	N	
If aqueous, properly preserved	Y	N	(N/A)

WERE CHAIN OF CUSTODY SEALS:

Present on outside of package?	(Y)	N
Unbroken on outside of package?	(Y)	N
Present on samples?	(Y)	N
Unbroken on samples?	(Y)	N
Was chain of custody present upon sample receipt?	(Y)	N

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

REMARKS: _____

SIGNATURE: James E Bailey DATE: 10-15-15

SECTION III

CASE NARRATIVE

EBERLINE SERVICES

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

EBS-OR-40006

November 25, 2015

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

CASE NARRATIVE
Work Order # 15-10091-OR

SAMPLE RECEIPT

This work order contains sixteen soil samples received 10/14/2015. These samples were analyzed for Isotopic Uranium, Isotopic Thorium and by Gamma Spectroscopy.

CLIENT ID	LAB ID	CLIENT ID	LAB ID
CP1807S03-04	15-10091-04	CP1807S22-23	15-10091-12
CP1807S05-06	15-10091-05	CP1805S03-04	15-10091-13
CP1807S08-09	15-10091-06	CP1805S05-06	15-10091-14
CP1807S11-12	15-10091-07	CP1805S08-09	15-10091-15
CP1807S13-14	15-10091-08	CP1805S11-12	15-10091-16
CP1807S16-17	15-10091-09	CP1805S13-14	15-10091-17
CP1807S18-19	15-10091-10	CP1805S15-16	15-10091-18
CP1807S20-21	15-10091-11	CP1805S18-19	15-10091-19

ANALYTICAL METHODS

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

ANALYTICAL RESULTS

Combined Standard Uncertainty is reported at 2-sigma value.

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

ANALYTICAL RESULTS CONTINUED

ISOTOPIC URANIUM

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

Samples demonstrated acceptable results for all Uranium analyses. Chemical recovery was acceptable for all samples. The Uranium-234, Uranium-235 and Uranium-238 method blank demonstrated acceptable results. Results for the Uranium-234 and Uranium-238 duplicate demonstrated an acceptable relative percent difference and normalized difference. Results for the Uranium-235 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

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

Work Order Details:
SDG: 15-10091
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10091-01	LCS	KNOWN	10/15/15 00:00	10/14/2015	11/10/2015	15-10091	Cobalt-60	LANL ER-130 Modified	1.37E+02	5.48E+00				pCi/g
15-10091-01	LCS	KNOWN	10/15/15 00:00	10/14/2015	11/10/2015	15-10091	Cesium-137	LANL ER-130 Modified	8.69E+01	3.48E+00				pCi/g
15-10091-01	LCS	SPIKE	10/15/15 00:00	10/14/2015	11/10/2015	15-10091	Cobalt-60	LANL ER-130 Modified	1.37E+02	9.49E+00	1.18E+01	1.55E+00	1.43E+00	pCi/g
15-10091-01	LCS	SPIKE	10/15/15 00:00	10/14/2015	11/10/2015	15-10091	Cesium-137	LANL ER-130 Modified	8.33E+01	8.04E+00	9.11E+00	2.18E+00	1.08E+00	pCi/g
15-10091-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/10/2015	15-10091	Actinium-228	LANL ER-130 Modified	-2.76E-03	1.66E-01	1.66E-01	2.82E-01	1.23E-01	pCi/g
15-10091-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/10/2015	15-10091	Bismuth-214	LANL ER-130 Modified	4.17E-02	9.18E-02	9.18E-02	1.55E-01	7.03E-02	pCi/g
15-10091-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/10/2015	15-10091	Potassium-40	LANL ER-130 Modified	1.53E-01	4.52E-01	4.52E-01	8.46E-01	3.51E-01	pCi/g
15-10091-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/10/2015	15-10091	Lead-212	LANL ER-130 Modified	4.80E-02	6.17E-02	6.18E-02	1.06E-01	4.98E-02	pCi/g
15-10091-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/10/2015	15-10091	Lead-214	LANL ER-130 Modified	-2.56E-02	7.88E-02	7.89E-02	1.22E-01	5.59E-02	pCi/g
15-10091-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/10/2015	15-10091	Radium-226	LANL ER-130 Modified	4.17E-02	9.18E-02	9.18E-02	1.55E-01	5.65E-01	pCi/g
15-10091-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/10/2015	15-10091	Radium-228	LANL ER-130 Modified	-2.76E-03	1.66E-01	1.66E-01	2.82E-01	1.23E-01	pCi/g
15-10091-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/10/2015	15-10091	Thorium-234	LANL ER-130 Modified	3.18E-01	4.11E-01	4.12E-01	6.75E-01	3.23E-01	pCi/g
15-10091-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/10/2015	15-10091	Thallium-208	LANL ER-130 Modified	-1.45E-02	1.09E-01	1.09E-01	1.76E-01	7.73E-02	pCi/g
15-10091-03	DUP	CP1807S03-04	10/10/15 08:30	10/14/2015	11/10/2015	15-10091	Actinium-228	LANL ER-130 Modified	1.38E+00	2.64E-01	2.73E-01	4.64E-01	2.22E-01	pCi/g
15-10091-03	DUP	CP1807S03-04	10/10/15 08:30	10/14/2015	11/10/2015	15-10091	Bismuth-214	LANL ER-130 Modified	1.96E+00	2.05E-01	2.28E-01	2.22E-01	1.06E-01	pCi/g
15-10091-03	DUP	CP1807S03-04	10/10/15 08:30	10/14/2015	11/10/2015	15-10091	Potassium-40	LANL ER-130 Modified	1.82E+01	2.34E+00	2.52E+00	1.26E+00	5.93E-01	pCi/g
15-10091-03	DUP	CP1807S03-04	10/10/15 08:30	10/14/2015	11/10/2015	15-10091	Lead-212	LANL ER-130 Modified	1.38E+00	1.72E-01	1.86E-01	2.53E-01	1.24E-01	pCi/g
15-10091-03	DUP	CP1807S03-04	10/10/15 08:30	10/14/2015	11/10/2015	15-10091	Lead-214	LANL ER-130 Modified	2.17E+00	2.12E-01	2.39E-01	2.60E-01	1.26E-01	pCi/g
15-10091-03	DUP	CP1807S03-04	10/10/15 08:30	10/14/2015	11/10/2015	15-10091	Radium-226	LANL ER-130 Modified	1.96E+00	2.05E-01	2.28E-01	2.22E-01	1.34E+00	pCi/g
15-10091-03	DUP	CP1807S03-04	10/10/15 08:30	10/14/2015	11/10/2015	15-10091	Radium-228	LANL ER-130 Modified	1.38E+00	2.64E-01	2.73E-01	4.64E-01	2.22E-01	pCi/g
15-10091-03	DUP	CP1807S03-04	10/10/15 08:30	10/14/2015	11/10/2015	15-10091	Thorium-234	LANL ER-130 Modified	1.73E+00	1.78E+00	1.78E+00	2.97E+00	1.46E+00	pCi/g
15-10091-03	DUP	CP1807S03-04	10/10/15 08:30	10/14/2015	11/10/2015	15-10091	Thallium-208	LANL ER-130 Modified	1.09E+00	1.71E-01	1.80E-01	2.07E-01	1.60E-01	pCi/g
15-10091-04	DO	CP1807S03-04	10/10/15 08:30	10/14/2015	11/10/2015	15-10091	Actinium-228	LANL ER-130 Modified	1.43E+00	2.49E-01	2.60E-01	3.89E-01	1.85E-01	pCi/g
15-10091-04	DO	CP1807S03-04	10/10/15 08:30	10/14/2015	11/10/2015	15-10091	Bismuth-214	LANL ER-130 Modified	1.95E+00	2.11E-01	2.33E-01	2.45E-01	1.18E-01	pCi/g
15-10091-04	DO	CP1807S03-04	10/10/15 08:30	10/14/2015	11/10/2015	15-10091	Potassium-40	LANL ER-130 Modified	1.85E+01	2.43E+00	2.61E+00	1.23E+00	5.79E-01	pCi/g
15-10091-04	DO	CP1807S03-04	10/10/15 08:30	10/14/2015	11/10/2015	15-10091	Lead-212	LANL ER-130 Modified	1.72E+00	2.00E-01	2.18E-01	2.64E-01	1.30E-01	pCi/g
15-10091-04	DO	CP1807S03-04	10/10/15 08:30	10/14/2015	11/10/2015	15-10091	Lead-214	LANL ER-130 Modified	2.26E+00	2.22E-01	2.50E-01	2.72E-01	1.32E-01	pCi/g
15-10091-04	DO	CP1807S03-04	10/10/15 08:30	10/14/2015	11/10/2015	15-10091	Radium-226	LANL ER-130 Modified	1.95E+00	2.11E-01	2.33E-01	2.45E-01	1.36E+00	pCi/g
15-10091-04	DO	CP1807S03-04	10/10/15 08:30	10/14/2015	11/10/2015	15-10091	Radium-228	LANL ER-130 Modified	1.43E+00	2.49E-01	2.60E-01	3.89E-01	1.85E-01	pCi/g
15-10091-04	DO	CP1807S03-04	10/10/15 08:30	10/14/2015	11/10/2015	15-10091	Thorium-234	LANL ER-130 Modified	2.98E+00	1.94E+00	1.95E+00	3.20E+00	1.58E+00	pCi/g
15-10091-04	DO	CP1807S03-04	10/10/15 08:30	10/14/2015	11/10/2015	15-10091	Thallium-208	LANL ER-130 Modified	1.20E+00	1.67E-01	1.78E-01	1.13E-01	1.40E-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

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

Work Order Details:
SDG: 15-10091
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10091-05	TRG	CP1807S05-06	10/10/15 08:40	10/14/2015	11/10/2015	15-10091	Actinium-228	LANL ER-130 Modified	1.40E+00	1.91E-01	2.05E-01	5.00E-01	2.41E-01	pCi/g
15-10091-05	TRG	CP1807S05-06	10/10/15 08:40	10/14/2015	11/10/2015	15-10091	Bismuth-214	LANL ER-130 Modified	1.64E+00	1.86E-01	2.04E-01	1.93E-01	9.26E-02	pCi/g
15-10091-05	TRG	CP1807S05-06	10/10/15 08:40	10/14/2015	11/10/2015	15-10091	Potassium-40	LANL ER-130 Modified	1.93E+01	2.15E+00	2.36E+00	7.98E-01	3.67E-01	pCi/g
15-10091-05	TRG	CP1807S05-06	10/10/15 08:40	10/14/2015	11/10/2015	15-10091	Lead-212	LANL ER-130 Modified	1.56E+00	1.75E-01	1.92E-01	2.84E-01	1.40E-01	pCi/g
15-10091-05	TRG	CP1807S05-06	10/10/15 08:40	10/14/2015	11/10/2015	15-10091	Lead-214	LANL ER-130 Modified	1.71E+00	1.67E-01	1.88E-01	2.14E-01	1.04E-01	pCi/g
15-10091-05	TRG	CP1807S05-06	10/10/15 08:40	10/14/2015	11/10/2015	15-10091	Radium-226	LANL ER-130 Modified	1.64E+00	1.86E-01	2.04E-01	1.93E-01	1.18E+00	pCi/g
15-10091-05	TRG	CP1807S05-06	10/10/15 08:40	10/14/2015	11/10/2015	15-10091	Radium-228	LANL ER-130 Modified	1.40E+00	1.91E-01	2.05E-01	5.00E-01	2.41E-01	pCi/g
15-10091-05	TRG	CP1807S05-06	10/10/15 08:40	10/14/2015	11/10/2015	15-10091	Thorium-234	LANL ER-130 Modified	2.00E+00	1.27E+00	1.27E+00	2.08E+00	1.02E+00	pCi/g
15-10091-05	TRG	CP1807S05-06	10/10/15 08:40	10/14/2015	11/10/2015	15-10091	Thallium-208	LANL ER-130 Modified	1.18E+00	1.65E-01	1.76E-01	1.31E-01	1.42E-01	pCi/g
15-10091-06	TRG	CP1807S08-09	10/10/15 08:50	10/14/2015	11/10/2015	15-10091	Actinium-228	LANL ER-130 Modified	1.40E+00	2.89E-01	2.98E-01	5.80E-01	2.76E-01	pCi/g
15-10091-06	TRG	CP1807S08-09	10/10/15 08:50	10/14/2015	11/10/2015	15-10091	Bismuth-214	LANL ER-130 Modified	1.45E+00	2.07E-01	2.20E-01	2.47E-01	1.18E-01	pCi/g
15-10091-06	TRG	CP1807S08-09	10/10/15 08:50	10/14/2015	11/10/2015	15-10091	Potassium-40	LANL ER-130 Modified	1.88E+01	2.30E+00	2.50E+00	7.54E-01	3.25E-01	pCi/g
15-10091-06	TRG	CP1807S08-09	10/10/15 08:50	10/14/2015	11/10/2015	15-10091	Lead-212	LANL ER-130 Modified	1.76E+00	1.98E-01	2.18E-01	2.82E-01	1.39E-01	pCi/g
15-10091-06	TRG	CP1807S08-09	10/10/15 08:50	10/14/2015	11/10/2015	15-10091	Lead-214	LANL ER-130 Modified	1.42E+00	1.96E-01	2.10E-01	2.91E-01	1.41E-01	pCi/g
15-10091-06	TRG	CP1807S08-09	10/10/15 08:50	10/14/2015	11/10/2015	15-10091	Radium-226	LANL ER-130 Modified	1.45E+00	2.07E-01	2.20E-01	2.47E-01	1.72E+00	pCi/g
15-10091-06	TRG	CP1807S08-09	10/10/15 08:50	10/14/2015	11/10/2015	15-10091	Radium-228	LANL ER-130 Modified	1.40E+00	2.89E-01	2.98E-01	5.80E-01	2.76E-01	pCi/g
15-10091-06	TRG	CP1807S08-09	10/10/15 08:50	10/14/2015	11/10/2015	15-10091	Thorium-234	LANL ER-130 Modified	2.39E+00	1.88E+00	1.88E+00	3.12E+00	1.54E+00	pCi/g
15-10091-06	TRG	CP1807S08-09	10/10/15 08:50	10/14/2015	11/10/2015	15-10091	Thallium-208	LANL ER-130 Modified	1.35E+00	2.21E-01	2.32E-01	2.07E-01	1.91E-01	pCi/g
15-10091-07	TRG	CP1807S11-12	10/10/15 09:00	10/14/2015	11/10/2015	15-10091	Actinium-228	LANL ER-130 Modified	1.51E+00	2.08E-01	2.22E-01	3.92E-01	1.86E-01	pCi/g
15-10091-07	TRG	CP1807S11-12	10/10/15 09:00	10/14/2015	11/10/2015	15-10091	Bismuth-214	LANL ER-130 Modified	1.15E+00	1.70E-01	1.80E-01	2.32E-01	1.12E-01	pCi/g
15-10091-07	TRG	CP1807S11-12	10/10/15 09:00	10/14/2015	11/10/2015	15-10091	Potassium-40	LANL ER-130 Modified	2.04E+01	2.60E+00	2.80E+00	1.03E+00	4.78E-01	pCi/g
15-10091-07	TRG	CP1807S11-12	10/10/15 09:00	10/14/2015	11/10/2015	15-10091	Lead-212	LANL ER-130 Modified	1.73E+00	1.97E-01	2.17E-01	2.36E-01	1.16E-01	pCi/g
15-10091-07	TRG	CP1807S11-12	10/10/15 09:00	10/14/2015	11/10/2015	15-10091	Lead-214	LANL ER-130 Modified	1.08E+00	1.36E-01	1.47E-01	5.15E-01	2.54E-01	pCi/g
15-10091-07	TRG	CP1807S11-12	10/10/15 09:00	10/14/2015	11/10/2015	15-10091	Radium-226	LANL ER-130 Modified	1.15E+00	1.70E-01	1.80E-01	2.32E-01	1.11E+00	pCi/g
15-10091-07	TRG	CP1807S11-12	10/10/15 09:00	10/14/2015	11/10/2015	15-10091	Radium-228	LANL ER-130 Modified	1.51E+00	2.08E-01	2.22E-01	3.92E-01	1.86E-01	pCi/g
15-10091-07	TRG	CP1807S11-12	10/10/15 09:00	10/14/2015	11/10/2015	15-10091	Thorium-234	LANL ER-130 Modified	1.26E+00	9.59E-01	9.61E-01	1.53E+00	7.47E-01	pCi/g
15-10091-07	TRG	CP1807S11-12	10/10/15 09:00	10/14/2015	11/10/2015	15-10091	Thallium-208	LANL ER-130 Modified	1.28E+00	1.75E-01	1.87E-01	2.03E-01	1.32E-01	pCi/g

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Eberline Analytical
Final Report of Analysis

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

Work Order Details:

SDG:	15-10091
Project:	PAP-KAN
Analysis Category:	ENVIRONMENTAL
Sample Matrix:	SO

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10091-08	TRG	CP1807S13-14	10/10/15 09:10	10/14/2015	11/10/2015	15-10091	Actinium-228	LANL ER-130 Modified	1.89E+00	2.39E-01	2.58E-01	3.73E-01	1.77E-01	pCi/g
15-10091-08	TRG	CP1807S13-14	10/10/15 09:10	10/14/2015	11/10/2015	15-10091	Bismuth-214	LANL ER-130 Modified	1.30E+00	1.82E-01	1.94E-01	2.21E-01	1.06E-01	pCi/g
15-10091-08	TRG	CP1807S13-14	10/10/15 09:10	10/14/2015	11/10/2015	15-10091	Potassium-40	LANL ER-130 Modified	2.31E+01	2.52E+00	2.78E+00	1.64E+00	7.86E-01	pCi/g
15-10091-08	TRG	CP1807S13-14	10/10/15 09:10	10/14/2015	11/10/2015	15-10091	Lead-212	LANL ER-130 Modified	1.87E+00	2.06E-01	2.28E-01	2.53E-01	1.24E-01	pCi/g
15-10091-08	TRG	CP1807S13-14	10/10/15 09:10	10/14/2015	11/10/2015	15-10091	Lead-214	LANL ER-130 Modified	1.43E+00	1.76E-01	1.91E-01	2.93E-01	1.43E-01	pCi/g
15-10091-08	TRG	CP1807S13-14	10/10/15 09:10	10/14/2015	11/10/2015	15-10091	Radium-226	LANL ER-130 Modified	1.30E+00	1.82E-01	1.94E-01	2.21E-01	1.10E+00	pCi/g
15-10091-08	TRG	CP1807S13-14	10/10/15 09:10	10/14/2015	11/10/2015	15-10091	Radium-228	LANL ER-130 Modified	1.89E+00	2.39E-01	2.58E-01	3.73E-01	1.77E-01	pCi/g
15-10091-08	TRG	CP1807S13-14	10/10/15 09:10	10/14/2015	11/10/2015	15-10091	Thorium-234	LANL ER-130 Modified	1.61E+00	1.59E+00	1.59E+00	2.65E+00	1.31E+00	pCi/g
15-10091-08	TRG	CP1807S13-14	10/10/15 09:10	10/14/2015	11/10/2015	15-10091	Thallium-208	LANL ER-130 Modified	1.75E+00	2.06E-01	2.25E-01	9.74E-02	1.31E-01	pCi/g
15-10091-09	TRG	CP1807S16-17	10/10/15 09:20	10/14/2015	11/10/2015	15-10091	Actinium-228	LANL ER-130 Modified	1.63E+00	2.93E-01	3.04E-01	4.74E-01	2.21E-01	pCi/g
15-10091-09	TRG	CP1807S16-17	10/10/15 09:20	10/14/2015	11/10/2015	15-10091	Bismuth-214	LANL ER-130 Modified	1.32E+00	2.20E-01	2.30E-01	2.50E-01	1.72E-01	pCi/g
15-10091-09	TRG	CP1807S16-17	10/10/15 09:20	10/14/2015	11/10/2015	15-10091	Potassium-40	LANL ER-130 Modified	2.15E+01	2.66E+00	2.88E+00	1.15E+00	5.14E-01	pCi/g
15-10091-09	TRG	CP1807S16-17	10/10/15 09:20	10/14/2015	11/10/2015	15-10091	Lead-212	LANL ER-130 Modified	1.87E+00	2.13E-01	2.33E-01	3.34E-01	1.64E-01	pCi/g
15-10091-09	TRG	CP1807S16-17	10/10/15 09:20	10/14/2015	11/10/2015	15-10091	Lead-214	LANL ER-130 Modified	1.18E+00	2.04E-01	2.13E-01	2.96E-01	1.43E-01	pCi/g
15-10091-09	TRG	CP1807S16-17	10/10/15 09:20	10/14/2015	11/10/2015	15-10091	Radium-226	LANL ER-130 Modified	1.32E+00	2.20E-01	2.30E-01	2.50E-01	1.65E+00	pCi/g
15-10091-09	TRG	CP1807S16-17	10/10/15 09:20	10/14/2015	11/10/2015	15-10091	Radium-228	LANL ER-130 Modified	1.63E+00	2.93E-01	3.04E-01	4.74E-01	2.21E-01	pCi/g
15-10091-09	TRG	CP1807S16-17	10/10/15 09:20	10/14/2015	11/10/2015	15-10091	Thorium-234	LANL ER-130 Modified	3.79E+00	2.65E+00	2.65E+00	4.38E+00	2.16E+00	pCi/g
15-10091-09	TRG	CP1807S16-17	10/10/15 09:20	10/14/2015	11/10/2015	15-10091	Thallium-208	LANL ER-130 Modified	1.43E+00	2.50E-01	2.61E-01	2.45E-01	2.22E-01	pCi/g
15-10091-10	TRG	CP1807S18-19	10/10/15 09:30	10/14/2015	11/10/2015	15-10091	Actinium-228	LANL ER-130 Modified	1.11E+00	2.11E-01	2.19E-01	3.36E-01	1.58E-01	pCi/g
15-10091-10	TRG	CP1807S18-19	10/10/15 09:30	10/14/2015	11/10/2015	15-10091	Bismuth-214	LANL ER-130 Modified	9.24E-01	1.26E-01	1.34E-01	2.94E-01	1.42E-01	pCi/g
15-10091-10	TRG	CP1807S18-19	10/10/15 09:30	10/14/2015	11/10/2015	15-10091	Potassium-40	LANL ER-130 Modified	1.45E+01	1.95E+00	2.08E+00	5.19E-01	2.21E-01	pCi/g
15-10091-10	TRG	CP1807S18-19	10/10/15 09:30	10/14/2015	11/10/2015	15-10091	Lead-212	LANL ER-130 Modified	1.14E+00	1.51E-01	1.61E-01	2.03E-01	9.91E-02	pCi/g
15-10091-10	TRG	CP1807S18-19	10/10/15 09:30	10/14/2015	11/10/2015	15-10091	Lead-214	LANL ER-130 Modified	1.11E+00	1.63E-01	1.73E-01	1.92E-01	9.20E-02	pCi/g
15-10091-10	TRG	CP1807S18-19	10/10/15 09:30	10/14/2015	11/10/2015	15-10091	Radium-226	LANL ER-130 Modified	9.24E-01	1.26E-01	1.34E-01	2.94E-01	1.11E+00	pCi/g
15-10091-10	TRG	CP1807S18-19	10/10/15 09:30	10/14/2015	11/10/2015	15-10091	Radium-228	LANL ER-130 Modified	1.11E+00	2.11E-01	2.19E-01	3.36E-01	1.58E-01	pCi/g
15-10091-10	TRG	CP1807S18-19	10/10/15 09:30	10/14/2015	11/10/2015	15-10091	Thorium-234	LANL ER-130 Modified	1.82E+00	8.14E-01	8.19E-01	1.38E+00	6.67E-01	pCi/g
15-10091-10	TRG	CP1807S18-19	10/10/15 09:30	10/14/2015	11/10/2015	15-10091	Thallium-208	LANL ER-130 Modified	9.30E-01	1.46E-01	1.53E-01	1.16E-01	1.19E-01	pCi/g

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

Eberline Analytical
Final Report of Analysis

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Work Order Details:
SDG: 15-10091
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10091-11	TRG	CP1807S20-21	10/10/15 09:40	10/14/2015	11/10/2015	15-10091	Actinium-228	LANL ER-130 Modified	1.16E+00	1.92E-01	2.01E-01	3.63E-01	1.73E-01	pCi/g
15-10091-11	TRG	CP1807S20-21	10/10/15 09:40	10/14/2015	11/10/2015	15-10091	Bismuth-214	LANL ER-130 Modified	1.08E+00	1.46E-01	1.56E-01	2.10E-01	1.01E-01	pCi/g
15-10091-11	TRG	CP1807S20-21	10/10/15 09:40	10/14/2015	11/10/2015	15-10091	Potassium-40	LANL ER-130 Modified	1.28E+01	1.61E+00	1.74E+00	9.00E-01	4.18E-01	pCi/g
15-10091-11	TRG	CP1807S20-21	10/10/15 09:40	10/14/2015	11/10/2015	15-10091	Lead-212	LANL ER-130 Modified	1.17E+00	1.41E-01	1.53E-01	2.39E-01	1.17E-01	pCi/g
15-10091-11	TRG	CP1807S20-21	10/10/15 09:40	10/14/2015	11/10/2015	15-10091	Lead-214	LANL ER-130 Modified	1.04E+00	1.29E-01	1.40E-01	1.92E-01	9.30E-02	pCi/g
15-10091-11	TRG	CP1807S20-21	10/10/15 09:40	10/14/2015	11/10/2015	15-10091	Radium-226	LANL ER-130 Modified	1.08E+00	1.46E-01	1.56E-01	2.10E-01	1.02E+00	pCi/g
15-10091-11	TRG	CP1807S20-21	10/10/15 09:40	10/14/2015	11/10/2015	15-10091	Radium-228	LANL ER-130 Modified	1.16E+00	1.92E-01	2.01E-01	3.63E-01	1.73E-01	pCi/g
15-10091-11	TRG	CP1807S20-21	10/10/15 09:40	10/14/2015	11/10/2015	15-10091	Thorium-234	LANL ER-130 Modified	1.91E+00	1.36E+00	1.37E+00	2.25E+00	1.11E+00	pCi/g
15-10091-11	TRG	CP1807S20-21	10/10/15 09:40	10/14/2015	11/10/2015	15-10091	Thallium-208	LANL ER-130 Modified	8.43E-01	1.38E-01	1.44E-01	1.68E-01	1.18E-01	pCi/g
15-10091-12	TRG	CP1807S22-23	10/10/15 09:50	10/14/2015	11/10/2015	15-10091	Actinium-228	LANL ER-130 Modified	1.28E+00	2.60E-01	2.69E-01	5.25E-01	2.49E-01	pCi/g
15-10091-12	TRG	CP1807S22-23	10/10/15 09:50	10/14/2015	11/10/2015	15-10091	Bismuth-214	LANL ER-130 Modified	9.21E-01	1.62E-01	1.69E-01	1.83E-01	8.57E-02	pCi/g
15-10091-12	TRG	CP1807S22-23	10/10/15 09:50	10/14/2015	11/10/2015	15-10091	Potassium-40	LANL ER-130 Modified	1.46E+01	2.02E+00	2.15E+00	1.31E+00	6.06E-01	pCi/g
15-10091-12	TRG	CP1807S22-23	10/10/15 09:50	10/14/2015	11/10/2015	15-10091	Lead-212	LANL ER-130 Modified	1.62E+00	1.80E-01	1.98E-01	2.49E-01	1.22E-01	pCi/g
15-10091-12	TRG	CP1807S22-23	10/10/15 09:50	10/14/2015	11/10/2015	15-10091	Lead-214	LANL ER-130 Modified	1.13E+00	1.57E-01	1.68E-01	2.76E-01	1.34E-01	pCi/g
15-10091-12	TRG	CP1807S22-23	10/10/15 09:50	10/14/2015	11/10/2015	15-10091	Radium-226	LANL ER-130 Modified	9.21E-01	1.62E-01	1.69E-01	1.83E-01	1.31E+00	pCi/g
15-10091-12	TRG	CP1807S22-23	10/10/15 09:50	10/14/2015	11/10/2015	15-10091	Radium-228	LANL ER-130 Modified	1.28E+00	2.60E-01	2.69E-01	5.25E-01	2.49E-01	pCi/g
15-10091-12	TRG	CP1807S22-23	10/10/15 09:50	10/14/2015	11/10/2015	15-10091	Thorium-234	LANL ER-130 Modified	1.73E+00	1.57E+00	1.57E+00	2.08E+00	1.02E+00	pCi/g
15-10091-12	TRG	CP1807S22-23	10/10/15 09:50	10/14/2015	11/10/2015	15-10091	Thallium-208	LANL ER-130 Modified	1.23E+00	2.13E-01	2.22E-01	4.41E-02	2.09E-01	pCi/g
15-10091-13	TRG	CP1805S03-04	10/10/15 10:00	10/14/2015	11/10/2015	15-10091	Actinium-228	LANL ER-130 Modified	1.45E+00	2.96E-01	3.05E-01	5.59E-01	2.70E-01	pCi/g
15-10091-13	TRG	CP1805S03-04	10/10/15 10:00	10/14/2015	11/10/2015	15-10091	Bismuth-214	LANL ER-130 Modified	1.72E+00	1.89E-01	2.08E-01	2.16E-01	1.04E-01	pCi/g
15-10091-13	TRG	CP1805S03-04	10/10/15 10:00	10/14/2015	11/10/2015	15-10091	Potassium-40	LANL ER-130 Modified	1.94E+01	2.50E+00	2.69E+00	1.06E+00	4.91E-01	pCi/g
15-10091-13	TRG	CP1805S03-04	10/10/15 10:00	10/14/2015	11/10/2015	15-10091	Lead-212	LANL ER-130 Modified	1.49E+00	1.79E-01	1.95E-01	2.07E-01	1.01E-01	pCi/g
15-10091-13	TRG	CP1805S03-04	10/10/15 10:00	10/14/2015	11/10/2015	15-10091	Lead-214	LANL ER-130 Modified	1.72E+00	1.81E-01	2.01E-01	2.16E-01	1.05E-01	pCi/g
15-10091-13	TRG	CP1805S03-04	10/10/15 10:00	10/14/2015	11/10/2015	15-10091	Radium-226	LANL ER-130 Modified	1.72E+00	1.89E-01	2.08E-01	2.16E-01	1.23E+00	pCi/g
15-10091-13	TRG	CP1805S03-04	10/10/15 10:00	10/14/2015	11/10/2015	15-10091	Radium-228	LANL ER-130 Modified	1.45E+00	2.96E-01	3.05E-01	5.59E-01	2.70E-01	pCi/g
15-10091-13	TRG	CP1805S03-04	10/10/15 10:00	10/14/2015	11/10/2015	15-10091	Thorium-234	LANL ER-130 Modified	1.76E+00	1.03E+00	1.03E+00	1.66E+00	8.09E-01	pCi/g
15-10091-13	TRG	CP1805S03-04	10/10/15 10:00	10/14/2015	11/10/2015	15-10091	Thallium-208	LANL ER-130 Modified	1.28E+00	1.72E-01	1.84E-01	1.11E-01	1.63E-01	pCi/g

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

Eberline Analytical
Final Report of Analysis

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

Work Order Details:

SDG:	15-10091
Project:	PAP-KAN
Analysis Category:	ENVIRONMENTAL
Sample Matrix:	SO

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10091-14	TRG	CP1805S05-06	10/10/15 10:10	10/14/2015	11/10/2015	15-10091	Actinium-228	LANL ER-130 Modified	1.51E+00	5.13E-01	5.19E-01	8.96E-01	4.22E-01	pCi/g
15-10091-14	TRG	CP1805S05-06	10/10/15 10:10	10/14/2015	11/10/2015	15-10091	Bismuth-214	LANL ER-130 Modified	1.79E+00	3.39E-01	3.51E-01	4.85E-01	2.32E-01	pCi/g
15-10091-14	TRG	CP1805S05-06	10/10/15 10:10	10/14/2015	11/10/2015	15-10091	Potassium-40	LANL ER-130 Modified	1.91E+01	3.56E+00	3.69E+00	2.86E+00	1.32E+00	pCi/g
15-10091-14	TRG	CP1805S05-06	10/10/15 10:10	10/14/2015	11/10/2015	15-10091	Lead-212	LANL ER-130 Modified	2.36E+00	3.69E-01	3.89E-01	3.76E-01	1.84E-01	pCi/g
15-10091-14	TRG	CP1805S05-06	10/10/15 10:10	10/14/2015	11/10/2015	15-10091	Lead-214	LANL ER-130 Modified	1.55E+00	3.21E-01	3.31E-01	5.01E-01	2.43E-01	pCi/g
15-10091-14	TRG	CP1805S05-06	10/10/15 10:10	10/14/2015	11/10/2015	15-10091	Radium-226	LANL ER-130 Modified	1.79E+00	3.39E-01	3.51E-01	4.85E-01	2.42E+00	pCi/g
15-10091-14	TRG	CP1805S05-06	10/10/15 10:10	10/14/2015	11/10/2015	15-10091	Radium-228	LANL ER-130 Modified	1.51E+00	5.13E-01	5.19E-01	8.96E-01	4.22E-01	pCi/g
15-10091-14	TRG	CP1805S05-06	10/10/15 10:10	10/14/2015	11/10/2015	15-10091	Thorium-234	LANL ER-130 Modified	1.83E+00	1.59E+00	1.59E+00	2.46E+00	1.21E+00	pCi/g
15-10091-14	TRG	CP1805S05-06	10/10/15 10:10	10/14/2015	11/10/2015	15-10091	Thallium-208	LANL ER-130 Modified	1.42E+00	3.46E-01	3.54E-01	9.69E-02	4.46E-01	pCi/g
15-10091-15	TRG	CP1805S08-09	10/10/15 10:20	10/14/2015	11/10/2015	15-10091	Actinium-228	LANL ER-130 Modified	1.91E+00	2.38E-01	2.57E-01	3.12E-01	1.46E-01	pCi/g
15-10091-15	TRG	CP1805S08-09	10/10/15 10:20	10/14/2015	11/10/2015	15-10091	Bismuth-214	LANL ER-130 Modified	1.29E+00	1.73E-01	1.85E-01	2.15E-01	1.03E-01	pCi/g
15-10091-15	TRG	CP1805S08-09	10/10/15 10:20	10/14/2015	11/10/2015	15-10091	Potassium-40	LANL ER-130 Modified	2.25E+01	2.52E+00	2.77E+00	1.14E+00	5.32E-01	pCi/g
15-10091-15	TRG	CP1805S08-09	10/10/15 10:20	10/14/2015	11/10/2015	15-10091	Lead-212	LANL ER-130 Modified	1.69E+00	1.93E-01	2.12E-01	2.81E-01	1.38E-01	pCi/g
15-10091-15	TRG	CP1805S08-09	10/10/15 10:20	10/14/2015	11/10/2015	15-10091	Lead-214	LANL ER-130 Modified	1.29E+00	1.65E-01	1.78E-01	2.26E-01	1.09E-01	pCi/g
15-10091-15	TRG	CP1805S08-09	10/10/15 10:20	10/14/2015	11/10/2015	15-10091	Radium-226	LANL ER-130 Modified	1.29E+00	1.73E-01	1.85E-01	2.15E-01	1.34E+00	pCi/g
15-10091-15	TRG	CP1805S08-09	10/10/15 10:20	10/14/2015	11/10/2015	15-10091	Radium-228	LANL ER-130 Modified	1.91E+00	2.38E-01	2.57E-01	3.12E-01	1.46E-01	pCi/g
15-10091-15	TRG	CP1805S08-09	10/10/15 10:20	10/14/2015	11/10/2015	15-10091	Thorium-234	LANL ER-130 Modified	2.96E+00	1.49E+00	1.50E+00	2.04E+00	1.00E+00	pCi/g
15-10091-15	TRG	CP1805S08-09	10/10/15 10:20	10/14/2015	11/10/2015	15-10091	Thallium-208	LANL ER-130 Modified	1.27E+00	1.82E-01	1.94E-01	1.43E-01	1.76E-01	pCi/g
15-10091-16	TRG	CP1805S11-12	10/10/15 10:30	10/14/2015	11/10/2015	15-10091	Actinium-228	LANL ER-130 Modified	1.55E+00	3.44E-01	3.53E-01	5.63E-01	2.67E-01	pCi/g
15-10091-16	TRG	CP1805S11-12	10/10/15 10:30	10/14/2015	11/10/2015	15-10091	Bismuth-214	LANL ER-130 Modified	1.21E+00	1.92E-01	2.01E-01	2.80E-01	1.34E-01	pCi/g
15-10091-16	TRG	CP1805S11-12	10/10/15 10:30	10/14/2015	11/10/2015	15-10091	Potassium-40	LANL ER-130 Modified	2.00E+01	2.50E+00	2.70E+00	1.24E+00	5.68E-01	pCi/g
15-10091-16	TRG	CP1805S11-12	10/10/15 10:30	10/14/2015	11/10/2015	15-10091	Lead-212	LANL ER-130 Modified	1.84E+00	2.03E-01	2.24E-01	3.03E-01	1.49E-01	pCi/g
15-10091-16	TRG	CP1805S11-12	10/10/15 10:30	10/14/2015	11/10/2015	15-10091	Lead-214	LANL ER-130 Modified	1.49E+00	1.95E-01	2.09E-01	3.16E-01	1.53E-01	pCi/g
15-10091-16	TRG	CP1805S11-12	10/10/15 10:30	10/14/2015	11/10/2015	15-10091	Radium-226	LANL ER-130 Modified	1.21E+00	1.92E-01	2.01E-01	2.80E-01	1.42E+00	pCi/g
15-10091-16	TRG	CP1805S11-12	10/10/15 10:30	10/14/2015	11/10/2015	15-10091	Radium-228	LANL ER-130 Modified	1.55E+00	3.44E-01	3.53E-01	5.63E-01	2.67E-01	pCi/g
15-10091-16	TRG	CP1805S11-12	10/10/15 10:30	10/14/2015	11/10/2015	15-10091	Thorium-234	LANL ER-130 Modified	2.93E+00	1.74E+00	1.74E+00	2.37E+00	1.16E+00	pCi/g
15-10091-16	TRG	CP1805S11-12	10/10/15 10:30	10/14/2015	11/10/2015	15-10091	Thallium-208	LANL ER-130 Modified	1.41E+00	2.45E-01	2.55E-01	3.66E-01	2.02E-01	pCi/g

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

Eberline Analytical
Final Report of Analysis

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

Work Order Details:
SDG: 15-10091
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10091-17	TRG	CP1805S13-14	10/10/15 10:40	10/14/2015	11/10/2015	15-10091	Actinium-228	LANL ER-130 Modified	1.52E+00	2.06E-01	2.20E-01	5.85E-01	2.83E-01	pCi/g
15-10091-17	TRG	CP1805S13-14	10/10/15 10:40	10/14/2015	11/10/2015	15-10091	Bismuth-214	LANL ER-130 Modified	1.09E+00	1.46E-01	1.56E-01	3.40E-01	1.66E-01	pCi/g
15-10091-17	TRG	CP1805S13-14	10/10/15 10:40	10/14/2015	11/10/2015	15-10091	Potassium-40	LANL ER-130 Modified	1.71E+01	2.26E+00	2.43E+00	9.73E-01	4.49E-01	pCi/g
15-10091-17	TRG	CP1805S13-14	10/10/15 10:40	10/14/2015	11/10/2015	15-10091	Lead-212	LANL ER-130 Modified	1.76E+00	2.37E-01	2.53E-01	2.53E-01	1.24E-01	pCi/g
15-10091-17	TRG	CP1805S13-14	10/10/15 10:40	10/14/2015	11/10/2015	15-10091	Lead-214	LANL ER-130 Modified	1.21E+00	1.69E-01	1.80E-01	2.93E-01	1.43E-01	pCi/g
15-10091-17	TRG	CP1805S13-14	10/10/15 10:40	10/14/2015	11/10/2015	15-10091	Radium-226	LANL ER-130 Modified	1.09E+00	1.46E-01	1.56E-01	3.40E-01	1.08E+00	pCi/g
15-10091-17	TRG	CP1805S13-14	10/10/15 10:40	10/14/2015	11/10/2015	15-10091	Radium-228	LANL ER-130 Modified	1.52E+00	2.06E-01	2.20E-01	5.85E-01	2.83E-01	pCi/g
15-10091-17	TRG	CP1805S13-14	10/10/15 10:40	10/14/2015	11/10/2015	15-10091	Thorium-234	LANL ER-130 Modified	1.52E+00	1.63E+00	1.64E+00	2.73E+00	1.34E+00	pCi/g
15-10091-17	TRG	CP1805S13-14	10/10/15 10:40	10/14/2015	11/10/2015	15-10091	Thallium-208	LANL ER-130 Modified	1.11E+00	1.65E-01	1.75E-01	1.15E-01	1.59E-01	pCi/g
15-10091-18	TRG	CP1805S15-16	10/10/15 10:50	10/14/2015	11/10/2015	15-10091	Actinium-228	LANL ER-130 Modified	1.50E+00	4.00E-01	4.08E-01	1.67E+00	1.16E+00	pCi/g
15-10091-18	TRG	CP1805S15-16	10/10/15 10:50	10/14/2015	11/10/2015	15-10091	Bismuth-214	LANL ER-130 Modified	1.16E+00	2.73E-01	2.80E-01	3.95E-01	1.87E-01	pCi/g
15-10091-18	TRG	CP1805S15-16	10/10/15 10:50	10/14/2015	11/10/2015	15-10091	Potassium-40	LANL ER-130 Modified	1.71E+01	3.05E+00	3.17E+00	1.66E+00	7.28E-01	pCi/g
15-10091-18	TRG	CP1805S15-16	10/10/15 10:50	10/14/2015	11/10/2015	15-10091	Lead-212	LANL ER-130 Modified	2.09E+00	3.74E-01	3.89E-01	4.48E-01	2.20E-01	pCi/g
15-10091-18	TRG	CP1805S15-16	10/10/15 10:50	10/14/2015	11/10/2015	15-10091	Lead-214	LANL ER-130 Modified	1.23E+00	3.19E-01	3.25E-01	5.16E-01	2.50E-01	pCi/g
15-10091-18	TRG	CP1805S15-16	10/10/15 10:50	10/14/2015	11/10/2015	15-10091	Radium-226	LANL ER-130 Modified	1.16E+00	2.73E-01	2.80E-01	3.95E-01	1.75E+00	pCi/g
15-10091-18	TRG	CP1805S15-16	10/10/15 10:50	10/14/2015	11/10/2015	15-10091	Radium-228	LANL ER-130 Modified	1.50E+00	4.00E-01	4.08E-01	1.67E+00	1.16E+00	pCi/g
15-10091-18	TRG	CP1805S15-16	10/10/15 10:50	10/14/2015	11/10/2015	15-10091	Thorium-234	LANL ER-130 Modified	3.26E+00	1.92E+00	1.93E+00	6.06E+00	3.01E+00	pCi/g
15-10091-18	TRG	CP1805S15-16	10/10/15 10:50	10/14/2015	11/10/2015	15-10091	Thallium-208	LANL ER-130 Modified	1.49E+00	3.32E-01	3.41E-01	9.39E-02	3.06E-01	pCi/g
15-10091-19	TRG	CP1805S18-19	10/10/15 11:00	10/14/2015	11/11/2015	15-10091	Actinium-228	LANL ER-130 Modified	1.61E+00	2.14E-01	2.30E-01	3.76E-01	1.78E-01	pCi/g
15-10091-19	TRG	CP1805S18-19	10/10/15 11:00	10/14/2015	11/11/2015	15-10091	Bismuth-214	LANL ER-130 Modified	1.13E+00	1.58E-01	1.68E-01	2.11E-01	1.01E-01	pCi/g
15-10091-19	TRG	CP1805S18-19	10/10/15 11:00	10/14/2015	11/11/2015	15-10091	Potassium-40	LANL ER-130 Modified	1.48E+01	1.87E+00	2.02E+00	1.10E+00	5.12E-01	pCi/g
15-10091-19	TRG	CP1805S18-19	10/10/15 11:00	10/14/2015	11/11/2015	15-10091	Lead-212	LANL ER-130 Modified	1.51E+00	1.76E-01	1.92E-01	2.33E-01	1.14E-01	pCi/g
15-10091-19	TRG	CP1805S18-19	10/10/15 11:00	10/14/2015	11/11/2015	15-10091	Lead-214	LANL ER-130 Modified	1.10E+00	1.56E-01	1.66E-01	1.97E-01	9.52E-02	pCi/g
15-10091-19	TRG	CP1805S18-19	10/10/15 11:00	10/14/2015	11/11/2015	15-10091	Radium-226	LANL ER-130 Modified	1.13E+00	1.58E-01	1.68E-01	2.11E-01	8.07E-01	pCi/g
15-10091-19	TRG	CP1805S18-19	10/10/15 11:00	10/14/2015	11/11/2015	15-10091	Radium-228	LANL ER-130 Modified	1.61E+00	2.14E-01	2.30E-01	3.76E-01	1.78E-01	pCi/g
15-10091-19	TRG	CP1805S18-19	10/10/15 11:00	10/14/2015	11/11/2015	15-10091	Thorium-234	LANL ER-130 Modified	2.28E+00	1.45E+00	1.46E+00	1.99E+00	9.75E-01	pCi/g
15-10091-19	TRG	CP1805S18-19	10/10/15 11:00	10/14/2015	11/11/2015	15-10091	Thallium-208	LANL ER-130 Modified	1.37E+00	1.67E-01	1.81E-01	1.47E-01	1.90E-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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Work Order Details:

SDG:	15-10091
Project:	PAP-KAN
Analysis Category:	ENVIRONMENTAL
Sample Matrix:	SO

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10091-01	LCS	KNOWN	10/15/15 00:00	10/14/2015	10/30/2015	15-10091	Thorium-228	EML Th-01 Modified	4.70E+00	1.69E-01				pCi/g
15-10091-01	LCS	SPIKE	10/15/15 00:00	10/14/2015	10/30/2015	15-10091	Thorium-228	EML Th-01 Modified	4.91E+00	9.12E-01	1.02E+00	1.23E-01	2.35E-02	pCi/g
15-10091-02	MBL	BLANK	10/15/15 00:00	10/14/2015	10/30/2015	15-10091	Thorium-228	EML Th-01 Modified	1.18E-02	2.96E-02	2.96E-02	6.16E-02	9.52E-03	pCi/g
15-10091-03	DUP	CP1807S03-04	10/10/15 08:30	10/14/2015	10/30/2015	15-10091	Thorium-228	EML Th-01 Modified	1.35E+00	3.34E-01	3.57E-01	6.35E-02	9.62E-03	pCi/g
15-10091-04	DO	CP1807S03-04	10/10/15 08:30	10/14/2015	10/30/2015	15-10091	Thorium-228	EML Th-01 Modified	1.32E+00	3.33E-01	3.55E-01	6.53E-02	9.86E-03	pCi/g
15-10091-05	TRG	CP1807S05-06	10/10/15 08:40	10/14/2015	10/30/2015	15-10091	Thorium-228	EML Th-01 Modified	1.45E+00	3.55E-01	3.80E-01	8.14E-02	2.04E-02	pCi/g
15-10091-06	TRG	CP1807S08-09	10/10/15 08:50	10/14/2015	10/30/2015	15-10091	Thorium-228	EML Th-01 Modified	1.08E+00	2.53E-01	2.73E-01	8.91E-02	4.30E-02	pCi/g
15-10091-07	TRG	CP1807S11-12	10/10/15 09:00	10/14/2015	10/30/2015	15-10091	Thorium-228	EML Th-01 Modified	1.13E+00	3.11E-01	3.29E-01	7.58E-02	1.29E-02	pCi/g
15-10091-08	TRG	CP1807S13-14	10/10/15 09:10	10/14/2015	10/30/2015	15-10091	Thorium-228	EML Th-01 Modified	1.34E+00	3.13E-01	3.37E-01	6.72E-02	1.48E-02	pCi/g
15-10091-09	TRG	CP1807S16-17	10/10/15 09:20	10/14/2015	10/30/2015	15-10091	Thorium-228	EML Th-01 Modified	1.28E+00	3.34E-01	3.55E-01	8.46E-02	2.00E-02	pCi/g
15-10091-10	TRG	CP1807S18-19	10/10/15 09:30	10/14/2015	10/30/2015	15-10091	Thorium-228	EML Th-01 Modified	1.45E+00	3.79E-01	4.03E-01	7.42E-02	1.13E-02	pCi/g
15-10091-11	TRG	CP1807S20-21	10/10/15 09:40	10/14/2015	10/30/2015	15-10091	Thorium-228	EML Th-01 Modified	8.46E-01	2.21E-01	2.35E-01	5.74E-02	9.76E-03	pCi/g
15-10091-12	TRG	CP1807S22-23	10/10/15 09:50	10/14/2015	10/30/2015	15-10091	Thorium-228	EML Th-01 Modified	1.10E+00	2.69E-01	2.89E-01	6.11E-02	1.15E-02	pCi/g
15-10091-13	TRG	CP1805S03-04	10/10/15 10:00	10/14/2015	10/30/2015	15-10091	Thorium-228	EML Th-01 Modified	1.52E+00	3.83E-01	4.09E-01	7.77E-02	1.46E-02	pCi/g
15-10091-14	TRG	CP1805S05-06	10/10/15 10:10	10/14/2015	10/30/2015	15-10091	Thorium-228	EML Th-01 Modified	1.39E+00	3.43E-01	3.67E-01	6.50E-02	9.83E-03	pCi/g
15-10091-15	TRG	CP1805S08-09	10/10/15 10:20	10/14/2015	10/30/2015	15-10091	Thorium-228	EML Th-01 Modified	1.24E+00	3.30E-01	3.50E-01	6.76E-02	8.84E-03	pCi/g
15-10091-16	TRG	CP1805S11-12	10/10/15 10:30	10/14/2015	10/30/2015	15-10091	Thorium-228	EML Th-01 Modified	1.25E+00	2.82E-01	3.05E-01	7.33E-02	2.44E-02	pCi/g
15-10091-17	TRG	CP1805S13-14	10/10/15 10:40	10/14/2015	10/30/2015	15-10091	Thorium-228	EML Th-01 Modified	1.54E+00	3.75E-01	4.02E-01	6.59E-02	9.95E-03	pCi/g
15-10091-18	TRG	CP1805S15-16	10/10/15 10:50	10/14/2015	10/30/2015	15-10091	Thorium-228	EML Th-01 Modified	1.21E+00	2.87E-01	3.09E-01	6.42E-02	1.42E-02	pCi/g
15-10091-19	TRG	CP1805S18-19	10/10/15 11:00	10/14/2015	10/30/2015	15-10091	Thorium-228	EML Th-01 Modified	1.19E+00	3.32E-01	3.50E-01	7.26E-02	9.50E-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

Eberline Analytical
Final Report of Analysis

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

Work Order Details:

SDG:	15-10091
Project:	PAP-KAN
Analysis Category:	ENVIRONMENTAL
Sample Matrix:	SO

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10091-01	LCS	KNOWN	10/15/15 00:00	10/14/2015	10/30/2015	15-10091	Thorium-230	EML Th-01 Modified	5.32E+00	1.44E-01				pCi/g
15-10091-01	LCS	SPIKE	10/15/15 00:00	10/14/2015	10/30/2015	15-10091	Thorium-230	EML Th-01 Modified	6.37E+00	1.12E+00	1.37E+00	1.23E-01	1.16E-01	pCi/g
15-10091-02	MBL	BLANK	10/15/15 00:00	10/14/2015	10/30/2015	15-10091	Thorium-230	EML Th-01 Modified	2.92E-02	3.55E-02	3.57E-02	4.30E-02	5.38E-02	pCi/g
15-10091-03	DUP	CP1807S03-04	10/10/15 08:30	10/14/2015	10/30/2015	15-10091	Thorium-230	EML Th-01 Modified	2.10E+00	4.69E-01	5.36E-01	5.46E-02	5.79E-02	pCi/g
15-10091-04	DO	CP1807S03-04	10/10/15 08:30	10/14/2015	10/30/2015	15-10091	Thorium-230	EML Th-01 Modified	2.10E+00	4.74E-01	5.40E-01	6.42E-02	5.39E-02	pCi/g
15-10091-05	TRG	CP1807S05-06	10/10/15 08:40	10/14/2015	10/30/2015	15-10091	Thorium-230	EML Th-01 Modified	1.93E+00	4.41E-01	5.01E-01	5.95E-02	6.03E-02	pCi/g
15-10091-06	TRG	CP1807S08-09	10/10/15 08:50	10/14/2015	10/30/2015	15-10091	Thorium-230	EML Th-01 Modified	1.20E+00	2.71E-01	3.09E-01	6.43E-02	5.85E-02	pCi/g
15-10091-07	TRG	CP1807S11-12	10/10/15 09:00	10/14/2015	10/30/2015	15-10091	Thorium-230	EML Th-01 Modified	1.02E+00	2.87E-01	3.13E-01	6.66E-02	6.76E-02	pCi/g
15-10091-08	TRG	CP1807S13-14	10/10/15 09:10	10/14/2015	10/30/2015	15-10091	Thorium-230	EML Th-01 Modified	9.27E-01	2.39E-01	2.65E-01	5.84E-02	5.61E-02	pCi/g
15-10091-09	TRG	CP1807S16-17	10/10/15 09:20	10/14/2015	10/30/2015	15-10091	Thorium-230	EML Th-01 Modified	9.92E-01	2.75E-01	3.01E-01	4.72E-02	5.91E-02	pCi/g
15-10091-10	TRG	CP1807S18-19	10/10/15 09:30	10/14/2015	10/30/2015	15-10091	Thorium-230	EML Th-01 Modified	7.85E-01	2.42E-01	2.61E-01	6.38E-02	6.78E-02	pCi/g
15-10091-11	TRG	CP1807S20-21	10/10/15 09:40	10/14/2015	10/30/2015	15-10091	Thorium-230	EML Th-01 Modified	8.75E-01	2.25E-01	2.50E-01	5.63E-02	5.42E-02	pCi/g
15-10091-12	TRG	CP1807S22-23	10/10/15 09:50	10/14/2015	10/30/2015	15-10091	Thorium-230	EML Th-01 Modified	1.04E+00	2.57E-01	2.88E-01	4.35E-02	4.90E-02	pCi/g
15-10091-13	TRG	CP1805S03-04	10/10/15 10:00	10/14/2015	10/30/2015	15-10091	Thorium-230	EML Th-01 Modified	2.24E+00	5.18E-01	5.88E-01	4.83E-02	6.03E-02	pCi/g
15-10091-14	TRG	CP1805S05-06	10/10/15 10:10	10/14/2015	10/30/2015	15-10091	Thorium-230	EML Th-01 Modified	1.65E+00	3.88E-01	4.38E-01	5.59E-02	5.92E-02	pCi/g
15-10091-15	TRG	CP1805S08-09	10/10/15 10:20	10/14/2015	10/30/2015	15-10091	Thorium-230	EML Th-01 Modified	1.32E+00	3.44E-01	3.81E-01	6.63E-02	6.72E-02	pCi/g
15-10091-16	TRG	CP1805S11-12	10/10/15 10:30	10/14/2015	10/30/2015	15-10091	Thorium-230	EML Th-01 Modified	9.42E-01	2.29E-01	2.57E-01	7.47E-02	6.81E-02	pCi/g
15-10091-17	TRG	CP1805S13-14	10/10/15 10:40	10/14/2015	10/30/2015	15-10091	Thorium-230	EML Th-01 Modified	1.28E+00	3.24E-01	3.60E-01	5.67E-02	5.99E-02	pCi/g
15-10091-18	TRG	CP1805S15-16	10/10/15 10:50	10/14/2015	10/30/2015	15-10091	Thorium-230	EML Th-01 Modified	1.07E+00	2.61E-01	2.93E-01	5.00E-02	5.09E-02	pCi/g
15-10091-19	TRG	CP1805S18-19	10/10/15 11:00	10/14/2015	10/30/2015	15-10091	Thorium-230	EML Th-01 Modified	1.05E+00	3.01E-01	3.27E-01	5.27E-02	6.58E-02	pCi/g

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

Eberline Analytical
Final Report of Analysis

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

Work Order Details:
SDG: 15-10091
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10091-01	LCS	KNOWN	10/15/15 00:00	10/14/2015	10/30/2015	15-10091	Thorium-232	EML Th-01 Modified	4.70E+00	1.69E-01				pCi/g
15-10091-01	LCS	SPIKE	10/15/15 00:00	10/14/2015	10/30/2015	15-10091	Thorium-232	EML Th-01 Modified	4.90E+00	9.11E-01	1.01E+00	1.32E-01	2.97E-02	pCi/g
15-10091-02	MBL	BLANK	10/15/15 00:00	10/14/2015	10/30/2015	15-10091	Thorium-232	EML Th-01 Modified	1.18E-02	2.96E-02	2.96E-02	6.16E-02	9.44E-03	pCi/g
15-10091-03	DUP	CP1807S03-04	10/10/15 08:30	10/14/2015	10/30/2015	15-10091	Thorium-232	EML Th-01 Modified	1.44E+00	3.50E-01	3.73E-01	6.55E-02	1.13E-02	pCi/g
15-10091-04	DO	CP1807S03-04	10/10/15 08:30	10/14/2015	10/30/2015	15-10091	Thorium-232	EML Th-01 Modified	1.43E+00	3.52E-01	3.74E-01	6.40E-02	9.77E-03	pCi/g
15-10091-05	TRG	CP1807S05-06	10/10/15 08:40	10/14/2015	10/30/2015	15-10091	Thorium-232	EML Th-01 Modified	1.52E+00	3.65E-01	3.89E-01	5.03E-02	4.28E-03	pCi/g
15-10091-06	TRG	CP1807S08-09	10/10/15 08:50	10/14/2015	10/30/2015	15-10091	Thorium-232	EML Th-01 Modified	1.22E+00	2.73E-01	2.94E-01	3.84E-02	3.28E-03	pCi/g
15-10091-07	TRG	CP1807S11-12	10/10/15 09:00	10/14/2015	10/30/2015	15-10091	Thorium-232	EML Th-01 Modified	1.35E+00	3.52E-01	3.72E-01	5.64E-02	4.79E-03	pCi/g
15-10091-08	TRG	CP1807S13-14	10/10/15 09:10	10/14/2015	10/30/2015	15-10091	Thorium-232	EML Th-01 Modified	1.30E+00	3.05E-01	3.26E-01	4.42E-02	3.76E-03	pCi/g
15-10091-09	TRG	CP1807S16-17	10/10/15 09:20	10/14/2015	10/30/2015	15-10091	Thorium-232	EML Th-01 Modified	1.30E+00	3.35E-01	3.53E-01	6.76E-02	7.60E-04	pCi/g
15-10091-10	TRG	CP1807S18-19	10/10/15 09:30	10/14/2015	10/30/2015	15-10091	Thorium-232	EML Th-01 Modified	1.01E+00	2.87E-01	3.01E-01	5.07E-02	2.89E-03	pCi/g
15-10091-11	TRG	CP1807S20-21	10/10/15 09:40	10/14/2015	10/30/2015	15-10091	Thorium-232	EML Th-01 Modified	8.20E-01	2.15E-01	2.27E-01	5.35E-02	6.00E-04	pCi/g
15-10091-12	TRG	CP1807S22-23	10/10/15 09:50	10/14/2015	10/30/2015	15-10091	Thorium-232	EML Th-01 Modified	1.25E+00	2.94E-01	3.14E-01	3.79E-02	2.15E-03	pCi/g
15-10091-13	TRG	CP1805S03-04	10/10/15 10:00	10/14/2015	10/30/2015	15-10091	Thorium-232	EML Th-01 Modified	1.42E+00	3.62E-01	3.83E-01	6.93E-02	7.77E-04	pCi/g
15-10091-14	TRG	CP1805S05-06	10/10/15 10:10	10/14/2015	10/30/2015	15-10091	Thorium-232	EML Th-01 Modified	1.36E+00	3.36E-01	3.57E-01	6.37E-02	7.15E-04	pCi/g
15-10091-15	TRG	CP1805S08-09	10/10/15 10:20	10/14/2015	10/30/2015	15-10091	Thorium-232	EML Th-01 Modified	1.61E+00	4.00E-01	4.25E-01	6.16E-02	6.76E-03	pCi/g
15-10091-16	TRG	CP1805S11-12	10/10/15 10:30	10/14/2015	10/30/2015	15-10091	Thorium-232	EML Th-01 Modified	9.87E-01	2.36E-01	2.52E-01	6.88E-02	2.15E-02	pCi/g
15-10091-17	TRG	CP1805S13-14	10/10/15 10:40	10/14/2015	10/30/2015	15-10091	Thorium-232	EML Th-01 Modified	1.30E+00	3.27E-01	3.46E-01	6.08E-02	8.04E-03	pCi/g
15-10091-18	TRG	CP1805S15-16	10/10/15 10:50	10/14/2015	10/30/2015	15-10091	Thorium-232	EML Th-01 Modified	1.04E+00	2.56E-01	2.72E-01	8.05E-02	2.92E-02	pCi/g
15-10091-19	TRG	CP1805S18-19	10/10/15 11:00	10/14/2015	10/30/2015	15-10091	Thorium-232	EML Th-01 Modified	1.12E+00	3.15E-01	3.30E-01	6.61E-02	7.26E-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

Eberline Analytical
Final Report of Analysis

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

Work Order Details:

SDG:	15-10091
Project:	PAP-KAN
Analysis Category:	ENVIRONMENTAL
Sample Matrix:	SO

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10091-01	LCS	KNOWN	10/15/15 00:00	10/14/2015	11/2/2015	15-10091	Uranium-234	EML U-02 Modified	8.05E+00	2.90E-01				pCi/g
15-10091-01	LCS	SPIKE	10/15/15 00:00	10/14/2015	11/2/2015	15-10091	Uranium-234	EML U-02 Modified	6.95E+00	1.00E+00	1.12E+00	6.19E-02	5.02E-03	pCi/g
15-10091-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/2/2015	15-10091	Uranium-234	EML U-02 Modified	5.70E-03	3.33E-02	3.33E-02	7.54E-02	2.35E-02	pCi/g
15-10091-03	DUP	CP1807S03-04	10/10/15 08:30	10/14/2015	11/2/2015	15-10091	Uranium-234	EML U-02 Modified	1.40E+00	2.69E-01	2.87E-01	3.82E-02	3.10E-03	pCi/g
15-10091-04	DO	CP1807S03-04	10/10/15 08:30	10/14/2015	11/2/2015	15-10091	Uranium-234	EML U-02 Modified	1.36E+00	2.63E-01	2.80E-01	5.73E-02	1.08E-02	pCi/g
15-10091-05	TRG	CP1807S05-06	10/10/15 08:40	10/14/2015	11/2/2015	15-10091	Uranium-234	EML U-02 Modified	1.51E+00	2.87E-01	3.07E-01	4.54E-02	4.83E-03	pCi/g
15-10091-06	TRG	CP1807S08-09	10/10/15 08:50	10/14/2015	11/2/2015	15-10091	Uranium-234	EML U-02 Modified	1.04E+00	2.36E-01	2.47E-01	4.98E-02	5.29E-03	pCi/g
15-10091-07	TRG	CP1807S11-12	10/10/15 09:00	10/14/2015	11/2/2015	15-10091	Uranium-234	EML U-02 Modified	7.81E-01	1.89E-01	1.97E-01	4.52E-02	4.80E-03	pCi/g
15-10091-08	TRG	CP1807S13-14	10/10/15 09:10	10/14/2015	11/2/2015	15-10091	Uranium-234	EML U-02 Modified	1.06E+00	2.40E-01	2.51E-01	4.98E-02	5.31E-03	pCi/g
15-10091-09	TRG	CP1807S16-17	10/10/15 09:20	10/14/2015	11/2/2015	15-10091	Uranium-234	EML U-02 Modified	8.81E-01	2.16E-01	2.25E-01	5.96E-02	8.95E-03	pCi/g
15-10091-10	TRG	CP1807S18-19	10/10/15 09:30	10/14/2015	11/2/2015	15-10091	Uranium-234	EML U-02 Modified	7.82E-01	1.84E-01	1.92E-01	4.26E-02	4.54E-03	pCi/g
15-10091-11	TRG	CP1807S20-21	10/10/15 09:40	10/14/2015	11/2/2015	15-10091	Uranium-234	EML U-02 Modified	8.27E-01	2.16E-01	2.24E-01	6.45E-02	9.71E-03	pCi/g
15-10091-12	TRG	CP1807S22-23	10/10/15 09:50	10/14/2015	11/2/2015	15-10091	Uranium-234	EML U-02 Modified	6.24E-01	1.84E-01	1.90E-01	7.29E-02	1.37E-02	pCi/g
15-10091-13	TRG	CP1805S03-04	10/10/15 10:00	10/14/2015	11/2/2015	15-10091	Uranium-234	EML U-02 Modified	1.15E+00	2.53E-01	2.66E-01	5.04E-02	5.36E-03	pCi/g
15-10091-14	TRG	CP1805S05-06	10/10/15 10:10	10/14/2015	11/2/2015	15-10091	Uranium-234	EML U-02 Modified	1.08E+00	2.43E-01	2.55E-01	8.25E-02	2.46E-02	pCi/g
15-10091-15	TRG	CP1805S08-09	10/10/15 10:20	10/14/2015	11/2/2015	15-10091	Uranium-234	EML U-02 Modified	9.95E-01	2.15E-01	2.26E-01	4.69E-02	6.05E-03	pCi/g
15-10091-16	TRG	CP1805S11-12	10/10/15 10:30	10/14/2015	11/2/2015	15-10091	Uranium-234	EML U-02 Modified	1.02E+00	2.29E-01	2.40E-01	6.20E-02	1.17E-02	pCi/g
15-10091-17	TRG	CP1805S13-14	10/10/15 10:40	10/14/2015	11/2/2015	15-10091	Uranium-234	EML U-02 Modified	8.36E-01	2.08E-01	2.17E-01	4.43E-02	3.61E-03	pCi/g
15-10091-18	TRG	CP1805S15-16	10/10/15 10:50	10/14/2015	11/2/2015	15-10091	Uranium-234	EML U-02 Modified	1.11E+00	2.53E-01	2.65E-01	7.43E-02	1.66E-02	pCi/g
15-10091-19	TRG	CP1805S18-19	10/10/15 11:00	10/14/2015	11/2/2015	15-10091	Uranium-234	EML U-02 Modified	6.59E-01	1.71E-01	1.77E-01	6.13E-02	1.26E-02	pCi/g

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

Eberline Analytical
Final Report of Analysis

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

Work Order Details:
SDG: 15-10091
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10091-01	LCS	SPIKE	10/15/15 00:00	10/14/2015	11/2/2015	15-10091	Uranium-235	EML U-02 Modified	4.54E-01	1.86E-01	1.89E-01	7.64E-02	3.50E-03	pCi/g
15-10091-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/2/2015	15-10091	Uranium-235	EML U-02 Modified	-4.31E-03	3.45E-02	3.45E-02	9.30E-02	2.25E-02	pCi/g
15-10091-03	DUP	CP1807S03-04	10/10/15 08:30	10/14/2015	11/2/2015	15-10091	Uranium-235	EML U-02 Modified	7.51E-02	5.93E-02	5.96E-02	5.39E-02	3.71E-03	pCi/g
15-10091-04	DO	CP1807S03-04	10/10/15 08:30	10/14/2015	11/2/2015	15-10091	Uranium-235	EML U-02 Modified	1.20E-01	7.43E-02	7.48E-02	5.37E-02	3.71E-03	pCi/g
15-10091-05	TRG	CP1807S05-06	10/10/15 08:40	10/14/2015	11/2/2015	15-10091	Uranium-235	EML U-02 Modified	1.25E-01	7.75E-02	7.80E-02	5.60E-02	3.85E-03	pCi/g
15-10091-06	TRG	CP1807S08-09	10/10/15 08:50	10/14/2015	11/2/2015	15-10091	Uranium-235	EML U-02 Modified	2.98E-02	4.45E-02	4.46E-02	7.24E-02	7.75E-03	pCi/g
15-10091-07	TRG	CP1807S11-12	10/10/15 09:00	10/14/2015	11/2/2015	15-10091	Uranium-235	EML U-02 Modified	7.76E-02	6.13E-02	6.15E-02	5.57E-02	3.83E-03	pCi/g
15-10091-08	TRG	CP1807S13-14	10/10/15 09:10	10/14/2015	11/2/2015	15-10091	Uranium-235	EML U-02 Modified	7.06E-02	6.27E-02	6.29E-02	6.75E-02	6.01E-03	pCi/g
15-10091-09	TRG	CP1807S16-17	10/10/15 09:20	10/14/2015	11/2/2015	15-10091	Uranium-235	EML U-02 Modified	7.58E-02	6.91E-02	6.94E-02	8.59E-02	1.32E-02	pCi/g
15-10091-10	TRG	CP1807S18-19	10/10/15 09:30	10/14/2015	11/2/2015	15-10091	Uranium-235	EML U-02 Modified	4.21E-02	4.35E-02	4.36E-02	4.59E-02	2.11E-03	pCi/g
15-10091-11	TRG	CP1807S20-21	10/10/15 09:40	10/14/2015	11/2/2015	15-10091	Uranium-235	EML U-02 Modified	1.13E-01	8.41E-02	8.45E-02	8.46E-02	7.69E-04	pCi/g
15-10091-12	TRG	CP1807S22-23	10/10/15 09:50	10/14/2015	11/2/2015	15-10091	Uranium-235	EML U-02 Modified	1.12E-01	8.04E-02	8.08E-02	5.95E-02	2.73E-03	pCi/g
15-10091-13	TRG	CP1805S03-04	10/10/15 10:00	10/14/2015	11/2/2015	15-10091	Uranium-235	EML U-02 Modified	1.30E-01	8.58E-02	8.63E-02	7.80E-02	7.07E-04	pCi/g
15-10091-14	TRG	CP1805S05-06	10/10/15 10:10	10/14/2015	11/2/2015	15-10091	Uranium-235	EML U-02 Modified	1.02E-01	7.64E-02	7.68E-02	8.02E-02	1.12E-02	pCi/g
15-10091-15	TRG	CP1805S08-09	10/10/15 10:20	10/14/2015	11/2/2015	15-10091	Uranium-235	EML U-02 Modified	6.05E-02	5.37E-02	5.38E-02	5.78E-02	5.13E-03	pCi/g
15-10091-16	TRG	CP1805S11-12	10/10/15 10:30	10/14/2015	11/2/2015	15-10091	Uranium-235	EML U-02 Modified	4.86E-02	5.35E-02	5.36E-02	7.28E-02	6.60E-04	pCi/g
15-10091-17	TRG	CP1805S13-14	10/10/15 10:40	10/14/2015	11/2/2015	15-10091	Uranium-235	EML U-02 Modified	1.31E-02	3.63E-02	3.63E-02	7.84E-02	7.14E-04	pCi/g
15-10091-18	TRG	CP1805S15-16	10/10/15 10:50	10/14/2015	11/2/2015	15-10091	Uranium-235	EML U-02 Modified	5.77E-02	5.96E-02	5.98E-02	7.54E-02	8.10E-03	pCi/g
15-10091-19	TRG	CP1805S18-19	10/10/15 11:00	10/14/2015	11/2/2015	15-10091	Uranium-235	EML U-02 Modified	6.30E-02	5.59E-02	5.61E-02	6.02E-02	5.36E-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

Eberline Analytical
Final Report of Analysis

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

Work Order Details:
SDG: 15-10091
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10091-01	LCS	KNOWN	10/15/15 00:00	10/14/2015	11/2/2015	15-10091	Uranium-238	EML U-02 Modified	7.85E+00	2.82E-01				pCi/g
15-10091-01	LCS	SPIKE	10/15/15 00:00	10/14/2015	11/2/2015	15-10091	Uranium-238	EML U-02 Modified	7.20E+00	1.03E+00	1.15E+00	7.75E-02	8.70E-03	pCi/g
15-10091-02	MBL	BLANK	10/15/15 00:00	10/14/2015	11/2/2015	15-10091	Uranium-238	EML U-02 Modified	7.05E-03	3.83E-02	3.83E-02	8.33E-02	3.04E-02	pCi/g
15-10091-03	DUP	CP1807S03-04	10/10/15 08:30	10/14/2015	11/2/2015	15-10091	Uranium-238	EML U-02 Modified	1.91E+00	3.32E-01	3.59E-01	3.80E-02	2.27E-03	pCi/g
15-10091-04	DO	CP1807S03-04	10/10/15 08:30	10/14/2015	11/2/2015	15-10091	Uranium-238	EML U-02 Modified	1.56E+00	2.90E-01	3.10E-01	7.93E-02	2.70E-02	pCi/g
15-10091-05	TRG	CP1807S05-06	10/10/15 08:40	10/14/2015	11/2/2015	15-10091	Uranium-238	EML U-02 Modified	1.27E+00	2.57E-01	2.72E-01	5.66E-02	8.79E-03	pCi/g
15-10091-06	TRG	CP1807S08-09	10/10/15 08:50	10/14/2015	11/2/2015	15-10091	Uranium-238	EML U-02 Modified	1.08E+00	2.42E-01	2.54E-01	6.21E-02	8.22E-04	pCi/g
15-10091-07	TRG	CP1807S11-12	10/10/15 09:00	10/14/2015	11/2/2015	15-10091	Uranium-238	EML U-02 Modified	8.83E-01	2.04E-01	2.13E-01	3.93E-02	2.35E-03	pCi/g
15-10091-08	TRG	CP1807S13-14	10/10/15 09:10	10/14/2015	11/2/2015	15-10091	Uranium-238	EML U-02 Modified	9.10E-01	2.19E-01	2.28E-01	7.12E-02	1.50E-02	pCi/g
15-10091-09	TRG	CP1807S16-17	10/10/15 09:20	10/14/2015	11/2/2015	15-10091	Uranium-238	EML U-02 Modified	8.82E-01	2.17E-01	2.26E-01	8.42E-02	2.41E-02	pCi/g
15-10091-10	TRG	CP1807S18-19	10/10/15 09:30	10/14/2015	11/2/2015	15-10091	Uranium-238	EML U-02 Modified	9.31E-01	2.04E-01	2.15E-01	3.71E-02	2.22E-03	pCi/g
15-10091-11	TRG	CP1807S20-21	10/10/15 09:40	10/14/2015	11/2/2015	15-10091	Uranium-238	EML U-02 Modified	8.29E-01	2.16E-01	2.24E-01	7.50E-02	1.45E-02	pCi/g
15-10091-12	TRG	CP1807S22-23	10/10/15 09:50	10/14/2015	11/2/2015	15-10091	Uranium-238	EML U-02 Modified	7.75E-01	2.08E-01	2.16E-01	6.49E-02	8.74E-03	pCi/g
15-10091-13	TRG	CP1805S03-04	10/10/15 10:00	10/14/2015	11/2/2015	15-10091	Uranium-238	EML U-02 Modified	1.22E+00	2.62E-01	2.76E-01	4.38E-02	2.62E-03	pCi/g
15-10091-14	TRG	CP1805S05-06	10/10/15 10:10	10/14/2015	11/2/2015	15-10091	Uranium-238	EML U-02 Modified	1.20E+00	2.57E-01	2.71E-01	5.39E-02	6.08E-03	pCi/g
15-10091-15	TRG	CP1805S08-09	10/10/15 10:20	10/14/2015	11/2/2015	15-10091	Uranium-238	EML U-02 Modified	7.41E-01	1.79E-01	1.87E-01	5.01E-02	6.75E-03	pCi/g
15-10091-16	TRG	CP1805S11-12	10/10/15 10:30	10/14/2015	11/2/2015	15-10091	Uranium-238	EML U-02 Modified	1.03E+00	2.28E-01	2.39E-01	4.69E-02	4.11E-03	pCi/g
15-10091-17	TRG	CP1805S13-14	10/10/15 10:40	10/14/2015	11/2/2015	15-10091	Uranium-238	EML U-02 Modified	7.25E-01	1.91E-01	1.98E-01	5.05E-02	4.44E-03	pCi/g
15-10091-18	TRG	CP1805S15-16	10/10/15 10:50	10/14/2015	11/2/2015	15-10091	Uranium-238	EML U-02 Modified	7.86E-01	2.04E-01	2.11E-01	7.11E-02	1.38E-02	pCi/g
15-10091-19	TRG	CP1805S18-19	10/10/15 11:00	10/14/2015	11/2/2015	15-10091	Uranium-238	EML U-02 Modified	6.65E-01	1.71E-01	1.78E-01	6.10E-02	1.18E-02	pCi/g

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

SECTION V

ANALYTICAL STANDARD

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

U-8

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOLUTION

Radionuclide:	U-238NAT	Customer:	TMA EBERLINE
Half Life:	(4.468 ± 0.005) x 10^9 years	P.O.No.:	OR2778
Catalog No.:	7338	Reference Date:	January 1 1995 12:00 PST.
Source No.:	479-50	Contained Radioactivity:	(Total U) 8.016 μCi
		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 μCi/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).

ERIC, ERIC ALLAS
QUALITY CONTROL

29 DECEMBER 1994
Date Signed

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

00030

EBERLINE SERVICES

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

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

Radionuclide	$^{234, 235, 238}U$	Reference Date	1/1/1995 0:00
Certified Activity	8.016E+00	µCi	
Certified Concentration		µCi 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 HNO_3

Dilution Instructions: **Dilution Solvent Used** 1M HNO_3

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 _____ Date: 10/1/2015 0:00

QC Approval _____ Date: 10/1/15

EBERLINE SERVICES

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

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

Radionuclide of Interest: $^{234, 235, 238}U$
Parent Solution Conc.: 1.7796E+04 dpm/ml

Reference Date: 1/1/1995 0:00

Chemical Composition of Standard Solution
Uranly Nitrate in 1M HNO_3

Dilution Instructions:

Dilution Solvent Used: 1M HNO_3

SECONDARY VOLUMETRIC DILUTION

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

Final Activity Concentration: 7.1182E+01 dpm/ml

NOTES:

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

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 _____ Date: 10/1/2015 0:00

QC Approval _____ 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		5.35€ grams
	Volume of solution		5.035 millilitres
	Total activity of U-232		3.61E+04 becquerels
	which is equivalent to		9.76E-01 microcuries

Method of measurement (see reverse of this certificate)

Accuracy Random uncertainty is: ± 0.7% Systematic uncertainty: ± 0.5%
Overall uncertainty in the radioactive concentration quoted above: ± 1.7%
Overall uncertainty is defined on the reverse of this certificate.

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

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

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

Not measured

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

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

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

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

Approved Signatory

Roger Wiltshire

Project Ref. AE2315

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

EBERLINE SERVICES

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

$^{232}U(NO_3)_6$ in 2M HNO_3

Dilution Instructions: **Dilution Solvent Used** 2M HNO_3

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

EBERLINE SERVICES

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 92/232/67	Solution #	U-10a

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

Radionuclide of Interest: ^{232}U
Parent Solution Conc.: 2.167E+03 dpm/ml

Reference Date: 3/1/2000 0:00

Chemical Composition of Standard Solution
$^{232}U(NO_3)_6$ in 2M HNO_3

Dilution Instructions:

Dilution Solvent Used: 2M HNO_3

SECONDARY VOLUMETRIC DILUTION

Vol. Parent Solution: 10.0000 ml
Total Activity: 2.1670E+04 dpm
Final Volume: 1000.00 ml

Final Activity Concentration: 2.1670E+01 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.

NOTES:

Expiration Date: October 26, 2016

Verified & Approved By _____ Date: 10/27/2015 0:00

QC Approval _____ Date: 10/28/15

Th-8

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOLUTION

Radionuclide:	Th-232	Customer:	TMA EBERLINE
Half Life:	(1.405 ± 0.006) x 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 μCi.
		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(NO3)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 μCi/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).

Anna U. Khan
QUALITY CONTROL

Nov. 8, 1993
Date Signed

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

EBERLINE SERVICES

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

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

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

Radionuclide	$^{232\ \&\ 228}Th$	Reference Date	11/1/1993 0:00
Certified Activity	9.330E-02 µCi		
Certified Concentration		µCi 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

$Th(NO_3)_4$ 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 _____ Date: 9/29/2015 0:00

QC Approval _____ Date: 9/30/15

EBERLINE SERVICES

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

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

Principal Radionuclide	Half Life, Years	Half Life, Days
$^{228\ \&\ 232}Th$	1.405E+10	5.132E+12

Radionuclide of Interest $^{228\ \&\ 232}Th$
Parent Solution Conc. 2.07E+02 dpm/ml

Reference Date 11/1/1993 0:00

Chemical Composition of Standard Solution
$Th(NO_3)_4$ in 1% HNO_3

Dilution Instructions:

Dilution Solvent Used 1% Nitric Acid

SECONDARY VOLUMETRIC DILUTION

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

Final Activity Concentration: 1.0355E+02 dpm/ml

NOTES:

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

Expiration Date: August 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 MT 10/14/91 MT

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOLUTION

Received
OCT 14 1991
TMA/Eberline
Oak Ridge Lab

Radionuclide	Th-230	Customer:	TMA EBERLINE
Half Life:	(7.54 ± 0.03) x 10^4 years	P.O.No.:	TT4944
Catalog No.:	7230	Reference Date:	November 1 1991 12:00 PST.
Source No.:	388-116	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 μCi/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:	±2.0%
b. Random uncertainty in assay:	±0.5%
c. Random uncertainty in weighing(s):	±0.2%
d. Total uncertainty at the 99% confidence level:	±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)

QUALITY CONTROL

ISOTOPE PRODUCTS LABORATORIES
1800 No. Keystone Street.,
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EBERLINE SERVICES

QUALITY CONTROL PROGRAM

MP-009

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

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

CURRENT DATE 4/15/2015 0:00

SOLUTION REFERENCE # IPL 388-116 **SOLUTION #** Th-1

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

Radionuclide ^{230}Thorium
Certified Activity 1.036E+00 µCi
Certified Concentration µCi per gram

Reference Date 11/1/1991 0:00

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
$^{230}Th(NO_3)_4$ in 0.1N HNO_3

Dilution Instructions:

Dilution Solvent Used 0.1N HNO_3

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 _____ Date: 4/15/2015 0:00

QC Approval _____ Date: 4/15/15

EBERLINE SERVICES | 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

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

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

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

Chemical Composition of Standard Solution
$^{230}Th(NO_3)_4$ in 0.1N HNO_3

Dilution Instructions: **Dilution Solvent Used** 0.1N HNO_3

SECONDARY VOLUMETRIC DILUTION

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

Final Activity Concentration: 2.2999E+01 dpm/ml

NOTES:

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

Expiration Date: February 12, 2016

Recertified By _____ Date: 4/15/2015 0:00

QC Approval _____ Date: 4/15/15

Th-18

Isotope Products Laboratories
An Eckert & Ziegler Company

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661•309•1010
Fax 661•257•8303

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: (Th-229 only)**	1.013 µCi 37.48 kBq

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

EBERLINE SERVICES

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

CURRENT DATE 9/29/2015 0:00

SOLUTION REFERENCE # IPL 867-54 **SOLUTION #** Th-18

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

Radionuclide ^{229}Th
Certified Activity 1.013E+00 µCi
Certified Concentration µCi per gram

Reference Date 1/15/2002 0:00

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
$^{229}Th(NO_3)_4$ in 0.1M HNO_3

Dilution Instructions: **Dilution Solvent Used** 0.1 M HNO_3

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

EBERLINE SERVICES

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

	MP-009	Date	9/29/2015 0:00
Solution Reference #	IPL 867-54	Solution #	Th-18a

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

Radionuclide of Interest: ^{229}Th
Parent Solution Conc.: 2.25E+03 dpm/ml

Reference Date: 1/15/2002 0:00

Chemical Composition of Standard Solution
$TH(NO_3)_4$ in 0.1M HNO_3

Dilution Instructions:

Dilution Solvent Used: 0.1M HNO_3

SECONDARY VOLUMETRIC DILUTION

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

Final Activity Concentration: 2.2490E+01 dpm/ml

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.

NOTES:

Expiration Date: August 24, 2016

Verified & Approved By _____ Date: 9/29/2015 0:00

QC Approval _____ 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* γps/gram	This Source γps	Uncertainty* , % Type u_A	u_B	U	Calibration Method*
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	0.6	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 Form005 Rev. —

Corporate Office
24937 Avenue Tibbitts Valencia, California 91355

Laboratory
1380 Seaboard Industrial Blvd. Atlanta, Georgia, 30318

00045

SECTION VI

QUALITY CONTROL SAMPLE RESULTS SUMMARY

WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
15-10091	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		86.39%	16.05%	100.00%	3.60%	8.05E+00	2.90E-01	6.95E+00	1.12E+00	U-8a	3.52E+01	3.60E+00	5.07E-01
U-238		91.76%	15.96%	100.00%	3.60%	7.85E+00	2.82E-01	7.20E+00	1.15E+00	U-8a	3.44E+01	3.60E+00	5.07E-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

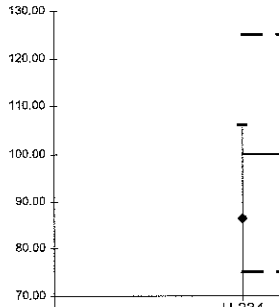
Analyte	*Normalized Difference*	*RPD*	*Original Result*	*Original CSU*	*Replicate Result*	*Replicate CSU*
U-234	0.21	3.08	1.36E+00	2.80E-01	1.40E+00	2.87E-01
U-238	1.45	20.27	1.56E+00	3.10E-01	1.91E+00	3.59E-01
U-235	0.91	45.69	1.20E-01	7.48E-02	7.51E-02	5.96E-02

QC Summary

LCS Relative Bias	*LCS % R*		*MS % R*	*MS ND*	*Rep RPD*	*Rep ND*
0.86	OK				OK	OK
0.92	OK				OK	OK
	OK				NA	OK

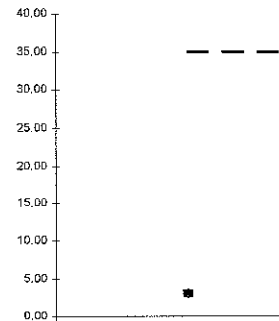
WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
15-10091	UUISO	1	pCi	g	Auxier & Associates, Inc.

LCS % Recovery



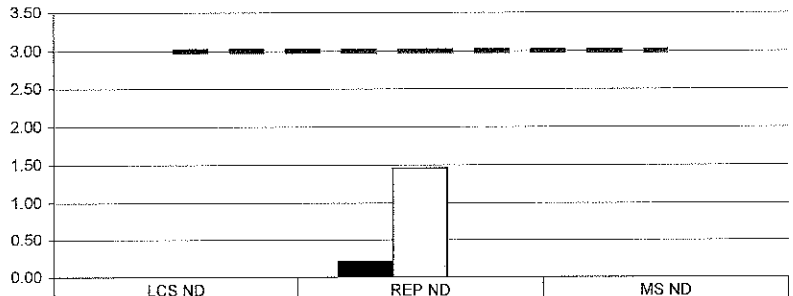
	U-234	U-238
Lower Error	66.74	72.20
Upper Error	106.04	111.32
%R	86.39	91.76
LCL	75	75
Mean	100	100
UCL	125	125

Replicate Sample RPD



	U-234	U-238	U-235
Lower Error	3.39	22.23	61.45
Upper Error	2.76	18.32	29.94
RPD	3.08	20.27	45.69
CL	35	35	35

Normalized Difference



	LCS ND	REP ND	MS ND
U-234	0.00	0.21	0.00
U-238	0.00	1.45	0.00
	0.00	0.00	0.00
UCL	3	3	3

No Matrix Spike

Version

WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
15-10091	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		104.50%	20.81%	100.00%	3.60%	4.70E+00	1.69E-01	4.91E+00	1.02E+00	Th-8b	1.04E+02	3.60E+00	1.01E-01
TH-230		119.82%	21.54%	100.00%	2.70%	5.32E+00	1.44E-01	6.37E+00	1.37E+00	Th-1b	2.35E+01	2.70E+00	5.02E-01
TH-232		104.30%	20.56%	100.00%	3.60%	4.70E+00	1.69E-01	4.90E+00	1.01E+00	Th-8b	1.04E+02	3.60E+00	1.01E-01

Matrix Spike

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

Replicate Sample

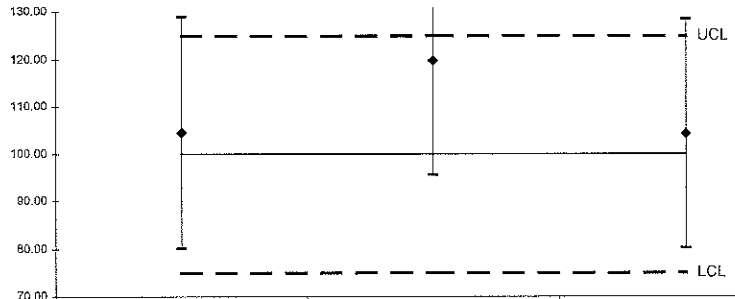
Analyte	*Normalized Difference*	*RPD*	*Original Result*	*Original CSU*	*Replicate Result*	*Replicate CSU*
TH-228	0.11	2.03	1.32E+00	3.55E-01	1.35E+00	3.57E-01
TH-230	0.00	0.03	2.10E+00	5.40E-01	2.10E+00	5.36E-01
TH-232	0.04	0.74	1.43E+00	3.74E-01	1.44E+00	3.73E-01

QC Summary

LCS Relative Bias	*LCS % R*		*MS % R*	*MS ND*	*Rep RPD*	*Rep ND*
1.05	OK				OK	OK
1.20	OK				OK	OK
1.04	OK				OK	OK

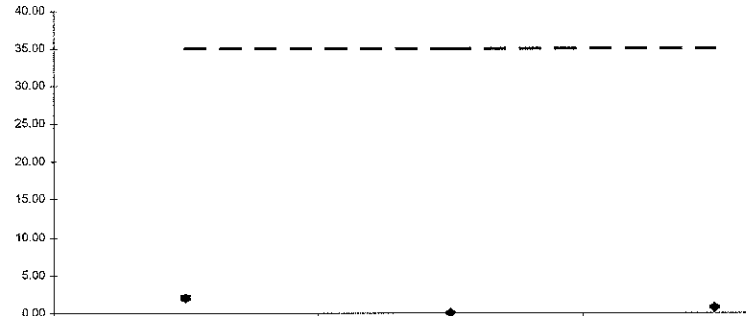
WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
15-10091	ThISO	1	pCi	g	Auxier & Associates, Inc.

LCS % Recovery



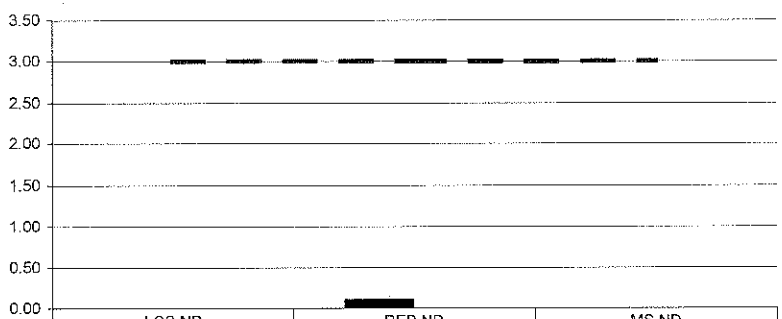
	TH-228	TH-230	TH-232
Lower Error	80.09	95.58	80.14
Upper Error	128.92	144.06	128.45
%R	104.50	119.82	104.30
LCL	75	75	75
Mean	100	100	100
UCL	125	125	125

Replicate Sample RPD



	TH-228	TH-230	TH-232
Lower Error	2.30	0.04	0.84
Upper Error	1.76	0.03	0.64
RPD	2.03	0.03	0.74
CL	35	35	35

Normalized Difference



	LCS ND	REP ND	MS ND
TH-228	0.00	0.11	0.00
TH-230	0.00	0.00	0.00
UCL	3	3	3

No Matrix Spike

WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
15-10091	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		100.09%	8.62%	100.00%	4.00%	1.37E+02	5.48E+00	1.37E+02	1.18E+01	GAS-1302	1.37E+02	5.48E+00	7.36E+02
CS-137		95.87%	10.93%	100.00%	4.00%	8.69E+01	3.48E+00	8.33E+01	9.11E+00	GAS-1302	8.69E+01	3.48E+00	7.36E+02

Matrix Spike

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

Replicate Sample

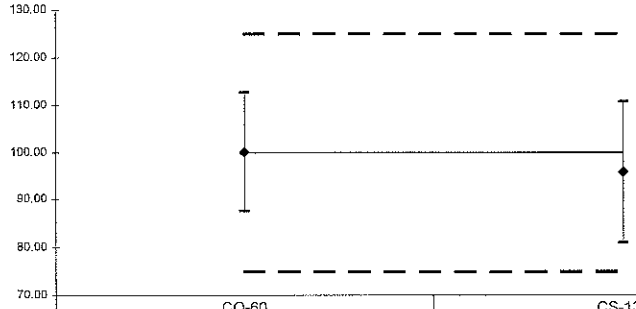
Analyte	*Normalized Difference*	*RPD*	*Original Result*	*Original CSU*	*Replicate Result*	*Replicate CSU*
AC-228	0.30	4.07	1.43E+00	2.60E-01	1.38E+00	2.73E-01
BI-214	0.07	0.59	1.95E+00	2.33E-01	1.96E+00	2.28E-01
K-40	0.16	1.58	1.85E+01	2.61E+00	1.82E+01	2.52E+00

QC Summary

LCS Relative Bias	*LCS % R*		*MS % R*	*MS ND*	*Rep RPD*	*Rep ND*
1.00	OK		<CS-137	AC-228>	OK	
0.96	OK		<CO-60	BI-214>	OK	OK
				K-40>	OK	OK

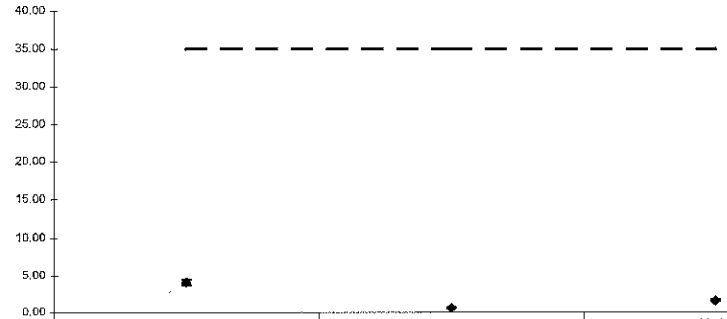
WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
15-10091	Gamma	1	pCi	g	Auxier & Associates, Inc.

LCS % Recovery



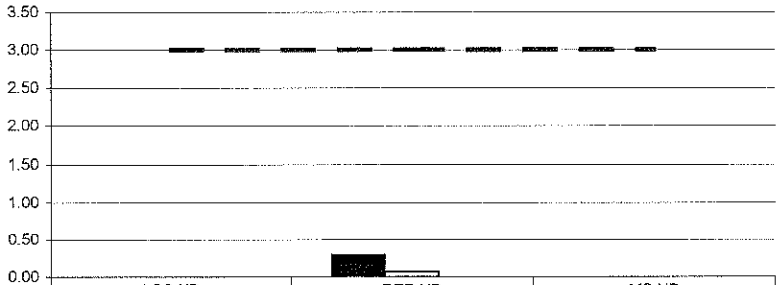
	CO-60	CS-137
Lower Error	87.47	80.94
Upper Error	112.70	110.80
%R	100.09	95.87
LCL	75	75
Mean	100	100
UCL	125	125

Replicate Sample RPD



	AC-228	BI-214	K-40
Lower Error	4.45	0.62	1.69
Upper Error	3.68	0.55	1.47
RPD	4.07	0.59	1.58
CL	35	35	35

Normalized Difference



	LCS ND	REP ND	MS ND
CO-60	0.00	0.30	0.00
CS-137	0.00	0.07	0.00
	0.00	0.00	0.00
UCL	3	3	3

No Matrix Spike

SECTION VII

LABORATORY TECHNICIAN'S NOTES & RUN LOGS

ISO U NOTES

EBERLINE SERVICES

Work Order Analysis Notes

Oak Ridge Laboratory
601 Scarboro Rd.
Oak Ridge, TN 37830
Voice: 865.481.0683
www.eberlineservices.com

Internal Work Order	15-10091
Analysis Code	UUISO
Run Number	1

#	Date	Dept	User	Notes
1	10/21/15 09:38	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 SERVICES

Work Order Analysis Notes

Oak Ridge Laboratory
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Voice: 865.481.0683
www.eberlineservices.com

Internal Work Order	15-10091
Analysis Code	UUISO
Run Number	1

#	Date	Dept	User	Notes
1	10/21/15 09:38	PREP	JPACHELLA	Samples were aliquoted, spiked and traced. Samples were digested with HF till dry. Samples were further digested in a mixed acid digestion till dry. Samples were submitted to separations.
2	10/29/15 17:51	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.

10/29/15

EBERLINE SERVICES

Work Order Analysis Notes

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Internal Work Order	15-10091
Analysis Code	UUISO
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#	Date	Dept	User	Notes
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2	10/29/15 17:51	CHEM	JDEMELAS	Added concentrated HCl to sample beakers and heated to dryness; Added 20 ml 8N HCL to samples and transferred to new, labeled C-Tubes, rinsing with 8N HCl to bring volume to ~35 ml; Preconditioned resin columns with 35 ml 8N HCl; Centrifuged samples and loaded onto columns; Rinsed C-Tubes with 20 ml 8N HCl, centrifuged as needed and loaded onto columns; Rinsed columns with 35 ml 8N HCl – 0.1N NH4I, 35 ml of 6.5N HCl – 0.04N HF, and 10 ml of 6.5N HCl; Eluted Uranium with 50 ml of 0.5N HCl into clean, labeled 100-ml beakers; Dried-down samples on hotplate; Dissolved samples in ~10 ml of concentrated HCl; Transferred to new, labeled C-Tubes with DI H2O. Set samples aside for later precipitation and filtering.
3	10/30/15 04:48	CHEM	TSMITH	Followed steps 12.1.7 to 12.4.5 in AP-005 . (Precipitated and filtered samples for Uranium)

10-30-15
JDM

EBERLINE SERVICES

Reagents Used in an Analysis

Internal Work Order: 15-10091

Analysis Code: UUISO

Run: 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	10/29/2015
016948S	HCl - HF	6.5N - 0.04N	JDEMELAS	10/29/2015
016745D03	Hydrochloric Acid	0.5N	JDEMELAS	10/29/2015
016803S	Hydrochloric Acid	6.5N	JDEMELAS	10/29/2015
016874P	Hydrochloric Acid	Reagent Grade	JDEMELAS	10/29/2015
016951S	Hydrochloric Acid	8N	JDEMELAS	10/29/2015
016956S	HCl - NH4I	8N - 0.1M	JDEMELAS	10/29/2015
016924S	Carbon substrate	Solution	TSMITH	10/30/2015
016569P	Hydrofluoric Acid	Reagent Grade	TSMITH	10/30/2015
016583S	Neodymium Carrier	1 mg/ml	TSMITH	10/30/2015
016514P	Reagent Alcohol	Reagent Grade	TSMITH	10/30/2015
016606P	Titanous Chloride	Reagent Grade	TSMITH	10/30/2015

Alpha #3

Date	Sample #	Client	Start Time	Count Time	Analyst	Tech
10/30/15	151009IA(6-19)	Auxiliary	1430	2hr00	UU	KB
10/30/15	System Bkgd	Lab	1725	16.40 hrs	"	KB
11/2	Daily Check	LAB	0510	"	"	"
11/2	151008GA(1-18)	Auxiliary	0828	2hr00	UU 250	"
11/2	151008GA(1-10)	Auxiliary	0829	2hr00	TU 250	"
11/2/15	151008GA(18)	Auxiliary	1124	2hr00	I50-Th	KB
11/2/15	151015A(1-4)	Washer	1125	2hr00	I50-Pu	KB
11/2/15	151009IA(1-19)	Auxiliary	1128	2hr00	UU	KB

ISO-TH NOTES

EBERLINE SERVICES

Work Order Analysis Notes

Oak Ridge Laboratory
601 Scarboro Rd.
Oak Ridge, TN 37830
Voice: 865.481.0683
www.eberlineservices.com

Internal Work Order	15-10091
Analysis Code	ThISO
Run Number	1

#	Date	Dept	User	Notes
1	10/21/15 09:39	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 SERVICES

Work Order Analysis Notes

Oak Ridge Laboratory
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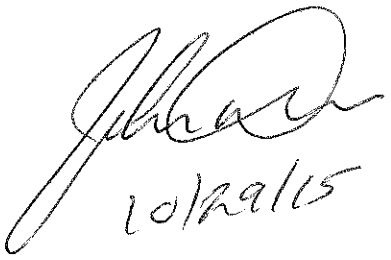
Oak Ridge, TN 37830
Voice: 865.481.0683
www.eberlineservices.com

Internal Work Order	15-10091
Analysis Code	ThISO
Run Number	1

#	Date	Dept	User	Notes
1	10/21/15 09:39	PREP	JPACHELLA	Samples were aliquoted, spiked and traced. Samples were digested with HF till dry. Samples were further digested in a mixed acid digestion till dry. Samples were submitted to separations.
2	10/29/15 17:51	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 deiononized water, bringing volume to ~15ml. Set samples aside for later precipitation and filtering.



EBERLINE SERVICES

Work Order Analysis Notes

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Oak Ridge, TN 37830
Voice: 865.481.0683
www.eberlineservices.com

Internal Work Order	15-10091
Analysis Code	ThISO
Run Number	1

#	Date	Dept	User	Notes
1	10/21/15 09:39	PREP	JPACHELLA	Samples were aliquoted, spiked and traced. Samples were digested with HF till dry. Samples were further digested in a mixed acid digestion till dry. Samples were submitted to separations.
2	10/29/15 17:51	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 deiononized water, bringing volume to ~15ml. Set samples aside for later precipitation and filtering.
3	10/30/15 04:49	CHEM	TSMITH	Followed steps 12.2.5 to 12.4.5 in AP-005 . (Precipitated and filtered samples for Thorium)

10-30-15

EBERLINE SERVICES

Reagents Used in an Analysis

Internal Work Order	
15-10091	
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
016862P	Anion Exchange Resin	Reagent Grade	JDEMELAS	10/29/2015
016874P	Hydrochloric Acid	Reagent Grade	JDEMELAS	10/29/2015
016516P	Nitric Acid	Reagent Grade	JDEMELAS	10/29/2015
016951S	Hydrochloric Acid	8N	JDEMELAS	10/29/2015
016952S	Nitric Acid	8N	JDEMELAS	10/29/2015
016924S	Carbon substrate	Solution	TSMITH	10/30/2015
016869S	Cerrium Carrier	0.1mg/ml	TSMITH	10/30/2015
016569P	Hydrofluoric Acid	Reagent Grade	TSMITH	10/30/2015
016514P	Reagent Alcohol	Reagent Grade	TSMITH	10/30/2015

Sample# 3

Date	Sample#	Client	Load Time	CT Time	Analyzer	
10/27	1510082A(1-2)	Ucon	0907	[illegible]	Th229	[illegible]
10/27/15	1510082A(3-4)	Ucon	1152	2hr00 ±	Th229	[illegible]
10/27/15	1510069A(1-4)	Unitech	1153	2hr00 ±	Np	[illegible]
10/27/15	1510069A(1-4)	Unitech	1153	2hr00 ±	UU	[illegible]
10/27/15	1510089A(1-7)	Auxier	1156	2hr00 ±	Iso-Th	[illegible]
10/28	Daily Pulser	LAB	0525	[illegible]	[illegible]	—
10/28	1510085A(4-20)	Auxier	0909	[illegible]	U U Zso	—
10/28	1510069A(1-5)	Unitech	0910	[illegible]	Pu Zso	—
10/28/15	1510071A(1-4)	Unitech	1207	2hr00 ±	Np	[illegible]
10/28/15	1510085A(1-20)	Auxier	1210	2hr00 ±	Iso-Th	[illegible]
10/28	1510150A(1-4)	SofND	1705	[illegible]	Rab	[illegible]
10/28/15	1510073A(1-7)	Accutest	1504	2hr00 ±	Ra	[illegible]
10/28/15	1510096A(1-4)	Seeney	1503	2hr00 ±	Ra	[illegible]
10/29	Daily Pulser	LAB	0515	[illegible]	[illegible]	—
10/29	1510088A(8-20)	Auxier	0826	[illegible]	U U Zso	—
10/29	1510088A(1-15)	Auxier	0826	[illegible]	Th Zso	—
10/29/15	1510145A(1-4)	Wastren	1123	2hr00 ±	UU	[illegible]
10/29/15	1510088A(16-20)	Auxier	1124	2hr00 ±	Iso-Th	[illegible]
10/30	Daily Pulser	LAB	0457	[illegible]	[illegible]	—
10/30	SEC(AC(1-48))	LAB	0515	[illegible]	NH	[illegible]
10/30	SEC(AC(49-60))	LAB	0749	[illegible]	NH	[illegible]
10/30	~~1510~~ 1510127A(4)	Ucon	0376	[illegible]	Am241	[illegible]
10/30	1510145A(1-4)	Wastren	0817	[illegible]	Am241	—
10/30	1510069A(1-4)	Unitech	0818	[illegible]	U U Zso	—
10/30	1510071A(1-4)	Unitech	0818	[illegible]	U U Zso	—
10/30	1510091A(1-7)	Auxier	0818	[illegible]	Th Zso	—

[illegible] 3

Date	Sample#	Client	Load Time	CT Time	Analyst	[illegible]
10/27	1510082A(1-2)	Ucon	0907	2h[illegible]	Th229	C
10/27/15	1510082A(3-4)	Ucon	1152	2hr50±	Th229	KB
10/27/15	1510069A(1-4)	Unitech	1153	2hr50±	Np	KB
10/27/15	1510069A(1-4)	Unitech	1153	2hr50±	UU	KB
10/27/15	1510089A(1-7)	Auxier	1156	2hr50±	Iso-Th	KB
10/28	Daily Purge	LAB	0525	—	[illegible]	—
10/28	1510085A(4-20)	Auxier	0909	2h[illegible]	UU Iso	—
10/28	1510069A(1-5)	Unitech	0910	2h[illegible]	Pu Iso	—
10/28/15	1510071A(1-4)	Unitech	1207	2hr50±	Np	KB
10/28/15	1510085A(1-20)	Auxier	1210	2hr50±	Iso-Th	KB
10/28	1510150A(1-4)	STofND	1705	2h[illegible]	Rad	C
10/28/15	1510073A(1-7)	Accutest	1504	2hr50±	Rad	KB
10/28/15	1510096A(1-4)	Seeney	1503	2hr50±	Rad	KB
10/29	Daily Purge	LAB	0515	—	[illegible]	—
10/29	1510088A(6-20)	Auxier	0826	2h[illegible]	UU Iso	—
10/29	1510088A(1-15)	Auxier	0826	2h[illegible]	Th Iso	—
10/29/15	1510145A(1-4)	Washren	1123	2hr50±	UU	KB
10/29/15	1510088A(16-20)	Auxier	1124	2hr50±	Iso-Th	KB
10/30	Daily Purge	LAB	0407	—	[illegible]	—
10/30	SGC CAL (1-48)	LAB	0715	2h[illegible]	NH	—
10/30	SGC CAL (49-60)	LAB	0749	2h[illegible]	NH	C
10/30	~~[illegible]~~ 1510127A(4)	Ucon	0836	2h[illegible]	Am241	—
10/30	1510145A(1-4)	Washren	0837	2h[illegible]	Am241	—
10/30	1510069A(1-4)	Unitech	0838	2h[illegible]	UU Iso	—
10/30	1510071A(1-4)	Unitech	0838	2h[illegible]	UU Iso	—
10/30	1510091A(1-7)	Auxier	0838	2h[illegible]	Th Iso	—
10/30	1510091A(4-9)	Auxier	1057	2h[illegible]	Iso Th	C
10/30	1510104A(1-6)	GEL	1057	2h[illegible]	Rad	C

Alphatt 3

Date	Sample #	Client	Load Time	CT Time	Analysis	Tech
10/27	1510082A(1-2)	Ucon	0903	2hr	Th229	C
10/27/15	1510082A(3-4)	Ucon	1152	2hr50 ÷	Th229	KB
10/27/15	1510069A(1-4)	Unitech	1153	2hr50 ÷	Np	KB
10/27/15	1510069A(1-4)	Unitech	1153	2hr50 ÷	UU	KB
10/27/15	1510089A(1-7)	Auxier	1156	2hr50 ÷	ISO-Th	KB
10/28	Daily Pulser	LAB	0525	1	NA	—
10/28	1510085A(4-20)	Auxier	0909	2hr	UU ISO	—
10/28	1510069A(1-5)	Unitech	0910	2hr	Pu ISO	—
10/28/15	1510071A(1-4)	Unitech	1207	2hr50 ÷	Np	KB
10/28/15	1510095A(1-20)	Auxier	1210	2hr50 ÷	ISO-Th	KB
10/28	1510150A(1-4)	STofND	1705	2hr	Rab	C
10/28/15	1510073A(1-7)	Accutest	1504	2hr50 ÷	Ra	KB
10/28/15	1510096A(1-4)	Searcy	1503	2hr50 ÷	Rab	KB
10/29	Daily Pulser	LAB	0515	1	NA	—
10/29	1510088A(6-20)	Auxier	0826	2hr	UU ISO	—
10/29	1510088A(1-15)	Auxier	0826	2hr	Th ISO	—
10/29/15	1510145A(1-4)	Wastren	1123	2hr50 ÷	UU	KB
10/29/15	1510088A(16-20)	Auxier	1124	2hr50 ÷	ISO-Th	KB
10/30	Daily Pulser	LAB	0407	1	NA	—
10/30	SEC AL (7249)	LAB	0515	2hr	NH	C
10/30	SEC CH (149 ω)	LAB	0749	2hr	AH	C
10/30	1510127A(4)	Ucon	0876	2hr	Am241	—
10/30	1510145A(1-4)	Wastren	0877	2hr	Am241	—
10/30	1510069A(1-4)	Unitech	0878	2hr	UU ISO	—
10/30	1510071A(1-4)	Unitech	0878	2hr	UU ISO	—
10/30	1510091A(1-7)	Auxier	0879	2hr	Th ISO	—
10/30	1510091A(4-9)	Auxier	1057	2hr	ISO Th	C
10/30	1510104A(1-6)	GRA	1057	2hr	Rab	C
10/30/15	1510091A(10-19)	Auxier	1133	2hr50 ÷	ISO-Th	KB
10/30/15	1510123A(1-4)	Ucon	1134	2hr50 ÷	Np	KB
10/30/15	1510123A(1-2)	Ucon	1135	2hr50 ÷	Rab	KB

GAMMA NOTES

GE 1

DATE	SAmple #	Client	Load Time	CT Time	Analysis	Tech
11/9/15	1510088-14	Auxier	1635	1 hr	✓	KB
11/9/15	1511030-01	TDX	1736	30mins	✓	KB
11/9/15	1511030-02	TDX	1907	1 hr	✓	KB
11/10/15	Daily Blgd	LAB	0603	15MIN	✓	AG
11/10/15	GAP-14	LAB	0621	15MIN	✓	AG
11/10/15	1510090-03	Auxier	0946	1 hr	✓	KB
11/10/15	1510090-04	Auxier	1049	1 hr	✓	KB
11/10/15	1510090-09	Auxier	1151	1 hr	✓	KB
11/10/15	1510090-13	Auxier	1253	1 hr	✓	KB
11/10/15	1511023-05	MPA	1353	15mins	Ba	KB
11/10/15	1511023-09	MPA	1408	15mins	Ba	KB
11/10/15	1510143-03	Kentucky	1424	15mins	Ba	KB
11/10/15	1511007-01	UCM	1439	15min	Ba	KB
11/10/15	1510091-05	Auxier	1456	1 hr	✓	KB
11/10/15	1510091-08	Auxier	1557	1 hr	✓	KB
11/10/15	1510091-11	Auxier	1658	1 hr	✓	KB
11/10/15	1510091-15	Auxier	1759	1 hr	✓	KB
11/11	CAL-14	LAB	0524	15	✓	
11/11	Daily B	LAB	0552	15	✓	
11/11	1510091-19	Auxier	0617	7L	✓	

GE 2

DATE	SAMPLE #	Client	LoadTime	CJTime	Analysis	Tech
11/10/15	1511030-09	TDX	0743	1 HR	γ	AC
11/10/15	1510090-05	Auxin	0946	1 hr	γ	KB
11/10/15	1510145-01	TDE	1049	15 min	Bc	KB
11/10/15	1510090-07	Auxin	1104	1 hr	γ	KB
11/10/15	1510090-11	Auxin	1207	1 hr	γ	KB
11/10/15	1510091-03	Auxin	1309	1 hr	γ	KB
11/10/15	1510091-04	Auxin	1409	1 hr	γ	KB
11/10/15	1510091-07	Auxin	1511	1 hr	γ	KB
11/10/15	1510091-10	Auxin	1612	1 hr	γ	KB
11/10/15	1510091-13	Auxin	1713	1 hr	γ	KB
11/10/15	1510091-17	Auxin	1814	1 hr	γ	KB

GE 3

DATE	SAmple #	Client	Load Time	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

GE 4

DATE	SAmple #	Client	Load Time	CT. Time	Analysis	Tech
11/9	GAW 14	LAB	0520	15	✓	[illegible]
11/9	Daily bkgd	LAB	0550	15	✓	[illegible]
11/9	1510087-06	Auxier	0609	1h	✓	—
11/9	1510087-08	Auxier	0712	1h	✓	—
11/9	1510087-11	Auxier	0816	1h	✓	—
11/9	1510087-14	Auxier	0917	1h	✓	—
11/9	1510087-17	Auxier	1021	1h	✓	—
11/9	1510088-07	Auxier	1122	1h	✓	[illegible]
11/9	1510088-04	Auxier	1225	1h	✓	[illegible]
11/9	1510089-02	Auxier	1328	1h	✓	—
11/9/15	1510088-02	Auxier	1429	1hr	γ	KB
11/9/15	1510088-01	Auxier	1530	30mins	γ	KB
11/9/15	1510088-11	Auxier	1602	1 hr	γ	KB
11/9/15	1510088-15	Auxier	1703	1hr	γ	KB
11/9/15	1510088-18	Auxier	1806	1hr	γ	KB
11/10/15	DAILY BKGD	LAB	0602	15 min	γ	AG
11/10/15	GAW-14	LAB	0622	15 min	γ	AG
11/10/15	1510090-02	Auxier	0946	1hr	γ	KB
11/10/15	1510167-03	TBE	1050	15mins	Ba	KB
11/10/15	1510167-05	TBE	1106	15 mins	Ba	KB
11/10/15	1510090-01	Auxier	1123	30mins	γ	KB
11/10/15	1510090-10	Auxier	1155	1hr	γ	KB
11/10/15	1510090-14	Auxier	1254	1hr	γ	KB
11/10/15	1511023-06	MPA	1307	15mins	Ba	KB
11/10/15	1511023-10	MPA	1410	15mins	Ba	KB
11/10/15	1510143-04	Kemmons	1429	15mins	Ba	KB
11/10/15	1511007-02	UCON	1445	15 mins	Ba	KB
11/10/15	1511022-01	Lockheed	1501	15mins	Ba	KB
11/10/15	1511022-03	Lockheed	1517	15 mins	Ba	KB
11/10/15	1511022-05	Lockheed	1533	15mins	Ba	KB
11/10/15	1510091-01	Auxier	1550	30mins	γ	KB
11/10/15	1510091-02	Auxier	1621	1 hr	γ	KB
11/10/15	1510091-14	Auxier	1722	1hr	γ	KB
11/10/15	1510091-18	Auxier	1823	1hr	γ	KB

SECTION VIII

ANALYTICAL DATA (ISOTOPIC URANIUM)

Work Order	15-10091
Analysis Code	UUISO
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	CP1807S03-04	36	10/10/15 08:30	1.5251E+00
04	DO	CP1807S03-04	36	10/10/15 08:30	1.5078E+00
05	TRG	CP1807S05-06	38	10/10/15 08:40	1.5063E+00
06	TRG	CP1807S08-09	35	10/10/15 08:50	1.5012E+00
07	TRG	CP1807S11-12	37	10/10/15 09:00	1.5152E+00
08	TRG	CP1807S13-14	33	10/10/15 09:10	1.5116E+00
09	TRG	CP1807S16-17	35	10/10/15 09:20	1.5209E+00
10	TRG	CP1807S18-19	36	10/10/15 09:30	1.5109E+00
11	TRG	CP1807S20-21	32	10/10/15 09:40	1.5066E+00
12	TRG	CP1807S22-23	36	10/10/15 09:50	1.5295E+00
13	TRG	CP1805S03-04	34	10/10/15 10:00	1.5090E+00
14	TRG	CP1805S05-06	35	10/10/15 10:10	1.5044E+00
15	TRG	CP1805S08-09	39	10/10/15 10:20	1.5798E+00
16	TRG	CP1805S11-12	41	10/10/15 10:30	1.5057E+00
17	TRG	CP1805S13-14	36	10/10/15 10:40	1.5045E+00
18	TRG	CP1805S15-16	41	10/10/15 10:50	1.5145E+00
19	TRG	CP1805S18-19	39	10/10/15 11:00	1.5153E+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	0.6545	12.2		0.00								
02	MBL	0.6518	12.1		0.00								
03	DUP	0.6517	12.1		0.00								
04	DO	0.6527	12.2		0.00								
05	TRG	0.6539	12.2		0.00								
06	TRG	0.6541	12.2		0.00								
07	TRG	0.6523	12.2		0.00								
08	TRG	0.6535	12.2		0.00								
09	TRG	0.6554	12.2		0.00								
10	TRG	0.6620	12.3		0.00								
11	TRG	0.6522	12.2		0.00								
12	TRG	0.6538	12.2		0.00								
13	TRG	0.6552	12.2		0.00								
14	TRG	0.6527	12.2		0.00								
15	TRG	0.6508	12.1		0.00								
16	TRG	0.6537	12.2		0.00								
17	TRG	0.6544	12.2		0.00								
18	TRG	0.6527	12.2		0.00								
19	TRG	0.6634	12.4		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 09:51	JPACHELLA				
02	MBL			10/21/15 09:51	JPACHELLA				
03	DUP			10/21/15 09:51	JPACHELLA				
04	DO	10/20/15 08:25	KSALLINGS	10/21/15 09:51	JPACHELLA				
05	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:51	JPACHELLA				
06	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:51	JPACHELLA				
07	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:51	JPACHELLA				
08	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:51	JPACHELLA				
09	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:51	JPACHELLA				
10	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:51	JPACHELLA				
11	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:51	JPACHELLA				
12	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:51	JPACHELLA				
13	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:51	JPACHELLA				
14	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:51	JPACHELLA				
15	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:51	JPACHELLA				
16	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:51	JPACHELLA				
17	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:51	JPACHELLA				
18	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:51	JPACHELLA				
19	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:51	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.

Preliminary Data Report & Analytical Calculations

Work Order: 15-10091-UUISO-1

Client: Auxier & Associates, Inc.
Eberline Services Work Order: 15-10091
Analysis Code: UUISO
Run: 1

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	6.95E+00	1.00E+00	6.19E-02	8.05E+00	86.39	OK		OK	
02	U-234	MBL	BLANK	pCi/g	5.70E-03	3.33E-02	7.54E-02					OK	OK
03	U-234	DUP	CP1807S03-04	pCi/g	1.40E+00	2.69E-01	3.82E-02				OK	OK	
04	U-234	DO	CP1807S03-04	pCi/g	1.36E+00	2.63E-01	5.73E-02					OK	
05	U-234	TRG	CP1807S05-06	pCi/g	1.51E+00	2.87E-01	4.54E-02					OK	
06	U-234	TRG	CP1807S08-09	pCi/g	1.04E+00	2.36E-01	4.98E-02					OK	
07	U-234	TRG	CP1807S11-12	pCi/g	7.81E-01	1.89E-01	4.52E-02					OK	
08	U-234	TRG	CP1807S13-14	pCi/g	1.06E+00	2.40E-01	4.98E-02					OK	
09	U-234	TRG	CP1807S16-17	pCi/g	8.81E-01	2.16E-01	5.96E-02					OK	
10	U-234	TRG	CP1807S18-19	pCi/g	7.82E-01	1.84E-01	4.26E-02					OK	
11	U-234	TRG	CP1807S20-21	pCi/g	8.27E-01	2.16E-01	6.45E-02					OK	
12	U-234	TRG	CP1807S22-23	pCi/g	6.24E-01	1.84E-01	7.29E-02					OK	
13	U-234	TRG	CP1805S03-04	pCi/g	1.15E+00	2.53E-01	5.04E-02					OK	
14	U-234	TRG	CP1805S05-06	pCi/g	1.08E+00	2.43E-01	8.25E-02					OK	
15	U-234	TRG	CP1805S08-09	pCi/g	9.95E-01	2.15E-01	4.69E-02					OK	
16	U-234	TRG	CP1805S11-12	pCi/g	1.02E+00	2.29E-01	6.20E-02					OK	
17	U-234	TRG	CP1805S13-14	pCi/g	8.36E-01	2.08E-01	4.43E-02					OK	
18	U-234	TRG	CP1805S15-16	pCi/g	1.11E+00	2.53E-01	7.43E-02					OK	
19	U-234	TRG	CP1805S18-19	pCi/g	6.59E-01	1.71E-01	6.13E-02					OK	

Preliminary Data Report & Analytical Calculations

Work Order: 15-10091-UUISO-1

Client	Eberline Services Work Order	Analysis Code	Run
Auxier & Associates, Inc.	15-10091	UUISO	1

Lab Fraction	Nuclide	Sample Desc	Sample Date	Sample Aliquot	Radiometric % Rec	Grav % Rec	Mean % Rec	SAF	Sep t0 Date/Time	Sep t1 Date/Time
01	U-234	LCS	10/15/15 00:00	1.00E+00	110.81	0.00	0.00			
02	U-234	MBL	10/15/15 00:00	1.50E+00	99.50	0.00	0.00			
03	U-234	DUP	10/10/15 08:30	1.53E+00	102.57	0.00	0.00			
04	U-234	DO	10/10/15 08:30	1.51E+00	103.32	0.00	0.00			
05	U-234	TRG	10/10/15 08:40	1.51E+00	106.90	0.00	0.00			
06	U-234	TRG	10/10/15 08:50	1.50E+00	85.06	0.00	0.00			
07	U-234	TRG	10/10/15 09:00	1.52E+00	100.96	0.00	0.00			
08	U-234	TRG	10/10/15 09:10	1.51E+00	95.73	0.00	0.00			
09	U-234	TRG	10/10/15 09:20	1.52E+00	92.99	0.00	0.00			
10	U-234	TRG	10/10/15 09:30	1.51E+00	119.39	0.00	0.00			
11	U-234	TRG	10/10/15 09:40	1.51E+00	90.59	0.00	0.00			
12	U-234	TRG	10/10/15 09:50	1.53E+00	98.40	0.00	0.00			
13	U-234	TRG	10/10/15 10:00	1.51E+00	116.93	0.00	0.00			
14	U-234	TRG	10/10/15 10:10	1.50E+00	112.28	0.00	0.00			
15	U-234	TRG	10/10/15 10:20	1.58E+00	117.16	0.00	0.00			
16	U-234	TRG	10/10/15 10:30	1.51E+00	123.06	0.00	0.00			
17	U-234	TRG	10/10/15 10:40	1.50E+00	114.61	0.00	0.00			
18	U-234	TRG	10/10/15 10:50	1.51E+00	103.45	0.00	0.00			
19	U-234	TRG	10/10/15 11:00	1.52E+00	117.67	0.00	0.00			

Client	Eberline Services Work Order	Analysis Code	Run
Auxier & Associates, Inc.	15-10091	UUISO	1

Lab Fraction	Nuclide	Sample Desc	Counting Date/Time	Halflife (days)	Detect	Carrier	Count Time	Counts	Bkg CPM	Eff
01	U-234	LCS	11/02/15 11:25		A_Spec	Alpha_038	170	4.69 E+02	1.00 E-03	16.2
02	U-234	MBL	11/02/15 11:25		A_Spec	Alpha_039	170	6.20 E-01	1.40 E-02	19.3
03	U-234	DUP	11/02/15 11:25		A_Spec	Alpha_040	170	1.53 E+02	1.00 E-03	18.6
04	U-234	DO	11/02/15 11:25		A_Spec	Alpha_041	170	1.49 E+02	6.00 E-03	18.7
05	U-234	TRG	11/02/15 11:25		A_Spec	Alpha_042	170	1.59 E+02	2.00 E-03	17.4
06	U-234	TRG	11/02/15 11:25		A_Spec	Alpha_043	170	9.97 E+01	2.00 E-03	20
07	U-234	TRG	11/02/15 11:25		A_Spec	Alpha_044	170	8.27 E+01	2.00 E-03	18.4
08	U-234	TRG	11/02/15 11:25		A_Spec	Alpha_045	170	1.02 E+02	2.00 E-03	17.6
09	U-234	TRG	11/02/15 11:25		A_Spec	Alpha_046	170	8.33 E+01	4.00 E-03	17.8
10	U-234	TRG	11/02/15 11:25		A_Spec	Alpha_047	170	8.77 E+01	2.00 E-03	16.5
11	U-234	TRG	11/02/15 11:25		A_Spec	Alpha_048	170	7.23 E+01	4.00 E-03	17
12	U-234	TRG	11/02/15 11:28		A_Spec	Alpha_049	170	5.40 E+01	6.00 E-03	15.3
13	U-234	TRG	11/02/15 11:28		A_Spec	Alpha_050	170	1.09 E+02	2.00 E-03	14.3
14	U-234	TRG	11/02/15 11:28		A_Spec	Alpha_051	170	1.05 E+02	1.30 E-02	15.2
15	U-234	TRG	11/02/15 11:28		A_Spec	Alpha_052	170	1.11 E+02	3.00 E-03	16.1
16	U-234	TRG	11/02/15 11:28		A_Spec	Alpha_053	170	1.04 E+02	6.00 E-03	14.6
17	U-234	TRG	11/02/15 11:28		A_Spec	Alpha_054	170	7.88 E+01	1.00 E-03	14.5
18	U-234	TRG	11/02/15 11:28		A_Spec	Alpha_055	170	1.03 E+02	8.00 E-03	15.6
19	U-234	TRG	11/02/15 11:28		A_Spec	Alpha_056	170	7.08 E+01	7.00 E-03	16

Preliminary Data Report & Analytical Calculations

Work Order: 15-10091-UUISO-1

Client: Auxier & Associates, Inc.
Eberline Services Work Order: 15-10091
Analysis Code: UUISO
Run: 1

Lab Fraction	Nuclide	Sample Desc	Client Identification	Activity Units	Results	Error Estimate	MDA	LCS Known	LCS %R	LCS Flag	RPD Flag	MDA Flag	Blank Flag
01	U-238	LCS	LCS	pCi/g	7.20E+00	1.03E+00	7.75E-02	7.85E+00	91.76	OK		OK	
02	U-238	MBL	BLANK	pCi/g	7.05E-03	3.83E-02	8.33E-02					OK	OK
03	U-238	DUP	CP1807S03-04	pCi/g	1.91E+00	3.32E-01	3.80E-02				OK	OK	
04	U-238	DO	CP1807S03-04	pCi/g	1.56E+00	2.90E-01	7.93E-02					OK	
05	U-238	TRG	CP1807S05-06	pCi/g	1.27E+00	2.57E-01	5.66E-02					OK	
06	U-238	TRG	CP1807S08-09	pCi/g	1.08E+00	2.42E-01	6.21E-02					OK	
07	U-238	TRG	CP1807S11-12	pCi/g	8.83E-01	2.04E-01	3.93E-02					OK	
08	U-238	TRG	CP1807S13-14	pCi/g	9.10E-01	2.19E-01	7.12E-02					OK	
09	U-238	TRG	CP1807S16-17	pCi/g	8.82E-01	2.17E-01	8.42E-02					OK	
10	U-238	TRG	CP1807S18-19	pCi/g	9.31E-01	2.04E-01	3.71E-02					OK	
11	U-238	TRG	CP1807S20-21	pCi/g	8.29E-01	2.16E-01	7.50E-02					OK	
12	U-238	TRG	CP1807S22-23	pCi/g	7.75E-01	2.08E-01	6.49E-02					OK	
13	U-238	TRG	CP1805S03-04	pCi/g	1.22E+00	2.62E-01	4.38E-02					OK	
14	U-238	TRG	CP1805S05-06	pCi/g	1.20E+00	2.57E-01	5.39E-02					OK	
15	U-238	TRG	CP1805S08-09	pCi/g	7.41E-01	1.79E-01	5.01E-02					OK	
16	U-238	TRG	CP1805S11-12	pCi/g	1.03E+00	2.28E-01	4.69E-02					OK	
17	U-238	TRG	CP1805S13-14	pCi/g	7.25E-01	1.91E-01	5.05E-02					OK	
18	U-238	TRG	CP1805S15-16	pCi/g	7.86E-01	2.04E-01	7.11E-02					OK	
19	U-238	TRG	CP1805S18-19	pCi/g	6.65E-01	1.71E-01	6.10E-02					OK	

Preliminary Data Report & Analytical Calculations

Work Order: 15-10091-UUISO-1

Run	Analysis Code	Eberline Services Work Order	Client
1	UUISO	15-10091	Auxier & Associates, Inc.

Lab Fraction	Nuclide	Sample Desc	Sample Date	Sample Aliquot	Radiometric % Rec	Grav % Rec	Mean % Rec	SAF	Sep t0 Date/Time	Sep t1 Date/Time
01	U-238	LCS	10/15/15 00:00	1.00E+00	110.81	0.00	0.00			
02	U-238	MBL	10/15/15 00:00	1.50E+00	99.50	0.00	0.00			
03	U-238	DUP	10/10/15 08:30	1.53E+00	102.57	0.00	0.00			
04	U-238	DO	10/10/15 08:30	1.51E+00	103.32	0.00	0.00			
05	U-238	TRG	10/10/15 08:40	1.51E+00	106.90	0.00	0.00			
06	U-238	TRG	10/10/15 08:50	1.50E+00	85.06	0.00	0.00			
07	U-238	TRG	10/10/15 09:00	1.52E+00	100.96	0.00	0.00			
08	U-238	TRG	10/10/15 09:10	1.51E+00	95.73	0.00	0.00			
09	U-238	TRG	10/10/15 09:20	1.52E+00	92.99	0.00	0.00			
10	U-238	TRG	10/10/15 09:30	1.51E+00	119.39	0.00	0.00			
11	U-238	TRG	10/10/15 09:40	1.51E+00	90.59	0.00	0.00			
12	U-238	TRG	10/10/15 09:50	1.53E+00	98.40	0.00	0.00			
13	U-238	TRG	10/10/15 10:00	1.51E+00	116.93	0.00	0.00			
14	U-238	TRG	10/10/15 10:10	1.50E+00	112.28	0.00	0.00			
15	U-238	TRG	10/10/15 10:20	1.58E+00	117.16	0.00	0.00			
16	U-238	TRG	10/10/15 10:30	1.51E+00	123.06	0.00	0.00			
17	U-238	TRG	10/10/15 10:40	1.50E+00	114.61	0.00	0.00			
18	U-238	TRG	10/10/15 10:50	1.51E+00	103.45	0.00	0.00			
19	U-238	TRG	10/10/15 11:00	1.52E+00	117.67	0.00	0.00			

Work Order: 15-10091-UUISO-1

Client: Auxier & Associates, Inc.
Eberline Services Work Order: 15-10091
Analysis Code: UUISO
Run: 1

Lab Fraction	Nuclide	Sample Desc	Counting Date/Time	Halflife (days)	Detect	Carrier	Count Time	Counts	Bkg CPM	Eff
01	U-238	LCS	11/02/15 11:25		A_Spec	Alpha_038	170	4.87 E+02	3.00 E-03	16.2
02	U-238	MBL	11/02/15 11:25		A_Spec	Alpha_039	170	7.70 E-01	1.90 E-02	19.3
03	U-238	DUP	11/02/15 11:25		A_Spec	Alpha_040	170	2.10 E+02	1.00 E-03	18.6
04	U-238	DO	11/02/15 11:25		A_Spec	Alpha_041	170	1.72 E+02	1.70 E-02	18.7
05	U-238	TRG	11/02/15 11:25		A_Spec	Alpha_042	170	1.34 E+02	5.00 E-03	17.4
06	U-238	TRG	11/02/15 11:25		A_Spec	Alpha_043	170	1.04 E+02	0.00 E+00	20
07	U-238	TRG	11/02/15 11:25		A_Spec	Alpha_044	170	9.38 E+01	1.00 E-03	18.4
08	U-238	TRG	11/02/15 11:25		A_Spec	Alpha_045	170	8.76 E+01	8.00 E-03	17.6
09	U-238	TRG	11/02/15 11:25		A_Spec	Alpha_046	170	8.38 E+01	1.30 E-02	17.8
10	U-238	TRG	11/02/15 11:25		A_Spec	Alpha_047	170	1.05 E+02	1.00 E-03	16.5
11	U-238	TRG	11/02/15 11:25		A_Spec	Alpha_048	170	7.28 E+01	7.00 E-03	17
12	U-238	TRG	11/02/15 11:28		A_Spec	Alpha_049	170	6.73 E+01	4.00 E-03	15.3
13	U-238	TRG	11/02/15 11:28		A_Spec	Alpha_050	170	1.16 E+02	1.00 E-03	14.3
14	U-238	TRG	11/02/15 11:28		A_Spec	Alpha_051	170	1.16 E+02	3.00 E-03	15.2
15	U-238	TRG	11/02/15 11:28		A_Spec	Alpha_052	170	8.33 E+01	4.00 E-03	16.1
16	U-238	TRG	11/02/15 11:28		A_Spec	Alpha_053	170	1.05 E+02	2.00 E-03	14.6
17	U-238	TRG	11/02/15 11:28		A_Spec	Alpha_054	170	6.87 E+01	2.00 E-03	14.5
18	U-238	TRG	11/02/15 11:28		A_Spec	Alpha_055	170	7.28 E+01	7.00 E-03	15.6
19	U-238	TRG	11/02/15 11:28		A_Spec	Alpha_056	170	7.18 E+01	7.00 E-03	16

Preliminary Data Report & Analytical Calculations

Work Order: 15-10091-UUISO-1

Client: Auxier & Associates, Inc.
Eberline Services Work Order: 15-10091
Analysis Code: UUISO
Run: 1

Lab Fraction	Nuclide	Sample Desc	Client Identification	Activity Units	Results	Error Estimate	MDA	LCS Known	LCS %R	LCS Flag	RPD Flag	MDA Flag	Blank Flag
01	U-235	LCS	LCS	pCi/g	4.54E-01	1.86E-01	7.64E-02					OK	
02	U-235	MBL	BLANK	pCi/g	-4.31E-03	3.45E-02	9.30E-02					OK	OK
03	U-235	DUP	CP1807S03-04	pCi/g	7.51E-02	5.93E-02	5.39E-02				NA	OK	
04	U-235	DO	CP1807S03-04	pCi/g	1.20E-01	7.43E-02	5.37E-02					OK	
05	U-235	TRG	CP1807S05-06	pCi/g	1.25E-01	7.75E-02	5.60E-02					OK	
06	U-235	TRG	CP1807S08-09	pCi/g	2.98E-02	4.45E-02	7.24E-02					OK	
07	U-235	TRG	CP1807S11-12	pCi/g	7.76E-02	6.13E-02	5.57E-02					OK	
08	U-235	TRG	CP1807S13-14	pCi/g	7.06E-02	6.27E-02	6.75E-02					OK	
09	U-235	TRG	CP1807S16-17	pCi/g	7.58E-02	6.91E-02	8.59E-02					OK	
10	U-235	TRG	CP1807S18-19	pCi/g	4.21E-02	4.35E-02	4.59E-02					OK	
11	U-235	TRG	CP1807S20-21	pCi/g	1.13E-01	8.41E-02	8.46E-02					OK	
12	U-235	TRG	CP1807S22-23	pCi/g	1.12E-01	8.04E-02	5.95E-02					OK	
13	U-235	TRG	CP1805S03-04	pCi/g	1.30E-01	8.58E-02	7.80E-02					OK	
14	U-235	TRG	CP1805S05-06	pCi/g	1.02E-01	7.64E-02	8.02E-02					OK	
15	U-235	TRG	CP1805S08-09	pCi/g	6.05E-02	5.37E-02	5.78E-02					OK	
16	U-235	TRG	CP1805S11-12	pCi/g	4.86E-02	5.35E-02	7.28E-02					OK	
17	U-235	TRG	CP1805S13-14	pCi/g	1.31E-02	3.63E-02	7.84E-02					OK	
18	U-235	TRG	CP1805S15-16	pCi/g	5.77E-02	5.96E-02	7.54E-02					OK	
19	U-235	TRG	CP1805S18-19	pCi/g	6.30E-02	5.59E-02	6.02E-02					OK	

Preliminary Data Report & Analytical Calculations

Work Order: 15-10091-UUISO-1

Client: Auxier & Associates, Inc.
Eberline Services Work Order: 15-10091
Analysis Code: UUISO
Run: 1

Lab Fraction	Nuclide	Sample Desc	Sample Date	Sample Aliquot	Radiometric % Rec	Grav % Rec	Mean % Rec	SAF	Sep t0 Date/Time	Sep t1 Date/Time
01	U-235	LCS	10/15/15 00:00	1.00E+00	110.81	0.00	0.00			
02	U-235	MBL	10/15/15 00:00	1.50E+00	99.50	0.00	0.00			
03	U-235	DUP	10/10/15 08:30	1.53E+00	102.57	0.00	0.00			
04	U-235	DO	10/10/15 08:30	1.51E+00	103.32	0.00	0.00			
05	U-235	TRG	10/10/15 08:40	1.51E+00	106.90	0.00	0.00			
06	U-235	TRG	10/10/15 08:50	1.50E+00	85.06	0.00	0.00			
07	U-235	TRG	10/10/15 09:00	1.52E+00	100.96	0.00	0.00			
08	U-235	TRG	10/10/15 09:10	1.51E+00	95.73	0.00	0.00			
09	U-235	TRG	10/10/15 09:20	1.52E+00	92.99	0.00	0.00			
10	U-235	TRG	10/10/15 09:30	1.51E+00	119.39	0.00	0.00			
11	U-235	TRG	10/10/15 09:40	1.51E+00	90.59	0.00	0.00			
12	U-235	TRG	10/10/15 09:50	1.53E+00	98.40	0.00	0.00			
13	U-235	TRG	10/10/15 10:00	1.51E+00	116.93	0.00	0.00			
14	U-235	TRG	10/10/15 10:10	1.50E+00	112.28	0.00	0.00			
15	U-235	TRG	10/10/15 10:20	1.58E+00	117.16	0.00	0.00			
16	U-235	TRG	10/10/15 10:30	1.51E+00	123.06	0.00	0.00			
17	U-235	TRG	10/10/15 10:40	1.50E+00	114.61	0.00	0.00			
18	U-235	TRG	10/10/15 10:50	1.51E+00	103.45	0.00	0.00			
19	U-235	TRG	10/10/15 11:00	1.52E+00	117.67	0.00	0.00			

Client: Auxier & Associates, Inc.
Eberline Services Work Order: 15-10091
Analysis Code: UUISO
Run: 1

Lab Fraction	Nuclide	Sample Desc	Counting Date/Time	Halflife (days)	Detect	Carrier	Count Time	Counts	Bkg CPM	Eff
01	U-235	LCS	11/02/15 11:25		A_Spec	Alpha_038	170	2.48 E+01	1.00 E-03	16.2
02	U-235	MBL	11/02/15 11:25		A_Spec	Alpha_039	170	-3.80 E-01	1.40 E-02	19.3
03	U-235	DUP	11/02/15 11:25		A_Spec	Alpha_040	170	6.66 E+00	2.00 E-03	18.6
04	U-235	DO	11/02/15 11:25		A_Spec	Alpha_041	170	1.07 E+01	2.00 E-03	18.7
05	U-235	TRG	11/02/15 11:25		A_Spec	Alpha_042	170	1.07 E+01	2.00 E-03	17.4
06	U-235	TRG	11/02/15 11:25		A_Spec	Alpha_043	170	2.32 E+00	4.00 E-03	20
07	U-235	TRG	11/02/15 11:25		A_Spec	Alpha_044	170	6.66 E+00	2.00 E-03	18.4
08	U-235	TRG	11/02/15 11:25		A_Spec	Alpha_045	170	5.49 E+00	3.00 E-03	17.6
09	U-235	TRG	11/02/15 11:25		A_Spec	Alpha_046	170	5.81 E+00	7.00 E-03	17.8
10	U-235	TRG	11/02/15 11:25		A_Spec	Alpha_047	170	3.83 E+00	1.00 E-03	16.5
11	U-235	TRG	11/02/15 11:25		A_Spec	Alpha_048	170	8.00 E+00	0.00 E+00	17
12	U-235	TRG	11/02/15 11:28		A_Spec	Alpha_049	170	7.83 E+00	1.00 E-03	15.3
13	U-235	TRG	11/02/15 11:28		A_Spec	Alpha_050	170	1.00 E+01	0.00 E+00	14.3
14	U-235	TRG	11/02/15 11:28		A_Spec	Alpha_051	170	7.98 E+00	6.00 E-03	15.2
15	U-235	TRG	11/02/15 11:28		A_Spec	Alpha_052	170	5.49 E+00	3.00 E-03	16.1
16	U-235	TRG	11/02/15 11:28		A_Spec	Alpha_053	170	4.00 E+00	0.00 E+00	14.6
17	U-235	TRG	11/02/15 11:28		A_Spec	Alpha_054	170	1.00 E+00	0.00 E+00	14.5
18	U-235	TRG	11/02/15 11:28		A_Spec	Alpha_055	170	4.32 E+00	4.00 E-03	15.6
19	U-235	TRG	11/02/15 11:28		A_Spec	Alpha_056	170	5.49 E+00	3.00 E-03	16

Count Room Report
Client: Auxier Associates, Inc.

15-10091-UUISO-1 (pCi/g) in SO
Tracer ID: U-10a

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	0.6545	12.1999		0.00		
02	MBL	BLANK	10/15/15 00:00	1.5000	0.6518	12.1496		0.00		
03	DUP	CP1807S03-04	10/10/15 08:30	1.5251	0.6517	12.1477		0.00		
04	DO	CP1807S03-04	10/10/15 08:30	1.5078	0.6527	12.1663		0.00		
05	TRG	CP1807S05-06	10/10/15 08:40	1.5063	0.6539	12.1887		0.00		
06	TRG	CP1807S08-09	10/10/15 08:50	1.5012	0.6541	12.1924		0.00		
07	TRG	CP1807S11-12	10/10/15 09:00	1.5152	0.6523	12.1589		0.00		
08	TRG	CP1807S13-14	10/10/15 09:10	1.5116	0.6535	12.1812		0.00		
09	TRG	CP1807S16-17	10/10/15 09:20	1.5209	0.6554	12.2167		0.00		
10	TRG	CP1807S18-19	10/10/15 09:30	1.5109	0.6620	12.3397		0.00		
11	TRG	CP1807S20-21	10/10/15 09:40	1.5066	0.6522	12.1570		0.00		
12	TRG	CP1807S22-23	10/10/15 09:50	1.5295	0.6538	12.1868		0.00		
13	TRG	CP1805S03-04	10/10/15 10:00	1.5090	0.6552	12.2129		0.00		
14	TRG	CP1805S05-06	10/10/15 10:10	1.5044	0.6527	12.1663		0.00		
15	TRG	CP1805S08-09	10/10/15 10:20	1.5798	0.6508	12.1309		0.00		
16	TRG	CP1805S11-12	10/10/15 10:30	1.5057	0.6537	12.1850		0.00		
17	TRG	CP1805S13-14	10/10/15 10:40	1.5045	0.6544	12.1980		0.00		
18	TRG	CP1805S15-16	10/10/15 10:50	1.5145	0.6527	12.1663		0.00		
19	TRG	CP1805S18-19	10/10/15 11:00	1.5153	0.6634	12.3658		0.00		

Spike and Tracer Worksheet

Internal Work Order	Run	Analysis Code	Date	Technician	Technician Initials	Witness Initials
15-10091	1	UUISO	10/21/2015 9:41	JPACHELLA	JPP	

LCS & Matrix Spikes					LCS	MS	LCSD	MSD	LCS		MS		LCSD		MSD	
Isotope	Sol #	Activity dpm/g	Solution Date	Approx Addition	Volume Used (g)	Volume Used (g)	Volume Used (g)	Volume Used (g)	Known pCi	Error Estimate	Added pCi	Error Estimate	Known pCi	Error Estimate	Added pCi	Error Estimate
U-234	U-8a	35.240	10/21/2015	0.500	0.5071				8.05	0.290	0.00	0.000	0.00	0.000	0.00	0.000
U-238	U-8a	34.350	10/21/2015	0.500	0.5071				7.85	0.282	0.00	0.000	0.00	0.000	0.00	0.000
Tc-99 MS	Tc-2a	22043.636	7/5/2014	0.1												

Tracers

fraction	Isotope	Sol #	Activity dpm/g	Solution Date	Volume Used (g)	Approx Addition
01	U-232	U-10a	18.640	10/21/2015	0.6545	0.6500
02	U-232	U-10a	18.640	10/21/2015	0.6518	0.6500
03	U-232	U-10a	18.640	10/21/2015	0.6517	0.6500
04	U-232	U-10a	18.640	10/21/2015	0.6527	0.6500
05	U-232	U-10a	18.640	10/21/2015	0.6539	0.6500
06	U-232	U-10a	18.640	10/21/2015	0.6541	0.6500
07	U-232	U-10a	18.640	10/21/2015	0.6523	0.6500
08	U-232	U-10a	18.640	10/21/2015	0.6535	0.6500
09	U-232	U-10a	18.640	10/21/2015	0.6554	0.6500
10	U-232	U-10a	18.640	10/21/2015	0.6620	0.6500
11	U-232	U-10a	18.640	10/21/2015	0.6522	0.6500
12	U-232	U-10a	18.640	10/21/2015	0.6538	0.6500
13	U-232	U-10a	18.640	10/21/2015	0.6552	0.6500
14	U-232	U-10a	18.640	10/21/2015	0.6527	0.6500
15	U-232	U-10a	18.640	10/21/2015	0.6508	0.6500
16	U-232	U-10a	18.640	10/21/2015	0.6537	0.6500
17	U-232	U-10a	18.640	10/21/2015	0.6544	0.6500
18	U-232	U-10a	18.640	10/21/2015	0.6527	0.6500
19	U-232	U-10a	18.640	10/21/2015	0.6634	0.6500

Balance Printer Tapes

Tracer	LCS

Matrix Spike

Eberline Analytical
Oak Ridge Laboratory

Aliquot Worksheet

Work Order	Run	Analysis Code	Rpt Units	Lab Deadline	Technician
15-10091	1	UUISO	grams	11/5/2015	JPACHELLA

Lab Fraction	Auxier & Associates, Inc. Client ID	Sample Type	Muffle Data Ratio Post/Pre	Dilution Data No of Dils	Dil Factor	Ratio	Aliquot Data Aliquot	Net Equiv	MS Aliquot Data Aliquot	Net Equiv	H-3 Solids Only Water Added (ml)	H3 Dist Aliq
01	LCS	LCS				1.00E+00	1.0000E+00	1.0000E+00				
02	BLANK	MBL				1.00E+00	1.5000E+00	1.5000E+00				
03	CP1807S03-04	DUP				1.00E+00	1.5251E+00	1.5251E+00				
04	CP1807S03-04	DO				1.00E+00	1.5078E+00	1.5078E+00				
05	CP1807S05-06	TRG				1.00E+00	1.5063E+00	1.5063E+00				
06	CP1807S08-09	TRG				1.00E+00	1.5012E+00	1.5012E+00				
07	CP1807S11-12	TRG				1.00E+00	1.5152E+00	1.5152E+00				
08	CP1807S13-14	TRG				1.00E+00	1.5116E+00	1.5116E+00				
09	CP1807S16-17	TRG				1.00E+00	1.5209E+00	1.5209E+00				
10	CP1807S18-19	TRG				1.00E+00	1.5109E+00	1.5109E+00				
11	CP1807S20-21	TRG				1.00E+00	1.5066E+00	1.5066E+00				
12	CP1807S22-23	TRG				1.00E+00	1.5295E+00	1.5295E+00				
13	CP1805S03-04	TRG				1.00E+00	1.5090E+00	1.5090E+00				
14	CP1805S05-06	TRG				1.00E+00	1.5044E+00	1.5044E+00				
15	CP1805S08-09	TRG				1.00E+00	1.5798E+00	1.5798E+00				
16	CP1805S11-12	TRG				1.00E+00	1.5057E+00	1.5057E+00				
17	CP1805S13-14	TRG				1.00E+00	1.5045E+00	1.5045E+00				
18	CP1805S15-16	TRG				1.00E+00	1.5145E+00	1.5145E+00				
19	CP1805S18-19	TRG				1.00E+00	1.5153E+00	1.5153E+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
15-10091	11/5/2015	10/19/2015	10/20/2015	10/21/2015	KSALLINGS

Eberline	Auxier & Associates, Inc.	Tare (g)	Gross (g)		Net (g)		Percent		Gamma		Special Info
Fraction	Client ID	Pan Wt	Wet Wt.	Dry Wt.	Wet Wt.	Dry Wt.	Liquid	Solid	Dry Wt.	LEPS Wt.	
04	CP1807S03-04	14.3900	1144.5800	936.4600	1130.1900	922.0700	18.41%	81.59%	0.0000	0.0000	
05	CP1807S05-06	14.4400	828.9600	673.1200	814.5200	658.6800	19.13%	80.87%	0.0000	0.0000	
06	CP1807S08-09	14.4700	1081.0400	877.7400	1066.5700	863.2700	19.06%	80.94%	0.0000	0.0000	
07	CP1807S11-12	14.4200	955.6000	769.8300	941.1800	755.4100	19.74%	80.26%	0.0000	0.0000	
08	CP1807S13-14	14.4100	1185.5200	942.8800	1171.1100	928.4700	20.72%	79.28%	0.0000	0.0000	
09	CP1807S16-17	14.3600	817.4400	646.2900	803.0800	631.9300	21.31%	78.69%	0.0000	0.0000	
10	CP1807S18-19	14.3800	1251.1400	1047.0400	1236.7600	1032.6600	16.50%	83.50%	0.0000	0.0000	
11	CP1807S20-21	14.3500	1142.5200	932.9400	1128.1700	918.5900	18.58%	81.42%	0.0000	0.0000	
12	CP1807S22-23	14.3200	1366.9000	1110.1200	1352.5800	1095.8000	18.98%	81.02%	0.0000	0.0000	
13	CP1805S03-04	28.7900	1475.8800	1196.3400	1447.0900	1167.5500	19.32%	80.68%	0.0000	0.0000	
14	CP1805S05-06	14.3100	753.5200	612.3200	739.2100	598.0100	19.10%	80.90%	0.0000	0.0000	
15	CP1805S08-09	14.3400	845.8200	692.5600	831.4800	678.2200	18.43%	81.57%	0.0000	0.0000	
16	CP1805S11-12	14.4400	886.2400	719.4300	871.8000	704.9900	19.13%	80.87%	0.0000	0.0000	
17	CP1805S13-14	14.3900	990.3000	816.0400	975.9100	801.6500	17.86%	82.14%	0.0000	0.0000	
18	CP1805S15-16	14.3200	1094.6800	923.0800	1080.3600	908.7600	15.88%	84.12%	0.0000	0.0000	
19	CP1805S18-19	14.3600	1053.8200	866.3400	1039.4600	851.9800	18.04%	81.96%	0.0000	0.0000	

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

00089

Technician: Kerry Sey Date:**Analysis: Rough Prep Logbook**

KO 11/2/15

Apex-Alpha™

Sample Description: SPIKE
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001329
Batch Identification: 1510091A-UU
Sample Identification: 01
Sample Geometry: Shelf 2
Procedure Description: U iso

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

Sample Size: 1.000E+000 +/- 0.000E+000 gram
Sample Date/Time: 11/2/2015 10:14:38 AM
Acquisition Date/Time: 11/2/2015 11:25:32 AM
Acquisition Live Time: 170.0 minutes
Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
Tracer Quantity: 0.655 mL
Effective Efficiency: 0.1790 +/- 0.0102
Counting Efficiency: 0.1615 +/- 0.0029 on 10/25/2014 2:50:18 PM
Chem. Recovery Factor: 1.1081 +/- 0.0661

Control Certificate Name: NatU_U-8A
Chem. Recov. of Control: U-238 0.894475 +/- 0.070426
Peak Match Tolerance: 0.150 MeV

PEAK AREA REPORT

Nuclide		Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T	5.291	368.66	10.21	0.34	0.00E+000	31.7
U-234		4.741	468.83	9.05	0.17	0.00E+000	23.8
U-235		4.384	24.83	39.49	0.17	0.00E+000	6.0
U-238		4.161	487.49	8.88	0.51	0.00E+000	44.5

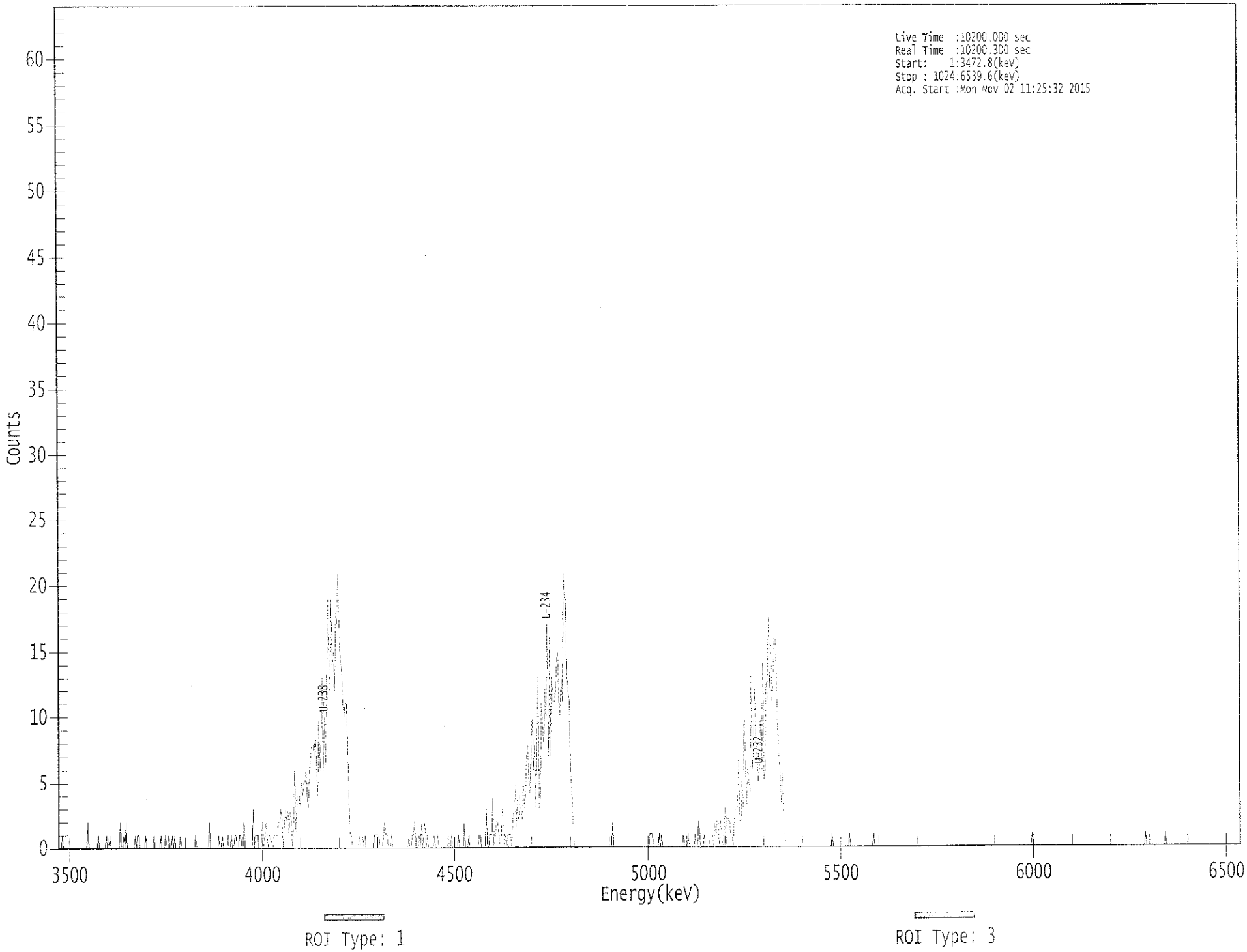
T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.999	5302.50*	5.47E+000 +/- 6.11E-001	7.09E-002 +/- 7.92E-003
U-234	0.997	4761.50*	6.95E+000 +/- 1.00E+000	6.19E-002 +/- 6.91E-003
U-235	1.000	4385.50*	4.54E-001 +/- 1.86E-001	7.64E-002 +/- 8.53E-003
U-238	0.996	4184.40*	7.20E+000 +/- 1.03E+000	7.75E-002 +/- 8.65E-003

AG
11/2/15

0000132913.CNF



T5008:

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

Sample Title: 01

Elapsed Live time: 10200
Elapsed Real Time: 10200

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

369:	0	0	3	0	0	1	1	1

Sample Title: 01

Channel								
377:	4	0	1	2	2	1	0	0
385:	3	2	0	1	0	1	1	1
393:	0	2	3	5	1	4	2	4
401:	3	2	5	3	4	7	8	5
409:	4	8	10	6	8	3	8	13
417:	3	4	11	9	8	12	10	17
425:	7	16	7	13	11	11	12	14
433:	15	11	10	13	11	21	19	19
441:	13	12	11	6	4	2	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	2
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	1
513:	1	1	0	0	0	0	0	1
521:	0	1	0	0	0	0	0	0
529:	0	0	0	0	0	0	0	0
537:	0	0	0	0	1	0	0	0
545:	1	0	0	0	0	0	1	0
553:	0	2	1	0	0	0	1	0
561:	0	0	0	1	1	1	0	2
569:	1	2	2	0	2	1	0	1
577:	3	0	3	2	2	1	1	0
585:	2	3	3	3	7	2	2	5
593:	3	10	7	3	6	5	4	13
601:	6	8	12	8	7	5	6	10
609:	6	15	5	6	13	11	18	12
617:	16	11	12	16	16	13	9	7
625:	6	3	6	1	1	0	0	0
633:	0	0	0	0	0	0	0	0
641:	0	0	0	0	0	0	0	0
649:	0	0	0	0	0	0	0	0
657:	0	0	0	0	0	0	0	0
665:	0	0	0	0	0	1	0	0
673:	0	0	0	0	0	0	0	0
681:	0	0	0	0	1	0	0	0
689:	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	0
705:	0	1	0	0	0	0	0	0
713:	0	0	0	0	0	0	0	0
721:	0	0	0	0	0	0	0	0
729:	0	0	0	0	0	0	0	0
737:	0	0	0	0	0	0	0	0
745:	0	0	0	0	0	0	0	0
753:	0	0	0	0	0	0	0	0
761:	0	0	0	0	0	0	0	0
769:	0	0	0	0	0	0	0	0
777:	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	0	0

801:	0	0	0	0	0	0	0	0

Sample Title: 01

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	1	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	1	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	1	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	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: BLANK
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001329
Batch Identification: 1510091A-UU
Sample Identification: 02
Sample Geometry: Shelf 2
Procedure Description: U iso

Detector Name: Alpha_039
Chamber Serial Number: 06027396A
Detector Serial Number: 83109
Env. Background: System Bkgd 133269
Reagent Blank: <not performed>

Sample Size: 1.500E+000 +/- 0.000E+000 gram
Sample Date/Time: 11/2/2015 10:14:38 AM
Acquisition Date/Time: 11/2/2015 11:25:34 AM
Acquisition Live Time: 170.0 minutes
Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
Tracer Quantity: 0.652 mL
Effective Efficiency: 0.1925 +/- 0.0107
Counting Efficiency: 0.1934 +/- 0.0034 on 10/25/2014 2:53:34 PM
Chem. Recovery Factor: 0.9950 +/- 0.0579

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	5.293	394.77	9.91	3.23	0.00E+000	25.3
U-234		4.732	0.62	583.31	2.38	0.00E+000	3.0
U-235		4.475	-0.38	799.82	2.38	0.00E+000	3.0
U-238		4.222	0.77	542.91	3.23	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	0.999	5302.50*	3.63E+000 +/- 3.95E-001	8.37E-002 +/- 9.12E-003
U-234	0.994	4761.50*	5.70E-003 +/- 3.33E-002	7.54E-002 +/- 8.21E-003
U-235	0.944	4385.50*	-4.31E-003 +/- 3.45E-002	9.30E-002 +/- 1.01E-002
U-238	0.990	4184.40*	7.05E-003 +/- 3.83E-002	8.33E-002 +/- 9.08E-003

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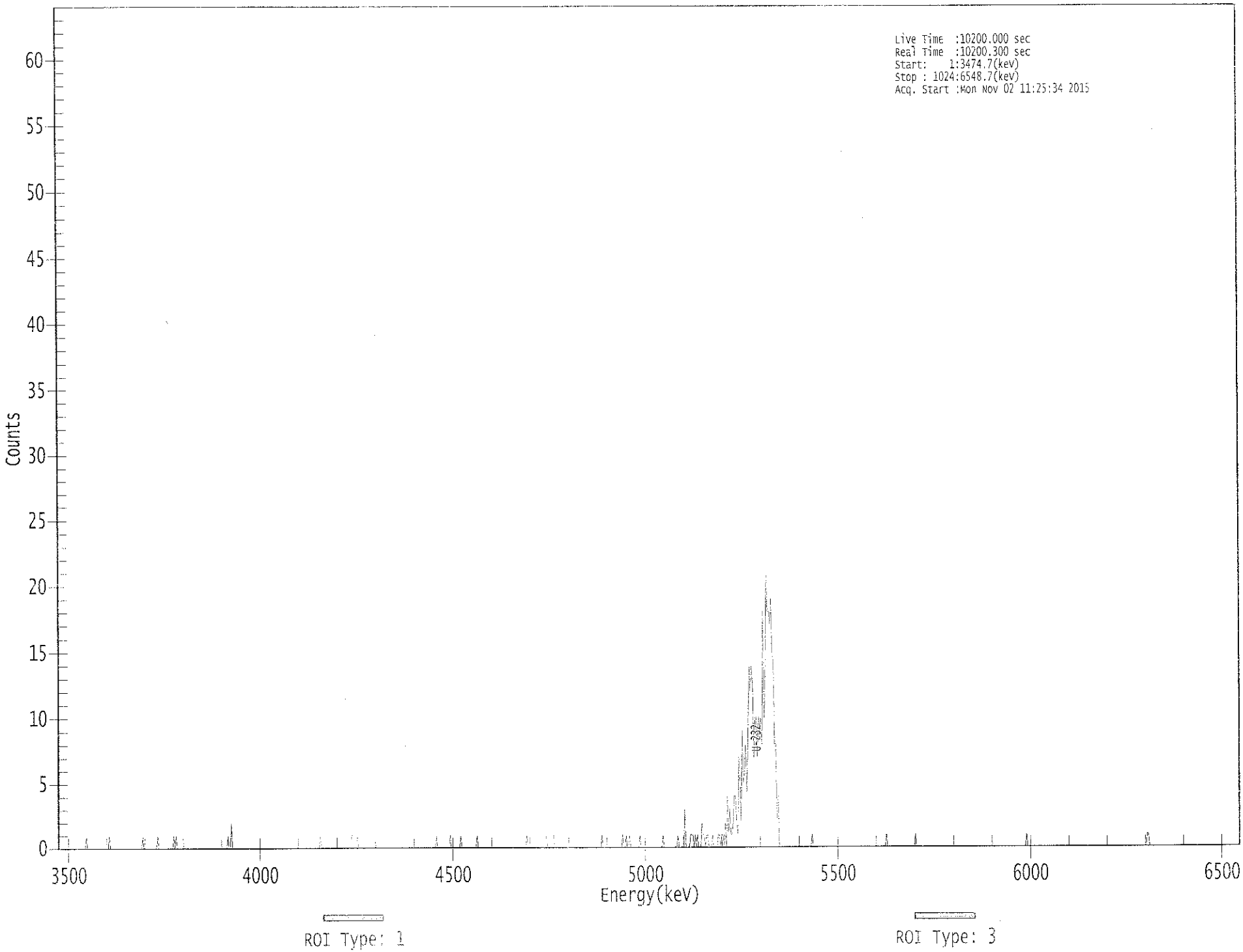
0000132914.CNF



****
***** 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
9:	0	0	0	0	0	0	0	0
17:	0	0	0	0	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	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	1	0	0	0	0	0	0
81:	0	0	0	0	0	0	1	0
89:	0	0	0	0	0	0	0	0
97:	0	0	0	0	1	0	1	0
105:	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0
121:	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0
137:	0	0	0	0	0	0	0	0
145:	0	0	0	1	0	0	2	0
153:	0	0	0	0	0	0	0	0
161:	0	0	0	0	0	0	0	0
169:	0	0	0	0	0	0	0	0
177:	0	0	0	0	0	0	0	0
185:	0	0	0	0	0	0	0	0
193:	0	0	0	0	0	0	0	0
201:	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0
217:	0	0	0	0	0	0	0	0
225:	0	0	0	1	0	0	0	0
233:	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	1	1
257:	0	0	0	1	0	0	0	0
265:	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	0
297:	0	0	0	0	0	0	0	0
305:	0	0	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	0
321:	0	0	0	0	0	0	0	1
329:	0	0	0	0	0	0	0	0
337:	0	0	0	1	0	0	0	0
345:	0	0	0	0	1	0	0	0
353:	0	0	0	0	0	0	0	0
361:	0	0	1	0	0	0	0	0

369:	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	0	0	0	1	0	0
409:	0	0	0	0	0	0	0	0
417:	0	0	0	0	0	0	1	0
425:	0	0	0	0	1	0	0	0
433:	0	0	0	0	0	0	0	0
441:	0	0	0	0	0	0	0	0
449:	0	0	0	0	0	0	0	0
457:	0	0	0	0	0	0	0	0
465:	0	0	0	0	0	0	1	0
473:	0	0	0	0	0	0	0	0
481:	0	0	0	0	0	0	0	0
489:	1	0	0	1	0	0	1	0
497:	0	0	0	0	0	0	0	1
505:	0	0	0	0	0	0	0	0
513:	0	0	0	0	0	0	0	0
521:	0	0	0	1	0	0	0	0
529:	0	0	0	0	0	0	0	0
537:	1	0	0	0	0	0	3	0
545:	0	0	0	1	1	1	0	1
553:	0	1	0	0	0	2	1	1
561:	0	1	1	0	0	0	1	0
569:	0	0	0	1	1	0	1	1
577:	0	2	0	4	1	3	1	1
585:	2	4	4	2	1	7	5	2
593:	9	5	6	8	4	8	14	12
601:	14	12	7	10	10	7	10	9
609:	10	8	18	10	13	21	18	18
617:	17	19	15	14	8	8	2	4
625:	0	0	0	0	0	0	0	0
633:	0	0	0	0	0	0	0	0
641:	0	0	0	0	0	0	0	0
649:	0	0	0	0	1	0	0	0
657:	0	0	0	0	0	0	0	0
665:	0	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	0
705:	0	0	0	0	0	0	0	0
713:	0	0	0	0	1	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	1	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	1	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	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	1
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

KB 11-1-15

Apex-Alpha™

Sample Description: CP1807S03-04-DUP
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001329
Batch Identification: 1510091A-UU
Sample Identification: 03
Sample Geometry: Shelf 2
Procedure Description: U iso

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

Sample Size: 1.525E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 10:14:38 AM
Acquisition Date/Time: 11/2/2015 11:25:36 AM
Acquisition Live Time: 170.0 minutes
Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
Tracer Quantity: 0.652 mL
Effective Efficiency: 0.1903 +/- 0.0106
Counting Efficiency: 0.1856 +/- 0.0032 on 10/25/2014 2:57:14 PM
Chem. Recovery Factor: 1.0257 +/- 0.0598

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	5.279	390.32	9.93	0.68	0.00E+000	24.9
U-234		4.735	152.83	15.86	0.17	0.00E+000	6.1
U-235		4.350	6.66	78.18	0.34	0.00E+000	3.0
U-238		4.153	209.83	13.54	0.17	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)
U-232	0.996	5302.50*	3.57E+000 +/- 3.90E-001	5.16E-002 +/- 5.63E-003
U-234	0.995	4761.50*	1.40E+000 +/- 2.69E-001	3.82E-002 +/- 4.16E-003
U-235	0.991	4385.50*	7.51E-002 +/- 5.93E-002	5.39E-002 +/- 5.88E-003
U-238	0.993	4184.40*	1.91E+000 +/- 3.32E-001	3.80E-002 +/- 4.15E-003

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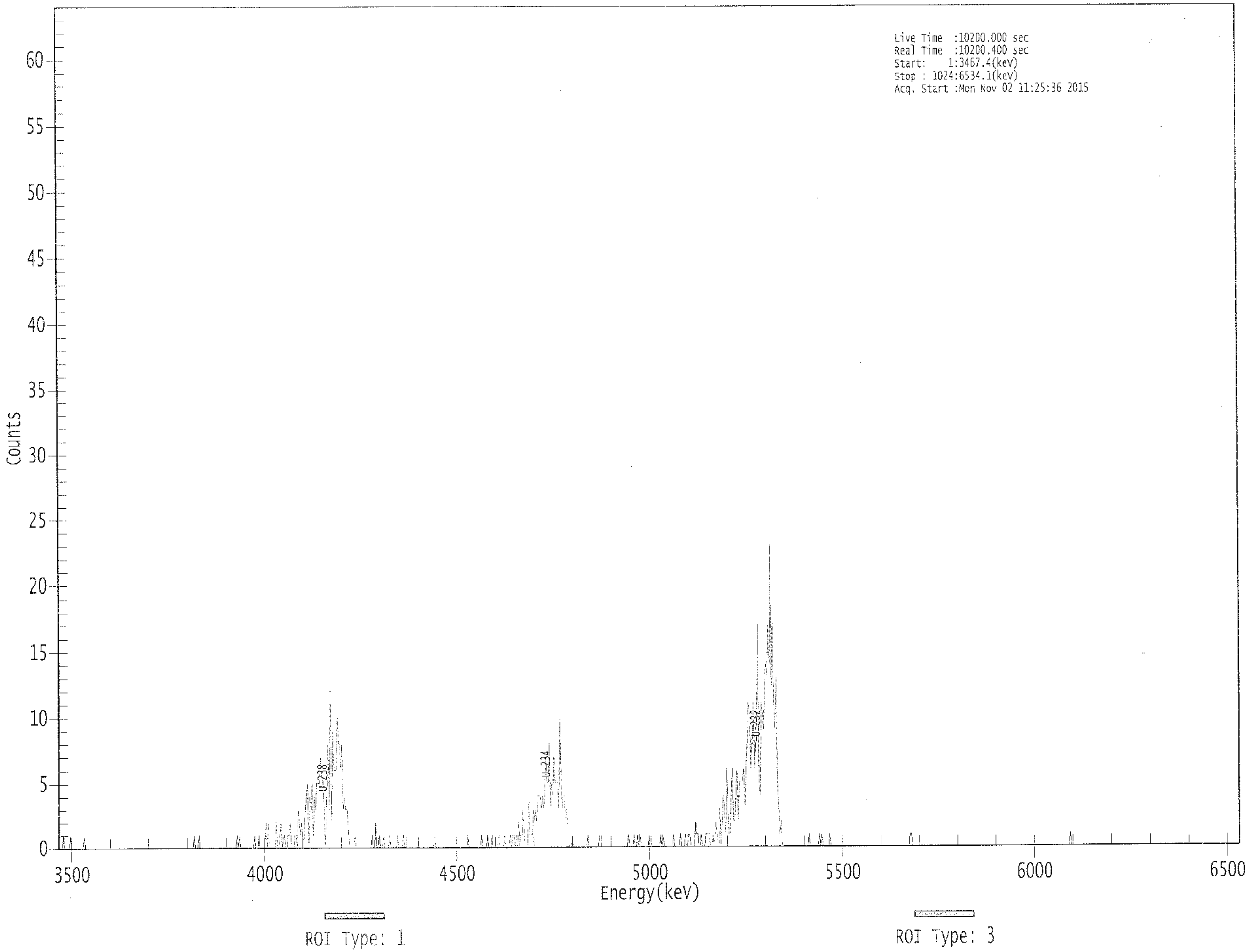
0000132915.CNF



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

Sample Title: 03

Elapsed Live time: 10200
Elapsed Real Time: 10200

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

369:	0	0	0	1	0	0	0	1

Sample Title: 03

Channel								
377:	0	0	0	0	0	1	0	0
385:	0	0	1	0	0	0	0	1
393:	0	1	1	0	1	0	2	0
401:	1	1	3	1	0	0	0	4
409:	1	1	1	3	2	3	2	4
417:	4	4	3	4	3	4	7	5
425:	5	8	3	5	4	7	5	5
433:	5	3	10	6	3	4	4	2
441:	3	1	0	0	0	1	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	1	1	0	0
473:	0	0	0	0	0	0	0	0
481:	0	0	0	0	0	0	0	0
489:	0	0	0	0	0	1	0	0
497:	0	0	1	0	0	1	0	1
505:	0	0	0	0	0	0	0	1
513:	1	0	0	0	0	0	0	0
521:	0	1	0	1	0	0	0	0
529:	0	0	0	0	1	0	0	0
537:	0	0	1	0	0	0	1	0
545:	0	1	1	0	0	0	0	2
553:	1	1	0	0	1	0	0	0
561:	1	1	1	1	0	0	1	0
569:	1	2	0	0	3	0	2	4
577:	3	1	6	3	1	1	4	6
585:	2	2	4	6	2	5	5	5
593:	5	6	3	6	8	11	10	6
601:	8	11	6	8	8	17	5	4
609:	11	10	9	13	14	13	17	14
617:	23	12	17	11	9	13	5	3
625:	1	2	0	0	0	0	0	0
633:	0	0	0	0	0	0	0	0
641:	0	0	0	0	0	0	0	0
649:	0	1	0	0	0	0	0	0
657:	0	0	1	0	1	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	1	1	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: 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	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	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™

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Sample Description: CP1807S03-04
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001329
Batch Identification: 1510091A-UU
Sample Identification: 04
Sample Geometry: Shelf 2
Procedure Description: U iso

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

Sample Size: 1.508E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 10:14:38 AM
Acquisition Date/Time: 11/2/2015 11:25:38 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: 0.1935 +/- 0.0107
Counting Efficiency: 0.1873 +/- 0.0033 on 10/25/2014 3:00:28 PM
Chem. Recovery Factor: 1.0332 +/- 0.0598

Peak Match Tolerance: 0.150 MeV

PEAK AREA REPORT

Nuclide		Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T	5.280	397.49	9.84	0.51	0.00E+000	22.6
U-234		4.732	148.98	16.12	1.02	0.00E+000	13.0
U-235		4.402	10.66	61.14	0.34	0.00E+000	3.0
U-238		4.159	172.11	15.09	2.89	0.00E+000	18.0

T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.996	5302.50*	3.62E+000 +/- 3.92E-001	4.78E-002 +/- 5.17E-003
U-234	0.994	4761.50*	1.36E+000 +/- 2.63E-001	5.73E-002 +/- 6.20E-003
U-235	0.998	4385.50*	1.20E-001 +/- 7.43E-002	5.37E-002 +/- 5.81E-003
U-238	0.995	4184.40*	1.56E+000 +/- 2.90E-001	7.93E-002 +/- 8.59E-003

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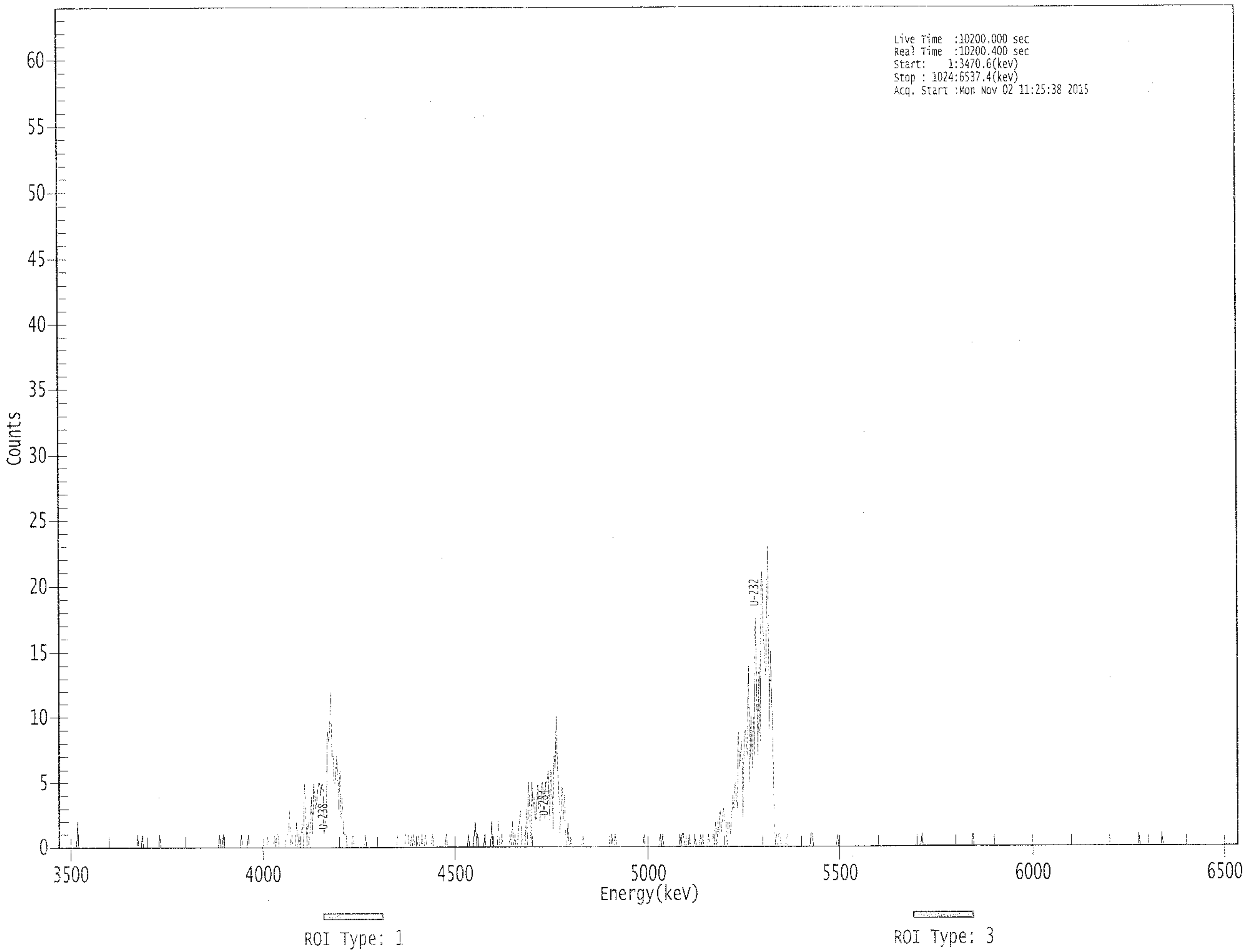
0000132923.CNF



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

369:	0	1	0	0	0	0	0	2

Sample Title: 04

Channel								
377:	0	0	0	0	0	2	0	0
385:	1	0	0	0	0	0	0	1
393:	0	2	0	1	0	0	1	2
401:	3	0	1	1	0	3	0	5
409:	3	0	5	3	4	2	2	5
417:	3	2	4	5	4	2	5	5
425:	6	2	6	5	1	7	6	10
433:	6	5	1	3	5	2	4	1
441:	0	2	0	0	0	0	0	0
449:	0	0	0	0	0	0	1	0
457:	0	0	0	0	0	0	0	0
465:	0	0	0	0	0	0	0	0
473:	0	0	0	0	0	0	0	1
481:	0	0	1	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	1	0	0	0	0
513:	0	0	0	0	0	0	0	0
521:	0	1	0	1	0	0	0	0
529:	0	0	0	0	0	0	0	0
537:	0	0	1	0	1	1	0	0
545:	0	0	1	0	0	0	0	1
553:	0	0	0	0	1	0	1	0
561:	0	0	0	1	0	0	0	1
569:	0	2	0	2	1	3	1	2
577:	3	2	2	0	2	2	1	2
585:	4	3	5	4	3	9	6	7
593:	8	2	8	9	8	7	14	5
601:	10	6	10	7	18	12	7	14
609:	8	20	21	16	15	13	18	23
617:	9	15	12	8	3	0	1	0
625:	1	1	0	0	0	0	0	1
633:	0	0	0	0	0	0	0	0
641:	0	0	0	0	0	0	0	0
649:	0	0	0	0	1	1	0	0
657:	0	0	0	0	0	0	0	0
665:	0	0	0	0	0	0	0	0
673:	0	0	0	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	1	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:	1	0	0	0	0	0	0	0

801:	0	0	0	0	0	0	0	0

Sample Title: 04

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	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:	1	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	1	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

Apex-Alpha™

KB 11/2/15

Sample Description: CP1807S05-06
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001329
Batch Identification: 1510091A-UU
Sample Identification: 05
Sample Geometry: Shelf 2
Procedure Description: U iso

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

Sample Size: 1.506E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 10:14:38 AM
Acquisition Date/Time: 11/2/2015 11:25:40 AM
Acquisition Live Time: 170.0 minutes
Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
Tracer Quantity: 0.654 mL
Effective Efficiency: 0.1857 +/- 0.0104
Counting Efficiency: 0.1737 +/- 0.0030 on 10/25/2014 3:04:21 PM
Chem. Recovery Factor: 1.0690 +/- 0.0629

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	382.15	10.04	0.85	0.00E+000	32.5
U-234		4.727	158.66	15.58	0.34	0.00E+000	23.7
U-235		4.402	10.66	61.14	0.34	0.00E+000	3.0
U-238		4.151	134.15	16.98	0.85	0.00E+000	6.8

T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.994	5302.50*	3.63E+000 +/- 3.99E-001	5.69E-002 +/- 6.26E-003
U-234	0.991	4761.50*	1.51E+000 +/- 2.87E-001	4.54E-002 +/- 4.99E-003
U-235	0.998	4385.50*	1.25E-001 +/- 7.75E-002	5.60E-002 +/- 6.16E-003
U-238	0.992	4184.40*	1.27E+000 +/- 2.57E-001	5.66E-002 +/- 6.23E-003

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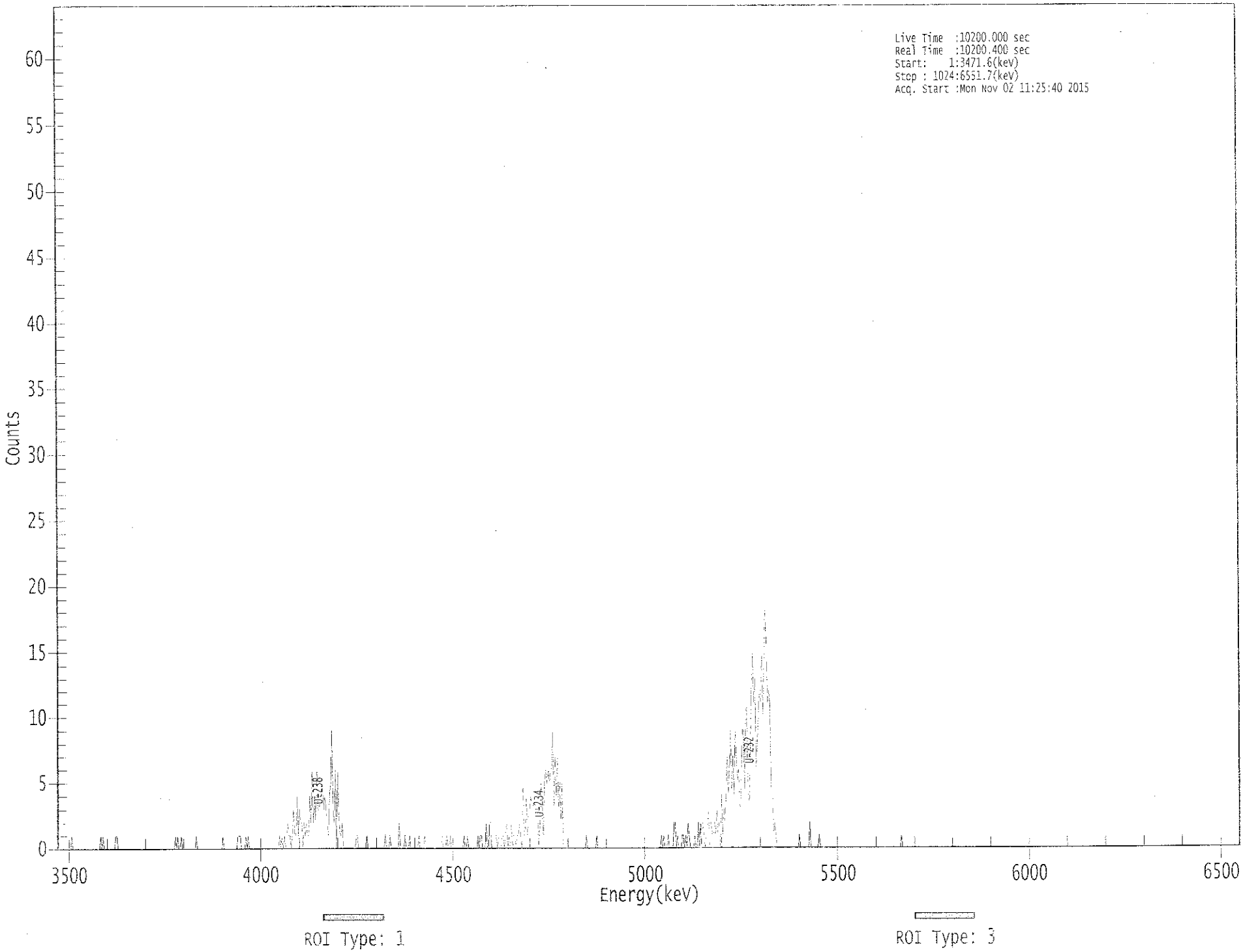
0000132922.CNF



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

369:	0	0	2	0	0	2	2	0

Sample Title: 05

Channel								
377:	1	1	1	1	0	1	0	0
385:	1	1	0	1	2	0	1	0
393:	2	0	1	1	0	1	1	2
401:	1	0	5	1	1	4	1	3
409:	3	4	3	3	4	3	3	3
417:	0	2	5	3	1	5	6	5
425:	6	5	6	6	9	3	7	4
433:	7	3	5	2	5	0	0	0
441:	0	1	0	0	0	0	0	0
449:	0	0	0	0	0	0	0	0
457:	0	1	0	0	0	0	0	0
465:	0	0	1	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	1	0	1	0	0	0
529:	1	0	0	0	0	2	2	0
537:	1	0	0	0	1	1	0	1
545:	0	2	1	0	0	0	0	1
553:	0	0	2	0	2	0	2	1
561:	0	1	1	3	0	2	1	1
569:	2	1	3	1	2	0	4	1
577:	3	2	4	7	4	6	9	4
585:	7	4	9	7	5	6	3	4
593:	9	9	4	9	11	5	3	6
601:	12	15	11	13	6	8	10	12
609:	11	15	10	14	18	16	11	12
617:	11	4	4	1	2	1	0	0
625:	0	0	0	0	0	0	0	0
633:	0	0	0	0	0	0	0	0
641:	0	1	0	0	0	0	0	0
649:	0	0	2	0	0	0	0	0
657:	0	0	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	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	1	0	0	0	0	0	0
737:	0	0	0	0	0	0	0	0
745:	0	0	0	0	0	0	0	0
753:	0	0	0	0	0	0	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: 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	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: CP1807S08-09
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001329
Batch Identification: 1510091A-UU
Sample Identification: 06
Sample Geometry: Shelf 2
Procedure Description: U iso

Detector Name: Alpha_043
Chamber Serial Number: 04026481A
Detector Serial Number: 91088
Env. Background: System Bkgd 133273
Reagent Blank: <not performed>

Sample Size: 1.501E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 10:14:38 AM
Acquisition Date/Time: 11/2/2015 11:25:41 AM
Acquisition Live Time: 170.0 minutes
Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
Tracer Quantity: 0.654 mL
Effective Efficiency: 0.1700 +/- 0.0099
Counting Efficiency: 0.1998 +/- 0.0035 on 10/25/2014 3:08:45 PM
Chem. Recovery Factor: 0.8506 +/- 0.0517

Peak Match Tolerance: 0.150 MeV

PEAK AREA REPORT

Nuclide		Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T	5.289	349.83	10.48	0.17	0.00E+000	18.7
U-234		4.738	99.66	19.67	0.34	0.00E+000	6.6
U-235		4.459	2.32	149.12	0.68	0.00E+000	3.0
U-238		4.167	104.00	19.31	0.00	0.00E+000	14.3

T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.999	5302.50*	3.64E+000 +/- 4.16E-001	4.35E-002 +/- 4.96E-003
U-234	0.996	4761.50*	1.04E+000 +/- 2.36E-001	4.98E-002 +/- 5.68E-003
U-235	0.962	4385.50*	2.98E-002 +/- 4.45E-002	7.24E-002 +/- 8.26E-003
U-238	0.998	4184.40*	1.08E+000 +/- 2.42E-001	6.21E-002 +/- 7.09E-003

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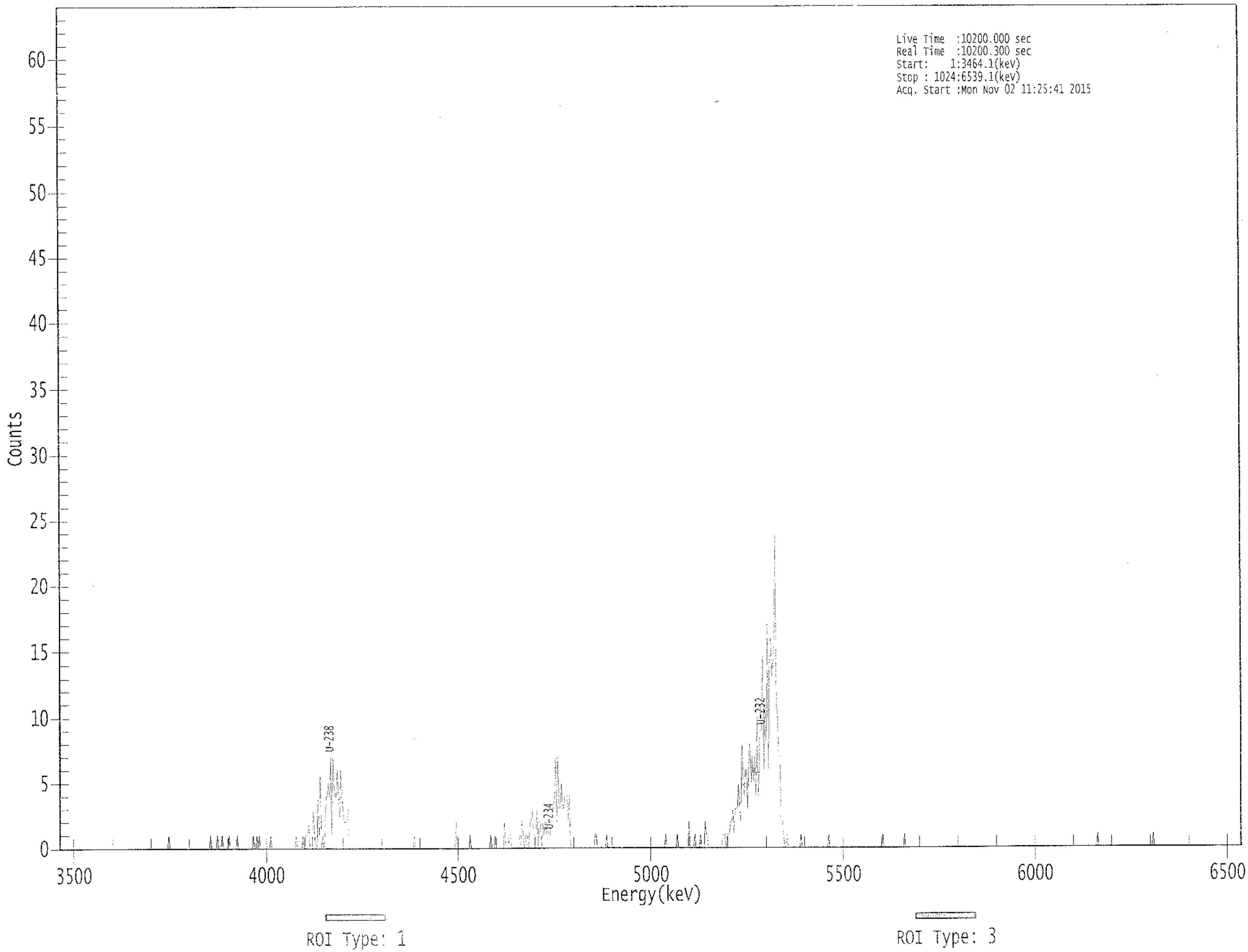
000132916.CNF



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

369:	0	0	0	0	0	1	0	0

Sample Title: 06

Channel								
377:	0	1	0	0	0	0	0	0
385:	0	2	0	0	0	1	1	0
393:	0	0	0	0	0	0	1	0
401:	2	1	0	1	0	1	0	2
409:	2	3	1	1	1	3	0	2
417:	2	0	2	1	2	1	2	1
425:	1	2	2	3	4	7	2	7
433:	3	3	5	3	3	4	4	4
441:	2	4	0	0	0	0	0	0
449:	0	0	0	0	0	0	0	0
457:	0	0	0	0	0	0	0	1
465:	1	0	0	0	0	0	0	0
473:	0	1	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	1	0	0	0
529:	0	0	0	0	0	0	1	0
537:	0	0	0	0	0	0	0	0
545:	2	0	0	0	0	1	0	0
553:	0	0	1	0	0	0	2	1
561:	1	0	0	0	0	0	0	0
569:	0	0	0	0	0	1	1	1
577:	0	1	1	1	2	2	3	1
585:	3	3	3	5	3	2	8	5
593:	4	6	6	3	7	8	5	7
601:	5	7	4	10	4	6	11	9
609:	15	6	11	8	17	5	15	16
617:	13	14	16	24	11	10	7	7
625:	2	2	1	0	0	1	0	0
633:	0	0	0	0	0	0	0	0
641:	0	1	0	0	0	0	0	0
649:	0	0	0	0	0	0	0	0
657:	0	0	0	0	0	0	0	0
665:	0	1	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	0
705:	0	0	0	0	0	0	0	0
713:	1	0	0	0	0	0	0	0
721:	0	0	0	0	0	0	0	0
729:	0	0	0	1	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: 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	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	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	1	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

Apex-Alpha™

KCB 11/2/15

Sample Description: CP1807S11-12
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001329
Batch Identification: 1510091A-UU
Sample Identification: 07
Sample Geometry: Shelf 2
Procedure Description: U iso

Detector Name: Alpha_044
Chamber Serial Number: 04026481B
Detector Serial Number: 84168
Env. Background: System Bkgd 133274
Reagent Blank: <not performed>

Sample Size: 1.515E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 10:14:38 AM
Acquisition Date/Time: 11/2/2015 11:25:43 AM
Acquisition Live Time: 170.0 minutes
Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
Tracer Quantity: 0.652 mL
Effective Efficiency: 0.1854 +/- 0.0104
Counting Efficiency: 0.1837 +/- 0.0032 on 10/25/2014 3:13:11 PM
Chem. Recovery Factor: 1.0096 +/- 0.0594

Peak Match Tolerance: 0.150 MeV

PEAK AREA REPORT

Nuclide		Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T	5.292	380.66	10.05	0.34	0.00E+000	10.5
U-234		4.744	82.66	21.61	0.34	0.00E+000	5.7
U-235		4.376	6.66	78.18	0.34	0.00E+000	3.0
U-238		4.172	93.83	20.26	0.17	0.00E+000	8.2

T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.999	5302.50*	3.60E+000 +/- 3.97E-001	4.52E-002 +/- 4.98E-003
U-234	0.998	4761.50*	7.81E-001 +/- 1.89E-001	4.52E-002 +/- 4.98E-003
U-235	0.999	4385.50*	7.76E-002 +/- 6.13E-002	5.57E-002 +/- 6.14E-003
U-238	0.999	4184.40*	8.83E-001 +/- 2.04E-001	3.93E-002 +/- 4.33E-003

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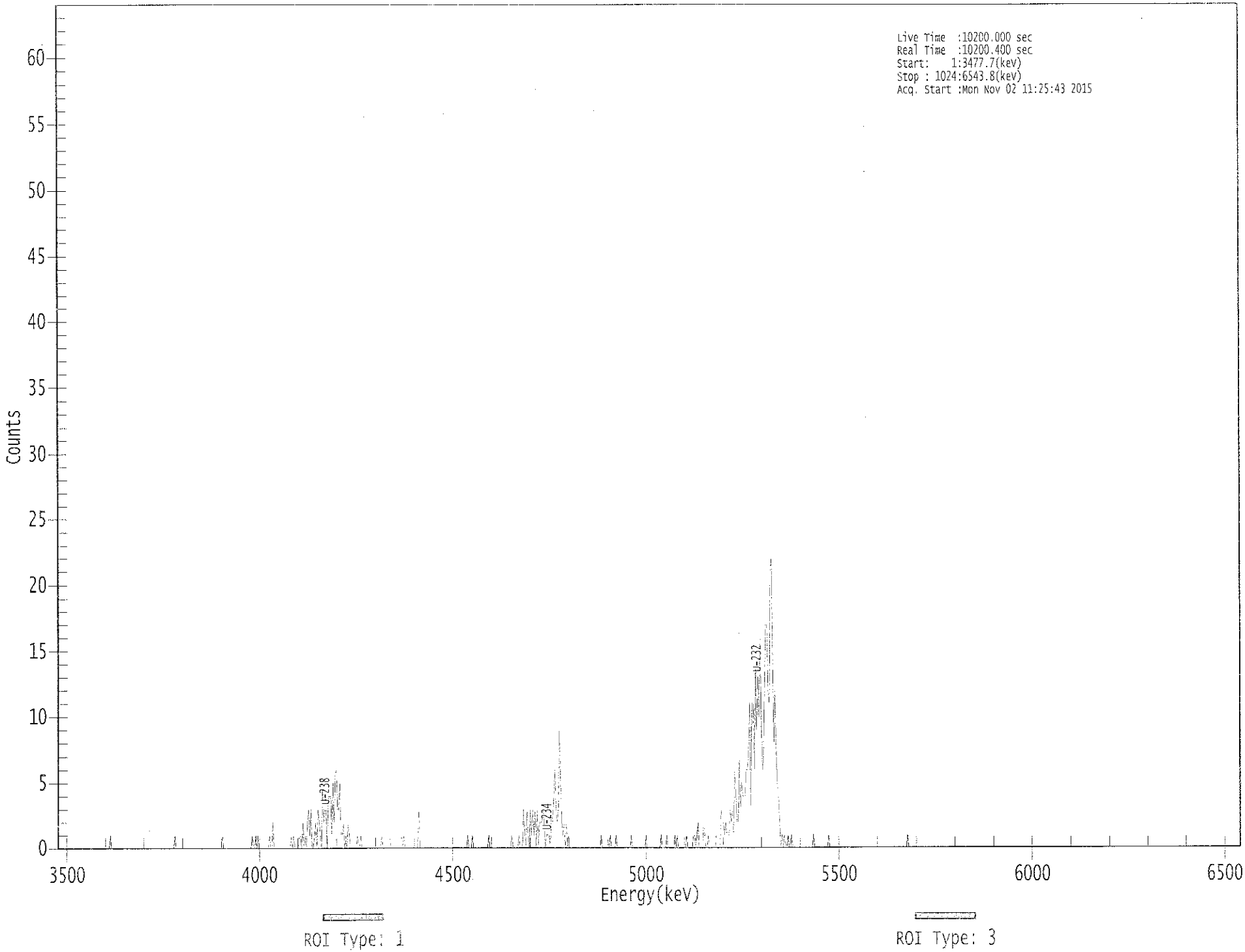
0000132917.CNF



T27569 :

****
***** 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:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	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	0	0	0	0
97:	0	0	0	0	0	1	0	0
105:	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0
121:	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0
137:	0	0	0	0	0	0	1	0
145:	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:	1	0	0	1	0	1	0	0
177:	0	0	0	0	0	0	0	1
185:	0	0	2	0	0	0	0	0
193:	0	0	0	0	0	0	0	0
201:	0	0	1	0	1	0	0	0
209:	0	1	1	0	2	0	1	0
217:	2	3	1	3	0	0	1	2
225:	0	3	2	1	0	5	2	3
233:	3	0	4	4	4	1	5	2
241:	6	6	3	3	5	1	1	2
249:	0	1	0	2	1	0	0	0
257:	0	0	0	1	0	0	1	0
265:	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0
281:	1	0	0	0	0	0	0	1
289:	0	0	0	0	0	0	0	0
297:	0	1	0	1	0	0	0	0
305:	0	0	0	0	0	0	0	0
313:	3	0	0	0	0	0	0	0
321:	0	0	0	0	0	0	0	0
329:	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	0
353:	0	0	1	0	0	0	1	0
361:	0	0	0	0	0	0	0	0

369:	0	0	0	0	1	0	0	0

Sample Title: 07

Channel								
377:	0	0	0	0	0	0	0	0
385:	0	0	0	0	0	0	0	0
393:	1	0	0	0	0	0	1	0
401:	0	0	3	1	0	3	1	0
409:	3	1	3	1	3	0	3	0
417:	2	2	2	3	2	0	1	1
425:	1	0	3	2	4	6	3	2
433:	3	9	5	2	1	2	0	2
441:	0	1	0	0	0	0	0	0
449:	0	0	0	0	0	0	0	0
457:	0	0	0	0	0	0	0	0
465:	0	0	0	0	0	1	0	0
473:	0	0	0	0	0	1	0	0
481:	0	0	1	0	0	0	0	0
489:	0	0	0	0	0	0	0	1
497:	0	0	0	0	0	0	0	0
505:	0	0	0	0	1	0	0	0
513:	0	0	0	0	0	0	0	0
521:	0	1	0	0	0	0	1	0
529:	0	0	0	0	0	1	0	1
537:	0	0	0	0	0	0	0	1
545:	0	0	0	0	0	1	1	0
553:	1	2	0	0	0	0	2	1
561:	0	0	1	0	0	0	0	0
569:	0	1	0	0	0	3	2	2
577:	1	2	1	1	1	3	2	3
585:	1	6	4	2	2	7	3	5
593:	4	4	4	6	6	7	11	3
601:	11	11	6	14	9	13	10	16
609:	10	6	7	13	17	17	12	11
617:	21	22	14	8	12	7	5	4
625:	2	0	1	0	1	0	0	1
633:	0	0	1	0	0	0	0	0
641:	0	0	0	0	0	0	0	0
649:	0	0	0	0	0	1	0	0
657:	0	0	0	0	0	0	0	0
665:	0	0	1	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	1	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	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

KB 11/2/15

Apex-Alpha™

Sample Description: CP1807S13-14
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001329
Batch Identification: 1510091A-UU
Sample Identification: 08
Sample Geometry: Shelf 2
Procedure Description: U iso

Detector Name: Alpha_045
Chamber Serial Number: 04026482A
Detector Serial Number: 91131
Env. Background: System Bkgd 133275
Reagent Blank: <not performed>

Sample Size: 1.512E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 10:14:38 AM
Acquisition Date/Time: 11/2/2015 11:25:45 AM
Acquisition Live Time: 170.0 minutes
Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
Tracer Quantity: 0.654 mL
Effective Efficiency: 0.1685 +/- 0.0099
Counting Efficiency: 0.1760 +/- 0.0031 on 10/25/2014 3:16:42 PM
Chem. Recovery Factor: 0.9573 +/- 0.0585

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	5.307	346.49	10.54	0.51	0.00E+000	22.3
U-234		4.752	101.66	19.48	0.34	0.00E+000	9.7
U-235		4.438	5.49	88.08	0.51	0.00E+000	3.0
U-238		4.184	87.64	21.13	1.36	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	1.000	5302.50*	3.61E+000 +/- 4.14E-001	5.47E-002 +/- 6.27E-003
U-234	0.999	4761.50*	1.06E+000 +/- 2.40E-001	4.98E-002 +/- 5.71E-003
U-235	0.980	4385.50*	7.06E-002 +/- 6.27E-002	6.75E-002 +/- 7.74E-003
U-238	1.000	4184.40*	9.10E-001 +/- 2.19E-001	7.12E-002 +/- 8.16E-003

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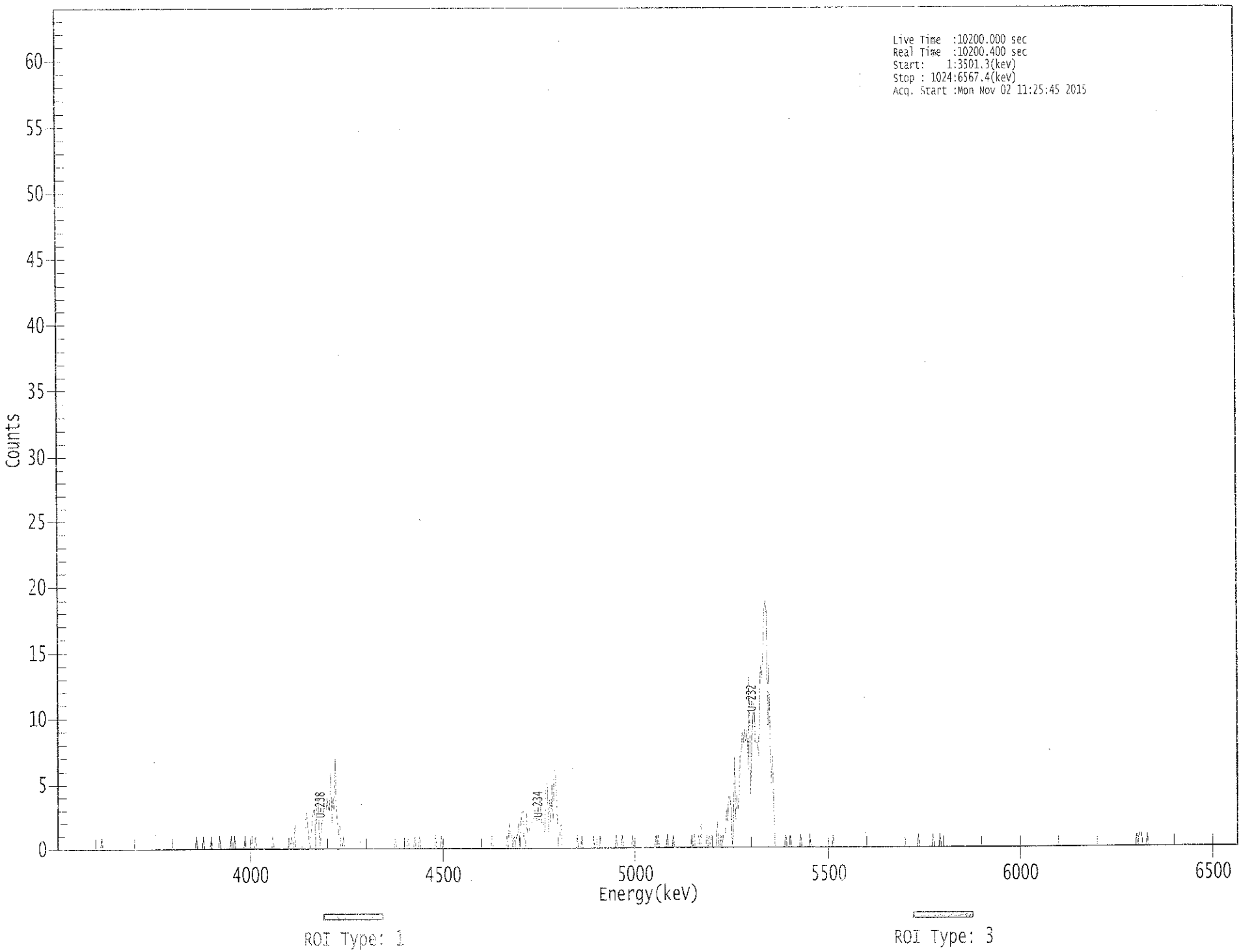
0000132918.CNF



92100

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

Sample Title: 08

Elapsed Live time: 10200
Elapsed Real Time: 10200

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

369:	0	0	0	0	0	0	0	0

Sample Title: 08

Channel								
377:	1	0	0	0	0	0	0	0
385:	0	0	0	0	0	1	0	2
393:	1	1	0	1	0	1	1	2
401:	0	2	3	3	0	0	3	1
409:	1	2	2	2	2	3	3	2
417:	3	2	4	2	2	2	1	5
425:	5	1	4	2	5	2	6	6
433:	4	2	1	1	2	0	0	0
441:	0	0	0	0	0	0	0	0
449:	0	0	1	0	0	0	1	0
457:	0	0	0	0	0	0	0	0
465:	1	0	0	0	0	0	1	0
473:	0	0	0	0	0	0	0	0
481:	0	0	0	0	1	0	0	0
489:	0	1	0	0	0	0	0	0
497:	0	0	1	0	0	0	0	0
505:	0	0	0	0	0	0	0	0
513:	0	0	0	0	0	0	1	0
521:	1	0	0	0	0	0	0	0
529:	1	0	0	0	0	1	0	0
537:	0	0	0	0	0	0	0	0
545:	0	0	0	0	0	1	0	1
553:	0	0	0	1	0	2	0	0
561:	0	0	1	0	1	0	1	1
569:	0	0	0	2	0	0	1	0
577:	1	1	1	3	2	4	4	3
585:	0	2	7	2	4	3	4	7
593:	7	9	8	9	8	9	6	13
601:	4	8	10	11	8	8	8	7
609:	12	14	13	15	18	19	18	9
617:	14	8	5	7	3	0	0	0
625:	0	0	0	0	0	0	1	0
633:	0	0	1	0	0	0	0	0
641:	0	0	0	1	0	0	0	0
649:	0	0	0	1	0	0	0	0
657:	0	0	0	0	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	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	1	0	0	0	0	0	0
753:	0	0	0	0	0	0	1	0
761:	0	0	0	0	1	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: 08

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	1
937:	0	1	1	1	0	0	0	0
945:	1	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™

Sample Description:	CP1807S16-17
Spectrum File:	\\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001329
Batch Identification:	1510091A-UU
Sample Identification:	09
Sample Geometry:	Shelf 2
Procedure Description:	U iso
Detector Name:	Alpha_046
Chamber Serial Number:	04026482B
Detector Serial Number:	58762
Env. Background:	System Bkgd 133276
Reagent Blank:	<not performed>
Sample Size:	1.521E+000 +/- 0.000E+000 gram
Sample Date/Time:	10/10/2015 10:14:38 AM
Acquisition Date/Time:	11/2/2015 11:25:47 AM
Acquisition Live Time:	170.0 minutes
Acquisition Real Time:	170.0 minutes
Tracer Certificate:	U232_UU-10A
Tracer Quantity:	0.655 mL
Effective Efficiency:	0.1652 +/- 0.0097
Counting Efficiency:	0.1776 +/- 0.0031 on 10/25/2014 3:20:08 PM
Chem. Recovery Factor:	0.9299 +/- 0.0572
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	340.64	10.64	1.36	0.00E+000	29.4
U-234		4.732	83.32	21.57	0.68	0.00E+000	6.4
U-235		4.399	5.81	90.53	1.19	0.00E+000	3.0
U-238		4.151	83.79	21.74	2.21	0.00E+000	3.7

T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.998	5302.50*	3.60E+000 +/- 4.17E-001	7.25E-002 +/- 8.38E-003
U-234	0.994	4761.50*	8.81E-001 +/- 2.16E-001	5.96E-002 +/- 6.89E-003
U-235	0.999	4385.50*	7.58E-002 +/- 6.91E-002	8.59E-002 +/- 9.93E-003
U-238	0.992	4184.40*	8.82E-001 +/- 2.17E-001	8.42E-002 +/- 9.73E-003

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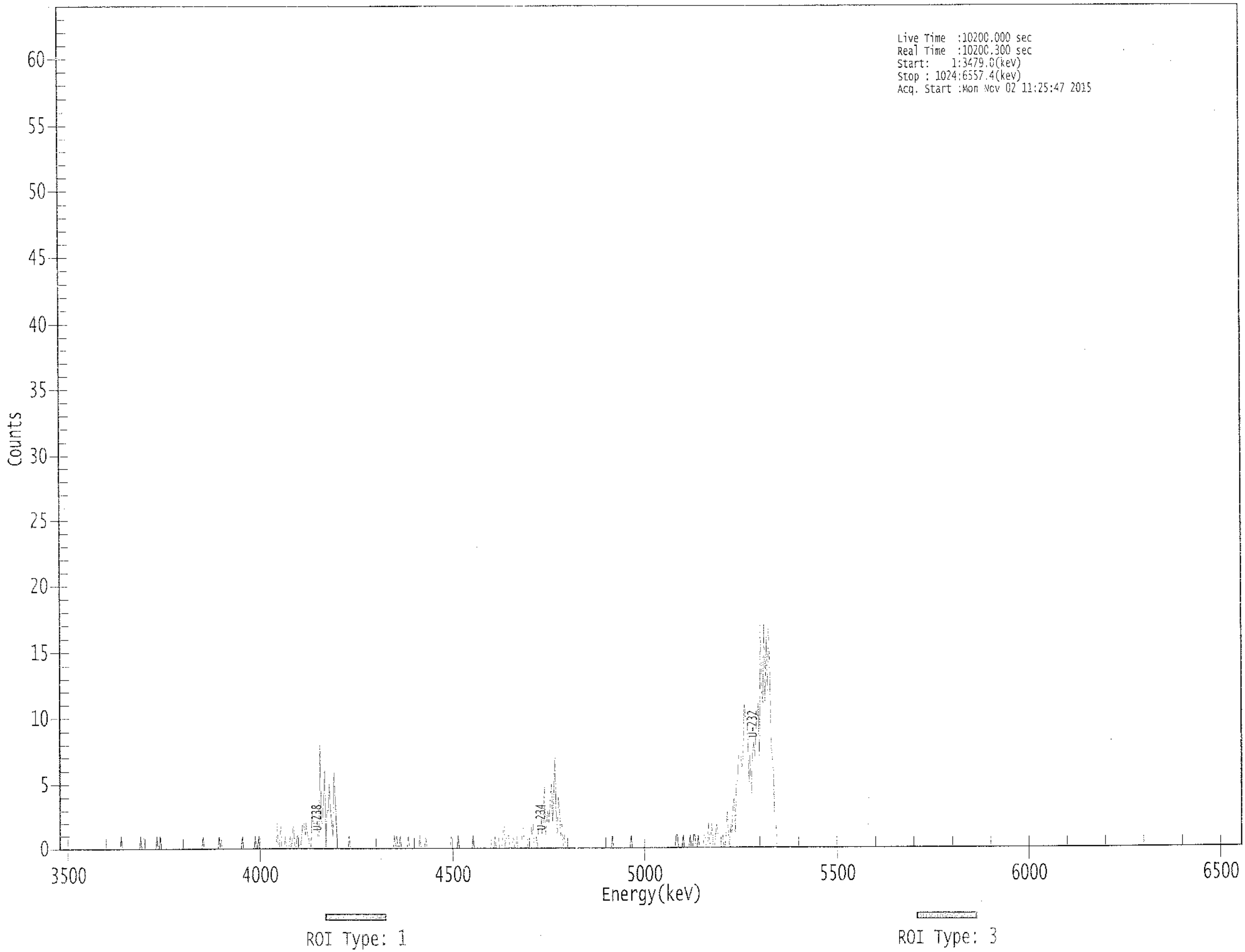
0000132919.CNF



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

Sample Title: 09

Elapsed Live time: 10200
Elapsed Real Time: 10200

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

369:	0	0	0	0	0	0	0	0

Sample Title: 09

Channel								
377:	1	0	1	1	0	0	0	1
385:	2	0	1	1	1	0	0	0
393:	1	0	0	1	0	0	0	0
401:	2	1	0	0	0	2	2	2
409:	1	2	0	0	1	0	2	2
417:	3	1	2	5	1	2	3	2
425:	4	5	2	4	7	3	1	4
433:	3	1	2	0	1	0	0	0
441:	0	0	0	0	0	0	0	0
449:	0	0	0	0	0	0	0	0
457:	0	0	0	0	0	0	0	0
465:	0	0	0	0	0	0	0	0
473:	0	0	0	0	0	0	1	0
481:	0	0	0	0	0	0	0	0
489:	0	0	0	0	0	0	1	0
497:	0	0	0	0	0	0	0	0
505:	0	0	0	0	0	0	0	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	1	1	0
537:	0	0	0	1	0	0	0	0
545:	0	1	0	0	1	1	0	0
553:	1	0	0	0	0	1	1	0
561:	0	2	0	1	2	0	0	1
569:	2	1	1	1	1	1	0	0
577:	1	3	1	0	2	1	3	4
585:	1	5	5	7	7	7	6	7
593:	11	10	10	9	5	7	4	7
601:	8	7	9	10	11	7	17	12
609:	11	17	11	16	12	17	14	8
617:	7	6	2	2	0	0	0	0
625:	0	0	0	0	0	0	0	0
633:	0	0	0	0	0	0	0	0
641:	0	0	0	0	0	0	0	0
649:	0	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: 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	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™

VK 11/2/15

Sample Description: CP1807S18-19
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001329
Batch Identification: 1510091A-UU
Sample Identification: 10
Sample Geometry: Shelf 2
Procedure Description: U iso

Detector Name: Alpha_047
Chamber Serial Number: 02030596A
Detector Serial Number: 91086
Env. Background: System Bkgd 133277
Reagent Blank: <not performed>

Sample Size: 1.511E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 10:14:38 AM
Acquisition Date/Time: 11/2/2015 11:25:49 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: 0.1970 +/- 0.0107
Counting Efficiency: 0.1650 +/- 0.0029 on 10/25/2014 3:23:35 PM
Chem. Recovery Factor: 1.1939 +/- 0.0684

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	410.49	9.68	0.51	0.00E+000	5.3
U-234		4.724	87.66	20.98	0.34	0.00E+000	4.7
U-235		4.390	3.83	102.72	0.17	0.00E+000	3.0
U-238		4.141	104.83	19.16	0.17	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)
U-232	0.994	5302.50*	3.66E+000 +/- 3.91E-001	4.68E-002 +/- 5.00E-003
U-234	0.990	4761.50*	7.82E-001 +/- 1.84E-001	4.26E-002 +/- 4.55E-003
U-235	1.000	4385.50*	4.21E-002 +/- 4.35E-002	4.59E-002 +/- 4.90E-003
U-238	0.986	4184.40*	9.31E-001 +/- 2.04E-001	3.71E-002 +/- 3.96E-003

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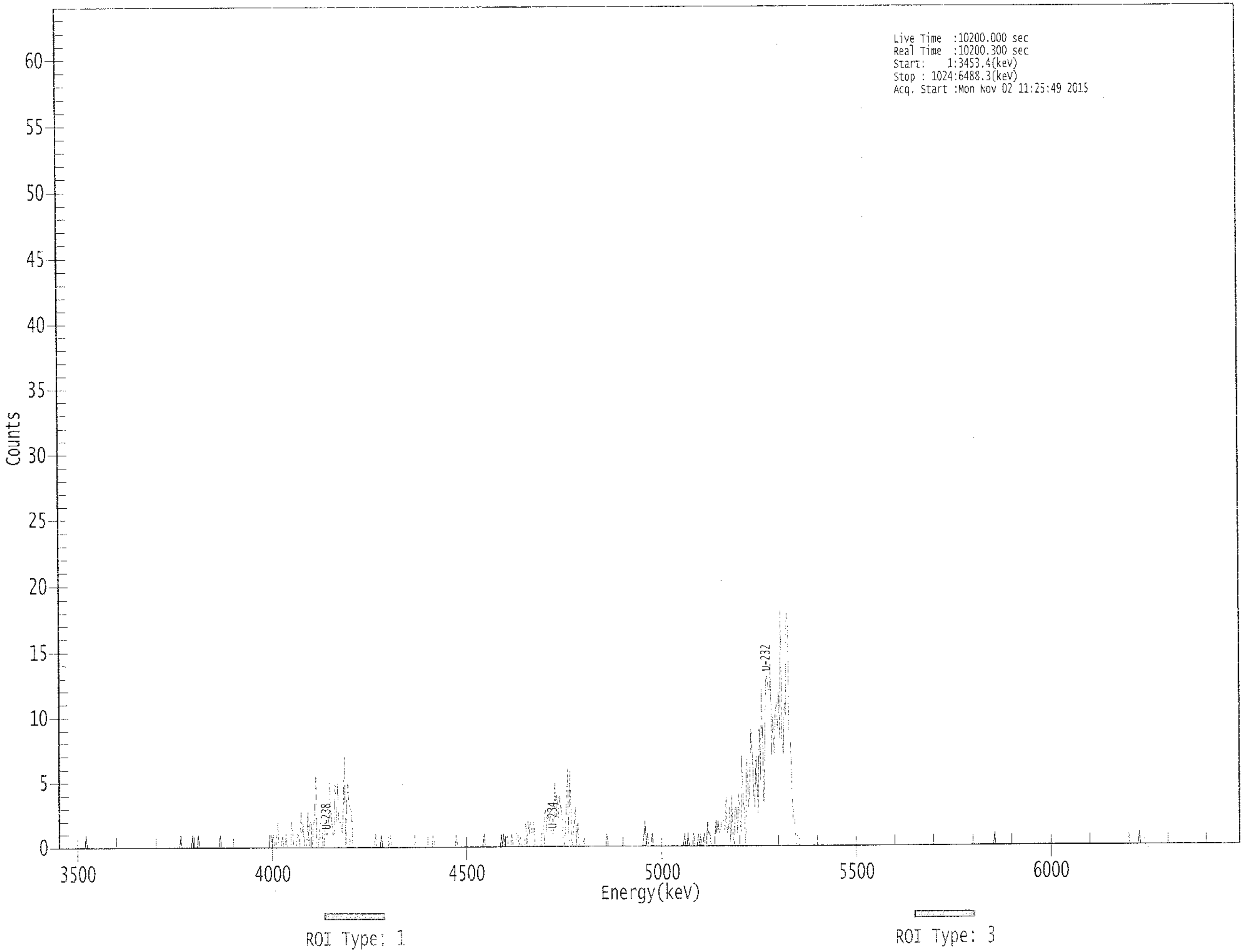
0000132920.CNF



****
***** 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:	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	1
25:	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0
105:	0	1	0	0	0	0	0	0
113:	0	0	0	1	0	0	0	0
121:	1	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0
137:	0	0	0	1	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	1	1
185:	0	1	0	0	1	2	0	0
193:	0	1	0	0	1	0	0	0
201:	0	2	1	0	0	0	1	1
209:	0	3	1	2	0	0	0	3
217:	0	2	2	0	2	2	6	0
225:	0	1	2	2	0	0	2	1
233:	1	2	5	3	2	1	1	5
241:	2	5	2	2	2	1	3	7
249:	0	4	5	3	3	3	0	0
257:	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0
273:	0	0	1	0	0	0	0	1
281:	0	0	0	0	0	0	0	1
289:	0	0	0	0	0	0	0	0
297:	0	0	0	0	0	0	0	0
305:	0	0	0	0	1	0	0	0
313:	0	0	0	0	0	0	0	0
321:	0	0	0	0	1	0	0	0
329:	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0
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	0

369:	1	0	0	0	0	0	0	0

Sample Title: 10

Channel								
377:	0	0	0	0	0	0	0	1
385:	0	1	0	0	1	0	0	0
393:	1	0	0	0	1	1	0	1
401:	0	0	0	0	2	0	2	1
409:	2	1	1	2	0	0	0	0
417:	0	0	1	1	2	3	1	3
425:	2	3	1	1	1	5	3	4
433:	2	4	3	3	1	0	1	3
441:	6	1	6	3	0	1	2	3
449:	0	2	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	1	0	0	0	0	0
481:	0	0	0	0	0	0	0	0
489:	0	0	0	0	0	0	0	0
497:	0	0	0	0	0	0	0	0
505:	0	0	1	2	0	1	0	0
513:	0	1	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	1	0	0
545:	1	0	0	0	0	1	0	0
553:	0	1	0	1	0	0	1	0
561:	0	2	1	1	0	0	0	0
569:	2	1	2	1	1	2	2	2
577:	1	4	1	1	3	0	4	1
585:	0	3	3	1	4	3	1	7
593:	3	3	0	7	5	3	6	9
601:	7	4	3	7	5	2	9	5
609:	12	8	3	8	13	13	12	12
617:	14	7	10	7	10	11	9	12
625:	8	18	8	7	11	10	18	17
633:	8	8	6	2	3	1	0	1
641:	1	0	0	0	0	0	0	0
649:	0	0	0	0	0	0	0	0
657:	0	0	0	0	0	0	0	0
665:	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: 10

Channel								
809:	0	0	1	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	1
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

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Apex-Alpha™

Sample Description: CP1807S20-21
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001329
Batch Identification: 1510091A-UU
Sample Identification: 11
Sample Geometry: Shelf 2
Procedure Description: U iso

Detector Name: Alpha_048
Chamber Serial Number: 02030596B
Detector Serial Number: 83111
Env. Background: System Bkgd 133278
Reagent Blank: <not performed>

Sample Size: 1.507E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 10:14:38 AM
Acquisition Date/Time: 11/2/2015 11:25:51 AM
Acquisition Live Time: 170.0 minutes
Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
Tracer Quantity: 0.652 mL
Effective Efficiency: 0.1540 +/- 0.0094
Counting Efficiency: 0.1700 +/- 0.0030 on 10/25/2014 3:27:02 PM
Chem. Recovery Factor: 0.9059 +/- 0.0574

Peak Match Tolerance: 0.150 MeV

PEAK AREA REPORT

Nuclide		Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T	5.283	316.15	11.04	0.85	0.00E+000	27.6
U-234		4.735	72.32	23.17	0.68	0.00E+000	4.5
U-235		4.365	8.00	73.50	0.00	0.00E+000	3.0
U-238		4.155	72.81	23.19	1.19	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)
U-232	0.997	5302.50*	3.62E+000 +/- 4.32E-001	6.85E-002 +/- 8.17E-003
U-234	0.995	4761.50*	8.27E-001 +/- 2.16E-001	6.45E-002 +/- 7.70E-003
U-235	0.997	4385.50*	1.13E-001 +/- 8.41E-002	8.46E-002 +/- 1.01E-002
U-238	0.994	4184.40*	8.29E-001 +/- 2.16E-001	7.50E-002 +/- 8.95E-003

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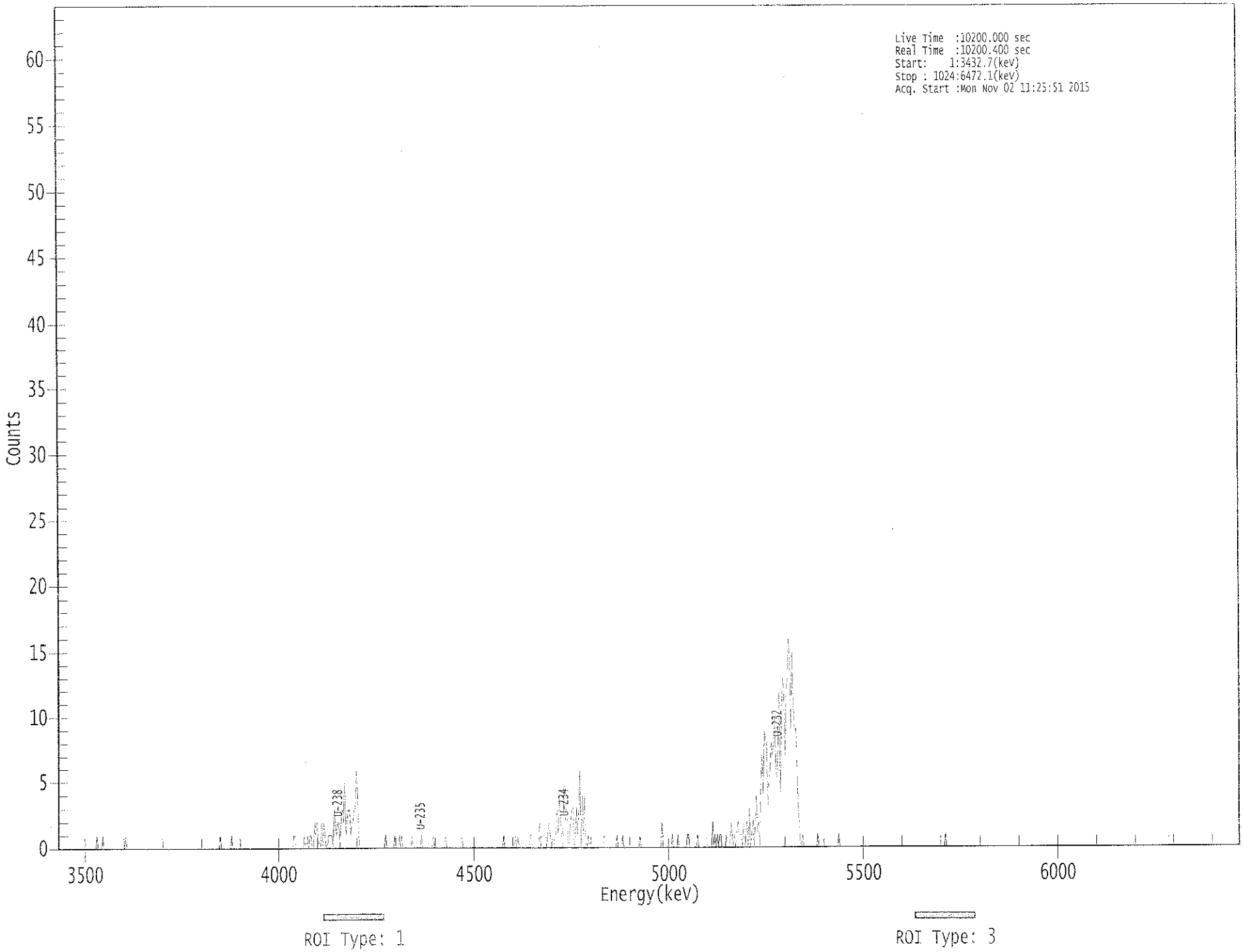
0000132921.CNF



****
***** 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	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	1	0	0	0	0	1	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	0
73:	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0
121:	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0
137:	0	0	0	0	1	0	0	0
145:	0	0	0	0	0	0	1	0
153:	0	0	0	0	0	0	0	0
161:	0	0	0	0	0	0	0	0
169:	0	0	0	0	0	0	0	0
177:	0	0	0	0	0	0	0	0
185:	0	0	0	0	0	0	0	0
193:	0	0	0	0	0	0	0	0
201:	0	0	0	0	1	1	0	0
209:	0	0	0	0	0	1	0	0
217:	1	0	1	1	0	0	2	1
225:	2	1	0	0	2	0	2	1
233:	0	0	1	1	1	1	0	3
241:	2	1	2	2	0	2	3	2
249:	5	1	2	3	3	1	2	2
257:	3	3	6	4	1	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	1	0	0	0	0
289:	0	0	0	1	0	0	0	1
297:	0	1	0	0	0	0	0	0
305:	0	0	1	0	0	0	0	0
313:	0	0	1	0	0	0	0	0
321:	0	0	0	0	1	0	0	0
329:	0	0	0	0	0	0	0	1
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	0	0	0	0	0	0

369:	0	0	0	0	0	0	0	0

Sample Title: 11

Channel								
377:	0	0	0	0	0	0	0	0
385:	0	1	0	0	0	0	0	0
393:	0	0	0	1	0	1	0	0
401:	0	0	0	0	0	0	0	0
409:	1	1	0	0	0	0	0	0
417:	2	0	1	1	1	1	0	1
425:	2	1	0	0	0	1	1	3
433:	1	4	2	1	0	5	2	3
441:	2	0	1	2	3	3	0	1
449:	3	1	3	6	0	4	1	4
457:	0	0	1	0	0	0	0	0
465:	0	0	0	0	0	0	0	0
473:	1	0	0	0	0	0	0	0
481:	0	0	0	1	0	0	0	0
489:	1	0	0	0	0	0	0	0
497:	0	0	0	0	0	0	0	1
505:	0	0	0	0	0	0	0	0
513:	0	0	0	0	0	0	0	0
521:	0	0	2	0	0	0	0	0
529:	0	0	0	1	0	0	0	0
537:	1	0	0	0	0	0	0	0
545:	1	1	0	0	0	0	0	0
553:	0	1	0	0	0	0	0	0
561:	0	0	0	0	0	0	2	0
569:	1	0	1	0	1	1	0	0
577:	0	0	1	0	0	0	2	1
585:	0	1	0	1	2	1	1	1
593:	0	2	0	1	2	0	3	0
601:	1	2	0	2	4	1	2	0
609:	5	7	4	9	8	8	3	5
617:	6	8	7	8	10	6	5	8
625:	12	4	10	13	12	7	12	13
633:	16	14	9	15	11	9	9	7
641:	3	2	0	0	1	0	0	0
649:	0	0	0	0	0	0	0	0
657:	0	1	0	0	0	0	0	0
665:	0	0	0	0	0	0	0	0
673:	0	0	0	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	0	1
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: 11

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	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™

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Sample Description: CP1807S22-23
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001329
Batch Identification: 1510091A-UU
Sample Identification: 12
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: 1.530E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 10:14:38 AM
Acquisition Date/Time: 11/2/2015 11:28:42 AM
Acquisition Live Time: 170.0 minutes
Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
Tracer Quantity: 0.654 mL
Effective Efficiency: 0.1501 +/- 0.0092
Counting Efficiency: 0.1525 +/- 0.0027 on 12/13/2014 2:45:02 PM
Chem. Recovery Factor: 0.9840 +/- 0.0630

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	308.83	11.16	0.17	0.00E+000	10.2
U-234		4.742	53.98	26.97	1.02	0.00E+000	4.9
U-235		4.390	7.83	70.93	0.17	0.00E+000	3.0
U-238		4.166	67.32	24.03	0.68	0.00E+000	7.9

T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.998	5302.50*	3.57E+000 +/- 4.30E-001	4.83E-002 +/- 5.81E-003
U-234	0.997	4761.50*	6.24E-001 +/- 1.84E-001	7.29E-002 +/- 8.77E-003
U-235	1.000	4385.50*	1.12E-001 +/- 8.04E-002	5.95E-002 +/- 7.16E-003
U-238	0.998	4184.40*	7.75E-001 +/- 2.08E-001	6.49E-002 +/- 7.82E-003

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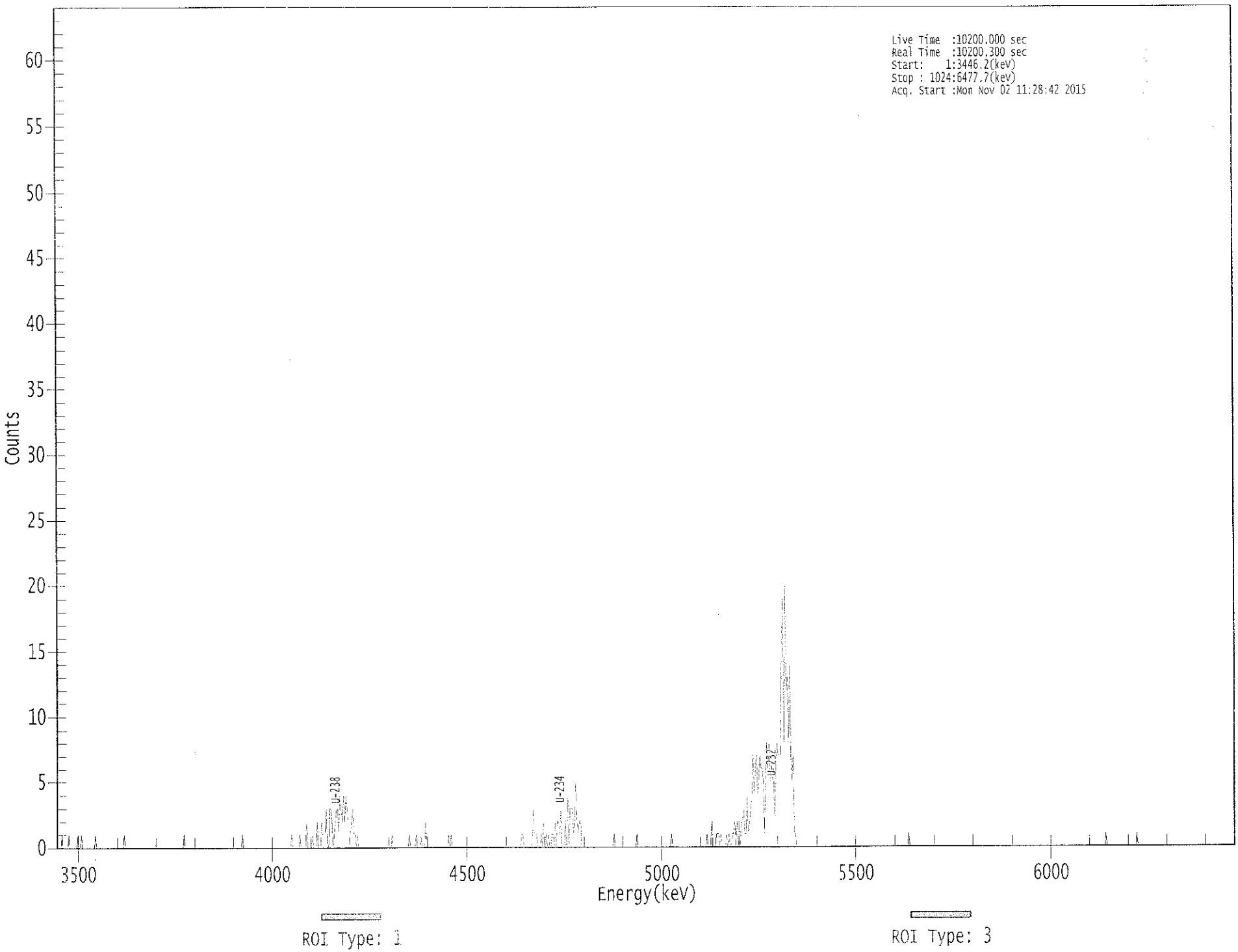
0000132926.CNF



Sb1500

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

Sample Title: 12

Elapsed Live time: 10200
Elapsed Real Time: 10200

Channel								
1:	0	0	0	0	1	0	0	0
9:	0	0	1	0	0	0	0	0
17:	0	0	1	0	0	1	0	0
25:	0	0	0	0	0	0	0	0
33:	0	1	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	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:	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	0	0	0	0	0
169:	0	0	0	0	0	0	0	0
177:	0	0	0	0	0	0	0	0
185:	0	0	0	0	0	0	0	0
193:	0	0	0	0	0	0	0	0
201:	0	0	0	0	1	0	0	0
209:	0	0	0	1	0	0	0	0
217:	0	2	0	0	0	0	1	0
225:	0	0	2	0	0	0	2	1
233:	1	1	3	0	0	3	3	2
241:	0	1	2	3	3	1	4	3
249:	2	4	2	4	3	2	2	1
257:	2	3	1	1	0	1	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	1	0	0	0	0
297:	0	0	0	0	0	0	0	0
305:	0	0	1	0	0	0	0	0
313:	1	0	0	0	1	0	0	0
321:	2	0	0	0	0	0	0	0
329:	0	0	0	0	0	0	0	0
337:	0	0	0	0	1	0	1	0
345:	0	0	0	0	0	0	0	0
353:	0	0	0	0	0	0	0	0
361:	0	0	0	0	0	0	0	0

369:	0	0	0	0	0	0	0	0

Sample Title: 12

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	0	1	1	0	0	0
409:	0	0	0	0	0	3	1	1
417:	1	0	0	0	1	0	2	0
425:	1	0	1	0	0	1	1	0
433:	2	0	2	2	1	3	0	0
441:	0	2	0	4	0	3	3	3
449:	1	2	5	2	1	2	2	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	1	0	0	0	0
489:	0	0	0	0	0	0	0	0
497:	0	0	0	0	0	0	0	1
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	1	0	0
537:	0	0	0	0	0	0	0	0
545:	0	0	0	0	0	0	0	0
553:	0	0	0	0	0	0	0	0
561:	0	0	0	0	1	0	0	0
569:	2	0	0	0	1	1	1	0
577:	1	0	0	0	0	1	0	1
585:	0	0	1	1	2	0	2	0
593:	2	0	2	2	3	1	1	4
601:	1	2	3	4	7	4	6	7
609:	4	5	7	6	6	5	1	5
617:	8	6	8	5	5	5	6	2
625:	6	8	7	7	7	16	19	8
633:	20	12	13	8	14	7	5	7
641:	1	1	0	0	0	0	0	0
649:	0	0	0	0	0	0	0	0
657:	0	0	0	0	0	0	0	0
665:	0	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	0
705:	0	0	0	0	0	0	0	0
713:	0	0	0	0	0	0	0	0
721:	0	0	0	0	0	0	0	0
729:	0	0	0	0	0	0	0	0
737:	0	0	0	1	0	0	0	0
745:	0	0	0	0	0	0	0	0
753:	0	0	0	0	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: 12

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	1	0
913:	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	1	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

VB 11/2/15

Apex-Alpha™

Sample Description: CP1805S03-04
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001329
Batch Identification: 1510091A-UU
Sample Identification: 13
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: 1.509E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 10:14:38 AM
Acquisition Date/Time: 11/2/2015 11:28:44 AM
Acquisition Live Time: 170.0 minutes
Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
Tracer Quantity: 0.655 mL
Effective Efficiency: 0.1669 +/- 0.0098
Counting Efficiency: 0.1428 +/- 0.0026 on 12/13/2014 2:43:59 PM
Chem. Recovery Factor: 1.1693 +/- 0.0718

Peak Match Tolerance: 0.150 MeV

PEAK AREA REPORT

Nuclide		Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T	5.289	344.15	10.58	0.85	0.00E+000	28.9
U-234		4.738	108.66	18.84	0.34	0.00E+000	19.0
U-235		4.414	10.00	65.01	0.00	0.00E+000	3.0
U-238		4.164	115.83	18.23	0.17	0.00E+000	4.7

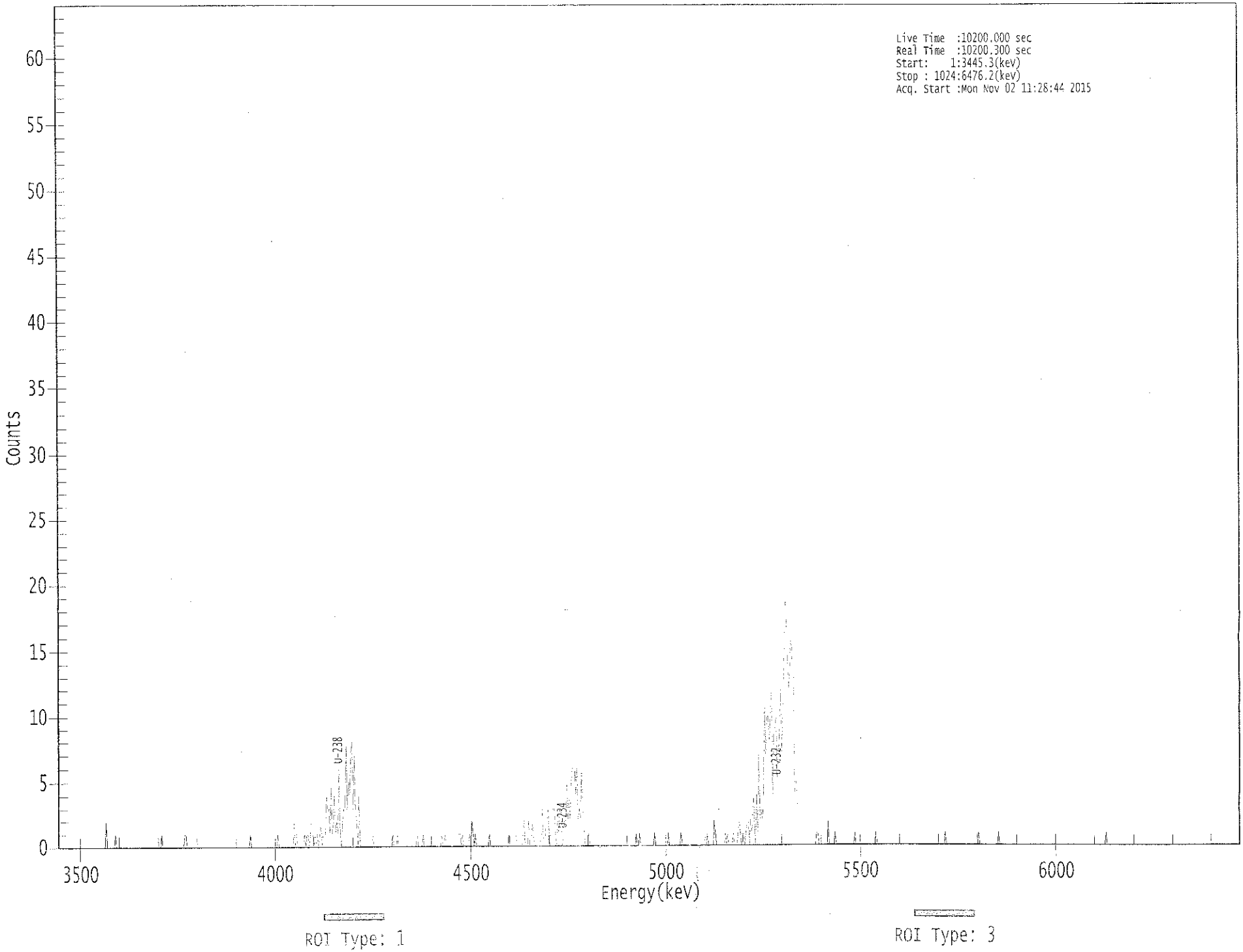
T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.999	5302.50*	3.63E+000 +/- 4.18E-001	6.31E-002 +/- 7.26E-003
U-234	0.996	4761.50*	1.15E+000 +/- 2.53E-001	5.04E-002 +/- 5.80E-003
U-235	0.994	4385.50*	1.30E-001 +/- 8.58E-002	7.80E-002 +/- 8.97E-003
U-238	0.997	4184.40*	1.22E+000 +/- 2.62E-001	4.38E-002 +/- 5.04E-003

AG
11/2/15

0000132927.CNF



TS7206:

****
***** 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	0	0	0	0
41:	0	2	0	0	0	0	0	0
49:	0	1	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	1	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	1	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:	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	1	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	1	0
193:	0	0	0	0	0	0	0	0
201:	0	0	0	0	2	0	1	0
209:	0	0	0	0	0	1	0	1
217:	1	0	1	2	1	0	1	0
225:	1	0	1	2	0	1	1	1
233:	4	3	3	1	5	1	2	4
241:	1	2	1	6	1	0	2	3
249:	3	8	3	5	4	7	8	3
257:	7	3	2	0	4	0	0	0
265:	0	0	0	0	0	0	0	0
273:	1	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0
289:	0	1	0	0	0	1	0	0
297:	0	0	0	0	0	0	0	0
305:	0	0	0	0	0	0	1	0
313:	0	0	0	1	0	0	0	0
321:	0	0	0	0	0	0	0	0
329:	0	0	0	1	0	0	1	0
337:	0	0	0	0	0	0	0	0
345:	0	0	1	1	0	1	0	0
353:	0	0	0	1	0	2	1	0
361:	1	0	0	0	0	0	0	0

369:	0	0	0	0	1	0	0	0

Sample Title: 13

Channel								
377:	0	0	0	0	0	0	0	0
385:	0	0	0	0	0	1	0	0
393:	0	0	0	1	0	0	0	0
401:	0	1	2	0	0	0	2	0
409:	0	2	1	0	0	0	0	0
417:	0	1	3	0	0	2	2	3
425:	0	1	2	3	3	1	0	2
433:	1	3	3	0	1	2	2	5
441:	2	4	2	5	6	6	6	4
449:	6	2	3	2	6	3	1	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	0	0	0	0
497:	0	0	0	1	0	0	1	0
505:	0	0	0	0	0	0	0	0
513:	0	0	0	1	0	0	0	0
521:	0	0	0	0	0	0	0	1
529:	0	0	0	0	0	0	0	0
537:	0	0	1	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	1	0	0	0	0	0	2
569:	1	0	0	0	0	0	0	0
577:	0	1	0	1	0	0	0	0
585:	1	0	0	0	1	2	1	0
593:	1	1	0	1	2	2	0	2
601:	1	4	2	0	4	1	7	2
609:	3	2	4	11	7	10	10	8
617:	10	12	4	9	9	10	5	7
625:	9	12	7	11	14	19	17	14
633:	12	14	17	14	13	4	5	4
641:	1	0	0	0	0	0	0	0
649:	0	0	0	0	0	0	0	0
657:	1	1	0	0	0	0	0	0
665:	0	0	2	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	1	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	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	1
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	1	0	0	0

801:	0	0	0	0	0	0	0	0

Sample Title: 13

Channel								
809:	0	0	0	0	0	1	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	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	1	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™

ICB 11/2/15

Sample Description: CP1805S05-06
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001329
Batch Identification: 1510091A-UU
Sample Identification: 14
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: 1.504E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 10:14:38 AM
Acquisition Date/Time: 11/2/2015 11:28:46 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: 0.1711 +/- 0.0100
Counting Efficiency: 0.1524 +/- 0.0027 on 12/13/2014 2:42:37 PM
Chem. Recovery Factor: 1.1228 +/- 0.0686

Peak Match Tolerance: 0.150 MeV

PEAK AREA REPORT

Nuclide		Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T	5.290	351.43	10.52	3.57	0.00E+000	31.7
U-234		4.742	104.79	19.38	2.21	0.00E+000	8.3
U-235		4.383	7.98	74.39	1.02	0.00E+000	3.0
U-238		4.172	116.49	18.21	0.51	0.00E+000	23.0

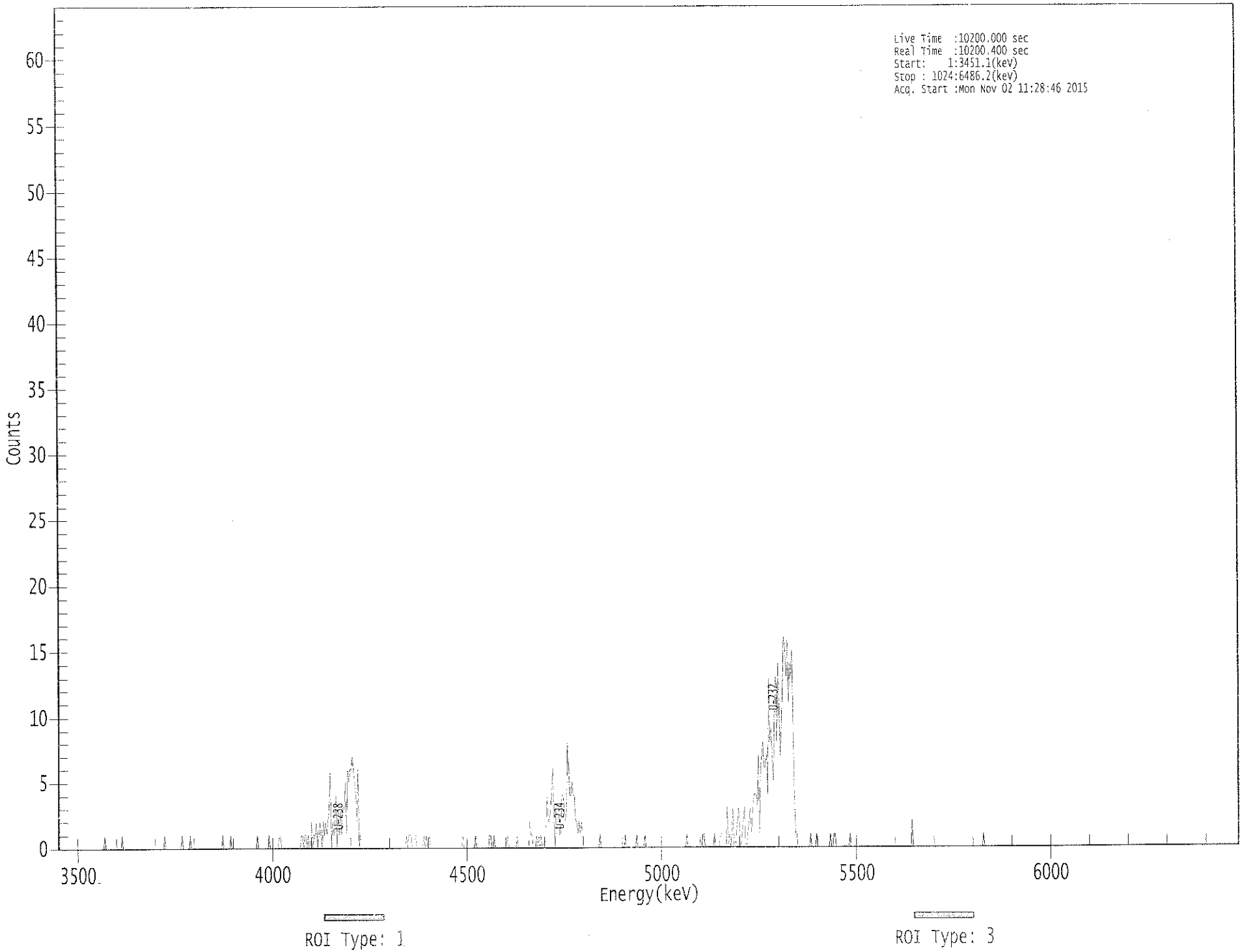
T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.999	5302.50*	3.63E+000 +/- 4.15E-001	9.73E-002 +/- 1.11E-002
U-234	0.997	4761.50*	1.08E+000 +/- 2.43E-001	8.25E-002 +/- 9.44E-003
U-235	1.000	4385.50*	1.02E-001 +/- 7.64E-002	8.02E-002 +/- 9.17E-003
U-238	0.999	4184.40*	1.20E+000 +/- 2.57E-001	5.39E-002 +/- 6.17E-003

AG 11/2/15

0000132928.CNF



****
***** 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:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0
41:	1	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	1
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	1	0	0	0	0
113:	0	0	1	0	0	0	0	0
121:	0	0	0	0	0	0	0	0
129:	0	0	0	0	0	0	0	0
137:	0	0	0	0	0	0	1	0
145:	0	0	0	0	0	1	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	1	0	0	0
177:	0	0	0	0	0	0	1	0
185:	0	0	0	0	0	0	0	1
193:	1	0	0	0	0	0	0	0
201:	0	0	0	0	0	0	0	0
209:	0	0	1	1	0	1	1	0
217:	1	0	0	2	0	1	1	2
225:	0	1	2	1	0	2	1	2
233:	1	2	3	6	0	2	1	2
241:	4	0	3	1	3	1	3	3
249:	5	1	6	5	6	6	7	6
257:	5	4	2	6	0	1	0	0
265:	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	0
297:	0	0	0	0	0	1	0	1
305:	1	1	0	0	0	1	0	0
313:	0	0	0	0	1	0	1	0
321:	0	1	0	0	0	0	0	0
329:	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	1	0
353:	0	0	0	0	0	0	0	0
361:	0	1	0	0	0	0	0	0

369:	0	0	0	0	0	1	1	0

Sample Title: 14

Channel								
377:	0	1	0	0	0	0	0	0
385:	0	0	0	0	0	1	0	0
393:	0	0	0	0	0	1	0	0
401:	0	0	0	0	0	0	0	0
409:	2	1	1	0	0	0	1	0
417:	1	0	1	0	0	1	0	4
425:	2	2	3	4	6	3	0	3
433:	3	3	1	1	4	4	3	2
441:	3	8	6	4	4	5	4	4
449:	2	2	1	2	1	2	1	0
457:	0	0	0	0	0	0	0	0
465:	0	0	0	0	0	1	0	0
473:	0	0	0	0	0	0	0	0
481:	0	0	0	0	0	0	0	0
489:	0	0	0	1	0	0	0	0
497:	0	0	0	0	0	1	0	0
505:	0	0	0	0	1	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	0
545:	1	0	0	0	0	0	0	0
553:	0	0	0	0	0	0	1	1
561:	0	0	0	0	0	0	0	0
569:	1	0	0	0	0	1	1	0
577:	0	0	0	3	0	1	0	1
585:	3	0	0	1	2	3	1	0
593:	1	2	3	0	0	1	2	3
601:	1	3	4	4	4	3	7	1
609:	6	7	8	6	6	7	4	13
617:	8	9	7	5	10	13	8	14
625:	11	7	9	13	16	15	13	16
633:	11	14	13	15	9	4	1	1
641:	0	0	0	0	0	0	0	0
649:	0	0	0	1	0	0	0	0
657:	1	0	0	0	0	0	0	0
665:	0	0	0	0	1	0	0	1
673:	1	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	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	2	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	1	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	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

Apex-Alpha™

Sample Description:	CP1805S08-09
Spectrum File:	\\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001329
Batch Identification:	1510091A-UU
Sample Identification:	15
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:	1.580E+000 +/- 0.000E+000 gram
Sample Date/Time:	10/10/2015 10:14:38 AM
Acquisition Date/Time:	11/2/2015 11:28:48 AM
Acquisition Live Time:	170.0 minutes
Acquisition Real Time:	170.0 minutes
Tracer Certificate:	U232_UU-10A
Tracer Quantity:	0.651 mL
Effective Efficiency:	0.1882 +/- 0.0105
Counting Efficiency:	0.1607 +/- 0.0029 on 12/13/2014 2:40:57 PM
Chem. Recovery Factor:	1.1716 +/- 0.0688
Peak Match Tolerance:	0.150 MeV

PEAK AREA REPORT

Nuclide		Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T	5.287	385.49	9.99	0.51	0.00E+000	27.8
U-234		4.743	111.49	18.61	0.51	0.00E+000	6.5
U-235		4.398	5.49	88.08	0.51	0.00E+000	2.9
U-238		4.172	83.32	21.57	0.68	0.00E+000	22.6

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*	3.44E+000 +/- 3.78E-001	4.69E-002 +/- 5.14E-003
U-234	0.998	4761.50*	9.95E-001 +/- 2.15E-001	4.69E-002 +/- 5.14E-003
U-235	0.999	4385.50*	6.05E-002 +/- 5.37E-002	5.78E-002 +/- 6.34E-003
U-238	0.999	4184.40*	7.41E-001 +/- 1.79E-001	5.01E-002 +/- 5.50E-003

AG
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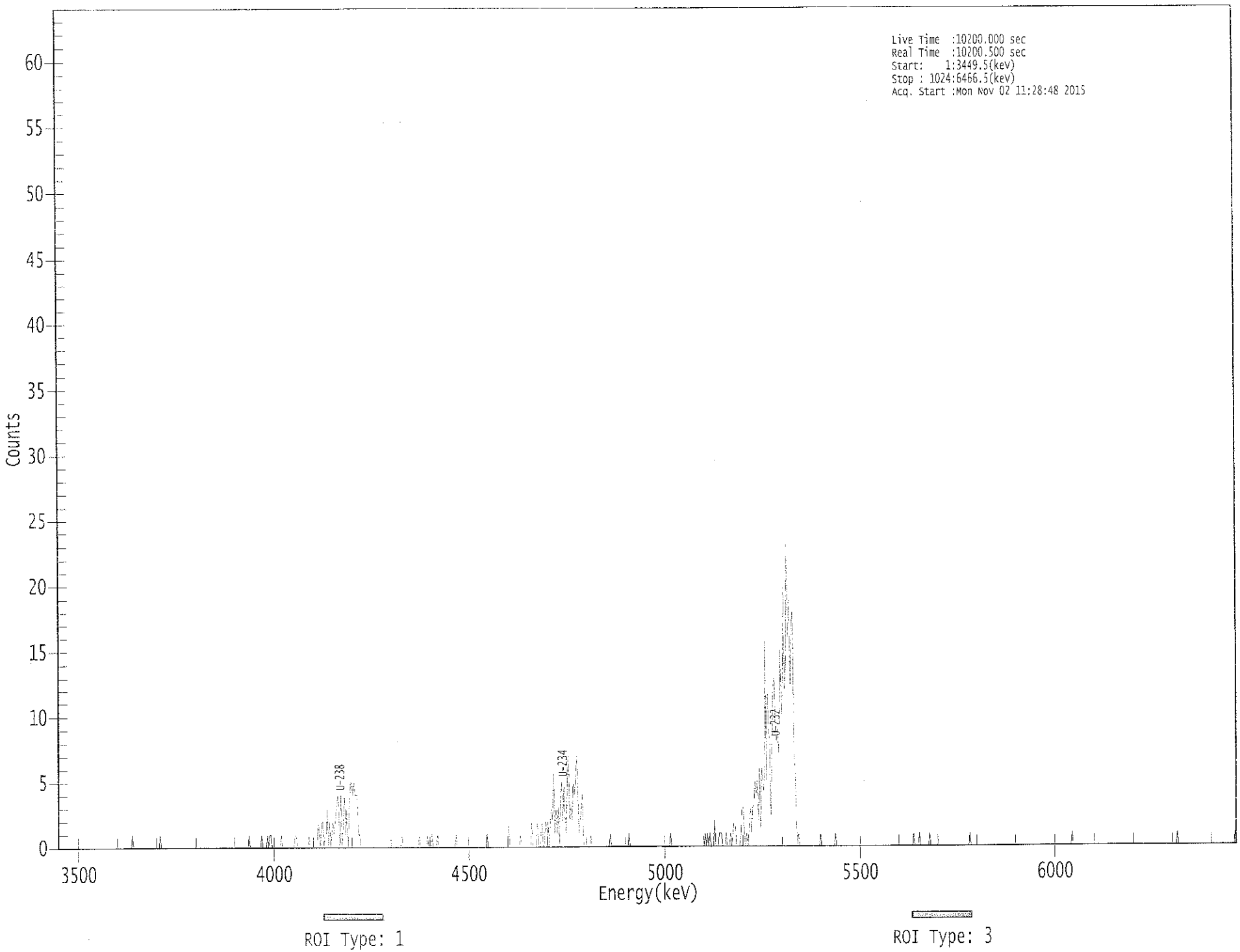
0000132929.CNF



15109

****
***** 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: 10201

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

369:	0	0	0	0	1	0	0	0

Sample Title: 15

Channel								
377:	0	0	0	0	0	0	0	0
385:	0	0	0	0	0	0	0	2
393:	0	0	0	0	0	0	0	0
401:	0	1	0	0	0	0	0	0
409:	0	0	0	2	0	0	0	0
417:	2	0	0	1	2	0	0	2
425:	1	2	0	2	3	2	6	1
433:	3	1	3	0	4	5	2	5
441:	2	1	6	7	2	3	2	5
449:	4	5	7	5	1	2	3	4
457:	0	0	0	0	0	0	1	0
465:	0	0	0	0	0	0	0	0
473:	0	0	0	0	0	0	0	1
481:	0	0	0	0	0	0	0	0
489:	0	0	0	0	0	0	0	1
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	1	0	0	0	0
537:	0	0	0	0	0	0	0	0
545:	0	0	0	0	0	0	0	0
553:	0	0	0	0	0	0	0	0
561:	0	1	0	1	0	1	0	0
569:	0	2	0	0	0	1	1	1
577:	0	0	0	1	0	0	0	1
585:	0	1	2	2	0	0	0	0
593:	1	3	3	1	0	1	0	1
601:	3	1	3	3	5	4	5	2
609:	6	1	6	5	4	16	5	12
617:	9	8	2	7	12	13	9	8
625:	9	7	15	12	10	20	12	14
633:	23	16	19	12	17	18	7	6
641:	2	0	1	0	0	0	0	0
649:	0	0	0	0	0	0	0	0
657:	0	0	0	0	0	1	0	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	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	1	0
745:	0	0	0	1	0	0	0	0
753:	0	0	0	0	1	0	0	0
761:	0	0	0	0	0	0	0	0
769:	0	0	0	0	0	0	0	0
777:	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	0	0	1
793:	0	0	0	0	0	0	0	0

801:	0	0	0	0	0	0	0	0

Sample Title: 15

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	1	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	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	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	1	0	0

Apex-Alpha™

ICB 11/2/15

Sample Description: CP1805S11-12
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001329
Batch Identification: 1510091A-UU
Sample Identification: 16
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: 1.506E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 10:14:38 AM
Acquisition Date/Time: 11/2/2015 11:28:50 AM
Acquisition Live Time: 170.0 minutes
Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
Tracer Quantity: 0.654 mL
Effective Efficiency: 0.1791 +/- 0.0102
Counting Efficiency: 0.1455 +/- 0.0026 on 12/13/2014 2:39:33 PM
Chem. Recovery Factor: 1.2306 +/- 0.0736

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	5.288	368.32	10.22	0.68	0.00E+000	42.9
U-234		4.743	103.98	19.33	1.02	0.00E+000	5.2
U-235		4.413	4.00	109.57	0.00	0.00E+000	3.0
U-238		4.168	104.66	19.20	0.34	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)
U-232	0.999	5302.50*	3.63E+000 +/- 4.06E-001	5.56E-002 +/- 6.21E-003
U-234	0.998	4761.50*	1.02E+000 +/- 2.29E-001	6.20E-002 +/- 6.93E-003
U-235	0.995	4385.50*	4.86E-002 +/- 5.35E-002	7.28E-002 +/- 8.14E-003
U-238	0.998	4184.40*	1.03E+000 +/- 2.28E-001	4.69E-002 +/- 5.24E-003

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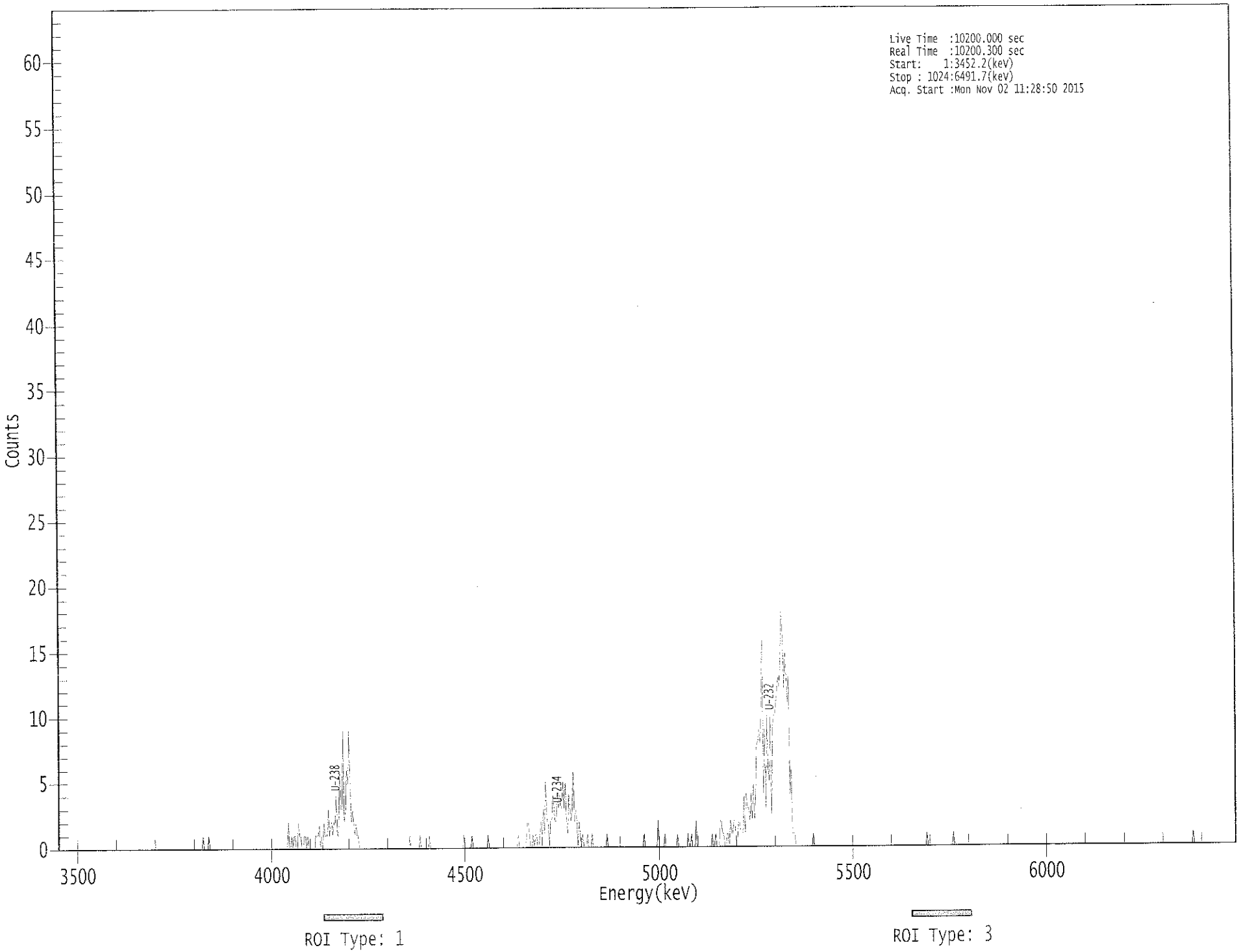
0000132924.CNF



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

369:	0	0	0	0	0	1	0	0

Sample Title: 16

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	1
401:	0	0	0	0	0	0	0	2
409:	2	1	0	0	1	0	1	1
417:	0	0	1	2	1	3	1	5
425:	2	2	0	2	2	4	3	2
433:	2	4	3	4	3	3	5	3
441:	5	2	1	4	3	2	3	6
449:	2	3	2	0	2	1	0	1
457:	0	0	0	1	0	0	0	1
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:	0	0	0	0	0	0	0	0
497:	0	0	0	0	0	0	0	0
505:	0	0	0	0	1	0	0	0
513:	0	0	0	0	0	0	0	0
521:	2	0	0	0	0	0	1	0
529:	0	0	0	0	0	0	0	0
537:	0	1	0	0	0	0	0	0
545:	0	0	1	0	0	1	0	0
553:	0	2	0	0	0	0	0	0
561:	0	0	0	0	0	0	0	1
569:	0	0	1	0	0	0	2	2
577:	1	1	0	0	1	1	0	2
585:	1	1	2	2	0	0	2	2
593:	1	1	1	4	1	4	3	3
601:	2	4	2	5	2	4	8	8
609:	9	8	10	17	4	9	3	10
617:	6	5	10	2	9	10	10	11
625:	12	13	12	15	18	16	12	15
633:	13	11	13	4	6	1	1	1
641:	0	0	0	0	0	0	0	0
649:	0	0	0	0	0	0	0	1
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	1	0	0	0	0	0
761:	0	0	0	0	0	0	0	0
769:	0	0	0	0	0	0	0	0
777:	0	1	0	0	0	0	0	0
785:	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	0	0

801:	0	0	0	0	0	0	0	0

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	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	1	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 11/2/15

Apex-Alpha™

Sample Description: CP1805S13-14
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001329
Batch Identification: 1510091A-UU
Sample Identification: 17
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: 1.505E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 10:14:38 AM
Acquisition Date/Time: 11/2/2015 11:28:53 AM
Acquisition Live Time: 170.0 minutes
Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
Tracer Quantity: 0.654 mL
Effective Efficiency: 0.1664 +/- 0.0098
Counting Efficiency: 0.1452 +/- 0.0026 on 12/13/2014 2:38:19 PM
Chem. Recovery Factor: 1.1461 +/- 0.0704

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	342.66	10.59	0.34	0.00E+000	6.6
U-234		4.734	78.83	22.10	0.17	0.00E+000	9.4
U-235		4.441	1.00	277.19	0.00	0.00E+000	3.0
U-238		4.159	68.66	23.72	0.34	0.00E+000	15.3

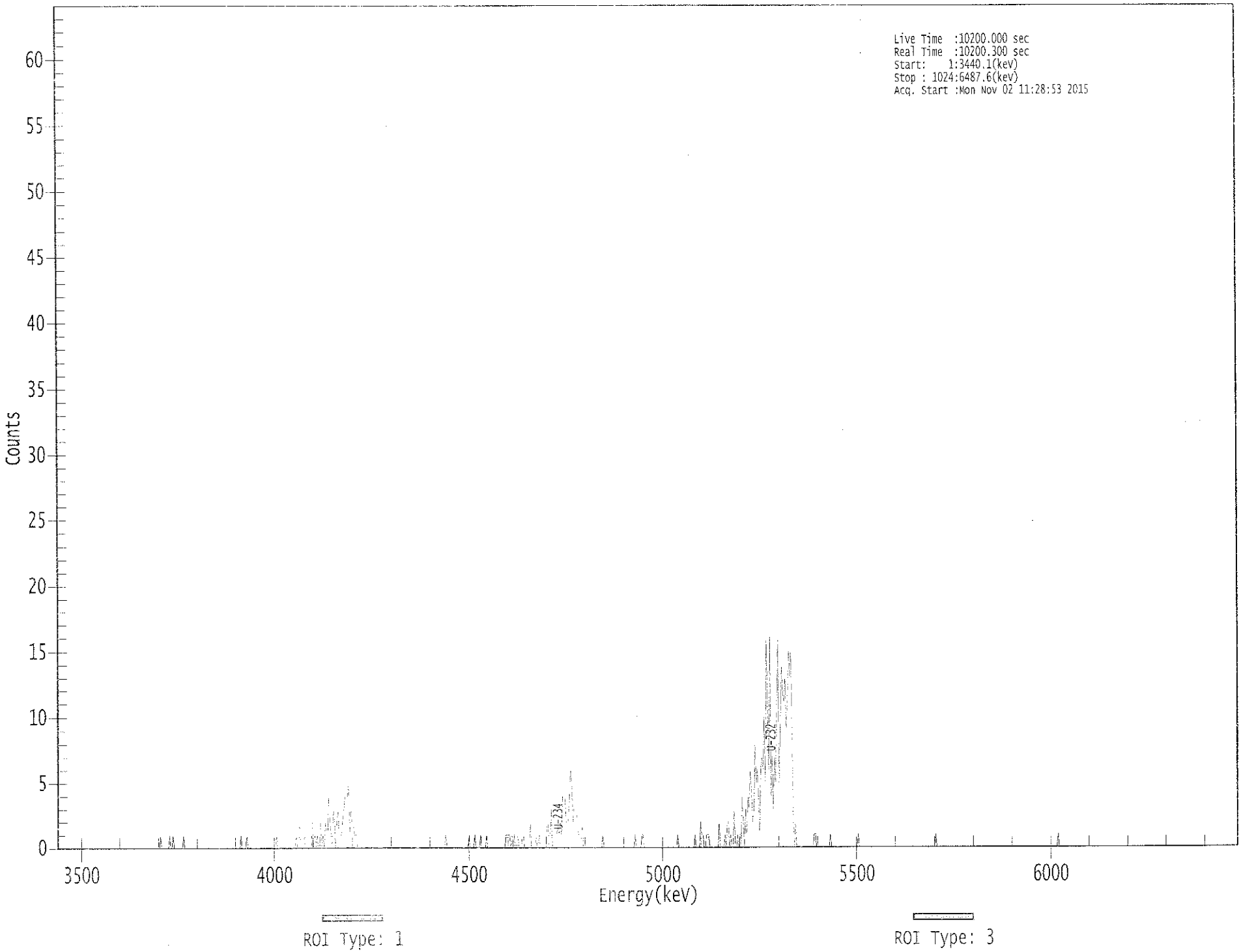
T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
U-232	0.997	5302.50*	3.64E+000 +/- 4.19E-001	5.07E-002 +/- 5.84E-003
U-234	0.995	4761.50*	8.36E-001 +/- 2.08E-001	4.43E-002 +/- 5.10E-003
U-235	0.978	4385.50*	1.31E-002 +/- 3.63E-002	7.84E-002 +/- 9.03E-003
U-238	0.995	4184.40*	7.25E-001 +/- 1.91E-001	5.05E-002 +/- 5.81E-003

AG
11/2/15

0000132925.CNF



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

Sample Title: 17

Elapsed Live time: 10200
Elapsed Real Time: 10200

Channel								
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0
89:	0	1	0	0	0	0	0	0
97:	0	1	0	0	1	0	0	0
105:	0	0	0	0	0	1	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	1
161:	0	0	0	0	1	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	1	0
193:	0	0	0	0	0	0	0	0
201:	0	0	0	0	0	0	0	1
209:	0	0	2	0	0	0	1	0
217:	0	0	0	0	0	2	0	1
225:	0	1	0	0	2	0	1	0
233:	2	1	1	4	2	1	0	3
241:	2	0	2	3	1	1	1	2
249:	3	4	4	4	5	1	3	2
257:	2	1	1	1	0	0	0	0
265:	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	0
297:	0	0	0	0	0	0	0	0
305:	0	0	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	0	0
345:	0	0	0	0	0	0	0	0
353:	0	0	0	0	1	0	0	0
361:	0	1	0	0	0	0	1	0

369:	0	0	0	1	0	0	0	0

Sample Title: 17

Channel								
377:	0	0	0	0	0	0	0	0
385:	0	0	0	0	1	1	1	1
393:	0	1	0	1	0	0	1	0
401:	0	0	1	1	0	0	0	0
409:	0	2	0	0	0	0	1	0
417:	0	1	0	0	0	0	0	1
425:	2	0	1	3	0	1	1	1
433:	1	2	1	2	1	4	4	4
441:	2	2	2	4	6	5	2	3
449:	3	3	2	1	1	0	2	0
457:	0	0	0	0	0	0	0	0
465:	0	0	0	0	0	0	0	0
473:	1	0	0	0	0	0	0	0
481:	0	0	0	0	0	0	0	0
489:	0	0	0	0	0	0	0	0
497:	0	0	0	0	1	0	0	0
505:	0	0	1	1	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	1	0	0	0	0	0	0
545:	0	0	0	0	0	0	0	0
553:	1	0	0	0	0	2	1	1
561:	0	0	1	1	1	0	0	0
569:	0	0	0	0	0	2	0	0
577:	0	0	1	0	2	2	0	1
585:	0	0	3	0	0	1	0	1
593:	0	4	2	0	3	1	4	3
601:	6	4	2	3	8	5	6	4
609:	1	6	7	6	10	5	16	10
617:	6	16	4	7	3	7	5	11
625:	16	5	8	14	12	11	13	9
633:	11	15	13	15	9	2	0	2
641:	0	0	0	0	0	0	0	0
649:	0	0	0	0	0	0	0	1
657:	1	0	0	0	0	0	0	0
665:	0	0	0	0	0	1	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	1	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:	1	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: 17

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	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	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	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™

AG 11/2/15

Sample Description: CP1805S15-16
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001329
Batch Identification: 1510091A-UU
Sample Identification: 18
Sample Geometry: Shelf 2
Procedure Description: U iso

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

Sample Size: 1.515E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 10:14:38 AM
Acquisition Date/Time: 11/2/2015 11:28:56 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: 0.1618 +/- 0.0096
Counting Efficiency: 0.1564 +/- 0.0028 on 12/13/2014 2:35:48 PM
Chem. Recovery Factor: 1.0345 +/- 0.0643

Peak Match Tolerance: 0.150 MeV

PEAK AREA REPORT

Nuclide		Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
U-232	T	5.283	332.32	10.76	0.68	0.00E+000	11.9
U-234		4.741	102.64	19.50	1.36	0.00E+000	7.7
U-235		4.385	4.32	102.62	0.68	0.00E+000	3.0
U-238		4.168	72.81	23.19	1.19	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)
U-232	0.997	5302.50*	3.60E+000 +/- 4.21E-001	6.12E-002 +/- 7.14E-003
U-234	0.997	4761.50*	1.11E+000 +/- 2.53E-001	7.43E-002 +/- 8.67E-003
U-235	1.000	4385.50*	5.77E-002 +/- 5.96E-002	7.54E-002 +/- 8.80E-003
U-238	0.998	4184.40*	7.86E-001 +/- 2.04E-001	7.11E-002 +/- 8.30E-003

AG
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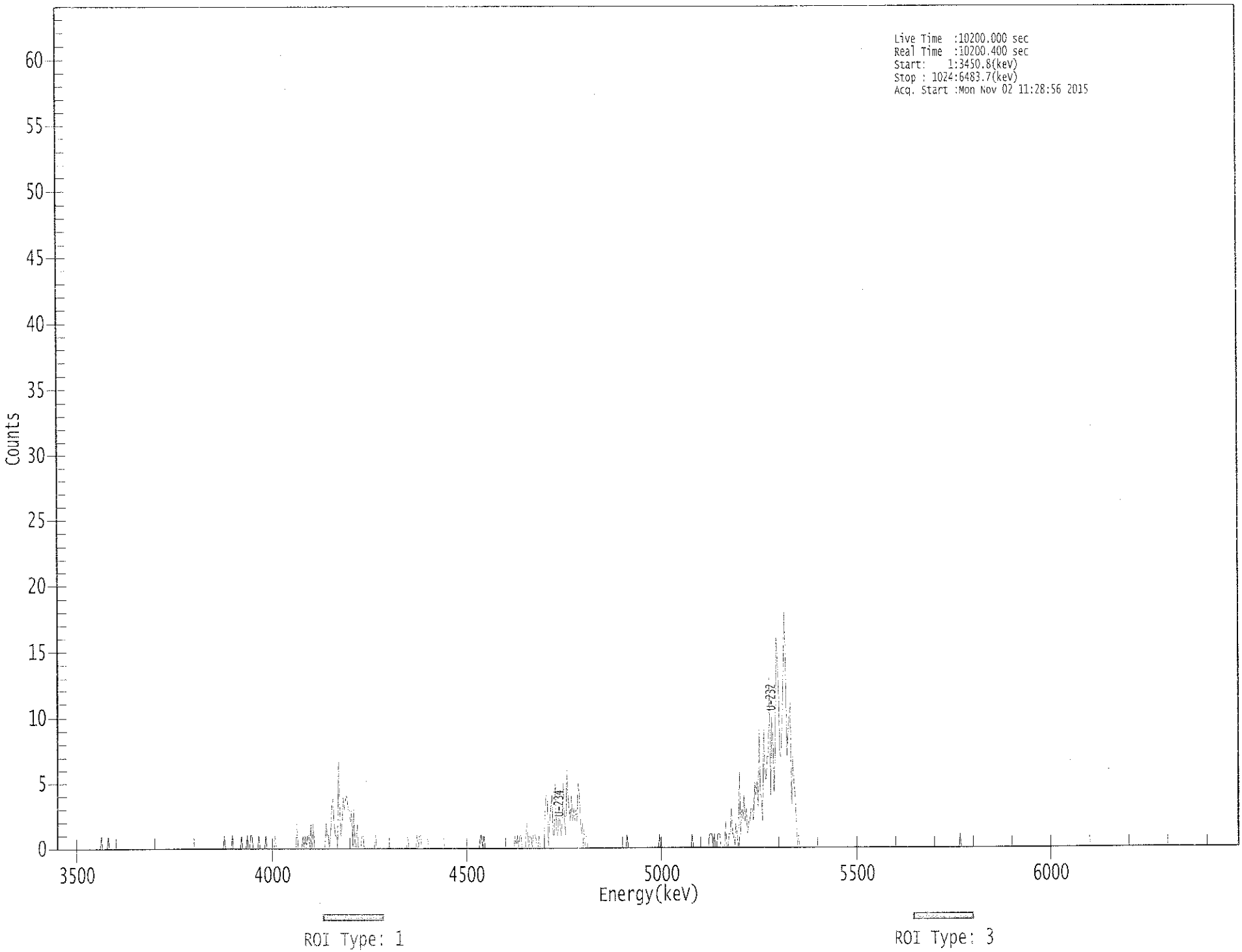
0000132930.CNF



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

Sample Title: 18

Elapsed Live time: 10200
Elapsed Real Time: 10200

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

369:	0	1	0	0	0	0	0	0

Sample Title: 18

Channel								
377:	0	0	0	0	0	0	0	0
385:	0	0	0	0	0	0	0	0
393:	0	0	0	0	1	0	1	0
401:	1	1	0	0	0	0	2	1
409:	0	1	1	0	1	1	1	0
417:	0	1	0	0	0	0	2	4
425:	4	0	2	3	4	1	1	5
433:	1	1	3	2	1	2	5	2
441:	1	6	4	3	2	4	2	3
449:	2	3	2	5	4	2	1	2
457:	1	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	0	1	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	1	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	0	0	0	0
561:	0	0	0	0	1	1	1	0
569:	1	0	0	1	1	1	0	0
577:	0	0	2	0	0	1	1	3
585:	1	1	0	2	1	0	6	1
593:	3	2	4	2	3	1	2	2
601:	3	3	2	5	4	5	3	9
609:	4	4	2	9	6	5	7	7
617:	13	4	10	8	4	8	16	14
625:	12	7	7	10	13	18	13	7
633:	9	10	11	3	7	5	4	2
641:	0	1	0	0	0	0	0	0
649:	0	0	0	0	0	0	0	0
657:	0	0	0	0	0	0	0	0
665:	0	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0
681:	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	1	0	0
785:	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	0	0

801:	0	0	0	0	0	0	0	0

Sample Title: 18

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

KB 11/2/15

Apex-Alpha™

Sample Description: CP1805S18-19
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001329
Batch Identification: 1510091A-UU
Sample Identification: 19
Sample Geometry: Shelf 2
Procedure Description: U iso

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

Sample Size: 1.515E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 10:14:38 AM
Acquisition Date/Time: 11/2/2015 11:28:58 AM
Acquisition Live Time: 170.0 minutes
Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
Tracer Quantity: 0.663 mL
Effective Efficiency: 0.1883 +/- 0.0105
Counting Efficiency: 0.1600 +/- 0.0028 on 12/13/2014 2:30:22 PM
Chem. Recovery Factor: 1.1767 +/- 0.0686

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	5.288	393.15	9.90	0.85	0.00E+000	38.1
U-234		4.742	70.81	23.52	1.19	0.00E+000	11.6
U-235		4.367	5.49	88.08	0.51	0.00E+000	3.0
U-238		4.164	71.81	23.35	1.19	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)
U-232	0.998	5302.50*	3.66E+000 +/- 3.98E-001	5.57E-002 +/- 6.06E-003
U-234	0.997	4761.50*	6.59E-001 +/- 1.71E-001	6.13E-002 +/- 6.67E-003
U-235	0.997	4385.50*	6.30E-002 +/- 5.59E-002	6.02E-002 +/- 6.55E-003
U-238	0.997	4184.40*	6.65E-001 +/- 1.71E-001	6.10E-002 +/- 6.64E-003

AG
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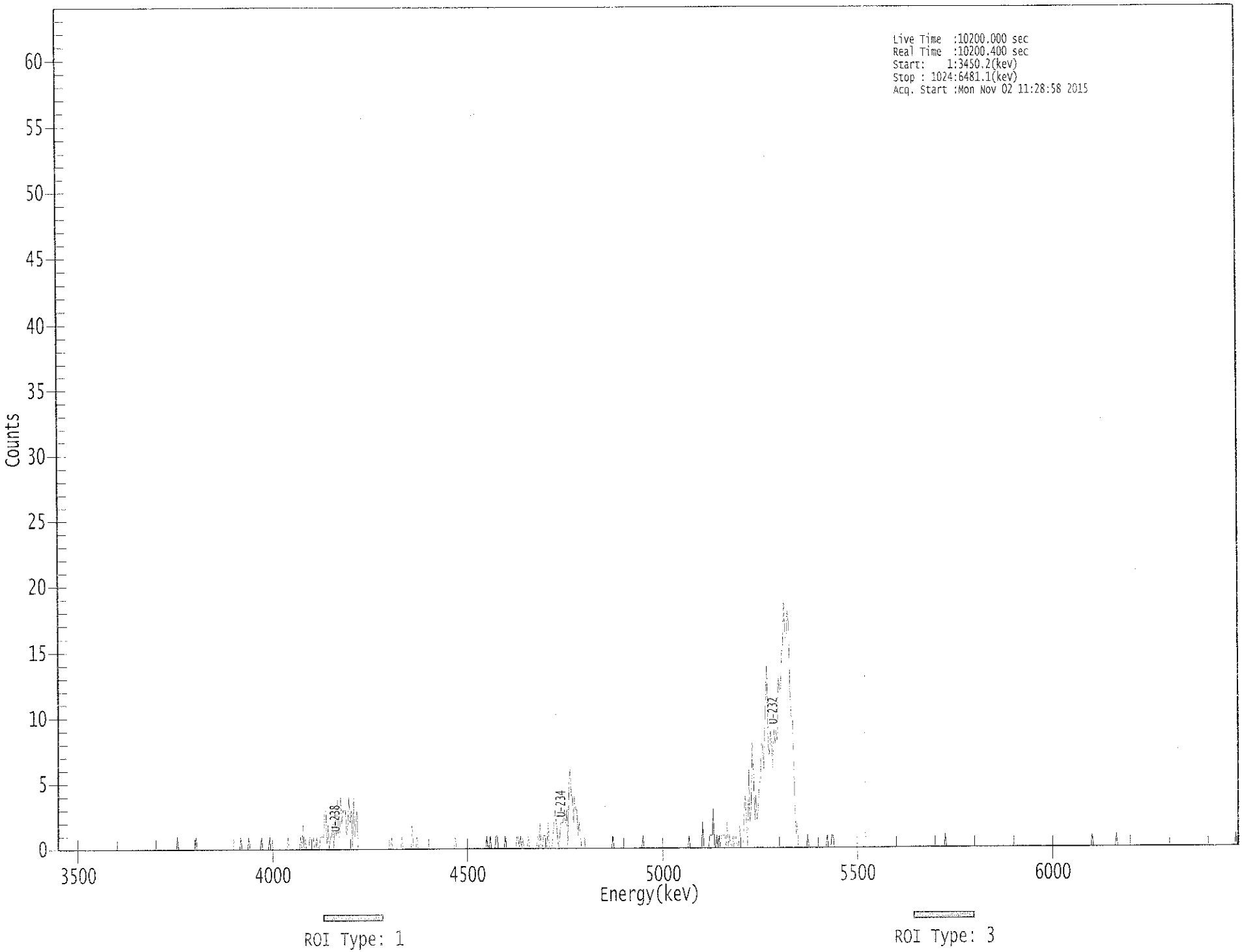
0000132931.CNF



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

Sample Title: 19

Elapsed Live time: 10200
Elapsed Real Time: 10200

Channel								
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	0	0	0	0	0	0
25:	0	0	0	0	0	0	0	0
33:	0	0	0	0	0	0	0	0
41:	0	0	0	0	0	0	0	0
49:	0	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	1
105:	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	1
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	1	0
161:	0	0	0	0	0	1	0	0
169:	0	0	0	0	0	0	0	0
177:	1	0	0	0	0	0	0	1
185:	0	0	0	0	0	0	0	0
193:	0	0	0	0	0	0	0	1
201:	0	0	0	0	0	0	0	0
209:	0	0	1	0	2	0	1	0
217:	0	0	1	1	1	1	0	0
225:	1	0	0	1	1	1	1	3
233:	3	0	2	0	1	1	2	0
241:	3	1	4	1	1	4	2	3
249:	3	3	1	2	4	2	3	0
257:	4	1	2	3	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	1	0	0	0	0	0	0
297:	0	0	1	0	0	0	0	0
305:	0	0	0	2	0	0	0	1
313:	0	0	0	0	0	0	0	0
321:	0	0	0	0	0	0	0	0
329:	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0
345:	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	0

369:	0	0	0	1	0	0	1	0

Sample Title: 19

Channel								
377:	0	0	0	1	1	0	0	0
385:	0	0	0	1	0	0	0	0
393:	0	0	0	0	0	1	1	0
401:	1	0	1	0	0	0	0	1
409:	0	0	0	0	0	0	0	1
417:	0	2	0	0	1	1	1	0
425:	2	0	0	0	1	2	3	2
433:	1	0	1	2	2	2	3	2
441:	3	0	5	6	4	4	2	4
449:	3	3	1	2	1	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:	1	0	0	0	0	0	0	0
489:	0	0	0	0	0	0	0	0
497:	0	0	0	0	0	0	0	0
505:	0	0	1	0	0	0	0	0
513:	0	0	0	0	0	0	0	0
521:	0	0	0	0	0	0	0	0
529:	0	0	0	0	0	0	0	0
537:	0	0	0	0	0	0	0	0
545:	0	0	1	0	0	0	0	0
553:	0	0	0	0	0	0	2	0
561:	0	0	0	0	1	1	1	3
569:	0	0	1	0	1	0	1	1
577:	1	1	0	2	0	1	0	0
585:	1	0	1	1	0	0	2	0
593:	0	0	3	4	2	0	6	2
601:	3	8	6	2	4	2	3	5
609:	5	8	8	6	9	12	14	8
617:	7	9	8	6	9	8	9	8
625:	13	12	12	15	15	19	16	16
633:	18	17	12	10	10	7	3	1
641:	2	0	0	0	0	0	0	0
649:	0	1	0	0	0	0	0	0
657:	0	0	0	0	0	0	0	0
665:	0	0	1	0	0	0	1	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	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:	1	0	0	0	0	0	0	0
777:	0	0	0	0	0	0	0	0
785:	0	0	0	0	0	0	0	0
793:	0	0	0	0	0	0	0	0

801:	0	0	0	0	0	0	0	0

Sample Title: 19

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	1
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	1	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	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	1	0	0	0

11/2/2015 5:31:34 AM

Apex-Alpha™

QA SUMMARY REPORT

Review Of QA Results - Pulser Check

Date : 11/2/2015
Time : 5:31:34 AM

CHAMBER	DEVICE	PARAMETER	FLAG	DATE
Alpha_001	21f	ALL	Not Done	
Alpha_002	21f	ALL	Not Done	
Alpha_003	21f	ALL	Passed	11/2/2015 5:10:08 AM
Alpha_004	21f	ALL	Passed	11/2/2015 5:10:08 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	11/2/2015 5:10:09 AM
Alpha_011	21f	ALL	Passed	11/2/2015 5:10:10 AM
Alpha_012	21f	ALL	Passed	11/2/2015 5:10:11 AM
Alpha_013	21f	ALL	Not Done	
Alpha_014	21f	ALL	Passed	11/2/2015 5:10:12 AM
Alpha_015	21f	ALL	Passed	11/2/2015 5:10:13 AM
Alpha_016	21f	ALL	Not Done	
Alpha_033	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:14 AM
Alpha_034	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:15 AM
Alpha_035	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:17 AM
Alpha_036	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:18 AM
Alpha_037	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:20 AM
Alpha_038	Alpha Analyst100DC	Peak Energy	Action	11/2/2015 5:10:21 AM
Alpha_039	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:23 AM
Alpha_040	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:24 AM
Alpha_041	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:26 AM
Alpha_042	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:27 AM
Alpha_043	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:29 AM
Alpha_044	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:30 AM
Alpha_045	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:32 AM
Alpha_046	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:34 AM
Alpha_047	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:36 AM
Alpha_048	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:37 AM
Alpha_049	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:39 AM
Alpha_050	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:41 AM
Alpha_051	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:43 AM
Alpha_052	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:45 AM
Alpha_053	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:47 AM
Alpha_054	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:50 AM
Alpha_055	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:52 AM
Alpha_056	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:55 AM
Alpha_057	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:10:57 AM
Alpha_058	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:11:00 AM

Review of QA Results - Pulser Check

11/2/2015 5:31:34 AM

CHAMBER	DEVICE	PARAMETER	FLAG	DATE
Alpha_059	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:11:03 AM
Alpha_060	Alpha Analyst100DC	ALL	Passed	11/2/2015 5:11:06 AM

APPROVED BY: _____

APPROVAL DATE: 11/2

****
***** L I B R A R Y L I S T I N G R E P O R T *****
****

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)

15-10091
ThISO
Run 1

Work Order	15-10091
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	CP1807S03-04	36	10/10/15 08:30	1.5018E+00
04	DO	CP1807S03-04	36	10/10/15 08:30	1.5087E+00
05	TRG	CP1807S05-06	38	10/10/15 08:40	1.5068E+00
06	TRG	CP1807S08-09	35	10/10/15 08:50	1.5110E+00
07	TRG	CP1807S11-12	37	10/10/15 09:00	1.5151E+00
08	TRG	CP1807S13-14	33	10/10/15 09:10	1.5050E+00
09	TRG	CP1807S16-17	35	10/10/15 09:20	1.5275E+00
10	TRG	CP1807S18-19	36	10/10/15 09:30	1.5032E+00
11	TRG	CP1807S20-21	32	10/10/15 09:40	1.5027E+00
12	TRG	CP1807S22-23	36	10/10/15 09:50	1.5232E+00
13	TRG	CP1805S03-04	34	10/10/15 10:00	1.5115E+00
14	TRG	CP1805S05-06	35	10/10/15 10:10	1.5031E+00
15	TRG	CP1805S08-09	39	10/10/15 10:20	1.5051E+00
16	TRG	CP1805S11-12	41	10/10/15 10:30	1.5030E+00
17	TRG	CP1805S13-14	36	10/10/15 10:40	1.5138E+00
18	TRG	CP1805S15-16	41	10/10/15 10:50	1.5499E+00
19	TRG	CP1805S18-19	39	10/10/15 11:00	1.5155E+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	0.4430	9.9		0.00								
02	MBL	0.2246	5.0		0.00								
03	DUP	0.2218	5.0		0.00								
04	DO	0.2231	5.0		0.00								
05	TRG	0.2221	5.0		0.00								
06	TRG	0.2238	5.0		0.00								
07	TRG	0.2245	5.0		0.00								
08	TRG	0.2246	5.0		0.00								
09	TRG	0.2256	5.1		0.00								
10	TRG	0.2234	5.0		0.00								
11	TRG	0.2247	5.0		0.00								
12	TRG	0.2249	5.1		0.00								
13	TRG	0.2245	5.0		0.00								
14	TRG	0.2256	5.1		0.00								
15	TRG	0.2261	5.1		0.00								
16	TRG	0.2254	5.1		0.00								
17	TRG	0.2240	5.0		0.00								
18	TRG	0.2251	5.1		0.00								
19	TRG	0.2249	5.1		0.00								

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

Internal Fraction	Sample Desc	Rough Prep Date	Rough Prep By	Prep Date	Prep By	Sep t0 Date/Time	Sep t0 By	Sep t1 Date/Time	Sep t1 By
01	LCS			10/21/15 09:34	JPACHELLA				
02	MBL			10/21/15 09:34	JPACHELLA				
03	DUP			10/21/15 09:34	JPACHELLA				
04	DO	10/20/15 08:25	KSALLINGS	10/21/15 09:34	JPACHELLA				
05	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:34	JPACHELLA				
06	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:34	JPACHELLA				
07	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:34	JPACHELLA				
08	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:34	JPACHELLA				
09	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:34	JPACHELLA				
10	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:34	JPACHELLA				
11	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:34	JPACHELLA				
12	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:34	JPACHELLA				
13	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:34	JPACHELLA				
14	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:34	JPACHELLA				
15	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:34	JPACHELLA				
16	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:34	JPACHELLA				
17	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:34	JPACHELLA				
18	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:34	JPACHELLA				
19	TRG	10/20/15 08:25	KSALLINGS	10/21/15 09:34	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.

Preliminary Data Report & Analytical Calculations

Work Order: 15-10091-ThISO-1

Client: Auxier & Associates, Inc.
Eberline Services Work Order: 15-10091
Analysis Code: ThISO
Run: 1

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	4.91E+00	9.12E-01	1.23E-01	4.70E+00	104.50	OK		OK	
02	TH-228	MBL	BLANK	pCi/g	1.18E-02	2.96E-02	6.16E-02					OK	OK
03	TH-228	DUP	CP1807S03-04	pCi/g	1.35E+00	3.34E-01	6.35E-02				OK	OK	
04	TH-228	DO	CP1807S03-04	pCi/g	1.32E+00	3.33E-01	6.53E-02					OK	
05	TH-228	TRG	CP1807S05-06	pCi/g	1.45E+00	3.55E-01	8.14E-02					OK	
06	TH-228	TRG	CP1807S08-09	pCi/g	1.08E+00	2.53E-01	8.91E-02					OK	
07	TH-228	TRG	CP1807S11-12	pCi/g	1.13E+00	3.11E-01	7.58E-02					OK	
08	TH-228	TRG	CP1807S13-14	pCi/g	1.34E+00	3.13E-01	6.72E-02					OK	
09	TH-228	TRG	CP1807S16-17	pCi/g	1.28E+00	3.34E-01	8.46E-02					OK	
10	TH-228	TRG	CP1807S18-19	pCi/g	1.45E+00	3.79E-01	7.42E-02					OK	
11	TH-228	TRG	CP1807S20-21	pCi/g	8.46E-01	2.21E-01	5.74E-02					OK	
12	TH-228	TRG	CP1807S22-23	pCi/g	1.10E+00	2.69E-01	6.11E-02					OK	
13	TH-228	TRG	CP1805S03-04	pCi/g	1.52E+00	3.83E-01	7.77E-02					OK	
14	TH-228	TRG	CP1805S05-06	pCi/g	1.39E+00	3.43E-01	6.50E-02					OK	
15	TH-228	TRG	CP1805S08-09	pCi/g	1.24E+00	3.30E-01	6.76E-02					OK	
16	TH-228	TRG	CP1805S11-12	pCi/g	1.25E+00	2.82E-01	7.33E-02					OK	
17	TH-228	TRG	CP1805S13-14	pCi/g	1.54E+00	3.75E-01	6.59E-02					OK	
18	TH-228	TRG	CP1805S15-16	pCi/g	1.21E+00	2.87E-01	6.42E-02					OK	
19	TH-228	TRG	CP1805S18-19	pCi/g	1.19E+00	3.32E-01	7.26E-02					OK	

Preliminary Data Report & Analytical Calculations

Work Order: 15-10091-ThISO-1

Client: Auxier & Associates, Inc.
Eberline Services Work Order: 15-10091
Analysis Code: ThISO
Run: 1

Lab Fraction	Nuclide	Sample Desc	Sample Date	Sample Aliquot	Radiometric % Rec	Grav % Rec	Mean % Rec	SAF	Sep t0 Date/Time	Sep t1 Date/Time
01	TH-228	LCS	10/15/15 00:00	1.00E+00	80.15	0.00	0.00			
02	TH-228	MBL	10/15/15 00:00	1.50E+00	104.08	0.00	0.00			
03	TH-228	DUP	10/10/15 08:30	1.50E+00	99.85	0.00	0.00			
04	TH-228	DO	10/10/15 08:30	1.51E+00	107.74	0.00	0.00			
05	TH-228	TRG	10/10/15 08:40	1.51E+00	117.02	0.00	0.00			
06	TH-228	TRG	10/10/15 08:50	1.51E+00	143.44	0.00	0.00			
07	TH-228	TRG	10/10/15 09:00	1.52E+00	92.32	0.00	0.00			
08	TH-228	TRG	10/10/15 09:10	1.51E+00	130.75	0.00	0.00			
09	TH-228	TRG	10/10/15 09:20	1.53E+00	105.93	0.00	0.00			
10	TH-228	TRG	10/10/15 09:30	1.50E+00	80.43	0.00	0.00			
11	TH-228	TRG	10/10/15 09:40	1.50E+00	110.56	0.00	0.00			
12	TH-228	TRG	10/10/15 09:50	1.52E+00	116.27	0.00	0.00			
13	TH-228	TRG	10/10/15 10:00	1.51E+00	83.99	0.00	0.00			
14	TH-228	TRG	10/10/15 10:10	1.50E+00	97.03	0.00	0.00			
15	TH-228	TRG	10/10/15 10:20	1.51E+00	92.85	0.00	0.00			
16	TH-228	TRG	10/10/15 10:30	1.50E+00	111.21	0.00	0.00			
17	TH-228	TRG	10/10/15 10:40	1.51E+00	87.47	0.00	0.00			
18	TH-228	TRG	10/10/15 10:50	1.55E+00	103.20	0.00	0.00			
19	TH-228	TRG	10/10/15 11:00	1.52E+00	79.86	0.00	0.00			

Preliminary Data Report & Analytical Calculations

Work Order: 15-10091-ThISO-1

Client: Auxier & Associates, Inc.
Eberline Services Work Order: 15-10091
Analysis Code: ThISO
Run: 1

Lab Fraction	Nuclide	Sample Desc	Counting Date/Time	Halflife (days)	Detect	Carrier	Count Time	Counts	Bkg CPM	Eff
01	TH-228	LCS	10/30/15 08:39		A_Spec	Alpha_046	170	2.64 E+02	7.00 E-03	17.8
02	TH-228	MBL	10/30/15 08:39		A_Spec	Alpha_047	170	1.15 E+00	5.00 E-03	16.5
03	TH-228	DUP	10/30/15 08:39		A_Spec	Alpha_048	170	1.27 E+02	5.00 E-03	17
04	TH-228	DO	10/30/15 10:58		A_Spec	Alpha_049	170	1.21 E+02	5.00 E-03	15.3
05	TH-228	TRG	10/30/15 10:58		A_Spec	Alpha_050	170	1.35 E+02	1.10 E-02	14.3
06	TH-228	TRG	10/30/15 10:58		A_Spec	Alpha_051	170	1.32 E+02	3.10 E-02	15.2
07	TH-228	TRG	10/30/15 10:58		A_Spec	Alpha_052	170	9.40 E+01	6.00 E-03	16.1
08	TH-228	TRG	10/30/15 10:58		A_Spec	Alpha_053	170	1.41 E+02	9.00 E-03	14.6
09	TH-228	TRG	10/30/15 10:58		A_Spec	Alpha_054	170	1.11 E+02	1.00 E-02	14.5
10	TH-228	TRG	10/30/15 11:33		A_Spec	Alpha_033	170	1.17 E+02	5.00 E-03	18
11	TH-228	TRG	10/30/15 11:33		A_Spec	Alpha_034	170	9.30 E+01	6.00 E-03	17.9
12	TH-228	TRG	10/30/15 11:33		A_Spec	Alpha_035	170	1.19 E+02	7.00 E-03	16.5
13	TH-228	TRG	10/30/15 11:33		A_Spec	Alpha_036	170	1.29 E+02	7.00 E-03	18.1
14	TH-228	TRG	10/30/15 11:33		A_Spec	Alpha_037	170	1.28 E+02	5.00 E-03	17.1
15	TH-228	TRG	10/30/15 11:33		A_Spec	Alpha_038	170	1.03 E+02	4.00 E-03	16.2
16	TH-228	TRG	10/30/15 11:33		A_Spec	Alpha_039	170	1.49 E+02	1.70 E-02	19.3
17	TH-228	TRG	10/30/15 11:33		A_Spec	Alpha_040	170	1.40 E+02	5.00 E-03	18.6
18	TH-228	TRG	10/30/15 11:33		A_Spec	Alpha_041	170	1.34 E+02	9.00 E-03	18.7
19	TH-228	TRG	10/30/15 11:33		A_Spec	Alpha_042	170	9.23 E+01	4.00 E-03	17.4

Eberline Services
Oak Ridge Laboratory

Preliminary Data Report & Analytical Calculations

Work Order: 15-10091-ThISO-1

Client: Auxier & Associates, Inc.
Eberline Services Work Order: 15-10091
Analysis Code: ThISO
Run: 1

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	6.37E+00	1.12E+00	1.23E-01	5.32E+00	119.82	OK		OK	
02	TH-230	MBL	BLANK	pCi/g	2.92E-02	3.55E-02	4.30E-02					OK	OK
03	TH-230	DUP	CP1807S03-04	pCi/g	2.10E+00	4.69E-01	5.46E-02				OK	OK	
04	TH-230	DO	CP1807S03-04	pCi/g	2.10E+00	4.74E-01	6.42E-02					OK	
05	TH-230	TRG	CP1807S05-06	pCi/g	1.93E+00	4.41E-01	5.95E-02					OK	
06	TH-230	TRG	CP1807S08-09	pCi/g	1.20E+00	2.71E-01	6.43E-02					OK	
07	TH-230	TRG	CP1807S11-12	pCi/g	1.02E+00	2.87E-01	6.66E-02					OK	
08	TH-230	TRG	CP1807S13-14	pCi/g	9.27E-01	2.39E-01	5.84E-02					OK	
09	TH-230	TRG	CP1807S16-17	pCi/g	9.92E-01	2.75E-01	4.72E-02					OK	
10	TH-230	TRG	CP1807S18-19	pCi/g	7.85E-01	2.42E-01	6.38E-02					OK	
11	TH-230	TRG	CP1807S20-21	pCi/g	8.75E-01	2.25E-01	5.63E-02					OK	
12	TH-230	TRG	CP1807S22-23	pCi/g	1.04E+00	2.57E-01	4.35E-02					OK	
13	TH-230	TRG	CP1805S03-04	pCi/g	2.24E+00	5.18E-01	4.83E-02					OK	
14	TH-230	TRG	CP1805S05-06	pCi/g	1.65E+00	3.88E-01	5.59E-02					OK	
15	TH-230	TRG	CP1805S08-09	pCi/g	1.32E+00	3.44E-01	6.63E-02					OK	
16	TH-230	TRG	CP1805S11-12	pCi/g	9.42E-01	2.29E-01	7.47E-02					OK	
17	TH-230	TRG	CP1805S13-14	pCi/g	1.28E+00	3.24E-01	5.67E-02					OK	
18	TH-230	TRG	CP1805S15-16	pCi/g	1.07E+00	2.61E-01	5.00E-02					OK	
19	TH-230	TRG	CP1805S18-19	pCi/g	1.05E+00	3.01E-01	5.27E-02					OK	

Preliminary Data Report & Analytical Calculations

Work Order: 15-10091-ThISO-1

Client: Auxier & Associates, Inc.
Eberline Services Work Order: 15-10091
Analysis Code: ThISO
Run: 1

Lab Fraction	Nuclide	Sample Desc	Sample Date	Sample Aliquot	Radiometric % Rec	Grav % Rec	Mean % Rec	SAF	Sep t0 Date/Time	Sep t1 Date/Time
01	TH-230	LCS	10/15/15 00:00	1.00E+00	80.15	0.00	0.00			
02	TH-230	MBL	10/15/15 00:00	1.50E+00	104.08	0.00	0.00			
03	TH-230	DUP	10/10/15 08:30	1.50E+00	99.85	0.00	0.00			
04	TH-230	DO	10/10/15 08:30	1.51E+00	107.74	0.00	0.00			
05	TH-230	TRG	10/10/15 08:40	1.51E+00	117.02	0.00	0.00			
06	TH-230	TRG	10/10/15 08:50	1.51E+00	143.44	0.00	0.00			
07	TH-230	TRG	10/10/15 09:00	1.52E+00	92.32	0.00	0.00			
08	TH-230	TRG	10/10/15 09:10	1.51E+00	130.75	0.00	0.00			
09	TH-230	TRG	10/10/15 09:20	1.53E+00	105.93	0.00	0.00			
10	TH-230	TRG	10/10/15 09:30	1.50E+00	80.43	0.00	0.00			
11	TH-230	TRG	10/10/15 09:40	1.50E+00	110.56	0.00	0.00			
12	TH-230	TRG	10/10/15 09:50	1.52E+00	116.27	0.00	0.00			
13	TH-230	TRG	10/10/15 10:00	1.51E+00	83.99	0.00	0.00			
14	TH-230	TRG	10/10/15 10:10	1.50E+00	97.03	0.00	0.00			
15	TH-230	TRG	10/10/15 10:20	1.51E+00	92.85	0.00	0.00			
16	TH-230	TRG	10/10/15 10:30	1.50E+00	111.21	0.00	0.00			
17	TH-230	TRG	10/10/15 10:40	1.51E+00	87.47	0.00	0.00			
18	TH-230	TRG	10/10/15 10:50	1.55E+00	103.20	0.00	0.00			
19	TH-230	TRG	10/10/15 11:00	1.52E+00	79.86	0.00	0.00			

Preliminary Data Report & Analytical Calculations

Work Order: 15-10091-ThISO-1

Run: 1
Analysis Code: ThISO
Eberline Services Work Order: 15-10091
Client: Auxier & Associates, Inc.

Lab Fraction	Nuclide	Sample Desc	Counting Date/Time	Halflife (days)	Detect	Carrier	Count Time	Counts	Bkg CPM	Eff
01	TH-230	LCS	10/30/15 08:39		A_Spec	Alpha_046	170	3.42 E+02	7.00 E-03	17.8
02	TH-230	MBL	10/30/15 08:39		A_Spec	Alpha_047	170	2.83 E+00	1.00 E-03	16.5
03	TH-230	DUP	10/30/15 08:39		A_Spec	Alpha_048	170	2.01 E+02	3.00 E-03	17
04	TH-230	DO	10/30/15 10:58		A_Spec	Alpha_049	170	1.96 E+02	0.00 E+00	15.3
05	TH-230	TRG	10/30/15 10:58		A_Spec	Alpha_050	170	1.83 E+02	4.00 E-03	14.3
06	TH-230	TRG	10/30/15 10:58		A_Spec	Alpha_051	170	1.50 E+02	1.30 E-02	15.2
07	TH-230	TRG	10/30/15 10:58		A_Spec	Alpha_052	170	8.63 E+01	4.00 E-03	16.1
08	TH-230	TRG	10/30/15 10:58		A_Spec	Alpha_053	170	1.00 E+02	6.00 E-03	14.6
09	TH-230	TRG	10/30/15 10:58		A_Spec	Alpha_054	170	8.78 E+01	1.00 E-03	14.5
10	TH-230	TRG	10/30/15 11:33		A_Spec	Alpha_033	170	6.45 E+01	3.00 E-03	18
11	TH-230	TRG	10/30/15 11:33		A_Spec	Alpha_034	170	9.80 E+01	6.00 E-03	17.9
12	TH-230	TRG	10/30/15 11:33		A_Spec	Alpha_035	170	1.15 E+02	2.00 E-03	16.5
13	TH-230	TRG	10/30/15 11:33		A_Spec	Alpha_036	170	1.94 E+02	1.00 E-03	18.1
14	TH-230	TRG	10/30/15 11:33		A_Spec	Alpha_037	170	1.54 E+02	3.00 E-03	17.1
15	TH-230	TRG	10/30/15 11:33		A_Spec	Alpha_038	170	1.12 E+02	4.00 E-03	16.2
16	TH-230	TRG	10/30/15 11:33		A_Spec	Alpha_039	170	1.15 E+02	1.90 E-02	19.3
17	TH-230	TRG	10/30/15 11:33		A_Spec	Alpha_040	170	1.18 E+02	3.00 E-03	18.6
18	TH-230	TRG	10/30/15 11:33		A_Spec	Alpha_041	170	1.21 E+02	4.00 E-03	18.7
19	TH-230	TRG	10/30/15 11:33		A_Spec	Alpha_042	170	8.28 E+01	1.00 E-03	17.4

Preliminary Data Report & Analytical Calculations

Work Order: 15-10091-ThISO-1

Client: Auxier & Associates, Inc.
Eberline Services Work Order: 15-10091
Analysis Code: ThISO
Run: 1

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	4.90E+00	9.11E-01	1.32E-01	4.70E+00	104.30	OK		OK	
02	TH-232	MBL	BLANK	pCi/g	1.18E-02	2.96E-02	6.16E-02					OK	OK
03	TH-232	DUP	CP1807S03-04	pCi/g	1.44E+00	3.50E-01	6.55E-02				OK	OK	
04	TH-232	DO	CP1807S03-04	pCi/g	1.43E+00	3.52E-01	6.40E-02					OK	
05	TH-232	TRG	CP1807S05-06	pCi/g	1.52E+00	3.65E-01	5.03E-02					OK	
06	TH-232	TRG	CP1807S08-09	pCi/g	1.22E+00	2.73E-01	3.84E-02					OK	
07	TH-232	TRG	CP1807S11-12	pCi/g	1.35E+00	3.52E-01	5.64E-02					OK	
08	TH-232	TRG	CP1807S13-14	pCi/g	1.30E+00	3.05E-01	4.42E-02					OK	
09	TH-232	TRG	CP1807S16-17	pCi/g	1.30E+00	3.35E-01	6.76E-02					OK	
10	TH-232	TRG	CP1807S18-19	pCi/g	1.01E+00	2.87E-01	5.07E-02					OK	
11	TH-232	TRG	CP1807S20-21	pCi/g	8.20E-01	2.15E-01	5.35E-02					OK	
12	TH-232	TRG	CP1807S22-23	pCi/g	1.25E+00	2.94E-01	3.79E-02					OK	
13	TH-232	TRG	CP1805S03-04	pCi/g	1.42E+00	3.62E-01	6.93E-02					OK	
14	TH-232	TRG	CP1805S05-06	pCi/g	1.36E+00	3.36E-01	6.37E-02					OK	
15	TH-232	TRG	CP1805S08-09	pCi/g	1.61E+00	4.00E-01	6.16E-02					OK	
16	TH-232	TRG	CP1805S11-12	pCi/g	9.87E-01	2.36E-01	6.88E-02					OK	
17	TH-232	TRG	CP1805S13-14	pCi/g	1.30E+00	3.27E-01	6.08E-02					OK	
18	TH-232	TRG	CP1805S15-16	pCi/g	1.04E+00	2.56E-01	8.05E-02					OK	
19	TH-232	TRG	CP1805S18-19	pCi/g	1.12E+00	3.15E-01	6.61E-02					OK	

Work Order: 15-10091-ThISO-1

Client: Auxier & Associates, Inc.
Eberline Services Work Order: 15-10091
Analysis Code: ThISO
Run: 1

Lab Fraction	Nuclide	Sample Desc	Sample Date	Sample Aliquot	Radiometric % Rec	Grav % Rec	Mean % Rec	SAF	Sep t0 Date/Time	Sep t1 Date/Time
01	TH-232	LCS	10/15/15 00:00	1.00E+00	80.15	0.00	0.00			
02	TH-232	MBL	10/15/15 00:00	1.50E+00	104.08	0.00	0.00			
03	TH-232	DUP	10/10/15 08:30	1.50E+00	99.85	0.00	0.00			
04	TH-232	DO	10/10/15 08:30	1.51E+00	107.74	0.00	0.00			
05	TH-232	TRG	10/10/15 08:40	1.51E+00	117.02	0.00	0.00			
06	TH-232	TRG	10/10/15 08:50	1.51E+00	143.44	0.00	0.00			
07	TH-232	TRG	10/10/15 09:00	1.52E+00	92.32	0.00	0.00			
08	TH-232	TRG	10/10/15 09:10	1.51E+00	130.75	0.00	0.00			
09	TH-232	TRG	10/10/15 09:20	1.53E+00	105.93	0.00	0.00			
10	TH-232	TRG	10/10/15 09:30	1.50E+00	80.43	0.00	0.00			
11	TH-232	TRG	10/10/15 09:40	1.50E+00	110.56	0.00	0.00			
12	TH-232	TRG	10/10/15 09:50	1.52E+00	116.27	0.00	0.00			
13	TH-232	TRG	10/10/15 10:00	1.51E+00	83.99	0.00	0.00			
14	TH-232	TRG	10/10/15 10:10	1.50E+00	97.03	0.00	0.00			
15	TH-232	TRG	10/10/15 10:20	1.51E+00	92.85	0.00	0.00			
16	TH-232	TRG	10/10/15 10:30	1.50E+00	111.21	0.00	0.00			
17	TH-232	TRG	10/10/15 10:40	1.51E+00	87.47	0.00	0.00			
18	TH-232	TRG	10/10/15 10:50	1.55E+00	103.20	0.00	0.00			
19	TH-232	TRG	10/10/15 11:00	1.52E+00	79.86	0.00	0.00			

Work Order: 15-10091-ThISO-1

Client: Auxier & Associates, Inc.
Eberline Services Work Order: 15-10091
Analysis Code: ThISO
Run: 1

Lab Fraction	Nuclide	Sample Desc	Counting Date/Time	Halflife (days)	Detect	Carrier	Count Time	Counts	Bkg CPM	Eff
01	TH-232	LCS	10/30/15 08:39		A_Spec	Alpha_046	170	2.63 E+02	9.00 E-03	17.8
02	TH-232	MBL	10/30/15 08:39		A_Spec	Alpha_047	170	1.15 E+00	5.00 E-03	16.5
03	TH-232	DUP	10/30/15 08:39		A_Spec	Alpha_048	170	1.39 E+02	6.00 E-03	17
04	TH-232	DO	10/30/15 10:58		A_Spec	Alpha_049	170	1.34 E+02	5.00 E-03	15.3
05	TH-232	TRG	10/30/15 10:58		A_Spec	Alpha_050	170	1.45 E+02	2.00 E-03	14.3
06	TH-232	TRG	10/30/15 10:58		A_Spec	Alpha_051	170	1.53 E+02	2.00 E-03	15.2
07	TH-232	TRG	10/30/15 10:58		A_Spec	Alpha_052	170	1.15 E+02	2.00 E-03	16.1
08	TH-232	TRG	10/30/15 10:58		A_Spec	Alpha_053	170	1.41 E+02	2.00 E-03	14.6
09	TH-232	TRG	10/30/15 10:58		A_Spec	Alpha_054	170	1.15 E+02	0.00 E+00	14.5
10	TH-232	TRG	10/30/15 11:33		A_Spec	Alpha_033	170	8.28 E+01	1.00 E-03	18
11	TH-232	TRG	10/30/15 11:33		A_Spec	Alpha_034	170	9.20 E+01	0.00 E+00	17.9
12	TH-232	TRG	10/30/15 11:33		A_Spec	Alpha_035	170	1.38 E+02	1.00 E-03	16.5
13	TH-232	TRG	10/30/15 11:33		A_Spec	Alpha_036	170	1.23 E+02	0.00 E+00	18.1
14	TH-232	TRG	10/30/15 11:33		A_Spec	Alpha_037	170	1.28 E+02	0.00 E+00	17.1
15	TH-232	TRG	10/30/15 11:33		A_Spec	Alpha_038	170	1.37 E+02	3.00 E-03	16.2
16	TH-232	TRG	10/30/15 11:33		A_Spec	Alpha_039	170	1.20 E+02	1.50 E-02	19.3
17	TH-232	TRG	10/30/15 11:33		A_Spec	Alpha_040	170	1.20 E+02	4.00 E-03	18.6
18	TH-232	TRG	10/30/15 11:33		A_Spec	Alpha_041	170	1.18 E+02	1.90 E-02	18.7
19	TH-232	TRG	10/30/15 11:33		A_Spec	Alpha_042	170	8.85 E+01	3.00 E-03	17.4

Count Room Report
Client: Auxier Associates, Inc.

15-10091-ThISO-1 (pCi/g) in SO
Tracer ID: Th-18a

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	0.4430	9.9498		0.00		
02	MBL	BLANK	10/15/15 00:00	1.5000	0.2246	5.0445		0.00		
03	DUP	CP1807S03-04	10/10/15 08:30	1.5018	0.2218	4.9816		0.00		
04	DO	CP1807S03-04	10/10/15 08:30	1.5087	0.2231	5.0108		0.00		
05	TRG	CP1807S05-06	10/10/15 08:40	1.5068	0.2221	4.9884		0.00		
06	TRG	CP1807S08-09	10/10/15 08:50	1.5110	0.2238	5.0265		0.00		
07	TRG	CP1807S11-12	10/10/15 09:00	1.5151	0.2245	5.0423		0.00		
08	TRG	CP1807S13-14	10/10/15 09:10	1.5050	0.2246	5.0445		0.00		
09	TRG	CP1807S16-17	10/10/15 09:20	1.5275	0.2256	5.0670		0.00		
10	TRG	CP1807S18-19	10/10/15 09:30	1.5032	0.2234	5.0176		0.00		
11	TRG	CP1807S20-21	10/10/15 09:40	1.5027	0.2247	5.0468		0.00		
12	TRG	CP1807S22-23	10/10/15 09:50	1.5232	0.2249	5.0513		0.00		
13	TRG	CP1805S03-04	10/10/15 10:00	1.5115	0.2245	5.0423		0.00		
14	TRG	CP1805S05-06	10/10/15 10:10	1.5031	0.2256	5.0670		0.00		
15	TRG	CP1805S08-09	10/10/15 10:20	1.5051	0.2261	5.0782		0.00		
16	TRG	CP1805S11-12	10/10/15 10:30	1.5030	0.2254	5.0625		0.00		
17	TRG	CP1805S13-14	10/10/15 10:40	1.5138	0.2240	5.0310		0.00		
18	TRG	CP1805S15-16	10/10/15 10:50	1.5499	0.2251	5.0557		0.00		
19	TRG	CP1805S18-19	10/10/15 11:00	1.5155	0.2249	5.0513		0.00		

Eberline Services
Oak Ridge Laboratory

Spike and Tracer Worksheet

Printed: 10/21/2015 9:34 AM

Internal Work Order	Run	Analysis Code	Date	Technician	Technician Initials	Witness Initials
15-10091	1	ThISO	10/21/2015 9:23	JPACHELLA		

LCS & Matrix Spikes					LCS	MS	LCSD	MSD	LCS		MS		LCSD		MSD	
Isotope	*Sol #*	*Activity dpm/g*	*Solution Date*	*Approx Addition*	*Volume Used (g)*	*Volume Used (g)*	*Volume Used (g)*	*Volume Used (g)*	*Known pCi*	*Error Estimate*	*Added pCi*	*Error Estimate*	*Known pCi*	*Error Estimate*	*Added pCi*	*Error Estimate*
Th-228	Th-8b	103.560	10/21/2015	**0.100**	**0.1008**				4.70	0.169	0.00	0.000	0.00	0.000	0.00	0.000
Th-230	Th-1b	23.520	10/21/2015	**0.500**	**0.5021**				5.32	0.144	0.00	0.000	0.00	0.000	0.00	0.000
Th-232	Th-8b	103.560	10/21/2015	**0.100**	**0.1008**				4.70	0.169	0.00	0.000	0.00	0.000	0.00	0.000
Tc-99 MS	Tc-2a	22043.636	7/5/2014	0.1												

Tracers

fraction	*Isotope*	*Sol #*	*Activity dpm/g*	*Solution Date*	*Volume Used (g)*	*Approx Addition*
01	**Th-229**	Th-18a	22.460	10/21/2015	**0.4430**	**0.2200**
02	**Th-229**	Th-18a	22.460	10/21/2015	**0.2246**	**0.2200**
03	**Th-229**	Th-18a	22.460	10/21/2015	**0.2218**	**0.2200**
04	**Th-229**	Th-18a	22.460	10/21/2015	**0.2231**	**0.2200**
05	**Th-229**	Th-18a	22.460	10/21/2015	**0.2221**	**0.2200**
06	**Th-229**	Th-18a	22.460	10/21/2015	**0.2238**	**0.2200**
07	**Th-229**	Th-18a	22.460	10/21/2015	**0.2245**	**0.2200**
08	**Th-229**	Th-18a	22.460	10/21/2015	**0.2246**	**0.2200**
09	**Th-229**	Th-18a	22.460	10/21/2015	**0.2256**	**0.2200**
10	**Th-229**	Th-18a	22.460	10/21/2015	**0.2234**	**0.2200**
11	**Th-229**	Th-18a	22.460	10/21/2015	**0.2247**	**0.2200**
12	**Th-229**	Th-18a	22.460	10/21/2015	**0.2249**	**0.2200**
13	**Th-229**	Th-18a	22.460	10/21/2015	**0.2245**	**0.2200**
14	**Th-229**	Th-18a	22.460	10/21/2015	**0.2256**	**0.2200**
15	**Th-229**	Th-18a	22.460	10/21/2015	**0.2261**	**0.2200**
16	**Th-229**	Th-18a	22.460	10/21/2015	**0.2254**	**0.2200**
17	**Th-229**	Th-18a	22.460	10/21/2015	**0.2240**	**0.2200**
18	**Th-229**	Th-18a	22.460	10/21/2015	**0.2251**	**0.2200**
19	**Th-229**	Th-18a	22.460	10/21/2015	**0.2249**	**0.2200**

Balance Printer Tapes

Tracer	LCS

Matrix Spike

Eberline Analytical
Oak Ridge Laboratory

Aliquot Worksheet

Printed: 11/19/2015 1:10 PM

Work Order	Run	Analysis Code	Rpt Units	Lab Deadline	Technician
15-10091	1	ThISO	grams	11/5/2015	JPACHELLA

Lab Fraction	Auxier & Associates, Inc. Client ID	Sample Type	Muffle Data	Dilution Data			Aliquot Data		MS Aliquot Data		H-3 Solids Only	
			Ratio Post/Pre	No of Dils	Dil Factor	Ratio	Aliquot	Net Equiv	Aliquot	Net Equiv	Water Added (ml)	H3 Dist Aliq
01	LCS	LCS				1.00E+00	1.0000E+00	1.0000E+00				
02	BLANK	MBL				1.00E+00	1.5000E+00	1.5000E+00				
03	CP1807S03-04	DUP				1.00E+00	1.5018E+00	1.5018E+00				
04	CP1807S03-04	DO				1.00E+00	1.5087E+00	1.5087E+00				
05	CP1807S05-06	TRG				1.00E+00	1.5068E+00	1.5068E+00				
06	CP1807S08-09	TRG				1.00E+00	1.5110E+00	1.5110E+00				
07	CP1807S11-12	TRG				1.00E+00	1.5151E+00	1.5151E+00				
08	CP1807S13-14	TRG				1.00E+00	1.5050E+00	1.5050E+00				
09	CP1807S16-17	TRG				1.00E+00	1.5275E+00	1.5275E+00				
10	CP1807S18-19	TRG				1.00E+00	1.5032E+00	1.5032E+00				
11	CP1807S20-21	TRG				1.00E+00	1.5027E+00	1.5027E+00				
12	CP1807S22-23	TRG				1.00E+00	1.5232E+00	1.5232E+00				
13	CP1805S03-04	TRG				1.00E+00	1.5115E+00	1.5115E+00				
14	CP1805S05-06	TRG				1.00E+00	1.5031E+00	1.5031E+00				
15	CP1805S08-09	TRG				1.00E+00	1.5051E+00	1.5051E+00				
16	CP1805S11-12	TRG				1.00E+00	1.5030E+00	1.5030E+00				
17	CP1805S13-14	TRG				1.00E+00	1.5138E+00	1.5138E+00				
18	CP1805S15-16	TRG				1.00E+00	1.5499E+00	1.5499E+00				
19	CP1805S18-19	TRG				1.00E+00	1.5155E+00	1.5155E+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
15-10091	11/5/2015	10/19/2015	10/20/2015	10/21/2015	KSALLINGS

Eberline	Auxier & Associates, Inc.	Tare (g)	Gross (g)		Net (g)		Percent		Gamma		Special Info
Fraction	Client ID	Pan Wt	Wet Wt.	Dry Wt.	Wet Wt.	Dry Wt.	Liquid	Solid	Dry Wt.	LEPS Wt.	
04	CP1807S03-04	14.3900	1144.5800	936.4600	1130.1900	922.0700	18.41%	81.59%	0.0000	0.0000	
05	CP1807S05-06	14.4400	828.9600	673.1200	814.5200	658.6800	19.13%	80.87%	0.0000	0.0000	
06	CP1807S08-09	14.4700	1081.0400	877.7400	1066.5700	863.2700	19.06%	80.94%	0.0000	0.0000	
07	CP1807S11-12	14.4200	955.6000	769.8300	941.1800	755.4100	19.74%	80.26%	0.0000	0.0000	
08	CP1807S13-14	14.4100	1185.5200	942.8800	1171.1100	928.4700	20.72%	79.28%	0.0000	0.0000	
09	CP1807S16-17	14.3600	817.4400	646.2900	803.0800	631.9300	21.31%	78.69%	0.0000	0.0000	
10	CP1807S18-19	14.3800	1251.1400	1047.0400	1236.7600	1032.6600	16.50%	83.50%	0.0000	0.0000	
11	CP1807S20-21	14.3500	1142.5200	932.9400	1128.1700	918.5900	18.58%	81.42%	0.0000	0.0000	
12	CP1807S22-23	14.3200	1366.9000	1110.1200	1352.5800	1095.8000	18.98%	81.02%	0.0000	0.0000	
13	CP1805S03-04	28.7900	1475.8800	1196.3400	1447.0900	1167.5500	19.32%	80.68%	0.0000	0.0000	
14	CP1805S05-06	14.3100	753.5200	612.3200	739.2100	598.0100	19.10%	80.90%	0.0000	0.0000	
15	CP1805S08-09	14.3400	845.8200	692.5600	831.4800	678.2200	18.43%	81.57%	0.0000	0.0000	
16	CP1805S11-12	14.4400	886.2400	719.4300	871.8000	704.9900	19.13%	80.87%	0.0000	0.0000	
17	CP1805S13-14	14.3900	990.3000	816.0400	975.9100	801.6500	17.86%	82.14%	0.0000	0.0000	
18	CP1805S15-16	14.3200	1094.6800	923.0800	1080.3600	908.7600	15.88%	84.12%	0.0000	0.0000	
19	CP1805S18-19	14.3600	1053.8200	866.3400	1039.4600	851.9800	18.04%	81.96%	0.0000	0.0000	

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

00201

Technician: Kerry Sel[illegible] Date:**Analysis: Rough Prep Logbook**

Apex-Alpha™

Sample Description: SPIKE
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001328
Batch Identification: 1510091A-TH
Sample Identification: 01
Sample Geometry: Shelf 2
Procedure Description: Th iso

Detector Name: Alpha_046
Chamber Serial Number: 04026482B
Detector Serial Number: 58762
Env. Background: System Bkgd 132591
Reagent Blank: <not performed>

Sample Size: 1.000E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/30/2015 6:24:57 AM
Acquisition Date/Time: 10/30/2015 8:39:31 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: 0.1424 +/- 0.0102
Counting Efficiency: 0.1776 +/- 0.0031 on 10/25/2014 3:20:08 PM
Chem. Recovery Factor: 0.8015 +/- 0.0593

Control Certificate Name: NatTh_Th-8
Chem. Recov. of Control: TH-232 1.042961 +/- 0.103668
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		5.779	8.47	74.12	1.53	0.00E+000	0.0
TH-228		5.366	263.81	12.10	1.19	0.00E+000	12.8
TH-229	T	4.853	240.79	12.70	2.21	0.00E+000	5.2
TH-230		4.593	341.81	10.62	1.19	0.00E+000	3.7
TH-232		3.930	263.47	12.12	1.53	0.00E+000	11.7

T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.974	5850.00*	1.62E-001 +/- 1.22E-001	1.36E-001 +/- 1.91E-002
TH-228	0.994	5400.00*	4.91E+000 +/- 9.12E-001	1.23E-001 +/- 1.73E-002
TH-229	0.998	4872.00*	4.50E+000 +/- 6.34E-001	1.50E-001 +/- 2.11E-002
TH-230	0.968	4672.00*	6.37E+000 +/- 1.12E+000	1.23E-001 +/- 1.73E-002
TH-232	0.977	3997.00*	4.90E+000 +/- 9.11E-001	1.32E-001 +/- 1.86E-002

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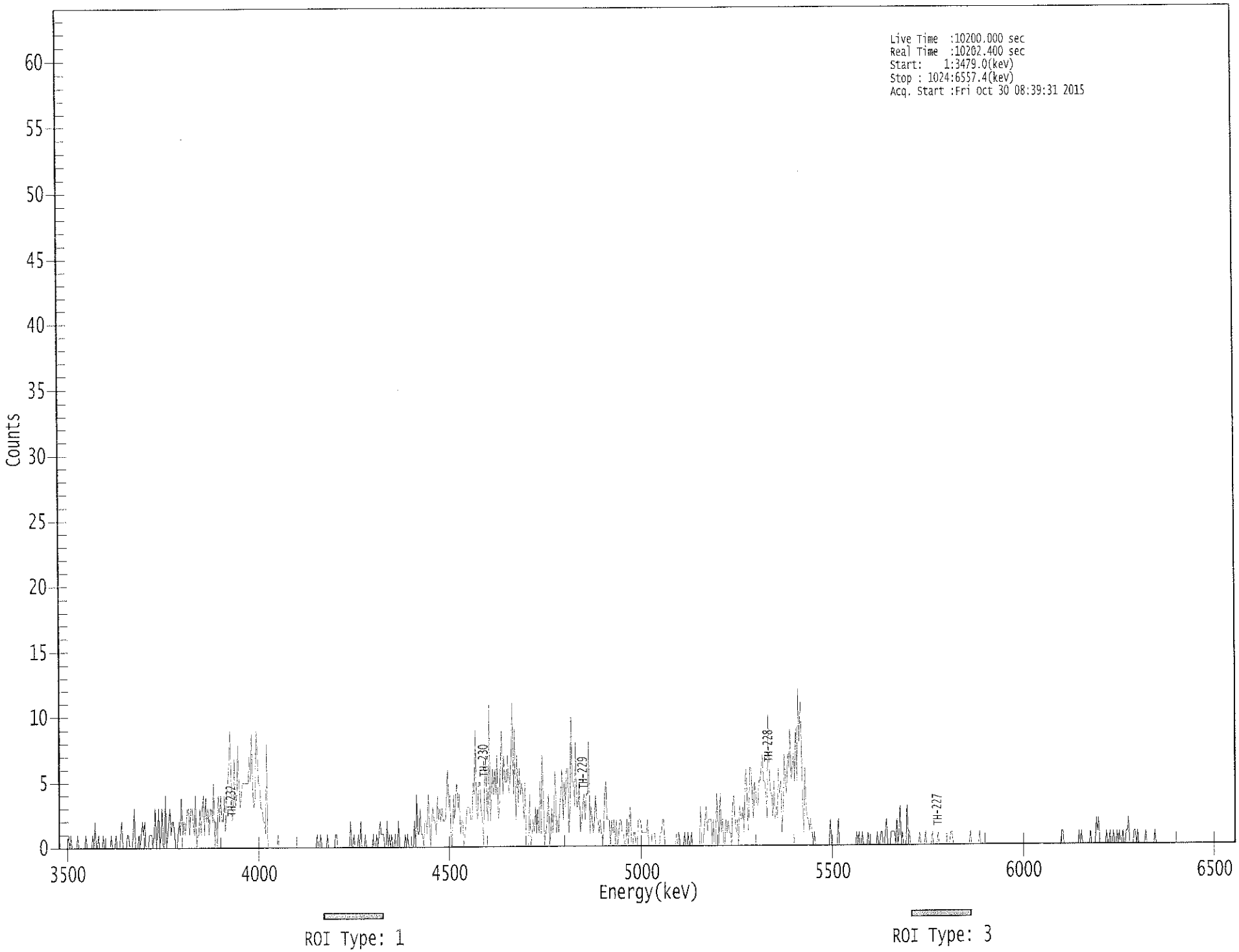
0000132716.CNF



****
***** 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: 10202

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

369:	2	0	5	7	3	2	11	2

Sample Title: 01

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

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

0205A

Apex-Alpha™

KB 10/30/15

Sample Description: BLANK
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001327
Batch Identification: 1510091A-TH
Sample Identification: 02
Sample Geometry: Shelf 2
Procedure Description: Th iso

Detector Name: Alpha_047
Chamber Serial Number: 02030596A
Detector Serial Number: 91086
Env. Background: System Bkgd 132592
Reagent Blank: <not performed>

Sample Size: 1.500E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/30/2015 6:24:57 AM
Acquisition Date/Time: 10/30/2015 8:39:27 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: 0.1718 +/- 0.0152
Counting Efficiency: 0.1650 +/- 0.0029 on 10/25/2014 3:23:35 PM
Chem. Recovery Factor: 1.0408 +/- 0.0937

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		5.767	1.83	152.56	0.17	0.00E+000	3.0
TH-228		5.331	1.15	249.59	0.85	0.00E+000	3.0
TH-229	T	4.859	147.32	16.19	0.68	0.00E+000	5.9
TH-230		4.683	2.83	120.53	0.17	0.00E+000	3.0
TH-232		3.993	1.15	249.59	0.85	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	0.965	5850.00*	1.93E-002 +/- 2.96E-002	4.40E-002 +/- 7.61E-003
TH-228	0.976	5400.00*	1.18E-002 +/- 2.96E-002	6.16E-002 +/- 1.07E-002
TH-229	0.999	4872.00*	1.52E+000 +/- 2.63E-001	5.83E-002 +/- 1.01E-002
TH-230	0.999	4672.00*	2.92E-002 +/- 3.55E-002	4.30E-002 +/- 7.44E-003
TH-232	1.000	3997.00*	1.18E-002 +/- 2.96E-002	6.16E-002 +/- 1.06E-002

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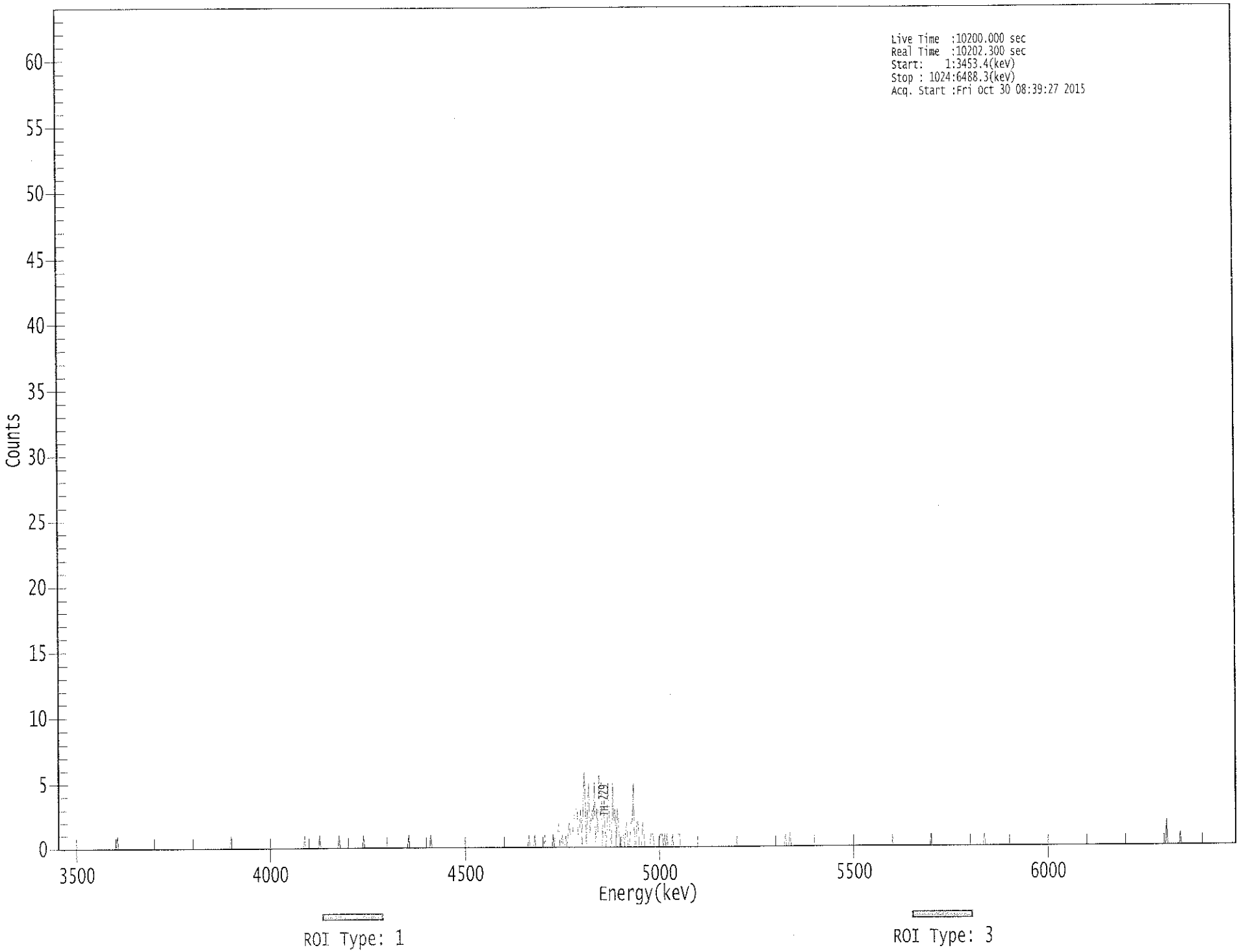
11/2/15

0000132717.CNF



****
***** 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: 10202

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

369:	0	0	0	0	0	0	0	0

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	0	0	0	0	0	0
409:	1	0	0	0	0	1	0	0
417:	0	0	0	0	0	0	1	0
425:	0	0	0	0	0	1	0	1
433:	1	1	2	0	0	1	0	0
441:	1	0	1	2	1	1	1	2
449:	3	3	3	1	1	3	1	2
457:	6	4	0	3	5	1	2	3
465:	2	5	0	3	1	6	4	5
473:	0	3	2	0	1	5	3	0
481:	0	5	2	3	0	3	2	0
489:	0	1	1	0	1	2	0	0
497:	1	2	2	5	0	0	2	2
505:	0	0	0	2	1	0	0	0
513:	0	0	1	1	1	0	0	0
521:	0	0	1	1	1	0	1	0
529:	1	0	0	0	0	1	0	1
537:	1	1	1	1	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:	0	0	0	0	0	0	0	0
585:	0	0	0	0	0	0	0	0
593:	0	0	0	0	0	0	0	0
601:	0	0	0	0	0	0	0	0
609:	0	0	0	0	0	0	0	0
617:	0	0	0	0	0	0	0	0
625:	0	0	0	0	0	0	0	1
633:	0	0	0	1	0	0	0	0
641:	0	0	0	0	0	0	0	0
649:	0	0	0	0	0	0	0	0
657:	0	0	0	0	0	0	0	0
665:	0	0	0	0	0	0	0	0
673:	0	0	0	0	0	0	0	0
681:	0	0	0	0	0	0	0	0
689:	0	0	0	0	0	0	0	0
697:	0	0	0	0	0	0	0	0
705:	0	0	0	0	0	0	0	0
713:	0	0	0	0	0	0	0	0
721:	0	0	0	0	0	0	0	0
729:	0	0	0	0	0	0	0	0
737:	0	0	0	0	0	0	0	0
745:	0	0	0	0	0	0	0	0
753:	0	0	0	0	0	1	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	1	0	0	0	0

Sample Title: 02

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	2	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

Apex-Alpha™

Sample Description:	CP1807S03-04-DUP
Spectrum File:	\\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001327
Batch Identification:	1510091A-TH
Sample Identification:	03
Sample Geometry:	Shelf 2
Procedure Description:	Th iso
Detector Name:	Alpha_048
Chamber Serial Number:	02030596B
Detector Serial Number:	83111
Env. Background:	System Bkgd 132593
Reagent Blank:	<not performed>
Sample Size:	1.502E+000 +/- 0.000E+000 gram
Sample Date/Time:	10/10/2015 6:24:57 AM
Acquisition Date/Time:	10/30/2015 8:39:29 AM
Acquisition Live Time:	170.0 minutes
Acquisition Real Time:	170.0 minutes
Tracer Certificate:	Th229_S_TH-18A
Tracer Quantity:	0.222 mL
Effective Efficiency:	0.1698 +/- 0.0152
Counting Efficiency:	0.1700 +/- 0.0030 on 10/25/2014 3:27:02 PM
Chem. Recovery Factor:	0.9985 +/- 0.0912
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		5.919	8.49	69.59	0.51	0.00E+000	3.0
TH-228		5.366	127.15	17.45	0.85	0.00E+000	3.5
TH-229	T	4.876	143.79	16.49	2.21	0.00E+000	6.9
TH-230		4.630	201.49	13.83	0.51	0.00E+000	6.8
TH-232		3.954	138.98	16.70	1.02	0.00E+000	16.3

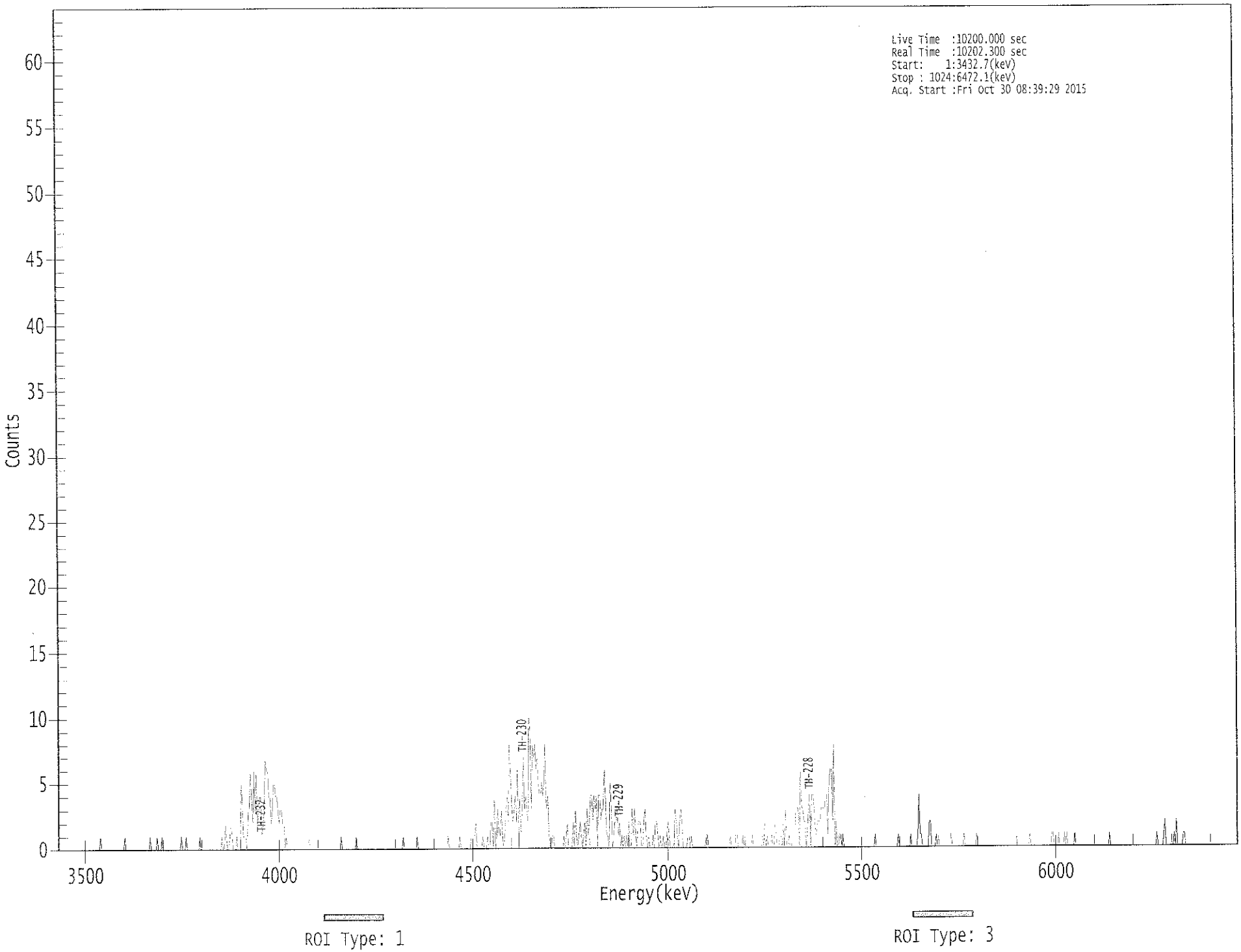
T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.975	5850.00*	9.06E-002 +/- 6.51E-002	5.60E-002 +/- 9.85E-003
TH-228	0.994	5400.00*	1.35E+000 +/- 3.34E-001	6.35E-002 +/- 1.12E-002
TH-229	1.000	4872.00*	1.50E+000 +/- 2.64E-001	8.35E-002 +/- 1.47E-002
TH-230	0.991	4672.00*	2.10E+000 +/- 4.69E-001	5.46E-002 +/- 9.60E-003
TH-232	0.991	3997.00*	1.44E+000 +/- 3.50E-001	6.55E-002 +/- 1.15E-002

AG
11/2/15

0000132718.CNF



****
***** 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: 10202

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	1	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	1
81:	0	0	0	0	0	1	0	0
89:	0	1	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0
105:	0	0	1	0	0	0	1	0
113:	0	0	0	0	0	0	0	0
121:	0	0	1	0	0	0	0	0
129:	0	0	0	0	0	0	0	0
137:	0	0	0	0	0	1	0	0
145:	2	1	0	0	1	2	1	0
153:	0	0	1	0	0	0	5	3
161:	1	1	1	0	3	3	6	4
169:	2	6	3	6	2	3	4	4
177:	1	2	4	7	6	6	4	4
185:	2	3	5	5	4	4	3	2
193:	3	3	2	2	0	1	0	0
201:	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0
217:	0	1	0	0	0	0	0	0
225:	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	1	0	0
249:	0	0	0	0	0	0	0	0
257:	0	0	1	0	0	0	0	0
265:	0	0	0	0	0	0	0	0
273:	0	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	1	0	0	0	0
305:	0	0	0	0	0	0	0	1
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	1	0	0	0
353:	0	0	0	0	0	0	1	1
361:	1	1	2	0	0	0	0	0

369:	1	0	0	0	1	0	0	2

Sample Title: 03

Channel								
377:	2	0	4	0	1	3	1	1
385:	3	1	0	1	3	4	2	8
393:	6	3	2	3	4	2	6	0
401:	4	1	3	7	3	4	3	2
409:	10	9	3	8	7	8	6	7
417:	5	4	4	5	4	5	8	3
425:	4	1	0	0	1	1	0	0
433:	0	0	0	0	0	0	1	0
441:	1	2	0	0	0	0	2	0
449:	3	1	0	1	2	1	0	1
457:	2	0	3	1	2	4	4	2
465:	4	3	4	0	4	4	2	3
473:	3	6	4	1	1	0	5	3
481:	0	1	2	2	3	1	2	0
489:	1	0	1	0	1	0	2	0
497:	0	3	1	3	1	0	2	2
505:	2	0	0	2	3	1	0	1
513:	0	0	0	1	0	2	2	1
521:	0	1	0	0	1	0	0	1
529:	2	1	0	0	0	0	3	2
537:	1	0	2	3	2	0	0	0
545:	0	1	1	0	1	0	0	0
553:	0	0	0	0	0	0	0	0
561:	0	1	1	0	0	0	0	0
569:	0	0	0	0	0	0	0	0
577:	0	0	0	0	0	0	1	0
585:	0	0	0	1	1	0	0	0
593:	0	1	0	0	0	0	0	0
601:	0	1	0	0	0	0	0	0
609:	0	0	1	0	2	0	1	0
617:	0	0	1	0	0	2	1	0
625:	0	1	1	0	2	0	3	0
633:	0	1	0	0	1	1	1	3
641:	3	3	0	6	3	3	2	2
649:	0	1	3	4	0	4	4	3
657:	1	1	2	2	2	3	3	3
665:	3	4	4	1	5	6	6	2
673:	8	0	2	0	0	1	1	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	1	0	0	0
713:	0	0	0	0	0	0	0	0
721:	0	0	0	0	0	0	0	0
729:	1	0	0	0	0	0	0	0
737:	0	0	0	1	0	0	0	0
745:	0	1	4	1	1	0	0	0
753:	0	0	0	2	2	0	0	0
761:	0	1	0	0	0	0	0	0
769:	0	0	0	0	0	0	1	0
777:	0	0	0	0	0	0	0	0
785:	0	1	0	0	0	0	0	0
793:	0	0	0	0	1	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	1	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	1	1	0
865:	0	0	0	1	0	0	0	0
873:	1	0	1	0	0	0	0	0
881:	0	1	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	1
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:	1	0	0	0	0	0	1	2
961:	0	0	0	0	0	0	0	1
969:	0	2	0	0	0	0	0	1
977:	1	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

Apex-Alpha™

KB 10/30/16

Sample Description: CP1807S03-04
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001327
Batch Identification: 1510091A-TH
Sample Identification: 04
Sample Geometry: Shelf 2
Procedure Description: Th iso

Detector Name: Alpha_049
Chamber Serial Number: 10006121A
Detector Serial Number: 49
Env. Background: System Bkgd 132594
Reagent Blank: <not performed>

Sample Size: 1.509E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 6:24:57 AM
Acquisition Date/Time: 10/30/2015 10:58:21 AM
Acquisition Live Time: 170.0 minutes
Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
Tracer Quantity: 0.223 mL
Effective Efficiency: 0.1643 +/- 0.0148
Counting Efficiency: 0.1525 +/- 0.0027 on 12/13/2014 2:45:02 PM
Chem. Recovery Factor: 1.0774 +/- 0.0992

Peak Match Tolerance: 0.175 MeV

PEAK AREA REPORT

Nuclide		Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227		5.833	11.83	57.46	0.17	0.00E+000	3.0
TH-228		5.364	121.15	17.88	0.85	0.00E+000	7.4
TH-229	T	4.870	140.00	16.62	0.00	0.00E+000	4.1
TH-230		4.624	196.00	14.04	0.00	0.00E+000	4.6
TH-232		3.962	134.15	16.98	0.85	0.00E+000	5.2

T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.998	5850.00*	1.30E-001 +/- 7.81E-002	4.58E-002 +/- 8.11E-003
TH-228	0.993	5400.00*	1.32E+000 +/- 3.33E-001	6.53E-002 +/- 1.16E-002
TH-229	1.000	4872.00*	1.50E+000 +/- 2.66E-001	6.44E-002 +/- 1.14E-002
TH-230	0.988	4672.00*	2.10E+000 +/- 4.74E-001	6.42E-002 +/- 1.14E-002
TH-232	0.993	3997.00*	1.43E+000 +/- 3.52E-001	6.40E-002 +/- 1.13E-002

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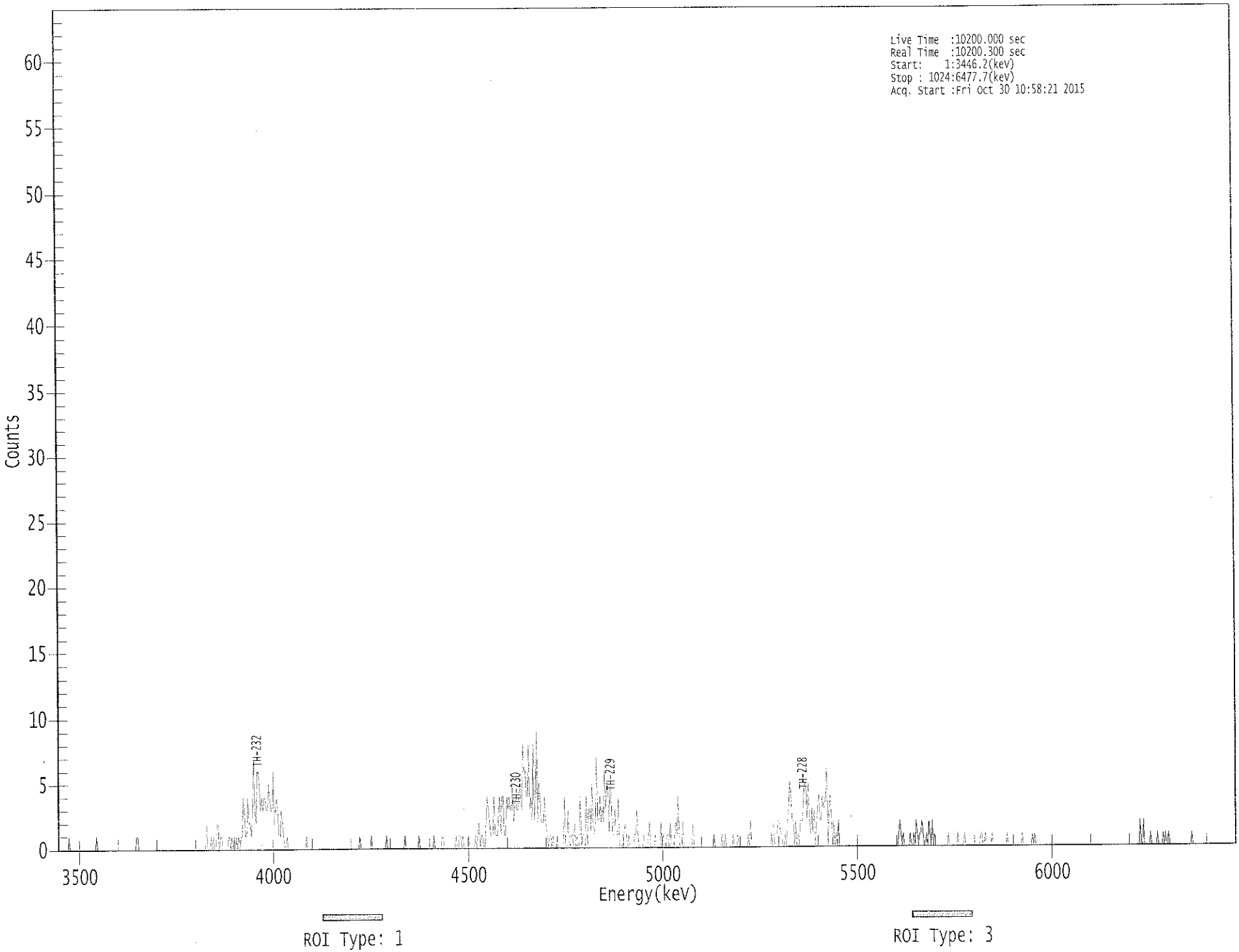
0000132722.CNF



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

369:	1	0	0	2	4	3	2	1

Sample Title: 04

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

801:	1	1	0	0	1	0	0	0

Sample Title: 04

Channel								
809:	0	0	1	0	0	0	0	0
817:	0	0	0	0	0	0	0	1
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	1	0	0	0
841:	0	0	0	0	0	1	0	1
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	2	0	0	2	0
945:	0	0	0	0	1	0	0	0
953:	0	0	1	0	0	0	0	1
961:	0	1	0	0	1	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

KB 10/30/15

Apex-Alpha™

Sample Description: CP1807S05-06
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001327
Batch Identification: 1510091A-TH
Sample Identification: 05
Sample Geometry: Shelf 2
Procedure Description: Th iso

Detector Name: Alpha_050
Chamber Serial Number: 10006121B
Detector Serial Number: 50
Env. Background: System Bkgd 132595
Reagent Blank: <not performed>

Sample Size: 1.507E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 6:24:57 AM
Acquisition Date/Time: 10/30/2015 10:58:23 AM
Acquisition Live Time: 170.0 minutes
Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
Tracer Quantity: 0.222 mL
Effective Efficiency: 0.1670 +/- 0.0150
Counting Efficiency: 0.1428 +/- 0.0026 on 12/13/2014 2:43:59 PM
Chem. Recovery Factor: 1.1702 +/- 0.1070

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		5.876	11.98	59.38	1.02	0.00E+000	3.0
TH-228		5.372	135.13	17.00	1.87	0.00E+000	6.0
TH-229	T	4.874	141.66	16.49	0.34	0.00E+000	3.2
TH-230		4.634	183.32	14.51	0.68	0.00E+000	8.5
TH-232		3.960	144.66	16.32	0.34	0.00E+000	8.0

T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.997	5850.00*	1.30E-001 +/- 8.02E-002	6.81E-002 +/- 1.20E-002
TH-228	0.996	5400.00*	1.45E+000 +/- 3.55E-001	8.14E-002 +/- 1.43E-002
TH-229	1.000	4872.00*	1.50E+000 +/- 2.63E-001	5.06E-002 +/- 8.89E-003
TH-230	0.992	4672.00*	1.93E+000 +/- 4.41E-001	5.95E-002 +/- 1.05E-002
TH-232	0.993	3997.00*	1.52E+000 +/- 3.65E-001	5.03E-002 +/- 8.85E-003

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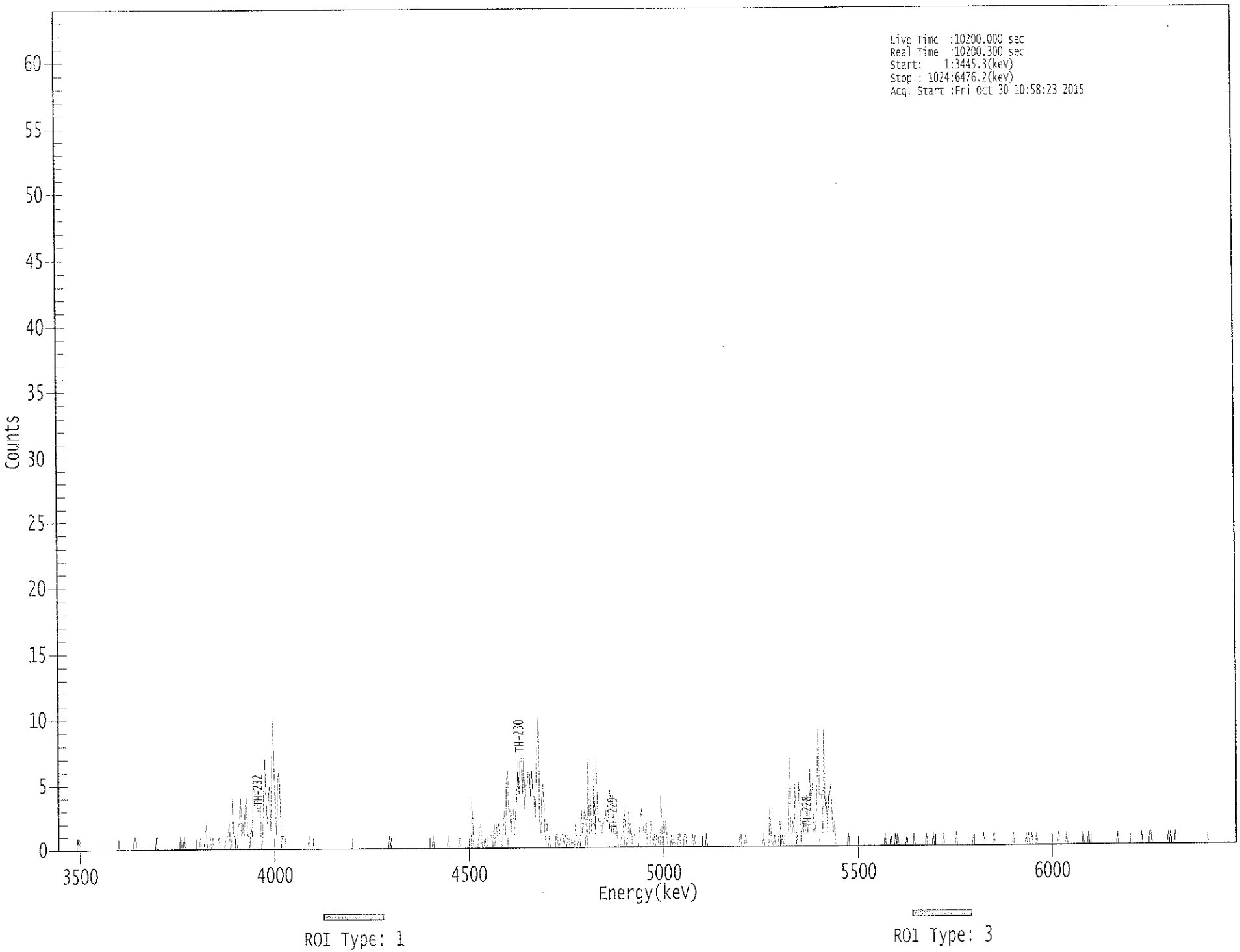
0000132723.CNF



****
***** 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:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	1	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	1	1	0	0	0	0
73:	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	1	1	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	1	0	0
113:	0	0	0	0	0	0	0	0
121:	0	0	0	1	0	0	0	1
129:	2	0	0	0	1	0	1	0
137:	0	0	0	1	0	0	0	0
145:	0	1	1	1	2	0	0	4
153:	1	1	0	0	2	2	4	1
161:	2	1	3	4	1	1	0	2
169:	1	5	5	4	4	3	3	4
177:	0	1	4	7	4	2	4	5
185:	1	6	10	6	4	1	5	6
193:	5	0	1	1	1	0	0	0
201:	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0
217:	0	1	0	0	0	0	0	0
225:	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	0	0
257:	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	1
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	1	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	1	0	0	0
353:	0	0	0	0	0	0	0	4
361:	0	0	0	0	0	1	2	1

369:	0	0	1	0	0	1	1	1

Sample Title: 05

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

801:	0	0	0	1	0	0	0	0

Sample Title: 05

Channel								
809:	0	0	0	0	1	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	1	0	0
833:	0	0	0	0	0	0	0	0
841:	1	0	1	0	0	1	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	1	0	0	0
873:	0	0	0	1	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	1	0	0	0	0	1	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	1
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	1	0	0	0
945:	0	0	0	1	1	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	0	0	1	0	1	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

Apex-Alpha™

Sample Description:	CP1807S08-09
Spectrum File:	\\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001327
Batch Identification:	1510091A-TH
Sample Identification:	06
Sample Geometry:	Shelf 2
Procedure Description:	Th iso
Detector Name:	Alpha_051
Chamber Serial Number:	10006123A
Detector Serial Number:	51
Env. Background:	System Bkgd 132596
Reagent Blank:	<not performed>
Sample Size:	1.511E+000 +/- 0.000E+000 gram
Sample Date/Time:	10/10/2015 6:24:57 AM
Acquisition Date/Time:	10/30/2015 10:58:25 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:	0.2186 +/- 0.0175
Counting Efficiency:	0.1524 +/- 0.0027 on 12/13/2014 2:42:37 PM
Chem. Recovery Factor:	1.4344 +/- 0.1175
Peak Match Tolerance:	0.175 MeV

PEAK AREA REPORT

Nuclide		Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227		5.848	12.28	62.76	2.72	0.00E+000	3.7
TH-228		5.375	131.73	17.47	5.27	0.00E+000	4.9
TH-229	T	4.882	186.79	14.44	2.21	0.00E+000	6.8
TH-230		4.639	149.79	16.15	2.21	0.00E+000	4.3
TH-232		3.965	152.66	15.88	0.34	0.00E+000	17.8

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*	1.01E-001 +/- 6.55E-002	7.07E-002 +/- 1.11E-002
TH-228	0.997	5400.00*	1.08E+000 +/- 2.53E-001	8.91E-002 +/- 1.40E-002
TH-229	0.999	4872.00*	1.51E+000 +/- 2.36E-001	6.45E-002 +/- 1.01E-002
TH-230	0.994	4672.00*	1.20E+000 +/- 2.71E-001	6.43E-002 +/- 1.01E-002
TH-232	0.994	3997.00*	1.22E+000 +/- 2.73E-001	3.84E-002 +/- 6.01E-003

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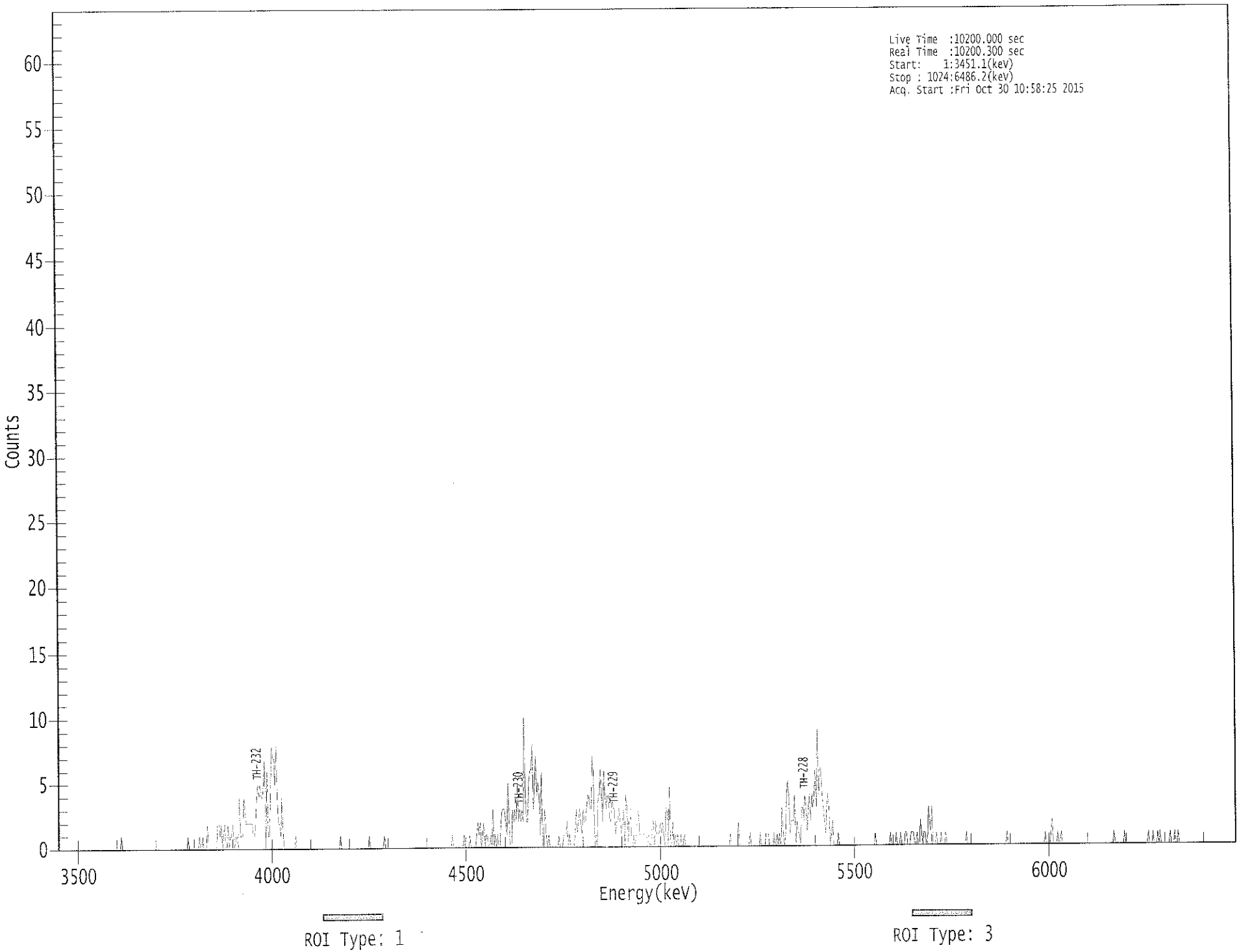
0000132724.CNF



12500 :

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

369:	1	2	0	1	1	0	0	1

Sample Title: 06

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

Sample Title: 06

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	1
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	1	0	0	0	0	1	2	0
865:	0	0	0	1	0	0	1	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	1	0	0	0
921:	0	0	0	0	0	1	0	0
929:	0	0	0	0	0	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	1	0	0	0	1	0
953:	0	0	1	0	1	0	0	0
961:	0	0	0	0	0	1	0	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

Apex-Alpha™

KD 10/30/15

Sample Description: CP1807S11-12
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001327
Batch Identification: 1510091A-TH
Sample Identification: 07
Sample Geometry: Shelf 2
Procedure Description: Th iso

Detector Name: Alpha_052
Chamber Serial Number: 10006123B
Detector Serial Number: 52
Env. Background: System Bkgd 132597
Reagent Blank: <not performed>

Sample Size: 1.515E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 6:24:57 AM
Acquisition Date/Time: 10/30/2015 10:58:27 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: 0.1483 +/- 0.0140
Counting Efficiency: 0.1607 +/- 0.0029 on 12/13/2014 2:40:57 PM
Chem. Recovery Factor: 0.9232 +/- 0.0886

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		5.781	15.15	51.98	0.85	0.00E+000	2.9
TH-228		5.351	93.98	20.35	1.02	0.00E+000	9.8
TH-229	T	4.867	127.15	17.45	0.85	0.00E+000	4.3
TH-230		4.614	86.32	21.19	0.68	0.00E+000	7.6
TH-232		3.956	114.66	18.34	0.34	0.00E+000	10.1

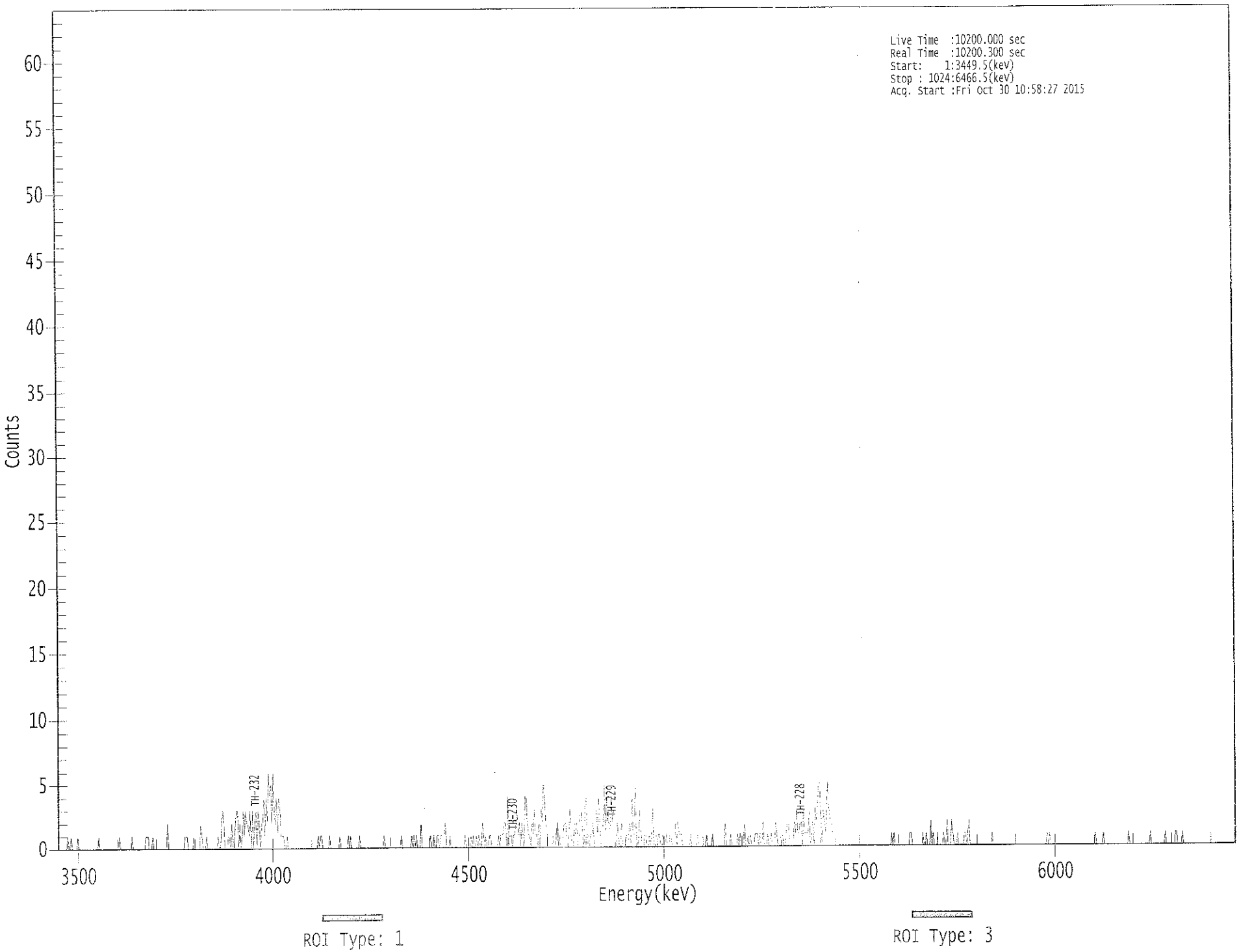
T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.975	5850.00*	1.84E-001 +/- 1.01E-001	7.25E-002 +/- 1.34E-002
TH-228	0.988	5400.00*	1.13E+000 +/- 3.11E-001	7.58E-002 +/- 1.40E-002
TH-229	1.000	4872.00*	1.51E+000 +/- 2.78E-001	7.09E-002 +/- 1.31E-002
TH-230	0.982	4672.00*	1.02E+000 +/- 2.87E-001	6.66E-002 +/- 1.23E-002
TH-232	0.991	3997.00*	1.35E+000 +/- 3.52E-001	5.64E-002 +/- 1.04E-002

AG
11/2/15

0000132725.CNF



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

369:	2	1	0	1	0	0	1	1

Sample Title: 07

Channel								
377:	0	0	0	0	0	0	1	0
385:	1	1	1	2	2	0	4	0
393:	1	1	0	1	1	2	3	1
401:	2	0	2	1	0	4	4	2
409:	1	1	0	2	1	3	1	1
417:	0	2	0	3	2	5	4	2
425:	1	0	0	0	0	1	0	0
433:	1	2	0	1	0	0	1	2
441:	2	1	0	1	3	1	0	0
449:	2	1	2	0	1	3	3	1
457:	0	3	4	0	1	0	1	1
465:	2	0	2	3	1	4	2	0
473:	1	2	5	1	4	2	2	1
481:	4	2	3	1	0	2	1	0
489:	0	2	0	0	0	1	0	1
497:	2	0	4	1	1	5	0	0
505:	1	3	1	0	0	1	1	0
513:	0	1	0	1	3	0	0	1
521:	0	1	1	0	0	1	0	0
529:	1	0	0	1	1	0	0	0
537:	2	0	2	1	1	1	0	0
545:	0	0	0	0	0	1	0	0
553:	0	0	0	1	0	0	0	0
561:	0	0	0	1	0	0	0	0
569:	1	0	0	0	0	0	0	0
577:	0	0	0	2	0	0	0	0
585:	1	0	0	0	0	0	1	0
593:	1	0	0	0	2	0	0	1
601:	0	1	0	0	0	1	1	1
609:	0	1	0	0	2	0	0	0
617:	1	0	0	1	0	0	0	2
625:	1	0	0	0	0	1	0	0
633:	1	2	2	0	0	0	0	2
641:	1	3	1	1	2	2	0	3
649:	1	1	1	1	3	0	1	2
657:	0	3	2	3	5	5	2	0
665:	3	2	1	3	5	3	2	2
673:	1	1	1	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	1	0	1	0	0
729:	0	0	0	0	0	0	0	0
737:	0	0	0	1	1	0	0	0
745:	0	0	0	0	0	0	1	0
753:	0	1	0	0	0	2	0	1
761:	0	0	0	1	0	0	0	0
769:	1	0	0	2	0	0	0	2
777:	1	0	0	0	1	0	0	0
785:	0	0	1	1	0	1	2	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	1	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	1	0	1	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	1	0	0	0
905:	0	0	0	1	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	1	0	0	0
953:	0	0	0	0	0	0	0	0
961:	0	1	0	0	0	0	0	0
969:	0	0	1	1	0	0	0	0
977:	1	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

KD 10/30/15

Apex-Alpha™

Sample Description: CP1807S13-14
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001327
Batch Identification: 1510091A-TH
Sample Identification: 08
Sample Geometry: Shelf 2
Procedure Description: Th iso

Detector Name: Alpha_053
Chamber Serial Number: 10006122A
Detector Serial Number: 53
Env. Background: System Bkgd 132598
Reagent Blank: <not performed>

Sample Size: 1.505E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 6:24:57 AM
Acquisition Date/Time: 10/30/2015 10:58:28 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: 0.1902 +/- 0.0161
Counting Efficiency: 0.1455 +/- 0.0026 on 12/13/2014 2:39:33 PM
Chem. Recovery Factor: 1.3075 +/- 0.1129

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		5.822	22.32	42.22	0.68	0.00E+000	4.5
TH-228		5.379	141.47	16.58	1.53	0.00E+000	8.9
TH-229	T	4.885	163.15	15.39	0.85	0.00E+000	10.8
TH-230		4.642	99.98	19.72	1.02	0.00E+000	4.7
TH-232		3.973	140.66	16.55	0.34	0.00E+000	8.9

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*	2.12E-001 +/- 9.62E-002	5.36E-002 +/- 8.88E-003
TH-228	0.998	5400.00*	1.34E+000 +/- 3.13E-001	6.72E-002 +/- 1.11E-002
TH-229	0.999	4872.00*	1.52E+000 +/- 2.51E-001	5.57E-002 +/- 9.21E-003
TH-230	0.995	4672.00*	9.27E-001 +/- 2.39E-001	5.84E-002 +/- 9.67E-003
TH-232	0.997	3997.00*	1.30E+000 +/- 3.05E-001	4.42E-002 +/- 7.32E-003

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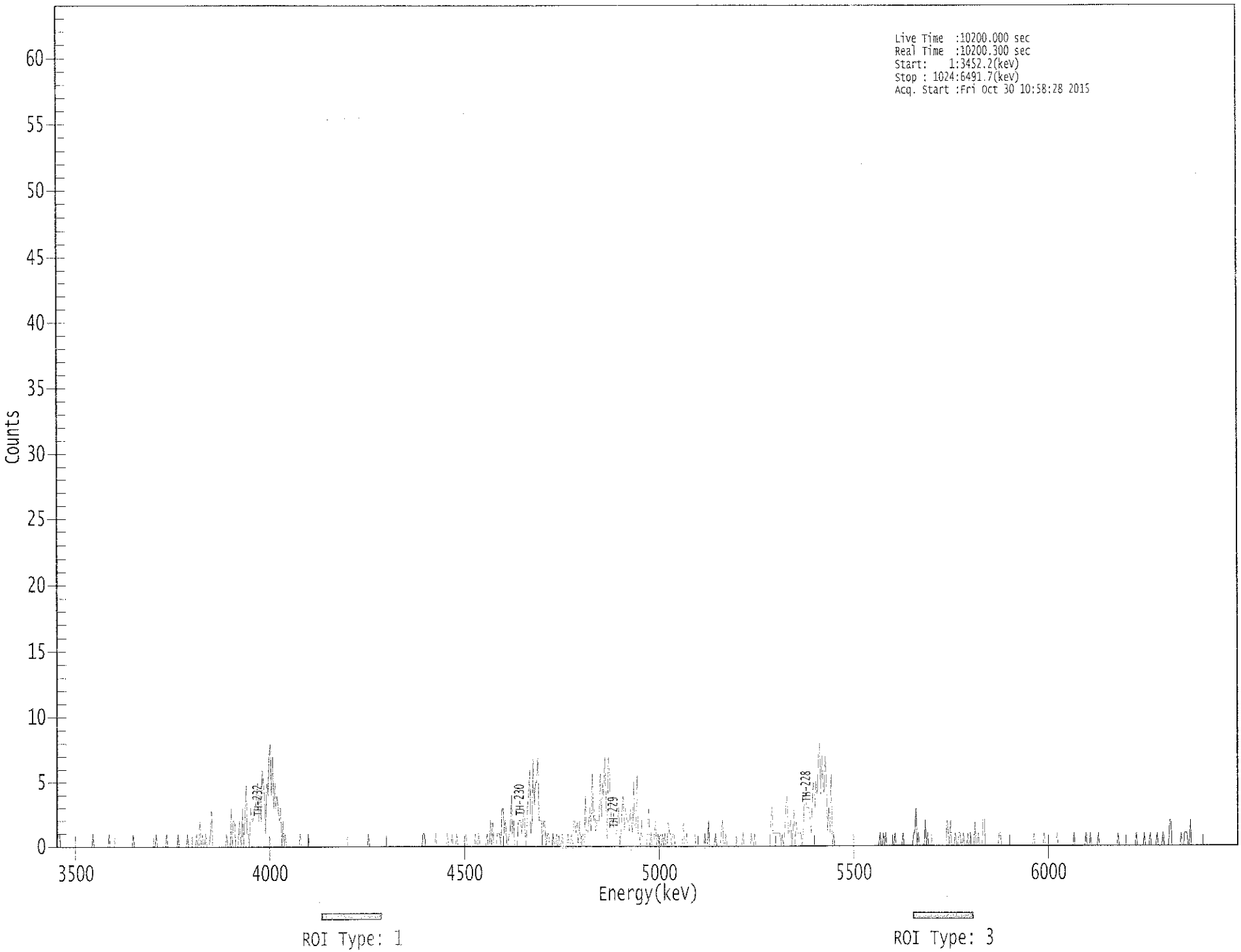
11/2/15

0000132731.CNF



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

Sample Title: 08

Elapsed Live time: 10200
Elapsed Real Time: 10200

Channel							
1:	0	1	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	1
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	1	0	0	0	0	0
73:	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	1	0
89:	0	0	0	0	0	0	0	1
97:	0	0	0	0	0	0	0	0
105:	0	1	0	0	0	0	0	0
113:	0	1	0	0	0	0	0	0
121:	0	1	0	0	2	0	1	0
129:	0	1	0	0	0	1	3	0
137:	0	0	0	0	0	0	0	0
145:	0	0	0	1	0	0	0	3
153:	0	2	2	0	0	0	2	1
161:	0	3	0	2	5	1	1	0
169:	3	2	2	3	3	4	5	2
177:	4	2	6	5	4	1	5	4
185:	7	8	4	7	3	5	3	4
193:	3	2	3	0	2	0	1	0
201:	0	0	0	0	0	0	0	0
209:	0	0	0	1	0	0	0	0
217:	0	0	1	0	0	0	0	0
225:	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	0	0
257:	0	0	0	0	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	0	0	0	0	0	0	0
305:	0	0	0	0	0	0	0	0
313:	0	0	0	0	0	1	1	0
321:	0	0	0	0	0	0	0	0
329:	1	0	0	0	0	0	0	0
337:	0	0	1	0	0	0	1	0
345:	0	0	1	0	0	0	0	0
353:	0	0	1	0	0	0	0	0
361:	0	0	1	0	0	1	0	0

369:	0	0	0	0	1	0	0	2

Sample Title: 08

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

801:	0	2	2	0	0	0	0	0

Sample Title: 08

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

Sample Description: CP1807S16-17
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001327
Batch Identification: 1510091A-TH
Sample Identification: 09
Sample Geometry: Shelf 2
Procedure Description: Th iso

Detector Name: Alpha_054
Chamber Serial Number: 10006122B
Detector Serial Number: 54
Env. Background: System Bkgd 132599
Reagent Blank: <not performed>

Sample Size: 1.528E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 6:24:57 AM
Acquisition Date/Time: 10/30/2015 10:58:30 AM
Acquisition Live Time: 170.0 minutes
Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
Tracer Quantity: 0.226 mL
Effective Efficiency: 0.1538 +/- 0.0142
Counting Efficiency: 0.1452 +/- 0.0026 on 12/13/2014 2:38:19 PM
Chem. Recovery Factor: 1.0593 +/- 0.0997

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		5.743	5.81	90.53	1.19	0.00E+000	3.0
TH-228		5.386	111.30	18.74	1.70	0.00E+000	9.0
TH-229	T	4.876	132.49	17.07	0.51	0.00E+000	3.8
TH-230		4.632	87.83	20.94	0.17	0.00E+000	13.9
TH-232		3.967	115.00	18.36	0.00	0.00E+000	4.4

T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.942	5850.00*	6.73E-002 +/- 6.22E-002	7.63E-002 +/- 1.38E-002
TH-228	0.999	5400.00*	1.28E+000 +/- 3.34E-001	8.46E-002 +/- 1.53E-002
TH-229	1.000	4872.00*	1.50E+000 +/- 2.72E-001	5.95E-002 +/- 1.08E-002
TH-230	0.992	4672.00*	9.92E-001 +/- 2.75E-001	4.72E-002 +/- 8.54E-003
TH-232	0.995	3997.00*	1.30E+000 +/- 3.35E-001	6.76E-002 +/- 1.23E-002

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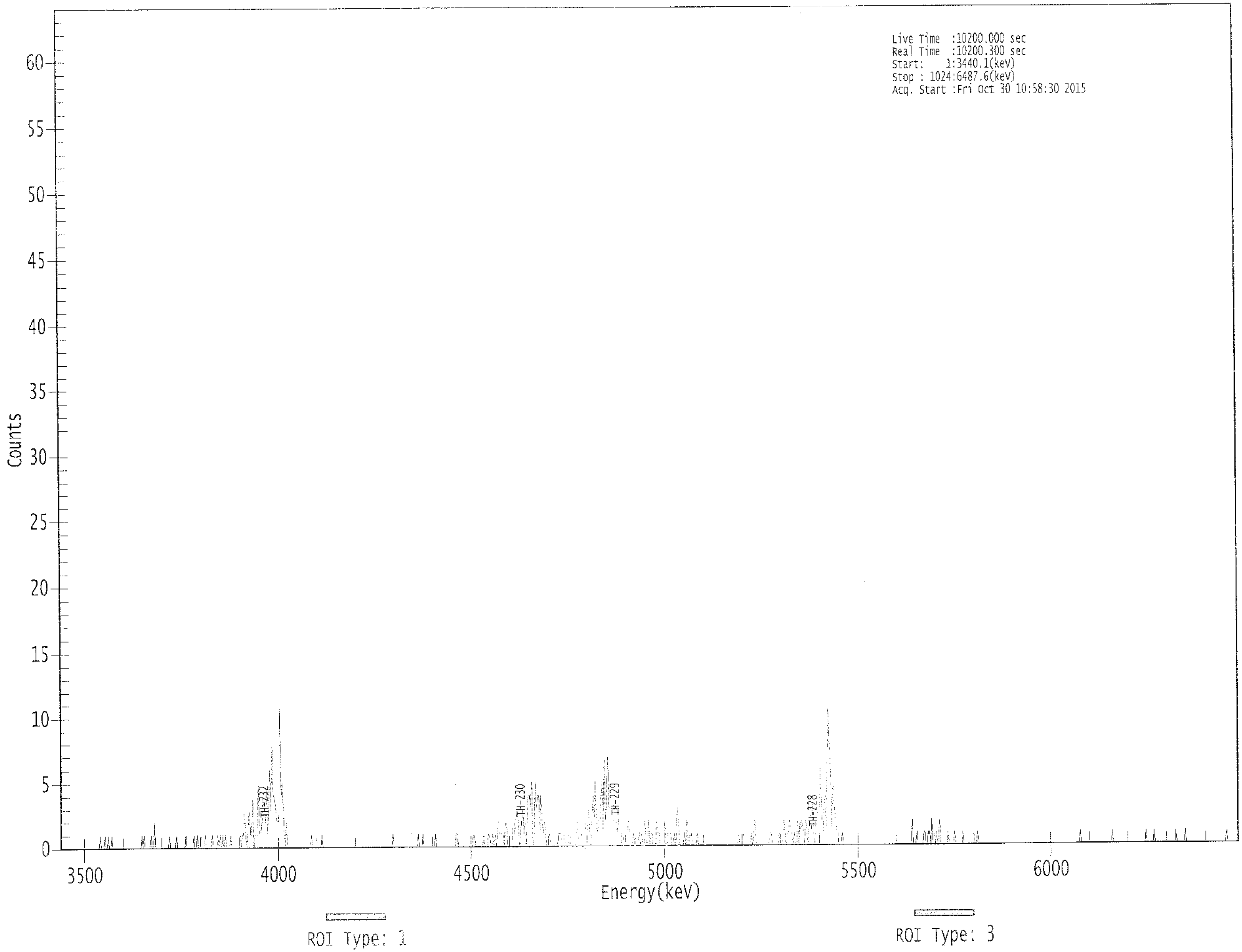
11/2/15

0000132726.CNF



00242

****
***** 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	1	0	0	0	1	0
41:	0	1	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	1	0
73:	1	0	0	0	0	0	1	0
81:	0	2	0	0	0	0	0	0
89:	0	0	0	0	0	0	1	0
97:	0	0	0	0	1	0	0	0
105:	0	0	0	0	1	0	0	0
113:	0	0	0	1	0	0	1	0
121:	0	1	0	0	0	1	0	0
129:	0	0	0	1	0	0	0	0
137:	1	0	1	0	1	0	1	0
145:	0	0	0	1	0	0	0	0
153:	0	0	0	1	0	1	1	3
161:	1	0	1	3	1	1	4	0
169:	1	1	1	5	1	1	2	4
177:	3	2	5	1	3	6	3	8
185:	4	4	3	2	2	3	11	4
193:	5	2	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	1	0	0	0	0	0	0
225:	0	0	1	0	0	0	0	0
233:	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	0	0
257:	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0
289:	1	0	0	0	0	0	0	0
297:	0	0	0	0	0	0	0	0
305:	0	0	0	0	0	0	1	0
313:	0	0	1	0	0	0	0	0
321:	0	0	0	0	0	1	0	0
329:	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	1
345:	1	0	0	0	0	0	0	0
353:	0	0	0	0	0	0	1	1
361:	0	0	0	0	0	0	0	1

369:	0	0	0	1	1	0	0	1

Sample Title: 09

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

801:	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	0	0	1	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	1	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	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:	1	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	1	0	0	0
1017:	0	0	0	0	0	0	0	0

KP 10/20/15

Apex-Alpha™

Sample Description: CP1807S18-19
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001327
Batch Identification: 1510091A-TH
Sample Identification: 10
Sample Geometry: Shelf 2
Procedure Description: Th iso

Detector Name: Alpha_033
Chamber Serial Number: 04026479A
Detector Serial Number: 91132
Env. Background: System Bkgd 132578
Reagent Blank: <not performed>

Sample Size: 1.503E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 6:24:57 AM
Acquisition Date/Time: 10/30/2015 11:33:38 AM
Acquisition Live Time: 170.0 minutes
Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
Tracer Quantity: 0.223 mL
Effective Efficiency: 0.1451 +/- 0.0139
Counting Efficiency: 0.1805 +/- 0.0032 on 10/25/2014 2:26:39 PM
Chem. Recovery Factor: 0.8043 +/- 0.0781

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		5.766	5.83	82.55	0.17	0.00E+000	3.0
TH-228		5.366	117.15	18.19	0.85	0.00E+000	4.0
TH-229	T	4.856	123.81	17.71	1.19	0.00E+000	6.0
TH-230		4.636	64.49	24.52	0.51	0.00E+000	8.3
TH-232		3.959	82.83	21.56	0.17	0.00E+000	4.0

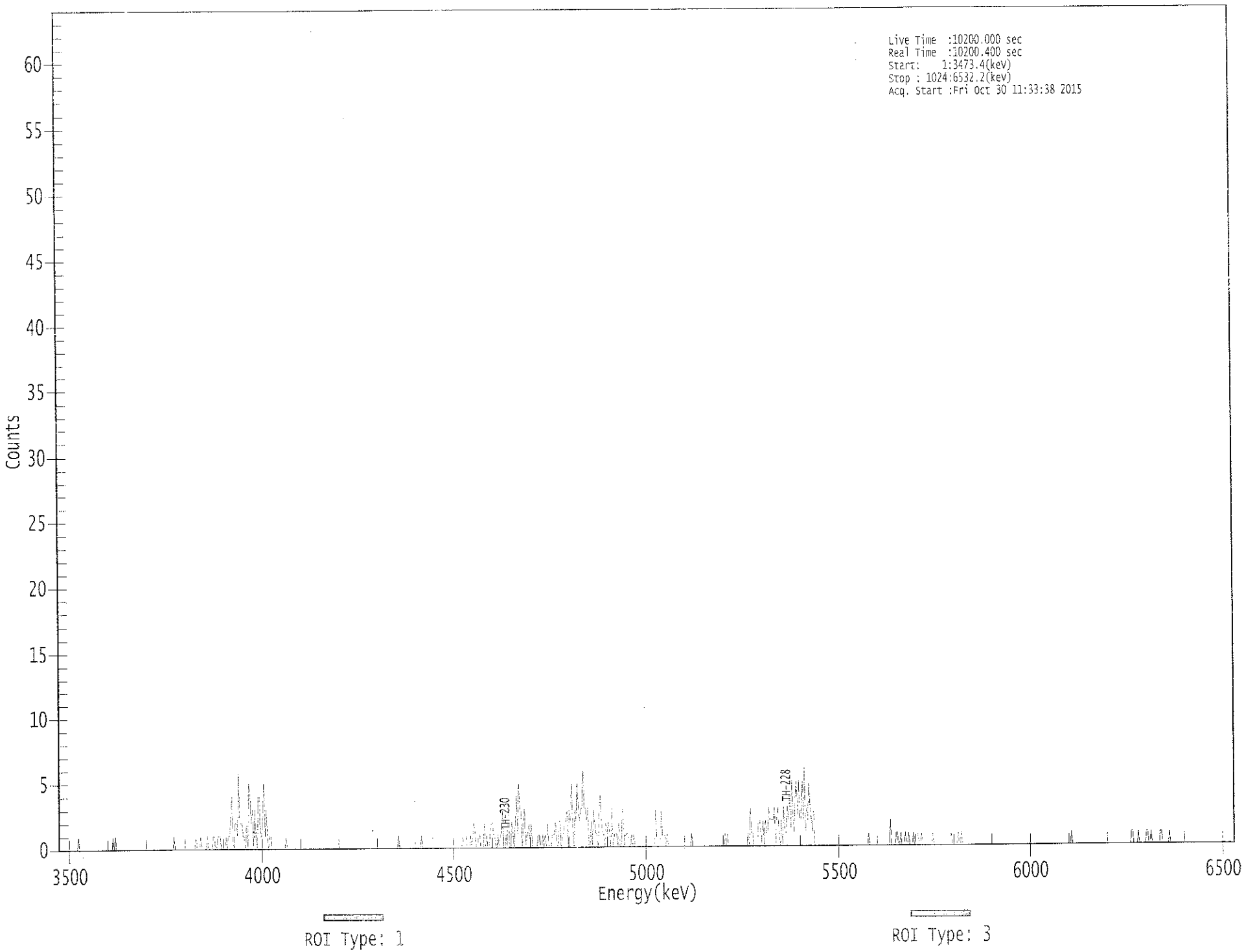
T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.964	5850.00*	7.27E-002 +/- 6.16E-002	5.21E-002 +/- 9.75E-003
TH-228	0.994	5400.00*	1.45E+000 +/- 3.79E-001	7.42E-002 +/- 1.39E-002
TH-229	0.999	4872.00*	1.51E+000 +/- 2.83E-001	8.04E-002 +/- 1.51E-002
TH-230	0.993	4672.00*	7.85E-001 +/- 2.42E-001	6.38E-002 +/- 1.20E-002
TH-232	0.992	3997.00*	1.01E+000 +/- 2.87E-001	5.07E-002 +/- 9.49E-003

AG
11/2/15

0000132753.CNF



****
***** 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:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	1	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	1
49:	0	1	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	1	0	0	0
105:	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	1
121:	0	0	0	1	0	0	0	0
129:	0	1	0	0	0	0	1	1
137:	0	0	1	1	1	0	0	0
145:	0	1	0	1	1	2	4	1
153:	0	2	2	1	6	2	2	2
161:	1	1	0	2	0	5	4	2
169:	3	0	3	1	0	4	4	1
177:	1	3	5	1	3	1	0	1
185:	1	0	0	0	0	0	0	0
193:	0	0	0	0	0	1	0	0
201:	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0
217:	0	0	0	0	0	0	0	0
225:	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	0	0
257:	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	1
297:	0	0	0	0	0	0	0	0
305:	0	0	0	0	0	0	0	0
313:	0	0	0	1	0	0	0	0
321:	0	0	0	0	0	1	0	0
329:	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	1
353:	0	0	1	0	0	0	1	0
361:	1	2	1	0	0	1	1	0

369:	0	0	2	0	1	0	0	1

Sample Title: 10

Channel								
377:	2	2	1	1	0	0	1	0
385:	1	1	3	0	0	1	0	4
393:	0	0	2	1	0	2	4	1
401:	5	3	3	0	2	3	0	1
409:	1	2	0	2	0	0	0	0
417:	0	1	1	0	0	1	0	1
425:	0	2	0	0	0	1	1	1
433:	2	0	0	2	2	0	1	1
441:	2	2	3	0	3	2	5	2
449:	0	3	2	5	3	2	3	3
457:	6	3	3	2	3	0	0	2
465:	0	3	2	1	1	0	3	4
473:	2	1	1	0	2	1	2	1
481:	0	3	0	1	1	1	0	2
489:	0	0	3	2	0	1	1	1
497:	0	0	1	0	1	0	0	0
505:	0	0	0	0	0	0	0	0
513:	0	0	0	0	0	0	0	3
521:	0	0	0	0	3	0	0	1
529:	0	1	0	0	0	0	0	0
537:	0	0	0	0	0	0	0	0
545:	0	0	0	0	0	0	1	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	1	0	1	0	0
585:	0	0	0	0	0	0	0	0
593:	0	0	0	0	0	0	0	1
601:	0	3	1	1	0	0	0	0
609:	2	2	1	1	2	0	2	1
617:	1	3	2	2	2	2	3	0
625:	2	3	1	0	2	0	3	1
633:	1	3	2	4	1	5	2	1
641:	4	5	2	5	2	2	5	2
649:	6	1	3	2	5	3	2	1
657:	3	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:	1	0	0	0	0	0	0	0
713:	0	0	0	0	0	0	0	0
721:	0	0	0	2	0	0	0	0
729:	1	1	0	0	1	0	0	0
737:	1	0	0	1	0	0	0	1
745:	0	0	0	1	0	0	1	0
753:	0	0	0	0	0	0	0	0
761:	1	0	0	0	0	0	0	0
769:	0	0	0	0	0	0	0	0
777:	1	0	0	0	0	0	1	0
785:	0	1	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: 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	1	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	0
929:	0	0	0	0	0	1	1	0
937:	0	0	0	1	0	0	0	0
945:	0	0	1	1	0	0	1	0
953:	0	0	0	0	0	0	1	1
961:	0	0	0	0	0	0	1	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

Apex-Alpha™

KB 10/30/15

Sample Description: CP1807S20-21
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001327
Batch Identification: 1510091A-TH
Sample Identification: 11
Sample Geometry: Shelf 2
Procedure Description: Th iso

Detector Name: Alpha_034
Chamber Serial Number: 04026479B
Detector Serial Number: 91136
Env. Background: System Bkgd 132579
Reagent Blank: <not performed>

Sample Size: 1.503E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 6:24:57 AM
Acquisition Date/Time: 10/30/2015 11:33:40 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: 0.1977 +/- 0.0164
Counting Efficiency: 0.1789 +/- 0.0031 on 10/25/2014 2:30:05 PM
Chem. Recovery Factor: 1.1056 +/- 0.0937

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		5.820	6.98	80.28	1.02	0.00E+000	3.0
TH-228		5.382	92.98	20.46	1.02	0.00E+000	13.1
TH-229	T	4.883	169.66	15.07	0.34	0.00E+000	12.2
TH-230		4.642	97.98	19.92	1.02	0.00E+000	3.7
TH-232		3.964	92.00	20.55	0.00	0.00E+000	11.1

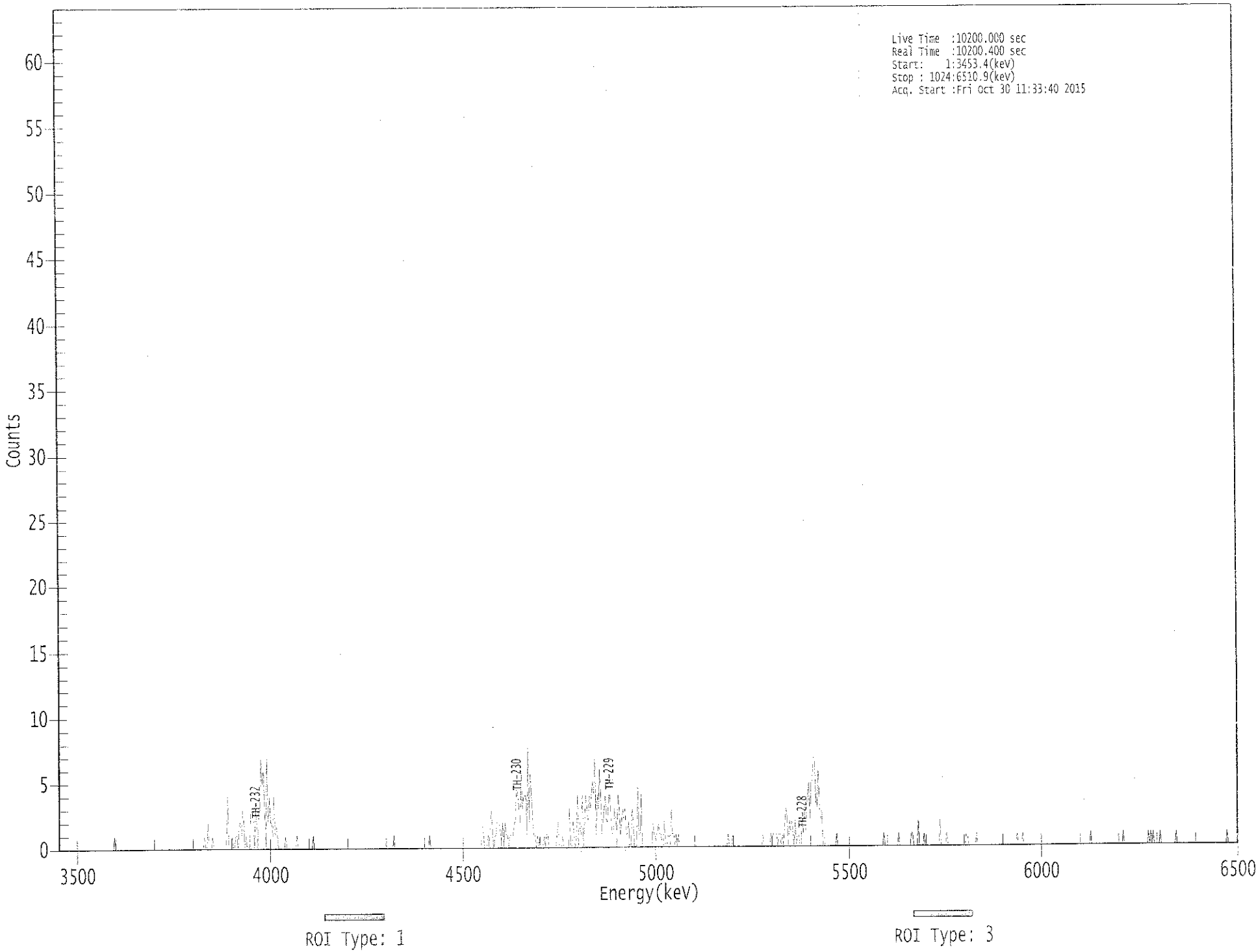
T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.995	5850.00*	6.39E-002 +/- 5.24E-002	5.77E-002 +/- 9.38E-003
TH-228	0.998	5400.00*	8.46E-001 +/- 2.21E-001	5.74E-002 +/- 9.32E-003
TH-229	0.999	4872.00*	1.52E+000 +/- 2.47E-001	4.28E-002 +/- 6.96E-003
TH-230	0.995	4672.00*	8.75E-001 +/- 2.25E-001	5.63E-002 +/- 9.14E-003
TH-232	0.994	3997.00*	8.20E-001 +/- 2.15E-001	5.35E-002 +/- 8.69E-003

AG
11/2/15

0000132754.CNF



****
***** 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	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:	1	0	0	0	0	0	0	0
57:	0	0	0	0	0	0	0	0
65:	0	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0
81:	0	0	0	0	0	0	0	0
89:	0	0	0	0	0	0	0	0
97:	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0
113:	0	0	0	0	0	0	0	0
121:	0	0	0	0	0	0	1	0
129:	0	2	0	0	0	1	0	0
137:	0	0	0	0	0	0	0	0
145:	0	1	4	0	0	0	1	0
153:	0	1	1	0	2	2	1	3
161:	2	0	1	0	0	0	3	3
169:	3	0	3	2	0	3	3	7
177:	5	6	3	0	7	2	4	2
185:	2	1	4	1	2	1	0	0
193:	0	0	0	0	1	0	0	0
201:	0	0	0	0	0	0	1	0
209:	0	0	0	0	0	0	0	0
217:	0	0	0	0	1	0	0	0
225:	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0
241:	0	0	0	0	0	0	0	0
249:	0	0	0	0	0	0	0	0
257:	0	0	0	0	0	0	0	0
265:	0	0	0	0	0	0	0	0
273:	0	0	0	0	0	0	0	0
281:	0	0	0	0	0	0	0	0
289:	0	0	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	1	0	0	0	0	0	0
329:	0	0	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	0
353:	0	0	0	0	0	0	0	0
361:	0	0	0	0	0	0	0	2

369:	1	0	0	0	1	0	2	3

Sample Title: 11

Channel								
377:	1	0	1	1	2	2	2	1
385:	1	2	0	2	1	1	0	1
393:	1	1	1	2	2	5	4	3
401:	2	6	3	4	4	4	1	8
409:	2	6	4	2	1	1	0	1
417:	0	1	0	0	0	1	0	1
425:	1	0	0	0	0	0	0	0
433:	1	2	0	0	0	1	0	0
441:	0	0	0	3	0	0	2	1
449:	0	1	4	1	2	1	4	0
457:	2	4	3	2	4	3	4	5
465:	4	7	1	4	3	6	4	1
473:	2	3	4	2	2	4	4	2
481:	1	1	3	2	1	4	3	1
489:	2	3	2	3	1	1	2	0
497:	0	3	2	0	0	0	5	1
505:	1	4	0	0	0	0	0	0
513:	0	0	0	2	1	1	1	1
521:	2	1	1	0	0	2	0	0
529:	1	1	0	3	1	1	0	1
537:	0	1	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:	0	0	0	0	1	0	0	0
585:	1	0	0	0	0	0	0	0
593:	0	0	0	0	0	0	0	0
601:	0	0	0	0	0	0	0	0
609:	0	0	1	0	0	0	0	0
617:	0	1	0	1	1	1	1	0
625:	1	1	0	1	0	2	3	2
633:	0	2	1	2	1	0	2	0
641:	1	1	0	0	2	1	3	1
649:	3	4	5	2	5	5	7	7
657:	3	3	6	3	2	3	0	1
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	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	1	0	0	0	0
721:	0	0	0	0	0	0	0	0
729:	1	0	0	0	0	0	0	0
737:	0	0	0	1	1	0	0	0
745:	0	2	0	0	0	0	1	0
753:	0	0	0	0	0	0	0	0
761:	0	0	0	0	2	0	0	0
769:	0	0	1	0	0	0	0	0
777:	0	0	0	0	0	0	0	0
785:	0	0	0	1	1	0	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	1
833:	0	0	0	0	1	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	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	1
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	1	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	1	0	1	0	0
953:	0	0	0	1	0	0	0	0
961:	0	0	0	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	1	0	0
1017:	0	0	0	0	0	0	0	0

KP 10/30/15

Apex-Alpha™

Sample Description: CP1807S22-23
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001327
Batch Identification: 1510091A-TH
Sample Identification: 12
Sample Geometry: Shelf 2
Procedure Description: Th iso

Detector Name: Alpha_035
Chamber Serial Number: 04026477A
Detector Serial Number: 58771
Env. Background: System Bkgd 132580
Reagent Blank: <not performed>

Sample Size: 1.523E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 6:24:57 AM
Acquisition Date/Time: 10/30/2015 11:33:42 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: 0.1915 +/- 0.0161
Counting Efficiency: 0.1647 +/- 0.0029 on 10/25/2014 2:34:10 PM
Chem. Recovery Factor: 1.1627 +/- 0.0999

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		5.790	28.15	37.59	0.85	0.00E+000	6.0
TH-228		5.369	118.81	18.09	1.19	0.00E+000	4.0
TH-229	T	4.885	164.49	15.31	0.51	0.00E+000	7.5
TH-230		4.630	114.66	18.34	0.34	0.00E+000	3.9
TH-232		3.953	137.83	16.71	0.17	0.00E+000	4.5

T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.981	5850.00*	2.63E-001 +/- 1.08E-001	5.59E-002 +/- 9.20E-003
TH-228	0.995	5400.00*	1.10E+000 +/- 2.69E-001	6.11E-002 +/- 1.01E-002
TH-229	0.999	4872.00*	1.50E+000 +/- 2.47E-001	4.79E-002 +/- 7.89E-003
TH-230	0.991	4672.00*	1.04E+000 +/- 2.57E-001	4.35E-002 +/- 7.16E-003
TH-232	0.990	3997.00*	1.25E+000 +/- 2.94E-001	3.79E-002 +/- 6.24E-003

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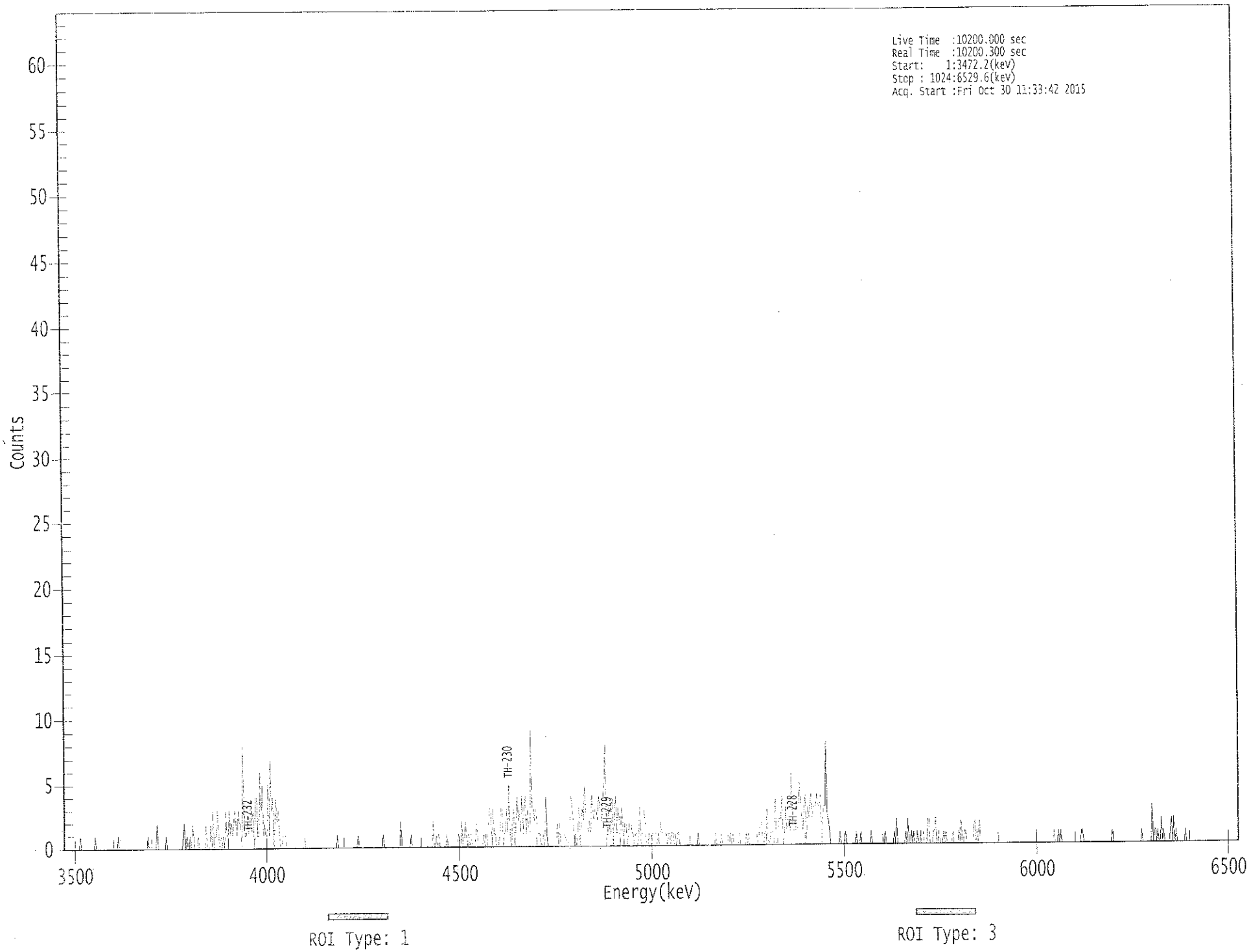
0000132747.CNF



15206 :

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

Sample Title: 12

Elapsed Live time: 10200
Elapsed Real Time: 10200

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

369:	0	2	3	3	0	3	1	1

Sample Title: 12

Channel								
377:	0	0	0	1	3	3	0	1
385:	1	3	1	5	1	0	2	3
393:	0	2	4	2	3	1	4	1
401:	3	4	1	3	1	1	9	3
409:	3	2	3	2	1	1	1	0
417:	0	1	0	4	1	0	0	0
425:	0	0	0	0	0	2	0	2
433:	0	0	0	1	1	0	0	1
441:	2	4	3	2	0	1	0	1
449:	3	0	2	3	2	5	2	2
457:	1	2	1	4	3	2	3	3
465:	2	4	3	3	2	4	5	8
473:	0	1	3	1	1	4	1	2
481:	4	1	3	2	0	3	2	0
489:	2	2	0	1	2	2	1	1
497:	0	1	1	0	1	3	0	1
505:	1	3	1	0	0	1	0	0
513:	1	1	1	1	0	1	0	2
521:	1	1	1	1	1	0	1	1
529:	0	1	1	0	1	0	1	1
537:	0	0	0	0	0	0	0	0
545:	0	0	0	0	0	0	0	0
553:	1	0	0	0	0	0	0	0
561:	0	0	0	0	0	0	0	1
569:	0	0	0	0	1	0	0	0
577:	0	0	0	0	1	0	1	0
585:	0	0	0	0	1	0	0	0
593:	0	0	1	0	1	0	0	0
601:	0	0	0	1	0	1	2	2
609:	0	0	1	1	3	0	0	1
617:	1	1	0	4	0	0	2	2
625:	2	4	0	1	3	1	2	2
633:	1	6	2	1	2	1	1	2
641:	5	3	2	1	3	4	0	3
649:	2	3	4	2	3	3	3	4
657:	3	3	4	0	2	3	3	8
665:	2	2	1	0	0	0	0	0
673:	0	0	0	1	0	0	0	0
681:	1	0	0	0	0	0	0	0
689:	0	1	0	0	0	1	0	0
697:	0	0	0	0	0	0	1	0
705:	0	0	0	0	0	0	0	0
713:	0	0	1	0	0	0	0	0
721:	0	0	1	0	2	0	0	0
729:	0	0	0	0	1	0	2	0
737:	0	1	0	1	0	0	1	0
745:	0	1	1	1	0	0	0	2
753:	2	0	0	0	1	1	2	0
761:	0	1	0	0	0	1	0	1
769:	0	0	0	0	0	1	0	0
777:	0	0	1	1	2	0	0	1
785:	1	0	0	0	0	0	0	1
793:	2	0	1	0	2	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	1	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	1	0	0
865:	0	1	0	1	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	1	1	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:	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	1	0	0	0	0	0
945:	0	0	0	3	0	1	1	0
953:	1	0	0	2	0	1	0	0
961:	0	0	0	1	2	0	2	0
969:	1	0	0	0	0	0	0	0
977:	1	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™

KP 10/30/15

Sample Description: CP1805S03-04
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001327
Batch Identification: 1510091A-TH
Sample Identification: 13
Sample Geometry: Shelf 2
Procedure Description: Th iso

Detector Name: Alpha_036
Chamber Serial Number: 04026477B
Detector Serial Number: 84167
Env. Background: System Bkgd 132581
Reagent Blank: <not performed>

Sample Size: 1.512E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 6:24:57 AM
Acquisition Date/Time: 10/30/2015 11:33:44 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: 0.1517 +/- 0.0142
Counting Efficiency: 0.1806 +/- 0.0032 on 10/25/2014 2:38:17 PM
Chem. Recovery Factor: 0.8399 +/- 0.0798

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		5.869	12.32	57.62	0.68	0.00E+000	3.0
TH-228		5.353	128.81	17.36	1.19	0.00E+000	6.2
TH-229	T	4.870	130.00	17.26	0.00	0.00E+000	5.0
TH-230		4.611	193.83	14.09	0.17	0.00E+000	6.3
TH-232		3.938	123.00	17.74	0.00	0.00E+000	7.5

T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.998	5850.00*	1.46E-001 +/- 8.85E-002	6.70E-002 +/- 1.23E-002
TH-228	0.989	5400.00*	1.52E+000 +/- 3.83E-001	7.77E-002 +/- 1.42E-002
TH-229	1.000	4872.00*	1.51E+000 +/- 2.76E-001	6.96E-002 +/- 1.27E-002
TH-230	0.981	4672.00*	2.24E+000 +/- 5.18E-001	4.83E-002 +/- 8.84E-003
TH-232	0.982	3997.00*	1.42E+000 +/- 3.62E-001	6.93E-002 +/- 1.27E-002

AG
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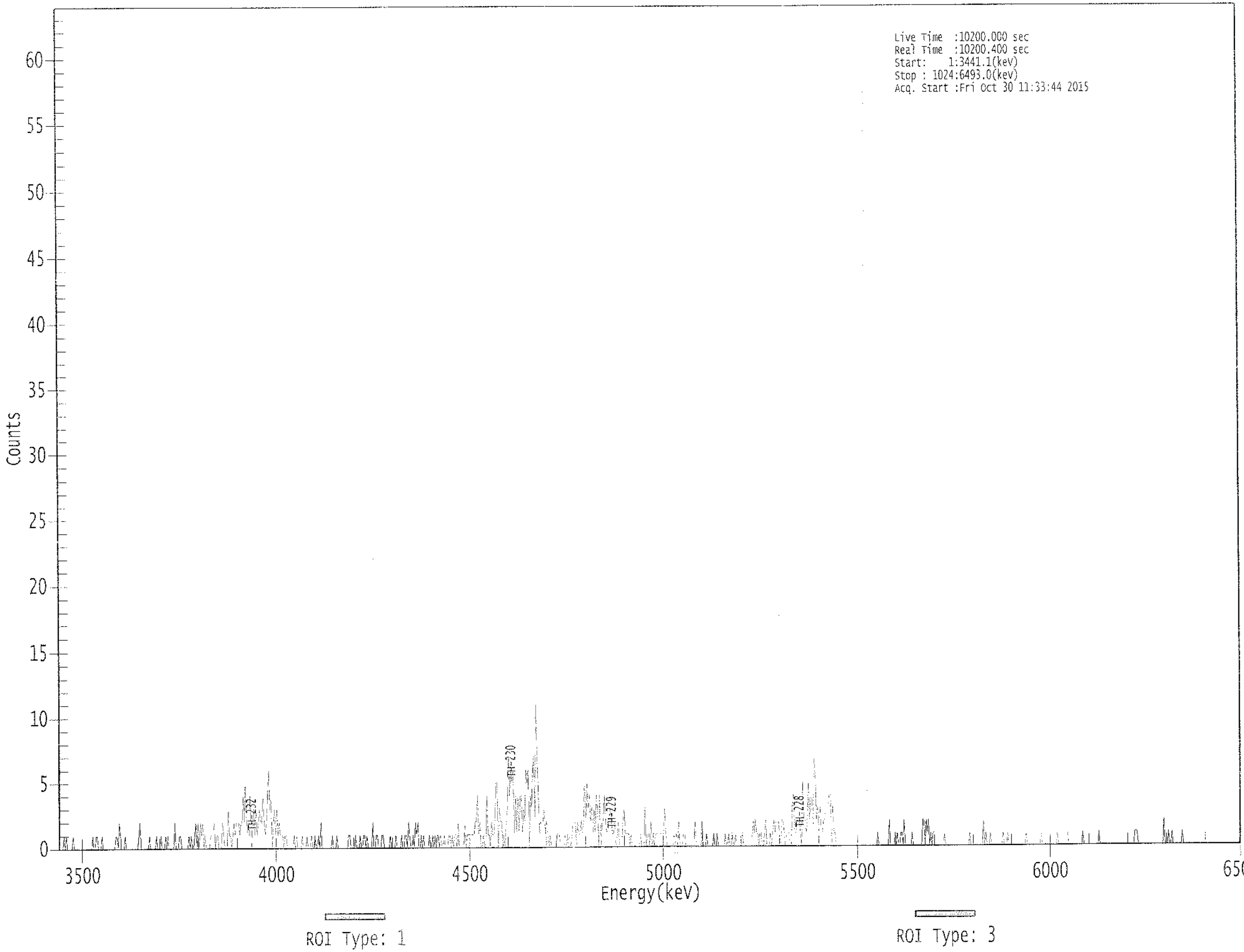
000132741.CNF



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

369:	0	0	4	1	1	0	2	1

Sample Title: 13

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

801:	2	0	1	0	0	0	1	0

Sample Title: 13

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	1	0	0	0	1	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	1	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	1	0	0	0	0	0
857:	0	0	0	0	0	0	0	0
865:	1	0	0	0	0	0	0	0
873:	0	1	0	0	0	0	0	0
881:	0	0	0	0	0	0	1	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	1	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	1	1	1	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	2	0	0	0
961:	1	0	0	1	0	0	0	0
969:	0	0	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	1	0

KB 10/30/15

Apex-Alpha™

Sample Description: CP1805S05-06
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001327
Batch Identification: 1510091A-TH
Sample Identification: 14
Sample Geometry: Shelf 2
Procedure Description: Th iso

Detector Name: Alpha_037
Chamber Serial Number: 04026478A
Detector Serial Number: 91133
Env. Background: System Bkgd 132582
Reagent Blank: <not performed>

Sample Size: 1.503E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 6:24:57 AM
Acquisition Date/Time: 10/30/2015 11:33:45 AM
Acquisition Live Time: 170.0 minutes
Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
Tracer Quantity: 0.226 mL
Effective Efficiency: 0.1658 +/- 0.0148
Counting Efficiency: 0.1709 +/- 0.0030 on 10/25/2014 2:46:09 PM
Chem. Recovery Factor: 0.9703 +/- 0.0883

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		5.797	11.83	57.46	0.17	0.00E+000	3.0
TH-228		5.345	128.15	17.38	0.85	0.00E+000	13.0
TH-229	T	4.864	142.83	16.41	0.17	0.00E+000	6.0
TH-230		4.599	154.49	15.80	0.51	0.00E+000	13.5
TH-232		3.943	128.00	17.39	0.00	0.00E+000	5.0

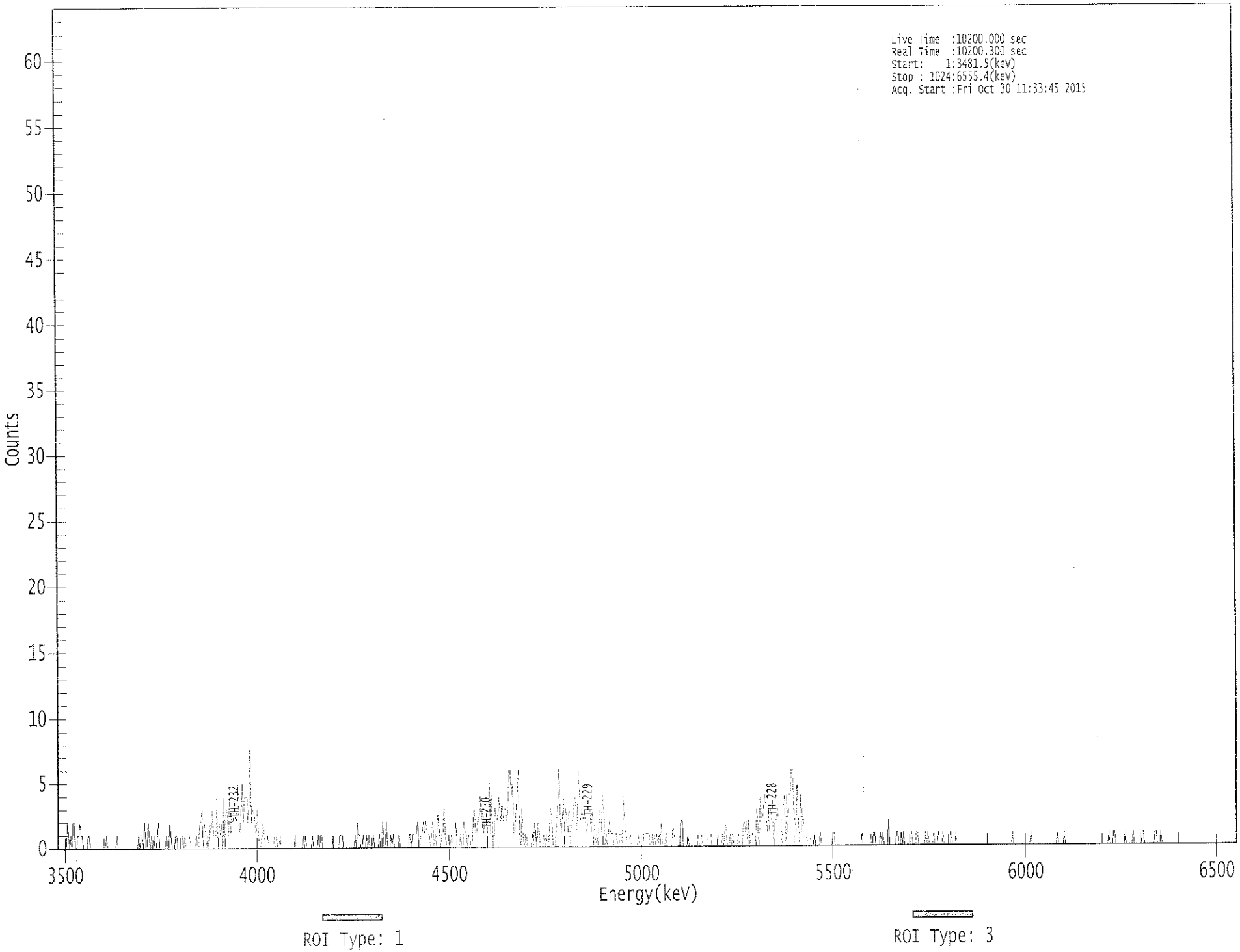
T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.985	5850.00*	1.29E-001 +/- 7.76E-002	4.56E-002 +/- 7.98E-003
TH-228	0.984	5400.00*	1.39E+000 +/- 3.43E-001	6.50E-002 +/- 1.14E-002
TH-229	1.000	4872.00*	1.53E+000 +/- 2.67E-001	4.46E-002 +/- 7.80E-003
TH-230	0.973	4672.00*	1.65E+000 +/- 3.88E-001	5.59E-002 +/- 9.78E-003
TH-232	0.985	3997.00*	1.36E+000 +/- 3.36E-001	6.37E-002 +/- 1.12E-002

AG 11/2/15

0000132742.CNF



197606

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

369:	3	1	2	2	1	2	5	1

Sample Title: 14

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

801:	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	1	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:	1	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	1
913:	0	0	0	1	1	0	0	0
921:	0	0	0	0	0	1	0	0
929:	0	0	0	0	1	0	0	0
937:	0	0	0	0	1	1	0	0
945:	0	0	0	0	0	0	0	1
953:	1	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

Apex-Alpha™

KB 10/30/15

Sample Description: CP1805S08-09
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001327
Batch Identification: 1510091A-TH
Sample Identification: 15
Sample Geometry: Shelf 2
Procedure Description: Th iso

Detector Name: Alpha_038
Chamber Serial Number: 04026478B
Detector Serial Number: 91134
Env. Background: System Bkgd 132583
Reagent Blank: <not performed>

Sample Size: 1.505E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 6:24:57 AM
Acquisition Date/Time: 10/30/2015 11:33:48 AM
Acquisition Live Time: 170.0 minutes
Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
Tracer Quantity: 0.226 mL
Effective Efficiency: 0.1500 +/- 0.0140
Counting Efficiency: 0.1615 +/- 0.0029 on 10/25/2014 2:50:18 PM
Chem. Recovery Factor: 0.9285 +/- 0.0883

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		5.825	14.83	51.24	0.17	0.00E+000	3.0
TH-228		5.356	103.32	19.36	0.68	0.00E+000	7.0
TH-229	T	4.878	129.49	17.26	0.51	0.00E+000	4.0
TH-230		4.611	112.32	18.56	0.68	0.00E+000	3.0
TH-232		3.935	137.49	16.75	0.51	0.00E+000	11.8

T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.997	5850.00*	1.79E-001 +/- 9.73E-002	5.03E-002 +/- 9.21E-003
TH-228	0.990	5400.00*	1.24E+000 +/- 3.30E-001	6.76E-002 +/- 1.24E-002
TH-229	1.000	4872.00*	1.53E+000 +/- 2.80E-001	6.19E-002 +/- 1.13E-002
TH-230	0.981	4672.00*	1.32E+000 +/- 3.44E-001	6.63E-002 +/- 1.21E-002
TH-232	0.980	3997.00*	1.61E+000 +/- 4.00E-001	6.16E-002 +/- 1.13E-002

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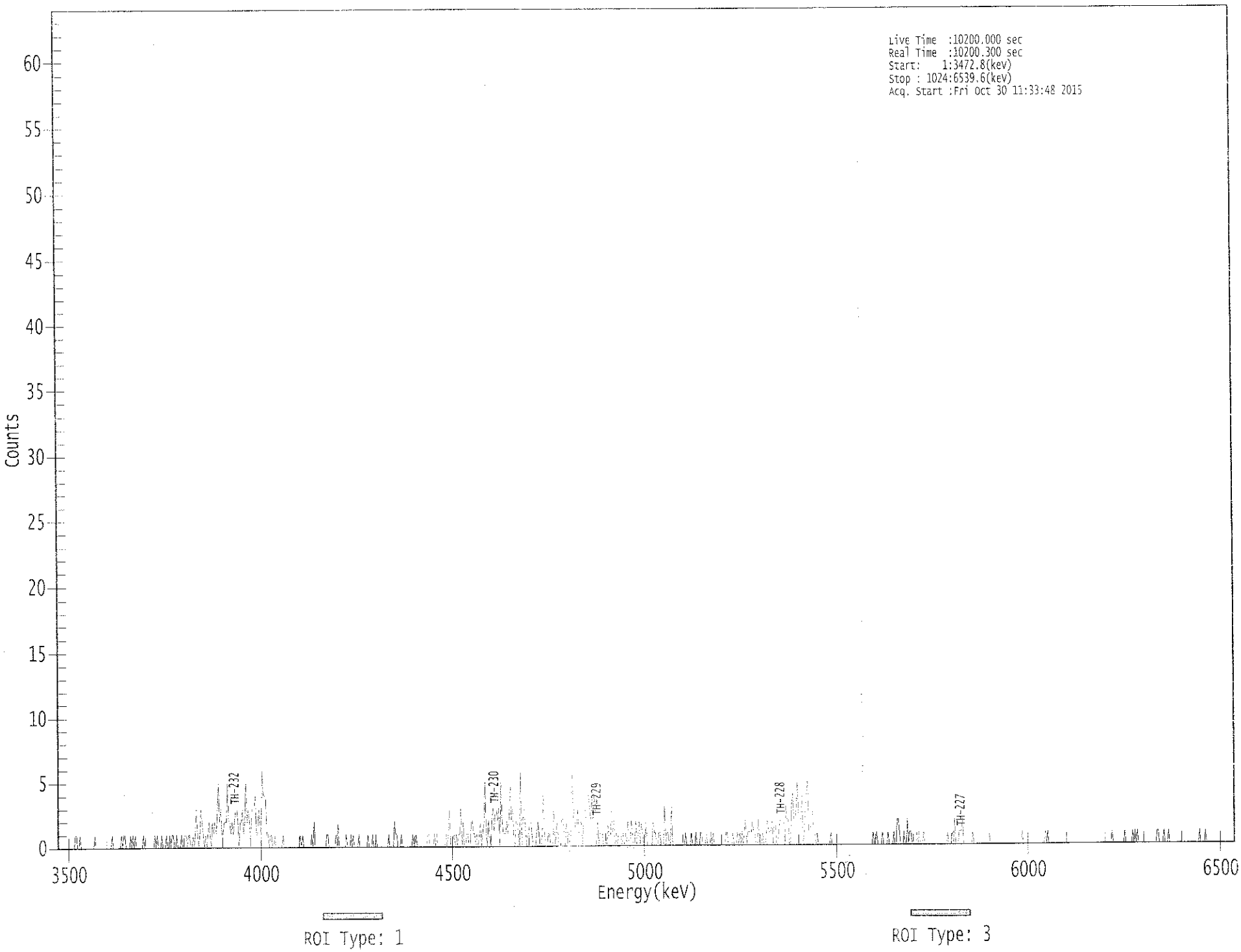
0000132743.CNF



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

369:	0	1	2	5	1	0	2	1

Sample Title: 15

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

801:	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	1	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	1	0	1	0	0	0
865:	0	0	0	0	0	0	0	0
873:	0	0	0	0	0	0	0	0
881:	0	0	0	0	0	0	0	0
889:	0	0	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	0
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	1	0	0	0
921:	0	0	0	0	0	0	0	1
929:	0	0	0	0	0	0	1	0
937:	1	0	1	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	0	1	1	0	0	0
961:	0	1	0	0	0	1	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	1	0	0	0	0	1	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

KB 10/30/15

Apex-Alpha™

Sample Description: CP1805S11-12
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001327
Batch Identification: 1510091A-TH
Sample Identification: 16
Sample Geometry: Shelf 2
Procedure Description: Th iso

Detector Name: Alpha_039
Chamber Serial Number: 06027396A
Detector Serial Number: 83109
Env. Background: System Bkgd 132584
Reagent Blank: <not performed>

Sample Size: 1.503E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 6:24:57 AM
Acquisition Date/Time: 10/30/2015 11:33:49 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: 0.2151 +/- 0.0172
Counting Efficiency: 0.1934 +/- 0.0034 on 10/25/2014 2:53:34 PM
Chem. Recovery Factor: 1.1121 +/- 0.0912

Peak Match Tolerance: 0.175 MeV

PEAK AREA REPORT

Nuclide		Energy (MeV)	Net Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
TH-227		5.846	14.77	57.15	3.23	0.00E+000	0.0
TH-228		5.384	149.11	16.23	2.89	0.00E+000	21.0
TH-229	T	4.885	185.13	14.49	1.87	0.00E+000	8.4
TH-230		4.648	114.77	18.59	3.23	0.00E+000	11.0
TH-232		3.969	120.45	18.08	2.55	0.00E+000	4.7

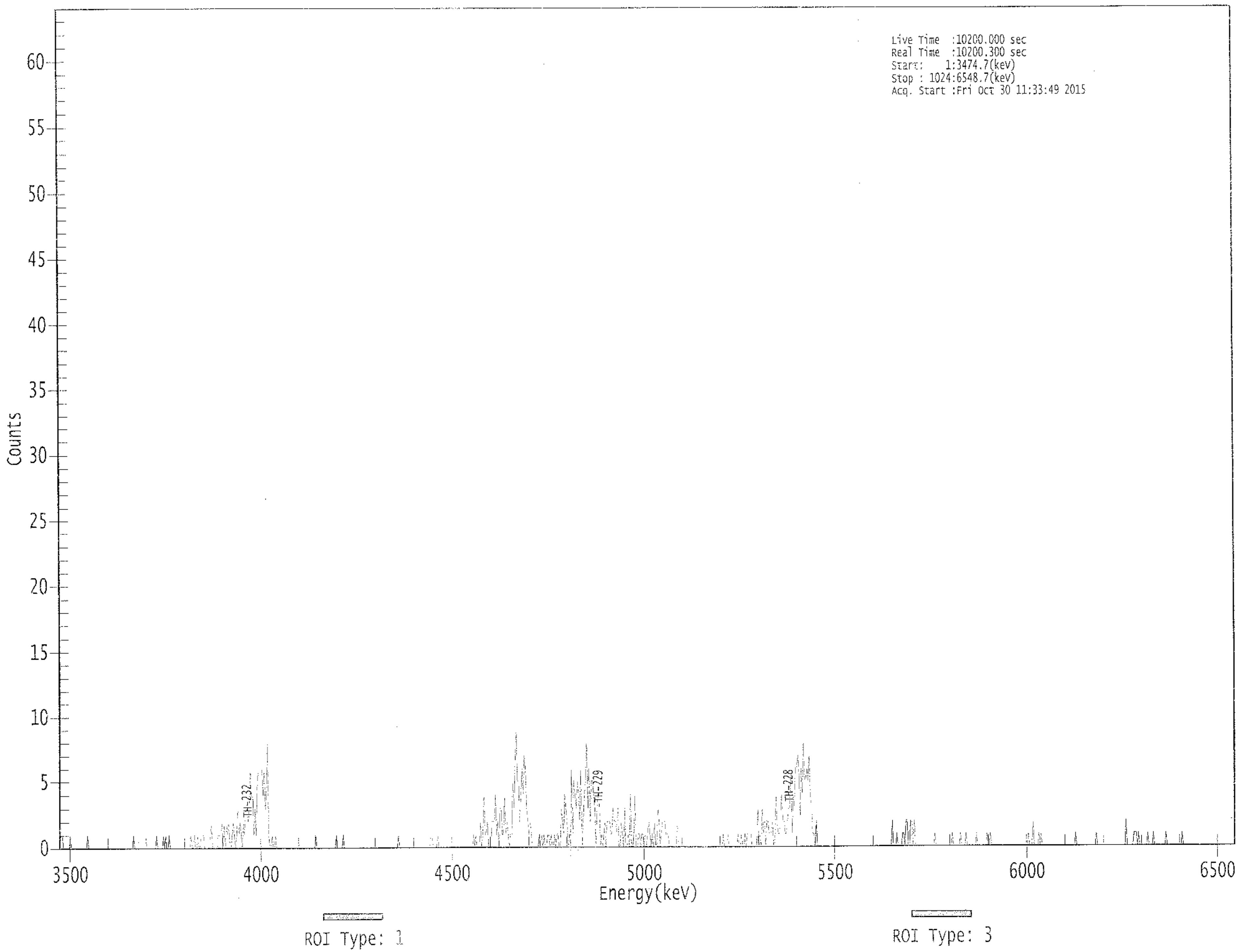
T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	1.000	5850.00*	1.24E-001 +/- 7.37E-002	7.66E-002 +/- 1.20E-002
TH-228	0.999	5400.00*	1.25E+000 +/- 2.82E-001	7.33E-002 +/- 1.15E-002
TH-229	0.999	4872.00*	1.52E+000 +/- 2.40E-001	6.24E-002 +/- 9.80E-003
TH-230	0.997	4672.00*	9.42E-001 +/- 2.29E-001	7.47E-002 +/- 1.17E-002
TH-232	0.996	3997.00*	9.87E-001 +/- 2.36E-001	6.88E-002 +/- 1.08E-002

AG
11/2/15

0000132755.CNF



****
***** 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	1	1	0	0	0	0	0
9:	0	1	0	0	0	0	0	0
17:	0	0	0	0	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:	1	0	0	0	0	0	0	0
73:	0	0	0	0	0	0	0	0
81:	0	0	0	0	1	0	0	0
89:	0	0	1	0	1	0	0	1
97:	0	0	0	0	0	0	0	0
105:	0	0	0	0	0	0	0	0
113:	0	0	1	0	0	1	0	0
121:	1	0	0	1	1	1	0	0
129:	0	0	0	1	2	0	0	0
137:	0	0	1	1	1	2	0	2
145:	0	2	1	2	0	0	1	2
153:	1	0	1	3	1	2	1	0
161:	2	1	3	3	2	3	6	4
169:	4	1	3	1	5	6	6	6
177:	6	4	6	3	4	8	1	0
185:	0	1	0	0	1	0	0	0
193:	0	0	0	0	0	0	0	0
201:	0	0	0	0	0	0	0	0
209:	0	0	0	0	0	0	0	0
217:	0	0	0	0	0	0	0	1
225:	0	0	0	0	0	0	0	0
233:	0	0	0	0	0	0	0	0
241:	0	1	0	0	0	0	0	1
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	0	0
281:	0	0	0	0	0	0	0	0
289:	0	0	0	0	0	0	0	1
297:	0	0	0	0	0	0	0	0
305:	0	0	0	0	0	0	0	0
313:	0	0	0	0	0	0	0	0
321:	0	0	0	1	1	0	0	0
329:	0	1	0	0	0	0	0	0
337:	0	0	0	0	0	0	0	0
345:	0	0	0	0	0	0	0	0
353:	0	0	0	0	0	0	0	0
361:	1	0	1	0	0	0	2	0

369:	1	4	1	1	2	0	0	0

Sample Title: 16

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

801:	0	0	0	0	0	0	1	0

Sample Title: 16

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	1	0	0	0	2	0
849:	0	0	0	1	0	1	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	1	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	2
929:	0	0	0	0	0	0	1	1
937:	1	0	1	0	0	0	0	0
945:	0	0	1	0	0	0	0	1
953:	0	0	0	0	0	0	0	0
961:	0	0	1	0	0	0	0	0
969:	0	0	0	0	0	0	0	0
977:	1	0	0	0	0	0	0	0
985:	0	0	0	0	0	0	0	0
993:	0	0	0	0	0	0	0	0
1001:	0	0	0	0	0	0	0	0
1009:	0	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

Apex-Alpha™

KB 10/30/15

Sample Description: CP1805S13-14
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001327
Batch Identification: 1510091A-TH
Sample Identification: 17
Sample Geometry: Shelf 2
Procedure Description: Th iso

Detector Name: Alpha_040
Chamber Serial Number: 06027396B
Detector Serial Number: 91135
Env. Background: System Bkgd 132585
Reagent Blank: <not performed>

Sample Size: 1.514E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 6:24:57 AM
Acquisition Date/Time: 10/30/2015 11:33:51 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: 0.1623 +/- 0.0147
Counting Efficiency: 0.1856 +/- 0.0032 on 10/25/2014 2:57:14 PM
Chem. Recovery Factor: 0.8747 +/- 0.0805

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		5.802	8.66	68.12	0.34	0.00E+000	3.0
TH-228		5.335	140.15	16.61	0.85	0.00E+000	9.0
TH-229	T	4.873	138.83	16.65	0.17	0.00E+000	3.7
TH-230		4.600	118.49	18.05	0.51	0.00E+000	5.0
TH-232		3.940	120.32	17.93	0.68	0.00E+000	3.7

T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.988	5850.00*	9.60E-002 +/- 6.75E-002	5.30E-002 +/- 9.39E-003
TH-228	0.978	5400.00*	1.54E+000 +/- 3.75E-001	6.59E-002 +/- 1.17E-002
TH-229	1.000	4872.00*	1.50E+000 +/- 2.67E-001	4.52E-002 +/- 8.01E-003
TH-230	0.973	4672.00*	1.28E+000 +/- 3.24E-001	5.67E-002 +/- 1.00E-002
TH-232	0.983	3997.00*	1.30E+000 +/- 3.27E-001	6.08E-002 +/- 1.08E-002

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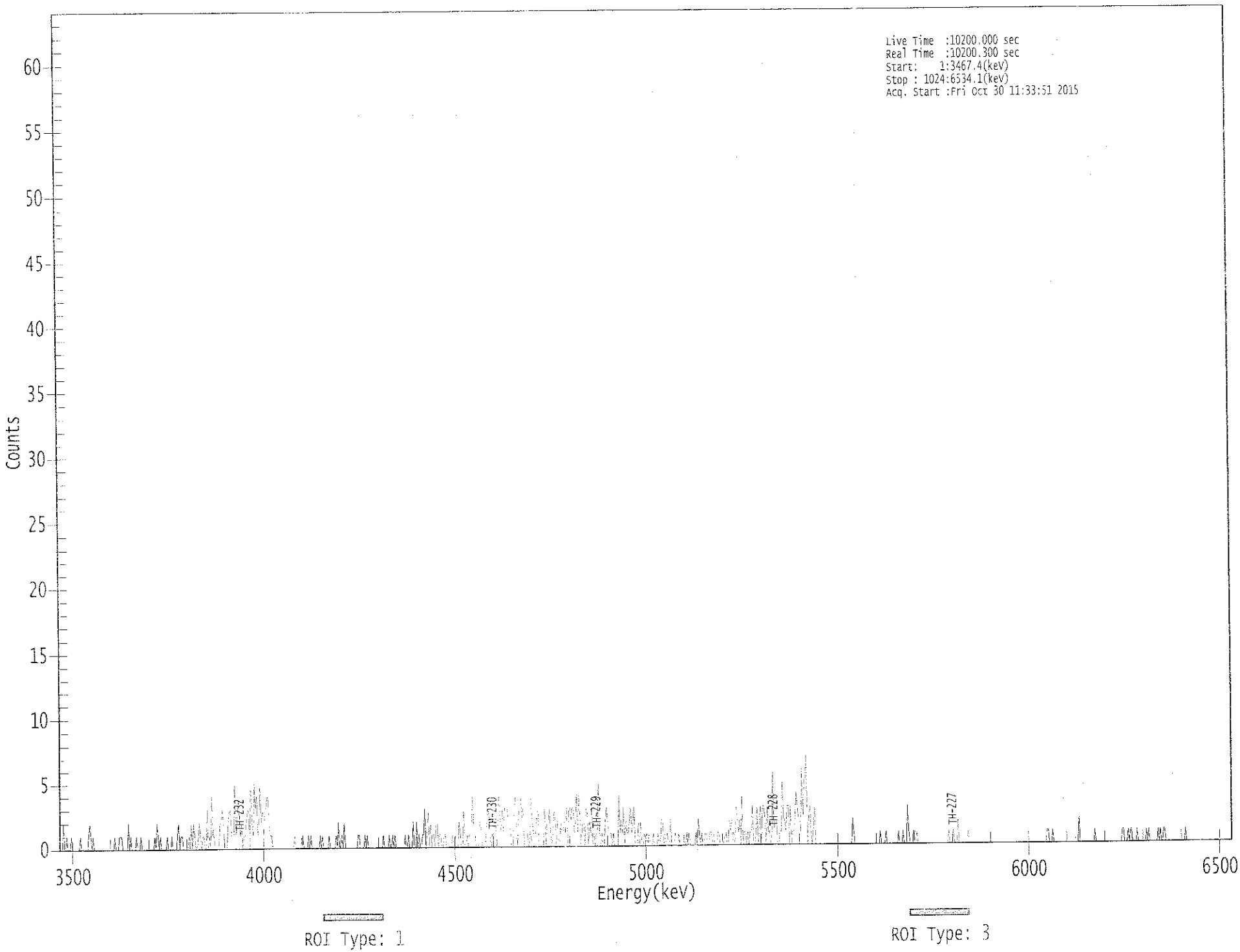
0000132756.CNF



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

Sample Title: 17

Elapsed Live time: 10200
Elapsed Real Time: 10200

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

369:	0	0	0	0	2	2	3	1

Sample Title: 17

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

801:	0	0	0	0	0	0	0	0

Sample Title: 17

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	0	0	0	0	0
825:	0	0	0	0	0	0	0	0
833:	0	0	0	0	0	0	0	0
841:	0	0	0	0	0	0	0	0
849:	0	0	0	0	0	0	0	0
857:	0	0	0	0	0	1	1	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	2	0	0	0	0	0	0
897:	0	0	0	0	0	0	0	1
905:	0	0	0	0	0	0	0	0
913:	0	0	0	0	0	0	0	0
921:	0	0	0	0	0	0	0	1
929:	1	0	0	0	1	0	1	1
937:	0	0	0	0	1	0	0	0
945:	0	0	0	0	1	0	1	0
953:	0	0	0	0	0	0	1	0
961:	1	0	0	1	1	0	0	0
969:	0	0	0	0	0	0	0	0
977:	0	0	0	0	0	0	1	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™

Sample Description:	CP1805S15-16
Spectrum File:	\\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001327
Batch Identification:	1510091A-TH
Sample Identification:	18
Sample Geometry:	Shelf 2
Procedure Description:	Th iso
Detector Name:	Alpha_041
Chamber Serial Number:	05026930A
Detector Serial Number:	91087
Env. Background:	System Bkgd 132586
Reagent Blank:	<not performed>
Sample Size:	1.550E+000 +/- 0.000E+000 gram
Sample Date/Time:	10/10/2015 6:24:57 AM
Acquisition Date/Time:	10/30/2015 11:33:53 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:	0.1933 +/- 0.0162
Counting Efficiency:	0.1873 +/- 0.0033 on 10/25/2014 3:00:28 PM
Chem. Recovery Factor:	1.0320 +/- 0.0883
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		5.862	10.15	64.46	0.85	0.00E+000	3.0
TH-228		5.345	134.47	17.01	1.53	0.00E+000	9.8
TH-229	T	4.869	166.15	15.25	0.85	0.00E+000	4.4
TH-230		4.607	121.32	17.85	0.68	0.00E+000	4.8
TH-232		3.945	117.77	18.35	3.23	0.00E+000	4.5

T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.999	5850.00*	9.22E-002 +/- 6.14E-002	5.44E-002 +/- 8.93E-003
TH-228	0.984	5400.00*	1.21E+000 +/- 2.87E-001	6.42E-002 +/- 1.05E-002
TH-229	1.000	4872.00*	1.48E+000 +/- 2.42E-001	5.32E-002 +/- 8.73E-003
TH-230	0.978	4672.00*	1.07E+000 +/- 2.61E-001	5.00E-002 +/- 8.20E-003
TH-232	0.986	3997.00*	1.04E+000 +/- 2.56E-001	8.05E-002 +/- 1.32E-002

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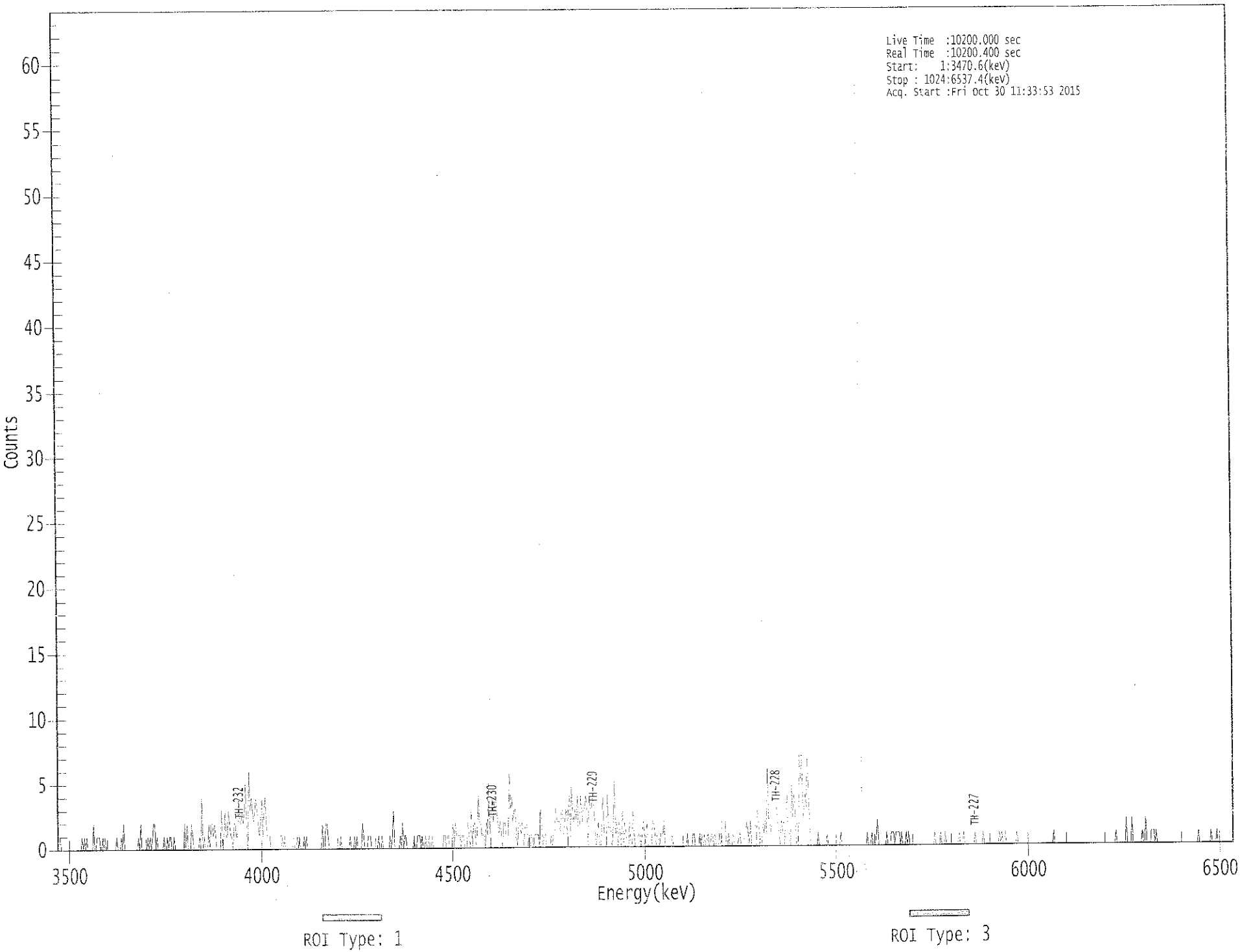
0000132751.CNF



12550

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

Sample Title: 18

Elapsed Live time: 10200
Elapsed Real Time: 10200

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

369:	2	1	1	1	0	2	1	5

Sample Title: 18

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

801:	0	0	0	0	0	1	0	0

Sample Title: 18

Channel								
809:	0	0	0	0	0	0	0	0
817:	0	0	0	1	0	1	0	0
825:	1	0	0	0	0	0	0	0
833:	0	0	1	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	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:	1	0	0	0	0	0	0	0
929:	0	2	0	0	0	0	2	0
937:	0	0	0	0	0	0	0	1
945:	0	0	2	0	0	0	0	1
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:	1	0	0	0	0	0	0	0
1001:	0	0	0	1	0	0	0	0
1009:	1	0	0	0	0	0	0	0
1017:	0	0	0	0	0	0	0	0

Apex-Alpha™

KB 10/30/15

Sample Description: CP1805S18-19
Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001327
Batch Identification: 1510091A-TH
Sample Identification: 19
Sample Geometry: Shelf 2
Procedure Description: Th iso

Detector Name: Alpha_042
Chamber Serial Number: 05026930B
Detector Serial Number: 84185
Env. Background: System Bkgd 132587
Reagent Blank: <not performed>

Sample Size: 1.515E+000 +/- 0.000E+000 gram
Sample Date/Time: 10/10/2015 6:24:57 AM
Acquisition Date/Time: 10/30/2015 11:33:55 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: 0.1387 +/- 0.0135
Counting Efficiency: 0.1737 +/- 0.0030 on 10/25/2014 3:04:21 PM
Chem. Recovery Factor: 0.7986 +/- 0.0788

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		5.838	6.32	82.73	0.68	0.00E+000	3.0
TH-228		5.360	92.32	20.49	0.68	0.00E+000	11.7
TH-229	T	4.868	119.15	18.03	0.85	0.00E+000	3.0
TH-230		4.601	82.83	21.56	0.17	0.00E+000	8.5
TH-232		3.947	88.49	20.91	0.51	0.00E+000	3.4

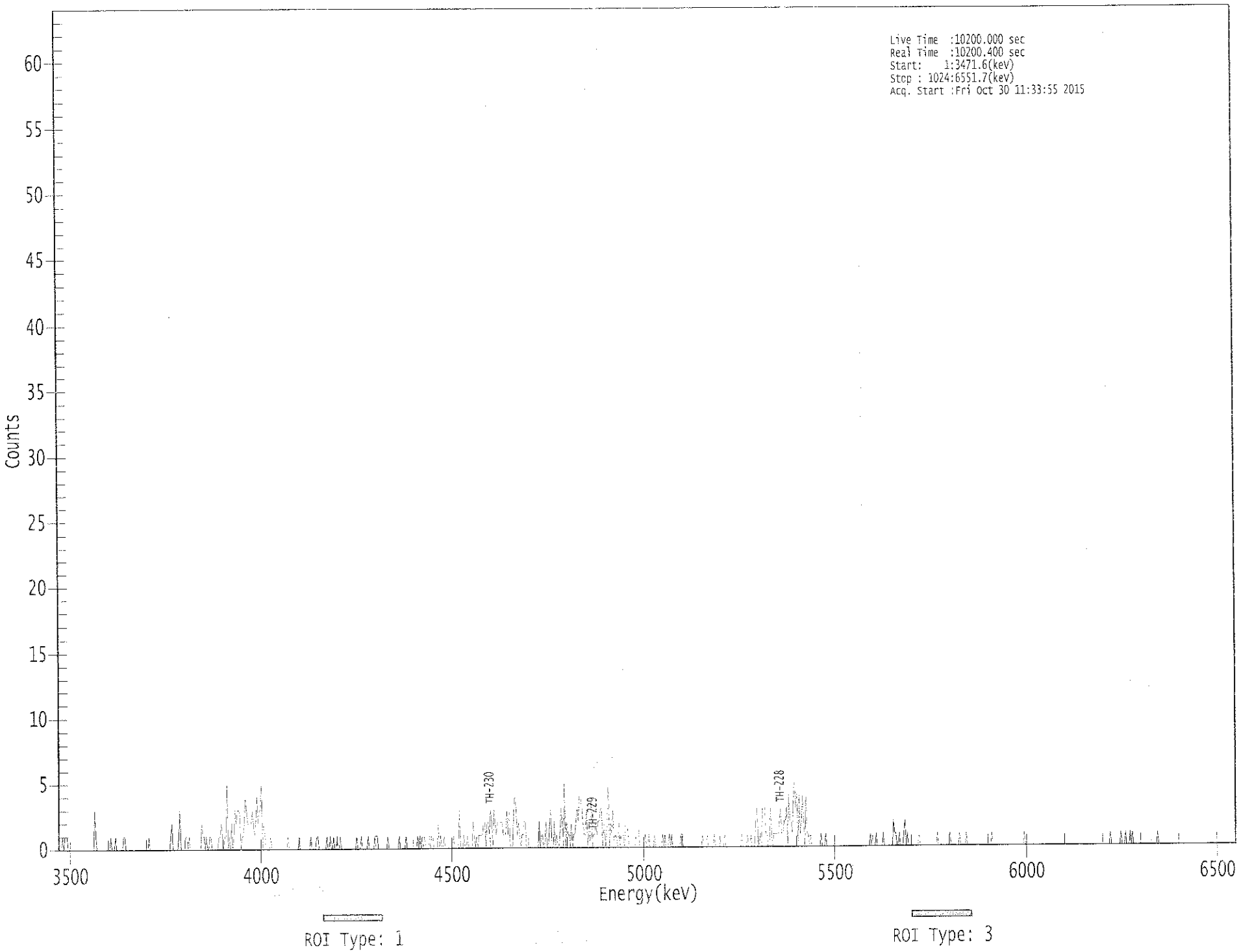
T = Tracer Peak used for Effective Efficiency

NUCLIDE ANALYSIS RESULTS

Nuclide	Id Conf.	Energy (keV)	Activity (pCi/gram)	MDA (pCi/gram)
TH-227	0.999	5850.00*	8.18E-002 +/- 6.95E-002	7.30E-002 +/- 1.39E-002
TH-228	0.992	5400.00*	1.19E+000 +/- 3.32E-001	7.26E-002 +/- 1.38E-002
TH-229	1.000	4872.00*	1.51E+000 +/- 2.87E-001	7.58E-002 +/- 1.44E-002
TH-230	0.974	4672.00*	1.05E+000 +/- 3.01E-001	5.27E-002 +/- 1.00E-002
TH-232	0.987	3997.00*	1.12E+000 +/- 3.15E-001	6.61E-002 +/- 1.26E-002

AG 11/2/15

0000132752.CNF



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

Sample Title: 19

Elapsed Live time: 10200
Elapsed Real Time: 10200

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

369:	1	2	2	0	2	2	1	3

Sample Title: 19

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

801:	0	0	0	0	0	0	0	0

Sample Title: 19

Channel								
809:	0	0	1	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	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	1	0	0	0	0	0	0
921:	0	0	1	0	0	0	1	0
929:	0	0	1	0	1	0	0	0
937:	0	0	0	0	0	0	0	0
945:	0	0	0	0	0	0	0	0
953:	0	0	1	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

10/30/2015 5:15:50 AM

Apex-Alpha™

QA SUMMARY REPORT

Review Of QA Results - Pulser Check

Date : 10/30/2015
Time : 5:15:50 AM

CHAMBER	DEVICE	PARAMETER	FLAG	DATE
Alpha_001	21f	ALL	Not Done	
Alpha_002	21f	ALL	Not Done	
Alpha_003	21f	ALL	Passed	10/30/2015 4:57:35 AM
Alpha_004	21f	ALL	Passed	10/30/2015 4:57:36 AM
Alpha_005	21f	ALL	Not Done	
Alpha_006	21f	ALL	Not Done	
Alpha_007	21f	ALL	Not Done	
Alpha_008	21f	ALL	Not Done	
Alpha_009	21f	ALL	Not Done	
Alpha_010	21f	ALL	Passed	10/30/2015 4:57:37 AM
Alpha_011	21f	ALL	Passed	10/30/2015 4:57:38 AM
Alpha_012	21f	ALL	Passed	10/30/2015 4:57:39 AM
Alpha_013	21f	ALL	Not Done	
Alpha_014	21f	ALL	Passed	10/30/2015 4:57:40 AM
Alpha_015	21f	ALL	Passed	10/30/2015 4:57:40 AM
Alpha_016	21f	ALL	Not Done	
Alpha_033	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:57:42 AM
Alpha_034	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:57:43 AM
Alpha_035	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:57:45 AM
Alpha_036	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:57:47 AM
Alpha_037	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:57:49 AM
Alpha_038	Alpha Analyst100DC	Peak Energy	Action	10/30/2015 4:57:51 AM
Alpha_039	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:57:53 AM
Alpha_040	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:57:55 AM
Alpha_041	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:57:58 AM
Alpha_042	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:58:00 AM
Alpha_043	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:58:03 AM
Alpha_044	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:58:05 AM
Alpha_045	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:58:07 AM
Alpha_046	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:58:10 AM
Alpha_047	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:58:13 AM
Alpha_048	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:58:16 AM
Alpha_049	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:58:18 AM
Alpha_050	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:58:21 AM
Alpha_051	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:58:23 AM
Alpha_052	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:58:26 AM
Alpha_053	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:58:29 AM
Alpha_054	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:58:32 AM
Alpha_055	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:58:34 AM
Alpha_056	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:58:37 AM
Alpha_057	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:58:40 AM
Alpha_058	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:58:43 AM

Review of QA Results - Pulser Check

10/30/2015 5:15:50 AM

CHAMBER	DEVICE	PARAMETER	FLAG	DATE
Alpha_059	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:58:46 AM
Alpha_060	Alpha Analyst100DC	ALL	Passed	10/30/2015 4:58:49 AM

APPROVED BY: _____

APPROVAL DATE: 10/30

****
***** L I B R A R Y L I S T I N G R E P O R T *****
****

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)

15-10091
Gamma
Run 1

Work Order	15-10091
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	CP1807S03-04	36	10/10/15 08:30	5.4901E+02
04	DO	CP1807S03-04	36	10/10/15 08:30	5.4901E+02
05	TRG	CP1807S05-06	38	10/10/15 08:40	6.0644E+02
06	TRG	CP1807S08-09	35	10/10/15 08:50	5.6038E+02
07	TRG	CP1807S11-12	37	10/10/15 09:00	5.4338E+02
08	TRG	CP1807S13-14	33	10/10/15 09:10	5.2682E+02
09	TRG	CP1807S16-17	35	10/10/15 09:20	4.7298E+02
10	TRG	CP1807S18-19	36	10/10/15 09:30	5.3376E+02
11	TRG	CP1807S20-21	32	10/10/15 09:40	6.0018E+02
12	TRG	CP1807S22-23	36	10/10/15 09:50	5.7322E+02
13	TRG	CP1805S03-04	34	10/10/15 10:00	5.5973E+02
14	TRG	CP1805S05-06	35	10/10/15 10:10	5.4558E+02
15	TRG	CP1805S08-09	39	10/10/15 10:20	5.3883E+02
16	TRG	CP1805S11-12	41	10/10/15 10:30	5.3782E+02
17	TRG	CP1805S13-14	36	10/10/15 10:40	5.3963E+02
18	TRG	CP1805S15-16	41	10/10/15 10:50	5.6333E+02
19	TRG	CP1805S18-19	39	10/10/15 11:00	5.1893E+02

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

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

* 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.

15-10091
Gamma
Run 1

Internal Fraction	Sample Desc	Rough Prep Date	Rough Prep By	Prep Date	Prep By	Sep t0 Date/Time	Sep t0 By	Sep t1 Date/Time	Sep t1 By
01	LCS								
02	MBL								
03	DUP								
04	DO	10/20/15 08:25	KSALLINGS						
05	TRG	10/20/15 08:25	KSALLINGS						
06	TRG	10/20/15 08:25	KSALLINGS						
07	TRG	10/20/15 08:25	KSALLINGS						
08	TRG	10/20/15 08:25	KSALLINGS						
09	TRG	10/20/15 08:25	KSALLINGS						
10	TRG	10/20/15 08:25	KSALLINGS						
11	TRG	10/20/15 08:25	KSALLINGS						
12	TRG	10/20/15 08:25	KSALLINGS						
13	TRG	10/20/15 08:25	KSALLINGS						
14	TRG	10/20/15 08:25	KSALLINGS						
15	TRG	10/20/15 08:25	KSALLINGS						
16	TRG	10/20/15 08:25	KSALLINGS						
17	TRG	10/20/15 08:25	KSALLINGS						
18	TRG	10/20/15 08:25	KSALLINGS						
19	TRG	10/20/15 08:25	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.

Work Order: 15-10091-Gamma-1

Lab Fraction	Nuclide	Sample Desc	Client Identification	Activity Units	Results	Error Estimate	MDA	LSC Known	LCS %R	LCS Flag	RPD Flag	Sample Date	Sample Aliquot	Counting Date/Time	Identified
01	CO-60	LCS	LCS	pCi/g	1.37E+02	9.49E+00	1.55E+00	1.37E+02	100.09	OK		10/15/15 00:00	1.00E+00	11/10/15 15:50	YES
01	CS-137	LCS	LCS	pCi/g	8.33E+01	8.04E+00	2.18E+00	8.69E+01	95.87	OK		10/15/15 00:00	1.00E+00	11/10/15 15:50	YES
02	AC-228	MBL	BLANK	pCi/g	-2.76E-03	1.66E-01	2.82E-01					10/15/15 00:00	1.00E+00	11/10/15 16:21	NO
02	BI-214	MBL	BLANK	pCi/g	4.17E-02	9.18E-02	1.55E-01					10/15/15 00:00	1.00E+00	11/10/15 16:21	NO
02	K-40	MBL	BLANK	pCi/g	1.53E-01	4.52E-01	8.46E-01					10/15/15 00:00	1.00E+00	11/10/15 16:21	NO
02	PB-212	MBL	BLANK	pCi/g	4.80E-02	6.17E-02	1.06E-01					10/15/15 00:00	1.00E+00	11/10/15 16:21	NO
02	PB-214	MBL	BLANK	pCi/g	-2.56E-02	7.88E-02	1.22E-01					10/15/15 00:00	1.00E+00	11/10/15 16:21	NO
02	RA-226	MBL	BLANK	pCi/g	4.17E-02	9.18E-02	1.55E-01					10/15/15 00:00	1.00E+00	11/10/15 16:21	NO
02	RA-228	MBL	BLANK	pCi/g	-2.76E-03	1.66E-01	2.82E-01					10/15/15 00:00	1.00E+00	11/10/15 16:21	NO
02	TH-234	MBL	BLANK	pCi/g	3.18E-01	4.11E-01	6.75E-01					10/15/15 00:00	1.00E+00	11/10/15 16:21	NO
02	TL-208	MBL	BLANK	pCi/g	-1.45E-02	1.09E-01	1.76E-01					10/15/15 00:00	1.00E+00	11/10/15 16:21	NO
03	AC-228	DUP	CP1807S03-04	pCi/g	1.38E+00	2.64E-01	4.64E-01				OK	10/10/15 08:30	5.49E+02	11/10/15 13:09	YES
03	BI-214	DUP	CP1807S03-04	pCi/g	1.96E+00	2.05E-01	2.22E-01				OK	10/10/15 08:30	5.49E+02	11/10/15 13:09	YES
03	K-40	DUP	CP1807S03-04	pCi/g	1.82E+01	2.34E+00	1.26E+00				OK	10/10/15 08:30	5.49E+02	11/10/15 13:09	YES
03	PB-212	DUP	CP1807S03-04	pCi/g	1.38E+00	1.72E-01	2.53E-01					10/10/15 08:30	5.49E+02	11/10/15 13:09	YES
03	PB-214	DUP	CP1807S03-04	pCi/g	2.17E+00	2.12E-01	2.60E-01					10/10/15 08:30	5.49E+02	11/10/15 13:09	YES
03	RA-226	DUP	CP1807S03-04	pCi/g	1.96E+00	2.05E-01	2.22E-01					10/10/15 08:30	5.49E+02	11/10/15 13:09	YES
03	RA-228	DUP	CP1807S03-04	pCi/g	1.38E+00	2.64E-01	4.64E-01					10/10/15 08:30	5.49E+02	11/10/15 13:09	YES
03	TH-234	DUP	CP1807S03-04	pCi/g	1.73E+00	1.78E+00	2.97E+00					10/10/15 08:30	5.49E+02	11/10/15 13:09	YES
03	TL-208	DUP	CP1807S03-04	pCi/g	1.09E+00	1.71E-01	2.07E-01					10/10/15 08:30	5.49E+02	11/10/15 13:09	YES
04	AC-228	DO	CP1807S03-04	pCi/g	1.43E+00	2.49E-01	3.89E-01					10/10/15 08:30	5.49E+02	11/10/15 14:09	YES
04	BI-214	DO	CP1807S03-04	pCi/g	1.95E+00	2.11E-01	2.45E-01					10/10/15 08:30	5.49E+02	11/10/15 14:09	YES
04	K-40	DO	CP1807S03-04	pCi/g	1.85E+01	2.43E+00	1.23E+00					10/10/15 08:30	5.49E+02	11/10/15 14:09	YES
04	PB-212	DO	CP1807S03-04	pCi/g	1.72E+00	2.00E-01	2.64E-01					10/10/15 08:30	5.49E+02	11/10/15 14:09	YES
04	PB-214	DO	CP1807S03-04	pCi/g	2.26E+00	2.22E-01	2.72E-01					10/10/15 08:30	5.49E+02	11/10/15 14:09	YES
04	RA-226	DO	CP1807S03-04	pCi/g	1.95E+00	2.11E-01	2.45E-01					10/10/15 08:30	5.49E+02	11/10/15 14:09	YES
04	RA-228	DO	CP1807S03-04	pCi/g	1.43E+00	2.49E-01	3.89E-01					10/10/15 08:30	5.49E+02	11/10/15 14:09	YES
04	TH-234	DO	CP1807S03-04	pCi/g	2.98E+00	1.94E+00	3.20E+00					10/10/15 08:30	5.49E+02	11/10/15 14:09	YES
04	TL-208	DO	CP1807S03-04	pCi/g	1.20E+00	1.67E-01	1.13E-01					10/10/15 08:30	5.49E+02	11/10/15 14:09	YES
05	AC-228	TRG	CP1807S05-06	pCi/g	1.40E+00	1.91E-01	5.00E-01					10/10/15 08:40	6.06E+02	11/10/15 14:56	YES
05	BI-214	TRG	CP1807S05-06	pCi/g	1.64E+00	1.86E-01	1.93E-01					10/10/15 08:40	6.06E+02	11/10/15 14:56	YES
05	K-40	TRG	CP1807S05-06	pCi/g	1.93E+01	2.15E+00	7.98E-01					10/10/15 08:40	6.06E+02	11/10/15 14:56	YES
05	PB-212	TRG	CP1807S05-06	pCi/g	1.56E+00	1.75E-01	2.84E-01					10/10/15 08:40	6.06E+02	11/10/15 14:56	YES
05	PB-214	TRG	CP1807S05-06	pCi/g	1.71E+00	1.67E-01	2.14E-01					10/10/15 08:40	6.06E+02	11/10/15 14:56	YES
05	RA-226	TRG	CP1807S05-06	pCi/g	1.64E+00	1.86E-01	1.93E-01					10/10/15 08:40	6.06E+02	11/10/15 14:56	YES
05	RA-228	TRG	CP1807S05-06	pCi/g	1.40E+00	1.91E-01	5.00E-01					10/10/15 08:40	6.06E+02	11/10/15 14:56	YES
05	TH-234	TRG	CP1807S05-06	pCi/g	2.00E+00	1.27E+00	2.08E+00					10/10/15 08:40	6.06E+02	11/10/15 14:56	YES
05	TL-208	TRG	CP1807S05-06	pCi/g	1.18E+00	1.65E-01	1.31E-01					10/10/15 08:40	6.06E+02	11/10/15 14:56	YES

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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	CP1807S08-09	pCi/g	1.40E+00	2.89E-01	5.80E-01					10/10/15 08:50	5.60E+02	11/10/15 15:05	YES
06	BI-214	TRG	CP1807S08-09	pCi/g	1.45E+00	2.07E-01	2.47E-01					10/10/15 08:50	5.60E+02	11/10/15 15:05	YES
06	K-40	TRG	CP1807S08-09	pCi/g	1.88E+01	2.30E+00	7.54E-01					10/10/15 08:50	5.60E+02	11/10/15 15:05	YES
06	PB-212	TRG	CP1807S08-09	pCi/g	1.76E+00	1.98E-01	2.82E-01					10/10/15 08:50	5.60E+02	11/10/15 15:05	YES
06	PB-214	TRG	CP1807S08-09	pCi/g	1.42E+00	1.96E-01	2.91E-01					10/10/15 08:50	5.60E+02	11/10/15 15:05	YES
06	RA-226	TRG	CP1807S08-09	pCi/g	1.45E+00	2.07E-01	2.47E-01					10/10/15 08:50	5.60E+02	11/10/15 15:05	YES
06	RA-228	TRG	CP1807S08-09	pCi/g	1.40E+00	2.89E-01	5.80E-01					10/10/15 08:50	5.60E+02	11/10/15 15:05	YES
06	TH-234	TRG	CP1807S08-09	pCi/g	2.39E+00	1.88E+00	3.12E+00					10/10/15 08:50	5.60E+02	11/10/15 15:05	YES
06	TL-208	TRG	CP1807S08-09	pCi/g	1.35E+00	2.21E-01	2.07E-01					10/10/15 08:50	5.60E+02	11/10/15 15:05	YES
07	AC-228	TRG	CP1807S11-12	pCi/g	1.51E+00	2.08E-01	3.92E-01					10/10/15 09:00	5.43E+02	11/10/15 15:11	YES
07	BI-214	TRG	CP1807S11-12	pCi/g	1.15E+00	1.70E-01	2.32E-01					10/10/15 09:00	5.43E+02	11/10/15 15:11	YES
07	K-40	TRG	CP1807S11-12	pCi/g	2.04E+01	2.60E+00	1.03E+00					10/10/15 09:00	5.43E+02	11/10/15 15:11	YES
07	PB-212	TRG	CP1807S11-12	pCi/g	1.73E+00	1.97E-01	2.36E-01					10/10/15 09:00	5.43E+02	11/10/15 15:11	YES
07	PB-214	TRG	CP1807S11-12	pCi/g	1.08E+00	1.36E-01	5.15E-01					10/10/15 09:00	5.43E+02	11/10/15 15:11	YES
07	RA-226	TRG	CP1807S11-12	pCi/g	1.15E+00	1.70E-01	2.32E-01					10/10/15 09:00	5.43E+02	11/10/15 15:11	YES
07	RA-228	TRG	CP1807S11-12	pCi/g	1.51E+00	2.08E-01	3.92E-01					10/10/15 09:00	5.43E+02	11/10/15 15:11	YES
07	TH-234	TRG	CP1807S11-12	pCi/g	1.26E+00	9.59E-01	1.53E+00					10/10/15 09:00	5.43E+02	11/10/15 15:11	NO
07	TL-208	TRG	CP1807S11-12	pCi/g	1.28E+00	1.75E-01	2.03E-01					10/10/15 09:00	5.43E+02	11/10/15 15:11	YES
08	AC-228	TRG	CP1807S13-14	pCi/g	1.89E+00	2.39E-01	3.73E-01					10/10/15 09:10	5.27E+02	11/10/15 15:57	YES
08	BI-214	TRG	CP1807S13-14	pCi/g	1.30E+00	1.82E-01	2.21E-01					10/10/15 09:10	5.27E+02	11/10/15 15:57	YES
08	K-40	TRG	CP1807S13-14	pCi/g	2.31E+01	2.52E+00	1.64E+00					10/10/15 09:10	5.27E+02	11/10/15 15:57	YES
08	PB-212	TRG	CP1807S13-14	pCi/g	1.87E+00	2.06E-01	2.53E-01					10/10/15 09:10	5.27E+02	11/10/15 15:57	YES
08	PB-214	TRG	CP1807S13-14	pCi/g	1.43E+00	1.76E-01	2.93E-01					10/10/15 09:10	5.27E+02	11/10/15 15:57	YES
08	RA-226	TRG	CP1807S13-14	pCi/g	1.30E+00	1.82E-01	2.21E-01					10/10/15 09:10	5.27E+02	11/10/15 15:57	YES
08	RA-228	TRG	CP1807S13-14	pCi/g	1.89E+00	2.39E-01	3.73E-01					10/10/15 09:10	5.27E+02	11/10/15 15:57	YES
08	TH-234	TRG	CP1807S13-14	pCi/g	1.61E+00	1.59E+00	2.65E+00					10/10/15 09:10	5.27E+02	11/10/15 15:57	YES
08	TL-208	TRG	CP1807S13-14	pCi/g	1.75E+00	2.06E-01	9.74E-02					10/10/15 09:10	5.27E+02	11/10/15 15:57	YES
09	AC-228	TRG	CP1807S16-17	pCi/g	1.63E+00	2.93E-01	4.74E-01					10/10/15 09:20	4.73E+02	11/10/15 16:06	YES
09	BI-214	TRG	CP1807S16-17	pCi/g	1.32E+00	2.20E-01	2.50E-01					10/10/15 09:20	4.73E+02	11/10/15 16:06	YES
09	K-40	TRG	CP1807S16-17	pCi/g	2.15E+01	2.66E+00	1.15E+00					10/10/15 09:20	4.73E+02	11/10/15 16:06	YES
09	PB-212	TRG	CP1807S16-17	pCi/g	1.87E+00	2.13E-01	3.34E-01					10/10/15 09:20	4.73E+02	11/10/15 16:06	YES
09	PB-214	TRG	CP1807S16-17	pCi/g	1.18E+00	2.04E-01	2.96E-01					10/10/15 09:20	4.73E+02	11/10/15 16:06	YES
09	RA-226	TRG	CP1807S16-17	pCi/g	1.32E+00	2.20E-01	2.50E-01					10/10/15 09:20	4.73E+02	11/10/15 16:06	YES
09	RA-228	TRG	CP1807S16-17	pCi/g	1.63E+00	2.93E-01	4.74E-01					10/10/15 09:20	4.73E+02	11/10/15 16:06	YES
09	TH-234	TRG	CP1807S16-17	pCi/g	3.79E+00	2.65E+00	4.38E+00					10/10/15 09:20	4.73E+02	11/10/15 16:06	YES
09	TL-208	TRG	CP1807S16-17	pCi/g	1.43E+00	2.50E-01	2.45E-01					10/10/15 09:20	4.73E+02	11/10/15 16:06	YES
10	AC-228	TRG	CP1807S18-19	pCi/g	1.11E+00	2.11E-01	3.36E-01					10/10/15 09:30	5.34E+02	11/10/15 16:12	YES
10	BI-214	TRG	CP1807S18-19	pCi/g	9.24E-01	1.26E-01	2.94E-01					10/10/15 09:30	5.34E+02	11/10/15 16:12	YES

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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	CP1807S18-19	pCi/g	1.45E+01	1.95E+00	5.19E-01					10/10/15 09:30	5.34E+02	11/10/15 16:12	YES
10	PB-212	TRG	CP1807S18-19	pCi/g	1.14E+00	1.51E-01	2.03E-01					10/10/15 09:30	5.34E+02	11/10/15 16:12	YES
10	PB-214	TRG	CP1807S18-19	pCi/g	1.11E+00	1.63E-01	1.92E-01					10/10/15 09:30	5.34E+02	11/10/15 16:12	YES
10	RA-226	TRG	CP1807S18-19	pCi/g	9.24E-01	1.26E-01	2.94E-01					10/10/15 09:30	5.34E+02	11/10/15 16:12	YES
10	RA-228	TRG	CP1807S18-19	pCi/g	1.11E+00	2.11E-01	3.36E-01					10/10/15 09:30	5.34E+02	11/10/15 16:12	YES
10	TH-234	TRG	CP1807S18-19	pCi/g	1.82E+00	8.14E-01	1.38E+00					10/10/15 09:30	5.34E+02	11/10/15 16:12	NO
10	TL-208	TRG	CP1807S18-19	pCi/g	9.30E-01	1.46E-01	1.16E-01					10/10/15 09:30	5.34E+02	11/10/15 16:12	YES
11	AC-228	TRG	CP1807S20-21	pCi/g	1.16E+00	1.92E-01	3.63E-01					10/10/15 09:40	6.00E+02	11/10/15 16:58	YES
11	BI-214	TRG	CP1807S20-21	pCi/g	1.08E+00	1.46E-01	2.10E-01					10/10/15 09:40	6.00E+02	11/10/15 16:58	YES
11	K-40	TRG	CP1807S20-21	pCi/g	1.28E+01	1.61E+00	9.00E-01					10/10/15 09:40	6.00E+02	11/10/15 16:58	YES
11	PB-212	TRG	CP1807S20-21	pCi/g	1.17E+00	1.41E-01	2.39E-01					10/10/15 09:40	6.00E+02	11/10/15 16:58	YES
11	PB-214	TRG	CP1807S20-21	pCi/g	1.04E+00	1.29E-01	1.92E-01					10/10/15 09:40	6.00E+02	11/10/15 16:58	YES
11	RA-226	TRG	CP1807S20-21	pCi/g	1.08E+00	1.46E-01	2.10E-01					10/10/15 09:40	6.00E+02	11/10/15 16:58	YES
11	RA-228	TRG	CP1807S20-21	pCi/g	1.16E+00	1.92E-01	3.63E-01					10/10/15 09:40	6.00E+02	11/10/15 16:58	YES
11	TH-234	TRG	CP1807S20-21	pCi/g	1.91E+00	1.36E+00	2.25E+00					10/10/15 09:40	6.00E+02	11/10/15 16:58	YES
11	TL-208	TRG	CP1807S20-21	pCi/g	8.43E-01	1.38E-01	1.68E-01					10/10/15 09:40	6.00E+02	11/10/15 16:58	YES
12	AC-228	TRG	CP1807S22-23	pCi/g	1.28E+00	2.60E-01	5.25E-01					10/10/15 09:50	5.73E+02	11/10/15 17:07	YES
12	BI-214	TRG	CP1807S22-23	pCi/g	9.21E-01	1.62E-01	1.83E-01					10/10/15 09:50	5.73E+02	11/10/15 17:07	YES
12	K-40	TRG	CP1807S22-23	pCi/g	1.46E+01	2.02E+00	1.31E+00					10/10/15 09:50	5.73E+02	11/10/15 17:07	YES
12	PB-212	TRG	CP1807S22-23	pCi/g	1.62E+00	1.80E-01	2.49E-01					10/10/15 09:50	5.73E+02	11/10/15 17:07	YES
12	PB-214	TRG	CP1807S22-23	pCi/g	1.13E+00	1.57E-01	2.76E-01					10/10/15 09:50	5.73E+02	11/10/15 17:07	YES
12	RA-226	TRG	CP1807S22-23	pCi/g	9.21E-01	1.62E-01	1.83E-01					10/10/15 09:50	5.73E+02	11/10/15 17:07	YES
12	RA-228	TRG	CP1807S22-23	pCi/g	1.28E+00	2.60E-01	5.25E-01					10/10/15 09:50	5.73E+02	11/10/15 17:07	YES
12	TH-234	TRG	CP1807S22-23	pCi/g	1.73E+00	1.57E+00	2.08E+00					10/10/15 09:50	5.73E+02	11/10/15 17:07	NO
12	TL-208	TRG	CP1807S22-23	pCi/g	1.23E+00	2.13E-01	4.41E-02					10/10/15 09:50	5.73E+02	11/10/15 17:07	YES
13	AC-228	TRG	CP1805S03-04	pCi/g	1.45E+00	2.96E-01	5.59E-01					10/10/15 10:00	5.60E+02	11/10/15 17:13	NO
13	BI-214	TRG	CP1805S03-04	pCi/g	1.72E+00	1.89E-01	2.16E-01					10/10/15 10:00	5.60E+02	11/10/15 17:13	YES
13	K-40	TRG	CP1805S03-04	pCi/g	1.94E+01	2.50E+00	1.06E+00					10/10/15 10:00	5.60E+02	11/10/15 17:13	YES
13	PB-212	TRG	CP1805S03-04	pCi/g	1.49E+00	1.79E-01	2.07E-01					10/10/15 10:00	5.60E+02	11/10/15 17:13	YES
13	PB-214	TRG	CP1805S03-04	pCi/g	1.72E+00	1.81E-01	2.16E-01					10/10/15 10:00	5.60E+02	11/10/15 17:13	YES
13	RA-226	TRG	CP1805S03-04	pCi/g	1.72E+00	1.89E-01	2.16E-01					10/10/15 10:00	5.60E+02	11/10/15 17:13	YES
13	RA-228	TRG	CP1805S03-04	pCi/g	1.45E+00	2.96E-01	5.59E-01					10/10/15 10:00	5.60E+02	11/10/15 17:13	NO
13	TH-234	TRG	CP1805S03-04	pCi/g	1.76E+00	1.03E+00	1.66E+00					10/10/15 10:00	5.60E+02	11/10/15 17:13	NO
13	TL-208	TRG	CP1805S03-04	pCi/g	1.28E+00	1.72E-01	1.11E-01					10/10/15 10:00	5.60E+02	11/10/15 17:13	YES
14	AC-228	TRG	CP1805S05-06	pCi/g	1.51E+00	5.13E-01	8.96E-01					10/10/15 10:10	5.46E+02	11/10/15 17:22	YES
14	BI-214	TRG	CP1805S05-06	pCi/g	1.79E+00	3.39E-01	4.85E-01					10/10/15 10:10	5.46E+02	11/10/15 17:22	YES
14	K-40	TRG	CP1805S05-06	pCi/g	1.91E+01	3.56E+00	2.86E+00					10/10/15 10:10	5.46E+02	11/10/15 17:22	YES
14	PB-212	TRG	CP1805S05-06	pCi/g	2.36E+00	3.69E-01	3.76E-01					10/10/15 10:10	5.46E+02	11/10/15 17:22	YES

Work Order: 15-10091-Gamma-1

Lab Fraction	Nuclide	Sample Desc	Client Identification	Activity Units	Results	Error Estimate	MDA	LSC Known	LCS %R	LCS Flag	RPD Flag	Sample Date	Sample Aliquot	Counting Date/Time	Identified
14	PB-214	TRG	CP1805S05-06	pCi/g	1.55E+00	3.21E-01	5.01E-01					10/10/15 10:10	5.46E+02	11/10/15 17:22	YES
14	RA-226	TRG	CP1805S05-06	pCi/g	1.79E+00	3.39E-01	4.85E-01					10/10/15 10:10	5.46E+02	11/10/15 17:22	YES
14	RA-228	TRG	CP1805S05-06	pCi/g	1.51E+00	5.13E-01	8.96E-01					10/10/15 10:10	5.46E+02	11/10/15 17:22	YES
14	TH-234	TRG	CP1805S05-06	pCi/g	1.83E+00	1.59E+00	2.46E+00					10/10/15 10:10	5.46E+02	11/10/15 17:22	NO
14	TL-208	TRG	CP1805S05-06	pCi/g	1.42E+00	3.46E-01	9.69E-02					10/10/15 10:10	5.46E+02	11/10/15 17:22	YES
15	AC-228	TRG	CP1805S08-09	pCi/g	1.91E+00	2.38E-01	3.12E-01					10/10/15 10:20	5.39E+02	11/10/15 17:59	YES
15	BI-214	TRG	CP1805S08-09	pCi/g	1.29E+00	1.73E-01	2.15E-01					10/10/15 10:20	5.39E+02	11/10/15 17:59	YES
15	K-40	TRG	CP1805S08-09	pCi/g	2.25E+01	2.52E+00	1.14E+00					10/10/15 10:20	5.39E+02	11/10/15 17:59	YES
15	PB-212	TRG	CP1805S08-09	pCi/g	1.69E+00	1.93E-01	2.81E-01					10/10/15 10:20	5.39E+02	11/10/15 17:59	YES
15	PB-214	TRG	CP1805S08-09	pCi/g	1.29E+00	1.65E-01	2.26E-01					10/10/15 10:20	5.39E+02	11/10/15 17:59	YES
15	RA-226	TRG	CP1805S08-09	pCi/g	1.29E+00	1.73E-01	2.15E-01					10/10/15 10:20	5.39E+02	11/10/15 17:59	YES
15	RA-228	TRG	CP1805S08-09	pCi/g	1.91E+00	2.38E-01	3.12E-01					10/10/15 10:20	5.39E+02	11/10/15 17:59	YES
15	TH-234	TRG	CP1805S08-09	pCi/g	2.96E+00	1.49E+00	2.04E+00					10/10/15 10:20	5.39E+02	11/10/15 17:59	NO
15	TL-208	TRG	CP1805S08-09	pCi/g	1.27E+00	1.82E-01	1.43E-01					10/10/15 10:20	5.39E+02	11/10/15 17:59	YES
16	AC-228	TRG	CP1805S11-12	pCi/g	1.55E+00	3.44E-01	5.63E-01					10/10/15 10:30	5.38E+02	11/10/15 18:08	YES
16	BI-214	TRG	CP1805S11-12	pCi/g	1.21E+00	1.92E-01	2.80E-01					10/10/15 10:30	5.38E+02	11/10/15 18:08	YES
16	K-40	TRG	CP1805S11-12	pCi/g	2.00E+01	2.50E+00	1.24E+00					10/10/15 10:30	5.38E+02	11/10/15 18:08	YES
16	PB-212	TRG	CP1805S11-12	pCi/g	1.84E+00	2.03E-01	3.03E-01					10/10/15 10:30	5.38E+02	11/10/15 18:08	YES
16	PB-214	TRG	CP1805S11-12	pCi/g	1.49E+00	1.95E-01	3.16E-01					10/10/15 10:30	5.38E+02	11/10/15 18:08	YES
16	RA-226	TRG	CP1805S11-12	pCi/g	1.21E+00	1.92E-01	2.80E-01					10/10/15 10:30	5.38E+02	11/10/15 18:08	YES
16	RA-228	TRG	CP1805S11-12	pCi/g	1.55E+00	3.44E-01	5.63E-01					10/10/15 10:30	5.38E+02	11/10/15 18:08	YES
16	TH-234	TRG	CP1805S11-12	pCi/g	2.93E+00	1.74E+00	2.37E+00					10/10/15 10:30	5.38E+02	11/10/15 18:08	NO
16	TL-208	TRG	CP1805S11-12	pCi/g	1.41E+00	2.45E-01	3.66E-01					10/10/15 10:30	5.38E+02	11/10/15 18:08	YES
17	AC-228	TRG	CP1805S13-14	pCi/g	1.52E+00	2.06E-01	5.85E-01					10/10/15 10:40	5.40E+02	11/10/15 18:14	YES
17	BI-214	TRG	CP1805S13-14	pCi/g	1.09E+00	1.46E-01	3.40E-01					10/10/15 10:40	5.40E+02	11/10/15 18:14	YES
17	K-40	TRG	CP1805S13-14	pCi/g	1.71E+01	2.26E+00	9.73E-01					10/10/15 10:40	5.40E+02	11/10/15 18:14	YES
17	PB-212	TRG	CP1805S13-14	pCi/g	1.76E+00	2.37E-01	2.53E-01					10/10/15 10:40	5.40E+02	11/10/15 18:14	YES
17	PB-214	TRG	CP1805S13-14	pCi/g	1.21E+00	1.69E-01	2.93E-01					10/10/15 10:40	5.40E+02	11/10/15 18:14	YES
17	RA-226	TRG	CP1805S13-14	pCi/g	1.09E+00	1.46E-01	3.40E-01					10/10/15 10:40	5.40E+02	11/10/15 18:14	YES
17	RA-228	TRG	CP1805S13-14	pCi/g	1.52E+00	2.06E-01	5.85E-01					10/10/15 10:40	5.40E+02	11/10/15 18:14	YES
17	TH-234	TRG	CP1805S13-14	pCi/g	1.52E+00	1.63E+00	2.73E+00					10/10/15 10:40	5.40E+02	11/10/15 18:14	YES
17	TL-208	TRG	CP1805S13-14	pCi/g	1.11E+00	1.65E-01	1.15E-01					10/10/15 10:40	5.40E+02	11/10/15 18:14	YES
18	AC-228	TRG	CP1805S15-16	pCi/g	1.50E+00	4.00E-01	1.67E+00					10/10/15 10:50	5.63E+02	11/10/15 18:23	YES
18	BI-214	TRG	CP1805S15-16	pCi/g	1.16E+00	2.73E-01	3.95E-01					10/10/15 10:50	5.63E+02	11/10/15 18:23	YES
18	K-40	TRG	CP1805S15-16	pCi/g	1.71E+01	3.05E+00	1.66E+00					10/10/15 10:50	5.63E+02	11/10/15 18:23	YES
18	PB-212	TRG	CP1805S15-16	pCi/g	2.09E+00	3.74E-01	4.48E-01					10/10/15 10:50	5.63E+02	11/10/15 18:23	YES
18	PB-214	TRG	CP1805S15-16	pCi/g	1.23E+00	3.19E-01	5.16E-01					10/10/15 10:50	5.63E+02	11/10/15 18:23	YES
18	RA-226	TRG	CP1805S15-16	pCi/g	1.16E+00	2.73E-01	3.95E-01					10/10/15 10:50	5.63E+02	11/10/15 18:23	YES

Lab Fraction	Nuclide	Sample Desc	Client Identification	Activity Units	Results	Error Estimate	MDA	LSC Known	LCS %R	LCS Flag	RPD Flag	Sample Date	Sample Aliquot	Counting Date/Time	Identified
18	RA-228	TRG	CP1805S15-16	pCi/g	1.50E+00	4.00E-01	1.67E+00					10/10/15 10:50	5.63E+02	11/10/15 18:23	YES
18	TH-234	TRG	CP1805S15-16	pCi/g	3.26E+00	1.92E+00	6.06E+00					10/10/15 10:50	5.63E+02	11/10/15 18:23	YES
18	TL-208	TRG	CP1805S15-16	pCi/g	1.49E+00	3.32E-01	9.39E-02					10/10/15 10:50	5.63E+02	11/10/15 18:23	YES
19	AC-228	TRG	CP1805S18-19	pCi/g	1.61E+00	2.14E-01	3.76E-01					10/10/15 11:00	5.19E+02	11/11/15 06:17	YES
19	BI-214	TRG	CP1805S18-19	pCi/g	1.13E+00	1.58E-01	2.11E-01					10/10/15 11:00	5.19E+02	11/11/15 06:17	YES
19	K-40	TRG	CP1805S18-19	pCi/g	1.48E+01	1.87E+00	1.10E+00					10/10/15 11:00	5.19E+02	11/11/15 06:17	YES
19	PB-212	TRG	CP1805S18-19	pCi/g	1.51E+00	1.76E-01	2.33E-01					10/10/15 11:00	5.19E+02	11/11/15 06:17	YES
19	PB-214	TRG	CP1805S18-19	pCi/g	1.10E+00	1.56E-01	1.97E-01					10/10/15 11:00	5.19E+02	11/11/15 06:17	YES
19	RA-226	TRG	CP1805S18-19	pCi/g	1.13E+00	1.58E-01	2.11E-01					10/10/15 11:00	5.19E+02	11/11/15 06:17	YES
19	RA-228	TRG	CP1805S18-19	pCi/g	1.61E+00	2.14E-01	3.76E-01					10/10/15 11:00	5.19E+02	11/11/15 06:17	YES
19	TH-234	TRG	CP1805S18-19	pCi/g	2.28E+00	1.45E+00	1.99E+00					10/10/15 11:00	5.19E+02	11/11/15 06:17	NO
19	TL-208	TRG	CP1805S18-19	pCi/g	1.37E+00	1.67E-01	1.47E-01					10/10/15 11:00	5.19E+02	11/11/15 06:17	YES

Count Room Report
Client: Auxier Associates, Inc.

15-10091-Gamma-1 (pCi/g) in SO
Tracer ID:

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	CP1807S03-04	10/10/15 08:30	549.0100				0.00		
04	DO	CP1807S03-04	10/10/15 08:30	549.0100				0.00		
05	TRG	CP1807S05-06	10/10/15 08:40	606.4400				0.00		
06	TRG	CP1807S08-09	10/10/15 08:50	560.3800				0.00		
07	TRG	CP1807S11-12	10/10/15 09:00	543.3800				0.00		
08	TRG	CP1807S13-14	10/10/15 09:10	526.8200				0.00		
09	TRG	CP1807S16-17	10/10/15 09:20	472.9800				0.00		
10	TRG	CP1807S18-19	10/10/15 09:30	533.7600				0.00		
11	TRG	CP1807S20-21	10/10/15 09:40	600.1800				0.00		
12	TRG	CP1807S22-23	10/10/15 09:50	573.2200				0.00		
13	TRG	CP1805S03-04	10/10/15 10:00	559.7300				0.00		
14	TRG	CP1805S05-06	10/10/15 10:10	545.5800				0.00		
15	TRG	CP1805S08-09	10/10/15 10:20	538.8300				0.00		
16	TRG	CP1805S11-12	10/10/15 10:30	537.8200				0.00		
17	TRG	CP1805S13-14	10/10/15 10:40	539.6300				0.00		
18	TRG	CP1805S15-16	10/10/15 10:50	563.3300				0.00		
19	TRG	CP1805S18-19	10/10/15 11:00	518.9300				0.00		

Eberline Analytical
Oak Ridge Laboratory

Aliquot Worksheet

Printed: 10/20/2015 9:56 AM

Work Order	Run	Analysis Code	Rpt Units	Lab Deadline	Technician
15-10091	1	Gamma	grams	11/5/2015	KSALLINGS

Lab Fraction	Auxier & Associates, Inc. Client ID	Sample Type	Muffle Data	Dilution Data			Aliquot Data		MS Aliquot Data		H-3 Solids Only	
			Ratio Post/Pre	No of Dils	Dil Factor	Ratio	Aliquot	Net Equiv	Aliquot	Net Equiv	Water Added (ml)	H3 Dist Aliq
01	LCS	LCS					1.0000E+00	1.0000E+00				
02	BLANK	MBL					1.0000E+00	1.0000E+00				
03	CP1807S03-04	DUP					5.4901E+02	5.4901E+02				
04	CP1807S03-04	DO					5.4901E+02	5.4901E+02				
05	CP1807S05-06	TRG					6.0644E+02	6.0644E+02				
06	CP1807S08-09	TRG					5.6038E+02	5.6038E+02				
07	CP1807S11-12	TRG					5.4338E+02	5.4338E+02				
08	CP1807S13-14	TRG					5.2682E+02	5.2682E+02				
09	CP1807S16-17	TRG					4.7298E+02	4.7298E+02				
10	CP1807S18-19	TRG					5.3376E+02	5.3376E+02				
11	CP1807S20-21	TRG					6.0018E+02	6.0018E+02				
12	CP1807S22-23	TRG					5.7322E+02	5.7322E+02				
13	CP1805S03-04	TRG					5.5973E+02	5.5973E+02				
14	CP1805S05-06	TRG					5.4558E+02	5.4558E+02				
15	CP1805S08-09	TRG					5.3883E+02	5.3883E+02				
16	CP1805S11-12	TRG					5.3782E+02	5.3782E+02				
17	CP1805S13-14	TRG					5.3963E+02	5.3963E+02				
18	CP1805S15-16	TRG					5.6333E+02	5.6333E+02				
19	CP1805S18-19	TRG					5.1893E+02	5.1893E+02				

Comments	

Technician: Kenny Sallings Date: 10/20/15

Eberline Services - Oak Ridge
Prep Logbook
Version 2.0 8/1999

Rough Sample Preparation Log Book

Printed: 10/20/2015 8:25 AM

Work Order	Lab Deadline	Date Received in Prep	Date Sealed	Date Returned	Technician
15-10091	11/5/2015	10/19/2015	10/20/2015	10/21/2015	KSALLINGS

Eberline	Auxier & Associates, Inc.	Tare (g)	Gross (g)		Net (g)		Percent		Gamma		Special
Fraction	Client ID	Pan Wt	Wet Wt.	Dry Wt.	Wet Wt.	Dry Wt.	Liquid	Solid	Dry Wt.	LEPS Wt.	Info
04	CP1807S03-04	14.3900	1144.5800	936.4600	1130.1900	922.0700	18.41%	81.59%	0.0000	0.0000	
05	CP1807S05-06	14.4400	828.9600	673.1200	814.5200	658.6800	19.13%	80.87%	0.0000	0.0000	
06	CP1807S08-09	14.4700	1081.0400	877.7400	1066.5700	863.2700	19.06%	80.94%	0.0000	0.0000	
07	CP1807S11-12	14.4200	955.6000	769.8300	941.1800	755.4100	19.74%	80.26%	0.0000	0.0000	
08	CP1807S13-14	14.4100	1185.5200	942.8800	1171.1100	928.4700	20.72%	79.28%	0.0000	0.0000	
09	CP1807S16-17	14.3600	817.4400	646.2900	803.0800	631.9300	21.31%	78.69%	0.0000	0.0000	
10	CP1807S18-19	14.3800	1251.1400	1047.0400	1236.7600	1032.6600	16.50%	83.50%	0.0000	0.0000	
11	CP1807S20-21	14.3500	1142.5200	932.9400	1128.1700	918.5900	18.58%	81.42%	0.0000	0.0000	
12	CP1807S22-23	14.3200	1366.9000	1110.1200	1352.5800	1095.8000	18.98%	81.02%	0.0000	0.0000	
13	CP1805S03-04	28.7900	1475.8800	1196.3400	1447.0900	1167.5500	19.32%	80.68%	0.0000	0.0000	
14	CP1805S05-06	14.3100	753.5200	612.3200	739.2100	598.0100	19.10%	80.90%	0.0000	0.0000	
15	CP1805S08-09	14.3400	845.8200	692.5600	831.4800	678.2200	18.43%	81.57%	0.0000	0.0000	
16	CP1805S11-12	14.4400	886.2400	719.4300	871.8000	704.9900	19.13%	80.87%	0.0000	0.0000	
17	CP1805S13-14	14.3900	990.3000	816.0400	975.9100	801.6500	17.86%	82.14%	0.0000	0.0000	
18	CP1805S15-16	14.3200	1094.6800	923.0800	1080.3600	908.7600	15.88%	84.12%	0.0000	0.0000	
19	CP1805S18-19	14.3600	1053.8200	866.3400	1039.4600	851.9800	18.04%	81.96%	0.0000	0.0000	

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

Technician: Kenny Sallings Date: **Analysis: Rough Prep Logbook** **Analysis: Gamma Page No. 9431**

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

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

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

(Certificate continued on reverse side)

Corporate Office
24937 Avenue Tibbitts Valencia, California 91355

Laboratory
1380 Seaboard Industrial Blvd. Atlanta, Georgia, 30318

00311

Apex-Gamma

Analysis Report for 1510091-01
GAS 1302

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1510091-01
Sample Description	: GAS 1302
Sample Type	: SOIL
Sample Size	: 7.360E+02 grams
Facility	: Countroom
Sample Taken On	: 7/1/2013 10:11:16AM
Acquisition Started	: 11/10/2015 3:50:17PM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE4
Geometry	: GAS-1402
Live Time	: 1800.0 seconds
Real Time	: 1839.7 seconds
Dead Time	: 2.16 %
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	: 29428

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510091-01

GAS 1302

PEAK LOCATE REPORT

Peak Locate Performed on : 11/10/2015 4:20:59PM
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	22.33	21.57	0.0000	0.00
2	31.94	31.19	0.0000	0.00
3	53.81	53.07	0.0000	0.00
4	59.42	58.68	0.0000	0.00
5	67.73	66.99	0.0000	0.00
6	87.80	87.07	0.0000	0.00
7	122.06	121.35	0.0000	0.00
8	136.38	135.67	0.0000	0.00
9	166.04	165.34	0.0000	0.00
10	392.02	391.43	0.0000	0.00
11	661.75	661.28	0.0000	0.00
12	776.01	775.60	0.0000	0.00
13	815.57	815.18	0.0000	0.00
14	898.22	897.87	0.0000	0.00
15	1173.47	1173.28	0.0000	0.00
16	1279.79	1279.65	0.0000	0.00
17	1332.70	1332.60	0.0000	0.00
18	1406.15	1406.09	0.0000	0.00
19	1589.85	1589.90	0.0000	0.00
20	1809.40	1809.59	0.0000	0.00
21	1835.69	1835.90	0.0000	0.00
22	1955.44	1955.73	0.0000	0.00
23	2075.24	2075.61	0.0000	0.00
24	2314.68	2315.22	0.0000	0.00
25	2505.60	2506.29	0.0000	0.00
26	2614.45	2615.22	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510091-01

GAS 1302

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 4:20:59PM

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	22.33	19 -	25	21.57	7.11E+04	775.78	5.88E+04	2.60
	2	31.94	29 -	34	31.19	9.67E+02	235.16	1.03E+04	2.29
M	3	53.81	43 -	62	53.07	1.89E+04	997.51	5.75E+04	6.63
m	4	59.42	43 -	62	58.68	5.48E+04	600.42	1.86E+04	2.33
	5	67.73	64 -	70	66.99	4.88E+02	334.31	2.01E+04	4.14
	6	87.80	80 -	93	87.07	2.56E+04	626.48	3.16E+04	2.50
	7	122.06	117 -	126	121.35	5.07E+03	353.42	1.49E+04	2.49
	8	136.38	132 -	140	135.67	7.36E+02	283.21	1.19E+04	2.38
	9	166.04	161 -	169	165.34	8.63E+02	267.51	1.04E+04	2.95
	10	392.02	388 -	395	391.43	2.14E+02	174.16	4.90E+03	2.29
	11	661.75	655 -	667	661.28	1.18E+04	285.20	4.02E+03	2.58
	12	776.01	772 -	780	775.60	1.32E+02	127.71	2.43E+03	4.67
	13	815.57	812 -	819	815.18	1.20E+02	120.43	2.34E+03	4.22
	14	898.22	894 -	901	897.87	1.16E+02	136.01	3.01E+03	3.24
	15	1173.47	1166 -	1179	1173.28	1.02E+04	239.01	1.84E+03	2.77
	16	1279.79	1277 -	1283	1279.65	3.88E+01	33.72	1.72E+02	2.20
	17	1332.70	1325 -	1339	1332.60	8.95E+03	198.62	3.84E+02	2.84
	18	1406.15	1400 -	1411	1406.09	2.84E+01	22.27	4.72E+01	6.46
	19	1589.85	1584 -	1596	1589.90	2.06E+01	21.63	4.48E+01	7.72
	20	1809.40	1805 -	1814	1809.59	1.78E+01	15.65	2.44E+01	2.71
	21	1835.69	1828 -	1842	1835.90	1.03E+02	24.99	2.20E+01	3.37
	22	1955.44	1953 -	1958	1955.73	1.15E+01	9.33	7.00E+00	2.15
	23	2075.24	2069 -	2081	2075.61	1.34E+01	14.79	1.92E+01	8.84
	24	2314.68	2311 -	2318	2315.22	9.00E+00	6.00	0.00E+00	1.33
	25	2505.60	2501 -	2509	2506.29	4.12E+01	13.87	3.70E+00	3.17
	26	2614.45	2611 -	2618	2615.22	9.00E+00	6.00	0.00E+00	2.98

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

Analysis Report for 1510091-01

GAS 1302

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 4:20:59PM

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	22.33	19 -	25	7.11E+04	775.78	5.88E+04	4.63E+02
	2	31.94	29 -	34	9.67E+02	235.16	1.03E+04	1.86E+02
M	3	53.81	43 -	62	1.89E+04	997.51	5.75E+04	3.94E+02
m	4	59.42	43 -	62	5.48E+04	600.42	1.86E+04	2.24E+02
	5	67.73	64 -	70	4.88E+02	334.31	2.01E+04	2.72E+02
	6	87.80	80 -	93	2.56E+04	626.48	3.16E+04	4.43E+02
	7	122.06	117 -	126	5.07E+03	353.42	1.49E+04	2.66E+02
	8	136.38	132 -	140	7.36E+02	283.21	1.19E+04	2.28E+02
	9	166.04	161 -	169	8.63E+02	267.51	1.04E+04	2.15E+02
	10	392.02	388 -	395	2.14E+02	174.16	4.90E+03	1.41E+02
	11	661.75	655 -	667	1.18E+04	285.20	4.02E+03	1.52E+02
	12	776.01	772 -	780	1.32E+02	127.71	2.43E+03	1.03E+02
	13	815.57	812 -	819	1.20E+02	120.43	2.34E+03	9.73E+01
	14	898.22	894 -	901	1.16E+02	136.01	3.01E+03	1.10E+02
	15	1173.47	1166 -	1179	1.02E+04	239.01	1.84E+03	1.06E+02
	16	1279.79	1277 -	1283	3.88E+01	33.72	1.72E+02	2.58E+01
	17	1332.70	1325 -	1339	8.95E+03	198.62	3.84E+02	4.96E+01
	18	1406.15	1400 -	1411	2.84E+01	22.27	4.72E+01	1.61E+01
	19	1589.85	1584 -	1596	2.06E+01	21.63	4.48E+01	1.61E+01
	20	1809.40	1805 -	1814	1.78E+01	15.65	2.44E+01	1.08E+01
	21	1835.69	1828 -	1842	1.03E+02	24.99	2.20E+01	1.20E+01
	22	1955.44	1953 -	1958	1.15E+01	9.33	7.00E+00	5.26E+00
	23	2075.24	2069 -	2081	1.34E+01	14.79	1.92E+01	1.06E+01
	24	2314.68	2311 -	2318	9.00E+00	6.00	0.00E+00	0.00E+00
	25	2505.60	2501 -	2509	4.12E+01	13.87	3.70E+00	4.32E+00
	26	2614.45	2611 -	2618	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

Analysis Report for 1510091-01

GAS 1302

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/10/2015 4:20:59PM

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	22.33	19 -	25	21.57	7.11E+04	775.78	5.88E+04	.....
	2	31.94	29 -	34	31.19	9.67E+02	235.16	1.03E+04	.....
M	3	53.81	43 -	62	53.07	1.89E+04	997.51	5.75E+04	.....
m	4	59.42	43 -	62	58.68	5.48E+04	600.42	1.86E+04	AM-241
	5	67.73	64 -	70	66.99	4.88E+02	334.31	2.01E+04	TA-182 TH-230 TI-44
	6	87.80	80 -	93	87.07	2.56E+04	626.48	3.16E+04	SN-126 CD-109 LU-176
	7	122.06	117 -	126	121.35	5.07E+03	353.42	1.49E+04	CO-57 EU-152 SE-75
	8	136.38	132 -	140	135.67	7.36E+02	283.21	1.19E+04	CO-57 SE-75
	9	166.04	161 -	169	165.34	8.63E+02	267.51	1.04E+04	CE-139
	10	392.02	388 -	395	391.43	2.14E+02	174.16	4.90E+03	SN-113
	11	661.75	655 -	667	661.28	1.18E+04	285.20	4.02E+03	CS-137
	12	776.01	772 -	780	775.60	1.32E+02	127.71	2.43E+03	RB-82
	13	815.57	812 -	819	815.18	1.20E+02	120.43	2.34E+03	LA-140
	14	898.22	894 -	901	897.87	1.16E+02	136.01	3.01E+03	Y-88
	15	1173.47	1166 -	1179	1173.28	1.02E+04	239.01	1.84E+03	CO-60
	16	1279.79	1277 -	1283	1279.65	3.88E+01	33.72	1.72E+02	.....
	17	1332.70	1325 -	1339	1332.60	8.95E+03	198.62	3.84E+02	CO-60
	18	1406.15	1400 -	1411	1406.09	2.84E+01	22.27	4.72E+01	.....
	19	1589.85	1584 -	1596	1589.90	2.06E+01	21.63	4.48E+01	.....
	20	1809.40	1805 -	1814	1809.59	1.78E+01	15.65	2.44E+01	AL-26
	21	1835.69	1828 -	1842	1835.90	1.03E+02	24.99	2.20E+01	Y-88
	22	1955.44	1953 -	1958	1955.73	1.15E+01	9.33	7.00E+00	.....
	23	2075.24	2069 -	2081	2075.61	1.34E+01	14.79	1.92E+01	.....
	24	2314.68	2311 -	2318	2315.22	9.00E+00	6.00	0.00E+00	.....
	25	2505.60	2501 -	2509	2506.29	4.12E+01	13.87	3.70E+00	.....
	26	2614.45	2611 -	2618	2615.22	9.00E+00	6.00	0.00E+00	TL-208

Analysis Report for 1510091-01

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 : 11/10/2015 4:20:59PM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	22.33	7.11E+04	775.78	3.04E-02	1.78E-03
	2	31.94	9.67E+02	235.16	2.91E-02	1.78E-03
M	3	53.81	1.89E+04	997.51	2.49E-02	1.78E-03
m	4	59.42	5.48E+04	600.42	2.39E-02	1.78E-03
	5	67.73	4.88E+02	334.31	2.25E-02	1.74E-03
	6	87.80	2.56E+04	626.48	1.96E-02	1.63E-03
	7	122.06	5.07E+03	353.42	1.59E-02	1.53E-03
	8	136.38	7.36E+02	283.21	1.47E-02	1.42E-03
	9	166.04	8.63E+02	267.51	1.27E-02	1.21E-03
	10	392.02	2.14E+02	174.16	5.96E-03	7.36E-04
	11	661.75	1.18E+04	285.20	3.57E-03	3.40E-04
	12	776.01	1.32E+02	127.71	3.05E-03	2.76E-04
	13	815.57	1.20E+02	120.43	2.91E-03	2.54E-04
	14	898.22	1.16E+02	136.01	2.65E-03	2.08E-04
	15	1173.47	1.02E+04	239.01	2.05E-03	1.73E-04
	16	1279.79	3.88E+01	33.72	1.90E-03	2.01E-04
	17	1332.70	8.95E+03	198.62	1.83E-03	2.16E-04
	18	1406.15	2.84E+01	22.27	1.74E-03	2.00E-04
	19	1589.85	2.06E+01	21.63	1.57E-03	1.62E-04
	20	1809.40	1.78E+01	15.65	1.41E-03	1.17E-04
	21	1835.69	1.03E+02	24.99	1.39E-03	1.11E-04
	22	1955.44	1.15E+01	9.33	1.32E-03	1.11E-04
	23	2075.24	1.34E+01	14.79	1.26E-03	1.11E-04
	24	2314.68	9.00E+00	6.00	1.16E-03	1.11E-04
	25	2505.60	4.12E+01	13.87	1.10E-03	1.11E-04
	26	2614.45	9.00E+00	6.00	1.07E-03	1.11E-04

Analysis Report for 1510091-01

GAS 1302

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 : 11/10/2015 4:20:59PM

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	22.33	7.11E+04	775.78			7.11E+04	7.76E+02
	2	31.94	9.67E+02	235.16			9.67E+02	2.35E+02
M	3	53.81	1.89E+04	997.51			1.89E+04	9.98E+02
m	4	59.42	5.48E+04	600.42			5.48E+04	6.00E+02
	5	67.73	4.88E+02	334.31			4.88E+02	3.34E+02
	6	87.80	2.56E+04	626.48			2.56E+04	6.26E+02
	7	122.06	5.07E+03	353.42			5.07E+03	3.53E+02
	8	136.38	7.36E+02	283.21			7.36E+02	2.83E+02
	9	166.04	8.63E+02	267.51			8.63E+02	2.68E+02
	10	392.02	2.14E+02	174.16			2.14E+02	1.74E+02
	11	661.75	1.18E+04	285.20			1.18E+04	2.85E+02
	12	776.01	1.32E+02	127.71			1.32E+02	1.28E+02
	13	815.57	1.20E+02	120.43			1.20E+02	1.20E+02
	14	898.22	1.16E+02	136.01			1.16E+02	1.36E+02
	15	1173.47	1.02E+04	239.01			1.02E+04	2.39E+02
	16	1279.79	3.88E+01	33.72			3.88E+01	3.37E+01
	17	1332.70	8.95E+03	198.62			8.95E+03	1.99E+02
	18	1406.15	2.84E+01	22.27			2.84E+01	2.23E+01
	19	1589.85	2.06E+01	21.63			2.06E+01	2.16E+01
	20	1809.40	1.78E+01	15.65			1.78E+01	1.57E+01
	21	1835.69	1.03E+02	24.99			1.03E+02	2.50E+01
	22	1955.44	1.15E+01	9.33			1.15E+01	9.33E+00
	23	2075.24	1.34E+01	14.79			1.34E+01	1.48E+01
	24	2314.68	9.00E+00	6.00			9.00E+00	6.00E+00
	25	2505.60	4.12E+01	13.87			4.12E+01	1.39E+01
	26	2614.45	9.00E+00	6.00	6.02E-01	5.09E-01	8.40E+00	6.02E+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 1510091-01

GAS 1302

AREA CORRECTION REPORT
REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/10/2015 4:20:59PM

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	22.33	7.11E+04	775.78			7.11E+04	7.76E+02
	2	31.94	9.67E+02	235.16			9.67E+02	2.35E+02
M	3	53.81	1.89E+04	997.51			1.89E+04	9.98E+02
m	4	59.42	5.48E+04	600.42			5.48E+04	6.00E+02
	5	67.73	4.88E+02	334.31			4.88E+02	3.34E+02
	6	87.80	2.56E+04	626.48			2.56E+04	6.26E+02
	7	122.06	5.07E+03	353.42			5.07E+03	3.53E+02
	8	136.38	7.36E+02	283.21			7.36E+02	2.83E+02
	9	166.04	8.63E+02	267.51			8.63E+02	2.68E+02
	10	392.02	2.14E+02	174.16			2.14E+02	1.74E+02
	11	661.75	1.18E+04	285.20			1.18E+04	2.85E+02
	12	776.01	1.32E+02	127.71			1.32E+02	1.28E+02
	13	815.57	1.20E+02	120.43			1.20E+02	1.20E+02
	14	898.22	1.16E+02	136.01			1.16E+02	1.36E+02
	15	1173.47	1.02E+04	239.01			1.02E+04	2.39E+02
	16	1279.79	3.88E+01	33.72			3.88E+01	3.37E+01
	17	1332.70	8.95E+03	198.62			8.95E+03	1.99E+02
	18	1406.15	2.84E+01	22.27			2.84E+01	2.23E+01
	19	1589.85	2.06E+01	21.63			2.06E+01	2.16E+01
	20	1809.40	1.78E+01	15.65			1.78E+01	1.57E+01
	21	1835.69	1.03E+02	24.99			1.03E+02	2.50E+01
	22	1955.44	1.15E+01	9.33			1.15E+01	9.33E+00
	23	2075.24	1.34E+01	14.79			1.34E+01	1.48E+01
	24	2314.68	9.00E+00	6.00			9.00E+00	6.00E+00
	25	2505.60	4.12E+01	13.87			4.12E+01	1.39E+01
	26	2614.45	9.00E+00	6.00	6.02E-01	5.09E-01	8.40E+00	6.02E+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 1510091-01

GAS 1302

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
AL-26	0.914	1808.65	*	99.76	2.59E-01	2.29E-01
CO-57	0.950	122.06	*	85.51	6.88E+01	8.18E+00
		136.48	*	10.60	8.73E+01	3.47E+01
CO-60	0.990	1173.22	*	100.00	1.38E+02	1.20E+01
		1332.49	*	100.00	1.36E+02	1.64E+01
Y-88	0.713	898.02	*	93.40	2.62E+02	3.06E+02
		1836.01	*	99.38	4.14E+02	1.06E+02
CD-109	0.974	88.03	*	3.72	2.59E+03	2.72E+02
SN-113	0.700	255.12		1.93		
		391.69	*	64.90	2.03E+02	1.67E+02
SN-126	0.992	87.57	*	37.00	7.19E+01	6.23E+00
CS-137	0.998	661.65	*	85.12	8.33E+01	8.20E+00
CE-139	0.817	165.85	*	80.35	1.32E+02	4.29E+01
AM-241	0.998	59.54	*	35.90	1.31E+02	9.83E+00

* = Energy line found in the spectrum.
- = Manually added nuclide.
? = Manually edited nuclide.
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 4:20:59PM
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	22.33	3.95010E+01	0.55		
	2	31.94	5.37287E-01	12.16		
M	3	53.81	1.05157E+01	2.63		

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GAS 1302

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
5	67.73	2.71240E-01	34.24	Tol.	TA-182 TH-230
12	776.01	7.34659E-02	48.29		
13	815.57	6.68889E-02	50.01	Tol.	LA-140
16	1279.79	2.15689E-02	43.43		
18	1406.15	1.57906E-02	39.18		
19	1589.85	1.14341E-02	52.54		
22	1955.44	6.38889E-03	40.55		
23	2075.24	7.45169E-03	55.13		
24	2314.68	5.00000E-03	33.33		
25	2505.60	2.28618E-02	16.85	Sum	
26	2614.45	4.66540E-03	35.85	Tol.	TL-208

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
AL-26	0.91	1808.65	*	99.76	2.59E-01	2.29E-01
CO-57	0.95	122.06	*	85.51	6.88E+01	8.18E+00
		136.48	*	10.60	8.73E+01	3.47E+01
CO-60	0.99	1173.22	*	100.00	1.38E+02	1.20E+01
		1332.49	*	100.00	1.36E+02	1.64E+01
Y-88	0.71	898.02	*	93.40	2.62E+02	3.06E+02
		1836.01	*	99.38	4.14E+02	1.06E+02
CD-109	0.97	88.03	*	3.72	2.59E+03	2.72E+02
SN-113	0.70	255.12		1.93		
		391.69	*	64.90	2.03E+02	1.67E+02
SN-126	0.99	87.57	*	37.00	7.19E+01	6.23E+00
CS-137	0.99	661.65	*	85.12	8.33E+01	8.20E+00
CE-139	0.81	165.85	*	80.35	1.32E+02	4.29E+01
AM-241	0.99	59.54	*	35.90	1.31E+02	9.83E+00

Analysis Report for 1510091-01

GAS 1302

* = 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
	AL-26	0.914	2.59E-01	2.29E-01	
	CO-57	0.950	6.98E+01	7.97E+00	
	CO-60	0.990	1.37E+02	9.69E+00	
	Y-88	0.713	3.98E+02	1.00E+02	
?	CD-109	0.974	2.59E+03	2.72E+02	
	SN-113	0.700	2.03E+02	1.67E+02	
?	SN-126	0.992	7.19E+01	6.23E+00	
	CS-137	0.998	8.33E+01	8.20E+00	
	CE-139	0.817	1.32E+02	4.29E+01	
	AM-241	0.998	1.31E+02	9.83E+00	

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510091-01

GAS 1302

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 4:20:59PM
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	22.33	3.95010E+01	0.55		
	2	31.94	5.37287E-01	12.16		
M	3	53.81	1.05157E+01	2.63		
	5	67.73	2.71240E-01	34.24	Tol.	TA-182 TH-230
	12	776.01	7.34659E-02	48.29		
	13	815.57	6.68889E-02	50.01	Tol.	LA-140
	16	1279.79	2.15689E-02	43.43		
	18	1406.15	1.57906E-02	39.18		
	19	1589.85	1.14341E-02	52.54		
	22	1955.44	6.38889E-03	40.55		
	23	2075.24	7.45169E-03	55.13		
	24	2314.68	5.00000E-03	33.33		
	25	2505.60	2.28618E-02	16.85	Sum	
	26	2614.45	4.66540E-03	35.85	Tol.	TL-208

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59	10.42	1.74E+04	6.82E+05	6.82E+05

Analysis Report for 1510091-01

GAS 1302

		Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+		NA-22	1274.54		99.94	-1.96E-01	1.26E+00	1.26E+00
+	@	NA-24	1368.53		99.99	1.00E+26	1.00E+26	1.00E+26
	@		2754.09		99.86	1.00E+26		1.00E+26
+		AL-26	1808.65	*	99.76	2.59E-01	3.55E-01	3.55E-01
+		K-40	1460.81		10.67	-1.64E+00	3.34E+00	3.34E+00
+	@	AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+		TI-44	67.88		94.40	-1.36E+01	5.32E-01	5.32E-01
			78.34		96.00	-8.35E-03		5.74E-01
+		SC-46	889.25		99.98	-4.88E+02	1.76E+03	1.82E+03
			1120.51		99.99	3.05E+02		1.76E+03
+		V-48	983.52		99.98	1.30E+16	1.30E+16	2.72E+16
			1312.10		97.50	6.90E+15		1.30E+16
+		CR-51	320.08		9.83	4.83E+09	1.78E+10	1.78E+10
+		MN-54	834.83		99.97	-1.00E+00	8.51E+00	8.51E+00
+		CO-56	846.75		99.96	5.23E+02	1.63E+03	2.55E+03
			1037.75		14.03	9.81E+02		2.14E+04
			1238.25		67.00	5.94E+02		2.33E+03
			1771.40		15.51	-2.10E+03		4.55E+03
			2598.48		16.90	2.22E+02		1.63E+03
+		CO-57	122.06	*	85.51	6.88E+01	7.27E+00	7.27E+00
			136.48	*	10.60	8.73E+01		5.45E+01
+		CO-58	810.76		99.40	3.69E+02	5.90E+03	5.90E+03
+		FE-59	1099.22		56.50	-3.11E+05	1.03E+06	1.82E+06
			1291.56		43.20	1.13E+05		1.03E+06
+		CO-60	1173.22	*	100.00	1.38E+02	1.55E+00	2.90E+00
			1332.49	*	100.00	1.36E+02		1.55E+00
+		ZN-65	1115.52		50.75	2.60E+01	3.52E+01	3.52E+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	5.54E+03	1.32E+02	5.69E+02
			136.00		59.20	2.12E+02		1.32E+02
			264.65		59.80	-5.20E+01		1.71E+02
			279.53		25.20	6.60E+01		4.16E+02
			400.65		11.40	-2.74E+00		1.12E+03
+		RB-82	776.52		13.00	4.36E+10	1.29E+11	1.29E+11
+		RB-83	520.41		46.00	5.27E+02	2.12E+03	2.12E+03
			529.64		30.30	-2.09E+03		3.14E+03
			552.65		16.40	6.03E+02		5.82E+03
+		KR-85	513.99		0.43	3.42E+01	2.55E+02	2.55E+02
+		SR-85	513.99		99.27	1.29E+03	9.63E+03	9.63E+03
+		Y-88	898.02	*	93.40	2.62E+02	1.07E+02	5.02E+02
			1836.01	*	99.38	4.14E+02		1.07E+02
+		NB-93M	16.57		9.43	-2.33E+02	6.13E+00	6.13E+00
+		NB-94	702.63		100.00	-1.40E-01	1.03E+00	1.03E+00
			871.10		100.00	4.22E-01		1.40E+00
+		NB-95	765.79		99.81	1.69E+07	2.94E+07	2.94E+07

Analysis Report for 1510091-01

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	-1.37E+04	2.31E+04	2.72E+04
			756.72		55.30	-1.15E+03		2.31E+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	-2.34E+06	4.12E+06	4.12E+06
+		RU-106	621.84		9.80	6.91E+00	5.16E+01	5.16E+01
+		AG-108M	433.93		89.90	-1.07E-02	1.07E+00	1.07E+00
			614.37		90.40	-5.67E-01		1.10E+00
			722.95		90.50	2.25E-01		1.19E+00
+		CD-109	88.03	*	3.72	2.59E+03	9.00E+01	9.00E+01
+		AG-110M	657.75		93.14	7.90E-01	1.81E+01	2.85E+01
			677.61		10.53	1.89E+01		1.05E+02
			706.67		16.46	4.11E+01		6.94E+01
			763.93		21.98	3.00E+01		5.76E+01
			884.67		71.63	1.12E+01		2.23E+01
			1384.27		23.94	5.28E+00		1.81E+01
+		CD-113M	263.70		0.02	-1.15E+03	3.39E+03	3.39E+03
+		SN-113	255.12		1.93	2.46E+03	2.70E+02	6.52E+03
			391.69	*	64.90	2.03E+02		2.70E+02
+		TE123M	159.00		84.10	-4.24E+01	9.47E+01	9.47E+01
+		SB-124	602.71		97.87	-1.29E+04	1.32E+04	2.02E+04
			645.85		7.26	3.27E+04		2.95E+05
			722.78		11.10	7.44E+04		1.97E+05
			1691.02		49.00	-4.40E+03		1.32E+04
+		I-125	35.49		6.49	-2.74E+05	1.02E+05	1.02E+05
+		SB-125	176.33		6.89	-6.47E+00	5.80E+00	1.48E+01
			427.89		29.33	1.70E+00		5.80E+00
			463.38		10.35	-1.08E+00		1.79E+01
			600.56		17.80	-4.49E+00		9.72E+00
			635.90		11.32	7.00E+00		1.64E+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	7.19E+01	2.49E+00	2.49E+00
+	@	SB-127	473.00		25.00	1.00E+26	1.00E+26	1.00E+26
	@		685.20		35.70	1.00E+26		1.00E+26
	@		783.80		14.70	1.00E+26		1.00E+26
+		I-129	29.78		57.00	-4.87E+00	7.26E-01	7.26E-01
			33.60		13.20	-1.49E+00		2.38E+00
			39.58		7.52	-2.01E+01		4.72E+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

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	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	-3.70E-01	1.56E+00	1.97E+00
		302.84		17.80	-9.51E-01		4.79E+00
		356.01		60.00	4.15E-01		1.56E+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	1.01E+01	2.20E+00	2.51E+01
		569.32		15.43	-1.41E+00		1.35E+01
		604.70		97.60	-1.25E+00		2.20E+00
		795.84		85.40	8.27E-01		3.17E+00
		801.93		8.73	-3.92E+00		3.13E+01
+	CS-135	268.24		16.00	7.56E-01	4.36E+00	4.36E+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	9.28E+19	6.74E+19	3.77E+20
		163.89		4.61	-1.55E+20		6.66E+20
		176.55		13.56	-9.64E+19		2.21E+20
		273.65		12.66	3.17E+19		2.94E+20
		340.57		48.50	3.00E+19		8.60E+19
		818.50		99.70	-6.23E+17		6.74E+19
		1048.07		79.60	-4.33E+19		1.00E+20
		1235.34		19.70	-8.11E+19		2.11E+20
+	CS-137	661.65	*	85.12	8.33E+01	2.18E+00	2.18E+00
+	LA-138	788.74		34.00	3.12E-01	6.38E-01	3.54E+00
		1435.80		66.00	6.71E-02		6.38E-01
+	CE-139	165.85	*	80.35	1.32E+02	6.63E+01	6.63E+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	-2.90E+07	1.03E+08	1.03E+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	8.91E+00	4.01E+01	4.01E+01
+	PM-144	476.78		42.00	5.20E+00	5.19E+00	1.24E+01
		618.01		98.60	-1.09E+00		5.19E+00
		696.49		99.49	2.01E+00		5.36E+00
+	PM-145	36.85		21.70	-5.66E+00	9.03E-01	1.63E+00
		37.36		39.70	-3.82E+00		9.03E-01
		42.30		15.10	-4.62E+00		2.97E+00
		72.40		2.31	-9.72E+00		2.44E+01

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GAS 1302

		Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+		PM-146	453.90	39.94	-5.13E-01	3.36E+00	3.36E+00
			735.90	14.01	3.89E+00		1.05E+01
			747.13	13.10	2.30E+00		1.15E+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	3.54E+01	2.81E+00	3.56E+00
			244.69	5.40	-8.61E+00		1.44E+01
			344.27	19.13	1.33E+00		4.64E+00
			778.89	9.20	-1.89E+00		1.42E+01
			964.01	10.40	-3.62E-02		1.72E+01
			1085.78	7.22	-3.30E+00		2.44E+01
			1112.02	9.60	4.99E+00		1.86E+01
			1407.95	14.94	-1.67E-01		2.81E+00
+		GD-153	97.43	31.30	-1.50E+00	1.65E+01	1.65E+01
			103.18	22.20	-7.12E+00		2.39E+01
+		EU-154	123.07	40.50	1.94E+01	1.94E+00	1.94E+00
			723.30	19.70	1.23E+00		6.49E+00
			873.19	11.50	-1.78E+00		1.46E+01
			996.32	10.30	6.57E+00		1.75E+01
			1004.76	17.90	-3.17E+00		9.99E+00
			1274.45	35.50	-3.55E-01		2.29E+00
+		EU-155	86.50	30.90	1.18E+02	3.04E+00	4.10E+00
			105.30	20.70	-1.02E+00		3.04E+00
+		EU-156	811.77	10.40	3.74E+17	1.17E+18	1.51E+18
			1153.47	7.20	8.34E+17		2.17E+18
			1230.71	8.90	6.39E+17		1.17E+18
+		HO-166M	184.41	72.60	5.67E-01	8.39E-01	8.39E-01
			280.45	29.60	1.11E+00		2.44E+00
			410.94	11.10	-1.21E+00		8.02E+00
			711.69	54.10	6.04E-02		1.93E+00
+		TM-171	66.72	0.14	-6.69E+04	8.01E+02	8.01E+02
+		HF-172	81.75	4.52	-2.03E+00	1.33E+01	3.05E+01
			125.81	11.30	-1.23E+00		1.33E+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	-5.95E+00	1.08E+01	2.77E+01
			272.11	21.20	-7.77E+00		1.08E+01
+		HF-175	343.40	84.00	1.23E+03	4.79E+03	4.79E+03
+		LU-176	88.34	13.30	1.90E+02	7.37E-01	6.76E+00
			201.83	86.00	-2.14E-01		7.37E-01
			306.78	94.00	1.24E-01		7.86E-01
+		TA-182	67.75	41.20	-5.63E+03	2.20E+02	2.20E+02
			1121.30	34.90	2.04E+02		7.41E+02
			1189.05	16.23	2.96E+02		1.17E+03
			1221.41	26.98	-4.15E+02		5.67E+02
			1231.02	11.44	7.53E+02		1.38E+03

Analysis Report for 1510091-01

GAS 1302

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	IR-192	308.46	29.68	1.69E+03	6.97E+03	8.01E+03
		468.07	48.10	4.50E+03		6.97E+03
+	HG-203	279.19	77.30	5.44E+04	3.43E+05	3.43E+05
+	BI-207	569.67	97.72	-1.06E-01	1.01E+00	1.01E+00
		1063.62	74.90	-1.65E+00		2.06E+00
+	TL-208	583.14	30.22	-5.04E-01	8.85E-01	3.14E+00
		860.37	4.48	-8.48E+00		3.02E+01
		2614.66	35.85	3.76E-01		8.85E-01
+	BI-210M	262.00	45.00	1.09E+00	1.56E+00	1.56E+00
		300.00	23.00	1.10E+00		3.17E+00
+	PB-210	46.50	4.25	1.77E+01	1.36E+01	1.36E+01
+	PB-211	404.84	2.90	1.24E-01	3.04E+01	3.04E+01
		831.96	2.90	1.40E+01		4.39E+01
+	BI-212	727.17	11.80	-5.06E+00	8.90E+00	8.90E+00
		1620.62	2.75	1.14E+00		1.32E+01
+	PB-212	238.63	44.60	1.39E+00	1.58E+00	1.58E+00
		300.09	3.41	7.45E+00		2.14E+01
+	BI-214	609.31	46.30	1.62E+00	2.16E+00	2.16E+00
		1120.29	15.10	1.62E+00		9.37E+00
		1764.49	15.80	8.71E-01		2.46E+00
		2204.22	4.98	-3.63E+00		5.92E+00
+	PB-214	295.21	19.19	-6.41E-01	2.11E+00	3.76E+00
		351.92	37.19	-7.89E-01		2.11E+00
+	RN-219	401.80	6.50	3.36E+00	1.35E+01	1.35E+01
+	RA-223	323.87	3.88	-1.07E+01	1.92E+01	1.92E+01
+	RA-224	240.98	3.95	1.30E+01	1.78E+01	1.78E+01
+	RA-225	40.00	31.00	-1.69E+18	3.96E+17	3.96E+17
+	RA-226	186.21	3.28	1.20E+01	1.87E+01	1.87E+01
+	TH-227	50.10	8.40	1.12E+01	6.10E+00	7.40E+00
		236.00	11.50	9.73E-01		6.10E+00
		256.20	6.30	-2.41E+00		1.10E+01
+	AC-228	338.32	11.40	5.21E-02	5.55E+00	6.85E+00
		911.07	27.70	-2.70E-01		5.55E+00
		969.11	16.60	-1.14E+01		9.07E+00
+	TH-230	48.44	16.90	7.90E+00	3.50E+00	3.50E+00
		62.85	4.60	7.81E+02		2.20E+01
		67.67	0.37	-3.38E+03		1.32E+02
+	PA-231	283.67	1.60	-9.70E-02	3.17E+01	4.51E+01
		302.67	2.30	-6.30E+00		3.17E+01
+	TH-231	25.64	14.70	-1.85E+01	6.23E+00	6.23E+00
		84.21	6.40	9.81E+01		1.24E+01
+	PA-233	311.98	38.60	1.20E+09	7.93E+09	7.93E+09
+	PA-234	131.20	20.40	-3.43E-01	2.47E+00	2.47E+00
		733.99	8.80	3.63E+00		1.24E+01
		946.00	12.00	-2.80E+00		1.41E+01
+	PA-234M	1001.03	0.92	-9.73E+00	1.63E+02	1.63E+02
+	TH-234	63.29	3.80	3.75E+02	2.26E+01	2.26E+01

Analysis Report for 1510091-01

GAS 1302

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	U-235	143.76		10.50	-2.00E-01	4.88E+00	4.88E+00
		163.35		4.70	-2.86E+00		1.23E+01
		205.31		4.70	-1.25E+01		1.35E+01
+	NP-237	86.50		12.60	2.07E+02	7.23E+00	7.23E+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	1.31E+02	3.03E+00	3.03E+00
+	AM-243	74.67		66.00	-2.84E-01	7.88E-01	7.88E-01
+	CM-243	209.75		3.29	1.71E+00	5.37E+00	2.12E+01
		228.14		10.60	3.67E+00		6.98E+00
		277.60		14.00	-3.74E-01		5.37E+00

\+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
\> = MDA value not calculated
@ = Half-life too short to be able to perform the decay correction
? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	BE-7	477.59		10.42	6.82E+05	6.82E+05	1.74E+04	3.37E+05
	NA-22	1274.54		99.94	1.26E+00	1.26E+00	-1.96E-01	6.05E-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		1.00E+26	1.00E+20
+	AL-26	1808.65	*	99.76	3.55E-01	3.55E-01	2.59E-01	1.58E-01
	K-40	1460.81		10.67	3.34E+00	3.34E+00	-1.64E+00	1.52E+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	5.32E-01	5.32E-01	-1.36E+01	2.65E-01
		78.34		96.00	5.74E-01		-8.35E-03	2.86E-01
	SC-46	889.25		99.98	1.82E+03	1.76E+03	-4.88E+02	8.96E+02

Analysis Report for 1510091-01

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	1.76E+03	1.76E+03	3.05E+02	8.66E+02
	V-48	983.52		99.98	2.72E+16	1.30E+16	1.30E+16	1.34E+16
		1312.10		97.50	1.30E+16		6.90E+15	6.24E+15
	CR-51	320.08		9.83	1.78E+10	1.78E+10	4.83E+09	8.81E+09
	MN-54	834.83		99.97	8.51E+00	8.51E+00	-1.00E+00	4.19E+00
	CO-56	846.75		99.96	2.55E+03	1.63E+03	5.23E+02	1.26E+03
		1037.75		14.03	2.14E+04		9.81E+02	1.05E+04
		1238.25		67.00	2.33E+03		5.94E+02	1.12E+03
		1771.40		15.51	4.55E+03		-2.10E+03	2.03E+03
		2598.48		16.90	1.63E+03		2.22E+02	5.15E+02
+	CO-57	122.06	*	85.51	7.27E+00	7.27E+00	6.88E+01	3.61E+00
		136.48	*	10.60	5.45E+01		8.73E+01	2.71E+01
	CO-58	810.76		99.40	5.90E+03	5.90E+03	3.69E+02	2.91E+03
	FE-59	1099.22		56.50	1.82E+06	1.03E+06	-3.11E+05	8.95E+05
		1291.56		43.20	1.03E+06		1.13E+05	4.94E+05
+	CO-60	1173.22	*	100.00	2.90E+00	1.55E+00	1.38E+02	1.43E+00
		1332.49	*	100.00	1.55E+00		1.36E+02	7.55E-01
	ZN-65	1115.52		50.75	3.52E+01	3.52E+01	2.60E+01	1.73E+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	5.69E+02	1.32E+02	5.54E+03	2.83E+02
		136.00		59.20	1.32E+02		2.12E+02	6.54E+01
		264.65		59.80	1.71E+02		-5.20E+01	8.47E+01
		279.53		25.20	4.16E+02		6.60E+01	2.06E+02
		400.65		11.40	1.12E+03		-2.74E+00	5.56E+02
	RB-82	776.52		13.00	1.29E+11	1.29E+11	4.36E+10	6.34E+10
	RB-83	520.41		46.00	2.12E+03	2.12E+03	5.27E+02	1.05E+03
		529.64		30.30	3.14E+03		-2.09E+03	1.55E+03
		552.65		16.40	5.82E+03		6.03E+02	2.87E+03
	KR-85	513.99		0.43	2.55E+02	2.55E+02	3.42E+01	1.26E+02
	SR-85	513.99		99.27	9.63E+03	9.63E+03	1.29E+03	4.75E+03
+	Y-88	898.02	*	93.40	5.02E+02	1.07E+02	2.62E+02	2.48E+02
		1836.01	*	99.38	1.07E+02		4.14E+02	4.83E+01
	NB-93M	16.57		9.43	6.13E+00	6.13E+00	-2.33E+02	3.05E+00
	NB-94	702.63		100.00	1.03E+00	1.03E+00	-1.40E-01	5.05E-01
		871.10		100.00	1.40E+00		4.22E-01	6.89E-01
	NB-95	765.79		99.81	2.94E+07	2.94E+07	1.69E+07	1.45E+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	2.72E+04	2.31E+04	-1.37E+04	1.34E+04
		756.72		55.30	2.31E+04		-1.15E+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	4.12E+06	4.12E+06	-2.34E+06	2.04E+06
	RU-106	621.84		9.80	5.16E+01	5.16E+01	6.91E+00	2.54E+01
	AG-108M	433.93		89.90	1.07E+00	1.07E+00	-1.07E-02	5.29E-01
		614.37		90.40	1.10E+00		-5.67E-01	5.41E-01
		722.95		90.50	1.19E+00		2.25E-01	5.84E-01
+	CD-109	88.03	*	3.72	9.00E+01	9.00E+01	2.59E+03	4.48E+01
	AG-110M	657.75		93.14	2.85E+01	1.81E+01	7.90E-01	1.41E+01
		677.61		10.53	1.05E+02		1.89E+01	5.16E+01
		706.67		16.46	6.94E+01		4.11E+01	3.41E+01

Analysis Report for 1510091-01

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	5.76E+01	1.81E+01	3.00E+01	2.83E+01
		884.67		71.63	2.23E+01		1.12E+01	1.10E+01
		1384.27		23.94	1.81E+01		5.28E+00	8.33E+00
	CD-113M	263.70		0.02	3.39E+03	3.39E+03	-1.15E+03	1.68E+03
+	SN-113	255.12		1.93	6.52E+03	2.70E+02	2.46E+03	3.23E+03
		391.69	*	64.90	2.70E+02		2.03E+02	1.34E+02
	TE123M	159.00		84.10	9.47E+01	9.47E+01	-4.24E+01	4.70E+01
	SB-124	602.71		97.87	2.02E+04	1.32E+04	-1.29E+04	9.93E+03
		645.85		7.26	2.95E+05		3.27E+04	1.46E+05
		722.78		11.10	1.97E+05		7.44E+04	9.69E+04
		1691.02		49.00	1.32E+04		-4.40E+03	5.82E+03
	I-125	35.49		6.49	1.02E+05	1.02E+05	-2.74E+05	5.08E+04
	SB-125	176.33		6.89	1.48E+01	5.80E+00	-6.47E+00	7.35E+00
		427.89		29.33	5.80E+00		1.70E+00	2.87E+00
		463.38		10.35	1.79E+01		-1.08E+00	8.87E+00
		600.56		17.80	9.72E+00		-4.49E+00	4.79E+00
		635.90		11.32	1.64E+01		7.00E+00	8.09E+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	2.49E+00	2.49E+00	7.19E+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	7.26E-01	7.26E-01	-4.87E+00	3.61E-01
		33.60		13.20	2.38E+00		-1.49E+00	1.18E+00
		39.58		7.52	4.72E+00		-2.01E+01	2.35E+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	1.56E+00	-3.70E-01	9.78E-01
		302.84		17.80	4.79E+00		-9.51E-01	2.37E+00
		356.01		60.00	1.56E+00		4.15E-01	7.71E-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	2.51E+01	2.20E+00	1.01E+01	1.24E+01
		569.32		15.43	1.35E+01		-1.41E+00	6.66E+00
		604.70		97.60	2.20E+00		-1.25E+00	1.08E+00
		795.84		85.40	3.17E+00		8.27E-01	1.56E+00
		801.93		8.73	3.13E+01		-3.92E+00	1.54E+01
	CS-135	268.24		16.00	4.36E+00	4.36E+00	7.56E-01	2.16E+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	3.77E+20	6.74E+19	9.28E+19	1.87E+20
		163.89		4.61	6.66E+20		-1.55E+20	3.30E+20
		176.55		13.56	2.21E+20		-9.64E+19	1.10E+20
		273.65		12.66	2.94E+20		3.17E+19	1.46E+20
		340.57		48.50	8.60E+19		3.00E+19	4.26E+19

Analysis Report for 1510091-01

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	6.74E+19	6.74E+19	-6.23E+17	3.32E+19
		1048.07		79.60	1.00E+20		-4.33E+19	4.93E+19
		1235.34		19.70	2.11E+20		-8.11E+19	1.02E+20
+	CS-137	661.65	*	85.12	2.18E+00	2.18E+00	8.33E+01	1.08E+00
	LA-138	788.74		34.00	3.54E+00	6.38E-01	3.12E-01	1.74E+00
		1435.80		66.00	6.38E-01		6.71E-02	2.94E-01
+	CE-139	165.85	*	80.35	6.63E+01	6.63E+01	1.32E+02	3.29E+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	1.03E+08	1.03E+08	-2.90E+07	5.12E+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	4.01E+01	4.01E+01	8.91E+00	1.99E+01
	PM-144	476.78		42.00	1.24E+01	5.19E+00	5.20E+00	6.13E+00
		618.01		98.60	5.19E+00		-1.09E+00	2.55E+00
		696.49		99.49	5.36E+00		2.01E+00	2.64E+00
	PM-145	36.85		21.70	1.63E+00	9.03E-01	-5.66E+00	8.10E-01
		37.36		39.70	9.03E-01		-3.82E+00	4.49E-01
		42.30		15.10	2.97E+00		-4.62E+00	1.48E+00
		72.40		2.31	2.44E+01		-9.72E+00	1.21E+01
	PM-146	453.90		39.94	3.36E+00	3.36E+00	-5.13E-01	1.66E+00
		735.90		14.01	1.05E+01		3.89E+00	5.18E+00
		747.13		13.10	1.15E+01		2.30E+00	5.67E+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	2.81E+00	3.54E+01	1.77E+00
		244.69		5.40	1.44E+01		-8.61E+00	7.15E+00
		344.27		19.13	4.64E+00		1.33E+00	2.30E+00
		778.89		9.20	1.42E+01		-1.89E+00	6.98E+00
		964.01		10.40	1.72E+01		-3.62E-02	8.47E+00
		1085.78		7.22	2.44E+01		-3.30E+00	1.20E+01
		1112.02		9.60	1.86E+01		4.99E+00	9.13E+00
		1407.95		14.94	2.81E+00		-1.67E-01	1.29E+00
	GD-153	97.43		31.30	1.65E+01	1.65E+01	-1.50E+00	8.17E+00
		103.18		22.20	2.39E+01		-7.12E+00	1.19E+01
	EU-154	123.07		40.50	1.94E+00	1.94E+00	1.94E+01	9.64E-01
		723.30		19.70	6.49E+00		1.23E+00	3.19E+00
		873.19		11.50	1.46E+01		-1.78E+00	7.20E+00
		996.32		10.30	1.75E+01		6.57E+00	8.61E+00
		1004.76		17.90	9.99E+00		-3.17E+00	4.92E+00
		1274.45		35.50	2.29E+00		-3.55E-01	1.09E+00
	EU-155	86.50		30.90	4.10E+00	3.04E+00	1.18E+02	2.04E+00
		105.30		20.70	3.04E+00		-1.02E+00	1.51E+00
	EU-156	811.77		10.40	1.51E+18	1.17E+18	3.74E+17	7.42E+17

Analysis Report for 1510091-01

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	2.17E+18	1.17E+18	8.34E+17	1.06E+18
	1230.71	8.90	1.17E+18		6.39E+17	5.64E+17
HO-166M	184.41	72.60	8.39E-01	8.39E-01	5.67E-01	4.16E-01
	280.45	29.60	2.44E+00		1.11E+00	1.21E+00
	410.94	11.10	8.02E+00		-1.21E+00	3.97E+00
	711.69	54.10	1.93E+00		6.04E-02	9.49E-01
TM-171	66.72	0.14	8.01E+02	8.01E+02	-6.69E+04	3.99E+02
HF-172	81.75	4.52	3.05E+01	1.33E+01	-2.03E+00	1.52E+01
	125.81	11.30	1.33E+01		-1.23E+00	6.61E+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	2.77E+01	1.08E+01	-5.95E+00	1.38E+01
	272.11	21.20	1.08E+01		-7.77E+00	5.35E+00
HF-175	343.40	84.00	4.79E+03	4.79E+03	1.23E+03	2.37E+03
LU-176	88.34	13.30	6.76E+00	7.37E-01	1.90E+02	3.37E+00
	201.83	86.00	7.37E-01		-2.14E-01	3.65E-01
	306.78	94.00	7.86E-01		1.24E-01	3.89E-01
TA-182	67.75	41.20	2.20E+02	2.20E+02	-5.63E+03	1.09E+02
	1121.30	34.90	7.41E+02		2.04E+02	3.64E+02
	1189.05	16.23	1.17E+03		2.96E+02	5.69E+02
	1221.41	26.98	5.67E+02		-4.15E+02	2.74E+02
	1231.02	11.44	1.38E+03		7.53E+02	6.65E+02
IR-192	308.46	29.68	8.01E+03	6.97E+03	1.69E+03	3.97E+03
	468.07	48.10	6.97E+03		4.50E+03	3.45E+03
HG-203	279.19	77.30	3.43E+05	3.43E+05	5.44E+04	1.70E+05
BI-207	569.67	97.72	1.01E+00	1.01E+00	-1.06E-01	5.00E-01
	1063.62	74.90	2.06E+00		-1.65E+00	1.01E+00
TL-208	583.14	30.22	3.14E+00	8.85E-01	-5.04E-01	1.55E+00
	860.37	4.48	3.02E+01		-8.48E+00	1.49E+01
	2614.66	35.85	8.85E-01		3.76E-01	3.71E-01
BI-210M	262.00	45.00	1.56E+00	1.56E+00	1.09E+00	7.73E-01
	300.00	23.00	3.17E+00		1.10E+00	1.57E+00
PB-210	46.50	4.25	1.36E+01	1.36E+01	1.77E+01	6.77E+00
PB-211	404.84	2.90	3.04E+01	3.04E+01	1.24E-01	1.50E+01
	831.96	2.90	4.39E+01		1.40E+01	2.16E+01
BI-212	727.17	11.80	8.90E+00	8.90E+00	-5.06E+00	4.38E+00
	1620.62	2.75	1.32E+01		1.14E+00	5.93E+00
PB-212	238.63	44.60	1.58E+00	1.58E+00	1.39E+00	7.85E-01
	300.09	3.41	2.14E+01		7.45E+00	1.06E+01
BI-214	609.31	46.30	2.16E+00	2.16E+00	1.62E+00	1.06E+00
	1120.29	15.10	9.37E+00		1.62E+00	4.60E+00
	1764.49	15.80	2.46E+00		8.71E-01	1.11E+00
	2204.22	4.98	5.92E+00		-3.63E+00	2.50E+00
PB-214	295.21	19.19	3.76E+00	2.11E+00	-6.41E-01	1.86E+00
	351.92	37.19	2.11E+00		-7.89E-01	1.05E+00
RN-219	401.80	6.50	1.35E+01	1.35E+01	3.36E+00	6.65E+00
RA-223	323.87	3.88	1.92E+01	1.92E+01	-1.07E+01	9.49E+00
RA-224	240.98	3.95	1.78E+01	1.78E+01	1.30E+01	8.85E+00
RA-225	40.00	31.00	3.96E+17	3.96E+17	-1.69E+18	1.97E+17
RA-226	186.21	3.28	1.87E+01	1.87E+01	1.20E+01	9.29E+00
TH-227	50.10	8.40	7.40E+00	6.10E+00	1.12E+01	3.69E+00

Analysis Report for 1510091-01

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	9.73E-01	3.02E+00
		256.20		6.30	1.10E+01		-2.41E+00	5.45E+00
	AC-228	338.32		11.40	6.85E+00	5.55E+00	5.21E-02	3.39E+00
		911.07		27.70	5.55E+00		-2.70E-01	2.73E+00
		969.11		16.60	9.07E+00		-1.14E+01	4.47E+00
	TH-230	48.44		16.90	3.50E+00	3.50E+00	7.90E+00	1.75E+00
		62.85		4.60	2.20E+01		7.81E+02	1.10E+01
		67.67		0.37	1.32E+02		-3.38E+03	6.57E+01
	PA-231	283.67		1.60	4.51E+01	3.17E+01	-9.70E-02	2.23E+01
		302.67		2.30	3.17E+01		-6.30E+00	1.57E+01
	TH-231	25.64		14.70	6.23E+00	6.23E+00	-1.85E+01	3.11E+00
		84.21		6.40	1.24E+01		9.81E+01	6.19E+00
	PA-233	311.98		38.60	7.93E+09	7.93E+09	1.20E+09	3.93E+09
	PA-234	131.20		20.40	2.47E+00	2.47E+00	-3.43E-01	1.23E+00
		733.99		8.80	1.24E+01		3.63E+00	6.10E+00
		946.00		12.00	1.41E+01		-2.80E+00	6.98E+00
	PA-234M	1001.03		0.92	1.63E+02	1.63E+02	-9.73E+00	8.01E+01
	TH-234	63.29		3.80	2.26E+01	2.26E+01	3.75E+02	1.12E+01
	U-235	143.76		10.50	4.88E+00	4.88E+00	-2.00E-01	2.42E+00
		163.35		4.70	1.23E+01		-2.86E+00	6.11E+00
		205.31		4.70	1.35E+01		-1.25E+01	6.69E+00
	NP-237	86.50		12.60	7.23E+00	7.23E+00	2.07E+02	3.60E+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	3.03E+00	3.03E+00	1.31E+02	1.51E+00
	AM-243	74.67		66.00	7.88E-01	7.88E-01	-2.84E-01	3.92E-01
	CM-243	209.75		3.29	2.12E+01	5.37E+00	1.71E+00	1.05E+01
		228.14		10.60	6.98E+00		3.67E+00	3.46E+00
		277.60		14.00	5.37E+00		-3.74E-01	2.66E+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

Analysis Report for 1510091-01

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: 1840

Channel								
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	1	464	1522
17:	1593	1960	5015	16772	28282	22086	11605	9901
25:	6859	2473	921	789	852	1042	1278	1153
33:	953	854	924	973	961	957	1048	1221
41:	1341	1543	1602	1750	1889	2188	2667	3236
49:	3536	3540	3596	3565	3748	3832	4302	4808
57:	8898	19428	22411	10618	2581	1135	1297	1330
65:	1472	1510	1513	1600	1552	1551	1508	1486
73:	1502	1567	1537	1487	1511	1556	1550	1507
81:	1519	1662	1749	1775	2379	5839	10247	8361
89:	2931	1009	824	844	769	803	826	740
97:	785	792	781	775	766	748	810	750
105:	770	753	777	777	802	784	814	774
113:	802	815	808	792	782	811	921	1596
121:	2591	2303	1261	768	735	739	682	677
129:	746	734	707	660	720	722	890	929
137:	774	673	659	635	643	665	623	640
145:	643	660	614	633	613	656	614	657
153:	631	617	576	638	637	626	560	620
161:	607	640	649	741	833	757	666	656
169:	531	575	570	535	567	601	539	582
177:	580	588	554	590	593	631	606	618
185:	611	597	661	622	584	611	604	563
193:	633	644	605	634	591	622	598	576
201:	559	508	592	562	568	527	579	555
209:	589	563	619	590	645	590	635	573
217:	575	595	631	585	553	587	602	557
225:	592	568	583	577	539	520	565	540
233:	499	539	558	521	526	551	558	507
241:	526	541	500	496	446	474	499	427
249:	493	496	469	475	470	451	425	468
257:	453	492	412	447	457	450	423	457
265:	446	425	383	414	431	426	453	381
273:	414	402	381	436	420	416	398	436
281:	414	420	397	417	418	411	387	405
289:	401	396	396	355	383	383	381	363
297:	389	400	371	358	371	390	372	363
305:	339	381	404	370	359	375	387	357
313:	362	363	335	361	364	371	343	343
321:	376	353	328	331	337	328	335	351
329:	357	347	353	348	349	331	336	362
337:	355	356	345	370	341	326	345	340
345:	347	338	331	326	304	322	324	329
353:	334	307	350	337	312	344	337	328
361:	320	334	330	338	301	317	325	303

369:	286	297	329	295	304	294	327	303

Sample Title: GAS 1302

Channel								
377:	302	329	332	333	306	308	296	308
385:	352	295	308	327	324	335	384	358
393:	330	324	281	314	335	283	302	324
401:	295	308	333	322	314	310	318	289
409:	330	333	288	314	283	326	297	310
417:	315	336	324	315	317	313	334	273
425:	351	318	336	314	343	308	319	305
433:	307	325	317	331	308	305	327	313
441:	323	328	332	325	299	337	311	330
449:	306	327	321	326	320	330	341	306
457:	325	333	332	317	299	322	348	349
465:	346	310	333	327	328	357	315	324
473:	282	301	336	287	277	312	268	274
481:	233	253	255	241	265	231	259	247
489:	236	236	269	242	247	208	267	245
497:	234	212	208	230	249	248	250	238
505:	223	211	238	237	249	220	232	244
513:	221	219	221	208	232	220	233	209
521:	217	215	231	234	222	197	220	193
529:	215	204	187	207	198	235	220	188
537:	182	205	187	214	196	188	220	192
545:	188	214	175	188	186	185	187	186
553:	198	177	224	167	188	174	183	192
561:	177	177	195	205	206	177	195	193
569:	175	186	167	187	160	167	175	197
577:	181	171	194	183	168	166	176	190
585:	180	166	165	180	186	166	178	165
593:	173	184	188	171	169	198	169	170
601:	162	167	163	162	162	180	192	188
609:	188	168	207	172	158	165	167	158
617:	169	163	166	167	187	186	181	171
625:	158	185	157	180	167	154	176	170
633:	172	160	183	179	170	184	184	165
641:	152	181	161	182	181	166	188	186
649:	182	170	170	168	179	170	162	180
657:	163	216	587	2275	4392	3640	1427	296
665:	147	148	143	146	161	138	154	145
673:	159	150	143	155	148	146	128	149
681:	154	148	136	147	136	149	150	144
689:	148	142	138	133	155	134	151	148
697:	152	159	144	134	122	143	140	149
705:	147	147	143	141	140	163	144	129
713:	134	145	152	139	136	142	155	169
721:	145	147	128	144	142	138	129	116
729:	161	148	149	150	152	139	140	163
737:	160	131	155	130	159	136	148	150
745:	170	153	140	152	154	132	161	146
753:	151	158	134	148	141	147	157	157
761:	153	137	161	143	163	174	147	150
769:	155	138	127	135	162	148	156	161
777:	173	121	156	137	140	141	157	162
785:	151	164	157	156	146	161	149	159
793:	159	176	148	152	147	171	168	158

801:	135	166	161	169	168	142	186	172

Sample Title: GAS 1302

Channel								
809:	160	188	143	146	162	176	173	169
817:	163	159	142	153	169	153	176	164
825:	143	158	165	183	159	160	145	149
833:	155	150	155	160	160	143	140	160
841:	133	154	164	165	149	145	158	166
849:	142	169	153	156	170	144	178	170
857:	162	147	148	152	149	212	182	177
865:	173	164	201	161	176	175	174	170
873:	149	195	167	164	182	150	188	186
881:	189	201	160	195	189	173	180	190
889:	156	185	183	185	194	176	186	205
897:	231	214	240	195	174	207	200	181
905:	182	176	177	192	200	201	192	209
913:	183	194	189	214	185	218	187	196
921:	215	196	196	196	174	186	197	215
929:	199	197	206	224	199	187	243	210
937:	199	189	207	215	225	233	194	193
945:	257	205	252	207	230	205	241	206
953:	246	207	218	197	233	205	203	202
961:	203	192	182	186	171	156	167	195
969:	157	162	165	160	146	200	200	176
977:	156	145	162	168	169	189	153	153
985:	174	153	140	156	155	133	136	144
993:	132	169	162	158	161	147	163	145
1001:	149	153	148	156	149	160	134	144
1009:	142	160	157	149	143	144	162	163
1017:	149	143	157	135	114	136	167	175
1025:	159	158	136	163	146	134	155	142
1033:	148	156	158	130	138	157	140	149
1041:	145	143	149	151	147	133	152	126
1049:	122	156	153	135	135	180	144	138
1057:	132	165	136	120	122	114	127	140
1065:	125	148	140	135	149	149	148	155
1073:	123	131	150	138	152	147	142	142
1081:	152	132	133	139	135	152	144	143
1089:	143	156	151	131	149	157	140	143
1097:	145	132	152	148	141	140	121	135
1105:	157	133	145	136	152	146	145	129
1113:	136	147	133	126	140	115	121	106
1121:	110	83	87	94	98	74	81	80
1129:	76	61	98	80	99	75	105	94
1137:	95	75	91	82	84	74	101	95
1145:	94	81	83	81	91	96	78	81
1153:	82	88	81	78	83	77	79	73
1161:	72	80	78	86	80	72	77	82
1169:	85	167	551	1933	3461	2982	1211	257
1177:	75	61	58	52	67	47	48	63
1185:	54	52	45	49	61	51	48	55
1193:	37	46	39	45	44	44	49	37
1201:	34	43	46	48	36	27	38	34
1209:	29	47	46	38	23	35	31	42
1217:	46	28	27	32	35	25	23	29
1225:	31	34	39	41	29	34	35	25

1233:	22	31	32	33	17	22	28	23

Sample Title: GAS 1302

Channel								
1241:	25	34	22	21	27	24	19	23
1249:	19	20	18	25	24	21	19	21
1257:	13	18	18	25	21	17	19	13
1265:	18	16	20	19	22	16	12	21
1273:	22	24	18	17	15	22	22	28
1281:	14	13	11	9	12	21	11	23
1289:	16	23	23	17	11	22	21	17
1297:	19	27	21	19	18	17	16	17
1305:	18	19	17	18	20	12	32	20
1313:	19	16	25	14	11	18	13	19
1321:	19	25	18	13	28	21	25	24
1329:	57	293	1202	2609	2889	1557	360	60
1337:	8	8	4	6	5	10	5	5
1345:	5	1	7	6	10	10	6	5
1353:	4	7	8	7	5	9	6	12
1361:	3	4	7	4	2	2	6	3
1369:	3	3	2	7	7	5	8	5
1377:	5	6	1	3	5	6	6	4
1385:	8	3	7	4	3	5	4	6
1393:	2	3	2	6	2	6	3	2
1401:	3	5	5	8	4	4	2	5
1409:	9	4	1	2	5	5	4	3
1417:	4	1	4	5	4	2	6	3
1425:	4	3	8	5	3	6	4	8
1433:	3	5	1	7	7	2	9	7
1441:	6	5	6	1	4	5	5	3
1449:	5	3	2	5	1	5	9	4
1457:	2	5	2	5	4	5	3	4
1465:	3	6	3	5	6	4	9	6
1473:	6	2	4	5	4	5	2	4
1481:	3	1	3	5	5	5	3	3
1489:	2	7	5	3	6	1	4	3
1497:	3	6	3	4	3	3	4	3
1505:	3	2	4	4	6	3	5	5
1513:	1	3	5	1	5	7	5	7
1521:	4	5	2	4	3	7	1	2
1529:	9	2	2	1	3	2	8	5
1537:	0	2	1	0	5	3	4	5
1545:	1	8	4	3	1	6	3	3
1553:	2	4	3	5	4	6	5	2
1561:	9	2	4	6	2	4	4	5
1569:	4	5	1	1	4	2	3	2
1577:	2	5	5	4	1	3	3	1
1585:	4	2	4	5	7	4	3	2
1593:	2	3	5	1	2	3	4	6
1601:	1	1	1	2	4	6	4	1
1609:	2	0	3	2	4	1	3	1
1617:	3	5	5	0	3	4	3	2
1625:	3	5	4	2	3	3	1	2
1633:	0	5	2	1	0	2	3	3
1641:	5	1	3	1	2	2	3	3
1649:	0	3	0	1	3	1	1	0
1657:	5	6	1	3	3	3	1	3

1665:	1	10	2	4	1	5	3	4

Sample Title: GAS 1302

Channel								
1673:	1	4	1	3	3	4	0	3
1681:	1	4	1	1	4	3	0	1
1689:	3	2	2	1	4	3	3	0
1697:	3	7	5	3	2	1	2	5
1705:	2	3	4	0	4	2	6	3
1713:	3	3	3	3	0	1	1	2
1721:	5	2	3	3	3	1	5	2
1729:	3	1	0	6	3	2	2	3
1737:	5	0	3	2	4	3	4	5
1745:	4	5	0	0	4	3	4	0
1753:	2	3	1	5	3	1	1	4
1761:	0	3	1	2	2	6	2	2
1769:	3	3	1	2	2	3	2	2
1777:	1	2	3	4	4	3	4	3
1785:	2	2	1	2	1	2	2	1
1793:	0	6	2	2	2	0	4	7
1801:	2	2	4	1	2	2	1	8
1809:	2	5	3	3	3	1	1	0
1817:	3	3	1	1	1	2	2	3
1825:	0	3	1	0	3	3	5	1
1833:	1	11	17	26	18	12	10	3
1841:	3	1	1	2	3	2	4	1
1849:	2	4	4	0	0	2	2	1
1857:	1	2	4	1	3	2	1	2
1865:	1	0	1	0	2	2	2	2
1873:	3	4	0	1	1	2	3	3
1881:	3	1	2	3	2	2	1	0
1889:	2	1	2	0	2	1	2	0
1897:	1	0	1	3	6	1	1	1
1905:	2	4	2	2	1	4	0	1
1913:	0	4	1	3	2	1	2	0
1921:	0	1	2	2	2	4	0	5
1929:	0	3	0	2	3	2	5	1
1937:	1	2	2	6	4	1	3	0
1945:	1	2	2	1	2	0	5	1
1953:	2	2	3	5	3	0	0	2
1961:	3	2	3	4	0	4	1	1
1969:	0	4	2	1	2	1	2	4
1977:	3	4	4	0	2	3	4	2
1985:	3	1	3	1	0	2	2	1
1993:	2	0	1	1	1	3	2	0
2001:	2	0	1	1	0	0	1	4
2009:	0	3	0	1	2	0	1	1
2017:	0	4	2	2	1	0	2	2
2025:	2	1	1	1	3	2	0	1
2033:	1	0	1	1	2	0	1	1
2041:	1	2	4	1	1	0	1	0
2049:	1	0	1	3	0	1	3	2
2057:	1	2	0	1	1	2	1	0
2065:	2	0	3	2	0	1	4	2
2073:	2	0	2	2	4	0	5	1
2081:	0	1	4	2	0	3	2	1
2089:	0	1	3	2	1	3	0	2

2097:	2	1	3	2	0	0	2	1

Sample Title: GAS 1302

Channel								
2105:	4	1	0	0	1	1	1	0
2113:	5	1	1	1	1	1	1	1
2121:	2	0	0	1	4	1	0	2
2129:	3	1	1	0	2	1	1	2
2137:	2	0	1	2	0	1	0	2
2145:	2	1	1	2	2	0	2	1
2153:	1	2	0	0	0	1	1	0
2161:	2	2	0	1	0	0	0	1
2169:	1	0	1	3	0	1	1	1
2177:	2	1	0	2	0	3	1	0
2185:	1	2	0	1	4	1	1	0
2193:	2	0	1	0	1	1	3	1
2201:	1	0	3	2	1	0	0	1
2209:	1	0	1	4	1	1	1	2
2217:	2	2	0	2	0	2	2	0
2225:	0	2	1	0	2	2	1	1
2233:	4	2	2	4	2	0	2	1
2241:	0	1	2	2	0	2	1	1
2249:	2	0	0	1	0	1	3	1
2257:	4	4	3	2	2	2	1	2
2265:	0	2	1	0	1	1	2	3
2273:	2	1	0	0	2	1	0	0
2281:	2	2	1	3	1	0	2	1
2289:	1	1	0	0	4	0	1	0
2297:	0	2	0	1	0	0	1	3
2305:	1	0	0	1	0	0	0	0
2313:	1	1	4	1	2	0	0	0
2321:	1	1	0	1	1	0	0	2
2329:	0	1	1	2	0	0	1	0
2337:	0	2	0	0	1	0	0	1
2345:	1	0	0	1	2	1	1	0
2353:	1	3	1	0	0	0	0	1
2361:	1	1	1	2	2	0	0	0
2369:	0	0	0	1	0	1	0	0
2377:	0	1	0	0	0	0	0	0
2385:	0	1	1	0	2	0	0	2
2393:	2	0	0	0	0	1	0	1
2401:	1	1	0	0	0	0	0	0
2409:	1	0	1	0	0	0	2	1
2417:	0	1	0	0	0	0	1	1
2425:	0	1	0	0	0	0	0	0
2433:	2	0	0	0	0	0	0	0
2441:	0	2	1	0	0	0	0	0
2449:	0	0	0	0	0	0	0	0
2457:	1	0	0	1	1	1	0	0
2465:	0	1	0	0	0	0	0	0
2473:	0	0	0	0	0	0	0	0
2481:	0	0	0	0	0	0	0	1
2489:	0	0	0	0	0	0	0	1
2497:	0	0	0	0	0	1	1	3
2505:	5	13	9	11	0	1	0	1
2513:	0	0	0	0	0	0	1	0
2521:	0	0	0	0	0	0	0	0

2529:	0	0	1	0	1	1	0	0

Sample Title: GAS 1302

Channel								
2537:	1	0	0	0	0	0	0	0
2545:	1	0	0	0	0	0	0	0
2553:	0	0	0	0	0	0	0	0
2561:	0	0	0	0	0	0	1	0
2569:	0	0	0	0	0	0	0	1
2577:	0	0	0	0	0	0	1	0
2585:	0	0	0	0	0	0	0	0
2593:	0	0	0	0	0	0	0	0
2601:	1	0	0	0	0	0	0	0
2609:	0	0	0	1	0	1	3	2
2617:	2	0	0	0	1	0	0	0
2625:	0	1	0	0	0	0	1	0
2633:	0	0	0	0	0	0	0	0
2641:	1	0	0	0	0	0	0	0
2649:	0	0	0	0	0	0	0	0
2657:	0	2	1	0	0	0	0	0
2665:	0	1	0	0	0	0	0	0
2673:	0	0	0	0	0	0	0	0
2681:	0	0	0	0	0	0	0	0
2689:	0	0	0	0	0	1	0	0
2697:	0	0	0	0	0	0	0	0
2705:	0	0	0	0	0	0	0	0
2713:	0	0	0	0	0	0	0	0
2721:	0	0	0	1	0	0	1	1
2729:	0	0	0	0	0	0	0	0
2737:	0	0	0	1	0	0	0	0
2745:	0	0	0	0	0	1	0	0
2753:	0	0	0	0	0	1	0	0
2761:	0	0	0	1	0	0	0	0
2769:	0	0	0	0	0	0	0	0
2777:	0	0	0	0	0	0	0	0
2785:	1	1	0	0	0	0	0	0
2793:	0	0	0	0	0	0	0	1
2801:	0	0	0	0	0	0	0	0
2809:	0	0	0	0	0	0	0	0
2817:	1	0	0	0	0	0	0	0
2825:	1	0	1	0	0	0	0	0
2833:	0	0	0	0	0	0	0	0
2841:	0	1	0	0	0	0	0	1
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	0	0
2873:	0	0	0	0	0	1	0	0
2881:	1	0	0	0	0	0	1	0
2889:	0	0	0	0	1	0	0	0
2897:	0	0	0	0	0	0	0	1
2905:	0	0	0	0	0	0	0	0
2913:	0	0	0	0	1	1	0	0
2921:	0	0	0	0	0	0	0	0
2929:	0	0	0	0	0	0	0	0
2937:	0	0	0	0	0	0	0	0
2945:	0	0	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: GAS 1302

Channel								
2969:	0	0	0	0	0	0	0	0
2977:	0	0	0	0	0	0	1	0
2985:	1	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	1	0	0
3017:	0	0	0	0	0	0	1	0
3025:	0	0	0	0	0	0	0	0
3033:	0	0	0	0	0	0	0	0
3041:	0	0	0	0	0	0	0	0
3049:	0	0	0	0	0	0	0	0
3057:	1	0	0	0	0	0	0	0
3065:	0	0	0	1	0	0	0	0
3073:	1	0	0	0	0	0	1	0
3081:	0	0	0	0	1	0	0	0
3089:	0	0	0	0	0	0	0	0
3097:	0	0	0	0	0	0	0	0
3105:	0	0	0	1	0	0	1	0
3113:	0	0	0	0	0	0	0	0
3121:	0	0	0	0	0	1	0	0
3129:	0	0	0	0	0	0	0	0
3137:	0	1	0	0	0	0	0	0
3145:	0	0	0	0	0	0	0	0
3153:	0	0	0	0	0	0	0	0
3161:	0	0	0	0	0	0	0	0
3169:	0	0	1	0	0	0	1	0
3177:	1	0	0	0	0	0	0	0
3185:	0	0	0	0	0	0	0	1
3193:	0	0	0	0	0	0	0	0
3201:	0	0	0	0	0	0	0	0
3209:	0	0	0	0	0	0	0	0
3217:	0	0	0	0	0	0	0	0
3225:	0	0	0	0	0	0	0	0
3233:	1	0	0	1	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	0	0	0	0	0
3265:	0	0	0	0	0	0	1	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	1	0
3297:	1	0	0	0	0	0	0	0
3305:	0	1	0	0	0	0	0	0
3313:	0	0	0	0	0	0	0	0
3321:	1	0	0	0	0	0	0	0
3329:	0	0	0	0	0	0	0	0
3337:	0	0	0	0	0	0	0	0
3345:	0	0	0	0	0	1	0	0
3353:	0	0	0	0	0	0	0	1
3361:	0	0	0	0	0	0	0	0
3369:	0	0	0	0	0	0	0	0
3377:	0	0	0	0	0	0	0	0
3385:	0	0	0	0	0	0	0	0

3393:	0	0	0	0	0	0	0	0

Sample Title: GAS 1302

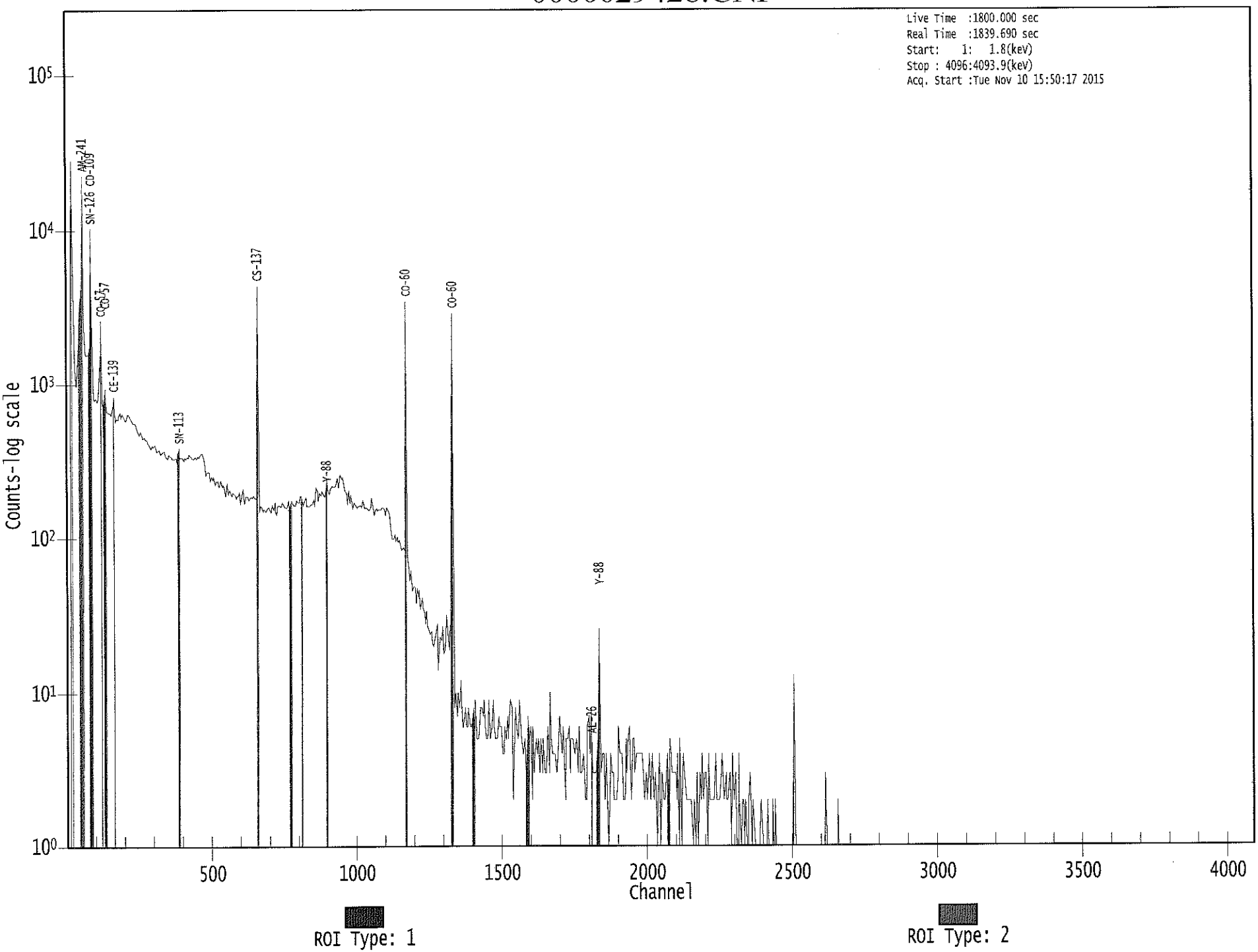
Channel								
3401:	0	0	0	0	0	1	0	0
3409:	0	0	0	0	0	0	0	0
3417:	0	0	0	0	0	0	0	0
3425:	0	0	0	0	0	0	0	0
3433:	0	0	0	0	0	0	0	0
3441:	0	0	0	1	0	0	1	0
3449:	0	0	0	0	0	0	0	0
3457:	0	0	1	0	0	1	0	0
3465:	0	0	0	0	0	0	0	0
3473:	0	0	0	0	0	0	0	0
3481:	0	0	0	0	0	0	0	0
3489:	0	0	0	0	0	0	0	0
3497:	0	0	0	1	0	0	0	0
3505:	0	0	0	0	0	0	0	0
3513:	0	0	0	0	0	0	0	0
3521:	0	1	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:	1	0	0	0	1	0	0	0
3553:	0	0	0	0	0	0	0	0
3561:	0	0	0	0	0	0	0	0
3569:	0	0	0	0	0	0	0	0
3577:	0	0	0	0	0	0	0	0
3585:	0	0	0	0	0	1	0	0
3593:	0	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	0	0	0	0	0	0
3625:	0	0	0	0	0	0	0	0
3633:	0	0	0	0	0	0	0	0
3641:	0	0	0	0	1	0	0	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	0	0	0	0	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	1	0
3697:	0	0	0	0	1	0	1	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	1	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0
3777:	0	1	0	0	0	0	0	0
3785:	0	0	0	0	0	0	0	0
3793:	0	0	0	0	0	0	0	0
3801:	0	0	0	0	0	0	0	0
3809:	0	1	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0

3825:	0	0	0	0	0	0	0	0

Sample Title: GAS 1302

Channel								
3833:	0	0	0	0	0	0	1	0
3841:	0	0	0	0	0	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	0	0	0	0	0
3865:	0	0	0	0	0	0	0	0
3873:	0	0	0	0	0	0	0	0
3881:	1	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	1	0	0	0	0	0
3913:	0	0	0	1	0	0	1	0
3921:	0	0	0	0	0	0	0	0
3929:	0	0	0	0	0	0	0	0
3937:	1	0	0	0	0	0	0	0
3945:	0	0	0	0	0	0	0	0
3953:	0	0	0	0	0	0	0	0
3961:	0	0	0	0	0	0	0	0
3969:	0	0	0	0	0	0	0	0
3977:	0	1	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	1
4009:	0	0	0	0	0	0	0	0
4017:	1	0	0	0	0	0	0	0
4025:	0	0	0	0	1	0	0	0
4033:	0	0	1	0	0	0	0	0
4041:	0	0	0	0	0	0	0	0
4049:	0	0	0	0	0	0	0	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

0000029428.CNF



Apex-Gamma

Analysis Report for 1510091-02
BLANK

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1510091-02
Sample Description	: BLANK
Sample Type	: SOIL
Sample Size	: 7.834E+02 grams
Facility	: Countroom
Sample Taken On	: 11/10/2015 10:11:38AM
Acquisition Started	: 11/10/2015 4:21:36PM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE4
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3638.2 seconds
Dead Time	: 1.05 %
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	: 29436

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

Analysis Report for 1510091-02

BLANK

PEAK LOCATE REPORT

Peak Locate Performed on : 11/10/2015 5:22:16PM
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	53.04	52.30	0.0000	0.00
2	95.06	94.33	0.0000	0.00
3	129.98	129.27	0.0000	0.00
4	251.23	250.57	0.0000	0.00
5	271.79	271.14	0.0000	0.00
6	396.46	395.87	0.0000	0.00
7	592.53	592.03	0.0000	0.00
8	600.13	599.63	0.0000	0.00
9	607.89	607.40	0.0000	0.00
10	629.34	628.86	0.0000	0.00
11	775.13	774.71	0.0000	0.00
12	814.13	813.74	0.0000	0.00
13	883.04	882.69	0.0000	0.00
14	1179.48	1179.29	0.0000	0.00
15	1441.04	1441.00	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510091-02

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PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 5:22:16PM

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	53.04	50 -	55	52.30	2.14E+01	26.10	1.13E+02	3.62
	2	95.06	85 -	106	94.33	9.78E+01	79.84	4.50E+02	10.66
	3	129.98	124 -	133	129.27	3.36E+01	34.91	1.55E+02	2.24
	4	251.23	247 -	254	250.57	2.09E+01	19.80	5.01E+01	4.26
	5	271.79	268 -	274	271.14	2.49E+01	18.53	4.22E+01	3.08
	6	396.46	392 -	400	395.87	1.80E+01	18.28	3.99E+01	1.59
M	7	592.53	588 -	613	592.03	2.09E+01	12.69	8.98E+00	4.47
m	8	600.13	588 -	613	599.63	1.52E+01	17.55	2.39E+01	3.84
m	9	607.89	588 -	613	607.40	1.88E+01	18.47	3.39E+01	4.48
	10	629.34	624 -	631	628.86	9.32E+00	12.49	1.94E+01	1.74
	11	775.13	772 -	778	774.71	9.50E+00	8.75	7.00E+00	4.49
	12	814.13	811 -	817	813.74	7.95E+00	7.23	4.10E+00	1.39
	13	883.04	876 -	886	882.69	1.25E+01	11.51	1.10E+01	4.99
	14	1179.48	1174 -	1181	1179.29	7.00E+00	5.29	0.00E+00	2.09
	15	1441.04	1437 -	1444	1441.00	7.00E+00	5.29	0.00E+00	1.16

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 : 11/10/2015 5:22:16PM

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

Analysis Report for 1510091-02

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	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	1	53.04	50 -	55	2.14E+01	26.10	1.13E+02	2.01E+01
	2	95.06	85 -	106	9.78E+01	79.84	4.50E+02	6.36E+01
	3	129.98	124 -	133	3.36E+01	34.91	1.55E+02	2.71E+01
	4	251.23	247 -	254	2.09E+01	19.80	5.01E+01	1.44E+01
	5	271.79	268 -	274	2.49E+01	18.53	4.22E+01	1.28E+01
	6	396.46	392 -	400	1.80E+01	18.28	3.99E+01	1.33E+01
M	7	592.53	588 -	613	2.09E+01	12.69	8.98E+00	4.93E+00
m	8	600.13	588 -	613	1.52E+01	17.55	2.39E+01	8.03E+00
m	9	607.89	588 -	613	1.88E+01	18.47	3.39E+01	9.57E+00
	10	629.34	624 -	631	9.32E+00	12.49	1.94E+01	8.96E+00
	11	775.13	772 -	778	9.50E+00	8.75	7.00E+00	5.10E+00
	12	814.13	811 -	817	7.95E+00	7.23	4.10E+00	3.72E+00
	13	883.04	876 -	886	1.25E+01	11.51	1.10E+01	7.47E+00
	14	1179.48	1174 -	1181	7.00E+00	5.29	0.00E+00	0.00E+00
	15	1441.04	1437 -	1444	7.00E+00	5.29	0.00E+00	0.00E+00

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

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/10/2015 5:22:16PM

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	53.04	50 -	55	52.30	2.14E+01	26.10	1.13E+02	.....
	2	95.06	85 -	106	94.33	9.78E+01	79.84	4.50E+02	.....
	3	129.98	124 -	133	129.27	3.36E+01	34.91	1.55E+02	.....
	4	251.23	247 -	254	250.57	2.09E+01	19.80	5.01E+01	.....
	5	271.79	268 -	274	271.14	2.49E+01	18.53	4.22E+01	LU-173
	6	396.46	392 -	400	395.87	1.80E+01	18.28	3.99E+01	.....
M	7	592.53	588 -	613	592.03	2.09E+01	12.69	8.98E+00	.....
m	8	600.13	588 -	613	599.63	1.52E+01	17.55	2.39E+01	SB-125
m	9	607.89	588 -	613	607.40	1.88E+01	18.47	3.39E+01	.....
	10	629.34	624 -	631	628.86	9.32E+00	12.49	1.94E+01	.....

Analysis Report for 1510091-02

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Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
11	775.13	772 -	778	774.71	9.50E+00	8.75	7.00E+00	.....
12	814.13	811 -	817	813.74	7.95E+00	7.23	4.10E+00	.....
13	883.04	876 -	886	882.69	1.25E+01	11.51	1.10E+01	.....
14	1179.48	1174 -	1181	1179.29	7.00E+00	5.29	0.00E+00	.....
15	1441.04	1437 -	1444	1441.00	7.00E+00	5.29	0.00E+00	.....

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/10/2015 5:22:16PM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	53.04	2.14E+01	26.10	2.51E-02	1.78E-03
	2	95.06	9.78E+01	79.84	1.87E-02	1.61E-03
	3	129.98	3.36E+01	34.91	1.53E-02	1.47E-03
	4	251.23	2.09E+01	19.80	9.00E-03	9.48E-04
	5	271.79	2.49E+01	18.53	8.39E-03	8.84E-04
	6	396.46	1.80E+01	18.28	5.90E-03	7.29E-04
M	7	592.53	2.09E+01	12.69	3.98E-03	4.42E-04
m	8	600.13	1.52E+01	17.55	3.93E-03	4.30E-04
m	9	607.89	1.88E+01	18.47	3.88E-03	4.19E-04
	10	629.34	9.32E+00	12.49	3.75E-03	3.88E-04
	11	775.13	9.50E+00	8.75	3.06E-03	2.77E-04
	12	814.13	7.95E+00	7.23	2.91E-03	2.55E-04
	13	883.04	1.25E+01	11.51	2.69E-03	2.16E-04
	14	1179.48	7.00E+00	5.29	2.04E-03	1.74E-04
	15	1441.04	7.00E+00	5.29	1.70E-03	1.93E-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 1510091-02

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BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/10/2015 5:22:16PM

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	53.04	2.14E+01	26.10			2.14E+01	2.61E+01
	2	95.06	9.78E+01	79.84			9.78E+01	7.98E+01
	3	129.98	3.36E+01	34.91			3.36E+01	3.49E+01
	4	251.23	2.09E+01	19.80			2.09E+01	1.98E+01
	5	271.79	2.49E+01	18.53			2.49E+01	1.85E+01
	6	396.46	1.80E+01	18.28			1.80E+01	1.83E+01
M	7	592.53	2.09E+01	12.69			2.09E+01	1.27E+01
m	8	600.13	1.52E+01	17.55			1.52E+01	1.75E+01
m	9	607.89	1.88E+01	18.47			1.88E+01	1.85E+01
	10	629.34	9.32E+00	12.49			9.32E+00	1.25E+01
	11	775.13	9.50E+00	8.75			9.50E+00	8.75E+00
	12	814.13	7.95E+00	7.23			7.95E+00	7.23E+00
	13	883.04	1.25E+01	11.51			1.25E+01	1.15E+01
	14	1179.48	7.00E+00	5.29			7.00E+00	5.29E+00
	15	1441.04	7.00E+00	5.29			7.00E+00	5.29E+00

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

AREA CORRECTION REPORT
REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/10/2015 5:22:16PM

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	53.04	2.14E+01	26.10			2.14E+01	2.61E+01
2	95.06	9.78E+01	79.84			9.78E+01	7.98E+01
3	129.98	3.36E+01	34.91			3.36E+01	3.49E+01

Analysis Report for 1510091-02

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	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	4	251.23	2.09E+01	19.80			2.09E+01	1.98E+01
	5	271.79	2.49E+01	18.53			2.49E+01	1.85E+01
	6	396.46	1.80E+01	18.28			1.80E+01	1.83E+01
M	7	592.53	2.09E+01	12.69			2.09E+01	1.27E+01
m	8	600.13	1.52E+01	17.55			1.52E+01	1.75E+01
m	9	607.89	1.88E+01	18.47			1.88E+01	1.85E+01
	10	629.34	9.32E+00	12.49			9.32E+00	1.25E+01
	11	775.13	9.50E+00	8.75			9.50E+00	8.75E+00
	12	814.13	7.95E+00	7.23			7.95E+00	7.23E+00
	13	883.04	1.25E+01	11.51			1.25E+01	1.15E+01
	14	1179.48	7.00E+00	5.29			7.00E+00	5.29E+00
	15	1441.04	7.00E+00	5.29			7.00E+00	5.29E+00

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

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
LU-173	0.561	100.72		5.24		
		272.11	*	21.20	1.34E-01	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

Analysis Report for 1510091-02

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UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 5:22:16PM
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	53.04	5.93483E-03	61.07		
	2	95.06	2.71655E-02	40.82		
	3	129.98	9.34434E-03	51.89		
	4	251.23	5.81824E-03	47.26		
	6	396.46	5.01097E-03	50.67		
M	7	592.53	5.79299E-03	30.42		
m	8	600.13	4.23242E-03	57.59	Tol.	SB-125
m	9	607.89	5.21063E-03	49.22		
	10	629.34	2.58772E-03	67.04		
	11	775.13	2.63889E-03	46.03		
	12	814.13	2.20833E-03	45.46		
	13	883.04	3.47222E-03	46.04		
	14	1179.48	1.94444E-03	37.80		
	15	1441.04	1.94444E-03	37.80		

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

NUCLIDE 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
LU-173	0.56	100.72		5.24		
		272.11	*	21.20	1.34E-01	1.01E-01

Analysis Report for 1510091-02

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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
LU-173	0.561	1.34E-01	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 1510091-02

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UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 5:22:16PM
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	53.04	5.93483E-03	61.07		
	2	95.06	2.71655E-02	40.82		
	3	129.98	9.34434E-03	51.89		
	4	251.23	5.81824E-03	47.26		
	6	396.46	5.01097E-03	50.67		
M	7	592.53	5.79299E-03	30.42		
m	8	600.13	4.23242E-03	57.59	Tol.	SB-125
m	9	607.89	5.21063E-03	49.22		
	10	629.34	2.58772E-03	67.04		
	11	775.13	2.63889E-03	46.03		
	12	814.13	2.20833E-03	45.46		
	13	883.04	3.47222E-03	46.04		
	14	1179.48	1.94444E-03	37.80		
	15	1441.04	1.94444E-03	37.80		

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59	10.42	4.57E-02	4.87E-01	4.87E-01
+	NA-22	1274.54	99.94	-5.46E-03	6.05E-02	6.05E-02
+	NA-24	1368.53	99.99	2.44E-02	3.41E-02	1.22E-01

Analysis Report for 1510091-02

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	NA-24	2754.09	99.86	0.00E+00	3.41E-02	3.41E-02
+	AL-26	1808.65	99.76	-2.05E-02	5.03E-02	5.03E-02
+	K-40	1460.81	10.67	1.53E-01	8.46E-01	8.46E-01
+	AR-41	1293.64	99.16	1.29E-01	9.66E-01	9.66E-01
+	TI-44	67.88	94.40	-9.23E-03	2.55E-02	2.68E-02
		78.34	96.00	-6.01E-03		2.55E-02
+	SC-46	889.25	99.98	-1.13E-02	6.73E-02	7.66E-02
		1120.51	99.99	1.05E-02		6.73E-02
+	V-48	983.52	99.98	-3.70E-02	6.67E-02	6.67E-02
		1312.10	97.50	8.50E-03		8.52E-02
+	CR-51	320.08	9.83	2.48E-01	5.10E-01	5.10E-01
+	MN-54	834.83	99.97	1.01E-02	6.35E-02	6.35E-02
+	CO-56	846.75	99.96	9.05E-03	6.68E-02	6.68E-02
		1037.75	14.03	1.11E-01		4.71E-01
		1238.25	67.00	-2.62E-02		1.10E-01
		1771.40	15.51	-1.40E-01		4.66E-01
		2598.48	16.90	-8.80E-02		5.69E-01
+	CO-57	122.06	85.51	7.27E-03	3.36E-02	3.36E-02
		136.48	10.60	-3.57E-03		2.83E-01
+	CO-58	810.76	99.40	5.51E-03	7.24E-02	7.24E-02
+	FE-59	1099.22	56.50	-4.94E-02	9.38E-02	9.38E-02
		1291.56	43.20	-5.42E-02		1.78E-01
+	CO-60	1173.22	100.00	1.40E-02	5.02E-02	5.02E-02
		1332.49	100.00	2.91E-03		7.40E-02
+	ZN-65	1115.52	50.75	0.00E+00	1.32E-01	1.32E-01
+	GA-67	93.31	35.70	4.22E-03	8.91E-02	8.91E-02
		208.95	2.24	2.33E-01		1.91E+00
		300.22	16.00	-2.21E-02		3.19E-01
+	SE-75	121.11	16.70	1.75E-02	5.09E-02	1.70E-01
		136.00	59.20	-4.04E-03		5.09E-02
		264.65	59.80	1.39E-02		7.24E-02
		279.53	25.20	6.54E-03		1.67E-01
		400.65	11.40	3.75E-02		4.18E-01
+	RB-82	776.52	13.00	3.25E-02	5.33E-01	5.33E-01
+	RB-83	520.41	46.00	-8.80E-03	1.13E-01	1.13E-01
		529.64	30.30	-1.12E-02		1.43E-01
		552.65	16.40	4.12E-02		4.04E-01
+	KR-85	513.99	0.43	2.45E+01	1.95E+01	1.95E+01
+	SR-85	513.99	99.27	1.07E-01	8.56E-02	8.56E-02
+	Y-88	898.02	93.40	1.98E-03	8.05E-02	8.05E-02
		1836.01	99.38	-9.27E-03		9.12E-02
+	NB-93M	16.57	9.43	2.82E-01	2.16E-01	2.16E-01
+	NB-94	702.63	100.00	-3.67E-02	5.36E-02	5.36E-02
		871.10	100.00	1.21E-02		6.61E-02
+	NB-95	765.79	99.81	1.89E-02	6.83E-02	6.83E-02
+	NB-95M	235.69	25.00	4.72E-02	1.92E-01	1.92E-01
+	ZR-95	724.18	43.70	1.98E-03	1.18E-01	1.47E-01

Analysis Report for 1510091-02

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	ZR-95	756.72	55.30	2.52E-02	1.18E-01	1.18E-01
+	MO-99	181.06	6.20	7.03E-02	4.55E-01	6.54E-01
		739.58	12.80	-3.35E-01		4.55E-01
		778.00	4.50	-1.75E-01		1.55E+00
+	RU-103	497.08	89.00	-4.91E-03	5.13E-02	5.13E-02
+	RU-106	621.84	9.80	3.84E-02	6.06E-01	6.06E-01
+	AG-108M	433.93	89.90	-6.55E-03	5.39E-02	5.39E-02
		614.37	90.40	3.32E-03		6.48E-02
		722.95	90.50	-1.94E-02		6.70E-02
+	CD-109	88.03	3.72	-2.43E-02	7.67E-01	7.67E-01
+	AG-110M	657.75	93.14	-2.22E-02	5.94E-02	5.94E-02
		677.61	10.53	-3.80E-02		6.40E-01
		706.67	16.46	1.16E-02		3.91E-01
		763.93	21.98	9.97E-03		3.00E-01
		884.67	71.63	-1.83E-02		1.12E-01
		1384.27	23.94	6.16E-02		3.41E-01
+	CD-113M	263.70	0.02	2.88E+01	1.84E+02	1.84E+02
+	SN-113	255.12	1.93	-3.94E-01	7.68E-02	1.98E+00
		391.69	64.90	-7.43E-03		7.68E-02
+	TE123M	159.00	84.10	-1.09E-02	3.96E-02	3.96E-02
+	SB-124	602.71	97.87	0.00E+00	7.38E-02	7.38E-02
		645.85	7.26	-2.52E-01		6.03E-01
		722.78	11.10	-2.38E-01		5.48E-01
		1691.02	49.00	3.19E-02		1.59E-01
+	I-125	35.49	6.49	-8.35E-02	2.94E-01	2.94E-01
+	SB-125	176.33	6.89	-2.26E-01	1.63E-01	4.96E-01
		427.89	29.33	1.46E-02		1.63E-01
		463.38	10.35	-9.94E-02		4.10E-01
		600.56	17.80	-2.29E-01		3.68E-01
		635.90	11.32	-8.41E-02		4.58E-01
+	SB-126	414.70	83.30	1.29E-02	6.25E-02	6.25E-02
		666.33	99.60	4.50E-03		6.62E-02
		695.00	99.60	3.96E-02		6.90E-02
		720.50	53.80	-1.79E-02		1.21E-01
+	SN-126	87.57	37.00	-2.43E-03	7.68E-02	7.68E-02
+	SB-127	473.00	25.00	1.67E-02	2.07E-01	2.07E-01
		685.20	35.70	6.31E-02		2.20E-01
		783.80	14.70	6.94E-02		4.11E-01
+	I-129	29.78	57.00	-1.05E-02	3.43E-02	3.43E-02
		33.60	13.20	-5.40E-02		1.43E-01
		39.58	7.52	-6.46E-02		2.57E-01
+	I-131	284.30	6.05	-7.25E-02	5.64E-02	7.56E-01
		364.48	81.20	-3.78E-03		5.64E-02
		636.97	7.26	3.57E-02		7.98E-01
		722.89	1.80	-1.50E+00		3.45E+00
+	TE-132	49.72	13.10	3.91E-02	5.14E-02	1.79E-01
		228.16	88.00	6.64E-05		5.14E-02
+	BA-133	81.00	33.00	-2.26E-02	7.52E-02	7.52E-02
		302.84	17.80	-5.41E-02		2.76E-01

Analysis Report for 1510091-02

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	BA-133	356.01	60.00	5.00E-02	7.52E-02	8.70E-02
+	I-133	529.87	86.30	-4.90E-03	6.27E-02	6.27E-02
+	XE-133	81.00	38.00	-2.04E-02	6.78E-02	6.78E-02
+	CS-134	563.23	8.38	-9.50E-02	7.70E-02	6.83E-01
		569.32	15.43	8.59E-02		3.68E-01
		604.70	97.60	1.46E-02		7.70E-02
		795.84	85.40	1.25E-02		7.81E-02
		801.93	8.73	-1.67E-01		8.13E-01
+	CS-135	268.24	16.00	-9.41E-03	2.67E-01	2.67E-01
+	I-135	1131.51	22.50	1.38E-01	6.06E-01	6.06E-01
		1260.41	28.60	2.27E-01		6.36E-01
		1678.03	9.54	4.05E-01		1.45E+00
+	CS-136	153.22	7.46	5.31E-02	7.18E-02	4.37E-01
		163.89	4.61	1.43E-01		7.69E-01
		176.55	13.56	-1.17E-01		2.56E-01
		273.65	12.66	-5.00E-02		3.28E-01
		340.57	48.50	5.95E-02		1.09E-01
		818.50	99.70	1.91E-02		7.18E-02
		1048.07	79.60	2.36E-02		1.01E-01
		1235.34	19.70	1.34E-01		4.39E-01
+	CS-137	661.65	85.12	-2.28E-02	6.72E-02	6.72E-02
+	LA-138	788.74	34.00	-4.69E-02	1.02E-01	1.41E-01
		1435.80	66.00	-7.55E-03		1.02E-01
+	CE-139	165.85	80.35	1.36E-02	4.44E-02	4.44E-02
+	BA-140	162.64	6.70	1.24E-01	2.18E-01	5.29E-01
		304.84	4.50	5.43E-02		1.11E+00
		423.70	3.20	1.89E-03		1.53E+00
		437.55	2.00	3.83E-02		2.56E+00
		537.32	25.00	1.08E-01		2.18E-01
+	LA-140	328.77	20.50	-8.94E-02	7.03E-02	2.26E-01
		487.03	45.50	-1.31E-02		1.06E-01
		815.85	23.50	-6.17E-02		2.58E-01
		1596.49	95.49	9.44E-03		7.03E-02
+	CE-141	145.44	48.40	6.13E-03	6.70E-02	6.70E-02
+	CE-143	57.36	11.80	-4.22E-02	1.30E-01	2.10E-01
		293.26	42.00	1.09E-02		1.30E-01
		664.55	5.20	5.24E-01		1.37E+00
+	CE-144	133.54	10.80	-1.28E-02	2.96E-01	2.96E-01
+	PM-144	476.78	42.00	1.12E-02	6.37E-02	1.20E-01
		618.01	98.60	2.61E-02		6.49E-02
		696.49	99.49	1.93E-02		6.37E-02
+	PM-145	36.85	21.70	1.25E-02	4.87E-02	8.84E-02
		37.36	39.70	1.61E-02		4.87E-02
		42.30	15.10	-7.96E-03		1.33E-01
		72.40	2.31	5.41E-01		1.10E+00
+	PM-146	453.90	39.94	5.17E-02	1.38E-01	1.38E-01
		735.90	14.01	9.69E-02		4.77E-01
		747.13	13.10	9.49E-02		5.18E-01
+	ND-147	91.11	28.90	1.04E-01	1.10E-01	1.10E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	ND-147	531.02		13.10	-1.06E-01	1.10E-01	3.27E-01
+	PM-149	285.90		3.10	-3.05E-02	1.60E+00	1.60E+00
+	EU-152	121.78		20.50	3.03E-02	1.40E-01	1.40E-01
		244.69		5.40	6.35E-02		7.75E-01
		344.27		19.13	4.69E-02		2.54E-01
		778.89		9.20	-7.99E-02		7.10E-01
		964.01		10.40	2.03E-02		6.76E-01
		1085.78		7.22	6.01E-02		9.03E-01
		1112.02		9.60	2.77E-01		7.71E-01
		1407.95		14.94	1.91E-01		6.69E-01
+	GD-153	97.43		31.30	-1.58E-02	9.25E-02	9.25E-02
		103.18		22.20	3.67E-02		1.26E-01
+	EU-154	123.07		40.50	1.87E-02	7.17E-02	7.17E-02
		723.30		19.70	-8.92E-02		3.08E-01
		873.19		11.50	2.13E-01		5.77E-01
		996.32		10.30	-4.87E-02		8.50E-01
		1004.76		17.90	7.13E-02		4.24E-01
		1274.45		35.50	-1.54E-02		1.70E-01
+	EU-155	86.50		30.90	3.69E-04	8.82E-02	8.82E-02
		105.30		20.70	9.84E-04		1.28E-01
+	EU-156	811.77		10.40	1.10E-01	6.99E-01	6.99E-01
		1153.47		7.20	-1.65E-01		1.08E+00
		1230.71		8.90	-5.14E-02		9.25E-01
+	HO-166M	184.41		72.60	2.41E-02	5.50E-02	5.50E-02
		280.45		29.60	-3.89E-03		1.44E-01
		410.94		11.10	-7.12E-02		4.27E-01
		711.69		54.10	3.01E-03		1.33E-01
+	TM-171	66.72		0.14	2.02E+00	1.85E+01	1.85E+01
+	HF-172	81.75		4.52	-1.16E-01	2.52E-01	5.45E-01
		125.81		11.30	-3.47E-02		2.52E-01
+	LU-172	181.53		20.60	3.03E-03	1.01E-01	1.94E-01
		810.06		16.63	3.38E-02		4.43E-01
		912.12		15.25	3.10E-03		5.29E-01
		1093.66		62.50	-2.16E-02		1.01E-01
+	LU-173	100.72		5.24	2.08E-02	1.53E-01	5.30E-01
		272.11	*	21.20	1.34E-01		1.53E-01
+	HF-175	343.40		84.00	1.55E-02	5.85E-02	5.85E-02
+	LU-176	88.34		13.30	7.02E-02	4.60E-02	2.23E-01
		201.83		86.00	1.27E-02		4.60E-02
		306.78		94.00	7.45E-03		5.17E-02
+	TA-182	67.75		41.20	-2.12E-02	6.15E-02	6.15E-02
		1121.30		34.90	-2.07E-02		1.81E-01
		1189.05		16.23	-3.40E-02		3.50E-01
		1221.41		26.98	3.60E-03		3.13E-01
		1231.02		11.44	-3.96E-02		7.12E-01
+	IR-192	308.46		29.68	3.22E-02	9.55E-02	1.60E-01
		468.07		48.10	1.14E-02		9.55E-02
+	HG-203	279.19		77.30	2.14E-03	5.46E-02	5.46E-02
+	BI-207	569.67		97.72	1.36E-02	5.81E-02	5.81E-02

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	BI-207	1063.62	74.90	3.74E-02	5.81E-02	9.02E-02
+	TL-208	583.14	30.22	-1.45E-02	1.76E-01	1.76E-01
		860.37	4.48	9.50E-01		1.94E+00
		2614.66	35.85	2.49E-02		1.84E-01
+	BI-210M	262.00	45.00	2.89E-02	9.22E-02	9.22E-02
		300.00	23.00	5.14E-02		2.17E-01
+	PB-210	46.50	4.25	8.67E-02	4.90E-01	4.90E-01
+	PB-211	404.84	2.90	-1.19E-01	1.51E+00	1.51E+00
		831.96	2.90	0.00E+00		2.18E+00
+	BI-212	727.17	11.80	-1.47E-01	5.60E-01	5.60E-01
		1620.62	2.75	5.66E-01		2.72E+00
+	PB-212	238.63	44.60	4.80E-02	1.06E-01	1.06E-01
		300.09	3.41	3.47E-01		1.46E+00
+	BI-214	609.31	46.30	4.17E-02	1.55E-01	1.55E-01
		1120.29	15.10	6.91E-02		4.45E-01
		1764.49	15.80	-6.11E-02		4.55E-01
		2204.22	4.98	-1.28E+00		1.17E+00
+	PB-214	295.21	19.19	-5.58E-03	1.22E-01	2.47E-01
		351.92	37.19	-2.56E-02		1.22E-01
+	RN-219	401.80	6.50	2.00E-02	7.24E-01	7.24E-01
+	RA-223	323.87	3.88	-4.97E-03	1.24E+00	1.24E+00
+	RA-224	240.98	3.95	6.68E-01	1.17E+00	1.17E+00
+	RA-225	40.00	31.00	-1.59E-02	6.34E-02	6.34E-02
+	RA-226	186.21	3.28	5.14E-01	1.20E+00	1.20E+00
+	TH-227	50.10	8.40	5.76E-02	2.63E-01	2.63E-01
		236.00	11.50	9.74E-02		3.95E-01
		256.20	6.30	7.55E-02		5.89E-01
+	AC-228	338.32	11.40	1.74E-01	2.82E-01	4.67E-01
		911.07	27.70	-2.76E-03		2.82E-01
		969.11	16.60	1.68E-01		4.57E-01
+	TH-230	48.44	16.90	2.44E-02	1.29E-01	1.29E-01
		62.85	4.60	5.00E-01		5.67E-01
		67.67	0.37	-2.35E+00		6.84E+00
+	PA-231	283.67	1.60	4.61E-01	2.14E+00	2.85E+00
		302.67	2.30	-4.19E-01		2.14E+00
+	TH-231	25.64	14.70	7.02E-02	1.50E-01	1.50E-01
		84.21	6.40	-1.82E-02		4.01E-01
+	PA-233	311.98	38.60	-4.78E-02	1.17E-01	1.17E-01
+	PA-234	131.20	20.40	5.44E-02	1.55E-01	1.55E-01
		733.99	8.80	1.52E-01		7.94E-01
		946.00	12.00	-1.38E-02		6.18E-01
+	PA-234M	1001.03	0.92	2.85E+00	9.56E+00	9.56E+00
+	TH-234	63.29	3.80	3.18E-01	6.75E-01	6.75E-01
+	U-235	143.76	10.50	-1.81E-02	2.98E-01	2.98E-01
		163.35	4.70	1.38E-01		7.42E-01
		205.31	4.70	-3.81E-01		7.93E-01
+	NP-237	86.50	12.60	9.05E-04	2.16E-01	2.16E-01

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	NP-239	106.10	22.70	9.78E-04	1.28E-01	1.28E-01
		228.18	10.70	-2.10E-01		4.08E-01
		277.60	14.10	-4.28E-02		3.16E-01
+	AM-241	59.54	35.90	3.94E-02	6.62E-02	6.62E-02
+	AM-243	74.67	66.00	1.78E-03	3.73E-02	3.73E-02
+	CM-243	209.75	3.29	7.16E-02	2.93E-01	1.24E+00
		228.14	10.60	5.20E-04		4.02E-01
		277.60	14.00	-3.97E-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	4.87E-01	4.87E-01	4.57E-02	2.18E-01
NA-22	1274.54	99.94	6.05E-02	6.05E-02	-5.46E-03	2.35E-02
NA-24	1368.53	99.99	1.22E-01	3.41E-02	2.44E-02	5.10E-02
	2754.09	99.86	3.41E-02		0.00E+00	0.00E+00
AL-26	1808.65	99.76	5.03E-02	5.03E-02	-2.05E-02	1.59E-02
K-40	1460.81	10.67	8.46E-01	8.46E-01	1.53E-01	3.51E-01
AR-41	1293.64	99.16	9.66E-01	9.66E-01	1.29E-01	3.96E-01
TI-44	67.88	94.40	2.68E-02	2.55E-02	-9.23E-03	1.28E-02
	78.34	96.00	2.55E-02		-6.01E-03	1.21E-02
SC-46	889.25	99.98	7.66E-02	6.73E-02	-1.13E-02	3.34E-02
	1120.51	99.99	6.73E-02		1.05E-02	2.76E-02
V-48	983.52	99.98	6.67E-02	6.67E-02	-3.70E-02	2.79E-02
	1312.10	97.50	8.52E-02		8.50E-03	3.53E-02
CR-51	320.08	9.83	5.10E-01	5.10E-01	2.48E-01	2.37E-01
MN-54	834.83	99.97	6.35E-02	6.35E-02	1.01E-02	2.72E-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	846.75	99.96	6.68E-02	6.68E-02	9.05E-03	2.88E-02
	1037.75	14.03	4.71E-01		1.11E-01	1.96E-01
	1238.25	67.00	1.10E-01		-2.62E-02	4.52E-02
	1771.40	15.51	4.66E-01		-1.40E-01	1.75E-01
	2598.48	16.90	5.69E-01		-8.80E-02	2.13E-01
CO-57	122.06	85.51	3.36E-02	3.36E-02	7.27E-03	1.59E-02
	136.48	10.60	2.83E-01		-3.57E-03	1.33E-01
CO-58	810.76	99.40	7.24E-02	7.24E-02	5.51E-03	3.17E-02
FE-59	1099.22	56.50	9.38E-02	9.38E-02	-4.94E-02	3.63E-02
	1291.56	43.20	1.78E-01		-5.42E-02	7.29E-02
CO-60	1173.22	100.00	5.02E-02	5.02E-02	1.40E-02	1.88E-02
	1332.49	100.00	7.40E-02		2.91E-03	2.99E-02
ZN-65	1115.52	50.75	1.32E-01	1.32E-01	0.00E+00	5.40E-02
GA-67	93.31	35.70	8.91E-02	8.91E-02	4.22E-03	4.25E-02
	208.95	2.24	1.91E+00		2.33E-01	8.95E-01
	300.22	16.00	3.19E-01		-2.21E-02	1.48E-01
SE-75	121.11	16.70	1.70E-01	5.09E-02	1.75E-02	8.00E-02
	136.00	59.20	5.09E-02		-4.04E-03	2.39E-02
	264.65	59.80	7.24E-02		1.39E-02	3.37E-02
	279.53	25.20	1.67E-01		6.54E-03	7.74E-02
	400.65	11.40	4.18E-01		3.75E-02	1.90E-01
RB-82	776.52	13.00	5.33E-01	5.33E-01	3.25E-02	2.33E-01
RB-83	520.41	46.00	1.13E-01	1.13E-01	-8.80E-03	5.03E-02
	529.64	30.30	1.43E-01		-1.12E-02	6.20E-02
	552.65	16.40	4.04E-01		4.12E-02	1.83E-01
KR-85	513.99	0.43	1.95E+01	1.95E+01	2.45E+01	9.11E+00
SR-85	513.99	99.27	8.56E-02	8.56E-02	1.07E-01	3.99E-02
Y-88	898.02	93.40	8.05E-02	8.05E-02	1.98E-03	3.50E-02
	1836.01	99.38	9.12E-02		-9.27E-03	3.62E-02
NB-93M	16.57	9.43	2.16E-01	2.16E-01	2.82E-01	1.04E-01
NB-94	702.63	100.00	5.36E-02	5.36E-02	-3.67E-02	2.29E-02
	871.10	100.00	6.61E-02		1.21E-02	2.83E-02
NB-95	765.79	99.81	6.83E-02	6.83E-02	1.89E-02	2.99E-02
NB-95M	235.69	25.00	1.92E-01	1.92E-01	4.72E-02	9.00E-02
ZR-95	724.18	43.70	1.47E-01	1.18E-01	1.98E-03	6.46E-02
	756.72	55.30	1.18E-01		2.52E-02	5.17E-02
MO-99	181.06	6.20	6.54E-01	4.55E-01	7.03E-02	3.08E-01
	739.58	12.80	4.55E-01		-3.35E-01	1.94E-01
	778.00	4.50	1.55E+00		-1.75E-01	6.76E-01
RU-103	497.08	89.00	5.13E-02	5.13E-02	-4.91E-03	2.25E-02
RU-106	621.84	9.80	6.06E-01	6.06E-01	3.84E-02	2.68E-01
AG-108M	433.93	89.90	5.39E-02	5.39E-02	-6.55E-03	2.43E-02
	614.37	90.40	6.48E-02		3.32E-03	2.87E-02
	722.95	90.50	6.70E-02		-1.94E-02	2.91E-02
CD-109	88.03	3.72	7.67E-01	7.67E-01	-2.43E-02	3.66E-01
AG-110M	657.75	93.14	5.94E-02	5.94E-02	-2.22E-02	2.58E-02
	677.61	10.53	6.40E-01		-3.80E-02	2.85E-01
	706.67	16.46	3.91E-01		1.16E-02	1.72E-01
	763.93	21.98	3.00E-01		9.97E-03	1.31E-01
	884.67	71.63	1.12E-01		-1.83E-02	4.92E-02
	1384.27	23.94	3.41E-01		6.16E-02	1.40E-01
CD-113M	263.70	0.02	1.84E+02	1.84E+02	2.88E+01	8.56E+01
SN-113	255.12	1.93	1.98E+00	7.68E-02	-3.94E-01	9.12E-01

Analysis Report for 1510091-02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
SN-113	391.69	64.90	7.68E-02	7.68E-02	-7.43E-03	3.51E-02
TE123M	159.00	84.10	3.96E-02	3.96E-02	-1.09E-02	1.86E-02
SB-124	602.71	97.87	7.38E-02	7.38E-02	0.00E+00	3.35E-02
	645.85	7.26	6.03E-01		-2.52E-01	2.53E-01
	722.78	11.10	5.48E-01		-2.38E-01	2.38E-01
	1691.02	49.00	1.59E-01		3.19E-02	6.14E-02
I-125	35.49	6.49	2.94E-01	2.94E-01	-8.35E-02	1.40E-01
SB-125	176.33	6.89	4.96E-01	1.63E-01	-2.26E-01	2.33E-01
	427.89	29.33	1.63E-01		1.46E-02	7.34E-02
	463.38	10.35	4.10E-01		-9.94E-02	1.80E-01
	600.56	17.80	3.68E-01		-2.29E-01	1.66E-01
	635.90	11.32	4.58E-01		-8.41E-02	1.98E-01
SB-126	414.70	83.30	6.25E-02	6.25E-02	1.29E-02	2.85E-02
	666.33	99.60	6.62E-02		4.50E-03	2.94E-02
	695.00	99.60	6.90E-02		3.96E-02	3.06E-02
	720.50	53.80	1.21E-01		-1.79E-02	5.28E-02
SN-126	87.57	37.00	7.68E-02	7.68E-02	-2.43E-03	3.66E-02
SB-127	473.00	25.00	2.07E-01	2.07E-01	1.67E-02	9.24E-02
	685.20	35.70	2.20E-01		6.31E-02	9.89E-02
	783.80	14.70	4.11E-01		6.94E-02	1.75E-01
I-129	29.78	57.00	3.43E-02	3.43E-02	-1.05E-02	1.64E-02
	33.60	13.20	1.43E-01		-5.40E-02	6.79E-02
	39.58	7.52	2.57E-01		-6.46E-02	1.22E-01
I-131	284.30	6.05	7.56E-01	5.64E-02	-7.25E-02	3.51E-01
	364.48	81.20	5.64E-02		-3.78E-03	2.56E-02
	636.97	7.26	7.98E-01		3.57E-02	3.50E-01
	722.89	1.80	3.45E+00		-1.50E+00	1.50E+00
TE-132	49.72	13.10	1.79E-01	5.14E-02	3.91E-02	8.52E-02
	228.16	88.00	5.14E-02		6.64E-05	2.41E-02
BA-133	81.00	33.00	7.52E-02	7.52E-02	-2.26E-02	3.57E-02
	302.84	17.80	2.76E-01		-5.41E-02	1.29E-01
	356.01	60.00	8.70E-02		5.00E-02	4.02E-02
I-133	529.87	86.30	6.27E-02	6.27E-02	-4.90E-03	2.71E-02
XE-133	81.00	38.00	6.78E-02	6.78E-02	-2.04E-02	3.22E-02
CS-134	563.23	8.38	6.83E-01	7.70E-02	-9.50E-02	3.05E-01
	569.32	15.43	3.68E-01		8.59E-02	1.64E-01
	604.70	97.60	7.70E-02		1.46E-02	3.51E-02
	795.84	85.40	7.81E-02		1.25E-02	3.40E-02
	801.93	8.73	8.13E-01		-1.67E-01	3.56E-01
CS-135	268.24	16.00	2.67E-01	2.67E-01	-9.41E-03	1.24E-01
I-135	1131.51	22.50	6.06E-01	6.06E-01	1.38E-01	2.48E-01
	1260.41	28.60	6.36E-01		2.27E-01	2.71E-01
	1678.03	9.54	1.45E+00		4.05E-01	5.45E-01
CS-136	153.22	7.46	4.37E-01	7.18E-02	5.31E-02	2.05E-01
	163.89	4.61	7.69E-01		1.43E-01	3.62E-01
	176.55	13.56	2.56E-01		-1.17E-01	1.20E-01
	273.65	12.66	3.28E-01		-5.00E-02	1.52E-01
	340.57	48.50	1.09E-01		5.95E-02	5.07E-02
	818.50	99.70	7.18E-02		1.91E-02	3.13E-02
	1048.07	79.60	1.01E-01		2.36E-02	4.31E-02
	1235.34	19.70	4.39E-01		1.34E-01	1.85E-01
CS-137	661.65	85.12	6.72E-02	6.72E-02	-2.28E-02	2.93E-02
LA-138	788.74	34.00	1.41E-01	1.02E-01	-4.69E-02	5.77E-02

Analysis Report for 1510091-02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
LA-138	1435.80	66.00	1.02E-01	1.02E-01	-7.55E-03	3.95E-02
CE-139	165.85	80.35	4.44E-02	4.44E-02	1.36E-02	2.09E-02
BA-140	162.64	6.70	5.29E-01	2.18E-01	1.24E-01	2.49E-01
	304.84	4.50	1.11E+00		5.43E-02	5.15E-01
	423.70	3.20	1.53E+00		1.89E-03	6.88E-01
	437.55	2.00	2.56E+00		3.83E-02	1.16E+00
	537.32	25.00	2.18E-01		1.08E-01	9.68E-02
LA-140	328.77	20.50	2.26E-01	7.03E-02	-8.94E-02	1.04E-01
	487.03	45.50	1.06E-01		-1.31E-02	4.72E-02
	815.85	23.50	2.58E-01		-6.17E-02	1.10E-01
	1596.49	95.49	7.03E-02		9.44E-03	2.63E-02
CE-141	145.44	48.40	6.70E-02	6.70E-02	6.13E-03	3.16E-02
CE-143	57.36	11.80	2.10E-01	1.30E-01	-4.22E-02	9.97E-02
	293.26	42.00	1.30E-01		1.09E-02	6.04E-02
	664.55	5.20	1.37E+00		5.24E-01	6.04E-01
CE-144	133.54	10.80	2.96E-01	2.96E-01	-1.28E-02	1.40E-01
PM-144	476.78	42.00	1.20E-01	6.37E-02	1.12E-02	5.38E-02
	618.01	98.60	6.49E-02		2.61E-02	2.90E-02
	696.49	99.49	6.37E-02		1.93E-02	2.80E-02
PM-145	36.85	21.70	8.84E-02	4.87E-02	1.25E-02	4.21E-02
	37.36	39.70	4.87E-02		1.61E-02	2.32E-02
	42.30	15.10	1.33E-01		-7.96E-03	6.35E-02
	72.40	2.31	1.10E+00		5.41E-01	5.24E-01
PM-146	453.90	39.94	1.38E-01	1.38E-01	5.17E-02	6.29E-02
	735.90	14.01	4.77E-01		9.69E-02	2.10E-01
	747.13	13.10	5.18E-01		9.49E-02	2.28E-01
ND-147	91.11	28.90	1.10E-01	1.10E-01	1.04E-01	5.25E-02
	531.02	13.10	3.27E-01		-1.06E-01	1.41E-01
PM-149	285.90	3.10	1.60E+00	1.60E+00	-3.05E-02	7.46E-01
EU-152	121.78	20.50	1.40E-01	1.40E-01	3.03E-02	6.60E-02
	244.69	5.40	7.75E-01		6.35E-02	3.61E-01
	344.27	19.13	2.54E-01		4.69E-02	1.17E-01
	778.89	9.20	7.10E-01		-7.99E-02	3.09E-01
	964.01	10.40	6.76E-01		2.03E-02	2.88E-01
	1085.78	7.22	9.03E-01		6.01E-02	3.70E-01
	1112.02	9.60	7.71E-01		2.77E-01	3.23E-01
	1407.95	14.94	6.69E-01		1.91E-01	2.84E-01
GD-153	97.43	31.30	9.25E-02	9.25E-02	-1.58E-02	4.40E-02
	103.18	22.20	1.26E-01		3.67E-02	6.00E-02
EU-154	123.07	40.50	7.17E-02	7.17E-02	1.87E-02	3.38E-02
	723.30	19.70	3.08E-01		-8.92E-02	1.34E-01
	873.19	11.50	5.77E-01		2.13E-01	2.47E-01
	996.32	10.30	8.50E-01		-4.87E-02	3.73E-01
	1004.76	17.90	4.24E-01		7.13E-02	1.82E-01
	1274.45	35.50	1.70E-01		-1.54E-02	6.60E-02
EU-155	86.50	30.90	8.82E-02	8.82E-02	3.69E-04	4.20E-02
	105.30	20.70	1.28E-01		9.84E-04	6.06E-02
EU-156	811.77	10.40	6.99E-01	6.99E-01	1.10E-01	3.06E-01
	1153.47	7.20	1.08E+00		-1.65E-01	4.51E-01
	1230.71	8.90	9.25E-01		-5.14E-02	3.87E-01
HO-166M	184.41	72.60	5.50E-02	5.50E-02	2.41E-02	2.60E-02
	280.45	29.60	1.44E-01		-3.89E-03	6.66E-02
	410.94	11.10	4.27E-01		-7.12E-02	1.93E-01

Analysis Report for 1510091-02

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	HO-166M	711.69		54.10	1.33E-01	5.50E-02	3.01E-03	5.94E-02
	TM-171	66.72		0.14	1.85E+01	1.85E+01	2.02E+00	8.85E+00
	HF-172	81.75		4.52	5.45E-01	2.52E-01	-1.16E-01	2.59E-01
		125.81		11.30	2.52E-01		-3.47E-02	1.19E-01
	LU-172	181.53		20.60	1.94E-01	1.01E-01	3.03E-03	9.16E-02
		810.06		16.63	4.43E-01		3.38E-02	1.94E-01
		912.12		15.25	5.29E-01		3.10E-03	2.31E-01
		1093.66		62.50	1.01E-01		-2.16E-02	4.10E-02
+	LU-173	100.72		5.24	5.30E-01	1.53E-01	2.08E-02	2.51E-01
		272.11	*	21.20	1.53E-01		1.34E-01	6.92E-02
	HF-175	343.40		84.00	5.85E-02	5.85E-02	1.55E-02	2.70E-02
	LU-176	88.34		13.30	2.23E-01	4.60E-02	7.02E-02	1.06E-01
		201.83		86.00	4.60E-02		1.27E-02	2.16E-02
		306.78		94.00	5.17E-02		7.45E-03	2.40E-02
	TA-182	67.75		41.20	6.15E-02	6.15E-02	-2.12E-02	2.94E-02
		1121.30		34.90	1.81E-01		-2.07E-02	7.32E-02
		1189.05		16.23	3.50E-01		-3.40E-02	1.36E-01
		1221.41		26.98	3.13E-01		3.60E-03	1.32E-01
		1231.02		11.44	7.12E-01		-3.96E-02	2.98E-01
	IR-192	308.46		29.68	1.60E-01	9.55E-02	3.22E-02	7.40E-02
		468.07		48.10	9.55E-02		1.14E-02	4.24E-02
	HG-203	279.19		77.30	5.46E-02	5.46E-02	2.14E-03	2.53E-02
	BI-207	569.67		97.72	5.81E-02	5.81E-02	1.36E-02	2.58E-02
		1063.62		74.90	9.02E-02		3.74E-02	3.74E-02
	TL-208	583.14		30.22	1.76E-01	1.76E-01	-1.45E-02	7.73E-02
		860.37		4.48	1.94E+00		9.50E-01	8.65E-01
		2614.66		35.85	1.84E-01		2.49E-02	5.80E-02
	BI-210M	262.00		45.00	9.22E-02	9.22E-02	2.89E-02	4.28E-02
		300.00		23.00	2.17E-01		5.14E-02	1.01E-01
	PB-210	46.50		4.25	4.90E-01	4.90E-01	8.67E-02	2.33E-01
	PB-211	404.84		2.90	1.51E+00	1.51E+00	-1.19E-01	6.78E-01
		831.96		2.90	2.18E+00		0.00E+00	9.34E-01
	BI-212	727.17		11.80	5.60E-01	5.60E-01	-1.47E-01	2.46E-01
		1620.62		2.75	2.72E+00		5.66E-01	1.05E+00
	PB-212	238.63		44.60	1.06E-01	1.06E-01	4.80E-02	4.98E-02
		300.09		3.41	1.46E+00		3.47E-01	6.82E-01
	BI-214	609.31		46.30	1.55E-01	1.55E-01	4.17E-02	7.03E-02
		1120.29		15.10	4.45E-01		6.91E-02	1.82E-01
		1764.49		15.80	4.55E-01		-6.11E-02	1.70E-01
		2204.22		4.98	1.17E+00		-1.28E+00	3.71E-01
	PB-214	295.21		19.19	2.47E-01	1.22E-01	-5.58E-03	1.15E-01
		351.92		37.19	1.22E-01		-2.56E-02	5.59E-02
	RN-219	401.80		6.50	7.24E-01	7.24E-01	2.00E-02	3.28E-01
	RA-223	323.87		3.88	1.24E+00	1.24E+00	-4.97E-03	5.74E-01
	RA-224	240.98		3.95	1.17E+00	1.17E+00	6.68E-01	5.51E-01
	RA-225	40.00		31.00	6.34E-02	6.34E-02	-1.59E-02	3.01E-02
	RA-226	186.21		3.28	1.20E+00	1.20E+00	5.14E-01	5.65E-01
	TH-227	50.10		8.40	2.63E-01	2.63E-01	5.76E-02	1.26E-01
		236.00		11.50	3.95E-01		9.74E-02	1.86E-01
		256.20		6.30	5.89E-01		7.55E-02	2.71E-01
	AC-228	338.32		11.40	4.67E-01	2.82E-01	1.74E-01	2.17E-01
		911.07		27.70	2.82E-01		-2.76E-03	1.23E-01
		969.11		16.60	4.57E-01		1.68E-01	1.97E-01

Analysis Report for 1510091-02

BLANK

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
TH-230	48.44	16.90	1.29E-01	1.29E-01	2.44E-02	6.17E-02
	62.85	4.60	5.67E-01		5.00E-01	2.72E-01
	67.67	0.37	6.84E+00		-2.35E+00	3.26E+00
PA-231	283.67	1.60	2.85E+00	2.14E+00	4.61E-01	1.33E+00
	302.67	2.30	2.14E+00		-4.19E-01	9.95E-01
TH-231	25.64	14.70	1.50E-01	1.50E-01	7.02E-02	7.21E-02
	84.21	6.40	4.01E-01		-1.82E-02	1.90E-01
PA-233	311.98	38.60	1.17E-01	1.17E-01	-4.78E-02	5.39E-02
PA-234	131.20	20.40	1.55E-01	1.55E-01	5.44E-02	7.31E-02
	733.99	8.80	7.94E-01		1.52E-01	3.51E-01
	946.00	12.00	6.18E-01		-1.38E-02	2.66E-01
PA-234M	1001.03	0.92	9.56E+00	9.56E+00	2.85E+00	4.19E+00
TH-234	63.29	3.80	6.75E-01	6.75E-01	3.18E-01	3.23E-01
U-235	143.76	10.50	2.98E-01	2.98E-01	-1.81E-02	1.40E-01
	163.35	4.70	7.42E-01		1.38E-01	3.49E-01
	205.31	4.70	7.93E-01		-3.81E-01	3.71E-01
NP-237	86.50	12.60	2.16E-01	2.16E-01	9.05E-04	1.03E-01
NP-239	106.10	22.70	1.28E-01	1.28E-01	9.78E-04	6.03E-02
	228.18	10.70	4.08E-01		-2.10E-01	1.90E-01
	277.60	14.10	3.16E-01		-4.28E-02	1.46E-01
AM-241	59.54	35.90	6.62E-02	6.62E-02	3.94E-02	3.16E-02
AM-243	74.67	66.00	3.73E-02	3.73E-02	1.78E-03	1.77E-02
CM-243	209.75	3.29	1.24E+00	2.93E-01	7.16E-02	5.83E-01
	228.14	10.60	4.02E-01		5.20E-04	1.88E-01
	277.60	14.00	2.93E-01		-3.97E-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

Analysis Report for 1510091-02

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: 3638

Channel								
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	17	44
17:	33	27	31	26	27	30	23	23
25:	23	21	16	23	18	15	13	11
33:	12	18	14	13	20	20	12	13
41:	12	19	7	12	13	28	25	7
49:	14	12	19	17	12	14	4	11
57:	14	17	11	24	17	24	26	22
65:	15	15	10	16	20	11	14	15
73:	21	15	12	16	13	10	12	11
81:	15	15	14	12	13	14	15	20
89:	12	18	25	25	19	17	10	10
97:	12	21	13	14	14	8	11	11
105:	14	7	10	9	14	10	13	10
113:	9	13	12	7	10	14	12	16
121:	7	10	9	7	9	11	8	12
129:	15	20	13	9	7	8	11	12
137:	8	12	8	12	10	11	11	13
145:	9	5	9	11	13	5	11	11
153:	10	9	10	9	6	8	9	10
161:	11	13	14	9	10	7	7	13
169:	8	9	8	8	2	15	6	6
177:	11	11	10	7	13	8	17	7
185:	11	13	9	13	8	7	5	11
193:	4	10	9	7	11	10	9	11
201:	2	9	9	9	12	6	8	7
209:	8	8	9	13	11	4	14	8
217:	6	10	11	9	12	9	13	3
225:	9	7	13	6	4	8	14	4
233:	6	12	8	6	12	12	9	11
241:	9	9	9	6	6	7	1	7
249:	9	5	13	3	8	0	5	6
257:	6	3	5	10	10	2	7	5
265:	8	9	2	7	6	6	10	4
273:	11	2	2	4	5	4	8	4
281:	9	8	7	3	10	3	7	5
289:	6	10	6	6	4	4	12	6
297:	6	6	9	7	7	5	6	7
305:	6	8	7	7	8	4	6	1
313:	6	4	4	9	6	5	4	5
321:	7	11	5	10	2	2	5	3
329:	5	7	5	5	3	7	6	5
337:	4	7	5	10	9	5	6	4
345:	6	2	0	4	5	2	5	5
353:	7	8	2	11	4	3	5	2
361:	5	2	5	4	3	3	2	8

369:	6	2	4	6	3	3	3	4

Sample Title: BLANK

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

801:	0	3	3	2	1	1	0	3

Sample Title: BLANK

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

1233:	2	0	0	1	0	2	2	2

Sample Title: BLANK

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

1665:	0	0	0	0	2	0	0	0

Sample Title: BLANK

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

2097:	0	0	0	0	0	1	0	0

Sample Title: BLANK

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

2529:	0	0	0	0	0	1	0	0

Sample Title: BLANK

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

Channel								
2969:	0	0	0	0	0	0	2	0
2977:	0	0	0	1	0	0	0	0
2985:	0	0	0	0	0	0	0	0
2993:	0	0	0	0	0	0	1	0
3001:	0	0	2	0	0	0	0	0
3009:	0	0	0	1	0	0	0	0
3017:	0	0	0	0	0	0	0	0
3025:	0	1	0	0	0	0	0	1
3033:	0	0	0	0	0	0	0	0
3041:	0	0	1	0	0	0	1	1
3049:	0	0	0	0	0	0	0	0
3057:	0	0	0	1	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	0	0	0	0
3089:	0	0	0	0	0	0	0	0
3097:	0	0	0	0	0	0	0	0
3105:	0	1	0	0	0	0	1	0
3113:	1	0	0	0	0	1	0	0
3121:	0	0	0	0	0	0	0	0
3129:	0	0	0	0	0	0	0	1
3137:	0	0	0	0	0	0	0	0
3145:	0	0	0	0	0	0	0	0
3153:	0	0	0	0	0	0	0	0
3161:	0	0	0	0	0	0	0	0
3169:	0	0	0	0	0	0	0	0
3177:	0	0	0	0	0	0	0	1
3185:	0	0	0	0	0	0	0	0
3193:	0	0	0	1	0	0	0	0
3201:	1	0	1	0	0	0	0	0
3209:	1	1	0	0	1	1	0	2
3217:	2	0	0	0	0	0	1	1
3225:	0	0	0	0	1	0	0	0
3233:	0	1	0	0	0	1	0	0
3241:	0	0	1	1	0	0	0	0
3249:	1	0	0	0	0	0	0	0
3257:	1	0	0	0	0	0	0	0
3265:	0	0	0	1	0	0	0	0
3273:	0	0	0	0	0	0	1	0
3281:	0	1	0	0	1	0	0	1
3289:	0	0	0	1	0	1	0	0
3297:	0	0	0	1	0	0	0	0
3305:	0	1	0	0	0	0	0	0
3313:	0	1	0	0	0	0	0	0
3321:	0	0	0	0	0	0	0	0
3329:	1	0	0	0	0	0	0	0
3337:	0	0	0	0	0	0	0	0
3345:	0	0	0	0	1	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	1	0	0	0
3385:	0	0	0	0	0	0	0	0

3393:	0	0	0	0	0	0	0	0

Sample Title: BLANK

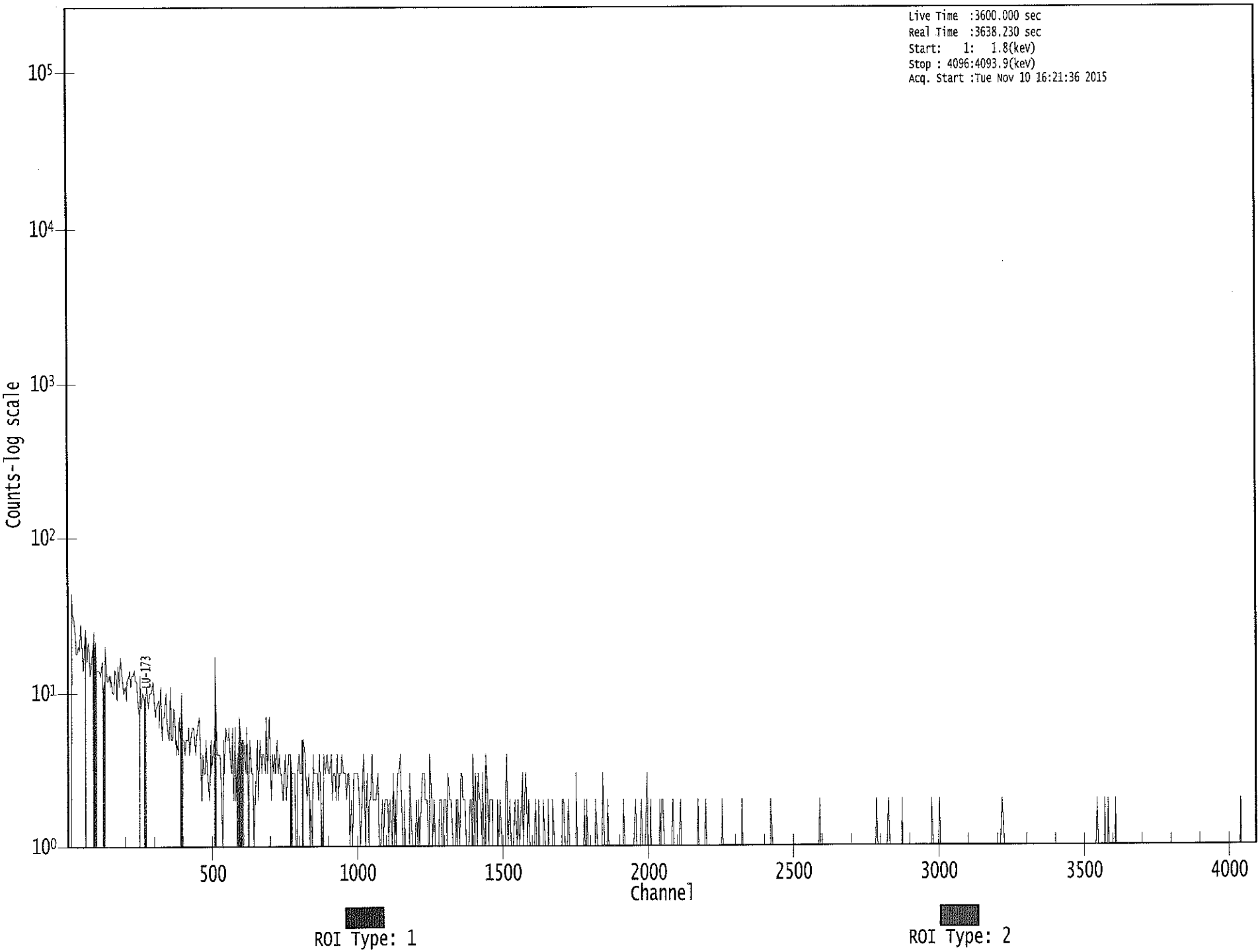
Channel								
3401:	0	0	0	0	0	0	0	0
3409:	1	0	0	0	0	0	0	0
3417:	0	0	0	0	0	0	0	0
3425:	1	0	0	0	0	0	0	0
3433:	0	0	0	0	0	0	0	0
3441:	0	0	0	0	0	0	0	0
3449:	0	0	0	0	0	0	0	0
3457:	0	0	0	0	1	0	0	0
3465:	0	0	0	0	0	0	0	0
3473:	0	0	0	0	0	0	1	0
3481:	0	0	0	0	0	0	0	0
3489:	0	0	0	0	0	0	0	0
3497:	0	0	0	0	0	1	0	1
3505:	0	0	0	0	0	0	0	0
3513:	0	0	0	0	0	0	0	1
3521:	0	0	0	1	0	0	1	0
3529:	0	0	0	0	0	0	0	0
3537:	0	0	0	0	1	0	0	0
3545:	2	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	2	0	0	0	0	0
3577:	0	0	0	0	0	1	2	0
3585:	1	0	0	0	0	1	0	0
3593:	0	0	0	0	0	0	0	0
3601:	0	0	0	0	0	0	0	2
3609:	0	0	1	0	0	0	0	0
3617:	0	0	0	0	1	0	0	0
3625:	1	0	0	0	0	0	0	0
3633:	0	0	1	0	1	0	0	0
3641:	0	0	0	0	0	0	0	0
3649:	0	0	0	0	1	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	0	0	0	0	1	0	0	0
3673:	0	0	0	0	0	0	0	1
3681:	0	0	0	1	0	0	0	0
3689:	0	0	0	0	0	0	0	0
3697:	0	0	0	1	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:	1	0	0	0	0	0	0	0
3761:	0	0	0	0	0	0	0	0
3769:	1	0	0	0	0	0	0	0
3777:	0	0	1	0	0	0	0	0
3785:	0	0	0	0	0	0	0	0
3793:	0	0	0	1	0	0	0	0
3801:	1	0	0	1	0	0	0	0
3809:	0	0	0	0	1	1	1	0
3817:	0	0	1	0	0	0	0	0

3825:	0	0	0	0	0	0	0	0

Sample Title: BLANK

Channel								
3833:	0	0	0	0	0	0	0	0
3841:	1	0	0	1	0	0	0	0
3849:	0	0	0	0	0	0	0	1
3857:	0	0	0	0	0	0	0	0
3865:	0	0	0	0	0	1	0	0
3873:	0	1	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	0	0
3905:	0	0	1	0	0	0	0	0
3913:	0	0	0	0	0	0	0	1
3921:	0	0	0	0	0	0	0	0
3929:	0	1	0	0	0	0	0	0
3937:	0	0	1	0	0	0	0	0
3945:	0	0	1	0	0	0	0	0
3953:	0	0	0	0	0	0	0	0
3961:	0	0	0	0	0	0	0	0
3969:	0	0	0	1	0	0	0	0
3977:	0	0	0	1	0	0	0	0
3985:	0	0	0	0	0	0	0	0
3993:	0	0	0	0	0	0	0	0
4001:	0	0	0	1	0	0	1	0
4009:	0	1	1	0	0	0	0	0
4017:	0	0	0	1	0	0	0	0
4025:	0	0	0	0	1	0	0	0
4033:	0	0	0	0	0	0	0	2
4041:	0	1	0	1	0	0	0	0
4049:	0	0	0	1	0	0	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	0	0	0	0	0	0	1
4073:	0	0	0	0	0	0	0	1
4081:	0	0	0	0	0	0	0	1
4089:	0	0	0	1	0	0	0	0

0000029436.CNF



Apex-Gamma

Analysis Report for 1510091-03
CP1807S03-04

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1510091-03
Sample Description	: CP1807S03-04
Sample Type	: SOIL
Sample Size	: 5.490E+02 grams
Facility	: Countroom
Sample Taken On	: 10/10/2015 10:12:03AM
Acquisition Started	: 11/10/2015 1:09:33PM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE2
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3601.4 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	: 29398

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510091-03

CP1807S03-04

PEAK LOCATE REPORT

Peak Locate Performed on : 11/10/2015 2:09:37PM
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	36.36	36.47	0.0000	0.00
2	45.80	45.90	0.0000	0.00
3	63.54	63.63	0.0000	0.00
4	76.25	76.34	0.0000	0.00
5	88.11	88.19	0.0000	0.00
6	93.25	93.32	0.0000	0.00
7	129.02	129.08	0.0000	0.00
8	144.61	144.66	0.0000	0.00
9	186.22	186.24	0.0000	0.00
10	209.57	209.59	0.0000	0.00
11	236.13	236.13	0.0000	0.00
12	238.94	238.94	0.0000	0.00
13	241.88	241.87	0.0000	0.00
14	270.16	270.14	0.0000	0.00
15	275.02	275.00	0.0000	0.00
16	295.32	295.29	0.0000	0.00
17	300.14	300.10	0.0000	0.00
18	328.17	328.12	0.0000	0.00
19	338.86	338.81	0.0000	0.00
20	352.00	351.94	0.0000	0.00
21	409.69	409.60	0.0000	0.00
22	453.39	453.27	0.0000	0.00
23	462.80	462.68	0.0000	0.00
24	511.10	510.96	0.0000	0.00
25	583.34	583.17	0.0000	0.00
26	609.48	609.29	0.0000	0.00
27	665.89	665.67	0.0000	0.00
28	683.22	683.00	0.0000	0.00
29	703.80	703.56	0.0000	0.00
30	727.37	727.13	0.0000	0.00
31	784.31	784.04	0.0000	0.00
32	794.98	794.70	0.0000	0.00
33	853.51	853.21	0.0000	0.00
34	860.91	860.61	0.0000	0.00
35	911.38	911.05	0.0000	0.00
36	934.84	934.51	0.0000	0.00
37	969.15	968.80	0.0000	0.00
38	1000.92	1000.56	0.0000	0.00
39	1009.27	1008.90	0.0000	0.00
40	1016.06	1015.69	0.0000	0.00
41	1064.88	1064.49	0.0000	0.00
42	1116.65	1116.24	0.0000	0.00

Analysis Report for 1510091-03

CP1807S03-04

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1120.52	1120.11	0.0000	0.00
44	1233.99	1233.54	0.0000	0.00
45	1238.45	1238.00	0.0000	0.00
46	1280.12	1279.66	0.0000	0.00
47	1286.73	1286.26	0.0000	0.00
48	1318.76	1318.28	0.0000	0.00
49	1377.85	1377.35	0.0000	0.00
50	1401.92	1401.41	0.0000	0.00
51	1407.82	1407.32	0.0000	0.00
52	1461.01	1460.48	0.0000	0.00
53	1467.40	1466.88	0.0000	0.00
54	1559.26	1558.70	0.0000	0.00
55	1574.89	1574.33	0.0000	0.00
56	1591.29	1590.73	0.0000	0.00
57	1619.78	1619.21	0.0000	0.00
58	1630.81	1630.24	0.0000	0.00
59	1661.14	1660.56	0.0000	0.00
60	1729.81	1729.21	0.0000	0.00
61	1748.92	1748.32	0.0000	0.00
62	1764.58	1763.97	0.0000	0.00
63	1890.68	1890.04	0.0000	0.00
64	1966.12	1965.47	0.0000	0.00
65	2075.14	2074.47	0.0000	0.00
66	2103.75	2103.08	0.0000	0.00
67	2203.62	2202.93	0.0000	0.00
68	2237.90	2237.20	0.0000	0.00
69	2352.26	2351.55	0.0000	0.00
70	2363.92	2363.21	0.0000	0.00
71	2421.03	2420.31	0.0000	0.00
72	2614.41	2613.67	0.0000	0.00

? = Adjacent peak noted

Errors quoted at 2.000sigma

Analysis Report for 1510091-03

CP1807S03-04

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 2:09:37PM

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	36.36	35 -	39	36.47	7.38E+01	76.77	1.25E+03	4.30
	2	45.80	42 -	49	45.90	1.82E+02	112.69	1.99E+03	1.31
	3	63.54	60 -	67	63.63	1.58E+02	119.21	2.28E+03	1.33
	4	76.25	72 -	79	76.34	9.79E+02	141.62	3.29E+03	3.65
	5	88.11	86 -	91	88.19	2.75E+02	99.48	1.77E+03	3.38
	6	93.25	91 -	96	93.32	2.21E+02	95.90	1.58E+03	1.28
	7	129.02	126 -	131	129.08	7.84E+01	74.21	1.04E+03	1.79
	8	144.61	142 -	148	144.66	1.11E+02	79.06	1.06E+03	2.68
	9	186.22	183 -	190	186.24	2.97E+02	88.09	1.09E+03	1.64
	10	209.57	207 -	212	209.59	5.45E+01	63.05	7.49E+02	1.72
M	11	236.13	234 -	245	236.13	6.50E+01	42.19	3.79E+02	1.41
m	12	238.94	234 -	245	238.94	8.31E+02	72.44	3.75E+02	1.41
m	13	241.88	234 -	245	241.87	2.48E+02	54.55	3.70E+02	1.42
M	14	270.16	266 -	280	270.14	1.05E+02	51.22	4.08E+02	1.94
m	15	275.02	266 -	280	275.00	3.39E+01	35.89	2.72E+02	1.33
M	16	295.32	291 -	302	295.29	4.83E+02	54.15	2.72E+02	1.43
m	17	300.14	291 -	302	300.10	7.37E+01	41.86	3.53E+02	1.64
	18	328.17	325 -	330	328.12	5.67E+01	46.90	3.93E+02	1.75
	19	338.86	335 -	344	338.81	2.31E+02	67.74	5.20E+02	1.85
	20	352.00	348 -	355	351.94	8.21E+02	80.50	5.33E+02	1.39
	21	409.69	406 -	412	409.60	3.56E+01	42.73	3.03E+02	1.85
	22	453.39	450 -	457	453.27	4.20E+01	40.60	2.44E+02	1.45
	23	462.80	459 -	467	462.68	6.44E+01	45.25	2.77E+02	2.48
	24	511.10	505 -	516	510.96	1.97E+02	63.59	4.04E+02	2.38
	25	583.34	579 -	587	583.17	2.86E+02	52.94	2.52E+02	1.55
	26	609.48	606 -	614	609.29	5.97E+02	63.04	2.45E+02	1.84
	27	665.89	664 -	669	665.67	2.15E+01	24.88	1.09E+02	1.41
	28	683.22	679 -	685	683.00	2.98E+01	29.77	1.38E+02	1.79
	29	703.80	697 -	709	703.56	4.42E+01	50.45	2.76E+02	2.87
	30	727.37	723 -	730	727.13	8.10E+01	32.98	1.26E+02	1.89
	31	784.31	779 -	790	784.04	8.04E+01	38.47	1.47E+02	6.99
	32	794.98	791 -	799	794.70	2.68E+01	32.25	1.42E+02	1.84
	33	853.51	851 -	857	853.21	1.68E+01	19.91	6.04E+01	2.18
	34	860.91	857 -	864	860.61	2.85E+01	29.60	1.25E+02	1.27
	35	911.38	907 -	916	911.05	1.95E+02	45.89	1.88E+02	1.93
	36	934.84	932 -	937	934.51	3.01E+01	20.32	5.19E+01	1.96
	37	969.15	965 -	973	968.80	6.67E+01	42.82	2.27E+02	1.77
M	38	1000.92	995 -	1018	1000.56	2.74E+01	28.32	1.04E+02	4.75
m	39	1009.27	995 -	1018	1008.90	2.54E+01	35.47	1.12E+02	4.77
m	40	1016.06	995 -	1018	1015.69	1.33E+01	16.91	3.88E+01	2.74

Analysis Report for 1510091-03

CP1807S03-04

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	41	1064.88	1061	1067	1064.49	2.05E+01	20.70	6.30E+01	3.77
M	42	1116.65	1115	1126	1116.24	1.06E+01	11.41	2.68E+01	2.48
m	43	1120.52	1115	1126	1120.11	1.45E+02	29.60	5.90E+01	2.34
M	44	1233.99	1231	1244	1233.54	2.42E+01	20.83	7.43E+01	2.63
m	45	1238.45	1231	1244	1238.00	5.45E+01	29.60	1.05E+02	2.63
M	46	1280.12	1275	1289	1279.66	2.32E+01	23.32	6.23E+01	3.55
m	47	1286.73	1275	1289	1286.26	1.50E+01	18.97	5.92E+01	3.55
	48	1318.76	1314	1321	1318.28	2.20E+01	18.11	4.00E+01	1.62
	49	1377.85	1373	1383	1377.35	4.27E+01	23.33	5.06E+01	2.38
	50	1401.92	1399	1404	1401.41	1.46E+01	14.80	3.07E+01	1.39
	51	1407.82	1405	1410	1407.32	1.82E+01	14.46	2.76E+01	3.70
M	52	1461.01	1455	1470	1460.48	6.74E+02	53.69	3.15E+01	2.26
m	53	1467.40	1455	1470	1466.88	1.20E+01	16.61	3.21E+01	2.80
	54	1559.26	1556	1561	1558.70	7.69E+00	9.38	1.06E+01	2.73
	55	1574.89	1570	1577	1574.33	1.10E+01	11.83	1.60E+01	2.58
	56	1591.29	1583	1599	1590.73	3.78E+01	29.22	6.25E+01	8.25
	57	1619.78	1614	1623	1619.21	1.40E+01	14.00	2.00E+01	1.47
	58	1630.81	1625	1634	1630.24	1.96E+01	13.53	1.48E+01	3.67
	59	1661.14	1658	1665	1660.56	1.14E+01	10.95	1.32E+01	1.09
	60	1729.81	1723	1732	1729.21	2.34E+01	16.52	2.71E+01	2.32
	61	1748.92	1746	1751	1748.32	7.21E+00	8.66	9.58E+00	3.00
	62	1764.58	1758	1769	1763.97	1.05E+02	24.74	2.40E+01	3.17
	63	1890.68	1888	1893	1890.04	6.30E+00	7.62	7.40E+00	2.25
	64	1966.12	1962	1968	1965.47	7.00E+00	8.03	6.00E+00	1.59
	65	2075.14	2070	2076	2074.47	5.88E+00	6.65	4.25E+00	1.08
	66	2103.75	2095	2108	2103.08	1.88E+01	21.31	4.24E+01	5.36
	67	2203.62	2196	2208	2202.93	2.78E+01	19.68	3.23E+01	2.32
	68	2237.90	2233	2241	2237.20	1.00E+01	6.32	0.00E+00	1.25
	69	2352.26	2346	2355	2351.55	1.02E+01	10.49	9.60E+00	2.82
	70	2363.92	2358	2367	2363.21	8.63E+00	11.79	1.48E+01	3.16
	71	2421.03	2417	2423	2420.31	6.38E+00	6.65	3.25E+00	3.14
	72	2614.41	2609	2618	2613.67	1.05E+02	22.96	1.53E+01	2.67

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 : 11/10/2015 2:09:37PM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Analysis Report for 1510091-03

CP1807S03-04

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	1	36.36	35 -	39	7.38E+01	76.77	1.25E+03	6.15E+01
	2	45.80	42 -	49	1.82E+02	112.69	1.99E+03	8.99E+01
	3	63.54	60 -	67	1.58E+02	119.21	2.28E+03	9.58E+01
	4	76.25	72 -	79	9.79E+02	141.62	3.29E+03	1.74E+02
	5	88.11	86 -	91	2.75E+02	99.48	1.77E+03	7.71E+01
	6	93.25	91 -	96	2.21E+02	95.90	1.58E+03	7.49E+01
	7	129.02	126 -	131	7.84E+01	74.21	1.04E+03	5.92E+01
	8	144.61	142 -	148	1.11E+02	79.06	1.06E+03	6.26E+01
	9	186.22	183 -	190	2.97E+02	88.09	1.09E+03	6.66E+01
	10	209.57	207 -	212	5.45E+01	63.05	7.49E+02	5.04E+01
M	11	236.13	234 -	245	6.50E+01	42.19	3.79E+02	3.20E+01
m	12	238.94	234 -	245	8.31E+02	72.44	3.75E+02	3.18E+01
m	13	241.88	234 -	245	2.48E+02	54.55	3.70E+02	3.16E+01
M	14	270.16	266 -	280	1.05E+02	51.22	4.08E+02	3.32E+01
m	15	275.02	266 -	280	3.39E+01	35.89	2.72E+02	2.71E+01
M	16	295.32	291 -	302	4.83E+02	54.15	2.72E+02	2.71E+01
m	17	300.14	291 -	302	7.37E+01	41.86	3.53E+02	3.09E+01
	18	328.17	325 -	330	5.67E+01	46.90	3.93E+02	3.65E+01
	19	338.86	335 -	344	2.31E+02	67.74	5.20E+02	4.98E+01
	20	352.00	348 -	355	8.21E+02	80.50	5.33E+02	4.65E+01
	21	409.69	406 -	412	3.56E+01	42.73	3.03E+02	3.37E+01
	22	453.39	450 -	457	4.20E+01	40.60	2.44E+02	3.16E+01
	23	462.80	459 -	467	6.44E+01	45.25	2.77E+02	3.48E+01
	24	511.10	505 -	516	1.97E+02	63.59	4.04E+02	4.69E+01
	25	583.34	579 -	587	2.86E+02	52.94	2.52E+02	3.35E+01
	26	609.48	606 -	614	5.97E+02	63.04	2.45E+02	3.27E+01
	27	665.89	664 -	669	2.15E+01	24.88	1.09E+02	1.90E+01
	28	683.22	679 -	685	2.98E+01	29.77	1.38E+02	2.28E+01
	29	703.80	697 -	709	4.42E+01	50.45	2.76E+02	4.00E+01
	30	727.37	723 -	730	8.10E+01	32.98	1.26E+02	2.27E+01
	31	784.31	779 -	790	8.04E+01	38.47	1.47E+02	2.80E+01
	32	794.98	791 -	799	2.68E+01	32.25	1.42E+02	2.51E+01
	33	853.51	851 -	857	1.68E+01	19.91	6.04E+01	1.49E+01
	34	860.91	857 -	864	2.85E+01	29.60	1.25E+02	2.27E+01
	35	911.38	907 -	916	1.95E+02	45.89	1.88E+02	2.99E+01
	36	934.84	932 -	937	3.01E+01	20.32	5.19E+01	1.41E+01
	37	969.15	965 -	973	6.67E+01	42.82	2.27E+02	3.25E+01
M	38	1000.92	995 -	1018	2.74E+01	28.32	1.04E+02	1.68E+01
m	39	1009.27	995 -	1018	2.54E+01	35.47	1.12E+02	1.74E+01
m	40	1016.06	995 -	1018	1.33E+01	16.91	3.88E+01	1.02E+01
	41	1064.88	1061 -	1067	2.05E+01	20.70	6.30E+01	1.53E+01
M	42	1116.65	1115 -	1126	1.06E+01	11.41	2.68E+01	8.51E+00
m	43	1120.52	1115 -	1126	1.45E+02	29.60	5.90E+01	1.26E+01
M	44	1233.99	1231 -	1244	2.42E+01	20.83	7.43E+01	1.42E+01
m	45	1238.45	1231 -	1244	5.45E+01	29.60	1.05E+02	1.68E+01
M	46	1280.12	1275 -	1289	2.32E+01	23.32	6.23E+01	1.30E+01
m	47	1286.73	1275 -	1289	1.50E+01	18.97	5.92E+01	1.26E+01
	48	1318.76	1314 -	1321	2.20E+01	18.11	4.00E+01	1.27E+01
	49	1377.85	1373 -	1383	4.27E+01	23.33	5.06E+01	1.59E+01
	50	1401.92	1399 -	1404	1.46E+01	14.80	3.07E+01	1.04E+01
	51	1407.82	1405 -	1410	1.82E+01	14.46	2.76E+01	9.59E+00

Analysis Report for 1510091-03

CP1807S03-04

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
M	52	1461.01	1455 -	1470	6.74E+02	53.69	3.15E+01	9.23E+00
m	53	1467.40	1455 -	1470	1.20E+01	16.61	3.21E+01	9.31E+00
	54	1559.26	1556 -	1561	7.69E+00	9.38	1.06E+01	6.22E+00
	55	1574.89	1570 -	1577	1.10E+01	11.83	1.60E+01	8.05E+00
	56	1591.29	1583 -	1599	3.78E+01	29.22	6.25E+01	2.18E+01
	57	1619.78	1614 -	1623	1.40E+01	14.00	2.00E+01	9.73E+00
	58	1630.81	1625 -	1634	1.96E+01	13.53	1.48E+01	8.41E+00
	59	1661.14	1658 -	1665	1.14E+01	10.95	1.32E+01	7.09E+00
	60	1729.81	1723 -	1732	2.34E+01	16.52	2.71E+01	1.10E+01
	61	1748.92	1746 -	1751	7.21E+00	8.66	9.58E+00	5.59E+00
	62	1764.58	1758 -	1769	1.05E+02	24.74	2.40E+01	1.14E+01
	63	1890.68	1888 -	1893	6.30E+00	7.62	7.40E+00	4.71E+00
	64	1966.12	1962 -	1968	7.00E+00	8.03	6.00E+00	4.97E+00
	65	2075.14	2070 -	2076	5.88E+00	6.65	4.25E+00	3.74E+00
	66	2103.75	2095 -	2108	1.88E+01	21.31	4.24E+01	1.60E+01
	67	2203.62	2196 -	2208	2.78E+01	19.68	3.23E+01	1.37E+01
	68	2237.90	2233 -	2241	1.00E+01	6.32	0.00E+00	0.00E+00
	69	2352.26	2346 -	2355	1.02E+01	10.49	9.60E+00	6.84E+00
	70	2363.92	2358 -	2367	8.63E+00	11.79	1.48E+01	8.40E+00
	71	2421.03	2417 -	2423	6.38E+00	6.65	3.25E+00	3.56E+00
	72	2614.41	2609 -	2618	1.05E+02	22.96	1.53E+01	8.45E+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 : 11/10/2015 2:09:37PM

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	36.36	35 -	39	36.47	7.38E+01	76.77	1.25E+03	PM-145 I-125 PM-145
2	45.80	42 -	49	45.90	1.82E+02	112.69	1.99E+03	PB-210

Analysis Report for 1510091-03

CP1807S03-04

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	3	63.54	60 -	67	63.63	1.58E+02	119.21	2.28E+03	TH-234 TH-230
	4	76.25	72 -	79	76.34	9.79E+02	141.62	3.29E+03	.....
	5	88.11	86 -	91	88.19	2.75E+02	99.48	1.77E+03	CD-109 LU-176 SN-126
	6	93.25	91 -	96	93.32	2.21E+02	95.90	1.58E+03	GA-67
	7	129.02	126 -	131	129.08	7.84E+01	74.21	1.04E+03	.....
	8	144.61	142 -	148	144.66	1.11E+02	79.06	1.06E+03	CE-141 U-235
	9	186.22	183 -	190	186.24	2.97E+02	88.09	1.09E+03	RA-226
	10	209.57	207 -	212	209.59	5.45E+01	63.05	7.49E+02	CM-243 GA-67
M	11	236.13	234 -	245	236.13	6.50E+01	42.19	3.79E+02	TH-227 NB-95M
m	12	238.94	234 -	245	238.94	8.31E+02	72.44	3.75E+02	PB-212
m	13	241.88	234 -	245	241.87	2.48E+02	54.55	3.70E+02	RA-224
M	14	270.16	266 -	280	270.14	1.05E+02	51.22	4.08E+02	.....
m	15	275.02	266 -	280	275.00	3.39E+01	35.89	2.72E+02	.....
M	16	295.32	291 -	302	295.29	4.83E+02	54.15	2.72E+02	PB-214
m	17	300.14	291 -	302	300.10	7.37E+01	41.86	3.53E+02	PB-212 GA-67 BI-210M
	18	328.17	325 -	330	328.12	5.67E+01	46.90	3.93E+02	LA-140
	19	338.86	335 -	344	338.81	2.31E+02	67.74	5.20E+02	AC-228
	20	352.00	348 -	355	351.94	8.21E+02	80.50	5.33E+02	PB-214
	21	409.69	406 -	412	409.60	3.56E+01	42.73	3.03E+02	.....
	22	453.39	450 -	457	453.27	4.20E+01	40.60	2.44E+02	PM-146
	23	462.80	459 -	467	462.68	6.44E+01	45.25	2.77E+02	SB-125
	24	511.10	505 -	516	510.96	1.97E+02	63.59	4.04E+02	.....
	25	583.34	579 -	587	583.17	2.86E+02	52.94	2.52E+02	TL-208
	26	609.48	606 -	614	609.29	5.97E+02	63.04	2.45E+02	BI-214
	27	665.89	664 -	669	665.67	2.15E+01	24.88	1.09E+02	SB-126
	28	683.22	679 -	685	683.00	2.98E+01	29.77	1.38E+02	.....
	29	703.80	697 -	709	703.56	4.42E+01	50.45	2.76E+02	.....
	30	727.37	723 -	730	727.13	8.10E+01	32.98	1.26E+02	BI-212
	31	784.31	779 -	790	784.04	8.04E+01	38.47	1.47E+02	SB-127
	32	794.98	791 -	799	794.70	2.68E+01	32.25	1.42E+02	CS-134
	33	853.51	851 -	857	853.21	1.68E+01	19.91	6.04E+01	.....
	34	860.91	857 -	864	860.61	2.85E+01	29.60	1.25E+02	TL-208
	35	911.38	907 -	916	911.05	1.95E+02	45.89	1.88E+02	AC-228 LU-172
	36	934.84	932 -	937	934.51	3.01E+01	20.32	5.19E+01	.....
	37	969.15	965 -	973	968.80	6.67E+01	42.82	2.27E+02	AC-228
M	38	1000.92	995 -	1018	1000.56	2.74E+01	28.32	1.04E+02	PA-234M
m	39	1009.27	995 -	1018	1008.90	2.54E+01	35.47	1.12E+02	.....
m	40	1016.06	995 -	1018	1015.69	1.33E+01	16.91	3.88E+01	.....
	41	1064.88	1061 -	1067	1064.49	2.05E+01	20.70	6.30E+01	.....
M	42	1116.65	1115 -	1126	1116.24	1.06E+01	11.41	2.68E+01	.....
m	43	1120.52	1115 -	1126	1120.11	1.45E+02	29.60	5.90E+01	SC-46 BI-214 TA-182
M	44	1233.99	1231 -	1244	1233.54	2.42E+01	20.83	7.43E+01	.....
m	45	1238.45	1231 -	1244	1238.00	5.45E+01	29.60	1.05E+02	CO-56

Analysis Report for 1510091-03

CP1807S03-04

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
M	46	1280.12	1275 -	1289	1279.66	2.32E+01	23.32	6.23E+01	.....
m	47	1286.73	1275 -	1289	1286.26	1.50E+01	18.97	5.92E+01	.....
	48	1318.76	1314 -	1321	1318.28	2.20E+01	18.11	4.00E+01	.....
	49	1377.85	1373 -	1383	1377.35	4.27E+01	23.33	5.06E+01	.....
	50	1401.92	1399 -	1404	1401.41	1.46E+01	14.80	3.07E+01	.....
	51	1407.82	1405 -	1410	1407.32	1.82E+01	14.46	2.76E+01	EU-152
M	52	1461.01	1455 -	1470	1460.48	6.74E+02	53.69	3.15E+01	K-40
m	53	1467.40	1455 -	1470	1466.88	1.20E+01	16.61	3.21E+01	.....
	54	1559.26	1556 -	1561	1558.70	7.69E+00	9.38	1.06E+01	.....
	55	1574.89	1570 -	1577	1574.33	1.10E+01	11.83	1.60E+01	.....
	56	1591.29	1583 -	1599	1590.73	3.78E+01	29.22	6.25E+01	.....
	57	1619.78	1614 -	1623	1619.21	1.40E+01	14.00	2.00E+01	BI-212
	58	1630.81	1625 -	1634	1630.24	1.96E+01	13.53	1.48E+01	.....
	59	1661.14	1658 -	1665	1660.56	1.14E+01	10.95	1.32E+01	.....
	60	1729.81	1723 -	1732	1729.21	2.34E+01	16.52	2.71E+01	.....
	61	1748.92	1746 -	1751	1748.32	7.21E+00	8.66	9.58E+00	.....
	62	1764.58	1758 -	1769	1763.97	1.05E+02	24.74	2.40E+01	BI-214
	63	1890.68	1888 -	1893	1890.04	6.30E+00	7.62	7.40E+00	.....
	64	1966.12	1962 -	1968	1965.47	7.00E+00	8.03	6.00E+00	.....
	65	2075.14	2070 -	2076	2074.47	5.88E+00	6.65	4.25E+00	.....
	66	2103.75	2095 -	2108	2103.08	1.88E+01	21.31	4.24E+01	.....
	67	2203.62	2196 -	2208	2202.93	2.78E+01	19.68	3.23E+01	BI-214
	68	2237.90	2233 -	2241	2237.20	1.00E+01	6.32	0.00E+00	.....
	69	2352.26	2346 -	2355	2351.55	1.02E+01	10.49	9.60E+00	.....
	70	2363.92	2358 -	2367	2363.21	8.63E+00	11.79	1.48E+01	.....
	71	2421.03	2417 -	2423	2420.31	6.38E+00	6.65	3.25E+00	.....
	72	2614.41	2609 -	2618	2613.67	1.05E+02	22.96	1.53E+01	TL-208

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/10/2015 2:09:37PM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	36.36	7.38E+01	76.77	5.44E-03	1.68E-03
2	45.80	1.82E+02	112.69	1.28E-02	1.68E-03
3	63.54	1.58E+02	119.21	2.38E-02	2.08E-03

Analysis Report for 1510091-03

CP1807S03-04

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	4	76.25	9.79E+02	141.62	2.74E-02	3.34E-03
	5	88.11	2.75E+02	99.48	2.84E-02	4.50E-03
	6	93.25	2.21E+02	95.90	2.85E-02	4.27E-03
	7	129.02	7.84E+01	74.21	2.60E-02	2.78E-03
	8	144.61	1.11E+02	79.06	2.46E-02	2.31E-03
	9	186.22	2.97E+02	88.09	2.11E-02	1.65E-03
	10	209.57	5.45E+01	63.05	1.95E-02	1.63E-03
M	11	236.13	6.50E+01	42.19	1.80E-02	1.60E-03
m	12	238.94	8.31E+02	72.44	1.79E-02	1.60E-03
m	13	241.88	2.48E+02	54.55	1.77E-02	1.60E-03
M	14	270.16	1.05E+02	51.22	1.64E-02	1.57E-03
m	15	275.02	3.39E+01	35.89	1.62E-02	1.56E-03
M	16	295.32	4.83E+02	54.15	1.55E-02	1.48E-03
m	17	300.14	7.37E+01	41.86	1.53E-02	1.46E-03
	18	328.17	5.67E+01	46.90	1.44E-02	1.32E-03
	19	338.86	2.31E+02	67.74	1.41E-02	1.27E-03
	20	352.00	8.21E+02	80.50	1.37E-02	1.21E-03
	21	409.69	3.56E+01	42.73	1.24E-02	1.00E-03
	22	453.39	4.20E+01	40.60	1.15E-02	9.57E-04
	23	462.80	6.44E+01	45.25	1.13E-02	9.47E-04
	24	511.10	1.97E+02	63.59	1.06E-02	8.98E-04
	25	583.34	2.86E+02	52.94	9.58E-03	8.25E-04
	26	609.48	5.97E+02	63.04	9.27E-03	7.98E-04
	27	665.89	2.15E+01	24.88	8.66E-03	7.42E-04
	28	683.22	2.98E+01	29.77	8.49E-03	7.31E-04
	29	703.80	4.42E+01	50.45	8.30E-03	7.18E-04
	30	727.37	8.10E+01	32.98	8.09E-03	7.03E-04
	31	784.31	8.04E+01	38.47	7.62E-03	6.66E-04
	32	794.98	2.68E+01	32.25	7.53E-03	6.60E-04
	33	853.51	1.68E+01	19.91	7.11E-03	6.22E-04
	34	860.91	2.85E+01	29.60	7.06E-03	6.17E-04
	35	911.38	1.95E+02	45.89	6.74E-03	5.87E-04
	36	934.84	3.01E+01	20.32	6.61E-03	5.75E-04
	37	969.15	6.67E+01	42.82	6.41E-03	5.57E-04
M	38	1000.92	2.74E+01	28.32	6.25E-03	5.41E-04
m	39	1009.27	2.54E+01	35.47	6.21E-03	5.37E-04
m	40	1016.06	1.33E+01	16.91	6.17E-03	5.33E-04
	41	1064.88	2.05E+01	20.70	5.94E-03	5.08E-04
M	42	1116.65	1.06E+01	11.41	5.72E-03	4.82E-04
m	43	1120.52	1.45E+02	29.60	5.70E-03	4.80E-04
M	44	1233.99	2.42E+01	20.83	5.29E-03	4.81E-04
m	45	1238.45	5.45E+01	29.60	5.27E-03	4.83E-04
M	46	1280.12	2.32E+01	23.32	5.14E-03	5.02E-04
m	47	1286.73	1.50E+01	18.97	5.12E-03	5.05E-04
	48	1318.76	2.20E+01	18.11	5.03E-03	5.20E-04
	49	1377.85	4.27E+01	23.33	4.87E-03	5.08E-04
	50	1401.92	1.46E+01	14.80	4.81E-03	4.98E-04
	51	1407.82	1.82E+01	14.46	4.79E-03	4.95E-04
M	52	1461.01	6.74E+02	53.69	4.67E-03	4.73E-04
m	53	1467.40	1.20E+01	16.61	4.66E-03	4.71E-04
	54	1559.26	7.69E+00	9.38	4.48E-03	4.33E-04
	55	1574.89	1.10E+01	11.83	4.45E-03	4.26E-04
	56	1591.29	3.78E+01	29.22	4.42E-03	4.19E-04

Analysis Report for 1510091-03

CP1807S03-04

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
57	1619.78	1.40E+01	14.00	4.38E-03	4.07E-04
58	1630.81	1.96E+01	13.53	4.36E-03	4.03E-04
59	1661.14	1.14E+01	10.95	4.32E-03	3.90E-04
60	1729.81	2.34E+01	16.52	4.23E-03	3.62E-04
61	1748.92	7.21E+00	8.66	4.20E-03	3.54E-04
62	1764.58	1.05E+02	24.74	4.19E-03	3.47E-04
63	1890.68	6.30E+00	7.62	4.07E-03	3.18E-04
64	1966.12	7.00E+00	8.03	4.01E-03	3.18E-04
65	2075.14	5.88E+00	6.65	3.96E-03	3.18E-04
66	2103.75	1.88E+01	21.31	3.95E-03	3.18E-04
67	2203.62	2.78E+01	19.68	3.93E-03	3.18E-04
68	2237.90	1.00E+01	6.32	3.93E-03	3.18E-04
69	2352.26	1.02E+01	10.49	3.94E-03	3.18E-04
70	2363.92	8.63E+00	11.79	3.94E-03	3.18E-04
71	2421.03	6.38E+00	6.65	3.96E-03	3.18E-04
72	2614.41	1.05E+02	22.96	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 : 11/10/2015 2:09:37PM

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	36.36	7.38E+01	76.77			7.38E+01	7.68E+01
	2	45.80	1.82E+02	112.69			1.82E+02	1.13E+02
	3	63.54	1.58E+02	119.21	4.34E+01	1.15E+01	1.15E+02	1.20E+02
	4	76.25	9.79E+02	141.62			9.79E+02	1.42E+02
	5	88.11	2.75E+02	99.48	1.46E+00	7.88E+00	2.74E+02	9.98E+01
	6	93.25	2.21E+02	95.90	5.70E+01	9.03E+00	1.64E+02	9.63E+01
	7	129.02	7.84E+01	74.21			7.84E+01	7.42E+01
	8	144.61	1.11E+02	79.06	8.10E+00	1.90E+01	1.03E+02	8.13E+01
	9	186.22	2.97E+02	88.09	4.72E+01	7.97E+00	2.50E+02	8.85E+01
	10	209.57	5.45E+01	63.05			5.45E+01	6.30E+01
M	11	236.13	6.50E+01	42.19			6.50E+01	4.22E+01
m	12	238.94	8.31E+02	72.44	2.36E+01	1.35E+01	8.07E+02	7.37E+01
m	13	241.88	2.48E+02	54.55	6.38E+00	3.91E+00	2.41E+02	5.47E+01
M	14	270.16	1.05E+02	51.22			1.05E+02	5.12E+01

Analysis Report for 1510091-03

CP1807S03-04

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
m	15	275.02	3.39E+01	35.89			3.39E+01	3.59E+01
M	16	295.32	4.83E+02	54.15	8.57E+00	6.10E+00	4.74E+02	5.45E+01
m	17	300.14	7.37E+01	41.86			7.37E+01	4.19E+01
	18	328.17	5.67E+01	46.90	0.00E+00	0.00E+00	5.67E+01	4.69E+01
	19	338.86	2.31E+02	67.74			2.31E+02	6.77E+01
	20	352.00	8.21E+02	80.50	1.40E+01	5.55E+00	8.07E+02	8.07E+01
	21	409.69	3.56E+01	42.73			3.56E+01	4.27E+01
	22	453.39	4.20E+01	40.60			4.20E+01	4.06E+01
	23	462.80	6.44E+01	45.25			6.44E+01	4.52E+01
	24	511.10	1.97E+02	63.59	8.41E+01	5.50E+00	1.13E+02	6.38E+01
	25	583.34	2.86E+02	52.94	7.32E+00	4.08E+00	2.79E+02	5.31E+01
	26	609.48	5.97E+02	63.04	1.30E+01	3.89E+00	5.84E+02	6.32E+01
	27	665.89	2.15E+01	24.88			2.15E+01	2.49E+01
	28	683.22	2.98E+01	29.77			2.98E+01	2.98E+01
	29	703.80	4.42E+01	50.45			4.42E+01	5.04E+01
	30	727.37	8.10E+01	32.98			8.10E+01	3.30E+01
	31	784.31	8.04E+01	38.47			8.04E+01	3.85E+01
	32	794.98	2.68E+01	32.25			2.68E+01	3.22E+01
	33	853.51	1.68E+01	19.91			1.68E+01	1.99E+01
	34	860.91	2.85E+01	29.60			2.85E+01	2.96E+01
	35	911.38	1.95E+02	45.89	5.60E+00	3.32E+00	1.89E+02	4.60E+01
	36	934.84	3.01E+01	20.32			3.01E+01	2.03E+01
	37	969.15	6.67E+01	42.82			6.67E+01	4.28E+01
M	38	1000.92	2.74E+01	28.32			2.74E+01	2.83E+01
m	39	1009.27	2.54E+01	35.47			2.54E+01	3.55E+01
m	40	1016.06	1.33E+01	16.91			1.33E+01	1.69E+01
	41	1064.88	2.05E+01	20.70			2.05E+01	2.07E+01
M	42	1116.65	1.06E+01	11.41			1.06E+01	1.14E+01
m	43	1120.52	1.45E+02	29.60	3.93E+00	2.96E+00	1.41E+02	2.97E+01
M	44	1233.99	2.42E+01	20.83			2.42E+01	2.08E+01
m	45	1238.45	5.45E+01	29.60			5.45E+01	2.96E+01
M	46	1280.12	2.32E+01	23.32			2.32E+01	2.33E+01
m	47	1286.73	1.50E+01	18.97			1.50E+01	1.90E+01
	48	1318.76	2.20E+01	18.11			2.20E+01	1.81E+01
	49	1377.85	4.27E+01	23.33			4.27E+01	2.33E+01
	50	1401.92	1.46E+01	14.80			1.46E+01	1.48E+01
	51	1407.82	1.82E+01	14.46			1.82E+01	1.45E+01
M	52	1461.01	6.74E+02	53.69	1.12E+01	2.55E+00	6.63E+02	5.37E+01
m	53	1467.40	1.20E+01	16.61			1.20E+01	1.66E+01
	54	1559.26	7.69E+00	9.38			7.69E+00	9.38E+00
	55	1574.89	1.10E+01	11.83	7.42E-01	1.86E+00	1.03E+01	1.20E+01
	56	1591.29	3.78E+01	29.22			3.78E+01	2.92E+01
	57	1619.78	1.40E+01	14.00			1.40E+01	1.40E+01
	58	1630.81	1.96E+01	13.53			1.96E+01	1.35E+01
	59	1661.14	1.14E+01	10.95			1.14E+01	1.10E+01
	60	1729.81	2.34E+01	16.52			2.34E+01	1.65E+01
	61	1748.92	7.21E+00	8.66			7.21E+00	8.66E+00
	62	1764.58	1.05E+02	24.74	4.23E+00	2.21E+00	1.01E+02	2.48E+01
	63	1890.68	6.30E+00	7.62			6.30E+00	7.62E+00
	64	1966.12	7.00E+00	8.03			7.00E+00	8.03E+00
	65	2075.14	5.88E+00	6.65			5.88E+00	6.65E+00
	66	2103.75	1.88E+01	21.31			1.88E+01	2.13E+01
	67	2203.62	2.78E+01	19.68	5.94E-01	1.16E+00	2.72E+01	1.97E+01
	68	2237.90	1.00E+01	6.32			1.00E+01	6.32E+00

Analysis Report for 1510091-03

CP1807S03-04

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
69	2352.26	1.02E+01	10.49			1.02E+01	1.05E+01
70	2363.92	8.63E+00	11.79			8.63E+00	1.18E+01
71	2421.03	6.38E+00	6.65			6.38E+00	6.65E+00
72	2614.41	1.05E+02	22.96	7.38E+00	1.57E+00	9.80E+01	2.30E+01

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

AREA CORRECTION REPORT
REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/10/2015 2:09:37PM

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	36.36	7.38E+01	76.77			7.38E+01	7.68E+01
	2	45.80	1.82E+02	112.69			1.82E+02	1.13E+02
	3	63.54	1.58E+02	119.21	4.34E+01	1.15E+01	1.15E+02	1.20E+02
	4	76.25	9.79E+02	141.62			9.79E+02	1.42E+02
	5	88.11	2.75E+02	99.48	1.46E+00	7.88E+00	2.74E+02	9.98E+01
	6	93.25	2.21E+02	95.90	5.70E+01	9.03E+00	1.64E+02	9.63E+01
	7	129.02	7.84E+01	74.21			7.84E+01	7.42E+01
	8	144.61	1.11E+02	79.06	8.10E+00	1.90E+01	1.03E+02	8.13E+01
	9	186.22	2.97E+02	88.09	4.72E+01	7.97E+00	2.50E+02	8.85E+01
	10	209.57	5.45E+01	63.05			5.45E+01	6.30E+01
M	11	236.13	6.50E+01	42.19			6.50E+01	4.22E+01
m	12	238.94	8.31E+02	72.44	2.36E+01	1.35E+01	8.07E+02	7.37E+01
m	13	241.88	2.48E+02	54.55	6.38E+00	3.91E+00	2.41E+02	5.47E+01
M	14	270.16	1.05E+02	51.22			1.05E+02	5.12E+01
m	15	275.02	3.39E+01	35.89			3.39E+01	3.59E+01
M	16	295.32	4.83E+02	54.15	8.57E+00	6.10E+00	4.74E+02	5.45E+01
m	17	300.14	7.37E+01	41.86			7.37E+01	4.19E+01
	18	328.17	5.67E+01	46.90	0.00E+00	0.00E+00	5.67E+01	4.69E+01
	19	338.86	2.31E+02	67.74			2.31E+02	6.77E+01
	20	352.00	8.21E+02	80.50	1.40E+01	5.55E+00	8.07E+02	8.07E+01
	21	409.69	3.56E+01	42.73			3.56E+01	4.27E+01
	22	453.39	4.20E+01	40.60			4.20E+01	4.06E+01
	23	462.80	6.44E+01	45.25			6.44E+01	4.52E+01
	24	511.10	1.97E+02	63.59	8.41E+01	5.50E+00	1.13E+02	6.38E+01

Analysis Report for 1510091-03

CP1807S03-04

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	25	583.34	2.86E+02	52.94	7.32E+00	4.08E+00	2.79E+02	5.31E+01
	26	609.48	5.97E+02	63.04	1.30E+01	3.89E+00	5.84E+02	6.32E+01
	27	665.89	2.15E+01	24.88			2.15E+01	2.49E+01
	28	683.22	2.98E+01	29.77			2.98E+01	2.98E+01
	29	703.80	4.42E+01	50.45			4.42E+01	5.04E+01
	30	727.37	8.10E+01	32.98			8.10E+01	3.30E+01
	31	784.31	8.04E+01	38.47			8.04E+01	3.85E+01
	32	794.98	2.68E+01	32.25			2.68E+01	3.22E+01
	33	853.51	1.68E+01	19.91			1.68E+01	1.99E+01
	34	860.91	2.85E+01	29.60			2.85E+01	2.96E+01
	35	911.38	1.95E+02	45.89	5.60E+00	3.32E+00	1.89E+02	4.60E+01
	36	934.84	3.01E+01	20.32			3.01E+01	2.03E+01
	37	969.15	6.67E+01	42.82			6.67E+01	4.28E+01
M	38	1000.92	2.74E+01	28.32			2.74E+01	2.83E+01
m	39	1009.27	2.54E+01	35.47			2.54E+01	3.55E+01
m	40	1016.06	1.33E+01	16.91			1.33E+01	1.69E+01
	41	1064.88	2.05E+01	20.70			2.05E+01	2.07E+01
M	42	1116.65	1.06E+01	11.41			1.06E+01	1.14E+01
m	43	1120.52	1.45E+02	29.60	3.93E+00	2.96E+00	1.41E+02	2.97E+01
M	44	1233.99	2.42E+01	20.83			2.42E+01	2.08E+01
m	45	1238.45	5.45E+01	29.60			5.45E+01	2.96E+01
M	46	1280.12	2.32E+01	23.32			2.32E+01	2.33E+01
m	47	1286.73	1.50E+01	18.97			1.50E+01	1.90E+01
	48	1318.76	2.20E+01	18.11			2.20E+01	1.81E+01
	49	1377.85	4.27E+01	23.33			4.27E+01	2.33E+01
	50	1401.92	1.46E+01	14.80			1.46E+01	1.48E+01
	51	1407.82	1.82E+01	14.46			1.82E+01	1.45E+01
M	52	1461.01	6.74E+02	53.69	1.12E+01	2.55E+00	6.63E+02	5.37E+01
m	53	1467.40	1.20E+01	16.61			1.20E+01	1.66E+01
	54	1559.26	7.69E+00	9.38			7.69E+00	9.38E+00
	55	1574.89	1.10E+01	11.83	7.42E-01	1.86E+00	1.03E+01	1.20E+01
	56	1591.29	3.78E+01	29.22			3.78E+01	2.92E+01
	57	1619.78	1.40E+01	14.00			1.40E+01	1.40E+01
	58	1630.81	1.96E+01	13.53			1.96E+01	1.35E+01
	59	1661.14	1.14E+01	10.95			1.14E+01	1.10E+01
	60	1729.81	2.34E+01	16.52			2.34E+01	1.65E+01
	61	1748.92	7.21E+00	8.66			7.21E+00	8.66E+00
	62	1764.58	1.05E+02	24.74	4.23E+00	2.21E+00	1.01E+02	2.48E+01
	63	1890.68	6.30E+00	7.62			6.30E+00	7.62E+00
	64	1966.12	7.00E+00	8.03			7.00E+00	8.03E+00
	65	2075.14	5.88E+00	6.65			5.88E+00	6.65E+00
	66	2103.75	1.88E+01	21.31			1.88E+01	2.13E+01
	67	2203.62	2.78E+01	19.68	5.94E-01	1.16E+00	2.72E+01	1.97E+01
	68	2237.90	1.00E+01	6.32			1.00E+01	6.32E+00
	69	2352.26	1.02E+01	10.49			1.02E+01	1.05E+01
	70	2363.92	8.63E+00	11.79			8.63E+00	1.18E+01
	71	2421.03	6.38E+00	6.65			6.38E+00	6.65E+00
	72	2614.41	1.05E+02	22.96	7.38E+00	1.57E+00	9.80E+01	2.30E+01

Analysis Report for 1510091-03

CP1807S03-04

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	0.994	1460.81	*	10.67	1.82E+01	2.39E+00
GA-67	0.632	93.31	*	35.70	1.65E+02	7.03E+02
		208.95	*	2.24	1.28E+03	5.40E+03
		300.22	*	16.00	3.09E+02	1.31E+03
NB-95M	0.669	235.69	*	25.00	7.81E+01	5.12E+01
CD-109	0.999	88.03	*	3.72	3.71E+00	1.49E+00
I-125	0.885	35.49	*	6.49	4.09E+00	4.44E+00
SN-126	0.954	87.57	*	37.00	3.56E-01	1.41E-01
CE-141	0.892	145.44	*	48.40	2.30E-01	1.91E-01
PM-146	0.398	453.90	*	39.94	1.26E-01	1.23E-01
		735.90		14.01		
		747.13		13.10		
TL-208	0.989	583.14	*	30.22	1.32E+00	2.75E-01
		860.37	*	4.48	1.23E+00	1.28E+00
		2614.66	*	35.85	9.22E-01	2.28E-01
PB-210	0.924	46.50	*	4.25	4.57E+00	2.90E+00
BI-212	0.974	727.17	*	11.80	1.16E+00	4.83E-01
		1620.62	*	2.75	1.59E+00	1.60E+00
PB-212	0.986	238.63	*	44.60	1.39E+00	1.77E-01
		300.09	*	3.41	1.93E+00	1.11E+00
BI-214	0.992	609.31	*	46.30	1.86E+00	2.57E-01
		1120.29	*	15.10	2.24E+00	5.09E-01
		1764.49	*	15.80	2.08E+00	5.42E-01
		2204.22	*	4.98	1.90E+00	1.39E+00
PB-214	0.999	295.21	*	19.19	2.19E+00	3.27E-01
		351.92	*	37.19	2.16E+00	2.88E-01
RA-224	0.880	240.98	*	3.95	4.72E+00	1.15E+00
RA-226	1.000	186.21	*	3.28	4.94E+00	9.21E+00
AC-228	0.983	338.32	*	11.40	1.97E+00	6.04E-01
		911.07	*	27.70	1.39E+00	3.58E-01
		969.11	*	16.60	8.57E-01	5.55E-01
PA-234M	0.998	1001.03	*	0.92	6.52E+00	6.76E+00
TH-234	0.990	63.29	*	3.80	1.73E+00	1.81E+00

Analysis Report for 1510091-03

CP1807S03-04

* = 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 : 11/10/2015 2:09:37PM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	4	76.25	2.72021E-01	7.23		
	7	129.02	2.17781E-02	47.33	Sum	
M	14	270.16	2.91217E-02	24.43		
m	15	275.02	9.42480E-03	52.89	Sum	
	18	328.17	1.57389E-02	41.39	Tol.	LA-140
	21	409.69	9.90196E-03	59.94		
	23	462.80	1.78825E-02	35.14	Tol.	SB-125
	24	511.10	3.13521E-02	28.28		
	27	665.89	5.97953E-03	57.79	Tol.	SB-126
	28	683.22	8.28704E-03	49.89		
	29	703.80	1.22756E-02	57.07	Sum	
	31	784.31	2.23268E-02	23.93	Tol.	SB-127
	32	794.98	7.43481E-03	60.24	Sum	
	33	853.51	4.66903E-03	59.21		
	36	934.84	8.35317E-03	33.79	Sum	
m	39	1009.27	7.05152E-03	69.86		
m	40	1016.06	3.68754E-03	63.70		
	41	1064.88	5.69444E-03	50.49	Sum	
M	42	1116.65	2.93549E-03	54.00		
M	44	1233.99	6.73465E-03	42.96		
m	45	1238.45	1.51463E-02	27.14		
M	46	1280.12	6.43092E-03	50.36		
m	47	1286.73	4.16505E-03	63.25		
	48	1318.76	6.11111E-03	41.16		
	49	1377.85	1.18668E-02	27.30		
	50	1401.92	4.06944E-03	50.51		
	51	1407.82	5.05642E-03	39.71	Tol.	EU-152
m	53	1467.40	3.33894E-03	69.11		
	54	1559.26	2.13675E-03	60.98		
	55	1574.89	2.84947E-03	58.38	Sum	
	56	1591.29	1.04911E-02	38.69		
	58	1630.81	5.44239E-03	34.52		
	59	1661.14	3.17130E-03	47.98		
	60	1729.81	6.51276E-03	35.24	Sum	

Analysis Report for 1510091-03

CP1807S03-04

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
61	1748.92	2.00231E-03	60.07		
63	1890.68	1.75000E-03	60.44		
64	1966.12	1.94444E-03	57.37		
65	2075.14	1.63194E-03	56.61		
66	2103.75	5.22917E-03	56.59	S-Esc	
68	2237.90	2.77778E-03	31.62		
69	2352.26	2.83333E-03	51.41		
70	2363.92	2.39583E-03	68.35		
71	2421.03	1.77083E-03	52.17		

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	0.99	1460.81	*	10.67	1.82E+01	2.39E+00
GA-67	0.63	93.31	*	35.70	1.65E+02	7.03E+02
		208.95	*	2.24	1.28E+03	5.40E+03
		300.22	*	16.00	3.09E+02	1.31E+03
NB-95M	0.66	235.69	*	25.00	7.81E+01	5.12E+01
CD-109	0.99	88.03	*	3.72	3.71E+00	1.49E+00
I-125	0.88	35.49	*	6.49	4.09E+00	4.44E+00
SN-126	0.95	87.57	*	37.00	3.56E-01	1.41E-01
CE-141	0.89	145.44	*	48.40	2.30E-01	1.91E-01
PM-146	0.39	453.90	*	39.94	1.26E-01	1.23E-01
		735.90		14.01		
		747.13		13.10		
TL-208	0.98	583.14	*	30.22	1.32E+00	2.75E-01
		860.37	*	4.48	1.23E+00	1.28E+00
		2614.66	*	35.85	9.22E-01	2.28E-01
PB-210	0.92	46.50	*	4.25	4.57E+00	2.90E+00
BI-212	0.97	727.17	*	11.80	1.16E+00	4.83E-01
		1620.62	*	2.75	1.59E+00	1.60E+00
PB-212	0.98	238.63	*	44.60	1.39E+00	1.77E-01

Analysis Report for 1510091-03

CP1807S03-04

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
PB-212	0.98	300.09	*	3.41	1.93E+00	1.11E+00
BI-214	0.99	609.31	*	46.30	1.86E+00	2.57E-01
		1120.29	*	15.10	2.24E+00	5.09E-01
		1764.49	*	15.80	2.08E+00	5.42E-01
		2204.22	*	4.98	1.90E+00	1.39E+00
PB-214	0.99	295.21	*	19.19	2.19E+00	3.27E-01
		351.92	*	37.19	2.16E+00	2.88E-01
RA-224	0.88	240.98	*	3.95	4.72E+00	1.15E+00
RA-226	1.00	186.21	*	3.28	4.94E+00	9.21E+00
AC-228	0.98	338.32	*	11.40	1.97E+00	6.04E-01
		911.07	*	27.70	1.39E+00	3.58E-01
		969.11	*	16.60	8.57E-01	5.55E-01
PA-234M	0.99	1001.03	*	0.92	6.52E+00	6.76E+00
TH-234	0.99	63.29	*	3.80	1.73E+00	1.81E+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	0.994	1.82E+01	2.39E+00	
	GA-67	0.632	1.51E+02	6.18E+02	
	NB-95M	0.669	7.81E+01	5.12E+01	
?	CD-109	0.999	3.71E+00	1.49E+00	
	I-125	0.885	4.09E+00	4.44E+00	
?	SN-126	0.954	3.56E-01	1.41E-01	
	CE-141	0.892	2.30E-01	1.91E-01	
	PM-146	0.398	1.26E-01	1.23E-01	
	TL-208	0.989	1.09E+00	1.74E-01	
	PB-210	0.924	4.57E+00	2.90E+00	
	BI-212	0.974	1.20E+00	4.63E-01	
	PB-212	0.986	1.38E+00	1.76E-01	
	BI-214	0.992	1.96E+00	2.09E-01	

Analysis Report for 1510091-03

CP1807S03-04

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
PB-214	0.999	2.17E+00	2.16E-01	
RA-224	0.880	4.72E+00	1.15E+00	
RA-226	1.000	4.94E+00	9.21E+00	
AC-228	0.983	1.38E+00	2.69E-01	
PA-234M	0.998	6.52E+00	6.76E+00	
TH-234	0.990	1.73E+00	1.81E+00	

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510091-03

CP1807S03-04

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 2:09:37PM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	4	76.25	2.72021E-01	7.23		
	7	129.02	2.17781E-02	47.33	Sum	
M	14	270.16	2.91217E-02	24.43		
m	15	275.02	9.42480E-03	52.89	Sum	
	18	328.17	1.57389E-02	41.39	Tol.	LA-140
	21	409.69	9.90196E-03	59.94		
	23	462.80	1.78825E-02	35.14	Tol.	SB-125
	24	511.10	3.13521E-02	28.28		
	27	665.89	5.97953E-03	57.79	Tol.	SB-126
	28	683.22	8.28704E-03	49.89		
	29	703.80	1.22756E-02	57.07	Sum	
	31	784.31	2.23268E-02	23.93	Tol.	SB-127
	32	794.98	7.43481E-03	60.24	Sum	
	33	853.51	4.66903E-03	59.21		
	36	934.84	8.35317E-03	33.79	Sum	
m	39	1009.27	7.05152E-03	69.86		
m	40	1016.06	3.68754E-03	63.70		
	41	1064.88	5.69444E-03	50.49	Sum	
M	42	1116.65	2.93549E-03	54.00		
M	44	1233.99	6.73465E-03	42.96		
m	45	1238.45	1.51463E-02	27.14		
M	46	1280.12	6.43092E-03	50.36		
m	47	1286.73	4.16505E-03	63.25		
	48	1318.76	6.11111E-03	41.16		
	49	1377.85	1.18668E-02	27.30		
	50	1401.92	4.06944E-03	50.51		
	51	1407.82	5.05642E-03	39.71	Tol.	EU-152
m	53	1467.40	3.33894E-03	69.11		
	54	1559.26	2.13675E-03	60.98		
	55	1574.89	2.84947E-03	58.38	Sum	
	56	1591.29	1.04911E-02	38.69		
	58	1630.81	5.44239E-03	34.52		
	59	1661.14	3.17130E-03	47.98		
	60	1729.81	6.51276E-03	35.24	Sum	
	61	1748.92	2.00231E-03	60.07		

Analysis Report for 1510091-03

CP1807S03-04

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
63	1890.68	1.75000E-03	60.44		
64	1966.12	1.94444E-03	57.37		
65	2075.14	1.63194E-03	56.61		
66	2103.75	5.22917E-03	56.59	S-Esc	
68	2237.90	2.77778E-03	31.62		
69	2352.26	2.83333E-03	51.41		
70	2363.92	2.39583E-03	68.35		
71	2421.03	1.77083E-03	52.17		

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	-2.84E-01	8.08E-01	8.08E-01
+	NA-22	1274.54		99.94	2.17E-02	8.72E-02	8.72E-02
+	NA-24	1368.53		99.99	1.48E+13	3.06E+13	7.27E+13
		2754.09		99.86	-2.41E+13		3.06E+13
+	AL-26	1808.65		99.76	-1.02E-02	5.26E-02	5.26E-02
+	K-40	1460.81	*	10.67	1.82E+01	1.26E+00	1.26E+00
+	@ AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	1.17E-02	5.89E-02	5.89E-02
		78.34		96.00	3.51E-01		8.52E-02
+	SC-46	889.25		99.98	4.81E-02	1.04E-01	1.04E-01
		1120.51		99.99	3.56E-01		1.95E-01
+	V-48	983.52		99.98	-3.38E-02	2.79E-01	2.83E-01
		1312.10		97.50	-2.42E-02		2.79E-01
+	CR-51	320.08		9.83	2.86E-01	1.28E+00	1.28E+00
+	MN-54	834.83		99.97	8.59E-03	8.59E-02	8.59E-02
+	CO-56	846.75		99.96	2.05E-02	8.52E-02	8.52E-02
		1037.75		14.03	-2.66E-01		7.17E-01
		1238.25		67.00	1.68E-01		2.48E-01
		1771.40		15.51	2.50E-02		4.40E-01
		2598.48		16.90	7.90E-02		3.45E-01

Analysis Report for 1510091-03

CP1807S03-04

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	CO-57	122.06		85.51	9.39E-03	6.56E-02	6.56E-02
		136.48		10.60	-2.57E-02		5.66E-01
+	CO-58	810.76		99.40	-4.09E-02	1.00E-01	1.00E-01
+	FE-59	1099.22		56.50	1.49E-01	2.61E-01	2.61E-01
		1291.56		43.20	6.54E-02		3.04E-01
+	CO-60	1173.22		100.00	4.25E-02	7.07E-02	1.00E-01
		1332.49		100.00	-2.48E-02		7.07E-02
+	ZN-65	1115.52		50.75	-8.70E-02	1.74E-01	1.74E-01
+	GA-67	93.31	*	35.70	1.65E+02	1.57E+02	1.57E+02
		208.95	*	2.24	1.28E+03		2.43E+03
		300.22	*	16.00	3.09E+02		5.29E+02
+	SE-75	121.11		16.70	1.25E-01	1.13E-01	3.65E-01
		136.00		59.20	1.19E-02		1.13E-01
		264.65		59.80	4.44E-02		1.15E-01
		279.53		25.20	-7.28E-02		2.75E-01
		400.65		11.40	1.83E-01		6.50E-01
+	RB-82	776.52		13.00	-1.80E-01	1.30E+00	1.30E+00
+	RB-83	520.41		46.00	2.40E-02	1.64E-01	1.64E-01
		529.64		30.30	7.77E-02		2.65E-01
		552.65		16.40	6.39E-02		4.65E-01
+	KR-85	513.99		0.43	-9.20E+00	1.67E+01	1.67E+01
+	SR-85	513.99		99.27	-5.58E-02	1.02E-01	1.02E-01
+	Y-88	898.02		93.40	-5.43E-02	6.15E-02	8.63E-02
		1836.01		99.38	-1.72E-02		6.15E-02
+	NB-93M	16.57		9.43	-9.77E+03	5.78E+03	5.78E+03
+	NB-94	702.63		100.00	1.31E-02	7.39E-02	8.26E-02
		871.10		100.00	-7.05E-03		7.39E-02
+	NB-95	765.79		99.81	1.82E-01	1.87E-01	1.87E-01
+	NB-95M	235.69	*	25.00	7.81E+01	1.74E+02	1.74E+02
+	ZR-95	724.18		43.70	-1.54E-03	2.14E-01	2.88E-01
		756.72		55.30	2.13E-02		2.14E-01
+	MO-99	181.06		6.20	8.42E+02	1.55E+03	2.45E+03
		739.58		12.80	-9.55E+01		1.55E+03
		778.00		4.50	-4.96E+02		4.05E+03
+	RU-103	497.08		89.00	-3.20E-02	1.13E-01	1.13E-01
+	RU-106	621.84		9.80	-1.22E-01	7.75E-01	7.75E-01
+	AG-108M	433.93		89.90	-1.47E-02	6.37E-02	6.37E-02
		614.37		90.40	-9.29E-03		8.46E-02
		722.95		90.50	-6.24E-03		8.30E-02
+	CD-109	88.03	*	3.72	3.71E+00	2.13E+00	2.13E+00
+	AG-110M	657.75		93.14	5.92E-03	8.80E-02	8.80E-02
		677.61		10.53	6.11E-02		7.55E-01
		706.67		16.46	1.29E-01		5.52E-01
		763.93		21.98	-7.67E-01		4.17E-01
		884.67		71.63	-1.39E-02		1.04E-01
		1384.27		23.94	9.63E-03		2.74E-01
+	CD-113M	263.70		0.02	5.97E+01	2.47E+02	2.47E+02

Analysis Report for 1510091-03

CP1807S03-04

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	SN-113	255.12		1.93	2.45E-01	1.00E-01	3.44E+00
		391.69		64.90	-6.98E-02		1.00E-01
+	TE123M	159.00		84.10	1.44E-02	7.85E-02	7.85E-02
+	SB-124	602.71		97.87	2.35E-02	1.06E-01	1.06E-01
		645.85		7.26	7.08E-01		1.40E+00
		722.78		11.10	-7.28E-02		9.67E-01
		1691.02		49.00	-7.24E-02		1.48E-01
+	I-125	35.49	*	6.49	4.09E+00	6.98E+00	6.98E+00
+	SB-125	176.33		6.89	-3.66E-01	2.06E-01	8.59E-01
		427.89		29.33	3.55E-02		2.06E-01
		463.38		10.35	7.49E-01		6.90E-01
		600.56		17.80	-1.98E-01		4.08E-01
		635.90		11.32	2.13E-01		6.86E-01
+	SB-126	414.70		83.30	6.39E-02	4.10E-01	4.32E-01
		666.33		99.60	-2.63E-01		4.10E-01
		695.00		99.60	-8.26E-02		4.40E-01
		720.50		53.80	7.12E-02		7.89E-01
+	SN-126	87.57	*	37.00	3.56E-01	2.05E-01	2.05E-01
+	SB-127	473.00		25.00	5.04E+00	6.09E+01	6.19E+01
		685.20		35.70	4.99E-01		6.09E+01
		783.80		14.70	1.00E+02		1.67E+02
+	I-129	29.78		57.00	-7.01E-01	1.26E+00	1.26E+00
		33.60		13.20	-1.14E+00		2.66E+00
		39.58		7.52	5.66E-02		2.16E+00
+	I-131	284.30		6.05	-5.87E+00	1.01E+00	1.39E+01
		364.48		81.20	-7.05E-01		1.01E+00
		636.97		7.26	8.43E+00		1.56E+01
		722.89		1.80	-4.60E+00		6.11E+01
+	TE-132	49.72		13.10	1.30E+02	5.20E+01	4.71E+02
		228.16		88.00	-1.97E+01		5.20E+01
+	BA-133	81.00		33.00	4.44E-02	1.02E-01	1.45E-01
		302.84		17.80	1.59E-01		3.57E-01
		356.01		60.00	2.19E-02		1.02E-01
+	I-133	529.87		86.30	2.88E+09	4.82E+09	4.82E+09
+	XE-133	81.00		38.00	2.35E+00	7.67E+00	7.67E+00
+	CS-134	563.23		8.38	3.84E-01	9.53E-02	8.12E-01
		569.32		15.43	-7.52E-02		3.84E-01
		604.70		97.60	1.08E-02		9.72E-02
		795.84		85.40	-1.98E-03		9.53E-02
		801.93		8.73	-4.00E-01		8.54E-01
+	CS-135	268.24		16.00	-1.46E-02	4.07E-01	4.07E-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	4.28E+00	3.67E-01	4.04E+00
		163.89		4.61	3.54E+00		6.42E+00
		176.55		13.56	-1.00E+00		2.19E+00
		273.65		12.66	-3.20E+00		2.51E+00
		340.57		48.50	-2.62E-01		7.80E-01

Analysis Report for 1510091-03

CP1807S03-04

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	CS-136	818.50		99.70	-7.86E-02	3.67E-01	3.67E-01
		1048.07		79.60	-1.60E-01		5.57E-01
		1235.34		19.70	9.68E-01		3.18E+00
+	CS-137	661.65		85.12	-3.01E-02	8.29E-02	8.29E-02
+	LA-138	788.74		34.00	7.08E-02	9.84E-02	2.55E-01
		1435.80		66.00	-2.23E-02		9.84E-02
+	CE-139	165.85		80.35	-8.73E-03	8.23E-02	8.23E-02
+	BA-140	162.64		6.70	-6.26E-01	1.20E+00	4.56E+00
		304.84		4.50	4.94E+00		7.53E+00
		423.70		3.20	5.27E+00		1.00E+01
		437.55		2.00	5.66E+00		1.64E+01
		537.32		25.00	-6.13E-02		1.20E+00
+	LA-140	328.77		20.50	1.46E-01	4.64E-01	1.80E+00
		487.03		45.50	-1.25E-01		6.70E-01
		815.85		23.50	-1.07E-01		1.63E+00
		1596.49		95.49	6.44E-02		4.64E-01
+	CE-141	145.44	*	48.40	2.30E-01	2.96E-01	2.96E-01
+	CE-143	57.36		11.80	-1.40E+06	1.43E+06	3.23E+06
		293.26		42.00	6.81E+04		1.43E+06
		664.55		5.20	8.51E+05		1.00E+07
+	CE-144	133.54		10.80	3.37E-01	5.53E-01	5.53E-01
+	PM-144	476.78		42.00	-4.98E-02	7.83E-02	1.42E-01
		618.01		98.60	1.37E-02		7.83E-02
		696.49		99.49	-1.53E-02		8.17E-02
+	PM-145	36.85		21.70	5.60E-01	5.60E-01	1.09E+00
		37.36		39.70	2.88E-01		5.60E-01
		42.30		15.10	-2.01E-01		8.67E-01
		72.40		2.31	-3.10E+00		2.31E+00
+	PM-146	453.90	*	39.94	1.26E-01	1.98E-01	1.98E-01
		735.90		14.01	6.54E-02		5.55E-01
		747.13		13.10	9.28E-02		5.98E-01
+	ND-147	91.11		28.90	-1.79E+00	1.77E+00	1.77E+00
		531.02		13.10	1.33E+00		3.38E+00
+	PM-149	285.90		3.10	-9.82E+03	3.30E+04	3.30E+04
+	EU-152	121.78		20.50	3.63E-02	2.54E-01	2.54E-01
		244.69		5.40	1.22E-03		1.12E+00
		344.27		19.13	3.38E-02		3.07E-01
		778.89		9.20	1.61E-02		8.17E-01
		964.01		10.40	5.15E-02		9.65E-01
		1085.78		7.22	-6.87E-02		1.09E+00
		1112.02		9.60	-4.25E-01		7.73E-01
		1407.95		14.94	1.39E-01		5.65E-01
+	GD-153	97.43		31.30	7.94E-02	1.79E-01	1.79E-01
		103.18		22.20	-1.66E-01		2.40E-01
+	EU-154	123.07		40.50	3.07E-02	1.30E-01	1.30E-01
		723.30		19.70	-2.89E-02		3.84E-01
		873.19		11.50	-1.88E-01		6.38E-01
		996.32		10.30	3.04E-03		7.73E-01
		1004.76		17.90	-1.73E-01		4.56E-01

Analysis Report for 1510091-03

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	EU-154	1274.45		35.50	6.02E-02	1.30E-01	2.42E-01
+	EU-155	86.50		30.90	-2.43E-01	2.29E-01	2.29E-01
		105.30		20.70	-6.00E-02		2.47E-01
+	EU-156	811.77		10.40	-2.01E+00	2.85E+00	2.85E+00
		1153.47		7.20	-1.90E+00		5.55E+00
		1230.71		8.90	-1.68E-01		4.40E+00
+	HO-166M	184.41		72.60	3.03E-02	1.01E-01	1.01E-01
		280.45		29.60	-5.19E-02		1.96E-01
		410.94		11.10	2.16E-01		5.95E-01
		711.69		54.10	1.76E-02		1.43E-01
+	TM-171	66.72		0.14	-2.72E+00	4.07E+01	4.07E+01
+	HF-172	81.75		4.52	-1.63E+00	4.84E-01	1.05E+00
		125.81		11.30	3.15E-02		4.84E-01
+	LU-172	181.53		20.60	1.10E+00	3.48E+00	7.24E+00
		810.06		16.63	-4.52E+00		1.11E+01
		912.12		15.25	6.71E+01		2.61E+01
		1093.66		62.50	7.92E-01		3.48E+00
+	LU-173	100.72		5.24	7.37E-01	3.39E-01	9.97E-01
		272.11		21.20	-1.46E-02		3.39E-01
+	HF-175	343.40		84.00	-2.84E-03	9.54E-02	9.54E-02
+	LU-176	88.34		13.30	9.99E-01	6.30E-02	5.46E-01
		201.83		86.00	4.10E-03		6.76E-02
		306.78		94.00	-5.56E-02		6.30E-02
+	TA-182	67.75		41.20	3.25E-02	1.63E-01	1.63E-01
		1121.30		34.90	1.07E+00		5.25E-01
		1189.05		16.23	-3.03E-01		6.66E-01
		1221.41		26.98	-2.03E-01		3.90E-01
		1231.02		11.44	-8.89E-03		1.08E+00
+	IR-192	308.46		29.68	-2.04E-02	1.54E-01	2.68E-01
		468.07		48.10	7.63E-03		1.54E-01
+	HG-203	279.19		77.30	8.86E-02	1.27E-01	1.27E-01
+	BI-207	569.67		97.72	-1.16E-02	5.91E-02	5.91E-02
		1063.62		74.90	3.03E-02		1.13E-01
+	TL-208	583.14	*	30.22	1.32E+00	2.07E-01	3.34E-01
		860.37	*	4.48	1.23E+00		2.08E+00
		2614.66	*	35.85	9.22E-01		2.07E-01
+	BI-210M	262.00		45.00	4.09E-02	1.32E-01	1.32E-01
		300.00		23.00	1.29E-01		2.81E-01
+	PB-210	46.50	*	4.25	4.57E+00	4.60E+00	4.60E+00
+	PB-211	404.84		2.90	-1.87E-01	2.02E+00	2.02E+00
		831.96		2.90	-2.30E+00		2.52E+00
+	BI-212	727.17	*	11.80	1.16E+00	6.90E-01	6.90E-01
		1620.62	*	2.75	1.59E+00		2.52E+00
+	PB-212	238.63	*	44.60	1.39E+00	2.53E-01	2.53E-01
		300.09	*	3.41	1.93E+00		3.31E+00
+	BI-214	609.31	*	46.30	1.86E+00	2.22E-01	2.22E-01
		1120.29	*	15.10	2.24E+00		7.61E-01
		1764.49	*	15.80	2.08E+00		5.53E-01

Analysis Report for 1510091-03

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	BI-214	2204.22	*	4.98	1.90E+00	2.22E-01	2.11E+00
+	PB-214	295.21	*	19.19	2.19E+00	2.60E-01	5.77E-01
		351.92	*	37.19	2.16E+00		2.60E-01
+	RN-219	401.80		6.50	2.30E-01	9.54E-01	9.54E-01
+	RA-223	323.87		3.88	5.61E-01	1.58E+00	1.58E+00
+	RA-224	240.98	*	3.95	4.72E+00	2.84E+00	2.84E+00
+	RA-225	40.00		31.00	5.67E-02	2.16E+00	2.16E+00
+	RA-226	186.21	*	3.28	4.94E+00	2.74E+00	2.74E+00
+	TH-227	50.10		8.40	2.65E-01	7.50E-01	9.57E-01
		236.00		11.50	-5.97E+00		7.50E-01
		256.20		6.30	-4.31E-01		8.77E-01
+	AC-228	338.32	*	11.40	1.97E+00	4.64E-01	8.71E-01
		911.07	*	27.70	1.39E+00		4.64E-01
		969.11	*	16.60	8.57E-01		8.71E-01
+	TH-230	48.44		16.90	-7.27E-01	5.05E-01	5.05E-01
		62.85		4.60	2.33E+00		1.48E+00
		67.67		0.37	3.00E+00		1.50E+01
+	PA-231	283.67		1.60	-1.51E+00	2.75E+00	3.58E+00
		302.67		2.30	1.23E+00		2.75E+00
+	TH-231	25.64		14.70	-7.85E-01	7.85E-01	1.58E+01
		84.21		6.40	8.13E-01		7.85E-01
+	PA-233	311.98		38.60	9.12E-03	3.35E-01	3.35E-01
+	PA-234	131.20		20.40	-2.18E-02	2.77E-01	2.77E-01
		733.99		8.80	9.40E-02		8.43E-01
		946.00		12.00	-1.79E-02		6.43E-01
+	PA-234M	1001.03	*	0.92	6.52E+00	2.14E+01	2.14E+01
+	TH-234	63.29	*	3.80	1.73E+00	2.97E+00	2.97E+00
+	U-235	143.76		10.50	2.95E-01	5.53E-01	5.53E-01
		163.35		4.70	-1.65E-01		1.21E+00
		205.31		4.70	1.06E+00		1.28E+00
+	NP-237	86.50		12.60	-5.89E-01	5.55E-01	5.55E-01
+	NP-239	106.10		22.70	3.64E+01	2.16E+03	2.16E+03
		228.18		10.70	-2.06E+03		5.43E+03
		277.60		14.10	6.01E+02		4.18E+03
+	AM-241	59.54		35.90	-4.70E-02	1.62E-01	1.62E-01
+	AM-243	74.67		66.00	-1.92E-01	1.19E-01	1.19E-01
+	CM-243	209.75		3.29	1.51E+00	4.41E-01	1.99E+00
		228.14		10.60	-2.17E-01		5.74E-01
		277.60		14.00	6.34E-02		4.41E-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 1510091-03

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NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	BE-7	477.59		10.42	8.08E-01	8.08E-01	-2.84E-01	3.80E-01
	NA-22	1274.54		99.94	8.72E-02	8.72E-02	2.17E-02	3.99E-02
	NA-24	1368.53		99.99	7.27E+13	3.06E+13	1.48E+13	3.26E+13
		2754.09		99.86	3.06E+13		-2.41E+13	1.08E+13
	AL-26	1808.65		99.76	5.26E-02	5.26E-02	-1.02E-02	2.18E-02
+	K-40	1460.81	*	10.67	1.26E+00	1.26E+00	1.82E+01	5.93E-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	5.89E-02	5.89E-02	1.17E-02	2.87E-02
		78.34		96.00	8.52E-02		3.51E-01	4.19E-02
	SC-46	889.25		99.98	1.04E-01	1.04E-01	4.81E-02	4.86E-02
		1120.51		99.99	1.95E-01		3.56E-01	9.33E-02
	V-48	983.52		99.98	2.83E-01	2.79E-01	-3.38E-02	1.30E-01
		1312.10		97.50	2.79E-01		-2.42E-02	1.25E-01
	CR-51	320.08		9.83	1.28E+00	1.28E+00	2.86E-01	6.11E-01
	MN-54	834.83		99.97	8.59E-02	8.59E-02	8.59E-03	4.02E-02
	CO-56	846.75		99.96	8.52E-02	8.52E-02	2.05E-02	3.92E-02
		1037.75		14.03	7.17E-01		-2.66E-01	3.30E-01
		1238.25		67.00	2.48E-01		1.68E-01	1.17E-01
		1771.40		15.51	4.40E-01		2.50E-02	1.83E-01
		2598.48		16.90	3.45E-01		7.90E-02	1.37E-01
	CO-57	122.06		85.51	6.56E-02	6.56E-02	9.39E-03	3.19E-02
		136.48		10.60	5.66E-01		-2.57E-02	2.76E-01
	CO-58	810.76		99.40	1.00E-01	1.00E-01	-4.09E-02	4.68E-02
	FE-59	1099.22		56.50	2.61E-01	2.61E-01	1.49E-01	1.21E-01
		1291.56		43.20	3.04E-01		6.54E-02	1.38E-01
	CO-60	1173.22		100.00	1.00E-01	7.07E-02	4.25E-02	4.68E-02
		1332.49		100.00	7.07E-02		-2.48E-02	3.16E-02
	ZN-65	1115.52		50.75	1.74E-01	1.74E-01	-8.70E-02	8.03E-02
+	GA-67	93.31	*	35.70	1.57E+02	1.57E+02	1.65E+02	7.70E+01
		208.95	*	2.24	2.43E+03		1.28E+03	1.18E+03
		300.22	*	16.00	5.29E+02		3.09E+02	2.59E+02
	SE-75	121.11		16.70	3.65E-01	1.13E-01	1.25E-01	1.78E-01
		136.00		59.20	1.13E-01		1.19E-02	5.48E-02
		264.65		59.80	1.15E-01		4.44E-02	5.51E-02
		279.53		25.20	2.75E-01		-7.28E-02	1.32E-01
		400.65		11.40	6.50E-01		1.83E-01	3.09E-01
	RB-82	776.52		13.00	1.30E+00	1.30E+00	-1.80E-01	6.07E-01

Analysis Report for 1510091-03

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	RB-83	520.41		46.00	1.64E-01	1.64E-01	2.40E-02	7.72E-02
		529.64		30.30	2.65E-01		7.77E-02	1.25E-01
		552.65		16.40	4.65E-01		6.39E-02	2.18E-01
	KR-85	513.99		0.43	1.67E+01	1.67E+01	-9.20E+00	7.96E+00
	SR-85	513.99		99.27	1.02E-01	1.02E-01	-5.58E-02	4.83E-02
	Y-88	898.02		93.40	8.63E-02	6.15E-02	-5.43E-02	3.96E-02
		1836.01		99.38	6.15E-02		-1.72E-02	2.52E-02
	NB-93M	16.57		9.43	5.78E+03	5.78E+03	-9.77E+03	2.81E+03
	NB-94	702.63		100.00	8.26E-02	7.39E-02	1.31E-02	3.90E-02
		871.10		100.00	7.39E-02		-7.05E-03	3.43E-02
	NB-95	765.79		99.81	1.87E-01	1.87E-01	1.82E-01	8.93E-02
+	NB-95M	235.69	*	25.00	1.74E+02	1.74E+02	7.81E+01	8.55E+01
	ZR-95	724.18		43.70	2.88E-01	2.14E-01	-1.54E-03	1.37E-01
		756.72		55.30	2.14E-01		2.13E-02	1.01E-01
	MO-99	181.06		6.20	2.45E+03	1.55E+03	8.42E+02	1.19E+03
		739.58		12.80	1.55E+03		-9.55E+01	7.31E+02
		778.00		4.50	4.05E+03		-4.96E+02	1.89E+03
	RU-103	497.08		89.00	1.13E-01	1.13E-01	-3.20E-02	5.33E-02
	RU-106	621.84		9.80	7.75E-01	7.75E-01	-1.22E-01	3.66E-01
	AG-108M	433.93		89.90	6.37E-02	6.37E-02	-1.47E-02	3.01E-02
		614.37		90.40	8.46E-02		-9.29E-03	4.01E-02
		722.95		90.50	8.30E-02		-6.24E-03	3.90E-02
+	CD-109	88.03	*	3.72	2.13E+00	2.13E+00	3.71E+00	1.05E+00
	AG-110M	657.75		93.14	8.80E-02	8.80E-02	5.92E-03	4.15E-02
		677.61		10.53	7.55E-01		6.11E-02	3.55E-01
		706.67		16.46	5.52E-01		1.29E-01	2.61E-01
		763.93		21.98	4.17E-01		-7.67E-01	1.97E-01
		884.67		71.63	1.04E-01		-1.39E-02	4.80E-02
		1384.27		23.94	2.74E-01		9.63E-03	1.19E-01
	CD-113M	263.70		0.02	2.47E+02	2.47E+02	5.97E+01	1.19E+02
	SN-113	255.12		1.93	3.44E+00	1.00E-01	2.45E-01	1.65E+00
		391.69		64.90	1.00E-01		-6.98E-02	4.75E-02
	TE123M	159.00		84.10	7.85E-02	7.85E-02	1.44E-02	3.81E-02
	SB-124	602.71		97.87	1.06E-01	1.06E-01	2.35E-02	5.03E-02
		645.85		7.26	1.40E+00		7.08E-01	6.60E-01
		722.78		11.10	9.67E-01		-7.28E-02	4.54E-01
		1691.02		49.00	1.48E-01		-7.24E-02	6.15E-02
+	I-125	35.49	*	6.49	6.98E+00	6.98E+00	4.09E+00	3.41E+00
	SB-125	176.33		6.89	8.59E-01	2.06E-01	-3.66E-01	4.17E-01
		427.89		29.33	2.06E-01		3.55E-02	9.74E-02
		463.38		10.35	6.90E-01		7.49E-01	3.29E-01
		600.56		17.80	4.08E-01		-1.98E-01	1.93E-01
		635.90		11.32	6.86E-01		2.13E-01	3.25E-01
	SB-126	414.70		83.30	4.32E-01	4.10E-01	6.39E-02	2.06E-01
		666.33		99.60	4.10E-01		-2.63E-01	1.93E-01
		695.00		99.60	4.40E-01		-8.26E-02	2.07E-01
		720.50		53.80	7.89E-01		7.12E-02	3.70E-01
+	SN-126	87.57	*	37.00	2.05E-01	2.05E-01	3.56E-01	1.01E-01
	SB-127	473.00		25.00	6.19E+01	6.09E+01	5.04E+00	2.91E+01
		685.20		35.70	6.09E+01		4.99E-01	2.88E+01
		783.80		14.70	1.67E+02		1.00E+02	7.89E+01
	I-129	29.78		57.00	1.26E+00	1.26E+00	-7.01E-01	6.12E-01
		33.60		13.20	2.66E+00		-1.14E+00	1.29E+00

Analysis Report for 1510091-03

CP1807S03-04

	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	2.16E+00	1.26E+00	5.66E-02	1.05E+00
	I-131	284.30		6.05	1.39E+01	1.01E+00	-5.87E+00	6.66E+00
		364.48		81.20	1.01E+00		-7.05E-01	4.79E-01
		636.97		7.26	1.56E+01		8.43E+00	7.38E+00
		722.89		1.80	6.11E+01		-4.60E+00	2.87E+01
	TE-132	49.72		13.10	4.71E+02	5.20E+01	1.30E+02	2.29E+02
		228.16		88.00	5.20E+01		-1.97E+01	2.52E+01
	BA-133	81.00		33.00	1.45E-01	1.02E-01	4.44E-02	7.03E-02
		302.84		17.80	3.57E-01		1.59E-01	1.72E-01
		356.01		60.00	1.02E-01		2.19E-02	4.88E-02
	I-133	529.87		86.30	4.82E+09	4.82E+09	2.88E+09	2.27E+09
	XE-133	81.00		38.00	7.67E+00	7.67E+00	2.35E+00	3.73E+00
	CS-134	563.23		8.38	8.12E-01	9.53E-02	3.84E-01	3.83E-01
		569.32		15.43	3.84E-01		-7.52E-02	1.79E-01
		604.70		97.60	9.72E-02		1.08E-02	4.65E-02
		795.84		85.40	9.53E-02		-1.98E-03	4.47E-02
		801.93		8.73	8.54E-01		-4.00E-01	3.98E-01
	CS-135	268.24		16.00	4.07E-01	4.07E-01	-1.46E-02	1.96E-01
@	I-135	1131.51		22.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@		1260.41		28.60	1.00E+26		1.00E+26	1.00E+20
@		1678.03		9.54	1.00E+26		1.00E+26	1.00E+20
	CS-136	153.22		7.46	4.04E+00	3.67E-01	4.28E+00	1.97E+00
		163.89		4.61	6.42E+00		3.54E+00	3.12E+00
		176.55		13.56	2.19E+00		-1.00E+00	1.06E+00
		273.65		12.66	2.51E+00		-3.20E+00	1.21E+00
		340.57		48.50	7.80E-01		-2.62E-01	3.76E-01
		818.50		99.70	3.67E-01		-7.86E-02	1.70E-01
		1048.07		79.60	5.57E-01		-1.60E-01	2.59E-01
		1235.34		19.70	3.18E+00		9.68E-01	1.50E+00
	CS-137	661.65		85.12	8.29E-02	8.29E-02	-3.01E-02	3.90E-02
	LA-138	788.74		34.00	2.55E-01	9.84E-02	7.08E-02	1.20E-01
		1435.80		66.00	9.84E-02		-2.23E-02	4.32E-02
	CE-139	165.85		80.35	8.23E-02	8.23E-02	-8.73E-03	3.99E-02
	BA-140	162.64		6.70	4.56E+00	1.20E+00	-6.26E-01	2.22E+00
		304.84		4.50	7.53E+00		4.94E+00	3.62E+00
		423.70		3.20	1.00E+01		5.27E+00	4.76E+00
		437.55		2.00	1.64E+01		5.66E+00	7.75E+00
		537.32		25.00	1.20E+00		-6.13E-02	5.62E-01
	LA-140	328.77		20.50	1.80E+00	4.64E-01	1.46E-01	8.66E-01
		487.03		45.50	6.70E-01		-1.25E-01	3.15E-01
		815.85		23.50	1.63E+00		-1.07E-01	7.56E-01
		1596.49		95.49	4.64E-01		6.44E-02	2.08E-01
+	CE-141	145.44	*	48.40	2.96E-01	2.96E-01	2.30E-01	1.45E-01
	CE-143	57.36		11.80	3.23E+06	1.43E+06	-1.40E+06	1.57E+06
		293.26		42.00	1.43E+06		6.81E+04	6.96E+05
		664.55		5.20	1.00E+07		8.51E+05	4.73E+06
	CE-144	133.54		10.80	5.53E-01	5.53E-01	3.37E-01	2.69E-01
	PM-144	476.78		42.00	1.42E-01	7.83E-02	-4.98E-02	6.68E-02
		618.01		98.60	7.83E-02		1.37E-02	3.70E-02
		696.49		99.49	8.17E-02		-1.53E-02	3.85E-02
	PM-145	36.85		21.70	1.09E+00	5.60E-01	5.60E-01	5.30E-01
		37.36		39.70	5.60E-01		2.88E-01	2.72E-01
		42.30		15.10	8.67E-01		-2.01E-01	4.21E-01

Analysis Report for 1510091-03

CP1807S03-04

	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	2.31E+00	5.60E-01	-3.10E+00	1.13E+00
+	PM-146	453.90	*	39.94	1.98E-01	1.98E-01	1.26E-01	9.52E-02
		735.90		14.01	5.55E-01		6.54E-02	2.61E-01
		747.13		13.10	5.98E-01		9.28E-02	2.81E-01
	ND-147	91.11		28.90	1.77E+00	1.77E+00	-1.79E+00	8.69E-01
		531.02		13.10	3.38E+00		1.33E+00	1.59E+00
	PM-149	285.90		3.10	3.30E+04	3.30E+04	-9.82E+03	1.58E+04
	EU-152	121.78		20.50	2.54E-01	2.54E-01	3.63E-02	1.23E-01
		244.69		5.40	1.12E+00		1.22E-03	5.42E-01
		344.27		19.13	3.07E-01		3.38E-02	1.46E-01
		778.89		9.20	8.17E-01		1.61E-02	3.82E-01
		964.01		10.40	9.65E-01		5.15E-02	4.55E-01
		1085.78		7.22	1.09E+00		-6.87E-02	5.02E-01
		1112.02		9.60	7.73E-01		-4.25E-01	3.53E-01
		1407.95		14.94	5.65E-01		1.39E-01	2.56E-01
	GD-153	97.43		31.30	1.79E-01	1.79E-01	7.94E-02	8.71E-02
		103.18		22.20	2.40E-01		-1.66E-01	1.17E-01
	EU-154	123.07		40.50	1.30E-01	1.30E-01	3.07E-02	6.34E-02
		723.30		19.70	3.84E-01		-2.89E-02	1.80E-01
		873.19		11.50	6.38E-01		-1.88E-01	2.96E-01
		996.32		10.30	7.73E-01		3.04E-03	3.58E-01
		1004.76		17.90	4.56E-01		-1.73E-01	2.11E-01
		1274.45		35.50	2.42E-01		6.02E-02	1.11E-01
	EU-155	86.50		30.90	2.29E-01	2.29E-01	-2.43E-01	1.12E-01
		105.30		20.70	2.47E-01		-6.00E-02	1.20E-01
	EU-156	811.77		10.40	2.85E+00	2.85E+00	-2.01E+00	1.32E+00
		1153.47		7.20	5.55E+00		-1.90E+00	2.59E+00
		1230.71		8.90	4.40E+00		-1.68E-01	2.04E+00
	HO-166M	184.41		72.60	1.01E-01	1.01E-01	3.03E-02	4.91E-02
		280.45		29.60	1.96E-01		-5.19E-02	9.42E-02
		410.94		11.10	5.95E-01		2.16E-01	2.84E-01
		711.69		54.10	1.43E-01		1.76E-02	6.74E-02
	TM-171	66.72		0.14	4.07E+01	4.07E+01	-2.72E+00	1.98E+01
	HF-172	81.75		4.52	1.05E+00	4.84E-01	-1.63E+00	5.10E-01
		125.81		11.30	4.84E-01		3.15E-02	2.36E-01
	LU-172	181.53		20.60	7.24E+00	3.48E+00	1.10E+00	3.52E+00
		810.06		16.63	1.11E+01		-4.52E+00	5.17E+00
		912.12		15.25	2.61E+01		6.71E+01	1.26E+01
		1093.66		62.50	3.48E+00		7.92E-01	1.61E+00
	LU-173	100.72		5.24	9.97E-01	3.39E-01	7.37E-01	4.86E-01
		272.11		21.20	3.39E-01		-1.46E-02	1.64E-01
	HF-175	343.40		84.00	9.54E-02	9.54E-02	-2.84E-03	4.55E-02
	LU-176	88.34		13.30	5.46E-01	6.30E-02	9.99E-01	2.68E-01
		201.83		86.00	6.76E-02		4.10E-03	3.27E-02
		306.78		94.00	6.30E-02		-5.56E-02	3.02E-02
	TA-182	67.75		41.20	1.63E-01	1.63E-01	3.25E-02	7.93E-02
		1121.30		34.90	5.25E-01		1.07E+00	2.51E-01
		1189.05		16.23	6.66E-01		-3.03E-01	3.08E-01
		1221.41		26.98	3.90E-01		-2.03E-01	1.79E-01
		1231.02		11.44	1.08E+00		-8.89E-03	5.03E-01
	IR-192	308.46		29.68	2.68E-01	1.54E-01	-2.04E-02	1.29E-01
		468.07		48.10	1.54E-01		7.63E-03	7.26E-02
	HG-203	279.19		77.30	1.27E-01	1.27E-01	8.86E-02	6.09E-02

Analysis Report for 1510091-03

CP1807S03-04

	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	5.91E-02	5.91E-02	-1.16E-02	2.76E-02
		1063.62		74.90	1.13E-01		3.03E-02	5.26E-02
+	TL-208	583.14	*	30.22	3.34E-01	2.07E-01	1.32E+00	1.60E-01
		860.37	*	4.48	2.08E+00		1.23E+00	9.81E-01
		2614.66	*	35.85	2.07E-01		9.22E-01	9.08E-02
	BI-210M	262.00		45.00	1.32E-01	1.32E-01	4.09E-02	6.35E-02
		300.00		23.00	2.81E-01		1.29E-01	1.35E-01
+	PB-210	46.50	*	4.25	4.60E+00	4.60E+00	4.57E+00	2.26E+00
	PB-211	404.84		2.90	2.02E+00	2.02E+00	-1.87E-01	9.57E-01
		831.96		2.90	2.52E+00		-2.30E+00	1.17E+00
+	BI-212	727.17	*	11.80	6.90E-01	6.90E-01	1.16E+00	3.26E-01
		1620.62	*	2.75	2.52E+00		1.59E+00	1.11E+00
+	PB-212	238.63	*	44.60	2.53E-01	2.53E-01	1.39E+00	1.24E-01
		300.09	*	3.41	3.31E+00		1.93E+00	1.62E+00
+	BI-214	609.31	*	46.30	2.22E-01	2.22E-01	1.86E+00	1.06E-01
		1120.29	*	15.10	7.61E-01		2.24E+00	3.59E-01
		1764.49	*	15.80	5.53E-01		2.08E+00	2.49E-01
		2204.22	*	4.98	2.11E+00		1.90E+00	9.61E-01
+	PB-214	295.21	*	19.19	5.77E-01	2.60E-01	2.19E+00	2.82E-01
		351.92	*	37.19	2.60E-01		2.16E+00	1.26E-01
	RN-219	401.80		6.50	9.54E-01	9.54E-01	2.30E-01	4.54E-01
	RA-223	323.87		3.88	1.58E+00	1.58E+00	5.61E-01	7.55E-01
+	RA-224	240.98	*	3.95	2.84E+00	2.84E+00	4.72E+00	1.39E+00
	RA-225	40.00		31.00	2.16E+00	2.16E+00	5.67E-02	1.05E+00
+	RA-226	186.21	*	3.28	2.74E+00	2.74E+00	4.94E+00	1.34E+00
	TH-227	50.10		8.40	9.57E-01	7.50E-01	2.65E-01	4.65E-01
		236.00		11.50	7.50E-01		-5.97E+00	3.66E-01
		256.20		6.30	8.77E-01		-4.31E-01	4.21E-01
+	AC-228	338.32	*	11.40	8.71E-01	4.64E-01	1.97E+00	4.24E-01
		911.07	*	27.70	4.64E-01		1.39E+00	2.22E-01
		969.11	*	16.60	8.71E-01		8.57E-01	4.18E-01
	TH-230	48.44		16.90	5.05E-01	5.05E-01	-7.27E-01	2.45E-01
		62.85		4.60	1.48E+00		2.33E+00	7.24E-01
		67.67		0.37	1.50E+01		3.00E+00	7.32E+00
	PA-231	283.67		1.60	3.58E+00	2.75E+00	-1.51E+00	1.71E+00
		302.67		2.30	2.75E+00		1.23E+00	1.32E+00
	TH-231	25.64		14.70	1.58E+01	7.85E-01	-7.85E-01	7.68E+00
		84.21		6.40	7.85E-01		8.13E-01	3.82E-01
	PA-233	311.98		38.60	3.35E-01	3.35E-01	9.12E-03	1.60E-01
	PA-234	131.20		20.40	2.77E-01	2.77E-01	-2.18E-02	1.35E-01
		733.99		8.80	8.43E-01		9.40E-02	3.95E-01
		946.00		12.00	6.43E-01		-1.79E-02	2.98E-01
+	PA-234M	1001.03	*	0.92	2.14E+01	2.14E+01	6.52E+00	1.04E+01
+	TH-234	63.29	*	3.80	2.97E+00	2.97E+00	1.73E+00	1.46E+00
	U-235	143.76		10.50	5.53E-01	5.53E-01	2.95E-01	2.69E-01
		163.35		4.70	1.21E+00		-1.65E-01	5.86E-01
		205.31		4.70	1.28E+00		1.06E+00	6.19E-01
	NP-237	86.50		12.60	5.55E-01	5.55E-01	-5.89E-01	2.72E-01
	NP-239	106.10		22.70	2.16E+03	2.16E+03	3.64E+01	1.05E+03
		228.18		10.70	5.43E+03		-2.06E+03	2.63E+03
		277.60		14.10	4.18E+03		6.01E+02	2.01E+03
	AM-241	59.54		35.90	1.62E-01	1.62E-01	-4.70E-02	7.87E-02
	AM-243	74.67		66.00	1.19E-01	1.19E-01	-1.92E-01	5.86E-02

Analysis Report for 1510091-03

CP1807S03-04

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	1.99E+00	4.41E-01	1.51E+00	9.66E-01
	228.14	10.60	5.74E-01		-2.17E-01	2.78E-01
	277.60	14.00	4.41E-01		6.34E-02	2.12E-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

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: CP1807S03-04

Elapsed Live time: 3600
Elapsed Real Time: 3601

Channel								
1:	0	0	0	0	0	0	3	174
9:	590	1166	1127	462	639	1725	301	151
17:	168	135	165	123	113	138	113	139
25:	137	117	128	124	127	114	126	147
33:	138	105	140	156	129	150	122	130
41:	124	127	146	145	135	161	220	127
49:	118	130	144	126	141	137	111	106
57:	115	117	133	118	131	146	191	271
65:	148	134	158	155	153	139	153	159
73:	159	236	537	313	605	478	139	146
81:	140	126	122	193	157	119	250	283
89:	129	237	142	166	318	182	97	105
97:	89	86	112	103	73	90	91	74
105:	112	101	91	105	100	93	95	110
113:	98	88	101	102	72	73	72	89
121:	98	79	96	85	96	84	92	99
129:	131	111	79	88	90	98	102	92
137:	83	92	92	90	75	70	98	117
145:	99	96	92	69	87	76	90	92
153:	68	118	84	64	87	72	71	81
161:	72	79	79	72	90	81	68	71
169:	78	82	78	70	89	82	70	75
177:	76	69	78	82	69	79	69	79
185:	109	228	146	72	75	62	65	86
193:	65	86	67	73	59	61	58	64
201:	67	49	63	70	64	78	52	52
209:	107	94	70	54	67	58	60	73
217:	48	65	56	63	61	66	63	56
225:	69	63	72	45	57	52	61	62
233:	48	47	64	87	60	309	639	117
241:	138	213	89	48	39	53	30	42
249:	53	36	39	29	46	40	37	39
257:	40	46	48	40	51	41	51	44
265:	36	32	45	42	62	85	71	45
273:	49	43	58	36	61	53	42	34
281:	34	34	46	40	36	32	49	41
289:	42	34	32	44	26	52	317	201
297:	34	31	36	83	44	30	41	49
305:	47	38	30	33	33	47	30	37
313:	35	21	34	38	24	31	39	30
321:	24	37	33	39	31	39	38	66
329:	54	25	37	45	36	25	30	25
337:	36	136	109	32	33	29	40	21
345:	29	30	28	35	31	44	187	559
353:	174	30	28	42	26	29	28	26
361:	25	25	21	30	20	29	38	24

369:	22	14	28	19	29	31	35	16

Sample Title: CP1807S03-04

Channel								
377:	34	27	28	18	24	31	22	25
385:	24	26	29	24	28	20	21	19
393:	24	21	28	31	26	25	23	35
401:	22	29	26	23	25	25	19	16
409:	45	40	26	16	22	26	32	31
417:	23	29	27	22	12	21	25	23
425:	19	26	19	16	21	29	17	23
433:	21	14	24	20	23	22	24	24
441:	16	21	20	22	18	21	22	26
449:	14	20	21	21	23	30	14	20
457:	15	13	15	15	23	33	41	28
465:	16	14	18	15	14	24	24	11
473:	19	16	18	14	17	22	14	20
481:	24	14	18	18	11	14	23	16
489:	19	21	16	12	19	20	16	19
497:	17	12	22	20	20	18	18	19
505:	20	17	16	15	34	71	97	57
513:	27	12	18	15	14	14	17	18
521:	17	16	16	15	20	12	15	17
529:	15	22	22	17	13	12	14	10
537:	12	19	14	20	11	13	12	21
545:	8	20	16	16	14	25	14	12
553:	9	16	13	14	11	16	9	18
561:	23	14	15	24	17	14	15	10
569:	12	16	15	14	16	14	16	15
577:	19	20	13	15	20	46	188	96
585:	14	12	8	16	25	13	17	13
593:	15	11	18	15	18	11	14	11
601:	17	15	12	21	15	11	17	76
609:	328	216	35	12	12	13	15	10
617:	13	16	15	16	13	14	12	15
625:	9	14	15	9	10	8	15	10
633:	10	16	22	13	20	11	11	13
641:	12	12	7	17	20	12	4	15
649:	12	5	9	13	15	14	13	11
657:	20	12	8	10	21	16	8	7
665:	23	16	13	11	6	14	15	15
673:	14	17	8	15	9	15	8	13
681:	14	12	23	24	5	12	12	13
689:	10	12	13	13	10	11	14	13
697:	12	18	12	9	9	17	23	18
705:	16	12	13	14	9	9	18	5
713:	18	16	11	14	10	13	16	10
721:	12	9	10	10	13	17	47	33
729:	10	4	9	11	8	19	8	6
737:	16	11	15	11	13	12	10	13
745:	11	9	11	12	14	12	7	14
753:	15	11	12	15	15	13	15	13
761:	17	8	14	19	14	8	14	43
769:	26	11	11	18	15	10	8	12
777:	15	2	5	14	8	15	14	12
785:	20	22	13	13	10	8	9	12
793:	10	10	20	16	8	8	5	10

801:	13	8	16	2	9	20	13	11

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Channel								
809:	6	8	8	11	7	9	10	9
817:	6	8	9	7	9	13	8	6
825:	9	10	16	9	7	11	7	9
833:	8	10	8	20	9	9	10	11
841:	7	6	1	8	8	6	4	7
849:	11	3	5	7	11	12	5	4
857:	3	6	8	22	12	11	15	14
865:	11	8	13	8	9	14	7	6
873:	6	7	8	7	10	10	4	7
881:	5	9	8	3	3	7	12	11
889:	7	14	6	9	9	10	5	6
897:	7	2	8	8	6	9	8	10
905:	12	12	8	9	9	64	107	48
913:	22	6	7	9	9	9	12	7
921:	6	6	10	7	5	6	5	6
929:	11	12	8	9	6	18	16	5
937:	2	2	4	9	7	5	5	7
945:	7	13	4	7	11	8	11	11
953:	11	7	11	6	5	6	8	9
961:	10	4	15	20	18	11	13	41
969:	56	20	7	7	7	10	8	7
977:	5	11	6	9	6	6	5	5
985:	10	4	3	9	8	8	10	7
993:	8	6	6	7	8	9	8	10
1001:	19	8	8	5	5	4	5	6
1009:	14	7	4	12	2	3	11	7
1017:	4	4	2	8	5	7	8	7
1025:	8	3	5	9	7	11	5	13
1033:	4	9	5	4	4	7	7	9
1041:	12	4	12	9	10	3	8	11
1049:	6	6	13	9	9	8	3	4
1057:	12	9	7	5	4	5	10	9
1065:	11	10	3	6	4	9	5	7
1073:	8	7	6	3	8	4	14	4
1081:	8	7	3	9	9	5	7	4
1089:	3	11	7	9	6	5	9	7
1097:	8	9	11	10	5	9	6	2
1105:	7	5	6	5	3	12	6	4
1113:	3	5	4	16	3	10	34	66
1121:	41	7	6	5	6	2	6	3
1129:	8	7	6	14	10	6	11	4
1137:	3	3	6	11	6	4	7	5
1145:	5	8	10	11	10	7	6	14
1153:	10	7	7	11	10	12	7	8
1161:	6	6	17	10	6	7	7	5
1169:	6	12	14	5	10	6	7	10
1177:	5	10	4	8	4	9	9	6
1185:	8	7	2	11	7	10	4	9
1193:	7	16	11	5	6	10	10	11
1201:	7	7	7	6	9	10	15	10
1209:	7	6	7	5	7	13	10	11
1217:	8	7	5	6	6	6	5	10
1225:	7	10	7	9	9	5	7	8

1233:	8	17	3	7	20	27	22	11

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Channel								
1241:	8	4	9	6	8	7	2	9
1249:	11	12	4	8	9	9	6	6
1257:	11	5	9	5	6	8	6	5
1265:	5	7	6	10	8	7	6	7
1273:	10	5	1	6	5	8	8	10
1281:	12	4	6	6	5	11	7	6
1289:	3	6	3	6	7	4	2	5
1297:	9	3	3	10	8	4	7	4
1305:	9	4	5	5	3	3	7	4
1313:	1	4	3	2	7	5	12	7
1321:	2	3	6	2	2	5	3	7
1329:	4	3	3	3	5	5	1	7
1337:	2	6	8	3	3	1	5	3
1345:	7	5	1	3	0	5	6	3
1353:	3	3	1	6	3	2	5	1
1361:	4	2	6	3	7	5	3	2
1369:	2	4	2	3	1	6	5	7
1377:	16	14	7	8	3	1	0	5
1385:	4	2	1	5	2	2	2	2
1393:	2	3	3	5	6	4	3	3
1401:	13	7	3	1	3	7	6	8
1409:	6	2	3	2	4	5	4	3
1417:	3	4	2	3	0	2	3	1
1425:	4	3	1	4	2	2	3	3
1433:	1	1	5	2	3	3	4	4
1441:	1	2	1	7	3	2	4	3
1449:	2	3	2	6	5	3	2	5
1457:	4	15	80	256	247	78	13	3
1465:	3	2	7	3	2	0	4	1
1473:	4	4	3	4	5	2	2	3
1481:	0	4	4	3	2	2	5	2
1489:	1	2	2	2	0	0	4	4
1497:	0	1	3	0	3	5	2	1
1505:	5	0	2	4	9	4	4	2
1513:	4	5	2	3	1	2	2	2
1521:	3	3	2	4	2	1	2	2
1529:	0	2	3	2	1	3	1	3
1537:	0	3	2	1	0	3	8	0
1545:	3	1	2	0	5	3	0	3
1553:	4	2	1	2	1	4	3	3
1561:	0	1	2	1	3	2	1	3
1569:	1	1	3	1	1	4	5	4
1577:	0	2	2	0	4	4	2	2
1585:	3	5	9	6	7	5	6	3
1593:	5	6	3	2	3	2	0	2
1601:	2	0	6	0	2	4	0	1
1609:	0	0	1	1	1	1	3	1
1617:	1	1	7	4	2	3	1	1
1625:	0	2	3	1	2	5	6	4
1633:	4	0	2	1	1	1	0	1
1641:	1	1	2	1	3	0	1	1
1649:	2	1	1	1	3	3	1	3
1657:	0	1	2	2	10	1	1	1

1665:	0	2	0	0	3	2	0	0

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Channel								
1673:	2	0	1	0	1	3	3	3
1681:	1	2	3	2	2	1	0	0
1689:	1	2	1	1	2	0	3	0
1697:	1	3	2	0	1	1	1	3
1705:	3	1	1	1	3	2	2	2
1713:	2	0	0	1	0	1	3	2
1721:	3	4	0	2	1	0	3	6
1729:	12	11	2	0	1	1	1	0
1737:	2	0	1	1	3	1	2	2
1745:	1	0	4	1	5	2	0	2
1753:	0	3	2	0	1	1	1	2
1761:	2	9	34	28	22	15	1	2
1769:	0	2	0	1	0	1	1	0
1777:	1	1	0	3	1	1	3	1
1785:	1	1	2	0	1	0	1	2
1793:	2	1	1	2	1	0	2	0
1801:	1	3	1	2	1	1	1	0
1809:	0	2	1	0	1	1	1	3
1817:	1	2	1	1	3	2	1	0
1825:	0	1	0	0	1	2	2	1
1833:	1	1	0	1	1	0	0	1
1841:	2	1	2	5	1	3	7	3
1849:	4	1	2	1	3	0	1	1
1857:	1	1	2	1	1	0	1	0
1865:	0	1	0	1	1	1	1	0
1873:	4	0	2	1	4	4	3	1
1881:	1	1	1	0	1	4	0	0
1889:	2	4	3	1	0	2	5	1
1897:	1	2	0	1	0	2	0	0
1905:	2	2	0	0	1	1	1	4
1913:	2	1	2	5	3	1	1	2
1921:	4	0	0	2	1	0	0	0
1929:	1	0	0	3	1	0	1	1
1937:	1	0	1	3	2	0	0	0
1945:	1	0	0	2	2	2	1	2
1953:	0	2	1	0	2	1	2	2
1961:	0	2	1	0	1	4	2	0
1969:	0	1	2	1	1	1	1	2
1977:	1	2	1	3	1	0	2	2
1985:	4	0	1	1	3	0	1	0
1993:	2	1	1	1	0	1	1	1
2001:	3	1	2	1	2	0	2	2
2009:	2	0	0	3	3	0	3	3
2017:	1	2	0	3	3	2	1	0
2025:	3	0	0	1	1	1	1	0
2033:	0	1	1	3	2	0	1	1
2041:	2	3	1	2	0	3	4	0
2049:	2	1	0	1	1	3	2	0
2057:	2	1	0	0	1	0	3	2
2065:	1	2	0	0	1	0	0	1
2073:	1	1	5	0	0	2	0	1
2081:	1	0	1	2	1	2	0	0
2089:	0	2	0	1	1	2	2	1

2097:	1	3	0	1	5	8	5	4

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Channel								
2105:	3	6	1	0	2	2	1	1
2113:	1	0	0	2	4	2	3	3
2121:	2	2	1	0	0	0	1	0
2129:	2	2	2	0	1	2	1	2
2137:	1	0	3	1	0	0	1	0
2145:	1	0	3	0	0	2	0	1
2153:	0	3	2	1	0	2	1	0
2161:	2	1	0	1	1	0	2	1
2169:	0	0	0	1	1	2	0	0
2177:	2	1	0	2	1	0	1	2
2185:	0	1	1	0	1	1	0	1
2193:	2	1	1	1	1	1	3	0
2201:	2	8	13	8	3	3	1	0
2209:	3	0	2	1	0	2	3	1
2217:	1	0	1	1	1	2	1	0
2225:	1	0	1	1	0	2	0	0
2233:	0	1	0	1	5	1	1	1
2241:	0	0	0	1	1	2	1	0
2249:	0	0	1	1	2	1	3	0
2257:	0	2	1	1	2	2	1	1
2265:	3	1	1	1	0	1	0	1
2273:	1	1	2	0	1	0	1	2
2281:	1	1	0	3	0	2	1	0
2289:	3	3	1	0	0	2	2	2
2297:	0	3	0	0	4	1	1	1
2305:	0	2	2	0	2	1	0	2
2313:	1	1	0	3	0	2	2	1
2321:	0	1	0	0	0	4	2	0
2329:	4	1	2	0	1	0	1	3
2337:	2	0	3	0	1	3	1	2
2345:	0	2	1	0	1	2	1	3
2353:	3	2	0	0	1	0	1	0
2361:	2	4	0	5	1	3	0	2
2369:	2	1	2	0	1	1	1	1
2377:	1	2	0	2	0	1	0	0
2385:	1	1	1	1	0	0	0	3
2393:	3	0	2	2	0	0	3	1
2401:	1	1	0	1	1	1	1	2
2409:	1	1	1	0	2	1	1	1
2417:	0	0	3	1	3	1	0	0
2425:	0	0	3	0	1	0	0	0
2433:	0	0	0	0	0	2	1	1
2441:	1	1	0	1	1	5	4	2
2449:	3	0	2	1	1	1	2	1
2457:	0	1	1	0	2	0	1	0
2465:	0	2	0	0	2	1	1	2
2473:	2	2	0	1	0	0	0	2
2481:	0	0	1	0	3	1	1	0
2489:	0	0	1	0	1	1	0	1
2497:	1	1	0	0	1	1	1	0
2505:	1	1	2	1	0	0	0	1
2513:	1	0	1	1	0	0	1	0
2521:	0	0	0	0	0	0	0	0

2529:	2	1	0	1	1	0	0	1

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Channel								
2537:	0	1	0	0	0	0	1	1
2545:	0	1	1	3	0	0	0	0
2553:	0	0	0	1	0	0	2	1
2561:	0	0	0	0	0	1	0	1
2569:	0	0	0	0	0	0	0	0
2577:	0	0	0	0	1	0	0	0
2585:	0	1	0	0	1	0	0	0
2593:	0	1	0	2	1	0	0	0
2601:	0	1	0	1	0	0	0	1
2609:	0	1	3	11	40	28	21	8
2617:	1	0	2	0	1	1	0	0
2625:	0	0	1	0	0	0	0	0
2633:	1	0	0	1	1	0	0	0
2641:	0	0	0	0	0	0	0	0
2649:	0	1	0	1	0	0	0	0
2657:	0	1	0	0	1	0	0	0
2665:	0	1	0	0	0	0	0	0
2673:	0	0	0	0	0	0	0	1
2681:	0	0	0	1	0	0	1	0
2689:	1	1	0	1	0	0	0	0
2697:	0	0	0	0	0	1	0	1
2705:	0	0	1	0	0	1	0	0
2713:	0	1	0	0	0	0	0	1
2721:	1	0	1	0	0	0	0	2
2729:	0	0	0	0	1	0	0	0
2737:	0	0	0	0	0	1	0	0
2745:	0	0	0	0	1	0	0	0
2753:	1	0	0	0	0	1	2	1
2761:	0	1	0	1	0	1	0	1
2769:	0	0	1	1	1	0	0	1
2777:	0	0	0	0	0	0	1	0
2785:	0	0	0	0	0	0	0	1
2793:	0	0	0	0	0	1	0	1
2801:	0	0	0	0	0	0	1	0
2809:	0	1	0	0	1	0	0	0
2817:	1	0	0	0	1	0	0	0
2825:	0	0	0	0	0	0	0	0
2833:	0	0	0	0	0	1	0	0
2841:	0	0	0	0	1	0	0	0
2849:	0	0	0	0	0	0	0	0
2857:	0	0	0	0	0	1	0	0
2865:	0	0	0	0	0	0	2	1
2873:	0	0	1	0	2	0	1	0
2881:	1	0	0	1	0	0	0	0
2889:	0	0	0	1	0	0	0	2
2897:	0	0	0	0	0	0	1	0
2905:	1	0	0	0	1	0	1	0
2913:	1	0	1	1	0	0	0	1
2921:	0	4	0	0	1	0	0	0
2929:	0	0	0	1	0	0	0	0
2937:	0	0	1	0	0	1	0	0
2945:	0	0	0	1	1	0	0	0
2953:	0	0	0	0	0	1	0	0

2961:	0	0	2	0	1	0	0	0

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

3393:	0	0	0	0	0	0	0	0

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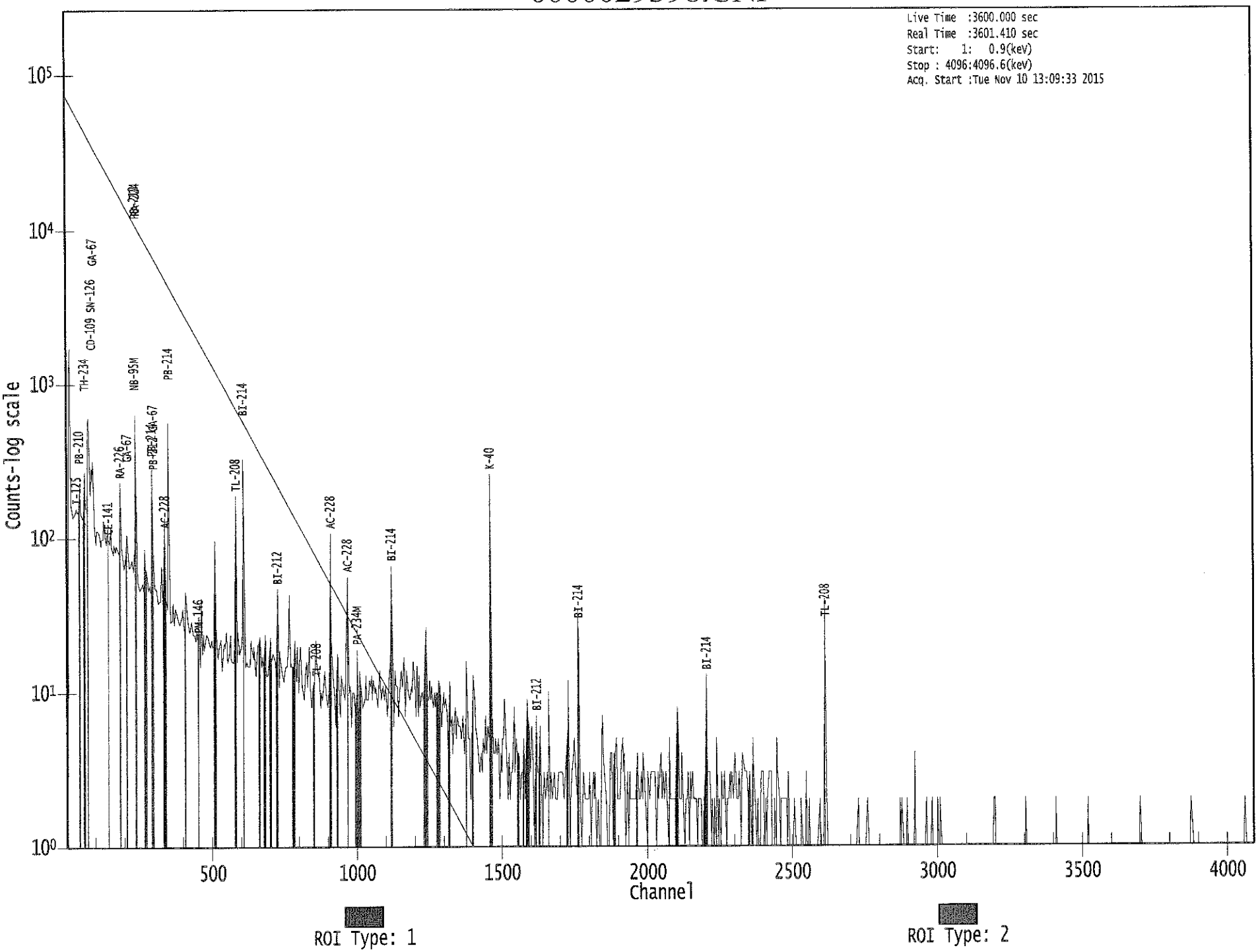
Channel								
3401:	0	0	0	0	0	0	0	1
3409:	2	0	0	0	0	0	0	0
3417:	0	0	0	0	0	0	0	0
3425:	1	0	0	1	0	0	0	0
3433:	0	0	0	0	0	1	0	0
3441:	0	0	1	0	0	0	1	0
3449:	0	0	0	0	0	1	0	1
3457:	0	0	0	1	0	0	0	0
3465:	0	0	0	0	0	1	0	0
3473:	0	0	1	1	0	0	0	0
3481:	0	0	1	0	1	0	0	0
3489:	0	0	0	0	0	0	0	0
3497:	0	0	0	0	0	0	1	0
3505:	0	0	1	0	0	0	0	0
3513:	0	0	0	0	0	0	0	2
3521:	0	0	0	0	0	0	0	0
3529:	0	0	0	0	0	0	0	0
3537:	0	1	0	0	0	0	0	0
3545:	0	0	0	1	1	0	0	0
3553:	1	0	0	0	0	1	0	0
3561:	0	0	0	0	1	1	0	0
3569:	0	0	1	0	0	0	0	0
3577:	0	1	0	0	1	1	0	1
3585:	0	0	0	1	0	0	1	0
3593:	0	0	0	0	0	0	0	0
3601:	0	0	0	0	0	0	0	0
3609:	0	0	0	0	0	0	0	1
3617:	0	0	0	0	0	0	0	0
3625:	1	0	0	0	1	0	0	0
3633:	0	0	0	0	0	0	0	0
3641:	0	0	0	0	1	0	0	0
3649:	0	0	0	0	0	1	0	0
3657:	0	0	0	0	0	0	0	0
3665:	0	1	0	0	0	0	0	0
3673:	0	0	0	0	0	0	0	1
3681:	0	0	0	0	0	0	1	0
3689:	0	1	0	0	0	0	1	0
3697:	0	2	1	0	0	0	0	1
3705:	0	0	0	0	0	1	0	0
3713:	0	0	0	0	0	0	1	0
3721:	0	0	0	1	0	0	1	0
3729:	0	0	0	0	0	0	0	1
3737:	0	1	0	0	0	0	0	0
3745:	0	0	0	0	0	0	0	0
3753:	0	0	0	0	0	0	0	0
3761:	0	0	0	0	0	0	0	0
3769:	0	0	0	0	1	0	0	1
3777:	0	1	0	0	0	0	0	1
3785:	0	0	0	0	0	0	0	0
3793:	1	0	1	0	0	0	0	0
3801:	0	0	0	0	0	0	0	1
3809:	0	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0

3825:	0	0	1	0	0	0	0	0

Sample Title: CP1807S03-04

Channel								
3833:	0	0	0	0	1	0	1	0
3841:	0	0	0	0	0	0	0	0
3849:	0	0	0	1	0	0	0	0
3857:	0	0	0	0	0	0	0	0
3865:	0	0	0	0	0	1	0	0
3873:	0	2	1	1	2	0	0	0
3881:	0	0	0	1	0	0	0	0
3889:	0	0	1	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	1	0	0
3921:	0	0	0	0	0	0	0	0
3929:	0	0	0	0	0	0	0	1
3937:	0	0	0	0	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	1	0	0	1	0
3969:	0	0	0	0	0	0	0	0
3977:	0	0	0	0	0	0	0	0
3985:	0	0	1	0	1	0	0	1
3993:	0	0	0	0	0	0	0	0
4001:	0	0	0	0	0	0	0	0
4009:	0	0	0	1	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	1
4041:	0	0	0	0	0	0	0	0
4049:	0	0	0	1	0	0	0	0
4057:	1	0	0	0	0	2	0	1
4065:	0	0	1	0	0	0	0	0
4073:	0	0	0	0	0	0	0	0
4081:	1	0	0	0	0	0	0	0
4089:	0	0	0	0	0	1	0	0

0000029398.CNF



Apex-Gamma

Analysis Report for 1510091-04
CP1807S03-04

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1510091-04
Sample Description	: CP1807S03-04
Sample Type	: SOIL
Sample Size	: 5.490E+02 grams
Facility	: Countroom
Sample Taken On	: 10/10/2015 10:12:33AM
Acquisition Started	: 11/10/2015 2:09:50PM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE2
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3601.4 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	: 29408

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510091-04

CP1807S03-04

PEAK LOCATE REPORT

Peak Locate Performed on : 11/10/2015 3:09:55PM
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	62.88	62.98	0.0000	0.00
2	76.45	76.53	0.0000	0.00
3	87.38	87.46	0.0000	0.00
4	115.77	115.84	0.0000	0.00
5	126.45	126.51	0.0000	0.00
6	129.26	129.32	0.0000	0.00
7	185.88	185.90	0.0000	0.00
8	209.68	209.70	0.0000	0.00
9	221.15	221.15	0.0000	0.00
10	238.79	238.79	0.0000	0.00
11	242.03	242.02	0.0000	0.00
12	270.22	270.20	0.0000	0.00
13	279.03	279.01	0.0000	0.00
14	288.56	288.53	0.0000	0.00
15	295.31	295.27	0.0000	0.00
16	300.08	300.04	0.0000	0.00
17	328.41	328.36	0.0000	0.00
18	338.44	338.38	0.0000	0.00
19	352.02	351.96	0.0000	0.00
20	361.06	360.99	0.0000	0.00
21	463.25	463.13	0.0000	0.00
22	510.94	510.80	0.0000	0.00
23	583.26	583.08	0.0000	0.00
24	609.40	609.21	0.0000	0.00
25	666.19	665.97	0.0000	0.00
26	727.52	727.28	0.0000	0.00
27	756.81	756.55	0.0000	0.00
28	769.69	769.42	0.0000	0.00
29	795.27	795.00	0.0000	0.00
30	842.68	842.38	0.0000	0.00
31	860.47	860.16	0.0000	0.00
32	911.29	910.97	0.0000	0.00
33	935.50	935.16	0.0000	0.00
34	969.18	968.83	0.0000	0.00
35	1002.10	1001.73	0.0000	0.00
36	1120.37	1119.96	0.0000	0.00
37	1154.97	1154.55	0.0000	0.00
38	1158.42	1158.00	0.0000	0.00
39	1203.22	1202.78	0.0000	0.00
40	1208.66	1208.22	0.0000	0.00
41	1238.31	1237.86	0.0000	0.00
42	1377.72	1377.23	0.0000	0.00

Analysis Report for 1510091-04

CP1807S03-04

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1384.73	1384.23	0.0000	0.00
44	1401.94	1401.44	0.0000	0.00
45	1408.69	1408.18	0.0000	0.00
46	1461.00	1460.48	0.0000	0.00
47	1496.23	1495.69	0.0000	0.00
48	1588.25	1587.69	0.0000	0.00
49	1593.77	1593.21	0.0000	0.00
50	1630.33	1629.76	0.0000	0.00
51	1662.85	1662.27	0.0000	0.00
52	1730.25	1729.65	0.0000	0.00
53	1764.66	1764.05	0.0000	0.00
54	1848.23	1847.60	0.0000	0.00
55	1873.61	1872.98	0.0000	0.00
56	1882.64	1882.01	0.0000	0.00
57	1888.70	1888.07	0.0000	0.00
58	1914.38	1913.74	0.0000	0.00
59	2080.57	2079.90	0.0000	0.00
60	2095.88	2095.21	0.0000	0.00
61	2104.33	2103.66	0.0000	0.00
62	2119.46	2118.78	0.0000	0.00
63	2142.38	2141.70	0.0000	0.00
64	2203.82	2203.13	0.0000	0.00
65	2253.60	2252.90	0.0000	0.00
66	2383.72	2383.00	0.0000	0.00
67	2398.81	2398.09	0.0000	0.00
68	2418.22	2417.50	0.0000	0.00
69	2446.10	2445.38	0.0000	0.00
70	2614.15	2613.41	0.0000	0.00

? = Adjacent peak noted

Errors quoted at 2.000sigma

Analysis Report for 1510091-04

CP1807S03-04

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 3:09:55PM

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	62.88	59 -	67	62.98	2.39E+02	128.17	2.39E+03	1.95
	2	76.45	72 -	82	76.53	1.50E+03	171.72	3.09E+03	3.73
	3	87.38	86 -	89	87.46	1.23E+02	75.58	1.31E+03	1.61
	4	115.77	112 -	119	115.84	8.78E+01	94.38	1.42E+03	3.60
M	5	126.45	125 -	133	126.51	4.91E+01	43.04	4.87E+02	1.51
m	6	129.26	125 -	133	129.32	6.97E+01	64.29	8.31E+02	1.61
	7	185.88	182 -	189	185.90	2.76E+02	88.52	1.13E+03	1.34
	8	209.68	207 -	213	209.70	1.03E+02	69.64	7.99E+02	1.55
	9	221.15	219 -	223	221.15	6.13E+01	49.34	4.91E+02	1.91
M	10	238.79	235 -	246	238.79	1.04E+03	79.07	5.07E+02	1.57
m	11	242.03	235 -	246	242.02	2.91E+02	82.94	5.73E+02	1.96
	12	270.22	266 -	274	270.20	8.12E+01	70.57	7.18E+02	1.41
	13	279.03	275 -	284	279.01	8.36E+01	72.57	6.91E+02	4.51
	14	288.56	285 -	292	288.53	7.52E+01	55.50	4.62E+02	3.10
M	15	295.31	292 -	305	295.27	5.20E+02	59.11	3.18E+02	1.56
m	16	300.08	292 -	305	300.04	4.20E+01	40.52	3.36E+02	1.66
	17	328.41	325 -	331	328.36	4.99E+01	50.22	4.20E+02	1.28
	18	338.44	335 -	342	338.38	2.04E+02	60.33	4.67E+02	1.59
	19	352.02	348 -	356	351.96	8.30E+02	82.64	5.40E+02	1.48
	20	361.06	359 -	364	360.99	3.10E+01	36.26	2.40E+02	2.91
	21	463.25	459 -	467	463.13	6.72E+01	48.18	3.18E+02	1.42
	22	510.94	507 -	516	510.80	1.33E+02	56.02	3.78E+02	1.97
	23	583.26	579 -	586	583.08	2.81E+02	48.70	2.07E+02	1.61
	24	609.40	604 -	613	609.21	5.88E+02	65.67	2.80E+02	1.71
	25	666.19	660 -	670	665.97	4.14E+01	44.82	2.41E+02	3.91
	26	727.52	723 -	731	727.28	7.54E+01	37.97	1.75E+02	1.69
	27	756.81	754 -	759	756.55	1.94E+01	23.85	9.73E+01	1.58
	28	769.69	765 -	774	769.42	8.17E+01	40.98	1.89E+02	2.25
	29	795.27	791 -	799	795.00	6.58E+01	33.70	1.32E+02	1.86
	30	842.68	839 -	845	842.38	2.14E+01	26.23	1.05E+02	1.25
	31	860.47	854 -	865	860.16	4.59E+01	40.89	1.86E+02	1.93
	32	911.29	906 -	914	910.97	2.12E+02	41.90	1.40E+02	1.71
	33	935.50	927 -	948	935.16	7.10E+01	63.26	2.86E+02	2.73
	34	969.18	965 -	973	968.83	6.76E+01	43.89	2.41E+02	1.47
	35	1002.10	998 -	1008	1001.73	3.14E+01	29.61	1.03E+02	3.27
	36	1120.37	1115 -	1124	1119.96	1.39E+02	39.61	1.44E+02	2.14
M	37	1154.97	1148 -	1164	1154.55	3.79E+01	24.00	5.94E+01	2.57
m	38	1158.42	1148 -	1164	1158.00	1.82E+01	19.87	4.59E+01	2.12
M	39	1203.22	1198 -	1212	1202.78	2.08E+01	24.14	9.59E+01	2.37
m	40	1208.66	1198 -	1212	1208.22	2.80E+01	24.63	9.30E+01	2.37

Analysis Report for 1510091-04

CP1807S03-04

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	41	1238.31	1234	1241	1237.86	3.56E+01	34.29	1.73E+02	1.27
M	42	1377.72	1373	1394	1377.23	4.57E+01	18.40	4.19E+01	2.49
m	43	1384.73	1373	1394	1384.23	1.40E+01	15.05	3.07E+01	2.49
	44	1401.94	1398	1404	1401.44	1.41E+01	17.53	4.57E+01	3.74
	45	1408.69	1405	1413	1408.18	3.05E+01	23.05	6.30E+01	2.13
	46	1461.00	1454	1466	1460.48	6.84E+02	57.83	7.12E+01	2.49
	47	1496.23	1492	1498	1495.69	1.42E+01	12.38	1.76E+01	1.39
M	48	1588.25	1585	1599	1587.69	1.79E+01	12.25	2.60E+01	3.01
m	49	1593.77	1585	1599	1593.21	2.07E+01	19.70	3.31E+01	3.18
	50	1630.33	1626	1632	1629.76	1.26E+01	14.77	2.88E+01	2.13
	51	1662.85	1658	1666	1662.27	1.00E+01	12.53	1.80E+01	1.77
	52	1730.25	1724	1735	1729.65	2.48E+01	16.97	2.24E+01	2.18
	53	1764.66	1759	1768	1764.05	1.19E+02	23.37	1.00E+01	2.07
	54	1848.23	1842	1851	1847.60	2.30E+01	17.38	3.00E+01	2.87
	55	1873.61	1867	1878	1872.98	1.31E+01	10.00	5.75E+00	2.30
M	56	1882.64	1879	1890	1882.01	1.05E+01	6.00	0.00E+00	3.39
m	57	1888.70	1879	1890	1888.07	8.30E+00	6.63	0.00E+00	3.39
	58	1914.38	1909	1918	1913.74	1.17E+01	10.68	8.63E+00	2.83
	59	2080.57	2074	2084	2079.90	8.50E+00	10.79	1.10E+01	3.88
	60	2095.88	2091	2098	2095.21	9.00E+00	7.75	4.00E+00	3.67
	61	2104.33	2099	2110	2103.66	3.20E+01	11.31	0.00E+00	1.52
	62	2119.46	2113	2126	2118.78	2.31E+01	16.70	1.97E+01	3.06
	63	2142.38	2138	2146	2141.70	7.50E+00	7.76	5.00E+00	2.92
	64	2203.82	2197	2207	2203.13	2.43E+01	13.44	1.14E+01	2.06
	65	2253.60	2249	2256	2252.90	1.00E+01	6.32	0.00E+00	3.00
	66	2383.72	2378	2386	2383.00	7.50E+00	9.41	9.00E+00	1.75
	67	2398.81	2395	2401	2398.09	6.13E+00	6.65	3.75E+00	1.20
	68	2418.22	2415	2421	2417.50	8.00E+00	5.66	0.00E+00	1.66
	69	2446.10	2440	2450	2445.38	1.60E+01	8.00	0.00E+00	1.45
	70	2614.15	2608	2617	2613.41	1.26E+02	22.45	0.00E+00	2.76

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 : 11/10/2015 3:09:55PM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Analysis Report for 1510091-04

CP1807S03-04

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	1	62.88	59 -	67	2.39E+02	128.17	2.39E+03	1.02E+02
	2	76.45	72 -	82	1.50E+03	171.72	3.09E+03	1.26E+02
	3	87.38	86 -	89	1.23E+02	75.58	1.31E+03	5.94E+01
	4	115.77	112 -	119	8.78E+01	94.38	1.42E+03	7.60E+01
M	5	126.45	125 -	133	4.91E+01	43.04	4.87E+02	3.63E+01
m	6	129.26	125 -	133	6.97E+01	64.29	8.31E+02	4.74E+01
	7	185.88	182 -	189	2.76E+02	88.52	1.13E+03	6.74E+01
	8	209.68	207 -	213	1.03E+02	69.64	7.99E+02	5.48E+01
	9	221.15	219 -	223	6.13E+01	49.34	4.91E+02	3.85E+01
M	10	238.79	235 -	246	1.04E+03	79.07	5.07E+02	3.70E+01
m	11	242.03	235 -	246	2.91E+02	82.94	5.73E+02	3.93E+01
	12	270.22	266 -	274	8.12E+01	70.57	7.18E+02	5.61E+01
	13	279.03	275 -	284	8.36E+01	72.57	6.91E+02	5.77E+01
	14	288.56	285 -	292	7.52E+01	55.50	4.62E+02	4.33E+01
M	15	295.31	292 -	305	5.20E+02	59.11	3.18E+02	2.93E+01
m	16	300.08	292 -	305	4.20E+01	40.52	3.36E+02	3.02E+01
	17	328.41	325 -	331	4.99E+01	50.22	4.20E+02	3.96E+01
	18	338.44	335 -	342	2.04E+02	60.33	4.67E+02	4.37E+01
	19	352.02	348 -	356	8.30E+02	82.64	5.40E+02	4.87E+01
	20	361.06	359 -	364	3.10E+01	36.26	2.40E+02	2.84E+01
	21	463.25	459 -	467	6.72E+01	48.18	3.18E+02	3.72E+01
	22	510.94	507 -	516	1.33E+02	56.02	3.78E+02	4.20E+01
	23	583.26	579 -	586	2.81E+02	48.70	2.07E+02	2.90E+01
	24	609.40	604 -	613	5.88E+02	65.67	2.80E+02	3.64E+01
	25	666.19	660 -	670	4.14E+01	44.82	2.41E+02	3.53E+01
	26	727.52	723 -	731	7.54E+01	37.97	1.75E+02	2.78E+01
	27	756.81	754 -	759	1.94E+01	23.85	9.73E+01	1.82E+01
	28	769.69	765 -	774	8.17E+01	40.98	1.89E+02	3.02E+01
	29	795.27	791 -	799	6.58E+01	33.70	1.32E+02	2.43E+01
	30	842.68	839 -	845	2.14E+01	26.23	1.05E+02	2.02E+01
	31	860.47	854 -	865	4.59E+01	40.89	1.86E+02	3.17E+01
	32	911.29	906 -	914	2.12E+02	41.90	1.40E+02	2.48E+01
	33	935.50	927 -	948	7.10E+01	63.26	2.86E+02	1.78E+01
	34	969.18	965 -	973	6.76E+01	43.89	2.41E+02	3.35E+01
	35	1002.10	998 -	1008	3.14E+01	29.61	1.03E+02	2.25E+01
	36	1120.37	1115 -	1124	1.39E+02	39.61	1.44E+02	2.62E+01
M	37	1154.97	1148 -	1164	3.79E+01	24.00	5.94E+01	1.27E+01
m	38	1158.42	1148 -	1164	1.82E+01	19.87	4.59E+01	1.11E+01
M	39	1203.22	1198 -	1212	2.08E+01	24.14	9.59E+01	1.61E+01
m	40	1208.66	1198 -	1212	2.80E+01	24.63	9.30E+01	1.59E+01
	41	1238.31	1234 -	1241	3.56E+01	34.29	1.73E+02	2.64E+01
M	42	1377.72	1373 -	1394	4.57E+01	18.40	4.19E+01	1.06E+01
m	43	1384.73	1373 -	1394	1.40E+01	15.05	3.07E+01	9.10E+00
	44	1401.94	1398 -	1404	1.41E+01	17.53	4.57E+01	1.30E+01
	45	1408.69	1405 -	1413	3.05E+01	23.05	6.30E+01	1.66E+01
	46	1461.00	1454 -	1466	6.84E+02	57.83	7.12E+01	2.03E+01
	47	1496.23	1492 -	1498	1.42E+01	12.38	1.76E+01	8.07E+00
M	48	1588.25	1585 -	1599	1.79E+01	12.25	2.60E+01	8.38E+00
m	49	1593.77	1585 -	1599	2.07E+01	19.70	3.31E+01	9.46E+00
	50	1630.33	1626 -	1632	1.26E+01	14.77	2.88E+01	1.07E+01
	51	1662.85	1658 -	1666	1.00E+01	12.53	1.80E+01	8.89E+00

Analysis Report for 1510091-04

CP1807S03-04

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	52	1730.25	1724 -	1735	2.48E+01	16.97	2.24E+01	1.13E+01
	53	1764.66	1759 -	1768	1.19E+02	23.37	1.00E+01	6.88E+00
	54	1848.23	1842 -	1851	2.30E+01	17.38	3.00E+01	1.19E+01
	55	1873.61	1867 -	1878	1.31E+01	10.00	5.75E+00	5.67E+00
M	56	1882.64	1879 -	1890	1.05E+01	6.00	0.00E+00	0.00E+00
m	57	1888.70	1879 -	1890	8.30E+00	6.63	0.00E+00	0.00E+00
	58	1914.38	1909 -	1918	1.17E+01	10.68	8.63E+00	6.74E+00
	59	2080.57	2074 -	2084	8.50E+00	10.79	1.10E+01	7.47E+00
	60	2095.88	2091 -	2098	9.00E+00	7.75	4.00E+00	4.03E+00
	61	2104.33	2099 -	2110	3.20E+01	11.31	0.00E+00	0.00E+00
	62	2119.46	2113 -	2126	2.31E+01	16.70	1.97E+01	1.12E+01
	63	2142.38	2138 -	2146	7.50E+00	7.76	5.00E+00	4.52E+00
	64	2203.82	2197 -	2207	2.43E+01	13.44	1.14E+01	7.50E+00
	65	2253.60	2249 -	2256	1.00E+01	6.32	0.00E+00	0.00E+00
	66	2383.72	2378 -	2386	7.50E+00	9.41	9.00E+00	6.29E+00
	67	2398.81	2395 -	2401	6.13E+00	6.65	3.75E+00	3.65E+00
	68	2418.22	2415 -	2421	8.00E+00	5.66	0.00E+00	0.00E+00
	69	2446.10	2440 -	2450	1.60E+01	8.00	0.00E+00	0.00E+00
	70	2614.15	2608 -	2617	1.26E+02	22.45	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

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/10/2015 3:09:55PM

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	62.88	59 -	67	62.98	2.39E+02	128.17	2.39E+03	TH-230 TH-234
2	76.45	72 -	82	76.53	1.50E+03	171.72	3.09E+03	.....
3	87.38	86 -	89	87.46	1.23E+02	75.58	1.31E+03	SN-126 CD-109 NP-237

Analysis Report for 1510091-04

CP1807S03-04

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
									EU-155
									LU-176
	4	115.77	112 -	119	115.84	8.78E+01	94.38	1.42E+03	.....
M	5	126.45	125 -	133	126.51	4.91E+01	43.04	4.87E+02	HF-172
m	6	129.26	125 -	133	129.32	6.97E+01	64.29	8.31E+02	.....
	7	185.88	182 -	189	185.90	2.76E+02	88.52	1.13E+03	RA-226
	8	209.68	207 -	213	209.70	1.03E+02	69.64	7.99E+02	CM-243
									GA-67
	9	221.15	219 -	223	221.15	6.13E+01	49.34	4.91E+02	.....
M	10	238.79	235 -	246	238.79	1.04E+03	79.07	5.07E+02	PB-212
m	11	242.03	235 -	246	242.02	2.91E+02	82.94	5.73E+02	.....
	12	270.22	266 -	274	270.20	8.12E+01	70.57	7.18E+02	.....
	13	279.03	275 -	284	279.01	8.36E+01	72.57	6.91E+02	HG-203
									SE-75
	14	288.56	285 -	292	288.53	7.52E+01	55.50	4.62E+02	.....
M	15	295.31	292 -	305	295.27	5.20E+02	59.11	3.18E+02	PB-214
m	16	300.08	292 -	305	300.04	4.20E+01	40.52	3.36E+02	PB-212
									BI-210M
									GA-67
	17	328.41	325 -	331	328.36	4.99E+01	50.22	4.20E+02	LA-140
	18	338.44	335 -	342	338.38	2.04E+02	60.33	4.67E+02	AC-228
	19	352.02	348 -	356	351.96	8.30E+02	82.64	5.40E+02	PB-214
	20	361.06	359 -	364	360.99	3.10E+01	36.26	2.40E+02	.....
	21	463.25	459 -	467	463.13	6.72E+01	48.18	3.18E+02	SB-125
	22	510.94	507 -	516	510.80	1.33E+02	56.02	3.78E+02	.....
	23	583.26	579 -	586	583.08	2.81E+02	48.70	2.07E+02	TL-208
	24	609.40	604 -	613	609.21	5.88E+02	65.67	2.80E+02	BI-214
	25	666.19	660 -	670	665.97	4.14E+01	44.82	2.41E+02	SB-126
	26	727.52	723 -	731	727.28	7.54E+01	37.97	1.75E+02	BI-212
	27	756.81	754 -	759	756.55	1.94E+01	23.85	9.73E+01	ZR-95
	28	769.69	765 -	774	769.42	8.17E+01	40.98	1.89E+02	.....
	29	795.27	791 -	799	795.00	6.58E+01	33.70	1.32E+02	CS-134
	30	842.68	839 -	845	842.38	2.14E+01	26.23	1.05E+02	.....
	31	860.47	854 -	865	860.16	4.59E+01	40.89	1.86E+02	TL-208
	32	911.29	906 -	914	910.97	2.12E+02	41.90	1.40E+02	AC-228
									LU-172
	33	935.50	927 -	948	935.16	7.10E+01	63.26	2.86E+02	.....
	34	969.18	965 -	973	968.83	6.76E+01	43.89	2.41E+02	AC-228
	35	1002.10	998 -	1008	1001.73	3.14E+01	29.61	1.03E+02	.....
	36	1120.37	1115 -	1124	1119.96	1.39E+02	39.61	1.44E+02	BI-214
									SC-46
									TA-182
M	37	1154.97	1148 -	1164	1154.55	3.79E+01	24.00	5.94E+01	.....
m	38	1158.42	1148 -	1164	1158.00	1.82E+01	19.87	4.59E+01	.....
M	39	1203.22	1198 -	1212	1202.78	2.08E+01	24.14	9.59E+01	.....
m	40	1208.66	1198 -	1212	1208.22	2.80E+01	24.63	9.30E+01	.....
	41	1238.31	1234 -	1241	1237.86	3.56E+01	34.29	1.73E+02	CO-56
M	42	1377.72	1373 -	1394	1377.23	4.57E+01	18.40	4.19E+01	.....
m	43	1384.73	1373 -	1394	1384.23	1.40E+01	15.05	3.07E+01	AG-110M
	44	1401.94	1398 -	1404	1401.44	1.41E+01	17.53	4.57E+01	.....
	45	1408.69	1405 -	1413	1408.18	3.05E+01	23.05	6.30E+01	EU-152
	46	1461.00	1454 -	1466	1460.48	6.84E+02	57.83	7.12E+01	K-40
	47	1496.23	1492 -	1498	1495.69	1.42E+01	12.38	1.76E+01	.....
M	48	1588.25	1585 -	1599	1587.69	1.79E+01	12.25	2.60E+01	.....

Analysis Report for 1510091-04

CP1807S03-04

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
m	49	1593.77	1585 -	1599	1593.21	2.07E+01	19.70	3.31E+01	.....
	50	1630.33	1626 -	1632	1629.76	1.26E+01	14.77	2.88E+01	.....
	51	1662.85	1658 -	1666	1662.27	1.00E+01	12.53	1.80E+01	.....
	52	1730.25	1724 -	1735	1729.65	2.48E+01	16.97	2.24E+01	.....
	53	1764.66	1759 -	1768	1764.05	1.19E+02	23.37	1.00E+01	BI-214
	54	1848.23	1842 -	1851	1847.60	2.30E+01	17.38	3.00E+01	.....
	55	1873.61	1867 -	1878	1872.98	1.31E+01	10.00	5.75E+00	.....
M	56	1882.64	1879 -	1890	1882.01	1.05E+01	6.00	0.00E+00	.....
m	57	1888.70	1879 -	1890	1888.07	8.30E+00	6.63	0.00E+00	.....
	58	1914.38	1909 -	1918	1913.74	1.17E+01	10.68	8.63E+00	.....
	59	2080.57	2074 -	2084	2079.90	8.50E+00	10.79	1.10E+01	.....
	60	2095.88	2091 -	2098	2095.21	9.00E+00	7.75	4.00E+00	.....
	61	2104.33	2099 -	2110	2103.66	3.20E+01	11.31	0.00E+00	.....
	62	2119.46	2113 -	2126	2118.78	2.31E+01	16.70	1.97E+01	.....
	63	2142.38	2138 -	2146	2141.70	7.50E+00	7.76	5.00E+00	.....
	64	2203.82	2197 -	2207	2203.13	2.43E+01	13.44	1.14E+01	BI-214
	65	2253.60	2249 -	2256	2252.90	1.00E+01	6.32	0.00E+00	.....
	66	2383.72	2378 -	2386	2383.00	7.50E+00	9.41	9.00E+00	.....
	67	2398.81	2395 -	2401	2398.09	6.13E+00	6.65	3.75E+00	.....
	68	2418.22	2415 -	2421	2417.50	8.00E+00	5.66	0.00E+00	.....
	69	2446.10	2440 -	2450	2445.38	1.60E+01	8.00	0.00E+00	.....
	70	2614.15	2608 -	2617	2613.41	1.26E+02	22.45	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 : 11/10/2015 3:09:55PM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	62.88	2.39E+02	128.17	2.36E-02	2.01E-03
	2	76.45	1.50E+03	171.72	2.74E-02	3.36E-03
	3	87.38	1.23E+02	75.58	2.84E-02	4.44E-03
	4	115.77	8.78E+01	94.38	2.72E-02	3.27E-03
M	5	126.45	4.91E+01	43.04	2.63E-02	2.86E-03
m	6	129.26	6.97E+01	64.29	2.60E-02	2.77E-03
	7	185.88	2.76E+02	88.52	2.11E-02	1.65E-03
	8	209.68	1.03E+02	69.64	1.95E-02	1.63E-03

Analysis Report for 1510091-04

CP1807S03-04

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	9	221.15	6.13E+01	49.34	1.88E-02	1.62E-03
M	10	238.79	1.04E+03	79.07	1.79E-02	1.60E-03
m	11	242.03	2.91E+02	82.94	1.77E-02	1.60E-03
	12	270.22	8.12E+01	70.57	1.64E-02	1.57E-03
	13	279.03	8.36E+01	72.57	1.61E-02	1.56E-03
	14	288.56	7.52E+01	55.50	1.57E-02	1.51E-03
M	15	295.31	5.20E+02	59.11	1.55E-02	1.48E-03
m	16	300.08	4.20E+01	40.52	1.53E-02	1.46E-03
	17	328.41	4.99E+01	50.22	1.44E-02	1.32E-03
	18	338.44	2.04E+02	60.33	1.41E-02	1.27E-03
	19	352.02	8.30E+02	82.64	1.37E-02	1.21E-03
	20	361.06	3.10E+01	36.26	1.35E-02	1.17E-03
	21	463.25	6.72E+01	48.18	1.13E-02	9.47E-04
	22	510.94	1.33E+02	56.02	1.06E-02	8.98E-04
	23	583.26	2.81E+02	48.70	9.58E-03	8.25E-04
	24	609.40	5.88E+02	65.67	9.27E-03	7.98E-04
	25	666.19	4.14E+01	44.82	8.66E-03	7.42E-04
	26	727.52	7.54E+01	37.97	8.08E-03	7.03E-04
	27	756.81	1.94E+01	23.85	7.84E-03	6.84E-04
	28	769.69	8.17E+01	40.98	7.73E-03	6.76E-04
	29	795.27	6.58E+01	33.70	7.53E-03	6.59E-04
	30	842.68	2.14E+01	26.23	7.19E-03	6.29E-04
	31	860.47	4.59E+01	40.89	7.07E-03	6.17E-04
	32	911.29	2.12E+02	41.90	6.74E-03	5.87E-04
	33	935.50	7.10E+01	63.26	6.60E-03	5.74E-04
	34	969.18	6.76E+01	43.89	6.41E-03	5.57E-04
	35	1002.10	3.14E+01	29.61	6.24E-03	5.40E-04
	36	1120.37	1.39E+02	39.61	5.70E-03	4.80E-04
M	37	1154.97	3.79E+01	24.00	5.57E-03	4.62E-04
m	38	1158.42	1.82E+01	19.87	5.55E-03	4.60E-04
M	39	1203.22	2.08E+01	24.14	5.39E-03	4.67E-04
m	40	1208.66	2.80E+01	24.63	5.37E-03	4.69E-04
	41	1238.31	3.56E+01	34.29	5.27E-03	4.83E-04
M	42	1377.72	4.57E+01	18.40	4.87E-03	5.08E-04
m	43	1384.73	1.40E+01	15.05	4.85E-03	5.05E-04
	44	1401.94	1.41E+01	17.53	4.81E-03	4.98E-04
	45	1408.69	3.05E+01	23.05	4.79E-03	4.95E-04
	46	1461.00	6.84E+02	57.83	4.67E-03	4.73E-04
	47	1496.23	1.42E+01	12.38	4.60E-03	4.59E-04
M	48	1588.25	1.79E+01	12.25	4.43E-03	4.20E-04
m	49	1593.77	2.07E+01	19.70	4.42E-03	4.18E-04
	50	1630.33	1.26E+01	14.77	4.36E-03	4.03E-04
	51	1662.85	1.00E+01	12.53	4.31E-03	3.90E-04
	52	1730.25	2.48E+01	16.97	4.23E-03	3.62E-04
	53	1764.66	1.19E+02	23.37	4.19E-03	3.47E-04
	54	1848.23	2.30E+01	17.38	4.10E-03	3.18E-04
	55	1873.61	1.31E+01	10.00	4.08E-03	3.18E-04
M	56	1882.64	1.05E+01	6.00	4.07E-03	3.18E-04
m	57	1888.70	8.30E+00	6.63	4.07E-03	3.18E-04
	58	1914.38	1.17E+01	10.68	4.05E-03	3.18E-04
	59	2080.57	8.50E+00	10.79	3.96E-03	3.18E-04
	60	2095.88	9.00E+00	7.75	3.95E-03	3.18E-04
	61	2104.33	3.20E+01	11.31	3.95E-03	3.18E-04

Analysis Report for 1510091-04

CP1807S03-04

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
62	2119.46	2.31E+01	16.70	3.95E-03	3.18E-04
63	2142.38	7.50E+00	7.76	3.94E-03	3.18E-04
64	2203.82	2.43E+01	13.44	3.93E-03	3.18E-04
65	2253.60	1.00E+01	6.32	3.93E-03	3.18E-04
66	2383.72	7.50E+00	9.41	3.94E-03	3.18E-04
67	2398.81	6.13E+00	6.65	3.95E-03	3.18E-04
68	2418.22	8.00E+00	5.66	3.95E-03	3.18E-04
69	2446.10	1.60E+01	8.00	3.96E-03	3.18E-04
70	2614.15	1.26E+02	22.45	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 : 11/10/2015 3:09:55PM

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	62.88	2.39E+02	128.17	4.34E+01	1.15E+01	1.95E+02	1.29E+02
	2	76.45	1.50E+03	171.72			1.50E+03	1.72E+02
	3	87.38	1.23E+02	75.58	1.46E+00	7.88E+00	1.22E+02	7.60E+01
	4	115.77	8.78E+01	94.38			8.78E+01	9.44E+01
M	5	126.45	4.91E+01	43.04			4.91E+01	4.30E+01
m	6	129.26	6.97E+01	64.29			6.97E+01	6.43E+01
	7	185.88	2.76E+02	88.52	4.72E+01	7.97E+00	2.29E+02	8.89E+01
	8	209.68	1.03E+02	69.64			1.03E+02	6.96E+01
	9	221.15	6.13E+01	49.34			6.13E+01	4.93E+01
M	10	238.79	1.04E+03	79.07	2.36E+01	1.35E+01	1.01E+03	8.02E+01
m	11	242.03	2.91E+02	82.94	6.38E+00	3.91E+00	2.85E+02	8.30E+01
	12	270.22	8.12E+01	70.57			8.12E+01	7.06E+01
	13	279.03	8.36E+01	72.57			8.36E+01	7.26E+01
	14	288.56	7.52E+01	55.50			7.52E+01	5.55E+01
M	15	295.31	5.20E+02	59.11	8.57E+00	6.10E+00	5.11E+02	5.94E+01
m	16	300.08	4.20E+01	40.52			4.20E+01	4.05E+01
	17	328.41	4.99E+01	50.22	0.00E+00	0.00E+00	4.99E+01	5.02E+01
	18	338.44	2.04E+02	60.33			2.04E+02	6.03E+01
	19	352.02	8.30E+02	82.64	1.40E+01	5.55E+00	8.16E+02	8.28E+01
	20	361.06	3.10E+01	36.26			3.10E+01	3.63E+01
	21	463.25	6.72E+01	48.18			6.72E+01	4.82E+01

Analysis Report for 1510091-04

CP1807S03-04

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	22	510.94	1.33E+02	56.02	8.41E+01	5.50E+00	4.90E+01	5.63E+01
	23	583.26	2.81E+02	48.70	7.32E+00	4.08E+00	2.74E+02	4.89E+01
	24	609.40	5.88E+02	65.67	1.30E+01	3.89E+00	5.75E+02	6.58E+01
	25	666.19	4.14E+01	44.82			4.14E+01	4.48E+01
	26	727.52	7.54E+01	37.97			7.54E+01	3.80E+01
	27	756.81	1.94E+01	23.85			1.94E+01	2.39E+01
	28	769.69	8.17E+01	40.98			8.17E+01	4.10E+01
	29	795.27	6.58E+01	33.70			6.58E+01	3.37E+01
	30	842.68	2.14E+01	26.23			2.14E+01	2.62E+01
	31	860.47	4.59E+01	40.89			4.59E+01	4.09E+01
	32	911.29	2.12E+02	41.90	5.60E+00	3.32E+00	2.06E+02	4.20E+01
	33	935.50	7.10E+01	63.26			7.10E+01	6.33E+01
	34	969.18	6.76E+01	43.89			6.76E+01	4.39E+01
	35	1002.10	3.14E+01	29.61			3.14E+01	2.96E+01
	36	1120.37	1.39E+02	39.61	3.93E+00	2.96E+00	1.35E+02	3.97E+01
M	37	1154.97	3.79E+01	24.00			3.79E+01	2.40E+01
m	38	1158.42	1.82E+01	19.87			1.82E+01	1.99E+01
M	39	1203.22	2.08E+01	24.14			2.08E+01	2.41E+01
m	40	1208.66	2.80E+01	24.63			2.80E+01	2.46E+01
	41	1238.31	3.56E+01	34.29			3.56E+01	3.43E+01
M	42	1377.72	4.57E+01	18.40			4.57E+01	1.84E+01
m	43	1384.73	1.40E+01	15.05			1.40E+01	1.50E+01
	44	1401.94	1.41E+01	17.53			1.41E+01	1.75E+01
	45	1408.69	3.05E+01	23.05			3.05E+01	2.31E+01
	46	1461.00	6.84E+02	57.83	1.12E+01	2.55E+00	6.73E+02	5.79E+01
	47	1496.23	1.42E+01	12.38			1.42E+01	1.24E+01
M	48	1588.25	1.79E+01	12.25			1.79E+01	1.22E+01
m	49	1593.77	2.07E+01	19.70			2.07E+01	1.97E+01
	50	1630.33	1.26E+01	14.77			1.26E+01	1.48E+01
	51	1662.85	1.00E+01	12.53			1.00E+01	1.25E+01
	52	1730.25	2.48E+01	16.97			2.48E+01	1.70E+01
	53	1764.66	1.19E+02	23.37	4.23E+00	2.21E+00	1.15E+02	2.35E+01
	54	1848.23	2.30E+01	17.38			2.30E+01	1.74E+01
	55	1873.61	1.31E+01	10.00			1.31E+01	1.00E+01
M	56	1882.64	1.05E+01	6.00			1.05E+01	6.00E+00
m	57	1888.70	8.30E+00	6.63			8.30E+00	6.63E+00
	58	1914.38	1.17E+01	10.68			1.17E+01	1.07E+01
	59	2080.57	8.50E+00	10.79			8.50E+00	1.08E+01
	60	2095.88	9.00E+00	7.75			9.00E+00	7.75E+00
	61	2104.33	3.20E+01	11.31			3.20E+01	1.13E+01
	62	2119.46	2.31E+01	16.70			2.31E+01	1.67E+01
	63	2142.38	7.50E+00	7.76			7.50E+00	7.76E+00
	64	2203.82	2.43E+01	13.44	5.94E-01	1.16E+00	2.37E+01	1.35E+01
	65	2253.60	1.00E+01	6.32			1.00E+01	6.32E+00
	66	2383.72	7.50E+00	9.41			7.50E+00	9.41E+00
	67	2398.81	6.13E+00	6.65			6.13E+00	6.65E+00
	68	2418.22	8.00E+00	5.66			8.00E+00	5.66E+00
	69	2446.10	1.60E+01	8.00			1.60E+01	8.00E+00
	70	2614.15	1.26E+02	22.45	7.38E+00	1.57E+00	1.19E+02	2.25E+01

Analysis Report for 1510091-04

CP1807S03-04

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 : 11/10/2015 3:09:55PM

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	62.88	2.39E+02	128.17	4.34E+01	1.15E+01	1.95E+02	1.29E+02
	2	76.45	1.50E+03	171.72			1.50E+03	1.72E+02
	3	87.38	1.23E+02	75.58	1.46E+00	7.88E+00	1.22E+02	7.60E+01
	4	115.77	8.78E+01	94.38			8.78E+01	9.44E+01
M	5	126.45	4.91E+01	43.04			4.91E+01	4.30E+01
m	6	129.26	6.97E+01	64.29			6.97E+01	6.43E+01
	7	185.88	2.76E+02	88.52	4.72E+01	7.97E+00	2.29E+02	8.89E+01
	8	209.68	1.03E+02	69.64			1.03E+02	6.96E+01
	9	221.15	6.13E+01	49.34			6.13E+01	4.93E+01
M	10	238.79	1.04E+03	79.07	2.36E+01	1.35E+01	1.01E+03	8.02E+01
m	11	242.03	2.91E+02	82.94	6.38E+00	3.91E+00	2.85E+02	8.30E+01
	12	270.22	8.12E+01	70.57			8.12E+01	7.06E+01
	13	279.03	8.36E+01	72.57			8.36E+01	7.26E+01
	14	288.56	7.52E+01	55.50			7.52E+01	5.55E+01
M	15	295.31	5.20E+02	59.11	8.57E+00	6.10E+00	5.11E+02	5.94E+01
m	16	300.08	4.20E+01	40.52			4.20E+01	4.05E+01
	17	328.41	4.99E+01	50.22	0.00E+00	0.00E+00	4.99E+01	5.02E+01
	18	338.44	2.04E+02	60.33			2.04E+02	6.03E+01
	19	352.02	8.30E+02	82.64	1.40E+01	5.55E+00	8.16E+02	8.28E+01
	20	361.06	3.10E+01	36.26			3.10E+01	3.63E+01
	21	463.25	6.72E+01	48.18			6.72E+01	4.82E+01
	22	510.94	1.33E+02	56.02	8.41E+01	5.50E+00	4.90E+01	5.63E+01
	23	583.26	2.81E+02	48.70	7.32E+00	4.08E+00	2.74E+02	4.89E+01
	24	609.40	5.88E+02	65.67	1.30E+01	3.89E+00	5.75E+02	6.58E+01
	25	666.19	4.14E+01	44.82			4.14E+01	4.48E+01
	26	727.52	7.54E+01	37.97			7.54E+01	3.80E+01
	27	756.81	1.94E+01	23.85			1.94E+01	2.39E+01
	28	769.69	8.17E+01	40.98			8.17E+01	4.10E+01
	29	795.27	6.58E+01	33.70			6.58E+01	3.37E+01
	30	842.68	2.14E+01	26.23			2.14E+01	2.62E+01
	31	860.47	4.59E+01	40.89			4.59E+01	4.09E+01
	32	911.29	2.12E+02	41.90	5.60E+00	3.32E+00	2.06E+02	4.20E+01

Analysis Report for 1510091-04

CP1807S03-04

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	33	935.50	7.10E+01	63.26			7.10E+01	6.33E+01
	34	969.18	6.76E+01	43.89			6.76E+01	4.39E+01
	35	1002.10	3.14E+01	29.61			3.14E+01	2.96E+01
	36	1120.37	1.39E+02	39.61	3.93E+00	2.96E+00	1.35E+02	3.97E+01
M	37	1154.97	3.79E+01	24.00			3.79E+01	2.40E+01
m	38	1158.42	1.82E+01	19.87			1.82E+01	1.99E+01
M	39	1203.22	2.08E+01	24.14			2.08E+01	2.41E+01
m	40	1208.66	2.80E+01	24.63			2.80E+01	2.46E+01
	41	1238.31	3.56E+01	34.29			3.56E+01	3.43E+01
M	42	1377.72	4.57E+01	18.40			4.57E+01	1.84E+01
m	43	1384.73	1.40E+01	15.05			1.40E+01	1.50E+01
	44	1401.94	1.41E+01	17.53			1.41E+01	1.75E+01
	45	1408.69	3.05E+01	23.05			3.05E+01	2.31E+01
	46	1461.00	6.84E+02	57.83	1.12E+01	2.55E+00	6.73E+02	5.79E+01
	47	1496.23	1.42E+01	12.38			1.42E+01	1.24E+01
M	48	1588.25	1.79E+01	12.25			1.79E+01	1.22E+01
m	49	1593.77	2.07E+01	19.70			2.07E+01	1.97E+01
	50	1630.33	1.26E+01	14.77			1.26E+01	1.48E+01
	51	1662.85	1.00E+01	12.53			1.00E+01	1.25E+01
	52	1730.25	2.48E+01	16.97			2.48E+01	1.70E+01
	53	1764.66	1.19E+02	23.37	4.23E+00	2.21E+00	1.15E+02	2.35E+01
	54	1848.23	2.30E+01	17.38			2.30E+01	1.74E+01
	55	1873.61	1.31E+01	10.00			1.31E+01	1.00E+01
M	56	1882.64	1.05E+01	6.00			1.05E+01	6.00E+00
m	57	1888.70	8.30E+00	6.63			8.30E+00	6.63E+00
	58	1914.38	1.17E+01	10.68			1.17E+01	1.07E+01
	59	2080.57	8.50E+00	10.79			8.50E+00	1.08E+01
	60	2095.88	9.00E+00	7.75			9.00E+00	7.75E+00
	61	2104.33	3.20E+01	11.31			3.20E+01	1.13E+01
	62	2119.46	2.31E+01	16.70			2.31E+01	1.67E+01
	63	2142.38	7.50E+00	7.76			7.50E+00	7.76E+00
	64	2203.82	2.43E+01	13.44	5.94E-01	1.16E+00	2.37E+01	1.35E+01
	65	2253.60	1.00E+01	6.32			1.00E+01	6.32E+00
	66	2383.72	7.50E+00	9.41			7.50E+00	9.41E+00
	67	2398.81	6.13E+00	6.65			6.13E+00	6.65E+00
	68	2418.22	8.00E+00	5.66			8.00E+00	5.66E+00
	69	2446.10	1.60E+01	8.00			1.60E+01	8.00E+00
	70	2614.15	1.26E+02	22.45	7.38E+00	1.57E+00	1.19E+02	2.25E+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 1510091-04

CP1807S03-04

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.994	1460.81	*	10.67	1.85E+01	2.48E+00
CD-109	0.935	88.03	*	3.72	1.65E+00	1.07E+00
SN-126	0.994	87.57	*	37.00	1.58E-01	1.02E-01
HF-172	0.487	81.75		4.52		
		125.81	*	11.30	2.33E-01	2.06E-01
HG-203	0.994	279.19	*	77.30	1.46E-01	1.28E-01
TL-208	0.978	583.14	*	30.22	1.29E+00	2.56E-01
		860.37	*	4.48	1.98E+00	1.77E+00
		2614.66	*	35.85	1.12E+00	2.29E-01
BI-212	0.750	727.17	*	11.80	1.08E+00	5.52E-01
		1620.62		2.75		
PB-212	0.996	238.63	*	44.60	1.74E+00	2.08E-01
		300.09	*	3.41	1.10E+00	1.07E+00
BI-214	0.997	609.31	*	46.30	1.83E+00	2.62E-01
		1120.29	*	15.10	2.14E+00	6.56E-01
		1764.49	*	15.80	2.37E+00	5.24E-01
		2204.22	*	4.98	1.66E+00	9.51E-01
PB-214	0.998	295.21	*	19.19	2.36E+00	3.55E-01
		351.92	*	37.19	2.19E+00	2.94E-01
RA-226	0.982	186.21	*	3.28	4.53E+00	8.47E+00
AC-228	0.995	338.32	*	11.40	1.74E+00	5.37E-01
		911.07	*	27.70	1.51E+00	3.35E-01
		969.11	*	16.60	8.68E-01	5.69E-01
TH-234	0.974	63.29	*	3.80	2.98E+00	1.98E+00
NP-237	0.884	86.50	*	12.60	4.65E-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 : 11/10/2015 3:09:55PM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
2	76.45	4.17283E-01	5.72		

Analysis Report for 1510091-04

CP1807S03-04

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	4	115.77	2.43779E-02	53.77		
m	6	129.26	1.93729E-02	46.09		
	8	209.68	2.85049E-02	33.93	Tol.	CM-243
	9	221.15	1.70146E-02	40.27		
m	11	242.03	7.91144E-02	14.58		
	12	270.22	2.25473E-02	43.47		
	14	288.56	2.08878E-02	36.90		
	17	328.41	1.38590E-02	50.33	Tol.	LA-140
	20	361.06	8.61847E-03	58.44		
	21	463.25	1.86689E-02	35.85	Tol.	SB-125
	22	510.94	1.36005E-02	57.48		
	25	666.19	1.15115E-02	54.08	Tol.	SB-126
	27	756.81	5.37786E-03	61.60	Tol.	ZR-95
	28	769.69	2.27004E-02	25.07	Sum	
	29	795.27	1.82660E-02	25.62	Sum	
	30	842.68	5.95721E-03	61.15		
	33	935.50	1.97222E-02	44.55	Sum	
	35	1002.10	8.72657E-03	47.12		
M	37	1154.97	1.05356E-02	31.64	Sum	
m	38	1158.42	5.04915E-03	54.67		
M	39	1203.22	5.77106E-03	58.10		
m	40	1208.66	7.77164E-03	44.02	Sum	
	41	1238.31	9.89754E-03	48.12	Tol.	CO-56
M	42	1377.72	1.27058E-02	20.11		
m	43	1384.73	3.88790E-03	53.76	Tol.	AG-110M
	44	1401.94	3.93018E-03	61.94		
	45	1408.69	8.47222E-03	37.79	Tol.	EU-152
	47	1496.23	3.94324E-03	43.60		
M	48	1588.25	4.95894E-03	34.30	Sum	
m	49	1593.77	5.74527E-03	47.62		
	50	1630.33	3.49794E-03	58.66		
	51	1662.85	2.77778E-03	62.65		
	52	1730.25	6.89043E-03	34.21	Sum	
	54	1848.23	6.38889E-03	37.78	Sum	
	55	1873.61	3.64583E-03	38.10		
M	56	1882.64	2.92999E-03	28.44		
m	57	1888.70	2.30631E-03	39.95		
	58	1914.38	3.24653E-03	45.68		
	59	2080.57	2.36111E-03	63.49		
	60	2095.88	2.50000E-03	43.03		
	61	2104.33	8.88889E-03	17.68		
	62	2119.46	6.42677E-03	36.10		
	63	2142.38	2.08333E-03	51.75		
	65	2253.60	2.77778E-03	31.62		
	66	2383.72	2.08333E-03	62.72		
	67	2398.81	1.70139E-03	54.30		
	68	2418.22	2.22222E-03	35.36		
	69	2446.10	4.44444E-03	25.00		

Analysis Report for 1510091-04

CP1807S03-04

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	1.85E+01	2.48E+00
CD-109	0.93	88.03	*	3.72	1.65E+00	1.07E+00
SN-126	0.99	87.57	*	37.00	1.58E-01	1.02E-01
HF-172	0.48	81.75		4.52		
		125.81	*	11.30	2.33E-01	2.06E-01
HG-203	0.99	279.19	*	77.30	1.46E-01	1.28E-01
TL-208	0.97	583.14	*	30.22	1.29E+00	2.56E-01
		860.37	*	4.48	1.98E+00	1.77E+00
		2614.66	*	35.85	1.12E+00	2.29E-01
BI-212	0.75	727.17	*	11.80	1.08E+00	5.52E-01
		1620.62		2.75		
PB-212	0.99	238.63	*	44.60	1.74E+00	2.08E-01
		300.09	*	3.41	1.10E+00	1.07E+00
BI-214	0.99	609.31	*	46.30	1.83E+00	2.62E-01
		1120.29	*	15.10	2.14E+00	6.56E-01
		1764.49	*	15.80	2.37E+00	5.24E-01
		2204.22	*	4.98	1.66E+00	9.51E-01
PB-214	0.99	295.21	*	19.19	2.36E+00	3.55E-01
		351.92	*	37.19	2.19E+00	2.94E-01
RA-226	0.98	186.21	*	3.28	4.53E+00	8.47E+00
AC-228	0.99	338.32	*	11.40	1.74E+00	5.37E-01
		911.07	*	27.70	1.51E+00	3.35E-01
		969.11	*	16.60	8.68E-01	5.69E-01
TH-234	0.97	63.29	*	3.80	2.98E+00	1.98E+00
NP-237	0.88	86.50	*	12.60	4.65E-01	2.99E-01

Analysis Report for 1510091-04

CP1807S03-04

* = 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	0.994	1.85E+01	2.48E+00	
?	CD-109	0.935	1.65E+00	1.07E+00	
?	SN-126	0.994	1.58E-01	1.02E-01	
	HF-172	0.487	2.33E-01	2.06E-01	
	HG-203	0.994	1.46E-01	1.28E-01	
	TL-208	0.978	1.20E+00	1.70E-01	
	BI-212	0.750	1.08E+00	5.52E-01	
	PB-212	0.996	1.72E+00	2.04E-01	
	BI-214	0.997	1.95E+00	2.15E-01	
	PB-214	0.998	2.26E+00	2.26E-01	
	RA-226	0.982	4.53E+00	8.47E+00	
	AC-228	0.995	1.43E+00	2.54E-01	
	TH-234	0.974	2.98E+00	1.98E+00	
?	NP-237	0.884	4.65E-01	2.99E-01	

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

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UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 3:09:55PM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	2	76.45	4.17283E-01	5.72		
	4	115.77	2.43779E-02	53.77		
m	6	129.26	1.93729E-02	46.09		
	8	209.68	2.85049E-02	33.93	Tol.	CM-243
	9	221.15	1.70146E-02	40.27		
m	11	242.03	7.91144E-02	14.58		
	12	270.22	2.25473E-02	43.47		
	14	288.56	2.08878E-02	36.90		
	17	328.41	1.38590E-02	50.33	Tol.	LA-140
	20	361.06	8.61847E-03	58.44		
	21	463.25	1.86689E-02	35.85	Tol.	SB-125
	22	510.94	1.36005E-02	57.48		
	25	666.19	1.15115E-02	54.08	Tol.	SB-126
	27	756.81	5.37786E-03	61.60	Tol.	ZR-95
	28	769.69	2.27004E-02	25.07	Sum	
	29	795.27	1.82660E-02	25.62	Sum	
	30	842.68	5.95721E-03	61.15		
	33	935.50	1.97222E-02	44.55	Sum	
	35	1002.10	8.72657E-03	47.12		
M	37	1154.97	1.05356E-02	31.64	Sum	
m	38	1158.42	5.04915E-03	54.67		
M	39	1203.22	5.77106E-03	58.10		
m	40	1208.66	7.77164E-03	44.02	Sum	
	41	1238.31	9.89754E-03	48.12	Tol.	CO-56
M	42	1377.72	1.27058E-02	20.11		
m	43	1384.73	3.88790E-03	53.76	Tol.	AG-110M
	44	1401.94	3.93018E-03	61.94		
	45	1408.69	8.47222E-03	37.79	Tol.	EU-152
	47	1496.23	3.94324E-03	43.60		
M	48	1588.25	4.95894E-03	34.30	Sum	
m	49	1593.77	5.74527E-03	47.62		
	50	1630.33	3.49794E-03	58.66		
	51	1662.85	2.77778E-03	62.65		
	52	1730.25	6.89043E-03	34.21	Sum	

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	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	54	1848.23	6.38889E-03	37.78	Sum	
	55	1873.61	3.64583E-03	38.10		
M	56	1882.64	2.92999E-03	28.44		
m	57	1888.70	2.30631E-03	39.95		
	58	1914.38	3.24653E-03	45.68		
	59	2080.57	2.36111E-03	63.49		
	60	2095.88	2.50000E-03	43.03		
	61	2104.33	8.88889E-03	17.68		
	62	2119.46	6.42677E-03	36.10		
	63	2142.38	2.08333E-03	51.75		
	65	2253.60	2.77778E-03	31.62		
	66	2383.72	2.08333E-03	62.72		
	67	2398.81	1.70139E-03	54.30		
	68	2418.22	2.22222E-03	35.36		
	69	2446.10	4.44444E-03	25.00		

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	-8.41E-02	8.13E-01	8.13E-01
+	NA-22	1274.54		99.94	9.67E-03	8.72E-02	8.72E-02
+	NA-24	1368.53		99.99	2.67E+13	3.20E+13	8.51E+13
		2754.09		99.86	-3.45E+12		3.20E+13
+	AL-26	1808.65		99.76	2.45E-02	6.45E-02	6.45E-02
+	K-40	1460.81	*	10.67	1.85E+01	1.23E+00	1.23E+00
+	@ AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	1.62E-02	5.74E-02	5.74E-02
		78.34		96.00	3.78E-01		8.65E-02
+	SC-46	889.25		99.98	1.29E-02	1.00E-01	1.00E-01
		1120.51		99.99	4.31E-01		2.07E-01
+	V-48	983.52		99.98	-2.73E-02	2.68E-01	2.68E-01
		1312.10		97.50	1.03E-01		3.42E-01

Analysis Report for 1510091-04

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	CR-51	320.08		9.83	-6.60E-01	1.26E+00	1.26E+00
+	MN-54	834.83		99.97	-4.62E-03	8.86E-02	8.86E-02
+	CO-56	846.75		99.96	9.51E-03	7.13E-02	1.04E-01
		1037.75		14.03	-3.07E-01		7.10E-01
		1238.25		67.00	2.74E-01		2.65E-01
		1771.40		15.51	6.25E-02		5.23E-01
		2598.48		16.90	0.00E+00		7.13E-02
+	CO-57	122.06		85.51	2.67E-02	6.44E-02	6.44E-02
		136.48		10.60	-2.40E-01		5.53E-01
+	CO-58	810.76		99.40	-6.88E-02	1.01E-01	1.01E-01
+	FE-59	1099.22		56.50	3.66E-02	2.32E-01	2.32E-01
		1291.56		43.20	1.16E-01		3.08E-01
+	CO-60	1173.22		100.00	-1.30E-02	8.27E-02	9.28E-02
		1332.49		100.00	-8.16E-03		8.27E-02
+	ZN-65	1115.52		50.75	2.79E-02	2.04E-01	2.04E-01
+	GA-67	93.31		35.70	2.72E+02	1.47E+02	1.47E+02
		208.95		2.24	1.16E+03		2.24E+03
		300.22		16.00	1.43E+02		2.96E+02
+	SE-75	121.11		16.70	3.46E-02	1.09E-01	3.62E-01
		136.00		59.20	9.21E-03		1.09E-01
		264.65		59.80	1.73E-03		1.11E-01
		279.53		25.20	8.85E-03		2.94E-01
		400.65		11.40	1.11E-01		6.29E-01
+	RB-82	776.52		13.00	-3.35E-01	1.33E+00	1.33E+00
+	RB-83	520.41		46.00	-3.25E-02	1.61E-01	1.61E-01
		529.64		30.30	9.02E-02		2.44E-01
		552.65		16.40	1.13E-01		5.06E-01
+	KR-85	513.99		0.43	-2.25E+01	1.56E+01	1.56E+01
+	SR-85	513.99		99.27	-1.36E-01	9.50E-02	9.50E-02
+	Y-88	898.02		93.40	-4.47E-02	7.98E-02	9.86E-02
		1836.01		99.38	-2.42E-03		7.98E-02
+	NB-93M	16.57		9.43	-9.77E+03	5.71E+03	5.71E+03
+	NB-94	702.63		100.00	-2.11E-02	7.57E-02	7.63E-02
		871.10		100.00	5.03E-03		7.57E-02
+	NB-95	765.79		99.81	3.50E-02	1.88E-01	1.88E-01
+	NB-95M	235.69		25.00	-1.23E+03	1.35E+02	1.35E+02
+	ZR-95	724.18		43.70	-5.24E-02	1.91E-01	2.82E-01
		756.72		55.30	5.26E-02		1.91E-01
+	MO-99	181.06		6.20	6.72E+02	1.52E+03	2.34E+03
		739.58		12.80	-9.55E+01		1.52E+03
		778.00		4.50	-8.80E+02		4.27E+03
+	RU-103	497.08		89.00	6.53E-02	1.19E-01	1.19E-01
+	RU-106	621.84		9.80	1.43E-01	7.18E-01	7.18E-01
+	AG-108M	433.93		89.90	-5.71E-02	5.41E-02	5.41E-02
		614.37		90.40	-8.94E-03		7.93E-02
		722.95		90.50	-6.77E-04		8.25E-02
+	CD-109	88.03	*	3.72	1.65E+00	1.66E+00	1.66E+00

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	AG-110M	657.75		93.14	-1.01E-02	8.21E-02	8.21E-02
		677.61		10.53	3.51E-01		7.76E-01
		706.67		16.46	-1.08E-02		5.05E-01
		763.93		21.98	9.91E-02		3.98E-01
		884.67		71.63	-5.43E-03		1.10E-01
		1384.27		23.94	2.14E-02		3.27E-01
+	CD-113M	263.70		0.02	5.69E+01	2.41E+02	2.41E+02
+	SN-113	255.12		1.93	4.58E-01	1.14E-01	3.49E+00
		391.69		64.90	7.78E-03		1.14E-01
+	TE123M	159.00		84.10	1.94E-02	8.01E-02	8.01E-02
+	SB-124	602.71		97.87	9.49E-03	1.10E-01	1.10E-01
		645.85		7.26	-1.01E-01		1.37E+00
		722.78		11.10	-7.89E-03		9.62E-01
		1691.02		49.00	3.15E-02		1.48E-01
+	I-125	35.49		6.49	-1.91E+00	5.98E+00	5.98E+00
+	SB-125	176.33		6.89	2.56E-01	2.22E-01	8.67E-01
		427.89		29.33	7.75E-02		2.22E-01
		463.38		10.35	4.56E-01		6.97E-01
		600.56		17.80	1.00E-03		4.12E-01
		635.90		11.32	-1.18E-01		6.61E-01
+	SB-126	414.70		83.30	-1.02E-01	3.88E-01	3.88E-01
		666.33		99.60	3.45E-01		4.75E-01
		695.00		99.60	-1.38E-02		4.34E-01
		720.50		53.80	-8.00E-02		7.67E-01
+	SN-126	87.57	*	37.00	1.58E-01	1.59E-01	1.59E-01
+	SB-127	473.00		25.00	1.25E+01	5.59E+01	6.43E+01
		685.20		35.70	-1.33E+01		5.59E+01
		783.80		14.70	-1.29E+01		1.51E+02
+	I-129	29.78		57.00	3.82E-01	1.27E+00	1.27E+00
		33.60		13.20	1.20E+00		2.71E+00
		39.58		7.52	2.73E-01		2.31E+00
+	I-131	284.30		6.05	-4.63E+00	9.48E-01	1.34E+01
		364.48		81.20	-1.86E-01		9.48E-01
		636.97		7.26	4.19E+00		1.51E+01
		722.89		1.80	-5.00E-01		6.10E+01
+	TE-132	49.72		13.10	1.09E+02	5.29E+01	5.00E+02
		228.16		88.00	-2.87E+00		5.29E+01
+	BA-133	81.00		33.00	6.81E-03	9.82E-02	1.44E-01
		302.84		17.80	-3.08E-01		3.28E-01
		356.01		60.00	7.86E-04		9.82E-02
+	I-133	529.87		86.30	-1.90E+09	4.18E+09	4.18E+09
+	XE-133	81.00		38.00	3.63E-01	7.70E+00	7.70E+00
+	CS-134	563.23		8.38	2.59E-01	1.01E-01	7.79E-01
		569.32		15.43	-2.58E-01		3.73E-01
		604.70		97.60	-2.37E-03		1.01E-01
		795.84		85.40	1.42E-01		1.14E-01
		801.93		8.73	-2.34E-01		8.15E-01
+	CS-135	268.24		16.00	-8.84E-02	3.96E-01	3.96E-01
+	@ I-135	1131.51		22.50	1.00E+26	1.00E+26	1.00E+26

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
@	I-135	1260.41	28.60	1.00E+26	1.00E+26	1.00E+26
@		1678.03	9.54	1.00E+26		1.00E+26
+	CS-136	153.22	7.46	1.96E+00	3.87E-01	4.05E+00
		163.89	4.61	-1.47E+00		6.25E+00
		176.55	13.56	-1.03E-01		2.19E+00
		273.65	12.66	-3.11E+00		2.38E+00
		340.57	48.50	-1.21E+00		7.35E-01
		818.50	99.70	-1.16E-01		3.87E-01
		1048.07	79.60	2.00E-01		5.40E-01
		1235.34	19.70	2.00E-02		3.38E+00
+	CS-137	661.65	85.12	-7.44E-03	8.62E-02	8.62E-02
+	LA-138	788.74	34.00	7.92E-02	9.84E-02	2.41E-01
		1435.80	66.00	-1.27E-02		9.84E-02
+	CE-139	165.85	80.35	3.36E-02	8.22E-02	8.22E-02
+	BA-140	162.64	6.70	-1.25E+00	1.17E+00	4.47E+00
		304.84	4.50	4.95E-01		6.95E+00
		423.70	3.20	-2.01E+00		1.05E+01
		437.55	2.00	1.68E+00		1.49E+01
		537.32	25.00	-3.68E-01		1.17E+00
+	LA-140	328.77	20.50	1.44E+00	5.03E-01	1.71E+00
		487.03	45.50	-1.75E-01		6.87E-01
		815.85	23.50	4.65E-01		1.82E+00
		1596.49	95.49	2.29E-01		5.03E-01
+	CE-141	145.44	48.40	-3.31E-02	2.17E-01	2.17E-01
+	CE-143	57.36	11.80	-1.29E+06	1.48E+06	3.27E+06
		293.26	42.00	-2.19E+05		1.48E+06
		664.55	5.20	2.09E+06		1.06E+07
+	CE-144	133.54	10.80	-8.44E-02	5.30E-01	5.30E-01
+	PM-144	476.78	42.00	-1.48E-02	6.99E-02	1.43E-01
		618.01	98.60	-1.81E-02		6.99E-02
		696.49	99.49	-5.54E-02		7.73E-02
+	PM-145	36.85	21.70	2.97E-01	5.49E-01	1.07E+00
		37.36	39.70	1.53E-01		5.49E-01
		42.30	15.10	-3.63E-02		9.18E-01
		72.40	2.31	-1.72E+00		2.37E+00
+	PM-146	453.90	39.94	4.30E-02	1.50E-01	1.50E-01
		735.90	14.01	-2.06E-01		5.06E-01
		747.13	13.10	1.09E-01		6.11E-01
+	ND-147	91.11	28.90	2.94E+00	1.76E+00	1.76E+00
		531.02	13.10	-1.37E+00		2.91E+00
+	PM-149	285.90	3.10	-2.45E+04	3.16E+04	3.16E+04
+	EU-152	121.78	20.50	1.03E-01	2.49E-01	2.49E-01
		244.69	5.40	-2.15E+00		1.17E+00
		344.27	19.13	-4.12E-03		3.03E-01
		778.89	9.20	2.52E-01		8.38E-01
		964.01	10.40	1.07E-01		9.50E-01
		1085.78	7.22	2.11E-01		1.14E+00
		1112.02	9.60	-2.37E-01		9.28E-01
		1407.95	14.94	1.43E-01		6.89E-01

Analysis Report for 1510091-04

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	GD-153	97.43		31.30	1.08E-03	1.80E-01	1.80E-01
		103.18		22.20	-9.46E-02		2.55E-01
+	EU-154	123.07		40.50	1.90E-02	1.25E-01	1.25E-01
		723.30		19.70	-3.13E-03		3.81E-01
		873.19		11.50	-6.47E-02		6.43E-01
		996.32		10.30	-1.21E-01		6.36E-01
		1004.76		17.90	1.33E-01		4.75E-01
		1274.45		35.50	2.68E-02		2.42E-01
+	EU-155	86.50		30.90	-1.81E-01	2.31E-01	2.31E-01
		105.30		20.70	3.62E-02		2.53E-01
+	EU-156	811.77		10.40	-7.75E-01	3.11E+00	3.11E+00
		1153.47		7.20	2.57E+00		5.93E+00
		1230.71		8.90	8.88E-01		4.52E+00
+	HO-166M	184.41		72.60	8.73E-02	1.02E-01	1.02E-01
		280.45		29.60	6.30E-03		2.10E-01
		410.94		11.10	1.64E-01		5.73E-01
		711.69		54.10	-6.34E-02		1.32E-01
+	TM-171	66.72		0.14	-1.74E+01	3.94E+01	3.94E+01
+	HF-172	81.75		4.52	-1.76E+00	6.98E-01	1.06E+00
		125.81	*	11.30	2.33E-01		6.98E-01
+	LU-172	181.53		20.60	2.17E+00	3.34E+00	7.04E+00
		810.06		16.63	-7.62E+00		1.12E+01
		912.12		15.25	6.19E+01		2.57E+01
		1093.66		62.50	1.68E+00		3.34E+00
+	LU-173	100.72		5.24	4.63E-01	3.33E-01	1.04E+00
		272.11		21.20	2.78E-01		3.33E-01
+	HF-175	343.40		84.00	4.59E-02	9.78E-02	9.78E-02
+	LU-176	88.34		13.30	8.98E-01	5.91E-02	5.42E-01
		201.83		86.00	-6.57E-03		6.92E-02
		306.78		94.00	1.06E-02		5.91E-02
+	TA-182	67.75		41.20	4.48E-02	1.59E-01	1.59E-01
		1121.30		34.90	1.15E+00		5.52E-01
		1189.05		16.23	-1.76E-01		6.60E-01
		1221.41		26.98	-7.33E-02		4.02E-01
		1231.02		11.44	-4.60E-02		1.04E+00
+	IR-192	308.46		29.68	9.99E-03	1.71E-01	2.48E-01
		468.07		48.10	-2.64E-02		1.71E-01
+	HG-203	279.19	*	77.30	1.46E-01	2.07E-01	2.07E-01
+	BI-207	569.67		97.72	-3.97E-02	5.74E-02	5.74E-02
		1063.62		74.90	4.06E-02		1.06E-01
+	TL-208	583.14	*	30.22	1.29E+00	1.13E-01	2.92E-01
		860.37	*	4.48	1.98E+00		2.86E+00
		2614.66	*	35.85	1.12E+00		1.13E-01
+	BI-210M	262.00		45.00	-1.09E-02	1.24E-01	1.24E-01
		300.00		23.00	1.31E-01		2.72E-01
+	PB-210	46.50		4.25	3.08E+00	2.72E+00	2.72E+00
+	PB-211	404.84		2.90	-1.05E-01	2.21E+00	2.21E+00
		831.96		2.90	-8.11E-01		2.77E+00

Analysis Report for 1510091-04

CP1807S03-04

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BI-212	727.17	*	11.80	1.08E+00	8.35E-01	8.35E-01
		1620.62		2.75	9.50E-01		3.15E+00
+	PB-212	238.63	*	44.60	1.74E+00	2.64E-01	2.64E-01
		300.09	*	3.41	1.10E+00		3.68E+00
+	BI-214	609.31	*	46.30	1.83E+00	2.45E-01	2.45E-01
		1120.29	*	15.10	2.14E+00		8.85E-01
		1764.49	*	15.80	2.37E+00		3.82E-01
		2204.22	*	4.98	1.66E+00		1.26E+00
+	PB-214	295.21	*	19.19	2.36E+00	2.72E-01	6.48E-01
		351.92	*	37.19	2.19E+00		2.72E-01
+	RN-219	401.80		6.50	4.92E-01	9.54E-01	9.54E-01
+	RA-223	323.87		3.88	2.42E-01	1.52E+00	1.52E+00
+	RA-224	240.98		3.95	1.27E+01	3.22E+00	3.22E+00
+	RA-225	40.00		31.00	2.73E-01	2.32E+00	2.32E+00
+	RA-226	186.21	*	3.28	4.53E+00	2.77E+00	2.77E+00
+	TH-227	50.10		8.40	2.20E-01	7.39E-01	1.01E+00
		236.00		11.50	-6.72E+00		7.39E-01
		256.20		6.30	-1.27E-02		8.81E-01
+	AC-228	338.32	*	11.40	1.74E+00	3.89E-01	7.67E-01
		911.07	*	27.70	1.51E+00		3.89E-01
		969.11	*	16.60	8.68E-01		8.95E-01
+	TH-230	48.44		16.90	-4.61E-01	5.44E-01	5.44E-01
		62.85		4.60	2.48E+00		1.49E+00
		67.67		0.37	4.13E+00		1.47E+01
+	PA-231	283.67		1.60	-1.19E+00	2.53E+00	3.45E+00
		302.67		2.30	-2.37E+00		2.53E+00
+	TH-231	25.64		14.70	2.45E+00	8.19E-01	1.61E+01
		84.21		6.40	9.50E-01		8.19E-01
+	PA-233	311.98		38.60	7.04E-02	3.33E-01	3.33E-01
+	PA-234	131.20		20.40	1.01E-01	2.78E-01	2.78E-01
		733.99		8.80	-7.55E-02		8.01E-01
		946.00		12.00	-1.44E-02		6.32E-01
+	PA-234M	1001.03		0.92	3.06E+00	9.29E+00	9.29E+00
+	TH-234	63.29	*	3.80	2.98E+00	3.20E+00	3.20E+00
+	U-235	143.76		10.50	4.31E-02	5.16E-01	5.16E-01
		163.35		4.70	-3.31E-01		1.18E+00
		205.31		4.70	3.47E-01		1.24E+00
+	NP-237	86.50	*	12.60	4.65E-01	4.67E-01	4.67E-01
+	NP-239	106.10		22.70	2.10E+02	2.19E+03	2.19E+03
		228.18		10.70	-3.01E+02		5.55E+03
		277.60		14.10	1.05E+03		4.36E+03
+	AM-241	59.54		35.90	-8.62E-02	1.68E-01	1.68E-01
+	AM-243	74.67		66.00	-2.95E-01	1.16E-01	1.16E-01
+	CM-243	209.75		3.29	3.21E+00	4.54E-01	2.05E+00
		228.14		10.60	-3.14E-02		5.79E-01
		277.60		14.00	1.09E-01		4.54E-01

Analysis Report for 1510091-04

CP1807S03-04

\+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
\> = MDA value not calculated
@ = Half-life too short to be able to perform the decay correction
? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	BE-7	477.59		10.42	8.13E-01	8.13E-01	-8.41E-02	3.83E-01
	NA-22	1274.54		99.94	8.72E-02	8.72E-02	9.67E-03	3.99E-02
	NA-24	1368.53		99.99	8.51E+13	3.20E+13	2.67E+13	3.86E+13
		2754.09		99.86	3.20E+13		-3.45E+12	1.13E+13
	AL-26	1808.65		99.76	6.45E-02	6.45E-02	2.45E-02	2.78E-02
+	K-40	1460.81	*	10.67	1.23E+00	1.23E+00	1.85E+01	5.79E-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	5.74E-02	5.74E-02	1.62E-02	2.79E-02
		78.34		96.00	8.65E-02		3.78E-01	4.26E-02
	SC-46	889.25		99.98	1.00E-01	1.00E-01	1.29E-02	4.67E-02
		1120.51		99.99	2.07E-01		4.31E-01	9.93E-02
	V-48	983.52		99.98	2.68E-01	2.68E-01	-2.73E-02	1.23E-01
		1312.10		97.50	3.42E-01		1.03E-01	1.56E-01
	CR-51	320.08		9.83	1.26E+00	1.26E+00	-6.60E-01	6.02E-01
	MN-54	834.83		99.97	8.86E-02	8.86E-02	-4.62E-03	4.16E-02
	CO-56	846.75		99.96	1.04E-01	7.13E-02	9.51E-03	4.86E-02
		1037.75		14.03	7.10E-01		-3.07E-01	3.26E-01
		1238.25		67.00	2.65E-01		2.74E-01	1.25E-01
		1771.40		15.51	5.23E-01		6.25E-02	2.24E-01
		2598.48		16.90	7.13E-02		0.00E+00	0.00E+00
	CO-57	122.06		85.51	6.44E-02	6.44E-02	2.67E-02	3.13E-02
		136.48		10.60	5.53E-01		-2.40E-01	2.69E-01
	CO-58	810.76		99.40	1.01E-01	1.01E-01	-6.88E-02	4.72E-02
	FE-59	1099.22		56.50	2.32E-01	2.32E-01	3.66E-02	1.07E-01
		1291.56		43.20	3.08E-01		1.16E-01	1.40E-01
	CO-60	1173.22		100.00	9.28E-02	8.27E-02	-1.30E-02	4.30E-02
		1332.49		100.00	8.27E-02		-8.16E-03	3.76E-02
	ZN-65	1115.52		50.75	2.04E-01	2.04E-01	2.79E-02	9.50E-02
	GA-67	93.31		35.70	1.47E+02	1.47E+02	2.72E+02	7.23E+01

Analysis Report for 1510091-04

CP1807S03-04

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	GA-67	208.95		2.24	2.24E+03	1.47E+02	1.16E+03	1.09E+03
		300.22		16.00	2.96E+02		1.43E+02	1.42E+02
	SE-75	121.11		16.70	3.62E-01	1.09E-01	3.46E-02	1.76E-01
		136.00		59.20	1.09E-01		9.21E-03	5.32E-02
		264.65		59.80	1.11E-01		1.73E-03	5.34E-02
		279.53		25.20	2.94E-01		8.85E-03	1.42E-01
		400.65		11.40	6.29E-01		1.11E-01	2.99E-01
	RB-82	776.52		13.00	1.33E+00	1.33E+00	-3.35E-01	6.22E-01
	RB-83	520.41		46.00	1.61E-01	1.61E-01	-3.25E-02	7.53E-02
		529.64		30.30	2.44E-01		9.02E-02	1.14E-01
		552.65		16.40	5.06E-01		1.13E-01	2.38E-01
	KR-85	513.99		0.43	1.56E+01	1.56E+01	-2.25E+01	7.42E+00
	SR-85	513.99		99.27	9.50E-02	9.50E-02	-1.36E-01	4.50E-02
	Y-88	898.02		93.40	9.86E-02	7.98E-02	-4.47E-02	4.57E-02
		1836.01		99.38	7.98E-02		-2.42E-03	3.44E-02
	NB-93M	16.57		9.43	5.71E+03	5.71E+03	-9.77E+03	2.78E+03
	NB-94	702.63		100.00	7.63E-02	7.57E-02	-2.11E-02	3.59E-02
		871.10		100.00	7.57E-02		5.03E-03	3.52E-02
	NB-95	765.79		99.81	1.88E-01	1.88E-01	3.50E-02	8.94E-02
	NB-95M	235.69		25.00	1.35E+02	1.35E+02	-1.23E+03	6.61E+01
	ZR-95	724.18		43.70	2.82E-01	1.91E-01	-5.24E-02	1.34E-01
		756.72		55.30	1.91E-01		5.26E-02	8.97E-02
	MO-99	181.06		6.20	2.34E+03	1.52E+03	6.72E+02	1.13E+03
		739.58		12.80	1.52E+03		-9.55E+01	7.11E+02
		778.00		4.50	4.27E+03		-8.80E+02	2.00E+03
	RU-103	497.08		89.00	1.19E-01	1.19E-01	6.53E-02	5.60E-02
	RU-106	621.84		9.80	7.18E-01	7.18E-01	1.43E-01	3.37E-01
	AG-108M	433.93		89.90	5.41E-02	5.41E-02	-5.71E-02	2.53E-02
		614.37		90.40	7.93E-02		-8.94E-03	3.74E-02
		722.95		90.50	8.25E-02		-6.77E-04	3.87E-02
+	CD-109	88.03	*	3.72	1.66E+00	1.66E+00	1.65E+00	8.11E-01
	AG-110M	657.75		93.14	8.21E-02	8.21E-02	-1.01E-02	3.86E-02
		677.61		10.53	7.76E-01		3.51E-01	3.66E-01
		706.67		16.46	5.05E-01		-1.08E-02	2.38E-01
		763.93		21.98	3.98E-01		9.91E-02	1.87E-01
		884.67		71.63	1.10E-01		-5.43E-03	5.10E-02
		1384.27		23.94	3.27E-01		2.14E-02	1.46E-01
	CD-113M	263.70		0.02	2.41E+02	2.41E+02	5.69E+01	1.16E+02
	SN-113	255.12		1.93	3.49E+00	1.14E-01	4.58E-01	1.68E+00
		391.69		64.90	1.14E-01		7.78E-03	5.45E-02
	TE123M	159.00		84.10	8.01E-02	8.01E-02	1.94E-02	3.89E-02
	SB-124	602.71		97.87	1.10E-01	1.10E-01	9.49E-03	5.22E-02
		645.85		7.26	1.37E+00		-1.01E-01	6.45E-01
		722.78		11.10	9.62E-01		-7.89E-03	4.52E-01
		1691.02		49.00	1.48E-01		3.15E-02	6.15E-02
	I-125	35.49		6.49	5.98E+00	5.98E+00	-1.91E+00	2.91E+00
	SB-125	176.33		6.89	8.67E-01	2.22E-01	2.56E-01	4.21E-01
		427.89		29.33	2.22E-01		7.75E-02	1.06E-01
		463.38		10.35	6.97E-01		4.56E-01	3.33E-01
		600.56		17.80	4.12E-01		1.00E-03	1.95E-01
		635.90		11.32	6.61E-01		-1.18E-01	3.12E-01
	SB-126	414.70		83.30	3.88E-01	3.88E-01	-1.02E-01	1.83E-01
		666.33		99.60	4.75E-01		3.45E-01	2.25E-01

Analysis Report for 1510091-04

CP1807S03-04

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	SB-126	695.00		99.60	4.34E-01	3.88E-01	-1.38E-02	2.04E-01
		720.50		53.80	7.67E-01		-8.00E-02	3.59E-01
+	SN-126	87.57	*	37.00	1.59E-01	1.59E-01	1.58E-01	7.78E-02
	SB-127	473.00		25.00	6.43E+01	5.59E+01	1.25E+01	3.03E+01
		685.20		35.70	5.59E+01		-1.33E+01	2.63E+01
		783.80		14.70	1.51E+02		-1.29E+01	7.10E+01
	I-129	29.78		57.00	1.27E+00	1.27E+00	3.82E-01	6.19E-01
		33.60		13.20	2.71E+00		1.20E+00	1.32E+00
		39.58		7.52	2.31E+00		2.73E-01	1.13E+00
	I-131	284.30		6.05	1.34E+01	9.48E-01	-4.63E+00	6.43E+00
		364.48		81.20	9.48E-01		-1.86E-01	4.49E-01
		636.97		7.26	1.51E+01		4.19E+00	7.16E+00
		722.89		1.80	6.10E+01		-5.00E-01	2.86E+01
	TE-132	49.72		13.10	5.00E+02	5.29E+01	1.09E+02	2.43E+02
		228.16		88.00	5.29E+01		-2.87E+00	2.56E+01
	BA-133	81.00		33.00	1.44E-01	9.82E-02	6.81E-03	7.02E-02
		302.84		17.80	3.28E-01		-3.08E-01	1.57E-01
		356.01		60.00	9.82E-02		7.86E-04	4.68E-02
	I-133	529.87		86.30	4.18E+09	4.18E+09	-1.90E+09	1.95E+09
	XE-133	81.00		38.00	7.70E+00	7.70E+00	3.63E-01	3.74E+00
	CS-134	563.23		8.38	7.79E-01	1.01E-01	2.59E-01	3.66E-01
		569.32		15.43	3.73E-01		-2.58E-01	1.74E-01
		604.70		97.60	1.01E-01		-2.37E-03	4.83E-02
		795.84		85.40	1.14E-01		1.42E-01	5.41E-02
		801.93		8.73	8.15E-01		-2.34E-01	3.78E-01
	CS-135	268.24		16.00	3.96E-01	3.96E-01	-8.84E-02	1.91E-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	4.05E+00	3.87E-01	1.96E+00	1.97E+00
		163.89		4.61	6.25E+00		-1.47E+00	3.03E+00
		176.55		13.56	2.19E+00		-1.03E-01	1.06E+00
		273.65		12.66	2.38E+00		-3.11E+00	1.14E+00
		340.57		48.50	7.35E-01		-1.21E+00	3.53E-01
		818.50		99.70	3.87E-01		-1.16E-01	1.81E-01
		1048.07		79.60	5.40E-01		2.00E-01	2.50E-01
		1235.34		19.70	3.38E+00		2.00E-02	1.60E+00
	CS-137	661.65		85.12	8.62E-02	8.62E-02	-7.44E-03	4.06E-02
	LA-138	788.74		34.00	2.41E-01	9.84E-02	7.92E-02	1.13E-01
		1435.80		66.00	9.84E-02		-1.27E-02	4.32E-02
	CE-139	165.85		80.35	8.22E-02	8.22E-02	3.36E-02	3.99E-02
	BA-140	162.64		6.70	4.47E+00	1.17E+00	-1.25E+00	2.17E+00
		304.84		4.50	6.95E+00		4.95E-01	3.33E+00
		423.70		3.20	1.05E+01		-2.01E+00	4.97E+00
		437.55		2.00	1.49E+01		1.68E+00	7.05E+00
		537.32		25.00	1.17E+00		-3.68E-01	5.46E-01
	LA-140	328.77		20.50	1.71E+00	5.03E-01	1.44E+00	8.19E-01
		487.03		45.50	6.87E-01		-1.75E-01	3.23E-01
		815.85		23.50	1.82E+00		4.65E-01	8.50E-01
		1596.49		95.49	5.03E-01		2.29E-01	2.28E-01
	CE-141	145.44		48.40	2.17E-01	2.17E-01	-3.31E-02	1.06E-01
	CE-143	57.36		11.80	3.27E+06	1.48E+06	-1.29E+06	1.58E+06
		293.26		42.00	1.48E+06		-2.19E+05	7.22E+05

Analysis Report for 1510091-04

CP1807S03-04

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	CE-143	664.55		5.20	1.06E+07	1.48E+06	2.09E+06	5.02E+06
	CE-144	133.54		10.80	5.30E-01	5.30E-01	-8.44E-02	2.58E-01
	PM-144	476.78		42.00	1.43E-01	6.99E-02	-1.48E-02	6.72E-02
		618.01		98.60	6.99E-02		-1.81E-02	3.28E-02
		696.49		99.49	7.73E-02		-5.54E-02	3.63E-02
	PM-145	36.85		21.70	1.07E+00	5.49E-01	2.97E-01	5.19E-01
		37.36		39.70	5.49E-01		1.53E-01	2.67E-01
		42.30		15.10	9.18E-01		-3.63E-02	4.47E-01
		72.40		2.31	2.37E+00		-1.72E+00	1.15E+00
	PM-146	453.90		39.94	1.50E-01	1.50E-01	4.30E-02	7.07E-02
		735.90		14.01	5.06E-01		-2.06E-01	2.36E-01
		747.13		13.10	6.11E-01		1.09E-01	2.88E-01
	ND-147	91.11		28.90	1.76E+00	1.76E+00	2.94E+00	8.64E-01
		531.02		13.10	2.91E+00		-1.37E+00	1.35E+00
	PM-149	285.90		3.10	3.16E+04	3.16E+04	-2.45E+04	1.51E+04
	EU-152	121.78		20.50	2.49E-01	2.49E-01	1.03E-01	1.21E-01
		244.69		5.40	1.17E+00		-2.15E+00	5.63E-01
		344.27		19.13	3.03E-01		-4.12E-03	1.44E-01
		778.89		9.20	8.38E-01		2.52E-01	3.93E-01
		964.01		10.40	9.50E-01		1.07E-01	4.47E-01
		1085.78		7.22	1.14E+00		2.11E-01	5.24E-01
		1112.02		9.60	9.28E-01		-2.37E-01	4.30E-01
		1407.95		14.94	6.89E-01		1.43E-01	3.19E-01
	GD-153	97.43		31.30	1.80E-01	1.80E-01	1.08E-03	8.75E-02
		103.18		22.20	2.55E-01		-9.46E-02	1.24E-01
	EU-154	123.07		40.50	1.25E-01	1.25E-01	1.90E-02	6.05E-02
		723.30		19.70	3.81E-01		-3.13E-03	1.79E-01
		873.19		11.50	6.43E-01		-6.47E-02	2.98E-01
		996.32		10.30	6.36E-01		-1.21E-01	2.89E-01
		1004.76		17.90	4.75E-01		1.33E-01	2.21E-01
		1274.45		35.50	2.42E-01		2.68E-02	1.11E-01
	EU-155	86.50		30.90	2.31E-01	2.31E-01	-1.81E-01	1.13E-01
		105.30		20.70	2.53E-01		3.62E-02	1.23E-01
	EU-156	811.77		10.40	3.11E+00	3.11E+00	-7.75E-01	1.45E+00
		1153.47		7.20	5.93E+00		2.57E+00	2.77E+00
		1230.71		8.90	4.52E+00		8.88E-01	2.10E+00
	HO-166M	184.41		72.60	1.02E-01	1.02E-01	8.73E-02	4.99E-02
		280.45		29.60	2.10E-01		6.30E-03	1.01E-01
		410.94		11.10	5.73E-01		1.64E-01	2.73E-01
		711.69		54.10	1.32E-01		-6.34E-02	6.19E-02
	TM-171	66.72		0.14	3.94E+01	3.94E+01	-1.74E+01	1.91E+01
+	HF-172	81.75		4.52	1.06E+00	6.98E-01	-1.76E+00	5.17E-01
		125.81	*	11.30	6.98E-01		2.33E-01	3.43E-01
	LU-172	181.53		20.60	7.04E+00	3.34E+00	2.17E+00	3.41E+00
		810.06		16.63	1.12E+01		-7.62E+00	5.23E+00
		912.12		15.25	2.57E+01		6.19E+01	1.24E+01
		1093.66		62.50	3.34E+00		1.68E+00	1.54E+00
	LU-173	100.72		5.24	1.04E+00	3.33E-01	4.63E-01	5.06E-01
		272.11		21.20	3.33E-01		2.78E-01	1.61E-01
	HF-175	343.40		84.00	9.78E-02	9.78E-02	4.59E-02	4.67E-02
	LU-176	88.34		13.30	5.42E-01	5.91E-02	8.98E-01	2.66E-01
		201.83		86.00	6.92E-02		-6.57E-03	3.35E-02
		306.78		94.00	5.91E-02		1.06E-02	2.82E-02

Analysis Report for 1510091-04

CP1807S03-04

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	TA-182	67.75		41.20	1.59E-01	1.59E-01	4.48E-02	7.73E-02
		1121.30		34.90	5.52E-01		1.15E+00	2.65E-01
		1189.05		16.23	6.60E-01		-1.76E-01	3.05E-01
		1221.41		26.98	4.02E-01		-7.33E-02	1.85E-01
		1231.02		11.44	1.04E+00		-4.60E-02	4.83E-01
	IR-192	308.46		29.68	2.48E-01	1.71E-01	9.99E-03	1.18E-01
		468.07		48.10	1.71E-01		-2.64E-02	8.07E-02
+	HG-203	279.19	*	77.30	2.07E-01	2.07E-01	1.46E-01	1.01E-01
	BI-207	569.67		97.72	5.74E-02	5.74E-02	-3.97E-02	2.68E-02
		1063.62		74.90	1.06E-01		4.06E-02	4.91E-02
+	TL-208	583.14	*	30.22	2.92E-01	1.13E-01	1.29E+00	1.40E-01
		860.37	*	4.48	2.86E+00		1.98E+00	1.37E+00
		2614.66	*	35.85	1.13E-01		1.12E+00	4.38E-02
	BI-210M	262.00		45.00	1.24E-01	1.24E-01	-1.09E-02	5.94E-02
		300.00		23.00	2.72E-01		1.31E-01	1.31E-01
	PB-210	46.50		4.25	2.72E+00	2.72E+00	3.08E+00	1.33E+00
	PB-211	404.84		2.90	2.21E+00	2.21E+00	-1.05E-01	1.05E+00
		831.96		2.90	2.77E+00		-8.11E-01	1.30E+00
+	BI-212	727.17	*	11.80	8.35E-01	8.35E-01	1.08E+00	3.98E-01
		1620.62		2.75	3.15E+00		9.50E-01	1.42E+00
+	PB-212	238.63	*	44.60	2.64E-01	2.64E-01	1.74E+00	1.30E-01
		300.09	*	3.41	3.68E+00		1.10E+00	1.80E+00
+	BI-214	609.31	*	46.30	2.45E-01	2.45E-01	1.83E+00	1.18E-01
		1120.29	*	15.10	8.85E-01		2.14E+00	4.21E-01
		1764.49	*	15.80	3.82E-01		2.37E+00	1.63E-01
		2204.22	*	4.98	1.26E+00		1.66E+00	5.36E-01
+	PB-214	295.21	*	19.19	6.48E-01	2.72E-01	2.36E+00	3.18E-01
		351.92	*	37.19	2.72E-01		2.19E+00	1.32E-01
	RN-219	401.80		6.50	9.54E-01	9.54E-01	4.92E-01	4.54E-01
	RA-223	323.87		3.88	1.52E+00	1.52E+00	2.42E-01	7.25E-01
	RA-224	240.98		3.95	3.22E+00	3.22E+00	1.27E+01	1.58E+00
	RA-225	40.00		31.00	2.32E+00	2.32E+00	2.73E-01	1.13E+00
+	RA-226	186.21	*	3.28	2.77E+00	2.77E+00	4.53E+00	1.36E+00
	TH-227	50.10		8.40	1.01E+00	7.39E-01	2.20E-01	4.90E-01
		236.00		11.50	7.39E-01		-6.72E+00	3.61E-01
		256.20		6.30	8.81E-01		-1.27E-02	4.23E-01
+	AC-228	338.32	*	11.40	7.67E-01	3.89E-01	1.74E+00	3.72E-01
		911.07	*	27.70	3.89E-01		1.51E+00	1.85E-01
		969.11	*	16.60	8.95E-01		8.68E-01	4.30E-01
	TH-230	48.44		16.90	5.44E-01	5.44E-01	-4.61E-01	2.65E-01
		62.85		4.60	1.49E+00		2.48E+00	7.30E-01
		67.67		0.37	1.47E+01		4.13E+00	7.13E+00
	PA-231	283.67		1.60	3.45E+00	2.53E+00	-1.19E+00	1.65E+00
		302.67		2.30	2.53E+00		-2.37E+00	1.21E+00
	TH-231	25.64		14.70	1.61E+01	8.19E-01	2.45E+00	7.84E+00
		84.21		6.40	8.19E-01		9.50E-01	3.99E-01
	PA-233	311.98		38.60	3.33E-01	3.33E-01	7.04E-02	1.59E-01
	PA-234	131.20		20.40	2.78E-01	2.78E-01	1.01E-01	1.36E-01
		733.99		8.80	8.01E-01		-7.55E-02	3.74E-01
		946.00		12.00	6.32E-01		-1.44E-02	2.92E-01
	PA-234M	1001.03		0.92	9.29E+00	9.29E+00	3.06E+00	4.32E+00
+	TH-234	63.29	*	3.80	3.20E+00	3.20E+00	2.98E+00	1.58E+00
	U-235	143.76		10.50	5.16E-01	5.16E-01	4.31E-02	2.51E-01

Analysis Report for 1510091-04

CP1807S03-04

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	U-235	163.35		4.70	1.18E+00	5.16E-01	-3.31E-01	5.72E-01
		205.31		4.70	1.24E+00		3.47E-01	6.02E-01
+	NP-237	86.50	*	12.60	4.67E-01	4.67E-01	4.65E-01	2.28E-01
	NP-239	106.10		22.70	2.19E+03	2.19E+03	2.10E+02	1.07E+03
		228.18		10.70	5.55E+03		-3.01E+02	2.68E+03
		277.60		14.10	4.36E+03		1.05E+03	2.10E+03
	AM-241	59.54		35.90	1.68E-01	1.68E-01	-8.62E-02	8.16E-02
	AM-243	74.67		66.00	1.16E-01	1.16E-01	-2.95E-01	5.72E-02
	CM-243	209.75		3.29	2.05E+00	4.54E-01	3.21E+00	9.96E-01
		228.14		10.60	5.79E-01		-3.14E-02	2.80E-01
		277.60		14.00	4.54E-01		1.09E-01	2.19E-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

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: CP1807S03-04

Elapsed Live time: 3600
Elapsed Real Time: 3601

Channel								
1:	0	0	0	0	0	0	1	189
9:	585	1220	1187	447	640	1774	360	150
17:	160	133	132	118	118	144	150	142
25:	138	131	129	121	117	134	124	113
33:	131	129	137	121	144	152	126	151
41:	158	135	154	150	133	173	253	134
49:	149	155	132	140	130	141	113	110
57:	101	121	127	139	145	171	203	244
65:	138	138	129	151	162	147	154	165
73:	174	213	549	272	636	501	125	152
81:	146	113	140	202	173	139	267	257
89:	116	221	135	173	329	180	116	76
97:	116	92	104	112	88	109	95	92
105:	113	104	87	86	94	95	96	88
113:	99	98	110	116	104	102	82	91
121:	81	90	83	85	75	105	97	93
129:	126	111	89	100	78	93	79	81
137:	95	92	92	99	76	92	84	86
145:	79	75	85	80	94	85	86	86
153:	73	113	93	77	91	76	74	83
161:	75	74	71	85	69	78	83	66
169:	67	68	62	75	77	80	78	75
177:	73	73	66	70	75	56	68	84
185:	114	262	125	64	66	83	79	58
193:	69	66	94	69	80	73	79	77
201:	61	68	59	63	60	75	52	54
209:	125	94	65	63	49	56	54	63
217:	61	37	49	58	70	82	48	59
225:	56	66	62	52	57	57	62	61
233:	68	54	52	64	53	328	681	126
241:	120	196	96	53	38	43	50	32
249:	45	32	38	42	41	46	37	46
257:	37	38	41	49	34	42	42	32
265:	41	36	44	40	38	94	66	45
273:	40	37	45	39	55	57	47	42
281:	44	36	39	25	35	39	36	41
289:	50	45	38	22	34	68	324	205
297:	41	29	46	63	32	39	31	43
305:	32	37	30	31	28	27	29	30
313:	36	45	33	42	40	28	42	30
321:	20	36	36	29	35	29	31	59
329:	40	36	30	27	40	35	28	30
337:	48	148	89	33	37	25	30	34
345:	34	22	33	27	29	38	212	529
353:	167	32	34	32	28	17	20	32
361:	27	32	18	22	20	17	24	26

369:	25	25	26	35	31	22	26	28

Sample Title: CP1807S03-04

Channel								
377:	22	27	26	32	17	21	28	24
385:	34	23	22	25	31	27	36	19
393:	20	36	24	19	32	16	20	25
401:	24	23	34	29	22	30	28	33
409:	33	29	20	29	27	14	27	22
417:	16	22	25	27	25	27	20	27
425:	22	28	30	25	29	19	30	12
433:	18	16	10	16	21	24	22	17
441:	19	20	16	16	16	24	11	19
449:	27	20	18	17	19	21	28	17
457:	17	16	15	20	19	29	52	26
465:	18	23	24	15	21	22	16	26
473:	16	18	18	11	17	22	18	20
481:	18	23	27	20	9	32	19	15
489:	12	17	18	26	13	20	18	14
497:	17	22	24	12	11	22	15	22
505:	23	17	15	17	27	62	89	41
513:	19	14	14	24	18	19	23	13
521:	8	15	12	19	15	9	18	18
529:	10	13	17	6	18	18	13	17
537:	9	15	11	15	13	20	12	17
545:	8	26	18	20	16	20	23	18
553:	12	18	19	11	11	7	11	12
561:	15	20	20	17	13	22	9	12
569:	11	17	15	21	17	9	15	8
577:	16	19	11	11	20	58	179	89
585:	11	6	16	16	13	17	14	10
593:	17	18	15	9	19	11	10	12
601:	18	16	14	19	13	18	21	79
609:	335	190	30	12	11	12	7	12
617:	12	14	11	8	13	14	13	11
625:	10	11	5	9	12	14	13	9
633:	19	12	12	13	8	17	14	23
641:	12	9	14	11	19	9	10	10
649:	10	13	14	15	11	14	7	11
657:	17	7	15	13	12	16	16	10
665:	21	19	18	20	10	7	10	12
673:	10	21	11	8	9	11	15	15
681:	9	9	17	9	11	8	17	12
689:	18	11	17	20	13	10	12	9
697:	8	16	12	12	16	15	14	13
705:	6	19	13	14	8	4	17	15
713:	11	6	14	10	8	10	13	18
721:	6	9	11	11	5	20	51	31
729:	9	15	10	9	11	9	12	5
737:	13	8	10	20	8	14	11	14
745:	11	15	6	7	16	17	10	10
753:	8	10	9	14	19	9	7	8
761:	9	8	16	14	10	10	18	36
769:	34	16	10	19	16	7	8	11
777:	8	11	9	13	10	13	9	11
785:	16	18	6	11	16	6	11	8
793:	9	26	36	14	9	13	6	7

801:	4	12	9	9	10	13	9	6

Sample Title: CP1807S03-04

Channel								
809:	13	8	8	15	6	16	13	12
817:	6	9	11	7	7	10	12	5
825:	7	9	8	10	13	12	12	10
833:	9	8	10	16	13	12	9	13
841:	8	12	21	7	4	7	9	7
849:	14	14	7	12	8	7	5	10
857:	9	14	11	25	23	6	13	10
865:	6	10	7	7	13	10	8	6
873:	6	10	11	5	7	8	4	7
881:	13	4	5	5	11	8	7	11
889:	8	11	7	9	13	3	7	9
897:	9	13	7	6	5	13	11	14
905:	10	7	11	14	15	43	113	58
913:	10	11	3	5	12	10	2	11
921:	6	5	9	6	5	6	7	7
929:	6	10	14	14	20	24	15	8
937:	4	14	6	9	5	9	6	7
945:	7	7	12	3	10	11	5	10
953:	12	14	5	6	6	6	8	6
961:	7	11	11	20	20	9	10	38
969:	67	22	9	5	8	10	10	6
977:	3	5	9	5	3	8	5	7
985:	7	5	7	4	6	4	3	9
993:	0	7	5	7	4	3	8	11
1001:	14	11	8	6	6	10	4	2
1009:	9	6	8	9	6	9	13	5
1017:	6	3	7	6	8	6	5	8
1025:	2	6	8	4	10	6	10	9
1033:	6	6	9	4	4	6	12	3
1041:	13	5	9	4	7	8	10	4
1049:	10	8	6	5	5	10	6	9
1057:	7	3	3	5	5	3	9	13
1065:	5	7	7	6	12	7	6	11
1073:	8	4	4	8	8	9	4	7
1081:	8	3	7	5	9	11	6	7
1089:	3	6	7	5	6	8	8	9
1097:	5	3	8	4	8	9	5	3
1105:	7	9	13	7	4	7	5	13
1113:	10	5	11	5	7	12	39	70
1121:	42	14	5	6	7	8	7	3
1129:	7	10	10	10	6	8	7	5
1137:	7	5	6	6	6	6	6	5
1145:	6	5	4	3	6	8	6	9
1153:	8	11	21	8	9	12	5	10
1161:	4	10	10	3	5	12	7	9
1169:	9	4	12	6	8	8	4	12
1177:	7	9	4	17	9	8	11	9
1185:	15	8	8	3	11	11	5	3
1193:	6	6	7	10	9	5	7	10
1201:	7	10	16	9	4	6	9	19
1209:	9	10	12	5	8	7	10	11
1217:	11	4	7	6	10	7	6	8
1225:	2	8	8	10	5	5	11	7

1233:	10	10	7	12	19	37	13	11

Sample Title: CP1807S03-04

Channel								
1241:	13	10	4	12	12	5	9	5
1249:	6	8	7	8	6	10	6	12
1257:	5	3	5	4	12	6	4	12
1265:	7	6	8	3	8	5	3	5
1273:	7	3	8	9	5	2	6	17
1281:	11	3	9	10	9	5	2	4
1289:	8	6	4	3	4	7	1	6
1297:	0	4	9	5	1	4	2	2
1305:	2	4	5	4	7	6	3	7
1313:	5	9	2	1	7	4	2	2
1321:	8	2	4	2	8	2	7	3
1329:	5	2	7	4	7	4	5	8
1337:	3	5	1	3	1	3	6	4
1345:	8	4	4	5	2	5	3	3
1353:	7	4	3	5	3	3	1	4
1361:	2	1	2	4	3	4	5	5
1369:	5	6	4	4	3	5	3	6
1377:	22	9	6	3	1	2	2	8
1385:	6	4	1	2	2	5	5	3
1393:	3	0	3	2	4	2	3	8
1401:	6	8	7	3	4	6	12	14
1409:	6	6	5	5	4	3	3	3
1417:	4	4	1	3	3	3	2	3
1425:	2	4	1	3	7	5	3	2
1433:	1	3	3	2	4	3	2	2
1441:	2	2	2	7	4	4	6	2
1449:	1	3	2	5	4	3	4	4
1457:	4	11	99	249	238	92	8	5
1465:	2	1	3	1	2	3	2	1
1473:	2	0	1	5	4	2	2	4
1481:	2	4	5	4	1	4	0	2
1489:	4	2	1	1	3	2	2	10
1497:	5	0	3	6	3	2	3	2
1505:	0	5	3	6	7	3	5	5
1513:	2	1	2	0	3	1	2	4
1521:	1	3	0	5	4	3	3	1
1529:	1	2	3	0	5	6	5	2
1537:	3	2	5	1	0	2	5	2
1545:	2	0	4	0	2	2	3	0
1553:	0	1	3	1	1	0	1	0
1561:	3	1	1	2	3	1	4	0
1569:	1	2	3	1	1	0	1	0
1577:	1	2	1	3	4	6	3	4
1585:	2	1	8	10	4	2	5	8
1593:	6	9	1	1	1	3	1	1
1601:	0	3	2	0	1	2	1	0
1609:	1	2	1	1	0	0	2	0
1617:	3	2	2	9	7	2	2	2
1625:	4	3	2	4	6	8	4	0
1633:	2	2	3	2	2	4	1	1
1641:	0	0	2	1	1	1	1	0
1649:	3	2	2	2	0	1	0	0
1657:	2	0	2	2	3	1	5	4

1665:	1	1	1	2	1	0	1	3

Sample Title: CP1807S03-04

Channel								
1673:	0	2	1	1	1	0	1	1
1681:	2	4	2	0	2	1	0	1
1689:	1	1	0	2	0	2	0	0
1697:	0	2	1	1	0	1	1	0
1705:	0	2	3	1	1	0	0	3
1713:	2	0	0	0	1	0	2	2
1721:	3	1	2	1	2	2	3	4
1729:	9	7	2	2	1	3	0	1
1737:	2	0	2	2	1	1	2	2
1745:	0	1	2	5	0	1	1	2
1753:	1	1	1	4	0	0	1	1
1761:	1	6	25	52	29	5	4	0
1769:	1	1	2	1	1	1	1	0
1777:	0	0	0	0	2	2	1	0
1785:	0	1	1	2	0	0	2	0
1793:	2	0	2	2	2	0	0	2
1801:	2	0	1	0	3	3	1	1
1809:	1	0	2	2	0	1	0	1
1817:	0	0	1	0	3	1	1	2
1825:	0	0	0	2	1	2	0	0
1833:	2	4	1	1	1	1	3	0
1841:	2	2	1	1	3	6	8	9
1849:	4	4	0	2	0	1	4	1
1857:	0	2	0	1	4	0	1	2
1865:	0	1	0	2	1	0	0	4
1873:	3	2	1	2	1	0	0	0
1881:	2	4	2	1	2	2	1	3
1889:	3	0	0	1	1	2	1	1
1897:	0	1	2	0	0	0	1	0
1905:	2	0	2	2	0	1	2	2
1913:	4	3	2	1	1	0	0	0
1921:	0	0	0	2	1	3	2	1
1929:	0	1	1	0	1	1	1	1
1937:	0	5	0	1	0	0	1	1
1945:	2	1	1	1	2	0	1	0
1953:	1	0	2	4	0	1	0	0
1961:	2	2	1	1	2	1	1	3
1969:	0	1	0	1	1	1	1	0
1977:	3	0	1	0	0	2	3	2
1985:	0	2	2	0	1	2	1	3
1993:	1	2	0	0	4	2	1	0
2001:	1	1	2	3	0	2	0	0
2009:	1	2	1	0	1	0	0	2
2017:	0	0	1	0	1	0	3	2
2025:	0	1	0	0	2	2	3	1
2033:	2	1	1	0	1	1	2	1
2041:	0	1	2	0	0	1	1	0
2049:	0	0	0	1	0	2	2	0
2057:	1	1	1	0	3	1	0	1
2065:	0	0	2	1	1	2	0	1
2073:	1	0	1	1	0	1	3	2
2081:	3	2	1	0	1	0	0	1
2089:	1	0	1	0	0	3	2	3

2097:	2	0	0	3	2	4	5	11

Sample Title: CP1807S03-04

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

2529:	0	0	0	0	1	1	0	0

Sample Title: CP1807S03-04

Channel								
2537:	1	1	0	1	0	0	0	1
2545:	2	1	2	1	0	1	0	1
2553:	1	0	0	0	0	1	0	0
2561:	0	0	0	1	1	0	0	0
2569:	0	0	0	0	0	0	0	0
2577:	0	0	0	0	0	0	2	0
2585:	0	0	0	2	1	1	0	0
2593:	0	0	0	0	0	0	0	0
2601:	0	0	0	1	0	1	0	0
2609:	1	0	9	20	38	33	14	11
2617:	0	0	2	0	0	0	0	0
2625:	1	0	0	2	1	1	0	1
2633:	0	0	0	1	0	0	1	0
2641:	0	1	0	0	1	0	0	1
2649:	0	1	1	0	0	0	0	1
2657:	0	0	0	0	0	0	0	0
2665:	0	0	0	1	0	0	0	1
2673:	0	0	0	0	0	1	1	0
2681:	1	0	0	0	0	2	0	0
2689:	0	1	0	1	0	1	0	2
2697:	0	0	1	0	1	0	0	0
2705:	0	0	0	0	0	0	0	0
2713:	0	0	1	0	0	0	0	0
2721:	1	0	0	0	0	1	0	2
2729:	0	0	1	0	1	1	0	0
2737:	0	0	0	0	0	0	0	1
2745:	0	0	0	1	0	0	0	0
2753:	0	0	0	1	1	0	0	1
2761:	1	0	0	0	2	1	0	0
2769:	0	0	0	1	1	0	0	0
2777:	0	0	0	0	0	0	0	0
2785:	0	1	0	0	0	1	0	0
2793:	1	0	0	0	2	0	0	0
2801:	0	0	0	0	0	0	0	0
2809:	0	0	0	1	1	0	0	0
2817:	1	0	0	2	1	0	1	0
2825:	0	1	0	0	0	0	0	0
2833:	1	0	0	0	0	0	1	0
2841:	0	0	0	0	0	0	0	0
2849:	0	0	1	0	0	0	0	0
2857:	0	0	0	0	1	0	0	0
2865:	0	0	1	0	0	1	0	1
2873:	0	0	0	1	0	0	1	0
2881:	0	0	0	0	0	0	0	1
2889:	0	1	0	0	1	0	1	0
2897:	0	0	0	1	0	2	0	0
2905:	0	0	0	0	1	0	0	1
2913:	0	0	0	0	2	0	0	1
2921:	0	0	0	1	1	0	0	0
2929:	1	0	0	0	1	0	0	1
2937:	0	0	0	0	1	0	0	0
2945:	0	0	0	2	0	0	1	0
2953:	0	0	0	1	0	0	0	0

2961:	0	0	1	0	1	0	1	1

Sample Title: CP1807S03-04

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

3393:	0	0	0	0	0	0	0	0

Sample Title: CP1807S03-04

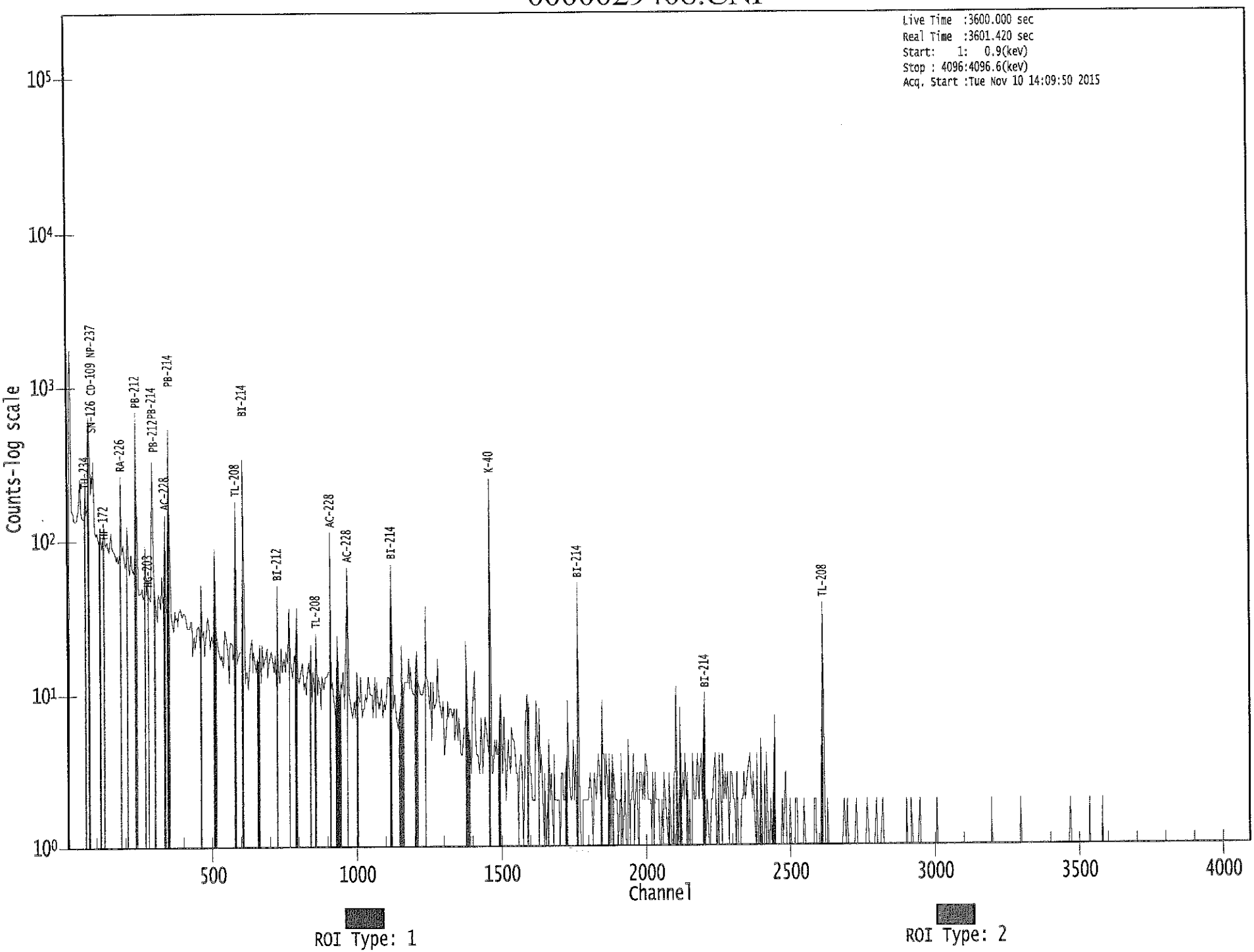
Channel								
3401:	0	0	0	0	1	0	0	0
3409:	0	0	1	0	0	0	0	1
3417:	0	1	0	1	0	0	0	0
3425:	0	1	0	1	1	0	0	0
3433:	0	1	0	1	1	0	0	0
3441:	0	1	0	0	0	1	1	0
3449:	0	1	0	0	0	0	0	0
3457:	0	0	0	0	0	0	1	1
3465:	1	0	0	0	2	0	0	0
3473:	0	0	0	0	0	0	0	0
3481:	0	0	0	0	0	0	1	0
3489:	0	0	0	0	0	0	0	1
3497:	0	0	0	0	0	1	0	0
3505:	0	0	1	0	0	0	0	0
3513:	0	0	0	0	0	0	0	0
3521:	0	0	0	0	0	1	0	0
3529:	0	0	0	0	0	0	2	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	1	0	0	0	0	0
3577:	0	0	1	2	0	0	0	0
3585:	0	0	0	0	0	0	1	0
3593:	1	1	0	0	0	0	0	0
3601:	1	0	0	0	0	0	0	0
3609:	0	0	0	0	0	0	0	1
3617:	0	0	0	0	0	0	1	0
3625:	0	1	0	0	0	0	0	0
3633:	1	0	0	0	0	0	1	1
3641:	0	0	0	0	0	0	0	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	0	0	0	1	0	0	1	0
3673:	0	0	1	1	0	0	0	0
3681:	0	1	0	0	0	0	0	0
3689:	1	0	0	0	0	0	0	0
3697:	0	0	0	1	0	0	0	0
3705:	0	0	1	0	0	0	0	0
3713:	0	0	0	0	0	0	0	0
3721:	0	0	0	0	0	0	0	0
3729:	0	0	0	0	0	0	0	0
3737:	0	0	0	0	1	0	0	0
3745:	0	0	0	0	0	1	0	0
3753:	0	0	0	0	0	0	0	0
3761:	0	0	0	0	0	0	0	0
3769:	0	1	0	1	1	0	0	0
3777:	0	0	0	0	0	0	0	0
3785:	0	0	0	0	0	0	0	0
3793:	0	0	1	0	0	0	0	0
3801:	0	0	0	0	0	0	0	0
3809:	0	0	0	1	1	0	0	0
3817:	0	0	0	0	0	0	0	0

3825:	0	0	1	0	1	1	0	0

Sample Title: CP1807S03-04

Channel								
3833:	0	1	0	0	0	0	0	0
3841:	0	0	0	0	0	0	0	0
3849:	0	0	0	0	0	0	1	0
3857:	0	0	0	0	1	0	0	0
3865:	0	1	0	1	0	0	0	0
3873:	0	1	0	0	0	0	0	0
3881:	0	0	0	1	0	0	0	0
3889:	0	1	0	0	0	0	0	0
3897:	0	0	0	0	1	0	1	0
3905:	0	0	0	1	0	0	0	1
3913:	0	0	0	0	1	0	0	1
3921:	0	0	0	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	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	1
3977:	0	0	0	0	0	0	0	1
3985:	0	0	0	0	0	1	0	0
3993:	0	0	0	0	0	0	0	0
4001:	0	0	0	0	0	0	1	0
4009:	0	0	1	0	0	0	0	0
4017:	1	0	0	0	0	0	0	0
4025:	1	1	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	1
4057:	0	0	0	0	0	0	0	0
4065:	0	0	0	0	0	0	0	1
4073:	0	1	0	0	0	0	0	0
4081:	0	0	0	1	0	0	0	0
4089:	0	0	1	0	0	0	0	0

0000029408.CNF



Apex-Gamma

Analysis Report for 1510091-05
CP1807S05-06

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1510091-05
Sample Description	: CP1807S05-06
Sample Type	: SOIL
Sample Size	: 6.064E+02 grams
Facility	: Countroom
Sample Taken On	: 10/10/2015 10:13:01AM
Acquisition Started	: 11/10/2015 2:56:36PM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE1
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3601.5 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	: 29420

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510091-05

CP1807S05-06

PEAK LOCATE REPORT

Peak Locate Performed on : 11/10/2015 3:56:40PM
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	63.35	63.70	0.0000	0.00
2	76.29	76.63	0.0000	0.00
3	92.78	93.12	0.0000	0.00
4	129.26	129.59	0.0000	0.00
5	186.14	186.45	0.0000	0.00
6	197.76	198.06	0.0000	0.00
7	209.89	210.19	0.0000	0.00
8	238.81	239.09	0.0000	0.00
9	241.87	242.15	0.0000	0.00
10	270.24	270.52	0.0000	0.00
11	277.65	277.92	0.0000	0.00
12	282.25	282.52	0.0000	0.00
13	288.25	288.52	0.0000	0.00
14	295.42	295.69	0.0000	0.00
15	300.58	300.85	0.0000	0.00
16	328.42	328.68	0.0000	0.00
17	338.41	338.66	0.0000	0.00
18	351.98	352.23	0.0000	0.00
19	463.81	464.02	0.0000	0.00
20	511.04	511.24	0.0000	0.00
21	583.31	583.48	0.0000	0.00
22	609.52	609.68	0.0000	0.00
23	703.05	703.18	0.0000	0.00
24	727.88	728.00	0.0000	0.00
25	812.71	812.80	0.0000	0.00
26	831.13	831.22	0.0000	0.00
27	856.74	856.81	0.0000	0.00
28	883.04	883.11	0.0000	0.00
29	892.97	893.03	0.0000	0.00
30	911.75	911.80	0.0000	0.00
31	918.12	918.18	0.0000	0.00
32	934.40	934.44	0.0000	0.00
33	969.53	969.57	0.0000	0.00
34	1000.24	1000.26	0.0000	0.00
35	1028.40	1028.41	0.0000	0.00
36	1121.10	1121.08	0.0000	0.00
37	1238.71	1238.65	0.0000	0.00
38	1319.02	1318.93	0.0000	0.00
39	1378.22	1378.11	0.0000	0.00
40	1409.22	1409.09	0.0000	0.00
41	1435.90	1435.77	0.0000	0.00
42	1461.38	1461.24	0.0000	0.00

Analysis Report for 1510091-05

CP1807S05-06

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1474.11	1473.96	0.0000	0.00
44	1495.90	1495.75	0.0000	0.00
45	1510.62	1510.45	0.0000	0.00
46	1588.15	1587.96	0.0000	0.00
47	1621.43	1621.23	0.0000	0.00
48	1631.17	1630.97	0.0000	0.00
49	1661.84	1661.63	0.0000	0.00
50	1674.67	1674.45	0.0000	0.00
51	1693.52	1693.29	0.0000	0.00
52	1730.47	1730.23	0.0000	0.00
53	1733.47	1733.23	0.0000	0.00
54	1765.02	1764.76	0.0000	0.00
55	1816.07	1815.79	0.0000	0.00
56	1822.86	1822.59	0.0000	0.00
57	1857.77	1857.48	0.0000	0.00
58	1874.43	1874.13	0.0000	0.00
59	1884.02	1883.72	0.0000	0.00
60	1958.72	1958.39	0.0000	0.00
61	1987.77	1987.43	0.0000	0.00
62	2052.48	2052.12	0.0000	0.00
63	2103.91	2103.52	0.0000	0.00
64	2205.29	2204.87	0.0000	0.00
65	2255.44	2255.00	0.0000	0.00
66	2267.47	2267.02	0.0000	0.00
67	2318.97	2318.50	0.0000	0.00
68	2345.56	2345.08	0.0000	0.00
69	2615.16	2614.57	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510091-05

CP1807S05-06

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 3:56:40PM

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	63.35	61	66	63.70	2.31E+02	97.41	1.72E+03	1.38
	2	76.29	72	83	76.63	1.38E+03	193.14	3.97E+03	3.67
	3	92.78	89	96	93.12	3.28E+02	130.06	2.49E+03	1.65
	4	129.26	125	133	129.59	1.62E+02	103.78	1.56E+03	3.66
	5	186.14	182	189	186.45	3.17E+02	90.44	1.15E+03	2.00
	6	197.76	196	200	198.06	6.11E+01	55.34	6.28E+02	2.10
	7	209.89	207	213	210.19	7.28E+01	73.37	9.16E+02	1.11
M	8	238.81	233	248	239.09	1.11E+03	83.45	5.01E+02	1.68
m	9	241.87	233	248	242.15	2.18E+02	66.09	4.30E+02	1.68
M	10	270.24	266	280	270.52	1.46E+02	64.84	6.01E+02	2.50
m	11	277.65	266	280	277.92	6.76E+01	42.24	3.28E+02	1.69
M	12	282.25	281	291	282.52	3.75E+01	21.68	1.27E+02	2.02
m	13	288.25	281	291	288.52	3.64E+01	46.67	4.12E+02	2.09
M	14	295.42	292	306	295.69	4.75E+02	58.47	3.41E+02	1.76
m	15	300.58	292	306	300.85	1.02E+02	48.59	3.80E+02	1.91
	16	328.42	325	332	328.68	5.68E+01	59.67	5.54E+02	1.94
	17	338.41	335	341	338.66	2.29E+02	54.54	3.73E+02	1.74
	18	351.98	348	356	352.23	7.38E+02	77.60	4.73E+02	1.85
	19	463.81	458	469	464.02	7.09E+01	61.55	4.38E+02	1.91
	20	511.04	506	516	511.24	2.28E+02	58.09	3.24E+02	2.38
	21	583.31	579	588	583.48	3.65E+02	57.02	2.58E+02	2.00
	22	609.52	606	614	609.68	5.72E+02	62.98	2.61E+02	1.79
	23	703.05	699	707	703.18	4.37E+01	37.50	1.91E+02	5.64
	24	727.88	724	731	728.00	6.78E+01	35.67	1.64E+02	1.80
	25	812.71	810	816	812.80	2.67E+01	26.38	1.05E+02	1.37
	26	831.13	828	834	831.22	2.66E+01	25.83	1.03E+02	3.06
	27	856.74	843	863	856.81	7.41E+01	65.11	3.18E+02	2.80
	28	883.04	880	886	883.11	2.40E+01	24.79	9.39E+01	3.16
	29	892.97	891	895	893.03	2.11E+01	18.26	5.59E+01	2.25
M	30	911.75	908	922	911.80	2.33E+02	38.35	1.07E+02	1.85
m	31	918.12	908	922	918.18	2.28E+01	23.04	7.26E+01	2.16
	32	934.40	930	938	934.44	5.10E+01	30.10	1.08E+02	2.89
	33	969.53	967	972	969.57	1.03E+02	34.18	1.44E+02	2.09
	34	1000.24	996	1003	1000.26	3.96E+01	25.69	8.28E+01	1.49
	35	1028.40	1018	1037	1028.41	5.55E+01	47.50	1.67E+02	14.86
	36	1121.10	1115	1126	1121.08	1.31E+02	42.57	1.59E+02	2.33
	37	1238.71	1232	1243	1238.65	5.08E+01	41.67	1.90E+02	2.25
	38	1319.02	1317	1322	1318.93	1.20E+01	14.07	3.00E+01	1.86
	39	1378.22	1374	1381	1378.11	2.50E+01	22.00	6.40E+01	1.31
	40	1409.22	1405	1414	1409.09	2.66E+01	22.72	5.49E+01	5.50

Analysis Report for 1510091-05

CP1807S05-06

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	41	1435.90	1431	1441	1435.77	2.16E+01	21.27	4.68E+01	3.49
	42	1461.38	1455	1466	1461.24	8.32E+02	60.53	4.12E+01	2.03
	43	1474.11	1470	1477	1473.96	1.31E+01	12.96	1.78E+01	2.26
	44	1495.90	1493	1499	1495.75	9.53E+00	12.23	1.89E+01	0.97
	45	1510.62	1505	1516	1510.45	2.10E+01	21.63	4.80E+01	5.34
	46	1588.15	1584	1592	1587.96	2.94E+01	21.04	5.12E+01	1.97
M	47	1621.43	1618	1634	1621.23	1.78E+01	11.16	7.00E+00	2.48
m	48	1631.17	1618	1634	1630.97	2.01E+01	10.98	7.00E+00	2.49
	49	1661.84	1657	1667	1661.63	1.60E+01	8.00	0.00E+00	2.29
	50	1674.67	1668	1683	1674.45	2.05E+01	12.81	9.04E+00	9.77
	51	1693.52	1689	1695	1693.29	8.65E+00	7.23	2.70E+00	1.44
M	52	1730.47	1725	1736	1730.23	3.38E+01	13.11	8.00E+00	2.52
m	53	1733.47	1725	1736	1733.23	8.19E+00	12.65	8.00E+00	2.53
	54	1765.02	1760	1770	1764.76	1.12E+02	24.84	2.32E+01	1.94
	55	1816.07	1813	1819	1815.79	9.96E+00	7.76	4.08E+00	2.95
	56	1822.86	1820	1825	1822.59	7.25E+00	8.66	9.50E+00	1.99
	57	1857.77	1855	1859	1857.48	5.50E+00	6.67	5.00E+00	1.21
	58	1874.43	1868	1880	1874.13	1.67E+01	11.06	6.60E+00	2.77
	59	1884.02	1881	1887	1883.72	7.38E+00	9.42	1.12E+01	2.78
	60	1958.72	1954	1961	1958.39	7.22E+00	7.21	3.56E+00	2.04
	61	1987.77	1983	1991	1987.43	7.95E+00	7.76	4.10E+00	2.49
	62	2052.48	2048	2055	2052.12	7.00E+00	8.72	8.00E+00	2.95
	63	2103.91	2100	2109	2103.52	2.09E+01	12.57	1.21E+01	4.20
	64	2205.29	2198	2211	2204.87	4.40E+01	17.38	1.40E+01	2.44
	65	2255.44	2252	2258	2255.00	7.08E+00	9.21	9.83E+00	1.64
	66	2267.47	2260	2273	2267.02	2.26E+01	12.37	6.81E+00	8.82
	67	2318.97	2315	2322	2318.50	1.60E+01	8.00	0.00E+00	2.88
	68	2345.56	2341	2349	2345.08	1.21E+01	13.76	1.98E+01	2.10
	69	2615.16	2610	2619	2614.57	1.13E+02	22.02	4.54E+00	2.64

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 : 11/10/2015 3:56:40PM

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

Analysis Report for 1510091-05

CP1807S05-06

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	1	63.35	61 -	66	2.31E+02	97.41	1.72E+03	7.61E+01
	2	76.29	72 -	83	1.38E+03	193.14	3.97E+03	1.47E+02
	3	92.78	89 -	96	3.28E+02	130.06	2.49E+03	1.03E+02
	4	129.26	125 -	133	1.62E+02	103.78	1.56E+03	8.27E+01
	5	186.14	182 -	189	3.17E+02	90.44	1.15E+03	6.83E+01
	6	197.76	196 -	200	6.11E+01	55.34	6.28E+02	4.36E+01
	7	209.89	207 -	213	7.28E+01	73.37	9.16E+02	5.87E+01
M	8	238.81	233 -	248	1.11E+03	83.45	5.01E+02	3.68E+01
m	9	241.87	233 -	248	2.18E+02	66.09	4.30E+02	3.41E+01
M	10	270.24	266 -	280	1.46E+02	64.84	6.01E+02	4.03E+01
m	11	277.65	266 -	280	6.76E+01	42.24	3.28E+02	2.98E+01
M	12	282.25	281 -	291	3.75E+01	21.68	1.27E+02	1.85E+01
m	13	288.25	281 -	291	3.64E+01	46.67	4.12E+02	3.34E+01
M	14	295.42	292 -	306	4.75E+02	58.47	3.41E+02	3.04E+01
m	15	300.58	292 -	306	1.02E+02	48.59	3.80E+02	3.20E+01
	16	328.42	325 -	332	5.68E+01	59.67	5.54E+02	4.75E+01
	17	338.41	335 -	341	2.29E+02	54.54	3.73E+02	3.73E+01
	18	351.98	348 -	356	7.38E+02	77.60	4.73E+02	4.56E+01
	19	463.81	458 -	469	7.09E+01	61.55	4.38E+02	4.87E+01
	20	511.04	506 -	516	2.28E+02	58.09	3.24E+02	4.08E+01
	21	583.31	579 -	588	3.65E+02	57.02	2.58E+02	3.48E+01
	22	609.52	606 -	614	5.72E+02	62.98	2.61E+02	3.37E+01
	23	703.05	699 -	707	4.37E+01	37.50	1.91E+02	2.89E+01
	24	727.88	724 -	731	6.78E+01	35.67	1.64E+02	2.60E+01
	25	812.71	810 -	816	2.67E+01	26.38	1.05E+02	2.00E+01
	26	831.13	828 -	834	2.66E+01	25.83	1.03E+02	1.95E+01
	27	856.74	843 -	863	7.41E+01	65.11	3.18E+02	1.91E+01
	28	883.04	880 -	886	2.40E+01	24.79	9.39E+01	1.87E+01
	29	892.97	891 -	895	2.11E+01	18.26	5.59E+01	1.30E+01
M	30	911.75	908 -	922	2.33E+02	38.35	1.07E+02	1.70E+01
m	31	918.12	908 -	922	2.28E+01	23.04	7.26E+01	1.40E+01
	32	934.40	930 -	938	5.10E+01	30.10	1.08E+02	2.18E+01
	33	969.53	967 -	972	1.03E+02	34.18	1.44E+02	2.26E+01
	34	1000.24	996 -	1003	3.96E+01	25.69	8.28E+01	1.84E+01
	35	1028.40	1018 -	1037	5.55E+01	47.50	1.67E+02	3.71E+01
	36	1121.10	1115 -	1126	1.31E+02	42.57	1.59E+02	2.95E+01
	37	1238.71	1232 -	1243	5.08E+01	41.67	1.90E+02	3.22E+01
	38	1319.02	1317 -	1322	1.20E+01	14.07	3.00E+01	1.01E+01
	39	1378.22	1374 -	1381	2.50E+01	22.00	6.40E+01	1.61E+01
	40	1409.22	1405 -	1414	2.66E+01	22.72	5.49E+01	1.66E+01
	41	1435.90	1431 -	1441	2.16E+01	21.27	4.68E+01	1.57E+01
	42	1461.38	1455 -	1466	8.32E+02	60.53	4.12E+01	1.50E+01
	43	1474.11	1470 -	1477	1.31E+01	12.96	1.78E+01	8.84E+00
	44	1495.90	1493 -	1499	9.53E+00	12.23	1.89E+01	8.68E+00
	45	1510.62	1505 -	1516	2.10E+01	21.63	4.80E+01	1.61E+01
	46	1588.15	1584 -	1592	2.94E+01	21.04	5.12E+01	1.48E+01
M	47	1621.43	1618 -	1634	1.78E+01	11.16	7.00E+00	4.35E+00
m	48	1631.17	1618 -	1634	2.01E+01	10.98	7.00E+00	4.35E+00
	49	1661.84	1657 -	1667	1.60E+01	8.00	0.00E+00	0.00E+00
	50	1674.67	1668 -	1683	2.05E+01	12.81	9.04E+00	7.45E+00
	51	1693.52	1689 -	1695	8.65E+00	7.23	2.70E+00	3.45E+00

Analysis Report for 1510091-05

CP1807S05-06

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
M	52	1730.47	1725 -	1736	3.38E+01	13.11	8.00E+00	4.65E+00
m	53	1733.47	1725 -	1736	8.19E+00	12.65	8.00E+00	4.65E+00
	54	1765.02	1760 -	1770	1.12E+02	24.84	2.32E+01	1.06E+01
	55	1816.07	1813 -	1819	9.96E+00	7.76	4.08E+00	3.71E+00
	56	1822.86	1820 -	1825	7.25E+00	8.66	9.50E+00	5.58E+00
	57	1857.77	1855 -	1859	5.50E+00	6.67	5.00E+00	3.90E+00
	58	1874.43	1868 -	1880	1.67E+01	11.06	6.60E+00	6.12E+00
	59	1884.02	1881 -	1887	7.38E+00	9.42	1.12E+01	6.33E+00
	60	1958.72	1954 -	1961	7.22E+00	7.21	3.56E+00	3.95E+00
	61	1987.77	1983 -	1991	7.95E+00	7.76	4.10E+00	4.38E+00
	62	2052.48	2048 -	2055	7.00E+00	8.72	8.00E+00	5.70E+00
	63	2103.91	2100 -	2109	2.09E+01	12.57	1.21E+01	7.09E+00
	64	2205.29	2198 -	2211	4.40E+01	17.38	1.40E+01	9.23E+00
	65	2255.44	2252 -	2258	7.08E+00	9.21	9.83E+00	6.17E+00
	66	2267.47	2260 -	2273	2.26E+01	12.37	6.81E+00	6.50E+00
	67	2318.97	2315 -	2322	1.60E+01	8.00	0.00E+00	0.00E+00
	68	2345.56	2341 -	2349	1.21E+01	13.76	1.98E+01	9.75E+00
	69	2615.16	2610 -	2619	1.13E+02	22.02	4.54E+00	4.80E+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 : 11/10/2015 3:56:40PM

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	63.35	61 -	66	63.70	2.31E+02	97.41	1.72E+03	TH-234 TH-230
2	76.29	72 -	83	76.63	1.38E+03	193.14	3.97E+03	.....
3	92.78	89 -	96	93.12	3.28E+02	130.06	2.49E+03	GA-67
4	129.26	125 -	133	129.59	1.62E+02	103.78	1.56E+03	.....
5	186.14	182 -	189	186.45	3.17E+02	90.44	1.15E+03	RA-226
6	197.76	196 -	200	198.06	6.11E+01	55.34	6.28E+02	.....

Analysis Report for 1510091-05

CP1807S05-06

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	7	209.89	207 -	213	210.19	7.28E+01	73.37	9.16E+02	CM-243 GA-67
M	8	238.81	233 -	248	239.09	1.11E+03	83.45	5.01E+02	PB-212
m	9	241.87	233 -	248	242.15	2.18E+02	66.09	4.30E+02	RA-224
M	10	270.24	266 -	280	270.52	1.46E+02	64.84	6.01E+02	.....
m	11	277.65	266 -	280	277.92	6.76E+01	42.24	3.28E+02	CM-243 NP-239
M	12	282.25	281 -	291	282.52	3.75E+01	21.68	1.27E+02	.....
m	13	288.25	281 -	291	288.52	3.64E+01	46.67	4.12E+02	.....
M	14	295.42	292 -	306	295.69	4.75E+02	58.47	3.41E+02	PB-214
m	15	300.58	292 -	306	300.85	1.02E+02	48.59	3.80E+02	GA-67 PB-212 BI-210M
	16	328.42	325 -	332	328.68	5.68E+01	59.67	5.54E+02	LA-140
	17	338.41	335 -	341	338.66	2.29E+02	54.54	3.73E+02	AC-228
	18	351.98	348 -	356	352.23	7.38E+02	77.60	4.73E+02	PB-214
	19	463.81	458 -	469	464.02	7.09E+01	61.55	4.38E+02	SB-125
	20	511.04	506 -	516	511.24	2.28E+02	58.09	3.24E+02	.....
	21	583.31	579 -	588	583.48	3.65E+02	57.02	2.58E+02	TL-208
	22	609.52	606 -	614	609.68	5.72E+02	62.98	2.61E+02	BI-214
	23	703.05	699 -	707	703.18	4.37E+01	37.50	1.91E+02	NB-94
	24	727.88	724 -	731	728.00	6.78E+01	35.67	1.64E+02	BI-212
	25	812.71	810 -	816	812.80	2.67E+01	26.38	1.05E+02	EU-156
	26	831.13	828 -	834	831.22	2.66E+01	25.83	1.03E+02	PB-211
	27	856.74	843 -	863	856.81	7.41E+01	65.11	3.18E+02	.....
	28	883.04	880 -	886	883.11	2.40E+01	24.79	9.39E+01	.....
	29	892.97	891 -	895	893.03	2.11E+01	18.26	5.59E+01	.....
M	30	911.75	908 -	922	911.80	2.33E+02	38.35	1.07E+02	LU-172 AC-228
m	31	918.12	908 -	922	918.18	2.28E+01	23.04	7.26E+01	.....
	32	934.40	930 -	938	934.44	5.10E+01	30.10	1.08E+02	.....
	33	969.53	967 -	972	969.57	1.03E+02	34.18	1.44E+02	AC-228
	34	1000.24	996 -	1003	1000.26	3.96E+01	25.69	8.28E+01	PA-234M
	35	1028.40	1018 -	1037	1028.41	5.55E+01	47.50	1.67E+02	.....
	36	1121.10	1115 -	1126	1121.08	1.31E+02	42.57	1.59E+02	TA-182 SC-46 BI-214
	37	1238.71	1232 -	1243	1238.65	5.08E+01	41.67	1.90E+02	CO-56
	38	1319.02	1317 -	1322	1318.93	1.20E+01	14.07	3.00E+01	.....
	39	1378.22	1374 -	1381	1378.11	2.50E+01	22.00	6.40E+01	.....
	40	1409.22	1405 -	1414	1409.09	2.66E+01	22.72	5.49E+01	.....
	41	1435.90	1431 -	1441	1435.77	2.16E+01	21.27	4.68E+01	LA-138
	42	1461.38	1455 -	1466	1461.24	8.32E+02	60.53	4.12E+01	K-40
	43	1474.11	1470 -	1477	1473.96	1.31E+01	12.96	1.78E+01	.....
	44	1495.90	1493 -	1499	1495.75	9.53E+00	12.23	1.89E+01	.....
	45	1510.62	1505 -	1516	1510.45	2.10E+01	21.63	4.80E+01	.....
	46	1588.15	1584 -	1592	1587.96	2.94E+01	21.04	5.12E+01	.....
M	47	1621.43	1618 -	1634	1621.23	1.78E+01	11.16	7.00E+00	BI-212
m	48	1631.17	1618 -	1634	1630.97	2.01E+01	10.98	7.00E+00	.....
	49	1661.84	1657 -	1667	1661.63	1.60E+01	8.00	0.00E+00	.....
	50	1674.67	1668 -	1683	1674.45	2.05E+01	12.81	9.04E+00	.....
	51	1693.52	1689 -	1695	1693.29	8.65E+00	7.23	2.70E+00	.....
M	52	1730.47	1725 -	1736	1730.23	3.38E+01	13.11	8.00E+00	.....
m	53	1733.47	1725 -	1736	1733.23	8.19E+00	12.65	8.00E+00	.....

Analysis Report for 1510091-05

CP1807S05-06

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
54	1765.02	1760 -	1770	1764.76	1.12E+02	24.84	2.32E+01	BI-214
55	1816.07	1813 -	1819	1815.79	9.96E+00	7.76	4.08E+00	.....
56	1822.86	1820 -	1825	1822.59	7.25E+00	8.66	9.50E+00	.....
57	1857.77	1855 -	1859	1857.48	5.50E+00	6.67	5.00E+00	.....
58	1874.43	1868 -	1880	1874.13	1.67E+01	11.06	6.60E+00	.....
59	1884.02	1881 -	1887	1883.72	7.38E+00	9.42	1.12E+01	.....
60	1958.72	1954 -	1961	1958.39	7.22E+00	7.21	3.56E+00	.....
61	1987.77	1983 -	1991	1987.43	7.95E+00	7.76	4.10E+00	.....
62	2052.48	2048 -	2055	2052.12	7.00E+00	8.72	8.00E+00	.....
63	2103.91	2100 -	2109	2103.52	2.09E+01	12.57	1.21E+01	.....
64	2205.29	2198 -	2211	2204.87	4.40E+01	17.38	1.40E+01	.....
65	2255.44	2252 -	2258	2255.00	7.08E+00	9.21	9.83E+00	.....
66	2267.47	2260 -	2273	2267.02	2.26E+01	12.37	6.81E+00	.....
67	2318.97	2315 -	2322	2318.50	1.60E+01	8.00	0.00E+00	.....
68	2345.56	2341 -	2349	2345.08	1.21E+01	13.76	1.98E+01	.....
69	2615.16	2610 -	2619	2614.57	1.13E+02	22.02	4.54E+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 : 11/10/2015 3:56:40PM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	63.35	2.31E+02	97.41	2.49E-02	1.91E-03
	2	76.29	1.38E+03	193.14	2.77E-02	2.35E-03
	3	92.78	3.28E+02	130.06	2.86E-02	2.65E-03
	4	129.26	1.62E+02	103.78	2.67E-02	2.09E-03
	5	186.14	3.17E+02	90.44	2.24E-02	2.03E-03
	6	197.76	6.11E+01	55.34	2.16E-02	1.94E-03
	7	209.89	7.28E+01	73.37	2.08E-02	1.85E-03
M	8	238.81	1.11E+03	83.45	1.92E-02	1.64E-03
m	9	241.87	2.18E+02	66.09	1.91E-02	1.61E-03
M	10	270.24	1.46E+02	64.84	1.77E-02	1.41E-03
m	11	277.65	6.76E+01	42.24	1.74E-02	1.35E-03
M	12	282.25	3.75E+01	21.68	1.72E-02	1.33E-03
m	13	288.25	3.64E+01	46.67	1.70E-02	1.32E-03
M	14	295.42	4.75E+02	58.47	1.67E-02	1.31E-03

Analysis Report for 1510091-05

CP1807S05-06

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
m	15	300.58	1.02E+02	48.59	1.65E-02	1.30E-03
	16	328.42	5.68E+01	59.67	1.55E-02	1.24E-03
	17	338.41	2.29E+02	54.54	1.52E-02	1.22E-03
	18	351.98	7.38E+02	77.60	1.48E-02	1.19E-03
	19	463.81	7.09E+01	61.55	1.21E-02	1.04E-03
	20	511.04	2.28E+02	58.09	1.12E-02	9.90E-04
	21	583.31	3.65E+02	57.02	1.02E-02	9.15E-04
	22	609.52	5.72E+02	62.98	9.82E-03	8.88E-04
	23	703.05	4.37E+01	37.50	8.79E-03	7.97E-04
	24	727.88	6.78E+01	35.67	8.55E-03	7.75E-04
	25	812.71	2.67E+01	26.38	7.83E-03	6.99E-04
	26	831.13	2.66E+01	25.83	7.69E-03	6.82E-04
	27	856.74	7.41E+01	65.11	7.51E-03	6.59E-04
	28	883.04	2.40E+01	24.79	7.33E-03	6.36E-04
	29	892.97	2.11E+01	18.26	7.26E-03	6.27E-04
M	30	911.75	2.33E+02	38.35	7.14E-03	6.15E-04
m	31	918.12	2.28E+01	23.04	7.10E-03	6.12E-04
	32	934.40	5.10E+01	30.10	7.01E-03	6.03E-04
	33	969.53	1.03E+02	34.18	6.80E-03	5.85E-04
	34	1000.24	3.96E+01	25.69	6.64E-03	5.69E-04
	35	1028.40	5.55E+01	47.50	6.49E-03	5.54E-04
	36	1121.10	1.31E+02	42.57	6.06E-03	5.06E-04
	37	1238.71	5.08E+01	41.67	5.61E-03	4.68E-04
	38	1319.02	1.20E+01	14.07	5.35E-03	4.54E-04
	39	1378.22	2.50E+01	22.00	5.18E-03	4.40E-04
	40	1409.22	2.66E+01	22.72	5.10E-03	4.32E-04
	41	1435.90	2.16E+01	21.27	5.03E-03	4.25E-04
	42	1461.38	8.32E+02	60.53	4.97E-03	4.19E-04
	43	1474.11	1.31E+01	12.96	4.94E-03	4.16E-04
	44	1495.90	9.53E+00	12.23	4.89E-03	4.10E-04
	45	1510.62	2.10E+01	21.63	4.86E-03	4.07E-04
	46	1588.15	2.94E+01	21.04	4.69E-03	3.88E-04
M	47	1621.43	1.78E+01	11.16	4.63E-03	3.79E-04
m	48	1631.17	2.01E+01	10.98	4.61E-03	3.77E-04
	49	1661.84	1.60E+01	8.00	4.56E-03	3.69E-04
	50	1674.67	2.05E+01	12.81	4.54E-03	3.66E-04
	51	1693.52	8.65E+00	7.23	4.51E-03	3.61E-04
M	52	1730.47	3.38E+01	13.11	4.45E-03	3.52E-04
m	53	1733.47	8.19E+00	12.65	4.44E-03	3.51E-04
	54	1765.02	1.12E+02	24.84	4.39E-03	3.44E-04
	55	1816.07	9.96E+00	7.76	4.32E-03	3.31E-04
	56	1822.86	7.25E+00	8.66	4.31E-03	3.29E-04
	57	1857.77	5.50E+00	6.67	4.27E-03	3.26E-04
	58	1874.43	1.67E+01	11.06	4.25E-03	3.26E-04
	59	1884.02	7.38E+00	9.42	4.24E-03	3.26E-04
	60	1958.72	7.22E+00	7.21	4.15E-03	3.26E-04
	61	1987.77	7.95E+00	7.76	4.12E-03	3.26E-04
	62	2052.48	7.00E+00	8.72	4.06E-03	3.26E-04
	63	2103.91	2.09E+01	12.57	4.02E-03	3.26E-04
	64	2205.29	4.40E+01	17.38	3.95E-03	3.26E-04
	65	2255.44	7.08E+00	9.21	3.92E-03	3.26E-04
	66	2267.47	2.26E+01	12.37	3.91E-03	3.26E-04
	67	2318.97	1.60E+01	8.00	3.88E-03	3.26E-04

Analysis Report for 1510091-05

CP1807S05-06

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
68	2345.56	1.21E+01	13.76	3.87E-03	3.26E-04
69	2615.16	1.13E+02	22.02	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 : 11/10/2015 3:56:40PM

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	63.35	2.31E+02	97.41	7.80E+01	1.33E+01	1.53E+02	9.83E+01
	2	76.29	1.38E+03	193.14	9.75E+00	8.28E+00	1.37E+03	1.93E+02
	3	92.78	3.28E+02	130.06	1.34E+02	9.83E+00	1.94E+02	1.30E+02
	4	129.26	1.62E+02	103.78			1.62E+02	1.04E+02
	5	186.14	3.17E+02	90.44	6.41E+01	7.38E+00	2.53E+02	9.07E+01
	6	197.76	6.11E+01	55.34	8.12E+00	7.83E+00	5.30E+01	5.59E+01
	7	209.89	7.28E+01	73.37			7.28E+01	7.34E+01
M	8	238.81	1.11E+03	83.45	2.34E+01	6.34E+00	1.08E+03	8.37E+01
m	9	241.87	2.18E+02	66.09			2.18E+02	6.61E+01
M	10	270.24	1.46E+02	64.84			1.46E+02	6.48E+01
m	11	277.65	6.76E+01	42.24			6.76E+01	4.22E+01
M	12	282.25	3.75E+01	21.68			3.75E+01	2.17E+01
m	13	288.25	3.64E+01	46.67			3.64E+01	4.67E+01
M	14	295.42	4.75E+02	58.47	4.17E+00	5.50E+00	4.71E+02	5.87E+01
m	15	300.58	1.02E+02	48.59			1.02E+02	4.86E+01
	16	328.42	5.68E+01	59.67			5.68E+01	5.97E+01
	17	338.41	2.29E+02	54.54	2.22E-01	4.54E+00	2.29E+02	5.47E+01
	18	351.98	7.38E+02	77.60	8.83E+00	4.91E+00	7.29E+02	7.78E+01
	19	463.81	7.09E+01	61.55			7.09E+01	6.15E+01
	20	511.04	2.28E+02	58.09	8.12E+01	5.49E+00	1.47E+02	5.84E+01
	21	583.31	3.65E+02	57.02	6.34E+00	3.74E+00	3.59E+02	5.71E+01
	22	609.52	5.72E+02	62.98	5.20E+00	3.69E+00	5.67E+02	6.31E+01
	23	703.05	4.37E+01	37.50			4.37E+01	3.75E+01
	24	727.88	6.78E+01	35.67			6.78E+01	3.57E+01
	25	812.71	2.67E+01	26.38			2.67E+01	2.64E+01
	26	831.13	2.66E+01	25.83			2.66E+01	2.58E+01
	27	856.74	7.41E+01	65.11			7.41E+01	6.51E+01
	28	883.04	2.40E+01	24.79			2.40E+01	2.48E+01

Analysis Report for 1510091-05

CP1807S05-06

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	29	892.97	2.11E+01	18.26			2.11E+01	1.83E+01
M	30	911.75	2.33E+02	38.35	3.28E+00	2.53E+00	2.30E+02	3.84E+01
m	31	918.12	2.28E+01	23.04			2.28E+01	2.30E+01
	32	934.40	5.10E+01	30.10			5.10E+01	3.01E+01
	33	969.53	1.03E+02	34.18			1.03E+02	3.42E+01
	34	1000.24	3.96E+01	25.69			3.96E+01	2.57E+01
	35	1028.40	5.55E+01	47.50			5.55E+01	4.75E+01
	36	1121.10	1.31E+02	42.57	2.28E+00	2.55E+00	1.28E+02	4.26E+01
	37	1238.71	5.08E+01	41.67			5.08E+01	4.17E+01
	38	1319.02	1.20E+01	14.07			1.20E+01	1.41E+01
	39	1378.22	2.50E+01	22.00			2.50E+01	2.20E+01
	40	1409.22	2.66E+01	22.72			2.66E+01	2.27E+01
	41	1435.90	2.16E+01	21.27			2.16E+01	2.13E+01
	42	1461.38	8.32E+02	60.53	6.46E+00	2.33E+00	8.26E+02	6.06E+01
	43	1474.11	1.31E+01	12.96			1.31E+01	1.30E+01
	44	1495.90	9.53E+00	12.23			9.53E+00	1.22E+01
	45	1510.62	2.10E+01	21.63			2.10E+01	2.16E+01
	46	1588.15	2.94E+01	21.04			2.94E+01	2.10E+01
M	47	1621.43	1.78E+01	11.16			1.78E+01	1.12E+01
m	48	1631.17	2.01E+01	10.98			2.01E+01	1.10E+01
	49	1661.84	1.60E+01	8.00			1.60E+01	8.00E+00
	50	1674.67	2.05E+01	12.81			2.05E+01	1.28E+01
	51	1693.52	8.65E+00	7.23			8.65E+00	7.23E+00
M	52	1730.47	3.38E+01	13.11			3.38E+01	1.31E+01
m	53	1733.47	8.19E+00	12.65			8.19E+00	1.26E+01
	54	1765.02	1.12E+02	24.84			1.12E+02	2.48E+01
	55	1816.07	9.96E+00	7.76			9.96E+00	7.76E+00
	56	1822.86	7.25E+00	8.66			7.25E+00	8.66E+00
	57	1857.77	5.50E+00	6.67			5.50E+00	6.67E+00
	58	1874.43	1.67E+01	11.06			1.67E+01	1.11E+01
	59	1884.02	7.38E+00	9.42			7.38E+00	9.42E+00
	60	1958.72	7.22E+00	7.21			7.22E+00	7.21E+00
	61	1987.77	7.95E+00	7.76			7.95E+00	7.76E+00
	62	2052.48	7.00E+00	8.72			7.00E+00	8.72E+00
	63	2103.91	2.09E+01	12.57			2.09E+01	1.26E+01
	64	2205.29	4.40E+01	17.38			4.40E+01	1.74E+01
	65	2255.44	7.08E+00	9.21			7.08E+00	9.21E+00
	66	2267.47	2.26E+01	12.37			2.26E+01	1.24E+01
	67	2318.97	1.60E+01	8.00			1.60E+01	8.00E+00
	68	2345.56	1.21E+01	13.76			1.21E+01	1.38E+01
	69	2615.16	1.13E+02	22.02	3.47E+00	1.48E+00	1.09E+02	2.21E+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 1510091-05

CP1807S05-06

AREA CORRECTION REPORT
REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/10/2015 3:56:40PM

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	63.35	2.31E+02	97.41	7.80E+01	1.33E+01	1.53E+02	9.83E+01
	2	76.29	1.38E+03	193.14	9.75E+00	8.28E+00	1.37E+03	1.93E+02
	3	92.78	3.28E+02	130.06	1.34E+02	9.83E+00	1.94E+02	1.30E+02
	4	129.26	1.62E+02	103.78			1.62E+02	1.04E+02
	5	186.14	3.17E+02	90.44	6.41E+01	7.38E+00	2.53E+02	9.07E+01
	6	197.76	6.11E+01	55.34	8.12E+00	7.83E+00	5.30E+01	5.59E+01
	7	209.89	7.28E+01	73.37			7.28E+01	7.34E+01
M	8	238.81	1.11E+03	83.45	2.34E+01	6.34E+00	1.08E+03	8.37E+01
m	9	241.87	2.18E+02	66.09			2.18E+02	6.61E+01
M	10	270.24	1.46E+02	64.84			1.46E+02	6.48E+01
m	11	277.65	6.76E+01	42.24			6.76E+01	4.22E+01
M	12	282.25	3.75E+01	21.68			3.75E+01	2.17E+01
m	13	288.25	3.64E+01	46.67			3.64E+01	4.67E+01
M	14	295.42	4.75E+02	58.47	4.17E+00	5.50E+00	4.71E+02	5.87E+01
m	15	300.58	1.02E+02	48.59			1.02E+02	4.86E+01
	16	328.42	5.68E+01	59.67			5.68E+01	5.97E+01
	17	338.41	2.29E+02	54.54	2.22E-01	4.54E+00	2.29E+02	5.47E+01
	18	351.98	7.38E+02	77.60	8.83E+00	4.91E+00	7.29E+02	7.78E+01
	19	463.81	7.09E+01	61.55			7.09E+01	6.15E+01
	20	511.04	2.28E+02	58.09	8.12E+01	5.49E+00	1.47E+02	5.84E+01
	21	583.31	3.65E+02	57.02	6.34E+00	3.74E+00	3.59E+02	5.71E+01
	22	609.52	5.72E+02	62.98	5.20E+00	3.69E+00	5.67E+02	6.31E+01
	23	703.05	4.37E+01	37.50			4.37E+01	3.75E+01
	24	727.88	6.78E+01	35.67			6.78E+01	3.57E+01
	25	812.71	2.67E+01	26.38			2.67E+01	2.64E+01
	26	831.13	2.66E+01	25.83			2.66E+01	2.58E+01
	27	856.74	7.41E+01	65.11			7.41E+01	6.51E+01
	28	883.04	2.40E+01	24.79			2.40E+01	2.48E+01
	29	892.97	2.11E+01	18.26			2.11E+01	1.83E+01
M	30	911.75	2.33E+02	38.35	3.28E+00	2.53E+00	2.30E+02	3.84E+01
m	31	918.12	2.28E+01	23.04			2.28E+01	2.30E+01
	32	934.40	5.10E+01	30.10			5.10E+01	3.01E+01
	33	969.53	1.03E+02	34.18			1.03E+02	3.42E+01
	34	1000.24	3.96E+01	25.69			3.96E+01	2.57E+01
	35	1028.40	5.55E+01	47.50			5.55E+01	4.75E+01
	36	1121.10	1.31E+02	42.57	2.28E+00	2.55E+00	1.28E+02	4.26E+01
	37	1238.71	5.08E+01	41.67			5.08E+01	4.17E+01
	38	1319.02	1.20E+01	14.07			1.20E+01	1.41E+01
	39	1378.22	2.50E+01	22.00			2.50E+01	2.20E+01
	40	1409.22	2.66E+01	22.72			2.66E+01	2.27E+01
	41	1435.90	2.16E+01	21.27			2.16E+01	2.13E+01

Analysis Report for 1510091-05

CP1807S05-06

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	42	1461.38	8.32E+02	60.53	6.46E+00	2.33E+00	8.26E+02	6.06E+01
	43	1474.11	1.31E+01	12.96			1.31E+01	1.30E+01
	44	1495.90	9.53E+00	12.23			9.53E+00	1.22E+01
	45	1510.62	2.10E+01	21.63			2.10E+01	2.16E+01
	46	1588.15	2.94E+01	21.04			2.94E+01	2.10E+01
M	47	1621.43	1.78E+01	11.16			1.78E+01	1.12E+01
m	48	1631.17	2.01E+01	10.98			2.01E+01	1.10E+01
	49	1661.84	1.60E+01	8.00			1.60E+01	8.00E+00
	50	1674.67	2.05E+01	12.81			2.05E+01	1.28E+01
	51	1693.52	8.65E+00	7.23			8.65E+00	7.23E+00
M	52	1730.47	3.38E+01	13.11			3.38E+01	1.31E+01
m	53	1733.47	8.19E+00	12.65			8.19E+00	1.26E+01
	54	1765.02	1.12E+02	24.84			1.12E+02	2.48E+01
	55	1816.07	9.96E+00	7.76			9.96E+00	7.76E+00
	56	1822.86	7.25E+00	8.66			7.25E+00	8.66E+00
	57	1857.77	5.50E+00	6.67			5.50E+00	6.67E+00
	58	1874.43	1.67E+01	11.06			1.67E+01	1.11E+01
	59	1884.02	7.38E+00	9.42			7.38E+00	9.42E+00
	60	1958.72	7.22E+00	7.21			7.22E+00	7.21E+00
	61	1987.77	7.95E+00	7.76			7.95E+00	7.76E+00
	62	2052.48	7.00E+00	8.72			7.00E+00	8.72E+00
	63	2103.91	2.09E+01	12.57			2.09E+01	1.26E+01
	64	2205.29	4.40E+01	17.38			4.40E+01	1.74E+01
	65	2255.44	7.08E+00	9.21			7.08E+00	9.21E+00
	66	2267.47	2.26E+01	12.37			2.26E+01	1.24E+01
	67	2318.97	1.60E+01	8.00			1.60E+01	8.00E+00
	68	2345.56	1.21E+01	13.76			1.21E+01	1.38E+01
	69	2615.16	1.13E+02	22.02	3.47E+00	1.48E+00	1.09E+02	2.21E+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	0.949	1460.81	*	10.67	1.93E+01	2.19E+00
GA-67	0.607	93.31	*	35.70	1.79E+02	7.65E+02
		208.95	*	2.24	1.47E+03	6.16E+03

Analysis Report for 1510091-05

CP1807S05-06

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
GA-67	0.607	300.22	*	16.00	3.65E+02	1.55E+03
LA-138	0.368	788.74		34.00		
		1435.80	*	66.00	8.05E-02	7.96E-02
TL-208	0.868	583.14	*	30.22	1.45E+00	2.65E-01
		860.37		4.48		
		2614.66	*	35.85	9.94E-01	2.18E-01
BI-212	0.919	727.17	*	11.80	8.32E-01	4.44E-01
		1620.62	*	2.75	1.73E+00	1.09E+00
PB-212	0.993	238.63	*	44.60	1.57E+00	1.80E-01
		300.09	*	3.41	2.25E+00	1.08E+00
BI-214	0.898	609.31	*	46.30	1.54E+00	2.21E-01
		1120.29	*	15.10	1.73E+00	5.95E-01
		1764.49	*	15.80	2.00E+00	4.70E-01
		2204.22		4.98		
PB-214	0.997	295.21	*	19.19	1.82E+00	2.68E-01
		351.92	*	37.19	1.64E+00	2.20E-01
RA-224	0.882	240.98	*	3.95	3.59E+00	1.13E+00
RA-226	0.999	186.21	*	3.28	4.26E+00	7.96E+00
AC-228	0.956	338.32	*	11.40	1.64E+00	4.13E-01
		911.07	*	27.70	1.44E+00	2.70E-01
		969.11	*	16.60	1.13E+00	3.87E-01
PA-234M	0.904	1001.03	*	0.92	8.03E+00	5.26E+00
TH-234	0.999	63.29	*	3.80	2.00E+00	1.29E+00
CM-243	0.374	209.75	*	3.29	1.32E+00	1.33E+00
		228.14		10.60		
		277.60	*	14.00	3.44E-01	2.17E-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 : 11/10/2015 3:56:40PM
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	76.29	3.80906E-01	7.05		
4	129.26	4.49184E-02	32.09		
6	197.76	1.47104E-02	52.77		

Analysis Report for 1510091-05

CP1807S05-06

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
M	10	270.24	4.06330E-02	22.16		
M	12	282.25	1.04067E-02	28.93		
m	13	288.25	1.01170E-02	64.07		
	16	328.42	1.57651E-02	52.56	Tol.	LA-140
	19	463.81	1.96863E-02	43.42	Sum	
	20	511.04	4.07601E-02	19.88	Sum	
	23	703.05	1.21313E-02	42.94	Sum	
	25	812.71	7.40682E-03	49.46	Tol.	EU-156
	26	831.13	7.38248E-03	48.60	Tol.	PB-211
	27	856.74	2.05699E-02	43.96		
	28	883.04	6.68036E-03	51.55	Sum	
	29	892.97	5.85034E-03	43.35		
m	31	918.12	6.34082E-03	50.47		
	32	934.40	1.41667E-02	29.51	Sum	
	35	1028.40	1.54297E-02	42.75	Sum	
	37	1238.71	1.41172E-02	40.99	Sum	
	38	1319.02	3.33333E-03	58.63		
	39	1378.22	6.94932E-03	43.97		
	40	1409.22	7.37654E-03	42.77		
	43	1474.11	3.63636E-03	49.51		
	44	1495.90	2.64620E-03	64.17	Sum	
	45	1510.62	5.83333E-03	51.51		
	46	1588.15	8.16414E-03	35.80		
m	48	1631.17	5.59719E-03	27.24		
	49	1661.84	4.44444E-03	25.00		
	50	1674.67	5.68889E-03	31.27	Sum	
	51	1693.52	2.40278E-03	41.78		
M	52	1730.47	9.37658E-03	19.43	Sum	
m	53	1733.47	2.27465E-03	77.23		
	55	1816.07	2.76620E-03	38.97		
	56	1822.86	2.01389E-03	59.73	Sum	
	57	1857.77	1.52778E-03	60.64	Sum	
	58	1874.43	4.63889E-03	33.10		
	59	1884.02	2.05128E-03	63.79		
	60	1958.72	2.00617E-03	49.92		
	61	1987.77	2.20833E-03	48.82		
	62	2052.48	1.94444E-03	62.27		
	63	2103.91	5.81276E-03	30.03	S-Esc	
	64	2205.29	1.22222E-02	19.75	Sum	
	65	2255.44	1.96759E-03	64.98		
	66	2267.47	6.27671E-03	27.37		
	67	2318.97	4.44444E-03	25.00		
	68	2345.56	3.36490E-03	56.78		

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 1510091-05

CP1807S05-06

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.94	1460.81	*	10.67	1.93E+01	2.19E+00
GA-67	0.60	93.31	*	35.70	1.79E+02	7.65E+02
		208.95	*	2.24	1.47E+03	6.16E+03
		300.22	*	16.00	3.65E+02	1.55E+03
LA-138	0.36	788.74		34.00		
		1435.80	*	66.00	8.05E-02	7.96E-02
TL-208	0.86	583.14	*	30.22	1.45E+00	2.65E-01
		860.37		4.48		
		2614.66	*	35.85	9.94E-01	2.18E-01
BI-212	0.91	727.17	*	11.80	8.32E-01	4.44E-01
		1620.62	*	2.75	1.73E+00	1.09E+00
PB-212	0.99	238.63	*	44.60	1.57E+00	1.80E-01
		300.09	*	3.41	2.25E+00	1.08E+00
BI-214	0.89	609.31	*	46.30	1.54E+00	2.21E-01
		1120.29	*	15.10	1.73E+00	5.95E-01
		1764.49	*	15.80	2.00E+00	4.70E-01
		2204.22		4.98		
PB-214	0.99	295.21	*	19.19	1.82E+00	2.68E-01
		351.92	*	37.19	1.64E+00	2.20E-01
RA-224	0.88	240.98	*	3.95	3.59E+00	1.13E+00
RA-226	0.99	186.21	*	3.28	4.26E+00	7.96E+00
AC-228	0.95	338.32	*	11.40	1.64E+00	4.13E-01
		911.07	*	27.70	1.44E+00	2.70E-01
		969.11	*	16.60	1.13E+00	3.87E-01
PA-234M	0.90	1001.03	*	0.92	8.03E+00	5.26E+00
TH-234	0.99	63.29	*	3.80	2.00E+00	1.29E+00
CM-243	0.37	209.75	*	3.29	1.32E+00	1.33E+00
		228.14		10.60		
		277.60	*	14.00	3.44E-01	2.17E-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 1510091-05

CP1807S05-06

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.949	1.93E+01	2.19E+00	
GA-67	0.607	1.62E+02	6.65E+02	
LA-138	0.368	8.05E-02	7.96E-02	
TL-208	0.868	1.18E+00	1.68E-01	
BI-212	0.919	9.58E-01	4.11E-01	
PB-212	0.993	1.56E+00	1.78E-01	
BI-214	0.898	1.64E+00	1.90E-01	
PB-214	0.997	1.71E+00	1.70E-01	
RA-224	0.882	3.59E+00	1.13E+00	
RA-226	0.999	4.26E+00	7.96E+00	
AC-228	0.956	1.40E+00	1.95E-01	
PA-234M	0.904	8.03E+00	5.26E+00	
TH-234	0.999	2.00E+00	1.29E+00	
CM-243	0.374	3.66E-01	2.14E-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 1510091-05

CP1807S05-06

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 3:56:40PM
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	76.29	3.80906E-01	7.05		
	4	129.26	4.49184E-02	32.09		
	6	197.76	1.47104E-02	52.77		
M	10	270.24	4.06330E-02	22.16		
M	12	282.25	1.04067E-02	28.93		
m	13	288.25	1.01170E-02	64.07		
	16	328.42	1.57651E-02	52.56	Tol.	LA-140
	19	463.81	1.96863E-02	43.42	Sum	
	20	511.04	4.07601E-02	19.88	Sum	
	23	703.05	1.21313E-02	42.94	Sum	
	25	812.71	7.40682E-03	49.46	Tol.	EU-156
	26	831.13	7.38248E-03	48.60	Tol.	PB-211
	27	856.74	2.05699E-02	43.96		
	28	883.04	6.68036E-03	51.55	Sum	
	29	892.97	5.85034E-03	43.35		
m	31	918.12	6.34082E-03	50.47		
	32	934.40	1.41667E-02	29.51	Sum	
	35	1028.40	1.54297E-02	42.75	Sum	
	37	1238.71	1.41172E-02	40.99	Sum	
	38	1319.02	3.33333E-03	58.63		
	39	1378.22	6.94932E-03	43.97		
	40	1409.22	7.37654E-03	42.77		
	43	1474.11	3.63636E-03	49.51		
	44	1495.90	2.64620E-03	64.17	Sum	
	45	1510.62	5.83333E-03	51.51		
	46	1588.15	8.16414E-03	35.80		
m	48	1631.17	5.59719E-03	27.24		
	49	1661.84	4.44444E-03	25.00		
	50	1674.67	5.68889E-03	31.27	Sum	
	51	1693.52	2.40278E-03	41.78		
M	52	1730.47	9.37658E-03	19.43	Sum	
m	53	1733.47	2.27465E-03	77.23		
	55	1816.07	2.76620E-03	38.97		
	56	1822.86	2.01389E-03	59.73	Sum	
	57	1857.77	1.52778E-03	60.64	Sum	

Analysis Report for 1510091-05

CP1807S05-06

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
58	1874.43	4.63889E-03	33.10		
59	1884.02	2.05128E-03	63.79		
60	1958.72	2.00617E-03	49.92		
61	1987.77	2.20833E-03	48.82		
62	2052.48	1.94444E-03	62.27		
63	2103.91	5.81276E-03	30.03	S-Esc	
64	2205.29	1.22222E-02	19.75	Sum	
65	2255.44	1.96759E-03	64.98		
66	2267.47	6.27671E-03	27.37		
67	2318.97	4.44444E-03	25.00		
68	2345.56	3.36490E-03	56.78		

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	2.46E-01	9.08E-01	9.08E-01
+	NA-22	1274.54		99.94	1.78E-02	7.91E-02	7.91E-02
+	NA-24	1368.53		99.99	2.09E+13	3.30E+13	7.60E+13
		2754.09		99.86	5.93E+11		3.30E+13
+	AL-26	1808.65		99.76	1.51E-02	4.30E-02	4.30E-02
+	K-40	1460.81	*	10.67	1.93E+01	7.98E-01	7.98E-01
+	@ AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	1.96E-02	6.75E-02	6.75E-02
		78.34		96.00	3.24E-01		8.97E-02
+	SC-46	889.25		99.98	1.31E-02	8.25E-02	8.25E-02
		1120.51		99.99	2.63E-01		1.66E-01
+	V-48	983.52		99.98	1.43E-02	2.56E-01	2.56E-01
		1312.10		97.50	1.90E-01		2.98E-01
+	CR-51	320.08		9.83	-3.10E-01	1.06E+00	1.06E+00
+	MN-54	834.83		99.97	7.35E-03	7.72E-02	7.72E-02
+	CO-56	846.75		99.96	6.36E-02	9.07E-02	9.07E-02
		1037.75		14.03	-8.62E-02		5.99E-01

Analysis Report for 1510091-05

CP1807S05-06

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	CO-56	1238.25		67.00	1.31E-01	9.07E-02	2.10E-01
		1771.40		15.51	-3.29E-02		3.99E-01
		2598.48		16.90	2.54E-02		3.81E-01
+	CO-57	122.06		85.51	2.13E-03	5.91E-02	5.91E-02
		136.48		10.60	-4.53E-02		4.87E-01
+	CO-58	810.76		99.40	-5.23E-03	9.77E-02	9.77E-02
+	FE-59	1099.22		56.50	-1.30E-01	1.81E-01	1.81E-01
		1291.56		43.20	3.36E-02		2.75E-01
+	CO-60	1173.22		100.00	-5.08E-03	7.22E-02	7.69E-02
		1332.49		100.00	2.18E-02		7.22E-02
+	ZN-65	1115.52		50.75	-2.07E-02	1.66E-01	1.66E-01
+	GA-67	93.31	*	35.70	1.79E+02	1.96E+02	1.96E+02
		208.95	*	2.24	1.47E+03		2.43E+03
		300.22	*	16.00	3.65E+02		5.44E+02
+	SE-75	121.11		16.70	1.96E-01	9.76E-02	3.39E-01
		136.00		59.20	4.04E-02		9.76E-02
		264.65		59.80	1.59E-02		9.84E-02
		279.53		25.20	8.97E-02		2.44E-01
		400.65		11.40	-1.22E-02		5.29E-01
+	RB-82	776.52		13.00	-3.81E-01	1.23E+00	1.23E+00
+	RB-83	520.41		46.00	8.44E-02	1.60E-01	1.60E-01
		529.64		30.30	2.34E-02		2.46E-01
		552.65		16.40	8.24E-02		4.92E-01
+	KR-85	513.99		0.43	2.68E+01	2.01E+01	2.01E+01
+	SR-85	513.99		99.27	1.63E-01	1.22E-01	1.22E-01
+	Y-88	898.02		93.40	4.60E-03	4.27E-02	8.50E-02
		1836.01		99.38	-1.07E-02		4.27E-02
+	NB-93M	16.57		9.43	-9.75E+01	6.66E+01	6.66E+01
+	NB-94	702.63		100.00	6.73E-02	6.00E-02	7.62E-02
		871.10		100.00	-2.63E-02		6.00E-02
+	NB-95	765.79		99.81	4.34E-02	1.50E-01	1.50E-01
+	NB-95M	235.69		25.00	-1.00E+03	1.04E+02	1.04E+02
+	ZR-95	724.18		43.70	4.95E-02	1.80E-01	2.29E-01
		756.72		55.30	5.67E-02		1.80E-01
+	MO-99	181.06		6.20	-2.96E+01	1.38E+03	2.08E+03
		739.58		12.80	3.19E+02		1.38E+03
		778.00		4.50	-3.59E+03		3.73E+03
+	RU-103	497.08		89.00	-9.45E-03	1.12E-01	1.12E-01
+	RU-106	621.84		9.80	-5.00E-01	6.03E-01	6.03E-01
+	AG-108M	433.93		89.90	3.05E-02	6.16E-02	6.16E-02
		614.37		90.40	2.14E-02		7.50E-02
		722.95		90.50	7.99E-03		7.10E-02
+	CD-109	88.03		3.72	6.68E-01	1.85E+00	1.85E+00
+	AG-110M	657.75		93.14	-3.14E-03	7.63E-02	7.63E-02
		677.61		10.53	-1.61E-01		6.67E-01
		706.67		16.46	7.24E-02		4.59E-01
		763.93		21.98	-3.55E-01		3.48E-01
		884.67		71.63	7.86E-03		1.11E-01

Analysis Report for 1510091-05

CP1807S05-06

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	AG-110M	1384.27	23.94	-5.87E-02	7.63E-02	2.93E-01
+	CD-113M	263.70	0.02	1.37E+01	2.14E+02	2.14E+02
+	SN-113	255.12	1.93	9.06E-01	9.10E-02	3.21E+00
		391.69	64.90	2.52E-03		9.10E-02
+	TE123M	159.00	84.10	1.02E-02	6.98E-02	6.98E-02
+	SB-124	602.71	97.87	-1.23E-02	9.17E-02	9.17E-02
		645.85	7.26	-3.90E-02		1.15E+00
		722.78	11.10	9.33E-02		8.29E-01
		1691.02	49.00	-1.16E-02		1.40E-01
+	I-125	35.49	6.49	-7.97E-01	3.04E+00	3.04E+00
+	SB-125	176.33	6.89	1.28E-01	2.01E-01	7.43E-01
		427.89	29.33	1.81E-02		2.01E-01
		463.38	10.35	6.86E-01		6.90E-01
		600.56	17.80	2.07E-01		3.67E-01
		635.90	11.32	2.12E-01		6.03E-01
+	SB-126	414.70	83.30	-3.11E-01	3.56E-01	4.13E-01
		666.33	99.60	8.15E-02		3.88E-01
		695.00	99.60	-1.24E-01		3.56E-01
		720.50	53.80	1.88E-01		6.97E-01
+	SN-126	87.57	37.00	6.41E-02	1.78E-01	1.78E-01
+	SB-127	473.00	25.00	1.43E+01	5.45E+01	6.67E+01
		685.20	35.70	6.09E+00		5.45E+01
		783.80	14.70	1.49E+00		1.35E+02
+	I-129	29.78	57.00	4.47E-02	4.62E-01	4.62E-01
		33.60	13.20	6.15E-01		1.26E+00
		39.58	7.52	-5.54E-01		1.38E+00
+	I-131	284.30	6.05	-1.13E+01	8.64E-01	1.14E+01
		364.48	81.20	-1.45E-02		8.64E-01
		636.97	7.26	6.02E+00		1.37E+01
		722.89	1.80	5.93E+00		5.26E+01
+	TE-132	49.72	13.10	-8.70E+02	4.50E+01	4.05E+02
		228.16	88.00	1.85E+01		4.50E+01
+	BA-133	81.00	33.00	-1.60E+00	8.54E-02	1.74E-01
		302.84	17.80	1.71E-01		3.10E-01
		356.01	60.00	2.02E-02		8.54E-02
+	I-133	529.87	86.30	4.47E+08	4.69E+09	4.69E+09
+	XE-133	81.00	38.00	-8.55E+01	9.30E+00	9.30E+00
+	CS-134	563.23	8.38	3.87E-03	7.60E-02	7.47E-01
		569.32	15.43	-5.48E-02		4.04E-01
		604.70	97.60	-3.06E-03		7.60E-02
		795.84	85.40	8.63E-03		8.78E-02
		801.93	8.73	-8.71E-02		7.73E-01
+	CS-135	268.24	16.00	4.00E-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	1.73E+00	3.05E-01	3.51E+00
		163.89	4.61	1.41E+00		5.48E+00
		176.55	13.56	3.29E-01		1.91E+00

Analysis Report for 1510091-05

CP1807S05-06

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	CS-136	273.65		12.66	-4.05E+00	3.05E-01	2.01E+00
		340.57		48.50	-1.08E-02		7.13E-01
		818.50		99.70	8.25E-03		3.05E-01
		1048.07		79.60	1.87E-01		4.48E-01
		1235.34		19.70	-4.88E-01		2.61E+00
+	CS-137	661.65		85.12	6.04E-03	7.97E-02	7.97E-02
+	LA-138	788.74		34.00	1.99E-01	1.27E-01	2.26E-01
		1435.80	*	66.00	8.05E-02		1.27E-01
+	CE-139	165.85		80.35	-2.10E-03	7.14E-02	7.14E-02
+	BA-140	162.64		6.70	1.08E+00	1.29E+00	3.97E+00
		304.84		4.50	-4.75E+00		5.80E+00
		423.70		3.20	-1.67E+00		9.89E+00
		437.55		2.00	-5.36E+00		1.51E+01
		537.32		25.00	-2.92E-02		1.29E+00
+	LA-140	328.77		20.50	1.31E+00	3.76E-01	1.56E+00
		487.03		45.50	3.14E-02		6.96E-01
		815.85		23.50	1.10E-01		1.53E+00
		1596.49		95.49	-1.93E-02		3.76E-01
+	CE-141	145.44		48.40	1.30E-01	2.02E-01	2.02E-01
+	CE-143	57.36		11.80	1.22E+06	1.41E+06	3.85E+06
		293.26		42.00	4.45E+06		1.41E+06
		664.55		5.20	2.93E+06		9.00E+06
+	CE-144	133.54		10.80	3.70E-03	4.84E-01	4.84E-01
+	PM-144	476.78		42.00	4.65E-02	6.46E-02	1.59E-01
		618.01		98.60	-2.67E-03		6.46E-02
		696.49		99.49	2.52E-02		6.88E-02
+	PM-145	36.85		21.70	-1.59E-01	3.01E-01	5.67E-01
		37.36		39.70	8.06E-02		3.01E-01
		42.30		15.10	-3.14E-01		5.96E-01
		72.40		2.31	-1.38E+00		3.28E+00
+	PM-146	453.90		39.94	4.07E-02	1.48E-01	1.48E-01
		735.90		14.01	-2.60E-01		4.42E-01
		747.13		13.10	9.72E-04		5.29E-01
+	ND-147	91.11		28.90	-2.67E+00	1.69E+00	1.69E+00
		531.02		13.10	0.00E+00		3.23E+00
+	PM-149	285.90		3.10	-2.44E+04	2.72E+04	2.72E+04
+	EU-152	121.78		20.50	8.24E-03	2.28E-01	2.28E-01
		244.69		5.40	-4.40E-01		1.03E+00
		344.27		19.13	1.81E-02		2.61E-01
		778.89		9.20	-3.69E-01		6.95E-01
		964.01		10.40	2.32E-01		8.20E-01
		1085.78		7.22	1.14E-01		1.05E+00
		1112.02		9.60	-1.33E-01		8.16E-01
		1407.95		14.94	2.94E-01		5.59E-01
+	GD-153	97.43		31.30	9.03E-02	1.68E-01	1.68E-01
		103.18		22.20	6.78E-03		2.30E-01
+	EU-154	123.07		40.50	7.18E-02	1.17E-01	1.17E-01
		723.30		19.70	3.70E-02		3.28E-01
		873.19		11.50	1.50E-01		5.77E-01

Analysis Report for 1510091-05

CP1807S05-06

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	EU-154	996.32		10.30	1.48E-01	1.17E-01	7.52E-01
		1004.76		17.90	-1.70E-01		4.02E-01
		1274.45		35.50	4.93E-02		2.19E-01
+	EU-155	86.50		30.90	2.58E-01	2.20E-01	2.20E-01
		105.30		20.70	-1.99E-02		2.26E-01
+	EU-156	811.77		10.40	7.85E-01	2.85E+00	2.85E+00
		1153.47		7.20	-4.37E-01		4.52E+00
		1230.71		8.90	-1.71E-01		4.12E+00
+	HO-166M	184.41		72.60	2.08E-01	9.35E-02	9.35E-02
		280.45		29.60	-7.60E-02		1.63E-01
		410.94		11.10	2.90E-01		5.88E-01
		711.69		54.10	-1.45E-02		1.13E-01
+	TM-171	66.72		0.14	1.26E+01	4.74E+01	4.74E+01
+	HF-172	81.75		4.52	-2.85E+00	4.29E-01	1.33E+00
		125.81		11.30	-7.56E-01		4.29E-01
+	LU-172	181.53		20.60	9.96E-01	2.80E+00	6.14E+00
		810.06		16.63	1.59E+00		1.13E+01
		912.12		15.25	6.91E+01		2.39E+01
		1093.66		62.50	-6.09E-01		2.80E+00
+	LU-173	100.72		5.24	5.77E-01	2.97E-01	9.46E-01
		272.11		21.20	4.40E-01		2.97E-01
+	HF-175	343.40		84.00	2.95E-02	8.42E-02	8.42E-02
+	LU-176	88.34		13.30	6.52E-01	5.15E-02	5.12E-01
		201.83		86.00	-3.38E-02		5.77E-02
		306.78		94.00	1.60E-03		5.15E-02
+	TA-182	67.75		41.20	5.43E-02	1.87E-01	1.87E-01
		1121.30		34.90	8.67E-01		4.51E-01
		1189.05		16.23	1.19E-01		6.49E-01
		1221.41		26.98	1.08E-01		3.84E-01
		1231.02		11.44	-3.86E-02		9.32E-01
+	IR-192	308.46		29.68	1.54E-02	1.72E-01	2.19E-01
		468.07		48.10	3.38E-04		1.72E-01
+	HG-203	279.19		77.30	-1.10E-03	1.05E-01	1.05E-01
+	BI-207	569.67		97.72	2.37E-02	6.50E-02	6.50E-02
		1063.62		74.90	-1.94E-02		9.83E-02
+	TL-208	583.14	*	30.22	1.45E+00	1.31E-01	2.95E-01
		860.37		4.48	8.07E-01		1.77E+00
		2614.66	*	35.85	9.94E-01		1.31E-01
+	BI-210M	262.00		45.00	9.40E-03	1.10E-01	1.10E-01
		300.00		23.00	-7.33E-01		2.52E-01
+	PB-210	46.50		4.25	1.27E+00	1.94E+00	1.94E+00
+	PB-211	404.84		2.90	-3.99E-01	1.67E+00	1.67E+00
		831.96		2.90	1.89E-01		2.45E+00
+	BI-212	727.17	*	11.80	8.32E-01	6.72E-01	6.72E-01
		1620.62	*	2.75	1.73E+00		2.28E+00
+	PB-212	238.63	*	44.60	1.57E+00	2.84E-01	2.84E-01
		300.09	*	3.41	2.25E+00		3.35E+00
+	BI-214	609.31	*	46.30	1.54E+00	1.93E-01	1.93E-01

Analysis Report for 1510091-05

CP1807S05-06

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	BI-214	1120.29	*	15.10	1.73E+00	1.93E-01	8.40E-01
		1764.49	*	15.80	2.00E+00		4.28E-01
		2204.22		4.98	1.75E+00		2.11E+00
+	PB-214	295.21	*	19.19	1.82E+00	2.14E-01	5.87E-01
		351.92	*	37.19	1.64E+00		2.14E-01
+	RN-219	401.80		6.50	6.04E-02	7.67E-01	7.67E-01
+	RA-223	323.87		3.88	2.56E-01	1.32E+00	1.32E+00
+	RA-224	240.98	*	3.95	3.59E+00	3.20E+00	3.20E+00
+	RA-225	40.00		31.00	-5.65E-01	1.40E+00	1.40E+00
+	RA-226	186.21	*	3.28	4.26E+00	2.40E+00	2.40E+00
+	TH-227	50.10		8.40	-1.75E+00	5.64E-01	8.15E-01
		236.00		11.50	-5.45E+00		5.64E-01
		256.20		6.30	2.67E-01		8.21E-01
+	AC-228	338.32	*	11.40	1.64E+00	5.00E-01	5.56E-01
		911.07	*	27.70	1.44E+00		5.00E-01
		969.11	*	16.60	1.13E+00		5.26E-01
+	TH-230	48.44		16.90	2.36E-01	4.60E-01	4.60E-01
		62.85		4.60	2.69E+00		1.59E+00
		67.67		0.37	5.01E+00		1.72E+01
+	PA-231	283.67		1.60	5.96E-01	2.38E+00	3.08E+00
		302.67		2.30	1.31E+00		2.38E+00
+	TH-231	25.64		14.70	4.29E-01	9.91E-01	3.87E+00
		84.21		6.40	-7.66E-01		9.91E-01
+	PA-233	311.98		38.60	1.21E-02	2.78E-01	2.78E-01
+	PA-234	131.20		20.40	-7.56E-03	2.48E-01	2.48E-01
		733.99		8.80	1.68E-01		6.94E-01
		946.00		12.00	-4.03E-01		5.81E-01
+	PA-234M	1001.03	*	0.92	8.03E+00	8.02E+00	8.02E+00
+	TH-234	63.29	*	3.80	2.00E+00	2.08E+00	2.08E+00
+	U-235	143.76		10.50	-2.01E-02	4.75E-01	4.75E-01
		163.35		4.70	2.67E-01		1.04E+00
		205.31		4.70	2.10E-01		1.11E+00
+	NP-237	86.50		12.60	6.26E-01	5.32E-01	5.32E-01
+	NP-239	106.10		22.70	-1.75E+02	1.99E+03	1.99E+03
		228.18		10.70	1.94E+03		4.73E+03
		277.60		14.10	2.92E+02		3.47E+03
+	AM-241	59.54		35.90	8.62E-02	1.83E-01	1.83E-01
+	AM-243	74.67		66.00	-2.49E-01	1.36E-01	1.36E-01
+	CM-243	209.75	*	3.29	1.32E+00	4.89E-01	2.17E+00
		228.14		10.60	2.01E-01		4.89E-01
		277.60	*	14.00	3.44E-01		8.03E-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 1510091-05

CP1807S05-06

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	BE-7	477.59		10.42	9.08E-01	9.08E-01	2.46E-01	4.33E-01
	NA-22	1274.54		99.94	7.91E-02	7.91E-02	1.78E-02	3.64E-02
	NA-24	1368.53		99.99	7.60E+13	3.30E+13	2.09E+13	3.45E+13
		2754.09		99.86	3.30E+13		5.93E+11	1.17E+13
	AL-26	1808.65		99.76	4.30E-02	4.30E-02	1.51E-02	1.76E-02
+	K-40	1460.81	*	10.67	7.98E-01	7.98E-01	1.93E+01	3.67E-01
@	AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
	TI-44	67.88		94.40	6.75E-02	6.75E-02	1.96E-02	3.30E-02
		78.34		96.00	8.97E-02		3.24E-01	4.42E-02
	SC-46	889.25		99.98	8.25E-02	8.25E-02	1.31E-02	3.83E-02
		1120.51		99.99	1.66E-01		2.63E-01	7.94E-02
	V-48	983.52		99.98	2.56E-01	2.56E-01	1.43E-02	1.19E-01
		1312.10		97.50	2.98E-01		1.90E-01	1.36E-01
	CR-51	320.08		9.83	1.06E+00	1.06E+00	-3.10E-01	5.06E-01
	MN-54	834.83		99.97	7.72E-02	7.72E-02	7.35E-03	3.62E-02
	CO-56	846.75		99.96	9.07E-02	9.07E-02	6.36E-02	4.25E-02
		1037.75		14.03	5.99E-01		-8.62E-02	2.75E-01
		1238.25		67.00	2.10E-01		1.31E-01	9.93E-02
		1771.40		15.51	3.99E-01		-3.29E-02	1.67E-01
		2598.48		16.90	3.81E-01		2.54E-02	1.56E-01
	CO-57	122.06		85.51	5.91E-02	5.91E-02	2.13E-03	2.88E-02
		136.48		10.60	4.87E-01		-4.53E-02	2.37E-01
	CO-58	810.76		99.40	9.77E-02	9.77E-02	-5.23E-03	4.59E-02
	FE-59	1099.22		56.50	1.81E-01	1.81E-01	-1.30E-01	8.29E-02
		1291.56		43.20	2.75E-01		3.36E-02	1.26E-01
	CO-60	1173.22		100.00	7.69E-02	7.22E-02	-5.08E-03	3.55E-02
		1332.49		100.00	7.22E-02		2.18E-02	3.29E-02
	ZN-65	1115.52		50.75	1.66E-01	1.66E-01	-2.07E-02	7.69E-02
+	GA-67	93.31	*	35.70	1.96E+02	1.96E+02	1.79E+02	9.69E+01
		208.95	*	2.24	2.43E+03		1.47E+03	1.19E+03
		300.22	*	16.00	5.44E+02		3.65E+02	2.67E+02
	SE-75	121.11		16.70	3.39E-01	9.76E-02	1.96E-01	1.65E-01
		136.00		59.20	9.76E-02		4.04E-02	4.75E-02
		264.65		59.80	9.84E-02		1.59E-02	4.73E-02
		279.53		25.20	2.44E-01		8.97E-02	1.18E-01
		400.65		11.40	5.29E-01		-1.22E-02	2.51E-01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
RB-82	776.52	13.00	1.23E+00	1.23E+00	-3.81E-01	5.80E-01
RB-83	520.41	46.00	1.60E-01	1.60E-01	8.44E-02	7.58E-02
	529.64	30.30	2.46E-01		2.34E-02	1.17E-01
	552.65	16.40	4.92E-01		8.24E-02	2.33E-01
KR-85	513.99	0.43	2.01E+01	2.01E+01	2.68E+01	9.71E+00
SR-85	513.99	99.27	1.22E-01	1.22E-01	1.63E-01	5.89E-02
Y-88	898.02	93.40	8.50E-02	4.27E-02	4.60E-03	3.94E-02
	1836.01	99.38	4.27E-02		-1.07E-02	1.65E-02
NB-93M	16.57	9.43	6.66E+01	6.66E+01	-9.75E+01	3.11E+01
NB-94	702.63	100.00	7.62E-02	6.00E-02	6.73E-02	3.62E-02
	871.10	100.00	6.00E-02		-2.63E-02	2.78E-02
NB-95	765.79	99.81	1.50E-01	1.50E-01	4.34E-02	7.14E-02
NB-95M	235.69	25.00	1.04E+02	1.04E+02	-1.00E+03	5.06E+01
ZR-95	724.18	43.70	2.29E-01	1.80E-01	4.95E-02	1.08E-01
	756.72	55.30	1.80E-01		5.67E-02	8.49E-02
MO-99	181.06	6.20	2.08E+03	1.38E+03	-2.96E+01	1.01E+03
	739.58	12.80	1.38E+03		3.19E+02	6.52E+02
	778.00	4.50	3.73E+03		-3.59E+03	1.75E+03
RU-103	497.08	89.00	1.12E-01	1.12E-01	-9.45E-03	5.31E-02
RU-106	621.84	9.80	6.03E-01	6.03E-01	-5.00E-01	2.83E-01
AG-108M	433.93	89.90	6.16E-02	6.16E-02	3.05E-02	2.93E-02
	614.37	90.40	7.50E-02		2.14E-02	3.56E-02
	722.95	90.50	7.10E-02		7.99E-03	3.33E-02
CD-109	88.03	3.72	1.85E+00	1.85E+00	6.68E-01	9.10E-01
AG-110M	657.75	93.14	7.63E-02	7.63E-02	-3.14E-03	3.61E-02
	677.61	10.53	6.67E-01		-1.61E-01	3.15E-01
	706.67	16.46	4.59E-01		7.24E-02	2.17E-01
	763.93	21.98	3.48E-01		-3.55E-01	1.64E-01
	884.67	71.63	1.11E-01		7.86E-03	5.19E-02
	1384.27	23.94	2.93E-01		-5.87E-02	1.32E-01
CD-113M	263.70	0.02	2.14E+02	2.14E+02	1.37E+01	1.03E+02
SN-113	255.12	1.93	3.21E+00	9.10E-02	9.06E-01	1.55E+00
	391.69	64.90	9.10E-02		2.52E-03	4.32E-02
TE123M	159.00	84.10	6.98E-02	6.98E-02	1.02E-02	3.39E-02
SB-124	602.71	97.87	9.17E-02	9.17E-02	-1.23E-02	4.34E-02
	645.85	7.26	1.15E+00		-3.90E-02	5.38E-01
	722.78	11.10	8.29E-01		9.33E-02	3.89E-01
	1691.02	49.00	1.40E-01		-1.16E-02	5.90E-02
I-125	35.49	6.49	3.04E+00	3.04E+00	-7.97E-01	1.48E+00
SB-125	176.33	6.89	7.43E-01	2.01E-01	1.28E-01	3.61E-01
	427.89	29.33	2.01E-01		1.81E-02	9.58E-02
	463.38	10.35	6.90E-01		6.86E-01	3.32E-01
	600.56	17.80	3.67E-01		2.07E-01	1.74E-01
	635.90	11.32	6.03E-01		2.12E-01	2.85E-01
SB-126	414.70	83.30	4.13E-01	3.56E-01	-3.11E-01	1.98E-01
	666.33	99.60	3.88E-01		8.15E-02	1.83E-01
	695.00	99.60	3.56E-01		-1.24E-01	1.67E-01
	720.50	53.80	6.97E-01		1.88E-01	3.28E-01
SN-126	87.57	37.00	1.78E-01	1.78E-01	6.41E-02	8.74E-02
SB-127	473.00	25.00	6.67E+01	5.45E+01	1.43E+01	3.18E+01
	685.20	35.70	5.45E+01		6.09E+00	2.58E+01
	783.80	14.70	1.35E+02		1.49E+00	6.36E+01
I-129	29.78	57.00	4.62E-01	4.62E-01	4.47E-02	2.24E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	I-129	33.60		13.20	1.26E+00	4.62E-01	6.15E-01	6.12E-01
		39.58		7.52	1.38E+00		-5.54E-01	6.70E-01
	I-131	284.30		6.05	1.14E+01	8.64E-01	-1.13E+01	5.44E+00
		364.48		81.20	8.64E-01		-1.45E-02	4.11E-01
		636.97		7.26	1.37E+01		6.02E+00	6.49E+00
		722.89		1.80	5.26E+01		5.93E+00	2.47E+01
	TE-132	49.72		13.10	4.05E+02	4.50E+01	-8.70E+02	1.97E+02
		228.16		88.00	4.50E+01		1.85E+01	2.18E+01
	BA-133	81.00		33.00	1.74E-01	8.54E-02	-1.60E+00	8.51E-02
		302.84		17.80	3.10E-01		1.71E-01	1.49E-01
		356.01		60.00	8.54E-02		2.02E-02	4.08E-02
	I-133	529.87		86.30	4.69E+09	4.69E+09	4.47E+08	2.22E+09
	XE-133	81.00		38.00	9.30E+00	9.30E+00	-8.55E+01	4.56E+00
	CS-134	563.23		8.38	7.47E-01	7.60E-02	3.87E-03	3.54E-01
		569.32		15.43	4.04E-01		-5.48E-02	1.91E-01
		604.70		97.60	7.60E-02		-3.06E-03	3.62E-02
		795.84		85.40	8.78E-02		8.63E-03	4.13E-02
		801.93		8.73	7.73E-01		-8.71E-02	3.61E-01
	CS-135	268.24		16.00	3.76E-01	3.76E-01	4.00E-01	1.82E-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	3.51E+00	3.05E-01	1.73E+00	1.71E+00
		163.89		4.61	5.48E+00		1.41E+00	2.66E+00
		176.55		13.56	1.91E+00		3.29E-01	9.30E-01
		273.65		12.66	2.01E+00		-4.05E+00	9.65E-01
		340.57		48.50	7.13E-01		-1.08E-02	3.45E-01
		818.50		99.70	3.05E-01		8.25E-03	1.41E-01
		1048.07		79.60	4.48E-01		1.87E-01	2.07E-01
		1235.34		19.70	2.61E+00		-4.88E-01	1.23E+00
	CS-137	661.65		85.12	7.97E-02	7.97E-02	6.04E-03	3.77E-02
+	LA-138	788.74		34.00	2.26E-01	1.27E-01	1.99E-01	1.07E-01
		1435.80	*	66.00	1.27E-01		8.05E-02	5.86E-02
	CE-139	165.85		80.35	7.14E-02	7.14E-02	-2.10E-03	3.47E-02
	BA-140	162.64		6.70	3.97E+00	1.29E+00	1.08E+00	1.93E+00
		304.84		4.50	5.80E+00		-4.75E+00	2.78E+00
		423.70		3.20	9.89E+00		-1.67E+00	4.72E+00
		437.55		2.00	1.51E+01		-5.36E+00	7.20E+00
		537.32		25.00	1.29E+00		-2.92E-02	6.09E-01
	LA-140	328.77		20.50	1.56E+00	3.76E-01	1.31E+00	7.52E-01
		487.03		45.50	6.96E-01		3.14E-02	3.31E-01
		815.85		23.50	1.53E+00		1.10E-01	7.13E-01
		1596.49		95.49	3.76E-01		-1.93E-02	1.68E-01
	CE-141	145.44		48.40	2.02E-01	2.02E-01	1.30E-01	9.84E-02
	CE-143	57.36		11.80	3.85E+06	1.41E+06	1.22E+06	1.88E+06
		293.26		42.00	1.41E+06		4.45E+06	6.87E+05
		664.55		5.20	9.00E+06		2.93E+06	4.26E+06
	CE-144	133.54		10.80	4.84E-01	4.84E-01	3.70E-03	2.36E-01
	PM-144	476.78		42.00	1.59E-01	6.46E-02	4.65E-02	7.58E-02
		618.01		98.60	6.46E-02		-2.67E-03	3.04E-02
		696.49		99.49	6.88E-02		2.52E-02	3.24E-02
	PM-145	36.85		21.70	5.67E-01	3.01E-01	-1.59E-01	2.75E-01
		37.36		39.70	3.01E-01		8.06E-02	1.46E-01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
PM-145	42.30	15.10	5.96E-01	3.01E-01	-3.14E-01	2.90E-01
	72.40	2.31	3.28E+00		-1.38E+00	1.61E+00
PM-146	453.90	39.94	1.48E-01	1.48E-01	4.07E-02	7.05E-02
	735.90	14.01	4.42E-01		-2.60E-01	2.07E-01
	747.13	13.10	5.29E-01		9.72E-04	2.49E-01
ND-147	91.11	28.90	1.69E+00	1.69E+00	-2.67E+00	8.30E-01
	531.02	13.10	3.23E+00		0.00E+00	1.53E+00
PM-149	285.90	3.10	2.72E+04	2.72E+04	-2.44E+04	1.30E+04
EU-152	121.78	20.50	2.28E-01	2.28E-01	8.24E-03	1.11E-01
	244.69	5.40	1.03E+00		-4.40E-01	4.98E-01
	344.27	19.13	2.61E-01		1.81E-02	1.25E-01
	778.89	9.20	6.95E-01		-3.69E-01	3.25E-01
	964.01	10.40	8.20E-01		2.32E-01	3.86E-01
	1085.78	7.22	1.05E+00		1.14E-01	4.86E-01
	1112.02	9.60	8.16E-01		-1.33E-01	3.79E-01
	1407.95	14.94	5.59E-01		2.94E-01	2.57E-01
GD-153	97.43	31.30	1.68E-01	1.68E-01	9.03E-02	8.22E-02
	103.18	22.20	2.30E-01		6.78E-03	1.12E-01
EU-154	123.07	40.50	1.17E-01	1.17E-01	7.18E-02	5.69E-02
	723.30	19.70	3.28E-01		3.70E-02	1.54E-01
	873.19	11.50	5.77E-01		1.50E-01	2.68E-01
	996.32	10.30	7.52E-01		1.48E-01	3.51E-01
	1004.76	17.90	4.02E-01		-1.70E-01	1.87E-01
	1274.45	35.50	2.19E-01		4.93E-02	1.01E-01
EU-155	86.50	30.90	2.20E-01	2.20E-01	2.58E-01	1.08E-01
	105.30	20.70	2.26E-01		-1.99E-02	1.10E-01
EU-156	811.77	10.40	2.85E+00	2.85E+00	7.85E-01	1.34E+00
	1153.47	7.20	4.52E+00		-4.37E-01	2.10E+00
	1230.71	8.90	4.12E+00		-1.71E-01	1.92E+00
HO-166M	184.41	72.60	9.35E-02	9.35E-02	2.08E-01	4.57E-02
	280.45	29.60	1.63E-01		-7.60E-02	7.84E-02
	410.94	11.10	5.88E-01		2.90E-01	2.83E-01
	711.69	54.10	1.13E-01		-1.45E-02	5.30E-02
TM-171	66.72	0.14	4.74E+01	4.74E+01	1.26E+01	2.32E+01
HF-172	81.75	4.52	1.33E+00	4.29E-01	-2.85E+00	6.53E-01
	125.81	11.30	4.29E-01		-7.56E-01	2.09E-01
LU-172	181.53	20.60	6.14E+00	2.80E+00	9.96E-01	2.98E+00
	810.06	16.63	1.13E+01		1.59E+00	5.35E+00
	912.12	15.25	2.39E+01		6.91E+01	1.16E+01
	1093.66	62.50	2.80E+00		-6.09E-01	1.29E+00
LU-173	100.72	5.24	9.46E-01	2.97E-01	5.77E-01	4.61E-01
	272.11	21.20	2.97E-01		4.40E-01	1.44E-01
HF-175	343.40	84.00	8.42E-02	8.42E-02	2.95E-02	4.03E-02
LU-176	88.34	13.30	5.12E-01	5.15E-02	6.52E-01	2.52E-01
	201.83	86.00	5.77E-02		-3.38E-02	2.79E-02
	306.78	94.00	5.15E-02		1.60E-03	2.47E-02
TA-182	67.75	41.20	1.87E-01	1.87E-01	5.43E-02	9.15E-02
	1121.30	34.90	4.51E-01		8.67E-01	2.16E-01
	1189.05	16.23	6.49E-01		1.19E-01	3.03E-01
	1221.41	26.98	3.84E-01		1.08E-01	1.79E-01
	1231.02	11.44	9.32E-01		-3.86E-02	4.35E-01
IR-192	308.46	29.68	2.19E-01	1.72E-01	1.54E-02	1.05E-01
	468.07	48.10	1.72E-01		3.38E-04	8.21E-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)
	HG-203	279.19		77.30	1.05E-01	1.05E-01	-1.10E-03	5.03E-02
	BI-207	569.67		97.72	6.50E-02	6.50E-02	2.37E-02	3.09E-02
		1063.62		74.90	9.83E-02		-1.94E-02	4.56E-02
+	TL-208	583.14	*	30.22	2.95E-01	1.31E-01	1.45E+00	1.42E-01
		860.37		4.48	1.77E+00		8.07E-01	8.37E-01
		2614.66	*	35.85	1.31E-01		9.94E-01	5.30E-02
	BI-210M	262.00		45.00	1.10E-01	1.10E-01	9.40E-03	5.31E-02
		300.00		23.00	2.52E-01		-7.33E-01	1.21E-01
	PB-210	46.50		4.25	1.94E+00	1.94E+00	1.27E+00	9.48E-01
	PB-211	404.84		2.90	1.67E+00	1.67E+00	-3.99E-01	7.90E-01
		831.96		2.90	2.45E+00		1.89E-01	1.15E+00
+	BI-212	727.17	*	11.80	6.72E-01	6.72E-01	8.32E-01	3.19E-01
		1620.62	*	2.75	2.28E+00		1.73E+00	1.01E+00
+	PB-212	238.63	*	44.60	2.84E-01	2.84E-01	1.57E+00	1.40E-01
		300.09	*	3.41	3.35E+00		2.25E+00	1.64E+00
+	BI-214	609.31	*	46.30	1.93E-01	1.93E-01	1.54E+00	9.26E-02
		1120.29	*	15.10	8.40E-01		1.73E+00	4.02E-01
		1764.49	*	15.80	4.28E-01		2.00E+00	1.90E-01
		2204.22		4.98	2.11E+00		1.75E+00	9.72E-01
+	PB-214	295.21	*	19.19	5.87E-01	2.14E-01	1.82E+00	2.88E-01
		351.92	*	37.19	2.14E-01		1.64E+00	1.04E-01
	RN-219	401.80		6.50	7.67E-01	7.67E-01	6.04E-02	3.64E-01
	RA-223	323.87		3.88	1.32E+00	1.32E+00	2.56E-01	6.31E-01
+	RA-224	240.98	*	3.95	3.20E+00	3.20E+00	3.59E+00	1.58E+00
	RA-225	40.00		31.00	1.40E+00	1.40E+00	-5.65E-01	6.82E-01
+	RA-226	186.21	*	3.28	2.40E+00	2.40E+00	4.26E+00	1.18E+00
	TH-227	50.10		8.40	8.15E-01	5.64E-01	-1.75E+00	3.97E-01
		236.00		11.50	5.64E-01		-5.45E+00	2.75E-01
		256.20		6.30	8.21E-01		2.67E-01	3.96E-01
+	AC-228	338.32	*	11.40	5.56E-01	5.00E-01	1.64E+00	2.68E-01
		911.07	*	27.70	5.00E-01		1.44E+00	2.41E-01
		969.11	*	16.60	5.26E-01		1.13E+00	2.48E-01
	TH-230	48.44		16.90	4.60E-01	4.60E-01	2.36E-01	2.24E-01
		62.85		4.60	1.59E+00		2.69E+00	7.80E-01
		67.67		0.37	1.72E+01		5.01E+00	8.44E+00
	PA-231	283.67		1.60	3.08E+00	2.38E+00	5.96E-01	1.48E+00
		302.67		2.30	2.38E+00		1.31E+00	1.15E+00
	TH-231	25.64		14.70	3.87E+00	9.91E-01	4.29E-01	1.88E+00
		84.21		6.40	9.91E-01		-7.66E-01	4.86E-01
	PA-233	311.98		38.60	2.78E-01	2.78E-01	1.21E-02	1.33E-01
	PA-234	131.20		20.40	2.48E-01	2.48E-01	-7.56E-03	1.21E-01
		733.99		8.80	6.94E-01		1.68E-01	3.25E-01
		946.00		12.00	5.81E-01		-4.03E-01	2.70E-01
+	PA-234M	1001.03	*	0.92	8.02E+00	8.02E+00	8.03E+00	3.74E+00
+	TH-234	63.29	*	3.80	2.08E+00	2.08E+00	2.00E+00	1.02E+00
	U-235	143.76		10.50	4.75E-01	4.75E-01	-2.01E-02	2.31E-01
		163.35		4.70	1.04E+00		2.67E-01	5.03E-01
		205.31		4.70	1.11E+00		2.10E-01	5.38E-01
	NP-237	86.50		12.60	5.32E-01	5.32E-01	6.26E-01	2.61E-01
	NP-239	106.10		22.70	1.99E+03	1.99E+03	-1.75E+02	9.72E+02
		228.18		10.70	4.73E+03		1.94E+03	2.29E+03
		277.60		14.10	3.47E+03		2.92E+02	1.67E+03
	AM-241	59.54		35.90	1.83E-01	1.83E-01	8.62E-02	8.98E-02

Analysis Report for 1510091-05

CP1807S05-06

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	AM-243	74.67		66.00	1.36E-01	1.36E-01	-2.49E-01	6.70E-02
+	CM-243	209.75	*	3.29	2.17E+00	4.89E-01	1.32E+00	1.06E+00
		228.14		10.60	4.89E-01		2.01E-01	2.36E-01
		277.60	*	14.00	8.03E-01		3.44E-01	3.95E-01

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

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: CP1807S05-06

Elapsed Live time: 3600
Elapsed Real Time: 3601

Channel								
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	4	64	121	96	80	101	96
25:	87	95	64	91	74	77	66	88
33:	86	84	77	70	75	93	84	86
41:	76	85	104	86	88	107	176	99
49:	79	101	109	98	119	125	125	111
57:	121	131	153	142	123	149	208	309
65:	163	140	164	175	161	162	165	165
73:	194	198	495	358	530	684	165	140
81:	167	144	128	204	249	138	220	290
89:	162	213	213	161	350	252	128	94
97:	118	93	128	109	99	89	97	90
105:	99	126	100	73	101	106	89	89
113:	97	96	97	107	80	75	105	77
121:	96	101	98	89	82	94	95	99
129:	149	127	95	121	79	96	78	92
137:	93	96	85	87	103	95	82	106
145:	112	70	88	91	79	87	82	88
153:	91	102	88	82	79	82	90	77
161:	78	76	74	103	65	72	70	79
169:	81	71	79	63	72	63	77	74
177:	88	77	64	79	73	70	71	74
185:	93	224	210	90	61	84	67	75
193:	72	79	56	66	71	89	85	64
201:	64	78	61	50	82	79	67	66
209:	79	125	63	75	56	64	60	70
217:	53	69	58	54	58	48	55	49
225:	52	49	54	63	62	67	46	61
233:	59	58	63	72	73	185	726	331
241:	115	165	125	45	49	49	41	38
249:	41	42	48	42	51	54	39	53
257:	54	53	40	50	42	41	51	41
265:	43	41	41	48	58	89	88	60
273:	41	42	37	27	47	73	34	30
281:	32	52	46	34	32	35	29	52
289:	51	44	32	40	45	49	203	267
297:	83	37	34	68	79	38	35	35
305:	39	29	32	34	37	32	35	39
313:	26	33	37	24	38	39	30	33
321:	20	34	39	35	36	33	29	69
329:	58	48	29	32	36	24	32	26
337:	35	101	155	50	17	34	31	20
345:	46	37	19	33	32	33	85	406
353:	296	35	28	26	27	37	23	25
361:	24	27	17	28	27	32	24	28

369:	24	29	35	19	23	31	24	31

Sample Title: CP1807S05-06

Channel								
377:	21	26	32	28	23	34	23	19
385:	22	31	21	21	23	29	17	23
393:	31	22	22	29	29	24	25	30
401:	26	23	21	22	27	19	24	23
409:	28	47	29	26	22	32	23	31
417:	22	16	32	22	24	12	24	21
425:	25	22	28	28	14	10	23	17
433:	22	19	20	19	15	16	19	27
441:	19	23	24	16	17	23	23	13
449:	17	17	13	27	25	22	15	19
457:	20	16	21	17	14	23	46	36
465:	25	28	27	19	18	19	15	14
473:	19	23	21	31	21	16	25	15
481:	24	18	19	14	15	24	15	31
489:	14	13	19	15	20	24	13	14
497:	12	20	13	22	18	17	21	17
505:	23	13	15	21	25	65	105	71
513:	28	17	20	10	14	20	14	18
521:	13	14	12	18	7	16	16	18
529:	13	13	14	15	20	19	16	16
537:	12	22	16	17	12	13	14	26
545:	15	19	19	25	15	19	15	20
553:	21	17	11	17	12	14	14	17
561:	13	15	28	19	10	7	14	19
569:	16	21	18	11	18	17	19	18
577:	14	10	12	16	20	29	150	180
585:	45	13	14	15	14	14	13	15
593:	17	9	9	6	14	14	16	18
601:	11	20	18	12	15	10	26	38
609:	187	309	79	18	18	18	14	14
617:	17	20	11	6	9	10	11	20
625:	10	19	9	15	18	17	11	15
633:	13	16	17	8	18	17	20	15
641:	11	12	9	10	9	11	19	11
649:	10	16	7	13	14	14	12	15
657:	16	14	14	14	13	18	11	14
665:	21	18	10	15	14	11	12	18
673:	11	13	12	14	20	6	15	10
681:	14	18	15	19	10	14	14	18
689:	17	16	17	5	10	15	8	16
697:	16	10	9	13	16	19	20	20
705:	16	18	8	15	13	9	10	7
713:	10	9	17	17	6	20	6	11
721:	12	10	17	9	11	11	31	47
729:	21	12	8	8	15	11	10	9
737:	10	10	6	17	17	10	18	9
745:	16	12	14	17	9	11	14	9
753:	9	12	19	12	16	14	15	5
761:	13	12	7	13	9	17	18	21
769:	35	20	16	18	21	20	14	9
777:	5	13	15	7	9	12	14	6
785:	10	23	16	15	14	9	12	13
793:	7	10	26	22	10	7	8	10

801:	14	8	15	9	7	8	17	12

Sample Title: CP1807S05-06

Channel								
809:	9	9	14	12	19	9	11	5
817:	8	10	8	8	7	8	9	7
825:	12	7	3	10	8	10	18	9
833:	18	5	11	12	16	10	11	11
841:	13	8	10	7	13	9	17	11
849:	8	7	4	4	14	8	11	15
857:	4	7	10	24	26	21	3	9
865:	7	9	8	4	6	9	7	6
873:	10	9	8	13	9	10	7	7
881:	8	14	15	14	9	4	9	10
889:	14	3	7	9	13	14	6	6
897:	6	11	6	11	11	5	8	16
905:	17	8	15	9	13	21	83	122
913:	41	9	10	6	6	17	10	5
921:	5	3	8	3	4	6	8	10
929:	5	7	9	10	9	20	21	15
937:	11	3	9	3	16	7	7	5
945:	9	14	9	8	9	14	13	6
953:	9	11	14	7	6	11	6	10
961:	7	3	7	14	23	27	9	23
969:	59	59	19	6	10	9	6	7
977:	5	11	6	8	4	7	4	10
985:	6	7	13	10	4	8	9	9
993:	12	13	8	5	11	11	9	9
1001:	12	19	5	3	8	10	6	7
1009:	6	11	4	9	9	9	8	8
1017:	3	8	4	4	7	12	9	8
1025:	8	2	8	11	9	5	3	5
1033:	5	11	5	13	2	4	3	10
1041:	6	9	4	2	6	9	8	6
1049:	7	7	7	8	5	8	7	14
1057:	15	8	7	10	6	11	8	7
1065:	5	9	10	6	13	8	8	9
1073:	4	8	8	4	4	5	5	7
1081:	10	9	7	9	5	11	10	5
1089:	10	5	7	6	6	9	7	6
1097:	6	8	8	3	2	5	7	11
1105:	3	8	7	8	6	6	7	14
1113:	8	9	9	13	5	5	8	40
1121:	61	37	11	10	6	5	4	9
1129:	5	7	5	6	3	8	14	8
1137:	9	14	4	14	13	5	5	12
1145:	11	9	7	8	5	8	8	10
1153:	7	7	7	9	10	10	6	8
1161:	5	9	8	6	6	10	7	12
1169:	8	9	10	4	5	12	2	9
1177:	6	6	5	15	5	12	10	6
1185:	7	7	11	14	10	7	5	13
1193:	11	9	9	7	11	6	5	11
1201:	13	11	11	5	7	7	4	8
1209:	8	3	15	4	6	10	11	8
1217:	9	6	7	8	6	9	12	14
1225:	10	2	15	5	14	9	8	11

1233:	9	9	5	10	14	25	25	11

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Channel								
1241:	7	12	8	5	10	12	13	10
1249:	9	7	7	10	9	8	5	6
1257:	5	3	5	5	9	9	8	6
1265:	2	4	6	2	7	5	3	9
1273:	7	3	5	15	4	5	5	4
1281:	6	16	8	5	6	3	9	5
1289:	5	6	7	5	8	4	3	6
1297:	3	5	6	4	7	3	2	8
1305:	6	6	3	4	8	5	5	5
1313:	10	5	3	4	1	7	10	5
1321:	3	1	4	4	4	6	5	8
1329:	4	9	4	7	3	2	7	2
1337:	2	4	1	9	5	1	6	3
1345:	4	5	4	4	8	5	2	3
1353:	8	3	6	6	6	3	4	3
1361:	1	2	4	2	8	2	3	3
1369:	5	7	5	4	4	3	2	3
1377:	10	22	6	4	7	2	3	3
1385:	3	4	5	4	2	3	2	4
1393:	7	3	1	3	6	2	4	0
1401:	3	9	5	3	5	7	4	10
1409:	11	5	4	1	7	0	4	4
1417:	5	4	3	2	2	2	0	2
1425:	0	2	1	2	2	3	3	1
1433:	4	9	5	9	5	2	2	4
1441:	1	2	3	3	1	6	2	2
1449:	1	1	4	2	0	0	2	5
1457:	5	5	10	121	377	251	63	8
1465:	3	3	2	2	2	2	2	2
1473:	5	6	3	2	0	1	3	2
1481:	1	2	3	2	4	3	2	6
1489:	3	0	0	2	2	3	1	11
1497:	1	1	0	2	3	4	2	2
1505:	2	3	4	3	6	6	6	2
1513:	5	4	3	1	3	6	3	1
1521:	1	4	4	1	2	3	0	1
1529:	3	2	1	0	3	2	3	3
1537:	1	2	1	3	2	3	1	9
1545:	4	3	0	5	2	3	1	0
1553:	5	2	4	1	1	9	0	3
1561:	1	2	1	3	2	0	2	1
1569:	1	0	2	5	2	3	2	2
1577:	2	1	6	6	4	1	0	2
1585:	4	4	4	13	17	6	3	2
1593:	7	5	1	1	3	1	5	5
1601:	3	2	0	4	3	2	3	3
1609:	1	0	1	1	2	2	4	3
1617:	0	1	0	5	8	5	2	4
1625:	4	3	3	1	2	4	9	2
1633:	3	0	1	2	5	1	3	2
1641:	1	1	2	3	1	0	3	1
1649:	1	1	2	1	2	4	0	0
1657:	0	0	1	4	5	2	1	1

1665:	1	1	0	0	2	0	4	2

Sample Title: CP1807S05-06

Channel								
1673:	3	1	3	1	2	1	1	3
1681:	1	1	0	1	2	1	3	0
1689:	0	1	0	0	3	6	0	1
1697:	1	1	1	1	1	0	3	1
1705:	0	0	0	0	0	2	1	1
1713:	2	1	2	1	0	0	1	1
1721:	2	0	2	1	0	1	1	4
1729:	3	12	9	1	4	1	2	0
1737:	1	0	0	2	0	2	0	0
1745:	3	2	3	0	3	0	1	2
1753:	0	1	2	3	4	1	1	0
1761:	3	4	8	28	50	20	6	1
1769:	1	3	0	1	1	2	0	1
1777:	0	0	3	2	0	3	1	0
1785:	1	1	3	1	2	2	0	2
1793:	0	2	3	1	2	3	1	0
1801:	1	3	0	1	2	0	0	2
1809:	0	0	3	0	0	1	4	3
1817:	3	1	0	1	2	2	4	3
1825:	0	2	1	1	1	1	0	2
1833:	0	0	0	0	1	1	2	0
1841:	2	2	3	3	1	2	6	7
1849:	3	2	0	2	1	0	0	1
1857:	2	5	0	2	1	3	0	2
1865:	0	2	0	0	0	0	6	0
1873:	4	1	1	2	1	3	2	0
1881:	1	2	3	1	5	1	0	2
1889:	0	2	1	2	0	0	3	0
1897:	1	1	1	2	1	1	0	1
1905:	0	3	2	0	2	0	1	2
1913:	2	0	1	1	0	2	1	1
1921:	2	2	2	0	1	0	0	3
1929:	1	0	0	1	3	0	0	2
1937:	1	1	1	2	0	2	0	1
1945:	1	0	0	0	3	0	1	0
1953:	0	0	1	1	0	1	3	3
1961:	0	1	1	2	1	0	0	0
1969:	1	1	1	2	1	1	0	1
1977:	1	1	3	1	1	0	1	1
1985:	0	0	4	1	2	1	0	0
1993:	3	1	0	1	0	0	1	0
2001:	1	1	1	0	2	2	0	1
2009:	3	1	0	1	1	2	1	1
2017:	1	1	0	1	3	1	2	0
2025:	0	1	2	0	2	2	2	0
2033:	0	2	0	0	1	0	0	2
2041:	1	1	0	0	0	0	1	0
2049:	0	1	3	2	4	1	0	1
2057:	1	1	1	3	2	3	0	2
2065:	0	1	0	0	1	1	1	0
2073:	1	2	4	0	2	1	0	1
2081:	3	1	0	1	1	0	1	0
2089:	0	2	1	1	0	3	0	0

2097:	1	3	0	0	2	4	6	5

Sample Title: CP1807S05-06

Channel								
2105:	5	3	1	1	0	2	0	0
2113:	1	2	1	2	3	2	2	4
2121:	0	0	2	1	1	2	2	0
2129:	0	2	1	0	0	1	3	1
2137:	2	1	2	3	0	1	2	1
2145:	0	0	1	4	1	0	0	1
2153:	1	0	1	0	1	2	1	1
2161:	1	2	0	1	0	0	0	2
2169:	0	0	1	0	1	1	2	2
2177:	0	1	1	0	0	0	1	2
2185:	1	2	0	0	0	0	0	3
2193:	0	0	1	1	1	0	1	1
2201:	2	4	4	13	10	6	2	2
2209:	3	3	0	1	0	1	0	2
2217:	1	1	1	0	1	2	2	1
2225:	1	0	1	3	1	2	4	1
2233:	1	0	0	2	1	1	1	2
2241:	2	2	1	2	0	0	0	1
2249:	3	0	0	2	0	2	4	2
2257:	2	0	1	0	2	0	2	4
2265:	1	5	1	2	3	1	2	3
2273:	0	0	4	0	3	1	1	1
2281:	2	0	0	0	2	2	1	1
2289:	1	1	1	1	3	1	0	1
2297:	0	0	1	1	2	0	0	3
2305:	1	0	1	2	2	0	3	0
2313:	1	0	0	2	2	4	4	2
2321:	2	0	0	1	4	1	3	2
2329:	0	2	0	1	0	1	0	0
2337:	1	4	0	3	1	3	3	3
2345:	4	5	1	2	0	1	0	2
2353:	2	2	1	0	2	1	1	0
2361:	2	1	1	1	0	3	1	1
2369:	0	3	2	1	0	0	2	1
2377:	1	1	0	0	4	1	0	1
2385:	0	0	4	0	2	0	0	2
2393:	2	1	0	0	0	2	0	2
2401:	1	1	0	0	2	1	1	3
2409:	0	1	0	2	0	1	1	1
2417:	1	0	1	0	0	1	1	1
2425:	1	1	1	2	1	1	1	0
2433:	1	0	1	0	2	0	2	2
2441:	1	0	1	0	0	0	0	3
2449:	2	1	1	2	1	1	2	1
2457:	3	2	3	1	0	4	1	1
2465:	0	1	0	0	0	0	0	0
2473:	1	0	0	0	1	1	0	1
2481:	1	1	1	1	1	0	0	0
2489:	1	0	1	0	0	1	1	1
2497:	1	0	1	1	1	0	1	2
2505:	1	1	0	0	1	0	1	0
2513:	1	1	0	1	0	2	0	0
2521:	0	1	0	0	1	1	0	0

2529:	0	0	0	1	1	1	0	0

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Channel								
2537:	0	0	0	0	1	0	0	1
2545:	0	0	0	0	1	0	0	2
2553:	1	0	0	0	0	2	2	0
2561:	0	0	0	0	2	0	0	0
2569:	3	0	0	0	1	0	0	1
2577:	3	1	0	0	0	0	0	0
2585:	0	0	0	0	0	0	2	0
2593:	0	0	1	0	1	1	0	0
2601:	1	3	0	1	1	0	0	0
2609:	1	0	1	4	14	35	39	19
2617:	2	1	0	0	0	0	0	0
2625:	0	1	0	2	0	0	0	0
2633:	0	1	0	1	0	0	1	0
2641:	0	1	0	0	0	0	1	1
2649:	0	2	0	0	0	0	0	0
2657:	2	1	0	0	0	0	1	0
2665:	0	0	0	0	0	0	1	1
2673:	0	0	2	1	0	1	0	0
2681:	1	0	0	0	0	1	0	2
2689:	0	0	0	1	0	0	0	0
2697:	1	1	0	1	0	0	0	1
2705:	0	0	0	0	1	1	0	0
2713:	0	0	0	1	0	0	0	0
2721:	1	0	1	0	1	1	0	1
2729:	0	0	0	0	0	0	0	0
2737:	0	0	0	1	0	1	1	0
2745:	1	0	0	0	1	0	0	0
2753:	0	0	0	1	0	0	1	0
2761:	1	2	1	0	2	0	0	2
2769:	0	0	0	0	0	0	0	0
2777:	0	1	0	0	0	0	1	0
2785:	0	1	0	0	1	0	0	0
2793:	0	1	0	1	1	0	0	0
2801:	0	1	1	0	0	0	0	0
2809:	0	0	1	0	0	0	1	0
2817:	0	0	1	0	0	0	0	0
2825:	0	1	0	0	2	0	1	0
2833:	0	2	0	0	0	0	0	0
2841:	0	1	0	0	1	0	1	0
2849:	0	1	0	0	0	0	0	0
2857:	0	1	0	0	1	0	0	0
2865:	0	0	0	0	1	1	0	0
2873:	0	0	0	0	0	1	0	0
2881:	0	1	1	0	0	0	0	0
2889:	0	0	1	2	0	0	1	0
2897:	0	0	0	1	0	0	0	0
2905:	0	0	0	0	0	0	0	0
2913:	0	0	0	0	0	0	0	1
2921:	0	0	1	1	1	0	0	0
2929:	0	0	0	1	0	0	1	0
2937:	0	0	0	0	0	0	0	1
2945:	0	0	1	0	0	0	0	0
2953:	0	0	0	0	1	0	0	0

2961:	0	0	0	1	0	0	0	1

Sample Title: CP1807S05-06

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

Sample Title: CP1807S05-06

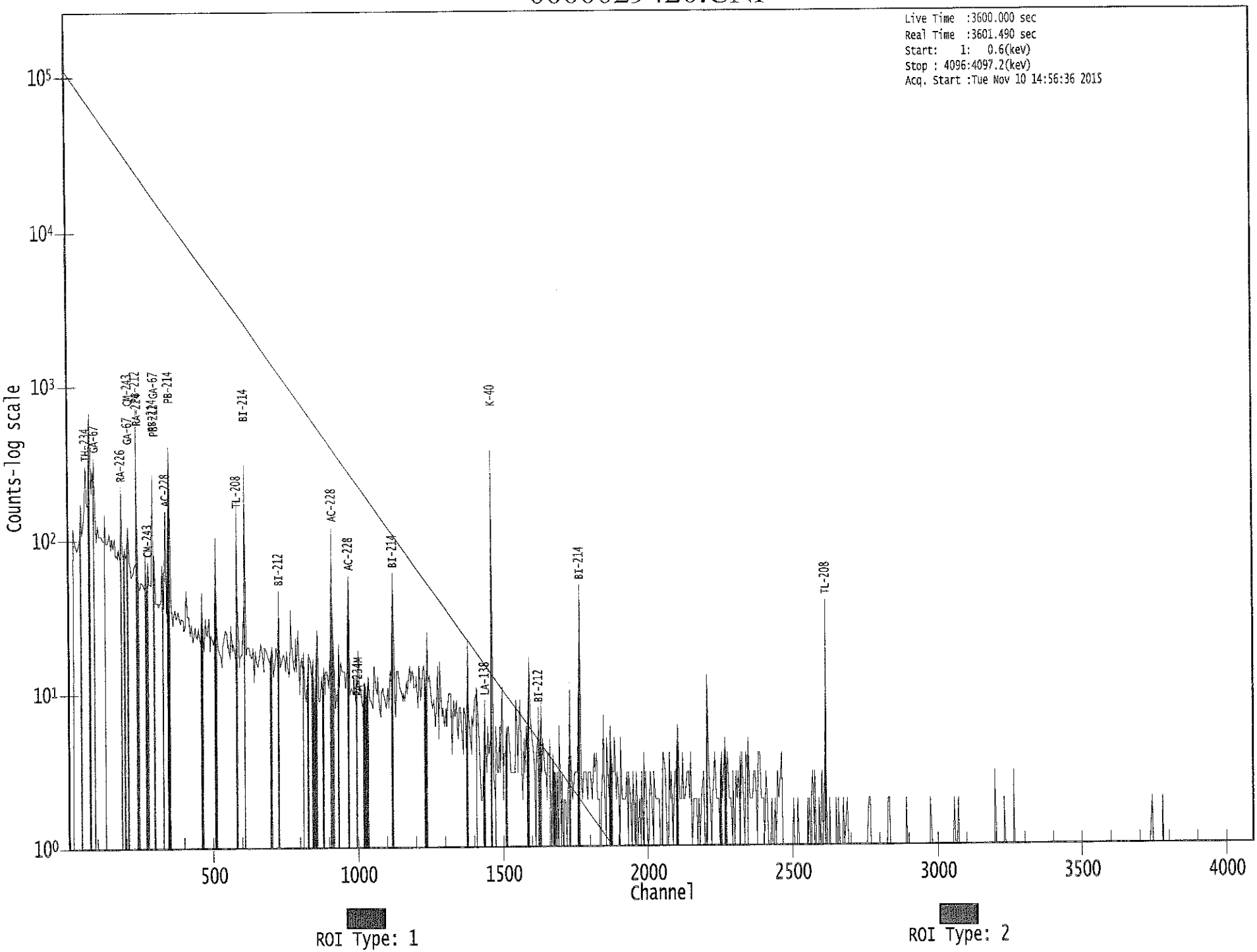
Channel								
3401:	0	0	0	0	0	0	1	0
3409:	0	0	0	0	0	0	0	0
3417:	0	0	0	0	0	0	0	0
3425:	0	0	0	0	1	0	0	0
3433:	0	0	0	0	0	0	0	0
3441:	0	0	0	0	1	0	0	1
3449:	0	0	0	0	0	0	1	0
3457:	1	0	0	0	0	0	0	0
3465:	0	0	0	0	0	0	0	1
3473:	1	0	1	1	0	0	0	0
3481:	0	0	0	0	0	1	0	0
3489:	0	0	0	0	0	0	0	0
3497:	0	0	0	0	0	0	0	0
3505:	0	0	0	1	0	0	0	1
3513:	0	0	0	0	0	0	0	1
3521:	0	0	1	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	1	0	0
3553:	0	0	0	0	0	1	0	0
3561:	0	0	0	0	0	0	0	0
3569:	0	0	0	0	0	0	0	0
3577:	1	0	0	0	0	0	0	0
3585:	0	0	0	0	0	0	0	0
3593:	0	0	1	0	0	0	0	0
3601:	0	0	0	0	0	0	0	0
3609:	0	0	0	0	0	0	0	1
3617:	0	0	0	0	0	0	0	0
3625:	0	0	0	0	0	0	0	1
3633:	0	1	0	0	0	0	0	1
3641:	0	0	0	0	0	0	0	0
3649:	0	0	1	0	0	0	0	0
3657:	0	1	0	0	0	0	0	0
3665:	0	0	0	1	0	0	0	0
3673:	0	0	0	0	0	1	0	1
3681:	0	1	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	1	0	0	0	0	0	1
3713:	0	0	1	0	0	0	0	0
3721:	0	0	0	0	0	0	1	1
3729:	0	0	0	0	0	0	1	0
3737:	1	0	0	0	0	0	2	0
3745:	0	0	0	0	0	1	0	0
3753:	0	0	0	0	1	0	0	0
3761:	1	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0
3777:	0	2	0	0	1	0	0	0
3785:	0	0	0	0	0	0	0	0
3793:	0	0	0	1	0	1	0	0
3801:	0	0	0	0	0	0	0	1
3809:	0	0	0	0	0	0	0	0
3817:	0	1	0	0	1	0	1	1

3825:	0	0	1	0	0	0	1	0

Sample Title: CP1807S05-06

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

0000029420.CNF



KB 11/10/15

Apex-Gamma

Analysis Report for 1510091-06
CP1807S08-09

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1510091-06
Sample Description	: CP1807S08-09
Sample Type	: SOIL
Sample Size	: 5.604E+02 grams
Facility	: Countroom
Sample Taken On	: 10/10/2015 10:13:31AM
Acquisition Started	: 11/10/2015 3:05:39PM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE3
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3616.1 seconds
Dead Time	: 0.44 %
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	: 29435

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG 11/11/15

Analysis Report for 1510091-06

CP1807S08-09

PEAK LOCATE REPORT

Peak Locate Performed on : 11/10/2015 4:19:36PM
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	23.14	23.39	0.0000	0.00
2	46.76	46.99	0.0000	0.00
3	62.83	63.06	0.0000	0.00
4	76.38	76.59	0.0000	0.00
5	89.47	89.68	0.0000	0.00
6	93.10	93.31	0.0000	0.00
7	99.63	99.84	0.0000	0.00
8	186.76	186.92	0.0000	0.00
9	238.88	239.01	0.0000	0.00
10	242.02	242.15	0.0000	0.00
11	270.33	270.44	0.0000	0.00
12	295.49	295.59	0.0000	0.00
13	338.80	338.87	0.0000	0.00
14	352.14	352.21	0.0000	0.00
15	409.25	409.29	0.0000	0.00
16	463.85	463.87	0.0000	0.00
17	480.13	480.13	0.0000	0.00
18	510.88	510.87	0.0000	0.00
19	583.60	583.55	0.0000	0.00
20	609.66	609.60	0.0000	0.00
21	727.60	727.49	0.0000	0.00
22	768.92	768.79	0.0000	0.00
23	776.13	776.00	0.0000	0.00
24	795.78	795.63	0.0000	0.00
25	860.60	860.43	0.0000	0.00
26	873.80	873.63	0.0000	0.00
27	895.51	895.32	0.0000	0.00
28	911.51	911.31	0.0000	0.00
29	965.44	965.22	0.0000	0.00
30	969.05	968.83	0.0000	0.00
31	1120.45	1120.16	0.0000	0.00
32	1220.03	1219.70	0.0000	0.00
33	1238.25	1237.91	0.0000	0.00
34	1331.93	1331.56	0.0000	0.00
35	1378.27	1377.88	0.0000	0.00
36	1382.89	1382.50	0.0000	0.00
37	1399.70	1399.31	0.0000	0.00
38	1407.81	1407.41	0.0000	0.00
39	1461.18	1460.76	0.0000	0.00
40	1537.18	1536.73	0.0000	0.00
41	1648.93	1648.44	0.0000	0.00
42	1729.00	1728.48	0.0000	0.00

Analysis Report for 1510091-06

CP1807S08-09

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1764.68	1764.15	0.0000	0.00
44	1990.79	1990.18	0.0000	0.00
45	2103.88	2103.24	0.0000	0.00
46	2119.00	2118.36	0.0000	0.00
47	2327.40	2326.70	0.0000	0.00
48	2614.80	2614.02	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510091-06

CP1807S08-09

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 4:19:36PM

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	23.14	20	28	23.39	1.07E+02	96.20	1.37E+03	2.75
	2	46.76	44	50	46.99	1.38E+02	87.64	1.30E+03	1.46
	3	62.83	59	66	63.06	2.01E+02	114.40	2.05E+03	2.09
	4	76.38	71	82	76.59	1.31E+03	171.31	2.99E+03	3.83
m	5	89.47	83	97	89.68	1.81E+02	85.42	1.13E+03	1.86
m	6	93.10	83	97	93.31	3.04E+02	83.95	1.02E+03	1.86
	7	99.63	98	103	99.84	6.89E+01	69.33	9.02E+02	1.83
	8	186.76	182	192	186.92	2.41E+02	97.47	1.12E+03	1.96
M	9	238.88	235	246	239.01	9.06E+02	75.34	4.40E+02	1.62
m	10	242.02	235	246	242.15	1.87E+02	78.31	4.58E+02	1.87
	11	270.33	267	274	270.44	6.89E+01	58.03	5.14E+02	1.99
	12	295.49	292	299	295.59	2.78E+02	60.56	4.30E+02	1.94
	13	338.80	334	343	338.87	1.42E+02	66.16	5.43E+02	1.51
	14	352.14	348	356	352.21	4.28E+02	66.63	4.23E+02	1.89
	15	409.25	407	412	409.29	3.32E+01	32.20	1.78E+02	2.03
	16	463.85	460	467	463.87	3.76E+01	38.99	2.21E+02	1.78
	17	480.13	477	485	480.13	3.31E+01	37.83	2.04E+02	3.23
	18	510.88	506	515	510.87	1.48E+02	47.28	2.34E+02	1.82
	19	583.60	580	589	583.55	2.39E+02	48.20	1.96E+02	2.04
	20	609.66	605	614	609.60	3.44E+02	49.92	1.57E+02	2.08
	21	727.60	724	733	727.49	4.45E+01	39.90	2.07E+02	1.83
M	22	768.92	762	779	768.79	4.51E+01	26.87	8.46E+01	2.30
m	23	776.13	762	779	776.00	1.57E+01	19.87	4.84E+01	2.10
	24	795.78	791	800	795.63	3.85E+01	30.71	1.07E+02	2.11
	25	860.60	857	863	860.43	4.58E+01	23.77	6.85E+01	2.07
	26	873.80	871	876	873.63	2.30E+01	15.56	3.00E+01	3.77
	27	895.51	893	897	895.32	1.20E+01	16.09	4.60E+01	1.90
	28	911.51	906	915	911.31	1.25E+02	40.25	1.60E+02	1.76
M	29	965.44	962	972	965.22	2.42E+01	25.01	7.70E+01	2.42
m	30	969.05	962	972	968.83	9.37E+01	29.42	7.70E+01	2.42
	31	1120.45	1115	1126	1120.16	9.38E+01	35.16	1.06E+02	2.50
	32	1220.03	1215	1225	1219.70	3.50E+01	31.74	1.16E+02	2.49
	33	1238.25	1235	1241	1237.91	2.00E+01	22.03	7.40E+01	2.45
	34	1331.93	1328	1335	1331.56	2.18E+01	15.49	2.84E+01	2.07
M	35	1378.27	1373	1396	1377.88	2.53E+01	16.90	3.57E+01	2.88
m	36	1382.89	1373	1396	1382.50	1.45E+01	16.90	2.08E+01	2.88
	37	1399.70	1397	1402	1399.31	8.75E+00	9.11	1.05E+01	3.30
	38	1407.81	1403	1415	1407.41	2.17E+01	18.95	3.06E+01	6.94
	39	1461.18	1457	1466	1460.76	4.92E+02	45.55	1.62E+01	2.06
	40	1537.18	1533	1539	1536.73	1.00E+01	9.84	1.00E+01	3.64

Analysis Report for 1510091-06

CP1807S08-09

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1648.93	1645 -	1651	1648.44	9.00E+00	6.00	0.00E+00	3.73
42	1729.00	1724 -	1731	1728.48	9.71E+00	11.49	1.46E+01	2.56
43	1764.68	1759 -	1767	1764.15	4.65E+01	15.64	9.00E+00	1.81
44	1990.79	1985 -	1994	1990.18	1.10E+01	6.63	0.00E+00	4.72
45	2103.88	2099 -	2108	2103.24	1.69E+01	10.05	4.16E+00	1.87
46	2119.00	2114 -	2123	2118.36	1.40E+01	7.48	0.00E+00	2.48
47	2327.40	2323 -	2328	2326.70	4.71E+00	6.78	4.57E+00	1.24
48	2614.80	2609 -	2618	2614.02	7.15E+01	17.92	4.95E+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 : 11/10/2015 4:19:36PM

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	23.14	20 -	28	1.07E+02	96.20	1.37E+03	7.72E+01
	2	46.76	44 -	50	1.38E+02	87.64	1.30E+03	6.94E+01
	3	62.83	59 -	66	2.01E+02	114.40	2.05E+03	9.11E+01
	4	76.38	71 -	82	1.31E+03	171.31	2.99E+03	8.20E+01
m	5	89.47	83 -	97	1.81E+02	85.42	1.13E+03	5.54E+01
m	6	93.10	83 -	97	3.04E+02	83.95	1.02E+03	5.25E+01
	7	99.63	98 -	103	6.89E+01	69.33	9.02E+02	5.53E+01
	8	186.76	182 -	192	2.41E+02	97.47	1.12E+03	7.60E+01
M	9	238.88	235 -	246	9.06E+02	75.34	4.40E+02	3.45E+01
m	10	242.02	235 -	246	1.87E+02	78.31	4.58E+02	3.52E+01
	11	270.33	267 -	274	6.89E+01	58.03	5.14E+02	4.57E+01
	12	295.49	292 -	299	2.78E+02	60.56	4.30E+02	4.16E+01
	13	338.80	334 -	343	1.42E+02	66.16	5.43E+02	5.07E+01
	14	352.14	348 -	356	4.28E+02	66.63	4.23E+02	4.29E+01
	15	409.25	407 -	412	3.32E+01	32.20	1.78E+02	2.47E+01
	16	463.85	460 -	467	3.76E+01	38.99	2.21E+02	3.04E+01
	17	480.13	477 -	485	3.31E+01	37.83	2.04E+02	2.96E+01
	18	510.88	506 -	515	1.48E+02	47.28	2.34E+02	3.33E+01
	19	583.60	580 -	589	2.39E+02	48.20	1.96E+02	3.04E+01

Analysis Report for 1510091-06

CP1807S08-09

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	20	609.66	605 -	614	3.44E+02	49.92	1.57E+02	2.74E+01
	21	727.60	724 -	733	4.45E+01	39.90	2.07E+02	3.09E+01
M	22	768.92	762 -	779	4.51E+01	26.87	8.46E+01	1.51E+01
m	23	776.13	762 -	779	1.57E+01	19.87	4.84E+01	1.14E+01
	24	795.78	791 -	800	3.85E+01	30.71	1.07E+02	2.31E+01
	25	860.60	857 -	863	4.58E+01	23.77	6.85E+01	1.61E+01
	26	873.80	871 -	876	2.30E+01	15.56	3.00E+01	1.01E+01
	27	895.51	893 -	897	1.20E+01	16.09	4.60E+01	1.19E+01
	28	911.51	906 -	915	1.25E+02	40.25	1.60E+02	2.75E+01
M	29	965.44	962 -	972	2.42E+01	25.01	7.70E+01	1.44E+01
m	30	969.05	962 -	972	9.37E+01	29.42	7.70E+01	1.44E+01
	31	1120.45	1115 -	1126	9.38E+01	35.16	1.06E+02	2.41E+01
	32	1220.03	1215 -	1225	3.50E+01	31.74	1.16E+02	2.42E+01
	33	1238.25	1235 -	1241	2.00E+01	22.03	7.40E+01	1.65E+01
	34	1331.93	1328 -	1335	2.18E+01	15.49	2.84E+01	1.61E+01
M	35	1378.27	1373 -	1396	2.53E+01	16.90	3.57E+01	9.82E+00
m	36	1382.89	1373 -	1396	1.45E+01	16.90	2.08E+01	7.50E+00
	37	1399.70	1397 -	1402	8.75E+00	9.11	1.05E+01	5.70E+00
	38	1407.81	1403 -	1415	2.17E+01	18.95	3.06E+01	1.36E+01
	39	1461.18	1457 -	1466	4.92E+02	45.55	1.62E+01	8.52E+00
	40	1537.18	1533 -	1539	1.00E+01	9.84	1.00E+01	6.19E+00
	41	1648.93	1645 -	1651	9.00E+00	6.00	0.00E+00	0.00E+00
	42	1729.00	1724 -	1731	9.71E+00	11.49	1.46E+01	7.93E+00
	43	1764.68	1759 -	1767	4.65E+01	15.64	9.00E+00	6.29E+00
	44	1990.79	1985 -	1994	1.10E+01	6.63	0.00E+00	0.00E+00
	45	2103.88	2099 -	2108	1.69E+01	10.05	4.16E+00	4.74E+00
	46	2119.00	2114 -	2123	1.40E+01	7.48	0.00E+00	0.00E+00
	47	2327.40	2323 -	2328	4.71E+00	6.78	4.57E+00	4.28E+00
	48	2614.80	2609 -	2618	7.15E+01	17.92	4.95E+00	4.86E+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 : 11/10/2015 4:19:36PM

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

Analysis Report for 1510091-06

CP1807S08-09

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	1	23.14	20 -	28	23.39	1.07E+02	96.20	1.37E+03	.....
	2	46.76	44 -	50	46.99	1.38E+02	87.64	1.30E+03	PB-210
	3	62.83	59 -	66	63.06	2.01E+02	114.40	2.05E+03	TH-230
									TH-234
	4	76.38	71 -	82	76.59	1.31E+03	171.31	2.99E+03	.....
m	5	89.47	83 -	97	89.68	1.81E+02	85.42	1.13E+03	.....
m	6	93.10	83 -	97	93.31	3.04E+02	83.95	1.02E+03	GA-67
	7	99.63	98 -	103	99.84	6.89E+01	69.33	9.02E+02	.....
	8	186.76	182 -	192	186.92	2.41E+02	97.47	1.12E+03	RA-226
M	9	238.88	235 -	246	239.01	9.06E+02	75.34	4.40E+02	PB-212
m	10	242.02	235 -	246	242.15	1.87E+02	78.31	4.58E+02	.....
	11	270.33	267 -	274	270.44	6.89E+01	58.03	5.14E+02	.....
	12	295.49	292 -	299	295.59	2.78E+02	60.56	4.30E+02	PB-214
	13	338.80	334 -	343	338.87	1.42E+02	66.16	5.43E+02	AC-228
	14	352.14	348 -	356	352.21	4.28E+02	66.63	4.23E+02	PB-214
	15	409.25	407 -	412	409.29	3.32E+01	32.20	1.78E+02	.....
	16	463.85	460 -	467	463.87	3.76E+01	38.99	2.21E+02	SB-125
	17	480.13	477 -	485	480.13	3.31E+01	37.83	2.04E+02	.....
	18	510.88	506 -	515	510.87	1.48E+02	47.28	2.34E+02	.....
	19	583.60	580 -	589	583.55	2.39E+02	48.20	1.96E+02	TL-208
	20	609.66	605 -	614	609.60	3.44E+02	49.92	1.57E+02	BI-214
	21	727.60	724 -	733	727.49	4.45E+01	39.90	2.07E+02	BI-212
M	22	768.92	762 -	779	768.79	4.51E+01	26.87	8.46E+01	.....
m	23	776.13	762 -	779	776.00	1.57E+01	19.87	4.84E+01	RB-82
	24	795.78	791 -	800	795.63	3.85E+01	30.71	1.07E+02	CS-134
	25	860.60	857 -	863	860.43	4.58E+01	23.77	6.85E+01	TL-208
	26	873.80	871 -	876	873.63	2.30E+01	15.56	3.00E+01	EU-154
	27	895.51	893 -	897	895.32	1.20E+01	16.09	4.60E+01	.....
	28	911.51	906 -	915	911.31	1.25E+02	40.25	1.60E+02	AC-228
									LU-172
M	29	965.44	962 -	972	965.22	2.42E+01	25.01	7.70E+01	.....
m	30	969.05	962 -	972	968.83	9.37E+01	29.42	7.70E+01	AC-228
	31	1120.45	1115 -	1126	1120.16	9.38E+01	35.16	1.06E+02	SC-46
									BI-214
									TA-182
	32	1220.03	1215 -	1225	1219.70	3.50E+01	31.74	1.16E+02	.....
	33	1238.25	1235 -	1241	1237.91	2.00E+01	22.03	7.40E+01	CO-56
	34	1331.93	1328 -	1335	1331.56	2.18E+01	15.49	2.84E+01	CO-60
M	35	1378.27	1373 -	1396	1377.88	2.53E+01	16.90	3.57E+01	.....
m	36	1382.89	1373 -	1396	1382.50	1.45E+01	16.90	2.08E+01	.....
	37	1399.70	1397 -	1402	1399.31	8.75E+00	9.11	1.05E+01	.....
	38	1407.81	1403 -	1415	1407.41	2.17E+01	18.95	3.06E+01	EU-152
	39	1461.18	1457 -	1466	1460.76	4.92E+02	45.55	1.62E+01	K-40
	40	1537.18	1533 -	1539	1536.73	1.00E+01	9.84	1.00E+01	.....
	41	1648.93	1645 -	1651	1648.44	9.00E+00	6.00	0.00E+00	.....
	42	1729.00	1724 -	1731	1728.48	9.71E+00	11.49	1.46E+01	.....
	43	1764.68	1759 -	1767	1764.15	4.65E+01	15.64	9.00E+00	BI-214
	44	1990.79	1985 -	1994	1990.18	1.10E+01	6.63	0.00E+00	.....
	45	2103.88	2099 -	2108	2103.24	1.69E+01	10.05	4.16E+00	.....
	46	2119.00	2114 -	2123	2118.36	1.40E+01	7.48	0.00E+00	.....
	47	2327.40	2323 -	2328	2326.70	4.71E+00	6.78	4.57E+00	.....

Analysis Report for 1510091-06

CP1807S08-09

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
48	2614.80	2609 -	2618	2614.02	7.15E+01	17.92	4.95E+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 : 11/10/2015 4:19:36PM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	23.14	1.07E+02	96.20	1.53E-03	1.58E-03
	2	46.76	1.38E+02	87.64	1.52E-02	1.58E-03
	3	62.83	2.01E+02	114.40	2.15E-02	1.69E-03
	4	76.38	1.31E+03	171.31	2.38E-02	2.14E-03
m	5	89.47	1.81E+02	85.42	2.44E-02	2.49E-03
m	6	93.10	3.04E+02	83.95	2.44E-02	2.41E-03
	7	99.63	6.89E+01	69.33	2.43E-02	2.25E-03
	8	186.76	2.41E+02	97.47	1.82E-02	1.42E-03
M	9	238.88	9.06E+02	75.34	1.52E-02	1.18E-03
m	10	242.02	1.87E+02	78.31	1.51E-02	1.17E-03
	11	270.33	6.89E+01	58.03	1.38E-02	1.04E-03
	12	295.49	2.78E+02	60.56	1.28E-02	9.74E-04
	13	338.80	1.42E+02	66.16	1.14E-02	9.12E-04
	14	352.14	4.28E+02	66.63	1.11E-02	8.93E-04
	15	409.25	3.32E+01	32.20	9.72E-03	8.20E-04
	16	463.85	3.76E+01	38.99	8.72E-03	7.65E-04
	17	480.13	3.31E+01	37.83	8.46E-03	7.49E-04
	18	510.88	1.48E+02	47.28	8.01E-03	7.18E-04
	19	583.60	2.39E+02	48.20	7.13E-03	6.46E-04
	20	609.66	3.44E+02	49.92	6.87E-03	6.20E-04
	21	727.60	4.45E+01	39.90	5.89E-03	5.14E-04
M	22	768.92	4.51E+01	26.87	5.61E-03	4.80E-04
m	23	776.13	1.57E+01	19.87	5.57E-03	4.74E-04
	24	795.78	3.85E+01	30.71	5.45E-03	4.58E-04
	25	860.60	4.58E+01	23.77	5.09E-03	4.05E-04
	26	873.80	2.30E+01	15.56	5.03E-03	3.94E-04
	27	895.51	1.20E+01	16.09	4.92E-03	3.77E-04
	28	911.51	1.25E+02	40.25	4.85E-03	3.72E-04
M	29	965.44	2.42E+01	25.01	4.62E-03	3.62E-04

Analysis Report for 1510091-06

CP1807S08-09

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
m	30	969.05	9.37E+01	29.42	4.60E-03	3.61E-04
	31	1120.45	9.38E+01	35.16	4.08E-03	3.33E-04
	32	1220.03	3.50E+01	31.74	3.80E-03	3.13E-04
	33	1238.25	2.00E+01	22.03	3.76E-03	3.09E-04
	34	1331.93	2.18E+01	15.49	3.54E-03	2.89E-04
M	35	1378.27	2.53E+01	16.90	3.45E-03	2.82E-04
m	36	1382.89	1.45E+01	16.90	3.44E-03	2.81E-04
	37	1399.70	8.75E+00	9.11	3.40E-03	2.78E-04
	38	1407.81	2.17E+01	18.95	3.39E-03	2.77E-04
	39	1461.18	4.92E+02	45.55	3.29E-03	2.69E-04
	40	1537.18	1.00E+01	9.84	3.17E-03	2.58E-04
	41	1648.93	9.00E+00	6.00	3.00E-03	2.41E-04
	42	1729.00	9.71E+00	11.49	2.90E-03	2.29E-04
	43	1764.68	4.65E+01	15.64	2.86E-03	2.24E-04
	44	1990.79	1.10E+01	6.63	2.63E-03	2.13E-04
	45	2103.88	1.69E+01	10.05	2.54E-03	2.13E-04
	46	2119.00	1.40E+01	7.48	2.52E-03	2.13E-04
	47	2327.40	4.71E+00	6.78	2.38E-03	2.13E-04
	48	2614.80	7.15E+01	17.92	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 : 11/10/2015 4:19:36PM

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	23.14	1.07E+02	96.20	2.42E+01	1.14E+01	8.24E+01	9.69E+01
	2	46.76	1.38E+02	87.64	5.28E+01	1.09E+01	8.53E+01	8.83E+01
	3	62.83	2.01E+02	114.40	5.52E+01	2.05E+01	1.46E+02	1.16E+02
	4	76.38	1.31E+03	171.31			1.31E+03	1.71E+02
m	5	89.47	1.81E+02	85.42			1.81E+02	8.54E+01
m	6	93.10	3.04E+02	83.95	9.04E+01	2.62E+01	2.14E+02	8.79E+01
	7	99.63	6.89E+01	69.33			6.89E+01	6.93E+01
	8	186.76	2.41E+02	97.47	3.93E+01	6.56E+00	2.01E+02	9.77E+01
M	9	238.88	9.06E+02	75.34	1.34E+01	2.14E+00	8.93E+02	7.54E+01
m	10	242.02	1.87E+02	78.31	2.69E+00	1.46E+00	1.85E+02	7.83E+01
	11	270.33	6.89E+01	58.03			6.89E+01	5.80E+01

Analysis Report for 1510091-06

CP1807S08-09

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	12	295.49	2.78E+02	60.56			2.78E+02	6.06E+01
	13	338.80	1.42E+02	66.16			1.42E+02	6.62E+01
	14	352.14	4.28E+02	66.63	3.99E+00	4.73E+00	4.24E+02	6.68E+01
	15	409.25	3.32E+01	32.20			3.32E+01	3.22E+01
	16	463.85	3.76E+01	38.99			3.76E+01	3.90E+01
	17	480.13	3.31E+01	37.83			3.31E+01	3.78E+01
	18	510.88	1.48E+02	47.28	5.78E+01	4.60E+00	9.03E+01	4.75E+01
	19	583.60	2.39E+02	48.20	5.96E+00	3.46E+00	2.33E+02	4.83E+01
	20	609.66	3.44E+02	49.92	6.71E+00	3.44E+00	3.38E+02	5.00E+01
	21	727.60	4.45E+01	39.90			4.45E+01	3.99E+01
M	22	768.92	4.51E+01	26.87			4.51E+01	2.69E+01
m	23	776.13	1.57E+01	19.87			1.57E+01	1.99E+01
	24	795.78	3.85E+01	30.71			3.85E+01	3.07E+01
	25	860.60	4.58E+01	23.77			4.58E+01	2.38E+01
	26	873.80	2.30E+01	15.56			2.30E+01	1.56E+01
	27	895.51	1.20E+01	16.09			1.20E+01	1.61E+01
	28	911.51	1.25E+02	40.25	2.32E+00	2.73E+00	1.23E+02	4.03E+01
M	29	965.44	2.42E+01	25.01			2.42E+01	2.50E+01
m	30	969.05	9.37E+01	29.42			9.37E+01	2.94E+01
	31	1120.45	9.38E+01	35.16	2.00E+00	2.20E+00	9.18E+01	3.52E+01
	32	1220.03	3.50E+01	31.74			3.50E+01	3.17E+01
	33	1238.25	2.00E+01	22.03			2.00E+01	2.20E+01
	34	1331.93	2.18E+01	15.49	4.25E+00	2.21E+00	1.75E+01	1.56E+01
M	35	1378.27	2.53E+01	16.90			2.53E+01	1.69E+01
m	36	1382.89	1.45E+01	16.90			1.45E+01	1.69E+01
	37	1399.70	8.75E+00	9.11			8.75E+00	9.11E+00
	38	1407.81	2.17E+01	18.95			2.17E+01	1.90E+01
	39	1461.18	4.92E+02	45.55			4.92E+02	4.56E+01
	40	1537.18	1.00E+01	9.84			1.00E+01	9.84E+00
	41	1648.93	9.00E+00	6.00			9.00E+00	6.00E+00
	42	1729.00	9.71E+00	11.49			9.71E+00	1.15E+01
	43	1764.68	4.65E+01	15.64	1.45E+00	1.16E+00	4.50E+01	1.57E+01
	44	1990.79	1.10E+01	6.63			1.10E+01	6.63E+00
	45	2103.88	1.69E+01	10.05			1.69E+01	1.00E+01
	46	2119.00	1.40E+01	7.48			1.40E+01	7.48E+00
	47	2327.40	4.71E+00	6.78			4.71E+00	6.78E+00
	48	2614.80	7.15E+01	17.92			7.15E+01	1.79E+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 1510091-06

CP1807S08-09

AREA CORRECTION REPORT
REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/10/2015 4:19:36PM

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	23.14	1.07E+02	96.20	2.42E+01	1.14E+01	8.24E+01	9.69E+01
	2	46.76	1.38E+02	87.64	5.28E+01	1.09E+01	8.53E+01	8.83E+01
	3	62.83	2.01E+02	114.40	5.52E+01	2.05E+01	1.46E+02	1.16E+02
	4	76.38	1.31E+03	171.31			1.31E+03	1.71E+02
m	5	89.47	1.81E+02	85.42			1.81E+02	8.54E+01
m	6	93.10	3.04E+02	83.95	9.04E+01	2.62E+01	2.14E+02	8.79E+01
	7	99.63	6.89E+01	69.33			6.89E+01	6.93E+01
	8	186.76	2.41E+02	97.47	3.93E+01	6.56E+00	2.01E+02	9.77E+01
M	9	238.88	9.06E+02	75.34	1.34E+01	2.14E+00	8.93E+02	7.54E+01
m	10	242.02	1.87E+02	78.31	2.69E+00	1.46E+00	1.85E+02	7.83E+01
	11	270.33	6.89E+01	58.03			6.89E+01	5.80E+01
	12	295.49	2.78E+02	60.56			2.78E+02	6.06E+01
	13	338.80	1.42E+02	66.16			1.42E+02	6.62E+01
	14	352.14	4.28E+02	66.63	3.99E+00	4.73E+00	4.24E+02	6.68E+01
	15	409.25	3.32E+01	32.20			3.32E+01	3.22E+01
	16	463.85	3.76E+01	38.99			3.76E+01	3.90E+01
	17	480.13	3.31E+01	37.83			3.31E+01	3.78E+01
	18	510.88	1.48E+02	47.28	5.78E+01	4.60E+00	9.03E+01	4.75E+01
	19	583.60	2.39E+02	48.20	5.96E+00	3.46E+00	2.33E+02	4.83E+01
	20	609.66	3.44E+02	49.92	6.71E+00	3.44E+00	3.38E+02	5.00E+01
	21	727.60	4.45E+01	39.90			4.45E+01	3.99E+01
M	22	768.92	4.51E+01	26.87			4.51E+01	2.69E+01
m	23	776.13	1.57E+01	19.87			1.57E+01	1.99E+01
	24	795.78	3.85E+01	30.71			3.85E+01	3.07E+01
	25	860.60	4.58E+01	23.77			4.58E+01	2.38E+01
	26	873.80	2.30E+01	15.56			2.30E+01	1.56E+01
	27	895.51	1.20E+01	16.09			1.20E+01	1.61E+01
	28	911.51	1.25E+02	40.25	2.32E+00	2.73E+00	1.23E+02	4.03E+01
M	29	965.44	2.42E+01	25.01			2.42E+01	2.50E+01
m	30	969.05	9.37E+01	29.42			9.37E+01	2.94E+01
	31	1120.45	9.38E+01	35.16	2.00E+00	2.20E+00	9.18E+01	3.52E+01
	32	1220.03	3.50E+01	31.74			3.50E+01	3.17E+01
	33	1238.25	2.00E+01	22.03			2.00E+01	2.20E+01
	34	1331.93	2.18E+01	15.49	4.25E+00	2.21E+00	1.75E+01	1.56E+01
M	35	1378.27	2.53E+01	16.90			2.53E+01	1.69E+01
m	36	1382.89	1.45E+01	16.90			1.45E+01	1.69E+01
	37	1399.70	8.75E+00	9.11			8.75E+00	9.11E+00
	38	1407.81	2.17E+01	18.95			2.17E+01	1.90E+01
	39	1461.18	4.92E+02	45.55			4.92E+02	4.56E+01
	40	1537.18	1.00E+01	9.84			1.00E+01	9.84E+00
	41	1648.93	9.00E+00	6.00			9.00E+00	6.00E+00

Analysis Report for 1510091-06

CP1807S08-09

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
42	1729.00	9.71E+00	11.49			9.71E+00	1.15E+01
43	1764.68	4.65E+01	15.64	1.45E+00	1.16E+00	4.50E+01	1.57E+01
44	1990.79	1.10E+01	6.63			1.10E+01	6.63E+00
45	2103.88	1.69E+01	10.05			1.69E+01	1.00E+01
46	2119.00	1.40E+01	7.48			1.40E+01	7.48E+00
47	2327.40	4.71E+00	6.78			4.71E+00	6.78E+00
48	2614.80	7.15E+01	17.92			7.15E+01	1.79E+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	0.978	1460.81	*	10.67	1.88E+01	2.35E+00
GA-67	0.354	93.31	*	35.70	2.51E+02	1.06E+03
		208.95		2.24		
		300.22		16.00		
RB-82	0.969	776.52	*	13.00	6.79E-01	8.60E-01
TL-208	0.984	583.14	*	30.22	1.45E+00	3.28E-01
		860.37	*	4.48	2.69E+00	1.41E+00
		2614.66	*	35.85	1.19E+00	3.20E-01
PB-210	0.989	46.50	*	4.25	1.78E+00	1.85E+00
BI-212	0.747	727.17	*	11.80	8.57E-01	7.73E-01
		1620.62		2.75		
PB-212	0.886	238.63	*	44.60	1.76E+00	2.02E-01
		300.09		3.41		
BI-214	0.921	609.31	*	46.30	1.42E+00	2.47E-01
		1120.29	*	15.10	2.00E+00	7.84E-01
		1764.49	*	15.80	1.34E+00	4.77E-01
		2204.22		4.98		
PB-214	0.991	295.21	*	19.19	1.51E+00	3.50E-01
		351.92	*	37.19	1.38E+00	2.45E-01
RA-226	0.952	186.21	*	3.28	4.51E+00	8.54E+00
AC-228	0.978	338.32	*	11.40	1.46E+00	6.90E-01
		911.07	*	27.70	1.22E+00	4.13E-01
		969.11	*	16.60	1.64E+00	5.32E-01
TH-234	0.967	63.29	*	3.80	2.39E+00	1.92E+00

Analysis Report for 1510091-06

CP1807S08-09

* = 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 : 11/10/2015 4:19:36PM
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	23.14	2.29003E-02	58.75		
	4	76.38	3.62982E-01	6.55		
m	5	89.47	5.02175E-02	23.62		
	7	99.63	1.91405E-02	50.31		
m	10	242.02	5.13252E-02	21.19		
	11	270.33	1.91343E-02	42.13		
	15	409.25	9.22131E-03	48.50		
	16	463.85	1.04504E-02	51.81	Tol.	SB-125
	17	480.13	9.18210E-03	57.22		
	18	510.88	2.50754E-02	26.31		
M	22	768.92	1.25211E-02	29.80		
	24	795.78	1.06975E-02	39.87	Sum	
	26	873.80	6.38889E-03	33.82	Tol.	EU-154
	27	895.51	3.33333E-03	67.02		
M	29	965.44	6.71700E-03	51.71		
	32	1220.03	9.72073E-03	45.35	Sum	
	33	1238.25	5.55312E-03	55.10		
	34	1331.93	4.87294E-03	44.60	Tol.	CO-60
M	35	1378.27	7.02502E-03	33.41		
m	36	1382.89	4.02624E-03	58.29		
	37	1399.70	2.43056E-03	52.06		
	38	1407.81	6.02102E-03	43.72	Tol.	EU-152
	40	1537.18	2.77778E-03	49.18		
	41	1648.93	2.50000E-03	33.33	Sum	
	42	1729.00	2.69608E-03	59.19		
	44	1990.79	3.05556E-03	30.15		
	45	2103.88	4.70029E-03	29.70	S-Esc	
	46	2119.00	3.88889E-03	26.73		
	47	2327.40	1.30952E-03	71.93		

Analysis Report for 1510091-06

CP1807S08-09

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.97	1460.81	*	10.67	1.88E+01	2.35E+00
GA-67	0.35	93.31	*	35.70	2.51E+02	1.06E+03
		208.95		2.24		
		300.22		16.00		
RB-82	0.96	776.52	*	13.00	6.79E-01	8.60E-01
TL-208	0.98	583.14	*	30.22	1.45E+00	3.28E-01
		860.37	*	4.48	2.69E+00	1.41E+00
		2614.66	*	35.85	1.19E+00	3.20E-01
PB-210	0.98	46.50	*	4.25	1.78E+00	1.85E+00
BI-212	0.74	727.17	*	11.80	8.57E-01	7.73E-01
		1620.62		2.75		
PB-212	0.88	238.63	*	44.60	1.76E+00	2.02E-01
		300.09		3.41		
BI-214	0.92	609.31	*	46.30	1.42E+00	2.47E-01
		1120.29	*	15.10	2.00E+00	7.84E-01
		1764.49	*	15.80	1.34E+00	4.77E-01
		2204.22		4.98		
PB-214	0.99	295.21	*	19.19	1.51E+00	3.50E-01
		351.92	*	37.19	1.38E+00	2.45E-01
RA-226	0.95	186.21	*	3.28	4.51E+00	8.54E+00
AC-228	0.97	338.32	*	11.40	1.46E+00	6.90E-01
		911.07	*	27.70	1.22E+00	4.13E-01
		969.11	*	16.60	1.64E+00	5.32E-01
TH-234	0.96	63.29	*	3.80	2.39E+00	1.92E+00

Analysis Report for 1510091-06

CP1807S08-09

* = 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	0.978	1.88E+01	2.35E+00	
GA-67	0.354	2.51E+02	1.06E+03	
RB-82	0.969	6.79E-01	8.60E-01	
TL-208	0.984	1.35E+00	2.26E-01	
PB-210	0.989	1.78E+00	1.85E+00	
BI-212	0.747	8.57E-01	7.73E-01	
PB-212	0.886	1.76E+00	2.02E-01	
BI-214	0.921	1.45E+00	2.11E-01	
PB-214	0.991	1.42E+00	2.00E-01	
RA-226	0.952	4.51E+00	8.54E+00	
AC-228	0.978	1.40E+00	2.95E-01	
TH-234	0.967	2.39E+00	1.92E+00	

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510091-06

CP1807S08-09

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 4:19:36PM
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	23.14	2.29003E-02	58.75		
	4	76.38	3.62982E-01	6.55		
m	5	89.47	5.02175E-02	23.62		
	7	99.63	1.91405E-02	50.31		
m	10	242.02	5.13252E-02	21.19		
	11	270.33	1.91343E-02	42.13		
	15	409.25	9.22131E-03	48.50		
	16	463.85	1.04504E-02	51.81	Tol.	SB-125
	17	480.13	9.18210E-03	57.22		
	18	510.88	2.50754E-02	26.31		
M	22	768.92	1.25211E-02	29.80		
	24	795.78	1.06975E-02	39.87	Sum	
	26	873.80	6.38889E-03	33.82	Tol.	EU-154
	27	895.51	3.33333E-03	67.02		
M	29	965.44	6.71700E-03	51.71		
	32	1220.03	9.72073E-03	45.35	Sum	
	33	1238.25	5.55312E-03	55.10		
	34	1331.93	4.87294E-03	44.60	Tol.	CO-60
M	35	1378.27	7.02502E-03	33.41		
m	36	1382.89	4.02624E-03	58.29		
	37	1399.70	2.43056E-03	52.06		
	38	1407.81	6.02102E-03	43.72	Tol.	EU-152
	40	1537.18	2.77778E-03	49.18		
	41	1648.93	2.50000E-03	33.33	Sum	
	42	1729.00	2.69608E-03	59.19		
	44	1990.79	3.05556E-03	30.15		
	45	2103.88	4.70029E-03	29.70	S-Esc	
	46	2119.00	3.88889E-03	26.73		
	47	2327.40	1.30952E-03	71.93		

Analysis Report for 1510091-06

CP1807S08-09

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59		10.42	-2.17E-02	1.15E+00	1.15E+00
+	NA-22	1274.54		99.94	3.69E-02	1.32E-01	1.32E-01
+	NA-24	1368.53		99.99	-5.16E+12	4.94E+13	1.10E+14
		2754.09		99.86	6.72E+12		4.94E+13
+	AL-26	1808.65		99.76	-2.71E-02	5.15E-02	5.15E-02
+	K-40	1460.81	*	10.67	1.88E+01	7.54E-01	7.54E-01
+	@ AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	2.53E-02	7.99E-02	7.99E-02
		78.34		96.00	2.82E-01		1.01E-01
+	SC-46	889.25		99.98	5.43E-02	1.29E-01	1.29E-01
		1120.51		99.99	3.40E-01		2.28E-01
+	V-48	983.52		99.98	-1.18E-01	3.36E-01	3.36E-01
		1312.10		97.50	-2.42E-01		4.55E-01
+	CR-51	320.08		9.83	-1.19E-01	1.57E+00	1.57E+00
+	MN-54	834.83		99.97	-2.07E-02	1.05E-01	1.05E-01
+	CO-56	846.75		99.96	1.50E-02	1.28E-01	1.28E-01
		1037.75		14.03	-2.96E-01		8.39E-01
		1238.25		67.00	7.02E-02		2.65E-01
		1771.40		15.51	-2.24E-01		8.50E-01
		2598.48		16.90	-4.13E-02		5.00E-01
+	CO-57	122.06		85.51	-6.23E-03	6.72E-02	6.72E-02
		136.48		10.60	-3.06E-01		5.47E-01
+	CO-58	810.76		99.40	-4.38E-02	1.25E-01	1.25E-01
+	FE-59	1099.22		56.50	-4.76E-02	3.19E-01	3.19E-01
		1291.56		43.20	-2.50E-01		4.14E-01
+	CO-60	1173.22		100.00	-1.61E-02	1.19E-01	1.19E-01
		1332.49		100.00	-4.89E-03		1.20E-01
+	ZN-65	1115.52		50.75	8.46E-03	2.46E-01	2.46E-01
+	GA-67	93.31	*	35.70	2.51E+02	3.05E+02	3.05E+02
		208.95		2.24	9.96E+02		2.57E+03
		300.22		16.00	5.46E+01		3.67E+02
+	SE-75	121.11		16.70	-7.96E-02	1.06E-01	3.78E-01

Analysis Report for 1510091-06

CP1807S08-09

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	SE-75	136.00		59.20	-9.19E-02	1.06E-01	1.06E-01
		264.65		59.80	-1.40E-02		1.42E-01
		279.53		25.20	3.38E-02		3.59E-01
		400.65		11.40	1.38E-01		8.49E-01
+	RB-82	776.52	*	13.00	6.79E-01	3.26E+00	3.26E+00
+	RB-83	520.41		46.00	-1.55E-02	2.30E-01	2.30E-01
		529.64		30.30	9.52E-02		3.17E-01
		552.65		16.40	1.39E-01		6.78E-01
+	KR-85	513.99		0.43	-5.22E-01	2.53E+01	2.53E+01
+	SR-85	513.99		99.27	-3.17E-03	1.54E-01	1.54E-01
+	Y-88	898.02		93.40	-1.26E-02	7.14E-02	1.27E-01
		1836.01		99.38	-3.47E-03		7.14E-02
+	NB-93M	16.57		9.43	5.97E+01	8.88E+01	8.88E+01
+	NB-94	702.63		100.00	1.25E-02	8.44E-02	9.84E-02
		871.10		100.00	-1.34E-02		8.44E-02
+	NB-95	765.79		99.81	1.40E-01	2.17E-01	2.17E-01
+	NB-95M	235.69		25.00	-5.84E-01	2.16E+02	2.16E+02
+	ZR-95	724.18		43.70	2.76E-03	2.47E-01	3.35E-01
		756.72		55.30	4.13E-02		2.47E-01
+	MO-99	181.06		6.20	6.93E+02	1.93E+03	2.55E+03
		739.58		12.80	-1.07E+02		1.93E+03
		778.00		4.50	-7.40E+02		4.44E+03
+	RU-103	497.08		89.00	1.10E-02	1.50E-01	1.50E-01
+	RU-106	621.84		9.80	-9.56E-02	9.85E-01	9.85E-01
+	AG-108M	433.93		89.90	-1.10E-02	8.70E-02	8.70E-02
		614.37		90.40	-2.14E-03		1.07E-01
		722.95		90.50	-6.06E-03		9.54E-02
+	CD-109	88.03		3.72	2.25E+00	2.11E+00	2.11E+00
+	AG-110M	657.75		93.14	-1.99E-02	1.09E-01	1.09E-01
		677.61		10.53	4.21E-01		9.64E-01
		706.67		16.46	-1.68E-02		6.32E-01
		763.93		21.98	-5.09E-01		4.80E-01
		884.67		71.63	9.98E-03		1.50E-01
		1384.27		23.94	-1.95E-01		4.78E-01
+	CD-113M	263.70		0.02	-6.83E+01	3.08E+02	3.08E+02
+	SN-113	255.12		1.93	-1.56E+00	1.38E-01	4.48E+00
		391.69		64.90	-6.44E-02		1.38E-01
+	TE123M	159.00		84.10	-9.18E-03	8.10E-02	8.10E-02
+	SB-124	602.71		97.87	6.06E-02	1.22E-01	1.22E-01
		645.85		7.26	-6.45E-01		1.67E+00
		722.78		11.10	-7.08E-02		1.11E+00
		1691.02		49.00	-6.20E-02		1.87E-01
+	I-125	35.49		6.49	-3.29E+00	3.33E+00	3.33E+00
+	SB-125	176.33		6.89	-2.26E-01	2.89E-01	8.66E-01
		427.89		29.33	1.06E-01		2.89E-01
		463.38		10.35	5.51E-01		8.79E-01
		600.56		17.80	2.64E-01		4.84E-01
		635.90		11.32	1.95E-01		7.50E-01

Analysis Report for 1510091-06

CP1807S08-09

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	SB-126	414.70	83.30	3.29E-01	4.80E-01	5.50E-01
		666.33	99.60	-1.26E-01		4.80E-01
		695.00	99.60	6.13E-03		5.51E-01
		720.50	53.80	2.67E-02		9.45E-01
+	SN-126	87.57	37.00	2.16E-01	2.03E-01	2.03E-01
+	SB-127	473.00	25.00	7.42E+00	6.53E+01	8.39E+01
		685.20	35.70	-2.25E+01		6.53E+01
		783.80	14.70	1.18E+02		1.83E+02
+	I-129	29.78	57.00	-2.64E-01	4.78E-01	4.78E-01
		33.60	13.20	-1.87E-01		1.37E+00
		39.58	7.52	-1.31E-01		1.63E+00
+	I-131	284.30	6.05	-1.01E+01	1.41E+00	1.74E+01
		364.48	81.20	3.06E-01		1.41E+00
		636.97	7.26	-9.49E+00		1.66E+01
		722.89	1.80	-4.50E+00		7.08E+01
+	TE-132	49.72	13.10	-1.97E+02	6.61E+01	4.93E+02
		228.16	88.00	1.78E+01		6.61E+01
+	BA-133	81.00	33.00	-1.36E+00	1.79E-01	1.97E-01
		302.84	17.80	1.66E-01		4.20E-01
		356.01	60.00	9.32E-03		1.79E-01
+	I-133	529.87	86.30	1.82E+09	6.06E+09	6.06E+09
+	XE-133	81.00	38.00	-7.28E+01	1.06E+01	1.06E+01
+	CS-134	563.23	8.38	3.68E-01	1.03E-01	1.10E+00
		569.32	15.43	2.49E-01		5.59E-01
		604.70	97.60	3.32E-02		1.03E-01
		795.84	85.40	1.15E-01		1.27E-01
		801.93	8.73	3.78E-02		9.59E-01
+	CS-135	268.24	16.00	7.83E-02	5.12E-01	5.12E-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	6.57E-01	4.66E-01	4.03E+00
		163.89	4.61	1.53E+00		6.54E+00
		176.55	13.56	9.06E-02		2.28E+00
		273.65	12.66	-2.22E-01		3.17E+00
		340.57	48.50	2.25E+00		1.08E+00
		818.50	99.70	1.21E-01		4.66E-01
		1048.07	79.60	-8.65E-02		6.50E-01
		1235.34	19.70	-6.16E-02		3.48E+00
+	CS-137	661.65	85.12	2.63E-02	1.14E-01	1.14E-01
+	LA-138	788.74	34.00	1.40E-01	1.72E-01	3.03E-01
		1435.80	66.00	9.13E-03		1.72E-01
+	CE-139	165.85	80.35	1.24E-02	8.53E-02	8.53E-02
+	BA-140	162.64	6.70	-8.33E-03	1.82E+00	4.66E+00
		304.84	4.50	-4.77E+00		8.57E+00
		423.70	3.20	-5.02E+00		1.31E+01
		437.55	2.00	-8.22E+00		2.03E+01
		537.32	25.00	-1.02E-01		1.82E+00
+	LA-140	328.77	20.50	6.33E-01	6.08E-01	2.17E+00

Analysis Report for 1510091-06

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	LA-140	487.03	45.50	3.23E-01	6.08E-01	9.69E-01
		815.85	23.50	4.67E-01		2.10E+00
		1596.49	95.49	9.91E-02		6.08E-01
+	CE-141	145.44	48.40	9.19E-03	2.31E-01	2.31E-01
+	CE-143	57.36	11.80	8.95E+05	1.70E+06	4.66E+06
		293.26	42.00	-1.11E+05		1.70E+06
		664.55	5.20	6.59E+06		1.25E+07
+	CE-144	133.54	10.80	-2.17E-01	5.38E-01	5.38E-01
+	PM-144	476.78	42.00	-3.01E-03	9.69E-02	1.93E-01
		618.01	98.60	4.19E-02		9.69E-02
		696.49	99.49	3.76E-02		1.07E-01
+	PM-145	36.85	21.70	2.17E-02	3.44E-01	6.44E-01
		37.36	39.70	1.39E-02		3.44E-01
		42.30	15.10	1.35E-01		7.27E-01
		72.40	2.31	-6.89E+00		3.83E+00
+	PM-146	453.90	39.94	-1.35E-01	1.83E-01	1.83E-01
		735.90	14.01	1.99E-01		7.30E-01
		747.13	13.10	-1.92E-01		6.68E-01
+	ND-147	91.11	28.90	-2.26E+00	1.81E+00	1.81E+00
		531.02	13.10	7.24E-01		4.07E+00
+	PM-149	285.90	3.10	1.57E+04	4.18E+04	4.18E+04
+	EU-152	121.78	20.50	-2.41E-02	2.60E-01	2.60E-01
		244.69	5.40	-2.49E-02		1.58E+00
		344.27	19.13	-6.56E-02		3.73E-01
		778.89	9.20	7.41E-03		8.94E-01
		964.01	10.40	-3.06E+00		1.09E+00
		1085.78	7.22	2.79E-01		1.43E+00
		1112.02	9.60	1.37E-02		1.11E+00
		1407.95	14.94	5.62E-01		7.72E-01
+	GD-153	97.43	31.30	-2.82E-01	1.94E-01	1.94E-01
		103.18	22.20	-3.13E-03		2.61E-01
+	EU-154	123.07	40.50	-1.06E-02	1.34E-01	1.34E-01
		723.30	19.70	-2.80E-02		4.41E-01
		873.19	11.50	9.69E-02		7.57E-01
		996.32	10.30	4.55E-01		1.05E+00
		1004.76	17.90	5.06E-02		5.72E-01
		1274.45	35.50	1.02E-01		3.65E-01
+	EU-155	86.50	30.90	2.25E-01	2.45E-01	2.45E-01
		105.30	20.70	8.52E-02		2.64E-01
+	EU-156	811.77	10.40	9.63E-02	3.72E+00	3.72E+00
		1153.47	7.20	1.07E+00		6.52E+00
		1230.71	8.90	2.24E+00		5.90E+00
+	HO-166M	184.41	72.60	1.90E-01	1.04E-01	1.04E-01
		280.45	29.60	3.38E-02		2.54E-01
		410.94	11.10	-1.69E-02		7.23E-01
		711.69	54.10	-1.03E-02		1.65E-01
+	TM-171	66.72	0.14	1.88E+01	5.65E+01	5.65E+01
+	HF-172	81.75	4.52	-4.96E+00	5.15E-01	1.51E+00
		125.81	11.30	-1.77E-01		5.15E-01

Analysis Report for 1510091-06

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	LU-172	181.53		20.60	1.85E-01	4.55E+00	7.34E+00
		810.06		16.63	-2.09E+00		1.40E+01
		912.12		15.25	6.56E+01		3.02E+01
		1093.66		62.50	1.47E+00		4.55E+00
+	LU-173	100.72		5.24	3.72E-01	3.99E-01	1.10E+00
		272.11		21.20	2.55E-01		3.99E-01
+	HF-175	343.40		84.00	-1.87E-02	1.22E-01	1.22E-01
+	LU-176	88.34		13.30	6.48E-02	7.71E-02	5.69E-01
		201.83		86.00	-3.41E-02		8.24E-02
		306.78		94.00	4.21E-02		7.71E-02
+	TA-182	67.75		41.20	7.02E-02	2.21E-01	2.21E-01
		1121.30		34.90	9.50E-01		6.09E-01
		1189.05		16.23	3.93E-01		9.15E-01
		1221.41		26.98	4.62E-01		6.53E-01
		1231.02		11.44	2.46E-01		1.31E+00
+	IR-192	308.46		29.68	-7.34E-02	2.08E-01	3.12E-01
		468.07		48.10	1.94E-03		2.08E-01
+	HG-203	279.19		77.30	7.74E-02	1.58E-01	1.58E-01
+	BI-207	569.67		97.72	-2.72E-02	8.05E-02	8.05E-02
		1063.62		74.90	-4.29E-02		1.31E-01
+	TL-208	583.14	*	30.22	1.45E+00	2.07E-01	4.00E-01
		860.37	*	4.48	2.69E+00		2.05E+00
		2614.66	*	35.85	1.19E+00		2.07E-01
+	BI-210M	262.00		45.00	5.48E-02	1.63E-01	1.63E-01
		300.00		23.00	4.98E-02		3.34E-01
+	PB-210	46.50	*	4.25	1.78E+00	3.02E+00	3.02E+00
+	PB-211	404.84		2.90	2.94E-01	2.75E+00	2.75E+00
		831.96		2.90	-1.21E+00		3.22E+00
+	BI-212	727.17	*	11.80	8.57E-01	1.24E+00	1.24E+00
		1620.62		2.75	1.20E+00		3.85E+00
+	PB-212	238.63	*	44.60	1.76E+00	2.82E-01	2.82E-01
		300.09		3.41	3.36E-01		2.26E+00
+	BI-214	609.31	*	46.30	1.42E+00	2.47E-01	2.47E-01
		1120.29	*	15.10	2.00E+00		1.12E+00
		1764.49	*	15.80	1.34E+00		4.76E-01
		2204.22		4.98	1.29E+00		2.79E+00
+	PB-214	295.21	*	19.19	1.51E+00	2.91E-01	4.68E-01
		351.92	*	37.19	1.38E+00		2.91E-01
+	RN-219	401.80		6.50	6.45E-01	1.26E+00	1.26E+00
+	RA-223	323.87		3.88	-1.98E-01	1.97E+00	1.97E+00
+	RA-224	240.98		3.95	2.38E+01	3.88E+00	3.88E+00
+	RA-225	40.00		31.00	-1.34E-01	1.67E+00	1.67E+00
+	RA-226	186.21	*	3.28	4.51E+00	3.51E+00	3.51E+00
+	TH-227	50.10		8.40	-3.96E-01	9.92E-01	9.92E-01
		236.00		11.50	-3.17E-03		1.17E+00
		256.20		6.30	-1.84E-01		1.14E+00
+	AC-228	338.32	*	11.40	1.46E+00	5.80E-01	1.07E+00
		911.07	*	27.70	1.22E+00		5.80E-01

Analysis Report for 1510091-06

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	AC-228	969.11	*	16.60	1.64E+00	5.80E-01	8.73E-01
+	TH-230	48.44		16.90	2.46E-01	5.59E-01	5.59E-01
		62.85		4.60	2.45E+00		1.87E+00
		67.67		0.37	6.47E+00		2.04E+01
+	PA-231	283.67		1.60	-2.58E+00	3.23E+00	4.44E+00
		302.67		2.30	1.28E+00		3.23E+00
+	TH-231	25.64		14.70	-2.19E+00	1.04E+00	3.56E+00
		84.21		6.40	-2.12E+00		1.04E+00
+	PA-233	311.98		38.60	-6.57E-02	3.94E-01	3.94E-01
+	PA-234	131.20		20.40	2.05E-01	2.90E-01	2.90E-01
		733.99		8.80	5.50E-01		1.19E+00
		946.00		12.00	6.30E-01		9.55E-01
+	PA-234M	1001.03		0.92	-8.44E-01	1.18E+01	1.18E+01
+	TH-234	63.29	*	3.80	2.39E+00	3.12E+00	3.12E+00
+	U-235	143.76		10.50	2.27E-01	5.63E-01	5.63E-01
		163.35		4.70	2.88E-01		1.24E+00
		205.31		4.70	-1.97E+00		1.52E+00
+	NP-237	86.50		12.60	5.46E-01	5.93E-01	5.93E-01
+	NP-239	106.10		22.70	-1.23E+02	2.32E+03	2.32E+03
		228.18		10.70	1.87E+03		6.95E+03
		277.60		14.10	5.56E+03		5.39E+03
+	AM-241	59.54		35.90	-3.00E-01	2.22E-01	2.22E-01
+	AM-243	74.67		66.00	3.45E-01	1.59E-01	1.59E-01
+	CM-243	209.75		3.29	-4.06E-01	5.55E-01	2.26E+00
		228.14		10.60	1.93E-01		7.17E-01
		277.60		14.00	5.72E-01		5.55E-01

\+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
\> = MDA value not calculated
@ = Half-life too short to be able to perform the decay correction
? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Analysis Report for 1510091-06

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	BE-7	477.59		10.42	1.15E+00	1.15E+00	-2.17E-02	5.43E-01
	NA-22	1274.54		99.94	1.32E-01	1.32E-01	3.69E-02	6.09E-02
	NA-24	1368.53		99.99	1.10E+14	4.94E+13	-5.16E+12	4.92E+13
		2754.09		99.86	4.94E+13		6.72E+12	1.56E+13
	AL-26	1808.65		99.76	5.15E-02	5.15E-02	-2.71E-02	1.93E-02
+	K-40	1460.81	*	10.67	7.54E-01	7.54E-01	1.88E+01	3.25E-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	7.99E-02	7.99E-02	2.53E-02	3.91E-02
		78.34		96.00	1.01E-01		2.82E-01	4.96E-02
	SC-46	889.25		99.98	1.29E-01	1.29E-01	5.43E-02	5.99E-02
		1120.51		99.99	2.28E-01		3.40E-01	1.08E-01
	V-48	983.52		99.98	3.36E-01	3.36E-01	-1.18E-01	1.53E-01
		1312.10		97.50	4.55E-01		-2.42E-01	2.08E-01
	CR-51	320.08		9.83	1.57E+00	1.57E+00	-1.19E-01	7.49E-01
	MN-54	834.83		99.97	1.05E-01	1.05E-01	-2.07E-02	4.87E-02
	CO-56	846.75		99.96	1.28E-01	1.28E-01	1.50E-02	5.94E-02
		1037.75		14.03	8.39E-01		-2.96E-01	3.81E-01
		1238.25		67.00	2.65E-01		7.02E-02	1.23E-01
		1771.40		15.51	8.50E-01		-2.24E-01	3.71E-01
		2598.48		16.90	5.00E-01		-4.13E-02	1.87E-01
	CO-57	122.06		85.51	6.72E-02	6.72E-02	-6.23E-03	3.26E-02
		136.48		10.60	5.47E-01		-3.06E-01	2.65E-01
	CO-58	810.76		99.40	1.25E-01	1.25E-01	-4.38E-02	5.78E-02
	FE-59	1099.22		56.50	3.19E-01	3.19E-01	-4.76E-02	1.47E-01
		1291.56		43.20	4.14E-01		-2.50E-01	1.88E-01
	CO-60	1173.22		100.00	1.19E-01	1.19E-01	-1.61E-02	5.51E-02
		1332.49		100.00	1.20E-01		-4.89E-03	5.49E-02
	ZN-65	1115.52		50.75	2.46E-01	2.46E-01	8.46E-03	1.14E-01
+	GA-67	93.31	*	35.70	3.05E+02	3.05E+02	2.51E+02	1.51E+02
		208.95		2.24	2.57E+03		9.96E+02	1.25E+03
		300.22		16.00	3.67E+02		5.46E+01	1.77E+02
	SE-75	121.11		16.70	3.78E-01	1.06E-01	-7.96E-02	1.83E-01
		136.00		59.20	1.06E-01		-9.19E-02	5.12E-02
		264.65		59.80	1.42E-01		-1.40E-02	6.84E-02
		279.53		25.20	3.59E-01		3.38E-02	1.73E-01
		400.65		11.40	8.49E-01		1.38E-01	4.05E-01
+	RB-82	776.52	*	13.00	3.26E+00	3.26E+00	6.79E-01	1.57E+00
	RB-83	520.41		46.00	2.30E-01	2.30E-01	-1.55E-02	1.09E-01
		529.64		30.30	3.17E-01		9.52E-02	1.48E-01
		552.65		16.40	6.78E-01		1.39E-01	3.20E-01
	KR-85	513.99		0.43	2.53E+01	2.53E+01	-5.22E-01	1.21E+01
	SR-85	513.99		99.27	1.54E-01	1.54E-01	-3.17E-03	7.36E-02
	Y-88	898.02		93.40	1.27E-01	7.14E-02	-1.26E-02	5.88E-02
		1836.01		99.38	7.14E-02		-3.47E-03	2.77E-02
	NB-93M	16.57		9.43	8.88E+01	8.88E+01	5.97E+01	4.33E+01
	NB-94	702.63		100.00	9.84E-02	8.44E-02	1.25E-02	4.62E-02
		871.10		100.00	8.44E-02		-1.34E-02	3.86E-02
	NB-95	765.79		99.81	2.17E-01	2.17E-01	1.40E-01	1.03E-01
	NB-95M	235.69		25.00	2.16E+02	2.16E+02	-5.84E-01	1.06E+02
	ZR-95	724.18		43.70	3.35E-01	2.47E-01	2.76E-03	1.58E-01
		756.72		55.30	2.47E-01		4.13E-02	1.15E-01

Analysis Report for 1510091-06

CP1807S08-09

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	2.55E+03	1.93E+03	6.93E+02	1.24E+03
	739.58	12.80	1.93E+03		-1.07E+02	9.03E+02
	778.00	4.50	4.44E+03		-7.40E+02	2.03E+03
RU-103	497.08	89.00	1.50E-01	1.50E-01	1.10E-02	7.09E-02
RU-106	621.84	9.80	9.85E-01	9.85E-01	-9.56E-02	4.63E-01
AG-108M	433.93	89.90	8.70E-02	8.70E-02	-1.10E-02	4.13E-02
	614.37	90.40	1.07E-01		-2.14E-03	5.06E-02
	722.95	90.50	9.54E-02		-6.06E-03	4.43E-02
CD-109	88.03	3.72	2.11E+00	2.11E+00	2.25E+00	1.04E+00
AG-110M	657.75	93.14	1.09E-01	1.09E-01	-1.99E-02	5.11E-02
	677.61	10.53	9.64E-01		4.21E-01	4.52E-01
	706.67	16.46	6.32E-01		-1.68E-02	2.96E-01
	763.93	21.98	4.80E-01		-5.09E-01	2.24E-01
	884.67	71.63	1.50E-01		9.98E-03	6.94E-02
	1384.27	23.94	4.78E-01		-1.95E-01	2.15E-01
CD-113M	263.70	0.02	3.08E+02	3.08E+02	-6.83E+01	1.48E+02
SN-113	255.12	1.93	4.48E+00	1.38E-01	-1.56E+00	2.16E+00
	391.69	64.90	1.38E-01		-6.44E-02	6.55E-02
TE123M	159.00	84.10	8.10E-02	8.10E-02	-9.18E-03	3.92E-02
SB-124	602.71	97.87	1.22E-01	1.22E-01	6.06E-02	5.73E-02
	645.85	7.26	1.67E+00		-6.45E-01	7.82E-01
	722.78	11.10	1.11E+00		-7.08E-02	5.17E-01
	1691.02	49.00	1.87E-01		-6.20E-02	7.57E-02
I-125	35.49	6.49	3.33E+00	3.33E+00	-3.29E+00	1.62E+00
SB-125	176.33	6.89	8.66E-01	2.89E-01	-2.26E-01	4.19E-01
	427.89	29.33	2.89E-01		1.06E-01	1.38E-01
	463.38	10.35	8.79E-01		5.51E-01	4.19E-01
	600.56	17.80	4.84E-01		2.64E-01	2.27E-01
	635.90	11.32	7.50E-01		1.95E-01	3.50E-01
SB-126	414.70	83.30	5.50E-01	4.80E-01	3.29E-01	2.62E-01
	666.33	99.60	4.80E-01		-1.26E-01	2.24E-01
	695.00	99.60	5.51E-01		6.13E-03	2.58E-01
	720.50	53.80	9.45E-01		2.67E-02	4.40E-01
SN-126	87.57	37.00	2.03E-01	2.03E-01	2.16E-01	9.95E-02
SB-127	473.00	25.00	8.39E+01	6.53E+01	7.42E+00	3.96E+01
	685.20	35.70	6.53E+01		-2.25E+01	3.04E+01
	783.80	14.70	1.83E+02		1.18E+02	8.55E+01
I-129	29.78	57.00	4.78E-01	4.78E-01	-2.64E-01	2.32E-01
	33.60	13.20	1.37E+00		-1.87E-01	6.67E-01
	39.58	7.52	1.63E+00		-1.31E-01	7.93E-01
I-131	284.30	6.05	1.74E+01	1.41E+00	-1.01E+01	8.35E+00
	364.48	81.20	1.41E+00		3.06E-01	6.74E-01
	636.97	7.26	1.66E+01		-9.49E+00	7.73E+00
	722.89	1.80	7.08E+01		-4.50E+00	3.29E+01
TE-132	49.72	13.10	4.93E+02	6.61E+01	-1.97E+02	2.40E+02
	228.16	88.00	6.61E+01		1.78E+01	3.21E+01
BA-133	81.00	33.00	1.97E-01	1.79E-01	-1.36E+00	9.62E-02
	302.84	17.80	4.20E-01		1.66E-01	2.02E-01
	356.01	60.00	1.79E-01		9.32E-03	8.69E-02
I-133	529.87	86.30	6.06E+09	6.06E+09	1.82E+09	2.84E+09
XE-133	81.00	38.00	1.06E+01	1.06E+01	-7.28E+01	5.15E+00
CS-134	563.23	8.38	1.10E+00	1.03E-01	3.68E-01	5.18E-01
	569.32	15.43	5.59E-01		2.49E-01	2.63E-01

Analysis Report for 1510091-06

CP1807S08-09

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	CS-134	604.70	97.60	1.03E-01	1.03E-01	3.32E-02	4.87E-02
		795.84	85.40	1.27E-01		1.15E-01	5.93E-02
		801.93	8.73	9.59E-01		3.78E-02	4.40E-01
	CS-135	268.24	16.00	5.12E-01	5.12E-01	7.83E-02	2.48E-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	4.03E+00	4.66E-01	6.57E-01	1.95E+00
		163.89	4.61	6.54E+00		1.53E+00	3.17E+00
		176.55	13.56	2.28E+00		9.06E-02	1.10E+00
		273.65	12.66	3.17E+00		-2.22E-01	1.53E+00
		340.57	48.50	1.08E+00		2.25E+00	5.25E-01
		818.50	99.70	4.66E-01		1.21E-01	2.15E-01
		1048.07	79.60	6.50E-01		-8.65E-02	2.98E-01
		1235.34	19.70	3.48E+00		-6.16E-02	1.62E+00
	CS-137	661.65	85.12	1.14E-01	1.14E-01	2.63E-02	5.35E-02
	LA-138	788.74	34.00	3.03E-01	1.72E-01	1.40E-01	1.42E-01
		1435.80	66.00	1.72E-01		9.13E-03	7.75E-02
	CE-139	165.85	80.35	8.53E-02	8.53E-02	1.24E-02	4.13E-02
	BA-140	162.64	6.70	4.66E+00	1.82E+00	-8.33E-03	2.26E+00
		304.84	4.50	8.57E+00		-4.77E+00	4.11E+00
		423.70	3.20	1.31E+01		-5.02E+00	6.25E+00
		437.55	2.00	2.03E+01		-8.22E+00	9.64E+00
		537.32	25.00	1.82E+00		-1.02E-01	8.56E-01
	LA-140	328.77	20.50	2.17E+00	6.08E-01	6.33E-01	1.04E+00
		487.03	45.50	9.69E-01		3.23E-01	4.59E-01
		815.85	23.50	2.10E+00		4.67E-01	9.74E-01
		1596.49	95.49	6.08E-01		9.91E-02	2.70E-01
	CE-141	145.44	48.40	2.31E-01	2.31E-01	9.19E-03	1.12E-01
	CE-143	57.36	11.80	4.66E+06	1.70E+06	8.95E+05	2.28E+06
		293.26	42.00	1.70E+06		-1.11E+05	8.28E+05
		664.55	5.20	1.25E+07		6.59E+06	5.87E+06
	CE-144	133.54	10.80	5.38E-01	5.38E-01	-2.17E-01	2.61E-01
	PM-144	476.78	42.00	1.93E-01	9.69E-02	-3.01E-03	9.12E-02
		618.01	98.60	9.69E-02		4.19E-02	4.56E-02
		696.49	99.49	1.07E-01		3.76E-02	5.01E-02
	PM-145	36.85	21.70	6.44E-01	3.44E-01	2.17E-02	3.13E-01
		37.36	39.70	3.44E-01		1.39E-02	1.67E-01
		42.30	15.10	7.27E-01		1.35E-01	3.54E-01
		72.40	2.31	3.83E+00		-6.89E+00	1.88E+00
	PM-146	453.90	39.94	1.83E-01	1.83E-01	-1.35E-01	8.66E-02
		735.90	14.01	7.30E-01		1.99E-01	3.43E-01
		747.13	13.10	6.68E-01		-1.92E-01	3.10E-01
	ND-147	91.11	28.90	1.81E+00	1.81E+00	-2.26E+00	8.86E-01
		531.02	13.10	4.07E+00		7.24E-01	1.91E+00
	PM-149	285.90	3.10	4.18E+04	4.18E+04	1.57E+04	2.01E+04
	EU-152	121.78	20.50	2.60E-01	2.60E-01	-2.41E-02	1.26E-01
		244.69	5.40	1.58E+00		-2.49E-02	7.65E-01
		344.27	19.13	3.73E-01		-6.56E-02	1.78E-01
		778.89	9.20	8.94E-01		7.41E-03	4.11E-01
		964.01	10.40	1.09E+00		-3.06E+00	5.08E-01
		1085.78	7.22	1.43E+00		2.79E-01	6.55E-01
		1112.02	9.60	1.11E+00		1.37E-02	5.09E-01

Analysis Report for 1510091-06

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	EU-152	1407.95		14.94	7.72E-01	2.60E-01	5.62E-01	3.50E-01
	GD-153	97.43		31.30	1.94E-01	1.94E-01	-2.82E-01	9.44E-02
		103.18		22.20	2.61E-01		-3.13E-03	1.27E-01
	EU-154	123.07		40.50	1.34E-01	1.34E-01	-1.06E-02	6.52E-02
		723.30		19.70	4.41E-01		-2.80E-02	2.05E-01
		873.19		11.50	7.57E-01		9.69E-02	3.47E-01
		996.32		10.30	1.05E+00		4.55E-01	4.84E-01
		1004.76		17.90	5.72E-01		5.06E-02	2.63E-01
		1274.45		35.50	3.65E-01		1.02E-01	1.69E-01
	EU-155	86.50		30.90	2.45E-01	2.45E-01	2.25E-01	1.20E-01
		105.30		20.70	2.64E-01		8.52E-02	1.28E-01
	EU-156	811.77		10.40	3.72E+00	3.72E+00	9.63E-02	1.72E+00
		1153.47		7.20	6.52E+00		1.07E+00	3.00E+00
		1230.71		8.90	5.90E+00		2.24E+00	2.73E+00
	HO-166M	184.41		72.60	1.04E-01	1.04E-01	1.90E-01	5.06E-02
		280.45		29.60	2.54E-01		3.38E-02	1.22E-01
		410.94		11.10	7.23E-01		-1.69E-02	3.44E-01
		711.69		54.10	1.65E-01		-1.03E-02	7.68E-02
	TM-171	66.72		0.14	5.65E+01	5.65E+01	1.88E+01	2.76E+01
	HF-172	81.75		4.52	1.51E+00	5.15E-01	-4.96E+00	7.37E-01
		125.81		11.30	5.15E-01		-1.77E-01	2.50E-01
	LU-172	181.53		20.60	7.34E+00	4.55E+00	1.85E-01	3.55E+00
		810.06		16.63	1.40E+01		-2.09E+00	6.49E+00
		912.12		15.25	3.02E+01		6.56E+01	1.45E+01
		1093.66		62.50	4.55E+00		1.47E+00	2.10E+00
	LU-173	100.72		5.24	1.10E+00	3.99E-01	3.72E-01	5.37E-01
		272.11		21.20	3.99E-01		2.55E-01	1.93E-01
	HF-175	343.40		84.00	1.22E-01	1.22E-01	-1.87E-02	5.82E-02
	LU-176	88.34		13.30	5.69E-01	7.71E-02	6.48E-02	2.79E-01
		201.83		86.00	8.24E-02		-3.41E-02	4.00E-02
		306.78		94.00	7.71E-02		4.21E-02	3.70E-02
	TA-182	67.75		41.20	2.21E-01	2.21E-01	7.02E-02	1.08E-01
		1121.30		34.90	6.09E-01		9.50E-01	2.89E-01
		1189.05		16.23	9.15E-01		3.93E-01	4.23E-01
		1221.41		26.98	6.53E-01		4.62E-01	3.05E-01
		1231.02		11.44	1.31E+00		2.46E-01	6.04E-01
	IR-192	308.46		29.68	3.12E-01	2.08E-01	-7.34E-02	1.49E-01
		468.07		48.10	2.08E-01		1.94E-03	9.83E-02
	HG-203	279.19		77.30	1.58E-01	1.58E-01	7.74E-02	7.62E-02
	BI-207	569.67		97.72	8.05E-02	8.05E-02	-2.72E-02	3.77E-02
		1063.62		74.90	1.31E-01		-4.29E-02	5.96E-02
+	TL-208	583.14	*	30.22	4.00E-01	2.07E-01	1.45E+00	1.91E-01
		860.37	*	4.48	2.05E+00		2.69E+00	9.44E-01
		2614.66	*	35.85	2.07E-01		1.19E+00	8.11E-02
	BI-210M	262.00		45.00	1.63E-01	1.63E-01	5.48E-02	7.86E-02
		300.00		23.00	3.34E-01		4.98E-02	1.61E-01
+	PB-210	46.50	*	4.25	3.02E+00	3.02E+00	1.78E+00	1.48E+00
	PB-211	404.84		2.90	2.75E+00	2.75E+00	2.94E-01	1.31E+00
		831.96		2.90	3.22E+00		-1.21E+00	1.49E+00
+	BI-212	727.17	*	11.80	1.24E+00	1.24E+00	8.57E-01	5.96E-01
		1620.62		2.75	3.85E+00		1.20E+00	1.71E+00
+	PB-212	238.63	*	44.60	2.82E-01	2.82E-01	1.76E+00	1.39E-01
		300.09		3.41	2.26E+00		3.36E-01	1.09E+00

Analysis Report for 1510091-06

CP1807S08-09

	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	2.47E-01	2.47E-01	1.42E+00	1.18E-01
		1120.29	*	15.10	1.12E+00		2.00E+00	5.29E-01
		1764.49	*	15.80	4.76E-01		1.34E+00	1.98E-01
		2204.22		4.98	2.79E+00		1.29E+00	1.24E+00
+	PB-214	295.21	*	19.19	4.68E-01	2.91E-01	1.51E+00	2.27E-01
		351.92	*	37.19	2.91E-01		1.38E+00	1.41E-01
	RN-219	401.80		6.50	1.26E+00	1.26E+00	6.45E-01	6.01E-01
	RA-223	323.87		3.88	1.97E+00	1.97E+00	-1.98E-01	9.48E-01
	RA-224	240.98		3.95	3.88E+00	3.88E+00	2.38E+01	1.91E+00
	RA-225	40.00		31.00	1.67E+00	1.67E+00	-1.34E-01	8.11E-01
+	RA-226	186.21	*	3.28	3.51E+00	3.51E+00	4.51E+00	1.72E+00
	TH-227	50.10		8.40	9.92E-01	9.92E-01	-3.96E-01	4.83E-01
		236.00		11.50	1.17E+00		-3.17E-03	5.74E-01
		256.20		6.30	1.14E+00		-1.84E-01	5.51E-01
+	AC-228	338.32	*	11.40	1.07E+00	5.80E-01	1.46E+00	5.22E-01
		911.07	*	27.70	5.80E-01		1.22E+00	2.76E-01
		969.11	*	16.60	8.73E-01		1.64E+00	4.13E-01
	TH-230	48.44		16.90	5.59E-01	5.59E-01	2.46E-01	2.73E-01
		62.85		4.60	1.87E+00		2.45E+00	9.17E-01
		67.67		0.37	2.04E+01		6.47E+00	9.99E+00
	PA-231	283.67		1.60	4.44E+00	3.23E+00	-2.58E+00	2.14E+00
		302.67		2.30	3.23E+00		1.28E+00	1.55E+00
	TH-231	25.64		14.70	3.56E+00	1.04E+00	-2.19E+00	1.73E+00
		84.21		6.40	1.04E+00		-2.12E+00	5.08E-01
	PA-233	311.98		38.60	3.94E-01	3.94E-01	-6.57E-02	1.88E-01
	PA-234	131.20		20.40	2.90E-01	2.90E-01	2.05E-01	1.41E-01
		733.99		8.80	1.19E+00		5.50E-01	5.62E-01
		946.00		12.00	9.55E-01		6.30E-01	4.46E-01
	PA-234M	1001.03		0.92	1.18E+01	1.18E+01	-8.44E-01	5.45E+00
+	TH-234	63.29	*	3.80	3.12E+00	3.12E+00	2.39E+00	1.54E+00
	U-235	143.76		10.50	5.63E-01	5.63E-01	2.27E-01	2.74E-01
		163.35		4.70	1.24E+00		2.88E-01	5.99E-01
		205.31		4.70	1.52E+00		-1.97E+00	7.37E-01
	NP-237	86.50		12.60	5.93E-01	5.93E-01	5.46E-01	2.91E-01
	NP-239	106.10		22.70	2.32E+03	2.32E+03	-1.23E+02	1.13E+03
		228.18		10.70	6.95E+03		1.87E+03	3.37E+03
		277.60		14.10	5.39E+03		5.56E+03	2.60E+03
	AM-241	59.54		35.90	2.22E-01	2.22E-01	-3.00E-01	1.09E-01
	AM-243	74.67		66.00	1.59E-01	1.59E-01	3.45E-01	7.83E-02
	CM-243	209.75		3.29	2.26E+00	5.55E-01	-4.06E-01	1.10E+00
		228.14		10.60	7.17E-01		1.93E-01	3.48E-01
		277.60		14.00	5.55E-01		5.72E-01	2.68E-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 1510091-06
CP1807S08-09

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: CP1807S08-09

Elapsed Live time: 3600
Elapsed Real Time: 3616

Channel								
1:	0	0	0	0	0	0	0	0
9:	11	167	184	142	141	117	106	120
17:	106	89	72	66	96	86	115	83
25:	90	78	99	77	86	76	82	77
33:	103	71	73	73	82	80	88	84
41:	86	99	94	88	97	125	172	108
49:	94	103	85	91	111	117	109	132
57:	111	123	117	139	143	139	204	209
65:	149	128	143	134	171	139	142	148
73:	155	174	434	291	477	488	125	143
81:	107	117	106	154	160	107	210	220
89:	124	169	122	124	242	215	122	82
97:	76	81	97	109	82	78	73	73
105:	92	95	77	69	85	88	83	75
113:	77	72	81	92	72	72	75	67
121:	75	75	67	78	78	71	88	85
129:	79	116	79	79	73	62	62	69
137:	69	57	77	84	82	77	75	96
145:	74	67	66	58	81	57	65	58
153:	79	68	78	64	66	73	63	58
161:	59	63	62	63	70	65	66	58
169:	62	61	61	60	66	60	55	72
177:	59	49	73	54	65	54	61	64
185:	66	146	133	56	50	67	60	45
193:	44	50	56	58	61	58	56	45
201:	49	44	62	45	62	63	48	35
209:	72	94	41	40	46	52	51	58
217:	56	48	47	47	61	52	41	42
225:	66	44	52	41	60	42	41	45
233:	53	50	56	53	55	196	594	224
241:	75	141	69	34	33	35	35	41
249:	41	40	31	38	37	29	46	40
257:	31	35	39	49	34	36	35	25
265:	39	37	29	35	42	59	70	38
273:	25	28	35	32	41	44	44	32
281:	34	27	24	37	32	30	27	34
289:	35	28	22	24	29	34	134	170
297:	55	25	22	38	37	28	21	30
305:	31	22	22	32	30	25	19	22
313:	25	23	20	21	26	28	16	18
321:	24	26	30	30	26	32	28	40
329:	37	33	29	20	29	28	25	24
337:	35	69	118	42	18	23	31	21
345:	15	19	23	15	23	25	71	247
353:	179	32	24	23	32	17	25	20
361:	26	22	17	24	21	27	32	20

369:	23	17	13	26	26	17	18	21

Sample Title: CP1807S08-09

Channel								
377:	17	23	11	16	19	17	22	19
385:	14	22	24	20	23	21	15	18
393:	23	10	20	28	17	19	20	20
401:	22	22	19	28	22	14	20	18
409:	30	30	16	8	19	20	21	25
417:	23	22	22	16	11	22	23	18
425:	13	16	21	25	19	20	27	10
433:	18	23	17	16	10	11	24	17
441:	14	18	16	18	7	12	15	11
449:	21	11	12	18	13	15	8	17
457:	12	18	23	14	17	17	30	34
465:	12	17	7	14	19	14	13	15
473:	18	14	14	9	8	14	23	15
481:	23	12	18	13	9	18	15	16
489:	22	13	17	13	10	15	13	10
497:	12	17	13	12	13	14	22	17
505:	14	11	13	18	27	42	73	36
513:	21	16	8	14	11	16	11	12
521:	19	15	13	20	14	4	10	10
529:	11	13	9	14	9	9	9	14
537:	14	17	13	18	17	15	16	13
545:	8	13	11	13	11	15	11	19
553:	14	15	14	8	8	17	6	18
561:	16	10	16	10	11	18	14	10
569:	12	12	11	8	7	10	13	4
577:	11	12	11	8	13	28	111	109
585:	19	12	12	13	12	8	10	10
593:	17	9	11	9	7	11	6	13
601:	7	18	9	14	5	10	16	33
609:	136	154	38	15	8	8	5	14
617:	12	15	10	17	12	10	11	17
625:	9	12	13	6	13	13	6	12
633:	11	6	10	7	11	10	13	8
641:	7	20	12	7	7	8	13	10
649:	12	9	13	18	17	10	8	8
657:	13	10	12	13	17	15	9	9
665:	12	14	7	4	8	8	6	12
673:	10	6	12	9	11	13	7	14
681:	11	11	6	6	8	7	8	15
689:	10	8	12	6	10	14	11	15
697:	10	12	13	11	10	16	11	12
705:	11	10	13	6	13	10	9	9
713:	8	6	9	9	10	12	7	8
721:	11	6	8	7	10	8	37	33
729:	13	8	13	9	10	15	13	13
737:	13	6	9	9	10	8	9	6
745:	9	7	10	11	10	2	8	12
753:	9	15	7	19	9	6	6	7
761:	9	7	5	9	13	12	12	23
769:	26	18	6	8	11	9	3	11
777:	7	6	5	2	5	9	4	6
785:	9	19	13	9	7	9	7	8
793:	10	9	19	14	9	8	5	3

801:	4	7	9	7	7	10	7	9

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Channel								
809:	9	7	5	12	5	6	11	9
817:	6	7	8	4	5	7	5	9
825:	12	8	4	10	9	5	10	5
833:	6	10	8	11	12	6	11	11
841:	14	12	9	8	9	3	10	13
849:	6	7	4	6	5	7	7	5
857:	7	7	9	20	24	9	4	4
865:	11	7	8	6	4	3	2	9
873:	6	9	10	2	3	8	10	6
881:	8	6	6	6	5	9	13	6
889:	7	10	2	7	4	7	11	11
897:	2	6	5	7	8	6	10	10
905:	9	8	6	7	10	17	81	54
913:	11	4	7	8	3	11	4	2
921:	5	8	10	1	2	6	5	5
929:	7	6	6	5	6	11	9	5
937:	8	4	7	5	6	5	9	11
945:	8	7	4	10	16	7	4	4
953:	5	11	9	6	6	7	5	12
961:	4	7	7	10	16	12	5	32
969:	46	28	10	4	7	9	4	6
977:	6	6	13	6	4	5	6	4
985:	4	4	5	3	4	5	4	4
993:	4	8	6	9	6	10	8	6
1001:	6	10	4	8	8	8	4	3
1009:	8	4	6	7	7	9	6	5
1017:	3	8	5	1	3	3	4	6
1025:	7	7	8	4	6	7	5	3
1033:	8	8	1	5	3	5	6	8
1041:	4	4	4	7	7	3	4	10
1049:	1	9	6	7	7	4	6	7
1057:	4	6	8	2	5	6	7	4
1065:	6	7	6	7	3	6	9	7
1073:	4	6	6	6	8	11	7	8
1081:	6	3	9	5	6	8	3	5
1089:	4	6	4	8	4	4	10	12
1097:	2	10	4	4	7	7	6	9
1105:	2	5	3	8	1	6	8	8
1113:	8	4	6	6	8	8	21	36
1121:	31	9	7	7	4	4	4	3
1129:	5	5	5	2	9	8	0	3
1137:	6	7	5	6	8	5	6	4
1145:	5	6	9	3	8	4	7	3
1153:	6	10	10	4	2	9	4	5
1161:	5	4	6	6	9	6	4	5
1169:	11	7	8	8	10	4	5	5
1177:	10	4	5	4	5	3	10	4
1185:	9	2	9	7	4	12	9	7
1193:	3	4	8	5	5	7	8	5
1201:	3	6	6	3	5	5	11	3
1209:	8	7	4	8	3	4	6	4
1217:	8	9	16	13	10	7	7	7
1225:	6	5	8	7	5	11	6	5

1233:	8	6	4	7	11	14	10	7

Sample Title: CP1807S08-09

Channel								
1241:	4	7	6	9	4	3	6	8
1249:	3	7	2	8	7	4	3	6
1257:	6	7	0	9	2	5	7	5
1265:	5	3	5	8	3	7	5	4
1273:	3	9	9	4	4	4	1	6
1281:	9	4	4	8	7	4	7	2
1289:	2	4	3	2	6	4	4	5
1297:	7	7	4	5	4	5	7	12
1305:	3	5	6	5	9	5	1	3
1313:	1	4	4	4	3	9	3	4
1321:	4	4	4	3	4	5	2	1
1329:	4	5	5	10	7	3	1	2
1337:	4	6	1	3	3	3	2	2
1345:	4	5	3	5	4	4	4	2
1353:	0	4	1	3	2	4	5	1
1361:	3	4	3	2	3	6	2	3
1369:	2	2	2	3	3	2	2	2
1377:	8	12	4	3	1	7	5	2
1385:	5	2	1	1	3	1	1	1
1393:	1	2	2	0	0	3	4	4
1401:	3	0	3	2	5	6	3	5
1409:	3	1	4	3	1	1	0	2
1417:	3	3	0	0	5	0	3	2
1425:	1	1	1	2	4	4	2	3
1433:	4	6	2	4	3	3	3	2
1441:	3	2	2	3	2	1	2	4
1449:	2	2	4	1	1	3	1	1
1457:	0	12	37	130	217	89	8	3
1465:	4	0	2	0	4	2	1	2
1473:	1	3	1	1	0	3	3	1
1481:	2	1	0	0	3	1	3	1
1489:	1	2	0	3	1	2	5	6
1497:	2	1	3	1	2	6	0	1
1505:	5	2	1	6	4	5	3	4
1513:	3	3	4	1	2	2	2	3
1521:	5	0	2	2	1	1	3	2
1529:	2	1	1	2	1	0	4	2
1537:	4	4	0	0	2	1	1	1
1545:	2	3	0	0	1	0	0	0
1553:	0	1	1	2	1	0	2	0
1561:	1	1	2	0	1	1	1	1
1569:	1	0	3	1	0	2	1	1
1577:	1	2	1	1	1	3	2	3
1585:	1	0	3	6	6	1	3	9
1593:	1	2	0	2	2	3	0	3
1601:	1	3	1	0	0	1	0	5
1609:	1	1	1	1	1	1	2	3
1617:	2	2	4	5	1	3	1	0
1625:	3	0	2	2	0	4	1	3
1633:	0	1	1	0	1	1	4	0
1641:	2	1	1	0	0	0	3	1
1649:	3	2	0	0	1	1	1	1
1657:	1	0	1	3	4	1	2	3

1665:	0	0	0	3	1	1	1	0

Sample Title: CP1807S08-09

Channel								
1673:	0	1	0	1	1	2	3	0
1681:	2	0	0	0	2	1	0	0
1689:	2	1	1	0	1	1	0	1
1697:	2	1	2	0	0	1	1	1
1705:	0	2	0	0	1	1	2	1
1713:	1	1	1	1	0	1	1	0
1721:	1	2	3	1	3	1	2	3
1729:	3	4	0	0	0	1	1	2
1737:	0	2	1	2	1	2	0	1
1745:	4	1	1	2	0	4	0	1
1753:	1	0	0	2	2	0	1	1
1761:	2	3	4	21	12	7	0	1
1769:	6	2	2	0	2	1	2	2
1777:	0	0	1	2	2	0	1	2
1785:	1	3	2	1	0	0	2	2
1793:	0	1	0	3	2	0	1	2
1801:	0	0	2	0	0	0	1	0
1809:	0	0	0	2	1	2	2	0
1817:	2	3	0	1	2	2	0	3
1825:	0	1	2	0	0	0	0	0
1833:	0	1	0	0	0	2	1	0
1841:	1	4	0	0	0	2	1	2
1849:	0	0	2	1	0	0	0	1
1857:	2	2	0	1	3	0	0	1
1865:	0	0	1	3	0	1	1	1
1873:	0	0	0	1	0	0	0	2
1881:	0	3	0	0	1	0	0	3
1889:	0	0	0	1	0	0	0	0
1897:	3	0	0	0	1	1	1	2
1905:	0	0	1	1	0	0	0	2
1913:	1	1	0	0	0	1	0	1
1921:	0	1	0	1	2	2	2	0
1929:	1	1	0	2	1	1	0	2
1937:	0	1	3	1	0	3	2	0
1945:	1	3	0	0	0	1	1	1
1953:	1	0	0	1	1	0	0	1
1961:	0	2	0	1	0	1	0	1
1969:	2	2	2	0	1	4	0	0
1977:	0	0	0	1	1	0	0	0
1985:	0	0	0	2	2	3	1	2
1993:	1	0	0	0	3	0	2	0
2001:	1	0	0	0	1	2	0	1
2009:	1	1	0	4	2	1	0	1
2017:	2	0	0	1	1	1	2	2
2025:	1	1	1	0	2	3	1	3
2033:	1	1	0	0	1	1	0	2
2041:	2	1	0	0	1	0	1	1
2049:	2	0	3	0	0	1	1	1
2057:	1	1	0	2	0	0	1	0
2065:	0	0	0	1	2	0	0	1
2073:	0	1	1	0	1	3	0	0
2081:	1	0	2	0	1	1	0	0
2089:	1	1	1	2	0	0	1	0

2097:	0	1	0	2	0	5	6	1

Sample Title: CP1807S08-09

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

2529:	0	0	0	1	0	1	0	1

Sample Title: CP1807S08-09

Channel								
2537:	1	1	1	1	1	4	0	1
2545:	0	1	0	0	0	0	0	0
2553:	0	0	1	1	0	0	2	0
2561:	0	0	1	0	0	1	0	1
2569:	0	0	1	1	0	0	0	1
2577:	0	0	0	0	0	0	1	0
2585:	0	0	0	1	0	0	1	0
2593:	0	0	0	0	0	0	1	1
2601:	0	1	1	1	0	1	0	0
2609:	0	0	1	5	18	23	20	6
2617:	1	0	1	1	0	0	0	0
2625:	0	0	0	0	0	1	0	0
2633:	0	0	0	0	0	1	1	0
2641:	0	0	1	0	1	1	0	0
2649:	0	0	1	0	0	1	0	0
2657:	0	0	1	1	0	0	1	1
2665:	0	0	0	0	0	0	0	0
2673:	0	0	0	0	0	0	0	1
2681:	2	0	0	0	0	0	0	0
2689:	0	0	0	0	0	0	0	0
2697:	0	0	1	0	0	0	0	0
2705:	0	0	0	0	1	0	1	0
2713:	0	0	0	0	0	1	0	1
2721:	0	0	0	1	0	0	0	0
2729:	1	0	0	0	0	0	0	0
2737:	0	0	0	0	0	0	0	0
2745:	0	0	0	0	0	0	0	0
2753:	0	1	0	0	0	0	0	0
2761:	0	0	1	0	0	0	0	0
2769:	1	1	0	0	0	0	0	1
2777:	1	0	0	0	0	0	0	0
2785:	1	0	0	1	0	0	0	0
2793:	1	2	0	0	0	1	0	1
2801:	0	0	1	1	0	0	0	1
2809:	0	1	0	0	0	2	0	0
2817:	1	1	0	0	1	0	0	0
2825:	0	0	1	0	0	0	1	0
2833:	0	1	0	0	0	0	0	0
2841:	0	0	0	0	0	1	0	0
2849:	0	1	0	0	0	0	0	0
2857:	0	0	1	0	0	0	0	0
2865:	0	0	1	1	0	0	0	0
2873:	0	0	0	0	0	0	0	0
2881:	0	0	1	0	0	1	0	0
2889:	0	0	1	1	1	0	0	0
2897:	0	0	0	0	0	0	0	0
2905:	0	0	0	1	0	0	0	0
2913:	0	0	0	0	0	0	1	1
2921:	0	1	0	0	1	0	0	0
2929:	0	0	0	0	0	0	0	0
2937:	0	0	0	1	1	0	0	0
2945:	0	0	0	0	0	0	0	0
2953:	0	0	0	0	0	1	1	1

2961:	0	0	1	1	0	1	0	1

Sample Title: CP1807S08-09

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

3393:	0	0	0	0	0	0	0	0

Sample Title: CP1807S08-09

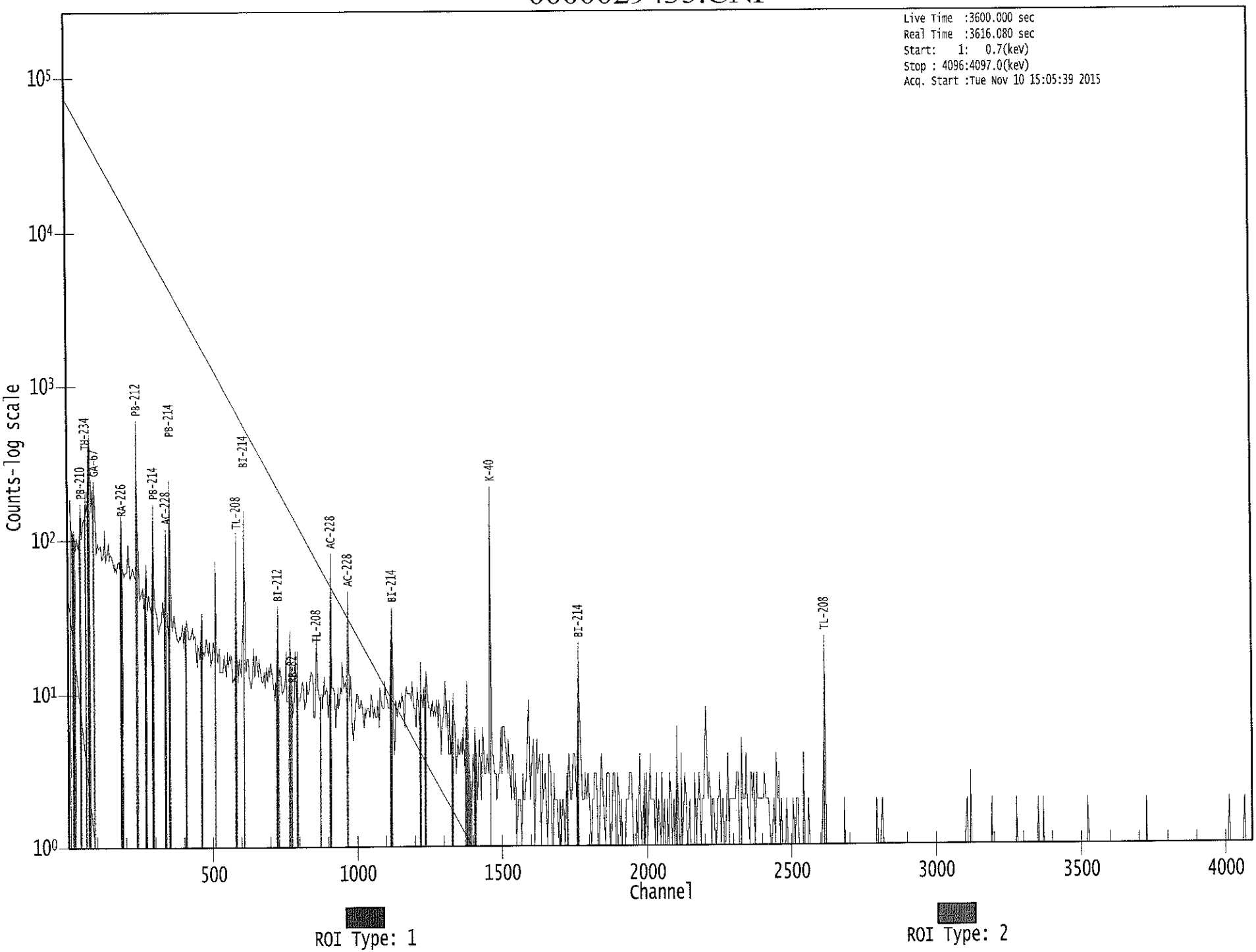
Channel								
3401:	0	0	0	0	0	0	0	0
3409:	0	0	0	0	0	0	0	0
3417:	1	1	0	1	0	0	0	0
3425:	0	0	0	1	0	0	0	0
3433:	0	0	0	0	0	0	0	0
3441:	0	0	0	0	1	0	0	0
3449:	1	0	0	0	0	0	0	0
3457:	0	0	0	0	0	0	0	0
3465:	0	0	0	0	0	0	0	0
3473:	0	0	0	0	0	0	0	0
3481:	0	0	0	0	0	0	0	0
3489:	0	0	0	0	0	0	0	0
3497:	0	0	0	0	0	0	0	0
3505:	0	0	0	0	0	0	0	0
3513:	0	0	0	0	0	0	0	0
3521:	2	0	0	0	0	0	1	0
3529:	0	1	0	0	1	1	1	0
3537:	0	0	0	0	0	0	0	0
3545:	0	0	0	0	0	0	1	0
3553:	0	0	0	0	0	0	0	0
3561:	0	0	0	1	0	0	0	0
3569:	0	0	0	0	0	0	0	0
3577:	0	0	0	0	1	0	0	1
3585:	1	0	0	0	0	0	0	0
3593:	0	0	0	0	0	0	0	0
3601:	0	0	1	0	0	0	0	0
3609:	0	0	0	1	0	0	0	0
3617:	0	0	1	0	0	0	0	0
3625:	0	0	0	0	0	1	0	1
3633:	0	0	1	0	1	0	0	1
3641:	0	0	0	0	0	0	1	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	0	1	0
3665:	0	0	0	0	0	0	0	0
3673:	0	0	0	0	1	0	1	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	0	0	0
3713:	1	0	0	0	0	1	0	0
3721:	0	0	0	0	0	2	0	0
3729:	0	0	0	0	0	0	0	0
3737:	0	0	0	0	0	1	0	0
3745:	0	0	0	0	1	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	0	0	0	0	1
3777:	0	0	0	0	0	1	0	0
3785:	0	0	0	0	0	0	0	0
3793:	0	0	0	0	0	0	0	0
3801:	0	0	0	0	0	0	0	0
3809:	0	0	1	0	0	0	0	0
3817:	0	0	0	0	0	0	1	0

3825:	0	0	0	0	0	0	1	0

Sample Title: CP1807S08-09

Channel								
3833:	0	0	1	1	0	0	0	0
3841:	0	0	0	0	0	0	1	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	0	1	0	1	0
3865:	0	0	0	0	1	0	0	0
3873:	0	0	0	0	0	0	0	0
3881:	0	0	0	0	0	0	0	0
3889:	0	0	0	0	0	0	0	0
3897:	0	0	0	1	0	0	1	0
3905:	0	0	1	0	0	0	0	0
3913:	0	0	1	0	0	0	0	0
3921:	0	0	1	0	0	0	0	0
3929:	0	0	0	0	0	0	0	0
3937:	0	0	0	1	1	0	0	0
3945:	0	0	0	0	0	0	0	0
3953:	0	0	0	0	0	0	0	0
3961:	0	0	1	0	0	0	0	0
3969:	0	0	0	0	1	0	0	0
3977:	0	1	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:	1	0	0	0	0	0	0	0
4009:	1	0	0	0	2	0	0	0
4017:	0	0	0	0	0	0	0	0
4025:	1	0	0	0	1	0	0	0
4033:	0	0	0	0	1	0	0	0
4041:	0	0	0	0	0	0	0	0
4049:	0	0	0	0	0	1	0	0
4057:	0	0	0	0	1	0	0	0
4065:	1	0	2	0	0	0	0	0
4073:	0	0	0	0	0	0	0	0
4081:	0	0	0	0	0	0	0	1
4089:	1	0	0	0	0	0	0	0

0000029435.CNF



KB 11/10/15

Apex-Gamma

Analysis Report for 1510091-07
CP1807S11-12

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1510091-07
Sample Description	: CP1807S11-12
Sample Type	: SOIL
Sample Size	: 5.434E+02 grams
Facility	: Countroom
Sample Taken On	: 10/10/2015 10:14:01AM
Acquisition Started	: 11/10/2015 3:11:29PM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE2
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3601.3 seconds
Dead Time	: 0.03 %
Peak Locate Threshold	: 2.50
Peak Locate Range (in channels)	: 1 - 4096
Peak Area Range (in channels)	: 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	: 29424

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG 11/11/15

Analysis Report for 1510091-07

CP1807S11-12

PEAK LOCATE REPORT

Peak Locate Performed on : 11/10/2015 4:11:33PM
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	76.38	0.0000	0.00
2	87.38	87.46	0.0000	0.00
3	92.70	92.78	0.0000	0.00
4	154.71	154.75	0.0000	0.00
5	186.45	186.48	0.0000	0.00
6	209.21	209.22	0.0000	0.00
7	238.77	238.77	0.0000	0.00
8	241.87	241.87	0.0000	0.00
9	270.31	270.29	0.0000	0.00
10	295.28	295.25	0.0000	0.00
11	299.90	299.87	0.0000	0.00
12	327.84	327.79	0.0000	0.00
13	338.43	338.37	0.0000	0.00
14	351.94	351.87	0.0000	0.00
15	454.66	454.54	0.0000	0.00
16	463.70	463.58	0.0000	0.00
17	511.11	510.97	0.0000	0.00
18	518.26	518.12	0.0000	0.00
19	583.30	583.13	0.0000	0.00
20	609.25	609.06	0.0000	0.00
21	621.01	620.81	0.0000	0.00
22	727.39	727.14	0.0000	0.00
23	768.88	768.61	0.0000	0.00
24	772.35	772.08	0.0000	0.00
25	794.88	794.60	0.0000	0.00
26	861.07	860.76	0.0000	0.00
27	905.15	904.83	0.0000	0.00
28	911.39	911.07	0.0000	0.00
29	964.72	964.37	0.0000	0.00
30	968.94	968.59	0.0000	0.00
31	1045.09	1044.71	0.0000	0.00
32	1120.19	1119.78	0.0000	0.00
33	1134.86	1134.45	0.0000	0.00
34	1238.58	1238.13	0.0000	0.00
35	1255.06	1254.60	0.0000	0.00
36	1304.51	1304.04	0.0000	0.00
37	1377.53	1377.03	0.0000	0.00
38	1396.33	1395.83	0.0000	0.00
39	1414.90	1414.40	0.0000	0.00
40	1460.88	1460.35	0.0000	0.00
41	1468.48	1467.95	0.0000	0.00
42	1588.35	1587.79	0.0000	0.00

Analysis Report for 1510091-07

CP1807S11-12

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1593.76	1593.20	0.0000	0.00
44	1618.76	1618.19	0.0000	0.00
45	1633.68	1633.11	0.0000	0.00
46	1644.19	1643.62	0.0000	0.00
47	1660.70	1660.13	0.0000	0.00
48	1667.91	1667.33	0.0000	0.00
49	1686.88	1686.29	0.0000	0.00
50	1691.84	1691.25	0.0000	0.00
51	1729.82	1729.22	0.0000	0.00
52	1764.53	1763.92	0.0000	0.00
53	1789.75	1789.14	0.0000	0.00
54	1847.40	1846.77	0.0000	0.00
55	1888.12	1887.48	0.0000	0.00
56	1925.31	1924.67	0.0000	0.00
57	1934.91	1934.26	0.0000	0.00
58	2051.41	2050.75	0.0000	0.00
59	2084.67	2084.00	0.0000	0.00
60	2094.84	2094.17	0.0000	0.00
61	2103.08	2102.40	0.0000	0.00
62	2113.81	2113.14	0.0000	0.00
63	2183.07	2182.38	0.0000	0.00
64	2204.02	2203.32	0.0000	0.00
65	2341.68	2340.96	0.0000	0.00
66	2614.04	2613.30	0.0000	0.00
67	2877.75	2877.00	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510091-07

CP1807S11-12

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 4:11:33PM

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	79	76.38	1.16E+03	124.34	1.80E+03	3.89
	2	87.38	86	89	87.46	7.14E+01	67.88	1.09E+03	1.54
	3	92.70	89	96	92.78	2.91E+02	109.09	1.70E+03	1.59
	4	154.71	152	158	154.75	1.13E+02	68.55	7.69E+02	2.63
	5	186.45	183	190	186.48	2.49E+02	72.47	7.04E+02	1.83
	6	209.21	206	212	209.22	1.00E+02	64.41	6.74E+02	2.05
M	7	238.77	235	245	238.77	1.03E+03	74.30	3.70E+02	1.48
m	8	241.87	235	245	241.87	1.90E+02	78.92	5.18E+02	2.13
	9	270.31	267	272	270.29	6.60E+01	47.87	4.02E+02	1.87
M	10	295.28	291	303	295.25	2.17E+02	45.74	2.90E+02	1.56
m	11	299.90	291	303	299.87	1.06E+02	40.65	2.75E+02	1.66
	12	327.84	325	330	327.79	6.99E+01	39.14	2.48E+02	2.17
M	13	338.43	335	359	338.37	2.25E+02	42.43	2.07E+02	1.78
m	14	351.94	335	359	351.87	4.36E+02	51.42	1.95E+02	1.55
	15	454.66	449	459	454.54	6.42E+01	47.73	2.70E+02	6.89
	16	463.70	460	467	463.58	7.62E+01	40.35	2.22E+02	2.64
	17	511.11	505	515	510.97	1.70E+02	55.03	3.13E+02	2.39
	18	518.26	516	520	518.12	2.09E+01	23.38	1.00E+02	1.59
	19	583.30	579	586	583.13	3.61E+02	50.24	1.80E+02	1.70
	20	609.25	604	613	609.06	3.49E+02	55.76	2.45E+02	1.42
	21	621.01	617	626	620.81	3.78E+01	34.61	1.48E+02	6.36
	22	727.39	723	731	727.14	9.90E+01	35.66	1.34E+02	1.93
M	23	768.88	763	774	768.61	4.07E+01	27.26	9.90E+01	2.22
m	24	772.35	763	774	772.08	2.73E+01	24.49	7.65E+01	2.12
	25	794.88	791	798	794.60	3.30E+01	29.66	1.26E+02	1.56
	26	861.07	857	866	860.76	3.16E+01	33.35	1.43E+02	2.03
	27	905.15	901	907	904.83	2.18E+01	23.80	8.65E+01	2.52
	28	911.39	907	915	911.07	1.84E+02	40.49	1.37E+02	1.97
M	29	964.72	962	973	964.37	2.71E+01	17.78	4.68E+01	2.10
m	30	968.94	962	973	968.59	1.06E+02	29.05	8.83E+01	1.98
	31	1045.09	1041	1051	1044.71	2.83E+01	28.67	9.75E+01	4.72
M	32	1120.19	1115	1138	1119.78	7.52E+01	27.64	7.45E+01	2.79
m	33	1134.86	1115	1138	1134.45	1.74E+01	22.98	7.89E+01	2.81
	34	1238.58	1233	1242	1238.13	3.14E+01	35.79	1.65E+02	1.77
	35	1255.06	1245	1262	1254.60	4.47E+01	36.93	1.07E+02	13.71
	36	1304.51	1299	1308	1304.04	2.28E+01	21.70	5.23E+01	5.16
	37	1377.53	1371	1381	1377.03	3.00E+01	21.21	4.40E+01	1.80
	38	1396.33	1392	1398	1395.83	1.78E+01	11.35	1.05E+01	2.86
	39	1414.90	1411	1417	1414.40	1.00E+01	12.23	1.79E+01	2.30
	40	1460.88	1455	1466	1460.35	7.47E+02	58.10	5.05E+01	2.37

Analysis Report for 1510091-07

CP1807S11-12

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	41	1468.48	1466 - 1471		1467.95	9.26E+00	11.40	1.95E+01	2.70
M	42	1588.35	1582 - 1596		1587.79	2.07E+01	19.08	4.51E+01	3.18
m	43	1593.76	1582 - 1596		1593.20	1.69E+01	16.37	2.24E+01	2.82
	44	1618.76	1613 - 1622		1618.19	1.52E+01	14.14	1.96E+01	7.07
	45	1633.68	1627 - 1640		1633.11	2.11E+01	16.46	1.98E+01	9.03
	46	1644.19	1641 - 1646		1643.62	6.00E+00	7.35	6.00E+00	2.38
	47	1660.70	1657 - 1664		1660.13	9.08E+00	10.00	7.85E+00	1.77
	48	1667.91	1665 - 1669		1667.33	6.00E+00	4.90	0.00E+00	1.47
M	49	1686.88	1685 - 1694		1686.29	6.88E+00	5.10	3.22E+00	2.57
m	50	1691.84	1685 - 1694		1691.25	1.05E+01	8.28	3.44E+00	3.74
	51	1729.82	1724 - 1733		1729.22	1.16E+01	14.87	2.48E+01	1.41
	52	1764.53	1758 - 1770		1763.92	7.81E+01	25.41	3.98E+01	2.66
	53	1789.75	1787 - 1791		1789.14	7.00E+00	5.29	0.00E+00	2.70
	54	1847.40	1843 - 1852		1846.77	1.33E+01	11.22	1.15E+01	1.26
	55	1888.12	1881 - 1890		1887.48	9.21E+00	11.96	1.56E+01	4.48
	56	1925.31	1921 - 1927		1924.67	6.31E+00	6.65	3.38E+00	2.71
	57	1934.91	1930 - 1937		1934.26	7.17E+00	7.21	3.67E+00	2.63
	58	2051.41	2047 - 2053		2050.75	5.67E+00	7.78	6.67E+00	1.80
	59	2084.67	2080 - 2086		2084.00	6.00E+00	4.90	0.00E+00	2.88
	60	2094.84	2090 - 2096		2094.17	6.00E+00	4.90	0.00E+00	1.98
	61	2103.08	2098 - 2109		2102.40	1.16E+01	15.62	2.67E+01	2.68
	62	2113.81	2109 - 2117		2113.14	9.50E+00	9.82	9.00E+00	6.69
	63	2183.07	2179 - 2186		2182.38	6.73E+00	8.72	8.55E+00	2.90
	64	2204.02	2198 - 2209		2203.32	2.48E+01	15.62	1.84E+01	2.42
	65	2341.68	2338 - 2343		2340.96	9.50E+00	7.28	3.00E+00	2.25
	66	2614.04	2607 - 2618		2613.30	1.11E+02	23.24	1.20E+01	1.85
	67	2877.75	2872 - 2879		2877.00	5.00E+00	4.47	0.00E+00	2.98

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 4:11:33PM

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 -	79	1.16E+03	124.34	1.80E+03	8.55E+01

Analysis Report for 1510091-07

CP1807S11-12

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	2	87.38	86 -	89	7.14E+01	67.88	1.09E+03	5.40E+01
	3	92.70	89 -	96	2.91E+02	109.09	1.70E+03	8.52E+01
	4	154.71	152 -	158	1.13E+02	68.55	7.69E+02	5.36E+01
	5	186.45	183 -	190	2.49E+02	72.47	7.04E+02	5.36E+01
	6	209.21	206 -	212	1.00E+02	64.41	6.74E+02	5.03E+01
M	7	238.77	235 -	245	1.03E+03	74.30	3.70E+02	3.16E+01
m	8	241.87	235 -	245	1.90E+02	78.92	5.18E+02	3.74E+01
	9	270.31	267 -	272	6.60E+01	47.87	4.02E+02	3.70E+01
M	10	295.28	291 -	303	2.17E+02	45.74	2.90E+02	2.80E+01
m	11	299.90	291 -	303	1.06E+02	40.65	2.75E+02	2.73E+01
	12	327.84	325 -	330	6.99E+01	39.14	2.48E+02	2.91E+01
M	13	338.43	335 -	359	2.25E+02	42.43	2.07E+02	2.36E+01
m	14	351.94	335 -	359	4.36E+02	51.42	1.95E+02	2.30E+01
	15	454.66	449 -	459	6.42E+01	47.73	2.70E+02	3.70E+01
	16	463.70	460 -	467	7.62E+01	40.35	2.22E+02	2.99E+01
	17	511.11	505 -	515	1.70E+02	55.03	3.13E+02	3.98E+01
	18	518.26	516 -	520	2.09E+01	23.38	1.00E+02	1.77E+01
	19	583.30	579 -	586	3.61E+02	50.24	1.80E+02	2.70E+01
	20	609.25	604 -	613	3.49E+02	55.76	2.45E+02	3.40E+01
	21	621.01	617 -	626	3.78E+01	34.61	1.48E+02	1.12E+01
	22	727.39	723 -	731	9.90E+01	35.66	1.34E+02	2.43E+01
M	23	768.88	763 -	774	4.07E+01	27.26	9.90E+01	1.64E+01
m	24	772.35	763 -	774	2.73E+01	24.49	7.65E+01	1.44E+01
	25	794.88	791 -	798	3.30E+01	29.66	1.26E+02	2.25E+01
	26	861.07	857 -	866	3.16E+01	33.35	1.43E+02	2.58E+01
	27	905.15	901 -	907	2.18E+01	23.80	8.65E+01	1.80E+01
	28	911.39	907 -	915	1.84E+02	40.49	1.37E+02	2.47E+01
M	29	964.72	962 -	973	2.71E+01	17.78	4.68E+01	1.13E+01
m	30	968.94	962 -	973	1.06E+02	29.05	8.83E+01	1.55E+01
	31	1045.09	1041 -	1051	2.83E+01	28.67	9.75E+01	2.19E+01
M	32	1120.19	1115 -	1138	7.52E+01	27.64	7.45E+01	1.42E+01
m	33	1134.86	1115 -	1138	1.74E+01	22.98	7.89E+01	1.46E+01
	34	1238.58	1233 -	1242	3.14E+01	35.79	1.65E+02	2.79E+01
	35	1255.06	1245 -	1262	4.47E+01	36.93	1.07E+02	2.83E+01
	36	1304.51	1299 -	1308	2.28E+01	21.70	5.23E+01	1.60E+01
	37	1377.53	1371 -	1381	3.00E+01	21.21	4.40E+01	1.49E+01
	38	1396.33	1392 -	1398	1.78E+01	11.35	1.05E+01	6.24E+00
	39	1414.90	1411 -	1417	1.00E+01	12.23	1.79E+01	8.60E+00
	40	1460.88	1455 -	1466	7.47E+02	58.10	5.05E+01	1.62E+01
	41	1468.48	1466 -	1471	9.26E+00	11.40	1.95E+01	7.92E+00
M	42	1588.35	1582 -	1596	2.07E+01	19.08	4.51E+01	1.10E+01
m	43	1593.76	1582 -	1596	1.69E+01	16.37	2.24E+01	7.78E+00
	44	1618.76	1613 -	1622	1.52E+01	14.14	1.96E+01	9.70E+00
	45	1633.68	1627 -	1640	2.11E+01	16.46	1.98E+01	1.12E+01
	46	1644.19	1641 -	1646	6.00E+00	7.35	6.00E+00	4.50E+00
	47	1660.70	1657 -	1664	9.08E+00	10.00	7.85E+00	6.56E+00
	48	1667.91	1665 -	1669	6.00E+00	4.90	0.00E+00	0.00E+00
M	49	1686.88	1685 -	1694	6.88E+00	5.10	3.22E+00	2.95E+00
m	50	1691.84	1685 -	1694	1.05E+01	8.28	3.44E+00	3.05E+00
	51	1729.82	1724 -	1733	1.16E+01	14.87	2.48E+01	1.09E+01
	52	1764.53	1758 -	1770	7.81E+01	25.41	3.98E+01	1.50E+01

Analysis Report for 1510091-07

CP1807S11-12

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
53	1789.75	1787 -	1791	7.00E+00	5.29	0.00E+00	0.00E+00
54	1847.40	1843 -	1852	1.33E+01	11.22	1.15E+01	7.02E+00
55	1888.12	1881 -	1890	9.21E+00	11.96	1.56E+01	8.47E+00
56	1925.31	1921 -	1927	6.31E+00	6.65	3.38E+00	3.58E+00
57	1934.91	1930 -	1937	7.17E+00	7.21	3.67E+00	3.97E+00
58	2051.41	2047 -	2053	5.67E+00	7.78	6.67E+00	5.06E+00
59	2084.67	2080 -	2086	6.00E+00	4.90	0.00E+00	0.00E+00
60	2094.84	2090 -	2096	6.00E+00	4.90	0.00E+00	0.00E+00
61	2103.08	2098 -	2109	1.16E+01	15.62	2.67E+01	1.16E+01
62	2113.81	2109 -	2117	9.50E+00	9.82	9.00E+00	6.29E+00
63	2183.07	2179 -	2186	6.73E+00	8.72	8.55E+00	5.76E+00
64	2204.02	2198 -	2209	2.48E+01	15.62	1.84E+01	9.89E+00
65	2341.68	2338 -	2343	9.50E+00	7.28	3.00E+00	3.18E+00
66	2614.04	2607 -	2618	1.11E+02	23.24	1.20E+01	8.05E+00
67	2877.75	2872 -	2879	5.00E+00	4.47	0.00E+00	0.00E+00

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

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/10/2015 4:11:33PM

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 -	79	76.38	1.16E+03	124.34	1.80E+03	.....
2	87.38	86 -	89	87.46	7.14E+01	67.88	1.09E+03	SN-126 CD-109 NP-237 EU-155 LU-176
3	92.70	89 -	96	92.78	2.91E+02	109.09	1.70E+03	GA-67
4	154.71	152 -	158	154.75	1.13E+02	68.55	7.69E+02	.....
5	186.45	183 -	190	186.48	2.49E+02	72.47	7.04E+02	RA-226
6	209.21	206 -	212	209.22	1.00E+02	64.41	6.74E+02	GA-67

Analysis Report for 1510091-07

CP1807S11-12

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
									CM-243
M	7	238.77	235 -	245	238.77	1.03E+03	74.30	3.70E+02	PB-212
m	8	241.87	235 -	245	241.87	1.90E+02	78.92	5.18E+02	RA-224
	9	270.31	267 -	272	270.29	6.60E+01	47.87	4.02E+02	.....
M	10	295.28	291 -	303	295.25	2.17E+02	45.74	2.90E+02	PB-214
m	11	299.90	291 -	303	299.87	1.06E+02	40.65	2.75E+02	BI-210M
									PB-212
									GA-67
	12	327.84	325 -	330	327.79	6.99E+01	39.14	2.48E+02	LA-140
M	13	338.43	335 -	359	338.37	2.25E+02	42.43	2.07E+02	AC-228
m	14	351.94	335 -	359	351.87	4.36E+02	51.42	1.95E+02	PB-214
	15	454.66	449 -	459	454.54	6.42E+01	47.73	2.70E+02	PM-146
	16	463.70	460 -	467	463.58	7.62E+01	40.35	2.22E+02	SB-125
	17	511.11	505 -	515	510.97	1.70E+02	55.03	3.13E+02	.....
	18	518.26	516 -	520	518.12	2.09E+01	23.38	1.00E+02	.....
	19	583.30	579 -	586	583.13	3.61E+02	50.24	1.80E+02	TL-208
	20	609.25	604 -	613	609.06	3.49E+02	55.76	2.45E+02	BI-214
	21	621.01	617 -	626	620.81	3.78E+01	34.61	1.48E+02	RU-106
	22	727.39	723 -	731	727.14	9.90E+01	35.66	1.34E+02	BI-212
M	23	768.88	763 -	774	768.61	4.07E+01	27.26	9.90E+01	.....
m	24	772.35	763 -	774	772.08	2.73E+01	24.49	7.65E+01	.....
	25	794.88	791 -	798	794.60	3.30E+01	29.66	1.26E+02	CS-134
	26	861.07	857 -	866	860.76	3.16E+01	33.35	1.43E+02	TL-208
	27	905.15	901 -	907	904.83	2.18E+01	23.80	8.65E+01	.....
	28	911.39	907 -	915	911.07	1.84E+02	40.49	1.37E+02	AC-228
									LU-172
M	29	964.72	962 -	973	964.37	2.71E+01	17.78	4.68E+01	EU-152
m	30	968.94	962 -	973	968.59	1.06E+02	29.05	8.83E+01	AC-228
	31	1045.09	1041 -	1051	1044.71	2.83E+01	28.67	9.75E+01	.....
M	32	1120.19	1115 -	1138	1119.78	7.52E+01	27.64	7.45E+01	BI-214
									SC-46
m	33	1134.86	1115 -	1138	1134.45	1.74E+01	22.98	7.89E+01	.....
	34	1238.58	1233 -	1242	1238.13	3.14E+01	35.79	1.65E+02	CO-56
	35	1255.06	1245 -	1262	1254.60	4.47E+01	36.93	1.07E+02	.....
	36	1304.51	1299 -	1308	1304.04	2.28E+01	21.70	5.23E+01	.....
	37	1377.53	1371 -	1381	1377.03	3.00E+01	21.21	4.40E+01	.....
	38	1396.33	1392 -	1398	1395.83	1.78E+01	11.35	1.05E+01	.....
	39	1414.90	1411 -	1417	1414.40	1.00E+01	12.23	1.79E+01	.....
	40	1460.88	1455 -	1466	1460.35	7.47E+02	58.10	5.05E+01	K-40
	41	1468.48	1466 -	1471	1467.95	9.26E+00	11.40	1.95E+01	.....
M	42	1588.35	1582 -	1596	1587.79	2.07E+01	19.08	4.51E+01	.....
m	43	1593.76	1582 -	1596	1593.20	1.69E+01	16.37	2.24E+01	.....
	44	1618.76	1613 -	1622	1618.19	1.52E+01	14.14	1.96E+01	.....
	45	1633.68	1627 -	1640	1633.11	2.11E+01	16.46	1.98E+01	.....
	46	1644.19	1641 -	1646	1643.62	6.00E+00	7.35	6.00E+00	.....
	47	1660.70	1657 -	1664	1660.13	9.08E+00	10.00	7.85E+00	.....
	48	1667.91	1665 -	1669	1667.33	6.00E+00	4.90	0.00E+00	.....
M	49	1686.88	1685 -	1694	1686.29	6.88E+00	5.10	3.22E+00	.....
m	50	1691.84	1685 -	1694	1691.25	1.05E+01	8.28	3.44E+00	SB-124
	51	1729.82	1724 -	1733	1729.22	1.16E+01	14.87	2.48E+01	.....
	52	1764.53	1758 -	1770	1763.92	7.81E+01	25.41	3.98E+01	BI-214
	53	1789.75	1787 -	1791	1789.14	7.00E+00	5.29	0.00E+00	.....
	54	1847.40	1843 -	1852	1846.77	1.33E+01	11.22	1.15E+01	.....
	55	1888.12	1881 -	1890	1887.48	9.21E+00	11.96	1.56E+01	.....

Analysis Report for 1510091-07

CP1807S11-12

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
56	1925.31	1921 -	1927	1924.67	6.31E+00	6.65	3.38E+00	.....
57	1934.91	1930 -	1937	1934.26	7.17E+00	7.21	3.67E+00	.....
58	2051.41	2047 -	2053	2050.75	5.67E+00	7.78	6.67E+00	.....
59	2084.67	2080 -	2086	2084.00	6.00E+00	4.90	0.00E+00	.....
60	2094.84	2090 -	2096	2094.17	6.00E+00	4.90	0.00E+00	.....
61	2103.08	2098 -	2109	2102.40	1.16E+01	15.62	2.67E+01	.....
62	2113.81	2109 -	2117	2113.14	9.50E+00	9.82	9.00E+00	.....
63	2183.07	2179 -	2186	2182.38	6.73E+00	8.72	8.55E+00	.....
64	2204.02	2198 -	2209	2203.32	2.48E+01	15.62	1.84E+01	BI-214
65	2341.68	2338 -	2343	2340.96	9.50E+00	7.28	3.00E+00	.....
66	2614.04	2607 -	2618	2613.30	1.11E+02	23.24	1.20E+01	TL-208
67	2877.75	2872 -	2879	2877.00	5.00E+00	4.47	0.00E+00	.....

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/10/2015 4:11:33PM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	76.30	1.16E+03	124.34	2.74E-02	3.34E-03
	2	87.38	7.14E+01	67.88	2.84E-02	4.44E-03
	3	92.70	2.91E+02	109.09	2.85E-02	4.30E-03
	4	154.71	1.13E+02	68.55	2.36E-02	2.01E-03
	5	186.45	2.49E+02	72.47	2.11E-02	1.65E-03
	6	209.21	1.00E+02	64.41	1.95E-02	1.63E-03
M	7	238.77	1.03E+03	74.30	1.79E-02	1.60E-03
m	8	241.87	1.90E+02	78.92	1.77E-02	1.60E-03
	9	270.31	6.60E+01	47.87	1.64E-02	1.57E-03
M	10	295.28	2.17E+02	45.74	1.55E-02	1.48E-03
m	11	299.90	1.06E+02	40.65	1.53E-02	1.46E-03
	12	327.84	6.99E+01	39.14	1.44E-02	1.32E-03
M	13	338.43	2.25E+02	42.43	1.41E-02	1.27E-03
m	14	351.94	4.36E+02	51.42	1.37E-02	1.21E-03
	15	454.66	6.42E+01	47.73	1.15E-02	9.56E-04
	16	463.70	7.62E+01	40.35	1.13E-02	9.46E-04
	17	511.11	1.70E+02	55.03	1.06E-02	8.98E-04
	18	518.26	2.09E+01	23.38	1.05E-02	8.91E-04

Analysis Report for 1510091-07

CP1807S11-12

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	19	583.30	3.61E+02	50.24	9.58E-03	8.25E-04
	20	609.25	3.49E+02	55.76	9.27E-03	7.98E-04
	21	621.01	3.78E+01	34.61	9.14E-03	7.86E-04
	22	727.39	9.90E+01	35.66	8.09E-03	7.03E-04
M	23	768.88	4.07E+01	27.26	7.74E-03	6.76E-04
m	24	772.35	2.73E+01	24.49	7.71E-03	6.74E-04
	25	794.88	3.30E+01	29.66	7.53E-03	6.60E-04
	26	861.07	3.16E+01	33.35	7.06E-03	6.17E-04
	27	905.15	2.18E+01	23.80	6.78E-03	5.90E-04
	28	911.39	1.84E+02	40.49	6.74E-03	5.87E-04
M	29	964.72	2.71E+01	17.78	6.44E-03	5.59E-04
m	30	968.94	1.06E+02	29.05	6.42E-03	5.57E-04
	31	1045.09	2.83E+01	28.67	6.03E-03	5.18E-04
M	32	1120.19	7.52E+01	27.64	5.70E-03	4.80E-04
m	33	1134.86	1.74E+01	22.98	5.64E-03	4.72E-04
	34	1238.58	3.14E+01	35.79	5.27E-03	4.83E-04
	35	1255.06	4.47E+01	36.93	5.22E-03	4.91E-04
	36	1304.51	2.28E+01	21.70	5.07E-03	5.13E-04
	37	1377.53	3.00E+01	21.21	4.87E-03	5.08E-04
	38	1396.33	1.78E+01	11.35	4.82E-03	5.00E-04
	39	1414.90	1.00E+01	12.23	4.78E-03	4.92E-04
	40	1460.88	7.47E+02	58.10	4.67E-03	4.73E-04
	41	1468.48	9.26E+00	11.40	4.66E-03	4.70E-04
M	42	1588.35	2.07E+01	19.08	4.43E-03	4.20E-04
m	43	1593.76	1.69E+01	16.37	4.42E-03	4.18E-04
	44	1618.76	1.52E+01	14.14	4.38E-03	4.08E-04
	45	1633.68	2.11E+01	16.46	4.36E-03	4.02E-04
	46	1644.19	6.00E+00	7.35	4.34E-03	3.97E-04
	47	1660.70	9.08E+00	10.00	4.32E-03	3.90E-04
	48	1667.91	6.00E+00	4.90	4.31E-03	3.88E-04
M	49	1686.88	6.88E+00	5.10	4.28E-03	3.80E-04
m	50	1691.84	1.05E+01	8.28	4.27E-03	3.78E-04
	51	1729.82	1.16E+01	14.87	4.23E-03	3.62E-04
	52	1764.53	7.81E+01	25.41	4.19E-03	3.47E-04
	53	1789.75	7.00E+00	5.29	4.16E-03	3.37E-04
	54	1847.40	1.33E+01	11.22	4.10E-03	3.18E-04
	55	1888.12	9.21E+00	11.96	4.07E-03	3.18E-04
	56	1925.31	6.31E+00	6.65	4.04E-03	3.18E-04
	57	1934.91	7.17E+00	7.21	4.03E-03	3.18E-04
	58	2051.41	5.67E+00	7.78	3.97E-03	3.18E-04
	59	2084.67	6.00E+00	4.90	3.96E-03	3.18E-04
	60	2094.84	6.00E+00	4.90	3.95E-03	3.18E-04
	61	2103.08	1.16E+01	15.62	3.95E-03	3.18E-04
	62	2113.81	9.50E+00	9.82	3.95E-03	3.18E-04
	63	2183.07	6.73E+00	8.72	3.93E-03	3.18E-04
	64	2204.02	2.48E+01	15.62	3.93E-03	3.18E-04
	65	2341.68	9.50E+00	7.28	3.94E-03	3.18E-04
	66	2614.04	1.11E+02	23.24	4.05E-03	3.18E-04
	67	2877.75	5.00E+00	4.47	4.30E-03	3.18E-04

Analysis Report for 1510091-07

CP1807S11-12

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 : 11/10/2015 4:11:33PM

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	1.16E+03	124.34			1.16E+03	1.24E+02
	2	87.38	7.14E+01	67.88	1.46E+00	7.88E+00	6.99E+01	6.83E+01
	3	92.70	2.91E+02	109.09	5.70E+01	9.03E+00	2.34E+02	1.09E+02
	4	154.71	1.13E+02	68.55			1.13E+02	6.86E+01
	5	186.45	2.49E+02	72.47	4.72E+01	7.97E+00	2.02E+02	7.29E+01
	6	209.21	1.00E+02	64.41			1.00E+02	6.44E+01
M	7	238.77	1.03E+03	74.30	2.36E+01	1.35E+01	1.01E+03	7.55E+01
m	8	241.87	1.90E+02	78.92	6.38E+00	3.91E+00	1.84E+02	7.90E+01
	9	270.31	6.60E+01	47.87			6.60E+01	4.79E+01
M	10	295.28	2.17E+02	45.74	8.57E+00	6.10E+00	2.09E+02	4.61E+01
m	11	299.90	1.06E+02	40.65			1.06E+02	4.07E+01
	12	327.84	6.99E+01	39.14	0.00E+00	0.00E+00	6.99E+01	3.91E+01
M	13	338.43	2.25E+02	42.43			2.25E+02	4.24E+01
m	14	351.94	4.36E+02	51.42	1.40E+01	5.55E+00	4.22E+02	5.17E+01
	15	454.66	6.42E+01	47.73			6.42E+01	4.77E+01
	16	463.70	7.62E+01	40.35			7.62E+01	4.03E+01
	17	511.11	1.70E+02	55.03	8.41E+01	5.50E+00	8.55E+01	5.53E+01
	18	518.26	2.09E+01	23.38			2.09E+01	2.34E+01
	19	583.30	3.61E+02	50.24	7.32E+00	4.08E+00	3.54E+02	5.04E+01
	20	609.25	3.49E+02	55.76	1.30E+01	3.89E+00	3.36E+02	5.59E+01
	21	621.01	3.78E+01	34.61			3.78E+01	3.46E+01
	22	727.39	9.90E+01	35.66			9.90E+01	3.57E+01
M	23	768.88	4.07E+01	27.26			4.07E+01	2.73E+01
m	24	772.35	2.73E+01	24.49			2.73E+01	2.45E+01
	25	794.88	3.30E+01	29.66			3.30E+01	2.97E+01
	26	861.07	3.16E+01	33.35			3.16E+01	3.33E+01
	27	905.15	2.18E+01	23.80			2.18E+01	2.38E+01
	28	911.39	1.84E+02	40.49	5.60E+00	3.32E+00	1.79E+02	4.06E+01
M	29	964.72	2.71E+01	17.78			2.71E+01	1.78E+01
m	30	968.94	1.06E+02	29.05			1.06E+02	2.91E+01
	31	1045.09	2.83E+01	28.67			2.83E+01	2.87E+01
M	32	1120.19	7.52E+01	27.64	3.93E+00	2.96E+00	7.13E+01	2.78E+01
m	33	1134.86	1.74E+01	22.98			1.74E+01	2.30E+01
	34	1238.58	3.14E+01	35.79			3.14E+01	3.58E+01
	35	1255.06	4.47E+01	36.93			4.47E+01	3.69E+01

Analysis Report for 1510091-07

CP1807S11-12

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	36	1304.51	2.28E+01	21.70			2.28E+01	2.17E+01
	37	1377.53	3.00E+01	21.21			3.00E+01	2.12E+01
	38	1396.33	1.78E+01	11.35			1.78E+01	1.13E+01
	39	1414.90	1.00E+01	12.23			1.00E+01	1.22E+01
	40	1460.88	7.47E+02	58.10	1.12E+01	2.55E+00	7.35E+02	5.82E+01
	41	1468.48	9.26E+00	11.40			9.26E+00	1.14E+01
M	42	1588.35	2.07E+01	19.08			2.07E+01	1.91E+01
m	43	1593.76	1.69E+01	16.37			1.69E+01	1.64E+01
	44	1618.76	1.52E+01	14.14			1.52E+01	1.41E+01
	45	1633.68	2.11E+01	16.46			2.11E+01	1.65E+01
	46	1644.19	6.00E+00	7.35			6.00E+00	7.35E+00
	47	1660.70	9.08E+00	10.00			9.08E+00	1.00E+01
	48	1667.91	6.00E+00	4.90			6.00E+00	4.90E+00
M	49	1686.88	6.88E+00	5.10			6.88E+00	5.10E+00
m	50	1691.84	1.05E+01	8.28			1.05E+01	8.28E+00
	51	1729.82	1.16E+01	14.87			1.16E+01	1.49E+01
	52	1764.53	7.81E+01	25.41	4.23E+00	2.21E+00	7.39E+01	2.55E+01
	53	1789.75	7.00E+00	5.29			7.00E+00	5.29E+00
	54	1847.40	1.33E+01	11.22			1.33E+01	1.12E+01
	55	1888.12	9.21E+00	11.96			9.21E+00	1.20E+01
	56	1925.31	6.31E+00	6.65			6.31E+00	6.65E+00
	57	1934.91	7.17E+00	7.21			7.17E+00	7.21E+00
	58	2051.41	5.67E+00	7.78			5.67E+00	7.78E+00
	59	2084.67	6.00E+00	4.90			6.00E+00	4.90E+00
	60	2094.84	6.00E+00	4.90			6.00E+00	4.90E+00
	61	2103.08	1.16E+01	15.62			1.16E+01	1.56E+01
	62	2113.81	9.50E+00	9.82			9.50E+00	9.82E+00
	63	2183.07	6.73E+00	8.72			6.73E+00	8.72E+00
	64	2204.02	2.48E+01	15.62	5.94E-01	1.16E+00	2.42E+01	1.57E+01
	65	2341.68	9.50E+00	7.28			9.50E+00	7.28E+00
	66	2614.04	1.11E+02	23.24	7.38E+00	1.57E+00	1.04E+02	2.33E+01
	67	2877.75	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 : 11/10/2015 4:11:33PM

Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

Corrected Area is: Original * Peak Ratio - Background

Analysis Report for 1510091-07

CP1807S11-12

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	1	76.30	1.16E+03	124.34			1.16E+03	1.24E+02
	2	87.38	7.14E+01	67.88	1.46E+00	7.88E+00	6.99E+01	6.83E+01
	3	92.70	2.91E+02	109.09	5.70E+01	9.03E+00	2.34E+02	1.09E+02
	4	154.71	1.13E+02	68.55			1.13E+02	6.86E+01
	5	186.45	2.49E+02	72.47	4.72E+01	7.97E+00	2.02E+02	7.29E+01
	6	209.21	1.00E+02	64.41			1.00E+02	6.44E+01
M	7	238.77	1.03E+03	74.30	2.36E+01	1.35E+01	1.01E+03	7.55E+01
m	8	241.87	1.90E+02	78.92	6.38E+00	3.91E+00	1.84E+02	7.90E+01
	9	270.31	6.60E+01	47.87			6.60E+01	4.79E+01
M	10	295.28	2.17E+02	45.74	8.57E+00	6.10E+00	2.09E+02	4.61E+01
m	11	299.90	1.06E+02	40.65			1.06E+02	4.07E+01
	12	327.84	6.99E+01	39.14	0.00E+00	0.00E+00	6.99E+01	3.91E+01
M	13	338.43	2.25E+02	42.43			2.25E+02	4.24E+01
m	14	351.94	4.36E+02	51.42	1.40E+01	5.55E+00	4.22E+02	5.17E+01
	15	454.66	6.42E+01	47.73			6.42E+01	4.77E+01
	16	463.70	7.62E+01	40.35			7.62E+01	4.03E+01
	17	511.11	1.70E+02	55.03	8.41E+01	5.50E+00	8.55E+01	5.53E+01
	18	518.26	2.09E+01	23.38			2.09E+01	2.34E+01
	19	583.30	3.61E+02	50.24	7.32E+00	4.08E+00	3.54E+02	5.04E+01
	20	609.25	3.49E+02	55.76	1.30E+01	3.89E+00	3.36E+02	5.59E+01
	21	621.01	3.78E+01	34.61			3.78E+01	3.46E+01
	22	727.39	9.90E+01	35.66			9.90E+01	3.57E+01
M	23	768.88	4.07E+01	27.26			4.07E+01	2.73E+01
m	24	772.35	2.73E+01	24.49			2.73E+01	2.45E+01
	25	794.88	3.30E+01	29.66			3.30E+01	2.97E+01
	26	861.07	3.16E+01	33.35			3.16E+01	3.33E+01
	27	905.15	2.18E+01	23.80			2.18E+01	2.38E+01
	28	911.39	1.84E+02	40.49	5.60E+00	3.32E+00	1.79E+02	4.06E+01
M	29	964.72	2.71E+01	17.78			2.71E+01	1.78E+01
m	30	968.94	1.06E+02	29.05			1.06E+02	2.91E+01
	31	1045.09	2.83E+01	28.67			2.83E+01	2.87E+01
M	32	1120.19	7.52E+01	27.64	3.93E+00	2.96E+00	7.13E+01	2.78E+01
m	33	1134.86	1.74E+01	22.98			1.74E+01	2.30E+01
	34	1238.58	3.14E+01	35.79			3.14E+01	3.58E+01
	35	1255.06	4.47E+01	36.93			4.47E+01	3.69E+01
	36	1304.51	2.28E+01	21.70			2.28E+01	2.17E+01
	37	1377.53	3.00E+01	21.21			3.00E+01	2.12E+01
	38	1396.33	1.78E+01	11.35			1.78E+01	1.13E+01
	39	1414.90	1.00E+01	12.23			1.00E+01	1.22E+01
	40	1460.88	7.47E+02	58.10	1.12E+01	2.55E+00	7.35E+02	5.82E+01
	41	1468.48	9.26E+00	11.40			9.26E+00	1.14E+01
M	42	1588.35	2.07E+01	19.08			2.07E+01	1.91E+01
m	43	1593.76	1.69E+01	16.37			1.69E+01	1.64E+01
	44	1618.76	1.52E+01	14.14			1.52E+01	1.41E+01
	45	1633.68	2.11E+01	16.46			2.11E+01	1.65E+01
	46	1644.19	6.00E+00	7.35			6.00E+00	7.35E+00
	47	1660.70	9.08E+00	10.00			9.08E+00	1.00E+01
	48	1667.91	6.00E+00	4.90			6.00E+00	4.90E+00
M	49	1686.88	6.88E+00	5.10			6.88E+00	5.10E+00
m	50	1691.84	1.05E+01	8.28			1.05E+01	8.28E+00
	51	1729.82	1.16E+01	14.87			1.16E+01	1.49E+01
	52	1764.53	7.81E+01	25.41	4.23E+00	2.21E+00	7.39E+01	2.55E+01
	53	1789.75	7.00E+00	5.29			7.00E+00	5.29E+00
	54	1847.40	1.33E+01	11.22			1.33E+01	1.12E+01

Analysis Report for 1510091-07

CP1807S11-12

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
55	1888.12	9.21E+00	11.96			9.21E+00	1.20E+01
56	1925.31	6.31E+00	6.65			6.31E+00	6.65E+00
57	1934.91	7.17E+00	7.21			7.17E+00	7.21E+00
58	2051.41	5.67E+00	7.78			5.67E+00	7.78E+00
59	2084.67	6.00E+00	4.90			6.00E+00	4.90E+00
60	2094.84	6.00E+00	4.90			6.00E+00	4.90E+00
61	2103.08	1.16E+01	15.62			1.16E+01	1.56E+01
62	2113.81	9.50E+00	9.82			9.50E+00	9.82E+00
63	2183.07	6.73E+00	8.72			6.73E+00	8.72E+00
64	2204.02	2.48E+01	15.62	5.94E-01	1.16E+00	2.42E+01	1.57E+01
65	2341.68	9.50E+00	7.28			9.50E+00	7.28E+00
66	2614.04	1.11E+02	23.24	7.38E+00	1.57E+00	1.04E+02	2.33E+01
67	2877.75	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	0.999	1460.81	*	10.67	2.04E+01	2.65E+00
GA-67	0.605	93.31	*	35.70	2.42E+02	1.03E+03
		208.95	*	2.24	2.42E+03	9.95E+03
		300.22	*	16.00	4.55E+02	1.93E+03
RU-106	0.895	621.84	*	9.80	6.19E-01	5.72E-01
CD-109	0.934	88.03	*	3.72	9.58E-01	9.49E-01
SN-126	0.994	87.57	*	37.00	9.19E-02	9.09E-02
PM-146	0.369	453.90	*	39.94	1.95E-01	1.46E-01
		735.90		14.01		
		747.13		13.10		
TL-208	0.963	583.14	*	30.22	1.69E+00	2.81E-01
		860.37	*	4.48	1.38E+00	1.46E+00
		2614.66	*	35.85	9.86E-01	2.35E-01
BI-212	0.760	727.17	*	11.80	1.43E+00	5.31E-01
		1620.62		2.75		
PB-212	0.997	238.63	*	44.60	1.75E+00	2.04E-01
		300.09	*	3.41	2.79E+00	1.11E+00
BI-214	0.999	609.31	*	46.30	1.08E+00	2.03E-01

Analysis Report for 1510091-07
CP1807S11-12

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
BI-214	0.999	1120.29	*	15.10	1.14E+00	4.56E-01
		1764.49	*	15.80	1.54E+00	5.48E-01
		2204.22	*	4.98	1.71E+00	1.11E+00
PB-214	1.000	295.21	*	19.19	9.72E-01	2.34E-01
		351.92	*	37.19	1.14E+00	1.73E-01
RA-224	0.881	240.98	*	3.95	3.63E+00	1.59E+00
RA-226	0.991	186.21	*	3.28	4.03E+00	7.53E+00
AC-228	0.990	338.32	*	11.40	1.94E+00	4.05E-01
		911.07	*	27.70	1.32E+00	3.22E-01
		969.11	*	16.60	1.38E+00	3.95E-01
NP-237	0.885	86.50	*	12.60	2.70E-01	2.67E-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 : 11/10/2015 4:11:33PM
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	3.22473E-01	5.36		
	4	154.71	3.14611E-02	30.26		
	9	270.31	1.83323E-02	36.27		
	12	327.84	1.94273E-02	27.98	Tol.	LA-140
	16	463.70	2.11549E-02	26.49	Tol.	SB-125
	17	511.11	2.37472E-02	32.35		
	18	518.26	5.80399E-03	55.94		
M	23	768.88	1.13156E-02	33.46	Sum	
m	24	772.35	7.58375E-03	44.86		
	25	794.88	9.16956E-03	44.93	Sum	
	27	905.15	6.04701E-03	54.66	Sum	
M	29	964.72	7.51937E-03	32.83	Tol.	EU-152
	31	1045.09	7.84812E-03	50.75		
m	33	1134.86	4.84600E-03	65.86		
	34	1238.58	8.71467E-03	57.04	Tol.	CO-56
	35	1255.06	1.24206E-02	41.30		
	36	1304.51	6.34070E-03	47.54		
	37	1377.53	8.33333E-03	35.36		

Analysis Report for 1510091-07
CP1807S11-12

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	38	1396.33	4.93358E-03	31.94		
	39	1414.90	2.78509E-03	60.97	Sum	
	41	1468.48	2.57310E-03	61.54		
M	42	1588.35	5.76364E-03	45.97	Sum	
m	43	1593.76	4.70033E-03	48.37		
	44	1618.76	4.22222E-03	46.52		
	45	1633.68	5.85573E-03	39.05		
	46	1644.19	1.66667E-03	61.24		
	47	1660.70	2.52137E-03	55.08		
	48	1667.91	1.66667E-03	40.82		
M	49	1686.88	1.91193E-03	37.04		
m	50	1691.84	2.91248E-03	39.47	Tol.	SB-124
	51	1729.82	3.21759E-03	64.17	Sum	
	53	1789.75	1.94444E-03	37.80		
	54	1847.40	3.68421E-03	42.32	Sum	
	55	1888.12	2.55719E-03	64.95		
	56	1925.31	1.75347E-03	52.69		
	57	1934.91	1.99074E-03	50.31		
	58	2051.41	1.57407E-03	68.63		
	59	2084.67	1.66667E-03	40.82		
	60	2094.84	1.66667E-03	40.82		
	61	2103.08	3.23333E-03	67.10	S-Esc	
	62	2113.81	2.63889E-03	51.70		
	63	2183.07	1.86869E-03	64.79		
	65	2341.68	2.63889E-03	38.32		
	67	2877.75	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	2.04E+01	2.65E+00
GA-67	0.60	93.31	*	35.70	2.42E+02	1.03E+03

Analysis Report for 1510091-07

CP1807S11-12

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
GA-67	0.60	208.95	*	2.24	2.42E+03	9.95E+03
		300.22	*	16.00	4.55E+02	1.93E+03
RU-106	0.89	621.84	*	9.80	6.19E-01	5.72E-01
CD-109	0.93	88.03	*	3.72	9.58E-01	9.49E-01
SN-126	0.99	87.57	*	37.00	9.19E-02	9.09E-02
PM-146	0.36	453.90	*	39.94	1.95E-01	1.46E-01
		735.90		14.01		
		747.13		13.10		
TL-208	0.96	583.14	*	30.22	1.69E+00	2.81E-01
		860.37	*	4.48	1.38E+00	1.46E+00
		2614.66	*	35.85	9.86E-01	2.35E-01
BI-212	0.76	727.17	*	11.80	1.43E+00	5.31E-01
		1620.62		2.75		
PB-212	0.99	238.63	*	44.60	1.75E+00	2.04E-01
		300.09	*	3.41	2.79E+00	1.11E+00
BI-214	0.99	609.31	*	46.30	1.08E+00	2.03E-01
		1120.29	*	15.10	1.14E+00	4.56E-01
		1764.49	*	15.80	1.54E+00	5.48E-01
		2204.22	*	4.98	1.71E+00	1.11E+00
PB-214	1.00	295.21	*	19.19	9.72E-01	2.34E-01
		351.92	*	37.19	1.14E+00	1.73E-01
RA-224	0.88	240.98	*	3.95	3.63E+00	1.59E+00
RA-226	0.99	186.21	*	3.28	4.03E+00	7.53E+00
AC-228	0.99	338.32	*	11.40	1.94E+00	4.05E-01
		911.07	*	27.70	1.32E+00	3.22E-01
		969.11	*	16.60	1.38E+00	3.95E-01
NP-237	0.88	86.50	*	12.60	2.70E-01	2.67E-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

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	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40	0.999	2.04E+01	2.65E+00	
	GA-67	0.605	2.30E+02	9.40E+02	
	RU-106	0.895	6.19E-01	5.72E-01	
?	CD-109	0.934	9.58E-01	9.49E-01	
?	SN-126	0.994	9.19E-02	9.09E-02	
	PM-146	0.369	1.95E-01	1.46E-01	
	TL-208	0.963	1.28E+00	1.79E-01	
	BI-212	0.760	1.43E+00	5.31E-01	
	PB-212	0.997	1.73E+00	2.01E-01	
	BI-214	0.999	1.15E+00	1.73E-01	
	PB-214	1.000	1.08E+00	1.39E-01	
	RA-224	0.881	3.63E+00	1.59E+00	
	RA-226	0.991	4.03E+00	7.53E+00	
	AC-228	0.990	1.51E+00	2.12E-01	
?	NP-237	0.885	2.70E-01	2.67E-01	

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

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UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 4:11:33PM
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	3.22473E-01	5.36		
	4	154.71	3.14611E-02	30.26		
	9	270.31	1.83323E-02	36.27		
	12	327.84	1.94273E-02	27.98	Tol.	LA-140
	16	463.70	2.11549E-02	26.49	Tol.	SB-125
	17	511.11	2.37472E-02	32.35		
	18	518.26	5.80399E-03	55.94		
M	23	768.88	1.13156E-02	33.46	Sum	
m	24	772.35	7.58375E-03	44.86		
	25	794.88	9.16956E-03	44.93	Sum	
	27	905.15	6.04701E-03	54.66	Sum	
M	29	964.72	7.51937E-03	32.83	Tol.	EU-152
	31	1045.09	7.84812E-03	50.75		
m	33	1134.86	4.84600E-03	65.86		
	34	1238.58	8.71467E-03	57.04	Tol.	CO-56
	35	1255.06	1.24206E-02	41.30		
	36	1304.51	6.34070E-03	47.54		
	37	1377.53	8.33333E-03	35.36		
	38	1396.33	4.93358E-03	31.94		
	39	1414.90	2.78509E-03	60.97	Sum	
	41	1468.48	2.57310E-03	61.54		
M	42	1588.35	5.76364E-03	45.97	Sum	
m	43	1593.76	4.70033E-03	48.37		
	44	1618.76	4.22222E-03	46.52		
	45	1633.68	5.85573E-03	39.05		
	46	1644.19	1.66667E-03	61.24		
	47	1660.70	2.52137E-03	55.08		
	48	1667.91	1.66667E-03	40.82		
M	49	1686.88	1.91193E-03	37.04		
m	50	1691.84	2.91248E-03	39.47	Tol.	SB-124
	51	1729.82	3.21759E-03	64.17	Sum	
	53	1789.75	1.94444E-03	37.80		
	54	1847.40	3.68421E-03	42.32	Sum	
	55	1888.12	2.55719E-03	64.95		
	56	1925.31	1.75347E-03	52.69		

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Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
57	1934.91	1.99074E-03	50.31		
58	2051.41	1.57407E-03	68.63		
59	2084.67	1.66667E-03	40.82		
60	2094.84	1.66667E-03	40.82		
61	2103.08	3.23333E-03	67.10	S-Esc	
62	2113.81	2.63889E-03	51.70		
63	2183.07	1.86869E-03	64.79		
65	2341.68	2.63889E-03	38.32		
67	2877.75	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	2.53E-02	8.27E-01	8.27E-01
+	NA-22	1274.54		99.94	-2.58E-02	8.91E-02	8.91E-02
+	NA-24	1368.53		99.99	1.15E+13	3.93E+13	7.45E+13
		2754.09		99.86	-1.09E+13		3.93E+13
+	AL-26	1808.65		99.76	1.20E-03	6.52E-02	6.52E-02
+	K-40	1460.81	*	10.67	2.04E+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	-1.79E-02	5.22E-02	5.22E-02
		78.34		96.00	2.84E-01		7.58E-02
+	SC-46	889.25		99.98	2.08E-02	1.02E-01	1.02E-01
		1120.51		99.99	2.42E-01		1.62E-01
+	V-48	983.52		99.98	-6.55E-02	2.72E-01	2.72E-01
		1312.10		97.50	8.17E-02		3.02E-01
+	CR-51	320.08		9.83	1.16E-02	1.23E+00	1.23E+00
+	MN-54	834.83		99.97	-1.73E-02	8.57E-02	8.57E-02
+	CO-56	846.75		99.96	1.40E-02	1.00E-01	1.00E-01
		1037.75		14.03	-7.48E-03		6.87E-01
		1238.25		67.00	2.44E-01		2.52E-01
		1771.40		15.51	-4.21E-02		5.47E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	CO-56	2598.48		16.90	1.33E-01	1.00E-01	3.49E-01
+	CO-57	122.06		85.51	-1.67E-02	5.96E-02	5.96E-02
		136.48		10.60	-3.80E-01		4.94E-01
+	CO-58	810.76		99.40	-1.28E-02	8.81E-02	8.81E-02
+	FE-59	1099.22		56.50	-1.67E-01	1.99E-01	1.99E-01
		1291.56		43.20	-9.64E-02		3.00E-01
+	CO-60	1173.22		100.00	3.22E-02	7.66E-02	9.92E-02
		1332.49		100.00	-1.52E-02		7.66E-02
+	ZN-65	1115.52		50.75	1.16E-02	1.80E-01	1.80E-01
+	GA-67	93.31	*	35.70	2.42E+02	1.82E+02	1.82E+02
		208.95	*	2.24	2.42E+03		2.49E+03
		300.22	*	16.00	4.55E+02		5.31E+02
+	SE-75	121.11		16.70	6.67E-03	9.91E-02	3.38E-01
		136.00		59.20	-1.54E-02		9.91E-02
		264.65		59.80	-3.01E-02		1.05E-01
		279.53		25.20	-2.90E-02		2.66E-01
		400.65		11.40	-3.10E-01		5.88E-01
+	RB-82	776.52		13.00	6.97E-02	1.30E+00	1.30E+00
+	RB-83	520.41		46.00	-2.78E-02	1.48E-01	1.48E-01
		529.64		30.30	6.74E-02		2.34E-01
		552.65		16.40	-1.17E-01		4.11E-01
+	KR-85	513.99		0.43	-1.18E+01	1.57E+01	1.57E+01
+	SR-85	513.99		99.27	-7.19E-02	9.56E-02	9.56E-02
+	Y-88	898.02		93.40	5.69E-04	6.90E-02	9.37E-02
		1836.01		99.38	4.30E-03		6.90E-02
+	NB-93M	16.57		9.43	-9.77E+03	5.39E+03	5.39E+03
+	NB-94	702.63		100.00	-4.27E-03	6.90E-02	7.87E-02
		871.10		100.00	-4.32E-03		6.90E-02
+	NB-95	765.79		99.81	9.39E-02	1.61E-01	1.61E-01
+	NB-95M	235.69		25.00	-1.17E+03	1.36E+02	1.36E+02
+	ZR-95	724.18		43.70	3.28E-02	1.99E-01	3.00E-01
		756.72		55.30	-1.13E-02		1.99E-01
+	MO-99	181.06		6.20	1.39E+03	1.38E+03	2.21E+03
		739.58		12.80	2.67E+02		1.38E+03
		778.00		4.50	-5.26E+02		3.99E+03
+	RU-103	497.08		89.00	-5.95E-02	1.05E-01	1.05E-01
+	RU-106	621.84	*	9.80	6.19E-01	9.15E-01	9.15E-01
+	AG-108M	433.93		89.90	-3.53E-02	5.78E-02	5.78E-02
		614.37		90.40	-3.03E-03		7.90E-02
		722.95		90.50	2.05E-02		8.48E-02
+	CD-109	88.03	*	3.72	9.58E-01	1.53E+00	1.53E+00
+	AG-110M	657.75		93.14	-2.02E-02	8.10E-02	8.10E-02
		677.61		10.53	3.05E-01		7.51E-01
		706.67		16.46	-5.24E-02		5.02E-01
		763.93		21.98	-3.75E-02		3.67E-01
		884.67		71.63	7.62E-02		1.22E-01
		1384.27		23.94	7.54E-02		3.25E-01
+	CD-113M	263.70		0.02	-1.26E+02	2.23E+02	2.23E+02

Analysis Report for 1510091-07

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	SN-113	255.12		1.93	-1.06E+00	9.54E-02	3.37E+00
		391.69		64.90	-9.33E-03		9.54E-02
+	TE123M	159.00		84.10	8.11E-03	6.88E-02	6.88E-02
+	SB-124	602.71		97.87	-1.15E-02	9.36E-02	9.36E-02
		645.85		7.26	-7.11E-02		1.36E+00
		722.78		11.10	2.40E-01		9.90E-01
		1691.02		49.00	1.03E-01		2.07E-01
+	I-125	35.49		6.49	2.52E-01	5.77E+00	5.77E+00
+	SB-125	176.33		6.89	-8.29E-02	1.82E-01	7.96E-01
		427.89		29.33	-5.31E-02		1.82E-01
		463.38		10.35	7.30E-01		6.95E-01
		600.56		17.80	-1.63E-01		3.59E-01
		635.90		11.32	1.21E-01		6.44E-01
+	SB-126	414.70		83.30	6.16E-02	3.76E-01	3.76E-01
		666.33		99.60	-6.19E-02		4.39E-01
		695.00		99.60	-2.15E-02		4.37E-01
		720.50		53.80	2.20E-02		7.05E-01
+	SN-126	87.57	*	37.00	9.19E-02	1.47E-01	1.47E-01
+	SB-127	473.00		25.00	-3.15E+01	5.01E+01	5.99E+01
		685.20		35.70	-9.86E+00		5.01E+01
		783.80		14.70	7.80E+01		1.41E+02
+	I-129	29.78		57.00	-3.48E-01	1.16E+00	1.16E+00
		33.60		13.20	-1.10E-01		2.60E+00
		39.58		7.52	-1.07E-01		2.21E+00
+	I-131	284.30		6.05	1.00E+00	9.70E-01	1.30E+01
		364.48		81.20	-1.06E-01		9.70E-01
		636.97		7.26	5.70E-02		1.45E+01
		722.89		1.80	1.52E+01		6.29E+01
+	TE-132	49.72		13.10	8.98E+01	4.49E+01	4.48E+02
		228.16		88.00	-2.10E+01		4.49E+01
+	BA-133	81.00		33.00	2.01E-02	8.91E-02	1.30E-01
		302.84		17.80	2.18E-02		3.06E-01
		356.01		60.00	-1.52E-01		8.91E-02
+	I-133	529.87		86.30	7.65E+08	4.40E+09	4.40E+09
+	XE-133	81.00		38.00	1.08E+00	6.99E+00	6.99E+00
+	CS-134	563.23		8.38	3.59E-01	8.74E-02	7.87E-01
		569.32		15.43	-3.81E-02		3.83E-01
		604.70		97.60	5.37E-03		8.74E-02
		795.84		85.40	7.29E-02		1.05E-01
		801.93		8.73	5.44E-02		9.13E-01
+	CS-135	268.24		16.00	-1.64E-01	3.68E-01	3.68E-01
+	@ I-135	1131.51		22.50	1.00E+26	1.00E+26	1.00E+26
	@	1260.41		28.60	1.00E+26		1.00E+26
	@	1678.03		9.54	1.00E+26		1.00E+26
+	CS-136	153.22		7.46	-2.90E-01	3.44E-01	3.75E+00
		163.89		4.61	-2.04E+00		5.75E+00
		176.55		13.56	-6.38E-01		2.05E+00
		273.65		12.66	-6.93E-01		2.12E+00
		340.57		48.50	-4.85E-01		7.52E-01

Analysis Report for 1510091-07

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	CS-136	818.50		99.70	-8.36E-03	3.44E-01	3.44E-01
		1048.07		79.60	1.77E-02		5.37E-01
		1235.34		19.70	8.50E-01		3.07E+00
+	CS-137	661.65		85.12	-2.11E-02	8.52E-02	8.52E-02
+	LA-138	788.74		34.00	4.84E-02	9.69E-02	2.16E-01
		1435.80		66.00	9.77E-03		9.69E-02
+	CE-139	165.85		80.35	-7.36E-03	7.58E-02	7.58E-02
+	BA-140	162.64		6.70	2.83E+00	1.28E+00	4.24E+00
		304.84		4.50	1.49E+00		6.17E+00
		423.70		3.20	1.69E+00		9.39E+00
		437.55		2.00	3.99E+00		1.54E+01
		537.32		25.00	1.35E-01		1.28E+00
+	LA-140	328.77		20.50	-2.14E-01	4.70E-01	1.57E+00
		487.03		45.50	4.38E-02		6.65E-01
		815.85		23.50	-5.47E-01		1.42E+00
		1596.49		95.49	-8.90E-02		4.70E-01
+	CE-141	145.44		48.40	-1.44E-02	2.05E-01	2.05E-01
+	CE-143	57.36		11.80	-3.31E+05	1.17E+06	3.13E+06
		293.26		42.00	-3.68E+05		1.17E+06
		664.55		5.20	4.87E+06		1.04E+07
+	CE-144	133.54		10.80	1.20E-01	4.98E-01	4.98E-01
+	PM-144	476.78		42.00	4.45E-03	7.23E-02	1.45E-01
		618.01		98.60	-8.31E-03		7.23E-02
		696.49		99.49	4.64E-02		8.63E-02
+	PM-145	36.85		21.70	2.14E-02	5.20E-01	1.01E+00
		37.36		39.70	1.10E-02		5.20E-01
		42.30		15.10	2.55E-01		8.89E-01
		72.40		2.31	-1.11E+00		2.14E+00
+	PM-146	453.90	*	39.94	1.95E-01	2.33E-01	2.33E-01
		735.90		14.01	1.52E-02		4.59E-01
		747.13		13.10	-5.02E-02		5.75E-01
+	ND-147	91.11		28.90	-1.75E+00	1.63E+00	1.63E+00
		531.02		13.10	-7.96E-01		2.88E+00
+	PM-149	285.90		3.10	-3.14E+03	3.04E+04	3.04E+04
+	EU-152	121.78		20.50	-6.47E-02	2.30E-01	2.30E-01
		244.69		5.40	4.39E-02		1.07E+00
		344.27		19.13	-1.88E-01		2.73E-01
		778.89		9.20	1.56E-02		7.51E-01
		964.01		10.40	-2.52E+00		8.96E-01
		1085.78		7.22	4.07E-01		1.22E+00
		1112.02		9.60	1.47E-01		8.63E-01
		1407.95		14.94	-6.90E-02		4.13E-01
+	GD-153	97.43		31.30	8.85E-02	1.66E-01	1.66E-01
		103.18		22.20	-2.75E-01		2.33E-01
+	EU-154	123.07		40.50	-2.44E-02	1.18E-01	1.18E-01
		723.30		19.70	9.50E-02		3.92E-01
		873.19		11.50	-1.16E-01		5.75E-01
		996.32		10.30	-3.10E-01		7.00E-01
		1004.76		17.90	1.72E-01		4.56E-01

Analysis Report for 1510091-07

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	EU-154	1274.45		35.50	-7.15E-02	1.18E-01	2.47E-01
+	EU-155	86.50		30.90	-1.90E-01	2.09E-01	2.09E-01
		105.30		20.70	4.98E-02		2.45E-01
+	EU-156	811.77		10.40	-1.41E+00	2.34E+00	2.34E+00
		1153.47		7.20	1.59E-02		5.28E+00
		1230.71		8.90	5.31E-01		4.18E+00
+	HO-166M	184.41		72.60	-1.60E-02	8.47E-02	8.47E-02
		280.45		29.60	-2.07E-02		1.89E-01
		410.94		11.10	3.36E-01		5.40E-01
		711.69		54.10	2.00E-02		1.39E-01
+	TM-171	66.72		0.14	4.00E-01	3.72E+01	3.72E+01
+	HF-172	81.75		4.52	-1.23E+00	4.48E-01	9.82E-01
		125.81		11.30	-6.14E-01		4.48E-01
+	LU-172	181.53		20.60	3.08E+00	3.30E+00	6.36E+00
		810.06		16.63	-1.42E+00		9.80E+00
		912.12		15.25	6.51E+01		2.55E+01
		1093.66		62.50	5.29E-01		3.30E+00
+	LU-173	100.72		5.24	5.83E-01	3.08E-01	9.62E-01
		272.11		21.20	7.99E-02		3.08E-01
+	HF-175	343.40		84.00	4.93E-02	8.95E-02	8.95E-02
+	LU-176	88.34		13.30	2.62E-01	5.52E-02	4.90E-01
		201.83		86.00	1.35E-02		6.53E-02
		306.78		94.00	-3.45E-02		5.52E-02
+	TA-182	67.75		41.20	-4.96E-02	1.45E-01	1.45E-01
		1121.30		34.90	5.74E-01		4.29E-01
		1189.05		16.23	2.97E-01		6.86E-01
		1221.41		26.98	1.57E-01		4.70E-01
		1231.02		11.44	1.39E-01		9.44E-01
+	IR-192	308.46		29.68	9.86E-02	1.62E-01	2.46E-01
		468.07		48.10	2.71E-02		1.62E-01
+	HG-203	279.19		77.30	4.55E-03	1.17E-01	1.17E-01
+	BI-207	569.67		97.72	-5.87E-03	5.88E-02	5.88E-02
		1063.62		74.90	1.57E-02		1.13E-01
+	TL-208	583.14	*	30.22	1.69E+00	2.03E-01	2.76E-01
		860.37	*	4.48	1.38E+00		2.37E+00
		2614.66	*	35.85	9.86E-01		2.03E-01
+	BI-210M	262.00		45.00	2.01E-02	1.13E-01	1.13E-01
		300.00		23.00	4.87E-01		2.92E-01
+	PB-210	46.50		4.25	3.60E+00	2.54E+00	2.54E+00
+	PB-211	404.84		2.90	6.58E-01	1.90E+00	1.90E+00
		831.96		2.90	-1.18E+00		2.48E+00
+	BI-212	727.17	*	11.80	1.43E+00	7.44E-01	7.44E-01
		1620.62		2.75	-7.65E-02		2.70E+00
+	PB-212	238.63	*	44.60	1.75E+00	2.36E-01	2.36E-01
		300.09	*	3.41	2.79E+00		3.26E+00
+	BI-214	609.31	*	46.30	1.08E+00	2.32E-01	2.32E-01
		1120.29	*	15.10	1.14E+00		1.47E+00
		1764.49	*	15.80	1.54E+00		7.04E-01

Analysis Report for 1510091-07

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	BI-214	2204.22	*	4.98	1.71E+00	2.32E-01	1.61E+00
+	PB-214	295.21	*	19.19	9.72E-01	5.15E-01	5.79E-01
		351.92	*	37.19	1.14E+00		5.15E-01
+	RN-219	401.80		6.50	-2.01E-01	8.59E-01	8.59E-01
+	RA-223	323.87		3.88	-5.05E-02	1.40E+00	1.40E+00
+	RA-224	240.98	*	3.95	3.63E+00	2.70E+00	2.70E+00
+	RA-225	40.00		31.00	-1.07E-01	2.22E+00	2.22E+00
+	RA-226	186.21	*	3.28	4.03E+00	2.26E+00	2.26E+00
+	TH-227	50.10		8.40	1.79E-01	7.38E-01	8.95E-01
		236.00		11.50	-6.33E+00		7.38E-01
		256.20		6.30	2.70E-01		8.67E-01
+	AC-228	338.32	*	11.40	1.94E+00	3.92E-01	1.63E+00
		911.07	*	27.70	1.32E+00		3.92E-01
		969.11	*	16.60	1.38E+00		7.70E-01
+	TH-230	48.44		16.90	-1.12E-01	4.99E-01	4.99E-01
		62.85		4.60	1.05E+00		1.28E+00
		67.67		0.37	-4.57E+00		1.34E+01
+	PA-231	283.67		1.60	2.56E-01	2.36E+00	3.33E+00
		302.67		2.30	1.68E-01		2.36E+00
+	TH-231	25.64		14.70	5.98E+00	7.46E-01	1.58E+01
		84.21		6.40	7.46E-01		7.46E-01
+	PA-233	311.98		38.60	7.38E-02	3.13E-01	3.13E-01
+	PA-234	131.20		20.40	1.12E-01	2.67E-01	2.67E-01
		733.99		8.80	3.83E-02		7.03E-01
		946.00		12.00	5.38E-02		6.32E-01
+	PA-234M	1001.03		0.92	8.35E-01	8.87E+00	8.87E+00
+	TH-234	63.29		3.80	1.26E+00	1.53E+00	1.53E+00
+	U-235	143.76		10.50	-1.95E-02	4.91E-01	4.91E-01
		163.35		4.70	7.44E-01		1.12E+00
		205.31		4.70	2.79E-01		1.21E+00
+	NP-237	86.50	*	12.60	2.70E-01	4.31E-01	4.31E-01
+	NP-239	106.10		22.70	4.95E+02	2.17E+03	2.17E+03
		228.18		10.70	-2.21E+03		4.72E+03
		277.60		14.10	3.64E+03		4.03E+03
+	AM-241	59.54		35.90	1.75E-02	1.54E-01	1.54E-01
+	AM-243	74.67		66.00	-1.32E-01	1.07E-01	1.07E-01
+	CM-243	209.75		3.29	1.44E+00	4.15E-01	1.86E+00
		228.14		10.60	-2.28E-01		4.87E-01
		277.60		14.00	3.74E-01		4.15E-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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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	8.27E-01	8.27E-01	2.53E-02	3.89E-01
	NA-22	1274.54		99.94	8.91E-02	8.91E-02	-2.58E-02	4.09E-02
	NA-24	1368.53		99.99	7.45E+13	3.93E+13	1.15E+13	3.31E+13
		2754.09		99.86	3.93E+13		-1.09E+13	1.47E+13
	AL-26	1808.65		99.76	6.52E-02	6.52E-02	1.20E-03	2.81E-02
+	K-40	1460.81	*	10.67	1.03E+00	1.03E+00	2.04E+01	4.78E-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	5.22E-02	5.22E-02	-1.79E-02	2.53E-02
		78.34		96.00	7.58E-02		2.84E-01	3.72E-02
	SC-46	889.25		99.98	1.02E-01	1.02E-01	2.08E-02	4.76E-02
		1120.51		99.99	1.62E-01		2.42E-01	7.65E-02
	V-48	983.52		99.98	2.72E-01	2.72E-01	-6.55E-02	1.24E-01
		1312.10		97.50	3.02E-01		8.17E-02	1.36E-01
	CR-51	320.08		9.83	1.23E+00	1.23E+00	1.16E-02	5.87E-01
	MN-54	834.83		99.97	8.57E-02	8.57E-02	-1.73E-02	4.01E-02
	CO-56	846.75		99.96	1.00E-01	1.00E-01	1.40E-02	4.65E-02
		1037.75		14.03	6.87E-01		-7.48E-03	3.14E-01
		1238.25		67.00	2.52E-01		2.44E-01	1.19E-01
		1771.40		15.51	5.47E-01		-4.21E-02	2.35E-01
		2598.48		16.90	3.49E-01		1.33E-01	1.39E-01
	CO-57	122.06		85.51	5.96E-02	5.96E-02	-1.67E-02	2.89E-02
		136.48		10.60	4.94E-01		-3.80E-01	2.40E-01
	CO-58	810.76		99.40	8.81E-02	8.81E-02	-1.28E-02	4.06E-02
	FE-59	1099.22		56.50	1.99E-01	1.99E-01	-1.67E-01	9.03E-02
		1291.56		43.20	3.00E-01		-9.64E-02	1.36E-01
	CO-60	1173.22		100.00	9.92E-02	7.66E-02	3.22E-02	4.62E-02
		1332.49		100.00	7.66E-02		-1.52E-02	3.45E-02
	ZN-65	1115.52		50.75	1.80E-01	1.80E-01	1.16E-02	8.29E-02
+	GA-67	93.31	*	35.70	1.82E+02	1.82E+02	2.42E+02	8.96E+01
		208.95	*	2.24	2.49E+03		2.42E+03	1.21E+03
		300.22	*	16.00	5.31E+02		4.55E+02	2.59E+02
	SE-75	121.11		16.70	3.38E-01	9.91E-02	6.67E-03	1.64E-01
		136.00		59.20	9.91E-02		-1.54E-02	4.80E-02
		264.65		59.80	1.05E-01		-3.01E-02	5.02E-02
		279.53		25.20	2.66E-01		-2.90E-02	1.27E-01
		400.65		11.40	5.88E-01		-3.10E-01	2.78E-01
	RB-82	776.52		13.00	1.30E+00	1.30E+00	6.97E-02	6.06E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	RB-83	520.41		46.00	1.48E-01	1.48E-01	-2.78E-02	6.89E-02
		529.64		30.30	2.34E-01		6.74E-02	1.09E-01
		552.65		16.40	4.11E-01		-1.17E-01	1.91E-01
	KR-85	513.99		0.43	1.57E+01	1.57E+01	-1.18E+01	7.46E+00
	SR-85	513.99		99.27	9.56E-02	9.56E-02	-7.19E-02	4.53E-02
	Y-88	898.02		93.40	9.37E-02	6.90E-02	5.69E-04	4.32E-02
		1836.01		99.38	6.90E-02		4.30E-03	2.89E-02
	NB-93M	16.57		9.43	5.39E+03	5.39E+03	-9.77E+03	2.62E+03
	NB-94	702.63		100.00	7.87E-02	6.90E-02	-4.27E-03	3.71E-02
		871.10		100.00	6.90E-02		-4.32E-03	3.18E-02
	NB-95	765.79		99.81	1.61E-01	1.61E-01	9.39E-02	7.62E-02
	NB-95M	235.69		25.00	1.36E+02	1.36E+02	-1.17E+03	6.65E+01
	ZR-95	724.18		43.70	3.00E-01	1.99E-01	3.28E-02	1.43E-01
		756.72		55.30	1.99E-01		-1.13E-02	9.36E-02
	MO-99	181.06		6.20	2.21E+03	1.38E+03	1.39E+03	1.07E+03
		739.58		12.80	1.38E+03		2.67E+02	6.42E+02
		778.00		4.50	3.99E+03		-5.26E+02	1.86E+03
	RU-103	497.08		89.00	1.05E-01	1.05E-01	-5.95E-02	4.90E-02
+	RU-106	621.84	*	9.80	9.15E-01	9.15E-01	6.19E-01	4.35E-01
	AG-108M	433.93		89.90	5.78E-02	5.78E-02	-3.53E-02	2.71E-02
		614.37		90.40	7.90E-02		-3.03E-03	3.72E-02
		722.95		90.50	8.48E-02		2.05E-02	3.98E-02
+	CD-109	88.03	*	3.72	1.53E+00	1.53E+00	9.58E-01	7.46E-01
	AG-110M	657.75		93.14	8.10E-02	8.10E-02	-2.02E-02	3.80E-02
		677.61		10.53	7.51E-01		3.05E-01	3.53E-01
		706.67		16.46	5.02E-01		-5.24E-02	2.36E-01
		763.93		21.98	3.67E-01		-3.75E-02	1.72E-01
		884.67		71.63	1.22E-01		7.62E-02	5.67E-02
		1384.27		23.94	3.25E-01		7.54E-02	1.45E-01
	CD-113M	263.70		0.02	2.23E+02	2.23E+02	-1.26E+02	1.07E+02
	SN-113	255.12		1.93	3.37E+00	9.54E-02	-1.06E+00	1.62E+00
		391.69		64.90	9.54E-02		-9.33E-03	4.50E-02
	TE123M	159.00		84.10	6.88E-02	6.88E-02	8.11E-03	3.33E-02
	SB-124	602.71		97.87	9.36E-02	9.36E-02	-1.15E-02	4.39E-02
		645.85		7.26	1.36E+00		-7.11E-02	6.40E-01
		722.78		11.10	9.90E-01		2.40E-01	4.65E-01
		1691.02		49.00	2.07E-01		1.03E-01	9.06E-02
	I-125	35.49		6.49	5.77E+00	5.77E+00	2.52E-01	2.80E+00
	SB-125	176.33		6.89	7.96E-01	1.82E-01	-8.29E-02	3.85E-01
		427.89		29.33	1.82E-01		-5.31E-02	8.56E-02
		463.38		10.35	6.95E-01		7.30E-01	3.31E-01
		600.56		17.80	3.59E-01		-1.63E-01	1.68E-01
		635.90		11.32	6.44E-01		1.21E-01	3.03E-01
	SB-126	414.70		83.30	3.76E-01	3.76E-01	6.16E-02	1.78E-01
		666.33		99.60	4.39E-01		-6.19E-02	2.07E-01
		695.00		99.60	4.37E-01		-2.15E-02	2.06E-01
		720.50		53.80	7.05E-01		2.20E-02	3.28E-01
+	SN-126	87.57	*	37.00	1.47E-01	1.47E-01	9.19E-02	7.16E-02
	SB-127	473.00		25.00	5.99E+01	5.01E+01	-3.15E+01	2.81E+01
		685.20		35.70	5.01E+01		-9.86E+00	2.33E+01
		783.80		14.70	1.41E+02		7.80E+01	6.59E+01
	I-129	29.78		57.00	1.16E+00	1.16E+00	-3.48E-01	5.61E-01
		33.60		13.20	2.60E+00		-1.10E-01	1.26E+00

Analysis Report for 1510091-07

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
I-129	39.58	7.52	2.21E+00	1.16E+00	-1.07E-01	1.07E+00
I-131	284.30	6.05	1.30E+01	9.70E-01	1.00E+00	6.23E+00
	364.48	81.20	9.70E-01		-1.06E-01	4.60E-01
	636.97	7.26	1.45E+01		5.70E-02	6.84E+00
	722.89	1.80	6.29E+01		1.52E+01	2.96E+01
TE-132	49.72	13.10	4.48E+02	4.49E+01	8.98E+01	2.17E+02
	228.16	88.00	4.49E+01		-2.10E+01	2.16E+01
BA-133	81.00	33.00	1.30E-01	8.91E-02	2.01E-02	6.32E-02
	302.84	17.80	3.06E-01		2.18E-02	1.46E-01
	356.01	60.00	8.91E-02		-1.52E-01	4.23E-02
I-133	529.87	86.30	4.40E+09	4.40E+09	7.65E+08	2.05E+09
XE-133	81.00	38.00	6.99E+00	6.99E+00	1.08E+00	3.39E+00
CS-134	563.23	8.38	7.87E-01	8.74E-02	3.59E-01	3.70E-01
	569.32	15.43	3.83E-01		-3.81E-02	1.79E-01
	604.70	97.60	8.74E-02		5.37E-03	4.16E-02
	795.84	85.40	1.05E-01		7.29E-02	4.94E-02
	801.93	8.73	9.13E-01		5.44E-02	4.27E-01
CS-135	268.24	16.00	3.68E-01	3.68E-01	-1.64E-01	1.77E-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	3.75E+00	3.44E-01	-2.90E-01	1.82E+00
	163.89	4.61	5.75E+00		-2.04E+00	2.79E+00
	176.55	13.56	2.05E+00		-6.38E-01	9.93E-01
	273.65	12.66	2.12E+00		-6.93E-01	1.01E+00
	340.57	48.50	7.52E-01		-4.85E-01	3.62E-01
	818.50	99.70	3.44E-01		-8.36E-03	1.59E-01
	1048.07	79.60	5.37E-01		1.77E-02	2.48E-01
	1235.34	19.70	3.07E+00		8.50E-01	1.44E+00
CS-137	661.65	85.12	8.52E-02	8.52E-02	-2.11E-02	4.01E-02
LA-138	788.74	34.00	2.16E-01	9.69E-02	4.84E-02	1.01E-01
	1435.80	66.00	9.69E-02		9.77E-03	4.25E-02
CE-139	165.85	80.35	7.58E-02	7.58E-02	-7.36E-03	3.67E-02
BA-140	162.64	6.70	4.24E+00	1.28E+00	2.83E+00	2.05E+00
	304.84	4.50	6.17E+00		1.49E+00	2.93E+00
	423.70	3.20	9.39E+00		1.69E+00	4.43E+00
	437.55	2.00	1.54E+01		3.99E+00	7.29E+00
	537.32	25.00	1.28E+00		1.35E-01	5.98E-01
LA-140	328.77	20.50	1.57E+00	4.70E-01	-2.14E-01	7.49E-01
	487.03	45.50	6.65E-01		4.38E-02	3.12E-01
	815.85	23.50	1.42E+00		-5.47E-01	6.53E-01
	1596.49	95.49	4.70E-01		-8.90E-02	2.11E-01
CE-141	145.44	48.40	2.05E-01	2.05E-01	-1.44E-02	9.96E-02
CE-143	57.36	11.80	3.13E+06	1.17E+06	-3.31E+05	1.51E+06
	293.26	42.00	1.17E+06		-3.68E+05	5.64E+05
	664.55	5.20	1.04E+07		4.87E+06	4.92E+06
CE-144	133.54	10.80	4.98E-01	4.98E-01	1.20E-01	2.42E-01
PM-144	476.78	42.00	1.45E-01	7.23E-02	4.45E-03	6.83E-02
	618.01	98.60	7.23E-02		-8.31E-03	3.40E-02
	696.49	99.49	8.63E-02		4.64E-02	4.08E-02
PM-145	36.85	21.70	1.01E+00	5.20E-01	2.14E-02	4.91E-01
	37.36	39.70	5.20E-01		1.10E-02	2.52E-01
	42.30	15.10	8.89E-01		2.55E-01	4.32E-01

Analysis Report for 1510091-07

CP1807S11-12

	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	2.14E+00	5.20E-01	-1.11E+00	1.04E+00
+	PM-146	453.90	*	39.94	2.33E-01	2.33E-01	1.95E-01	1.13E-01
		735.90		14.01	4.59E-01		1.52E-02	2.13E-01
		747.13		13.10	5.75E-01		-5.02E-02	2.70E-01
	ND-147	91.11		28.90	1.63E+00	1.63E+00	-1.75E+00	7.98E-01
		531.02		13.10	2.88E+00		-7.96E-01	1.34E+00
	PM-149	285.90		3.10	3.04E+04	3.04E+04	-3.14E+03	1.45E+04
	EU-152	121.78		20.50	2.30E-01	2.30E-01	-6.47E-02	1.12E-01
		244.69		5.40	1.07E+00		4.39E-02	5.14E-01
		344.27		19.13	2.73E-01		-1.88E-01	1.29E-01
		778.89		9.20	7.51E-01		1.56E-02	3.49E-01
		964.01		10.40	8.96E-01		-2.52E+00	4.20E-01
		1085.78		7.22	1.22E+00		4.07E-01	5.67E-01
		1112.02		9.60	8.63E-01		1.47E-01	3.98E-01
		1407.95		14.94	4.13E-01		-6.90E-02	1.80E-01
	GD-153	97.43		31.30	1.66E-01	1.66E-01	8.85E-02	8.06E-02
		103.18		22.20	2.33E-01		-2.75E-01	1.13E-01
	EU-154	123.07		40.50	1.18E-01	1.18E-01	-2.44E-02	5.70E-02
		723.30		19.70	3.92E-01		9.50E-02	1.84E-01
		873.19		11.50	5.75E-01		-1.16E-01	2.64E-01
		996.32		10.30	7.00E-01		-3.10E-01	3.21E-01
		1004.76		17.90	4.56E-01		1.72E-01	2.11E-01
		1274.45		35.50	2.47E-01		-7.15E-02	1.13E-01
	EU-155	86.50		30.90	2.09E-01	2.09E-01	-1.90E-01	1.02E-01
		105.30		20.70	2.45E-01		4.98E-02	1.19E-01
	EU-156	811.77		10.40	2.34E+00	2.34E+00	-1.41E+00	1.07E+00
		1153.47		7.20	5.28E+00		1.59E-02	2.45E+00
		1230.71		8.90	4.18E+00		5.31E-01	1.92E+00
	HO-166M	184.41		72.60	8.47E-02	8.47E-02	-1.60E-02	4.11E-02
		280.45		29.60	1.89E-01		-2.07E-02	9.07E-02
		410.94		11.10	5.40E-01		3.36E-01	2.56E-01
		711.69		54.10	1.39E-01		2.00E-02	6.54E-02
	TM-171	66.72		0.14	3.72E+01	3.72E+01	4.00E-01	1.81E+01
	HF-172	81.75		4.52	9.82E-01	4.48E-01	-1.23E+00	4.76E-01
		125.81		11.30	4.48E-01		-6.14E-01	2.17E-01
	LU-172	181.53		20.60	6.36E+00	3.30E+00	3.08E+00	3.07E+00
		810.06		16.63	9.80E+00		-1.42E+00	4.52E+00
		912.12		15.25	2.55E+01		6.51E+01	1.23E+01
		1093.66		62.50	3.30E+00		5.29E-01	1.52E+00
	LU-173	100.72		5.24	9.62E-01	3.08E-01	5.83E-01	4.68E-01
		272.11		21.20	3.08E-01		7.99E-02	1.48E-01
	HF-175	343.40		84.00	8.95E-02	8.95E-02	4.93E-02	4.26E-02
	LU-176	88.34		13.30	4.90E-01	5.52E-02	2.62E-01	2.40E-01
		201.83		86.00	6.53E-02		1.35E-02	3.16E-02
		306.78		94.00	5.52E-02		-3.45E-02	2.63E-02
	TA-182	67.75		41.20	1.45E-01	1.45E-01	-4.96E-02	7.02E-02
		1121.30		34.90	4.29E-01		5.74E-01	2.03E-01
		1189.05		16.23	6.86E-01		2.97E-01	3.17E-01
		1221.41		26.98	4.70E-01		1.57E-01	2.20E-01
		1231.02		11.44	9.44E-01		1.39E-01	4.35E-01
	IR-192	308.46		29.68	2.46E-01	1.62E-01	9.86E-02	1.18E-01
		468.07		48.10	1.62E-01		2.71E-02	7.63E-02
	HG-203	279.19		77.30	1.17E-01	1.17E-01	4.55E-03	5.62E-02

Analysis Report for 1510091-07

CP1807S11-12

	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	5.88E-02	5.88E-02	-5.87E-03	2.75E-02
		1063.62		74.90	1.13E-01		1.57E-02	5.21E-02
+	TL-208	583.14	*	30.22	2.76E-01	2.03E-01	1.69E+00	1.32E-01
		860.37	*	4.48	2.37E+00		1.38E+00	1.13E+00
		2614.66	*	35.85	2.03E-01		9.86E-01	8.85E-02
	BI-210M	262.00		45.00	1.13E-01	1.13E-01	2.01E-02	5.40E-02
		300.00		23.00	2.92E-01		4.87E-01	1.41E-01
	PB-210	46.50		4.25	2.54E+00	2.54E+00	3.60E+00	1.24E+00
	PB-211	404.84		2.90	1.90E+00	1.90E+00	6.58E-01	8.99E-01
		831.96		2.90	2.48E+00		-1.18E+00	1.15E+00
+	BI-212	727.17	*	11.80	7.44E-01	7.44E-01	1.43E+00	3.52E-01
		1620.62		2.75	2.70E+00		-7.65E-02	1.19E+00
+	PB-212	238.63	*	44.60	2.36E-01	2.36E-01	1.75E+00	1.16E-01
		300.09	*	3.41	3.26E+00		2.79E+00	1.59E+00
+	BI-214	609.31	*	46.30	2.32E-01	2.32E-01	1.08E+00	1.12E-01
		1120.29	*	15.10	1.47E+00		1.14E+00	7.12E-01
		1764.49	*	15.80	7.04E-01		1.54E+00	3.24E-01
		2204.22	*	4.98	1.61E+00		1.71E+00	7.08E-01
+	PB-214	295.21	*	19.19	5.79E-01	5.15E-01	9.72E-01	2.83E-01
		351.92	*	37.19	5.15E-01		1.14E+00	2.54E-01
	RN-219	401.80		6.50	8.59E-01	8.59E-01	-2.01E-01	4.07E-01
	RA-223	323.87		3.88	1.40E+00	1.40E+00	-5.05E-02	6.68E-01
+	RA-224	240.98	*	3.95	2.70E+00	2.70E+00	3.63E+00	1.32E+00
	RA-225	40.00		31.00	2.22E+00	2.22E+00	-1.07E-01	1.08E+00
+	RA-226	186.21	*	3.28	2.26E+00	2.26E+00	4.03E+00	1.11E+00
	TH-227	50.10		8.40	8.95E-01	7.38E-01	1.79E-01	4.34E-01
		236.00		11.50	7.38E-01		-6.33E+00	3.60E-01
		256.20		6.30	8.67E-01		2.70E-01	4.16E-01
+	AC-228	338.32	*	11.40	1.63E+00	3.92E-01	1.94E+00	8.04E-01
		911.07	*	27.70	3.92E-01		1.32E+00	1.86E-01
		969.11	*	16.60	7.70E-01		1.38E+00	3.67E-01
	TH-230	48.44		16.90	4.99E-01	4.99E-01	-1.12E-01	2.42E-01
		62.85		4.60	1.28E+00		1.05E+00	6.22E-01
		67.67		0.37	1.34E+01		-4.57E+00	6.48E+00
	PA-231	283.67		1.60	3.33E+00	2.36E+00	2.56E-01	1.59E+00
		302.67		2.30	2.36E+00		1.68E-01	1.13E+00
	TH-231	25.64		14.70	1.58E+01	7.46E-01	5.98E+00	7.67E+00
		84.21		6.40	7.46E-01		7.46E-01	3.62E-01
	PA-233	311.98		38.60	3.13E-01	3.13E-01	7.38E-02	1.50E-01
	PA-234	131.20		20.40	2.67E-01	2.67E-01	1.12E-01	1.30E-01
		733.99		8.80	7.03E-01		3.83E-02	3.25E-01
		946.00		12.00	6.32E-01		5.38E-02	2.92E-01
	PA-234M	1001.03		0.92	8.87E+00	8.87E+00	8.35E-01	4.11E+00
	TH-234	63.29		3.80	1.53E+00	1.53E+00	1.26E+00	7.47E-01
	U-235	143.76		10.50	4.91E-01	4.91E-01	-1.95E-02	2.38E-01
		163.35		4.70	1.12E+00		7.44E-01	5.41E-01
		205.31		4.70	1.21E+00		2.79E-01	5.86E-01
+	NP-237	86.50	*	12.60	4.31E-01	4.31E-01	2.70E-01	2.10E-01
	NP-239	106.10		22.70	2.17E+03	2.17E+03	4.95E+02	1.06E+03
		228.18		10.70	4.72E+03		-2.21E+03	2.27E+03
		277.60		14.10	4.03E+03		3.64E+03	1.94E+03
	AM-241	59.54		35.90	1.54E-01	1.54E-01	1.75E-02	7.47E-02
	AM-243	74.67		66.00	1.07E-01	1.07E-01	-1.32E-01	5.23E-02

Analysis Report for 1510091-07

CP1807S11-12

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	1.86E+00	4.15E-01	1.44E+00	9.00E-01
	228.14	10.60	4.87E-01		-2.28E-01	2.34E-01
	277.60	14.00	4.15E-01		3.74E-01	1.99E-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

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: CP1807S11-12

Elapsed Live time: 3600
Elapsed Real Time: 3601

Channel								
1:	0	0	0	0	0	0	1	147
9:	582	1190	1128	436	652	1688	291	138
17:	142	106	139	142	109	135	121	116
25:	125	125	123	111	101	88	113	108
33:	116	123	119	127	119	119	122	132
41:	132	136	142	125	115	175	176	127
49:	108	124	102	95	116	110	89	107
57:	84	94	102	118	117	117	146	176
65:	120	130	108	127	122	129	123	127
73:	144	158	438	250	453	392	99	102
81:	107	117	107	169	140	100	203	201
89:	114	180	149	105	263	183	75	74
97:	69	87	77	108	71	76	94	64
105:	98	100	97	94	80	97	81	70
113:	73	77	84	81	80	79	69	81
121:	60	77	74	67	82	72	78	81
129:	121	99	76	85	73	83	65	65
137:	66	72	73	81	76	84	67	82
145:	76	58	73	65	62	70	63	51
153:	67	92	102	82	52	52	55	58
161:	68	60	69	59	71	51	68	67
169:	62	64	49	48	67	62	70	56
177:	63	60	62	71	58	54	42	53
185:	81	158	107	48	66	46	36	60
193:	55	63	56	57	46	59	50	55
201:	69	46	62	53	56	53	63	56
209:	88	82	52	43	44	50	60	53
217:	53	47	54	52	50	49	55	53
225:	46	41	49	35	43	33	47	40
233:	53	56	44	46	56	336	684	120
241:	106	128	69	36	40	44	39	40
249:	38	41	35	37	41	38	43	37
257:	30	45	30	30	38	32	27	34
265:	30	38	40	21	39	74	65	28
273:	30	38	23	38	43	52	35	27
281:	29	36	34	26	35	28	32	34
289:	31	30	31	29	26	43	149	103
297:	24	35	39	89	48	27	22	31
305:	22	25	31	25	31	36	27	25
313:	27	29	23	23	26	25	29	27
321:	33	31	31	20	26	29	33	48
329:	41	17	21	36	27	25	17	22
337:	44	125	107	27	32	29	24	29
345:	16	16	29	36	29	27	127	285
353:	74	23	19	23	24	25	17	21
361:	21	20	22	20	26	23	25	26

369:	20	32	21	18	23	23	24	22

Sample Title: CP1807S11-12

Channel								
377:	32	25	23	22	19	23	21	21
385:	23	17	24	25	22	13	18	13
393:	22	26	17	14	17	30	26	24
401:	19	25	13	25	22	20	22	11
409:	25	35	22	16	21	17	18	20
417:	21	17	17	21	18	20	17	16
425:	21	22	16	16	13	17	20	20
433:	16	15	16	14	20	27	20	19
441:	17	17	18	18	22	19	9	17
449:	7	18	15	21	26	20	14	15
457:	23	25	15	10	16	25	38	38
465:	23	21	16	14	20	21	14	14
473:	18	18	14	17	23	16	17	16
481:	17	21	14	17	12	15	18	14
489:	20	13	17	12	19	17	19	17
497:	11	9	15	18	21	13	13	21
505:	11	17	16	18	18	62	87	54
513:	24	8	11	14	11	22	16	8
521:	9	9	16	10	17	11	9	16
529:	8	20	15	6	12	13	18	14
537:	11	14	19	12	19	8	22	7
545:	12	22	8	18	14	10	13	12
553:	14	8	12	12	6	10	10	12
561:	19	14	19	20	13	12	16	10
569:	13	13	14	11	19	14	11	15
577:	10	13	11	11	15	78	203	100
585:	25	8	13	14	14	14	10	15
593:	13	8	12	19	13	9	12	7
601:	7	17	8	12	11	14	17	52
609:	222	92	25	12	14	15	11	9
617:	7	17	11	21	5	11	11	15
625:	6	8	6	9	14	12	10	8
633:	13	10	11	7	11	15	21	13
641:	14	15	13	7	9	10	17	14
649:	10	9	10	15	12	16	7	13
657:	9	8	13	12	16	11	12	13
665:	20	12	17	10	10	15	15	12
673:	11	12	15	14	9	9	13	10
681:	8	7	11	11	7	5	11	11
689:	9	13	12	5	13	9	13	17
697:	17	13	17	9	15	16	11	15
705:	9	11	14	10	14	10	11	15
713:	11	11	8	11	9	6	6	11
721:	13	10	6	11	14	18	54	41
729:	9	10	3	11	8	4	6	10
737:	9	10	7	7	9	9	10	9
745:	7	10	14	12	8	14	10	15
753:	9	14	13	13	8	9	15	14
761:	9	9	7	13	13	6	13	22
769:	24	11	11	20	16	5	7	9
777:	10	15	3	7	7	7	9	10
785:	16	12	8	7	9	6	7	8
793:	10	16	27	13	8	7	11	10

801:	8	12	10	9	11	10	13	4

Sample Title: CP1807S11-12

Channel								
809:	5	5	8	6	6	4	7	4
817:	8	4	9	9	8	10	8	10
825:	7	6	7	9	8	5	11	9
833:	6	3	15	18	8	12	14	15
841:	12	6	9	11	9	13	7	9
849:	4	7	8	9	10	10	13	9
857:	1	8	10	22	22	6	6	6
865:	9	13	5	11	6	5	8	4
873:	9	5	3	9	6	6	3	7
881:	10	12	4	7	9	14	8	6
889:	6	5	9	14	5	10	3	6
897:	10	8	8	7	7	6	10	11
905:	13	14	4	7	14	45	100	61
913:	8	7	7	6	10	9	10	10
921:	7	10	14	11	10	9	7	5
929:	7	6	3	12	10	10	7	9
937:	7	6	8	5	7	5	9	8
945:	7	4	6	5	12	8	7	11
953:	5	6	9	8	7	12	8	5
961:	5	6	10	14	21	6	14	48
969:	52	20	8	8	10	7	9	10
977:	7	6	7	8	5	7	9	4
985:	4	3	7	7	9	5	3	9
993:	6	4	4	8	7	6	6	10
1001:	9	10	6	7	6	8	7	3
1009:	5	6	9	4	4	5	7	6
1017:	7	7	8	6	7	4	10	7
1025:	7	4	4	9	5	5	6	7
1033:	8	5	8	3	6	9	4	5
1041:	1	8	11	6	16	5	12	3
1049:	6	6	3	8	5	4	5	6
1057:	12	11	5	3	7	6	10	12
1065:	5	9	6	5	4	7	12	7
1073:	4	9	3	9	5	10	6	6
1081:	5	12	3	9	9	8	6	8
1089:	7	6	7	8	6	4	9	6
1097:	5	4	8	1	3	5	14	4
1105:	5	5	7	8	11	7	5	8
1113:	6	4	5	5	7	12	26	31
1121:	22	9	3	5	4	7	10	8
1129:	6	5	6	6	7	13	6	5
1137:	8	4	6	6	3	5	6	6
1145:	11	8	5	5	7	9	7	6
1153:	7	7	12	6	12	6	4	9
1161:	7	6	8	9	8	5	12	6
1169:	11	4	10	11	8	8	8	12
1177:	5	6	6	7	5	5	10	8
1185:	3	12	4	9	13	4	3	7
1193:	8	2	11	9	8	8	13	11
1201:	3	10	2	7	10	6	10	12
1209:	7	12	9	5	8	11	4	12
1217:	7	7	8	7	7	11	12	14
1225:	5	6	5	9	3	6	7	9

1233:	7	5	6	13	16	25	15	13

Sample Title: CP1807S11-12

Channel								
1241:	11	3	14	6	2	5	5	7
1249:	8	9	5	5	2	3	5	8
1257:	5	8	4	7	7	3	1	7
1265:	4	7	2	9	6	12	7	5
1273:	6	6	8	6	3	7	5	10
1281:	5	9	4	3	3	7	4	5
1289:	3	5	3	9	6	2	8	5
1297:	7	6	2	3	7	4	9	6
1305:	8	5	4	1	2	5	6	5
1313:	4	3	4	3	4	2	4	4
1321:	3	6	4	2	3	3	5	7
1329:	4	5	4	5	3	6	1	2
1337:	6	5	4	10	4	6	4	5
1345:	4	5	4	1	2	4	4	2
1353:	1	3	3	3	0	3	2	1
1361:	6	3	2	6	3	6	3	4
1369:	1	3	1	3	2	2	7	2
1377:	15	10	6	2	2	2	5	2
1385:	3	4	5	4	2	0	1	1
1393:	1	3	5	7	6	0	1	3
1401:	3	3	2	0	5	3	2	3
1409:	1	2	3	3	1	4	5	3
1417:	0	1	0	3	0	5	5	1
1425:	2	4	2	1	2	3	4	3
1433:	2	2	2	2	3	3	1	1
1441:	1	1	3	3	2	1	4	0
1449:	3	2	3	5	2	0	2	2
1457:	6	16	111	287	253	79	12	2
1465:	2	0	6	5	6	1	1	3
1473:	3	2	1	2	2	3	2	1
1481:	1	3	1	0	3	0	3	1
1489:	0	4	1	0	1	4	4	4
1497:	4	2	2	1	3	2	3	1
1505:	3	2	1	6	7	6	0	3
1513:	0	3	2	6	0	2	2	2
1521:	6	2	3	1	0	6	0	1
1529:	1	4	1	2	5	1	0	1
1537:	1	3	2	2	3	2	3	3
1545:	1	3	4	2	1	1	3	2
1553:	0	2	1	0	1	0	0	3
1561:	2	2	3	3	2	1	2	0
1569:	1	0	1	3	2	1	0	2
1577:	1	2	1	3	3	3	3	0
1585:	1	1	9	8	8	3	5	3
1593:	9	4	3	0	2	3	2	0
1601:	4	3	2	0	3	1	1	2
1609:	0	2	2	3	0	3	5	1
1617:	2	2	3	4	5	0	1	2
1625:	2	1	1	1	4	5	4	1
1633:	2	1	3	1	5	2	1	0
1641:	1	1	2	3	2	0	1	1
1649:	1	2	2	1	2	2	3	1
1657:	2	1	3	4	1	1	1	0

1665:	0	0	4	2	0	0	0	0

Sample Title: CP1807S11-12

Channel								
1673:	2	1	0	0	1	0	0	2
1681:	1	3	1	1	1	5	1	0
1689:	2	2	4	2	1	0	0	1
1697:	1	0	3	2	1	2	2	1
1705:	2	0	1	1	1	0	0	0
1713:	2	1	0	1	1	1	3	1
1721:	1	3	1	1	2	0	1	1
1729:	9	5	2	1	2	1	1	1
1737:	0	1	2	0	1	3	0	1
1745:	0	0	1	1	0	3	1	1
1753:	2	1	0	0	2	0	3	2
1761:	4	4	17	29	24	8	3	1
1769:	1	2	2	2	2	0	0	2
1777:	1	1	3	0	0	0	1	0
1785:	2	0	0	2	2	3	0	0
1793:	2	1	0	2	3	1	1	1
1801:	1	1	1	1	3	1	2	0
1809:	3	2	0	1	3	0	2	1
1817:	1	1	2	2	0	1	3	1
1825:	3	2	2	1	0	1	3	1
1833:	1	0	1	0	0	3	0	2
1841:	1	0	0	2	1	2	8	2
1849:	1	1	2	0	2	0	0	2
1857:	1	1	0	0	2	0	0	0
1865:	1	0	1	0	1	0	2	2
1873:	1	0	0	1	1	2	1	2
1881:	0	1	1	1	3	1	2	4
1889:	4	0	1	2	0	1	1	1
1897:	0	0	0	0	0	1	2	0
1905:	0	1	0	0	0	2	0	0
1913:	1	1	1	0	1	1	1	0
1921:	1	0	1	2	1	3	0	0
1929:	0	0	1	1	0	2	2	3
1937:	0	1	0	1	1	0	1	1
1945:	0	0	0	0	0	2	0	0
1953:	1	0	0	1	2	2	1	2
1961:	1	2	0	1	3	2	2	0
1969:	0	0	0	1	2	0	2	2
1977:	0	2	1	1	0	1	0	1
1985:	1	0	2	0	1	0	0	1
1993:	1	2	2	1	0	1	0	1
2001:	0	0	0	1	1	1	0	1
2009:	2	2	1	2	2	1	0	1
2017:	1	0	0	1	0	0	1	1
2025:	1	1	3	1	1	2	1	1
2033:	1	1	1	0	1	2	0	1
2041:	2	1	1	0	0	1	1	0
2049:	0	3	4	1	0	0	1	1
2057:	0	0	1	1	2	0	1	0
2065:	4	3	1	0	1	1	3	1
2073:	2	0	0	1	1	0	0	0
2081:	0	0	2	2	2	0	0	0
2089:	0	0	0	0	1	3	2	0

2097:	0	0	1	1	1	7	4	5

Sample Title: CP1807S11-12

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

2529:	1	1	0	2	0	0	0	1

Sample Title: CP1807S11-12

Channel								
2537:	1	1	0	0	2	0	0	0
2545:	0	0	0	0	2	0	0	0
2553:	0	0	1	0	0	0	0	1
2561:	1	0	0	0	1	0	0	0
2569:	0	0	1	0	1	0	1	0
2577:	0	0	1	0	0	0	1	0
2585:	0	0	2	0	0	1	0	0
2593:	0	2	1	0	1	0	0	0
2601:	0	1	0	0	0	0	1	1
2609:	2	2	6	18	41	20	17	7
2617:	2	0	1	0	0	0	0	1
2625:	0	2	0	0	0	1	0	1
2633:	0	0	0	2	0	0	0	0
2641:	0	0	0	0	0	1	0	0
2649:	1	1	0	0	0	0	0	0
2657:	0	1	0	0	1	0	0	1
2665:	0	1	1	1	0	1	0	3
2673:	1	0	1	0	0	0	1	0
2681:	1	0	0	0	2	0	1	1
2689:	1	0	0	0	0	1	0	0
2697:	0	0	0	0	0	0	0	0
2705:	1	1	0	0	0	0	0	0
2713:	0	1	0	0	0	1	0	0
2721:	0	0	0	0	2	1	1	0
2729:	0	0	1	0	0	0	1	1
2737:	0	0	0	0	0	0	0	2
2745:	0	1	0	1	0	0	2	0
2753:	0	1	0	0	0	2	0	0
2761:	0	0	0	1	1	0	0	2
2769:	0	0	0	1	0	2	0	0
2777:	0	0	0	0	0	0	0	0
2785:	0	0	2	0	1	0	0	1
2793:	0	0	0	0	0	0	1	1
2801:	0	2	0	0	0	0	1	0
2809:	0	1	0	0	0	1	1	0
2817:	1	0	0	0	0	0	0	0
2825:	0	0	0	0	0	0	1	0
2833:	0	0	1	0	0	0	0	0
2841:	1	0	1	0	1	1	0	0
2849:	0	1	0	0	0	0	0	1
2857:	1	0	0	0	0	0	0	0
2865:	0	1	0	1	0	1	0	0
2873:	0	0	0	2	1	2	0	0
2881:	0	1	0	0	1	0	0	0
2889:	0	0	0	0	1	1	1	0
2897:	0	2	1	1	0	0	2	2
2905:	1	1	0	1	1	0	1	0
2913:	1	0	0	0	1	0	0	0
2921:	0	2	0	0	0	0	0	0
2929:	1	0	0	0	0	0	0	0
2937:	1	1	0	0	0	1	0	0
2945:	1	0	1	0	0	0	2	1
2953:	1	0	0	0	0	0	2	0

2961:	0	0	0	0	0	0	0	0

Sample Title: CP1807S11-12

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

3393:	1	0	1	0	0	0	1	0

Sample Title: CP1807S11-12

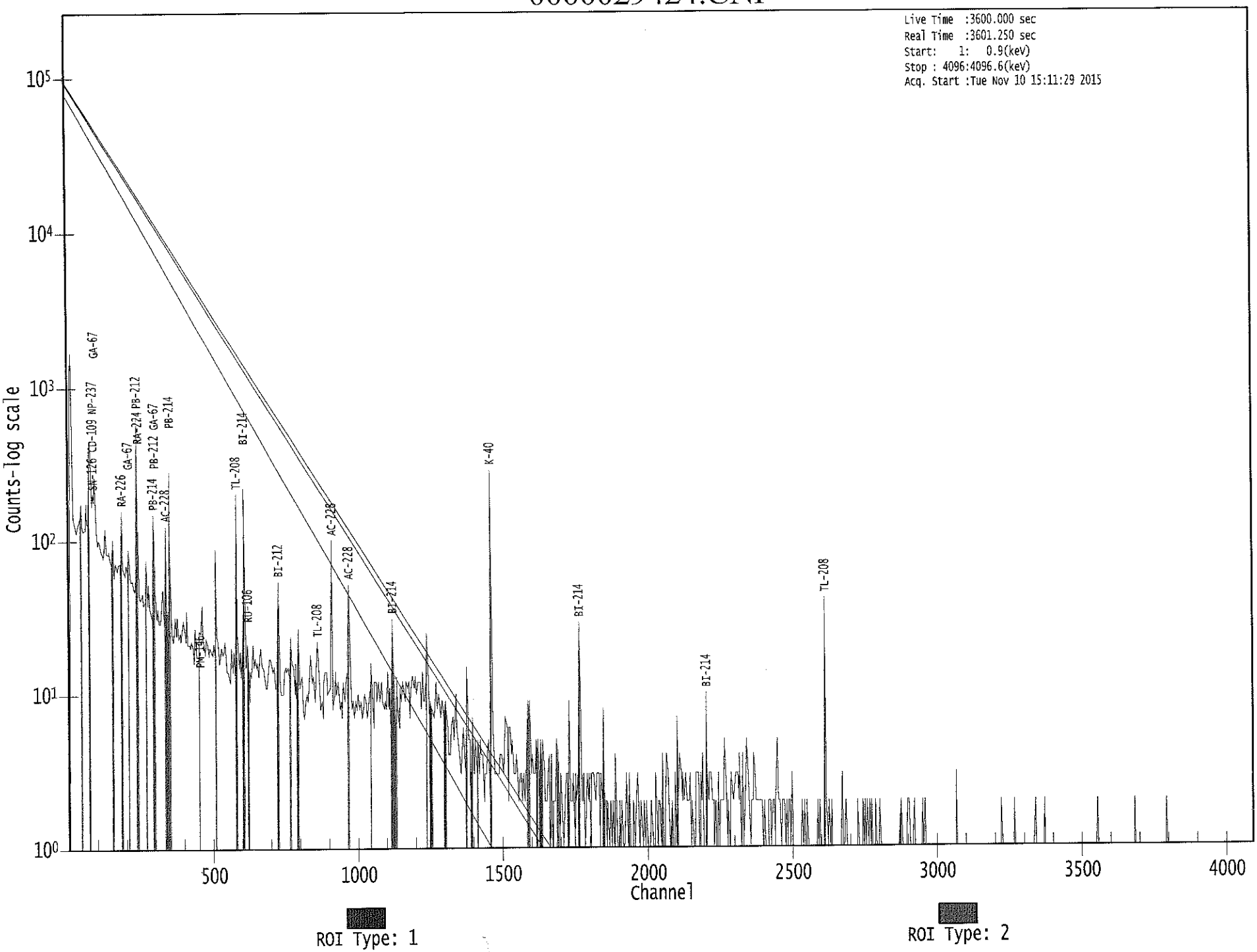
Channel								
3401:	0	0	0	0	1	0	0	0
3409:	0	0	0	0	0	0	0	1
3417:	0	0	0	0	0	0	0	0
3425:	0	0	0	0	0	0	0	0
3433:	0	0	0	0	0	0	0	0
3441:	0	0	0	0	1	1	0	0
3449:	0	0	0	0	0	0	0	1
3457:	1	1	1	0	0	0	0	1
3465:	0	1	0	0	0	0	1	0
3473:	0	0	0	0	0	1	1	0
3481:	0	0	0	0	0	0	0	0
3489:	0	0	0	0	0	0	0	0
3497:	0	0	0	1	0	0	1	0
3505:	0	0	0	0	0	0	0	0
3513:	0	0	0	0	0	0	0	0
3521:	0	0	0	0	0	0	0	0
3529:	0	0	1	0	0	1	1	1
3537:	1	0	0	0	0	0	0	0
3545:	0	0	0	0	1	1	0	0
3553:	0	2	0	0	0	0	0	0
3561:	0	0	0	0	0	1	0	0
3569:	0	0	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:	0	0	0	0	0	0	0	0
3601:	1	0	0	0	0	0	0	0
3609:	0	0	1	0	0	0	0	0
3617:	0	0	0	0	1	0	0	0
3625:	0	0	0	0	0	1	0	0
3633:	1	0	0	0	0	1	1	0
3641:	0	0	1	0	0	0	0	0
3649:	1	0	0	0	0	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	0	0	0	0	0	0	1	0
3673:	0	0	0	0	0	0	0	0
3681:	0	0	2	0	0	0	0	0
3689:	0	0	1	0	0	0	0	0
3697:	0	0	0	0	0	0	0	0
3705:	0	0	0	0	0	0	0	0
3713:	0	0	0	1	0	1	1	0
3721:	0	0	0	0	1	0	0	0
3729:	0	0	0	1	0	0	0	1
3737:	0	0	0	0	1	0	0	1
3745:	0	0	0	1	0	0	0	0
3753:	0	0	1	0	0	1	0	0
3761:	1	0	0	0	0	0	0	0
3769:	0	0	0	0	0	1	0	1
3777:	0	0	0	0	0	0	0	0
3785:	0	0	0	0	0	0	1	0
3793:	2	0	1	0	0	0	0	0
3801:	1	0	0	0	0	0	0	0
3809:	0	0	0	1	0	0	1	0
3817:	1	0	0	0	0	1	0	0

3825:	1	0	0	0	0	1	0	0

Sample Title: CP1807S11-12

Channel								
3833:	1	0	0	0	0	0	0	0
3841:	0	0	0	0	1	0	0	0
3849:	0	0	0	0	1	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	1	0	0	1
3881:	0	0	0	0	0	0	0	0
3889:	0	0	0	1	0	0	0	0
3897:	1	0	0	0	0	0	0	1
3905:	0	0	0	0	0	0	0	0
3913:	0	0	0	0	0	0	0	1
3921:	1	0	0	0	0	0	0	0
3929:	0	0	0	0	0	0	0	0
3937:	0	0	0	0	0	0	1	1
3945:	0	0	0	0	0	0	0	0
3953:	0	0	1	0	0	0	0	0
3961:	0	1	0	0	0	0	0	0
3969:	0	0	0	0	0	0	0	0
3977:	0	0	1	0	1	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	1	0	0	0	0	0	0
4017:	0	1	0	0	0	0	0	1
4025:	0	0	0	0	0	0	0	0
4033:	1	0	0	1	1	0	0	1
4041:	0	1	0	0	0	0	0	0
4049:	0	0	1	0	1	0	0	0
4057:	0	0	0	0	0	0	1	0
4065:	0	1	0	0	0	0	0	0
4073:	0	0	0	0	0	1	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	0	0	0	0	0

0000029424.CNF



Apex-Gamma

Analysis Report for 1510091-08
CP1807S13-14

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1510091-08
Sample Description	: CP1807S13-14
Sample Type	: SOIL
Sample Size	: 5.268E+02 grams
Facility	: Countroom
Sample Taken On	: 10/10/2015 10:14:36AM
Acquisition Started	: 11/10/2015 3:57:36PM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE1
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3601.4 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	: 29430

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510091-08

CP1807S13-14

PEAK LOCATE REPORT

Peak Locate Performed on : 11/10/2015 4:57:40PM
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	39.40	39.75	0.0000	0.00
2	63.35	63.69	0.0000	0.00
3	74.94	75.28	0.0000	0.00
4	77.41	77.75	0.0000	0.00
5	87.80	88.13	0.0000	0.00
6	92.71	93.05	0.0000	0.00
7	99.22	99.55	0.0000	0.00
8	177.44	177.75	0.0000	0.00
9	185.76	186.07	0.0000	0.00
10	209.56	209.86	0.0000	0.00
11	238.77	239.06	0.0000	0.00
12	241.87	242.15	0.0000	0.00
13	270.06	270.34	0.0000	0.00
14	276.93	277.20	0.0000	0.00
15	295.48	295.75	0.0000	0.00
16	300.40	300.67	0.0000	0.00
17	328.19	328.44	0.0000	0.00
18	338.52	338.77	0.0000	0.00
19	352.13	352.38	0.0000	0.00
20	463.54	463.75	0.0000	0.00
21	511.53	511.73	0.0000	0.00
22	572.14	572.31	0.0000	0.00
23	583.31	583.48	0.0000	0.00
24	609.62	609.78	0.0000	0.00
25	727.84	727.96	0.0000	0.00
26	766.25	766.36	0.0000	0.00
27	786.09	786.19	0.0000	0.00
28	795.06	795.15	0.0000	0.00
29	860.53	860.60	0.0000	0.00
30	908.14	908.20	0.0000	0.00
31	911.67	911.73	0.0000	0.00
32	968.65	968.68	0.0000	0.00
33	1103.87	1103.86	0.0000	0.00
34	1121.49	1121.47	0.0000	0.00
35	1238.69	1238.63	0.0000	0.00
36	1378.43	1378.32	0.0000	0.00
37	1406.49	1406.37	0.0000	0.00
38	1461.40	1461.26	0.0000	0.00
39	1469.13	1468.98	0.0000	0.00
40	1588.97	1588.78	0.0000	0.00
41	1592.35	1592.16	0.0000	0.00
42	1620.94	1620.74	0.0000	0.00

Analysis Report for 1510091-08

CP1807S13-14

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1631.04	1630.84	0.0000	0.00
44	1662.72	1662.50	0.0000	0.00
45	1765.17	1764.92	0.0000	0.00
46	1810.05	1809.78	0.0000	0.00
47	1897.01	1896.70	0.0000	0.00
48	1950.44	1950.11	0.0000	0.00
49	2080.47	2080.10	0.0000	0.00
50	2093.13	2092.75	0.0000	0.00
51	2104.18	2103.80	0.0000	0.00
52	2111.74	2111.35	0.0000	0.00
53	2180.77	2180.36	0.0000	0.00
54	2204.23	2203.80	0.0000	0.00
55	2278.67	2278.22	0.0000	0.00
56	2332.68	2332.20	0.0000	0.00
57	2335.48	2335.01	0.0000	0.00
58	2448.34	2447.82	0.0000	0.00
59	2615.40	2614.82	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510091-08

CP1807S13-14

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 4:57:40PM

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	39.40	37 -	43	39.75	6.94E+01	74.62	9.73E+02	1.61
	2	63.35	61 -	67	63.69	1.85E+02	106.76	1.95E+03	1.26
M	3	74.94	72 -	81	75.28	5.05E+02	100.35	1.48E+03	1.60
m	4	77.41	72 -	81	77.75	7.69E+02	107.92	1.40E+03	1.61
M	5	87.80	83 -	97	88.13	3.09E+02	68.64	8.53E+02	1.48
m	6	92.71	83 -	97	93.05	3.41E+02	72.94	7.41E+02	1.49
	7	99.22	98 -	102	99.55	9.37E+01	64.61	8.47E+02	1.72
	8	177.44	176 -	181	177.75	5.50E+01	59.66	6.66E+02	1.74
	9	185.76	182 -	188	186.07	2.41E+02	73.69	8.13E+02	1.84
	10	209.56	206 -	213	209.86	1.22E+02	78.20	9.25E+02	1.69
M	11	238.77	235 -	246	239.06	1.16E+03	83.59	4.98E+02	1.56
m	12	241.87	235 -	246	242.15	2.62E+02	64.52	4.12E+02	1.68
	13	270.06	267 -	273	270.34	7.61E+01	57.54	5.42E+02	1.60
	14	276.93	274 -	280	277.20	7.92E+01	51.99	4.28E+02	1.96
M	15	295.48	290 -	303	295.75	3.66E+02	55.60	3.34E+02	1.91
m	16	300.40	290 -	303	300.67	9.88E+01	45.24	3.17E+02	1.91
	17	328.19	325 -	331	328.44	6.37E+01	50.74	4.19E+02	1.68
	18	338.52	335 -	342	338.77	1.95E+02	61.22	4.92E+02	1.52
	19	352.13	347 -	357	352.38	5.13E+02	80.40	5.88E+02	1.84
	20	463.54	461 -	467	463.75	5.05E+01	38.37	2.31E+02	1.58
	21	511.53	506 -	518	511.73	2.51E+02	64.02	3.64E+02	2.99
	22	572.14	569 -	577	572.31	3.35E+01	35.29	1.71E+02	4.01
	23	583.31	578 -	586	583.48	3.71E+02	51.20	1.75E+02	1.98
	24	609.62	606 -	614	609.78	4.09E+02	57.47	2.56E+02	1.67
	25	727.84	724 -	732	727.96	8.22E+01	40.49	2.00E+02	1.68
	26	766.25	762 -	771	766.36	4.19E+01	39.18	1.96E+02	6.44
M	27	786.09	783 -	799	786.19	2.40E+01	24.10	1.09E+02	2.09
m	28	795.06	783 -	799	795.15	4.08E+01	25.94	9.21E+01	2.09
	29	860.53	857 -	866	860.60	3.71E+01	37.08	1.76E+02	2.60
M	30	908.14	907 -	919	908.20	1.62E+01	8.83	1.61E+01	2.15
m	31	911.67	907 -	919	911.73	2.62E+02	36.63	5.42E+01	2.13
	32	968.65	963 -	974	968.68	1.88E+02	46.22	1.71E+02	2.14
	33	1103.87	1102 -	1107	1103.86	1.59E+01	16.82	4.22E+01	1.37
	34	1121.49	1114 -	1129	1121.47	9.77E+01	49.68	2.07E+02	1.72
	35	1238.69	1234 -	1244	1238.63	5.74E+01	38.20	1.61E+02	1.97
	36	1378.43	1374 -	1382	1378.32	3.39E+01	16.77	2.21E+01	2.04
	37	1406.49	1401 -	1410	1406.37	2.20E+01	20.93	5.00E+01	1.57
M	38	1461.40	1456 -	1481	1461.26	8.64E+02	59.95	2.42E+01	2.22
m	39	1469.13	1456 -	1481	1468.98	8.89E+00	17.52	2.08E+01	3.22
M	40	1588.97	1583 -	1598	1588.78	3.29E+01	13.89	1.15E+01	2.47

Analysis Report for 1510091-08

CP1807S13-14

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
m	41	1592.35	1583 -	1598	1592.16	1.79E+01	15.13	1.59E+01	2.47
	42	1620.94	1617 -	1626	1620.74	2.03E+01	12.41	1.14E+01	2.04
	43	1631.04	1628 -	1633	1630.84	7.50E+00	10.25	1.50E+01	2.88
	44	1662.72	1659 -	1666	1662.50	1.60E+01	8.00	0.00E+00	2.49
	45	1765.17	1760 -	1770	1764.92	7.15E+01	20.27	1.70E+01	2.16
	46	1810.05	1806 -	1813	1809.78	9.00E+00	6.00	0.00E+00	1.33
	47	1897.01	1894 -	1899	1896.70	5.71E+00	6.08	2.57E+00	1.96
	48	1950.44	1946 -	1953	1950.11	7.11E+00	7.21	3.78E+00	1.12
	49	2080.47	2078 -	2082	2080.10	5.00E+00	6.36	4.00E+00	2.77
	50	2093.13	2090 -	2096	2092.75	1.20E+01	6.93	0.00E+00	4.70
	51	2104.18	2099 -	2108	2103.80	2.15E+01	11.00	5.08E+00	2.63
	52	2111.74	2109 -	2115	2111.35	7.50E+00	8.28	7.00E+00	1.14
	53	2180.77	2175 -	2184	2180.36	7.33E+00	9.90	9.33E+00	2.96
	54	2204.23	2200 -	2206	2203.80	1.66E+01	10.22	6.80E+00	2.08
	55	2278.67	2274 -	2281	2278.22	9.00E+00	6.00	0.00E+00	1.92
M	56	2332.68	2331 -	2337	2332.20	6.84E+00	4.27	2.42E+00	4.41
m	57	2335.48	2331 -	2337	2335.01	7.90E+00	7.55	2.00E+00	3.36
	58	2448.34	2443 -	2452	2447.82	1.04E+01	12.12	1.51E+01	3.11
	59	2615.40	2611 -	2621	2614.82	1.78E+02	26.68	0.00E+00	2.47

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 : 11/10/2015 4:57:40PM

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	39.40	37 -	43	6.94E+01	74.62	9.73E+02	5.98E+01
	2	63.35	61 -	67	1.85E+02	106.76	1.95E+03	8.49E+01
M	3	74.94	72 -	81	5.05E+02	100.35	1.48E+03	6.33E+01
m	4	77.41	72 -	81	7.69E+02	107.92	1.40E+03	6.14E+01
M	5	87.80	83 -	97	3.09E+02	68.64	8.53E+02	4.80E+01
m	6	92.71	83 -	97	3.41E+02	72.94	7.41E+02	4.47E+01
	7	99.22	98 -	102	9.37E+01	64.61	8.47E+02	5.07E+01
	8	177.44	176 -	181	5.50E+01	59.66	6.66E+02	4.75E+01
	9	185.76	182 -	188	2.41E+02	73.69	8.13E+02	5.49E+01

Analysis Report for 1510091-08

CP1807S13-14

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	10	209.56	206 -	213	1.22E+02	78.20	9.25E+02	6.17E+01
M	11	238.77	235 -	246	1.16E+03	83.59	4.98E+02	3.67E+01
m	12	241.87	235 -	246	2.62E+02	64.52	4.12E+02	3.34E+01
	13	270.06	267 -	273	7.61E+01	57.54	5.42E+02	4.51E+01
	14	276.93	274 -	280	7.92E+01	51.99	4.28E+02	4.02E+01
M	15	295.48	290 -	303	3.66E+02	55.60	3.34E+02	3.01E+01
m	16	300.40	290 -	303	9.88E+01	45.24	3.17E+02	2.93E+01
	17	328.19	325 -	331	6.37E+01	50.74	4.19E+02	3.96E+01
	18	338.52	335 -	342	1.95E+02	61.22	4.92E+02	4.48E+01
	19	352.13	347 -	357	5.13E+02	80.40	5.88E+02	5.46E+01
	20	463.54	461 -	467	5.05E+01	38.37	2.31E+02	2.93E+01
	21	511.53	506 -	518	2.51E+02	64.02	3.64E+02	2.46E+01
	22	572.14	569 -	577	3.35E+01	35.29	1.71E+02	2.74E+01
	23	583.31	578 -	586	3.71E+02	51.20	1.75E+02	2.77E+01
	24	609.62	606 -	614	4.09E+02	57.47	2.56E+02	3.36E+01
	25	727.84	724 -	732	8.22E+01	40.49	2.00E+02	2.98E+01
	26	766.25	762 -	771	4.19E+01	39.18	1.96E+02	3.04E+01
M	27	786.09	783 -	799	2.40E+01	24.10	1.09E+02	1.71E+01
m	28	795.06	783 -	799	4.08E+01	25.94	9.21E+01	1.58E+01
	29	860.53	857 -	866	3.71E+01	37.08	1.76E+02	2.88E+01
M	30	908.14	907 -	919	1.62E+01	8.83	1.61E+01	6.60E+00
m	31	911.67	907 -	919	2.62E+02	36.63	5.42E+01	1.21E+01
	32	968.65	963 -	974	1.88E+02	46.22	1.71E+02	3.06E+01
	33	1103.87	1102 -	1107	1.59E+01	16.82	4.22E+01	1.22E+01
	34	1121.49	1114 -	1129	9.77E+01	49.68	2.07E+02	1.58E+01
	35	1238.69	1234 -	1244	5.74E+01	38.20	1.61E+02	2.88E+01
	36	1378.43	1374 -	1382	3.39E+01	16.77	2.21E+01	9.91E+00
	37	1406.49	1401 -	1410	2.20E+01	20.93	5.00E+01	1.54E+01
M	38	1461.40	1456 -	1481	8.64E+02	59.95	2.42E+01	8.08E+00
m	39	1469.13	1456 -	1481	8.89E+00	17.52	2.08E+01	7.50E+00
M	40	1588.97	1583 -	1598	3.29E+01	13.89	1.15E+01	5.58E+00
m	41	1592.35	1583 -	1598	1.79E+01	15.13	1.59E+01	6.56E+00
	42	1620.94	1617 -	1626	2.03E+01	12.41	1.14E+01	7.01E+00
	43	1631.04	1628 -	1633	7.50E+00	10.25	1.50E+01	7.12E+00
	44	1662.72	1659 -	1666	1.60E+01	8.00	0.00E+00	0.00E+00
	45	1765.17	1760 -	1770	7.15E+01	20.27	1.70E+01	9.18E+00
	46	1810.05	1806 -	1813	9.00E+00	6.00	0.00E+00	0.00E+00
	47	1897.01	1894 -	1899	5.71E+00	6.08	2.57E+00	3.09E+00
	48	1950.44	1946 -	1953	7.11E+00	7.21	3.78E+00	3.99E+00
	49	2080.47	2078 -	2082	5.00E+00	6.36	4.00E+00	3.72E+00
	50	2093.13	2090 -	2096	1.20E+01	6.93	0.00E+00	0.00E+00
	51	2104.18	2099 -	2108	2.15E+01	11.00	5.08E+00	4.87E+00
	52	2111.74	2109 -	2115	7.50E+00	8.28	7.00E+00	5.10E+00
	53	2180.77	2175 -	2184	7.33E+00	9.90	9.33E+00	6.81E+00
	54	2204.23	2200 -	2206	1.66E+01	10.22	6.80E+00	5.07E+00
	55	2278.67	2274 -	2281	9.00E+00	6.00	0.00E+00	0.00E+00
M	56	2332.68	2331 -	2337	6.84E+00	4.27	2.42E+00	2.56E+00
m	57	2335.48	2331 -	2337	7.90E+00	7.55	2.00E+00	2.33E+00
	58	2448.34	2443 -	2452	1.04E+01	12.12	1.51E+01	8.43E+00
	59	2615.40	2611 -	2621	1.78E+02	26.68	0.00E+00	0.00E+00

Analysis Report for 1510091-08

CP1807S13-14

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 : 11/10/2015 4:57:40PM

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	39.40	37 -	43	39.75	6.94E+01	74.62	9.73E+02	I-129 RA-225
	2	63.35	61 -	67	63.69	1.85E+02	106.76	1.95E+03	TH-234 TH-230
M	3	74.94	72 -	81	75.28	5.05E+02	100.35	1.48E+03	AM-243
m	4	77.41	72 -	81	77.75	7.69E+02	107.92	1.40E+03	TI-44
M	5	87.80	83 -	97	88.13	3.09E+02	68.64	8.53E+02	SN-126 CD-109 LU-176
m	6	92.71	83 -	97	93.05	3.41E+02	72.94	7.41E+02	GA-67
	7	99.22	98 -	102	99.55	9.37E+01	64.61	8.47E+02	.....
	8	177.44	176 -	181	177.75	5.50E+01	59.66	6.66E+02	CS-136
	9	185.76	182 -	188	186.07	2.41E+02	73.69	8.13E+02	RA-226
	10	209.56	206 -	213	209.86	1.22E+02	78.20	9.25E+02	CM-243 GA-67
M	11	238.77	235 -	246	239.06	1.16E+03	83.59	4.98E+02	PB-212
m	12	241.87	235 -	246	242.15	2.62E+02	64.52	4.12E+02	RA-224
	13	270.06	267 -	273	270.34	7.61E+01	57.54	5.42E+02	.....
	14	276.93	274 -	280	277.20	7.92E+01	51.99	4.28E+02	CM-243 NP-239
M	15	295.48	290 -	303	295.75	3.66E+02	55.60	3.34E+02	PB-214
m	16	300.40	290 -	303	300.67	9.88E+01	45.24	3.17E+02	GA-67 PB-212 BI-210M
	17	328.19	325 -	331	328.44	6.37E+01	50.74	4.19E+02	LA-140
	18	338.52	335 -	342	338.77	1.95E+02	61.22	4.92E+02	AC-228
	19	352.13	347 -	357	352.38	5.13E+02	80.40	5.88E+02	PB-214
	20	463.54	461 -	467	463.75	5.05E+01	38.37	2.31E+02	SB-125
	21	511.53	506 -	518	511.73	2.51E+02	64.02	3.64E+02	.....
	22	572.14	569 -	577	572.31	3.35E+01	35.29	1.71E+02	.....

Analysis Report for 1510091-08

CP1807S13-14

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	23	583.31	578 -	586	583.48	3.71E+02	51.20	1.75E+02	TL-208
	24	609.62	606 -	614	609.78	4.09E+02	57.47	2.56E+02	BI-214
	25	727.84	724 -	732	727.96	8.22E+01	40.49	2.00E+02	BI-212
	26	766.25	762 -	771	766.36	4.19E+01	39.18	1.96E+02	NB-95
M	27	786.09	783 -	799	786.19	2.40E+01	24.10	1.09E+02	.....
m	28	795.06	783 -	799	795.15	4.08E+01	25.94	9.21E+01	CS-134
	29	860.53	857 -	866	860.60	3.71E+01	37.08	1.76E+02	TL-208
M	30	908.14	907 -	919	908.20	1.62E+01	8.83	1.61E+01	.....
m	31	911.67	907 -	919	911.73	2.62E+02	36.63	5.42E+01	LU-172 AC-228
	32	968.65	963 -	974	968.68	1.88E+02	46.22	1.71E+02	AC-228
	33	1103.87	1102 -	1107	1103.86	1.59E+01	16.82	4.22E+01	.....
	34	1121.49	1114 -	1129	1121.47	9.77E+01	49.68	2.07E+02	TA-182 SC-46
	35	1238.69	1234 -	1244	1238.63	5.74E+01	38.20	1.61E+02	CO-56
	36	1378.43	1374 -	1382	1378.32	3.39E+01	16.77	2.21E+01	.....
	37	1406.49	1401 -	1410	1406.37	2.20E+01	20.93	5.00E+01	.....
M	38	1461.40	1456 -	1481	1461.26	8.64E+02	59.95	2.42E+01	K-40
m	39	1469.13	1456 -	1481	1468.98	8.89E+00	17.52	2.08E+01	.....
M	40	1588.97	1583 -	1598	1588.78	3.29E+01	13.89	1.15E+01	.....
m	41	1592.35	1583 -	1598	1592.16	1.79E+01	15.13	1.59E+01	.....
	42	1620.94	1617 -	1626	1620.74	2.03E+01	12.41	1.14E+01	BI-212
	43	1631.04	1628 -	1633	1630.84	7.50E+00	10.25	1.50E+01	.....
	44	1662.72	1659 -	1666	1662.50	1.60E+01	8.00	0.00E+00	.....
	45	1765.17	1760 -	1770	1764.92	7.15E+01	20.27	1.70E+01	BI-214
	46	1810.05	1806 -	1813	1809.78	9.00E+00	6.00	0.00E+00	.....
	47	1897.01	1894 -	1899	1896.70	5.71E+00	6.08	2.57E+00	.....
	48	1950.44	1946 -	1953	1950.11	7.11E+00	7.21	3.78E+00	.....
	49	2080.47	2078 -	2082	2080.10	5.00E+00	6.36	4.00E+00	.....
	50	2093.13	2090 -	2096	2092.75	1.20E+01	6.93	0.00E+00	.....
	51	2104.18	2099 -	2108	2103.80	2.15E+01	11.00	5.08E+00	.....
	52	2111.74	2109 -	2115	2111.35	7.50E+00	8.28	7.00E+00	.....
	53	2180.77	2175 -	2184	2180.36	7.33E+00	9.90	9.33E+00	.....
	54	2204.23	2200 -	2206	2203.80	1.66E+01	10.22	6.80E+00	BI-214
	55	2278.67	2274 -	2281	2278.22	9.00E+00	6.00	0.00E+00	.....
M	56	2332.68	2331 -	2337	2332.20	6.84E+00	4.27	2.42E+00	.....
m	57	2335.48	2331 -	2337	2335.01	7.90E+00	7.55	2.00E+00	.....
	58	2448.34	2443 -	2452	2447.82	1.04E+01	12.12	1.51E+01	.....
	59	2615.40	2611 -	2621	2614.82	1.78E+02	26.68	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 1510091-08

CP1807S13-14

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/10/2015 4:57:40PM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	39.40	6.94E+01	74.62	1.16E-02	1.78E-03
	2	63.35	1.85E+02	106.76	2.49E-02	1.91E-03
M	3	74.94	5.05E+02	100.35	2.75E-02	2.30E-03
m	4	77.41	7.69E+02	107.92	2.78E-02	2.38E-03
M	5	87.80	3.09E+02	68.64	2.85E-02	2.73E-03
m	6	92.71	3.41E+02	72.94	2.86E-02	2.65E-03
	7	99.22	9.37E+01	64.61	2.85E-02	2.52E-03
	8	177.44	5.50E+01	59.66	2.30E-02	2.09E-03
	9	185.76	2.41E+02	73.69	2.24E-02	2.03E-03
	10	209.56	1.22E+02	78.20	2.09E-02	1.85E-03
M	11	238.77	1.16E+03	83.59	1.92E-02	1.64E-03
m	12	241.87	2.62E+02	64.52	1.91E-02	1.61E-03
	13	270.06	7.61E+01	57.54	1.77E-02	1.41E-03
	14	276.93	7.92E+01	51.99	1.74E-02	1.36E-03
M	15	295.48	3.66E+02	55.60	1.67E-02	1.31E-03
m	16	300.40	9.88E+01	45.24	1.65E-02	1.30E-03
	17	328.19	6.37E+01	50.74	1.55E-02	1.24E-03
	18	338.52	1.95E+02	61.22	1.52E-02	1.22E-03
	19	352.13	5.13E+02	80.40	1.48E-02	1.19E-03
	20	463.54	5.05E+01	38.37	1.21E-02	1.04E-03
	21	511.53	2.51E+02	64.02	1.12E-02	9.90E-04
	22	572.14	3.35E+01	35.29	1.03E-02	9.27E-04
	23	583.31	3.71E+02	51.20	1.02E-02	9.15E-04
	24	609.62	4.09E+02	57.47	9.82E-03	8.88E-04
	25	727.84	8.22E+01	40.49	8.55E-03	7.75E-04
	26	766.25	4.19E+01	39.18	8.21E-03	7.40E-04
M	27	786.09	2.40E+01	24.10	8.04E-03	7.23E-04
m	28	795.06	4.08E+01	25.94	7.97E-03	7.15E-04
	29	860.53	3.71E+01	37.08	7.48E-03	6.56E-04
M	30	908.14	1.62E+01	8.83	7.17E-03	6.17E-04
m	31	911.67	2.62E+02	36.63	7.14E-03	6.15E-04
	32	968.65	1.88E+02	46.22	6.81E-03	5.86E-04
	33	1103.87	1.59E+01	16.82	6.14E-03	5.15E-04
	34	1121.49	9.77E+01	49.68	6.06E-03	5.06E-04
	35	1238.69	5.74E+01	38.20	5.61E-03	4.68E-04
	36	1378.43	3.39E+01	16.77	5.18E-03	4.40E-04
	37	1406.49	2.20E+01	20.93	5.11E-03	4.33E-04
M	38	1461.40	8.64E+02	59.95	4.97E-03	4.19E-04
m	39	1469.13	8.89E+00	17.52	4.95E-03	4.17E-04
M	40	1588.97	3.29E+01	13.89	4.69E-03	3.87E-04
m	41	1592.35	1.79E+01	15.13	4.69E-03	3.86E-04
	42	1620.94	2.03E+01	12.41	4.63E-03	3.79E-04
	43	1631.04	7.50E+00	10.25	4.61E-03	3.77E-04
	44	1662.72	1.60E+01	8.00	4.56E-03	3.69E-04
	45	1765.17	7.15E+01	20.27	4.39E-03	3.43E-04

Analysis Report for 1510091-08

CP1807S13-14

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	46	1810.05	9.00E+00	6.00	4.33E-03	3.32E-04
	47	1897.01	5.71E+00	6.08	4.22E-03	3.26E-04
	48	1950.44	7.11E+00	7.21	4.16E-03	3.26E-04
	49	2080.47	5.00E+00	6.36	4.04E-03	3.26E-04
	50	2093.13	1.20E+01	6.93	4.03E-03	3.26E-04
	51	2104.18	2.15E+01	11.00	4.02E-03	3.26E-04
	52	2111.74	7.50E+00	8.28	4.01E-03	3.26E-04
	53	2180.77	7.33E+00	9.90	3.96E-03	3.26E-04
	54	2204.23	1.66E+01	10.22	3.95E-03	3.26E-04
	55	2278.67	9.00E+00	6.00	3.90E-03	3.26E-04
M	56	2332.68	6.84E+00	4.27	3.88E-03	3.26E-04
m	57	2335.48	7.90E+00	7.55	3.88E-03	3.26E-04
	58	2448.34	1.04E+01	12.12	3.83E-03	3.26E-04
	59	2615.40	1.78E+02	26.68	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 : 11/10/2015 4:57:40PM

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	39.40	6.94E+01	74.62			6.94E+01	7.46E+01
	2	63.35	1.85E+02	106.76	7.80E+01	1.33E+01	1.07E+02	1.08E+02
M	3	74.94	5.05E+02	100.35	5.09E+00	4.37E+00	5.00E+02	1.00E+02
m	4	77.41	7.69E+02	107.92	9.75E+00	8.28E+00	7.60E+02	1.08E+02
M	5	87.80	3.09E+02	68.64			3.09E+02	6.86E+01
m	6	92.71	3.41E+02	72.94	1.34E+02	9.83E+00	2.07E+02	7.36E+01
	7	99.22	9.37E+01	64.61			9.37E+01	6.46E+01
	8	177.44	5.50E+01	59.66			5.50E+01	5.97E+01
	9	185.76	2.41E+02	73.69	6.41E+01	7.38E+00	1.77E+02	7.41E+01
	10	209.56	1.22E+02	78.20			1.22E+02	7.82E+01
M	11	238.77	1.16E+03	83.59	2.34E+01	6.34E+00	1.14E+03	8.38E+01
m	12	241.87	2.62E+02	64.52			2.62E+02	6.45E+01
	13	270.06	7.61E+01	57.54			7.61E+01	5.75E+01
	14	276.93	7.92E+01	51.99			7.92E+01	5.20E+01
M	15	295.48	3.66E+02	55.60	4.17E+00	5.50E+00	3.62E+02	5.59E+01
m	16	300.40	9.88E+01	45.24			9.88E+01	4.52E+01

Analysis Report for 1510091-08

CP1807S13-14

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	17	328.19	6.37E+01	50.74			6.37E+01	5.07E+01
	18	338.52	1.95E+02	61.22	2.22E-01	4.54E+00	1.95E+02	6.14E+01
	19	352.13	5.13E+02	80.40	8.83E+00	4.91E+00	5.04E+02	8.06E+01
	20	463.54	5.05E+01	38.37			5.05E+01	3.84E+01
	21	511.53	2.51E+02	64.02	8.12E+01	5.49E+00	1.70E+02	6.43E+01
	22	572.14	3.35E+01	35.29			3.35E+01	3.53E+01
	23	583.31	3.71E+02	51.20	6.34E+00	3.74E+00	3.64E+02	5.13E+01
	24	609.62	4.09E+02	57.47	5.20E+00	3.69E+00	4.04E+02	5.76E+01
	25	727.84	8.22E+01	40.49			8.22E+01	4.05E+01
	26	766.25	4.19E+01	39.18			4.19E+01	3.92E+01
M	27	786.09	2.40E+01	24.10			2.40E+01	2.41E+01
m	28	795.06	4.08E+01	25.94			4.08E+01	2.59E+01
	29	860.53	3.71E+01	37.08			3.71E+01	3.71E+01
M	30	908.14	1.62E+01	8.83			1.62E+01	8.83E+00
m	31	911.67	2.62E+02	36.63	3.28E+00	2.53E+00	2.59E+02	3.67E+01
	32	968.65	1.88E+02	46.22			1.88E+02	4.62E+01
	33	1103.87	1.59E+01	16.82			1.59E+01	1.68E+01
	34	1121.49	9.77E+01	49.68			9.77E+01	4.97E+01
	35	1238.69	5.74E+01	38.20			5.74E+01	3.82E+01
	36	1378.43	3.39E+01	16.77			3.39E+01	1.68E+01
	37	1406.49	2.20E+01	20.93			2.20E+01	2.09E+01
M	38	1461.40	8.64E+02	59.95	6.46E+00	2.33E+00	8.58E+02	6.00E+01
m	39	1469.13	8.89E+00	17.52			8.89E+00	1.75E+01
M	40	1588.97	3.29E+01	13.89			3.29E+01	1.39E+01
m	41	1592.35	1.79E+01	15.13			1.79E+01	1.51E+01
	42	1620.94	2.03E+01	12.41			2.03E+01	1.24E+01
	43	1631.04	7.50E+00	10.25			7.50E+00	1.02E+01
	44	1662.72	1.60E+01	8.00			1.60E+01	8.00E+00
	45	1765.17	7.15E+01	20.27			7.15E+01	2.03E+01
	46	1810.05	9.00E+00	6.00			9.00E+00	6.00E+00
	47	1897.01	5.71E+00	6.08			5.71E+00	6.08E+00
	48	1950.44	7.11E+00	7.21			7.11E+00	7.21E+00
	49	2080.47	5.00E+00	6.36			5.00E+00	6.36E+00
	50	2093.13	1.20E+01	6.93			1.20E+01	6.93E+00
	51	2104.18	2.15E+01	11.00			2.15E+01	1.10E+01
	52	2111.74	7.50E+00	8.28			7.50E+00	8.28E+00
	53	2180.77	7.33E+00	9.90			7.33E+00	9.90E+00
	54	2204.23	1.66E+01	10.22			1.66E+01	1.02E+01
	55	2278.67	9.00E+00	6.00			9.00E+00	6.00E+00
M	56	2332.68	6.84E+00	4.27			6.84E+00	4.27E+00
m	57	2335.48	7.90E+00	7.55			7.90E+00	7.55E+00
	58	2448.34	1.04E+01	12.12			1.04E+01	1.21E+01
	59	2615.40	1.78E+02	26.68	3.47E+00	1.48E+00	1.75E+02	2.67E+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 1510091-08

CP1807S13-14

AREA CORRECTION REPORT
REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/10/2015 4:57:40PM

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	39.40	6.94E+01	74.62			6.94E+01	7.46E+01
	2	63.35	1.85E+02	106.76	7.80E+01	1.33E+01	1.07E+02	1.08E+02
M	3	74.94	5.05E+02	100.35	5.09E+00	4.37E+00	5.00E+02	1.00E+02
m	4	77.41	7.69E+02	107.92	9.75E+00	8.28E+00	7.60E+02	1.08E+02
M	5	87.80	3.09E+02	68.64			3.09E+02	6.86E+01
m	6	92.71	3.41E+02	72.94	1.34E+02	9.83E+00	2.07E+02	7.36E+01
	7	99.22	9.37E+01	64.61			9.37E+01	6.46E+01
	8	177.44	5.50E+01	59.66			5.50E+01	5.97E+01
	9	185.76	2.41E+02	73.69	6.41E+01	7.38E+00	1.77E+02	7.41E+01
	10	209.56	1.22E+02	78.20			1.22E+02	7.82E+01
M	11	238.77	1.16E+03	83.59	2.34E+01	6.34E+00	1.14E+03	8.38E+01
m	12	241.87	2.62E+02	64.52			2.62E+02	6.45E+01
	13	270.06	7.61E+01	57.54			7.61E+01	5.75E+01
	14	276.93	7.92E+01	51.99			7.92E+01	5.20E+01
M	15	295.48	3.66E+02	55.60	4.17E+00	5.50E+00	3.62E+02	5.59E+01
m	16	300.40	9.88E+01	45.24			9.88E+01	4.52E+01
	17	328.19	6.37E+01	50.74			6.37E+01	5.07E+01
	18	338.52	1.95E+02	61.22	2.22E-01	4.54E+00	1.95E+02	6.14E+01
	19	352.13	5.13E+02	80.40	8.83E+00	4.91E+00	5.04E+02	8.06E+01
	20	463.54	5.05E+01	38.37			5.05E+01	3.84E+01
	21	511.53	2.51E+02	64.02	8.12E+01	5.49E+00	1.70E+02	6.43E+01
	22	572.14	3.35E+01	35.29			3.35E+01	3.53E+01
	23	583.31	3.71E+02	51.20	6.34E+00	3.74E+00	3.64E+02	5.13E+01
	24	609.62	4.09E+02	57.47	5.20E+00	3.69E+00	4.04E+02	5.76E+01
	25	727.84	8.22E+01	40.49			8.22E+01	4.05E+01
	26	766.25	4.19E+01	39.18			4.19E+01	3.92E+01
M	27	786.09	2.40E+01	24.10			2.40E+01	2.41E+01
m	28	795.06	4.08E+01	25.94			4.08E+01	2.59E+01
	29	860.53	3.71E+01	37.08			3.71E+01	3.71E+01
M	30	908.14	1.62E+01	8.83			1.62E+01	8.83E+00
m	31	911.67	2.62E+02	36.63	3.28E+00	2.53E+00	2.59E+02	3.67E+01
	32	968.65	1.88E+02	46.22			1.88E+02	4.62E+01
	33	1103.87	1.59E+01	16.82			1.59E+01	1.68E+01
	34	1121.49	9.77E+01	49.68			9.77E+01	4.97E+01
	35	1238.69	5.74E+01	38.20			5.74E+01	3.82E+01
	36	1378.43	3.39E+01	16.77			3.39E+01	1.68E+01
	37	1406.49	2.20E+01	20.93			2.20E+01	2.09E+01
M	38	1461.40	8.64E+02	59.95	6.46E+00	2.33E+00	8.58E+02	6.00E+01
m	39	1469.13	8.89E+00	17.52			8.89E+00	1.75E+01
M	40	1588.97	3.29E+01	13.89			3.29E+01	1.39E+01
m	41	1592.35	1.79E+01	15.13			1.79E+01	1.51E+01

Analysis Report for 1510091-08

CP1807S13-14

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	42	1620.94	2.03E+01	12.41			2.03E+01	1.24E+01
	43	1631.04	7.50E+00	10.25			7.50E+00	1.02E+01
	44	1662.72	1.60E+01	8.00			1.60E+01	8.00E+00
	45	1765.17	7.15E+01	20.27			7.15E+01	2.03E+01
	46	1810.05	9.00E+00	6.00			9.00E+00	6.00E+00
	47	1897.01	5.71E+00	6.08			5.71E+00	6.08E+00
	48	1950.44	7.11E+00	7.21			7.11E+00	7.21E+00
	49	2080.47	5.00E+00	6.36			5.00E+00	6.36E+00
	50	2093.13	1.20E+01	6.93			1.20E+01	6.93E+00
	51	2104.18	2.15E+01	11.00			2.15E+01	1.10E+01
	52	2111.74	7.50E+00	8.28			7.50E+00	8.28E+00
	53	2180.77	7.33E+00	9.90			7.33E+00	9.90E+00
	54	2204.23	1.66E+01	10.22			1.66E+01	1.02E+01
	55	2278.67	9.00E+00	6.00			9.00E+00	6.00E+00
M	56	2332.68	6.84E+00	4.27			6.84E+00	4.27E+00
m	57	2335.48	7.90E+00	7.55			7.90E+00	7.55E+00
	58	2448.34	1.04E+01	12.12			1.04E+01	1.21E+01
	59	2615.40	1.78E+02	26.68	3.47E+00	1.48E+00	1.75E+02	2.67E+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	0.945	1460.81	*	10.67	2.31E+01	2.57E+00
GA-67	0.606	93.31	*	35.70	2.22E+02	9.43E+02
		208.95	*	2.24	2.87E+03	1.18E+04
		300.22	*	16.00	4.10E+02	1.74E+03
NB-95	0.963	765.79	*	99.81	1.35E-01	1.27E-01
CD-109	0.991	88.03	*	3.72	4.35E+00	1.08E+00
SN-126	0.992	87.57	*	37.00	4.18E-01	1.01E-01
TL-208	0.954	583.14	*	30.22	1.69E+00	2.83E-01
		860.37	*	4.48	1.58E+00	1.58E+00
		2614.66	*	35.85	1.83E+00	3.21E-01
BI-212	0.941	727.17	*	11.80	1.16E+00	5.82E-01
		1620.62	*	2.75	2.27E+00	1.40E+00
PB-212	0.996	238.63	*	44.60	1.90E+00	2.13E-01

Analysis Report for 1510091-08
CP1807S13-14

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
PB-212	0.996	300.09	*	3.41	2.50E+00	1.16E+00
BI-214	0.714	609.31	*	46.30	1.27E+00	2.14E-01
		1120.29		15.10		
		1764.49	*	15.80	1.47E+00	4.31E-01
		2204.22	*	4.98	1.20E+00	7.47E-01
PB-214	0.991	295.21	*	19.19	1.61E+00	2.79E-01
		351.92	*	37.19	1.31E+00	2.34E-01
RA-224	0.882	240.98	*	3.95	4.95E+00	1.29E+00
RA-225	0.922	40.00	*	31.00	1.19E+00	1.29E+00
RA-226	0.969	186.21	*	3.28	3.43E+00	6.44E+00
AC-228	0.961	338.32	*	11.40	1.61E+00	5.22E-01
		911.07	*	27.70	1.86E+00	3.09E-01
		969.11	*	16.60	2.37E+00	6.17E-01
TH-234	0.999	63.29	*	3.80	1.61E+00	1.62E+00
AM-243	0.989	74.67	*	66.00	3.93E-01	8.55E-02
CM-243	0.338	209.75	*	3.29	2.55E+00	1.64E+00
		228.14		10.60		
		277.60	*	14.00	4.63E-01	3.06E-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 : 11/10/2015 4:57:40PM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m	4	77.41	2.11030E-01	7.12	Tol.	TI-44
	7	99.22	2.60340E-02	34.47		
	8	177.44	1.52907E-02	54.19		
	13	270.06	2.11411E-02	37.80		
	17	328.19	1.76826E-02	39.85		
	20	463.54	1.40278E-02	37.99	Sum	
	21	511.53	4.71703E-02	18.92		
	22	572.14	9.30556E-03	52.67	Sum	
M	27	786.09	6.66309E-03	50.24		
m	28	795.06	1.13325E-02	31.79	Sum	
M	30	908.14	4.48766E-03	27.33		

Analysis Report for 1510091-08

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	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	33	1103.87	4.41066E-03	52.97	Sum	
	34	1121.49	2.71310E-02	25.43	Sum	
	35	1238.69	1.59521E-02	33.26		
	36	1378.43	9.42901E-03	24.70		
	37	1406.49	6.11111E-03	47.56		
m	39	1469.13	2.46948E-03	98.54		
M	40	1588.97	9.13148E-03	21.13	Sum	
m	41	1592.35	4.98011E-03	42.20		
	43	1631.04	2.08333E-03	68.31		
	44	1662.72	4.44444E-03	25.00		
	46	1810.05	2.50000E-03	33.33		
	47	1897.01	1.58730E-03	53.22	Sum	
	48	1950.44	1.97531E-03	50.70	Sum	
	49	2080.47	1.38889E-03	63.64		
	50	2093.13	3.33333E-03	28.87		
	51	2104.18	5.96065E-03	25.63	S-Esc	
	52	2111.74	2.08333E-03	55.18		
	53	2180.77	2.03704E-03	67.50		
	55	2278.67	2.50000E-03	33.33	Sum	
M	56	2332.68	1.89976E-03	31.23		
m	57	2335.48	2.19536E-03	47.76		
	58	2448.34	2.90123E-03	58.04		

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	2.31E+01	2.57E+00
GA-67	0.60	93.31	*	35.70	2.22E+02	9.43E+02
		208.95	*	2.24	2.87E+03	1.18E+04
		300.22	*	16.00	4.10E+02	1.74E+03
NB-95	0.96	765.79	*	99.81	1.35E-01	1.27E-01

Analysis Report for 1510091-08

CP1807S13-14

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
CD-109	0.99	88.03	*	3.72	4.35E+00	1.08E+00
SN-126	0.99	87.57	*	37.00	4.18E-01	1.01E-01
TL-208	0.95	583.14	*	30.22	1.69E+00	2.83E-01
		860.37	*	4.48	1.58E+00	1.58E+00
		2614.66	*	35.85	1.83E+00	3.21E-01
BI-212	0.94	727.17	*	11.80	1.16E+00	5.82E-01
		1620.62	*	2.75	2.27E+00	1.40E+00
PB-212	0.99	238.63	*	44.60	1.90E+00	2.13E-01
		300.09	*	3.41	2.50E+00	1.16E+00
BI-214	0.71	609.31	*	46.30	1.27E+00	2.14E-01
		1120.29		15.10		
		1764.49	*	15.80	1.47E+00	4.31E-01
		2204.22	*	4.98	1.20E+00	7.47E-01
PB-214	0.99	295.21	*	19.19	1.61E+00	2.79E-01
		351.92	*	37.19	1.31E+00	2.34E-01
RA-224	0.88	240.98	*	3.95	4.95E+00	1.29E+00
RA-225	0.92	40.00	*	31.00	1.19E+00	1.29E+00
RA-226	0.96	186.21	*	3.28	3.43E+00	6.44E+00
AC-228	0.96	338.32	*	11.40	1.61E+00	5.22E-01
		911.07	*	27.70	1.86E+00	3.09E-01
		969.11	*	16.60	2.37E+00	6.17E-01
TH-234	0.99	63.29	*	3.80	1.61E+00	1.62E+00
AM-243	0.98	74.67	*	66.00	3.93E-01	8.55E-02
CM-243	0.33	209.75	*	3.29	2.55E+00	1.64E+00
		228.14		10.60		
		277.60	*	14.00	4.63E-01	3.06E-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	0.945	2.31E+01	2.57E+00	

Analysis Report for 1510091-08

CP1807S13-14

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	GA-67	0.606	2.07E+02	8.47E+02	
	NB-95	0.963	1.35E-01	1.27E-01	
?	CD-109	0.991	4.35E+00	1.08E+00	
?	SN-126	0.992	4.18E-01	1.01E-01	
	TL-208	0.954	1.75E+00	2.10E-01	
	BI-212	0.941	1.32E+00	5.37E-01	
	PB-212	0.996	1.87E+00	2.10E-01	
	BI-214	0.714	1.30E+00	1.85E-01	
	PB-214	0.991	1.43E+00	1.79E-01	
	RA-224	0.882	4.95E+00	1.29E+00	
	RA-225	0.922	1.19E+00	1.29E+00	
	RA-226	0.969	3.43E+00	6.44E+00	
	AC-228	0.961	1.89E+00	2.44E-01	
	TH-234	0.999	1.61E+00	1.62E+00	
	AM-243	0.989	3.93E-01	8.55E-02	
	CM-243	0.338	5.27E-01	3.01E-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 1510091-08

CP1807S13-14

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 4:57:40PM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m	4	77.41	2.11030E-01	7.12	Tol.	TI-44
	7	99.22	2.60340E-02	34.47		
	8	177.44	1.52907E-02	54.19		
	13	270.06	2.11411E-02	37.80		
	17	328.19	1.76826E-02	39.85		
	20	463.54	1.40278E-02	37.99	Sum	
	21	511.53	4.71703E-02	18.92		
	22	572.14	9.30556E-03	52.67	Sum	
M	27	786.09	6.66309E-03	50.24		
m	28	795.06	1.13325E-02	31.79	Sum	
M	30	908.14	4.48766E-03	27.33		
	33	1103.87	4.41066E-03	52.97	Sum	
	34	1121.49	2.71310E-02	25.43	Sum	
	35	1238.69	1.59521E-02	33.26		
	36	1378.43	9.42901E-03	24.70		
	37	1406.49	6.11111E-03	47.56		
m	39	1469.13	2.46948E-03	98.54		
M	40	1588.97	9.13148E-03	21.13	Sum	
m	41	1592.35	4.98011E-03	42.20		
	43	1631.04	2.08333E-03	68.31		
	44	1662.72	4.44444E-03	25.00		
	46	1810.05	2.50000E-03	33.33		
	47	1897.01	1.58730E-03	53.22	Sum	
	48	1950.44	1.97531E-03	50.70	Sum	
	49	2080.47	1.38889E-03	63.64		
	50	2093.13	3.33333E-03	28.87		
	51	2104.18	5.96065E-03	25.63	S-Esc	
	52	2111.74	2.08333E-03	55.18		
	53	2180.77	2.03704E-03	67.50		
	55	2278.67	2.50000E-03	33.33	Sum	
M	56	2332.68	1.89976E-03	31.23		
m	57	2335.48	2.19536E-03	47.76		
	58	2448.34	2.90123E-03	58.04		

Analysis Report for 1510091-08

CP1807S13-14

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	-9.57E-01	8.93E-01	8.93E-01
+	NA-22	1274.54		99.94	-5.08E-02	5.96E-02	5.96E-02
+	NA-24	1368.53		99.99	6.07E+12	3.15E+13	7.32E+13
		2754.09		99.86	4.29E+12		3.15E+13
+	AL-26	1808.65		99.76	7.42E-03	5.23E-02	5.23E-02
+	K-40	1460.81	*	10.67	2.31E+01	1.64E+00	1.64E+00
+	@ AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	1.67E-03	7.55E-02	7.55E-02
		78.34		96.00	2.51E-01		9.63E-02
+	SC-46	889.25		99.98	-2.99E-02	9.42E-02	9.42E-02
		1120.51		99.99	2.63E-01		1.75E-01
+	V-48	983.52		99.98	-8.23E-02	2.79E-01	2.79E-01
		1312.10		97.50	1.50E-01		3.51E-01
+	CR-51	320.08		9.83	-3.09E-01	1.21E+00	1.21E+00
+	MN-54	834.83		99.97	-5.22E-02	8.24E-02	8.24E-02
+	CO-56	846.75		99.96	1.03E-02	9.29E-02	9.29E-02
		1037.75		14.03	-2.60E-01		7.52E-01
		1238.25		67.00	2.81E-01		2.59E-01
		1771.40		15.51	-1.38E-02		4.80E-01
		2598.48		16.90	-2.44E-03		3.51E-01
+	CO-57	122.06		85.51	-1.04E-02	6.40E-02	6.40E-02
		136.48		10.60	-2.71E-01		5.20E-01
+	CO-58	810.76		99.40	-4.41E-02	9.76E-02	9.76E-02
+	FE-59	1099.22		56.50	1.25E-02	2.46E-01	2.46E-01
		1291.56		43.20	2.04E-01		3.61E-01
+	CO-60	1173.22		100.00	-6.38E-03	7.76E-02	9.09E-02
		1332.49		100.00	6.96E-03		7.76E-02
+	ZN-65	1115.52		50.75	-5.73E-01	1.88E-01	1.88E-01
+	GA-67	93.31	*	35.70	2.22E+02	2.81E+02	2.81E+02
		208.95	*	2.24	2.87E+03		2.96E+03
		300.22	*	16.00	4.10E+02		5.43E+02
+	SE-75	121.11		16.70	-1.09E-01	1.02E-01	3.59E-01

Analysis Report for 1510091-08

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	SE-75	136.00		59.20	-5.70E-02	1.02E-01	1.02E-01
		264.65		59.80	-4.64E-02		1.06E-01
		279.53		25.20	1.73E-02		2.63E-01
		400.65		11.40	2.27E-01		5.97E-01
+	RB-82	776.52		13.00	-7.20E-01	1.30E+00	1.30E+00
+	RB-83	520.41		46.00	-8.14E-02	1.75E-01	1.75E-01
		529.64		30.30	-5.97E-02		2.75E-01
		552.65		16.40	-1.54E-01		5.09E-01
+	KR-85	513.99		0.43	4.58E+01	2.45E+01	2.45E+01
+	SR-85	513.99		99.27	2.78E-01	1.49E-01	1.49E-01
+	Y-88	898.02		93.40	-8.95E-04	5.77E-02	9.37E-02
		1836.01		99.38	-1.84E-02		5.77E-02
+	NB-93M	16.57		9.43	-8.03E+01	7.88E+01	7.88E+01
+	NB-94	702.63		100.00	-3.28E-03	6.91E-02	7.35E-02
		871.10		100.00	-2.31E-02		6.91E-02
+	NB-95	765.79	*	99.81	1.35E-01	2.05E-01	2.05E-01
+	NB-95M	235.69		25.00	-1.12E+03	1.19E+02	1.19E+02
+	ZR-95	724.18		43.70	4.59E-02	1.93E-01	2.71E-01
		756.72		55.30	1.19E-01		1.93E-01
+	MO-99	181.06		6.20	-2.08E+03	1.39E+03	2.19E+03
		739.58		12.80	-8.15E+02		1.39E+03
		778.00		4.50	-1.64E+03		4.11E+03
+	RU-103	497.08		89.00	-3.19E-02	1.25E-01	1.25E-01
+	RU-106	621.84		9.80	5.54E-01	8.10E-01	8.10E-01
+	AG-108M	433.93		89.90	4.44E-03	7.31E-02	7.31E-02
		614.37		90.40	-1.78E-03		7.49E-02
		722.95		90.50	1.94E-03		8.36E-02
+	CD-109	88.03	*	3.72	4.35E+00	3.66E+00	3.66E+00
+	AG-110M	657.75		93.14	6.12E-04	8.03E-02	8.03E-02
		677.61		10.53	6.49E-02		7.27E-01
		706.67		16.46	-1.29E-01		4.89E-01
		763.93		21.98	-2.23E-01		3.94E-01
		884.67		71.63	4.01E-02		1.18E-01
		1384.27		23.94	2.51E-02		2.68E-01
+	CD-113M	263.70		0.02	-1.56E+02	2.30E+02	2.30E+02
+	SN-113	255.12		1.93	2.26E-01	1.08E-01	3.17E+00
		391.69		64.90	-1.55E-03		1.08E-01
+	TE123M	159.00		84.10	-9.82E-03	7.52E-02	7.52E-02
+	SB-124	602.71		97.87	4.78E-03	1.11E-01	1.11E-01
		645.85		7.26	4.22E-01		1.29E+00
		722.78		11.10	2.27E-02		9.76E-01
		1691.02		49.00	1.92E-02		1.80E-01
+	I-125	35.49		6.49	-7.89E-01	3.04E+00	3.04E+00
+	SB-125	176.33		6.89	1.92E-01	2.07E-01	8.04E-01
		427.89		29.33	-9.28E-02		2.07E-01
		463.38		10.35	4.25E-01		7.29E-01
		600.56		17.80	9.66E-02		4.38E-01
		635.90		11.32	-9.30E-02		6.00E-01

Analysis Report for 1510091-08

CP1807S13-14

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	SB-126	414.70		83.30	-1.81E-01	4.20E-01	4.66E-01
		666.33		99.60	1.73E-02		4.20E-01
		695.00		99.60	1.34E-01		4.34E-01
		720.50		53.80	6.02E-01		8.68E-01
+	SN-126	87.57	*	37.00	4.18E-01	3.51E-01	3.51E-01
+	SB-127	473.00		25.00	-5.20E+00	6.04E+01	7.23E+01
		685.20		35.70	3.39E+01		6.04E+01
		783.80		14.70	1.23E+01		1.48E+02
+	I-129	29.78		57.00	2.09E-01	5.07E-01	5.07E-01
		33.60		13.20	-2.83E-01		1.29E+00
		39.58		7.52	5.29E-01		1.56E+00
+	I-131	284.30		6.05	-1.02E+00	9.45E-01	1.27E+01
		364.48		81.20	-1.70E-01		9.45E-01
		636.97		7.26	7.57E-01		1.35E+01
		722.89		1.80	1.44E+00		6.22E+01
+	TE-132	49.72		13.10	-6.59E+02	4.82E+01	4.62E+02
		228.16		88.00	2.96E+00		4.82E+01
+	BA-133	81.00		33.00	-1.30E+00	9.64E-02	1.90E-01
		302.84		17.80	3.75E-02		3.14E-01
		356.01		60.00	-6.18E-01		9.64E-02
+	I-133	529.87		86.30	-1.18E+09	5.41E+09	5.41E+09
+	XE-133	81.00		38.00	-7.00E+01	1.02E+01	1.02E+01
+	CS-134	563.23		8.38	3.86E-01	8.48E-02	8.63E-01
		569.32		15.43	4.88E-02		4.39E-01
		604.70		97.60	1.20E-02		8.48E-02
		795.84		85.40	9.34E-02		1.04E-01
		801.93		8.73	-1.71E-01		8.09E-01
+	CS-135	268.24		16.00	4.86E-01	4.02E-01	4.02E-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	1.20E+00	3.60E-01	3.87E+00
		163.89		4.61	2.67E+00		6.00E+00
		176.55		13.56	4.95E-01		2.07E+00
		273.65		12.66	-4.34E+00		2.21E+00
		340.57		48.50	1.09E+00		8.21E-01
		818.50		99.70	-9.00E-02		3.60E-01
		1048.07		79.60	-2.61E-01		5.12E-01
		1235.34		19.70	8.34E-03		3.04E+00
+	CS-137	661.65		85.12	9.57E-03	8.70E-02	8.70E-02
+	LA-138	788.74		34.00	2.11E-02	1.01E-01	2.34E-01
		1435.80		66.00	3.86E-03		1.01E-01
+	CE-139	165.85		80.35	5.44E-03	7.68E-02	7.68E-02
+	BA-140	162.64		6.70	1.16E+00	1.42E+00	4.32E+00
		304.84		4.50	-4.56E-01		5.67E+00
		423.70		3.20	-9.55E-01		1.07E+01
		437.55		2.00	-4.61E+00		1.78E+01
		537.32		25.00	-3.78E-01		1.42E+00
+	LA-140	328.77		20.50	2.02E+00	3.60E-01	1.75E+00

Analysis Report for 1510091-08

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	LA-140	487.03	45.50	-4.12E-01	3.60E-01	7.85E-01
		815.85	23.50	-1.03E+00		1.49E+00
		1596.49	95.49	-2.47E-01		3.60E-01
+	CE-141	145.44	48.40	1.28E-02	2.27E-01	2.27E-01
+	CE-143	57.36	11.80	2.32E+05	1.46E+06	4.22E+06
		293.26	42.00	4.02E+06		1.46E+06
		664.55	5.20	-8.80E+05		9.70E+06
+	CE-144	133.54	10.80	-1.54E-02	5.18E-01	5.18E-01
+	PM-144	476.78	42.00	-1.22E-01	7.51E-02	1.55E-01
		618.01	98.60	-1.83E-03		7.51E-02
		696.49	99.49	-2.13E-02		7.83E-02
+	PM-145	36.85	21.70	-9.67E-02	3.24E-01	5.85E-01
		37.36	39.70	-5.31E-02		3.24E-01
		42.30	15.10	-2.35E-01		6.63E-01
		72.40	2.31	-5.11E+00		3.62E+00
+	PM-146	453.90	39.94	6.23E-02	1.72E-01	1.72E-01
		735.90	14.01	4.11E-03		4.77E-01
		747.13	13.10	-5.89E-02		5.95E-01
+	ND-147	91.11	28.90	-4.66E+00	1.87E+00	1.87E+00
		531.02	13.10	6.45E-01		3.58E+00
+	PM-149	285.90	3.10	2.48E+03	3.04E+04	3.04E+04
+	EU-152	121.78	20.50	-4.01E-02	2.47E-01	2.47E-01
		244.69	5.40	-1.33E+00		1.11E+00
		344.27	19.13	4.16E-02		2.91E-01
		778.89	9.20	3.28E-01		8.05E-01
		964.01	10.40	-1.21E-01		9.63E-01
		1085.78	7.22	2.84E-01		1.12E+00
		1112.02	9.60	4.55E-01		8.86E-01
		1407.95	14.94	1.08E-01		5.45E-01
+	GD-153	97.43	31.30	-2.26E-02	1.96E-01	1.96E-01
		103.18	22.20	1.45E-01		2.62E-01
+	EU-154	123.07	40.50	9.50E-03	1.28E-01	1.28E-01
		723.30	19.70	8.97E-03		3.87E-01
		873.19	11.50	-9.78E-02		6.22E-01
		996.32	10.30	2.90E-01		8.05E-01
		1004.76	17.90	-4.16E-02		4.47E-01
		1274.45	35.50	-1.41E-01		1.65E-01
+	EU-155	86.50	30.90	8.62E-02	2.42E-01	2.42E-01
		105.30	20.70	-3.37E-03		2.61E-01
+	EU-156	811.77	10.40	3.64E-02	2.93E+00	2.93E+00
		1153.47	7.20	2.06E+00		5.86E+00
		1230.71	8.90	-1.31E+00		4.36E+00
+	HO-166M	184.41	72.60	2.23E-01	9.63E-02	9.63E-02
		280.45	29.60	1.93E-02		1.74E-01
		410.94	11.10	2.57E-01		6.54E-01
		711.69	54.10	6.26E-02		1.44E-01
+	TM-171	66.72	0.14	-2.01E+01	5.18E+01	5.18E+01
+	HF-172	81.75	4.52	-3.07E+00	4.80E-01	1.40E+00
		125.81	11.30	-2.00E-01		4.80E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	LU-172	181.53		20.60	-1.46E+00	3.60E+00	6.48E+00
		810.06		16.63	-2.78E+00		1.14E+01
		912.12		15.25	8.35E+01		2.79E+01
		1093.66		62.50	2.56E-01		3.60E+00
+	LU-173	100.72		5.24	1.32E+00	3.09E-01	1.10E+00
		272.11		21.20	2.21E-01		3.09E-01
+	HF-175	343.40		84.00	1.28E-02	8.92E-02	8.92E-02
+	LU-176	88.34		13.30	8.85E-01	4.99E-02	5.68E-01
		201.83		86.00	-1.07E-02		6.53E-02
		306.78		94.00	-1.45E-02		4.99E-02
+	TA-182	67.75		41.20	4.62E-03	2.09E-01	2.09E-01
		1121.30		34.90	5.78E-01		4.55E-01
		1189.05		16.23	-1.78E-01		6.52E-01
		1221.41		26.98	-1.30E-01		4.08E-01
		1231.02		11.44	-2.96E-01		9.85E-01
+	IR-192	308.46		29.68	-1.27E-01	1.79E-01	2.18E-01
		468.07		48.10	1.76E-02		1.79E-01
+	HG-203	279.19		77.30	2.90E-02	1.17E-01	1.17E-01
+	BI-207	569.67		97.72	1.29E-03	6.85E-02	6.85E-02
		1063.62		74.90	1.13E-02		1.14E-01
+	TL-208	583.14	*	30.22	1.69E+00	9.74E-02	2.75E-01
		860.37	*	4.48	1.58E+00		2.56E+00
		2614.66	*	35.85	1.83E+00		9.74E-02
+	BI-210M	262.00		45.00	4.37E-02	1.23E-01	1.23E-01
		300.00		23.00	-3.77E-01		2.80E-01
+	PB-210	46.50		4.25	1.31E+00	2.16E+00	2.16E+00
+	PB-211	404.84		2.90	-4.26E-01	1.92E+00	1.92E+00
		831.96		2.90	-8.69E-01		2.59E+00
+	BI-212	727.17	*	11.80	1.16E+00	8.79E-01	8.79E-01
		1620.62	*	2.75	2.27E+00		1.87E+00
+	PB-212	238.63	*	44.60	1.90E+00	2.53E-01	2.53E-01
		300.09	*	3.41	2.50E+00		3.32E+00
+	BI-214	609.31	*	46.30	1.27E+00	2.21E-01	2.21E-01
		1120.29		15.10	1.35E+00		8.96E-01
		1764.49	*	15.80	1.47E+00		4.33E-01
		2204.22	*	4.98	1.20E+00		9.32E-01
+	PB-214	295.21	*	19.19	1.61E+00	2.93E-01	5.87E-01
		351.92	*	37.19	1.31E+00		2.93E-01
+	RN-219	401.80		6.50	-7.74E-03	8.59E-01	8.59E-01
+	RA-223	323.87		3.88	4.83E-01	1.44E+00	1.44E+00
+	RA-224	240.98	*	3.95	4.95E+00	2.82E+00	2.82E+00
+	RA-225	40.00	*	31.00	1.19E+00	2.09E+00	2.09E+00
+	RA-226	186.21	*	3.28	3.43E+00	2.26E+00	2.26E+00
+	TH-227	50.10		8.40	-1.31E+00	6.41E-01	9.22E-01
		236.00		11.50	-6.04E+00		6.41E-01
		256.20		6.30	-4.92E-01		7.77E-01
+	AC-228	338.32	*	11.40	1.61E+00	3.73E-01	7.63E-01
		911.07	*	27.70	1.86E+00		3.73E-01

Analysis Report for 1510091-08

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	AC-228	969.11	*	16.60	2.37E+00	3.73E-01	8.06E-01
+	TH-230	48.44		16.90	1.61E-01	5.11E-01	5.11E-01
		62.85		4.60	2.06E+00		1.75E+00
		67.67		0.37	4.26E-01		1.93E+01
+	PA-231	283.67		1.60	1.12E+00	2.41E+00	3.32E+00
		302.67		2.30	2.89E-01		2.41E+00
+	TH-231	25.64		14.70	-2.19E+00	1.04E+00	4.23E+00
		84.21		6.40	-2.87E+00		1.04E+00
+	PA-233	311.98		38.60	6.38E-02	3.08E-01	3.08E-01
+	PA-234	131.20		20.40	-7.35E-03	2.64E-01	2.64E-01
		733.99		8.80	3.72E-01		7.89E-01
		946.00		12.00	-2.45E-01		5.37E-01
+	PA-234M	1001.03		0.92	1.17E+00	9.12E+00	9.12E+00
+	TH-234	63.29	*	3.80	1.61E+00	2.65E+00	2.65E+00
+	U-235	143.76		10.50	1.93E-01	5.43E-01	5.43E-01
		163.35		4.70	5.03E-01		1.13E+00
		205.31		4.70	-2.87E-02		1.23E+00
+	NP-237	86.50		12.60	2.09E-01	5.86E-01	5.86E-01
+	NP-239	106.10		22.70	-3.01E+01	2.33E+03	2.33E+03
		228.18		10.70	3.12E+02		5.09E+03
		277.60		14.10	2.16E+03		4.08E+03
+	AM-241	59.54		35.90	6.67E-02	2.01E-01	2.01E-01
+	AM-243	74.67	*	66.00	3.93E-01	1.73E-01	1.73E-01
+	CM-243	209.75	*	3.29	2.55E+00	4.86E-01	2.62E+00
		228.14		10.60	3.18E-02		5.19E-01
		277.60	*	14.00	4.63E-01		4.86E-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 1510091-08

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	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	-9.57E-01	4.23E-01
	NA-22	1274.54		99.94	5.96E-02	5.96E-02	-5.08E-02	2.62E-02
	NA-24	1368.53		99.99	7.32E+13	3.15E+13	6.07E+12	3.24E+13
		2754.09		99.86	3.15E+13		4.29E+12	9.97E+12
	AL-26	1808.65		99.76	5.23E-02	5.23E-02	7.42E-03	2.17E-02
+	K-40	1460.81	*	10.67	1.64E+00	1.64E+00	2.31E+01	7.86E-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	7.55E-02	7.55E-02	1.67E-03	3.70E-02
		78.34		96.00	9.63E-02		2.51E-01	4.74E-02
	SC-46	889.25		99.98	9.42E-02	9.42E-02	-2.99E-02	4.37E-02
		1120.51		99.99	1.75E-01		2.63E-01	8.35E-02
	V-48	983.52		99.98	2.79E-01	2.79E-01	-8.23E-02	1.28E-01
		1312.10		97.50	3.51E-01		1.50E-01	1.61E-01
	CR-51	320.08		9.83	1.21E+00	1.21E+00	-3.09E-01	5.80E-01
	MN-54	834.83		99.97	8.24E-02	8.24E-02	-5.22E-02	3.85E-02
	CO-56	846.75		99.96	9.29E-02	9.29E-02	1.03E-02	4.31E-02
		1037.75		14.03	7.52E-01		-2.60E-01	3.48E-01
		1238.25		67.00	2.59E-01		2.81E-01	1.23E-01
		1771.40		15.51	4.80E-01		-1.38E-02	2.03E-01
		2598.48		16.90	3.51E-01		-2.44E-03	1.36E-01
	CO-57	122.06		85.51	6.40E-02	6.40E-02	-1.04E-02	3.11E-02
		136.48		10.60	5.20E-01		-2.71E-01	2.53E-01
	CO-58	810.76		99.40	9.76E-02	9.76E-02	-4.41E-02	4.54E-02
	FE-59	1099.22		56.50	2.46E-01	2.46E-01	1.25E-02	1.14E-01
		1291.56		43.20	3.61E-01		2.04E-01	1.67E-01
	CO-60	1173.22		100.00	9.09E-02	7.76E-02	-6.38E-03	4.21E-02
		1332.49		100.00	7.76E-02		6.96E-03	3.51E-02
	ZN-65	1115.52		50.75	1.88E-01	1.88E-01	-5.73E-01	8.70E-02
+	GA-67	93.31	*	35.70	2.81E+02	2.81E+02	2.22E+02	1.39E+02
		208.95	*	2.24	2.96E+03		2.87E+03	1.45E+03
		300.22	*	16.00	5.43E+02		4.10E+02	2.66E+02
	SE-75	121.11		16.70	3.59E-01	1.02E-01	-1.09E-01	1.74E-01
		136.00		59.20	1.02E-01		-5.70E-02	4.96E-02
		264.65		59.80	1.06E-01		-4.64E-02	5.07E-02
		279.53		25.20	2.63E-01		1.73E-02	1.26E-01
		400.65		11.40	5.97E-01		2.27E-01	2.84E-01
	RB-82	776.52		13.00	1.30E+00	1.30E+00	-7.20E-01	6.09E-01
	RB-83	520.41		46.00	1.75E-01	1.75E-01	-8.14E-02	8.27E-02
		529.64		30.30	2.75E-01		-5.97E-02	1.30E-01
		552.65		16.40	5.09E-01		-1.54E-01	2.40E-01
	KR-85	513.99		0.43	2.45E+01	2.45E+01	4.58E+01	1.18E+01
	SR-85	513.99		99.27	1.49E-01	1.49E-01	2.78E-01	7.19E-02
	Y-88	898.02		93.40	9.37E-02	5.77E-02	-8.95E-04	4.34E-02
		1836.01		99.38	5.77E-02		-1.84E-02	2.33E-02
	NB-93M	16.57		9.43	7.88E+01	7.88E+01	-8.03E+01	3.69E+01
	NB-94	702.63		100.00	7.35E-02	6.91E-02	-3.28E-03	3.46E-02
		871.10		100.00	6.91E-02		-2.31E-02	3.20E-02
+	NB-95	765.79	*	99.81	2.05E-01	2.05E-01	1.35E-01	9.82E-02
	NB-95M	235.69		25.00	1.19E+02	1.19E+02	-1.12E+03	5.79E+01
	ZR-95	724.18		43.70	2.71E-01	1.93E-01	4.59E-02	1.28E-01
		756.72		55.30	1.93E-01		1.19E-01	9.07E-02

Analysis Report for 1510091-08

CP1807S13-14

	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	2.19E+03	1.39E+03	-2.08E+03	1.06E+03
		739.58		12.80	1.39E+03		-8.15E+02	6.47E+02
		778.00		4.50	4.11E+03		-1.64E+03	1.91E+03
	RU-103	497.08		89.00	1.25E-01	1.25E-01	-3.19E-02	5.90E-02
	RU-106	621.84		9.80	8.10E-01	8.10E-01	5.54E-01	3.84E-01
	AG-108M	433.93		89.90	7.31E-02	7.31E-02	4.44E-03	3.49E-02
		614.37		90.40	7.49E-02		-1.78E-03	3.53E-02
		722.95		90.50	8.36E-02		1.94E-03	3.93E-02
+	CD-109	88.03	*	3.72	3.66E+00	3.66E+00	4.35E+00	1.81E+00
	AG-110M	657.75		93.14	8.03E-02	8.03E-02	6.12E-04	3.77E-02
		677.61		10.53	7.27E-01		6.49E-02	3.42E-01
		706.67		16.46	4.89E-01		-1.29E-01	2.30E-01
		763.93		21.98	3.94E-01		-2.23E-01	1.85E-01
		884.67		71.63	1.18E-01		4.01E-02	5.52E-02
		1384.27		23.94	2.68E-01		2.51E-02	1.17E-01
	CD-113M	263.70		0.02	2.30E+02	2.30E+02	-1.56E+02	1.11E+02
	SN-113	255.12		1.93	3.17E+00	1.08E-01	2.26E-01	1.52E+00
		391.69		64.90	1.08E-01		-1.55E-03	5.12E-02
	TE123M	159.00		84.10	7.52E-02	7.52E-02	-9.82E-03	3.65E-02
	SB-124	602.71		97.87	1.11E-01	1.11E-01	4.78E-03	5.25E-02
		645.85		7.26	1.29E+00		4.22E-01	6.03E-01
		722.78		11.10	9.76E-01		2.27E-02	4.59E-01
		1691.02		49.00	1.80E-01		1.92E-02	7.75E-02
	I-125	35.49		6.49	3.04E+00	3.04E+00	-7.89E-01	1.47E+00
	SB-125	176.33		6.89	8.04E-01	2.07E-01	1.92E-01	3.89E-01
		427.89		29.33	2.07E-01		-9.28E-02	9.82E-02
		463.38		10.35	7.29E-01		4.25E-01	3.49E-01
		600.56		17.80	4.38E-01		9.66E-02	2.08E-01
		635.90		11.32	6.00E-01		-9.30E-02	2.82E-01
	SB-126	414.70		83.30	4.66E-01	4.20E-01	-1.81E-01	2.23E-01
		666.33		99.60	4.20E-01		1.73E-02	1.98E-01
		695.00		99.60	4.34E-01		1.34E-01	2.04E-01
		720.50		53.80	8.68E-01		6.02E-01	4.10E-01
+	SN-126	87.57	*	37.00	3.51E-01	3.51E-01	4.18E-01	1.74E-01
	SB-127	473.00		25.00	7.23E+01	6.04E+01	-5.20E+00	3.43E+01
		685.20		35.70	6.04E+01		3.39E+01	2.85E+01
		783.80		14.70	1.48E+02		1.23E+01	6.96E+01
	I-129	29.78		57.00	5.07E-01	5.07E-01	2.09E-01	2.46E-01
		33.60		13.20	1.29E+00		-2.83E-01	6.23E-01
		39.58		7.52	1.56E+00		5.29E-01	7.57E-01
	I-131	284.30		6.05	1.27E+01	9.45E-01	-1.02E+00	6.07E+00
		364.48		81.20	9.45E-01		-1.70E-01	4.48E-01
		636.97		7.26	1.35E+01		7.57E-01	6.33E+00
		722.89		1.80	6.22E+01		1.44E+00	2.92E+01
	TE-132	49.72		13.10	4.62E+02	4.82E+01	-6.59E+02	2.25E+02
		228.16		88.00	4.82E+01		2.96E+00	2.33E+01
	BA-133	81.00		33.00	1.90E-01	9.64E-02	-1.30E+00	9.29E-02
		302.84		17.80	3.14E-01		3.75E-02	1.50E-01
		356.01		60.00	9.64E-02		-6.18E-01	4.60E-02
	I-133	529.87		86.30	5.41E+09	5.41E+09	-1.18E+09	2.56E+09
	XE-133	81.00		38.00	1.02E+01	1.02E+01	-7.00E+01	5.00E+00
	CS-134	563.23		8.38	8.63E-01	8.48E-02	3.86E-01	4.09E-01
		569.32		15.43	4.39E-01		4.88E-02	2.07E-01

Analysis Report for 1510091-08

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	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	CS-134	604.70	97.60	8.48E-02	8.48E-02	1.20E-02	4.03E-02
		795.84	85.40	1.04E-01		9.34E-02	4.92E-02
		801.93	8.73	8.09E-01		-1.71E-01	3.76E-01
	CS-135	268.24	16.00	4.02E-01	4.02E-01	4.86E-01	1.94E-01
@	I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@		1260.41	28.60	1.00E+26		1.00E+26	1.00E+20
@		1678.03	9.54	1.00E+26		1.00E+26	1.00E+20
	CS-136	153.22	7.46	3.87E+00	3.60E-01	1.20E+00	1.88E+00
		163.89	4.61	6.00E+00		2.67E+00	2.91E+00
		176.55	13.56	2.07E+00		4.95E-01	1.01E+00
		273.65	12.66	2.21E+00		-4.34E+00	1.06E+00
		340.57	48.50	8.21E-01		1.09E+00	3.97E-01
		818.50	99.70	3.60E-01		-9.00E-02	1.67E-01
		1048.07	79.60	5.12E-01		-2.61E-01	2.37E-01
		1235.34	19.70	3.04E+00		8.34E-03	1.43E+00
	CS-137	661.65	85.12	8.70E-02	8.70E-02	9.57E-03	4.11E-02
	LA-138	788.74	34.00	2.34E-01	1.01E-01	2.11E-02	1.10E-01
		1435.80	66.00	1.01E-01		3.86E-03	4.46E-02
	CE-139	165.85	80.35	7.68E-02	7.68E-02	5.44E-03	3.72E-02
	BA-140	162.64	6.70	4.32E+00	1.42E+00	1.16E+00	2.09E+00
		304.84	4.50	5.67E+00		-4.56E-01	2.69E+00
		423.70	3.20	1.07E+01		-9.55E-01	5.09E+00
		437.55	2.00	1.78E+01		-4.61E+00	8.49E+00
		537.32	25.00	1.42E+00		-3.78E-01	6.70E-01
	LA-140	328.77	20.50	1.75E+00	3.60E-01	2.02E+00	8.43E-01
		487.03	45.50	7.85E-01		-4.12E-01	3.73E-01
		815.85	23.50	1.49E+00		-1.03E+00	6.88E-01
		1596.49	95.49	3.60E-01		-2.47E-01	1.56E-01
	CE-141	145.44	48.40	2.27E-01	2.27E-01	1.28E-02	1.11E-01
	CE-143	57.36	11.80	4.22E+06	1.46E+06	2.32E+05	2.06E+06
		293.26	42.00	1.46E+06		4.02E+06	7.11E+05
		664.55	5.20	9.70E+06		-8.80E+05	4.57E+06
	CE-144	133.54	10.80	5.18E-01	5.18E-01	-1.54E-02	2.52E-01
	PM-144	476.78	42.00	1.55E-01	7.51E-02	-1.22E-01	7.35E-02
		618.01	98.60	7.51E-02		-1.83E-03	3.54E-02
		696.49	99.49	7.83E-02		-2.13E-02	3.68E-02
	PM-145	36.85	21.70	5.85E-01	3.24E-01	-9.67E-02	2.83E-01
		37.36	39.70	3.24E-01		-5.31E-02	1.57E-01
		42.30	15.10	6.63E-01		-2.35E-01	3.22E-01
		72.40	2.31	3.62E+00		-5.11E+00	1.78E+00
	PM-146	453.90	39.94	1.72E-01	1.72E-01	6.23E-02	8.20E-02
		735.90	14.01	4.77E-01		4.11E-03	2.22E-01
		747.13	13.10	5.95E-01		-5.89E-02	2.80E-01
	ND-147	91.11	28.90	1.87E+00	1.87E+00	-4.66E+00	9.17E-01
		531.02	13.10	3.58E+00		6.45E-01	1.69E+00
	PM-149	285.90	3.10	3.04E+04	3.04E+04	2.48E+03	1.45E+04
	EU-152	121.78	20.50	2.47E-01	2.47E-01	-4.01E-02	1.20E-01
		244.69	5.40	1.11E+00		-1.33E+00	5.34E-01
		344.27	19.13	2.91E-01		4.16E-02	1.39E-01
		778.89	9.20	8.05E-01		3.28E-01	3.76E-01
		964.01	10.40	9.63E-01		-1.21E-01	4.54E-01
		1085.78	7.22	1.12E+00		2.84E-01	5.19E-01
		1112.02	9.60	8.86E-01		4.55E-01	4.10E-01

Analysis Report for 1510091-08

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	EU-152	1407.95		14.94	5.45E-01	2.47E-01	1.08E-01	2.47E-01
	GD-153	97.43		31.30	1.96E-01	1.96E-01	-2.26E-02	9.55E-02
		103.18		22.20	2.62E-01		1.45E-01	1.27E-01
	EU-154	123.07		40.50	1.28E-01	1.28E-01	9.50E-03	6.20E-02
		723.30		19.70	3.87E-01		8.97E-03	1.82E-01
		873.19		11.50	6.22E-01		-9.78E-02	2.88E-01
		996.32		10.30	8.05E-01		2.90E-01	3.74E-01
		1004.76		17.90	4.47E-01		-4.16E-02	2.07E-01
		1274.45		35.50	1.65E-01		-1.41E-01	7.26E-02
	EU-155	86.50		30.90	2.42E-01	2.42E-01	8.62E-02	1.19E-01
		105.30		20.70	2.61E-01		-3.37E-03	1.27E-01
	EU-156	811.77		10.40	2.93E+00	2.93E+00	3.64E-02	1.37E+00
		1153.47		7.20	5.86E+00		2.06E+00	2.74E+00
		1230.71		8.90	4.36E+00		-1.31E+00	2.02E+00
	HO-166M	184.41		72.60	9.63E-02	9.63E-02	2.23E-01	4.69E-02
		280.45		29.60	1.74E-01		1.93E-02	8.30E-02
		410.94		11.10	6.54E-01		2.57E-01	3.14E-01
		711.69		54.10	1.44E-01		6.26E-02	6.79E-02
	TM-171	66.72		0.14	5.18E+01	5.18E+01	-2.01E+01	2.54E+01
	HF-172	81.75		4.52	1.40E+00	4.80E-01	-3.07E+00	6.86E-01
		125.81		11.30	4.80E-01		-2.00E-01	2.33E-01
	LU-172	181.53		20.60	6.48E+00	3.60E+00	-1.46E+00	3.14E+00
		810.06		16.63	1.14E+01		-2.78E+00	5.31E+00
		912.12		15.25	2.79E+01		8.35E+01	1.35E+01
		1093.66		62.50	3.60E+00		2.56E-01	1.67E+00
	LU-173	100.72		5.24	1.10E+00	3.09E-01	1.32E+00	5.36E-01
		272.11		21.20	3.09E-01		2.21E-01	1.49E-01
	HF-175	343.40		84.00	8.92E-02	8.92E-02	1.28E-02	4.25E-02
	LU-176	88.34		13.30	5.68E-01	4.99E-02	8.85E-01	2.79E-01
		201.83		86.00	6.53E-02		-1.07E-02	3.16E-02
		306.78		94.00	4.99E-02		-1.45E-02	2.37E-02
	TA-182	67.75		41.20	2.09E-01	2.09E-01	4.62E-03	1.02E-01
		1121.30		34.90	4.55E-01		5.78E-01	2.17E-01
		1189.05		16.23	6.52E-01		-1.78E-01	3.01E-01
		1221.41		26.98	4.08E-01		-1.30E-01	1.89E-01
		1231.02		11.44	9.85E-01		-2.96E-01	4.56E-01
	IR-192	308.46		29.68	2.18E-01	1.79E-01	-1.27E-01	1.04E-01
		468.07		48.10	1.79E-01		1.76E-02	8.50E-02
	HG-203	279.19		77.30	1.17E-01	1.17E-01	2.90E-02	5.60E-02
	BI-207	569.67		97.72	6.85E-02	6.85E-02	1.29E-03	3.23E-02
		1063.62		74.90	1.14E-01		1.13E-02	5.30E-02
+	TL-208	583.14	*	30.22	2.75E-01	9.74E-02	1.69E+00	1.31E-01
		860.37	*	4.48	2.56E+00		1.58E+00	1.22E+00
		2614.66	*	35.85	9.74E-02		1.83E+00	3.45E-02
	BI-210M	262.00		45.00	1.23E-01	1.23E-01	4.37E-02	5.90E-02
		300.00		23.00	2.80E-01		-3.77E-01	1.35E-01
	PB-210	46.50		4.25	2.16E+00	2.16E+00	1.31E+00	1.05E+00
	PB-211	404.84		2.90	1.92E+00	1.92E+00	-4.26E-01	9.10E-01
		831.96		2.90	2.59E+00		-8.69E-01	1.21E+00
+	BI-212	727.17	*	11.80	8.79E-01	8.79E-01	1.16E+00	4.21E-01
		1620.62	*	2.75	1.87E+00		2.27E+00	7.85E-01
+	PB-212	238.63	*	44.60	2.53E-01	2.53E-01	1.90E+00	1.24E-01
		300.09	*	3.41	3.32E+00		2.50E+00	1.62E+00

Analysis Report for 1510091-08

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
+	BI-214	609.31	*	46.30	2.21E-01	2.21E-01	1.27E+00	1.06E-01
		1120.29		15.10	8.96E-01		1.35E+00	4.27E-01
		1764.49	*	15.80	4.33E-01		1.47E+00	1.89E-01
		2204.22	*	4.98	9.32E-01		1.20E+00	3.68E-01
+	PB-214	295.21	*	19.19	5.87E-01	2.93E-01	1.61E+00	2.87E-01
		351.92	*	37.19	2.93E-01		1.31E+00	1.43E-01
	RN-219	401.80		6.50	8.59E-01	8.59E-01	-7.74E-03	4.07E-01
	RA-223	323.87		3.88	1.44E+00	1.44E+00	4.83E-01	6.86E-01
+	RA-224	240.98	*	3.95	2.82E+00	2.82E+00	4.95E+00	1.39E+00
+	RA-225	40.00	*	31.00	2.09E+00	2.09E+00	1.19E+00	1.02E+00
+	RA-226	186.21	*	3.28	2.26E+00	2.26E+00	3.43E+00	1.10E+00
	TH-227	50.10		8.40	9.22E-01	6.41E-01	-1.31E+00	4.49E-01
		236.00		11.50	6.41E-01		-6.04E+00	3.12E-01
		256.20		6.30	7.77E-01		-4.92E-01	3.72E-01
+	AC-228	338.32	*	11.40	7.63E-01	3.73E-01	1.61E+00	3.70E-01
		911.07	*	27.70	3.73E-01		1.86E+00	1.77E-01
		969.11	*	16.60	8.06E-01		2.37E+00	3.86E-01
	TH-230	48.44		16.90	5.11E-01	5.11E-01	1.61E-01	2.49E-01
		62.85		4.60	1.75E+00		2.06E+00	8.58E-01
		67.67		0.37	1.93E+01		4.26E-01	9.45E+00
	PA-231	283.67		1.60	3.32E+00	2.41E+00	1.12E+00	1.59E+00
		302.67		2.30	2.41E+00		2.89E-01	1.16E+00
	TH-231	25.64		14.70	4.23E+00	1.04E+00	-2.19E+00	2.05E+00
		84.21		6.40	1.04E+00		-2.87E+00	5.11E-01
	PA-233	311.98		38.60	3.08E-01	3.08E-01	6.38E-02	1.47E-01
	PA-234	131.20		20.40	2.64E-01	2.64E-01	-7.35E-03	1.28E-01
		733.99		8.80	7.89E-01		3.72E-01	3.68E-01
		946.00		12.00	5.37E-01		-2.45E-01	2.46E-01
	PA-234M	1001.03		0.92	9.12E+00	9.12E+00	1.17E+00	4.24E+00
+	TH-234	63.29	*	3.80	2.65E+00	2.65E+00	1.61E+00	1.31E+00
	U-235	143.76		10.50	5.43E-01	5.43E-01	1.93E-01	2.64E-01
		163.35		4.70	1.13E+00		5.03E-01	5.49E-01
		205.31		4.70	1.23E+00		-2.87E-02	5.96E-01
	NP-237	86.50		12.60	5.86E-01	5.86E-01	2.09E-01	2.88E-01
	NP-239	106.10		22.70	2.33E+03	2.33E+03	-3.01E+01	1.13E+03
		228.18		10.70	5.09E+03		3.12E+02	2.45E+03
		277.60		14.10	4.08E+03		2.16E+03	1.96E+03
	AM-241	59.54		35.90	2.01E-01	2.01E-01	6.67E-02	9.82E-02
+	AM-243	74.67	*	66.00	1.73E-01	1.73E-01	3.93E-01	8.52E-02
+	CM-243	209.75	*	3.29	2.62E+00	4.86E-01	2.55E+00	1.28E+00
		228.14		10.60	5.19E-01		3.18E-02	2.50E-01
		277.60	*	14.00	4.86E-01		4.63E-01	2.35E-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

Analysis Report for 1510091-08

CP1807S13-14

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: CP1807S13-14

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	0	72	115	94	95	106	100
25:	83	85	59	63	78	68	74	76
33:	68	61	65	46	63	64	80	102
41:	82	81	84	80	82	103	150	100
49:	76	95	103	95	105	121	105	105
57:	95	114	117	140	119	140	186	282
65:	143	142	147	146	145	178	160	157
73:	176	179	448	362	454	580	169	150
81:	113	145	93	151	193	144	202	300
89:	129	205	182	164	326	255	153	107
97:	90	75	134	146	81	81	91	83
105:	103	131	92	81	103	98	88	87
113:	94	95	84	82	62	89	78	78
121:	84	77	84	84	89	85	77	97
129:	102	106	77	89	89	78	80	65
137:	83	69	83	91	88	92	92	104
145:	94	76	82	88	85	65	75	79
153:	85	73	99	75	77	71	75	63
161:	68	72	62	73	76	67	58	64
169:	69	61	57	80	76	72	59	55
177:	85	75	60	56	57	52	66	73
185:	68	176	152	60	63	70	46	68
193:	70	58	54	51	53	77	61	59
201:	65	55	61	66	66	69	60	58
209:	98	122	63	64	51	50	40	69
217:	67	51	59	60	63	58	56	50
225:	53	46	59	55	40	50	48	47
233:	60	67	54	45	58	214	780	287
241:	100	192	113	41	38	41	35	45
249:	42	46	41	36	46	35	28	25
257:	48	32	35	49	50	39	36	36
265:	30	48	38	52	38	66	85	38
273:	30	41	37	41	49	61	38	26
281:	28	39	33	29	32	40	30	35
289:	33	26	36	35	42	38	147	206
297:	51	39	36	67	70	27	23	29
305:	24	24	20	31	20	30	25	37
313:	37	23	28	31	35	34	21	36
321:	27	36	35	34	32	21	34	75
329:	55	34	22	33	23	41	26	33
337:	33	97	158	36	35	23	34	24
345:	31	29	25	28	27	31	58	295
353:	219	42	26	26	30	23	22	22
361:	20	38	26	7	32	25	24	24

369:	19	27	27	19	17	32	22	18

Sample Title: CP1807S13-14

Channel								
377:	19	23	13	21	21	22	32	23
385:	13	21	23	25	31	28	24	18
393:	27	32	26	23	20	21	24	21
401:	20	28	27	19	20	27	20	19
409:	32	36	27	29	29	21	23	25
417:	20	17	28	20	21	25	16	28
425:	5	18	23	20	15	16	22	19
433:	19	25	17	19	23	25	22	15
441:	20	25	20	20	19	16	21	22
449:	19	8	17	27	18	20	23	23
457:	16	16	25	19	14	16	36	51
465:	17	19	13	20	12	22	19	14
473:	21	20	15	12	21	18	13	9
481:	22	25	27	19	13	15	23	18
489:	14	18	17	18	14	11	15	10
497:	21	19	18	16	15	23	14	19
505:	13	15	17	11	19	58	89	81
513:	47	17	25	17	22	15	13	16
521:	15	11	16	12	22	12	16	16
529:	15	14	14	13	14	17	14	12
537:	16	8	18	14	19	21	13	18
545:	11	18	21	16	15	15	14	19
553:	10	17	8	13	15	17	9	16
561:	13	14	26	10	16	15	14	10
569:	9	12	21	13	18	19	9	9
577:	9	10	11	15	14	32	143	182
585:	41	10	10	10	11	14	11	11
593:	13	11	21	17	15	13	19	20
601:	9	16	21	20	14	15	18	26
609:	130	240	69	16	9	14	14	16
617:	11	8	12	14	18	15	15	15
625:	18	13	9	10	10	17	15	8
633:	15	11	14	10	10	9	11	14
641:	12	9	13	15	5	12	10	11
649:	9	5	10	15	10	11	10	8
657:	9	13	12	10	19	11	14	15
665:	13	16	12	8	12	13	9	12
673:	12	7	11	12	15	14	11	10
681:	8	11	13	18	11	14	12	19
689:	14	8	10	15	14	14	9	14
697:	14	10	14	10	15	12	12	13
705:	11	11	14	11	11	13	12	18
713:	8	11	20	9	8	20	16	11
721:	13	15	12	13	5	16	33	56
729:	25	17	7	10	10	7	10	16
737:	9	5	5	10	8	17	10	12
745:	12	12	11	13	14	10	13	11
753:	9	8	6	19	12	11	16	8
761:	8	3	13	15	9	19	19	17
769:	24	10	11	17	15	12	7	3
777:	10	9	17	11	7	14	5	7
785:	12	21	14	12	7	11	7	10
793:	14	10	28	22	10	8	4	10

801:	4	9	11	7	13	13	15	8

Sample Title: CP1807S13-14

Channel								
809:	8	9	12	13	3	9	11	8
817:	7	5	6	6	12	13	7	11
825:	14	8	7	12	10	13	11	9
833:	10	6	7	15	10	12	11	19
841:	18	7	5	8	6	9	9	9
849:	5	10	10	7	6	12	10	7
857:	10	10	9	25	21	19	6	9
865:	8	8	10	9	6	4	5	11
873:	11	5	7	11	9	10	10	7
881:	8	9	8	12	11	7	7	10
889:	7	7	8	9	8	8	6	3
897:	8	9	12	4	10	6	8	12
905:	5	4	4	11	7	20	102	123
913:	33	10	11	9	7	7	4	6
921:	6	4	6	9	6	8	6	4
929:	6	6	4	7	5	10	14	9
937:	9	7	6	10	6	10	4	6
945:	4	4	6	9	5	5	9	9
953:	10	11	6	9	10	6	3	11
961:	7	7	10	12	20	22	16	22
969:	71	70	18	4	5	3	9	4
977:	7	0	9	5	5	8	7	8
985:	4	5	8	5	12	5	3	5
993:	9	5	8	12	4	11	10	6
1001:	11	10	9	4	6	10	10	5
1009:	10	6	5	9	5	8	3	6
1017:	11	7	8	7	8	7	10	3
1025:	7	5	3	5	4	6	9	6
1033:	8	5	8	11	6	6	8	7
1041:	6	7	15	12	4	8	5	9
1049:	8	4	11	6	6	8	7	10
1057:	7	14	6	8	8	11	9	6
1065:	9	10	4	7	9	5	4	9
1073:	6	5	9	3	6	7	13	8
1081:	4	8	5	7	8	9	4	6
1089:	10	5	6	10	6	9	8	10
1097:	10	9	8	8	6	3	13	8
1105:	6	5	2	4	7	10	7	8
1113:	9	5	6	9	11	6	9	27
1121:	48	20	18	3	12	3	12	7
1129:	5	7	9	3	4	6	8	4
1137:	8	9	5	4	9	9	10	9
1145:	13	8	5	3	6	9	6	9
1153:	13	8	17	10	12	11	11	8
1161:	11	8	6	9	9	3	12	8
1169:	11	4	8	10	13	5	7	7
1177:	8	6	13	3	9	4	8	9
1185:	11	7	8	9	4	10	6	6
1193:	9	6	6	12	6	12	4	5
1201:	8	8	9	6	4	7	12	12
1209:	9	13	11	10	5	5	8	7
1217:	9	4	11	6	5	8	11	7
1225:	13	7	10	5	5	6	10	11

1233:	9	8	13	9	9	26	32	13

Sample Title: CP1807S13-14

Channel								
1241:	10	9	6	3	10	11	7	9
1249:	4	8	10	6	8	8	9	9
1257:	9	8	11	6	9	4	7	6
1265:	3	4	5	10	5	5	1	5
1273:	2	4	2	4	0	3	8	1
1281:	14	4	5	5	6	5	6	8
1289:	10	6	9	5	7	8	5	3
1297:	3	5	4	6	7	6	3	3
1305:	5	7	8	3	5	10	4	4
1313:	5	6	9	3	3	4	11	2
1321:	7	5	4	5	4	2	7	4
1329:	2	3	2	6	5	10	3	3
1337:	2	5	3	8	4	1	5	6
1345:	1	5	3	2	7	1	3	2
1353:	2	4	4	5	2	3	3	4
1361:	1	1	0	4	4	2	3	0
1369:	5	5	1	4	2	1	3	2
1377:	7	15	9	4	4	0	2	3
1385:	4	2	1	3	1	3	2	4
1393:	2	2	8	2	2	3	3	3
1401:	2	7	4	7	1	3	2	9
1409:	12	0	5	1	3	1	5	3
1417:	2	4	1	2	0	1	0	0
1425:	3	3	3	1	4	2	2	4
1433:	4	0	2	6	3	0	5	3
1441:	2	3	0	3	2	3	2	2
1449:	3	4	4	1	2	4	3	2
1457:	3	5	16	152	370	256	69	9
1465:	6	3	3	3	1	5	1	1
1473:	1	2	3	1	3	2	2	2
1481:	0	2	4	3	3	2	1	3
1489:	1	0	2	0	2	4	3	9
1497:	4	1	3	2	4	1	4	3
1505:	2	1	2	3	3	7	3	2
1513:	2	3	2	2	4	0	3	1
1521:	0	3	3	5	3	0	3	2
1529:	3	2	3	3	1	3	1	3
1537:	3	4	0	2	5	3	2	3
1545:	2	1	2	1	2	2	1	1
1553:	0	0	1	3	0	0	1	0
1561:	3	2	2	0	0	4	2	1
1569:	3	2	1	1	1	2	1	2
1577:	3	4	2	1	4	0	1	3
1585:	1	0	4	6	15	6	4	9
1593:	3	2	1	1	5	1	2	3
1601:	2	4	0	3	1	3	1	1
1609:	0	2	2	3	1	3	2	0
1617:	0	1	2	6	9	3	1	1
1625:	2	1	1	0	1	6	1	6
1633:	1	3	2	3	5	0	5	0
1641:	3	0	0	2	4	0	5	0
1649:	2	1	1	1	4	1	3	2
1657:	0	0	0	0	3	6	4	2

1665:	1	0	0	3	0	1	1	2

Sample Title: CP1807S13-14

Channel								
1673:	1	4	0	1	1	4	3	1
1681:	3	3	2	1	2	2	3	3
1689:	1	2	3	1	2	1	0	2
1697:	1	0	2	2	2	1	2	1
1705:	1	1	1	0	2	4	0	2
1713:	2	2	3	3	2	2	0	3
1721:	0	2	1	0	2	6	2	3
1729:	2	9	5	0	1	1	0	1
1737:	0	1	3	1	1	2	0	1
1745:	1	3	2	2	1	2	2	0
1753:	1	2	2	3	1	1	0	1
1761:	1	1	3	21	30	13	6	2
1769:	1	1	1	2	2	1	0	4
1777:	0	0	4	1	4	4	0	0
1785:	1	2	0	1	3	2	3	0
1793:	2	2	1	0	0	1	0	3
1801:	0	0	1	1	0	0	0	2
1809:	1	4	1	1	0	0	1	1
1817:	2	3	0	1	2	1	1	2
1825:	1	3	2	1	0	0	2	1
1833:	2	1	0	2	1	0	0	2
1841:	1	2	0	0	3	3	3	3
1849:	4	1	0	4	0	2	0	0
1857:	0	3	0	0	0	0	1	1
1865:	3	0	1	2	0	2	1	1
1873:	1	1	1	1	1	0	1	1
1881:	0	0	0	0	2	2	1	0
1889:	1	1	2	0	1	0	1	2
1897:	3	1	0	0	2	0	1	1
1905:	1	0	0	0	2	0	0	0
1913:	1	0	1	0	2	1	2	4
1921:	2	1	2	0	2	2	2	2
1929:	1	0	1	0	1	2	2	1
1937:	0	2	1	2	0	2	2	0
1945:	0	0	0	0	4	1	2	2
1953:	0	1	0	0	1	1	0	0
1961:	2	1	2	1	0	1	0	0
1969:	1	4	0	1	1	3	1	0
1977:	1	1	0	1	0	0	1	5
1985:	1	0	1	1	1	0	1	1
1993:	3	0	0	2	0	1	2	0
2001:	1	1	1	1	0	2	4	0
2009:	3	1	1	0	2	1	1	0
2017:	0	1	2	2	2	0	4	2
2025:	0	2	0	0	0	2	2	1
2033:	2	1	0	2	1	0	0	2
2041:	1	2	2	2	0	0	1	1
2049:	1	2	0	0	3	0	1	1
2057:	1	0	0	2	1	3	1	2
2065:	1	2	3	1	1	0	1	1
2073:	3	0	0	0	2	0	3	1
2081:	3	0	0	1	2	0	1	0
2089:	0	0	3	3	2	2	2	0

2097:	0	0	0	2	0	0	7	7

Sample Title: CP1807S13-14

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

2529:	1	0	0	2	1	0	1	0

Sample Title: CP1807S13-14

Channel								
2537:	0	0	1	2	0	0	2	0
2545:	3	0	0	1	2	2	0	0
2553:	1	0	0	0	0	0	1	0
2561:	0	0	0	0	0	0	0	2
2569:	0	0	0	0	2	0	0	0
2577:	0	1	0	0	1	0	0	0
2585:	0	0	1	0	0	0	0	1
2593:	1	0	2	0	1	0	0	0
2601:	0	1	1	0	0	1	0	2
2609:	0	0	0	4	21	47	63	28
2617:	10	1	2	2	0	0	0	0
2625:	0	0	1	1	1	0	0	0
2633:	0	3	0	0	1	0	1	0
2641:	2	0	1	0	0	0	0	0
2649:	0	0	0	0	0	0	0	0
2657:	0	1	0	0	1	0	0	0
2665:	0	0	0	1	0	1	1	1
2673:	0	1	0	0	1	0	1	0
2681:	2	1	0	0	0	1	0	1
2689:	0	1	0	0	0	0	2	0
2697:	0	0	0	0	2	0	0	0
2705:	0	0	1	0	0	1	0	0
2713:	0	0	0	0	0	1	0	0
2721:	0	0	0	0	1	0	0	0
2729:	0	0	0	0	0	1	0	0
2737:	0	0	1	0	1	0	0	0
2745:	0	0	0	0	0	0	1	0
2753:	0	0	0	0	0	0	0	0
2761:	0	0	0	0	1	1	0	0
2769:	0	0	2	0	0	1	0	1
2777:	1	1	0	0	0	0	0	0
2785:	0	0	0	0	0	0	1	0
2793:	0	1	0	0	1	0	0	0
2801:	0	1	1	0	0	1	0	0
2809:	2	0	0	0	0	1	0	0
2817:	0	0	1	1	0	1	0	0
2825:	0	0	0	0	0	1	0	0
2833:	0	0	2	0	0	0	0	1
2841:	0	0	0	0	0	0	1	0
2849:	0	0	1	0	1	0	0	0
2857:	0	0	2	0	0	0	1	0
2865:	0	0	0	1	0	0	0	0
2873:	0	0	1	0	0	0	0	0
2881:	0	1	0	1	0	0	0	0
2889:	0	1	0	1	1	0	1	0
2897:	0	0	0	0	1	0	0	0
2905:	0	0	0	0	1	1	0	0
2913:	0	0	0	0	0	1	0	0
2921:	0	0	0	0	0	0	0	0
2929:	1	2	0	0	0	0	0	0
2937:	0	1	0	1	1	1	0	0
2945:	0	0	1	0	1	0	1	0
2953:	1	1	0	0	1	0	0	1

2961:	1	0	0	1	1	1	1	0

Sample Title: CP1807S13-14

Channel								
2969:	0	0	0	0	0	0	1	0
2977:	1	0	0	0	0	0	0	0
2985:	0	0	1	0	1	0	1	0
2993:	0	0	0	0	0	0	0	1
3001:	0	0	0	0	1	0	0	0
3009:	0	0	1	1	0	1	0	0
3017:	0	0	0	1	0	1	0	1
3025:	0	0	0	0	1	1	0	0
3033:	0	0	0	1	0	1	1	1
3041:	0	0	0	0	1	0	0	0
3049:	1	0	0	0	0	1	0	0
3057:	0	0	1	0	0	0	1	0
3065:	0	0	0	0	0	0	0	0
3073:	0	0	0	0	0	0	0	0
3081:	0	0	0	0	0	0	0	0
3089:	0	1	0	0	1	1	0	0
3097:	1	0	0	0	0	0	1	0
3105:	1	0	0	0	0	0	0	0
3113:	0	0	0	0	0	0	0	0
3121:	0	0	1	0	0	0	0	1
3129:	1	0	1	0	0	0	1	1
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	1	1	0	0	0	0	0
3169:	0	0	0	0	0	0	0	0
3177:	0	1	0	0	0	0	0	1
3185:	0	0	0	0	0	0	1	0
3193:	0	0	0	0	0	2	1	0
3201:	0	1	0	0	0	0	0	0
3209:	0	0	0	0	0	0	0	0
3217:	0	0	0	0	0	0	0	0
3225:	0	0	0	0	0	0	0	0
3233:	0	0	0	0	0	0	0	0
3241:	0	1	0	0	0	0	0	0
3249:	0	0	0	0	0	1	0	0
3257:	1	0	0	2	0	0	0	1
3265:	0	0	0	0	1	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	0	0	0
3297:	1	1	0	1	0	0	1	0
3305:	1	0	0	0	0	0	0	1
3313:	1	0	0	0	0	0	0	0
3321:	0	0	0	0	0	1	0	0
3329:	0	0	0	0	1	0	1	0
3337:	0	0	0	0	1	0	0	0
3345:	0	1	1	0	0	0	0	0
3353:	0	0	1	0	0	0	0	0
3361:	0	0	0	0	0	0	0	0
3369:	0	0	0	0	0	0	0	1
3377:	0	0	1	0	0	0	0	0
3385:	0	0	0	0	0	0	0	0

3393:	0	0	0	0	0	0	0	0

Sample Title: CP1807S13-14

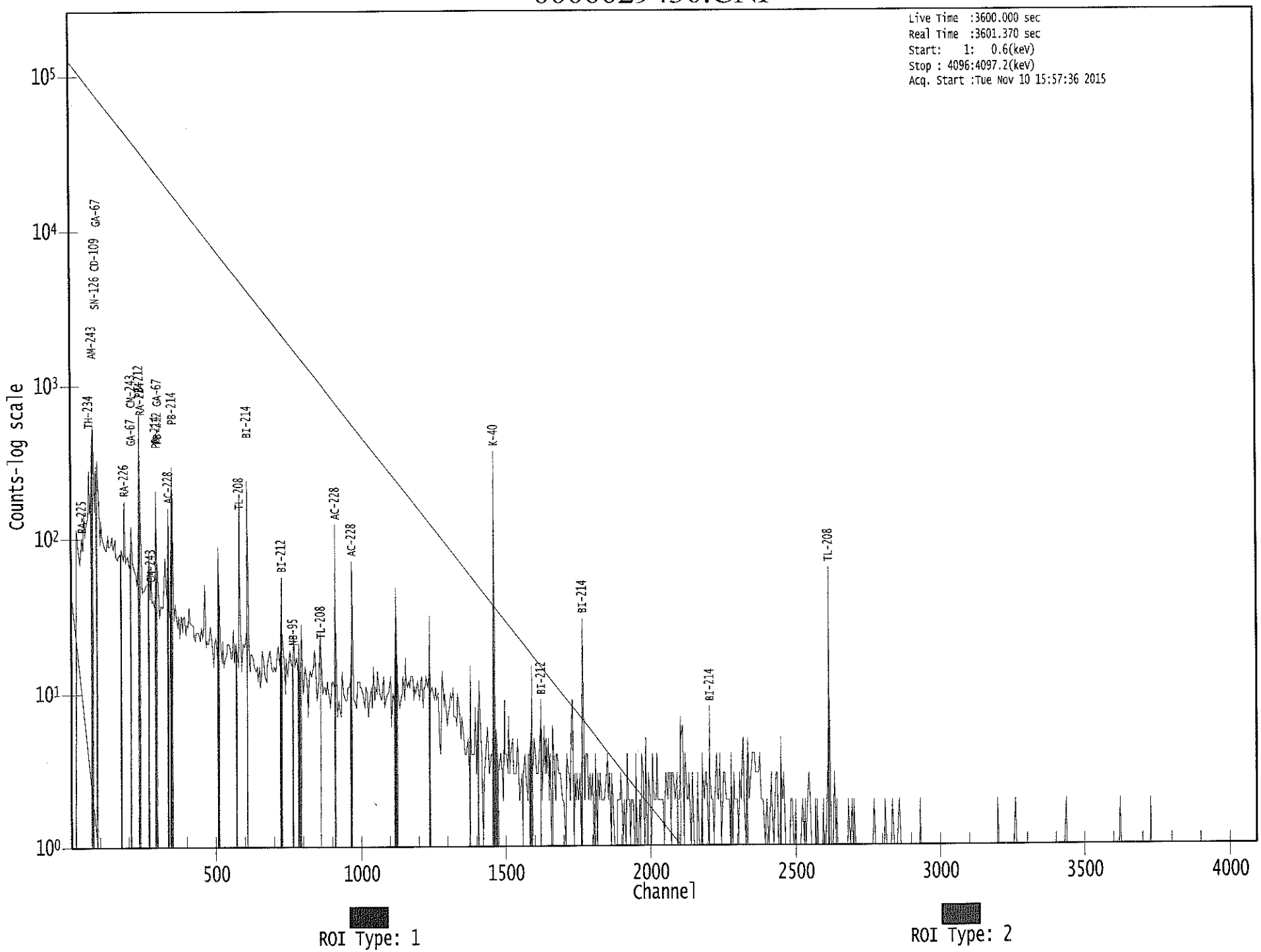
Channel								
3401:	0	0	0	0	0	0	0	0
3409:	0	0	1	1	0	0	0	0
3417:	0	0	0	0	0	0	0	0
3425:	0	0	0	0	0	1	0	0
3433:	1	0	0	2	0	0	0	0
3441:	0	0	0	0	0	0	0	0
3449:	0	0	0	0	0	0	0	0
3457:	0	0	1	0	0	0	0	0
3465:	1	1	0	0	0	0	0	0
3473:	0	0	1	0	0	0	0	0
3481:	0	0	0	0	0	0	0	0
3489:	0	0	0	0	0	0	0	0
3497:	0	0	0	1	0	1	0	0
3505:	0	0	1	1	0	0	0	0
3513:	0	0	0	0	1	0	1	0
3521:	0	0	0	0	0	0	1	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	1	0	0
3553:	1	1	0	1	0	0	0	0
3561:	1	0	0	0	0	0	0	0
3569:	0	0	0	0	0	0	1	0
3577:	0	0	0	0	0	0	0	0
3585:	1	0	0	0	0	0	0	0
3593:	1	0	0	0	0	0	0	0
3601:	0	0	0	0	0	0	0	0
3609:	0	0	0	0	0	0	0	0
3617:	0	1	0	0	0	0	2	0
3625:	0	0	0	0	0	0	0	0
3633:	0	0	0	1	0	0	0	0
3641:	0	0	0	1	0	0	0	1
3649:	0	1	0	0	0	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	0	0	0	0	0	0	0	0
3673:	0	1	0	1	1	0	0	1
3681:	0	0	1	0	0	1	0	0
3689:	0	0	0	0	1	0	0	1
3697:	0	1	0	0	0	0	0	0
3705:	0	0	0	0	0	0	0	0
3713:	0	0	0	0	0	0	0	1
3721:	0	0	0	0	0	0	0	2
3729:	0	0	0	0	0	0	1	0
3737:	1	0	0	0	0	0	0	1
3745:	0	0	1	0	0	0	1	0
3753:	0	0	0	0	0	0	0	1
3761:	0	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0
3777:	0	0	0	0	0	0	0	0
3785:	0	0	0	0	0	0	0	0
3793:	0	0	0	0	0	0	0	0
3801:	0	0	0	0	0	0	0	0
3809:	0	0	0	1	0	0	0	0
3817:	0	0	1	0	0	0	0	0

3825:	0	0	0	0	0	0	0	0

Sample Title: CP1807S13-14

Channel								
3833:	0	0	0	1	0	0	1	0
3841:	0	0	0	0	1	0	0	1
3849:	0	1	0	0	0	0	0	0
3857:	1	0	0	0	0	0	0	0
3865:	0	0	0	0	0	0	0	0
3873:	0	0	1	0	0	0	0	0
3881:	0	0	0	0	0	0	0	0
3889:	0	0	1	0	0	0	0	0
3897:	0	0	0	0	1	0	0	0
3905:	0	0	0	0	0	0	0	0
3913:	0	0	0	0	1	0	0	0
3921:	0	1	0	0	0	1	0	0
3929:	0	1	1	0	0	0	0	0
3937:	0	0	1	0	0	0	0	0
3945:	0	0	1	0	0	0	0	0
3953:	0	0	1	0	0	0	0	0
3961:	0	0	0	0	0	0	0	0
3969:	0	0	0	1	0	0	0	0
3977:	0	0	1	0	1	0	0	0
3985:	0	0	0	0	0	0	0	0
3993:	0	0	0	0	1	0	0	0
4001:	0	1	0	0	0	0	1	0
4009:	0	0	0	0	0	0	0	0
4017:	0	0	0	1	0	0	0	0
4025:	1	0	0	1	1	0	0	0
4033:	0	0	0	1	0	1	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	1	0
4065:	0	0	0	0	0	0	1	0
4073:	1	0	0	0	0	0	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	1	0	0	0	0	1

0000029430.CNF



Apex-Gamma

Analysis Report for 1510091-09
CP1807S16-17

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1510091-09
Sample Description	: CP1807S16-17
Sample Type	: SOIL
Sample Size	: 4.730E+02 grams
Facility	: Countroom
Sample Taken On	: 10/10/2015 10:15:02AM
Acquisition Started	: 11/10/2015 4:06:30PM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE3
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3616.3 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	: 29432

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

Analysis Report for 1510091-09

CP1807S16-17

PEAK LOCATE REPORT

Peak Locate Performed on : 11/10/2015 5:06:48PM
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	23.82	24.07	0.0000	0.00
2	64.19	64.41	0.0000	0.00
3	76.13	76.34	0.0000	0.00
4	88.28	88.49	0.0000	0.00
5	93.42	93.63	0.0000	0.00
6	99.52	99.72	0.0000	0.00
7	129.47	129.66	0.0000	0.00
8	137.43	137.61	0.0000	0.00
9	154.49	154.66	0.0000	0.00
10	186.24	186.39	0.0000	0.00
11	208.95	209.09	0.0000	0.00
12	238.87	239.00	0.0000	0.00
13	241.71	241.83	0.0000	0.00
14	277.70	277.81	0.0000	0.00
15	295.23	295.33	0.0000	0.00
16	300.35	300.45	0.0000	0.00
17	338.78	338.85	0.0000	0.00
18	352.22	352.29	0.0000	0.00
19	385.80	385.85	0.0000	0.00
20	409.41	409.46	0.0000	0.00
21	463.35	463.37	0.0000	0.00
22	511.03	511.03	0.0000	0.00
23	514.20	514.19	0.0000	0.00
24	524.03	524.01	0.0000	0.00
25	583.12	583.08	0.0000	0.00
26	597.77	597.72	0.0000	0.00
27	609.10	609.05	0.0000	0.00
28	621.99	621.93	0.0000	0.00
29	645.19	645.12	0.0000	0.00
30	673.68	673.60	0.0000	0.00
31	689.30	689.20	0.0000	0.00
32	692.10	692.00	0.0000	0.00
33	720.07	719.96	0.0000	0.00
34	727.50	727.39	0.0000	0.00
35	796.17	796.03	0.0000	0.00
36	805.85	805.70	0.0000	0.00
37	860.31	860.14	0.0000	0.00
38	867.43	867.26	0.0000	0.00
39	911.42	911.23	0.0000	0.00
40	923.59	923.39	0.0000	0.00
41	935.34	935.13	0.0000	0.00
42	965.44	965.22	0.0000	0.00

Analysis Report for 1510091-09

CP1807S16-17

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	969.44	969.22	0.0000	0.00
44	1057.65	1057.40	0.0000	0.00
45	1120.56	1120.27	0.0000	0.00
46	1239.54	1239.20	0.0000	0.00
47	1274.72	1274.37	0.0000	0.00
48	1330.05	1329.68	0.0000	0.00
49	1333.87	1333.50	0.0000	0.00
50	1455.79	1455.37	0.0000	0.00
51	1461.21	1460.79	0.0000	0.00
52	1481.05	1480.62	0.0000	0.00
53	1500.63	1500.20	0.0000	0.00
54	1593.06	1592.59	0.0000	0.00
55	1630.15	1629.66	0.0000	0.00
56	1728.94	1728.42	0.0000	0.00
57	1765.23	1764.70	0.0000	0.00
58	1932.81	1932.22	0.0000	0.00
59	2104.16	2103.52	0.0000	0.00
60	2204.72	2204.05	0.0000	0.00
61	2443.64	2442.90	0.0000	0.00
62	2614.85	2614.07	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510091-09

CP1807S16-17

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 5:06:48PM

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	23.82	22 -	27	24.07	5.47E+01	66.48	8.45E+02	2.95
	2	64.19	59 -	69	64.41	2.53E+02	138.55	2.42E+03	2.19
	3	76.13	71 -	83	76.34	1.03E+03	170.37	2.93E+03	3.80
	4	88.28	85 -	91	88.49	1.46E+02	99.51	1.69E+03	3.23
	5	93.42	91 -	97	93.63	1.78E+02	91.76	1.30E+03	1.91
	6	99.52	98 -	103	99.72	5.67E+01	64.31	7.85E+02	1.44
	7	129.47	127 -	132	129.66	8.13E+01	62.78	7.23E+02	1.89
	8	137.43	134 -	140	137.61	5.76E+01	68.34	8.05E+02	1.29
	9	154.49	152 -	157	154.66	5.88E+01	58.02	6.20E+02	2.05
	10	186.24	182 -	190	186.39	1.51E+02	78.12	8.47E+02	2.02
	11	208.95	206 -	213	209.09	7.95E+01	63.84	6.23E+02	1.68
M	12	238.87	234 -	246	239.00	8.16E+02	70.14	3.94E+02	1.69
m	13	241.71	234 -	246	241.83	1.66E+02	85.93	5.50E+02	2.52
	14	277.70	276 -	281	277.81	4.05E+01	40.63	2.99E+02	2.08
	15	295.23	292 -	299	295.33	1.48E+02	59.60	5.04E+02	1.99
	16	300.35	299 -	302	300.45	6.53E+01	32.31	1.87E+02	1.84
	17	338.78	334 -	343	338.85	1.68E+02	60.21	4.14E+02	1.90
	18	352.22	348 -	356	352.29	3.32E+02	57.59	3.05E+02	1.79
	19	385.80	383 -	389	385.85	3.82E+01	35.76	2.02E+02	4.32
	20	409.41	406 -	412	409.46	4.42E+01	33.53	1.68E+02	1.67
	21	463.35	461 -	466	463.37	3.56E+01	29.92	1.47E+02	1.95
M	22	511.03	507 -	517	511.03	1.30E+02	35.85	1.51E+02	2.13
m	23	514.20	507 -	517	514.19	2.34E+01	34.60	1.19E+02	2.13
	24	524.03	521 -	528	524.01	3.15E+01	30.59	1.33E+02	2.78
	25	583.12	577 -	587	583.08	2.28E+02	47.16	1.71E+02	2.02
	26	597.77	593 -	602	597.72	5.31E+01	35.00	1.44E+02	5.80
	27	609.10	603 -	614	609.05	2.31E+02	51.50	2.15E+02	2.10
M	28	621.99	620 -	648	621.93	2.25E+01	19.24	6.00E+01	2.94
m	29	645.19	620 -	648	645.12	1.65E+01	23.54	8.40E+01	2.96
	30	673.68	670 -	677	673.60	3.24E+01	27.50	1.05E+02	2.45
M	31	689.30	686 -	697	689.20	1.85E+01	24.70	8.92E+01	2.25
m	32	692.10	686 -	697	692.00	2.99E+01	23.43	7.49E+01	2.05
M	33	720.07	718 -	732	719.96	2.94E+01	12.93	2.54E+01	3.03
m	34	727.50	718 -	732	727.39	4.91E+01	30.02	1.02E+02	3.03
	35	796.17	791 -	802	796.03	5.98E+01	28.28	6.44E+01	2.25
	36	805.85	803 -	810	805.70	1.93E+01	19.90	5.54E+01	3.30
M	37	860.31	854 -	870	860.14	3.71E+01	28.02	9.00E+01	3.14
m	38	867.43	854 -	870	867.26	1.53E+01	20.52	7.00E+01	3.14
	39	911.42	907 -	914	911.23	1.25E+02	31.62	8.23E+01	1.86
	40	923.59	916 -	929	923.39	4.02E+01	32.28	9.75E+01	8.86

Analysis Report for 1510091-09

CP1807S16-17

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	41	935.34	931 -	940	935.13	2.26E+01	27.33	9.09E+01	1.15
M	42	965.44	962 -	974	965.22	2.72E+01	24.27	8.66E+01	2.42
m	43	969.44	962 -	974	969.22	8.67E+01	27.37	6.61E+01	2.30
	44	1057.65	1054 -	1061	1057.40	1.79E+01	21.17	6.02E+01	1.97
	45	1120.56	1115 -	1123	1120.27	6.71E+01	24.31	4.99E+01	1.76
	46	1239.54	1234 -	1246	1239.20	3.81E+01	34.57	1.20E+02	2.65
	47	1274.72	1270 -	1280	1274.37	2.77E+01	21.91	4.86E+01	4.98
M	48	1330.05	1328 -	1340	1329.68	7.31E+00	7.04	9.00E+00	2.30
m	49	1333.87	1328 -	1340	1333.50	1.83E+01	16.78	2.70E+01	2.86
M	50	1455.79	1453 -	1467	1455.37	1.35E+01	8.41	5.07E+00	3.53
m	51	1461.21	1453 -	1467	1460.79	4.75E+02	44.73	1.13E+01	2.18
	52	1481.05	1478 -	1483	1480.62	5.36E+00	6.08	3.29E+00	1.10
	53	1500.63	1498 -	1503	1500.20	8.15E+00	7.00	3.70E+00	1.41
	54	1593.06	1590 -	1596	1592.59	1.79E+01	15.04	2.22E+01	1.56
	55	1630.15	1627 -	1632	1629.66	6.32E+00	8.43	9.36E+00	2.50
	56	1728.94	1724 -	1731	1728.42	8.00E+00	8.94	8.00E+00	2.05
	57	1765.23	1761 -	1770	1764.70	5.00E+01	14.14	0.00E+00	2.02
	58	1932.81	1929 -	1934	1932.22	9.00E+00	6.00	0.00E+00	1.88
	59	2104.16	2099 -	2108	2103.52	2.10E+01	9.17	0.00E+00	1.85
	60	2204.72	2199 -	2206	2204.05	1.34E+01	10.20	9.11E+00	1.74
	61	2443.64	2435 -	2448	2442.90	1.22E+01	10.63	7.63E+00	7.70
	62	2614.85	2609 -	2618	2614.07	6.16E+01	16.76	4.89E+00	2.77

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 : 11/10/2015 5:06:48PM

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	23.82	22 -	27	5.47E+01	66.48	8.45E+02	5.33E+01
2	64.19	59 -	69	2.53E+02	138.55	2.42E+03	1.11E+02
3	76.13	71 -	83	1.03E+03	170.37	2.93E+03	1.30E+02
4	88.28	85 -	91	1.46E+02	99.51	1.69E+03	7.93E+01
5	93.42	91 -	97	1.78E+02	91.76	1.30E+03	7.22E+01
6	99.52	98 -	103	5.67E+01	64.31	7.85E+02	5.14E+01

Analysis Report for 1510091-09

CP1807S16-17

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	7	129.47	127 -	132	8.13E+01	62.78	7.23E+02	4.94E+01
	8	137.43	134 -	140	5.76E+01	68.34	8.05E+02	5.48E+01
	9	154.49	152 -	157	5.88E+01	58.02	6.20E+02	4.60E+01
	10	186.24	182 -	190	1.51E+02	78.12	8.47E+02	6.10E+01
	11	208.95	206 -	213	7.95E+01	63.84	6.23E+02	5.04E+01
M	12	238.87	234 -	246	8.16E+02	70.14	3.94E+02	3.26E+01
m	13	241.71	234 -	246	1.66E+02	85.93	5.50E+02	3.85E+01
	14	277.70	276 -	281	4.05E+01	40.63	2.99E+02	3.17E+01
	15	295.23	292 -	299	1.48E+02	59.60	5.04E+02	4.47E+01
	16	300.35	299 -	302	6.53E+01	32.31	1.87E+02	2.30E+01
	17	338.78	334 -	343	1.68E+02	60.21	4.14E+02	4.47E+01
	18	352.22	348 -	356	3.32E+02	57.59	3.05E+02	3.66E+01
	19	385.80	383 -	389	3.82E+01	35.76	2.02E+02	2.76E+01
	20	409.41	406 -	412	4.42E+01	33.53	1.68E+02	2.53E+01
	21	463.35	461 -	466	3.56E+01	29.92	1.47E+02	2.25E+01
M	22	511.03	507 -	517	1.30E+02	35.85	1.51E+02	2.02E+01
m	23	514.20	507 -	517	2.34E+01	34.60	1.19E+02	1.79E+01
	24	524.03	521 -	528	3.15E+01	30.59	1.33E+02	2.34E+01
	25	583.12	577 -	587	2.28E+02	47.16	1.71E+02	2.98E+01
	26	597.77	593 -	602	5.31E+01	35.00	1.44E+02	2.62E+01
	27	609.10	603 -	614	2.31E+02	51.50	2.15E+02	3.42E+01
M	28	621.99	620 -	648	2.25E+01	19.24	6.00E+01	1.27E+01
m	29	645.19	620 -	648	1.65E+01	23.54	8.40E+01	1.51E+01
	30	673.68	670 -	677	3.24E+01	27.50	1.05E+02	2.06E+01
M	31	689.30	686 -	697	1.85E+01	24.70	8.92E+01	1.55E+01
m	32	692.10	686 -	697	2.99E+01	23.43	7.49E+01	1.42E+01
M	33	720.07	718 -	732	2.94E+01	12.93	2.54E+01	8.29E+00
m	34	727.50	718 -	732	4.91E+01	30.02	1.02E+02	1.66E+01
	35	796.17	791 -	802	5.98E+01	28.28	6.44E+01	1.95E+01
	36	805.85	803 -	810	1.93E+01	19.90	5.54E+01	1.47E+01
M	37	860.31	854 -	870	3.71E+01	28.02	9.00E+01	1.56E+01
m	38	867.43	854 -	870	1.53E+01	20.52	7.00E+01	1.38E+01
	39	911.42	907 -	914	1.25E+02	31.62	8.23E+01	1.84E+01
	40	923.59	916 -	929	4.02E+01	32.28	9.75E+01	2.44E+01
	41	935.34	931 -	940	2.26E+01	27.33	9.09E+01	2.11E+01
M	42	965.44	962 -	974	2.72E+01	24.27	8.66E+01	1.53E+01
m	43	969.44	962 -	974	8.67E+01	27.37	6.61E+01	1.34E+01
	44	1057.65	1054 -	1061	1.79E+01	21.17	6.02E+01	1.59E+01
	45	1120.56	1115 -	1123	6.71E+01	24.31	4.99E+01	1.48E+01
	46	1239.54	1234 -	1246	3.81E+01	34.57	1.20E+02	2.65E+01
	47	1274.72	1270 -	1280	2.77E+01	21.91	4.86E+01	1.58E+01
M	48	1330.05	1328 -	1340	7.31E+00	7.04	9.00E+00	4.93E+00
m	49	1333.87	1328 -	1340	1.83E+01	16.78	2.70E+01	8.54E+00
M	50	1455.79	1453 -	1467	1.35E+01	8.41	5.07E+00	3.70E+00
m	51	1461.21	1453 -	1467	4.75E+02	44.73	1.13E+01	5.53E+00
	52	1481.05	1478 -	1483	5.36E+00	6.08	3.29E+00	3.24E+00
	53	1500.63	1498 -	1503	8.15E+00	7.00	3.70E+00	3.33E+00
	54	1593.06	1590 -	1596	1.79E+01	15.04	2.22E+01	1.02E+01
	55	1630.15	1627 -	1632	6.32E+00	8.43	9.36E+00	5.56E+00
	56	1728.94	1724 -	1731	8.00E+00	8.94	8.00E+00	5.70E+00
	57	1765.23	1761 -	1770	5.00E+01	14.14	0.00E+00	0.00E+00

Analysis Report for 1510091-09

CP1807S16-17

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
58	1932.81	1929 -	1934	9.00E+00	6.00	0.00E+00	0.00E+00
59	2104.16	2099 -	2108	2.10E+01	9.17	0.00E+00	0.00E+00
60	2204.72	2199 -	2206	1.34E+01	10.20	9.11E+00	5.83E+00
61	2443.64	2435 -	2448	1.22E+01	10.63	7.63E+00	6.59E+00
62	2614.85	2609 -	2618	6.16E+01	16.76	4.89E+00	4.85E+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 : 11/10/2015 5:06:48PM

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	23.82	22 -	27	24.07	5.47E+01	66.48	8.45E+02	.....
	2	64.19	59 -	69	64.41	2.53E+02	138.55	2.42E+03	TH-234
	3	76.13	71 -	83	76.34	1.03E+03	170.37	2.93E+03	.....
	4	88.28	85 -	91	88.49	1.46E+02	99.51	1.69E+03	LU-176
									CD-109
									SN-126
	5	93.42	91 -	97	93.63	1.78E+02	91.76	1.30E+03	GA-67
	6	99.52	98 -	103	99.72	5.67E+01	64.31	7.85E+02	.....
	7	129.47	127 -	132	129.66	8.13E+01	62.78	7.23E+02	.....
	8	137.43	134 -	140	137.61	5.76E+01	68.34	8.05E+02	CO-57
	9	154.49	152 -	157	154.66	5.88E+01	58.02	6.20E+02	.....
	10	186.24	182 -	190	186.39	1.51E+02	78.12	8.47E+02	RA-226
	11	208.95	206 -	213	209.09	7.95E+01	63.84	6.23E+02	GA-67
									CM-243
M	12	238.87	234 -	246	239.00	8.16E+02	70.14	3.94E+02	PB-212
m	13	241.71	234 -	246	241.83	1.66E+02	85.93	5.50E+02	RA-224
	14	277.70	276 -	281	277.81	4.05E+01	40.63	2.99E+02	CM-243
									NP-239
	15	295.23	292 -	299	295.33	1.48E+02	59.60	5.04E+02	PB-214
	16	300.35	299 -	302	300.45	6.53E+01	32.31	1.87E+02	GA-67
									PB-212

Analysis Report for 1510091-09

CP1807S16-17

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
									BI-210M
	17	338.78	334 -	343	338.85	1.68E+02	60.21	4.14E+02	AC-228
	18	352.22	348 -	356	352.29	3.32E+02	57.59	3.05E+02	PB-214
	19	385.80	383 -	389	385.85	3.82E+01	35.76	2.02E+02	.....
	20	409.41	406 -	412	409.46	4.42E+01	33.53	1.68E+02	.....
	21	463.35	461 -	466	463.37	3.56E+01	29.92	1.47E+02	SB-125
M	22	511.03	507 -	517	511.03	1.30E+02	35.85	1.51E+02	.....
m	23	514.20	507 -	517	514.19	2.34E+01	34.60	1.19E+02	KR-85
									SR-85
	24	524.03	521 -	528	524.01	3.15E+01	30.59	1.33E+02	.....
	25	583.12	577 -	587	583.08	2.28E+02	47.16	1.71E+02	TL-208
	26	597.77	593 -	602	597.72	5.31E+01	35.00	1.44E+02	.....
	27	609.10	603 -	614	609.05	2.31E+02	51.50	2.15E+02	BI-214
M	28	621.99	620 -	648	621.93	2.25E+01	19.24	6.00E+01	RU-106
m	29	645.19	620 -	648	645.12	1.65E+01	23.54	8.40E+01	SB-124
	30	673.68	670 -	677	673.60	3.24E+01	27.50	1.05E+02	.....
M	31	689.30	686 -	697	689.20	1.85E+01	24.70	8.92E+01	.....
m	32	692.10	686 -	697	692.00	2.99E+01	23.43	7.49E+01	.....
M	33	720.07	718 -	732	719.96	2.94E+01	12.93	2.54E+01	SB-126
m	34	727.50	718 -	732	727.39	4.91E+01	30.02	1.02E+02	BI-212
	35	796.17	791 -	802	796.03	5.98E+01	28.28	6.44E+01	CS-134
	36	805.85	803 -	810	805.70	1.93E+01	19.90	5.54E+01	.....
M	37	860.31	854 -	870	860.14	3.71E+01	28.02	9.00E+01	TL-208
m	38	867.43	854 -	870	867.26	1.53E+01	20.52	7.00E+01	.....
	39	911.42	907 -	914	911.23	1.25E+02	31.62	8.23E+01	AC-228
									LU-172
	40	923.59	916 -	929	923.39	4.02E+01	32.28	9.75E+01	.....
	41	935.34	931 -	940	935.13	2.26E+01	27.33	9.09E+01	.....
M	42	965.44	962 -	974	965.22	2.72E+01	24.27	8.66E+01	.....
m	43	969.44	962 -	974	969.22	8.67E+01	27.37	6.61E+01	AC-228
	44	1057.65	1054 -	1061	1057.40	1.79E+01	21.17	6.02E+01	.....
	45	1120.56	1115 -	1123	1120.27	6.71E+01	24.31	4.99E+01	SC-46
									BI-214
									TA-182
	46	1239.54	1234 -	1246	1239.20	3.81E+01	34.57	1.20E+02	.....
	47	1274.72	1270 -	1280	1274.37	2.77E+01	21.91	4.86E+01	NA-22
									EU-154
M	48	1330.05	1328 -	1340	1329.68	7.31E+00	7.04	9.00E+00	.....
m	49	1333.87	1328 -	1340	1333.50	1.83E+01	16.78	2.70E+01	.....
M	50	1455.79	1453 -	1467	1455.37	1.35E+01	8.41	5.07E+00	.....
m	51	1461.21	1453 -	1467	1460.79	4.75E+02	44.73	1.13E+01	K-40
	52	1481.05	1478 -	1483	1480.62	5.36E+00	6.08	3.29E+00	.....
	53	1500.63	1498 -	1503	1500.20	8.15E+00	7.00	3.70E+00	.....
	54	1593.06	1590 -	1596	1592.59	1.79E+01	15.04	2.22E+01	.....
	55	1630.15	1627 -	1632	1629.66	6.32E+00	8.43	9.36E+00	.....
	56	1728.94	1724 -	1731	1728.42	8.00E+00	8.94	8.00E+00	.....
	57	1765.23	1761 -	1770	1764.70	5.00E+01	14.14	0.00E+00	BI-214
	58	1932.81	1929 -	1934	1932.22	9.00E+00	6.00	0.00E+00	.....
	59	2104.16	2099 -	2108	2103.52	2.10E+01	9.17	0.00E+00	.....
	60	2204.72	2199 -	2206	2204.05	1.34E+01	10.20	9.11E+00	BI-214
	61	2443.64	2435 -	2448	2442.90	1.22E+01	10.63	7.63E+00	.....
	62	2614.85	2609 -	2618	2614.07	6.16E+01	16.76	4.89E+00	TL-208

Analysis Report for 1510091-09

CP1807S16-17

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 : 11/10/2015 5:06:48PM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	23.82	5.47E+01	66.48	1.78E-03	1.58E-03
	2	64.19	2.53E+02	138.55	2.18E-02	1.74E-03
	3	76.13	1.03E+03	170.37	2.38E-02	2.13E-03
	4	88.28	1.46E+02	99.51	2.44E-02	2.52E-03
	5	93.42	1.78E+02	91.76	2.44E-02	2.40E-03
	6	99.52	5.67E+01	64.31	2.43E-02	2.26E-03
	7	129.47	8.13E+01	62.78	2.25E-02	1.69E-03
	8	137.43	5.76E+01	68.34	2.19E-02	1.65E-03
	9	154.49	5.88E+01	58.02	2.06E-02	1.57E-03
	10	186.24	1.51E+02	78.12	1.83E-02	1.42E-03
	11	208.95	7.95E+01	63.84	1.68E-02	1.32E-03
M	12	238.87	8.16E+02	70.14	1.52E-02	1.18E-03
m	13	241.71	1.66E+02	85.93	1.51E-02	1.17E-03
	14	277.70	4.05E+01	40.63	1.35E-02	1.00E-03
	15	295.23	1.48E+02	59.60	1.28E-02	9.74E-04
	16	300.35	6.53E+01	32.31	1.26E-02	9.67E-04
	17	338.78	1.68E+02	60.21	1.14E-02	9.12E-04
	18	352.22	3.32E+02	57.59	1.11E-02	8.93E-04
	19	385.80	3.82E+01	35.76	1.02E-02	8.46E-04
	20	409.41	4.42E+01	33.53	9.71E-03	8.20E-04
	21	463.35	3.56E+01	29.92	8.72E-03	7.66E-04
M	22	511.03	1.30E+02	35.85	8.01E-03	7.18E-04
m	23	514.20	2.34E+01	34.60	7.97E-03	7.15E-04
	24	524.03	3.15E+01	30.59	7.84E-03	7.05E-04
	25	583.12	2.28E+02	47.16	7.14E-03	6.46E-04
	26	597.77	5.31E+01	35.00	6.99E-03	6.32E-04
	27	609.10	2.31E+02	51.50	6.87E-03	6.20E-04
M	28	621.99	2.25E+01	19.24	6.75E-03	6.07E-04
m	29	645.19	1.65E+01	23.54	6.54E-03	5.84E-04
	30	673.68	3.24E+01	27.50	6.30E-03	5.58E-04
M	31	689.30	1.85E+01	24.70	6.17E-03	5.45E-04
m	32	692.10	2.99E+01	23.43	6.15E-03	5.43E-04
M	33	720.07	2.94E+01	12.93	5.94E-03	5.20E-04
m	34	727.50	4.91E+01	30.02	5.89E-03	5.14E-04

Analysis Report for 1510091-09

CP1807S16-17

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	35	796.17	5.98E+01	28.28	5.45E-03	4.58E-04
	36	805.85	1.93E+01	19.90	5.39E-03	4.50E-04
M	37	860.31	3.71E+01	28.02	5.10E-03	4.05E-04
m	38	867.43	1.53E+01	20.52	5.06E-03	4.00E-04
	39	911.42	1.25E+02	31.62	4.85E-03	3.72E-04
	40	923.59	4.02E+01	32.28	4.80E-03	3.70E-04
	41	935.34	2.26E+01	27.33	4.75E-03	3.68E-04
M	42	965.44	2.72E+01	24.27	4.62E-03	3.62E-04
m	43	969.44	8.67E+01	27.37	4.60E-03	3.61E-04
	44	1057.65	1.79E+01	21.17	4.28E-03	3.45E-04
	45	1120.56	6.71E+01	24.31	4.08E-03	3.33E-04
	46	1239.54	3.81E+01	34.57	3.75E-03	3.09E-04
	47	1274.72	2.77E+01	21.91	3.67E-03	3.01E-04
M	48	1330.05	7.31E+00	7.04	3.54E-03	2.89E-04
m	49	1333.87	1.83E+01	16.78	3.54E-03	2.88E-04
M	50	1455.79	1.35E+01	8.41	3.30E-03	2.70E-04
m	51	1461.21	4.75E+02	44.73	3.29E-03	2.69E-04
	52	1481.05	5.36E+00	6.08	3.26E-03	2.66E-04
	53	1500.63	8.15E+00	7.00	3.22E-03	2.63E-04
	54	1593.06	1.79E+01	15.04	3.08E-03	2.50E-04
	55	1630.15	6.32E+00	8.43	3.03E-03	2.44E-04
	56	1728.94	8.00E+00	8.94	2.90E-03	2.29E-04
	57	1765.23	5.00E+01	14.14	2.86E-03	2.24E-04
	58	1932.81	9.00E+00	6.00	2.68E-03	2.13E-04
	59	2104.16	2.10E+01	9.17	2.54E-03	2.13E-04
	60	2204.72	1.34E+01	10.20	2.46E-03	2.13E-04
	61	2443.64	1.22E+01	10.63	2.32E-03	2.13E-04
	62	2614.85	6.16E+01	16.76	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 : 11/10/2015 5:06:48PM

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	23.82	5.47E+01	66.48			5.47E+01	6.65E+01
2	64.19	2.53E+02	138.55	5.52E+01	2.05E+01	1.98E+02	1.40E+02

Analysis Report for 1510091-09

CP1807S16-17

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	3	76.13	1.03E+03	170.37			1.03E+03	1.70E+02
	4	88.28	1.46E+02	99.51	1.52E+01	5.37E+00	1.31E+02	9.96E+01
	5	93.42	1.78E+02	91.76	9.04E+01	2.62E+01	8.73E+01	9.54E+01
	6	99.52	5.67E+01	64.31			5.67E+01	6.43E+01
	7	129.47	8.13E+01	62.78			8.13E+01	6.28E+01
	8	137.43	5.76E+01	68.34			5.76E+01	6.83E+01
	9	154.49	5.88E+01	58.02			5.88E+01	5.80E+01
	10	186.24	1.51E+02	78.12	3.93E+01	6.56E+00	1.11E+02	7.84E+01
	11	208.95	7.95E+01	63.84			7.95E+01	6.38E+01
M	12	238.87	8.16E+02	70.14	1.34E+01	2.14E+00	8.03E+02	7.02E+01
m	13	241.71	1.66E+02	85.93	2.69E+00	1.46E+00	1.64E+02	8.59E+01
	14	277.70	4.05E+01	40.63			4.05E+01	4.06E+01
	15	295.23	1.48E+02	59.60			1.48E+02	5.96E+01
	16	300.35	6.53E+01	32.31			6.53E+01	3.23E+01
	17	338.78	1.68E+02	60.21			1.68E+02	6.02E+01
	18	352.22	3.32E+02	57.59	3.99E+00	4.73E+00	3.28E+02	5.78E+01
	19	385.80	3.82E+01	35.76			3.82E+01	3.58E+01
	20	409.41	4.42E+01	33.53			4.42E+01	3.35E+01
	21	463.35	3.56E+01	29.92			3.56E+01	2.99E+01
M	22	511.03	1.30E+02	35.85	5.78E+01	4.60E+00	7.22E+01	3.61E+01
m	23	514.20	2.34E+01	34.60			2.34E+01	3.46E+01
	24	524.03	3.15E+01	30.59			3.15E+01	3.06E+01
	25	583.12	2.28E+02	47.16	5.96E+00	3.46E+00	2.22E+02	4.73E+01
	26	597.77	5.31E+01	35.00			5.31E+01	3.50E+01
	27	609.10	2.31E+02	51.50	6.71E+00	3.44E+00	2.25E+02	5.16E+01
M	28	621.99	2.25E+01	19.24			2.25E+01	1.92E+01
m	29	645.19	1.65E+01	23.54			1.65E+01	2.35E+01
	30	673.68	3.24E+01	27.50			3.24E+01	2.75E+01
M	31	689.30	1.85E+01	24.70			1.85E+01	2.47E+01
m	32	692.10	2.99E+01	23.43			2.99E+01	2.34E+01
M	33	720.07	2.94E+01	12.93			2.94E+01	1.29E+01
m	34	727.50	4.91E+01	30.02			4.91E+01	3.00E+01
	35	796.17	5.98E+01	28.28			5.98E+01	2.83E+01
	36	805.85	1.93E+01	19.90			1.93E+01	1.99E+01
M	37	860.31	3.71E+01	28.02			3.71E+01	2.80E+01
m	38	867.43	1.53E+01	20.52			1.53E+01	2.05E+01
	39	911.42	1.25E+02	31.62	2.32E+00	2.73E+00	1.23E+02	3.17E+01
	40	923.59	4.02E+01	32.28			4.02E+01	3.23E+01
	41	935.34	2.26E+01	27.33			2.26E+01	2.73E+01
M	42	965.44	2.72E+01	24.27			2.72E+01	2.43E+01
m	43	969.44	8.67E+01	27.37			8.67E+01	2.74E+01
	44	1057.65	1.79E+01	21.17			1.79E+01	2.12E+01
	45	1120.56	6.71E+01	24.31	2.00E+00	2.20E+00	6.51E+01	2.44E+01
	46	1239.54	3.81E+01	34.57			3.81E+01	3.46E+01
	47	1274.72	2.77E+01	21.91			2.77E+01	2.19E+01
M	48	1330.05	7.31E+00	7.04			7.31E+00	7.04E+00
m	49	1333.87	1.83E+01	16.78			1.83E+01	1.68E+01
M	50	1455.79	1.35E+01	8.41			1.35E+01	8.41E+00
m	51	1461.21	4.75E+02	44.73			4.75E+02	4.47E+01
	52	1481.05	5.36E+00	6.08			5.36E+00	6.08E+00
	53	1500.63	8.15E+00	7.00			8.15E+00	7.00E+00
	54	1593.06	1.79E+01	15.04			1.79E+01	1.50E+01
	55	1630.15	6.32E+00	8.43			6.32E+00	8.43E+00
	56	1728.94	8.00E+00	8.94			8.00E+00	8.94E+00

Analysis Report for 1510091-09

CP1807S16-17

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
57	1765.23	5.00E+01	14.14	1.45E+00	1.16E+00	4.85E+01	1.42E+01
58	1932.81	9.00E+00	6.00			9.00E+00	6.00E+00
59	2104.16	2.10E+01	9.17			2.10E+01	9.17E+00
60	2204.72	1.34E+01	10.20			1.34E+01	1.02E+01
61	2443.64	1.22E+01	10.63			1.22E+01	1.06E+01
62	2614.85	6.16E+01	16.76			6.16E+01	1.68E+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 : 11/10/2015 5:06:48PM

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	23.82	5.47E+01	66.48			5.47E+01	6.65E+01
	2	64.19	2.53E+02	138.55	5.52E+01	2.05E+01	1.98E+02	1.40E+02
	3	76.13	1.03E+03	170.37			1.03E+03	1.70E+02
	4	88.28	1.46E+02	99.51	1.52E+01	5.37E+00	1.31E+02	9.96E+01
	5	93.42	1.78E+02	91.76	9.04E+01	2.62E+01	8.73E+01	9.54E+01
	6	99.52	5.67E+01	64.31			5.67E+01	6.43E+01
	7	129.47	8.13E+01	62.78			8.13E+01	6.28E+01
	8	137.43	5.76E+01	68.34			5.76E+01	6.83E+01
	9	154.49	5.88E+01	58.02			5.88E+01	5.80E+01
	10	186.24	1.51E+02	78.12	3.93E+01	6.56E+00	1.11E+02	7.84E+01
	11	208.95	7.95E+01	63.84			7.95E+01	6.38E+01
M	12	238.87	8.16E+02	70.14	1.34E+01	2.14E+00	8.03E+02	7.02E+01
m	13	241.71	1.66E+02	85.93	2.69E+00	1.46E+00	1.64E+02	8.59E+01
	14	277.70	4.05E+01	40.63			4.05E+01	4.06E+01
	15	295.23	1.48E+02	59.60			1.48E+02	5.96E+01
	16	300.35	6.53E+01	32.31			6.53E+01	3.23E+01
	17	338.78	1.68E+02	60.21			1.68E+02	6.02E+01
	18	352.22	3.32E+02	57.59	3.99E+00	4.73E+00	3.28E+02	5.78E+01
	19	385.80	3.82E+01	35.76			3.82E+01	3.58E+01
	20	409.41	4.42E+01	33.53			4.42E+01	3.35E+01
	21	463.35	3.56E+01	29.92			3.56E+01	2.99E+01
M	22	511.03	1.30E+02	35.85	5.78E+01	4.60E+00	7.22E+01	3.61E+01

Analysis Report for 1510091-09

CP1807S16-17

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
m	23	514.20	2.34E+01	34.60			2.34E+01	3.46E+01
	24	524.03	3.15E+01	30.59			3.15E+01	3.06E+01
	25	583.12	2.28E+02	47.16	5.96E+00	3.46E+00	2.22E+02	4.73E+01
	26	597.77	5.31E+01	35.00			5.31E+01	3.50E+01
	27	609.10	2.31E+02	51.50	6.71E+00	3.44E+00	2.25E+02	5.16E+01
M	28	621.99	2.25E+01	19.24			2.25E+01	1.92E+01
m	29	645.19	1.65E+01	23.54			1.65E+01	2.35E+01
	30	673.68	3.24E+01	27.50			3.24E+01	2.75E+01
M	31	689.30	1.85E+01	24.70			1.85E+01	2.47E+01
m	32	692.10	2.99E+01	23.43			2.99E+01	2.34E+01
M	33	720.07	2.94E+01	12.93			2.94E+01	1.29E+01
m	34	727.50	4.91E+01	30.02			4.91E+01	3.00E+01
	35	796.17	5.98E+01	28.28			5.98E+01	2.83E+01
	36	805.85	1.93E+01	19.90			1.93E+01	1.99E+01
M	37	860.31	3.71E+01	28.02			3.71E+01	2.80E+01
m	38	867.43	1.53E+01	20.52			1.53E+01	2.05E+01
	39	911.42	1.25E+02	31.62	2.32E+00	2.73E+00	1.23E+02	3.17E+01
	40	923.59	4.02E+01	32.28			4.02E+01	3.23E+01
	41	935.34	2.26E+01	27.33			2.26E+01	2.73E+01
M	42	965.44	2.72E+01	24.27			2.72E+01	2.43E+01
m	43	969.44	8.67E+01	27.37			8.67E+01	2.74E+01
	44	1057.65	1.79E+01	21.17			1.79E+01	2.12E+01
	45	1120.56	6.71E+01	24.31	2.00E+00	2.20E+00	6.51E+01	2.44E+01
	46	1239.54	3.81E+01	34.57			3.81E+01	3.46E+01
	47	1274.72	2.77E+01	21.91			2.77E+01	2.19E+01
M	48	1330.05	7.31E+00	7.04			7.31E+00	7.04E+00
m	49	1333.87	1.83E+01	16.78			1.83E+01	1.68E+01
M	50	1455.79	1.35E+01	8.41			1.35E+01	8.41E+00
m	51	1461.21	4.75E+02	44.73			4.75E+02	4.47E+01
	52	1481.05	5.36E+00	6.08			5.36E+00	6.08E+00
	53	1500.63	8.15E+00	7.00			8.15E+00	7.00E+00
	54	1593.06	1.79E+01	15.04			1.79E+01	1.50E+01
	55	1630.15	6.32E+00	8.43			6.32E+00	8.43E+00
	56	1728.94	8.00E+00	8.94			8.00E+00	8.94E+00
	57	1765.23	5.00E+01	14.14	1.45E+00	1.16E+00	4.85E+01	1.42E+01
	58	1932.81	9.00E+00	6.00			9.00E+00	6.00E+00
	59	2104.16	2.10E+01	9.17			2.10E+01	9.17E+00
	60	2204.72	1.34E+01	10.20			1.34E+01	1.02E+01
	61	2443.64	1.22E+01	10.63			1.22E+01	1.06E+01
	62	2614.85	6.16E+01	16.76			6.16E+01	1.68E+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 1510091-09

CP1807S16-17

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
NA-22	0.995	1274.54	*	99.94	1.23E-01	9.76E-02
K-40	0.975	1460.81	*	10.67	2.15E+01	2.71E+00
GA-67	0.631	93.31	*	35.70	1.22E+02	5.34E+02
		208.95	*	2.24	2.57E+03	1.07E+04
		300.22	*	16.00	3.95E+02	1.68E+03
KR-85	0.993	513.99	*	0.43	1.08E+01	1.60E+01
SR-85	0.992	513.99	*	99.27	6.55E-02	9.72E-02
RU-106	0.996	621.84	*	9.80	5.72E-01	4.96E-01
CD-109	0.990	88.03	*	3.72	2.40E+00	1.85E+00
SN-126	0.922	87.57	*	37.00	2.30E-01	1.77E-01
TL-208	0.997	583.14	*	30.22	1.64E+00	3.78E-01
		860.37	*	4.48	2.58E+00	1.96E+00
		2614.66	*	35.85	1.22E+00	3.51E-01
BI-212	0.757	727.17	*	11.80	1.12E+00	6.93E-01
		1620.62		2.75		
PB-212	0.990	238.63	*	44.60	1.88E+00	2.20E-01
		300.09	*	3.41	2.41E+00	1.20E+00
BI-214	0.975	609.31	*	46.30	1.12E+00	2.77E-01
		1120.29	*	15.10	1.68E+00	6.44E-01
		1764.49	*	15.80	1.71E+00	5.17E-01
		2204.22	*	4.98	1.74E+00	1.33E+00
PB-214	0.991	295.21	*	19.19	9.56E-01	3.91E-01
		351.92	*	37.19	1.27E+00	2.46E-01
RA-224	0.919	240.98	*	3.95	4.36E+00	2.32E+00
RA-226	1.000	186.21	*	3.28	2.95E+00	5.78E+00
AC-228	0.978	338.32	*	11.40	2.05E+00	7.52E-01
		911.07	*	27.70	1.45E+00	3.91E-01
		969.11	*	16.60	1.80E+00	5.86E-01
TH-234	0.878	63.29	*	3.80	3.79E+00	2.70E+00
CM-243	0.358	209.75	*	3.29	2.28E+00	1.84E+00
		228.14		10.60		
		277.60	*	14.00	3.42E-01	3.43E-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 1510091-09

CP1807S16-17

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 5:06:48PM
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	23.82	1.51974E-02	60.75		
	3	76.13	2.84954E-01	8.30		
	6	99.52	1.57455E-02	56.73	D-Esc	
	7	129.47	2.25699E-02	38.63		
	8	137.43	1.60078E-02	59.29		
	9	154.49	1.63415E-02	49.31		
	19	385.80	1.06055E-02	46.83		
	20	409.41	1.22786E-02	37.93		
	21	463.35	9.89934E-03	41.97	Sum	
M	22	511.03	2.00674E-02	25.01		
	24	524.03	8.75283E-03	48.55	Sum	
	26	597.77	1.47600E-02	32.93		
m	29	645.19	4.57567E-03	71.44		
	30	673.68	9.00327E-03	42.42	Sum	
M	31	689.30	5.12553E-03	66.94		
m	32	692.10	8.31499E-03	39.14		
M	33	720.07	8.16988E-03	21.99	Tol.	SB-126
	35	796.17	1.66153E-02	23.64	Sum	
	36	805.85	5.35757E-03	51.59		
m	38	867.43	4.24939E-03	67.06		
	40	923.59	1.11767E-02	40.11	Sum	
	41	935.34	6.26634E-03	60.58	Sum	
M	42	965.44	7.56556E-03	44.56	Sum	
	44	1057.65	4.96528E-03	59.21	Sum	
	46	1239.54	1.05839E-02	45.36		
M	48	1330.05	2.03072E-03	48.12	Sum	
m	49	1333.87	5.07105E-03	45.95		
M	50	1455.79	3.74471E-03	31.20	Sum	
	52	1481.05	1.48810E-03	56.77		
	53	1500.63	2.26389E-03	42.94		
	54	1593.06	4.97126E-03	42.02	D-Esc	
	55	1630.15	1.75505E-03	66.68		
	56	1728.94	2.22222E-03	55.90	Sum	
	58	1932.81	2.50000E-03	33.33		
	59	2104.16	5.83333E-03	21.82	S-Esc	
	61	2443.64	3.38542E-03	43.61	Sum	

Analysis Report for 1510091-09

CP1807S16-17

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
NA-22	0.99	1274.54	*	99.94	1.23E-01	9.76E-02
K-40	0.97	1460.81	*	10.67	2.15E+01	2.71E+00
GA-67	0.63	93.31	*	35.70	1.22E+02	5.34E+02
		208.95	*	2.24	2.57E+03	1.07E+04
		300.22	*	16.00	3.95E+02	1.68E+03
KR-85	0.99	513.99	*	0.43	1.08E+01	1.60E+01
SR-85	0.99	513.99	*	99.27	6.55E-02	9.72E-02
RU-106	0.99	621.84	*	9.80	5.72E-01	4.96E-01
CD-109	0.99	88.03	*	3.72	2.40E+00	1.85E+00
SN-126	0.92	87.57	*	37.00	2.30E-01	1.77E-01
TL-208	0.99	583.14	*	30.22	1.64E+00	3.78E-01
		860.37	*	4.48	2.58E+00	1.96E+00
		2614.66	*	35.85	1.22E+00	3.51E-01
BI-212	0.75	727.17	*	11.80	1.12E+00	6.93E-01
		1620.62		2.75		
PB-212	0.99	238.63	*	44.60	1.88E+00	2.20E-01
		300.09	*	3.41	2.41E+00	1.20E+00
BI-214	0.97	609.31	*	46.30	1.12E+00	2.77E-01
		1120.29	*	15.10	1.68E+00	6.44E-01
		1764.49	*	15.80	1.71E+00	5.17E-01
		2204.22	*	4.98	1.74E+00	1.33E+00
PB-214	0.99	295.21	*	19.19	9.56E-01	3.91E-01
		351.92	*	37.19	1.27E+00	2.46E-01
RA-224	0.91	240.98	*	3.95	4.36E+00	2.32E+00
RA-226	1.00	186.21	*	3.28	2.95E+00	5.78E+00
AC-228	0.97	338.32	*	11.40	2.05E+00	7.52E-01
		911.07	*	27.70	1.45E+00	3.91E-01
		969.11	*	16.60	1.80E+00	5.86E-01
TH-234	0.87	63.29	*	3.80	3.79E+00	2.70E+00
CM-243	0.35	209.75	*	3.29	2.28E+00	1.84E+00
		228.14		10.60		
		277.60	*	14.00	3.42E-01	3.43E-01

Analysis Report for 1510091-09

CP1807S16-17

* = 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
	NA-22	0.995	1.23E-01	9.76E-02	
	K-40	0.975	2.15E+01	2.71E+00	
	GA-67	0.631	1.17E+02	4.90E+02	
?	KR-85	0.993	1.08E+01	1.60E+01	
?	SR-85	0.992	6.55E-02	9.72E-02	
	RU-106	0.996	5.72E-01	4.96E-01	
?	CD-109	0.990	2.40E+00	1.85E+00	
?	SN-126	0.922	2.30E-01	1.77E-01	
	TL-208	0.997	1.43E+00	2.55E-01	
	BI-212	0.757	1.12E+00	6.93E-01	
	PB-212	0.990	1.87E+00	2.17E-01	
	BI-214	0.975	1.32E+00	2.25E-01	
	PB-214	0.991	1.18E+00	2.08E-01	
	RA-224	0.919	4.36E+00	2.32E+00	
	RA-226	1.000	2.95E+00	5.78E+00	
	AC-228	0.978	1.63E+00	2.99E-01	
	TH-234	0.878	3.79E+00	2.70E+00	
	CM-243	0.358	4.03E-01	3.38E-01	

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510091-09

CP1807S16-17

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 5:06:48PM
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	23.82	1.51974E-02	60.75		
	3	76.13	2.84954E-01	8.30		
	6	99.52	1.57455E-02	56.73	D-Esc	
	7	129.47	2.25699E-02	38.63		
	8	137.43	1.60078E-02	59.29		
	9	154.49	1.63415E-02	49.31		
	19	385.80	1.06055E-02	46.83		
	20	409.41	1.22786E-02	37.93		
	21	463.35	9.89934E-03	41.97	Sum	
M	22	511.03	2.00674E-02	25.01		
	24	524.03	8.75283E-03	48.55	Sum	
	26	597.77	1.47600E-02	32.93		
m	29	645.19	4.57567E-03	71.44		
	30	673.68	9.00327E-03	42.42	Sum	
M	31	689.30	5.12553E-03	66.94		
m	32	692.10	8.31499E-03	39.14		
M	33	720.07	8.16988E-03	21.99	Tol.	SB-126
	35	796.17	1.66153E-02	23.64	Sum	
	36	805.85	5.35757E-03	51.59		
m	38	867.43	4.24939E-03	67.06		
	40	923.59	1.11767E-02	40.11	Sum	
	41	935.34	6.26634E-03	60.58	Sum	
M	42	965.44	7.56556E-03	44.56	Sum	
	44	1057.65	4.96528E-03	59.21	Sum	
	46	1239.54	1.05839E-02	45.36		
M	48	1330.05	2.03072E-03	48.12	Sum	
m	49	1333.87	5.07105E-03	45.95		
M	50	1455.79	3.74471E-03	31.20	Sum	
	52	1481.05	1.48810E-03	56.77		
	53	1500.63	2.26389E-03	42.94		
	54	1593.06	4.97126E-03	42.02	D-Esc	
	55	1630.15	1.75505E-03	66.68		
	56	1728.94	2.22222E-03	55.90	Sum	
	58	1932.81	2.50000E-03	33.33		
	59	2104.16	5.83333E-03	21.82	S-Esc	

Analysis Report for 1510091-09
CP1807S16-17

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
61	2443.64	3.38542E-03	43.61	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	6.52E-01	1.31E+00	1.31E+00
+	NA-22	1274.54	*	99.94	1.23E-01	1.52E-01	1.52E-01
+	NA-24	1368.53		99.99	-9.44E+13	7.73E+13	1.18E+14
		2754.09		99.86	1.67E+13		7.73E+13
+	AL-26	1808.65		99.76	2.27E-02	9.44E-02	9.44E-02
+	K-40	1460.81	*	10.67	2.15E+01	1.15E+00	1.15E+00
+	@ AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	-2.28E-02	8.74E-02	8.74E-02
		78.34		96.00	2.87E-01		1.10E-01
+	SC-46	889.25		99.98	-3.73E-02	1.33E-01	1.33E-01
		1120.51		99.99	2.87E-01		2.27E-01
+	V-48	983.52		99.98	-8.21E-02	4.36E-01	4.36E-01
		1312.10		97.50	-1.32E-02		5.40E-01
+	CR-51	320.08		9.83	-1.39E+00	1.74E+00	1.74E+00
+	MN-54	834.83		99.97	-2.75E-02	1.17E-01	1.17E-01
+	CO-56	846.75		99.96	1.77E-02	1.40E-01	1.40E-01
		1037.75		14.03	-4.06E-02		9.21E-01
		1238.25		67.00	1.35E-01		3.32E-01
		1771.40		15.51	-9.46E-02		7.88E-01
		2598.48		16.90	-1.84E-02		5.93E-01
+	CO-57	122.06		85.51	-2.14E-02	7.46E-02	7.46E-02
		136.48		10.60	4.59E-01		6.62E-01
+	CO-58	810.76		99.40	1.21E-02	1.19E-01	1.19E-01
+	FE-59	1099.22		56.50	-4.10E-02	3.50E-01	3.50E-01
		1291.56		43.20	-1.82E-01		4.12E-01
+	CO-60	1173.22		100.00	-5.11E-02	1.34E-01	1.34E-01
		1332.49		100.00	5.64E-02		1.41E-01
+	ZN-65	1115.52		50.75	-9.75E-03	2.49E-01	2.49E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	GA-67	93.31	*	35.70	1.22E+02	2.19E+02	2.19E+02
		208.95	*	2.24	2.57E+03		3.35E+03
		300.22	*	16.00	3.95E+02		2.94E+02
+	SE-75	121.11		16.70	1.24E-01	1.29E-01	4.36E-01
		136.00		59.20	4.98E-02		1.29E-01
		264.65		59.80	-1.15E-01		1.54E-01
		279.53		25.20	3.09E-02		4.09E-01
		400.65		11.40	1.51E-01		9.01E-01
+	RB-82	776.52		13.00	-5.43E-01	1.91E+00	1.91E+00
+	RB-83	520.41		46.00	0.00E+00	2.43E-01	2.43E-01
		529.64		30.30	7.27E-02		3.56E-01
		552.65		16.40	-3.00E-01		7.02E-01
+	KR-85	513.99	*	0.43	1.08E+01	3.27E+01	3.27E+01
+	SR-85	513.99	*	99.27	6.55E-02	1.99E-01	1.99E-01
+	Y-88	898.02		93.40	-2.54E-02	9.94E-02	1.41E-01
		1836.01		99.38	-2.97E-02		9.94E-02
+	NB-93M	16.57		9.43	-1.27E+00	9.56E+01	9.56E+01
+	NB-94	702.63		100.00	3.32E-02	1.04E-01	1.04E-01
		871.10		100.00	3.15E-02		1.14E-01
+	NB-95	765.79		99.81	2.70E-02	1.98E-01	1.98E-01
+	NB-95M	235.69		25.00	7.27E+02	2.42E+02	2.42E+02
+	ZR-95	724.18		43.70	-1.73E-01	2.76E-01	3.99E-01
		756.72		55.30	1.11E-01		2.76E-01
+	MO-99	181.06		6.20	1.90E+02	2.38E+03	2.76E+03
		739.58		12.80	1.06E+03		2.38E+03
		778.00		4.50	4.24E+02		6.07E+03
+	RU-103	497.08		89.00	5.96E-02	1.85E-01	1.85E-01
+	RU-106	621.84	*	9.80	5.72E-01	3.08E+00	3.08E+00
+	AG-108M	433.93		89.90	1.46E-02	9.19E-02	9.19E-02
		614.37		90.40	4.64E-03		1.19E-01
		722.95		90.50	-1.80E-01		1.25E-01
+	CD-109	88.03	*	3.72	2.40E+00	2.97E+00	2.97E+00
+	AG-110M	657.75		93.14	-5.53E-02	1.06E-01	1.06E-01
		677.61		10.53	1.61E-01		1.10E+00
		706.67		16.46	-1.68E-01		6.85E-01
		763.93		21.98	-4.19E-01		4.83E-01
		884.67		71.63	8.95E-03		1.52E-01
		1384.27		23.94	2.46E-01		5.27E-01
+	CD-113M	263.70		0.02	-1.34E+02	3.28E+02	3.28E+02
+	SN-113	255.12		1.93	5.50E-01	1.54E-01	4.98E+00
		391.69		64.90	2.99E-02		1.54E-01
+	TE123M	159.00		84.10	3.47E-02	8.76E-02	8.76E-02
+	SB-124	602.71		97.87	-1.42E-01	1.48E-01	1.48E-01
		645.85		7.26	-1.27E-01		1.87E+00
		722.78		11.10	-2.11E+00		1.46E+00
		1691.02		49.00	2.39E-02		2.63E-01
+	I-125	35.49		6.49	-1.97E+00	4.01E+00	4.01E+00
+	SB-125	176.33		6.89	-2.70E-01	3.09E-01	9.49E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	SB-125	427.89		29.33	2.72E-02	3.09E-01	3.09E-01
		463.38		10.35	4.46E-01		9.87E-01
		600.56		17.80	-3.93E-01		5.87E-01
		635.90		11.32	-8.72E-02		8.64E-01
+	SB-126	414.70		83.30	-2.78E-01	5.14E-01	5.14E-01
		666.33		99.60	2.25E-01		6.07E-01
		695.00		99.60	9.37E-02		6.42E-01
		720.50		53.80	-4.32E-04		1.16E+00
+	SN-126	87.57	*	37.00	2.30E-01	2.85E-01	2.85E-01
+	SB-127	473.00		25.00	-2.64E+01	7.36E+01	1.02E+02
		685.20		35.70	4.99E+00		7.36E+01
		783.80		14.70	-7.24E+01		1.90E+02
+	I-129	29.78		57.00	-3.80E-02	5.61E-01	5.61E-01
		33.60		13.20	-2.70E-01		1.62E+00
		39.58		7.52	-6.08E-01		1.90E+00
+	I-131	284.30		6.05	1.23E+00	1.48E+00	1.89E+01
		364.48		81.20	-8.34E-02		1.48E+00
		636.97		7.26	1.79E+00		2.01E+01
		722.89		1.80	-1.34E+02		9.30E+01
+	TE-132	49.72		13.10	-8.94E+02	7.24E+01	5.71E+02
		228.16		88.00	-6.40E+00		7.24E+01
+	BA-133	81.00		33.00	-1.36E+00	1.83E-01	2.11E-01
		302.84		17.80	-8.27E-02		5.16E-01
		356.01		60.00	-3.82E-02		1.83E-01
+	I-133	529.87		86.30	1.44E+09	7.05E+09	7.05E+09
+	XE-133	81.00		38.00	-7.33E+01	1.13E+01	1.13E+01
+	CS-134	563.23		8.38	-6.24E-01	1.15E-01	1.12E+00
		569.32		15.43	2.64E-01		6.51E-01
		604.70		97.60	-6.53E-01		1.15E-01
		795.84		85.40	8.23E-02		1.42E-01
		801.93		8.73	-8.80E-01		1.02E+00
+	CS-135	268.24		16.00	3.97E-01	5.56E-01	5.56E-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	1.94E+00	5.10E-01	4.62E+00
		163.89		4.61	-1.68E+00		6.73E+00
		176.55		13.56	-3.43E-01		2.46E+00
		273.65		12.66	-1.11E-01		3.55E+00
		340.57		48.50	2.09E+00		1.24E+00
		818.50		99.70	1.94E-01		5.10E-01
		1048.07		79.60	2.77E-01		7.54E-01
		1235.34		19.70	-6.30E-01		3.99E+00
+	CS-137	661.65		85.12	5.01E-02	1.22E-01	1.22E-01
+	LA-138	788.74		34.00	4.98E-02	1.58E-01	3.14E-01
		1435.80		66.00	1.25E-02		1.58E-01
+	CE-139	165.85		80.35	1.85E-02	9.05E-02	9.05E-02
+	BA-140	162.64		6.70	2.59E-01	1.94E+00	4.96E+00
		304.84		4.50	-4.50E+00		9.44E+00

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	BA-140	423.70	3.20	-1.60E+00	1.94E+00	1.53E+01
		437.55	2.00	4.98E+00		2.25E+01
		537.32	25.00	-4.33E-01		1.94E+00
+	LA-140	328.77	20.50	-2.67E-01	7.36E-01	2.34E+00
		487.03	45.50	2.52E-01		1.03E+00
		815.85	23.50	-1.38E-02		2.21E+00
		1596.49	95.49	8.83E-02		7.36E-01
+	CE-141	145.44	48.40	-3.69E-02	2.55E-01	2.55E-01
+	CE-143	57.36	11.80	1.66E+06	1.80E+06	5.40E+06
		293.26	42.00	-8.70E+04		1.80E+06
		664.55	5.20	1.12E+07		1.49E+07
+	CE-144	133.54	10.80	-6.94E-01	6.02E-01	6.02E-01
+	PM-144	476.78	42.00	-2.91E-02	1.03E-01	2.21E-01
		618.01	98.60	-1.44E-02		1.03E-01
		696.49	99.49	-9.52E-04		1.12E-01
+	PM-145	36.85	21.70	-2.94E-02	4.15E-01	7.75E-01
		37.36	39.70	1.86E-01		4.15E-01
		42.30	15.10	-6.87E-01		8.38E-01
		72.40	2.31	-6.17E+00		4.21E+00
+	PM-146	453.90	39.94	-1.45E-01	2.13E-01	2.13E-01
		735.90	14.01	3.86E-01		7.78E-01
		747.13	13.10	-4.19E-01		8.12E-01
+	ND-147	91.11	28.90	-1.05E+00	2.06E+00	2.06E+00
		531.02	13.10	-4.27E-01		4.56E+00
+	PM-149	285.90	3.10	1.11E+04	4.49E+04	4.49E+04
+	EU-152	121.78	20.50	-8.27E-02	2.88E-01	2.88E-01
		244.69	5.40	1.37E-01		1.77E+00
		344.27	19.13	1.13E-02		4.24E-01
		778.89	9.20	5.81E-01		1.14E+00
		964.01	10.40	-1.65E+00		1.43E+00
		1085.78	7.22	1.27E+00		1.91E+00
		1112.02	9.60	1.00E-01		1.14E+00
		1407.95	14.94	-1.05E-01		6.89E-01
+	GD-153	97.43	31.30	-2.81E-01	2.10E-01	2.10E-01
		103.18	22.20	8.61E-02		2.97E-01
+	EU-154	123.07	40.50	3.89E-02	1.51E-01	1.51E-01
		723.30	19.70	-8.35E-01		5.78E-01
		873.19	11.50	3.26E-01		9.37E-01
		996.32	10.30	2.32E-01		1.18E+00
		1004.76	17.90	3.23E-02		6.35E-01
		1274.45	35.50	2.75E-01		4.25E-01
+	EU-155	86.50	30.90	8.44E-02	2.68E-01	2.68E-01
		105.30	20.70	1.17E-01		2.96E-01
+	EU-156	811.77	10.40	6.53E-01	3.68E+00	3.68E+00
		1153.47	7.20	1.92E+00		8.87E+00
		1230.71	8.90	6.68E-01		7.20E+00
+	HO-166M	184.41	72.60	1.40E-01	1.10E-01	1.10E-01
		280.45	29.60	9.79E-02		2.82E-01
		410.94	11.10	-6.37E-02		7.96E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	HO-166M	711.69		54.10	1.14E-01	1.10E-01	2.08E-01
+	TM-171	66.72		0.14	-3.67E+00	6.29E+01	6.29E+01
+	HF-172	81.75		4.52	-6.06E+00	5.47E-01	1.61E+00
		125.81		11.30	-4.89E-02		5.47E-01
+	LU-172	181.53		20.60	-2.68E-01	5.04E+00	7.98E+00
		810.06		16.63	-1.25E+00		1.43E+01
		912.12		15.25	6.42E+01		3.30E+01
		1093.66		62.50	-1.04E-01		5.04E+00
+	LU-173	100.72		5.24	1.11E-01	4.42E-01	1.22E+00
		272.11		21.20	1.33E-01		4.42E-01
+	HF-175	343.40		84.00	2.12E-02	1.38E-01	1.38E-01
+	LU-176	88.34		13.30	9.17E-01	8.52E-02	6.42E-01
		201.83		86.00	-2.55E-02		9.00E-02
		306.78		94.00	3.36E-02		8.52E-02
+	TA-182	67.75		41.20	-6.30E-02	2.42E-01	2.42E-01
		1121.30		34.90	5.78E-01		5.98E-01
		1189.05		16.23	-1.81E-01		9.56E-01
		1221.41		26.98	1.12E-01		7.37E-01
		1231.02		11.44	-8.46E-02		1.58E+00
+	IR-192	308.46		29.68	-1.08E-02	2.46E-01	3.52E-01
		468.07		48.10	5.30E-02		2.46E-01
+	HG-203	279.19		77.30	7.17E-02	1.74E-01	1.74E-01
+	BI-207	569.67		97.72	1.83E-02	1.00E-01	1.00E-01
		1063.62		74.90	1.32E-02		1.34E-01
+	TL-208	583.14	*	30.22	1.64E+00	2.45E-01	4.64E-01
		860.37	*	4.48	2.58E+00		4.80E+00
		2614.66	*	35.85	1.22E+00		2.45E-01
+	BI-210M	262.00		45.00	-9.79E-02	1.66E-01	1.66E-01
		300.00		23.00	-8.50E-01		4.16E-01
+	PB-210	46.50		4.25	9.48E-02	2.65E+00	2.65E+00
+	PB-211	404.84		2.90	-1.64E-01	3.03E+00	3.03E+00
		831.96		2.90	-1.46E+00		3.43E+00
+	BI-212	727.17	*	11.80	1.12E+00	1.46E+00	1.46E+00
		1620.62		2.75	2.40E-01		4.15E+00
+	PB-212	238.63	*	44.60	1.88E+00	3.34E-01	3.34E-01
		300.09	*	3.41	2.41E+00		1.79E+00
+	BI-214	609.31	*	46.30	1.12E+00	2.50E-01	3.58E-01
		1120.29	*	15.10	1.68E+00		8.47E-01
		1764.49	*	15.80	1.71E+00		2.50E-01
		2204.22	*	4.98	1.74E+00		1.86E+00
+	PB-214	295.21	*	19.19	9.56E-01	2.96E-01	5.95E-01
		351.92	*	37.19	1.27E+00		2.96E-01
+	RN-219	401.80		6.50	2.58E-01	1.34E+00	1.34E+00
+	RA-223	323.87		3.88	-1.38E+00	2.15E+00	2.15E+00
+	RA-224	240.98	*	3.95	4.36E+00	3.87E+00	3.87E+00
+	RA-225	40.00		31.00	-6.23E-01	1.95E+00	1.95E+00
+	RA-226	186.21	*	3.28	2.95E+00	3.36E+00	3.36E+00
+	TH-227	50.10		8.40	-1.78E+00	1.14E+00	1.14E+00

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	TH-227	236.00		11.50	3.91E+00	1.14E+00	1.30E+00
		256.20		6.30	4.39E-01		1.27E+00
+	AC-228	338.32	*	11.40	2.05E+00	4.74E-01	1.12E+00
		911.07	*	27.70	1.45E+00		4.74E-01
		969.11	*	16.60	1.80E+00		1.15E+00
+	TH-230	48.44		16.90	-2.76E-01	6.18E-01	6.18E-01
		62.85		4.60	1.55E+00		2.05E+00
		67.67		0.37	-5.81E+00		2.23E+01
+	PA-231	283.67		1.60	3.14E-01	3.97E+00	4.81E+00
		302.67		2.30	-6.36E-01		3.97E+00
+	TH-231	25.64		14.70	-1.86E+00	1.13E+00	4.03E+00
		84.21		6.40	-1.84E+00		1.13E+00
+	PA-233	311.98		38.60	4.12E-02	4.56E-01	4.56E-01
+	PA-234	131.20		20.40	2.95E-01	3.25E-01	3.25E-01
		733.99		8.80	2.58E-01		1.12E+00
		946.00		12.00	-4.38E-02		8.51E-01
+	PA-234M	1001.03		0.92	-2.71E+00	1.25E+01	1.25E+01
+	TH-234	63.29	*	3.80	3.79E+00	4.38E+00	4.38E+00
+	U-235	143.76		10.50	2.10E-01	6.11E-01	6.11E-01
		163.35		4.70	-3.17E-01		1.27E+00
		205.31		4.70	-2.94E-02		1.70E+00
+	NP-237	86.50		12.60	2.05E-01	6.50E-01	6.50E-01
+	NP-239	106.10		22.70	9.99E+02	2.64E+03	2.64E+03
		228.18		10.70	-6.75E+02		7.64E+03
		277.60		14.10	1.46E+03		5.91E+03
+	AM-241	59.54		35.90	-3.02E-01	2.49E-01	2.49E-01
+	AM-243	74.67		66.00	3.16E-01	1.75E-01	1.75E-01
+	CM-243	209.75	*	3.29	2.28E+00	5.58E-01	2.97E+00
		228.14		10.60	-6.88E-02		7.79E-01
		277.60	*	14.00	3.42E-01		5.58E-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 1510091-09

CP1807S16-17

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	1.31E+00	1.31E+00	6.52E-01	6.16E-01
+	NA-22	1274.54	*	99.94	1.52E-01	1.52E-01	1.23E-01	7.00E-02
	NA-24	1368.53		99.99	1.18E+14	7.73E+13	-9.44E+13	5.18E+13
		2754.09		99.86	7.73E+13		1.67E+13	2.74E+13
	AL-26	1808.65		99.76	9.44E-02	9.44E-02	2.27E-02	3.95E-02
+	K-40	1460.81	*	10.67	1.15E+00	1.15E+00	2.15E+01	5.14E-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	8.74E-02	8.74E-02	-2.28E-02	4.27E-02
		78.34		96.00	1.10E-01		2.87E-01	5.40E-02
	SC-46	889.25		99.98	1.33E-01	1.33E-01	-3.73E-02	6.11E-02
		1120.51		99.99	2.27E-01		2.87E-01	1.07E-01
	V-48	983.52		99.98	4.36E-01	4.36E-01	-8.21E-02	2.00E-01
		1312.10		97.50	5.40E-01		-1.32E-02	2.46E-01
	CR-51	320.08		9.83	1.74E+00	1.74E+00	-1.39E+00	8.31E-01
	MN-54	834.83		99.97	1.17E-01	1.17E-01	-2.75E-02	5.41E-02
	CO-56	846.75		99.96	1.40E-01	1.40E-01	1.77E-02	6.45E-02
		1037.75		14.03	9.21E-01		-4.06E-02	4.14E-01
		1238.25		67.00	3.32E-01		1.35E-01	1.55E-01
		1771.40		15.51	7.88E-01		-9.46E-02	3.30E-01
		2598.48		16.90	5.93E-01		-1.84E-02	2.22E-01
	CO-57	122.06		85.51	7.46E-02	7.46E-02	-2.14E-02	3.61E-02
		136.48		10.60	6.62E-01		4.59E-01	3.21E-01
	CO-58	810.76		99.40	1.19E-01	1.19E-01	1.21E-02	5.40E-02
	FE-59	1099.22		56.50	3.50E-01	3.50E-01	-4.10E-02	1.60E-01
		1291.56		43.20	4.12E-01		-1.82E-01	1.84E-01
	CO-60	1173.22		100.00	1.34E-01	1.34E-01	-5.11E-02	6.17E-02
		1332.49		100.00	1.41E-01		5.64E-02	6.42E-02
	ZN-65	1115.52		50.75	2.49E-01	2.49E-01	-9.75E-03	1.13E-01
+	GA-67	93.31	*	35.70	2.19E+02	2.19E+02	1.22E+02	1.08E+02
		208.95	*	2.24	3.35E+03		2.57E+03	1.63E+03
		300.22	*	16.00	2.94E+02		3.95E+02	1.39E+02
	SE-75	121.11		16.70	4.36E-01	1.29E-01	1.24E-01	2.11E-01
		136.00		59.20	1.29E-01		4.98E-02	6.25E-02
		264.65		59.80	1.54E-01		-1.15E-01	7.41E-02
		279.53		25.20	4.09E-01		3.09E-02	1.97E-01
		400.65		11.40	9.01E-01		1.51E-01	4.28E-01
	RB-82	776.52		13.00	1.91E+00	1.91E+00	-5.43E-01	8.84E-01
	RB-83	520.41		46.00	2.43E-01	2.43E-01	0.00E+00	1.14E-01
		529.64		30.30	3.56E-01		7.27E-02	1.66E-01
		552.65		16.40	7.02E-01		-3.00E-01	3.28E-01
+	KR-85	513.99	*	0.43	3.27E+01	3.27E+01	1.08E+01	1.57E+01
+	SR-85	513.99	*	99.27	1.99E-01	1.99E-01	6.55E-02	9.56E-02
	Y-88	898.02		93.40	1.41E-01	9.94E-02	-2.54E-02	6.47E-02
		1836.01		99.38	9.94E-02		-2.97E-02	4.01E-02
	NB-93M	16.57		9.43	9.56E+01	9.56E+01	-1.27E+00	4.65E+01

Analysis Report for 1510091-09

CP1807S16-17

	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	1.04E-01	1.04E-01	3.32E-02	4.83E-02
		871.10		100.00	1.14E-01		3.15E-02	5.28E-02
	NB-95	765.79		99.81	1.98E-01	1.98E-01	2.70E-02	9.20E-02
	NB-95M	235.69		25.00	2.42E+02	2.42E+02	7.27E+02	1.19E+02
	ZR-95	724.18		43.70	3.99E-01	2.76E-01	-1.73E-01	1.88E-01
		756.72		55.30	2.76E-01		1.11E-01	1.29E-01
	MO-99	181.06		6.20	2.76E+03	2.38E+03	1.90E+02	1.33E+03
		739.58		12.80	2.38E+03		1.06E+03	1.11E+03
		778.00		4.50	6.07E+03		4.24E+02	2.81E+03
	RU-103	497.08		89.00	1.85E-01	1.85E-01	5.96E-02	8.73E-02
+	RU-106	621.84	*	9.80	3.08E+00	3.08E+00	5.72E-01	1.50E+00
	AG-108M	433.93		89.90	9.19E-02	9.19E-02	1.46E-02	4.34E-02
		614.37		90.40	1.19E-01		4.64E-03	5.62E-02
		722.95		90.50	1.25E-01		-1.80E-01	5.85E-02
+	CD-109	88.03	*	3.72	2.97E+00	2.97E+00	2.40E+00	1.46E+00
	AG-110M	657.75		93.14	1.06E-01	1.06E-01	-5.53E-02	4.90E-02
		677.61		10.53	1.10E+00		1.61E-01	5.14E-01
		706.67		16.46	6.85E-01		-1.68E-01	3.19E-01
		763.93		21.98	4.83E-01		-4.19E-01	2.23E-01
		884.67		71.63	1.52E-01		8.95E-03	6.97E-02
		1384.27		23.94	5.27E-01		2.46E-01	2.35E-01
	CD-113M	263.70		0.02	3.28E+02	3.28E+02	-1.34E+02	1.57E+02
	SN-113	255.12		1.93	4.98E+00	1.54E-01	5.50E-01	2.40E+00
		391.69		64.90	1.54E-01		2.99E-02	7.30E-02
	TE123M	159.00		84.10	8.76E-02	8.76E-02	3.47E-02	4.23E-02
	SB-124	602.71		97.87	1.48E-01	1.48E-01	-1.42E-01	6.93E-02
		645.85		7.26	1.87E+00		-1.27E-01	8.72E-01
		722.78		11.10	1.46E+00		-2.11E+00	6.83E-01
		1691.02		49.00	2.63E-01		2.39E-02	1.10E-01
	I-125	35.49		6.49	4.01E+00	4.01E+00	-1.97E+00	1.95E+00
	SB-125	176.33		6.89	9.49E-01	3.09E-01	-2.70E-01	4.58E-01
		427.89		29.33	3.09E-01		2.72E-02	1.46E-01
		463.38		10.35	9.87E-01		4.46E-01	4.69E-01
		600.56		17.80	5.87E-01		-3.93E-01	2.76E-01
		635.90		11.32	8.64E-01		-8.72E-02	4.03E-01
	SB-126	414.70		83.30	5.14E-01	5.14E-01	-2.78E-01	2.41E-01
		666.33		99.60	6.07E-01		2.25E-01	2.84E-01
		695.00		99.60	6.42E-01		9.37E-02	3.01E-01
		720.50		53.80	1.16E+00		-4.32E-04	5.39E-01
+	SN-126	87.57	*	37.00	2.85E-01	2.85E-01	2.30E-01	1.40E-01
	SB-127	473.00		25.00	1.02E+02	7.36E+01	-2.64E+01	4.80E+01
		685.20		35.70	7.36E+01		4.99E+00	3.41E+01
		783.80		14.70	1.90E+02		-7.24E+01	8.77E+01
	I-129	29.78		57.00	5.61E-01	5.61E-01	-3.80E-02	2.73E-01
		33.60		13.20	1.62E+00		-2.70E-01	7.88E-01
		39.58		7.52	1.90E+00		-6.08E-01	9.24E-01
	I-131	284.30		6.05	1.89E+01	1.48E+00	1.23E+00	9.04E+00
		364.48		81.20	1.48E+00		-8.34E-02	7.04E-01
		636.97		7.26	2.01E+01		1.79E+00	9.40E+00
		722.89		1.80	9.30E+01		-1.34E+02	4.35E+01
	TE-132	49.72		13.10	5.71E+02	7.24E+01	-8.94E+02	2.78E+02
		228.16		88.00	7.24E+01		-6.40E+00	3.50E+01
	BA-133	81.00		33.00	2.11E-01	1.83E-01	-1.36E+00	1.03E-01

Analysis Report for 1510091-09

CP1807S16-17

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	5.16E-01	1.83E-01	-8.27E-02	2.48E-01
	356.01	60.00	1.83E-01		-3.82E-02	8.81E-02
I-133	529.87	86.30	7.05E+09	7.05E+09	1.44E+09	3.29E+09
XE-133	81.00	38.00	1.13E+01	1.13E+01	-7.33E+01	5.53E+00
CS-134	563.23	8.38	1.12E+00	1.15E-01	-6.24E-01	5.27E-01
	569.32	15.43	6.51E-01		2.64E-01	3.06E-01
	604.70	97.60	1.15E-01		-6.53E-01	5.40E-02
	795.84	85.40	1.42E-01		8.23E-02	6.63E-02
	801.93	8.73	1.02E+00		-8.80E-01	4.62E-01
CS-135	268.24	16.00	5.56E-01	5.56E-01	3.97E-01	2.68E-01
@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@	1260.41	28.60	1.00E+26		1.00E+26	1.00E+20
@	1678.03	9.54	1.00E+26		1.00E+26	1.00E+20
CS-136	153.22	7.46	4.62E+00	5.10E-01	1.94E+00	2.24E+00
	163.89	4.61	6.73E+00		-1.68E+00	3.24E+00
	176.55	13.56	2.46E+00		-3.43E-01	1.19E+00
	273.65	12.66	3.55E+00		-1.11E-01	1.71E+00
	340.57	48.50	1.24E+00		2.09E+00	6.02E-01
	818.50	99.70	5.10E-01		1.94E-01	2.34E-01
	1048.07	79.60	7.54E-01		2.77E-01	3.44E-01
	1235.34	19.70	3.99E+00		-6.30E-01	1.85E+00
CS-137	661.65	85.12	1.22E-01	1.22E-01	5.01E-02	5.73E-02
LA-138	788.74	34.00	3.14E-01	1.58E-01	4.98E-02	1.45E-01
	1435.80	66.00	1.58E-01		1.25E-02	6.91E-02
CE-139	165.85	80.35	9.05E-02	9.05E-02	1.85E-02	4.37E-02
BA-140	162.64	6.70	4.96E+00	1.94E+00	2.59E-01	2.39E+00
	304.84	4.50	9.44E+00		-4.50E+00	4.51E+00
	423.70	3.20	1.53E+01		-1.60E+00	7.27E+00
	437.55	2.00	2.25E+01		4.98E+00	1.06E+01
	537.32	25.00	1.94E+00		-4.33E-01	9.08E-01
LA-140	328.77	20.50	2.34E+00	7.36E-01	-2.67E-01	1.12E+00
	487.03	45.50	1.03E+00		2.52E-01	4.85E-01
	815.85	23.50	2.21E+00		-1.38E-02	1.01E+00
	1596.49	95.49	7.36E-01		8.83E-02	3.28E-01
CE-141	145.44	48.40	2.55E-01	2.55E-01	-3.69E-02	1.23E-01
CE-143	57.36	11.80	5.40E+06	1.80E+06	1.66E+06	2.64E+06
	293.26	42.00	1.80E+06		-8.70E+04	8.75E+05
	664.55	5.20	1.49E+07		1.12E+07	6.97E+06
CE-144	133.54	10.80	6.02E-01	6.02E-01	-6.94E-01	2.91E-01
PM-144	476.78	42.00	2.21E-01	1.03E-01	-2.91E-02	1.04E-01
	618.01	98.60	1.03E-01		-1.44E-02	4.79E-02
	696.49	99.49	1.12E-01		-9.52E-04	5.23E-02
PM-145	36.85	21.70	7.75E-01	4.15E-01	-2.94E-02	3.76E-01
	37.36	39.70	4.15E-01		1.86E-01	2.02E-01
	42.30	15.10	8.38E-01		-6.87E-01	4.08E-01
	72.40	2.31	4.21E+00		-6.17E+00	2.06E+00
PM-146	453.90	39.94	2.13E-01	2.13E-01	-1.45E-01	1.00E-01
	735.90	14.01	7.78E-01		3.86E-01	3.63E-01
	747.13	13.10	8.12E-01		-4.19E-01	3.77E-01
ND-147	91.11	28.90	2.06E+00	2.06E+00	-1.05E+00	1.01E+00
	531.02	13.10	4.56E+00		-4.27E-01	2.13E+00
PM-149	285.90	3.10	4.49E+04	4.49E+04	1.11E+04	2.15E+04
EU-152	121.78	20.50	2.88E-01	2.88E-01	-8.27E-02	1.39E-01

Analysis Report for 1510091-09

CP1807S16-17

	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	1.77E+00	2.88E-01	1.37E-01	8.58E-01
		344.27		19.13	4.24E-01		1.13E-02	2.02E-01
		778.89		9.20	1.14E+00		5.81E-01	5.29E-01
		964.01		10.40	1.43E+00		-1.65E+00	6.68E-01
		1085.78		7.22	1.91E+00		1.27E+00	8.85E-01
		1112.02		9.60	1.14E+00		1.00E-01	5.16E-01
		1407.95		14.94	6.89E-01		-1.05E-01	3.02E-01
	GD-153	97.43		31.30	2.10E-01	2.10E-01	-2.81E-01	1.02E-01
		103.18		22.20	2.97E-01		8.61E-02	1.44E-01
	EU-154	123.07		40.50	1.51E-01	1.51E-01	3.89E-02	7.34E-02
		723.30		19.70	5.78E-01		-8.35E-01	2.71E-01
		873.19		11.50	9.37E-01		3.26E-01	4.31E-01
		996.32		10.30	1.18E+00		2.32E-01	5.44E-01
		1004.76		17.90	6.35E-01		3.23E-02	2.90E-01
		1274.45		35.50	4.25E-01		2.75E-01	1.96E-01
	EU-155	86.50		30.90	2.68E-01	2.68E-01	8.44E-02	1.31E-01
		105.30		20.70	2.96E-01		1.17E-01	1.44E-01
	EU-156	811.77		10.40	3.68E+00	3.68E+00	6.53E-01	1.68E+00
		1153.47		7.20	8.87E+00		1.92E+00	4.12E+00
		1230.71		8.90	7.20E+00		6.68E-01	3.33E+00
	HO-166M	184.41		72.60	1.10E-01	1.10E-01	1.40E-01	5.33E-02
		280.45		29.60	2.82E-01		9.79E-02	1.36E-01
		410.94		11.10	7.96E-01		-6.37E-02	3.78E-01
		711.69		54.10	2.08E-01		1.14E-01	9.72E-02
	TM-171	66.72		0.14	6.29E+01	6.29E+01	-3.67E+00	3.08E+01
	HF-172	81.75		4.52	1.61E+00	5.47E-01	-6.06E+00	7.87E-01
		125.81		11.30	5.47E-01		-4.89E-02	2.65E-01
	LU-172	181.53		20.60	7.98E+00	5.04E+00	-2.68E-01	3.85E+00
		810.06		16.63	1.43E+01		-1.25E+00	6.56E+00
		912.12		15.25	3.30E+01		6.42E+01	1.57E+01
		1093.66		62.50	5.04E+00		-1.04E-01	2.31E+00
	LU-173	100.72		5.24	1.22E+00	4.42E-01	1.11E-01	5.92E-01
		272.11		21.20	4.42E-01		1.33E-01	2.13E-01
	HF-175	343.40		84.00	1.38E-01	1.38E-01	2.12E-02	6.60E-02
	LU-176	88.34		13.30	6.42E-01	8.52E-02	9.17E-01	3.15E-01
		201.83		86.00	9.00E-02		-2.55E-02	4.36E-02
		306.78		94.00	8.52E-02		3.36E-02	4.08E-02
	TA-182	67.75		41.20	2.42E-01	2.42E-01	-6.30E-02	1.18E-01
		1121.30		34.90	5.98E-01		5.78E-01	2.81E-01
		1189.05		16.23	9.56E-01		-1.81E-01	4.37E-01
		1221.41		26.98	7.37E-01		1.12E-01	3.43E-01
		1231.02		11.44	1.58E+00		-8.46E-02	7.31E-01
	IR-192	308.46		29.68	3.52E-01	2.46E-01	-1.08E-02	1.68E-01
		468.07		48.10	2.46E-01		5.30E-02	1.16E-01
	HG-203	279.19		77.30	1.74E-01	1.74E-01	7.17E-02	8.38E-02
	BI-207	569.67		97.72	1.00E-01	1.00E-01	1.83E-02	4.70E-02
		1063.62		74.90	1.34E-01		1.32E-02	6.03E-02
+	TL-208	583.14	*	30.22	4.64E-01	2.45E-01	1.64E+00	2.22E-01
		860.37	*	4.48	4.80E+00		2.58E+00	2.31E+00
		2614.66	*	35.85	2.45E-01		1.22E+00	9.59E-02
	BI-210M	262.00		45.00	1.66E-01	1.66E-01	-9.79E-02	7.94E-02
		300.00		23.00	4.16E-01		-8.50E-01	2.01E-01
	PB-210	46.50		4.25	2.65E+00	2.65E+00	9.48E-02	1.29E+00

Analysis Report for 1510091-09

CP1807S16-17

	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	3.03E+00	3.03E+00	-1.64E-01	1.44E+00
		831.96		2.90	3.43E+00		-1.46E+00	1.57E+00
+	BI-212	727.17	*	11.80	1.46E+00	1.46E+00	1.12E+00	6.99E-01
		1620.62		2.75	4.15E+00		2.40E-01	1.82E+00
+	PB-212	238.63	*	44.60	3.34E-01	3.34E-01	1.88E+00	1.64E-01
		300.09	*	3.41	1.79E+00		2.41E+00	8.47E-01
+	BI-214	609.31	*	46.30	3.58E-01	2.50E-01	1.12E+00	1.72E-01
		1120.29	*	15.10	8.47E-01		1.68E+00	3.88E-01
		1764.49	*	15.80	2.50E-01		1.71E+00	7.74E-02
		2204.22	*	4.98	1.86E+00		1.74E+00	7.54E-01
+	PB-214	295.21	*	19.19	5.95E-01	2.96E-01	9.56E-01	2.89E-01
		351.92	*	37.19	2.96E-01		1.27E+00	1.43E-01
	RN-219	401.80		6.50	1.34E+00	1.34E+00	2.58E-01	6.36E-01
	RA-223	323.87		3.88	2.15E+00	2.15E+00	-1.38E+00	1.03E+00
+	RA-224	240.98	*	3.95	3.87E+00	3.87E+00	4.36E+00	1.90E+00
	RA-225	40.00		31.00	1.95E+00	1.95E+00	-6.23E-01	9.46E-01
+	RA-226	186.21	*	3.28	3.36E+00	3.36E+00	2.95E+00	1.65E+00
	TH-227	50.10		8.40	1.14E+00	1.14E+00	-1.78E+00	5.54E-01
		236.00		11.50	1.30E+00		3.91E+00	6.38E-01
		256.20		6.30	1.27E+00		4.39E-01	6.11E-01
+	AC-228	338.32	*	11.40	1.12E+00	4.74E-01	2.05E+00	5.45E-01
		911.07	*	27.70	4.74E-01		1.45E+00	2.21E-01
		969.11	*	16.60	1.15E+00		1.80E+00	5.46E-01
	TH-230	48.44		16.90	6.18E-01	6.18E-01	-2.76E-01	3.01E-01
		62.85		4.60	2.05E+00		1.55E+00	1.00E+00
		67.67		0.37	2.23E+01		-5.81E+00	1.09E+01
	PA-231	283.67		1.60	4.81E+00	3.97E+00	3.14E-01	2.30E+00
		302.67		2.30	3.97E+00		-6.36E-01	1.91E+00
	TH-231	25.64		14.70	4.03E+00	1.13E+00	-1.86E+00	1.96E+00
		84.21		6.40	1.13E+00		-1.84E+00	5.53E-01
	PA-233	311.98		38.60	4.56E-01	4.56E-01	4.12E-02	2.18E-01
	PA-234	131.20		20.40	3.25E-01	3.25E-01	2.95E-01	1.58E-01
		733.99		8.80	1.12E+00		2.58E-01	5.18E-01
		946.00		12.00	8.51E-01		-4.38E-02	3.87E-01
	PA-234M	1001.03		0.92	1.25E+01	1.25E+01	-2.71E+00	5.74E+00
+	TH-234	63.29	*	3.80	4.38E+00	4.38E+00	3.79E+00	2.16E+00
	U-235	143.76		10.50	6.11E-01	6.11E-01	2.10E-01	2.96E-01
		163.35		4.70	1.27E+00		-3.17E-01	6.12E-01
		205.31		4.70	1.70E+00		-2.94E-02	8.23E-01
	NP-237	86.50		12.60	6.50E-01	6.50E-01	2.05E-01	3.18E-01
	NP-239	106.10		22.70	2.64E+03	2.64E+03	9.99E+02	1.28E+03
		228.18		10.70	7.64E+03		-6.75E+02	3.69E+03
		277.60		14.10	5.91E+03		1.46E+03	2.84E+03
	AM-241	59.54		35.90	2.49E-01	2.49E-01	-3.02E-01	1.22E-01
	AM-243	74.67		66.00	1.75E-01	1.75E-01	3.16E-01	8.61E-02
+	CM-243	209.75	*	3.29	2.97E+00	5.58E-01	2.28E+00	1.45E+00
		228.14		10.60	7.79E-01		-6.88E-02	3.77E-01
		277.60	*	14.00	5.58E-01		3.42E-01	2.67E-01

Analysis Report for 1510091-09

CP1807S16-17

+ = 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

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: CP1807S16-17

Elapsed Live time: 3600
Elapsed Real Time: 3616

Channel								
1:	0	0	0	0	0	0	0	0
9:	15	188	175	140	120	96	81	102
17:	72	65	85	72	62	70	92	67
25:	101	74	73	74	83	66	84	84
33:	84	73	75	79	81	83	90	89
41:	76	84	97	97	85	115	138	78
49:	79	99	93	102	110	99	84	115
57:	107	115	109	124	120	122	173	177
65:	130	126	132	132	119	98	126	129
73:	140	154	351	288	387	433	117	92
81:	101	90	85	142	113	112	161	199
89:	114	170	121	109	200	181	94	66
97:	57	69	79	98	69	65	69	65
105:	97	71	65	67	62	69	65	66
113:	65	62	67	72	59	57	75	59
121:	66	62	77	52	80	59	61	68
129:	84	102	73	55	66	54	58	74
137:	63	89	65	57	54	65	69	61
145:	78	51	63	59	67	60	61	53
153:	61	70	79	59	47	49	61	51
161:	56	37	48	63	49	43	48	53
169:	52	51	51	53	64	56	45	46
177:	60	44	58	46	49	44	52	56
185:	56	103	104	53	56	50	45	56
193:	51	37	37	52	57	33	44	44
201:	37	45	44	55	38	44	54	39
209:	66	81	40	33	34	41	37	47
217:	31	34	44	30	34	43	38	50
225:	39	40	34	46	45	47	38	38
233:	44	44	45	40	54	180	523	197
241:	92	100	72	38	40	24	39	35
249:	37	31	31	29	33	30	33	33
257:	34	33	29	33	22	28	26	22
265:	27	22	41	31	30	54	55	32
273:	37	22	28	20	44	45	32	27
281:	22	29	27	30	21	16	30	28
289:	22	24	17	19	25	37	103	111
297:	41	30	34	52	55	18	20	27
305:	26	25	14	29	29	16	24	18
313:	21	18	30	26	17	25	20	15
321:	26	19	25	26	29	17	22	47
329:	28	23	17	25	28	24	22	22
337:	26	84	106	35	17	25	14	19
345:	19	26	18	17	24	14	52	189
353:	120	29	22	18	15	21	18	22
361:	28	20	17	14	20	21	14	20

369:	9	18	19	19	16	17	21	17

Sample Title: CP1807S16-17

Channel								
377:	17	18	21	18	22	18	15	25
385:	22	28	18	21	10	16	18	24
393:	15	16	16	17	15	14	16	18
401:	20	17	19	15	17	14	20	21
409:	16	31	21	5	14	13	17	16
417:	10	8	14	25	19	12	14	23
425:	19	16	16	21	12	19	10	16
433:	11	11	20	13	14	11	9	17
441:	10	12	13	19	8	16	15	13
449:	16	18	14	13	13	15	12	11
457:	13	13	23	17	13	18	29	30
465:	10	9	12	12	19	14	19	20
473:	12	7	20	8	14	19	12	10
481:	14	10	12	12	10	13	15	14
489:	14	6	9	11	11	18	11	11
497:	19	16	13	11	13	12	11	13
505:	16	17	15	19	15	38	74	50
513:	15	21	7	22	6	11	12	11
521:	8	12	16	20	18	9	8	7
529:	8	9	9	21	6	6	14	11
537:	11	17	5	11	13	9	15	14
545:	16	13	12	16	13	5	5	8
553:	13	10	18	13	13	9	21	10
561:	14	8	14	9	13	5	12	14
569:	17	10	9	15	5	10	13	4
577:	7	10	9	13	14	22	102	98
585:	19	12	8	13	5	16	11	11
593:	5	11	10	20	17	16	16	9
601:	15	6	7	13	13	16	13	24
609:	97	98	27	8	12	11	12	9
617:	9	10	7	5	15	6	18	11
625:	14	10	9	6	6	13	10	6
633:	8	4	6	11	9	13	13	12
641:	11	12	7	12	8	14	8	4
649:	8	8	7	7	11	6	10	11
657:	7	4	4	7	10	13	10	13
665:	14	14	6	9	6	5	7	11
673:	17	17	9	11	8	7	7	18
681:	11	7	11	9	11	2	8	6
689:	15	11	14	20	10	11	12	10
697:	7	5	11	6	10	9	12	5
705:	9	12	7	6	14	9	12	8
713:	7	10	13	10	5	3	14	13
721:	12	9	10	11	4	13	29	23
729:	12	12	5	3	10	5	8	10
737:	11	10	9	7	9	16	9	8
745:	7	9	9	8	8	9	13	7
753:	7	5	11	8	8	7	7	15
761:	3	9	3	6	6	6	14	12
769:	10	7	11	13	14	4	4	4
777:	17	4	8	9	6	5	6	5
785:	8	9	9	10	8	4	5	9
793:	6	9	19	13	8	6	5	5

801:	6	1	2	6	8	7	12	3

Sample Title: CP1807S16-17

Channel								
809:	4	5	5	7	3	6	7	2
817:	7	8	7	7	4	5	3	7
825:	4	11	6	2	6	6	10	7
833:	4	4	5	11	10	10	9	9
841:	10	6	5	12	3	5	4	11
849:	6	6	4	9	6	4	8	8
857:	5	12	13	13	22	9	5	6
865:	3	7	6	12	5	5	5	9
873:	9	7	3	7	7	2	3	10
881:	3	9	1	5	9	4	7	4
889:	4	7	6	8	7	7	6	2
897:	8	6	9	5	7	5	9	8
905:	7	7	9	8	2	22	72	46
913:	7	0	5	3	4	2	6	11
921:	10	8	8	4	12	5	5	10
929:	1	5	7	2	7	16	6	8
937:	8	7	4	3	4	7	7	1
945:	5	5	6	7	4	5	5	5
953:	4	5	4	7	1	3	4	7
961:	8	6	8	10	18	13	12	16
969:	44	26	8	4	10	3	4	4
977:	10	7	5	4	8	6	5	7
985:	5	5	9	5	7	7	4	3
993:	5	9	6	9	7	8	2	8
1001:	6	3	8	6	3	9	3	7
1009:	2	6	5	4	9	5	5	11
1017:	3	5	11	1	6	4	6	8
1025:	8	2	3	11	5	6	2	5
1033:	5	5	1	3	6	3	4	3
1041:	7	5	1	6	8	4	3	6
1049:	4	5	8	4	4	6	5	6
1057:	9	12	6	3	1	5	3	6
1065:	4	5	6	5	5	5	7	6
1073:	5	4	5	1	6	5	7	9
1081:	5	3	7	10	5	8	7	5
1089:	10	3	5	5	7	7	9	5
1097:	3	6	7	7	5	6	7	2
1105:	9	4	2	3	5	4	4	5
1113:	6	1	5	4	6	7	4	18
1121:	33	13	2	3	3	8	2	5
1129:	7	5	6	4	9	10	6	5
1137:	2	6	6	7	7	3	5	5
1145:	3	5	5	4	11	6	9	7
1153:	7	7	11	12	11	3	10	8
1161:	7	6	7	2	8	8	5	10
1169:	13	4	5	7	8	11	3	4
1177:	6	4	8	4	8	10	5	6
1185:	6	5	2	8	6	7	5	5
1193:	6	7	4	7	4	9	9	6
1201:	7	3	5	9	4	12	7	9
1209:	8	6	9	4	3	8	6	10
1217:	6	6	9	8	10	8	11	10
1225:	10	6	11	3	7	12	11	6

1233:	3	8	5	6	10	13	14	7

Sample Title: CP1807S16-17

Channel								
1241:	9	9	7	5	3	2	6	3
1249:	7	3	2	5	2	7	8	5
1257:	5	4	4	8	7	4	5	7
1265:	5	3	3	3	3	2	7	2
1273:	7	9	7	5	4	4	3	2
1281:	2	5	6	4	5	2	4	4
1289:	1	1	1	3	3	4	2	3
1297:	5	9	4	5	4	2	6	3
1305:	4	3	9	5	4	8	4	6
1313:	2	1	3	3	4	2	5	3
1321:	1	4	2	2	7	2	2	1
1329:	1	7	3	2	9	7	4	3
1337:	4	3	4	1	2	3	2	2
1345:	1	1	5	3	3	1	4	5
1353:	4	2	2	1	3	1	3	2
1361:	3	6	2	1	3	2	1	2
1369:	2	2	3	2	4	4	2	4
1377:	8	1	1	2	1	5	2	1
1385:	2	4	2	4	0	3	1	2
1393:	3	2	2	3	0	2	4	2
1401:	2	2	2	1	1	2	4	2
1409:	1	1	2	3	3	2	1	2
1417:	2	5	1	1	2	4	1	1
1425:	1	3	5	1	3	1	2	3
1433:	2	2	2	1	2	2	1	3
1441:	0	2	1	3	2	2	4	2
1449:	4	1	3	0	1	3	2	6
1457:	1	5	43	145	197	93	7	1
1465:	2	1	0	2	0	1	1	4
1473:	1	1	1	3	0	0	0	4
1481:	1	2	0	1	0	1	0	2
1489:	0	0	1	1	1	1	2	3
1497:	0	0	2	5	1	2	0	1
1505:	1	1	1	1	0	0	2	1
1513:	3	2	1	5	2	1	0	1
1521:	1	1	2	3	0	1	2	3
1529:	1	2	1	0	2	2	0	2
1537:	0	2	3	1	1	0	1	1
1545:	1	1	1	1	1	4	0	3
1553:	2	1	3	3	3	2	2	0
1561:	3	2	0	1	4	2	2	0
1569:	2	2	0	2	0	0	1	1
1577:	1	1	2	2	0	0	1	1
1585:	4	1	3	6	4	4	6	6
1593:	9	2	2	0	1	2	1	0
1601:	0	0	2	1	0	1	1	0
1609:	1	0	2	0	1	3	1	1
1617:	0	1	5	3	1	3	0	3
1625:	3	0	1	0	4	3	3	0
1633:	2	0	2	2	4	2	2	0
1641:	0	2	1	0	0	0	1	1
1649:	0	0	0	1	1	1	0	1
1657:	2	0	2	0	2	3	0	1

1665:	1	0	2	0	1	0	2	0

Sample Title: CP1807S16-17

Channel								
1673:	1	1	0	1	1	1	0	0
1681:	1	2	2	0	2	0	1	0
1689:	1	2	0	1	2	0	2	2
1697:	1	0	2	0	3	0	0	2
1705:	2	0	0	0	2	0	2	0
1713:	1	4	1	1	0	2	1	0
1721:	1	1	1	0	2	1	0	2
1729:	3	4	0	1	0	0	0	0
1737:	2	0	0	0	1	1	1	0
1745:	0	2	1	0	1	1	3	1
1753:	0	1	1	0	1	0	3	0
1761:	0	1	7	14	21	3	1	1
1769:	2	0	0	2	2	0	1	2
1777:	2	1	1	3	0	0	1	6
1785:	2	0	0	0	1	0	2	0
1793:	0	1	0	1	0	0	1	0
1801:	3	0	0	1	1	2	2	1
1809:	1	0	1	0	0	1	0	1
1817:	0	3	3	1	0	2	0	1
1825:	0	2	2	2	0	0	2	0
1833:	2	0	0	0	2	0	0	1
1841:	1	2	1	2	0	2	2	0
1849:	1	0	1	2	3	2	0	3
1857:	1	1	3	0	1	0	1	0
1865:	2	0	2	1	1	1	0	1
1873:	2	2	0	0	1	2	0	0
1881:	1	0	1	2	0	2	1	1
1889:	0	1	0	2	0	0	2	3
1897:	4	2	1	0	1	0	3	0
1905:	1	1	1	0	1	1	2	1
1913:	1	0	0	1	1	0	2	2
1921:	1	3	0	0	0	2	1	0
1929:	0	1	0	4	4	0	0	1
1937:	0	0	1	1	1	1	0	0
1945:	0	1	0	0	3	1	0	0
1953:	1	0	1	1	0	0	2	0
1961:	1	1	0	0	1	1	2	0
1969:	0	1	2	2	1	0	0	1
1977:	0	0	2	0	0	1	0	1
1985:	1	0	0	2	0	0	0	0
1993:	0	0	0	2	1	0	1	0
2001:	1	2	0	3	1	0	0	2
2009:	0	1	1	0	0	3	2	0
2017:	0	0	1	0	0	1	1	0
2025:	0	0	0	0	0	0	1	1
2033:	1	1	1	1	0	2	0	2
2041:	0	1	2	2	2	2	0	0
2049:	0	3	0	1	1	2	3	1
2057:	0	0	1	1	2	1	0	0
2065:	1	0	2	0	1	1	0	2
2073:	1	2	1	1	0	0	0	1
2081:	2	1	0	2	1	0	1	0
2089:	2	0	0	1	1	0	1	1

2097:	1	0	0	2	1	3	2	7

Sample Title: CP1807S16-17

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

2529:	0	0	0	0	1	1	0	0

Sample Title: CP1807S16-17

Channel								
2537:	0	1	0	0	0	1	0	0
2545:	0	0	1	0	0	0	1	0
2553:	0	1	0	0	1	1	0	0
2561:	0	0	1	0	0	0	0	0
2569:	1	0	1	0	0	0	0	0
2577:	0	0	0	0	0	0	1	1
2585:	0	0	1	0	1	0	0	0
2593:	0	0	0	2	0	0	0	0
2601:	0	1	0	1	1	0	0	0
2609:	0	0	0	2	17	23	17	4
2617:	1	0	1	0	0	1	0	0
2625:	0	1	0	0	0	0	0	1
2633:	0	0	0	1	0	1	0	0
2641:	1	2	0	0	0	1	0	1
2649:	0	0	0	0	1	1	0	1
2657:	1	0	0	0	0	2	0	0
2665:	0	0	0	0	0	1	0	0
2673:	0	0	0	0	0	0	1	0
2681:	0	0	1	0	0	1	0	1
2689:	0	0	0	0	0	1	0	0
2697:	0	1	0	0	0	0	0	0
2705:	1	1	0	0	0	0	0	0
2713:	1	1	0	0	0	0	0	0
2721:	0	1	0	0	0	1	1	1
2729:	1	0	0	0	1	0	0	0
2737:	1	1	0	0	1	0	0	0
2745:	0	0	0	0	0	0	0	0
2753:	0	1	1	0	0	0	0	0
2761:	0	0	0	0	1	1	0	0
2769:	0	0	1	0	0	0	0	0
2777:	1	0	0	0	0	0	0	1
2785:	1	0	0	1	0	0	0	0
2793:	0	0	0	0	0	0	0	0
2801:	0	0	0	0	0	0	0	1
2809:	0	0	0	1	0	0	0	1
2817:	0	0	0	0	0	1	0	0
2825:	0	0	0	0	0	1	0	0
2833:	0	0	0	0	0	1	1	0
2841:	0	1	0	0	0	0	0	0
2849:	0	0	0	0	0	1	0	0
2857:	0	0	0	0	0	1	0	0
2865:	0	0	0	1	0	0	1	0
2873:	1	0	0	1	0	0	0	0
2881:	0	0	0	0	0	0	0	0
2889:	0	0	1	2	0	0	0	1
2897:	0	0	0	0	0	0	0	0
2905:	1	2	0	0	1	0	0	0
2913:	1	0	0	0	0	1	0	1
2921:	0	0	1	1	0	0	0	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:	2	0	0	0	1	0	0	1

2961:	0	0	0	0	0	0	0	0

Sample Title: CP1807S16-17

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

3393:	0	0	0	0	1	0	0	0

Sample Title: CP1807S16-17

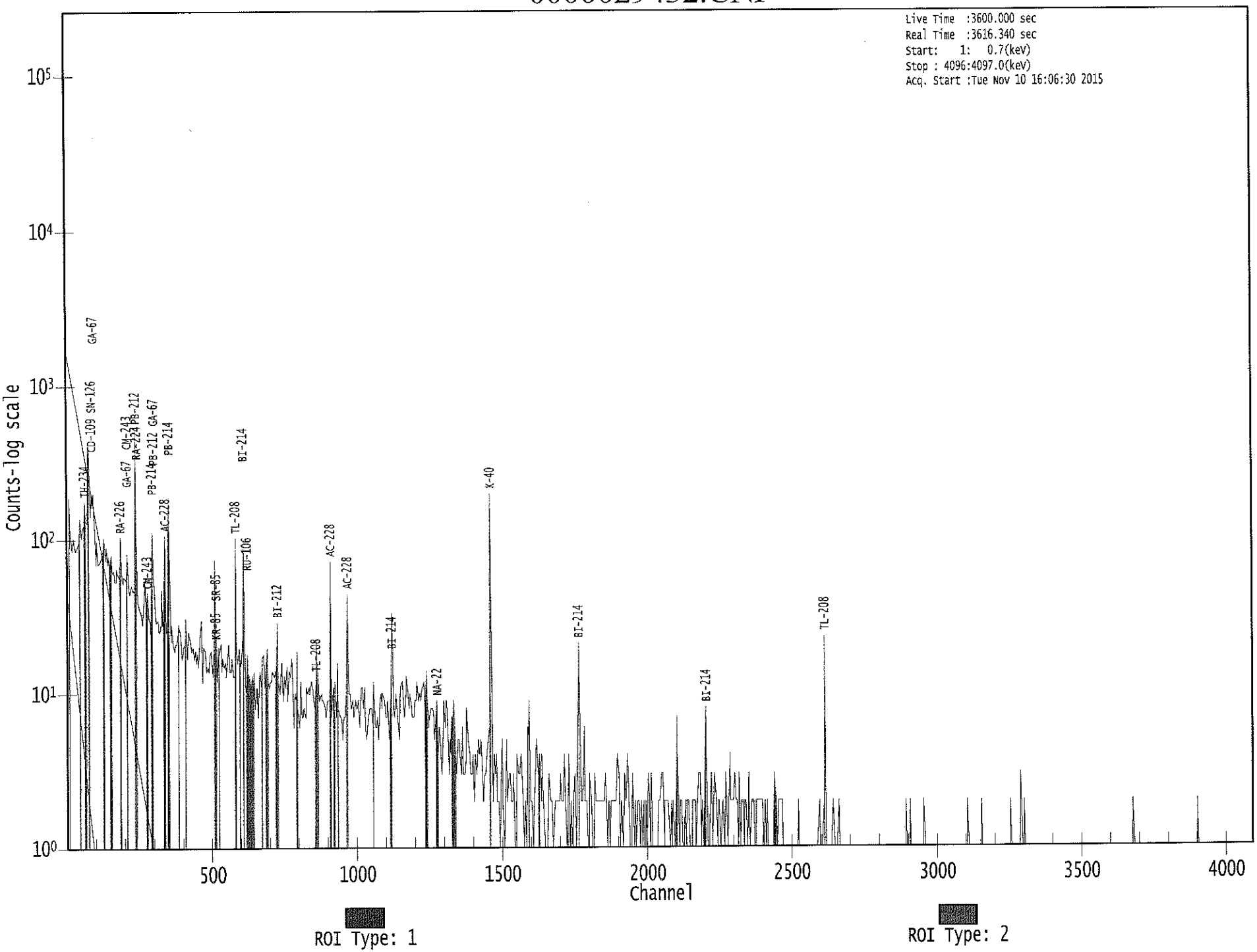
Channel								
3401:	0	1	0	0	0	0	0	0
3409:	0	0	0	0	1	0	0	1
3417:	0	0	0	0	0	0	0	0
3425:	0	0	0	0	1	0	0	0
3433:	0	1	0	1	0	0	0	0
3441:	0	0	0	0	1	0	0	0
3449:	0	0	0	1	0	0	0	0
3457:	0	0	0	0	0	0	0	1
3465:	0	1	0	0	0	0	0	0
3473:	0	0	0	0	0	1	1	0
3481:	0	0	0	1	0	0	0	0
3489:	0	0	0	0	0	0	0	1
3497:	0	0	0	0	1	0	0	0
3505:	0	0	0	0	0	0	0	0
3513:	0	0	0	0	1	1	1	0
3521:	0	0	0	0	0	0	0	1
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	1	0	0	0	0	0	0
3569:	0	0	0	0	0	0	0	0
3577:	0	0	0	0	0	0	0	0
3585:	0	0	0	0	0	0	0	0
3593:	0	0	0	0	0	1	0	0
3601:	0	0	0	0	1	1	0	0
3609:	0	0	0	0	0	0	0	0
3617:	0	0	0	0	1	0	0	0
3625:	0	0	0	1	0	0	0	0
3633:	0	0	0	1	0	0	0	0
3641:	0	0	0	0	0	0	0	1
3649:	0	0	0	0	0	0	0	0
3657:	0	0	1	0	0	0	0	0
3665:	0	0	0	0	0	0	0	1
3673:	0	0	0	0	2	0	0	0
3681:	0	0	0	1	0	0	0	0
3689:	0	0	0	0	0	0	0	0
3697:	0	0	0	0	0	1	0	1
3705:	0	0	0	0	0	0	0	0
3713:	0	0	0	0	0	0	0	0
3721:	0	1	1	0	0	0	0	0
3729:	0	0	0	0	0	0	0	0
3737:	0	0	0	0	0	0	0	0
3745:	0	0	0	0	0	0	0	0
3753:	0	1	0	0	0	0	0	0
3761:	0	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0
3777:	0	1	0	0	0	0	0	0
3785:	0	0	1	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	1	0	0	0
3817:	0	0	0	0	0	0	0	0

3825:	0	0	0	0	0	0	0	0

Sample Title: CP1807S16-17

Channel								
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	0	0	1	0	0
3849:	0	0	1	0	0	1	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	1	1	1	0	0	0	1
3897:	0	0	0	0	2	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	1	0	0	0
3929:	0	0	1	0	0	0	0	0
3937:	0	0	1	0	0	0	1	0
3945:	0	0	0	0	0	0	0	1
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	0	0	0	1	0
3985:	0	0	1	0	0	0	0	0
3993:	0	0	0	0	0	0	0	0
4001:	0	0	0	0	0	0	0	0
4009:	0	0	0	0	0	0	0	0
4017:	0	0	0	0	1	0	0	0
4025:	0	0	0	1	0	0	1	1
4033:	0	0	0	0	0	0	0	0
4041:	1	1	0	0	1	0	0	0
4049:	0	0	0	0	0	0	0	0
4057:	0	0	1	0	0	0	0	0
4065:	0	1	0	0	0	0	0	0
4073:	0	0	0	0	0	0	0	0
4081:	0	0	0	0	0	0	0	0
4089:	1	0	0	0	1	0	0	0

0000029432.CNF



Apex-Gamma

Analysis Report for 1510091-10
CP1807S18-19

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1510091-10
Sample Description	: CP1807S18-19
Sample Type	: SOIL
Sample Size	: 5.338E+02 grams
Facility	: Countroom
Sample Taken On	: 10/10/2015 10:15:32AM
Acquisition Started	: 11/10/2015 4:12:40PM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE2
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3601.1 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	: 29433

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510091-10

CP1807S18-19

PEAK LOCATE REPORT

Peak Locate Performed on : 11/10/2015 5:12:44PM
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	76.43	76.51	0.0000	0.00
2	84.38	84.46	0.0000	0.00
3	86.95	87.04	0.0000	0.00
4	99.85	99.92	0.0000	0.00
5	114.08	114.14	0.0000	0.00
6	129.77	129.82	0.0000	0.00
7	185.98	186.01	0.0000	0.00
8	223.61	223.61	0.0000	0.00
9	238.95	238.95	0.0000	0.00
10	241.99	241.98	0.0000	0.00
11	270.10	270.08	0.0000	0.00
12	295.73	295.70	0.0000	0.00
13	328.02	327.97	0.0000	0.00
14	338.43	338.38	0.0000	0.00
15	351.97	351.91	0.0000	0.00
16	462.78	462.66	0.0000	0.00
17	473.07	472.94	0.0000	0.00
18	511.22	511.08	0.0000	0.00
19	583.42	583.24	0.0000	0.00
20	602.54	602.36	0.0000	0.00
21	609.42	609.22	0.0000	0.00
22	663.87	663.65	0.0000	0.00
23	727.28	727.03	0.0000	0.00
24	767.99	767.73	0.0000	0.00
25	834.24	833.95	0.0000	0.00
26	845.70	845.40	0.0000	0.00
27	911.25	910.93	0.0000	0.00
28	969.33	968.98	0.0000	0.00
29	1000.96	1000.60	0.0000	0.00
30	1120.48	1120.07	0.0000	0.00
31	1261.73	1261.28	0.0000	0.00
32	1266.13	1265.67	0.0000	0.00
33	1377.51	1377.02	0.0000	0.00
34	1385.91	1385.41	0.0000	0.00
35	1460.89	1460.37	0.0000	0.00
36	1542.97	1542.43	0.0000	0.00
37	1557.05	1556.50	0.0000	0.00
38	1661.12	1660.55	0.0000	0.00
39	1714.21	1713.62	0.0000	0.00
40	1729.94	1729.34	0.0000	0.00
41	1764.56	1763.95	0.0000	0.00
42	1778.78	1778.17	0.0000	0.00

Analysis Report for 1510091-10

CP1807S18-19

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1847.00	1846.37	0.0000	0.00
44	1900.36	1899.72	0.0000	0.00
45	2001.55	2000.89	0.0000	0.00
46	2103.78	2103.11	0.0000	0.00
47	2204.49	2203.80	0.0000	0.00
48	2263.65	2262.94	0.0000	0.00
49	2273.88	2273.17	0.0000	0.00
50	2284.14	2283.44	0.0000	0.00
51	2614.06	2613.32	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510091-10

CP1807S18-19

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 5:12:44PM

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	76.43	72 -	83	76.51	7.93E+02	148.39	2.33E+03	3.77
M	2	84.38	83 -	89	84.46	5.79E+01	56.39	7.03E+02	1.29
m	3	86.95	83 -	89	87.04	1.33E+02	62.29	8.18E+02	1.47
	4	99.85	98 -	102	99.92	4.51E+01	52.83	5.74E+02	2.73
	5	114.08	112 -	116	114.14	4.54E+01	53.36	5.95E+02	3.02
	6	129.77	126 -	134	129.82	1.13E+02	80.39	9.31E+02	1.82
	7	185.98	182 -	189	186.01	2.03E+02	70.29	6.88E+02	1.34
	8	223.61	220 -	226	223.61	6.08E+01	53.00	4.62E+02	1.57
M	9	238.95	235 -	245	238.95	6.66E+02	63.81	2.53E+02	1.41
m	10	241.99	235 -	245	241.98	1.34E+02	43.59	2.73E+02	1.42
	11	270.10	267 -	272	270.08	7.72E+01	42.33	2.92E+02	1.68
	12	295.73	291 -	303	295.70	2.64E+02	80.01	6.25E+02	1.64
	13	328.02	325 -	331	327.97	3.88E+01	45.75	3.56E+02	1.20
	14	338.43	335 -	342	338.38	1.31E+02	49.72	3.27E+02	1.69
	15	351.97	348 -	354	351.91	4.07E+02	56.46	2.84E+02	1.36
	16	462.78	459 -	466	462.66	4.62E+01	35.27	1.78E+02	1.72
	17	473.07	471 -	475	472.94	1.85E+01	22.16	9.30E+01	2.80
	18	511.22	506 -	516	511.08	1.81E+02	48.99	2.18E+02	2.89
	19	583.42	579 -	587	583.24	2.16E+02	41.27	1.26E+02	1.65
M	20	602.54	601 -	620	602.36	1.89E+01	11.40	3.34E+01	2.05
m	21	609.42	601 -	620	609.22	2.81E+02	37.61	6.35E+01	1.77
	22	663.87	657 -	670	663.65	4.02E+01	43.16	1.90E+02	9.30
	23	727.28	722 -	732	727.03	7.83E+01	33.66	1.07E+02	1.87
	24	767.99	764 -	770	767.73	2.84E+01	25.91	1.01E+02	2.15
	25	834.24	822 -	841	833.95	6.09E+01	45.21	1.50E+02	15.78
	26	845.70	842 -	849	845.40	3.52E+01	21.91	5.76E+01	3.29
	27	911.25	907 -	915	910.93	1.63E+02	35.63	9.50E+01	1.68
	28	969.33	965 -	972	968.98	6.38E+01	35.33	1.60E+02	1.35
	29	1000.96	998 -	1003	1000.60	2.40E+01	17.49	4.20E+01	3.62
	30	1120.48	1115 -	1124	1120.07	8.09E+01	31.29	9.01E+01	1.67
M	31	1261.73	1259 -	1268	1261.28	1.47E+01	11.14	1.89E+01	2.81
m	32	1266.13	1259 -	1268	1265.67	1.12E+01	15.17	2.96E+01	2.92
	33	1377.51	1372 -	1380	1377.02	3.41E+01	15.91	1.78E+01	2.68
	34	1385.91	1382 -	1389	1385.41	1.90E+01	11.14	8.00E+00	4.73
	35	1460.89	1454 -	1464	1460.37	5.25E+02	46.24	4.62E+00	2.25
	36	1542.97	1539 -	1546	1542.43	1.28E+01	8.72	4.33E+00	1.81
	37	1557.05	1554 -	1559	1556.50	7.00E+00	7.62	6.00E+00	1.31
	38	1661.12	1657 -	1663	1660.55	6.31E+00	6.65	3.38E+00	2.36
	39	1714.21	1711 -	1717	1713.62	5.50E+00	7.78	7.00E+00	1.94
	40	1729.94	1725 -	1732	1729.34	1.25E+01	12.00	1.50E+01	2.98

Analysis Report for 1510091-10

CP1807S18-19

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1764.56	1759 -	1768	1763.95	5.15E+01	17.64	1.50E+01	2.64
42	1778.78	1776 -	1780	1778.17	6.00E+00	4.90	0.00E+00	1.98
43	1847.00	1842 -	1850	1846.37	1.39E+01	9.18	4.13E+00	2.73
44	1900.36	1896 -	1903	1899.72	9.23E+00	7.75	3.55E+00	3.73
45	2001.55	1998 -	2003	2000.89	5.57E+00	6.08	2.86E+00	2.68
46	2103.78	2097 -	2110	2103.11	2.20E+01	14.63	1.40E+01	3.07
47	2204.49	2199 -	2207	2203.80	1.50E+01	7.75	0.00E+00	1.50
48	2263.65	2259 -	2267	2262.94	7.50E+00	9.41	9.00E+00	6.13
49	2273.88	2269 -	2276	2273.17	9.31E+00	9.17	7.38E+00	3.58
50	2284.14	2278 -	2288	2283.44	1.60E+01	8.00	0.00E+00	3.13
51	2614.06	2605 -	2619	2613.32	9.60E+01	19.60	0.00E+00	2.85

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 : 11/10/2015 5:12:44PM

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	76.43	72 -	83	7.93E+02	148.39	2.33E+03	1.13E+02
M	2	84.38	83 -	89	5.79E+01	56.39	7.03E+02	4.36E+01
m	3	86.95	83 -	89	1.33E+02	62.29	8.18E+02	4.70E+01
	4	99.85	98 -	102	4.51E+01	52.83	5.74E+02	4.20E+01
	5	114.08	112 -	116	4.54E+01	53.36	5.95E+02	4.24E+01
	6	129.77	126 -	134	1.13E+02	80.39	9.31E+02	6.37E+01
	7	185.98	182 -	189	2.03E+02	70.29	6.88E+02	5.28E+01
	8	223.61	220 -	226	6.08E+01	53.00	4.62E+02	4.16E+01
M	9	238.95	235 -	245	6.66E+02	63.81	2.53E+02	2.62E+01
m	10	241.99	235 -	245	1.34E+02	43.59	2.73E+02	2.72E+01
	11	270.10	267 -	272	7.72E+01	42.33	2.92E+02	3.17E+01
	12	295.73	291 -	303	2.64E+02	80.01	6.25E+02	2.30E+01
	13	328.02	325 -	331	3.88E+01	45.75	3.56E+02	3.62E+01
	14	338.43	335 -	342	1.31E+02	49.72	3.27E+02	3.63E+01
	15	351.97	348 -	354	4.07E+02	56.46	2.84E+02	3.25E+01
	16	462.78	459 -	466	4.62E+01	35.27	1.78E+02	2.68E+01
	17	473.07	471 -	475	1.85E+01	22.16	9.30E+01	1.68E+01

Analysis Report for 1510091-10

CP1807S18-19

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	18	511.22	506 -	516	1.81E+02	48.99	2.18E+02	3.36E+01
	19	583.42	579 -	587	2.16E+02	41.27	1.26E+02	2.38E+01
M	20	602.54	601 -	620	1.89E+01	11.40	3.34E+01	9.50E+00
m	21	609.42	601 -	620	2.81E+02	37.61	6.35E+01	1.31E+01
	22	663.87	657 -	670	4.02E+01	43.16	1.90E+02	3.39E+01
	23	727.28	722 -	732	7.83E+01	33.66	1.07E+02	2.35E+01
	24	767.99	764 -	770	2.84E+01	25.91	1.01E+02	1.94E+01
	25	834.24	822 -	841	6.09E+01	45.21	1.50E+02	3.49E+01
	26	845.70	842 -	849	3.52E+01	21.91	5.76E+01	1.51E+01
	27	911.25	907 -	915	1.63E+02	35.63	9.50E+01	2.04E+01
	28	969.33	965 -	972	6.38E+01	35.33	1.60E+02	2.59E+01
	29	1000.96	998 -	1003	2.40E+01	17.49	4.20E+01	1.19E+01
	30	1120.48	1115 -	1124	8.09E+01	31.29	9.01E+01	2.10E+01
M	31	1261.73	1259 -	1268	1.47E+01	11.14	1.89E+01	7.15E+00
m	32	1266.13	1259 -	1268	1.12E+01	15.17	2.96E+01	8.94E+00
	33	1377.51	1372 -	1380	3.41E+01	15.91	1.78E+01	8.87E+00
	34	1385.91	1382 -	1389	1.90E+01	11.14	8.00E+00	5.70E+00
	35	1460.89	1454 -	1464	5.25E+02	46.24	4.62E+00	5.17E+00
	36	1542.97	1539 -	1546	1.28E+01	8.72	4.33E+00	4.08E+00
	37	1557.05	1554 -	1559	7.00E+00	7.62	6.00E+00	4.50E+00
	38	1661.12	1657 -	1663	6.31E+00	6.65	3.38E+00	3.58E+00
	39	1714.21	1711 -	1717	5.50E+00	7.78	7.00E+00	5.10E+00
	40	1729.94	1725 -	1732	1.25E+01	12.00	1.50E+01	7.97E+00
	41	1764.56	1759 -	1768	5.15E+01	17.64	1.50E+01	8.43E+00
	42	1778.78	1776 -	1780	6.00E+00	4.90	0.00E+00	0.00E+00
	43	1847.00	1842 -	1850	1.39E+01	9.18	4.13E+00	4.39E+00
	44	1900.36	1896 -	1903	9.23E+00	7.75	3.55E+00	3.95E+00
	45	2001.55	1998 -	2003	5.57E+00	6.08	2.86E+00	3.15E+00
	46	2103.78	2097 -	2110	2.20E+01	14.63	1.40E+01	9.23E+00
	47	2204.49	2199 -	2207	1.50E+01	7.75	0.00E+00	0.00E+00
	48	2263.65	2259 -	2267	7.50E+00	9.41	9.00E+00	6.29E+00
	49	2273.88	2269 -	2276	9.31E+00	9.17	7.38E+00	5.62E+00
	50	2284.14	2278 -	2288	1.60E+01	8.00	0.00E+00	0.00E+00
	51	2614.06	2605 -	2619	9.60E+01	19.60	0.00E+00	0.00E+00

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

Analysis Report for 1510091-10

CP1807S18-19

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/10/2015 5:12:44PM

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	76.43	72 -	83	76.51	7.93E+02	148.39	2.33E+03	.....
M	2	84.38	83 -	89	84.46	5.79E+01	56.39	7.03E+02	TH-231
m	3	86.95	83 -	89	87.04	1.33E+02	62.29	8.18E+02	NP-237
									EU-155
									SN-126
	4	99.85	98 -	102	99.92	4.51E+01	52.83	5.74E+02	LU-173
	5	114.08	112 -	116	114.14	4.54E+01	53.36	5.95E+02	.....
	6	129.77	126 -	134	129.82	1.13E+02	80.39	9.31E+02	.....
	7	185.98	182 -	189	186.01	2.03E+02	70.29	6.88E+02	RA-226
	8	223.61	220 -	226	223.61	6.08E+01	53.00	4.62E+02	.....
M	9	238.95	235 -	245	238.95	6.66E+02	63.81	2.53E+02	PB-212
m	10	241.99	235 -	245	241.98	1.34E+02	43.59	2.73E+02	.....
	11	270.10	267 -	272	270.08	7.72E+01	42.33	2.92E+02	.....
	12	295.73	291 -	303	295.70	2.64E+02	80.01	6.25E+02	PB-214
	13	328.02	325 -	331	327.97	3.88E+01	45.75	3.56E+02	LA-140
	14	338.43	335 -	342	338.38	1.31E+02	49.72	3.27E+02	AC-228
	15	351.97	348 -	354	351.91	4.07E+02	56.46	2.84E+02	PB-214
	16	462.78	459 -	466	462.66	4.62E+01	35.27	1.78E+02	SB-125
	17	473.07	471 -	475	472.94	1.85E+01	22.16	9.30E+01	SB-127
	18	511.22	506 -	516	511.08	1.81E+02	48.99	2.18E+02	.....
	19	583.42	579 -	587	583.24	2.16E+02	41.27	1.26E+02	TL-208
M	20	602.54	601 -	620	602.36	1.89E+01	11.40	3.34E+01	SB-124
m	21	609.42	601 -	620	609.22	2.81E+02	37.61	6.35E+01	BI-214
	22	663.87	657 -	670	663.65	4.02E+01	43.16	1.90E+02	CE-143
	23	727.28	722 -	732	727.03	7.83E+01	33.66	1.07E+02	BI-212
	24	767.99	764 -	770	767.73	2.84E+01	25.91	1.01E+02	.....
	25	834.24	822 -	841	833.95	6.09E+01	45.21	1.50E+02	MN-54
	26	845.70	842 -	849	845.40	3.52E+01	21.91	5.76E+01	.....
	27	911.25	907 -	915	910.93	1.63E+02	35.63	9.50E+01	AC-228
									LU-172
	28	969.33	965 -	972	968.98	6.38E+01	35.33	1.60E+02	AC-228
	29	1000.96	998 -	1003	1000.60	2.40E+01	17.49	4.20E+01	PA-234M
	30	1120.48	1115 -	1124	1120.07	8.09E+01	31.29	9.01E+01	SC-46
									BI-214
									TA-182
M	31	1261.73	1259 -	1268	1261.28	1.47E+01	11.14	1.89E+01	.....
m	32	1266.13	1259 -	1268	1265.67	1.12E+01	15.17	2.96E+01	.....
	33	1377.51	1372 -	1380	1377.02	3.41E+01	15.91	1.78E+01	.....
	34	1385.91	1382 -	1389	1385.41	1.90E+01	11.14	8.00E+00	.....
	35	1460.89	1454 -	1464	1460.37	5.25E+02	46.24	4.62E+00	K-40
	36	1542.97	1539 -	1546	1542.43	1.28E+01	8.72	4.33E+00	.....

Analysis Report for 1510091-10

CP1807S18-19

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
37	1557.05	1554 -	1559	1556.50	7.00E+00	7.62	6.00E+00	.....
38	1661.12	1657 -	1663	1660.55	6.31E+00	6.65	3.38E+00	.....
39	1714.21	1711 -	1717	1713.62	5.50E+00	7.78	7.00E+00	.....
40	1729.94	1725 -	1732	1729.34	1.25E+01	12.00	1.50E+01	.....
41	1764.56	1759 -	1768	1763.95	5.15E+01	17.64	1.50E+01	BI-214
42	1778.78	1776 -	1780	1778.17	6.00E+00	4.90	0.00E+00	.....
43	1847.00	1842 -	1850	1846.37	1.39E+01	9.18	4.13E+00	.....
44	1900.36	1896 -	1903	1899.72	9.23E+00	7.75	3.55E+00	.....
45	2001.55	1998 -	2003	2000.89	5.57E+00	6.08	2.86E+00	.....
46	2103.78	2097 -	2110	2103.11	2.20E+01	14.63	1.40E+01	.....
47	2204.49	2199 -	2207	2203.80	1.50E+01	7.75	0.00E+00	BI-214
48	2263.65	2259 -	2267	2262.94	7.50E+00	9.41	9.00E+00	.....
49	2273.88	2269 -	2276	2273.17	9.31E+00	9.17	7.38E+00	.....
50	2284.14	2278 -	2288	2283.44	1.60E+01	8.00	0.00E+00	.....
51	2614.06	2605 -	2619	2613.32	9.60E+01	19.60	0.00E+00	TL-208

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/10/2015 5:12:44PM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	76.43	7.93E+02	148.39	2.74E-02	3.35E-03
M	2	84.38	5.79E+01	56.39	2.83E-02	4.14E-03
m	3	86.95	1.33E+02	62.29	2.84E-02	4.40E-03
	4	99.85	4.51E+01	52.83	2.83E-02	3.98E-03
	5	114.08	4.54E+01	53.36	2.74E-02	3.34E-03
	6	129.77	1.13E+02	80.39	2.60E-02	2.76E-03
	7	185.98	2.03E+02	70.29	2.11E-02	1.65E-03
	8	223.61	6.08E+01	53.00	1.87E-02	1.61E-03
M	9	238.95	6.66E+02	63.81	1.79E-02	1.60E-03
m	10	241.99	1.34E+02	43.59	1.77E-02	1.60E-03
	11	270.10	7.72E+01	42.33	1.64E-02	1.57E-03
	12	295.73	2.64E+02	80.01	1.55E-02	1.48E-03
	13	328.02	3.88E+01	45.75	1.44E-02	1.32E-03
	14	338.43	1.31E+02	49.72	1.41E-02	1.27E-03
	15	351.97	4.07E+02	56.46	1.37E-02	1.21E-03

Analysis Report for 1510091-10

CP1807S18-19

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	16	462.78	4.62E+01	35.27	1.13E-02	9.47E-04
	17	473.07	1.85E+01	22.16	1.12E-02	9.37E-04
	18	511.22	1.81E+02	48.99	1.06E-02	8.98E-04
	19	583.42	2.16E+02	41.27	9.58E-03	8.25E-04
M	20	602.54	1.89E+01	11.40	9.35E-03	8.05E-04
m	21	609.42	2.81E+02	37.61	9.27E-03	7.98E-04
	22	663.87	4.02E+01	43.16	8.68E-03	7.44E-04
	23	727.28	7.83E+01	33.66	8.09E-03	7.03E-04
	24	767.99	2.84E+01	25.91	7.74E-03	6.77E-04
	25	834.24	6.09E+01	45.21	7.25E-03	6.34E-04
	26	845.70	3.52E+01	21.91	7.17E-03	6.27E-04
	27	911.25	1.63E+02	35.63	6.74E-03	5.87E-04
	28	969.33	6.38E+01	35.33	6.41E-03	5.57E-04
	29	1000.96	2.40E+01	17.49	6.25E-03	5.41E-04
	30	1120.48	8.09E+01	31.29	5.70E-03	4.80E-04
M	31	1261.73	1.47E+01	11.14	5.20E-03	4.94E-04
m	32	1266.13	1.12E+01	15.17	5.18E-03	4.96E-04
	33	1377.51	3.41E+01	15.91	4.87E-03	5.08E-04
	34	1385.91	1.90E+01	11.14	4.85E-03	5.04E-04
	35	1460.89	5.25E+02	46.24	4.67E-03	4.73E-04
	36	1542.97	1.28E+01	8.72	4.51E-03	4.39E-04
	37	1557.05	7.00E+00	7.62	4.48E-03	4.33E-04
	38	1661.12	6.31E+00	6.65	4.32E-03	3.90E-04
	39	1714.21	5.50E+00	7.78	4.25E-03	3.68E-04
	40	1729.94	1.25E+01	12.00	4.23E-03	3.62E-04
	41	1764.56	5.15E+01	17.64	4.19E-03	3.47E-04
	42	1778.78	6.00E+00	4.90	4.17E-03	3.42E-04
	43	1847.00	1.39E+01	9.18	4.10E-03	3.18E-04
	44	1900.36	9.23E+00	7.75	4.06E-03	3.18E-04
	45	2001.55	5.57E+00	6.08	3.99E-03	3.18E-04
	46	2103.78	2.20E+01	14.63	3.95E-03	3.18E-04
	47	2204.49	1.50E+01	7.75	3.93E-03	3.18E-04
	48	2263.65	7.50E+00	9.41	3.93E-03	3.18E-04
	49	2273.88	9.31E+00	9.17	3.93E-03	3.18E-04
	50	2284.14	1.60E+01	8.00	3.93E-03	3.18E-04
	51	2614.06	9.60E+01	19.60	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 : 11/10/2015 5:12:44PM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

Analysis Report for 1510091-10

CP1807S18-19

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	76.43	7.93E+02	148.39			7.93E+02	1.48E+02
M	2	84.38	5.79E+01	56.39			5.79E+01	5.64E+01
m	3	86.95	1.33E+02	62.29	1.46E+00	7.88E+00	1.32E+02	6.28E+01
	4	99.85	4.51E+01	52.83			4.51E+01	5.28E+01
	5	114.08	4.54E+01	53.36			4.54E+01	5.34E+01
	6	129.77	1.13E+02	80.39			1.13E+02	8.04E+01
	7	185.98	2.03E+02	70.29	4.72E+01	7.97E+00	1.56E+02	7.07E+01
	8	223.61	6.08E+01	53.00			6.08E+01	5.30E+01
M	9	238.95	6.66E+02	63.81	2.36E+01	1.35E+01	6.43E+02	6.52E+01
m	10	241.99	1.34E+02	43.59	6.38E+00	3.91E+00	1.28E+02	4.38E+01
	11	270.10	7.72E+01	42.33			7.72E+01	4.23E+01
	12	295.73	2.64E+02	80.01	8.57E+00	6.10E+00	2.55E+02	8.02E+01
	13	328.02	3.88E+01	45.75	0.00E+00	0.00E+00	3.88E+01	4.57E+01
	14	338.43	1.31E+02	49.72			1.31E+02	4.97E+01
	15	351.97	4.07E+02	56.46	1.40E+01	5.55E+00	3.93E+02	5.67E+01
	16	462.78	4.62E+01	35.27			4.62E+01	3.53E+01
	17	473.07	1.85E+01	22.16			1.85E+01	2.22E+01
	18	511.22	1.81E+02	48.99	8.41E+01	5.50E+00	9.71E+01	4.93E+01
	19	583.42	2.16E+02	41.27	7.32E+00	4.08E+00	2.09E+02	4.15E+01
M	20	602.54	1.89E+01	11.40			1.89E+01	1.14E+01
m	21	609.42	2.81E+02	37.61	1.30E+01	3.89E+00	2.68E+02	3.78E+01
	22	663.87	4.02E+01	43.16			4.02E+01	4.32E+01
	23	727.28	7.83E+01	33.66			7.83E+01	3.37E+01
	24	767.99	2.84E+01	25.91			2.84E+01	2.59E+01
	25	834.24	6.09E+01	45.21			6.09E+01	4.52E+01
	26	845.70	3.52E+01	21.91			3.52E+01	2.19E+01
	27	911.25	1.63E+02	35.63	5.60E+00	3.32E+00	1.58E+02	3.58E+01
	28	969.33	6.38E+01	35.33			6.38E+01	3.53E+01
	29	1000.96	2.40E+01	17.49			2.40E+01	1.75E+01
	30	1120.48	8.09E+01	31.29	3.93E+00	2.96E+00	7.70E+01	3.14E+01
M	31	1261.73	1.47E+01	11.14			1.47E+01	1.11E+01
m	32	1266.13	1.12E+01	15.17			1.12E+01	1.52E+01
	33	1377.51	3.41E+01	15.91			3.41E+01	1.59E+01
	34	1385.91	1.90E+01	11.14			1.90E+01	1.11E+01
	35	1460.89	5.25E+02	46.24	1.12E+01	2.55E+00	5.13E+02	4.63E+01
	36	1542.97	1.28E+01	8.72			1.28E+01	8.72E+00
	37	1557.05	7.00E+00	7.62			7.00E+00	7.62E+00
	38	1661.12	6.31E+00	6.65			6.31E+00	6.65E+00
	39	1714.21	5.50E+00	7.78			5.50E+00	7.78E+00
	40	1729.94	1.25E+01	12.00			1.25E+01	1.20E+01
	41	1764.56	5.15E+01	17.64	4.23E+00	2.21E+00	4.73E+01	1.78E+01
	42	1778.78	6.00E+00	4.90			6.00E+00	4.90E+00
	43	1847.00	1.39E+01	9.18			1.39E+01	9.18E+00
	44	1900.36	9.23E+00	7.75			9.23E+00	7.75E+00
	45	2001.55	5.57E+00	6.08			5.57E+00	6.08E+00
	46	2103.78	2.20E+01	14.63			2.20E+01	1.46E+01
	47	2204.49	1.50E+01	7.75	5.94E-01	1.16E+00	1.44E+01	7.83E+00
	48	2263.65	7.50E+00	9.41			7.50E+00	9.41E+00
	49	2273.88	9.31E+00	9.17			9.31E+00	9.17E+00
	50	2284.14	1.60E+01	8.00			1.60E+01	8.00E+00
	51	2614.06	9.60E+01	19.60	7.38E+00	1.57E+00	8.86E+01	1.97E+01

Analysis Report for 1510091-10

CP1807S18-19

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 : 11/10/2015 5:12:44PM

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	76.43	7.93E+02	148.39			7.93E+02	1.48E+02
M	2	84.38	5.79E+01	56.39			5.79E+01	5.64E+01
m	3	86.95	1.33E+02	62.29	1.46E+00	7.88E+00	1.32E+02	6.28E+01
	4	99.85	4.51E+01	52.83			4.51E+01	5.28E+01
	5	114.08	4.54E+01	53.36			4.54E+01	5.34E+01
	6	129.77	1.13E+02	80.39			1.13E+02	8.04E+01
	7	185.98	2.03E+02	70.29	4.72E+01	7.97E+00	1.56E+02	7.07E+01
	8	223.61	6.08E+01	53.00			6.08E+01	5.30E+01
M	9	238.95	6.66E+02	63.81	2.36E+01	1.35E+01	6.43E+02	6.52E+01
m	10	241.99	1.34E+02	43.59	6.38E+00	3.91E+00	1.28E+02	4.38E+01
	11	270.10	7.72E+01	42.33			7.72E+01	4.23E+01
	12	295.73	2.64E+02	80.01	8.57E+00	6.10E+00	2.55E+02	8.02E+01
	13	328.02	3.88E+01	45.75	0.00E+00	0.00E+00	3.88E+01	4.57E+01
	14	338.43	1.31E+02	49.72			1.31E+02	4.97E+01
	15	351.97	4.07E+02	56.46	1.40E+01	5.55E+00	3.93E+02	5.67E+01
	16	462.78	4.62E+01	35.27			4.62E+01	3.53E+01
	17	473.07	1.85E+01	22.16			1.85E+01	2.22E+01
	18	511.22	1.81E+02	48.99	8.41E+01	5.50E+00	9.71E+01	4.93E+01
	19	583.42	2.16E+02	41.27	7.32E+00	4.08E+00	2.09E+02	4.15E+01
M	20	602.54	1.89E+01	11.40			1.89E+01	1.14E+01
m	21	609.42	2.81E+02	37.61	1.30E+01	3.89E+00	2.68E+02	3.78E+01
	22	663.87	4.02E+01	43.16			4.02E+01	4.32E+01
	23	727.28	7.83E+01	33.66			7.83E+01	3.37E+01
	24	767.99	2.84E+01	25.91			2.84E+01	2.59E+01
	25	834.24	6.09E+01	45.21			6.09E+01	4.52E+01
	26	845.70	3.52E+01	21.91			3.52E+01	2.19E+01
	27	911.25	1.63E+02	35.63	5.60E+00	3.32E+00	1.58E+02	3.58E+01
	28	969.33	6.38E+01	35.33			6.38E+01	3.53E+01
	29	1000.96	2.40E+01	17.49			2.40E+01	1.75E+01
	30	1120.48	8.09E+01	31.29	3.93E+00	2.96E+00	7.70E+01	3.14E+01
M	31	1261.73	1.47E+01	11.14			1.47E+01	1.11E+01
m	32	1266.13	1.12E+01	15.17			1.12E+01	1.52E+01

Analysis Report for 1510091-10

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Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
33	1377.51	3.41E+01	15.91			3.41E+01	1.59E+01
34	1385.91	1.90E+01	11.14			1.90E+01	1.11E+01
35	1460.89	5.25E+02	46.24	1.12E+01	2.55E+00	5.13E+02	4.63E+01
36	1542.97	1.28E+01	8.72			1.28E+01	8.72E+00
37	1557.05	7.00E+00	7.62			7.00E+00	7.62E+00
38	1661.12	6.31E+00	6.65			6.31E+00	6.65E+00
39	1714.21	5.50E+00	7.78			5.50E+00	7.78E+00
40	1729.94	1.25E+01	12.00			1.25E+01	1.20E+01
41	1764.56	5.15E+01	17.64	4.23E+00	2.21E+00	4.73E+01	1.78E+01
42	1778.78	6.00E+00	4.90			6.00E+00	4.90E+00
43	1847.00	1.39E+01	9.18			1.39E+01	9.18E+00
44	1900.36	9.23E+00	7.75			9.23E+00	7.75E+00
45	2001.55	5.57E+00	6.08			5.57E+00	6.08E+00
46	2103.78	2.20E+01	14.63			2.20E+01	1.46E+01
47	2204.49	1.50E+01	7.75	5.94E-01	1.16E+00	1.44E+01	7.83E+00
48	2263.65	7.50E+00	9.41			7.50E+00	9.41E+00
49	2273.88	9.31E+00	9.17			9.31E+00	9.17E+00
50	2284.14	1.60E+01	8.00			1.60E+01	8.00E+00
51	2614.06	9.60E+01	19.60	7.38E+00	1.57E+00	8.86E+01	1.97E+01

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

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	1.45E+01	1.99E+00
MN-54	0.946	834.83	*	99.97	1.27E-01	9.47E-02
SB-124	0.452	602.71	*	97.87	4.16E-02	2.54E-02
		645.85		7.26		
		722.78		11.10		
		1691.02		49.00		
SN-126	0.941	87.57	*	37.00	1.77E-01	8.84E-02
EU-155	0.341	86.50	*	30.90	2.14E-01	1.07E-01
		105.30		20.70		
TL-208	0.859	583.14	*	30.22	1.02E+00	2.20E-01
		860.37		4.48		
		2614.66	*	35.85	8.58E-01	2.02E-01

Analysis Report for 1510091-10

CP1807S18-19

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
BI-212	0.764	727.17	*	11.80	1.15E+00	5.06E-01
		1620.62		2.75		
PB-212	0.879	238.63	*	44.60	1.14E+00	1.54E-01
		300.09		3.41		
BI-214	0.997	609.31	*	46.30	8.80E-01	1.45E-01
		1120.29	*	15.10	1.26E+00	5.24E-01
		1764.49	*	15.80	1.01E+00	3.87E-01
		2204.22	*	4.98	1.04E+00	5.69E-01
PB-214	0.985	295.21	*	19.19	1.21E+00	3.98E-01
		351.92	*	37.19	1.08E+00	1.83E-01
RA-226	0.992	186.21	*	3.28	3.17E+00	5.98E+00
AC-228	0.995	338.32	*	11.40	1.14E+00	4.47E-01
		911.07	*	27.70	1.19E+00	2.89E-01
		969.11	*	16.60	8.43E-01	4.72E-01
TH-231	0.610	25.64		14.70		
		84.21	*	6.40	4.50E-01	4.43E-01
PA-234M	0.999	1001.03	*	0.92	5.87E+00	4.31E+00
NP-237	0.968	86.50	*	12.60	5.18E-01	2.60E-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 : 11/10/2015 5:12:44PM
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	76.43	2.20248E-01	9.36		
	4	99.85	1.25234E-02	58.58	Tol.	LU-173
	5	114.08	1.26166E-02	58.74		
	6	129.77	3.12937E-02	35.68		
	8	223.61	1.68912E-02	43.58		
m	10	241.99	3.54807E-02	17.13		
	11	270.10	2.14325E-02	27.43	Sum	
	13	328.02	1.07840E-02	58.92	Tol.	LA-140
	16	462.78	1.28272E-02	38.19		
	17	473.07	5.13248E-03	59.98	Tol.	SB-127
	18	511.22	2.69638E-02	25.39		

Analysis Report for 1510091-10

CP1807S18-19

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	22	663.87	1.11739E-02	53.65	Tol.	CE-143
	24	767.99	7.88678E-03	45.63		
	26	845.70	9.78299E-03	31.10		
M	31	1261.73	4.07716E-03	37.93		
m	32	1266.13	3.10990E-03	67.77		
	33	1377.51	9.47674E-03	23.31		
	34	1385.91	5.27778E-03	29.30		
	36	1542.97	3.56482E-03	33.97		
	37	1557.05	1.94444E-03	54.40		
	38	1661.12	1.75347E-03	52.69		
	39	1714.21	1.52778E-03	70.71		
	40	1729.94	3.47222E-03	48.00	Sum	
	42	1778.78	1.66667E-03	40.82		
	43	1847.00	3.87153E-03	32.93	Sum	
	44	1900.36	2.56313E-03	41.97		
	45	2001.55	1.54762E-03	54.59	Sum	
	46	2103.78	6.11111E-03	33.25	S-Esc	
	48	2263.65	2.08333E-03	62.72		
	49	2273.88	2.58547E-03	49.23		
	50	2284.14	4.44444E-03	25.00		

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	0.99	1460.81	*	10.67	1.45E+01	1.99E+00
MN-54	0.94	834.83	*	99.97	1.27E-01	9.47E-02
SB-124	0.45	602.71	*	97.87	4.16E-02	2.54E-02
		645.85		7.26		
		722.78		11.10		
		1691.02		49.00		
SN-126	0.94	87.57	*	37.00	1.77E-01	8.84E-02
EU-155	0.34	86.50	*	30.90	2.14E-01	1.07E-01

Analysis Report for 1510091-10
CP1807S18-19

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
EU-155	0.34	105.30		20.70		
TL-208	0.85	583.14	*	30.22	1.02E+00	2.20E-01
		860.37		4.48		
		2614.66	*	35.85	8.58E-01	2.02E-01
BI-212	0.76	727.17	*	11.80	1.15E+00	5.06E-01
		1620.62		2.75		
PB-212	0.87	238.63	*	44.60	1.14E+00	1.54E-01
		300.09		3.41		
BI-214	0.99	609.31	*	46.30	8.80E-01	1.45E-01
		1120.29	*	15.10	1.26E+00	5.24E-01
		1764.49	*	15.80	1.01E+00	3.87E-01
		2204.22	*	4.98	1.04E+00	5.69E-01
PB-214	0.98	295.21	*	19.19	1.21E+00	3.98E-01
		351.92	*	37.19	1.08E+00	1.83E-01
RA-226	0.99	186.21	*	3.28	3.17E+00	5.98E+00
AC-228	0.99	338.32	*	11.40	1.14E+00	4.47E-01
		911.07	*	27.70	1.19E+00	2.89E-01
		969.11	*	16.60	8.43E-01	4.72E-01
TH-231	0.61	25.64		14.70		
		84.21	*	6.40	4.50E-01	4.43E-01
PA-234M	0.99	1001.03	*	0.92	5.87E+00	4.31E+00
NP-237	0.96	86.50	*	12.60	5.18E-01	2.60E-01

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40	0.999	1.45E+01	1.99E+00	
	MN-54	0.946	1.27E-01	9.47E-02	
	SB-124	0.452	4.16E-02	2.54E-02	
?	SN-126	0.941	1.77E-01	8.84E-02	
?	EU-155	0.341	2.14E-01	1.07E-01	

Analysis Report for 1510091-10

CP1807S18-19

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	TL-208	0.859	9.30E-01	1.49E-01	
	BI-212	0.764	1.15E+00	5.06E-01	
	PB-212	0.879	1.14E+00	1.54E-01	
	BI-214	0.997	9.24E-01	1.28E-01	
	PB-214	0.985	1.11E+00	1.66E-01	
	RA-226	0.992	3.17E+00	5.98E+00	
	AC-228	0.995	1.11E+00	2.16E-01	
	TH-231	0.610	4.50E-01	4.43E-01	
	PA-234M	0.999	5.87E+00	4.31E+00	
?	NP-237	0.968	5.18E-01	2.60E-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 1510091-10

CP1807S18-19

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 5:12:44PM
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	76.43	2.20248E-01	9.36		
	4	99.85	1.25234E-02	58.58	Tol.	LU-173
	5	114.08	1.26166E-02	58.74		
	6	129.77	3.12937E-02	35.68		
	8	223.61	1.68912E-02	43.58		
m	10	241.99	3.54807E-02	17.13		
	11	270.10	2.14325E-02	27.43	Sum	
	13	328.02	1.07840E-02	58.92	Tol.	LA-140
	16	462.78	1.28272E-02	38.19		
	17	473.07	5.13248E-03	59.98	Tol.	SB-127
	18	511.22	2.69638E-02	25.39		
	22	663.87	1.11739E-02	53.65	Tol.	CE-143
	24	767.99	7.88678E-03	45.63		
	26	845.70	9.78299E-03	31.10		
M	31	1261.73	4.07716E-03	37.93		
m	32	1266.13	3.10990E-03	67.77		
	33	1377.51	9.47674E-03	23.31		
	34	1385.91	5.27778E-03	29.30		
	36	1542.97	3.56482E-03	33.97		
	37	1557.05	1.94444E-03	54.40		
	38	1661.12	1.75347E-03	52.69		
	39	1714.21	1.52778E-03	70.71		
	40	1729.94	3.47222E-03	48.00	Sum	
	42	1778.78	1.66667E-03	40.82		
	43	1847.00	3.87153E-03	32.93	Sum	
	44	1900.36	2.56313E-03	41.97		
	45	2001.55	1.54762E-03	54.59	Sum	
	46	2103.78	6.11111E-03	33.25	S-Esc	
	48	2263.65	2.08333E-03	62.72		
	49	2273.88	2.58547E-03	49.23		
	50	2284.14	4.44444E-03	25.00		

Analysis Report for 1510091-10

CP1807S18-19

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59		10.42	-1.83E-02	6.97E-01	6.97E-01
+	NA-22	1274.54		99.94	-2.06E-03	6.99E-02	6.99E-02
+	NA-24	1368.53		99.99	1.70E+13	3.61E+13	8.11E+13
		2754.09		99.86	-7.78E+12		3.61E+13
+	AL-26	1808.65		99.76	-2.18E-02	4.47E-02	4.47E-02
+	K-40	1460.81	*	10.67	1.45E+01	5.19E-01	5.19E-01
+	@ AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	-8.76E-03	4.90E-02	4.90E-02
		78.34		96.00	2.74E-01		7.11E-02
+	SC-46	889.25		99.98	1.69E-02	8.98E-02	8.98E-02
		1120.51		99.99	2.65E-01		1.66E-01
+	V-48	983.52		99.98	-6.56E-02	2.39E-01	2.39E-01
		1312.10		97.50	6.74E-02		2.73E-01
+	CR-51	320.08		9.83	4.28E-01	1.15E+00	1.15E+00
+	MN-54	834.83	*	99.97	1.27E-01	1.51E-01	1.51E-01
+	CO-56	846.75		99.96	8.31E-02	1.00E-01	1.00E-01
		1037.75		14.03	-5.94E-02		6.91E-01
		1238.25		67.00	-6.75E-03		2.05E-01
		1771.40		15.51	1.29E-01		4.76E-01
		2598.48		16.90	-9.04E-03		2.00E-01
+	CO-57	122.06		85.51	3.64E-02	5.67E-02	5.67E-02
		136.48		10.60	-9.70E-02		4.78E-01
+	CO-58	810.76		99.40	1.43E-02	9.31E-02	9.31E-02
+	FE-59	1099.22		56.50	-7.05E-02	1.88E-01	1.88E-01
		1291.56		43.20	-4.08E-02		2.59E-01
+	CO-60	1173.22		100.00	1.12E-02	5.91E-02	9.13E-02
		1332.49		100.00	-1.64E-02		5.91E-02
+	ZN-65	1115.52		50.75	-5.14E-03	1.87E-01	1.87E-01
+	GA-67	93.31		35.70	1.84E+02	1.29E+02	1.29E+02
		208.95		2.24	3.74E+02		1.84E+03
		300.22		16.00	8.38E+01		2.52E+02
+	SE-75	121.11		16.70	4.67E-02	9.34E-02	3.19E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	SE-75	136.00		59.20	1.63E-02	9.34E-02	9.34E-02
		264.65		59.80	1.66E-03		1.02E-01
		279.53		25.20	9.71E-02		2.41E-01
		400.65		11.40	-2.29E-01		5.16E-01
+	RB-82	776.52		13.00	-9.60E-02	1.20E+00	1.20E+00
+	RB-83	520.41		46.00	4.84E-02	1.44E-01	1.44E-01
		529.64		30.30	6.38E-02		2.43E-01
		552.65		16.40	-2.80E-02		3.90E-01
+	KR-85	513.99		0.43	-1.04E+00	1.52E+01	1.52E+01
+	SR-85	513.99		99.27	-6.34E-03	9.22E-02	9.22E-02
+	Y-88	898.02		93.40	1.26E-02	7.94E-02	9.26E-02
		1836.01		99.38	1.58E-02		7.94E-02
+	NB-93M	16.57		9.43	-6.57E+03	5.42E+03	5.42E+03
+	NB-94	702.63		100.00	4.94E-03	6.81E-02	6.81E-02
		871.10		100.00	3.01E-02		7.29E-02
+	NB-95	765.79		99.81	1.15E-01	1.54E-01	1.54E-01
+	NB-95M	235.69		25.00	-8.80E+02	1.18E+02	1.18E+02
+	ZR-95	724.18		43.70	1.38E-01	1.82E-01	2.63E-01
		756.72		55.30	-5.05E-03		1.82E-01
+	MO-99	181.06		6.20	-5.08E+02	1.41E+03	1.99E+03
		739.58		12.80	2.74E+02		1.41E+03
		778.00		4.50	-1.11E+03		3.73E+03
+	RU-103	497.08		89.00	-3.66E-02	9.63E-02	9.63E-02
+	RU-106	621.84		9.80	2.58E-01	6.85E-01	6.85E-01
+	AG-108M	433.93		89.90	4.69E-03	5.42E-02	5.42E-02
		614.37		90.40	-5.77E-01		6.29E-02
		722.95		90.50	-5.74E-03		7.42E-02
+	CD-109	88.03		3.72	1.63E+00	1.75E+00	1.75E+00
+	AG-110M	657.75		93.14	5.83E-03	7.46E-02	7.46E-02
		677.61		10.53	2.08E-01		6.50E-01
		706.67		16.46	2.21E-01		4.91E-01
		763.93		21.98	-3.07E-02		3.53E-01
		884.67		71.63	-1.24E-02		1.03E-01
		1384.27		23.94	6.60E-02		3.04E-01
+	CD-113M	263.70		0.02	4.40E+01	2.24E+02	2.24E+02
+	SN-113	255.12		1.93	3.57E-01	8.55E-02	2.93E+00
		391.69		64.90	-6.33E-02		8.55E-02
+	TE123M	159.00		84.10	3.61E-02	6.84E-02	6.84E-02
+	SB-124	602.71	*	97.87	4.16E-02	1.60E-01	1.93E-01
		645.85		7.26	3.31E-02		1.23E+00
		722.78		11.10	-6.71E-02		8.66E-01
		1691.02		49.00	-3.64E-02		1.60E-01
+	I-125	35.49		6.49	1.09E+00	5.47E+00	5.47E+00
+	SB-125	176.33		6.89	3.35E-01	1.63E-01	7.18E-01
		427.89		29.33	1.02E-02		1.63E-01
		463.38		10.35	5.79E-01		6.15E-01
		600.56		17.80	-7.62E-02		3.68E-01
		635.90		11.32	-5.34E-02		5.35E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	SB-126	414.70		83.30	3.78E-02	3.57E-01	3.57E-01
		666.33		99.60	2.45E-02		3.98E-01
		695.00		99.60	1.42E-01		3.81E-01
		720.50		53.80	-8.29E-02		6.44E-01
+	SN-126	87.57	*	37.00	1.77E-01	1.81E-01	1.81E-01
+	SB-127	473.00		25.00	2.58E+00	5.36E+01	5.65E+01
		685.20		35.70	1.68E+01		5.36E+01
		783.80		14.70	7.35E+01		1.39E+02
+	I-129	29.78		57.00	-1.42E-01	1.19E+00	1.19E+00
		33.60		13.20	5.71E-01		2.53E+00
		39.58		7.52	-9.58E-01		2.12E+00
+	I-131	284.30		6.05	-9.52E+00	9.16E-01	1.18E+01
		364.48		81.20	3.67E-03		9.16E-01
		636.97		7.26	5.59E+00		1.30E+01
		722.89		1.80	-4.28E+00		5.52E+01
+	TE-132	49.72		13.10	2.02E+02	4.40E+01	4.33E+02
		228.16		88.00	3.16E+00		4.40E+01
+	BA-133	81.00		33.00	1.33E-02	8.40E-02	1.15E-01
		302.84		17.80	-5.58E-02		2.81E-01
		356.01		60.00	3.42E-02		8.40E-02
+	I-133	529.87		86.30	8.92E+08	4.79E+09	4.79E+09
+	XE-133	81.00		38.00	7.16E-01	6.22E+00	6.22E+00
+	CS-134	563.23		8.38	4.04E-01	8.19E-02	6.70E-01
		569.32		15.43	-1.85E-01		3.39E-01
		604.70		97.60	-4.98E-01		8.19E-02
		795.84		85.40	3.59E-02		9.80E-02
		801.93		8.73	-2.10E-01		7.75E-01
+	CS-135	268.24		16.00	-6.38E-02	3.55E-01	3.55E-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	2.71E+00	3.34E-01	3.61E+00
		163.89		4.61	7.85E-01		5.45E+00
		176.55		13.56	2.72E-01		1.82E+00
		273.65		12.66	-3.74E-01		1.94E+00
		340.57		48.50	-5.90E-01		6.38E-01
		818.50		99.70	1.24E-01		3.34E-01
		1048.07		79.60	-7.53E-02		4.42E-01
		1235.34		19.70	-3.16E-01		2.76E+00
+	CS-137	661.65		85.12	1.50E-02	8.13E-02	8.13E-02
+	LA-138	788.74		34.00	-5.28E-02	9.61E-02	2.11E-01
		1435.80		66.00	-1.30E-02		9.61E-02
+	CE-139	165.85		80.35	2.69E-03	7.16E-02	7.16E-02
+	BA-140	162.64		6.70	-3.29E+00	1.14E+00	3.83E+00
		304.84		4.50	-7.94E-01		6.04E+00
		423.70		3.20	-1.42E+00		8.09E+00
		437.55		2.00	-5.68E-01		1.37E+01
		537.32		25.00	2.81E-01		1.14E+00
+	LA-140	328.77		20.50	6.23E-01	4.88E-01	1.65E+00

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	LA-140	487.03		45.50	7.15E-02	4.88E-01	6.66E-01
		815.85		23.50	-3.89E-01		1.44E+00
		1596.49		95.49	2.13E-01		4.88E-01
+	CE-141	145.44		48.40	1.00E-01	2.02E-01	2.02E-01
+	CE-143	57.36		11.80	9.00E+05	1.23E+06	2.98E+06
		293.26		42.00	-2.01E+05		1.23E+06
		664.55		5.20	-5.51E+05		9.46E+06
+	CE-144	133.54		10.80	-5.03E-02	4.56E-01	4.56E-01
+	PM-144	476.78		42.00	-3.20E-03	6.14E-02	1.22E-01
		618.01		98.60	-2.45E-02		6.14E-02
		696.49		99.49	-1.50E-02		6.73E-02
+	PM-145	36.85		21.70	-2.81E-01	4.87E-01	9.49E-01
		37.36		39.70	-1.44E-01		4.87E-01
		42.30		15.10	1.74E-02		8.48E-01
		72.40		2.31	-1.16E+00		1.99E+00
+	PM-146	453.90		39.94	4.04E-02	1.30E-01	1.30E-01
		735.90		14.01	-7.99E-02		4.47E-01
		747.13		13.10	4.58E-02		5.39E-01
+	ND-147	91.11		28.90	5.42E-01	1.49E+00	1.49E+00
		531.02		13.10	2.06E-01		3.03E+00
+	PM-149	285.90		3.10	1.96E+04	3.06E+04	3.06E+04
+	EU-152	121.78		20.50	1.40E-01	2.19E-01	2.19E-01
		244.69		5.40	4.51E-02		1.00E+00
		344.27		19.13	-4.27E-02		2.67E-01
		778.89		9.20	-7.79E-02		7.21E-01
		964.01		10.40	8.32E-02		8.11E-01
		1085.78		7.22	1.73E-01		1.07E+00
		1112.02		9.60	3.22E-02		8.43E-01
		1407.95		14.94	2.38E-01		4.84E-01
+	GD-153	97.43		31.30	-1.29E-02	1.53E-01	1.53E-01
		103.18		22.20	-1.13E-01		2.03E-01
+	EU-154	123.07		40.50	7.90E-02	1.10E-01	1.10E-01
		723.30		19.70	-2.66E-02		3.43E-01
		873.19		11.50	1.84E-01		6.28E-01
		996.32		10.30	-1.55E-01		7.20E-01
		1004.76		17.90	1.98E-02		4.48E-01
		1274.45		35.50	-5.72E-03		1.94E-01
+	EU-155	86.50	*	30.90	2.14E-01	2.10E-01	2.19E-01
		105.30		20.70	7.48E-02		2.10E-01
+	EU-156	811.77		10.40	-3.72E-02	2.63E+00	2.63E+00
		1153.47		7.20	2.04E+00		5.15E+00
		1230.71		8.90	2.57E-01		4.66E+00
+	HO-166M	184.41		72.60	6.33E-02	8.40E-02	8.40E-02
		280.45		29.60	6.92E-02		1.72E-01
		410.94		11.10	9.65E-02		4.87E-01
		711.69		54.10	-5.65E-03		1.22E-01
+	TM-171	66.72		0.14	1.39E+01	3.43E+01	3.43E+01
+	HF-172	81.75		4.52	4.07E-01	3.92E-01	8.61E-01
		125.81		11.30	3.77E-02		3.92E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	LU-172	181.53		20.60	-1.18E+00	2.93E+00	5.76E+00
		810.06		16.63	1.59E+00		1.04E+01
		912.12		15.25	5.36E+01		2.38E+01
		1093.66		62.50	-5.97E-01		2.93E+00
+	LU-173	100.72		5.24	6.04E-01	2.85E-01	8.70E-01
		272.11		21.20	9.36E-02		2.85E-01
+	HF-175	343.40		84.00	-2.78E-02	7.98E-02	7.98E-02
+	LU-176	88.34		13.30	4.35E-01	5.52E-02	4.67E-01
		201.83		86.00	-3.59E-02		5.74E-02
		306.78		94.00	3.11E-02		5.52E-02
+	TA-182	67.75		41.20	-2.43E-02	1.36E-01	1.36E-01
		1121.30		34.90	5.85E-01		4.29E-01
		1189.05		16.23	-1.93E-01		5.90E-01
		1221.41		26.98	5.90E-02		4.01E-01
		1231.02		11.44	8.93E-02		1.07E+00
+	IR-192	308.46		29.68	1.77E-01	1.34E-01	2.32E-01
		468.07		48.10	-1.45E-02		1.34E-01
+	HG-203	279.19		77.30	6.13E-02	1.09E-01	1.09E-01
+	BI-207	569.67		97.72	-2.84E-02	5.22E-02	5.22E-02
		1063.62		74.90	5.51E-02		1.06E-01
+	TL-208	583.14	*	30.22	1.02E+00	1.16E-01	2.51E-01
		860.37		4.48	6.61E-01		1.79E+00
		2614.66	*	35.85	8.58E-01		1.16E-01
+	BI-210M	262.00		45.00	3.51E-03	1.13E-01	1.13E-01
		300.00		23.00	7.57E-02		2.28E-01
+	PB-210	46.50		4.25	2.47E+00	2.43E+00	2.43E+00
+	PB-211	404.84		2.90	8.95E-01	1.90E+00	1.90E+00
		831.96		2.90	-6.96E-01		2.15E+00
+	BI-212	727.17	*	11.80	1.15E+00	7.34E-01	7.34E-01
		1620.62		2.75	3.07E-01		2.49E+00
+	PB-212	238.63	*	44.60	1.14E+00	2.03E-01	2.03E-01
		300.09		3.41	5.11E-01		1.54E+00
+	BI-214	609.31	*	46.30	8.80E-01	2.94E-01	2.94E-01
		1120.29	*	15.10	1.26E+00		7.45E-01
		1764.49	*	15.80	1.01E+00		4.52E-01
		2204.22	*	4.98	1.04E+00		4.22E-01
+	PB-214	295.21	*	19.19	1.21E+00	1.92E-01	5.87E-01
		351.92	*	37.19	1.08E+00		1.92E-01
+	RN-219	401.80		6.50	-6.72E-01	7.57E-01	7.57E-01
+	RA-223	323.87		3.88	7.14E-02	1.33E+00	1.33E+00
+	RA-224	240.98		3.95	9.73E+00	2.81E+00	2.81E+00
+	RA-225	40.00		31.00	-9.65E-01	2.14E+00	2.14E+00
+	RA-226	186.21	*	3.28	3.17E+00	2.27E+00	2.27E+00
+	TH-227	50.10		8.40	4.01E-01	6.34E-01	8.58E-01
		236.00		11.50	-4.73E+00		6.34E-01
		256.20		6.30	1.57E-01		7.54E-01
+	AC-228	338.32	*	11.40	1.14E+00	3.36E-01	6.59E-01
		911.07	*	27.70	1.19E+00		3.36E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	AC-228	969.11	*	16.60	8.43E-01	3.36E-01	7.21E-01
+	TH-230	48.44		16.90	-3.94E-01	4.66E-01	4.66E-01
		62.85		4.60	1.51E+00		1.15E+00
		67.67		0.37	-2.24E+00		1.25E+01
+	PA-231	283.67		1.60	-2.43E+00	2.16E+00	3.00E+00
		302.67		2.30	-4.29E-01		2.16E+00
+	TH-231	25.64		14.70	6.80E+00	1.03E+00	1.50E+01
		84.21	*	6.40	4.50E-01		1.03E+00
+	PA-233	311.98		38.60	-2.43E-02	2.74E-01	2.74E-01
+	PA-234	131.20		20.40	2.02E-01	2.41E-01	2.41E-01
		733.99		8.80	-8.59E-02		6.61E-01
		946.00		12.00	2.01E-02		6.32E-01
+	PA-234M	1001.03	*	0.92	5.87E+00	6.50E+00	6.50E+00
+	TH-234	63.29		3.80	1.82E+00	1.38E+00	1.38E+00
+	U-235	143.76		10.50	-7.14E-02	4.67E-01	4.67E-01
		163.35		4.70	-8.63E-01		1.01E+00
		205.31		4.70	1.97E-01		1.10E+00
+	NP-237	86.50	*	12.60	5.18E-01	5.31E-01	5.31E-01
+	NP-239	106.10		22.70	-2.11E+02	1.89E+03	1.89E+03
		228.18		10.70	3.33E+02		4.64E+03
		277.60		14.10	8.00E+02		3.64E+03
+	AM-241	59.54		35.90	-3.36E-02	1.31E-01	1.31E-01
+	AM-243	74.67		66.00	-1.69E-01	9.41E-02	9.41E-02
+	CM-243	209.75		3.29	1.60E+00	3.70E-01	1.63E+00
		228.14		10.60	3.39E-02		4.73E-01
		277.60		14.00	8.13E-02		3.70E-01

\+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
\> = MDA value not calculated
@ = Half-life too short to be able to perform the decay correction
? = 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 1510091-10

CP1807S18-19

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	BE-7	477.59		10.42	6.97E-01	6.97E-01	-1.83E-02	3.24E-01
	NA-22	1274.54		99.94	6.99E-02	6.99E-02	-2.06E-03	3.12E-02
	NA-24	1368.53		99.99	8.11E+13	3.61E+13	1.70E+13	3.61E+13
		2754.09		99.86	3.61E+13		-7.78E+12	1.28E+13
	AL-26	1808.65		99.76	4.47E-02	4.47E-02	-2.18E-02	1.77E-02
+	K-40	1460.81	*	10.67	5.19E-01	5.19E-01	1.45E+01	2.21E-01
@	AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
	TI-44	67.88		94.40	4.90E-02	4.90E-02	-8.76E-03	2.37E-02
		78.34		96.00	7.11E-02		2.74E-01	3.48E-02
	SC-46	889.25		99.98	8.98E-02	8.98E-02	1.69E-02	4.13E-02
		1120.51		99.99	1.66E-01		2.65E-01	7.87E-02
	V-48	983.52		99.98	2.39E-01	2.39E-01	-6.56E-02	1.08E-01
		1312.10		97.50	2.73E-01		6.74E-02	1.21E-01
	CR-51	320.08		9.83	1.15E+00	1.15E+00	4.28E-01	5.47E-01
+	MN-54	834.83	*	99.97	1.51E-01	1.51E-01	1.27E-01	7.26E-02
	CO-56	846.75		99.96	1.00E-01	1.00E-01	8.31E-02	4.66E-02
		1037.75		14.03	6.91E-01		-5.94E-02	3.16E-01
		1238.25		67.00	2.05E-01		-6.75E-03	9.53E-02
		1771.40		15.51	4.76E-01		1.29E-01	1.99E-01
		2598.48		16.90	2.00E-01		-9.04E-03	6.31E-02
	CO-57	122.06		85.51	5.67E-02	5.67E-02	3.64E-02	2.75E-02
		136.48		10.60	4.78E-01		-9.70E-02	2.31E-01
	CO-58	810.76		99.40	9.31E-02	9.31E-02	1.43E-02	4.31E-02
	FE-59	1099.22		56.50	1.88E-01	1.88E-01	-7.05E-02	8.45E-02
		1291.56		43.20	2.59E-01		-4.08E-02	1.16E-01
	CO-60	1173.22		100.00	9.13E-02	5.91E-02	1.12E-02	4.21E-02
		1332.49		100.00	5.91E-02		-1.64E-02	2.57E-02
	ZN-65	1115.52		50.75	1.87E-01	1.87E-01	-5.14E-03	8.62E-02
	GA-67	93.31		35.70	1.29E+02	1.29E+02	1.84E+02	6.32E+01
		208.95		2.24	1.84E+03		3.74E+02	8.85E+02
		300.22		16.00	2.52E+02		8.38E+01	1.20E+02
	SE-75	121.11		16.70	3.19E-01	9.34E-02	4.67E-02	1.54E-01
		136.00		59.20	9.34E-02		1.63E-02	4.52E-02
		264.65		59.80	1.02E-01		1.66E-03	4.88E-02
		279.53		25.20	2.41E-01		9.71E-02	1.15E-01
		400.65		11.40	5.16E-01		-2.29E-01	2.42E-01
	RB-82	776.52		13.00	1.20E+00	1.20E+00	-9.60E-02	5.58E-01
	RB-83	520.41		46.00	1.44E-01	1.44E-01	4.84E-02	6.68E-02
		529.64		30.30	2.43E-01		6.38E-02	1.14E-01
		552.65		16.40	3.90E-01		-2.80E-02	1.80E-01
	KR-85	513.99		0.43	1.52E+01	1.52E+01	-1.04E+00	7.17E+00
	SR-85	513.99		99.27	9.22E-02	9.22E-02	-6.34E-03	4.36E-02
	Y-88	898.02		93.40	9.26E-02	7.94E-02	1.26E-02	4.27E-02
		1836.01		99.38	7.94E-02		1.58E-02	3.40E-02
	NB-93M	16.57		9.43	5.42E+03	5.42E+03	-6.57E+03	2.63E+03
	NB-94	702.63		100.00	6.81E-02	6.81E-02	4.94E-03	3.18E-02
		871.10		100.00	7.29E-02		3.01E-02	3.37E-02
	NB-95	765.79		99.81	1.54E-01	1.54E-01	1.15E-01	7.23E-02
	NB-95M	235.69		25.00	1.18E+02	1.18E+02	-8.80E+02	5.73E+01
	ZR-95	724.18		43.70	2.63E-01	1.82E-01	1.38E-01	1.24E-01
		756.72		55.30	1.82E-01		-5.05E-03	8.47E-02

Analysis Report for 1510091-10

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	MO-99	181.06		6.20	1.99E+03	1.41E+03	-5.08E+02	9.55E+02
		739.58		12.80	1.41E+03		2.74E+02	6.55E+02
		778.00		4.50	3.73E+03		-1.11E+03	1.72E+03
	RU-103	497.08		89.00	9.63E-02	9.63E-02	-3.66E-02	4.47E-02
	RU-106	621.84		9.80	6.85E-01	6.85E-01	2.58E-01	3.20E-01
	AG-108M	433.93		89.90	5.42E-02	5.42E-02	4.69E-03	2.53E-02
		614.37		90.40	6.29E-02		-5.77E-01	2.91E-02
		722.95		90.50	7.42E-02		-5.74E-03	3.45E-02
	CD-109	88.03		3.72	1.75E+00	1.75E+00	1.63E+00	8.57E-01
	AG-110M	657.75		93.14	7.46E-02	7.46E-02	5.83E-03	3.48E-02
		677.61		10.53	6.50E-01		2.08E-01	3.02E-01
		706.67		16.46	4.91E-01		2.21E-01	2.30E-01
		763.93		21.98	3.53E-01		-3.07E-02	1.64E-01
		884.67		71.63	1.03E-01		-1.24E-02	4.73E-02
		1384.27		23.94	3.04E-01		6.60E-02	1.34E-01
	CD-113M	263.70		0.02	2.24E+02	2.24E+02	4.40E+01	1.07E+02
	SN-113	255.12		1.93	2.93E+00	8.55E-02	3.57E-01	1.40E+00
		391.69		64.90	8.55E-02		-6.33E-02	4.00E-02
	TE123M	159.00		84.10	6.84E-02	6.84E-02	3.61E-02	3.30E-02
+	SB-124	602.71	*	97.87	1.93E-01	1.60E-01	4.16E-02	9.36E-02
		645.85		7.26	1.23E+00		3.31E-02	5.74E-01
		722.78		11.10	8.66E-01		-6.71E-02	4.03E-01
		1691.02		49.00	1.60E-01		-3.64E-02	6.72E-02
	I-125	35.49		6.49	5.47E+00	5.47E+00	1.09E+00	2.65E+00
	SB-125	176.33		6.89	7.18E-01	1.63E-01	3.35E-01	3.46E-01
		427.89		29.33	1.63E-01		1.02E-02	7.61E-02
		463.38		10.35	6.15E-01		5.79E-01	2.91E-01
		600.56		17.80	3.68E-01		-7.62E-02	1.72E-01
		635.90		11.32	5.35E-01		-5.34E-02	2.48E-01
	SB-126	414.70		83.30	3.57E-01	3.57E-01	3.78E-02	1.68E-01
		666.33		99.60	3.98E-01		2.45E-02	1.86E-01
		695.00		99.60	3.81E-01		1.42E-01	1.77E-01
		720.50		53.80	6.44E-01		-8.29E-02	2.97E-01
+	SN-126	87.57	*	37.00	1.81E-01	1.81E-01	1.77E-01	8.86E-02
	SB-127	473.00		25.00	5.65E+01	5.36E+01	2.58E+00	2.63E+01
		685.20		35.70	5.36E+01		1.68E+01	2.50E+01
		783.80		14.70	1.39E+02		7.35E+01	6.46E+01
	I-129	29.78		57.00	1.19E+00	1.19E+00	-1.42E-01	5.74E-01
		33.60		13.20	2.53E+00		5.71E-01	1.23E+00
		39.58		7.52	2.12E+00		-9.58E-01	1.03E+00
	I-131	284.30		6.05	1.18E+01	9.16E-01	-9.52E+00	5.60E+00
		364.48		81.20	9.16E-01		3.67E-03	4.32E-01
		636.97		7.26	1.30E+01		5.59E+00	6.05E+00
		722.89		1.80	5.52E+01		-4.28E+00	2.57E+01
	TE-132	49.72		13.10	4.33E+02	4.40E+01	2.02E+02	2.10E+02
		228.16		88.00	4.40E+01		3.16E+00	2.11E+01
	BA-133	81.00		33.00	1.15E-01	8.40E-02	1.33E-02	5.56E-02
		302.84		17.80	2.81E-01		-5.58E-02	1.33E-01
		356.01		60.00	8.40E-02		3.42E-02	3.97E-02
	I-133	529.87		86.30	4.79E+09	4.79E+09	8.92E+08	2.24E+09
	XE-133	81.00		38.00	6.22E+00	6.22E+00	7.16E-01	3.00E+00
	CS-134	563.23		8.38	6.70E-01	8.19E-02	4.04E-01	3.11E-01
		569.32		15.43	3.39E-01		-1.85E-01	1.57E-01

Analysis Report for 1510091-10

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	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	CS-134	604.70	97.60	8.19E-02	8.19E-02	-4.98E-01	3.88E-02
		795.84	85.40	9.80E-02		3.59E-02	4.60E-02
		801.93	8.73	7.75E-01		-2.10E-01	3.57E-01
	CS-135	268.24	16.00	3.55E-01	3.55E-01	-6.38E-02	1.70E-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	3.61E+00	3.34E-01	2.71E+00	1.75E+00
		163.89	4.61	5.45E+00		7.85E-01	2.63E+00
		176.55	13.56	1.82E+00		2.72E-01	8.75E-01
		273.65	12.66	1.94E+00		-3.74E-01	9.25E-01
		340.57	48.50	6.38E-01		-5.90E-01	3.05E-01
		818.50	99.70	3.34E-01		1.24E-01	1.54E-01
		1048.07	79.60	4.42E-01		-7.53E-02	2.01E-01
		1235.34	19.70	2.76E+00		-3.16E-01	1.29E+00
	CS-137	661.65	85.12	8.13E-02	8.13E-02	1.50E-02	3.81E-02
	LA-138	788.74	34.00	2.11E-01	9.61E-02	-5.28E-02	9.83E-02
		1435.80	66.00	9.61E-02		-1.30E-02	4.19E-02
	CE-139	165.85	80.35	7.16E-02	7.16E-02	2.69E-03	3.46E-02
	BA-140	162.64	6.70	3.83E+00	1.14E+00	-3.29E+00	1.85E+00
		304.84	4.50	6.04E+00		-7.94E-01	2.87E+00
		423.70	3.20	8.09E+00		-1.42E+00	3.78E+00
		437.55	2.00	1.37E+01		-5.68E-01	6.41E+00
		537.32	25.00	1.14E+00		2.81E-01	5.29E-01
	LA-140	328.77	20.50	1.65E+00	4.88E-01	6.23E-01	7.88E-01
		487.03	45.50	6.66E-01		7.15E-02	3.12E-01
		815.85	23.50	1.44E+00		-3.89E-01	6.58E-01
		1596.49	95.49	4.88E-01		2.13E-01	2.20E-01
	CE-141	145.44	48.40	2.02E-01	2.02E-01	1.00E-01	9.79E-02
	CE-143	57.36	11.80	2.98E+06	1.23E+06	9.00E+05	1.44E+06
		293.26	42.00	1.23E+06		-2.01E+05	5.93E+05
		664.55	5.20	9.46E+06		-5.51E+05	4.43E+06
	CE-144	133.54	10.80	4.56E-01	4.56E-01	-5.03E-02	2.21E-01
	PM-144	476.78	42.00	1.22E-01	6.14E-02	-3.20E-03	5.67E-02
		618.01	98.60	6.14E-02		-2.45E-02	2.85E-02
		696.49	99.49	6.73E-02		-1.50E-02	3.12E-02
	PM-145	36.85	21.70	9.49E-01	4.87E-01	-2.81E-01	4.59E-01
		37.36	39.70	4.87E-01		-1.44E-01	2.36E-01
		42.30	15.10	8.48E-01		1.74E-02	4.11E-01
		72.40	2.31	1.99E+00		-1.16E+00	9.64E-01
	PM-146	453.90	39.94	1.30E-01	1.30E-01	4.04E-02	6.07E-02
		735.90	14.01	4.47E-01		-7.99E-02	2.06E-01
		747.13	13.10	5.39E-01		4.58E-02	2.51E-01
	ND-147	91.11	28.90	1.49E+00	1.49E+00	5.42E-01	7.31E-01
		531.02	13.10	3.03E+00		2.06E-01	1.41E+00
	PM-149	285.90	3.10	3.06E+04	3.06E+04	1.96E+04	1.46E+04
	EU-152	121.78	20.50	2.19E-01	2.19E-01	1.40E-01	1.06E-01
		244.69	5.40	1.00E+00		4.51E-02	4.81E-01
		344.27	19.13	2.67E-01		-4.27E-02	1.26E-01
		778.89	9.20	7.21E-01		-7.79E-02	3.33E-01
		964.01	10.40	8.11E-01		8.32E-02	3.77E-01
		1085.78	7.22	1.07E+00		1.73E-01	4.92E-01
		1112.02	9.60	8.43E-01		3.22E-02	3.87E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	EU-152	1407.95		14.94	4.84E-01	2.19E-01	2.38E-01	2.15E-01
	GD-153	97.43		31.30	1.53E-01	1.53E-01	-1.29E-02	7.39E-02
		103.18		22.20	2.03E-01		-1.13E-01	9.81E-02
	EU-154	123.07		40.50	1.10E-01	1.10E-01	7.90E-02	5.34E-02
		723.30		19.70	3.43E-01		-2.66E-02	1.59E-01
		873.19		11.50	6.28E-01		1.84E-01	2.90E-01
		996.32		10.30	7.20E-01		-1.55E-01	3.31E-01
		1004.76		17.90	4.48E-01		1.98E-02	2.07E-01
		1274.45		35.50	1.94E-01		-5.72E-03	8.63E-02
+	EU-155	86.50	*	30.90	2.19E-01	2.10E-01	2.14E-01	1.07E-01
		105.30		20.70	2.10E-01		7.48E-02	1.02E-01
	EU-156	811.77		10.40	2.63E+00	2.63E+00	-3.72E-02	1.21E+00
		1153.47		7.20	5.15E+00		2.04E+00	2.38E+00
		1230.71		8.90	4.66E+00		2.57E-01	2.16E+00
	HO-166M	184.41		72.60	8.40E-02	8.40E-02	6.33E-02	4.08E-02
		280.45		29.60	1.72E-01		6.92E-02	8.19E-02
		410.94		11.10	4.87E-01		9.65E-02	2.29E-01
		711.69		54.10	1.22E-01		-5.65E-03	5.65E-02
	TM-171	66.72		0.14	3.43E+01	3.43E+01	1.39E+01	1.66E+01
	HF-172	81.75		4.52	8.61E-01	3.92E-01	4.07E-01	4.15E-01
		125.81		11.30	3.92E-01		3.77E-02	1.90E-01
	LU-172	181.53		20.60	5.76E+00	2.93E+00	-1.18E+00	2.77E+00
		810.06		16.63	1.04E+01		1.59E+00	4.81E+00
		912.12		15.25	2.38E+01		5.36E+01	1.14E+01
		1093.66		62.50	2.93E+00		-5.97E-01	1.33E+00
	LU-173	100.72		5.24	8.70E-01	2.85E-01	6.04E-01	4.22E-01
		272.11		21.20	2.85E-01		9.36E-02	1.37E-01
	HF-175	343.40		84.00	7.98E-02	7.98E-02	-2.78E-02	3.77E-02
	LU-176	88.34		13.30	4.67E-01	5.52E-02	4.35E-01	2.29E-01
		201.83		86.00	5.74E-02		-3.59E-02	2.76E-02
		306.78		94.00	5.52E-02		3.11E-02	2.62E-02
	TA-182	67.75		41.20	1.36E-01	1.36E-01	-2.43E-02	6.58E-02
		1121.30		34.90	4.29E-01		5.85E-01	2.03E-01
		1189.05		16.23	5.90E-01		-1.93E-01	2.69E-01
		1221.41		26.98	4.01E-01		5.90E-02	1.85E-01
		1231.02		11.44	1.07E+00		8.93E-02	4.97E-01
	IR-192	308.46		29.68	2.32E-01	1.34E-01	1.77E-01	1.10E-01
		468.07		48.10	1.34E-01		-1.45E-02	6.23E-02
	HG-203	279.19		77.30	1.09E-01	1.09E-01	6.13E-02	5.20E-02
	BI-207	569.67		97.72	5.22E-02	5.22E-02	-2.84E-02	2.41E-02
		1063.62		74.90	1.06E-01		5.51E-02	4.88E-02
+	TL-208	583.14	*	30.22	2.51E-01	1.16E-01	1.02E+00	1.19E-01
		860.37		4.48	1.79E+00		6.61E-01	8.33E-01
		2614.66	*	35.85	1.16E-01		8.58E-01	4.51E-02
	BI-210M	262.00		45.00	1.13E-01	1.13E-01	3.51E-03	5.38E-02
		300.00		23.00	2.28E-01		7.57E-02	1.08E-01
	PB-210	46.50		4.25	2.43E+00	2.43E+00	2.47E+00	1.18E+00
	PB-211	404.84		2.90	1.90E+00	1.90E+00	8.95E-01	8.97E-01
		831.96		2.90	2.15E+00		-6.96E-01	9.83E-01
+	BI-212	727.17	*	11.80	7.34E-01	7.34E-01	1.15E+00	3.47E-01
		1620.62		2.75	2.49E+00		3.07E-01	1.09E+00
+	PB-212	238.63	*	44.60	2.03E-01	2.03E-01	1.14E+00	9.91E-02
		300.09		3.41	1.54E+00		5.11E-01	7.31E-01

Analysis Report for 1510091-10

CP1807S18-19

	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	2.94E-01	2.94E-01	8.80E-01	1.42E-01
		1120.29	*	15.10	7.45E-01		1.26E+00	3.50E-01
		1764.49	*	15.80	4.52E-01		1.01E+00	1.97E-01
		2204.22	*	4.98	4.22E-01		1.04E+00	1.14E-01
+	PB-214	295.21	*	19.19	5.87E-01	1.92E-01	1.21E+00	2.87E-01
		351.92	*	37.19	1.92E-01		1.08E+00	9.20E-02
	RN-219	401.80		6.50	7.57E-01	7.57E-01	-6.72E-01	3.55E-01
	RA-223	323.87		3.88	1.33E+00	1.33E+00	7.14E-02	6.31E-01
	RA-224	240.98		3.95	2.81E+00	2.81E+00	9.73E+00	1.38E+00
	RA-225	40.00		31.00	2.14E+00	2.14E+00	-9.65E-01	1.04E+00
+	RA-226	186.21	*	3.28	2.27E+00	2.27E+00	3.17E+00	1.11E+00
	TH-227	50.10		8.40	8.58E-01	6.34E-01	4.01E-01	4.15E-01
		236.00		11.50	6.34E-01		-4.73E+00	3.08E-01
		256.20		6.30	7.54E-01		1.57E-01	3.59E-01
+	AC-228	338.32	*	11.40	6.59E-01	3.36E-01	1.14E+00	3.18E-01
		911.07	*	27.70	3.36E-01		1.19E+00	1.58E-01
		969.11	*	16.60	7.21E-01		8.43E-01	3.42E-01
	TH-230	48.44		16.90	4.66E-01	4.66E-01	-3.94E-01	2.25E-01
		62.85		4.60	1.15E+00		1.51E+00	5.55E-01
		67.67		0.37	1.25E+01		-2.24E+00	6.06E+00
	PA-231	283.67		1.60	3.00E+00	2.16E+00	-2.43E+00	1.43E+00
		302.67		2.30	2.16E+00		-4.29E-01	1.02E+00
+	TH-231	25.64		14.70	1.50E+01	1.03E+00	6.80E+00	7.28E+00
		84.21	*	6.40	1.03E+00		4.50E-01	5.03E-01
	PA-233	311.98		38.60	2.74E-01	2.74E-01	-2.43E-02	1.29E-01
	PA-234	131.20		20.40	2.41E-01	2.41E-01	2.02E-01	1.17E-01
		733.99		8.80	6.61E-01		-8.59E-02	3.04E-01
		946.00		12.00	6.32E-01		2.01E-02	2.92E-01
+	PA-234M	1001.03	*	0.92	6.50E+00	6.50E+00	5.87E+00	2.92E+00
	TH-234	63.29		3.80	1.38E+00	1.38E+00	1.82E+00	6.67E-01
	U-235	143.76		10.50	4.67E-01	4.67E-01	-7.14E-02	2.26E-01
		163.35		4.70	1.01E+00		-8.63E-01	4.85E-01
		205.31		4.70	1.10E+00		1.97E-01	5.27E-01
+	NP-237	86.50	*	12.60	5.31E-01	5.31E-01	5.18E-01	2.60E-01
	NP-239	106.10		22.70	1.89E+03	1.89E+03	-2.11E+02	9.16E+02
		228.18		10.70	4.64E+03		3.33E+02	2.22E+03
		277.60		14.10	3.64E+03		8.00E+02	1.74E+03
	AM-241	59.54		35.90	1.31E-01	1.31E-01	-3.36E-02	6.32E-02
	AM-243	74.67		66.00	9.41E-02	9.41E-02	-1.69E-01	4.60E-02
	CM-243	209.75		3.29	1.63E+00	3.70E-01	1.60E+00	7.84E-01
		228.14		10.60	4.73E-01		3.39E-02	2.27E-01
		277.60		14.00	3.70E-01		8.13E-02	1.77E-01

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

Analysis Report for 1510091-10

CP1807S18-19

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: CP1807S18-19

Elapsed Live time: 3600
Elapsed Real Time: 3601

Channel								
1:	0	0	0	0	0	0	0	147
9:	535	1180	1100	376	638	1690	264	132
17:	131	113	116	106	123	110	115	97
25:	113	113	98	94	93	102	110	111
33:	119	102	105	98	112	98	114	124
41:	105	142	111	116	111	134	191	93
49:	104	103	88	82	106	98	78	69
57:	86	82	68	85	80	85	115	138
65:	70	91	96	109	97	113	109	102
73:	115	132	321	178	375	327	96	70
81:	92	82	69	114	120	102	189	169
89:	87	152	114	108	191	159	79	59
97:	65	61	82	70	74	45	63	51
105:	60	87	56	66	68	66	57	55
113:	84	54	82	68	56	57	58	54
121:	63	69	65	61	47	46	65	60
129:	67	88	69	65	65	53	59	56
137:	65	66	61	73	67	54	59	67
145:	72	67	66	60	72	59	67	60
153:	71	73	63	50	54	56	47	58
161:	56	43	54	47	54	68	47	54
169:	53	43	58	53	42	51	52	40
177:	58	41	41	40	38	48	49	41
185:	62	168	85	50	44	42	46	45
193:	51	48	52	53	57	40	52	49
201:	38	41	44	38	50	54	38	43
209:	54	57	44	37	29	49	38	46
217:	38	36	36	38	41	38	42	58
225:	41	34	26	40	54	28	37	37
233:	32	33	25	39	44	239	523	84
241:	93	124	46	39	34	36	38	36
249:	25	31	31	21	26	28	28	29
257:	25	29	25	34	27	32	29	32
265:	34	29	30	30	33	67	46	17
273:	24	39	22	24	37	43	21	23
281:	30	24	16	28	23	32	36	28
289:	26	29	22	26	34	34	169	108
297:	24	25	18	39	32	22	23	23
305:	20	28	26	28	27	17	15	19
313:	21	32	17	27	19	33	15	21
321:	22	30	21	20	23	24	28	60
329:	34	23	25	32	23	20	18	17
337:	29	99	67	22	17	25	18	19
345:	19	24	20	23	31	23	88	278
353:	89	17	21	24	16	19	14	18
361:	21	15	13	26	18	22	17	20

369:	20	17	24	16	22	11	14	23

Sample Title: CP1807S18-19

Channel								
377:	15	20	16	16	18	17	15	15
385:	15	19	22	18	15	11	16	13
393:	13	17	24	22	18	22	18	12
401:	22	15	11	18	27	22	20	15
409:	19	30	16	10	17	16	16	13
417:	21	20	15	18	19	14	15	13
425:	11	14	13	12	10	15	13	12
433:	12	12	13	19	15	9	16	18
441:	15	12	10	12	13	14	15	15
449:	13	11	11	13	14	13	18	13
457:	11	13	6	13	14	22	37	22
465:	9	12	13	13	11	10	8	20
473:	11	19	7	12	16	12	11	10
481:	16	10	10	12	11	18	20	12
489:	15	17	16	16	15	8	12	14
497:	10	9	12	14	18	16	12	14
505:	13	13	13	13	21	61	70	51
513:	21	11	10	6	9	10	15	13
521:	9	11	12	8	11	13	15	15
529:	20	6	15	14	10	13	9	12
537:	10	11	15	5	11	8	11	5
545:	9	14	9	4	10	6	11	8
553:	13	11	10	16	5	12	6	8
561:	10	15	10	9	14	10	4	13
569:	7	16	9	19	11	5	16	15
577:	8	12	8	9	10	40	125	63
585:	8	11	5	4	14	7	11	14
593:	6	7	8	12	10	14	5	10
601:	7	19	9	10	7	7	10	48
609:	147	96	12	8	4	7	8	6
617:	10	10	12	3	6	15	11	13
625:	8	8	7	9	9	17	5	5
633:	3	8	10	16	6	11	3	12
641:	11	7	14	6	6	11	9	4
649:	12	12	5	12	3	6	9	7
657:	6	8	3	15	15	13	9	11
665:	13	11	4	13	12	2	12	3
673:	6	8	12	3	9	11	10	5
681:	11	5	15	9	10	5	13	12
689:	11	5	6	13	12	8	7	8
697:	6	8	7	8	10	4	15	14
705:	7	11	10	5	15	9	9	10
713:	3	8	12	3	6	6	9	5
721:	7	5	10	10	6	17	37	22
729:	5	9	7	4	4	8	8	6
737:	6	8	9	7	13	11	8	6
745:	8	17	2	11	9	9	8	7
753:	13	10	7	9	7	8	10	11
761:	10	5	9	6	11	6	15	22
769:	16	3	11	13	11	6	8	9
777:	8	5	6	6	5	12	4	13
785:	10	14	5	3	9	7	12	11
793:	11	11	21	10	4	13	7	7

801:	7	6	8	8	5	8	8	8

Sample Title: CP1807S18-19

Channel								
809:	6	7	8	9	5	4	9	3
817:	8	7	5	7	5	5	4	6
825:	12	7	8	3	5	6	7	4
833:	8	3	7	10	7	11	12	10
841:	1	4	6	9	11	13	8	9
849:	4	5	5	7	5	7	6	6
857:	12	4	4	17	16	8	4	7
865:	9	5	3	5	10	4	6	6
873:	10	11	5	8	7	1	8	7
881:	4	9	5	5	3	5	12	7
889:	5	3	7	6	8	5	9	3
897:	10	5	7	7	5	7	4	13
905:	9	7	3	8	12	40	89	38
913:	12	5	4	7	7	8	4	4
921:	6	8	7	4	11	3	3	7
929:	4	5	6	6	10	11	5	5
937:	6	8	3	4	6	6	8	6
945:	7	5	7	8	8	6	9	8
953:	6	3	7	10	7	5	1	5
961:	1	3	8	16	13	8	10	27
969:	55	15	8	8	5	8	5	3
977:	5	4	3	5	4	3	3	7
985:	3	4	8	5	5	6	11	6
993:	7	6	6	6	4	3	10	7
1001:	12	10	3	4	7	7	6	7
1009:	3	4	5	4	3	2	3	3
1017:	8	11	5	1	7	5	7	5
1025:	7	6	3	1	5	5	7	6
1033:	2	5	7	3	6	7	5	6
1041:	8	7	1	8	4	2	6	4
1049:	4	6	6	6	6	3	2	8
1057:	4	6	4	7	6	7	7	7
1065:	6	4	1	5	5	5	8	4
1073:	5	3	2	4	5	9	2	7
1081:	6	1	2	6	5	10	7	9
1089:	3	3	4	4	10	3	7	3
1097:	6	5	2	4	4	3	5	6
1105:	7	7	6	3	5	5	7	6
1113:	5	7	7	6	9	9	16	44
1121:	23	8	3	1	4	4	6	5
1129:	9	7	5	9	4	4	10	6
1137:	5	4	5	6	4	6	7	9
1145:	1	7	3	4	6	5	7	3
1153:	7	12	6	9	4	6	11	3
1161:	9	8	5	4	3	7	4	3
1169:	5	7	7	8	11	5	3	8
1177:	5	11	6	4	2	4	7	6
1185:	9	6	9	0	9	4	3	5
1193:	6	6	4	3	6	4	5	6
1201:	2	3	7	5	4	3	6	7
1209:	5	7	6	4	4	6	10	5
1217:	7	5	5	8	11	4	6	6
1225:	4	7	7	7	8	8	11	5

1233:	10	9	10	7	11	10	8	11

Sample Title: CP1807S18-19

Channel								
1241:	4	9	8	7	5	5	6	6
1249:	3	3	2	6	1	6	4	6
1257:	4	2	3	5	5	9	3	4
1265:	4	7	2	1	3	5	7	1
1273:	2	3	3	5	2	2	4	4
1281:	10	6	5	3	5	4	5	5
1289:	4	4	3	3	1	3	3	4
1297:	2	0	1	7	7	1	4	3
1305:	5	5	2	2	2	3	4	4
1313:	2	4	3	2	3	4	4	2
1321:	3	9	2	5	2	1	2	5
1329:	2	0	2	5	1	4	1	2
1337:	3	8	2	3	2	0	2	3
1345:	3	6	2	5	3	1	6	3
1353:	2	1	4	2	1	9	1	2
1361:	1	1	1	5	3	2	5	3
1369:	5	2	2	2	2	5	1	7
1377:	12	10	4	0	0	1	2	5
1385:	4	6	1	4	0	1	4	1
1393:	0	2	1	1	4	5	5	1
1401:	7	4	1	2	2	4	4	3
1409:	5	2	0	1	0	1	1	6
1417:	2	0	4	0	1	3	1	1
1425:	2	2	4	4	2	3	4	0
1433:	4	3	1	4	1	3	2	2
1441:	4	1	2	3	2	2	1	3
1449:	2	1	4	4	0	0	3	4
1457:	3	6	63	209	172	60	7	0
1465:	1	1	1	2	2	1	0	0
1473:	1	2	3	1	3	1	1	3
1481:	1	1	3	1	5	3	3	4
1489:	1	4	0	1	1	3	8	2
1497:	1	1	2	2	3	1	1	2
1505:	1	1	1	1	3	6	1	2
1513:	2	1	1	2	2	0	1	1
1521:	1	2	3	2	2	2	3	1
1529:	2	3	1	4	1	1	2	1
1537:	1	0	0	1	1	6	4	1
1545:	1	1	0	0	3	2	1	1
1553:	1	0	2	2	5	1	0	1
1561:	2	1	0	0	3	2	1	1
1569:	0	3	1	2	0	2	2	1
1577:	2	0	1	3	2	2	4	3
1585:	3	5	3	2	5	0	2	7
1593:	7	3	1	1	2	1	3	2
1601:	2	2	2	3	1	0	0	1
1609:	0	1	1	0	0	2	0	1
1617:	1	1	1	2	2	6	2	0
1625:	3	1	2	2	2	4	1	0
1633:	1	2	0	0	1	2	1	0
1641:	3	0	2	2	1	1	1	0
1649:	0	1	0	1	2	2	1	0
1657:	0	1	0	2	3	2	0	1

1665:	2	2	1	0	1	2	1	0

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Channel								
1673:	1	1	2	1	2	1	0	0
1681:	2	2	0	2	0	1	0	1
1689:	0	0	2	2	1	2	3	1
1697:	1	0	0	0	0	0	1	2
1705:	1	0	1	1	2	0	1	0
1713:	3	3	1	1	0	1	0	1
1721:	0	0	1	2	2	0	1	6
1729:	2	7	2	0	0	1	2	1
1737:	0	0	2	1	2	1	0	1
1745:	0	1	1	0	1	1	1	2
1753:	1	0	2	0	0	1	0	1
1761:	2	3	12	20	17	3	1	0
1769:	2	1	0	1	2	2	0	0
1777:	1	3	2	0	0	0	1	1
1785:	0	1	2	0	2	0	0	2
1793:	1	1	3	3	1	1	1	1
1801:	4	1	0	0	3	0	0	0
1809:	0	0	1	1	3	0	0	1
1817:	1	0	2	1	1	1	1	2
1825:	1	1	1	0	1	3	1	0
1833:	0	2	1	2	1	3	2	0
1841:	0	1	1	0	2	6	2	3
1849:	1	0	0	0	2	2	0	0
1857:	0	1	2	0	0	0	2	0
1865:	0	0	1	0	3	1	1	0
1873:	3	0	3	2	2	0	1	2
1881:	2	1	1	2	1	2	2	2
1889:	0	0	2	1	0	0	1	0
1897:	1	2	2	3	2	1	0	0
1905:	0	1	1	1	0	1	1	0
1913:	0	1	1	0	0	2	0	0
1921:	0	0	0	0	0	1	1	3
1929:	2	0	2	0	1	2	2	1
1937:	2	3	1	2	1	0	1	0
1945:	3	1	0	0	2	4	0	1
1953:	1	1	2	0	1	1	1	0
1961:	1	0	0	2	1	0	1	2
1969:	0	1	1	1	0	1	1	0
1977:	0	1	2	1	1	1	0	2
1985:	1	2	1	3	0	0	0	3
1993:	0	1	1	0	1	0	0	3
2001:	2	2	0	0	0	0	0	1
2009:	2	2	1	1	0	1	1	2
2017:	2	0	1	0	2	0	2	0
2025:	0	0	2	0	0	3	2	0
2033:	0	1	3	0	0	1	3	1
2041:	1	1	2	2	0	0	0	1
2049:	0	1	1	0	1	3	1	0
2057:	1	1	0	2	1	0	2	1
2065:	2	1	0	0	1	1	0	1
2073:	1	1	2	0	0	1	0	1
2081:	2	0	3	2	0	0	1	3
2089:	1	0	1	1	1	0	0	1

2097: 0 1 2 0 4 5 6 3

Sample Title: CP1807S18-19

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

2529:	1	0	0	1	1	0	0	0

Sample Title: CP1807S18-19

Channel								
2537:	0	1	0	2	0	2	2	1
2545:	0	1	2	0	0	0	0	0
2553:	0	0	0	0	1	0	0	1
2561:	0	0	0	0	0	2	2	0
2569:	0	0	1	0	1	0	1	0
2577:	1	0	0	1	0	0	0	0
2585:	0	0	1	0	1	0	0	0
2593:	0	0	0	0	0	0	1	0
2601:	0	0	1	0	0	1	2	1
2609:	2	3	2	9	31	19	18	3
2617:	4	1	0	0	1	0	1	0
2625:	0	1	0	0	0	0	0	0
2633:	0	0	1	0	0	0	0	0
2641:	0	0	1	0	1	0	0	0
2649:	1	0	1	2	0	0	0	0
2657:	0	0	0	0	2	1	1	0
2665:	1	0	1	1	1	0	0	0
2673:	0	0	0	0	1	0	0	0
2681:	0	0	0	0	0	0	0	0
2689:	0	0	0	0	0	0	0	0
2697:	1	0	0	0	0	1	0	0
2705:	0	0	0	0	0	0	0	0
2713:	0	0	0	0	0	0	0	0
2721:	0	0	0	0	0	0	1	0
2729:	1	0	0	0	1	0	0	0
2737:	0	0	0	0	0	0	0	0
2745:	1	0	1	1	0	0	1	0
2753:	1	0	0	0	0	0	1	0
2761:	0	1	0	0	0	0	0	1
2769:	3	0	1	1	0	0	0	0
2777:	0	0	0	0	0	1	0	0
2785:	0	1	1	0	0	0	1	0
2793:	0	0	0	0	0	1	1	1
2801:	0	0	0	0	0	0	1	0
2809:	0	0	0	0	0	0	0	0
2817:	0	0	0	0	1	1	0	0
2825:	0	0	1	0	1	1	0	0
2833:	0	0	0	0	0	0	0	1
2841:	1	0	1	0	0	0	0	0
2849:	0	0	0	0	0	0	1	0
2857:	0	0	0	0	0	0	0	0
2865:	0	0	1	0	0	0	0	0
2873:	0	1	1	0	0	0	0	1
2881:	0	0	0	0	0	0	0	2
2889:	0	1	1	0	0	0	0	1
2897:	0	0	0	0	1	0	1	1
2905:	0	0	0	1	0	0	0	2
2913:	0	0	0	0	0	0	0	0
2921:	0	0	0	0	0	0	0	0
2929:	0	0	0	0	1	1	0	0
2937:	0	0	0	0	0	0	0	1
2945:	1	0	0	2	0	0	0	0
2953:	0	0	0	0	1	0	1	0

2961:	1	0	1	1	0	0	0	0

Sample Title: CP1807S18-19

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

3393:	0	0	0	0	0	0	0	0

Sample Title: CP1807S18-19

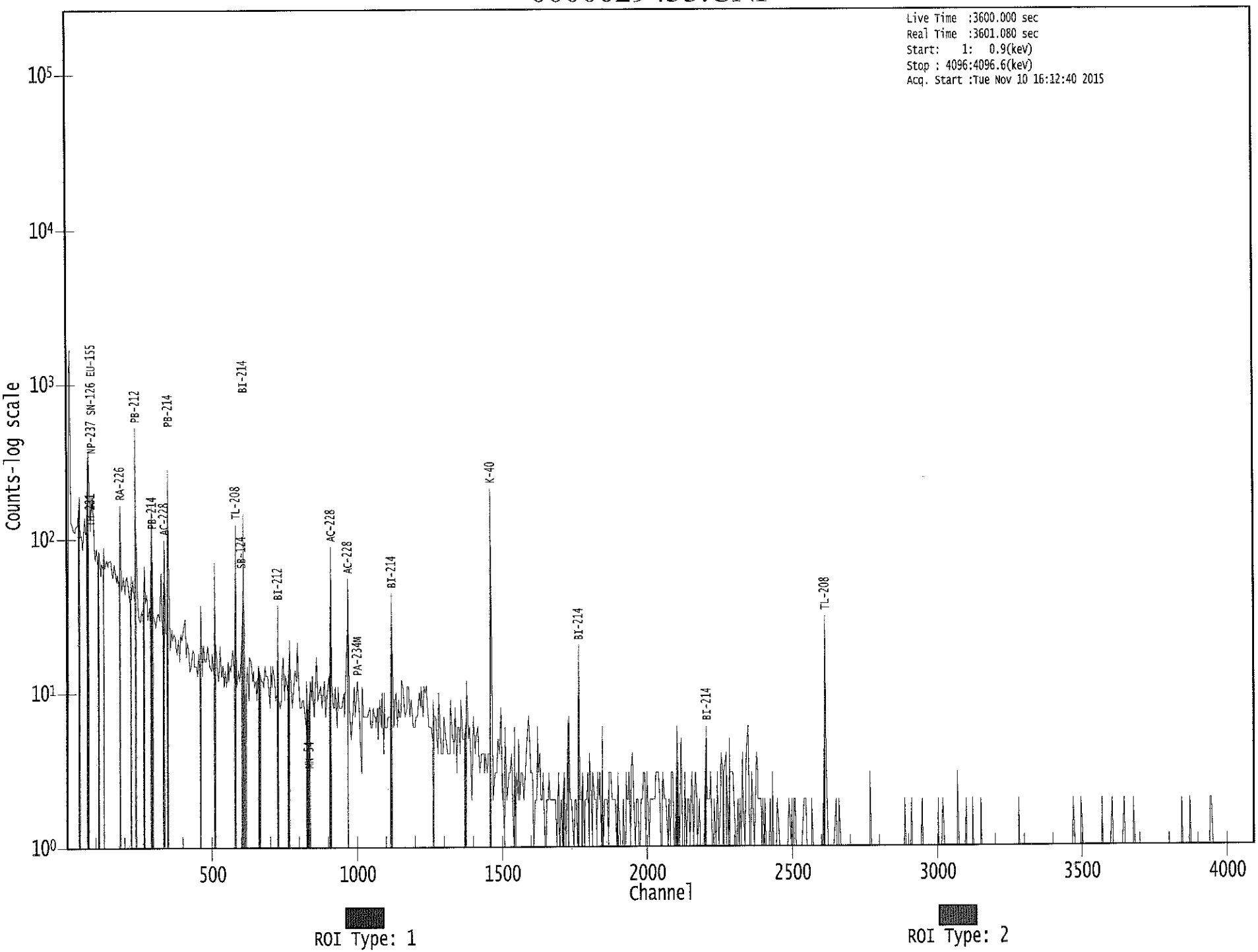
Channel								
3401:	0	0	0	0	1	0	0	0
3409:	0	0	0	0	0	0	0	0
3417:	0	0	0	0	0	0	0	0
3425:	0	0	0	0	0	0	0	0
3433:	0	0	0	0	0	0	0	0
3441:	0	0	0	0	1	1	0	1
3449:	0	0	1	0	0	0	0	1
3457:	1	1	0	0	0	1	0	0
3465:	0	0	1	0	0	2	0	0
3473:	0	0	0	1	0	0	0	1
3481:	0	0	1	0	0	0	0	0
3489:	0	0	1	0	0	0	1	0
3497:	2	0	0	0	0	0	0	1
3505:	0	1	0	0	0	0	1	0
3513:	0	0	0	0	0	0	0	1
3521:	0	0	0	0	0	0	0	0
3529:	0	0	0	0	0	0	0	0
3537:	0	0	0	0	0	1	0	0
3545:	0	0	0	0	0	0	0	0
3553:	0	0	0	0	0	0	0	1
3561:	0	0	0	1	0	0	0	0
3569:	2	1	0	0	0	0	0	0
3577:	0	0	1	0	0	1	0	0
3585:	0	1	0	1	0	0	0	0
3593:	0	0	0	0	1	0	1	0
3601:	0	0	0	2	0	0	1	1
3609:	0	0	0	0	0	0	0	0
3617:	0	0	0	0	1	0	0	0
3625:	0	0	0	0	0	0	0	0
3633:	0	0	1	0	0	1	1	0
3641:	0	1	0	0	0	2	0	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	0	1	0	0	0
3665:	1	0	0	0	0	0	0	0
3673:	0	0	0	0	2	0	0	0
3681:	0	0	1	0	0	0	0	0
3689:	0	0	0	1	0	0	0	0
3697:	0	1	0	0	0	0	0	0
3705:	0	0	0	0	0	0	0	0
3713:	0	0	0	0	0	0	0	0
3721:	0	0	0	0	0	0	1	0
3729:	0	0	0	0	0	0	0	0
3737:	0	0	0	0	0	0	0	0
3745:	0	0	0	0	0	1	0	0
3753:	0	0	0	0	0	0	0	0
3761:	0	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	1	0
3777:	0	0	0	0	0	0	0	0
3785:	0	0	0	0	1	1	0	0
3793:	0	0	0	0	0	0	0	1
3801:	0	0	0	0	0	0	0	0
3809:	0	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0

3825:	0	0	1	0	0	0	1	0

Sample Title: CP1807S18-19

Channel								
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	2	0	1	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	1	0	0	0	0
3865:	0	0	0	0	1	0	0	2
3873:	0	0	0	1	0	0	0	0
3881:	1	0	0	0	0	0	0	0
3889:	0	0	0	0	0	0	0	0
3897:	0	0	0	0	0	1	0	0
3905:	1	0	1	1	0	0	0	0
3913:	0	0	0	1	0	0	0	0
3921:	0	0	0	0	1	1	0	0
3929:	0	0	0	0	0	0	1	0
3937:	0	0	1	0	2	0	0	1
3945:	2	1	0	1	0	0	1	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	0	0
3985:	0	1	0	0	0	0	1	0
3993:	0	0	0	0	0	0	0	0
4001:	0	0	0	0	0	0	0	0
4009:	0	0	0	0	0	0	0	0
4017:	0	0	0	0	0	1	1	1
4025:	0	0	0	0	0	1	0	0
4033:	0	0	0	0	0	0	0	1
4041:	0	0	0	0	1	0	0	0
4049:	1	0	0	0	0	1	0	0
4057:	0	0	0	1	0	0	0	0
4065:	0	0	0	0	0	0	1	0
4073:	0	0	0	0	0	0	0	0
4081:	0	0	0	0	1	0	0	0
4089:	0	0	0	0	0	0	0	0

0000029433.CNF



Apex-Gamma

Analysis Report for 1510091-11
CP1807S20-21

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1510091-11
Sample Description	: CP1807S20-21
Sample Type	: SOIL
Sample Size	: 6.002E+02 grams
Facility	: Countroom
Sample Taken On	: 10/10/2015 10:16:00AM
Acquisition Started	: 11/10/2015 4:58:17PM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE1
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3601.1 seconds
Dead Time	: 0.03 %
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	: 29440

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

Analysis Report for 1510091-11

CP1807S20-21

PEAK LOCATE REPORT

Peak Locate Performed on : 11/10/2015 5:58:21PM
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	63.44	63.78	0.0000	0.00
2	73.68	74.02	0.0000	0.00
3	77.21	77.55	0.0000	0.00
4	87.80	88.13	0.0000	0.00
5	92.53	92.86	0.0000	0.00
6	105.46	105.79	0.0000	0.00
7	128.46	128.79	0.0000	0.00
8	185.99	186.30	0.0000	0.00
9	209.66	209.95	0.0000	0.00
10	238.72	239.01	0.0000	0.00
11	241.87	242.15	0.0000	0.00
12	269.91	270.19	0.0000	0.00
13	276.32	276.60	0.0000	0.00
14	295.42	295.69	0.0000	0.00
15	300.07	300.33	0.0000	0.00
16	338.35	338.60	0.0000	0.00
17	352.06	352.31	0.0000	0.00
18	462.80	463.02	0.0000	0.00
19	511.25	511.45	0.0000	0.00
20	561.99	562.17	0.0000	0.00
21	583.52	583.69	0.0000	0.00
22	609.77	609.93	0.0000	0.00
23	727.50	727.62	0.0000	0.00
24	796.58	796.67	0.0000	0.00
25	814.91	815.00	0.0000	0.00
26	839.99	840.07	0.0000	0.00
27	846.01	846.09	0.0000	0.00
28	852.36	852.44	0.0000	0.00
29	860.88	860.95	0.0000	0.00
30	885.57	885.63	0.0000	0.00
31	911.57	911.62	0.0000	0.00
32	934.97	935.02	0.0000	0.00
33	965.38	965.42	0.0000	0.00
34	969.55	969.58	0.0000	0.00
35	1120.94	1120.92	0.0000	0.00
36	1128.23	1128.21	0.0000	0.00
37	1154.45	1154.41	0.0000	0.00
38	1175.18	1175.14	0.0000	0.00
39	1214.88	1214.83	0.0000	0.00
40	1237.99	1237.93	0.0000	0.00
41	1282.23	1282.15	0.0000	0.00
42	1374.33	1374.22	0.0000	0.00

Analysis Report for 1510091-11

CP1807S20-21

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1378.23	1378.12	0.0000	0.00
44	1392.10	1391.98	0.0000	0.00
45	1408.80	1408.68	0.0000	0.00
46	1461.41	1461.27	0.0000	0.00
47	1509.71	1509.55	0.0000	0.00
48	1621.59	1621.39	0.0000	0.00
49	1631.35	1631.15	0.0000	0.00
50	1662.50	1662.29	0.0000	0.00
51	1673.09	1672.87	0.0000	0.00
52	1759.46	1759.20	0.0000	0.00
53	1765.18	1764.92	0.0000	0.00
54	2078.69	2078.32	0.0000	0.00
55	2103.39	2103.01	0.0000	0.00
56	2273.15	2272.70	0.0000	0.00
57	2342.25	2341.78	0.0000	0.00
58	2418.76	2418.25	0.0000	0.00
59	2448.92	2448.40	0.0000	0.00
60	2549.96	2549.40	0.0000	0.00
61	2615.03	2614.44	0.0000	0.00
62	2774.56	2773.92	0.0000	0.00
63	3198.53	3197.71	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510091-11

CP1807S20-21

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 5:58:21PM

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	63.44	60 -	67	63.78	2.23E+02	104.08	1.66E+03	1.24
M	2	73.68	72 -	83	74.02	2.32E+02	80.93	1.05E+03	2.34
m	3	77.21	72 -	83	77.55	7.71E+02	108.78	1.42E+03	2.36
m	4	87.80	83 -	98	88.13	1.92E+02	61.06	6.83E+02	1.48
m	5	92.53	83 -	98	92.86	2.76E+02	66.45	6.68E+02	1.49
	6	105.46	103 -	109	105.79	6.39E+01	75.25	9.88E+02	2.51
	7	128.46	126 -	132	128.79	7.20E+01	73.78	9.30E+02	1.91
	8	185.99	182 -	189	186.30	1.97E+02	76.11	8.30E+02	1.82
	9	209.66	206 -	213	209.95	9.10E+01	68.26	7.08E+02	1.31
M	10	238.72	235 -	249	239.01	8.41E+02	70.46	4.16E+02	1.68
m	11	241.87	235 -	249	242.15	1.55E+02	55.86	3.31E+02	1.68
	12	269.91	268 -	273	270.19	4.08E+01	45.40	3.86E+02	2.68
	13	276.32	274 -	281	276.60	5.33E+01	59.26	5.45E+02	5.59
M	14	295.42	290 -	303	295.69	2.57E+02	47.10	2.84E+02	1.57
m	15	300.07	290 -	303	300.33	3.70E+01	43.55	3.33E+02	1.91
	16	338.35	334 -	342	338.60	1.82E+02	58.71	4.19E+02	1.53
	17	352.06	347 -	355	352.31	4.84E+02	65.88	3.73E+02	1.89
	18	462.80	459 -	466	463.02	9.71E+01	36.39	1.56E+02	2.47
	19	511.25	507 -	518	511.45	1.64E+02	55.17	2.95E+02	2.66
	20	561.99	558 -	566	562.17	4.22E+01	35.40	1.68E+02	5.10
	21	583.52	579 -	587	583.69	2.58E+02	47.23	1.84E+02	1.98
	22	609.77	604 -	615	609.93	3.67E+02	58.58	2.44E+02	1.97
	23	727.50	723 -	733	727.62	8.14E+01	40.07	1.71E+02	1.98
	24	796.58	792 -	802	796.67	4.46E+01	34.15	1.31E+02	1.95
	25	814.91	811 -	818	815.00	2.13E+01	23.15	7.34E+01	1.49
	26	839.99	838 -	843	840.07	1.75E+01	21.12	7.09E+01	1.65
	27	846.01	844 -	849	846.09	2.10E+01	18.81	5.40E+01	3.64
	28	852.36	850 -	856	852.44	2.37E+01	20.50	5.86E+01	2.17
	29	860.88	857 -	865	860.95	4.60E+01	28.31	9.61E+01	1.59
	30	885.57	881 -	890	885.63	3.26E+01	24.86	6.88E+01	3.23
	31	911.57	907 -	916	911.62	1.62E+02	41.65	1.56E+02	1.89
	32	934.97	931 -	939	935.02	4.31E+01	25.93	7.77E+01	4.64
M	33	965.38	963 -	973	965.42	3.18E+01	19.56	5.57E+01	2.40
m	34	969.55	963 -	973	969.58	1.20E+02	30.21	6.15E+01	2.41
M	35	1120.94	1116 -	1142	1120.92	9.33E+01	25.84	5.35E+01	2.26
m	36	1128.23	1116 -	1142	1128.21	1.41E+01	18.65	5.13E+01	2.27
	37	1154.45	1151 -	1158	1154.41	2.33E+01	19.90	4.73E+01	3.70
	38	1175.18	1170 -	1178	1175.14	2.23E+01	22.89	6.54E+01	2.82
	39	1214.88	1212 -	1217	1214.83	1.53E+01	18.52	5.54E+01	1.56
	40	1237.99	1234 -	1241	1237.93	4.72E+01	25.38	7.57E+01	2.64

Analysis Report for 1510091-11

CP1807S20-21

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	41	1282.23	1278 -	1285	1282.15	1.77E+01	20.59	5.65E+01	3.97
M	42	1374.33	1373 -	1381	1374.22	1.31E+01	6.58	1.38E+00	2.38
m	43	1378.23	1373 -	1381	1378.12	2.76E+01	15.14	2.29E+01	2.38
	44	1392.10	1388 -	1396	1391.98	1.36E+01	14.19	2.28E+01	3.91
	45	1408.80	1405 -	1413	1408.68	2.20E+01	19.56	4.61E+01	2.13
	46	1461.41	1455 -	1466	1461.27	5.50E+02	51.30	5.46E+01	2.11
	47	1509.71	1504 -	1515	1509.55	2.99E+01	12.96	6.24E+00	5.54
M	48	1621.59	1618 -	1634	1621.39	1.52E+01	9.06	6.00E+00	2.73
m	49	1631.35	1618 -	1634	1631.15	1.29E+01	10.39	8.00E+00	2.73
	50	1662.50	1655 -	1669	1662.29	1.21E+01	16.15	2.18E+01	5.14
	51	1673.09	1671 -	1676	1672.87	6.07E+00	6.08	1.86E+00	1.08
M	52	1759.46	1758 -	1769	1759.20	7.38E+00	4.24	3.90E+00	2.54
m	53	1765.18	1758 -	1769	1764.92	6.97E+01	18.11	7.14E+00	2.54
	54	2078.69	2074 -	2081	2078.32	5.21E+00	6.63	3.57E+00	2.69
	55	2103.39	2098 -	2105	2103.01	8.39E+00	10.20	1.12E+01	0.89
	56	2273.15	2269 -	2276	2272.70	8.00E+00	7.48	4.00E+00	2.92
	57	2342.25	2338 -	2344	2341.78	9.00E+00	6.00	0.00E+00	2.83
	58	2418.76	2414 -	2421	2418.25	8.00E+00	5.66	0.00E+00	3.31
	59	2448.92	2445 -	2451	2448.40	1.00E+01	6.32	0.00E+00	1.45
	60	2549.96	2546 -	2552	2549.40	5.00E+00	4.47	0.00E+00	1.00
	61	2615.03	2611 -	2618	2614.44	7.67E+01	19.49	1.25E+01	2.63
	62	2774.56	2770 -	2776	2773.92	4.50E+00	6.02	3.00E+00	1.25
	63	3198.53	3194 -	3201	3197.71	7.00E+00	5.29	0.00E+00	1.12

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 : 11/10/2015 5:58:21PM

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	63.44	60 -	67	2.23E+02	104.08	1.66E+03	8.20E+01
M	2	73.68	72 -	83	2.32E+02	80.93	1.05E+03	5.33E+01
m	3	77.21	72 -	83	7.71E+02	108.78	1.42E+03	6.19E+01
m	4	87.80	83 -	98	1.92E+02	61.06	6.83E+02	4.30E+01
m	5	92.53	83 -	98	2.76E+02	66.45	6.68E+02	4.25E+01

Analysis Report for 1510091-11

CP1807S20-21

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	6	105.46	103 -	109	6.39E+01	75.25	9.88E+02	6.04E+01
	7	128.46	126 -	132	7.20E+01	73.78	9.30E+02	5.90E+01
	8	185.99	182 -	189	1.97E+02	76.11	8.30E+02	5.81E+01
	9	209.66	206 -	213	9.10E+01	68.26	7.08E+02	5.39E+01
M	10	238.72	235 -	249	8.41E+02	70.46	4.16E+02	3.35E+01
m	11	241.87	235 -	249	1.55E+02	55.86	3.31E+02	2.99E+01
	12	269.91	268 -	273	4.08E+01	45.40	3.86E+02	3.58E+01
	13	276.32	274 -	281	5.33E+01	59.26	5.45E+02	4.72E+01
M	14	295.42	290 -	303	2.57E+02	47.10	2.84E+02	2.77E+01
m	15	300.07	290 -	303	3.70E+01	43.55	3.33E+02	3.00E+01
	16	338.35	334 -	342	1.82E+02	58.71	4.19E+02	4.29E+01
	17	352.06	347 -	355	4.84E+02	65.88	3.73E+02	4.03E+01
	18	462.80	459 -	466	9.71E+01	36.39	1.56E+02	2.51E+01
	19	511.25	507 -	518	1.64E+02	55.17	2.95E+02	4.02E+01
	20	561.99	558 -	566	4.22E+01	35.40	1.68E+02	2.71E+01
	21	583.52	579 -	587	2.58E+02	47.23	1.84E+02	2.85E+01
	22	609.77	604 -	615	3.67E+02	58.58	2.44E+02	3.64E+01
	23	727.50	723 -	733	8.14E+01	40.07	1.71E+02	2.94E+01
	24	796.58	792 -	802	4.46E+01	34.15	1.31E+02	2.58E+01
	25	814.91	811 -	818	2.13E+01	23.15	7.34E+01	1.75E+01
	26	839.99	838 -	843	1.75E+01	21.12	7.09E+01	1.59E+01
	27	846.01	844 -	849	2.10E+01	18.81	5.40E+01	1.35E+01
	28	852.36	850 -	856	2.37E+01	20.50	5.86E+01	1.48E+01
	29	860.88	857 -	865	4.60E+01	28.31	9.61E+01	2.04E+01
	30	885.57	881 -	890	3.26E+01	24.86	6.88E+01	1.82E+01
	31	911.57	907 -	916	1.62E+02	41.65	1.56E+02	2.71E+01
	32	934.97	931 -	939	4.31E+01	25.93	7.77E+01	1.84E+01
M	33	965.38	963 -	973	3.18E+01	19.56	5.57E+01	1.23E+01
m	34	969.55	963 -	973	1.20E+02	30.21	6.15E+01	1.29E+01
M	35	1120.94	1116 -	1142	9.33E+01	25.84	5.35E+01	1.20E+01
m	36	1128.23	1116 -	1142	1.41E+01	18.65	5.13E+01	1.18E+01
	37	1154.45	1151 -	1158	2.33E+01	19.90	4.73E+01	1.43E+01
	38	1175.18	1170 -	1178	2.23E+01	22.89	6.54E+01	1.71E+01
	39	1214.88	1212 -	1217	1.53E+01	18.52	5.54E+01	1.38E+01
	40	1237.99	1234 -	1241	4.72E+01	25.38	7.57E+01	1.75E+01
	41	1282.23	1278 -	1285	1.77E+01	20.59	5.65E+01	1.54E+01
M	42	1374.33	1373 -	1381	1.31E+01	6.58	1.38E+00	1.93E+00
m	43	1378.23	1373 -	1381	2.76E+01	15.14	2.29E+01	7.86E+00
	44	1392.10	1388 -	1396	1.36E+01	14.19	2.28E+01	9.96E+00
	45	1408.80	1405 -	1413	2.20E+01	19.56	4.61E+01	1.41E+01
	46	1461.41	1455 -	1466	5.50E+02	51.30	5.46E+01	1.71E+01
	47	1509.71	1504 -	1515	2.99E+01	12.96	6.24E+00	5.72E+00
M	48	1621.59	1618 -	1634	1.52E+01	9.06	6.00E+00	4.03E+00
m	49	1631.35	1618 -	1634	1.29E+01	10.39	8.00E+00	4.65E+00
	50	1662.50	1655 -	1669	1.21E+01	16.15	2.18E+01	1.20E+01
	51	1673.09	1671 -	1676	6.07E+00	6.08	1.86E+00	2.93E+00
M	52	1759.46	1758 -	1769	7.38E+00	4.24	3.90E+00	3.25E+00
m	53	1765.18	1758 -	1769	6.97E+01	18.11	7.14E+00	4.39E+00
	54	2078.69	2074 -	2081	5.21E+00	6.63	3.57E+00	3.95E+00
	55	2103.39	2098 -	2105	8.39E+00	10.20	1.12E+01	6.90E+00
	56	2273.15	2269 -	2276	8.00E+00	7.48	4.00E+00	4.03E+00

Analysis Report for 1510091-11

CP1807S20-21

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
57	2342.25	2338 -	2344	9.00E+00	6.00	0.00E+00	0.00E+00
58	2418.76	2414 -	2421	8.00E+00	5.66	0.00E+00	0.00E+00
59	2448.92	2445 -	2451	1.00E+01	6.32	0.00E+00	0.00E+00
60	2549.96	2546 -	2552	5.00E+00	4.47	0.00E+00	0.00E+00
61	2615.03	2611 -	2618	7.67E+01	19.49	1.25E+01	7.03E+00
62	2774.56	2770 -	2776	4.50E+00	6.02	3.00E+00	3.51E+00
63	3198.53	3194 -	3201	7.00E+00	5.29	0.00E+00	0.00E+00

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

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/10/2015 5:58:21PM

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	63.44	60 -	67	63.78	2.23E+02	104.08	1.66E+03	TH-234 TH-230
M	2	73.68	72 -	83	74.02	2.32E+02	80.93	1.05E+03	AM-243
m	3	77.21	72 -	83	77.55	7.71E+02	108.78	1.42E+03	.....
m	4	87.80	83 -	98	88.13	1.92E+02	61.06	6.83E+02	SN-126 CD-109 LU-176
m	5	92.53	83 -	98	92.86	2.76E+02	66.45	6.68E+02	GA-67
	6	105.46	103 -	109	105.79	6.39E+01	75.25	9.88E+02	EU-155 NP-239
	7	128.46	126 -	132	128.79	7.20E+01	73.78	9.30E+02	.....
	8	185.99	182 -	189	186.30	1.97E+02	76.11	8.30E+02	RA-226
	9	209.66	206 -	213	209.95	9.10E+01	68.26	7.08E+02	CM-243 GA-67
M	10	238.72	235 -	249	239.01	8.41E+02	70.46	4.16E+02	PB-212
m	11	241.87	235 -	249	242.15	1.55E+02	55.86	3.31E+02	RA-224
	12	269.91	268 -	273	270.19	4.08E+01	45.40	3.86E+02	.....
	13	276.32	274 -	281	276.60	5.33E+01	59.26	5.45E+02	.....
M	14	295.42	290 -	303	295.69	2.57E+02	47.10	2.84E+02	PB-214

Analysis Report for 1510091-11

CP1807S20-21

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
m	15	300.07	290 -	303	300.33	3.70E+01	43.55	3.33E+02	PB-212 BI-210M GA-67
	16	338.35	334 -	342	338.60	1.82E+02	58.71	4.19E+02	AC-228
	17	352.06	347 -	355	352.31	4.84E+02	65.88	3.73E+02	PB-214
	18	462.80	459 -	466	463.02	9.71E+01	36.39	1.56E+02	SB-125
	19	511.25	507 -	518	511.45	1.64E+02	55.17	2.95E+02	.....
	20	561.99	558 -	566	562.17	4.22E+01	35.40	1.68E+02	.....
	21	583.52	579 -	587	583.69	2.58E+02	47.23	1.84E+02	TL-208
	22	609.77	604 -	615	609.93	3.67E+02	58.58	2.44E+02	BI-214
	23	727.50	723 -	733	727.62	8.14E+01	40.07	1.71E+02	BI-212
	24	796.58	792 -	802	796.67	4.46E+01	34.15	1.31E+02	CS-134
	25	814.91	811 -	818	815.00	2.13E+01	23.15	7.34E+01	LA-140
	26	839.99	838 -	843	840.07	1.75E+01	21.12	7.09E+01	.....
	27	846.01	844 -	849	846.09	2.10E+01	18.81	5.40E+01	CO-56
	28	852.36	850 -	856	852.44	2.37E+01	20.50	5.86E+01	.....
	29	860.88	857 -	865	860.95	4.60E+01	28.31	9.61E+01	TL-208
	30	885.57	881 -	890	885.63	3.26E+01	24.86	6.88E+01	AG-110M
	31	911.57	907 -	916	911.62	1.62E+02	41.65	1.56E+02	AC-228 LU-172
	32	934.97	931 -	939	935.02	4.31E+01	25.93	7.77E+01	.....
M	33	965.38	963 -	973	965.42	3.18E+01	19.56	5.57E+01	.....
m	34	969.55	963 -	973	969.58	1.20E+02	30.21	6.15E+01	AC-228
M	35	1120.94	1116 -	1142	1120.92	9.33E+01	25.84	5.35E+01	TA-182 SC-46 BI-214
m	36	1128.23	1116 -	1142	1128.21	1.41E+01	18.65	5.13E+01	.....
	37	1154.45	1151 -	1158	1154.41	2.33E+01	19.90	4.73E+01	EU-156
	38	1175.18	1170 -	1178	1175.14	2.23E+01	22.89	6.54E+01	.....
	39	1214.88	1212 -	1217	1214.83	1.53E+01	18.52	5.54E+01	.....
	40	1237.99	1234 -	1241	1237.93	4.72E+01	25.38	7.57E+01	CO-56
	41	1282.23	1278 -	1285	1282.15	1.77E+01	20.59	5.65E+01	.....
M	42	1374.33	1373 -	1381	1374.22	1.31E+01	6.58	1.38E+00	.....
m	43	1378.23	1373 -	1381	1378.12	2.76E+01	15.14	2.29E+01	.....
	44	1392.10	1388 -	1396	1391.98	1.36E+01	14.19	2.28E+01	.....
	45	1408.80	1405 -	1413	1408.68	2.20E+01	19.56	4.61E+01	EU-152
	46	1461.41	1455 -	1466	1461.27	5.50E+02	51.30	5.46E+01	K-40
	47	1509.71	1504 -	1515	1509.55	2.99E+01	12.96	6.24E+00	.....
M	48	1621.59	1618 -	1634	1621.39	1.52E+01	9.06	6.00E+00	BI-212
m	49	1631.35	1618 -	1634	1631.15	1.29E+01	10.39	8.00E+00	.....
	50	1662.50	1655 -	1669	1662.29	1.21E+01	16.15	2.18E+01	.....
	51	1673.09	1671 -	1676	1672.87	6.07E+00	6.08	1.86E+00	.....
M	52	1759.46	1758 -	1769	1759.20	7.38E+00	4.24	3.90E+00	.....
m	53	1765.18	1758 -	1769	1764.92	6.97E+01	18.11	7.14E+00	BI-214
	54	2078.69	2074 -	2081	2078.32	5.21E+00	6.63	3.57E+00	.....
	55	2103.39	2098 -	2105	2103.01	8.39E+00	10.20	1.12E+01	.....
	56	2273.15	2269 -	2276	2272.70	8.00E+00	7.48	4.00E+00	.....
	57	2342.25	2338 -	2344	2341.78	9.00E+00	6.00	0.00E+00	.....
	58	2418.76	2414 -	2421	2418.25	8.00E+00	5.66	0.00E+00	.....
	59	2448.92	2445 -	2451	2448.40	1.00E+01	6.32	0.00E+00	.....
	60	2549.96	2546 -	2552	2549.40	5.00E+00	4.47	0.00E+00	.....
	61	2615.03	2611 -	2618	2614.44	7.67E+01	19.49	1.25E+01	TL-208
	62	2774.56	2770 -	2776	2773.92	4.50E+00	6.02	3.00E+00	.....
	63	3198.53	3194 -	3201	3197.71	7.00E+00	5.29	0.00E+00	.....

Analysis Report for 1510091-11

CP1807S20-21

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 : 11/10/2015 5:58:21PM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	63.44	2.23E+02	104.08	2.50E-02	1.91E-03
M	2	73.68	2.32E+02	80.93	2.73E-02	2.26E-03
m	3	77.21	7.71E+02	108.78	2.78E-02	2.38E-03
m	4	87.80	1.92E+02	61.06	2.85E-02	2.73E-03
m	5	92.53	2.76E+02	66.45	2.86E-02	2.65E-03
	6	105.46	6.39E+01	75.25	2.82E-02	2.40E-03
	7	128.46	7.20E+01	73.78	2.68E-02	2.08E-03
	8	185.99	1.97E+02	76.11	2.24E-02	2.03E-03
	9	209.66	9.10E+01	68.26	2.09E-02	1.85E-03
M	10	238.72	8.41E+02	70.46	1.92E-02	1.64E-03
m	11	241.87	1.55E+02	55.86	1.91E-02	1.61E-03
	12	269.91	4.08E+01	45.40	1.77E-02	1.41E-03
	13	276.32	5.33E+01	59.26	1.75E-02	1.36E-03
M	14	295.42	2.57E+02	47.10	1.67E-02	1.31E-03
m	15	300.07	3.70E+01	43.55	1.65E-02	1.30E-03
	16	338.35	1.82E+02	58.71	1.52E-02	1.22E-03
	17	352.06	4.84E+02	65.88	1.48E-02	1.19E-03
	18	462.80	9.71E+01	36.39	1.21E-02	1.04E-03
	19	511.25	1.64E+02	55.17	1.12E-02	9.90E-04
	20	561.99	4.22E+01	35.40	1.05E-02	9.37E-04
	21	583.52	2.58E+02	47.23	1.02E-02	9.15E-04
	22	609.77	3.67E+02	58.58	9.82E-03	8.88E-04
	23	727.50	8.14E+01	40.07	8.55E-03	7.75E-04
	24	796.58	4.46E+01	34.15	7.96E-03	7.13E-04
	25	814.91	2.13E+01	23.15	7.82E-03	6.97E-04
	26	839.99	1.75E+01	21.12	7.63E-03	6.74E-04
	27	846.01	2.10E+01	18.81	7.58E-03	6.69E-04
	28	852.36	2.37E+01	20.50	7.54E-03	6.63E-04
	29	860.88	4.60E+01	28.31	7.48E-03	6.56E-04
	30	885.57	3.26E+01	24.86	7.31E-03	6.33E-04
	31	911.57	1.62E+02	41.65	7.15E-03	6.15E-04
	32	934.97	4.31E+01	25.93	7.00E-03	6.03E-04
M	33	965.38	3.18E+01	19.56	6.83E-03	5.87E-04
m	34	969.55	1.20E+02	30.21	6.80E-03	5.85E-04

Analysis Report for 1510091-11

CP1807S20-21

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
M	35	1120.94	9.33E+01	25.84	6.06E-03	5.06E-04
m	36	1128.23	1.41E+01	18.65	6.03E-03	5.03E-04
	37	1154.45	2.33E+01	19.90	5.93E-03	4.89E-04
	38	1175.18	2.23E+01	22.89	5.84E-03	4.79E-04
	39	1214.88	1.53E+01	18.52	5.70E-03	4.72E-04
	40	1237.99	4.72E+01	25.38	5.62E-03	4.68E-04
	41	1282.23	1.77E+01	20.59	5.47E-03	4.60E-04
M	42	1374.33	1.31E+01	6.58	5.19E-03	4.41E-04
m	43	1378.23	2.76E+01	15.14	5.18E-03	4.40E-04
	44	1392.10	1.36E+01	14.19	5.14E-03	4.36E-04
	45	1408.80	2.20E+01	19.56	5.10E-03	4.32E-04
	46	1461.41	5.50E+02	51.30	4.97E-03	4.19E-04
	47	1509.71	2.99E+01	12.96	4.86E-03	4.07E-04
M	48	1621.59	1.52E+01	9.06	4.63E-03	3.79E-04
m	49	1631.35	1.29E+01	10.39	4.61E-03	3.77E-04
	50	1662.50	1.21E+01	16.15	4.56E-03	3.69E-04
	51	1673.09	6.07E+00	6.08	4.54E-03	3.66E-04
M	52	1759.46	7.38E+00	4.24	4.40E-03	3.45E-04
m	53	1765.18	6.97E+01	18.11	4.39E-03	3.43E-04
	54	2078.69	5.21E+00	6.63	4.04E-03	3.26E-04
	55	2103.39	8.39E+00	10.20	4.02E-03	3.26E-04
	56	2273.15	8.00E+00	7.48	3.91E-03	3.26E-04
	57	2342.25	9.00E+00	6.00	3.87E-03	3.26E-04
	58	2418.76	8.00E+00	5.66	3.84E-03	3.26E-04
	59	2448.92	1.00E+01	6.32	3.83E-03	3.26E-04
	60	2549.96	5.00E+00	4.47	3.81E-03	3.26E-04
	61	2615.03	7.67E+01	19.49	3.79E-03	3.26E-04
	62	2774.56	4.50E+00	6.02	3.79E-03	3.26E-04
	63	3198.53	7.00E+00	5.29	3.88E-03	3.26E-04

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

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/10/2015 5:58:21PM

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	63.44	2.23E+02	104.08	7.80E+01	1.33E+01	1.45E+02	1.05E+02

Analysis Report for 1510091-11

CP1807S20-21

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	2	73.68	2.32E+02	80.93			2.32E+02	8.09E+01
m	3	77.21	7.71E+02	108.78	9.75E+00	8.28E+00	7.61E+02	1.09E+02
m	4	87.80	1.92E+02	61.06			1.92E+02	6.11E+01
m	5	92.53	2.76E+02	66.45	1.34E+02	9.83E+00	1.42E+02	6.72E+01
	6	105.46	6.39E+01	75.25			6.39E+01	7.52E+01
	7	128.46	7.20E+01	73.78			7.20E+01	7.38E+01
	8	185.99	1.97E+02	76.11	6.41E+01	7.38E+00	1.33E+02	7.65E+01
	9	209.66	9.10E+01	68.26			9.10E+01	6.83E+01
M	10	238.72	8.41E+02	70.46	2.34E+01	6.34E+00	8.18E+02	7.07E+01
m	11	241.87	1.55E+02	55.86			1.55E+02	5.59E+01
	12	269.91	4.08E+01	45.40			4.08E+01	4.54E+01
	13	276.32	5.33E+01	59.26			5.33E+01	5.93E+01
M	14	295.42	2.57E+02	47.10	4.17E+00	5.50E+00	2.52E+02	4.74E+01
m	15	300.07	3.70E+01	43.55			3.70E+01	4.36E+01
	16	338.35	1.82E+02	58.71	2.22E-01	4.54E+00	1.81E+02	5.89E+01
	17	352.06	4.84E+02	65.88	8.83E+00	4.91E+00	4.75E+02	6.61E+01
	18	462.80	9.71E+01	36.39			9.71E+01	3.64E+01
	19	511.25	1.64E+02	55.17	8.12E+01	5.49E+00	8.25E+01	5.54E+01
	20	561.99	4.22E+01	35.40			4.22E+01	3.54E+01
	21	583.52	2.58E+02	47.23	6.34E+00	3.74E+00	2.51E+02	4.74E+01
	22	609.77	3.67E+02	58.58	5.20E+00	3.69E+00	3.62E+02	5.87E+01
	23	727.50	8.14E+01	40.07			8.14E+01	4.01E+01
	24	796.58	4.46E+01	34.15			4.46E+01	3.41E+01
	25	814.91	2.13E+01	23.15			2.13E+01	2.32E+01
	26	839.99	1.75E+01	21.12			1.75E+01	2.11E+01
	27	846.01	2.10E+01	18.81			2.10E+01	1.88E+01
	28	852.36	2.37E+01	20.50			2.37E+01	2.05E+01
	29	860.88	4.60E+01	28.31			4.60E+01	2.83E+01
	30	885.57	3.26E+01	24.86			3.26E+01	2.49E+01
	31	911.57	1.62E+02	41.65	3.28E+00	2.53E+00	1.59E+02	4.17E+01
	32	934.97	4.31E+01	25.93			4.31E+01	2.59E+01
M	33	965.38	3.18E+01	19.56			3.18E+01	1.96E+01
m	34	969.55	1.20E+02	30.21			1.20E+02	3.02E+01
M	35	1120.94	9.33E+01	25.84	2.28E+00	2.55E+00	9.10E+01	2.60E+01
m	36	1128.23	1.41E+01	18.65			1.41E+01	1.86E+01
	37	1154.45	2.33E+01	19.90			2.33E+01	1.99E+01
	38	1175.18	2.23E+01	22.89			2.23E+01	2.29E+01
	39	1214.88	1.53E+01	18.52			1.53E+01	1.85E+01
	40	1237.99	4.72E+01	25.38			4.72E+01	2.54E+01
	41	1282.23	1.77E+01	20.59			1.77E+01	2.06E+01
M	42	1374.33	1.31E+01	6.58			1.31E+01	6.58E+00
m	43	1378.23	2.76E+01	15.14			2.76E+01	1.51E+01
	44	1392.10	1.36E+01	14.19			1.36E+01	1.42E+01
	45	1408.80	2.20E+01	19.56			2.20E+01	1.96E+01
	46	1461.41	5.50E+02	51.30	6.46E+00	2.33E+00	5.43E+02	5.14E+01
	47	1509.71	2.99E+01	12.96			2.99E+01	1.30E+01
M	48	1621.59	1.52E+01	9.06			1.52E+01	9.06E+00
m	49	1631.35	1.29E+01	10.39			1.29E+01	1.04E+01
	50	1662.50	1.21E+01	16.15			1.21E+01	1.61E+01
	51	1673.09	6.07E+00	6.08			6.07E+00	6.08E+00
M	52	1759.46	7.38E+00	4.24			7.38E+00	4.24E+00
m	53	1765.18	6.97E+01	18.11			6.97E+01	1.81E+01
	54	2078.69	5.21E+00	6.63			5.21E+00	6.63E+00
	55	2103.39	8.39E+00	10.20			8.39E+00	1.02E+01

Analysis Report for 1510091-11

CP1807S20-21

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
56	2273.15	8.00E+00	7.48			8.00E+00	7.48E+00
57	2342.25	9.00E+00	6.00			9.00E+00	6.00E+00
58	2418.76	8.00E+00	5.66			8.00E+00	5.66E+00
59	2448.92	1.00E+01	6.32			1.00E+01	6.32E+00
60	2549.96	5.00E+00	4.47			5.00E+00	4.47E+00
61	2615.03	7.67E+01	19.49	3.47E+00	1.48E+00	7.33E+01	1.95E+01
62	2774.56	4.50E+00	6.02			4.50E+00	6.02E+00
63	3198.53	7.00E+00	5.29			7.00E+00	5.29E+00

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

AREA CORRECTION REPORT
REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/10/2015 5:58:21PM

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	63.44	2.23E+02	104.08	7.80E+01	1.33E+01	1.45E+02	1.05E+02
M	2	73.68	2.32E+02	80.93			2.32E+02	8.09E+01
m	3	77.21	7.71E+02	108.78	9.75E+00	8.28E+00	7.61E+02	1.09E+02
m	4	87.80	1.92E+02	61.06			1.92E+02	6.11E+01
m	5	92.53	2.76E+02	66.45	1.34E+02	9.83E+00	1.42E+02	6.72E+01
	6	105.46	6.39E+01	75.25			6.39E+01	7.52E+01
	7	128.46	7.20E+01	73.78			7.20E+01	7.38E+01
	8	185.99	1.97E+02	76.11	6.41E+01	7.38E+00	1.33E+02	7.65E+01
	9	209.66	9.10E+01	68.26			9.10E+01	6.83E+01
M	10	238.72	8.41E+02	70.46	2.34E+01	6.34E+00	8.18E+02	7.07E+01
m	11	241.87	1.55E+02	55.86			1.55E+02	5.59E+01
	12	269.91	4.08E+01	45.40			4.08E+01	4.54E+01
	13	276.32	5.33E+01	59.26			5.33E+01	5.93E+01
M	14	295.42	2.57E+02	47.10	4.17E+00	5.50E+00	2.52E+02	4.74E+01
m	15	300.07	3.70E+01	43.55			3.70E+01	4.36E+01
	16	338.35	1.82E+02	58.71	2.22E-01	4.54E+00	1.81E+02	5.89E+01
	17	352.06	4.84E+02	65.88	8.83E+00	4.91E+00	4.75E+02	6.61E+01
	18	462.80	9.71E+01	36.39			9.71E+01	3.64E+01
	19	511.25	1.64E+02	55.17	8.12E+01	5.49E+00	8.25E+01	5.54E+01
	20	561.99	4.22E+01	35.40			4.22E+01	3.54E+01

Analysis Report for 1510091-11

CP1807S20-21

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	21	583.52	2.58E+02	47.23	6.34E+00	3.74E+00	2.51E+02	4.74E+01
	22	609.77	3.67E+02	58.58	5.20E+00	3.69E+00	3.62E+02	5.87E+01
	23	727.50	8.14E+01	40.07			8.14E+01	4.01E+01
	24	796.58	4.46E+01	34.15			4.46E+01	3.41E+01
	25	814.91	2.13E+01	23.15			2.13E+01	2.32E+01
	26	839.99	1.75E+01	21.12			1.75E+01	2.11E+01
	27	846.01	2.10E+01	18.81			2.10E+01	1.88E+01
	28	852.36	2.37E+01	20.50			2.37E+01	2.05E+01
	29	860.88	4.60E+01	28.31			4.60E+01	2.83E+01
	30	885.57	3.26E+01	24.86			3.26E+01	2.49E+01
	31	911.57	1.62E+02	41.65	3.28E+00	2.53E+00	1.59E+02	4.17E+01
	32	934.97	4.31E+01	25.93			4.31E+01	2.59E+01
M	33	965.38	3.18E+01	19.56			3.18E+01	1.96E+01
m	34	969.55	1.20E+02	30.21			1.20E+02	3.02E+01
M	35	1120.94	9.33E+01	25.84	2.28E+00	2.55E+00	9.10E+01	2.60E+01
m	36	1128.23	1.41E+01	18.65			1.41E+01	1.86E+01
	37	1154.45	2.33E+01	19.90			2.33E+01	1.99E+01
	38	1175.18	2.23E+01	22.89			2.23E+01	2.29E+01
	39	1214.88	1.53E+01	18.52			1.53E+01	1.85E+01
	40	1237.99	4.72E+01	25.38			4.72E+01	2.54E+01
	41	1282.23	1.77E+01	20.59			1.77E+01	2.06E+01
M	42	1374.33	1.31E+01	6.58			1.31E+01	6.58E+00
m	43	1378.23	2.76E+01	15.14			2.76E+01	1.51E+01
	44	1392.10	1.36E+01	14.19			1.36E+01	1.42E+01
	45	1408.80	2.20E+01	19.56			2.20E+01	1.96E+01
	46	1461.41	5.50E+02	51.30	6.46E+00	2.33E+00	5.43E+02	5.14E+01
	47	1509.71	2.99E+01	12.96			2.99E+01	1.30E+01
M	48	1621.59	1.52E+01	9.06			1.52E+01	9.06E+00
m	49	1631.35	1.29E+01	10.39			1.29E+01	1.04E+01
	50	1662.50	1.21E+01	16.15			1.21E+01	1.61E+01
	51	1673.09	6.07E+00	6.08			6.07E+00	6.08E+00
M	52	1759.46	7.38E+00	4.24			7.38E+00	4.24E+00
m	53	1765.18	6.97E+01	18.11			6.97E+01	1.81E+01
	54	2078.69	5.21E+00	6.63			5.21E+00	6.63E+00
	55	2103.39	8.39E+00	10.20			8.39E+00	1.02E+01
	56	2273.15	8.00E+00	7.48			8.00E+00	7.48E+00
	57	2342.25	9.00E+00	6.00			9.00E+00	6.00E+00
	58	2418.76	8.00E+00	5.66			8.00E+00	5.66E+00
	59	2448.92	1.00E+01	6.32			1.00E+01	6.32E+00
	60	2549.96	5.00E+00	4.47			5.00E+00	4.47E+00
	61	2615.03	7.67E+01	19.49	3.47E+00	1.48E+00	7.33E+01	1.95E+01
	62	2774.56	4.50E+00	6.02			4.50E+00	6.02E+00
	63	3198.53	7.00E+00	5.29			7.00E+00	5.29E+00

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

Analysis Report for 1510091-11

CP1807S20-21

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	0.943	1460.81	*	10.67	1.28E+01	1.64E+00
CO-56	0.654	846.75	*	99.96	4.56E-02	4.11E-02
		1037.75		14.03		
		1238.25	*	67.00	2.07E-01	1.12E-01
		1771.40		15.51		
		2598.48		16.90		
GA-67	0.589	93.31	*	35.70	1.35E+02	5.73E+02
		208.95	*	2.24	1.89E+03	7.83E+03
		300.22	*	16.00	1.36E+02	5.96E+02
CD-109	0.991	88.03	*	3.72	2.38E+00	8.01E-01
SN-126	0.992	87.57	*	37.00	2.28E-01	7.57E-02
TL-208	0.977	583.14	*	30.22	1.02E+00	2.14E-01
		860.37	*	4.48	1.72E+00	1.07E+00
		2614.66	*	35.85	6.74E-01	1.89E-01
BI-212	0.958	727.17	*	11.80	1.01E+00	5.05E-01
		1620.62	*	2.75	1.50E+00	8.98E-01
PB-212	0.999	238.63	*	44.60	1.19E+00	1.45E-01
		300.09	*	3.41	8.22E-01	9.70E-01
BI-214	0.885	609.31	*	46.30	9.95E-01	1.85E-01
		1120.29	*	15.10	1.24E+00	3.70E-01
		1764.49	*	15.80	1.26E+00	3.41E-01
		2204.22		4.98		
PB-214	0.996	295.21	*	19.19	9.86E-01	2.01E-01
		351.92	*	37.19	1.08E+00	1.74E-01
RA-224	0.882	240.98	*	3.95	2.57E+00	9.54E-01
RA-226	0.993	186.21	*	3.28	2.27E+00	4.35E+00
AC-228	0.971	338.32	*	11.40	1.31E+00	4.38E-01
		911.07	*	27.70	1.00E+00	2.77E-01
		969.11	*	16.60	1.33E+00	3.54E-01
TH-234	0.996	63.29	*	3.80	1.91E+00	1.39E+00
AM-243	0.854	74.67	*	66.00	1.61E-01	5.78E-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 1510091-11

CP1807S20-21

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 5:58:21PM
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	77.21	2.11513E-01	7.16		
	6	105.46	1.77618E-02	58.84	Tol.	EU-155 NP-239
	7	128.46	1.99876E-02	51.27		
	12	269.91	1.13462E-02	55.57		
	13	276.32	1.48091E-02	55.58		
	18	462.80	2.69778E-02	18.73	Tol.	SB-125
	19	511.25	2.29295E-02	33.58		
	20	561.99	1.17328E-02	41.91	Sum	
	24	796.58	1.23965E-02	38.26	Sum	
	25	814.91	5.91475E-03	54.36	Sum	
	26	839.99	4.87421E-03	60.18		
	28	852.36	6.57757E-03	43.29	Sum	
	30	885.57	9.05887E-03	38.11		
	32	934.97	1.19800E-02	30.06	Sum	
M	33	965.38	8.84003E-03	30.74	Sum	
m	36	1128.23	3.91743E-03	66.11		
	37	1154.45	6.48345E-03	42.63	Tol.	EU-156
	38	1175.18	6.19949E-03	51.27		
	39	1214.88	4.25065E-03	60.51		
	41	1282.23	4.92754E-03	58.04		
M	42	1374.33	3.64481E-03	25.06		
m	43	1378.23	7.65315E-03	27.48		
	44	1392.10	3.78333E-03	52.08		
	45	1408.80	6.09877E-03	44.54	Tol.	EU-152
	47	1509.71	8.29966E-03	21.69		
m	49	1631.35	3.58550E-03	40.26		
	50	1662.50	3.35749E-03	66.80		
	51	1673.09	1.68651E-03	50.09		
M	52	1759.46	2.04948E-03	28.75		
	54	2078.69	1.44841E-03	63.61		
	55	2103.39	2.33135E-03	60.75	S-Esc	
	56	2273.15	2.22222E-03	46.77		
	57	2342.25	2.50000E-03	33.33		
	58	2418.76	2.22222E-03	35.36		
	59	2448.92	2.77778E-03	31.62		
	60	2549.96	1.38889E-03	44.72		
	62	2774.56	1.25000E-03	66.90		
	63	3198.53	1.94444E-03	37.80	Sum	

Analysis Report for 1510091-11

CP1807S20-21

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.94	1460.81	*	10.67	1.28E+01	1.64E+00
CO-56	0.65	846.75	*	99.96	4.56E-02	4.11E-02
		1037.75		14.03		
		1238.25	*	67.00	2.07E-01	1.12E-01
		1771.40		15.51		
		2598.48		16.90		
GA-67	0.58	93.31	*	35.70	1.35E+02	5.73E+02
		208.95	*	2.24	1.89E+03	7.83E+03
		300.22	*	16.00	1.36E+02	5.96E+02
CD-109	0.99	88.03	*	3.72	2.38E+00	8.01E-01
SN-126	0.99	87.57	*	37.00	2.28E-01	7.57E-02
TL-208	0.97	583.14	*	30.22	1.02E+00	2.14E-01
		860.37	*	4.48	1.72E+00	1.07E+00
		2614.66	*	35.85	6.74E-01	1.89E-01
BI-212	0.95	727.17	*	11.80	1.01E+00	5.05E-01
		1620.62	*	2.75	1.50E+00	8.98E-01
PB-212	0.99	238.63	*	44.60	1.19E+00	1.45E-01
		300.09	*	3.41	8.22E-01	9.70E-01
BI-214	0.88	609.31	*	46.30	9.95E-01	1.85E-01
		1120.29	*	15.10	1.24E+00	3.70E-01
		1764.49	*	15.80	1.26E+00	3.41E-01
		2204.22		4.98		
PB-214	0.99	295.21	*	19.19	9.86E-01	2.01E-01
		351.92	*	37.19	1.08E+00	1.74E-01
RA-224	0.88	240.98	*	3.95	2.57E+00	9.54E-01
RA-226	0.99	186.21	*	3.28	2.27E+00	4.35E+00
AC-228	0.97	338.32	*	11.40	1.31E+00	4.38E-01
		911.07	*	27.70	1.00E+00	2.77E-01
		969.11	*	16.60	1.33E+00	3.54E-01
TH-234	0.99	63.29	*	3.80	1.91E+00	1.39E+00
AM-243	0.85	74.67	*	66.00	1.61E-01	5.78E-02

Analysis Report for 1510091-11

CP1807S20-21

* = 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	0.943	1.28E+01	1.64E+00	
	CO-56	0.654	6.46E-02	3.86E-02	
	GA-67	0.589	1.11E+02	4.55E+02	
?	CD-109	0.991	2.38E+00	8.01E-01	
?	SN-126	0.992	2.28E-01	7.57E-02	
	TL-208	0.977	8.43E-01	1.40E-01	
	BI-212	0.958	1.13E+00	4.40E-01	
	PB-212	0.999	1.17E+00	1.44E-01	
	BI-214	0.885	1.08E+00	1.49E-01	
	PB-214	0.996	1.04E+00	1.32E-01	
	RA-224	0.882	2.57E+00	9.54E-01	
	RA-226	0.993	2.27E+00	4.35E+00	
	AC-228	0.971	1.16E+00	1.95E-01	
	TH-234	0.996	1.91E+00	1.39E+00	
	AM-243	0.854	1.61E-01	5.78E-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 1510091-11
CP1807S20-21

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 5:58:21PM
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	77.21	2.11513E-01	7.16		
	6	105.46	1.77618E-02	58.84	Tol.	EU-155 NP-239
	7	128.46	1.99876E-02	51.27		
	12	269.91	1.13462E-02	55.57		
	13	276.32	1.48091E-02	55.58		
	18	462.80	2.69778E-02	18.73	Tol.	SB-125
	19	511.25	2.29295E-02	33.58		
	20	561.99	1.17328E-02	41.91	Sum	
	24	796.58	1.23965E-02	38.26	Sum	
	25	814.91	5.91475E-03	54.36	Sum	
	26	839.99	4.87421E-03	60.18		
	28	852.36	6.57757E-03	43.29	Sum	
	30	885.57	9.05887E-03	38.11		
	32	934.97	1.19800E-02	30.06	Sum	
M	33	965.38	8.84003E-03	30.74	Sum	
m	36	1128.23	3.91743E-03	66.11		
	37	1154.45	6.48345E-03	42.63	Tol.	EU-156
	38	1175.18	6.19949E-03	51.27		
	39	1214.88	4.25065E-03	60.51		
	41	1282.23	4.92754E-03	58.04		
M	42	1374.33	3.64481E-03	25.06		
m	43	1378.23	7.65315E-03	27.48		
	44	1392.10	3.78333E-03	52.08		
	45	1408.80	6.09877E-03	44.54	Tol.	EU-152
	47	1509.71	8.29966E-03	21.69		
m	49	1631.35	3.58550E-03	40.26		
	50	1662.50	3.35749E-03	66.80		
	51	1673.09	1.68651E-03	50.09		
M	52	1759.46	2.04948E-03	28.75		
	54	2078.69	1.44841E-03	63.61		
	55	2103.39	2.33135E-03	60.75	S-Esc	
	56	2273.15	2.22222E-03	46.77		
	57	2342.25	2.50000E-03	33.33		
	58	2418.76	2.22222E-03	35.36		

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Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
59	2448.92	2.77778E-03	31.62		
60	2549.96	1.38889E-03	44.72		
62	2774.56	1.25000E-03	66.90		
63	3198.53	1.94444E-03	37.80	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	-1.16E-01	7.32E-01	7.32E-01
+	NA-22	1274.54		99.94	2.91E-02	8.07E-02	8.07E-02
+	NA-24	1368.53		99.99	3.97E+13	3.66E+13	7.29E+13
		2754.09		99.86	-1.18E+13		3.66E+13
+	AL-26	1808.65		99.76	-7.78E-03	4.59E-02	4.59E-02
+	K-40	1460.81	*	10.67	1.28E+01	9.00E-01	9.00E-01
+	@ AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	1.02E-02	5.55E-02	5.55E-02
		78.34		96.00	2.00E-01		7.33E-02
+	SC-46	889.25		99.98	8.19E-03	7.31E-02	7.31E-02
		1120.51		99.99	2.54E-01		1.45E-01
+	V-48	983.52		99.98	-6.39E-02	2.23E-01	2.27E-01
		1312.10		97.50	5.97E-02		2.23E-01
+	CR-51	320.08		9.83	-4.17E-01	9.01E-01	9.01E-01
+	MN-54	834.83		99.97	-8.05E-03	6.45E-02	6.45E-02
+	CO-56	846.75	*	99.96	4.56E-02	6.46E-02	6.46E-02
		1037.75		14.03	-1.92E-01		5.86E-01
		1238.25	*	67.00	2.07E-01		1.66E-01
		1771.40		15.51	2.42E-02		4.22E-01
		2598.48		16.90	-2.57E-02		2.38E-01
+	CO-57	122.06		85.51	5.94E-03	5.34E-02	5.34E-02
		136.48		10.60	-8.37E-02		4.36E-01
+	CO-58	810.76		99.40	-2.02E-02	7.08E-02	7.08E-02
+	FE-59	1099.22		56.50	-3.72E-03	1.96E-01	1.96E-01
		1291.56		43.20	-6.45E-02		2.12E-01

Analysis Report for 1510091-11

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	CO-60	1173.22		100.00	2.90E-02	6.51E-02	7.33E-02
		1332.49		100.00	5.57E-03		6.51E-02
+	ZN-65	1115.52		50.75	2.97E-02	1.39E-01	1.39E-01
+	GA-67	93.31	*	35.70	1.35E+02	2.43E+02	2.43E+02
		208.95	*	2.24	1.89E+03		2.29E+03
		300.22	*	16.00	1.36E+02		4.86E+02
+	SE-75	121.11		16.70	-1.77E-03	8.47E-02	3.03E-01
		136.00		59.20	-4.01E-02		8.47E-02
		264.65		59.80	-1.78E-02		8.51E-02
		279.53		25.20	2.97E-02		2.28E-01
		400.65		11.40	-6.17E-02		4.65E-01
+	RB-82	776.52		13.00	-8.32E-01	1.05E+00	1.05E+00
+	RB-83	520.41		46.00	1.61E-02	1.36E-01	1.36E-01
		529.64		30.30	-7.26E-02		2.07E-01
		552.65		16.40	1.60E-01		4.29E-01
+	KR-85	513.99		0.43	2.81E+01	1.84E+01	1.84E+01
+	SR-85	513.99		99.27	1.71E-01	1.12E-01	1.12E-01
+	Y-88	898.02		93.40	1.25E-02	4.71E-02	7.29E-02
		1836.01		99.38	-1.44E-03		4.71E-02
+	NB-93M	16.57		9.43	-7.43E+01	6.50E+01	6.50E+01
+	NB-94	702.63		100.00	-1.68E-02	5.10E-02	6.12E-02
		871.10		100.00	6.32E-03		5.10E-02
+	NB-95	765.79		99.81	9.63E-02	1.35E-01	1.35E-01
+	NB-95M	235.69		25.00	-7.80E+02	9.16E+01	9.16E+01
+	ZR-95	724.18		43.70	-1.02E-02	1.55E-01	2.20E-01
		756.72		55.30	6.51E-02		1.55E-01
+	MO-99	181.06		6.20	-5.66E+02	1.01E+03	1.87E+03
		739.58		12.80	-4.23E+02		1.01E+03
		778.00		4.50	-1.99E+03		3.51E+03
+	RU-103	497.08		89.00	2.41E-02	1.09E-01	1.09E-01
+	RU-106	621.84		9.80	-4.64E-01	5.75E-01	5.75E-01
+	AG-108M	433.93		89.90	3.62E-03	5.93E-02	5.93E-02
		614.37		90.40	-2.56E-03		6.36E-02
		722.95		90.50	9.39E-03		6.92E-02
+	CD-109	88.03	*	3.72	2.38E+00	3.12E+00	3.12E+00
+	AG-110M	657.75		93.14	1.14E-02	6.63E-02	6.63E-02
		677.61		10.53	-1.93E-02		5.76E-01
		706.67		16.46	3.36E-02		4.15E-01
		763.93		21.98	-3.58E-01		3.03E-01
		884.67		71.63	6.77E-02		9.60E-02
		1384.27		23.94	9.49E-02		2.41E-01
+	CD-113M	263.70		0.02	1.51E+01	1.87E+02	1.87E+02
+	SN-113	255.12		1.93	-5.29E-02	8.49E-02	2.81E+00
		391.69		64.90	-3.06E-02		8.49E-02
+	TE123M	159.00		84.10	3.39E-02	6.44E-02	6.44E-02
+	SB-124	602.71		97.87	4.25E-02	8.75E-02	8.75E-02
		645.85		7.26	-2.74E-02		1.11E+00
		722.78		11.10	1.10E-01		8.08E-01

Analysis Report for 1510091-11

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	SB-124	1691.02		49.00	-4.33E-02	8.75E-02	1.14E-01
+	I-125	35.49		6.49	6.50E-01	2.71E+00	2.71E+00
+	SB-125	176.33		6.89	2.14E-01	1.75E-01	6.51E-01
		427.89		29.33	-1.13E-01		1.75E-01
		463.38		10.35	6.46E-01		6.21E-01
		600.56		17.80	9.63E-02		3.42E-01
		635.90		11.32	-1.97E-01		4.94E-01
+	SB-126	414.70		83.30	-2.33E-01	3.41E-01	3.50E-01
		666.33		99.60	1.80E-01		3.41E-01
		695.00		99.60	5.78E-02		3.44E-01
		720.50		53.80	-1.18E-01		6.01E-01
+	SN-126	87.57	*	37.00	2.28E-01	2.99E-01	2.99E-01
+	SB-127	473.00		25.00	1.97E+00	4.53E+01	5.54E+01
		685.20		35.70	9.94E+00		4.53E+01
		783.80		14.70	9.10E+01		1.33E+02
+	I-129	29.78		57.00	3.87E-02	4.14E-01	4.14E-01
		33.60		13.20	-2.43E-01		1.11E+00
		39.58		7.52	2.14E-01		1.21E+00
+	I-131	284.30		6.05	-2.48E+00	7.48E-01	1.10E+01
		364.48		81.20	5.01E-02		7.48E-01
		636.97		7.26	5.74E-01		1.15E+01
		722.89		1.80	7.01E+00		5.16E+01
+	TE-132	49.72		13.10	-7.11E+02	3.71E+01	3.58E+02
		228.16		88.00	-2.10E+01		3.71E+01
+	BA-133	81.00		33.00	-5.04E-01	8.10E-02	1.47E-01
		302.84		17.80	-1.74E-02		2.56E-01
		356.01		60.00	-1.39E-03		8.10E-02
+	I-133	529.87		86.30	-1.48E+09	4.22E+09	4.22E+09
+	XE-133	81.00		38.00	-2.73E+01	7.97E+00	7.97E+00
+	CS-134	563.23		8.38	2.86E-01	6.48E-02	7.28E-01
		569.32		15.43	-3.21E-02		3.69E-01
		604.70		97.60	1.48E-02		6.48E-02
		795.84		85.40	3.53E-02		8.34E-02
		801.93		8.73	-7.53E-02		7.22E-01
+	CS-135	268.24		16.00	1.25E-01	2.94E-01	2.94E-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	-2.13E-01	2.81E-01	3.05E+00
		163.89		4.61	-3.07E+00		4.80E+00
		176.55		13.56	5.54E-01		1.68E+00
		273.65		12.66	-1.77E+00		1.97E+00
		340.57		48.50	9.04E-01		6.81E-01
		818.50		99.70	-2.43E-02		2.81E-01
		1048.07		79.60	8.45E-02		4.06E-01
		1235.34		19.70	-2.15E-01		2.38E+00
+	CS-137	661.65		85.12	1.53E-03	6.83E-02	6.83E-02
+	LA-138	788.74		34.00	1.32E-01	1.11E-01	1.92E-01
		1435.80		66.00	5.15E-02		1.11E-01

Analysis Report for 1510091-11

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	CE-139	165.85	80.35	3.78E-02	6.51E-02	6.51E-02
+	BA-140	162.64	6.70	6.13E-02	1.11E+00	3.53E+00
		304.84	4.50	8.12E-01		5.27E+00
		423.70	3.20	1.22E+00		8.93E+00
		437.55	2.00	-3.02E+00		1.48E+01
		537.32	25.00	1.63E-01		1.11E+00
+	LA-140	328.77	20.50	4.41E-01	3.34E-01	1.31E+00
		487.03	45.50	-4.06E-01		5.39E-01
		815.85	23.50	-3.16E-01		1.29E+00
		1596.49	95.49	7.72E-02		3.34E-01
+	CE-141	145.44	48.40	2.48E-02	1.73E-01	1.73E-01
+	CE-143	57.36	11.80	-2.09E+06	1.17E+06	3.37E+06
		293.26	42.00	2.67E+06		1.17E+06
		664.55	5.20	1.73E+06		8.02E+06
+	CE-144	133.54	10.80	-1.19E-01	4.12E-01	4.12E-01
+	PM-144	476.78	42.00	-2.07E-02	5.77E-02	1.28E-01
		618.01	98.60	-2.21E-02		5.77E-02
		696.49	99.49	8.29E-03		6.36E-02
+	PM-145	36.85	21.70	-3.99E-03	2.58E-01	4.98E-01
		37.36	39.70	-1.70E-01		2.58E-01
		42.30	15.10	-2.35E-01		5.16E-01
		72.40	2.31	-1.39E+00		2.75E+00
+	PM-146	453.90	39.94	5.28E-02	1.35E-01	1.35E-01
		735.90	14.01	-7.13E-02		3.72E-01
		747.13	13.10	6.92E-02		4.29E-01
+	ND-147	91.11	28.90	-2.69E+00	1.49E+00	1.49E+00
		531.02	13.10	-1.13E+00		2.75E+00
+	PM-149	285.90	3.10	4.84E+03	2.73E+04	2.73E+04
+	EU-152	121.78	20.50	2.29E-02	2.06E-01	2.06E-01
		244.69	5.40	-4.30E-01		9.07E-01
		344.27	19.13	3.57E-02		2.36E-01
		778.89	9.20	1.52E-01		6.78E-01
		964.01	10.40	7.44E-02		8.06E-01
		1085.78	7.22	-1.54E-01		9.20E-01
		1112.02	9.60	4.08E-01		7.27E-01
		1407.95	14.94	2.55E-01		5.30E-01
+	GD-153	97.43	31.30	5.98E-02	1.45E-01	1.45E-01
		103.18	22.20	6.01E-03		2.09E-01
+	EU-154	123.07	40.50	8.73E-05	1.05E-01	1.05E-01
		723.30	19.70	4.34E-02		3.20E-01
		873.19	11.50	-1.40E-01		4.48E-01
		996.32	10.30	-1.76E-01		5.97E-01
		1004.76	17.90	-1.75E-01		3.38E-01
		1274.45	35.50	8.07E-02		2.23E-01
+	EU-155	86.50	30.90	1.15E-01	1.85E-01	1.85E-01
		105.30	20.70	2.68E-01		2.16E-01
+	EU-156	811.77	10.40	-1.68E-01	2.30E+00	2.30E+00
		1153.47	7.20	2.98E+00		4.23E+00
		1230.71	8.90	-6.85E-01		3.42E+00

Analysis Report for 1510091-11

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	HO-166M	184.41		72.60	1.22E-01	7.76E-02	7.76E-02
		280.45		29.60	2.46E-02		1.53E-01
		410.94		11.10	2.61E-01		5.03E-01
		711.69		54.10	3.64E-05		1.13E-01
+	TM-171	66.72		0.14	2.14E+00	3.98E+01	3.98E+01
+	HF-172	81.75		4.52	-1.90E+00	3.93E-01	1.08E+00
		125.81		11.30	-7.13E-02		3.93E-01
+	LU-172	181.53		20.60	-9.81E-01	2.71E+00	5.40E+00
		810.06		16.63	-7.28E-01		8.45E+00
		912.12		15.25	4.65E+01		2.09E+01
		1093.66		62.50	-2.92E-01		2.71E+00
+	LU-173	100.72		5.24	4.52E-01	2.46E-01	8.17E-01
		272.11		21.20	6.68E-02		2.46E-01
+	HF-175	343.40		84.00	1.10E-02	7.45E-02	7.45E-02
+	LU-176	88.34		13.30	6.18E-01	4.58E-02	4.39E-01
		201.83		86.00	5.43E-03		5.26E-02
		306.78		94.00	7.09E-04		4.58E-02
+	TA-182	67.75		41.20	2.82E-02	1.54E-01	1.54E-01
		1121.30		34.90	6.60E-01		3.85E-01
		1189.05		16.23	4.48E-01		5.83E-01
		1221.41		26.98	-1.59E-01		2.74E-01
		1231.02		11.44	-1.54E-01		7.70E-01
+	IR-192	308.46		29.68	5.55E-04	1.32E-01	1.96E-01
		468.07		48.10	-4.39E-02		1.32E-01
+	HG-203	279.19		77.30	1.56E-02	1.01E-01	1.01E-01
+	BI-207	569.67		97.72	-8.46E-03	5.77E-02	5.77E-02
		1063.62		74.90	-3.00E-02		8.00E-02
+	TL-208	583.14	*	30.22	1.02E+00	1.68E-01	2.47E-01
		860.37	*	4.48	1.72E+00		1.63E+00
		2614.66	*	35.85	6.74E-01		1.68E-01
+	BI-210M	262.00		45.00	-1.93E-03	9.82E-02	9.82E-02
		300.00		23.00	-3.73E-01		2.14E-01
+	PB-210	46.50		4.25	1.71E+00	1.71E+00	1.71E+00
+	PB-211	404.84		2.90	-4.64E-01	1.51E+00	1.51E+00
		831.96		2.90	-3.01E-01		2.14E+00
+	BI-212	727.17	*	11.80	1.01E+00	7.63E-01	7.63E-01
		1620.62	*	2.75	1.50E+00		2.29E+00
+	PB-212	238.63	*	44.60	1.19E+00	2.39E-01	2.39E-01
		300.09	*	3.41	8.22E-01		2.94E+00
+	BI-214	609.31	*	46.30	9.95E-01	2.10E-01	2.10E-01
		1120.29	*	15.10	1.24E+00		1.24E+00
		1764.49	*	15.80	1.26E+00		3.24E-01
		2204.22		4.98	1.21E+00		1.74E+00
+	PB-214	295.21	*	19.19	9.86E-01	1.92E-01	5.15E-01
		351.92	*	37.19	1.08E+00		1.92E-01
+	RN-219	401.80		6.50	-2.94E-02	6.78E-01	6.78E-01
+	RA-223	323.87		3.88	-1.99E-01	1.14E+00	1.14E+00
+	RA-224	240.98	*	3.95	2.57E+00	2.68E+00	2.68E+00

Analysis Report for 1510091-11

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	RA-225	40.00		31.00	2.18E-01	1.24E+00	1.24E+00
+	RA-226	186.21	*	3.28	2.27E+00	2.09E+00	2.09E+00
+	TH-227	50.10		8.40	-1.41E+00	4.89E-01	7.08E-01
		236.00		11.50	-4.17E+00		4.89E-01
		256.20		6.30	-1.50E-01		7.08E-01
+	AC-228	338.32	*	11.40	1.31E+00	3.63E-01	6.42E-01
		911.07	*	27.70	1.00E+00		3.63E-01
		969.11	*	16.60	1.33E+00		5.11E-01
+	TH-230	48.44		16.90	-2.92E-02	3.99E-01	3.99E-01
		62.85		4.60	2.03E+00		1.41E+00
		67.67		0.37	2.60E+00		1.42E+01
+	PA-231	283.67		1.60	4.23E-02	1.97E+00	2.87E+00
		302.67		2.30	-1.34E-01		1.97E+00
+	TH-231	25.64		14.70	-9.82E-01	7.98E-01	3.52E+00
		84.21		6.40	-1.42E+00		7.98E-01
+	PA-233	311.98		38.60	1.22E-02	2.46E-01	2.46E-01
+	PA-234	131.20		20.40	2.34E-02	2.05E-01	2.05E-01
		733.99		8.80	5.30E-02		6.43E-01
		946.00		12.00	-4.12E-01		4.24E-01
+	PA-234M	1001.03		0.92	-1.33E+00	6.74E+00	6.74E+00
+	TH-234	63.29	*	3.80	1.91E+00	2.25E+00	2.25E+00
+	U-235	143.76		10.50	2.77E-01	4.25E-01	4.25E-01
		163.35		4.70	-5.77E-01		9.04E-01
		205.31		4.70	-8.26E-02		9.52E-01
+	NP-237	86.50		12.60	2.80E-01	4.49E-01	4.49E-01
+	NP-239	106.10		22.70	2.43E+03	1.95E+03	1.95E+03
		228.18		10.70	-2.22E+03		3.92E+03
		277.60		14.10	1.33E+03		3.60E+03
+	AM-241	59.54		35.90	-3.77E-02	1.58E-01	1.58E-01
+	AM-243	74.67	*	66.00	1.61E-01	1.50E-01	1.50E-01
+	CM-243	209.75		3.29	1.51E+00	3.63E-01	1.53E+00
		228.14		10.60	-2.24E-01		3.95E-01
		277.60		14.00	1.34E-01		3.63E-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

Analysis Report for 1510091-11

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NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	BE-7	477.59		10.42	7.32E-01	7.32E-01	-1.16E-01	3.45E-01
	NA-22	1274.54		99.94	8.07E-02	8.07E-02	2.91E-02	3.72E-02
	NA-24	1368.53		99.99	7.29E+13	3.66E+13	3.97E+13	3.26E+13
		2754.09		99.86	3.66E+13		-1.18E+13	1.30E+13
	AL-26	1808.65		99.76	4.59E-02	4.59E-02	-7.78E-03	1.90E-02
+	K-40	1460.81	*	10.67	9.00E-01	9.00E-01	1.28E+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	5.55E-02	5.55E-02	1.02E-02	2.70E-02
		78.34		96.00	7.33E-02		2.00E-01	3.60E-02
	SC-46	889.25		99.98	7.31E-02	7.31E-02	8.19E-03	3.35E-02
		1120.51		99.99	1.45E-01		2.54E-01	6.89E-02
	V-48	983.52		99.98	2.27E-01	2.23E-01	-6.39E-02	1.04E-01
		1312.10		97.50	2.23E-01		5.97E-02	9.90E-02
	CR-51	320.08		9.83	9.01E-01	9.01E-01	-4.17E-01	4.27E-01
	MN-54	834.83		99.97	6.45E-02	6.45E-02	-8.05E-03	2.99E-02
+	CO-56	846.75	*	99.96	6.46E-02	6.46E-02	4.56E-02	2.94E-02
		1037.75		14.03	5.86E-01		-1.92E-01	2.68E-01
		1238.25	*	67.00	1.66E-01		2.07E-01	7.69E-02
		1771.40		15.51	4.22E-01		2.42E-02	1.78E-01
		2598.48		16.90	2.38E-01		-2.57E-02	8.45E-02
	CO-57	122.06		85.51	5.34E-02	5.34E-02	5.94E-03	2.59E-02
		136.48		10.60	4.36E-01		-8.37E-02	2.11E-01
	CO-58	810.76		99.40	7.08E-02	7.08E-02	-2.02E-02	3.25E-02
	FE-59	1099.22		56.50	1.96E-01	1.96E-01	-3.72E-03	9.02E-02
		1291.56		43.20	2.12E-01		-6.45E-02	9.45E-02
	CO-60	1173.22		100.00	7.33E-02	6.51E-02	2.90E-02	3.37E-02
		1332.49		100.00	6.51E-02		5.57E-03	2.93E-02
	ZN-65	1115.52		50.75	1.39E-01	1.39E-01	2.97E-02	6.35E-02
+	GA-67	93.31	*	35.70	2.43E+02	2.43E+02	1.35E+02	1.20E+02
		208.95	*	2.24	2.29E+03		1.89E+03	1.12E+03
		300.22	*	16.00	4.86E+02		1.36E+02	2.38E+02
	SE-75	121.11		16.70	3.03E-01	8.47E-02	-1.77E-03	1.47E-01
		136.00		59.20	8.47E-02		-4.01E-02	4.11E-02
		264.65		59.80	8.51E-02		-1.78E-02	4.07E-02
		279.53		25.20	2.28E-01		2.97E-02	1.10E-01
		400.65		11.40	4.65E-01		-6.17E-02	2.19E-01
	RB-82	776.52		13.00	1.05E+00	1.05E+00	-8.32E-01	4.86E-01
	RB-83	520.41		46.00	1.36E-01	1.36E-01	1.61E-02	6.36E-02
		529.64		30.30	2.07E-01		-7.26E-02	9.71E-02
		552.65		16.40	4.29E-01		1.60E-01	2.02E-01
	KR-85	513.99		0.43	1.84E+01	1.84E+01	2.81E+01	8.87E+00
	SR-85	513.99		99.27	1.12E-01	1.12E-01	1.71E-01	5.39E-02
	Y-88	898.02		93.40	7.29E-02	4.71E-02	1.25E-02	3.34E-02
		1836.01		99.38	4.71E-02		-1.44E-03	1.87E-02
	NB-93M	16.57		9.43	6.50E+01	6.50E+01	-7.43E+01	3.03E+01

Analysis Report for 1510091-11

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	NB-94	702.63		100.00	6.12E-02	5.10E-02	-1.68E-02	2.87E-02
		871.10		100.00	5.10E-02		6.32E-03	2.32E-02
	NB-95	765.79		99.81	1.35E-01	1.35E-01	9.63E-02	6.39E-02
	NB-95M	235.69		25.00	9.16E+01	9.16E+01	-7.80E+02	4.44E+01
	ZR-95	724.18		43.70	2.20E-01	1.55E-01	-1.02E-02	1.04E-01
		756.72		55.30	1.55E-01		6.51E-02	7.24E-02
	MO-99	181.06		6.20	1.87E+03	1.01E+03	-5.66E+02	9.03E+02
		739.58		12.80	1.01E+03		-4.23E+02	4.65E+02
		778.00		4.50	3.51E+03		-1.99E+03	1.63E+03
	RU-103	497.08		89.00	1.09E-01	1.09E-01	2.41E-02	5.16E-02
	RU-106	621.84		9.80	5.75E-01	5.75E-01	-4.64E-01	2.68E-01
	AG-108M	433.93		89.90	5.93E-02	5.93E-02	3.62E-03	2.82E-02
		614.37		90.40	6.36E-02		-2.56E-03	2.99E-02
		722.95		90.50	6.92E-02		9.39E-03	3.24E-02
+	CD-109	88.03	*	3.72	3.12E+00	3.12E+00	2.38E+00	1.54E+00
	AG-110M	657.75		93.14	6.63E-02	6.63E-02	1.14E-02	3.10E-02
		677.61		10.53	5.76E-01		-1.93E-02	2.69E-01
		706.67		16.46	4.15E-01		3.36E-02	1.95E-01
		763.93		21.98	3.03E-01		-3.58E-01	1.42E-01
		884.67		71.63	9.60E-02		6.77E-02	4.45E-02
		1384.27		23.94	2.41E-01		9.49E-02	1.06E-01
	CD-113M	263.70		0.02	1.87E+02	1.87E+02	1.51E+01	8.95E+01
	SN-113	255.12		1.93	2.81E+00	8.49E-02	-5.29E-02	1.35E+00
		391.69		64.90	8.49E-02		-3.06E-02	4.02E-02
	TE123M	159.00		84.10	6.44E-02	6.44E-02	3.39E-02	3.12E-02
	SB-124	602.71		97.87	8.75E-02	8.75E-02	4.25E-02	4.13E-02
		645.85		7.26	1.11E+00		-2.74E-02	5.19E-01
		722.78		11.10	8.08E-01		1.10E-01	3.79E-01
		1691.02		49.00	1.14E-01		-4.33E-02	4.63E-02
	I-125	35.49		6.49	2.71E+00	2.71E+00	6.50E-01	1.31E+00
	SB-125	176.33		6.89	6.51E-01	1.75E-01	2.14E-01	3.15E-01
		427.89		29.33	1.75E-01		-1.13E-01	8.29E-02
		463.38		10.35	6.21E-01		6.46E-01	2.97E-01
		600.56		17.80	3.42E-01		9.63E-02	1.61E-01
		635.90		11.32	4.94E-01		-1.97E-01	2.31E-01
	SB-126	414.70		83.30	3.50E-01	3.41E-01	-2.33E-01	1.66E-01
		666.33		99.60	3.41E-01		1.80E-01	1.60E-01
		695.00		99.60	3.44E-01		5.78E-02	1.61E-01
		720.50		53.80	6.01E-01		-1.18E-01	2.80E-01
+	SN-126	87.57	*	37.00	2.99E-01	2.99E-01	2.28E-01	1.48E-01
	SB-127	473.00		25.00	5.54E+01	4.53E+01	1.97E+00	2.61E+01
		685.20		35.70	4.53E+01		9.94E+00	2.12E+01
		783.80		14.70	1.33E+02		9.10E+01	6.27E+01
	I-129	29.78		57.00	4.14E-01	4.14E-01	3.87E-02	2.00E-01
		33.60		13.20	1.11E+00		-2.43E-01	5.35E-01
		39.58		7.52	1.21E+00		2.14E-01	5.86E-01
	I-131	284.30		6.05	1.10E+01	7.48E-01	-2.48E+00	5.26E+00
		364.48		81.20	7.48E-01		5.01E-02	3.53E-01
		636.97		7.26	1.15E+01		5.74E-01	5.40E+00
		722.89		1.80	5.16E+01		7.01E+00	2.42E+01
	TE-132	49.72		13.10	3.58E+02	3.71E+01	-7.11E+02	1.74E+02
		228.16		88.00	3.71E+01		-2.10E+01	1.78E+01
	BA-133	81.00		33.00	1.47E-01	8.10E-02	-5.04E-01	7.18E-02

Analysis Report for 1510091-11

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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-133	302.84	17.80	2.56E-01	8.10E-02	-1.74E-02	1.22E-01
	356.01	60.00	8.10E-02		-1.39E-03	3.86E-02
I-133	529.87	86.30	4.22E+09	4.22E+09	-1.48E+09	1.97E+09
XE-133	81.00	38.00	7.97E+00	7.97E+00	-2.73E+01	3.89E+00
CS-134	563.23	8.38	7.28E-01	6.48E-02	2.86E-01	3.44E-01
	569.32	15.43	3.69E-01		-3.21E-02	1.74E-01
	604.70	97.60	6.48E-02		1.48E-02	3.06E-02
	795.84	85.40	8.34E-02		3.53E-02	3.91E-02
	801.93	8.73	7.22E-01		-7.53E-02	3.36E-01
CS-135	268.24	16.00	2.94E-01	2.94E-01	1.25E-01	1.41E-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	3.05E+00	2.81E-01	-2.13E-01	1.48E+00
	163.89	4.61	4.80E+00		-3.07E+00	2.32E+00
	176.55	13.56	1.68E+00		5.54E-01	8.14E-01
	273.65	12.66	1.97E+00		-1.77E+00	9.48E-01
	340.57	48.50	6.81E-01		9.04E-01	3.28E-01
	818.50	99.70	2.81E-01		-2.43E-02	1.29E-01
	1048.07	79.60	4.06E-01		8.45E-02	1.86E-01
	1235.34	19.70	2.38E+00		-2.15E-01	1.11E+00
CS-137	661.65	85.12	6.83E-02	6.83E-02	1.53E-03	3.20E-02
LA-138	788.74	34.00	1.92E-01	1.11E-01	1.32E-01	8.99E-02
	1435.80	66.00	1.11E-01		5.15E-02	5.03E-02
CE-139	165.85	80.35	6.51E-02	6.51E-02	3.78E-02	3.15E-02
BA-140	162.64	6.70	3.53E+00	1.11E+00	6.13E-02	1.71E+00
	304.84	4.50	5.27E+00		8.12E-01	2.51E+00
	423.70	3.20	8.93E+00		1.22E+00	4.24E+00
	437.55	2.00	1.48E+01		-3.02E+00	7.03E+00
	537.32	25.00	1.11E+00		1.63E-01	5.21E-01
LA-140	328.77	20.50	1.31E+00	3.34E-01	4.41E-01	6.24E-01
	487.03	45.50	5.39E-01		-4.06E-01	2.52E-01
	815.85	23.50	1.29E+00		-3.16E-01	5.93E-01
	1596.49	95.49	3.34E-01		7.72E-02	1.46E-01
CE-141	145.44	48.40	1.73E-01	1.73E-01	2.48E-02	8.40E-02
CE-143	57.36	11.80	3.37E+06	1.17E+06	-2.09E+06	1.64E+06
	293.26	42.00	1.17E+06		2.67E+06	5.68E+05
	664.55	5.20	8.02E+06		1.73E+06	3.76E+06
CE-144	133.54	10.80	4.12E-01	4.12E-01	-1.19E-01	1.99E-01
PM-144	476.78	42.00	1.28E-01	5.77E-02	-2.07E-02	6.02E-02
	618.01	98.60	5.77E-02		-2.21E-02	2.70E-02
	696.49	99.49	6.36E-02		8.29E-03	2.98E-02
PM-145	36.85	21.70	4.98E-01	2.58E-01	-3.99E-03	2.41E-01
	37.36	39.70	2.58E-01		-1.70E-01	1.25E-01
	42.30	15.10	5.16E-01		-2.35E-01	2.50E-01
	72.40	2.31	2.75E+00		-1.39E+00	1.35E+00
PM-146	453.90	39.94	1.35E-01	1.35E-01	5.28E-02	6.40E-02
	735.90	14.01	3.72E-01		-7.13E-02	1.72E-01
	747.13	13.10	4.29E-01		6.92E-02	1.99E-01
ND-147	91.11	28.90	1.49E+00	1.49E+00	-2.69E+00	7.30E-01
	531.02	13.10	2.75E+00		-1.13E+00	1.29E+00
PM-149	285.90	3.10	2.73E+04	2.73E+04	4.84E+03	1.31E+04
EU-152	121.78	20.50	2.06E-01	2.06E-01	2.29E-02	1.00E-01

Analysis Report for 1510091-11

CP1807S20-21

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	EU-152	244.69		5.40	9.07E-01	2.06E-01	-4.30E-01	4.37E-01
		344.27		19.13	2.36E-01		3.57E-02	1.12E-01
		778.89		9.20	6.78E-01		1.52E-01	3.16E-01
		964.01		10.40	8.06E-01		7.44E-02	3.79E-01
		1085.78		7.22	9.20E-01		-1.54E-01	4.22E-01
		1112.02		9.60	7.27E-01		4.08E-01	3.35E-01
		1407.95		14.94	5.30E-01		2.55E-01	2.42E-01
	GD-153	97.43		31.30	1.45E-01	1.45E-01	5.98E-02	7.04E-02
		103.18		22.20	2.09E-01		6.01E-03	1.01E-01
	EU-154	123.07		40.50	1.05E-01	1.05E-01	8.73E-05	5.10E-02
		723.30		19.70	3.20E-01		4.34E-02	1.50E-01
		873.19		11.50	4.48E-01		-1.40E-01	2.04E-01
		996.32		10.30	5.97E-01		-1.76E-01	2.74E-01
		1004.76		17.90	3.38E-01		-1.75E-01	1.55E-01
		1274.45		35.50	2.23E-01		8.07E-02	1.03E-01
	EU-155	86.50		30.90	1.85E-01	1.85E-01	1.15E-01	9.08E-02
		105.30		20.70	2.16E-01		2.68E-01	1.05E-01
	EU-156	811.77		10.40	2.30E+00	2.30E+00	-1.68E-01	1.06E+00
		1153.47		7.20	4.23E+00		2.98E+00	1.95E+00
		1230.71		8.90	3.42E+00		-6.85E-01	1.57E+00
	HO-166M	184.41		72.60	7.76E-02	7.76E-02	1.22E-01	3.78E-02
		280.45		29.60	1.53E-01		2.46E-02	7.31E-02
		410.94		11.10	5.03E-01		2.61E-01	2.40E-01
		711.69		54.10	1.13E-01		3.64E-05	5.28E-02
	TM-171	66.72		0.14	3.98E+01	3.98E+01	2.14E+00	1.94E+01
	HF-172	81.75		4.52	1.08E+00	3.93E-01	-1.90E+00	5.24E-01
		125.81		11.30	3.93E-01		-7.13E-02	1.91E-01
	LU-172	181.53		20.60	5.40E+00	2.71E+00	-9.81E-01	2.61E+00
		810.06		16.63	8.45E+00		-7.28E-01	3.89E+00
		912.12		15.25	2.09E+01		4.65E+01	1.00E+01
		1093.66		62.50	2.71E+00		-2.92E-01	1.24E+00
	LU-173	100.72		5.24	8.17E-01	2.46E-01	4.52E-01	3.97E-01
		272.11		21.20	2.46E-01		6.68E-02	1.18E-01
	HF-175	343.40		84.00	7.45E-02	7.45E-02	1.10E-02	3.54E-02
	LU-176	88.34		13.30	4.39E-01	4.58E-02	6.18E-01	2.15E-01
		201.83		86.00	5.26E-02		5.43E-03	2.54E-02
		306.78		94.00	4.58E-02		7.09E-04	2.18E-02
	TA-182	67.75		41.20	1.54E-01	1.54E-01	2.82E-02	7.49E-02
		1121.30		34.90	3.85E-01		6.60E-01	1.83E-01
		1189.05		16.23	5.83E-01		4.48E-01	2.70E-01
		1221.41		26.98	2.74E-01		-1.59E-01	1.24E-01
		1231.02		11.44	7.70E-01		-1.54E-01	3.53E-01
	IR-192	308.46		29.68	1.96E-01	1.32E-01	5.55E-04	9.33E-02
		468.07		48.10	1.32E-01		-4.39E-02	6.19E-02
	HG-203	279.19		77.30	1.01E-01	1.01E-01	1.56E-02	4.86E-02
	BI-207	569.67		97.72	5.77E-02	5.77E-02	-8.46E-03	2.72E-02
		1063.62		74.90	8.00E-02		-3.00E-02	3.64E-02
+	TL-208	583.14	*	30.22	2.47E-01	1.68E-01	1.02E+00	1.18E-01
		860.37	*	4.48	1.63E+00		1.72E+00	7.63E-01
		2614.66	*	35.85	1.68E-01		6.74E-01	7.14E-02
	BI-210M	262.00		45.00	9.82E-02	9.82E-02	-1.93E-03	4.70E-02
		300.00		23.00	2.14E-01		-3.73E-01	1.03E-01
	PB-210	46.50		4.25	1.71E+00	1.71E+00	1.71E+00	8.33E-01

Analysis Report for 1510091-11

CP1807S20-21

	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	1.51E+00	1.51E+00	-4.64E-01	7.13E-01
		831.96		2.90	2.14E+00		-3.01E-01	9.94E-01
+	BI-212	727.17	*	11.80	7.63E-01	7.63E-01	1.01E+00	3.65E-01
		1620.62	*	2.75	2.29E+00		1.50E+00	1.01E+00
+	PB-212	238.63	*	44.60	2.39E-01	2.39E-01	1.19E+00	1.17E-01
		300.09	*	3.41	2.94E+00		8.22E-01	1.44E+00
+	BI-214	609.31	*	46.30	2.10E-01	2.10E-01	9.95E-01	1.01E-01
		1120.29	*	15.10	1.24E+00		1.24E+00	6.01E-01
		1764.49	*	15.80	3.24E-01		1.26E+00	1.38E-01
		2204.22		4.98	1.74E+00		1.21E+00	7.83E-01
+	PB-214	295.21	*	19.19	5.15E-01	1.92E-01	9.86E-01	2.52E-01
		351.92	*	37.19	1.92E-01		1.08E+00	9.30E-02
	RN-219	401.80		6.50	6.78E-01	6.78E-01	-2.94E-02	3.20E-01
	RA-223	323.87		3.88	1.14E+00	1.14E+00	-1.99E-01	5.40E-01
+	RA-224	240.98	*	3.95	2.68E+00	2.68E+00	2.57E+00	1.32E+00
	RA-225	40.00		31.00	1.24E+00	1.24E+00	2.18E-01	5.99E-01
+	RA-226	186.21	*	3.28	2.09E+00	2.09E+00	2.27E+00	1.02E+00
	TH-227	50.10		8.40	7.08E-01	4.89E-01	-1.41E+00	3.44E-01
		236.00		11.50	4.89E-01		-4.17E+00	2.37E-01
		256.20		6.30	7.08E-01		-1.50E-01	3.40E-01
+	AC-228	338.32	*	11.40	6.42E-01	3.63E-01	1.31E+00	3.11E-01
		911.07	*	27.70	3.63E-01		1.00E+00	1.73E-01
		969.11	*	16.60	5.11E-01		1.33E+00	2.41E-01
	TH-230	48.44		16.90	3.99E-01	3.99E-01	-2.92E-02	1.94E-01
		62.85		4.60	1.41E+00		2.03E+00	6.91E-01
		67.67		0.37	1.42E+01		2.60E+00	6.91E+00
	PA-231	283.67		1.60	2.87E+00	1.97E+00	4.23E-02	1.37E+00
		302.67		2.30	1.97E+00		-1.34E-01	9.38E-01
	TH-231	25.64		14.70	3.52E+00	7.98E-01	-9.82E-01	1.71E+00
		84.21		6.40	7.98E-01		-1.42E+00	3.90E-01
	PA-233	311.98		38.60	2.46E-01	2.46E-01	1.22E-02	1.17E-01
	PA-234	131.20		20.40	2.05E-01	2.05E-01	2.34E-02	9.95E-02
		733.99		8.80	6.43E-01		5.30E-02	2.99E-01
		946.00		12.00	4.24E-01		-4.12E-01	1.91E-01
	PA-234M	1001.03		0.92	6.74E+00	6.74E+00	-1.33E+00	3.09E+00
+	TH-234	63.29	*	3.80	2.25E+00	2.25E+00	1.91E+00	1.11E+00
	U-235	143.76		10.50	4.25E-01	4.25E-01	2.77E-01	2.06E-01
		163.35		4.70	9.04E-01		-5.77E-01	4.37E-01
		205.31		4.70	9.52E-01		-8.26E-02	4.59E-01
	NP-237	86.50		12.60	4.49E-01	4.49E-01	2.80E-01	2.20E-01
	NP-239	106.10		22.70	1.95E+03	1.95E+03	2.43E+03	9.49E+02
		228.18		10.70	3.92E+03		-2.22E+03	1.88E+03
		277.60		14.10	3.60E+03		1.33E+03	1.73E+03
	AM-241	59.54		35.90	1.58E-01	1.58E-01	-3.77E-02	7.71E-02
+	AM-243	74.67	*	66.00	1.50E-01	1.50E-01	1.61E-01	7.40E-02
	CM-243	209.75		3.29	1.53E+00	3.63E-01	1.51E+00	7.41E-01
		228.14		10.60	3.95E-01		-2.24E-01	1.90E-01
		277.60		14.00	3.63E-01		1.34E-01	1.74E-01

Analysis Report for 1510091-11

CP1807S20-21

+ = 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: CP1807S20-21

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	2	61	105	93	79	97	95
25:	79	53	59	64	63	65	57	60
33:	61	63	67	52	69	56	55	58
41:	70	79	54	60	57	80	142	65
49:	71	66	69	86	82	85	96	68
57:	96	82	99	106	115	102	139	251
65:	125	112	102	107	103	102	95	120
73:	159	132	326	263	326	426	131	105
81:	109	88	86	107	140	103	154	216
89:	121	148	147	130	277	212	72	71
97:	67	74	90	88	68	70	62	78
105:	89	102	89	76	62	86	67	79
113:	80	82	74	64	61	68	80	65
121:	65	76	83	78	65	79	73	80
129:	94	79	66	66	59	73	59	70
137:	75	56	85	72	64	92	59	68
145:	69	73	58	64	67	63	77	73
153:	66	67	65	55	60	63	77	65
161:	71	60	47	63	61	57	66	67
169:	57	47	53	45	47	58	66	60
177:	37	64	56	47	55	59	53	56
185:	66	155	119	57	47	48	61	57
193:	45	51	47	54	42	62	49	55
201:	52	45	56	48	50	51	48	48
209:	65	98	46	47	42	37	45	46
217:	55	44	44	56	28	40	34	49
225:	48	37	37	33	35	44	44	40
233:	45	52	42	59	47	129	563	204
241:	86	123	87	41	38	38	29	37
249:	27	32	35	37	36	31	35	46
257:	38	32	45	37	40	26	33	37
265:	32	33	22	30	39	49	51	39
273:	26	47	43	39	50	53	37	33
281:	24	41	30	32	30	35	32	41
289:	31	27	34	35	25	23	127	162
297:	41	28	32	47	40	32	22	33
305:	21	28	31	25	26	28	22	28
313:	27	19	25	22	24	20	29	15
321:	22	22	21	36	24	24	32	35
329:	34	26	29	29	29	12	26	26
337:	27	74	132	42	27	25	27	27
345:	22	26	19	25	30	13	59	268
353:	196	44	16	21	23	30	17	27
361:	14	25	15	12	20	24	20	15

369:	17	17	16	16	15	24	13	18

Sample Title: CP1807S20-21

Channel								
377:	21	24	18	18	23	11	15	18
385:	23	20	24	25	26	25	28	14
393:	19	17	21	26	25	19	18	21
401:	19	18	17	17	20	18	18	19
409:	26	31	20	15	12	23	16	15
417:	19	18	12	26	18	15	14	13
425:	17	15	30	13	15	12	8	27
433:	22	18	13	19	15	19	20	22
441:	17	16	22	19	9	11	11	11
449:	19	17	18	14	16	22	12	17
457:	15	9	11	18	16	21	39	40
465:	21	9	10	11	14	4	15	15
473:	11	16	18	12	14	12	10	12
481:	17	14	17	6	14	6	16	13
489:	8	8	14	14	18	19	12	20
497:	13	13	19	13	10	15	10	12
505:	15	16	11	20	23	35	67	63
513:	37	18	10	16	6	5	18	14
521:	9	14	8	7	13	14	10	8
529:	7	11	12	14	12	13	11	19
537:	10	10	7	14	8	12	6	14
545:	8	9	11	14	11	18	11	11
553:	13	12	11	12	8	9	16	8
561:	14	19	21	15	13	11	9	13
569:	15	15	15	8	14	14	16	12
577:	7	11	11	10	10	25	101	134
585:	38	14	7	12	6	16	14	8
593:	9	12	12	11	15	7	12	18
601:	11	20	12	12	7	12	12	22
609:	127	184	62	12	12	15	12	5
617:	12	14	14	4	9	14	9	8
625:	10	19	12	7	14	12	12	9
633:	10	3	8	18	8	14	9	14
641:	14	8	12	8	12	8	7	15
649:	10	9	11	8	8	8	9	9
657:	8	14	10	13	8	10	10	12
665:	11	6	14	12	11	6	7	8
673:	10	15	11	9	11	9	10	8
681:	7	8	7	10	12	8	12	12
689:	11	8	10	8	11	12	8	10
697:	8	15	13	6	15	4	15	12
705:	9	14	5	17	10	11	10	13
713:	8	10	11	11	9	4	6	14
721:	11	6	9	10	13	12	30	38
729:	14	12	9	12	8	8	8	9
737:	5	3	7	7	6	10	4	9
745:	6	9	9	7	9	6	10	4
753:	10	9	4	11	14	7	9	12
761:	9	5	6	11	8	13	13	14
769:	29	11	10	13	13	9	7	7
777:	9	9	7	9	11	13	11	5
785:	11	17	15	9	5	12	9	4
793:	7	11	22	16	8	7	8	11

801:	9	7	4	9	12	9	13	4

Sample Title: CP1807S20-21

Channel								
809:	7	5	7	7	4	7	14	8
817:	7	4	3	8	9	5	11	5
825:	7	5	7	8	13	7	10	7
833:	7	6	8	9	11	6	12	17
841:	9	6	3	6	11	10	9	8
849:	4	5	12	11	7	8	7	3
857:	5	7	7	15	25	8	11	7
865:	9	4	6	7	1	5	4	5
873:	7	6	6	2	7	9	5	3
881:	5	5	3	10	13	9	8	6
889:	6	2	4	7	1	6	6	6
897:	5	5	7	5	6	10	2	8
905:	6	8	6	10	7	16	61	91
913:	28	7	7	7	10	9	3	5
921:	2	6	7	7	4	5	8	8
929:	9	4	3	7	10	12	18	10
937:	7	12	3	7	3	9	1	2
945:	6	5	7	4	5	12	9	7
953:	8	7	9	10	4	9	6	7
961:	15	4	8	7	21	17	13	21
969:	48	52	13	6	2	5	11	5
977:	9	6	3	5	8	3	7	5
985:	3	9	3	10	7	7	1	10
993:	4	6	7	7	8	5	4	5
1001:	12	9	2	5	4	9	6	4
1009:	8	7	5	6	2	2	5	4
1017:	7	6	4	3	6	4	6	3
1025:	4	6	9	5	7	5	11	5
1033:	6	9	5	3	9	4	9	5
1041:	5	6	8	3	5	8	3	8
1049:	5	4	6	2	6	4	4	3
1057:	8	7	6	4	6	4	3	3
1065:	7	6	6	9	7	4	6	3
1073:	8	5	7	3	6	7	9	4
1081:	7	3	6	7	6	7	7	3
1089:	6	4	12	3	4	4	7	6
1097:	6	5	10	6	8	3	6	8
1105:	6	9	6	2	3	12	7	4
1113:	9	3	7	1	6	3	9	32
1121:	47	18	8	4	4	5	5	9
1129:	4	6	8	5	5	7	5	4
1137:	6	5	1	5	8	2	5	4
1145:	6	4	8	6	3	4	5	4
1153:	9	10	8	7	3	1	3	3
1161:	8	3	10	4	4	4	6	3
1169:	5	5	7	4	6	4	10	9
1177:	9	1	4	6	4	6	8	5
1185:	3	6	8	6	7	8	12	5
1193:	4	2	7	7	4	4	7	8
1201:	5	8	9	5	11	8	8	10
1209:	3	11	3	8	7	2	11	13
1217:	2	6	2	3	3	4	4	7
1225:	6	5	5	7	3	5	7	10

1233:	2	8	8	5	12	21	15	12

Sample Title: CP1807S20-21

Channel								
1241:	4	5	6	5	8	6	9	7
1249:	10	2	6	5	2	7	3	2
1257:	7	4	9	4	5	0	4	5
1265:	5	1	2	3	4	7	5	7
1273:	6	8	12	4	5	5	4	6
1281:	9	8	7	7	0	5	1	3
1289:	4	5	2	2	3	3	2	8
1297:	8	2	2	5	6	6	3	3
1305:	2	7	2	4	5	1	5	3
1313:	1	3	3	1	2	3	1	3
1321:	4	6	7	4	2	3	4	5
1329:	5	3	6	1	2	5	6	2
1337:	4	3	3	6	2	2	1	2
1345:	2	0	1	1	5	5	0	2
1353:	5	0	5	3	4	1	1	5
1361:	1	2	4	2	3	3	4	1
1369:	3	5	5	0	0	5	3	8
1377:	5	14	8	2	2	3	3	1
1385:	5	1	2	0	1	4	5	4
1393:	5	2	3	1	2	4	3	5
1401:	4	6	7	2	2	3	4	9
1409:	12	6	4	2	3	3	0	2
1417:	2	2	3	3	3	4	5	0
1425:	0	4	3	2	0	1	3	2
1433:	4	3	3	6	7	5	5	4
1441:	2	4	3	2	1	1	2	1
1449:	2	3	2	3	1	4	2	6
1457:	5	2	11	84	243	174	40	3
1465:	5	2	1	3	2	4	1	1
1473:	1	4	3	1	1	0	1	2
1481:	4	2	1	1	1	3	2	0
1489:	2	1	2	3	1	0	1	4
1497:	4	0	1	3	2	4	0	0
1505:	3	2	2	1	9	6	2	1
1513:	1	5	1	0	1	2	3	3
1521:	3	1	2	1	3	1	0	0
1529:	2	3	2	1	1	1	1	2
1537:	4	0	2	1	3	2	2	3
1545:	2	0	0	1	0	2	4	1
1553:	2	3	0	1	0	0	1	1
1561:	1	2	4	1	0	3	4	2
1569:	1	2	1	2	2	2	2	0
1577:	3	2	2	1	1	1	1	2
1585:	2	2	1	2	6	3	0	2
1593:	4	6	1	1	2	2	1	3
1601:	1	1	1	3	1	1	0	0
1609:	0	1	1	0	1	0	0	1
1617:	1	0	2	0	7	4	3	1
1625:	2	1	2	1	1	3	6	4
1633:	2	0	1	3	1	1	4	2
1641:	0	2	1	1	1	1	1	0
1649:	2	1	0	2	1	1	1	2
1657:	1	0	0	4	1	4	2	3

1665:	2	1	1	1	0	1	0	4

Sample Title: CP1807S20-21

Channel								
1673:	1	1	1	0	0	3	1	1
1681:	1	1	2	3	1	3	1	2
1689:	2	1	0	0	0	1	0	3
1697:	4	1	1	1	3	2	0	1
1705:	2	2	0	1	1	2	1	0
1713:	1	1	0	1	2	3	1	1
1721:	2	0	2	2	1	0	0	1
1729:	5	6	4	2	0	1	1	1
1737:	1	2	1	1	1	1	0	2
1745:	0	2	1	1	0	1	0	0
1753:	2	2	1	1	2	0	4	1
1761:	1	1	7	19	29	11	3	3
1769:	0	0	2	3	2	0	0	2
1777:	1	0	2	1	1	1	0	1
1785:	0	1	1	0	0	1	0	1
1793:	1	2	0	3	1	0	0	2
1801:	1	1	4	2	1	0	2	2
1809:	2	1	0	0	1	1	1	0
1817:	0	1	1	0	0	3	0	0
1825:	1	1	0	1	1	0	0	0
1833:	1	0	0	2	0	1	1	1
1841:	2	1	1	3	0	2	1	4
1849:	1	1	1	0	0	1	0	0
1857:	1	0	0	0	2	2	1	1
1865:	0	2	1	0	0	0	0	1
1873:	0	1	2	0	0	0	1	0
1881:	0	3	2	1	0	0	2	2
1889:	1	1	5	1	1	0	1	1
1897:	2	1	0	1	2	3	2	0
1905:	2	0	0	1	1	0	1	1
1913:	1	1	1	0	0	2	2	0
1921:	2	0	0	1	1	1	2	0
1929:	2	1	0	1	0	1	2	0
1937:	2	3	1	0	1	1	0	1
1945:	1	2	1	1	0	0	2	1
1953:	1	1	1	0	1	1	1	1
1961:	1	1	0	3	1	3	0	1
1969:	2	0	0	0	0	1	2	1
1977:	0	0	2	3	0	0	1	1
1985:	0	0	0	0	4	2	0	4
1993:	1	2	3	0	1	0	0	0
2001:	1	2	0	2	1	0	1	2
2009:	1	1	2	3	3	2	2	1
2017:	0	1	0	1	2	2	1	1
2025:	0	2	3	1	1	2	4	3
2033:	1	1	2	2	1	2	1	0
2041:	0	1	1	3	3	0	2	0
2049:	1	0	3	1	0	0	1	1
2057:	2	0	1	1	0	0	0	0
2065:	0	2	0	1	1	1	0	1
2073:	0	0	1	0	0	2	2	2
2081:	0	1	0	1	0	0	1	0
2089:	1	1	1	1	1	0	0	0

2097:	1	0	1	0	2	3	0	8

Sample Title: CP1807S20-21

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

2529:	0	2	0	0	0	0	1	0

Sample Title: CP1807S20-21

Channel								
2537:	0	2	1	0	2	0	0	0
2545:	0	0	0	0	4	0	1	0
2553:	0	0	0	0	1	0	0	0
2561:	0	0	0	0	0	0	1	0
2569:	0	0	0	1	0	0	0	0
2577:	0	0	0	0	0	1	1	0
2585:	0	1	0	0	1	0	0	1
2593:	0	0	0	0	0	1	0	1
2601:	0	0	1	0	0	1	2	0
2609:	0	1	0	4	11	27	26	13
2617:	2	0	2	1	0	0	0	0
2625:	0	1	1	1	0	0	0	0
2633:	0	0	1	0	1	0	1	0
2641:	0	1	1	1	0	0	0	0
2649:	0	0	1	0	0	1	0	0
2657:	0	0	0	0	0	0	0	1
2665:	0	0	0	1	1	0	1	0
2673:	0	0	1	1	0	0	0	0
2681:	0	0	0	0	0	0	0	2
2689:	0	1	0	0	0	1	0	3
2697:	1	0	0	0	0	1	0	0
2705:	0	0	0	1	0	0	1	0
2713:	0	0	0	0	0	0	0	1
2721:	0	1	0	0	0	0	0	0
2729:	0	0	0	0	0	0	1	0
2737:	0	1	0	0	0	1	0	0
2745:	0	0	0	1	0	0	0	0
2753:	0	1	0	1	0	1	2	0
2761:	0	0	1	0	0	0	0	0
2769:	0	0	0	0	1	4	1	0
2777:	1	0	0	0	0	0	1	0
2785:	0	0	0	1	1	1	0	0
2793:	0	0	0	0	0	0	0	0
2801:	0	0	0	0	1	0	0	1
2809:	0	0	0	0	0	0	0	0
2817:	1	0	0	0	0	0	0	0
2825:	0	1	0	0	0	0	0	1
2833:	0	0	0	1	0	0	0	0
2841:	1	1	0	0	0	0	0	1
2849:	0	1	0	1	0	0	0	0
2857:	0	0	0	0	0	0	0	1
2865:	1	0	0	0	0	0	2	0
2873:	0	0	0	0	0	0	0	0
2881:	1	1	0	0	0	0	0	1
2889:	0	0	0	1	1	1	0	0
2897:	0	0	0	0	0	0	0	1
2905:	1	0	2	0	0	2	0	0
2913:	1	0	0	0	0	1	1	0
2921:	0	0	0	0	0	0	0	0
2929:	0	1	0	0	0	0	0	0
2937:	0	1	0	1	0	0	1	1
2945:	0	0	0	0	1	0	0	0
2953:	0	0	0	1	0	0	0	0

2961:	1	0	0	0	0	1	0	0

Sample Title: CP1807S20-21

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

3393:	1	0	0	0	0	0	0	1

Sample Title: CP1807S20-21

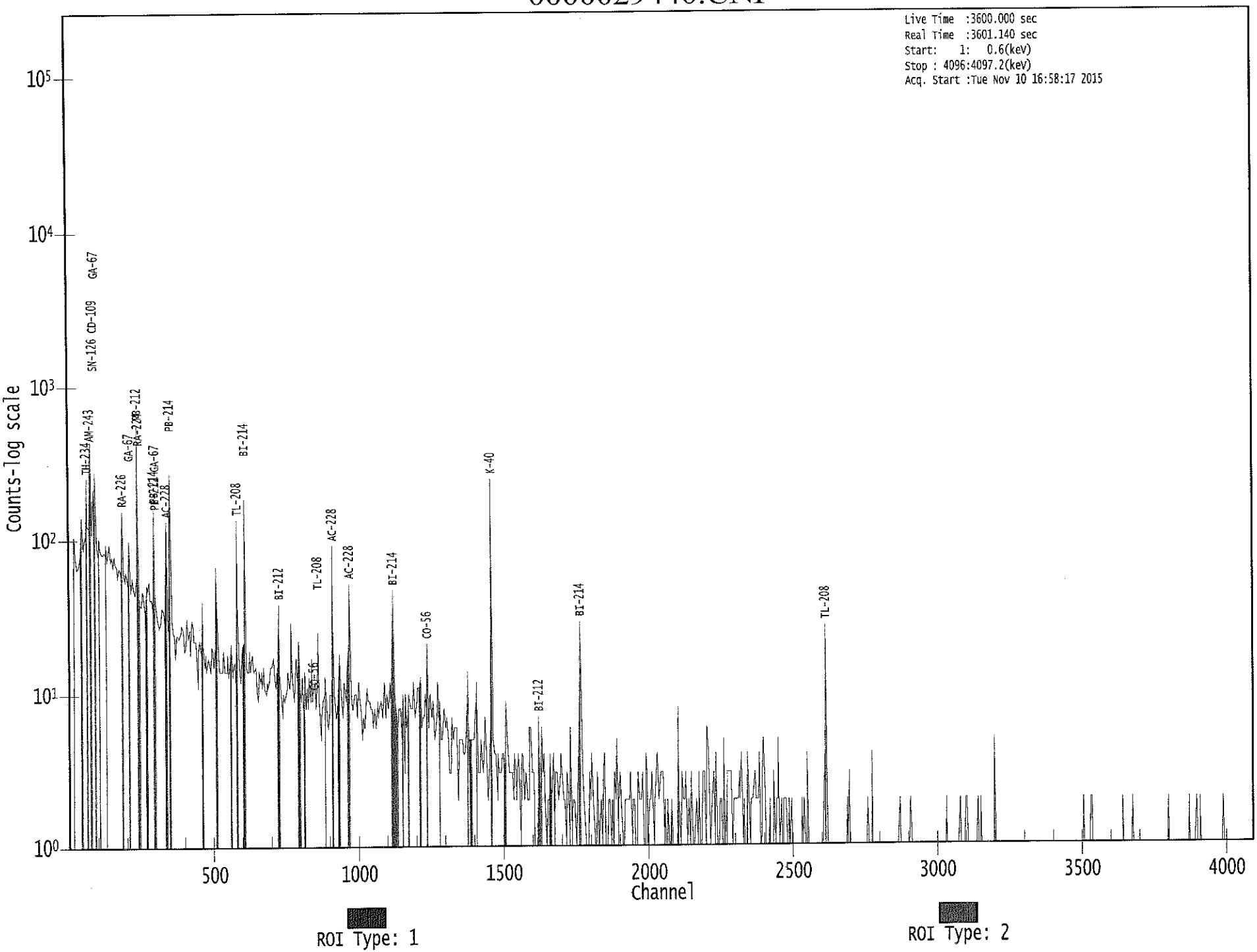
Channel								
3401:	0	0	0	0	0	0	0	0
3409:	0	0	0	0	0	0	0	0
3417:	0	1	0	1	0	1	0	0
3425:	0	0	0	0	0	0	0	0
3433:	0	1	0	0	0	0	0	0
3441:	1	0	0	0	0	0	0	1
3449:	1	0	0	0	1	1	0	0
3457:	0	0	1	0	1	0	0	0
3465:	0	0	1	1	1	0	0	0
3473:	0	0	0	0	0	1	0	0
3481:	0	0	1	0	0	0	0	0
3489:	0	0	0	0	0	0	1	0
3497:	0	0	0	0	0	0	0	1
3505:	2	0	1	0	0	0	0	0
3513:	0	0	0	0	0	0	0	1
3521:	0	0	0	0	0	1	0	0
3529:	0	0	2	0	0	2	0	0
3537:	1	0	0	0	0	0	0	0
3545:	0	1	0	0	0	0	1	1
3553:	0	0	1	1	0	1	0	0
3561:	1	0	0	0	0	0	0	1
3569:	0	0	0	0	0	0	0	0
3577:	0	0	0	0	0	0	0	0
3585:	0	1	0	0	0	0	0	0
3593:	0	0	0	0	1	0	0	0
3601:	0	0	0	0	0	1	0	1
3609:	0	1	0	1	1	0	0	0
3617:	0	0	0	0	0	1	0	1
3625:	0	0	0	0	0	0	0	0
3633:	0	0	1	0	0	0	0	0
3641:	2	0	0	0	0	0	0	0
3649:	0	1	1	0	0	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	1	0	0	0	0	0	0	1
3673:	0	0	1	2	0	0	0	0
3681:	0	0	0	0	0	0	0	0
3689:	1	1	0	0	1	0	0	0
3697:	0	0	0	0	0	0	0	0
3705:	0	0	0	0	1	0	0	0
3713:	0	0	0	0	0	0	0	0
3721:	0	1	0	0	0	0	0	0
3729:	0	0	0	0	0	0	0	0
3737:	0	1	0	0	0	0	0	1
3745:	0	0	0	0	0	1	0	1
3753:	0	1	0	0	0	0	0	0
3761:	0	0	0	0	1	0	0	0
3769:	0	0	0	0	0	1	0	0
3777:	0	0	0	0	0	0	1	0
3785:	0	0	0	1	0	0	0	0
3793:	0	0	0	1	0	0	0	2
3801:	0	0	0	0	0	0	0	0
3809:	0	0	0	0	0	1	0	0
3817:	0	0	0	0	0	0	0	0

3825:	0	0	0	0	1	0	0	0

Sample Title: CP1807S20-21

Channel								
3833:	0	1	0	0	0	0	0	0
3841:	0	0	0	0	0	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	0	1	0	0	0
3865:	0	0	0	0	0	0	0	2
3873:	0	0	0	0	0	0	0	0
3881:	0	0	1	0	1	0	1	0
3889:	0	0	1	0	0	1	0	0
3897:	2	1	0	0	0	0	0	0
3905:	0	0	0	0	2	0	0	0
3913:	0	0	0	0	0	0	1	0
3921:	0	1	0	0	0	0	1	0
3929:	0	0	0	1	0	0	0	0
3937:	0	1	0	0	0	0	0	0
3945:	0	0	0	0	0	0	0	0
3953:	0	0	1	0	0	0	1	0
3961:	0	0	1	0	0	0	0	0
3969:	0	0	0	0	0	0	0	0
3977:	0	0	1	0	0	1	0	0
3985:	0	1	0	0	2	0	0	0
3993:	0	0	0	0	0	0	0	0
4001:	0	0	0	0	1	0	0	0
4009:	0	1	1	0	0	0	1	0
4017:	0	0	0	0	0	1	0	0
4025:	1	0	0	0	0	0	0	0
4033:	1	0	0	0	0	0	0	0
4041:	0	0	0	0	0	0	0	1
4049:	0	0	0	0	0	0	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	0	0	0	0	0	0	1
4073:	0	0	0	0	0	0	1	0
4081:	0	0	0	0	0	1	0	0
4089:	0	0	0	0	0	0	0	1

0000029440.CNF



Apex-Gamma

Analysis Report for 1510091-12
CP1807S22-23

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1510091-12
Sample Description	: CP1807S22-23
Sample Type	: SOIL
Sample Size	: 5.732E+02 grams
Facility	: Countroom
Sample Taken On	: 10/10/2015 10:16:28AM
Acquisition Started	: 11/10/2015 5:07:24PM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE3
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3616.5 seconds
Dead Time	: 0.46 %
Peak Locate Threshold	: 2.50
Peak Locate Range (in channels)	: 1 - 4096
Peak Area Range (in channels)	: 9 - 4096
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 10/25/2014
Efficiency Calibration Used Done On	: 10/25/2014
Efficiency Calibration Description	:
Sample Number	: 29441

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

Analysis Report for 1510091-12

CP1807S22-23

PEAK LOCATE REPORT

Peak Locate Performed on : 11/10/2015 6:07:42PM
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	46.75	46.98	0.0000	0.00
2	64.41	64.63	0.0000	0.00
3	76.51	76.72	0.0000	0.00
4	87.91	88.12	0.0000	0.00
5	93.73	93.94	0.0000	0.00
6	186.00	186.15	0.0000	0.00
7	209.61	209.76	0.0000	0.00
8	238.78	238.91	0.0000	0.00
9	242.05	242.17	0.0000	0.00
10	295.55	295.65	0.0000	0.00
11	300.54	300.63	0.0000	0.00
12	306.32	306.41	0.0000	0.00
13	338.63	338.71	0.0000	0.00
14	352.20	352.27	0.0000	0.00
15	463.86	463.87	0.0000	0.00
16	506.01	506.00	0.0000	0.00
17	510.99	510.98	0.0000	0.00
18	583.45	583.40	0.0000	0.00
19	609.62	609.56	0.0000	0.00
20	727.60	727.48	0.0000	0.00
21	794.30	794.16	0.0000	0.00
22	837.05	836.89	0.0000	0.00
23	855.46	855.29	0.0000	0.00
24	861.45	861.27	0.0000	0.00
25	911.43	911.23	0.0000	0.00
26	964.78	964.56	0.0000	0.00
27	969.68	969.46	0.0000	0.00
28	1015.62	1015.38	0.0000	0.00
29	1120.70	1120.41	0.0000	0.00
30	1174.08	1173.78	0.0000	0.00
31	1239.31	1238.97	0.0000	0.00
32	1332.50	1332.13	0.0000	0.00
33	1378.37	1377.98	0.0000	0.00
34	1461.07	1460.65	0.0000	0.00
35	1542.83	1542.38	0.0000	0.00
36	1551.25	1550.79	0.0000	0.00
37	1575.95	1575.48	0.0000	0.00
38	1581.17	1580.71	0.0000	0.00
39	1592.95	1592.48	0.0000	0.00
40	1765.29	1764.76	0.0000	0.00
41	1912.74	1912.16	0.0000	0.00
42	1931.61	1931.02	0.0000	0.00

Analysis Report for 1510091-12

CP1807S22-23

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1938.39	1937.80	0.0000	0.00
44	1995.61	1995.00	0.0000	0.00
45	2061.09	2060.46	0.0000	0.00
46	2204.79	2204.12	0.0000	0.00
47	2316.70	2316.00	0.0000	0.00
48	2379.72	2379.01	0.0000	0.00
49	2614.87	2614.09	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510091-12

CP1807S22-23

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 6:07:42PM

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	46.75	44	49	46.98	1.15E+02	74.18	1.01E+03	1.33
	2	64.41	61	69	64.63	1.85E+02	121.02	2.13E+03	1.88
	3	76.51	72	81	76.72	1.01E+03	140.73	2.23E+03	3.81
	4	87.91	86	91	88.12	1.62E+02	86.69	1.38E+03	1.62
	5	93.73	91	98	93.94	2.18E+02	103.77	1.56E+03	1.81
	6	186.00	182	190	186.15	2.24E+02	77.82	7.97E+02	1.69
	7	209.61	207	213	209.76	7.76E+01	59.89	5.91E+02	1.93
M	8	238.78	235	246	238.91	8.59E+02	70.10	3.55E+02	1.77
m	9	242.05	235	246	242.17	1.70E+02	73.91	4.35E+02	1.89
M	10	295.55	292	303	295.65	2.58E+02	46.29	2.36E+02	2.14
m	11	300.54	292	303	300.63	5.82E+01	38.61	2.73E+02	2.07
	12	306.32	304	309	306.41	3.47E+01	36.57	2.35E+02	3.05
	13	338.63	335	343	338.71	1.47E+02	51.55	3.16E+02	2.11
	14	352.20	348	355	352.27	3.16E+02	57.55	3.53E+02	1.64
	15	463.86	460	467	463.87	5.93E+01	36.55	1.81E+02	2.19
M	16	506.01	505	516	506.00	1.90E+01	12.12	3.86E+01	1.93
m	17	510.99	505	516	510.98	1.31E+02	42.83	1.97E+02	2.84
	18	583.45	578	588	583.40	2.56E+02	52.41	2.25E+02	2.07
	19	609.62	607	613	609.56	2.27E+02	38.83	1.11E+02	2.00
	20	727.60	724	730	727.48	5.08E+01	27.55	1.00E+02	2.33
	21	794.30	789	798	794.16	3.87E+01	29.75	1.03E+02	2.01
	22	837.05	834	841	836.89	3.33E+01	24.82	8.13E+01	1.69
M	23	855.46	854	866	855.29	1.17E+01	8.89	1.42E+01	2.76
m	24	861.45	854	866	861.27	4.13E+01	30.20	9.09E+01	4.00
	25	911.43	905	915	911.23	1.18E+02	37.68	1.27E+02	2.06
M	26	964.78	958	977	964.56	2.62E+01	23.79	9.20E+01	2.22
m	27	969.68	958	977	969.46	8.07E+01	29.93	9.13E+01	2.51
	28	1015.62	1012	1019	1015.38	1.61E+01	19.29	4.98E+01	2.02
	29	1120.70	1115	1125	1120.41	4.84E+01	33.13	1.19E+02	1.87
	30	1174.08	1171	1177	1173.78	1.66E+01	19.91	6.08E+01	1.25
	31	1239.31	1234	1244	1238.97	2.95E+01	30.74	1.11E+02	2.06
	32	1332.50	1328	1337	1332.13	2.26E+01	15.23	2.08E+01	4.13
	33	1378.37	1373	1383	1377.98	2.68E+01	20.83	4.25E+01	2.20
	34	1461.07	1454	1467	1460.65	3.94E+02	44.20	4.20E+01	2.41
	35	1542.83	1537	1546	1542.38	1.37E+01	9.43	4.56E+00	7.44
	36	1551.25	1549	1553	1550.79	6.25E+00	6.67	3.50E+00	2.46
M	37	1575.95	1572	1584	1575.48	9.83E+00	6.95	1.22E+00	2.98
m	38	1581.17	1572	1584	1580.71	1.42E+01	10.01	5.91E+00	2.98
	39	1592.95	1590	1597	1592.48	2.04E+01	13.11	1.31E+01	2.78
	40	1765.29	1759	1770	1764.76	3.52E+01	19.49	2.96E+01	1.98

Analysis Report for 1510091-12

CP1807S22-23

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1912.74	1908 - 1915		1912.16	8.00E+00	8.94	8.00E+00	3.49
42	1931.61	1927 - 1933		1931.02	7.21E+00	10.25	1.36E+01	1.60
43	1938.39	1935 - 1940		1937.80	6.67E+00	7.35	4.67E+00	2.87
44	1995.61	1991 - 1997		1995.00	6.00E+00	4.90	0.00E+00	2.88
45	2061.09	2057 - 2063		2060.46	5.29E+00	6.34	3.43E+00	1.24
46	2204.79	2199 - 2210		2204.12	1.10E+01	11.83	1.20E+01	2.30
47	2316.70	2312 - 2319		2316.00	1.00E+01	6.32	0.00E+00	2.00
48	2379.72	2374 - 2382		2379.01	7.60E+00	7.76	4.80E+00	3.14
49	2614.87	2609 - 2619		2614.09	6.40E+01	16.00	0.00E+00	2.72

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 : 11/10/2015 6:07:42PM

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	46.75	44 -	49	1.15E+02	74.18	1.01E+03	5.84E+01
	2	64.41	61 -	69	1.85E+02	121.02	2.13E+03	9.69E+01
	3	76.51	72 -	81	1.01E+03	140.73	2.23E+03	1.03E+02
	4	87.91	86 -	91	1.62E+02	86.69	1.38E+03	6.81E+01
	5	93.73	91 -	98	2.18E+02	103.77	1.56E+03	8.18E+01
	6	186.00	182 -	190	2.24E+02	77.82	7.97E+02	5.90E+01
	7	209.61	207 -	213	7.76E+01	59.89	5.91E+02	4.71E+01
M	8	238.78	235 -	246	8.59E+02	70.10	3.55E+02	3.10E+01
m	9	242.05	235 -	246	1.70E+02	73.91	4.35E+02	3.43E+01
M	10	295.55	292 -	303	2.58E+02	46.29	2.36E+02	2.53E+01
m	11	300.54	292 -	303	5.82E+01	38.61	2.73E+02	2.72E+01
	12	306.32	304 -	309	3.47E+01	36.57	2.35E+02	2.85E+01
	13	338.63	335 -	343	1.47E+02	51.55	3.16E+02	3.74E+01
	14	352.20	348 -	355	3.16E+02	57.55	3.53E+02	4.17E+01
	15	463.86	460 -	467	5.93E+01	36.55	1.81E+02	2.72E+01
M	16	506.01	505 -	516	1.90E+01	12.12	3.86E+01	1.02E+01
m	17	510.99	505 -	516	1.31E+02	42.83	1.97E+02	2.31E+01
	18	583.45	578 -	588	2.56E+02	52.41	2.25E+02	3.41E+01

Analysis Report for 1510091-12

CP1807S22-23

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	19	609.62	607 -	613	2.27E+02	38.83	1.11E+02	2.02E+01
	20	727.60	724 -	730	5.08E+01	27.55	1.00E+02	1.94E+01
	21	794.30	789 -	798	3.87E+01	29.75	1.03E+02	2.22E+01
	22	837.05	834 -	841	3.33E+01	24.82	8.13E+01	1.81E+01
M	23	855.46	854 -	866	1.17E+01	8.89	1.42E+01	6.19E+00
m	24	861.45	854 -	866	4.13E+01	30.20	9.09E+01	1.57E+01
	25	911.43	905 -	915	1.18E+02	37.68	1.27E+02	2.53E+01
M	26	964.78	958 -	977	2.62E+01	23.79	9.20E+01	1.58E+01
m	27	969.68	958 -	977	8.07E+01	29.93	9.13E+01	1.57E+01
	28	1015.62	1012 -	1019	1.61E+01	19.29	4.98E+01	1.44E+01
	29	1120.70	1115 -	1125	4.84E+01	33.13	1.19E+02	2.47E+01
	30	1174.08	1171 -	1177	1.66E+01	19.91	6.08E+01	1.49E+01
	31	1239.31	1234 -	1244	2.95E+01	30.74	1.11E+02	2.36E+01
	32	1332.50	1328 -	1337	2.26E+01	15.23	2.08E+01	9.78E+00
	33	1378.37	1373 -	1383	2.68E+01	20.83	4.25E+01	1.49E+01
	34	1461.07	1454 -	1467	3.94E+02	44.20	4.20E+01	1.60E+01
	35	1542.83	1537 -	1546	1.37E+01	9.43	4.56E+00	4.80E+00
	36	1551.25	1549 -	1553	6.25E+00	6.67	3.50E+00	3.63E+00
M	37	1575.95	1572 -	1584	9.83E+00	6.95	1.22E+00	1.81E+00
m	38	1581.17	1572 -	1584	1.42E+01	10.01	5.91E+00	4.00E+00
	39	1592.95	1590 -	1597	2.04E+01	13.11	1.31E+01	7.81E+00
	40	1765.29	1759 -	1770	3.52E+01	19.49	2.96E+01	1.27E+01
	41	1912.74	1908 -	1915	8.00E+00	8.94	8.00E+00	5.70E+00
	42	1931.61	1927 -	1933	7.21E+00	10.25	1.36E+01	7.17E+00
	43	1938.39	1935 -	1940	6.67E+00	7.35	4.67E+00	4.30E+00
	44	1995.61	1991 -	1997	6.00E+00	4.90	0.00E+00	0.00E+00
	45	2061.09	2057 -	2063	5.29E+00	6.34	3.43E+00	3.59E+00
	46	2204.79	2199 -	2210	1.10E+01	11.83	1.20E+01	8.05E+00
	47	2316.70	2312 -	2319	1.00E+01	6.32	0.00E+00	0.00E+00
	48	2379.72	2374 -	2382	7.60E+00	7.76	4.80E+00	4.49E+00
	49	2614.87	2609 -	2619	6.40E+01	16.00	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 : 11/10/2015 6:07:42PM

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

Analysis Report for 1510091-12

CP1807S22-23

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	1	46.75	44 -	49	46.98	1.15E+02	74.18	1.01E+03	PB-210
	2	64.41	61 -	69	64.63	1.85E+02	121.02	2.13E+03	.....
	3	76.51	72 -	81	76.72	1.01E+03	140.73	2.23E+03	.....
	4	87.91	86 -	91	88.12	1.62E+02	86.69	1.38E+03	CD-109
									SN-126
									LU-176
	5	93.73	91 -	98	93.94	2.18E+02	103.77	1.56E+03	GA-67
	6	186.00	182 -	190	186.15	2.24E+02	77.82	7.97E+02	RA-226
	7	209.61	207 -	213	209.76	7.76E+01	59.89	5.91E+02	CM-243
									GA-67
M	8	238.78	235 -	246	238.91	8.59E+02	70.10	3.55E+02	PB-212
m	9	242.05	235 -	246	242.17	1.70E+02	73.91	4.35E+02	.....
M	10	295.55	292 -	303	295.65	2.58E+02	46.29	2.36E+02	PB-214
m	11	300.54	292 -	303	300.63	5.82E+01	38.61	2.73E+02	GA-67
									PB-212
									BI-210M
	12	306.32	304 -	309	306.41	3.47E+01	36.57	2.35E+02	LU-176
	13	338.63	335 -	343	338.71	1.47E+02	51.55	3.16E+02	AC-228
	14	352.20	348 -	355	352.27	3.16E+02	57.55	3.53E+02	PB-214
	15	463.86	460 -	467	463.87	5.93E+01	36.55	1.81E+02	SB-125
M	16	506.01	505 -	516	506.00	1.90E+01	12.12	3.86E+01	.....
m	17	510.99	505 -	516	510.98	1.31E+02	42.83	1.97E+02	.....
	18	583.45	578 -	588	583.40	2.56E+02	52.41	2.25E+02	TL-208
	19	609.62	607 -	613	609.56	2.27E+02	38.83	1.11E+02	BI-214
	20	727.60	724 -	730	727.48	5.08E+01	27.55	1.00E+02	BI-212
	21	794.30	789 -	798	794.16	3.87E+01	29.75	1.03E+02	.....
	22	837.05	834 -	841	836.89	3.33E+01	24.82	8.13E+01	.....
M	23	855.46	854 -	866	855.29	1.17E+01	8.89	1.42E+01	.....
m	24	861.45	854 -	866	861.27	4.13E+01	30.20	9.09E+01	.....
	25	911.43	905 -	915	911.23	1.18E+02	37.68	1.27E+02	AC-228
									LU-172
M	26	964.78	958 -	977	964.56	2.62E+01	23.79	9.20E+01	EU-152
m	27	969.68	958 -	977	969.46	8.07E+01	29.93	9.13E+01	AC-228
	28	1015.62	1012 -	1019	1015.38	1.61E+01	19.29	4.98E+01	.....
	29	1120.70	1115 -	1125	1120.41	4.84E+01	33.13	1.19E+02	SC-46
									BI-214
									TA-182
	30	1174.08	1171 -	1177	1173.78	1.66E+01	19.91	6.08E+01	CO-60
	31	1239.31	1234 -	1244	1238.97	2.95E+01	30.74	1.11E+02	.....
	32	1332.50	1328 -	1337	1332.13	2.26E+01	15.23	2.08E+01	CO-60
	33	1378.37	1373 -	1383	1377.98	2.68E+01	20.83	4.25E+01	.....
	34	1461.07	1454 -	1467	1460.65	3.94E+02	44.20	4.20E+01	K-40
	35	1542.83	1537 -	1546	1542.38	1.37E+01	9.43	4.56E+00	.....
	36	1551.25	1549 -	1553	1550.79	6.25E+00	6.67	3.50E+00	.....
M	37	1575.95	1572 -	1584	1575.48	9.83E+00	6.95	1.22E+00	.....
m	38	1581.17	1572 -	1584	1580.71	1.42E+01	10.01	5.91E+00	.....
	39	1592.95	1590 -	1597	1592.48	2.04E+01	13.11	1.31E+01	.....
	40	1765.29	1759 -	1770	1764.76	3.52E+01	19.49	2.96E+01	BI-214
	41	1912.74	1908 -	1915	1912.16	8.00E+00	8.94	8.00E+00	.....
	42	1931.61	1927 -	1933	1931.02	7.21E+00	10.25	1.36E+01	.....
	43	1938.39	1935 -	1940	1937.80	6.67E+00	7.35	4.67E+00	.....

Analysis Report for 1510091-12

CP1807S22-23

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
44	1995.61	1991 -	1997	1995.00	6.00E+00	4.90	0.00E+00	.....
45	2061.09	2057 -	2063	2060.46	5.29E+00	6.34	3.43E+00	.....
46	2204.79	2199 -	2210	2204.12	1.10E+01	11.83	1.20E+01	BI-214
47	2316.70	2312 -	2319	2316.00	1.00E+01	6.32	0.00E+00	.....
48	2379.72	2374 -	2382	2379.01	7.60E+00	7.76	4.80E+00	.....
49	2614.87	2609 -	2619	2614.09	6.40E+01	16.00	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 : 11/10/2015 6:07:42PM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	46.75	1.15E+02	74.18	1.51E-02	1.58E-03
	2	64.41	1.85E+02	121.02	2.19E-02	1.75E-03
	3	76.51	1.01E+03	140.73	2.38E-02	2.14E-03
	4	87.91	1.62E+02	86.69	2.44E-02	2.52E-03
	5	93.73	2.18E+02	103.77	2.44E-02	2.39E-03
	6	186.00	2.24E+02	77.82	1.83E-02	1.42E-03
	7	209.61	7.76E+01	59.89	1.68E-02	1.31E-03
M	8	238.78	8.59E+02	70.10	1.52E-02	1.18E-03
m	9	242.05	1.70E+02	73.91	1.51E-02	1.17E-03
M	10	295.55	2.58E+02	46.29	1.28E-02	9.74E-04
m	11	300.54	5.82E+01	38.61	1.26E-02	9.67E-04
	12	306.32	3.47E+01	36.57	1.24E-02	9.58E-04
	13	338.63	1.47E+02	51.55	1.14E-02	9.12E-04
	14	352.20	3.16E+02	57.55	1.11E-02	8.93E-04
	15	463.86	5.93E+01	36.55	8.72E-03	7.65E-04
M	16	506.01	1.90E+01	12.12	8.08E-03	7.23E-04
m	17	510.99	1.31E+02	42.83	8.01E-03	7.18E-04
	18	583.45	2.56E+02	52.41	7.14E-03	6.46E-04
	19	609.62	2.27E+02	38.83	6.87E-03	6.20E-04
	20	727.60	5.08E+01	27.55	5.89E-03	5.14E-04
	21	794.30	3.87E+01	29.75	5.46E-03	4.59E-04
	22	837.05	3.33E+01	24.82	5.22E-03	4.24E-04
M	23	855.46	1.17E+01	8.89	5.12E-03	4.09E-04
m	24	861.45	4.13E+01	30.20	5.09E-03	4.05E-04

Analysis Report for 1510091-12

CP1807S22-23

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	25	911.43	1.18E+02	37.68	4.85E-03	3.72E-04
M	26	964.78	2.62E+01	23.79	4.62E-03	3.62E-04
m	27	969.68	8.07E+01	29.93	4.60E-03	3.61E-04
	28	1015.62	1.61E+01	19.29	4.43E-03	3.53E-04
	29	1120.70	4.84E+01	33.13	4.08E-03	3.33E-04
	30	1174.08	1.66E+01	19.91	3.92E-03	3.23E-04
	31	1239.31	2.95E+01	30.74	3.75E-03	3.09E-04
	32	1332.50	2.26E+01	15.23	3.54E-03	2.89E-04
	33	1378.37	2.68E+01	20.83	3.45E-03	2.82E-04
	34	1461.07	3.94E+02	44.20	3.29E-03	2.69E-04
	35	1542.83	1.37E+01	9.43	3.16E-03	2.57E-04
	36	1551.25	6.25E+00	6.67	3.14E-03	2.56E-04
M	37	1575.95	9.83E+00	6.95	3.11E-03	2.52E-04
m	38	1581.17	1.42E+01	10.01	3.10E-03	2.51E-04
	39	1592.95	2.04E+01	13.11	3.08E-03	2.50E-04
	40	1765.29	3.52E+01	19.49	2.86E-03	2.24E-04
	41	1912.74	8.00E+00	8.94	2.70E-03	2.13E-04
	42	1931.61	7.21E+00	10.25	2.68E-03	2.13E-04
	43	1938.39	6.67E+00	7.35	2.68E-03	2.13E-04
	44	1995.61	6.00E+00	4.90	2.62E-03	2.13E-04
	45	2061.09	5.29E+00	6.34	2.57E-03	2.13E-04
	46	2204.79	1.10E+01	11.83	2.46E-03	2.13E-04
	47	2316.70	1.00E+01	6.32	2.39E-03	2.13E-04
	48	2379.72	7.60E+00	7.76	2.35E-03	2.13E-04
	49	2614.87	6.40E+01	16.00	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 : 11/10/2015 6:07:42PM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
1	46.75	1.15E+02	74.18	5.28E+01	1.09E+01	6.26E+01	7.50E+01
2	64.41	1.85E+02	121.02	5.52E+01	2.05E+01	1.30E+02	1.23E+02
3	76.51	1.01E+03	140.73			1.01E+03	1.41E+02
4	87.91	1.62E+02	86.69	1.52E+01	5.37E+00	1.47E+02	8.69E+01
5	93.73	2.18E+02	103.77	9.04E+01	2.62E+01	1.27E+02	1.07E+02

Analysis Report for 1510091-12

CP1807S22-23

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	6	186.00	2.24E+02	77.82	3.93E+01	6.56E+00	1.85E+02	7.81E+01
	7	209.61	7.76E+01	59.89			7.76E+01	5.99E+01
M	8	238.78	8.59E+02	70.10	1.34E+01	2.14E+00	8.46E+02	7.01E+01
m	9	242.05	1.70E+02	73.91	2.69E+00	1.46E+00	1.67E+02	7.39E+01
M	10	295.55	2.58E+02	46.29			2.58E+02	4.63E+01
m	11	300.54	5.82E+01	38.61			5.82E+01	3.86E+01
	12	306.32	3.47E+01	36.57			3.47E+01	3.66E+01
	13	338.63	1.47E+02	51.55			1.47E+02	5.16E+01
	14	352.20	3.16E+02	57.55	3.99E+00	4.73E+00	3.12E+02	5.77E+01
	15	463.86	5.93E+01	36.55			5.93E+01	3.66E+01
M	16	506.01	1.90E+01	12.12			1.90E+01	1.21E+01
m	17	510.99	1.31E+02	42.83	5.78E+01	4.60E+00	7.29E+01	4.31E+01
	18	583.45	2.56E+02	52.41	5.96E+00	3.46E+00	2.50E+02	5.25E+01
	19	609.62	2.27E+02	38.83	6.71E+00	3.44E+00	2.20E+02	3.90E+01
	20	727.60	5.08E+01	27.55			5.08E+01	2.76E+01
	21	794.30	3.87E+01	29.75			3.87E+01	2.97E+01
	22	837.05	3.33E+01	24.82			3.33E+01	2.48E+01
M	23	855.46	1.17E+01	8.89			1.17E+01	8.89E+00
m	24	861.45	4.13E+01	30.20			4.13E+01	3.02E+01
	25	911.43	1.18E+02	37.68	2.32E+00	2.73E+00	1.15E+02	3.78E+01
M	26	964.78	2.62E+01	23.79			2.62E+01	2.38E+01
m	27	969.68	8.07E+01	29.93			8.07E+01	2.99E+01
	28	1015.62	1.61E+01	19.29			1.61E+01	1.93E+01
	29	1120.70	4.84E+01	33.13	2.00E+00	2.20E+00	4.64E+01	3.32E+01
	30	1174.08	1.66E+01	19.91			1.66E+01	1.99E+01
	31	1239.31	2.95E+01	30.74			2.95E+01	3.07E+01
	32	1332.50	2.26E+01	15.23	4.25E+00	2.21E+00	1.84E+01	1.54E+01
	33	1378.37	2.68E+01	20.83			2.68E+01	2.08E+01
	34	1461.07	3.94E+02	44.20	2.36E+00	1.83E+00	3.92E+02	4.42E+01
	35	1542.83	1.37E+01	9.43			1.37E+01	9.43E+00
	36	1551.25	6.25E+00	6.67			6.25E+00	6.67E+00
M	37	1575.95	9.83E+00	6.95			9.83E+00	6.95E+00
m	38	1581.17	1.42E+01	10.01			1.42E+01	1.00E+01
	39	1592.95	2.04E+01	13.11			2.04E+01	1.31E+01
	40	1765.29	3.52E+01	19.49	1.45E+00	1.16E+00	3.37E+01	1.95E+01
	41	1912.74	8.00E+00	8.94			8.00E+00	8.94E+00
	42	1931.61	7.21E+00	10.25			7.21E+00	1.02E+01
	43	1938.39	6.67E+00	7.35			6.67E+00	7.35E+00
	44	1995.61	6.00E+00	4.90			6.00E+00	4.90E+00
	45	2061.09	5.29E+00	6.34			5.29E+00	6.34E+00
	46	2204.79	1.10E+01	11.83			1.10E+01	1.18E+01
	47	2316.70	1.00E+01	6.32			1.00E+01	6.32E+00
	48	2379.72	7.60E+00	7.76			7.60E+00	7.76E+00
	49	2614.87	6.40E+01	16.00			6.40E+01	1.60E+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 1510091-12

CP1807S22-23

AREA CORRECTION REPORT
REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/10/2015 6:07:42PM

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	46.75	1.15E+02	74.18	5.28E+01	1.09E+01	6.26E+01	7.50E+01
	2	64.41	1.85E+02	121.02	5.52E+01	2.05E+01	1.30E+02	1.23E+02
	3	76.51	1.01E+03	140.73			1.01E+03	1.41E+02
	4	87.91	1.62E+02	86.69	1.52E+01	5.37E+00	1.47E+02	8.69E+01
	5	93.73	2.18E+02	103.77	9.04E+01	2.62E+01	1.27E+02	1.07E+02
	6	186.00	2.24E+02	77.82	3.93E+01	6.56E+00	1.85E+02	7.81E+01
	7	209.61	7.76E+01	59.89			7.76E+01	5.99E+01
M	8	238.78	8.59E+02	70.10	1.34E+01	2.14E+00	8.46E+02	7.01E+01
m	9	242.05	1.70E+02	73.91	2.69E+00	1.46E+00	1.67E+02	7.39E+01
M	10	295.55	2.58E+02	46.29			2.58E+02	4.63E+01
m	11	300.54	5.82E+01	38.61			5.82E+01	3.86E+01
	12	306.32	3.47E+01	36.57			3.47E+01	3.66E+01
	13	338.63	1.47E+02	51.55			1.47E+02	5.16E+01
	14	352.20	3.16E+02	57.55	3.99E+00	4.73E+00	3.12E+02	5.77E+01
	15	463.86	5.93E+01	36.55			5.93E+01	3.66E+01
M	16	506.01	1.90E+01	12.12			1.90E+01	1.21E+01
m	17	510.99	1.31E+02	42.83	5.78E+01	4.60E+00	7.29E+01	4.31E+01
	18	583.45	2.56E+02	52.41	5.96E+00	3.46E+00	2.50E+02	5.25E+01
	19	609.62	2.27E+02	38.83	6.71E+00	3.44E+00	2.20E+02	3.90E+01
	20	727.60	5.08E+01	27.55			5.08E+01	2.76E+01
	21	794.30	3.87E+01	29.75			3.87E+01	2.97E+01
	22	837.05	3.33E+01	24.82			3.33E+01	2.48E+01
M	23	855.46	1.17E+01	8.89			1.17E+01	8.89E+00
m	24	861.45	4.13E+01	30.20			4.13E+01	3.02E+01
	25	911.43	1.18E+02	37.68	2.32E+00	2.73E+00	1.15E+02	3.78E+01
M	26	964.78	2.62E+01	23.79			2.62E+01	2.38E+01
m	27	969.68	8.07E+01	29.93			8.07E+01	2.99E+01
	28	1015.62	1.61E+01	19.29			1.61E+01	1.93E+01
	29	1120.70	4.84E+01	33.13	2.00E+00	2.20E+00	4.64E+01	3.32E+01
	30	1174.08	1.66E+01	19.91			1.66E+01	1.99E+01
	31	1239.31	2.95E+01	30.74			2.95E+01	3.07E+01
	32	1332.50	2.26E+01	15.23	4.25E+00	2.21E+00	1.84E+01	1.54E+01
	33	1378.37	2.68E+01	20.83			2.68E+01	2.08E+01
	34	1461.07	3.94E+02	44.20	2.36E+00	1.83E+00	3.92E+02	4.42E+01
	35	1542.83	1.37E+01	9.43			1.37E+01	9.43E+00
	36	1551.25	6.25E+00	6.67			6.25E+00	6.67E+00
M	37	1575.95	9.83E+00	6.95			9.83E+00	6.95E+00
m	38	1581.17	1.42E+01	10.01			1.42E+01	1.00E+01
	39	1592.95	2.04E+01	13.11			2.04E+01	1.31E+01
	40	1765.29	3.52E+01	19.49	1.45E+00	1.16E+00	3.37E+01	1.95E+01
	41	1912.74	8.00E+00	8.94			8.00E+00	8.94E+00

Analysis Report for 1510091-12

CP1807S22-23

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
42	1931.61	7.21E+00	10.25			7.21E+00	1.02E+01
43	1938.39	6.67E+00	7.35			6.67E+00	7.35E+00
44	1995.61	6.00E+00	4.90			6.00E+00	4.90E+00
45	2061.09	5.29E+00	6.34			5.29E+00	6.34E+00
46	2204.79	1.10E+01	11.83			1.10E+01	1.18E+01
47	2316.70	1.00E+01	6.32			1.00E+01	6.32E+00
48	2379.72	7.60E+00	7.76			7.60E+00	7.76E+00
49	2614.87	6.40E+01	16.00			6.40E+01	1.60E+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	0.989	1460.81	*	10.67	1.46E+01	2.06E+00
CO-60	0.942	1173.22	*	100.00	5.60E-02	6.74E-02
		1332.49	*	100.00	6.87E-02	5.79E-02
GA-67	0.614	93.31	*	35.70	1.48E+02	6.39E+02
		208.95	*	2.24	2.10E+03	8.70E+03
		300.22	*	16.00	2.93E+02	1.25E+03
CD-109	0.998	88.03	*	3.72	2.22E+00	1.34E+00
SN-126	0.982	87.57	*	37.00	2.13E-01	1.28E-01
TL-208	0.878	583.14	*	30.22	1.52E+00	3.47E-01
		860.37		4.48		
		2614.66	*	35.85	1.04E+00	2.79E-01
PB-210	0.990	46.50	*	4.25	1.28E+00	1.54E+00
BI-212	0.747	727.17	*	11.80	9.58E-01	5.26E-01
		1620.62		2.75		
PB-212	0.994	238.63	*	44.60	1.63E+00	1.85E-01
		300.09	*	3.41	1.77E+00	1.18E+00
BI-214	0.964	609.31	*	46.30	9.05E-01	1.80E-01
		1120.29	*	15.10	9.86E-01	7.11E-01
		1764.49	*	15.80	9.79E-01	5.72E-01
		2204.22	*	4.98	1.17E+00	1.27E+00
PB-214	0.986	295.21	*	19.19	1.37E+00	2.68E-01
		351.92	*	37.19	9.93E-01	2.01E-01
RA-226	0.993	186.21	*	3.28	4.04E+00	7.60E+00

Analysis Report for 1510091-12
CP1807S22-23

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
AC-228	0.971	338.32	*	11.40	1.48E+00	5.31E-01
		911.07	*	27.70	1.12E+00	3.78E-01
		969.11	*	16.60	1.38E+00	5.25E-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 : 11/10/2015 6:07:42PM
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	64.41	3.60407E-02	47.31		
	3	76.51	2.79811E-01	6.99		
m	9	242.05	4.63859E-02	22.14		
	12	306.32	9.63633E-03	52.70	Tol.	LU-176
	15	463.86	1.64667E-02	30.83	Tol.	SB-125
M	16	506.01	5.27126E-03	31.95	Sum	
m	17	510.99	2.02618E-02	29.53	Sum	
	21	794.30	1.07407E-02	38.47		
	22	837.05	9.26051E-03	37.22		
M	23	855.46	3.24329E-03	38.06		
m	24	861.45	1.14659E-02	36.58		
M	26	964.78	7.27473E-03	45.42	Tol.	EU-152
	28	1015.62	4.47154E-03	59.91	Sum	
	31	1239.31	8.18791E-03	52.14		
	33	1378.37	7.43056E-03	38.94	Sum	
	35	1542.83	3.81076E-03	34.38	Sum	
	36	1551.25	1.73611E-03	53.37		
M	37	1575.95	2.73188E-03	35.31		
m	38	1581.17	3.95433E-03	35.17		
	39	1592.95	5.67901E-03	32.07	D-Esc	
	41	1912.74	2.22222E-03	55.90		
	42	1931.61	2.00397E-03	71.02		
	43	1938.39	1.85185E-03	55.11	Sum	
	44	1995.61	1.66667E-03	40.82		
	45	2061.09	1.46825E-03	60.01	Sum	
	47	2316.70	2.77778E-03	31.62		

Analysis Report for 1510091-12
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Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
48	2379.72	2.11111E-03	51.07		

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	0.98	1460.81	*	10.67	1.46E+01	2.06E+00
CO-60	0.94	1173.22	*	100.00	5.60E-02	6.74E-02
		1332.49	*	100.00	6.87E-02	5.79E-02
GA-67	0.61	93.31	*	35.70	1.48E+02	6.39E+02
		208.95	*	2.24	2.10E+03	8.70E+03
		300.22	*	16.00	2.93E+02	1.25E+03
CD-109	0.99	88.03	*	3.72	2.22E+00	1.34E+00
SN-126	0.98	87.57	*	37.00	2.13E-01	1.28E-01
TL-208	0.87	583.14	*	30.22	1.52E+00	3.47E-01
		860.37		4.48		
		2614.66	*	35.85	1.04E+00	2.79E-01
PB-210	0.99	46.50	*	4.25	1.28E+00	1.54E+00
BI-212	0.74	727.17	*	11.80	9.58E-01	5.26E-01
		1620.62		2.75		
PB-212	0.99	238.63	*	44.60	1.63E+00	1.85E-01
		300.09	*	3.41	1.77E+00	1.18E+00
BI-214	0.96	609.31	*	46.30	9.05E-01	1.80E-01
		1120.29	*	15.10	9.86E-01	7.11E-01
		1764.49	*	15.80	9.79E-01	5.72E-01
		2204.22	*	4.98	1.17E+00	1.27E+00
PB-214	0.98	295.21	*	19.19	1.37E+00	2.68E-01
		351.92	*	37.19	9.93E-01	2.01E-01
RA-226	0.99	186.21	*	3.28	4.04E+00	7.60E+00
AC-228	0.97	338.32	*	11.40	1.48E+00	5.31E-01
		911.07	*	27.70	1.12E+00	3.78E-01
		969.11	*	16.60	1.38E+00	5.25E-01

Analysis Report for 1510091-12

CP1807S22-23

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40	0.989	1.46E+01	2.06E+00	
	CO-60	0.942	6.33E-02	4.39E-02	
	GA-67	0.614	1.21E+02	5.03E+02	
?	CD-109	0.998	2.22E+00	1.34E+00	
?	SN-126	0.982	2.13E-01	1.28E-01	
	TL-208	0.878	1.23E+00	2.18E-01	
	PB-210	0.990	1.28E+00	1.54E+00	
	BI-212	0.747	9.58E-01	5.26E-01	
	PB-212	0.994	1.62E+00	1.84E-01	
	BI-214	0.964	9.21E-01	1.66E-01	
	PB-214	0.986	1.13E+00	1.61E-01	
	RA-226	0.993	4.04E+00	7.60E+00	
	AC-228	0.971	1.28E+00	2.66E-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 1510091-12

CP1807S22-23

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 6:07:42PM
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	64.41	3.60407E-02	47.31		
	3	76.51	2.79811E-01	6.99		
m	9	242.05	4.63859E-02	22.14		
	12	306.32	9.63633E-03	52.70	Tol.	LU-176
	15	463.86	1.64667E-02	30.83	Tol.	SB-125
M	16	506.01	5.27126E-03	31.95	Sum	
m	17	510.99	2.02618E-02	29.53	Sum	
	21	794.30	1.07407E-02	38.47		
	22	837.05	9.26051E-03	37.22		
M	23	855.46	3.24329E-03	38.06		
m	24	861.45	1.14659E-02	36.58		
M	26	964.78	7.27473E-03	45.42	Tol.	EU-152
	28	1015.62	4.47154E-03	59.91	Sum	
	31	1239.31	8.18791E-03	52.14		
	33	1378.37	7.43056E-03	38.94	Sum	
	35	1542.83	3.81076E-03	34.38	Sum	
	36	1551.25	1.73611E-03	53.37		
M	37	1575.95	2.73188E-03	35.31		
m	38	1581.17	3.95433E-03	35.17		
	39	1592.95	5.67901E-03	32.07	D-Esc	
	41	1912.74	2.22222E-03	55.90		
	42	1931.61	2.00397E-03	71.02		
	43	1938.39	1.85185E-03	55.11	Sum	
	44	1995.61	1.66667E-03	40.82		
	45	2061.09	1.46825E-03	60.01	Sum	
	47	2316.70	2.77778E-03	31.62		
	48	2379.72	2.11111E-03	51.07		

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 1510091-12

CP1807S22-23

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	-2.90E-01	9.12E-01	9.12E-01
+	NA-22	1274.54		99.94	-2.84E-02	1.05E-01	1.05E-01
+	NA-24	1368.53		99.99	-1.96E+13	1.95E+13	1.22E+14
		2754.09		99.86	0.00E+00		1.95E+13
+	AL-26	1808.65		99.76	3.01E-02	8.80E-02	8.80E-02
+	K-40	1460.81	*	10.67	1.46E+01	1.31E+00	1.31E+00
+	@ AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	-3.67E-02	7.33E-02	7.33E-02
		78.34		96.00	2.25E-01		9.07E-02
+	SC-46	889.25		99.98	5.80E-03	1.09E-01	1.09E-01
		1120.51		99.99	2.10E-01		1.92E-01
+	V-48	983.52		99.98	-1.31E-01	3.01E-01	3.01E-01
		1312.10		97.50	1.75E-01		4.74E-01
+	CR-51	320.08		9.83	-3.71E-01	1.50E+00	1.50E+00
+	MN-54	834.83		99.97	3.45E-03	1.08E-01	1.08E-01
+	CO-56	846.75		99.96	2.93E-02	1.17E-01	1.17E-01
		1037.75		14.03	2.39E-01		8.66E-01
		1238.25		67.00	1.33E-01		2.70E-01
		1771.40		15.51	5.20E-02		8.09E-01
		2598.48		16.90	5.30E-02		4.22E-01
+	CO-57	122.06		85.51	-1.95E-02	6.09E-02	6.09E-02
		136.48		10.60	1.51E-02		5.36E-01
+	CO-58	810.76		99.40	-6.00E-02	9.96E-02	9.96E-02
+	FE-59	1099.22		56.50	1.21E-01	2.96E-01	2.96E-01
		1291.56		43.20	1.50E-01		4.37E-01
+	CO-60	1173.22	*	100.00	5.60E-02	8.88E-02	1.10E-01
		1332.49	*	100.00	6.87E-02		8.88E-02
+	ZN-65	1115.52		50.75	3.45E-03	2.21E-01	2.21E-01
+	GA-67	93.31	*	35.70	1.48E+02	2.04E+02	2.04E+02
		208.95	*	2.24	2.10E+03		2.62E+03
		300.22	*	16.00	2.93E+02		5.05E+02
+	SE-75	121.11		16.70	-8.63E-02	1.07E-01	3.44E-01
		136.00		59.20	6.05E-03		1.07E-01
		264.65		59.80	-2.24E-02		1.33E-01
		279.53		25.20	1.01E-01		3.29E-01
		400.65		11.40	-1.62E-02		7.62E-01
+	RB-82	776.52		13.00	-1.22E+00	1.45E+00	1.45E+00
+	RB-83	520.41		46.00	-6.20E-02	2.08E-01	2.08E-01
		529.64		30.30	-1.10E-01		3.15E-01
		552.65		16.40	1.33E-02		6.26E-01

Analysis Report for 1510091-12

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	KR-85	513.99		0.43	2.50E+01	2.48E+01	2.48E+01
+	SR-85	513.99		99.27	1.52E-01	1.51E-01	1.51E-01
+	Y-88	898.02		93.40	4.01E-02	1.17E-01	1.20E-01
		1836.01		99.38	4.40E-02		1.17E-01
+	NB-93M	16.57		9.43	-3.52E+01	7.81E+01	7.81E+01
+	NB-94	702.63		100.00	5.31E-02	8.54E-02	9.39E-02
		871.10		100.00	2.60E-02		8.54E-02
+	NB-95	765.79		99.81	6.24E-02	1.82E-01	1.82E-01
+	NB-95M	235.69		25.00	-2.14E+00	2.03E+02	2.03E+02
+	ZR-95	724.18		43.70	4.62E-02	2.06E-01	3.32E-01
		756.72		55.30	-5.22E-02		2.06E-01
+	MO-99	181.06		6.20	-3.72E+02	1.83E+03	2.24E+03
		739.58		12.80	-7.17E+02		1.83E+03
		778.00		4.50	-1.38E+03		4.88E+03
+	RU-103	497.08		89.00	-4.61E-02	1.38E-01	1.38E-01
+	RU-106	621.84		9.80	-7.18E-02	9.09E-01	9.09E-01
+	AG-108M	433.93		89.90	2.04E-02	7.92E-02	7.92E-02
		614.37		90.40	1.32E-02		9.80E-02
		722.95		90.50	3.14E-03		9.83E-02
+	CD-109	88.03	*	3.72	2.22E+00	2.11E+00	2.11E+00
+	AG-110M	657.75		93.14	1.87E-02	1.01E-01	1.01E-01
		677.61		10.53	1.04E-01		8.83E-01
		706.67		16.46	2.77E-01		6.18E-01
		763.93		21.98	-9.90E-02		4.56E-01
		884.67		71.63	-5.61E-02		1.10E-01
		1384.27		23.94	-7.82E-02		4.09E-01
+	CD-113M	263.70		0.02	-2.19E+01	2.90E+02	2.90E+02
+	SN-113	255.12		1.93	-4.59E+00	1.39E-01	3.73E+00
		391.69		64.90	3.63E-02		1.39E-01
+	TE123M	159.00		84.10	-1.80E-02	7.36E-02	7.36E-02
+	SB-124	602.71		97.87	-4.35E-02	1.15E-01	1.15E-01
		645.85		7.26	-1.02E-01		1.64E+00
		722.78		11.10	3.67E-02		1.15E+00
		1691.02		49.00	-1.45E-03		2.45E-01
+	I-125	35.49		6.49	2.40E-01	3.25E+00	3.25E+00
+	SB-125	176.33		6.89	1.38E-01	2.62E-01	8.24E-01
		427.89		29.33	7.71E-02		2.62E-01
		463.38		10.35	7.65E-01		8.50E-01
		600.56		17.80	9.72E-03		4.79E-01
		635.90		11.32	-1.94E-01		6.92E-01
+	SB-126	414.70		83.30	3.70E-02	4.63E-01	5.06E-01
		666.33		99.60	-2.43E-01		4.89E-01
		695.00		99.60	5.27E-02		4.63E-01
		720.50		53.80	-1.52E-01		9.28E-01
+	SN-126	87.57	*	37.00	2.13E-01	2.03E-01	2.03E-01
+	SB-127	473.00		25.00	3.34E+01	7.04E+01	7.60E+01
		685.20		35.70	3.50E+01		7.04E+01
		783.80		14.70	9.28E+01		1.83E+02

Analysis Report for 1510091-12

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		Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+		I-129	29.78	57.00	1.91E-02	4.61E-01	4.61E-01
			33.60	13.20	1.58E-01		1.30E+00
			39.58	7.52	1.00E+00		1.59E+00
+		I-131	284.30	6.05	-1.82E+00	1.10E+00	1.59E+01
			364.48	81.20	-9.41E-01		1.10E+00
			636.97	7.26	1.09E+00		1.62E+01
			722.89	1.80	2.35E+00		7.35E+01
+		TE-132	49.72	13.10	3.04E+01	5.96E+01	4.84E+02
			228.16	88.00	-7.89E+00		5.96E+01
+		BA-133	81.00	33.00	-8.56E-02	1.50E-01	1.80E-01
			302.84	17.80	1.50E-01		4.14E-01
			356.01	60.00	1.47E-02		1.50E-01
+		I-133	529.87	86.30	-2.25E+09	6.45E+09	6.45E+09
+		XE-133	81.00	38.00	-4.64E+00	9.76E+00	9.76E+00
+		CS-134	563.23	8.38	-2.37E-02	8.42E-02	9.57E-01
			569.32	15.43	5.83E-02		5.06E-01
			604.70	97.60	1.04E-03		8.42E-02
			795.84	85.40	3.83E-02		1.13E-01
			801.93	8.73	-2.48E-01		9.57E-01
+		CS-135	268.24	16.00	1.43E-01	4.56E-01	4.56E-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	2.10E+00	4.31E-01	3.76E+00
			163.89	4.61	5.25E-04		6.04E+00
			176.55	13.56	6.71E-01		2.09E+00
			273.65	12.66	2.27E-01		2.99E+00
			340.57	48.50	1.48E+00		9.64E-01
			818.50	99.70	-1.09E-01		4.31E-01
			1048.07	79.60	-2.41E-02		5.25E-01
			1235.34	19.70	-4.20E-01		3.12E+00
+		CS-137	661.65	85.12	2.95E-02	1.06E-01	1.06E-01
+		LA-138	788.74	34.00	1.16E-02	1.60E-01	2.65E-01
			1435.80	66.00	6.67E-02		1.60E-01
+		CE-139	165.85	80.35	6.68E-03	7.68E-02	7.68E-02
+		BA-140	162.64	6.70	6.90E-01	1.65E+00	4.42E+00
			304.84	4.50	-6.73E+00		7.99E+00
			423.70	3.20	-1.64E+00		1.20E+01
			437.55	2.00	7.49E-01		1.88E+01
			537.32	25.00	9.06E-01		1.65E+00
+		LA-140	328.77	20.50	6.50E-01	5.97E-01	2.03E+00
			487.03	45.50	5.36E-01		8.81E-01
			815.85	23.50	1.05E+00		1.99E+00
			1596.49	95.49	-2.43E-02		5.97E-01
+		CE-141	145.44	48.40	2.69E-02	2.09E-01	2.09E-01
+		CE-143	57.36	11.80	4.42E+04	1.58E+06	4.45E+06
			293.26	42.00	8.67E+04		1.58E+06
			664.55	5.20	5.08E+06		1.26E+07
+		CE-144	133.54	10.80	-3.08E-01	5.16E-01	5.16E-01

Analysis Report for 1510091-12

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	PM-144	476.78	42.00	3.87E-02	8.06E-02	1.68E-01
		618.01	98.60	2.38E-02		9.05E-02
		696.49	99.49	-4.15E-02		8.06E-02
+	PM-145	36.85	21.70	-2.68E-01	3.37E-01	6.24E-01
		37.36	39.70	-6.84E-02		3.37E-01
		42.30	15.10	4.10E-02		6.67E-01
		72.40	2.31	-5.43E+00		3.45E+00
+	PM-146	453.90	39.94	-3.30E-02	1.67E-01	1.67E-01
		735.90	14.01	3.13E-02		6.42E-01
		747.13	13.10	-1.15E-01		6.86E-01
+	ND-147	91.11	28.90	-1.18E+00	1.71E+00	1.71E+00
		531.02	13.10	-4.59E-01		4.13E+00
+	PM-149	285.90	3.10	8.48E+03	3.85E+04	3.85E+04
+	EU-152	121.78	20.50	-7.54E-02	2.35E-01	2.35E-01
		244.69	5.40	3.36E-01		1.56E+00
		344.27	19.13	2.27E-02		3.48E-01
		778.89	9.20	8.23E-02		9.09E-01
		964.01	10.40	-1.35E+00		1.12E+00
		1085.78	7.22	2.99E-01		1.38E+00
		1112.02	9.60	6.73E-02		1.05E+00
		1407.95	14.94	-1.03E-02		6.63E-01
+	GD-153	97.43	31.30	-9.93E-04	1.84E-01	1.84E-01
		103.18	22.20	2.91E-02		2.49E-01
+	EU-154	123.07	40.50	1.27E-02	1.21E-01	1.21E-01
		723.30	19.70	1.45E-02		4.55E-01
		873.19	11.50	-6.13E-03		7.24E-01
		996.32	10.30	-1.26E+00		7.65E-01
		1004.76	17.90	-4.62E-02		5.30E-01
		1274.45	35.50	-7.87E-02		2.90E-01
+	EU-155	86.50	30.90	8.90E-02	2.22E-01	2.22E-01
		105.30	20.70	-2.91E-02		2.42E-01
+	EU-156	811.77	10.40	-1.32E+00	2.97E+00	2.97E+00
		1153.47	7.20	3.07E+00		6.40E+00
		1230.71	8.90	5.83E-01		5.05E+00
+	HO-166M	184.41	72.60	1.69E-01	9.51E-02	9.51E-02
		280.45	29.60	-3.60E-02		2.28E-01
		410.94	11.10	4.60E-02		6.64E-01
		711.69	54.10	-3.21E-02		1.60E-01
+	TM-171	66.72	0.14	-2.70E+01	5.26E+01	5.26E+01
+	HF-172	81.75	4.52	5.56E-01	4.56E-01	1.38E+00
		125.81	11.30	-3.51E-01		4.56E-01
+	LU-172	181.53	20.60	-1.98E+00	3.73E+00	6.34E+00
		810.06	16.63	-4.54E+00		1.15E+01
		912.12	15.25	5.70E+01		2.78E+01
		1093.66	62.50	-1.28E+00		3.73E+00
+	LU-173	100.72	5.24	-2.55E-01	3.60E-01	1.01E+00
		272.11	21.20	1.31E-01		3.60E-01
+	HF-175	343.40	84.00	-1.98E-02	1.11E-01	1.11E-01
+	LU-176	88.34	13.30	7.13E-01	7.01E-02	5.32E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	LU-176	201.83		86.00	-6.60E-03	7.01E-02	7.92E-02
		306.78		94.00	1.20E-02		7.01E-02
+	TA-182	67.75		41.20	-1.02E-01	2.03E-01	2.03E-01
		1121.30		34.90	6.29E-01		5.16E-01
		1189.05		16.23	2.91E-01		7.89E-01
		1221.41		26.98	3.34E-01		5.65E-01
		1231.02		11.44	-4.02E-01		1.06E+00
+	IR-192	308.46		29.68	8.30E-03	2.00E-01	2.93E-01
		468.07		48.10	1.32E-02		2.00E-01
+	HG-203	279.19		77.30	1.13E-01	1.44E-01	1.44E-01
+	BI-207	569.67		97.72	-6.56E-03	7.62E-02	7.62E-02
		1063.62		74.90	5.43E-03		1.31E-01
+	TL-208	583.14	*	30.22	1.52E+00	4.41E-02	4.35E-01
		860.37		4.48	9.58E-01		2.29E+00
		2614.66	*	35.85	1.04E+00		4.41E-02
+	BI-210M	262.00		45.00	5.31E-02	1.52E-01	1.52E-01
		300.00		23.00	-1.05E+00		3.23E-01
+	PB-210	46.50	*	4.25	1.28E+00	2.51E+00	2.51E+00
+	PB-211	404.84		2.90	-3.58E-01	2.56E+00	2.56E+00
		831.96		2.90	8.22E-01		2.98E+00
+	BI-212	727.17	*	11.80	9.58E-01	7.82E-01	7.82E-01
		1620.62		2.75	2.35E-01		3.25E+00
+	PB-212	238.63	*	44.60	1.63E+00	2.49E-01	2.49E-01
		300.09	*	3.41	1.77E+00		3.06E+00
+	BI-214	609.31	*	46.30	9.05E-01	1.83E-01	1.83E-01
		1120.29	*	15.10	9.86E-01		1.12E+00
		1764.49	*	15.80	9.79E-01		8.28E-01
		2204.22	*	4.98	1.17E+00		2.01E+00
+	PB-214	295.21	*	19.19	1.37E+00	2.76E-01	5.30E-01
		351.92	*	37.19	9.93E-01		2.76E-01
+	RN-219	401.80		6.50	3.60E-02	1.14E+00	1.14E+00
+	RA-223	323.87		3.88	-1.99E+00	1.80E+00	1.80E+00
+	RA-224	240.98		3.95	2.13E+01	3.66E+00	3.66E+00
+	RA-225	40.00		31.00	1.03E+00	1.63E+00	1.63E+00
+	RA-226	186.21	*	3.28	4.04E+00	2.69E+00	2.69E+00
+	TH-227	50.10		8.40	6.01E-02	9.56E-01	9.56E-01
		236.00		11.50	-1.14E-02		1.08E+00
		256.20		6.30	-5.00E-01		9.94E-01
+	AC-228	338.32	*	11.40	1.48E+00	5.25E-01	7.80E-01
		911.07	*	27.70	1.12E+00		5.25E-01
		969.11	*	16.60	1.38E+00		1.48E+00
+	TH-230	48.44		16.90	8.41E-02	5.41E-01	5.41E-01
		62.85		4.60	1.06E+00		1.71E+00
		67.67		0.37	-9.36E+00		1.87E+01
+	PA-231	283.67		1.60	-4.63E-01	3.19E+00	4.04E+00
		302.67		2.30	1.16E+00		3.19E+00
+	TH-231	25.64		14.70	1.09E+00	9.55E-01	3.51E+00
		84.21		6.40	2.19E-01		9.55E-01

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	PA-233	311.98	38.60	-8.86E-02	3.65E-01	3.65E-01
+	PA-234	131.20	20.40	2.27E-01	2.76E-01	2.76E-01
		733.99	8.80	-3.50E-01		9.79E-01
		946.00	12.00	1.70E-03		7.55E-01
+	PA-234M	1001.03	0.92	3.76E+00	1.12E+01	1.12E+01
+	TH-234	63.29	3.80	1.73E+00	2.08E+00	2.08E+00
+	U-235	143.76	10.50	3.43E-01	5.17E-01	5.17E-01
		163.35	4.70	9.87E-05		1.14E+00
		205.31	4.70	4.98E-01		1.43E+00
+	NP-237	86.50	12.60	2.16E-01	5.38E-01	5.38E-01
+	NP-239	106.10	22.70	3.73E+02	2.20E+03	2.20E+03
		228.18	10.70	-8.35E+02		6.30E+03
		277.60	14.10	1.82E+03		4.88E+03
+	AM-241	59.54	35.90	7.88E-02	2.05E-01	2.05E-01
+	AM-243	74.67	66.00	2.71E-01	1.43E-01	1.43E-01
+	CM-243	209.75	3.29	6.04E-01	4.91E-01	2.20E+00
		228.14	10.60	-8.41E-02		6.35E-01
		277.60	14.00	1.83E-01		4.91E-01

\+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
\> = MDA value not calculated
@ = Half-life too short to be able to perform the decay correction
? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
BE-7	477.59	10.42	9.12E-01	9.12E-01	-2.90E-01	4.26E-01
NA-22	1274.54	99.94	1.05E-01	1.05E-01	-2.84E-02	4.73E-02
NA-24	1368.53	99.99	1.22E+14	1.95E+13	-1.96E+13	5.48E+13
	2754.09	99.86	1.95E+13		0.00E+00	0.00E+00

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	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	8.80E-02	8.80E-02	3.01E-02	3.77E-02
+	K-40	1460.81	*	10.67	1.31E+00	1.31E+00	1.46E+01	6.06E-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	7.33E-02	7.33E-02	-3.67E-02	3.58E-02
		78.34		96.00	9.07E-02		2.25E-01	4.46E-02
	SC-46	889.25		99.98	1.09E-01	1.09E-01	5.80E-03	4.98E-02
		1120.51		99.99	1.92E-01		2.10E-01	9.03E-02
	V-48	983.52		99.98	3.01E-01	3.01E-01	-1.31E-01	1.36E-01
		1312.10		97.50	4.74E-01		1.75E-01	2.17E-01
	CR-51	320.08		9.83	1.50E+00	1.50E+00	-3.71E-01	7.16E-01
	MN-54	834.83		99.97	1.08E-01	1.08E-01	3.45E-03	5.04E-02
	CO-56	846.75		99.96	1.17E-01	1.17E-01	2.93E-02	5.38E-02
		1037.75		14.03	8.66E-01		2.39E-01	3.95E-01
		1238.25		67.00	2.70E-01		1.33E-01	1.26E-01
		1771.40		15.51	8.09E-01		5.20E-02	3.52E-01
		2598.48		16.90	4.22E-01		5.30E-02	1.50E-01
	CO-57	122.06		85.51	6.09E-02	6.09E-02	-1.95E-02	2.95E-02
		136.48		10.60	5.36E-01		1.51E-02	2.60E-01
	CO-58	810.76		99.40	9.96E-02	9.96E-02	-6.00E-02	4.53E-02
	FE-59	1099.22		56.50	2.96E-01	2.96E-01	1.21E-01	1.36E-01
		1291.56		43.20	4.37E-01		1.50E-01	2.00E-01
+	CO-60	1173.22	*	100.00	1.10E-01	8.88E-02	5.60E-02	5.04E-02
		1332.49	*	100.00	8.88E-02		6.87E-02	3.94E-02
	ZN-65	1115.52		50.75	2.21E-01	2.21E-01	3.45E-03	1.01E-01
+	GA-67	93.31	*	35.70	2.04E+02	2.04E+02	1.48E+02	1.00E+02
		208.95	*	2.24	2.62E+03		2.10E+03	1.27E+03
		300.22	*	16.00	5.05E+02		2.93E+02	2.46E+02
	SE-75	121.11		16.70	3.44E-01	1.07E-01	-8.63E-02	1.67E-01
		136.00		59.20	1.07E-01		6.05E-03	5.16E-02
		264.65		59.80	1.33E-01		-2.24E-02	6.39E-02
		279.53		25.20	3.29E-01		1.01E-01	1.58E-01
		400.65		11.40	7.62E-01		-1.62E-02	3.62E-01
	RB-82	776.52		13.00	1.45E+00	1.45E+00	-1.22E+00	6.68E-01
	RB-83	520.41		46.00	2.08E-01	2.08E-01	-6.20E-02	9.78E-02
		529.64		30.30	3.15E-01		-1.10E-01	1.48E-01
		552.65		16.40	6.26E-01		1.33E-02	2.94E-01
	KR-85	513.99		0.43	2.48E+01	2.48E+01	2.50E+01	1.19E+01
	SR-85	513.99		99.27	1.51E-01	1.51E-01	1.52E-01	7.22E-02
	Y-88	898.02		93.40	1.20E-01	1.17E-01	4.01E-02	5.52E-02
		1836.01		99.38	1.17E-01		4.40E-02	5.06E-02
	NB-93M	16.57		9.43	7.81E+01	7.81E+01	-3.52E+01	3.79E+01
	NB-94	702.63		100.00	9.39E-02	8.54E-02	5.31E-02	4.40E-02
		871.10		100.00	8.54E-02		2.60E-02	3.92E-02
	NB-95	765.79		99.81	1.82E-01	1.82E-01	6.24E-02	8.54E-02
	NB-95M	235.69		25.00	2.03E+02	2.03E+02	-2.14E+00	9.97E+01
	ZR-95	724.18		43.70	3.32E-01	2.06E-01	4.62E-02	1.56E-01
		756.72		55.30	2.06E-01		-5.22E-02	9.51E-02
	MO-99	181.06		6.20	2.24E+03	1.83E+03	-3.72E+02	1.08E+03
		739.58		12.80	1.83E+03		-7.17E+02	8.54E+02
		778.00		4.50	4.88E+03		-1.38E+03	2.25E+03
	RU-103	497.08		89.00	1.38E-01	1.38E-01	-4.61E-02	6.48E-02
	RU-106	621.84		9.80	9.09E-01	9.09E-01	-7.18E-02	4.26E-01
	AG-108M	433.93		89.90	7.92E-02	7.92E-02	2.04E-02	3.74E-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)
	AG-108M	614.37		90.40	9.80E-02	7.92E-02	1.32E-02	4.61E-02
		722.95		90.50	9.83E-02		3.14E-03	4.59E-02
+	CD-109	88.03	*	3.72	2.11E+00	2.11E+00	2.22E+00	1.04E+00
	AG-110M	657.75		93.14	1.01E-01	1.01E-01	1.87E-02	4.74E-02
		677.61		10.53	8.83E-01		1.04E-01	4.12E-01
		706.67		16.46	6.18E-01		2.77E-01	2.90E-01
		763.93		21.98	4.56E-01		-9.90E-02	2.13E-01
		884.67		71.63	1.10E-01		-5.61E-02	4.93E-02
		1384.27		23.94	4.09E-01		-7.82E-02	1.81E-01
	CD-113M	263.70		0.02	2.90E+02	2.90E+02	-2.19E+01	1.40E+02
	SN-113	255.12		1.93	3.73E+00	1.39E-01	-4.59E+00	1.79E+00
		391.69		64.90	1.39E-01		3.63E-02	6.65E-02
	TE123M	159.00		84.10	7.36E-02	7.36E-02	-1.80E-02	3.55E-02
	SB-124	602.71		97.87	1.15E-01	1.15E-01	-4.35E-02	5.38E-02
		645.85		7.26	1.64E+00		-1.02E-01	7.65E-01
		722.78		11.10	1.15E+00		3.67E-02	5.36E-01
		1691.02		49.00	2.45E-01		-1.45E-03	1.05E-01
	I-125	35.49		6.49	3.25E+00	3.25E+00	2.40E-01	1.58E+00
	SB-125	176.33		6.89	8.24E-01	2.62E-01	1.38E-01	3.98E-01
		427.89		29.33	2.62E-01		7.71E-02	1.24E-01
		463.38		10.35	8.50E-01		7.65E-01	4.05E-01
		600.56		17.80	4.79E-01		9.72E-03	2.25E-01
		635.90		11.32	6.92E-01		-1.94E-01	3.22E-01
	SB-126	414.70		83.30	5.06E-01	4.63E-01	3.70E-02	2.40E-01
		666.33		99.60	4.89E-01		-2.43E-01	2.28E-01
		695.00		99.60	4.63E-01		5.27E-02	2.15E-01
		720.50		53.80	9.28E-01		-1.52E-01	4.32E-01
+	SN-126	87.57	*	37.00	2.03E-01	2.03E-01	2.13E-01	9.95E-02
	SB-127	473.00		25.00	7.60E+01	7.04E+01	3.34E+01	3.57E+01
		685.20		35.70	7.04E+01		3.50E+01	3.30E+01
		783.80		14.70	1.83E+02		9.28E+01	8.55E+01
	I-129	29.78		57.00	4.61E-01	4.61E-01	1.91E-02	2.24E-01
		33.60		13.20	1.30E+00		1.58E-01	6.30E-01
		39.58		7.52	1.59E+00		1.00E+00	7.74E-01
	I-131	284.30		6.05	1.59E+01	1.10E+00	-1.82E+00	7.64E+00
		364.48		81.20	1.10E+00		-9.41E-01	5.22E-01
		636.97		7.26	1.62E+01		1.09E+00	7.55E+00
		722.89		1.80	7.35E+01		2.35E+00	3.43E+01
	TE-132	49.72		13.10	4.84E+02	5.96E+01	3.04E+01	2.35E+02
		228.16		88.00	5.96E+01		-7.89E+00	2.88E+01
	BA-133	81.00		33.00	1.80E-01	1.50E-01	-8.56E-02	8.78E-02
		302.84		17.80	4.14E-01		1.50E-01	1.99E-01
		356.01		60.00	1.50E-01		1.47E-02	7.22E-02
	I-133	529.87		86.30	6.45E+09	6.45E+09	-2.25E+09	3.02E+09
	XE-133	81.00		38.00	9.76E+00	9.76E+00	-4.64E+00	4.76E+00
	CS-134	563.23		8.38	9.57E-01	8.42E-02	-2.37E-02	4.49E-01
		569.32		15.43	5.06E-01		5.83E-02	2.37E-01
		604.70		97.60	8.42E-02		1.04E-03	3.94E-02
		795.84		85.40	1.13E-01		3.83E-02	5.26E-02
		801.93		8.73	9.57E-01		-2.48E-01	4.40E-01
	CS-135	268.24		16.00	4.56E-01	4.56E-01	1.43E-01	2.20E-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

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
@ I-135	1678.03	9.54	1.00E+26	1.00E+26	1.00E+26	1.00E+20
CS-136	153.22	7.46	3.76E+00	4.31E-01	2.10E+00	1.82E+00
	163.89	4.61	6.04E+00		5.25E-04	2.92E+00
	176.55	13.56	2.09E+00		6.71E-01	1.01E+00
	273.65	12.66	2.99E+00		2.27E-01	1.44E+00
	340.57	48.50	9.64E-01		1.48E+00	4.65E-01
	818.50	99.70	4.31E-01		-1.09E-01	1.98E-01
	1048.07	79.60	5.25E-01		-2.41E-02	2.36E-01
	1235.34	19.70	3.12E+00		-4.20E-01	1.43E+00
CS-137	661.65	85.12	1.06E-01	1.06E-01	2.95E-02	4.95E-02
LA-138	788.74	34.00	2.65E-01	1.60E-01	1.16E-02	1.23E-01
	1435.80	66.00	1.60E-01		6.67E-02	7.19E-02
CE-139	165.85	80.35	7.68E-02	7.68E-02	6.68E-03	3.71E-02
BA-140	162.64	6.70	4.42E+00	1.65E+00	6.90E-01	2.14E+00
	304.84	4.50	7.99E+00		-6.73E+00	3.82E+00
	423.70	3.20	1.20E+01		-1.64E+00	5.70E+00
	437.55	2.00	1.88E+01		7.49E-01	8.88E+00
	537.32	25.00	1.65E+00		9.06E-01	7.76E-01
LA-140	328.77	20.50	2.03E+00	5.97E-01	6.50E-01	9.76E-01
	487.03	45.50	8.81E-01		5.36E-01	4.15E-01
	815.85	23.50	1.99E+00		1.05E+00	9.19E-01
	1596.49	95.49	5.97E-01		-2.43E-02	2.65E-01
CE-141	145.44	48.40	2.09E-01	2.09E-01	2.69E-02	1.01E-01
CE-143	57.36	11.80	4.45E+06	1.58E+06	4.42E+04	2.17E+06
	293.26	42.00	1.58E+06		8.67E+04	7.66E+05
	664.55	5.20	1.26E+07		5.08E+06	5.91E+06
CE-144	133.54	10.80	5.16E-01	5.16E-01	-3.08E-01	2.50E-01
PM-144	476.78	42.00	1.68E-01	8.06E-02	3.87E-02	7.89E-02
	618.01	98.60	9.05E-02		2.38E-02	4.24E-02
	696.49	99.49	8.06E-02		-4.15E-02	3.72E-02
PM-145	36.85	21.70	6.24E-01	3.37E-01	-2.68E-01	3.03E-01
	37.36	39.70	3.37E-01		-6.84E-02	1.64E-01
	42.30	15.10	6.67E-01		4.10E-02	3.24E-01
	72.40	2.31	3.45E+00		-5.43E+00	1.69E+00
PM-146	453.90	39.94	1.67E-01	1.67E-01	-3.30E-02	7.86E-02
	735.90	14.01	6.42E-01		3.13E-02	2.99E-01
	747.13	13.10	6.86E-01		-1.15E-01	3.19E-01
ND-147	91.11	28.90	1.71E+00	1.71E+00	-1.18E+00	8.38E-01
	531.02	13.10	4.13E+00		-4.59E-01	1.94E+00
PM-149	285.90	3.10	3.85E+04	3.85E+04	8.48E+03	1.85E+04
EU-152	121.78	20.50	2.35E-01	2.35E-01	-7.54E-02	1.14E-01
	244.69	5.40	1.56E+00		3.36E-01	7.59E-01
	344.27	19.13	3.48E-01		2.27E-02	1.66E-01
	778.89	9.20	9.09E-01		8.23E-02	4.20E-01
	964.01	10.40	1.12E+00		-1.35E+00	5.25E-01
	1085.78	7.22	1.38E+00		2.99E-01	6.33E-01
	1112.02	9.60	1.05E+00		6.73E-02	4.79E-01
	1407.95	14.94	6.63E-01		-1.03E-02	2.96E-01
GD-153	97.43	31.30	1.84E-01	1.84E-01	-9.93E-04	8.93E-02
	103.18	22.20	2.49E-01		2.91E-02	1.21E-01
EU-154	123.07	40.50	1.21E-01	1.21E-01	1.27E-02	5.85E-02
	723.30	19.70	4.55E-01		1.45E-02	2.12E-01
	873.19	11.50	7.24E-01		-6.13E-03	3.31E-01

Analysis Report for 1510091-12

CP1807S22-23

	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	7.65E-01	1.21E-01	-1.26E+00	3.44E-01
		1004.76		17.90	5.30E-01		-4.62E-02	2.43E-01
		1274.45		35.50	2.90E-01		-7.87E-02	1.31E-01
	EU-155	86.50		30.90	2.22E-01	2.22E-01	8.90E-02	1.09E-01
		105.30		20.70	2.42E-01		-2.91E-02	1.17E-01
	EU-156	811.77		10.40	2.97E+00	2.97E+00	-1.32E+00	1.35E+00
		1153.47		7.20	6.40E+00		3.07E+00	2.94E+00
		1230.71		8.90	5.05E+00		5.83E-01	2.30E+00
	HO-166M	184.41		72.60	9.51E-02	9.51E-02	1.69E-01	4.62E-02
		280.45		29.60	2.28E-01		-3.60E-02	1.10E-01
		410.94		11.10	6.64E-01		4.60E-02	3.16E-01
		711.69		54.10	1.60E-01		-3.21E-02	7.45E-02
	TM-171	66.72		0.14	5.26E+01	5.26E+01	-2.70E+01	2.57E+01
	HF-172	81.75		4.52	1.38E+00	4.56E-01	5.56E-01	6.71E-01
		125.81		11.30	4.56E-01		-3.51E-01	2.21E-01
	LU-172	181.53		20.60	6.34E+00	3.73E+00	-1.98E+00	3.05E+00
		810.06		16.63	1.15E+01		-4.54E+00	5.22E+00
		912.12		15.25	2.78E+01		5.70E+01	1.33E+01
		1093.66		62.50	3.73E+00		-1.28E+00	1.69E+00
	LU-173	100.72		5.24	1.01E+00	3.60E-01	-2.55E-01	4.88E-01
		272.11		21.20	3.60E-01		1.31E-01	1.73E-01
	HF-175	343.40		84.00	1.11E-01	1.11E-01	-1.98E-02	5.31E-02
	LU-176	88.34		13.30	5.32E-01	7.01E-02	7.13E-01	2.60E-01
		201.83		86.00	7.92E-02		-6.60E-03	3.84E-02
		306.78		94.00	7.01E-02		1.20E-02	3.35E-02
	TA-182	67.75		41.20	2.03E-01	2.03E-01	-1.02E-01	9.93E-02
		1121.30		34.90	5.16E-01		6.29E-01	2.43E-01
		1189.05		16.23	7.89E-01		2.91E-01	3.60E-01
		1221.41		26.98	5.65E-01		3.34E-01	2.62E-01
		1231.02		11.44	1.06E+00		-4.02E-01	4.83E-01
	IR-192	308.46		29.68	2.93E-01	2.00E-01	8.30E-03	1.40E-01
		468.07		48.10	2.00E-01		1.32E-02	9.42E-02
	HG-203	279.19		77.30	1.44E-01	1.44E-01	1.13E-01	6.94E-02
	BI-207	569.67		97.72	7.62E-02	7.62E-02	-6.56E-03	3.56E-02
		1063.62		74.90	1.31E-01		5.43E-03	5.98E-02
+	TL-208	583.14	*	30.22	4.35E-01	4.41E-02	1.52E+00	2.09E-01
		860.37		4.48	2.29E+00		9.58E-01	1.07E+00
		2614.66	*	35.85	4.41E-02		1.04E+00	0.00E+00
	BI-210M	262.00		45.00	1.52E-01	1.52E-01	5.31E-02	7.34E-02
		300.00		23.00	3.23E-01		-1.05E+00	1.55E-01
+	PB-210	46.50	*	4.25	2.51E+00	2.51E+00	1.28E+00	1.23E+00
	PB-211	404.84		2.90	2.56E+00	2.56E+00	-3.58E-01	1.22E+00
		831.96		2.90	2.98E+00		8.22E-01	1.37E+00
+	BI-212	727.17	*	11.80	7.82E-01	7.82E-01	9.58E-01	3.66E-01
		1620.62		2.75	3.25E+00		2.35E-01	1.41E+00
+	PB-212	238.63	*	44.60	2.49E-01	2.49E-01	1.63E+00	1.22E-01
		300.09	*	3.41	3.06E+00		1.77E+00	1.49E+00
+	BI-214	609.31	*	46.30	1.83E-01	1.83E-01	9.05E-01	8.57E-02
		1120.29	*	15.10	1.12E+00		9.86E-01	5.30E-01
		1764.49	*	15.80	8.28E-01		9.79E-01	3.75E-01
		2204.22	*	4.98	2.01E+00		1.17E+00	8.61E-01
+	PB-214	295.21	*	19.19	5.30E-01	2.76E-01	1.37E+00	2.58E-01
		351.92	*	37.19	2.76E-01		9.93E-01	1.34E-01

Analysis Report for 1510091-12

CP1807S22-23

	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	1.14E+00	1.14E+00	3.60E-02	5.43E-01
	RA-223	323.87		3.88	1.80E+00	1.80E+00	-1.99E+00	8.63E-01
	RA-224	240.98		3.95	3.66E+00	3.66E+00	2.13E+01	1.80E+00
	RA-225	40.00		31.00	1.63E+00	1.63E+00	1.03E+00	7.94E-01
+	RA-226	186.21	*	3.28	2.69E+00	2.69E+00	4.04E+00	1.31E+00
	TH-227	50.10		8.40	9.56E-01	9.56E-01	6.01E-02	4.65E-01
		236.00		11.50	1.08E+00		-1.14E-02	5.32E-01
		256.20		6.30	9.94E-01		-5.00E-01	4.78E-01
+	AC-228	338.32	*	11.40	7.80E-01	5.25E-01	1.48E+00	3.76E-01
		911.07	*	27.70	5.25E-01		1.12E+00	2.49E-01
		969.11	*	16.60	1.48E+00		1.38E+00	7.17E-01
	TH-230	48.44		16.90	5.41E-01	5.41E-01	8.41E-02	2.64E-01
		62.85		4.60	1.71E+00		1.06E+00	8.37E-01
		67.67		0.37	1.87E+01		-9.36E+00	9.15E+00
	PA-231	283.67		1.60	4.04E+00	3.19E+00	-4.63E-01	1.94E+00
		302.67		2.30	3.19E+00		1.16E+00	1.53E+00
	TH-231	25.64		14.70	3.51E+00	9.55E-01	1.09E+00	1.71E+00
		84.21		6.40	9.55E-01		2.19E-01	4.66E-01
	PA-233	311.98		38.60	3.65E-01	3.65E-01	-8.86E-02	1.74E-01
	PA-234	131.20		20.40	2.76E-01	2.76E-01	2.27E-01	1.34E-01
		733.99		8.80	9.79E-01		-3.50E-01	4.55E-01
		946.00		12.00	7.55E-01		1.70E-03	3.46E-01
	PA-234M	1001.03		0.92	1.12E+01	1.12E+01	3.76E+00	5.17E+00
	TH-234	63.29		3.80	2.08E+00	2.08E+00	1.73E+00	1.02E+00
	U-235	143.76		10.50	5.17E-01	5.17E-01	3.43E-01	2.50E-01
		163.35		4.70	1.14E+00		9.87E-05	5.49E-01
		205.31		4.70	1.43E+00		4.98E-01	6.93E-01
	NP-237	86.50		12.60	5.38E-01	5.38E-01	2.16E-01	2.63E-01
	NP-239	106.10		22.70	2.20E+03	2.20E+03	3.73E+02	1.07E+03
		228.18		10.70	6.30E+03		-8.35E+02	3.05E+03
		277.60		14.10	4.88E+03		1.82E+03	2.35E+03
	AM-241	59.54		35.90	2.05E-01	2.05E-01	7.88E-02	1.00E-01
	AM-243	74.67		66.00	1.43E-01	1.43E-01	2.71E-01	7.02E-02
	CM-243	209.75		3.29	2.20E+00	4.91E-01	6.04E-01	1.07E+00
		228.14		10.60	6.35E-01		-8.41E-02	3.07E-01
		277.60		14.00	4.91E-01		1.83E-01	2.36E-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 1510091-12

CP1807S22-23

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: CP1807S22-23

Elapsed Live time: 3600
Elapsed Real Time: 3616

Channel								
1:	0	0	0	0	0	0	0	0
9:	9	189	192	148	130	109	84	101
17:	82	63	67	76	69	77	89	71
25:	93	85	106	80	75	62	81	89
33:	56	74	75	77	66	84	86	94
41:	93	78	80	76	80	105	172	108
49:	81	98	92	88	95	104	105	101
57:	89	96	123	134	111	125	166	194
65:	140	129	141	127	119	112	136	125
73:	122	151	354	238	423	391	124	113
81:	79	113	93	147	130	83	170	206
89:	116	150	128	115	215	178	106	88
97:	88	82	63	96	83	72	66	70
105:	86	79	59	68	76	63	65	65
113:	65	75	72	53	60	70	76	53
121:	67	57	57	75	59	67	51	75
129:	100	86	72	69	75	62	69	57
137:	72	79	59	67	64	74	62	76
145:	54	75	58	43	62	46	70	59
153:	50	70	64	47	58	45	50	56
161:	65	63	59	55	53	54	63	46
169:	43	52	56	55	55	70	50	58
177:	53	48	59	45	33	48	51	49
185:	70	144	96	47	62	56	39	48
193:	40	54	48	43	51	64	47	44
201:	57	53	43	45	61	50	42	38
209:	83	80	51	37	42	37	54	46
217:	40	39	34	53	51	44	45	46
225:	35	33	60	36	38	38	42	36
233:	42	36	34	46	54	198	540	167
241:	85	126	85	41	42	28	45	33
249:	24	30	48	25	12	26	22	33
257:	38	27	44	29	33	28	31	34
265:	36	21	35	30	27	40	68	36
273:	32	27	21	26	37	50	20	38
281:	21	28	21	25	35	25	27	26
289:	25	29	19	17	24	35	105	134
297:	34	29	24	45	52	16	20	27
305:	29	22	32	21	21	13	25	24
313:	15	24	24	30	20	17	27	27
321:	23	29	17	30	17	23	31	44
329:	36	20	23	22	28	25	13	24
337:	24	71	82	37	19	20	15	18
345:	20	18	26	23	19	14	50	222
353:	129	24	11	24	19	20	13	23
361:	11	19	11	14	11	16	15	15

369:	22	24	15	22	19	17	15	22

Sample Title: CP1807S22-23

Channel								
377:	19	19	17	18	17	13	15	14
385:	14	23	19	24	19	22	19	18
393:	19	18	25	9	21	17	16	14
401:	19	19	23	17	23	18	18	11
409:	20	23	12	21	17	20	20	13
417:	17	12	20	12	14	17	12	12
425:	19	15	18	19	14	19	16	18
433:	16	8	15	15	16	6	15	14
441:	15	17	12	8	16	10	14	15
449:	10	11	12	9	13	9	10	18
457:	11	17	13	13	10	15	34	34
465:	18	14	12	8	14	14	12	8
473:	12	14	10	10	7	7	15	13
481:	6	12	9	15	16	5	13	14
489:	14	13	6	9	14	17	8	11
497:	8	13	11	12	13	17	11	12
505:	7	19	10	15	27	33	60	44
513:	21	16	15	8	16	9	14	14
521:	10	7	12	13	17	13	13	13
529:	14	9	10	10	10	14	11	12
537:	10	9	12	12	10	3	12	10
545:	7	14	13	15	14	4	18	13
553:	19	6	10	15	5	15	15	12
561:	8	13	12	10	13	10	9	8
569:	9	13	13	10	7	9	10	9
577:	14	13	12	15	19	34	119	114
585:	20	10	10	3	12	4	6	9
593:	10	16	9	14	14	17	12	10
601:	9	6	15	11	10	9	5	16
609:	111	106	25	10	9	8	12	12
617:	11	10	8	12	12	13	7	15
625:	9	9	15	11	11	9	10	5
633:	8	7	15	7	7	7	9	12
641:	12	9	9	11	7	12	6	10
649:	14	10	10	13	6	10	5	17
657:	9	7	4	14	17	14	7	9
665:	13	15	6	9	9	10	11	5
673:	8	4	12	14	7	14	8	6
681:	6	14	7	8	12	9	11	12
689:	11	6	5	11	11	8	9	1
697:	9	7	4	13	8	10	9	14
705:	16	7	8	10	13	7	4	10
713:	11	7	11	13	9	8	10	5
721:	8	14	8	8	8	14	29	23
729:	15	4	9	9	8	13	6	5
737:	9	10	12	9	8	8	16	8
745:	13	8	8	8	5	11	6	10
753:	6	5	4	11	8	8	7	6
761:	8	9	13	9	5	8	11	15
769:	11	5	11	16	12	4	7	6
777:	5	7	5	8	10	8	9	6
785:	11	12	10	4	9	7	6	9
793:	6	18	15	8	6	6	2	6

801:	7	9	5	6	9	10	8	3

Sample Title: CP1807S22-23

Channel								
809:	5	5	4	5	6	6	4	8
817:	8	7	9	5	3	7	10	9
825:	3	9	4	6	3	11	8	8
833:	6	3	8	20	13	7	11	7
841:	5	6	4	5	8	11	8	6
849:	5	5	9	3	4	3	13	2
857:	5	4	5	16	13	14	7	4
865:	8	2	6	4	9	5	6	8
873:	3	7	8	2	5	5	10	2
881:	3	3	5	2	4	5	6	7
889:	5	6	5	5	9	5	6	13
897:	6	3	3	4	11	4	3	9
905:	3	9	5	4	4	20	63	54
913:	11	3	5	6	4	8	2	3
921:	5	2	6	6	6	4	9	2
929:	3	6	5	5	5	7	6	10
937:	7	8	6	5	6	4	8	3
945:	5	8	5	4	8	8	5	3
953:	1	5	4	0	9	5	3	1
961:	3	7	10	17	18	8	5	19
969:	40	25	16	9	6	6	6	4
977:	4	6	4	0	6	3	6	4
985:	4	4	6	6	7	4	10	8
993:	7	2	1	7	2	4	4	10
1001:	12	7	2	10	6	6	9	0
1009:	3	3	5	3	6	6	7	9
1017:	3	5	2	3	4	7	5	4
1025:	5	3	8	3	2	5	3	8
1033:	3	9	5	4	4	4	6	4
1041:	9	2	2	3	2	5	6	2
1049:	3	2	6	4	6	6	10	4
1057:	3	3	10	2	2	2	8	10
1065:	9	6	4	4	9	1	5	5
1073:	6	6	6	3	4	5	7	3
1081:	6	1	4	7	2	9	5	6
1089:	6	4	7	5	4	1	4	7
1097:	6	6	6	3	6	7	5	5
1105:	6	5	4	4	3	8	3	5
1113:	6	6	7	4	5	7	16	26
1121:	14	11	8	6	4	5	6	3
1129:	3	9	2	4	8	4	3	5
1137:	3	1	7	2	4	2	6	5
1145:	6	4	4	3	6	2	9	4
1153:	8	4	10	7	4	3	5	5
1161:	5	7	9	5	4	6	3	13
1169:	6	3	4	7	5	13	7	6
1177:	5	5	2	5	7	4	7	5
1185:	3	0	5	5	6	6	6	10
1193:	2	5	3	8	4	8	10	6
1201:	2	10	6	5	3	5	12	9
1209:	7	6	8	8	1	5	6	5
1217:	6	6	8	5	5	9	7	13
1225:	2	5	10	4	3	7	6	3

1233:	4	5	6	5	7	15	13	7

Sample Title: CP1807S22-23

Channel								
1241:	9	9	6	3	8	8	6	3
1249:	7	1	7	4	5	4	6	7
1257:	4	6	3	3	4	5	5	4
1265:	2	4	2	2	4	0	7	2
1273:	5	2	5	2	2	6	6	5
1281:	7	3	6	4	3	6	4	6
1289:	3	2	3	5	3	10	4	2
1297:	2	3	2	2	2	2	7	2
1305:	3	5	3	3	2	7	5	5
1313:	5	3	4	7	2	3	4	1
1321:	9	2	2	2	6	1	1	0
1329:	3	4	6	2	7	3	4	2
1337:	2	1	1	4	2	3	1	3
1345:	1	3	2	4	2	2	4	3
1353:	3	1	3	1	1	2	3	3
1361:	0	2	6	3	3	0	3	4
1369:	3	5	4	2	3	3	4	3
1377:	10	8	5	5	2	3	2	1
1385:	3	1	1	2	1	4	1	2
1393:	3	2	6	3	0	2	2	2
1401:	5	4	2	3	2	1	5	6
1409:	1	1	3	2	3	2	4	3
1417:	1	1	3	2	2	3	1	0
1425:	4	1	2	0	2	1	1	5
1433:	3	2	0	3	7	2	4	1
1441:	3	0	4	2	1	3	0	1
1449:	1	3	1	1	0	3	4	4
1457:	1	4	40	112	156	76	9	2
1465:	1	1	2	1	0	0	0	2
1473:	1	1	0	0	5	0	2	3
1481:	0	1	0	0	0	4	1	2
1489:	1	5	1	3	1	2	3	3
1497:	3	1	2	1	6	1	1	3
1505:	1	2	5	1	5	2	2	2
1513:	1	3	3	0	2	1	2	1
1521:	1	1	1	2	2	0	1	0
1529:	0	3	0	1	0	0	3	0
1537:	0	2	1	1	1	1	3	3
1545:	4	0	1	2	0	4	2	2
1553:	0	0	1	0	2	1	1	0
1561:	0	1	0	2	2	0	0	0
1569:	0	1	0	0	0	1	2	4
1577:	1	1	2	3	6	1	2	0
1585:	1	1	5	9	2	1	6	8
1593:	7	2	1	1	1	0	0	2
1601:	1	1	0	2	2	0	0	0
1609:	4	0	2	0	0	2	1	0
1617:	2	2	3	2	2	3	0	1
1625:	2	1	2	0	2	1	4	0
1633:	2	2	0	0	3	0	0	1
1641:	1	1	1	2	0	2	1	4
1649:	1	1	1	2	0	4	1	2
1657:	0	2	1	2	1	3	0	2

1665:	0	3	0	0	3	1	0	0

Sample Title: CP1807S22-23

Channel								
1673:	0	1	1	0	2	1	1	0
1681:	1	2	0	1	3	1	1	0
1689:	1	0	2	3	4	1	0	2
1697:	1	0	1	0	2	1	1	2
1705:	1	1	1	0	1	0	2	1
1713:	1	0	0	2	2	1	0	1
1721:	0	2	1	1	1	1	1	0
1729:	1	2	0	2	2	0	0	0
1737:	1	1	0	1	0	0	1	0
1745:	1	0	1	0	0	0	0	1
1753:	0	2	0	0	1	1	0	1
1761:	1	1	5	9	16	7	4	3
1769:	2	1	3	0	1	0	1	0
1777:	0	1	0	1	0	2	0	1
1785:	0	1	2	0	2	1	1	0
1793:	2	1	1	1	1	2	1	1
1801:	2	1	2	3	1	0	3	1
1809:	1	1	1	1	0	0	0	0
1817:	1	0	0	2	0	0	2	1
1825:	0	1	2	0	0	0	4	1
1833:	3	1	0	4	1	0	0	1
1841:	0	2	1	1	0	1	1	3
1849:	1	3	0	0	0	1	2	0
1857:	0	0	1	1	1	0	2	1
1865:	1	3	1	0	1	1	1	0
1873:	1	2	2	1	2	1	1	0
1881:	1	1	0	1	1	0	0	1
1889:	0	2	0	0	2	1	0	0
1897:	1	1	3	0	1	1	0	2
1905:	0	2	1	0	1	0	3	3
1913:	3	2	0	1	0	1	1	1
1921:	0	3	0	1	2	1	2	1
1929:	2	0	4	5	0	1	1	1
1937:	3	2	2	0	0	0	0	1
1945:	1	0	0	0	0	0	2	0
1953:	1	0	0	0	2	0	0	0
1961:	0	1	0	1	1	1	2	0
1969:	0	1	1	1	0	0	4	0
1977:	0	1	0	1	2	1	1	0
1985:	2	1	0	1	1	0	0	0
1993:	0	2	2	2	0	0	1	0
2001:	0	0	1	1	0	0	0	0
2009:	0	1	0	1	1	0	0	1
2017:	1	0	0	1	0	1	1	0
2025:	0	1	1	1	0	0	1	0
2033:	1	0	2	0	2	0	0	1
2041:	2	1	0	1	1	1	0	0
2049:	3	0	1	1	2	1	0	0
2057:	0	1	0	1	4	1	0	1
2065:	0	0	0	0	1	0	1	0
2073:	2	0	0	0	2	1	1	0
2081:	0	3	0	3	0	1	1	0
2089:	2	1	2	1	1	1	0	1

2097: 2 1 5 0 1 4 2 1

Sample Title: CP1807S22-23

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

2529:	0	2	0	0	1	0	0	0

Sample Title: CP1807S22-23

Channel								
2537:	0	0	0	1	0	1	1	0
2545:	0	0	1	2	1	0	0	2
2553:	1	0	0	0	0	1	1	0
2561:	0	1	0	0	1	0	1	0
2569:	0	0	0	1	1	0	0	1
2577:	0	0	1	0	2	0	1	0
2585:	0	0	0	0	0	0	0	0
2593:	1	0	1	0	0	1	0	0
2601:	0	0	0	0	0	0	0	0
2609:	0	1	0	2	16	23	17	3
2617:	1	1	0	0	0	0	1	0
2625:	0	2	0	0	0	1	0	0
2633:	0	0	0	0	1	0	0	0
2641:	0	0	0	0	0	0	0	0
2649:	0	0	0	0	0	0	0	0
2657:	0	0	0	1	0	0	0	0
2665:	0	0	0	0	0	0	1	0
2673:	0	0	0	0	0	0	1	0
2681:	1	1	0	0	0	0	1	1
2689:	1	1	0	0	1	0	0	0
2697:	0	0	0	1	0	0	0	0
2705:	1	0	0	1	0	1	0	0
2713:	1	0	0	0	0	0	0	0
2721:	0	0	0	0	0	0	0	0
2729:	0	0	0	0	0	0	0	0
2737:	0	0	1	0	0	0	0	0
2745:	0	0	0	0	0	0	0	0
2753:	0	0	0	0	0	0	0	0
2761:	0	0	1	0	0	0	1	0
2769:	1	0	0	0	0	0	0	0
2777:	0	0	0	0	1	1	0	1
2785:	0	0	0	0	2	0	0	1
2793:	0	0	0	0	0	0	0	0
2801:	0	0	0	0	0	0	0	1
2809:	0	0	0	0	0	0	0	0
2817:	0	0	1	0	0	0	0	0
2825:	0	0	0	0	0	0	0	1
2833:	0	0	1	0	0	0	0	1
2841:	0	0	0	0	0	0	1	0
2849:	0	0	0	1	0	0	0	0
2857:	0	0	0	0	0	0	0	0
2865:	0	0	0	1	0	0	1	0
2873:	0	0	0	1	1	0	0	0
2881:	0	0	0	0	0	1	0	0
2889:	0	0	0	0	0	0	0	1
2897:	0	0	0	0	0	0	0	1
2905:	0	0	0	0	0	1	1	1
2913:	0	0	0	0	0	0	1	0
2921:	0	1	0	1	0	0	0	0
2929:	0	1	0	0	0	0	0	1
2937:	0	1	0	0	0	0	1	0
2945:	1	0	0	0	0	0	0	1
2953:	0	0	0	1	0	0	0	1

2961:	0	1	0	0	0	0	1	0

Sample Title: CP1807S22-23

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

3393:	0	0	0	0	1	0	0	0

Sample Title: CP1807S22-23

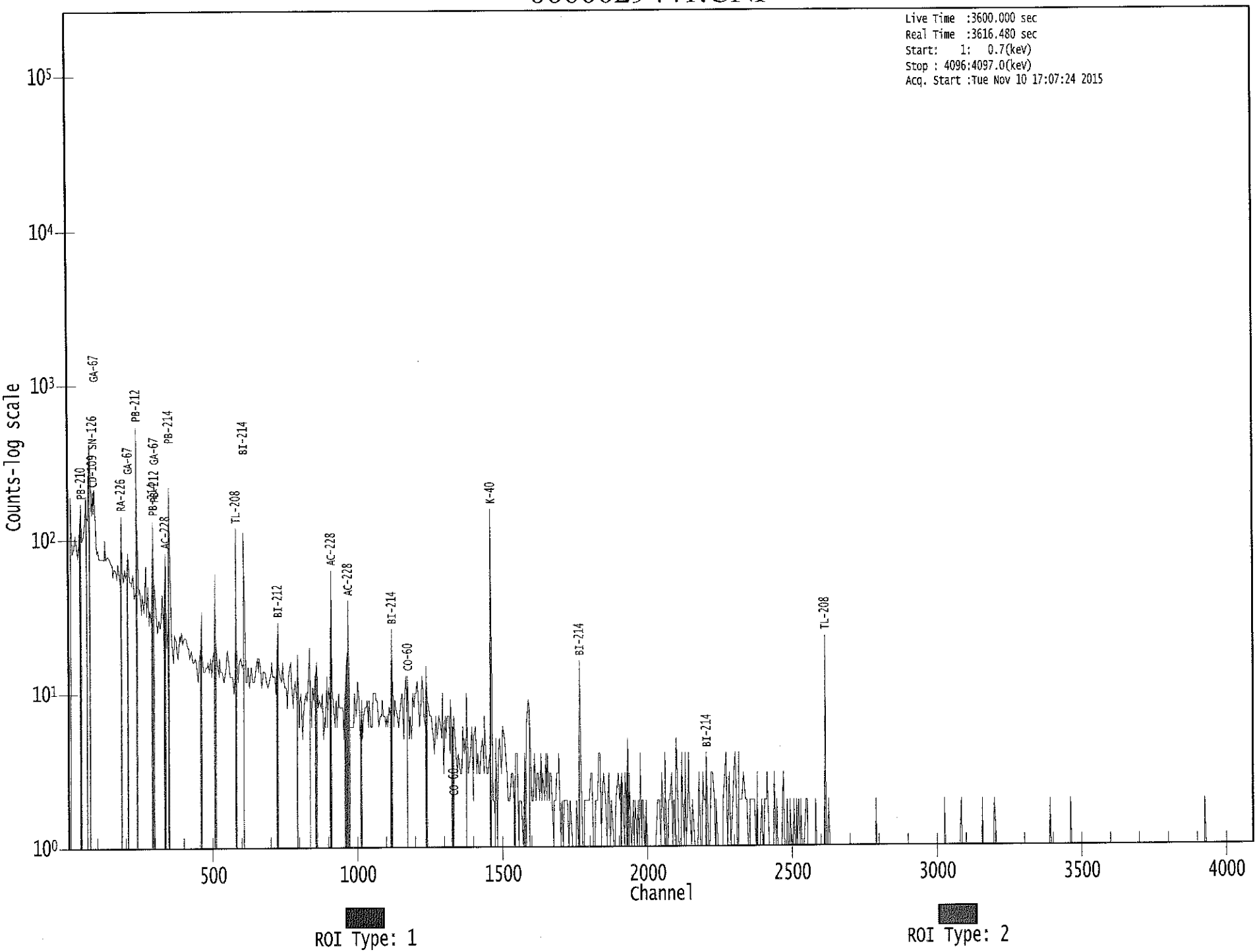
Channel								
3401:	0	0	0	0	0	0	0	0
3409:	0	0	0	1	0	0	0	0
3417:	0	0	0	0	0	0	0	0
3425:	0	0	0	0	0	0	0	0
3433:	1	0	0	0	0	0	0	0
3441:	0	0	0	0	0	0	1	0
3449:	0	0	0	0	1	1	0	0
3457:	0	0	0	1	2	0	0	0
3465:	0	0	0	0	0	0	0	0
3473:	0	0	0	0	0	0	0	0
3481:	0	0	0	0	0	0	0	1
3489:	0	0	0	0	0	0	0	0
3497:	0	0	0	0	1	0	0	0
3505:	0	0	0	1	0	0	0	0
3513:	0	0	0	0	0	0	0	0
3521:	0	0	0	0	0	0	0	0
3529:	1	0	0	1	0	0	0	0
3537:	0	0	0	0	0	0	0	1
3545:	0	0	0	0	0	0	0	0
3553:	0	0	0	0	0	0	0	0
3561:	0	0	0	0	1	1	0	1
3569:	0	0	0	0	0	0	0	0
3577:	0	0	0	0	0	0	0	0
3585:	0	0	0	0	0	0	0	0
3593:	0	1	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	1	0	0	0
3625:	0	0	1	0	0	0	0	0
3633:	0	0	0	0	1	0	0	0
3641:	0	0	0	1	0	0	1	0
3649:	0	0	1	0	0	0	0	0
3657:	0	0	1	1	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	1	1	0	1	0	1
3689:	0	0	0	0	0	0	0	0
3697:	0	0	0	0	0	0	0	0
3705:	0	1	0	0	0	1	1	0
3713:	1	0	0	0	0	1	0	0
3721:	0	0	0	0	0	0	0	0
3729:	0	1	0	0	0	1	0	0
3737:	0	0	0	0	0	0	0	0
3745:	0	0	1	0	0	0	0	0
3753:	0	0	0	0	0	0	1	0
3761:	0	0	0	0	1	0	0	0
3769:	0	0	1	0	0	0	0	0
3777:	1	0	0	0	0	0	0	0
3785:	0	0	0	0	0	0	0	0
3793:	0	0	0	0	0	0	0	0
3801:	0	0	0	0	0	0	0	0
3809:	0	1	0	1	0	0	0	1
3817:	0	0	0	0	0	0	0	0

3825:	0	0	0	0	0	0	0	0

Sample Title: CP1807S22-23

Channel								
3833:	0	1	0	0	0	1	0	0
3841:	0	1	0	0	0	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	1	0	0	0	0	0	0
3865:	0	0	0	0	1	0	0	0
3873:	0	1	0	0	0	0	0	0
3881:	1	0	0	0	0	0	0	1
3889:	1	0	0	0	0	1	0	0
3897:	0	0	0	1	0	0	0	0
3905:	0	0	0	0	0	0	0	0
3913:	1	0	0	0	1	0	0	0
3921:	0	0	0	0	0	2	1	1
3929:	0	1	0	0	1	1	0	0
3937:	0	0	0	0	0	0	0	0
3945:	0	0	0	0	1	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	1	0	0	0
3985:	0	0	0	0	0	1	0	0
3993:	0	0	1	0	0	0	0	0
4001:	0	0	0	0	0	0	0	1
4009:	0	0	0	0	0	0	0	0
4017:	1	0	0	0	0	0	0	0
4025:	1	0	0	0	0	0	0	0
4033:	1	0	0	0	0	1	1	0
4041:	0	0	0	0	0	0	0	0
4049:	0	0	0	0	0	0	0	0
4057:	0	0	0	1	0	0	0	0
4065:	1	0	0	0	0	0	0	0
4073:	0	0	0	0	0	0	0	0
4081:	0	0	0	0	0	0	0	1
4089:	0	0	0	0	1	0	0	1

0000029441.CNF



Apex-Gamma

Analysis Report for 1510091-13
CP1805S03-04

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1510091-13
Sample Description	: CP1805S03-04
Sample Type	: SOIL
Sample Size	: 5.597E+02 grams
Facility	: Countroom
Sample Taken On	: 10/10/2015 10:16:57AM
Acquisition Started	: 11/10/2015 5:13:42PM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE2
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3601.4 seconds
Dead Time	: 0.04 %
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	: 29443

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

Analysis Report for 1510091-13

CP1805S03-04

PEAK LOCATE REPORT

Peak Locate Performed on : 11/10/2015 6:13:50PM
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	76.40	76.49	0.0000	0.00
2	88.00	88.08	0.0000	0.00
3	93.49	93.56	0.0000	0.00
4	128.77	128.83	0.0000	0.00
5	166.23	166.27	0.0000	0.00
6	174.03	174.06	0.0000	0.00
7	186.12	186.14	0.0000	0.00
8	209.32	209.33	0.0000	0.00
9	217.35	217.36	0.0000	0.00
10	236.13	236.13	0.0000	0.00
11	238.88	238.87	0.0000	0.00
12	241.88	241.87	0.0000	0.00
13	270.33	270.31	0.0000	0.00
14	295.17	295.14	0.0000	0.00
15	300.07	300.04	0.0000	0.00
16	338.51	338.45	0.0000	0.00
17	351.97	351.91	0.0000	0.00
18	462.63	462.51	0.0000	0.00
19	511.09	510.94	0.0000	0.00
20	531.79	531.63	0.0000	0.00
21	583.26	583.08	0.0000	0.00
22	592.75	592.57	0.0000	0.00
23	609.46	609.27	0.0000	0.00
24	727.29	727.04	0.0000	0.00
25	785.88	785.61	0.0000	0.00
26	794.50	794.23	0.0000	0.00
27	804.56	804.28	0.0000	0.00
28	839.09	838.80	0.0000	0.00
29	861.04	860.73	0.0000	0.00
30	866.19	865.89	0.0000	0.00
31	912.36	912.03	0.0000	0.00
32	944.94	944.60	0.0000	0.00
33	964.76	964.42	0.0000	0.00
34	969.11	968.76	0.0000	0.00
35	1002.83	1002.47	0.0000	0.00
36	1023.71	1023.34	0.0000	0.00
37	1120.58	1120.17	0.0000	0.00
38	1126.41	1126.00	0.0000	0.00
39	1154.83	1154.41	0.0000	0.00
40	1238.71	1238.26	0.0000	0.00
41	1377.11	1376.62	0.0000	0.00
42	1460.96	1460.44	0.0000	0.00

Analysis Report for 1510091-13

CP1805S03-04

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1492.70	1492.16	0.0000	0.00
44	1510.69	1510.15	0.0000	0.00
45	1545.55	1545.00	0.0000	0.00
46	1616.33	1615.76	0.0000	0.00
47	1619.33	1618.76	0.0000	0.00
48	1692.47	1691.88	0.0000	0.00
49	1729.87	1729.27	0.0000	0.00
50	1764.42	1763.82	0.0000	0.00
51	1794.61	1794.00	0.0000	0.00
52	1823.87	1823.25	0.0000	0.00
53	1846.01	1845.39	0.0000	0.00
54	1898.11	1897.48	0.0000	0.00
55	1961.40	1960.76	0.0000	0.00
56	1984.95	1984.29	0.0000	0.00
57	2093.90	2093.22	0.0000	0.00
58	2103.15	2102.48	0.0000	0.00
59	2203.73	2203.04	0.0000	0.00
60	2614.26	2613.52	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510091-13

CP1805S03-04

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 6:13:50PM

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	76.40	72 -	82	76.49	1.35E+03	164.30	2.85E+03	3.62
	2	88.00	86 -	91	88.08	2.78E+02	100.26	1.78E+03	3.47
	3	93.49	91 -	96	93.56	1.94E+02	95.17	1.59E+03	1.70
	4	128.77	124 -	134	128.83	1.71E+02	114.24	1.65E+03	3.86
	5	166.23	164 -	168	166.27	5.26E+01	56.08	6.49E+02	1.14
	6	174.03	170 -	177	174.06	9.53E+01	79.35	9.81E+02	4.69
	7	186.12	183 -	189	186.14	2.20E+02	80.78	1.02E+03	1.38
	8	209.32	206 -	213	209.33	1.21E+02	74.91	8.53E+02	1.82
	9	217.35	215 -	220	217.36	6.43E+01	54.80	5.49E+02	3.70
M	10	236.13	235 -	244	236.13	3.46E+01	26.19	2.13E+02	1.41
m	11	238.88	235 -	244	238.87	9.14E+02	74.32	3.53E+02	1.41
m	12	241.88	235 -	244	241.87	2.23E+02	51.73	2.81E+02	1.42
	13	270.33	268 -	274	270.31	7.24E+01	58.41	5.75E+02	2.20
M	14	295.17	290 -	303	295.14	3.85E+02	52.31	2.66E+02	1.50
m	15	300.07	290 -	303	300.04	7.27E+01	42.42	3.34E+02	1.50
	16	338.51	334 -	342	338.45	1.95E+02	68.77	6.08E+02	1.92
	17	351.97	348 -	355	351.91	6.73E+02	70.34	3.76E+02	1.40
	18	462.63	458 -	468	462.51	7.13E+01	55.61	3.75E+02	1.86
	19	511.09	506 -	516	510.94	2.24E+02	59.14	3.48E+02	2.19
	20	531.79	529 -	534	531.63	2.94E+01	27.09	1.19E+02	2.80
	21	583.26	579 -	587	583.08	3.30E+02	55.71	2.75E+02	1.53
	22	592.75	590 -	595	592.57	2.84E+01	25.20	1.03E+02	2.12
	23	609.46	605 -	613	609.27	5.44E+02	61.20	2.38E+02	1.84
	24	727.29	724 -	731	727.04	7.10E+01	34.41	1.54E+02	1.46
	25	785.88	781 -	790	785.61	5.08E+01	36.57	1.54E+02	2.01
	26	794.50	791 -	797	794.23	5.15E+01	25.09	7.70E+01	2.25
	27	804.56	801 -	807	804.28	3.50E+01	25.19	8.79E+01	4.75
	28	839.09	830 -	850	838.80	1.06E+02	55.29	2.13E+02	9.23
M	29	861.04	854 -	869	860.73	5.51E+01	27.13	7.57E+01	2.80
m	30	866.19	854 -	869	865.89	2.04E+01	23.83	5.63E+01	2.80
	31	912.36	900 -	926	912.03	2.61E+02	84.15	3.76E+02	1.66
	32	944.94	941 -	948	944.60	2.95E+01	24.00	7.71E+01	2.17
M	33	964.76	958 -	972	964.42	6.92E+01	26.17	7.31E+01	2.41
m	34	969.11	958 -	972	968.76	1.35E+02	27.87	4.82E+01	1.82
	35	1002.83	1000 -	1006	1002.47	2.31E+01	20.80	5.97E+01	2.41
	36	1023.71	1016 -	1031	1023.34	4.70E+01	40.35	1.44E+02	10.37
M	37	1120.58	1113 -	1131	1120.17	1.38E+02	31.01	7.70E+01	2.31
m	38	1126.41	1113 -	1131	1126.00	1.89E+01	20.93	6.60E+01	2.10
	39	1154.83	1150 -	1158	1154.41	4.35E+01	24.65	6.51E+01	6.26
	40	1238.71	1234 -	1243	1238.26	7.56E+01	34.19	1.21E+02	1.86

Analysis Report for 1510091-13

CP1805S03-04

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	41	1377.11	1373 -	1380	1376.62	5.05E+01	18.55	2.30E+01	2.44
	42	1460.96	1454 -	1466	1460.44	7.34E+02	58.12	5.18E+01	2.43
	43	1492.70	1488 -	1497	1492.16	1.80E+01	17.86	3.60E+01	3.17
	44	1510.69	1505 -	1514	1510.15	3.06E+01	17.23	2.48E+01	5.47
	45	1545.55	1540 -	1549	1545.00	1.25E+01	14.87	2.30E+01	5.54
M	46	1616.33	1612 -	1624	1615.76	8.47E+00	14.28	2.40E+01	2.64
m	47	1619.33	1612 -	1624	1618.76	2.64E+01	14.83	2.40E+01	2.64
	48	1692.47	1688 -	1695	1691.88	9.50E+00	11.31	1.30E+01	2.02
	49	1729.87	1723 -	1732	1729.27	1.66E+01	16.67	3.09E+01	2.65
	50	1764.42	1759 -	1770	1763.82	9.30E+01	23.75	2.40E+01	2.66
	51	1794.61	1790 -	1797	1794.00	8.00E+00	5.66	0.00E+00	3.88
	52	1823.87	1820 -	1826	1823.25	6.19E+00	6.65	3.63E+00	1.95
	53	1846.01	1841 -	1848	1845.39	1.15E+01	9.59	7.07E+00	2.50
	54	1898.11	1893 -	1901	1897.48	9.96E+00	8.26	4.08E+00	3.82
	55	1961.40	1956 -	1965	1960.76	9.14E+00	10.30	9.71E+00	3.25
	56	1984.95	1980 -	1989	1984.29	1.70E+01	8.25	0.00E+00	5.59
	57	2093.90	2089 -	2096	2093.22	9.00E+00	6.00	0.00E+00	2.50
	58	2103.15	2098 -	2107	2102.48	2.78E+01	12.04	4.30E+00	2.20
	59	2203.73	2198 -	2207	2203.04	2.06E+01	10.82	4.87E+00	1.20
	60	2614.26	2608 -	2617	2613.52	1.27E+02	22.54	0.00E+00	2.67

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 : 11/10/2015 6:13:50PM

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	76.40	72 -	82	1.35E+03	164.30	2.85E+03	1.21E+02
2	88.00	86 -	91	2.78E+02	100.26	1.78E+03	7.77E+01
3	93.49	91 -	96	1.94E+02	95.17	1.59E+03	7.48E+01
4	128.77	124 -	134	1.71E+02	114.24	1.65E+03	4.03E+01
5	166.23	164 -	168	5.26E+01	56.08	6.49E+02	4.45E+01
6	174.03	170 -	177	9.53E+01	79.35	9.81E+02	6.32E+01
7	186.12	183 -	189	2.20E+02	80.78	1.02E+03	6.18E+01
8	209.32	206 -	213	1.21E+02	74.91	8.53E+02	5.89E+01

Analysis Report for 1510091-13

CP1805S03-04

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	9	217.35	215 -	220	6.43E+01	54.80	5.49E+02	4.31E+01
M	10	236.13	235 -	244	3.46E+01	26.19	2.13E+02	2.40E+01
m	11	238.88	235 -	244	9.14E+02	74.32	3.53E+02	3.09E+01
m	12	241.88	235 -	244	2.23E+02	51.73	2.81E+02	2.76E+01
	13	270.33	268 -	274	7.24E+01	58.41	5.75E+02	4.59E+01
M	14	295.17	290 -	303	3.85E+02	52.31	2.66E+02	2.68E+01
m	15	300.07	290 -	303	7.27E+01	42.42	3.34E+02	3.01E+01
	16	338.51	334 -	342	1.95E+02	68.77	6.08E+02	5.17E+01
	17	351.97	348 -	355	6.73E+02	70.34	3.76E+02	3.90E+01
	18	462.63	458 -	468	7.13E+01	55.61	3.75E+02	4.36E+01
	19	511.09	506 -	516	2.24E+02	59.14	3.48E+02	4.19E+01
	20	531.79	529 -	534	2.94E+01	27.09	1.19E+02	2.04E+01
	21	583.26	579 -	587	3.30E+02	55.71	2.75E+02	3.47E+01
	22	592.75	590 -	595	2.84E+01	25.20	1.03E+02	1.88E+01
	23	609.46	605 -	613	5.44E+02	61.20	2.38E+02	3.26E+01
	24	727.29	724 -	731	7.10E+01	34.41	1.54E+02	2.47E+01
	25	785.88	781 -	790	5.08E+01	36.57	1.54E+02	1.27E+01
	26	794.50	791 -	797	5.15E+01	25.09	7.70E+01	1.69E+01
	27	804.56	801 -	807	3.50E+01	25.19	8.79E+01	1.83E+01
	28	839.09	830 -	850	1.06E+02	55.29	2.13E+02	4.22E+01
M	29	861.04	854 -	869	5.51E+01	27.13	7.57E+01	1.43E+01
m	30	866.19	854 -	869	2.04E+01	23.83	5.63E+01	1.23E+01
	31	912.36	900 -	926	2.61E+02	84.15	3.76E+02	1.44E+01
	32	944.94	941 -	948	2.95E+01	24.00	7.71E+01	1.76E+01
M	33	964.76	958 -	972	6.92E+01	26.17	7.31E+01	1.41E+01
m	34	969.11	958 -	972	1.35E+02	27.87	4.82E+01	1.14E+01
	35	1002.83	1000 -	1006	2.31E+01	20.80	5.97E+01	1.52E+01
	36	1023.71	1016 -	1031	4.70E+01	40.35	1.44E+02	3.12E+01
M	37	1120.58	1113 -	1131	1.38E+02	31.01	7.70E+01	1.44E+01
m	38	1126.41	1113 -	1131	1.89E+01	20.93	6.60E+01	1.34E+01
	39	1154.83	1150 -	1158	4.35E+01	24.65	6.51E+01	1.71E+01
	40	1238.71	1234 -	1243	7.56E+01	34.19	1.21E+02	2.42E+01
	41	1377.11	1373 -	1380	5.05E+01	18.55	2.30E+01	9.79E+00
	42	1460.96	1454 -	1466	7.34E+02	58.12	5.18E+01	1.73E+01
	43	1492.70	1488 -	1497	1.80E+01	17.86	3.60E+01	1.29E+01
	44	1510.69	1505 -	1514	3.06E+01	17.23	2.48E+01	1.09E+01
	45	1545.55	1540 -	1549	1.25E+01	14.87	2.30E+01	1.07E+01
M	46	1616.33	1612 -	1624	8.47E+00	14.28	2.40E+01	8.05E+00
m	47	1619.33	1612 -	1624	2.64E+01	14.83	2.40E+01	8.05E+00
	48	1692.47	1688 -	1695	9.50E+00	11.31	1.30E+01	7.80E+00
	49	1729.87	1723 -	1732	1.66E+01	16.67	3.09E+01	1.20E+01
	50	1764.42	1759 -	1770	9.30E+01	23.75	2.40E+01	1.14E+01
	51	1794.61	1790 -	1797	8.00E+00	5.66	0.00E+00	0.00E+00
	52	1823.87	1820 -	1826	6.19E+00	6.65	3.63E+00	3.63E+00
	53	1846.01	1841 -	1848	1.15E+01	9.59	7.07E+00	5.58E+00
	54	1898.11	1893 -	1901	9.96E+00	8.26	4.08E+00	4.38E+00
	55	1961.40	1956 -	1965	9.14E+00	10.30	9.71E+00	6.85E+00
	56	1984.95	1980 -	1989	1.70E+01	8.25	0.00E+00	0.00E+00
	57	2093.90	2089 -	2096	9.00E+00	6.00	0.00E+00	0.00E+00
	58	2103.15	2098 -	2107	2.78E+01	12.04	4.30E+00	4.76E+00
	59	2203.73	2198 -	2207	2.06E+01	10.82	4.87E+00	4.84E+00

Analysis Report for 1510091-13

CP1805S03-04

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
60	2614.26	2608 -	2617	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 : 11/10/2015 6:13:50PM

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	76.40	72 -	82	76.49	1.35E+03	164.30	2.85E+03	.....
	2	88.00	86 -	91	88.08	2.78E+02	100.26	1.78E+03	CD-109
									LU-176
									SN-126
	3	93.49	91 -	96	93.56	1.94E+02	95.17	1.59E+03	GA-67
	4	128.77	124 -	134	128.83	1.71E+02	114.24	1.65E+03	.....
	5	166.23	164 -	168	166.27	5.26E+01	56.08	6.49E+02	CE-139
	6	174.03	170 -	177	174.06	9.53E+01	79.35	9.81E+02	.....
	7	186.12	183 -	189	186.14	2.20E+02	80.78	1.02E+03	RA-226
	8	209.32	206 -	213	209.33	1.21E+02	74.91	8.53E+02	GA-67
									CM-243
	9	217.35	215 -	220	217.36	6.43E+01	54.80	5.49E+02	.....
M	10	236.13	235 -	244	236.13	3.46E+01	26.19	2.13E+02	TH-227
									NB-95M
m	11	238.88	235 -	244	238.87	9.14E+02	74.32	3.53E+02	PB-212
m	12	241.88	235 -	244	241.87	2.23E+02	51.73	2.81E+02	RA-224
	13	270.33	268 -	274	270.31	7.24E+01	58.41	5.75E+02	.....
M	14	295.17	290 -	303	295.14	3.85E+02	52.31	2.66E+02	PB-214
m	15	300.07	290 -	303	300.04	7.27E+01	42.42	3.34E+02	PB-212
									BI-210M
									GA-67
	16	338.51	334 -	342	338.45	1.95E+02	68.77	6.08E+02	AC-228
	17	351.97	348 -	355	351.91	6.73E+02	70.34	3.76E+02	PB-214
	18	462.63	458 -	468	462.51	7.13E+01	55.61	3.75E+02	SB-125
	19	511.09	506 -	516	510.94	2.24E+02	59.14	3.48E+02	.....

Analysis Report for 1510091-13

CP1805S03-04

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	20	531.79	529 -	534	531.63	2.94E+01	27.09	1.19E+02	ND-147
	21	583.26	579 -	587	583.08	3.30E+02	55.71	2.75E+02	TL-208
	22	592.75	590 -	595	592.57	2.84E+01	25.20	1.03E+02	.....
	23	609.46	605 -	613	609.27	5.44E+02	61.20	2.38E+02	BI-214
	24	727.29	724 -	731	727.04	7.10E+01	34.41	1.54E+02	BI-212
	25	785.88	781 -	790	785.61	5.08E+01	36.57	1.54E+02	.....
	26	794.50	791 -	797	794.23	5.15E+01	25.09	7.70E+01	.....
	27	804.56	801 -	807	804.28	3.50E+01	25.19	8.79E+01	.....
	28	839.09	830 -	850	838.80	1.06E+02	55.29	2.13E+02	.....
M	29	861.04	854 -	869	860.73	5.51E+01	27.13	7.57E+01	TL-208
m	30	866.19	854 -	869	865.89	2.04E+01	23.83	5.63E+01	.....
	31	912.36	900 -	926	912.03	2.61E+02	84.15	3.76E+02	LU-172
	32	944.94	941 -	948	944.60	2.95E+01	24.00	7.71E+01	.....
M	33	964.76	958 -	972	964.42	6.92E+01	26.17	7.31E+01	EU-152
m	34	969.11	958 -	972	968.76	1.35E+02	27.87	4.82E+01	AC-228
	35	1002.83	1000 -	1006	1002.47	2.31E+01	20.80	5.97E+01	.....
	36	1023.71	1016 -	1031	1023.34	4.70E+01	40.35	1.44E+02	.....
M	37	1120.58	1113 -	1131	1120.17	1.38E+02	31.01	7.70E+01	SC-46 BI-214 TA-182
m	38	1126.41	1113 -	1131	1126.00	1.89E+01	20.93	6.60E+01	.....
	39	1154.83	1150 -	1158	1154.41	4.35E+01	24.65	6.51E+01	.....
	40	1238.71	1234 -	1243	1238.26	7.56E+01	34.19	1.21E+02	CO-56
	41	1377.11	1373 -	1380	1376.62	5.05E+01	18.55	2.30E+01	.....
	42	1460.96	1454 -	1466	1460.44	7.34E+02	58.12	5.18E+01	K-40
	43	1492.70	1488 -	1497	1492.16	1.80E+01	17.86	3.60E+01	.....
	44	1510.69	1505 -	1514	1510.15	3.06E+01	17.23	2.48E+01	.....
	45	1545.55	1540 -	1549	1545.00	1.25E+01	14.87	2.30E+01	.....
M	46	1616.33	1612 -	1624	1615.76	8.47E+00	14.28	2.40E+01	.....
m	47	1619.33	1612 -	1624	1618.76	2.64E+01	14.83	2.40E+01	.....
	48	1692.47	1688 -	1695	1691.88	9.50E+00	11.31	1.30E+01	.....
	49	1729.87	1723 -	1732	1729.27	1.66E+01	16.67	3.09E+01	.....
	50	1764.42	1759 -	1770	1763.82	9.30E+01	23.75	2.40E+01	BI-214
	51	1794.61	1790 -	1797	1794.00	8.00E+00	5.66	0.00E+00	.....
	52	1823.87	1820 -	1826	1823.25	6.19E+00	6.65	3.63E+00	.....
	53	1846.01	1841 -	1848	1845.39	1.15E+01	9.59	7.07E+00	.....
	54	1898.11	1893 -	1901	1897.48	9.96E+00	8.26	4.08E+00	.....
	55	1961.40	1956 -	1965	1960.76	9.14E+00	10.30	9.71E+00	.....
	56	1984.95	1980 -	1989	1984.29	1.70E+01	8.25	0.00E+00	.....
	57	2093.90	2089 -	2096	2093.22	9.00E+00	6.00	0.00E+00	.....
	58	2103.15	2098 -	2107	2102.48	2.78E+01	12.04	4.30E+00	.....
	59	2203.73	2198 -	2207	2203.04	2.06E+01	10.82	4.87E+00	BI-214
	60	2614.26	2608 -	2617	2613.52	1.27E+02	22.54	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 1510091-13

CP1805S03-04

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/10/2015 6:13:50PM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	76.40	1.35E+03	164.30	2.74E-02	3.35E-03
	2	88.00	2.78E+02	100.26	2.84E-02	4.50E-03
	3	93.49	1.94E+02	95.17	2.85E-02	4.26E-03
	4	128.77	1.71E+02	114.24	2.60E-02	2.79E-03
	5	166.23	5.26E+01	56.08	2.26E-02	1.67E-03
	6	174.03	9.53E+01	79.35	2.20E-02	1.67E-03
	7	186.12	2.20E+02	80.78	2.11E-02	1.65E-03
	8	209.32	1.21E+02	74.91	1.95E-02	1.63E-03
	9	217.35	6.43E+01	54.80	1.90E-02	1.62E-03
M	10	236.13	3.46E+01	26.19	1.80E-02	1.60E-03
m	11	238.88	9.14E+02	74.32	1.79E-02	1.60E-03
m	12	241.88	2.23E+02	51.73	1.77E-02	1.60E-03
	13	270.33	7.24E+01	58.41	1.64E-02	1.57E-03
M	14	295.17	3.85E+02	52.31	1.55E-02	1.48E-03
m	15	300.07	7.27E+01	42.42	1.53E-02	1.46E-03
	16	338.51	1.95E+02	68.77	1.41E-02	1.27E-03
	17	351.97	6.73E+02	70.34	1.37E-02	1.21E-03
	18	462.63	7.13E+01	55.61	1.13E-02	9.47E-04
	19	511.09	2.24E+02	59.14	1.06E-02	8.98E-04
	20	531.79	2.94E+01	27.09	1.03E-02	8.77E-04
	21	583.26	3.30E+02	55.71	9.58E-03	8.25E-04
	22	592.75	2.84E+01	25.20	9.47E-03	8.15E-04
	23	609.46	5.44E+02	61.20	9.27E-03	7.98E-04
	24	727.29	7.10E+01	34.41	8.09E-03	7.03E-04
	25	785.88	5.08E+01	36.57	7.60E-03	6.65E-04
	26	794.50	5.15E+01	25.09	7.54E-03	6.60E-04
	27	804.56	3.50E+01	25.19	7.46E-03	6.53E-04
	28	839.09	1.06E+02	55.29	7.21E-03	6.31E-04
M	29	861.04	5.51E+01	27.13	7.06E-03	6.17E-04
m	30	866.19	2.04E+01	23.83	7.03E-03	6.14E-04
	31	912.36	2.61E+02	84.15	6.74E-03	5.86E-04
	32	944.94	2.95E+01	24.00	6.55E-03	5.69E-04
M	33	964.76	6.92E+01	26.17	6.44E-03	5.59E-04
m	34	969.11	1.35E+02	27.87	6.41E-03	5.57E-04
	35	1002.83	2.31E+01	20.80	6.24E-03	5.40E-04
	36	1023.71	4.70E+01	40.35	6.13E-03	5.29E-04
M	37	1120.58	1.38E+02	31.01	5.70E-03	4.80E-04
m	38	1126.41	1.89E+01	20.93	5.68E-03	4.77E-04
	39	1154.83	4.35E+01	24.65	5.57E-03	4.62E-04
	40	1238.71	7.56E+01	34.19	5.27E-03	4.83E-04
	41	1377.11	5.05E+01	18.55	4.87E-03	5.08E-04
	42	1460.96	7.34E+02	58.12	4.67E-03	4.73E-04
	43	1492.70	1.80E+01	17.86	4.61E-03	4.60E-04
	44	1510.69	3.06E+01	17.23	4.57E-03	4.53E-04
	45	1545.55	1.25E+01	14.87	4.50E-03	4.38E-04

Analysis Report for 1510091-13

CP1805S03-04

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
M	46	1616.33	8.47E+00	14.28	4.38E-03	4.09E-04
m	47	1619.33	2.64E+01	14.83	4.38E-03	4.08E-04
	48	1692.47	9.50E+00	11.31	4.27E-03	3.77E-04
	49	1729.87	1.66E+01	16.67	4.23E-03	3.62E-04
	50	1764.42	9.30E+01	23.75	4.19E-03	3.48E-04
	51	1794.61	8.00E+00	5.66	4.15E-03	3.35E-04
	52	1823.87	6.19E+00	6.65	4.12E-03	3.23E-04
	53	1846.01	1.15E+01	9.59	4.10E-03	3.18E-04
	54	1898.11	9.96E+00	8.26	4.06E-03	3.18E-04
	55	1961.40	9.14E+00	10.30	4.02E-03	3.18E-04
	56	1984.95	1.70E+01	8.25	4.00E-03	3.18E-04
	57	2093.90	9.00E+00	6.00	3.95E-03	3.18E-04
	58	2103.15	2.78E+01	12.04	3.95E-03	3.18E-04
	59	2203.73	2.06E+01	10.82	3.93E-03	3.18E-04
	60	2614.26	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 : 11/10/2015 6:13:50PM

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	76.40	1.35E+03	164.30			1.35E+03	1.64E+02
	2	88.00	2.78E+02	100.26	1.46E+00	7.88E+00	2.76E+02	1.01E+02
	3	93.49	1.94E+02	95.17	5.70E+01	9.03E+00	1.37E+02	9.56E+01
	4	128.77	1.71E+02	114.24			1.71E+02	1.14E+02
	5	166.23	5.26E+01	56.08			5.26E+01	5.61E+01
	6	174.03	9.53E+01	79.35			9.53E+01	7.93E+01
	7	186.12	2.20E+02	80.78	4.72E+01	7.97E+00	1.73E+02	8.12E+01
	8	209.32	1.21E+02	74.91			1.21E+02	7.49E+01
	9	217.35	6.43E+01	54.80			6.43E+01	5.48E+01
M	10	236.13	3.46E+01	26.19			3.46E+01	2.62E+01
m	11	238.88	9.14E+02	74.32	2.36E+01	1.35E+01	8.91E+02	7.55E+01
m	12	241.88	2.23E+02	51.73	6.38E+00	3.91E+00	2.17E+02	5.19E+01
	13	270.33	7.24E+01	58.41			7.24E+01	5.84E+01
M	14	295.17	3.85E+02	52.31	8.57E+00	6.10E+00	3.76E+02	5.27E+01
m	15	300.07	7.27E+01	42.42			7.27E+01	4.24E+01

Analysis Report for 1510091-13

CP1805S03-04

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	16	338.51	1.95E+02	68.77			1.95E+02	6.88E+01
	17	351.97	6.73E+02	70.34	1.40E+01	5.55E+00	6.59E+02	7.06E+01
	18	462.63	7.13E+01	55.61			7.13E+01	5.56E+01
	19	511.09	2.24E+02	59.14	8.41E+01	5.50E+00	1.40E+02	5.94E+01
	20	531.79	2.94E+01	27.09			2.94E+01	2.71E+01
	21	583.26	3.30E+02	55.71	7.32E+00	4.08E+00	3.22E+02	5.59E+01
	22	592.75	2.84E+01	25.20			2.84E+01	2.52E+01
	23	609.46	5.44E+02	61.20	1.30E+01	3.89E+00	5.31E+02	6.13E+01
	24	727.29	7.10E+01	34.41			7.10E+01	3.44E+01
	25	785.88	5.08E+01	36.57			5.08E+01	3.66E+01
	26	794.50	5.15E+01	25.09			5.15E+01	2.51E+01
	27	804.56	3.50E+01	25.19			3.50E+01	2.52E+01
	28	839.09	1.06E+02	55.29			1.06E+02	5.53E+01
M	29	861.04	5.51E+01	27.13			5.51E+01	2.71E+01
m	30	866.19	2.04E+01	23.83			2.04E+01	2.38E+01
	31	912.36	2.61E+02	84.15	5.60E+00	3.32E+00	2.55E+02	8.42E+01
	32	944.94	2.95E+01	24.00			2.95E+01	2.40E+01
M	33	964.76	6.92E+01	26.17			6.92E+01	2.62E+01
m	34	969.11	1.35E+02	27.87			1.35E+02	2.79E+01
	35	1002.83	2.31E+01	20.80			2.31E+01	2.08E+01
	36	1023.71	4.70E+01	40.35			4.70E+01	4.03E+01
M	37	1120.58	1.38E+02	31.01	3.93E+00	2.96E+00	1.34E+02	3.11E+01
m	38	1126.41	1.89E+01	20.93			1.89E+01	2.09E+01
	39	1154.83	4.35E+01	24.65			4.35E+01	2.47E+01
	40	1238.71	7.56E+01	34.19			7.56E+01	3.42E+01
	41	1377.11	5.05E+01	18.55			5.05E+01	1.85E+01
	42	1460.96	7.34E+02	58.12	1.12E+01	2.55E+00	7.23E+02	5.82E+01
	43	1492.70	1.80E+01	17.86			1.80E+01	1.79E+01
	44	1510.69	3.06E+01	17.23			3.06E+01	1.72E+01
	45	1545.55	1.25E+01	14.87			1.25E+01	1.49E+01
M	46	1616.33	8.47E+00	14.28			8.47E+00	1.43E+01
m	47	1619.33	2.64E+01	14.83			2.64E+01	1.48E+01
	48	1692.47	9.50E+00	11.31			9.50E+00	1.13E+01
	49	1729.87	1.66E+01	16.67			1.66E+01	1.67E+01
	50	1764.42	9.30E+01	23.75	4.23E+00	2.21E+00	8.88E+01	2.39E+01
	51	1794.61	8.00E+00	5.66			8.00E+00	5.66E+00
	52	1823.87	6.19E+00	6.65			6.19E+00	6.65E+00
	53	1846.01	1.15E+01	9.59			1.15E+01	9.59E+00
	54	1898.11	9.96E+00	8.26			9.96E+00	8.26E+00
	55	1961.40	9.14E+00	10.30			9.14E+00	1.03E+01
	56	1984.95	1.70E+01	8.25			1.70E+01	8.25E+00
	57	2093.90	9.00E+00	6.00			9.00E+00	6.00E+00
	58	2103.15	2.78E+01	12.04			2.78E+01	1.20E+01
	59	2203.73	2.06E+01	10.82	5.94E-01	1.16E+00	2.00E+01	1.09E+01
	60	2614.26	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 1510091-13

CP1805S03-04

AREA CORRECTION REPORT
REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/10/2015 6:13:50PM

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	76.40	1.35E+03	164.30			1.35E+03	1.64E+02
	2	88.00	2.78E+02	100.26	1.46E+00	7.88E+00	2.76E+02	1.01E+02
	3	93.49	1.94E+02	95.17	5.70E+01	9.03E+00	1.37E+02	9.56E+01
	4	128.77	1.71E+02	114.24			1.71E+02	1.14E+02
	5	166.23	5.26E+01	56.08			5.26E+01	5.61E+01
	6	174.03	9.53E+01	79.35			9.53E+01	7.93E+01
	7	186.12	2.20E+02	80.78	4.72E+01	7.97E+00	1.73E+02	8.12E+01
	8	209.32	1.21E+02	74.91			1.21E+02	7.49E+01
	9	217.35	6.43E+01	54.80			6.43E+01	5.48E+01
M	10	236.13	3.46E+01	26.19			3.46E+01	2.62E+01
m	11	238.88	9.14E+02	74.32	2.36E+01	1.35E+01	8.91E+02	7.55E+01
m	12	241.88	2.23E+02	51.73	6.38E+00	3.91E+00	2.17E+02	5.19E+01
	13	270.33	7.24E+01	58.41			7.24E+01	5.84E+01
M	14	295.17	3.85E+02	52.31	8.57E+00	6.10E+00	3.76E+02	5.27E+01
m	15	300.07	7.27E+01	42.42			7.27E+01	4.24E+01
	16	338.51	1.95E+02	68.77			1.95E+02	6.88E+01
	17	351.97	6.73E+02	70.34	1.40E+01	5.55E+00	6.59E+02	7.06E+01
	18	462.63	7.13E+01	55.61			7.13E+01	5.56E+01
	19	511.09	2.24E+02	59.14	8.41E+01	5.50E+00	1.40E+02	5.94E+01
	20	531.79	2.94E+01	27.09			2.94E+01	2.71E+01
	21	583.26	3.30E+02	55.71	7.32E+00	4.08E+00	3.22E+02	5.59E+01
	22	592.75	2.84E+01	25.20			2.84E+01	2.52E+01
	23	609.46	5.44E+02	61.20	1.30E+01	3.89E+00	5.31E+02	6.13E+01
	24	727.29	7.10E+01	34.41			7.10E+01	3.44E+01
	25	785.88	5.08E+01	36.57			5.08E+01	3.66E+01
	26	794.50	5.15E+01	25.09			5.15E+01	2.51E+01
	27	804.56	3.50E+01	25.19			3.50E+01	2.52E+01
	28	839.09	1.06E+02	55.29			1.06E+02	5.53E+01
M	29	861.04	5.51E+01	27.13			5.51E+01	2.71E+01
m	30	866.19	2.04E+01	23.83			2.04E+01	2.38E+01
	31	912.36	2.61E+02	84.15	5.60E+00	3.32E+00	2.55E+02	8.42E+01
	32	944.94	2.95E+01	24.00			2.95E+01	2.40E+01
M	33	964.76	6.92E+01	26.17			6.92E+01	2.62E+01
m	34	969.11	1.35E+02	27.87			1.35E+02	2.79E+01
	35	1002.83	2.31E+01	20.80			2.31E+01	2.08E+01
	36	1023.71	4.70E+01	40.35			4.70E+01	4.03E+01
M	37	1120.58	1.38E+02	31.01	3.93E+00	2.96E+00	1.34E+02	3.11E+01
m	38	1126.41	1.89E+01	20.93			1.89E+01	2.09E+01
	39	1154.83	4.35E+01	24.65			4.35E+01	2.47E+01

Analysis Report for 1510091-13

CP1805S03-04

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	40	1238.71	7.56E+01	34.19			7.56E+01	3.42E+01
	41	1377.11	5.05E+01	18.55			5.05E+01	1.85E+01
	42	1460.96	7.34E+02	58.12	1.12E+01	2.55E+00	7.23E+02	5.82E+01
	43	1492.70	1.80E+01	17.86			1.80E+01	1.79E+01
	44	1510.69	3.06E+01	17.23			3.06E+01	1.72E+01
	45	1545.55	1.25E+01	14.87			1.25E+01	1.49E+01
M	46	1616.33	8.47E+00	14.28			8.47E+00	1.43E+01
m	47	1619.33	2.64E+01	14.83			2.64E+01	1.48E+01
	48	1692.47	9.50E+00	11.31			9.50E+00	1.13E+01
	49	1729.87	1.66E+01	16.67			1.66E+01	1.67E+01
	50	1764.42	9.30E+01	23.75	4.23E+00	2.21E+00	8.88E+01	2.39E+01
	51	1794.61	8.00E+00	5.66			8.00E+00	5.66E+00
	52	1823.87	6.19E+00	6.65			6.19E+00	6.65E+00
	53	1846.01	1.15E+01	9.59			1.15E+01	9.59E+00
	54	1898.11	9.96E+00	8.26			9.96E+00	8.26E+00
	55	1961.40	9.14E+00	10.30			9.14E+00	1.03E+01
	56	1984.95	1.70E+01	8.25			1.70E+01	8.25E+00
	57	2093.90	9.00E+00	6.00			9.00E+00	6.00E+00
	58	2103.15	2.78E+01	12.04			2.78E+01	1.20E+01
	59	2203.73	2.06E+01	10.82	5.94E-01	1.16E+00	2.00E+01	1.09E+01
	60	2614.26	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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.996	1460.81	*	10.67	1.94E+01	2.55E+00
GA-67	0.628	93.31	*	35.70	1.41E+02	6.04E+02
		208.95	*	2.24	2.88E+03	1.19E+04
		300.22	*	16.00	3.09E+02	1.32E+03
NB-95M	0.666	235.69	*	25.00	4.21E+01	3.21E+01
CD-109	1.000	88.03	*	3.72	3.67E+00	1.47E+00
SN-126	0.971	87.57	*	37.00	3.52E-01	1.40E-01
CE-139	0.976	165.85	*	80.35	4.54E-02	4.85E-02
TL-208	0.982	583.14	*	30.22	1.49E+00	2.89E-01
		860.37	*	4.48	2.33E+00	1.17E+00

Analysis Report for 1510091-13

CP1805S03-04

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
TL-208	0.982	2614.66	*	35.85	1.10E+00	2.26E-01
BI-212	0.764	727.17	*	11.80	9.97E-01	4.91E-01
		1620.62		2.75		
PB-212	0.991	238.63	*	44.60	1.50E+00	1.85E-01
		300.09	*	3.41	1.87E+00	1.10E+00
BI-214	0.993	609.31	*	46.30	1.66E+00	2.39E-01
		1120.29	*	15.10	2.08E+00	5.16E-01
		1764.49	*	15.80	1.80E+00	5.06E-01
		2204.22	*	4.98	1.37E+00	7.54E-01
PB-214	1.000	295.21	*	19.19	1.70E+00	2.88E-01
		351.92	*	37.19	1.73E+00	2.40E-01
RA-224	0.880	240.98	*	3.95	4.15E+00	1.06E+00
RA-226	0.999	186.21	*	3.28	3.36E+00	6.35E+00

* = Energy line found in the spectrum.
- = Manually added nuclide.
? = Manually edited nuclide.
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 6:13:50PM
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	76.40	3.75358E-01	6.08		
	4	128.77	4.74231E-02	33.46		
	6	174.03	2.64799E-02	41.62		
	9	217.35	1.78495E-02	42.64		
	13	270.33	2.01211E-02	40.32		
	16	338.51	5.41046E-02	17.65	Tol.	AC-228
	18	462.63	1.98171E-02	38.98	Tol.	SB-125
	19	511.09	3.87921E-02	21.27		
	20	531.79	8.17416E-03	46.03	Sum	
	22	592.75	7.88368E-03	44.39		
	25	785.88	1.41070E-02	36.00		
	26	794.50	1.43056E-02	24.36		
	27	804.56	9.73277E-03	35.95		
	28	839.09	2.95631E-02	25.98		
m	30	866.19	5.65592E-03	58.52		
	31	912.36	7.09447E-02	16.49	Tol.	LU-172

Analysis Report for 1510091-13

CP1805S03-04

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	32	944.94	8.18627E-03	40.72		
M	33	964.76	1.92210E-02	18.91	Tol.	EU-152
m	34	969.11	3.74338E-02	10.34	Sum	
	35	1002.83	6.42820E-03	44.93		
	36	1023.71	1.30556E-02	42.92		
m	38	1126.41	5.25857E-03	55.28		
	39	1154.83	1.20742E-02	28.36		
	40	1238.71	2.09988E-02	22.61		
	41	1377.11	1.40323E-02	18.36		
	43	1492.70	5.00000E-03	49.61		
	44	1510.69	8.49483E-03	28.18		
	45	1545.55	3.47222E-03	59.46		
M	46	1616.33	2.35280E-03	84.31		
m	47	1619.33	7.32402E-03	28.13		
	48	1692.47	2.63889E-03	59.55	S-Esc	
	49	1729.87	4.60069E-03	50.33	Sum	
	51	1794.61	2.22222E-03	35.36		
	52	1823.87	1.71875E-03	53.75		
	53	1846.01	3.18519E-03	41.82		
	54	1898.11	2.76620E-03	41.48		
	55	1961.40	2.53968E-03	56.30		
	56	1984.95	4.72222E-03	24.25		
	57	2093.90	2.50000E-03	33.33		
	58	2103.15	7.73611E-03	21.62	S-Esc	

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	1.94E+01	2.55E+00
GA-67	0.62	93.31	*	35.70	1.41E+02	6.04E+02
		208.95	*	2.24	2.88E+03	1.19E+04
		300.22	*	16.00	3.09E+02	1.32E+03

Analysis Report for 1510091-13

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Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
NB-95M	0.66	235.69	*	25.00	4.21E+01	3.21E+01
CD-109	1.00	88.03	*	3.72	3.67E+00	1.47E+00
SN-126	0.97	87.57	*	37.00	3.52E-01	1.40E-01
CE-139	0.97	165.85	*	80.35	4.54E-02	4.85E-02
TL-208	0.98	583.14	*	30.22	1.49E+00	2.89E-01
		860.37	*	4.48	2.33E+00	1.17E+00
		2614.66	*	35.85	1.10E+00	2.26E-01
BI-212	0.76	727.17	*	11.80	9.97E-01	4.91E-01
		1620.62		2.75		
PB-212	0.99	238.63	*	44.60	1.50E+00	1.85E-01
		300.09	*	3.41	1.87E+00	1.10E+00
BI-214	0.99	609.31	*	46.30	1.66E+00	2.39E-01
		1120.29	*	15.10	2.08E+00	5.16E-01
		1764.49	*	15.80	1.80E+00	5.06E-01
		2204.22	*	4.98	1.37E+00	7.54E-01
PB-214	1.00	295.21	*	19.19	1.70E+00	2.88E-01
		351.92	*	37.19	1.73E+00	2.40E-01
RA-224	0.88	240.98	*	3.95	4.15E+00	1.06E+00
RA-226	0.99	186.21	*	3.28	3.36E+00	6.35E+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	0.996	1.94E+01	2.55E+00	
	GA-67	0.628	1.29E+02	5.35E+02	
	NB-95M	0.666	4.21E+01	3.21E+01	
?	CD-109	1.000	3.67E+00	1.47E+00	
?	SN-126	0.971	3.52E-01	1.40E-01	
	CE-139	0.976	4.54E-02	4.85E-02	
	TL-208	0.982	1.28E+00	1.76E-01	
	BI-212	0.764	9.97E-01	4.91E-01	

Analysis Report for 1510091-13

CP1805S03-04

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
PB-212	0.991	1.49E+00	1.83E-01	
BI-214	0.993	1.72E+00	1.93E-01	
PB-214	1.000	1.72E+00	1.85E-01	
RA-224	0.880	4.15E+00	1.06E+00	
RA-226	0.999	3.36E+00	6.35E+00	

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510091-13

CP1805S03-04

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 6:13:50PM
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	76.40	3.75358E-01	6.08		
	4	128.77	4.74231E-02	33.46		
	6	174.03	2.64799E-02	41.62		
	9	217.35	1.78495E-02	42.64		
	13	270.33	2.01211E-02	40.32		
	16	338.51	5.41046E-02	17.65	Tol.	AC-228
	18	462.63	1.98171E-02	38.98	Tol.	SB-125
	19	511.09	3.87921E-02	21.27		
	20	531.79	8.17416E-03	46.03	Sum	
	22	592.75	7.88368E-03	44.39		
	25	785.88	1.41070E-02	36.00		
	26	794.50	1.43056E-02	24.36		
	27	804.56	9.73277E-03	35.95		
	28	839.09	2.95631E-02	25.98		
m	30	866.19	5.65592E-03	58.52		
	31	912.36	7.09447E-02	16.49	Tol.	LU-172
	32	944.94	8.18627E-03	40.72		
M	33	964.76	1.92210E-02	18.91	Tol.	EU-152
m	34	969.11	3.74338E-02	10.34	Sum	
	35	1002.83	6.42820E-03	44.93		
	36	1023.71	1.30556E-02	42.92		
m	38	1126.41	5.25857E-03	55.28		
	39	1154.83	1.20742E-02	28.36		
	40	1238.71	2.09988E-02	22.61		
	41	1377.11	1.40323E-02	18.36		
	43	1492.70	5.00000E-03	49.61		
	44	1510.69	8.49483E-03	28.18		
	45	1545.55	3.47222E-03	59.46		
M	46	1616.33	2.35280E-03	84.31		
m	47	1619.33	7.32402E-03	28.13		
	48	1692.47	2.63889E-03	59.55	S-Esc	
	49	1729.87	4.60069E-03	50.33	Sum	
	51	1794.61	2.22222E-03	35.36		
	52	1823.87	1.71875E-03	53.75		
	53	1846.01	3.18519E-03	41.82		

Analysis Report for 1510091-13

CP1805S03-04

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
54	1898.11	2.76620E-03	41.48		
55	1961.40	2.53968E-03	56.30		
56	1984.95	4.72222E-03	24.25		
57	2093.90	2.50000E-03	33.33		
58	2103.15	7.73611E-03	21.62	S-Esc	

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	-2.43E-01	7.81E-01	7.81E-01
+	NA-22	1274.54		99.94	1.47E-02	8.75E-02	8.75E-02
+	NA-24	1368.53		99.99	3.82E+13	3.61E+13	9.02E+13
		2754.09		99.86	7.76E+12		3.61E+13
+	AL-26	1808.65		99.76	3.29E-02	6.33E-02	6.33E-02
+	K-40	1460.81	*	10.67	1.94E+01	1.06E+00	1.06E+00
+	@ AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	1.85E-02	5.68E-02	5.68E-02
		78.34		96.00	3.46E-01		8.15E-02
+	SC-46	889.25		99.98	-9.17E-02	9.08E-02	9.08E-02
		1120.51		99.99	3.66E-01		1.95E-01
+	V-48	983.52		99.98	-3.65E-02	3.01E-01	3.01E-01
		1312.10		97.50	1.31E-01		3.12E-01
+	CR-51	320.08		9.83	-5.55E-01	1.22E+00	1.22E+00
+	MN-54	834.83		99.97	3.62E-02	8.95E-02	8.95E-02
+	CO-56	846.75		99.96	9.15E-03	9.93E-02	9.93E-02
		1037.75		14.03	1.98E-01		7.18E-01
		1238.25		67.00	3.68E-01		2.66E-01
		1771.40		15.51	4.09E-02		4.75E-01
		2598.48		16.90	7.76E-02		3.65E-01
+	CO-57	122.06		85.51	-2.38E-02	5.92E-02	5.92E-02
		136.48		10.60	2.32E-01		5.38E-01
+	CO-58	810.76		99.40	-4.03E-02	9.35E-02	9.35E-02
+	FE-59	1099.22		56.50	-9.41E-02	2.35E-01	2.35E-01

Analysis Report for 1510091-13

CP1805S03-04

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	FE-59	1291.56		43.20	3.01E-02	2.35E-01	3.03E-01
+	CO-60	1173.22		100.00	2.89E-02	7.43E-02	9.71E-02
		1332.49		100.00	1.34E-02		7.43E-02
+	ZN-65	1115.52		50.75	-7.19E-01	1.83E-01	1.83E-01
+	GA-67	93.31	*	35.70	1.41E+02	1.59E+02	1.59E+02
		208.95	*	2.24	2.88E+03		2.87E+03
		300.22	*	16.00	3.09E+02		6.05E+02
+	SE-75	121.11		16.70	-3.86E-02	1.05E-01	3.42E-01
		136.00		59.20	2.50E-02		1.05E-01
		264.65		59.80	6.43E-02		1.12E-01
		279.53		25.20	-1.09E-01		2.66E-01
		400.65		11.40	-2.23E-01		6.36E-01
+	RB-82	776.52		13.00	2.62E-01	1.43E+00	1.43E+00
+	RB-83	520.41		46.00	3.40E-02	1.61E-01	1.61E-01
		529.64		30.30	7.63E-03		2.42E-01
		552.65		16.40	-3.90E-02		4.18E-01
+	KR-85	513.99		0.43	-1.50E+01	1.70E+01	1.70E+01
+	SR-85	513.99		99.27	-9.12E-02	1.03E-01	1.03E-01
+	Y-88	898.02		93.40	-4.87E-02	9.03E-02	9.84E-02
		1836.01		99.38	4.49E-02		9.03E-02
+	NB-93M	16.57		9.43	-5.34E+03	5.68E+03	5.68E+03
+	NB-94	702.63		100.00	1.13E-02	6.09E-02	7.44E-02
		871.10		100.00	-2.68E-03		6.09E-02
+	NB-95	765.79		99.81	9.65E-02	1.74E-01	1.74E-01
+	NB-95M	235.69	*	25.00	4.21E+01	1.42E+02	1.42E+02
+	ZR-95	724.18		43.70	2.26E-02	1.81E-01	2.80E-01
		756.72		55.30	2.64E-03		1.81E-01
+	MO-99	181.06		6.20	3.70E+02	1.54E+03	2.41E+03
		739.58		12.80	-1.28E+02		1.54E+03
		778.00		4.50	-2.41E+03		4.49E+03
+	RU-103	497.08		89.00	-3.75E-03	1.09E-01	1.09E-01
+	RU-106	621.84		9.80	-4.72E-02	7.29E-01	7.29E-01
+	AG-108M	433.93		89.90	-2.58E-02	5.67E-02	5.67E-02
		614.37		90.40	5.24E-03		7.63E-02
		722.95		90.50	2.97E-02		8.28E-02
+	CD-109	88.03	*	3.72	3.67E+00	2.11E+00	2.11E+00
+	AG-110M	657.75		93.14	-1.71E-02	8.33E-02	8.33E-02
		677.61		10.53	3.35E-01		7.41E-01
		706.67		16.46	-2.36E-01		4.59E-01
		763.93		21.98	-5.46E-01		3.92E-01
		884.67		71.63	1.52E-02		1.10E-01
		1384.27		23.94	2.35E-02		2.90E-01
+	CD-113M	263.70		0.02	-7.63E+00	2.42E+02	2.42E+02
+	SN-113	255.12		1.93	-5.23E-01	1.11E-01	3.50E+00
		391.69		64.90	7.37E-02		1.11E-01
+	TE123M	159.00		84.10	1.07E-02	7.78E-02	7.78E-02
+	SB-124	602.71		97.87	1.88E-02	1.09E-01	1.09E-01
		645.85		7.26	4.42E-01		1.38E+00

Analysis Report for 1510091-13

CP1805S03-04

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	SB-124	722.78		11.10	3.47E-01	1.09E-01	9.67E-01
		1691.02		49.00	-9.18E-03		2.06E-01
+	I-125	35.49		6.49	-9.78E-01	5.78E+00	5.78E+00
+	SB-125	176.33		6.89	4.35E-01	2.21E-01	8.18E-01
		427.89		29.33	4.29E-02		2.21E-01
		463.38		10.35	7.66E-01		7.04E-01
		600.56		17.80	1.37E-01		4.19E-01
		635.90		11.32	-1.80E-02		6.08E-01
+	SB-126	414.70		83.30	9.48E-02	4.08E-01	4.11E-01
		666.33		99.60	4.53E-02		4.08E-01
		695.00		99.60	1.26E-01		4.60E-01
		720.50		53.80	5.11E-01		7.94E-01
+	SN-126	87.57	*	37.00	3.52E-01	2.03E-01	2.03E-01
+	SB-127	473.00		25.00	-2.56E+01	5.83E+01	6.01E+01
		685.20		35.70	7.15E+00		5.83E+01
		783.80		14.70	1.17E+02		1.69E+02
+	I-129	29.78		57.00	-5.26E-01	1.20E+00	1.20E+00
		33.60		13.20	-2.50E-01		2.59E+00
		39.58		7.52	8.55E-01		2.23E+00
+	I-131	284.30		6.05	7.14E+00	1.00E+00	1.35E+01
		364.48		81.20	-3.17E-01		1.00E+00
		636.97		7.26	-1.89E+00		1.33E+01
		722.89		1.80	2.22E+01		6.18E+01
+	TE-132	49.72		13.10	2.03E+02	5.20E+01	4.86E+02
		228.16		88.00	2.28E+01		5.20E+01
+	BA-133	81.00		33.00	-5.61E-04	8.97E-02	1.36E-01
		302.84		17.80	2.39E-02		3.26E-01
		356.01		60.00	-7.74E-03		8.97E-02
+	I-133	529.87		86.30	1.57E+09	4.97E+09	4.97E+09
+	XE-133	81.00		38.00	-3.04E-02	7.39E+00	7.39E+00
+	CS-134	563.23		8.38	-6.16E-02	9.72E-02	7.16E-01
		569.32		15.43	-3.90E-03		3.92E-01
		604.70		97.60	1.21E-02		9.72E-02
		795.84		85.40	3.16E-03		1.01E-01
		801.93		8.73	-2.86E-02		9.20E-01
+	CS-135	268.24		16.00	9.74E-02	3.74E-01	3.74E-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
+	CS-136	153.22		7.46	4.55E-01	3.60E-01	3.82E+00
		163.89		4.61	-6.18E-01		6.06E+00
		176.55		13.56	-8.99E-01		2.03E+00
		273.65		12.66	-1.02E+00		2.42E+00
		340.57		48.50	-1.50E-01		8.12E-01
		818.50		99.70	-9.39E-02		3.60E-01
		1048.07		79.60	5.83E-02		4.99E-01
		1235.34		19.70	5.23E-01		3.45E+00
+	CS-137	661.65		85.12	-2.41E-02	8.58E-02	8.58E-02
+	LA-138	788.74		34.00	8.44E-02	1.01E-01	2.39E-01

Analysis Report for 1510091-13

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	LA-138	1435.80		66.00	1.53E-02	1.01E-01	1.01E-01
+	CE-139	165.85	*	80.35	4.54E-02	7.93E-02	7.93E-02
+	BA-140	162.64		6.70	8.38E-01	1.22E+00	4.43E+00
		304.84		4.50	9.35E-01		6.83E+00
		423.70		3.20	-6.95E-02		1.02E+01
		437.55		2.00	-5.90E+00		1.37E+01
		537.32		25.00	2.71E-01		1.22E+00
+	LA-140	328.77		20.50	1.25E+00	4.89E-01	1.71E+00
		487.03		45.50	2.67E-01		6.89E-01
		815.85		23.50	-7.33E-01		1.64E+00
		1596.49		95.49	5.79E-03		4.89E-01
+	CE-141	145.44		48.40	8.51E-02	2.24E-01	2.24E-01
+	CE-143	57.36		11.80	-2.68E+06	1.47E+06	3.32E+06
		293.26		42.00	2.23E+05		1.47E+06
		664.55		5.20	4.06E+06		1.02E+07
+	CE-144	133.54		10.80	1.63E-01	5.21E-01	5.21E-01
+	PM-144	476.78		42.00	-4.26E-02	7.53E-02	1.37E-01
		618.01		98.60	4.42E-02		7.53E-02
		696.49		99.49	8.60E-03		8.50E-02
+	PM-145	36.85		21.70	2.24E-02	5.25E-01	1.02E+00
		37.36		39.70	1.15E-02		5.25E-01
		42.30		15.10	-1.51E-01		8.61E-01
		72.40		2.31	-2.25E+00		2.19E+00
+	PM-146	453.90		39.94	3.40E-02	1.41E-01	1.41E-01
		735.90		14.01	-4.44E-02		5.35E-01
		747.13		13.10	3.84E-01		5.79E-01
+	ND-147	91.11		28.90	-2.32E+00	1.70E+00	1.70E+00
		531.02		13.10	2.10E+00		3.25E+00
+	PM-149	285.90		3.10	-1.17E+03	3.10E+04	3.10E+04
+	EU-152	121.78		20.50	-9.17E-02	2.29E-01	2.29E-01
		244.69		5.40	4.89E-01		1.06E+00
		344.27		19.13	4.74E-02		3.03E-01
		778.89		9.20	-3.17E-01		8.58E-01
		964.01		10.40	-2.85E+00		1.04E+00
		1085.78		7.22	5.44E-02		1.09E+00
		1112.02		9.60	4.89E-02		8.38E-01
		1407.95		14.94	1.44E-02		5.61E-01
+	GD-153	97.43		31.30	6.07E-02	1.81E-01	1.81E-01
		103.18		22.20	-3.16E-01		2.34E-01
+	EU-154	123.07		40.50	-1.64E-02	1.17E-01	1.17E-01
		723.30		19.70	1.38E-01		3.83E-01
		873.19		11.50	9.85E-02		5.70E-01
		996.32		10.30	-1.07E-01		7.16E-01
		1004.76		17.90	2.47E-01		4.47E-01
		1274.45		35.50	4.08E-02		2.42E-01
+	EU-155	86.50		30.90	-7.91E-02	2.30E-01	2.30E-01
		105.30		20.70	1.00E-01		2.48E-01
+	EU-156	811.77		10.40	5.56E-01	3.00E+00	3.00E+00
		1153.47		7.20	2.44E+00		5.53E+00

Analysis Report for 1510091-13

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	EU-156	1230.71		8.90	-6.31E-02	3.00E+00	4.74E+00
+	HO-166M	184.41		72.60	4.82E-02	9.71E-02	9.71E-02
		280.45		29.60	-7.75E-02		1.90E-01
		410.94		11.10	1.87E-03		5.58E-01
		711.69		54.10	9.49E-02		1.43E-01
+	TM-171	66.72		0.14	1.59E+00	3.98E+01	3.98E+01
+	HF-172	81.75		4.52	-1.46E+00	4.69E-01	1.00E+00
		125.81		11.30	-4.48E-01		4.69E-01
+	LU-172	181.53		20.60	2.02E+00	3.81E+00	6.96E+00
		810.06		16.63	-4.52E+00		1.05E+01
		912.12		15.25	7.34E+01		2.62E+01
		1093.66		62.50	1.63E+00		3.81E+00
+	LU-173	100.72		5.24	4.31E-01	3.26E-01	9.91E-01
		272.11		21.20	8.49E-02		3.26E-01
+	HF-175	343.40		84.00	1.82E-02	9.52E-02	9.52E-02
+	LU-176	88.34		13.30	9.13E-01	6.05E-02	5.39E-01
		201.83		86.00	3.46E-02		6.91E-02
		306.78		94.00	3.43E-02		6.05E-02
+	TA-182	67.75		41.20	5.12E-02	1.57E-01	1.57E-01
		1121.30		34.90	7.78E-01		5.17E-01
		1189.05		16.23	-3.52E-01		5.90E-01
		1221.41		26.98	-5.74E-02		4.30E-01
		1231.02		11.44	-4.15E-01		1.00E+00
+	IR-192	308.46		29.68	1.58E-01	1.56E-01	2.50E-01
		468.07		48.10	2.86E-02		1.56E-01
+	HG-203	279.19		77.30	5.23E-02	1.23E-01	1.23E-01
+	BI-207	569.67		97.72	-6.00E-04	6.03E-02	6.03E-02
		1063.62		74.90	7.67E-02		1.16E-01
+	TL-208	583.14	*	30.22	1.49E+00	1.11E-01	3.39E-01
		860.37	*	4.48	2.33E+00		2.69E+00
		2614.66	*	35.85	1.10E+00		1.11E-01
+	BI-210M	262.00		45.00	2.12E-02	1.25E-01	1.25E-01
		300.00		23.00	3.54E-01		2.86E-01
+	PB-210	46.50		4.25	3.66E+00	2.64E+00	2.64E+00
+	PB-211	404.84		2.90	-3.46E-01	2.19E+00	2.19E+00
		831.96		2.90	-3.27E-01		2.58E+00
+	BI-212	727.17	*	11.80	9.97E-01	7.32E-01	7.32E-01
		1620.62		2.75	2.28E+00		3.32E+00
+	PB-212	238.63	*	44.60	1.50E+00	2.07E-01	2.07E-01
		300.09	*	3.41	1.87E+00		3.65E+00
+	BI-214	609.31	*	46.30	1.66E+00	2.16E-01	2.16E-01
		1120.29	*	15.10	2.08E+00		1.23E+00
		1764.49	*	15.80	1.80E+00		5.43E-01
		2204.22	*	4.98	1.37E+00		8.84E-01
+	PB-214	295.21	*	19.19	1.70E+00	2.16E-01	6.39E-01
		351.92	*	37.19	1.73E+00		2.16E-01
+	RN-219	401.80		6.50	-2.21E-01	9.45E-01	9.45E-01
+	RA-223	323.87		3.88	-6.46E-01	1.49E+00	1.49E+00

Analysis Report for 1510091-13

CP1805S03-04

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	RA-224	240.98	*	3.95	4.15E+00	2.27E+00	2.27E+00
+	RA-225	40.00		31.00	8.63E-01	2.25E+00	2.25E+00
+	RA-226	186.21	*	3.28	3.36E+00	2.50E+00	2.50E+00
+	TH-227	50.10		8.40	3.98E-01	7.53E-01	9.54E-01
		236.00		11.50	-5.79E+00		7.53E-01
		256.20		6.30	-3.69E-02		8.81E-01
+	AC-228	338.32		11.40	1.62E+00	5.59E-01	7.65E-01
		911.07		27.70	1.45E+00		5.59E-01
		969.11		16.60	8.78E-01		8.09E-01
+	TH-230	48.44		16.90	-4.35E-01	5.19E-01	5.19E-01
		62.85		4.60	1.47E+00		1.38E+00
		67.67		0.37	4.72E+00		1.45E+01
+	PA-231	283.67		1.60	1.81E+00	2.51E+00	3.42E+00
		302.67		2.30	1.84E-01		2.51E+00
+	TH-231	25.64		14.70	-2.27E+00	7.77E-01	1.50E+01
		84.21		6.40	7.91E-01		7.77E-01
+	PA-233	311.98		38.60	-1.17E-01	3.01E-01	3.01E-01
+	PA-234	131.20		20.40	1.95E-01	2.66E-01	2.66E-01
		733.99		8.80	-5.90E-01		8.06E-01
		946.00		12.00	3.58E-01		6.97E-01
+	PA-234M	1001.03		0.92	9.95E-01	9.11E+00	9.11E+00
+	TH-234	63.29		3.80	1.76E+00	1.66E+00	1.66E+00
+	U-235	143.76		10.50	-4.51E-02	5.14E-01	5.14E-01
		163.35		4.70	2.20E-01		1.16E+00
		205.31		4.70	1.90E-01		1.22E+00
+	NP-237	86.50		12.60	-1.92E-01	5.58E-01	5.58E-01
+	NP-239	106.10		22.70	3.65E+02	2.25E+03	2.25E+03
		228.18		10.70	2.41E+03		5.50E+03
		277.60		14.10	8.83E+02		4.24E+03
+	AM-241	59.54		35.90	1.00E-01	1.70E-01	1.70E-01
+	AM-243	74.67		66.00	-2.79E-01	1.09E-01	1.09E-01
+	CM-243	209.75		3.29	1.65E+00	4.26E-01	1.94E+00
		228.14		10.60	2.43E-01		5.54E-01
		277.60		14.00	8.86E-02		4.26E-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 1510091-13

CP1805S03-04

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	7.81E-01	7.81E-01	-2.43E-01	3.67E-01
	NA-22	1274.54		99.94	8.75E-02	8.75E-02	1.47E-02	4.02E-02
	NA-24	1368.53		99.99	9.02E+13	3.61E+13	3.82E+13	4.06E+13
		2754.09		99.86	3.61E+13		7.76E+12	1.28E+13
	AL-26	1808.65		99.76	6.33E-02	6.33E-02	3.29E-02	2.73E-02
+	K-40	1460.81	*	10.67	1.06E+00	1.06E+00	1.94E+01	4.91E-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	5.68E-02	5.68E-02	1.85E-02	2.77E-02
		78.34		96.00	8.15E-02		3.46E-01	4.01E-02
	SC-46	889.25		99.98	9.08E-02	9.08E-02	-9.17E-02	4.20E-02
		1120.51		99.99	1.95E-01		3.66E-01	9.32E-02
	V-48	983.52		99.98	3.01E-01	3.01E-01	-3.65E-02	1.40E-01
		1312.10		97.50	3.12E-01		1.31E-01	1.42E-01
	CR-51	320.08		9.83	1.22E+00	1.22E+00	-5.55E-01	5.81E-01
	MN-54	834.83		99.97	8.95E-02	8.95E-02	3.62E-02	4.21E-02
	CO-56	846.75		99.96	9.93E-02	9.93E-02	9.15E-03	4.63E-02
		1037.75		14.03	7.18E-01		1.98E-01	3.31E-01
		1238.25		67.00	2.66E-01		3.68E-01	1.26E-01
		1771.40		15.51	4.75E-01		4.09E-02	2.01E-01
		2598.48		16.90	3.65E-01		7.76E-02	1.47E-01
	CO-57	122.06		85.51	5.92E-02	5.92E-02	-2.38E-02	2.87E-02
		136.48		10.60	5.38E-01		2.32E-01	2.62E-01
	CO-58	810.76		99.40	9.35E-02	9.35E-02	-4.03E-02	4.34E-02
	FE-59	1099.22		56.50	2.35E-01	2.35E-01	-9.41E-02	1.09E-01
		1291.56		43.20	3.03E-01		3.01E-02	1.38E-01
	CO-60	1173.22		100.00	9.71E-02	7.43E-02	2.89E-02	4.52E-02
		1332.49		100.00	7.43E-02		1.34E-02	3.35E-02
	ZN-65	1115.52		50.75	1.83E-01	1.83E-01	-7.19E-01	8.47E-02
+	GA-67	93.31	*	35.70	1.59E+02	1.59E+02	1.41E+02	7.81E+01
		208.95	*	2.24	2.87E+03		2.88E+03	1.40E+03
		300.22	*	16.00	6.05E+02		3.09E+02	2.97E+02
	SE-75	121.11		16.70	3.42E-01	1.05E-01	-3.86E-02	1.66E-01
		136.00		59.20	1.05E-01		2.50E-02	5.08E-02
		264.65		59.80	1.12E-01		6.43E-02	5.36E-02
		279.53		25.20	2.66E-01		-1.09E-01	1.28E-01
		400.65		11.40	6.36E-01		-2.23E-01	3.03E-01
	RB-82	776.52		13.00	1.43E+00	1.43E+00	2.62E-01	6.70E-01
	RB-83	520.41		46.00	1.61E-01	1.61E-01	3.40E-02	7.58E-02
		529.64		30.30	2.42E-01		7.63E-03	1.14E-01
		552.65		16.40	4.18E-01		-3.90E-02	1.95E-01
	KR-85	513.99		0.43	1.70E+01	1.70E+01	-1.50E+01	8.11E+00
	SR-85	513.99		99.27	1.03E-01	1.03E-01	-9.12E-02	4.92E-02

Analysis Report for 1510091-13

CP1805S03-04

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	Y-88	898.02		93.40	9.84E-02	9.03E-02	-4.87E-02	4.57E-02
		1836.01		99.38	9.03E-02		4.49E-02	3.97E-02
	NB-93M	16.57		9.43	5.68E+03	5.68E+03	-5.34E+03	2.76E+03
	NB-94	702.63		100.00	7.44E-02	6.09E-02	1.13E-02	3.50E-02
		871.10		100.00	6.09E-02		-2.68E-03	2.79E-02
	NB-95	765.79		99.81	1.74E-01	1.74E-01	9.65E-02	8.26E-02
+	NB-95M	235.69	*	25.00	1.42E+02	1.42E+02	4.21E+01	6.92E+01
	ZR-95	724.18		43.70	2.80E-01	1.81E-01	2.26E-02	1.33E-01
		756.72		55.30	1.81E-01		2.64E-03	8.46E-02
	MO-99	181.06		6.20	2.41E+03	1.54E+03	3.70E+02	1.17E+03
		739.58		12.80	1.54E+03		-1.28E+02	7.25E+02
		778.00		4.50	4.49E+03		-2.41E+03	2.11E+03
	RU-103	497.08		89.00	1.09E-01	1.09E-01	-3.75E-03	5.12E-02
	RU-106	621.84		9.80	7.29E-01	7.29E-01	-4.72E-02	3.43E-01
	AG-108M	433.93		89.90	5.67E-02	5.67E-02	-2.58E-02	2.67E-02
		614.37		90.40	7.63E-02		5.24E-03	3.60E-02
		722.95		90.50	8.28E-02		2.97E-02	3.89E-02
+	CD-109	88.03	*	3.72	2.11E+00	2.11E+00	3.67E+00	1.04E+00
	AG-110M	657.75		93.14	8.33E-02	8.33E-02	-1.71E-02	3.92E-02
		677.61		10.53	7.41E-01		3.35E-01	3.49E-01
		706.67		16.46	4.59E-01		-2.36E-01	2.15E-01
		763.93		21.98	3.92E-01		-5.46E-01	1.85E-01
		884.67		71.63	1.10E-01		1.52E-02	5.10E-02
		1384.27		23.94	2.90E-01		2.35E-02	1.28E-01
	CD-113M	263.70		0.02	2.42E+02	2.42E+02	-7.63E+00	1.16E+02
	SN-113	255.12		1.93	3.50E+00	1.11E-01	-5.23E-01	1.68E+00
		391.69		64.90	1.11E-01		7.37E-02	5.27E-02
	TE123M	159.00		84.10	7.78E-02	7.78E-02	1.07E-02	3.78E-02
	SB-124	602.71		97.87	1.09E-01	1.09E-01	1.88E-02	5.18E-02
		645.85		7.26	1.38E+00		4.42E-01	6.52E-01
		722.78		11.10	9.67E-01		3.47E-01	4.55E-01
		1691.02		49.00	2.06E-01		-9.18E-03	9.06E-02
	I-125	35.49		6.49	5.78E+00	5.78E+00	-9.78E-01	2.81E+00
	SB-125	176.33		6.89	8.18E-01	2.21E-01	4.35E-01	3.97E-01
		427.89		29.33	2.21E-01		4.29E-02	1.05E-01
		463.38		10.35	7.04E-01		7.66E-01	3.36E-01
		600.56		17.80	4.19E-01		1.37E-01	1.99E-01
		635.90		11.32	6.08E-01		-1.80E-02	2.86E-01
	SB-126	414.70		83.30	4.11E-01	4.08E-01	9.48E-02	1.95E-01
		666.33		99.60	4.08E-01		4.53E-02	1.92E-01
		695.00		99.60	4.60E-01		1.26E-01	2.17E-01
		720.50		53.80	7.94E-01		5.11E-01	3.73E-01
+	SN-126	87.57	*	37.00	2.03E-01	2.03E-01	3.52E-01	9.95E-02
	SB-127	473.00		25.00	6.01E+01	5.83E+01	-2.56E+01	2.82E+01
		685.20		35.70	5.83E+01		7.15E+00	2.75E+01
		783.80		14.70	1.69E+02		1.17E+02	8.01E+01
	I-129	29.78		57.00	1.20E+00	1.20E+00	-5.26E-01	5.80E-01
		33.60		13.20	2.59E+00		-2.50E-01	1.26E+00
		39.58		7.52	2.23E+00		8.55E-01	1.09E+00
	I-131	284.30		6.05	1.35E+01	1.00E+00	7.14E+00	6.45E+00
		364.48		81.20	1.00E+00		-3.17E-01	4.77E-01
		636.97		7.26	1.33E+01		-1.89E+00	6.26E+00
		722.89		1.80	6.18E+01		2.22E+01	2.91E+01

Analysis Report for 1510091-13

CP1805S03-04

	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	4.86E+02	5.20E+01	2.03E+02	2.36E+02
		228.16		88.00	5.20E+01		2.28E+01	2.51E+01
	BA-133	81.00		33.00	1.36E-01	8.97E-02	-5.61E-04	6.62E-02
		302.84		17.80	3.26E-01		2.39E-02	1.56E-01
		356.01		60.00	8.97E-02		-7.74E-03	4.26E-02
	I-133	529.87		86.30	4.97E+09	4.97E+09	1.57E+09	2.33E+09
	XE-133	81.00		38.00	7.39E+00	7.39E+00	-3.04E-02	3.59E+00
	CS-134	563.23		8.38	7.16E-01	9.72E-02	-6.16E-02	3.35E-01
		569.32		15.43	3.92E-01		-3.90E-03	1.84E-01
		604.70		97.60	9.72E-02		1.21E-02	4.65E-02
		795.84		85.40	1.01E-01		3.16E-03	4.74E-02
		801.93		8.73	9.20E-01		-2.86E-02	4.32E-01
	CS-135	268.24		16.00	3.74E-01	3.74E-01	9.74E-02	1.80E-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	3.82E+00	3.60E-01	4.55E-01	1.86E+00
		163.89		4.61	6.06E+00		-6.18E-01	2.94E+00
		176.55		13.56	2.03E+00		-8.99E-01	9.85E-01
		273.65		12.66	2.42E+00		-1.02E+00	1.16E+00
		340.57		48.50	8.12E-01		-1.50E-01	3.92E-01
		818.50		99.70	3.60E-01		-9.39E-02	1.67E-01
		1048.07		79.60	4.99E-01		5.83E-02	2.30E-01
		1235.34		19.70	3.45E+00		5.23E-01	1.64E+00
	CS-137	661.65		85.12	8.58E-02	8.58E-02	-2.41E-02	4.05E-02
	LA-138	788.74		34.00	2.39E-01	1.01E-01	8.44E-02	1.12E-01
		1435.80		66.00	1.01E-01		1.53E-02	4.47E-02
+	CE-139	165.85	*	80.35	7.93E-02	7.93E-02	4.54E-02	3.85E-02
	BA-140	162.64		6.70	4.43E+00	1.22E+00	8.38E-01	2.15E+00
		304.84		4.50	6.83E+00		9.35E-01	3.27E+00
		423.70		3.20	1.02E+01		-6.95E-02	4.83E+00
		437.55		2.00	1.37E+01		-5.90E+00	6.41E+00
		537.32		25.00	1.22E+00		2.71E-01	5.72E-01
	LA-140	328.77		20.50	1.71E+00	4.89E-01	1.25E+00	8.19E-01
		487.03		45.50	6.89E-01		2.67E-01	3.25E-01
		815.85		23.50	1.64E+00		-7.33E-01	7.61E-01
		1596.49		95.49	4.89E-01		5.79E-03	2.21E-01
	CE-141	145.44		48.40	2.24E-01	2.24E-01	8.51E-02	1.09E-01
	CE-143	57.36		11.80	3.32E+06	1.47E+06	-2.68E+06	1.61E+06
		293.26		42.00	1.47E+06		2.23E+05	7.16E+05
		664.55		5.20	1.02E+07		4.06E+06	4.80E+06
	CE-144	133.54		10.80	5.21E-01	5.21E-01	1.63E-01	2.53E-01
	PM-144	476.78		42.00	1.37E-01	7.53E-02	-4.26E-02	6.43E-02
		618.01		98.60	7.53E-02		4.42E-02	3.55E-02
		696.49		99.49	8.50E-02		8.60E-03	4.02E-02
	PM-145	36.85		21.70	1.02E+00	5.25E-01	2.24E-02	4.97E-01
		37.36		39.70	5.25E-01		1.15E-02	2.55E-01
		42.30		15.10	8.61E-01		-1.51E-01	4.19E-01
		72.40		2.31	2.19E+00		-2.25E+00	1.06E+00
	PM-146	453.90		39.94	1.41E-01	1.41E-01	3.40E-02	6.66E-02
		735.90		14.01	5.35E-01		-4.44E-02	2.51E-01
		747.13		13.10	5.79E-01		3.84E-01	2.72E-01
	ND-147	91.11		28.90	1.70E+00	1.70E+00	-2.32E+00	8.34E-01

Analysis Report for 1510091-13

CP1805S03-04

	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	3.25E+00	1.70E+00	2.10E+00	1.53E+00
	PM-149	285.90		3.10	3.10E+04	3.10E+04	-1.17E+03	1.48E+04
	EU-152	121.78		20.50	2.29E-01	2.29E-01	-9.17E-02	1.11E-01
		244.69		5.40	1.06E+00		4.89E-01	5.08E-01
		344.27		19.13	3.03E-01		4.74E-02	1.45E-01
		778.89		9.20	8.58E-01		-3.17E-01	4.03E-01
		964.01		10.40	1.04E+00		-2.85E+00	4.91E-01
		1085.78		7.22	1.09E+00		5.44E-02	5.03E-01
		1112.02		9.60	8.38E-01		4.89E-02	3.86E-01
		1407.95		14.94	5.61E-01		1.44E-02	2.55E-01
	GD-153	97.43		31.30	1.81E-01	1.81E-01	6.07E-02	8.83E-02
		103.18		22.20	2.34E-01		-3.16E-01	1.14E-01
	EU-154	123.07		40.50	1.17E-01	1.17E-01	-1.64E-02	5.68E-02
		723.30		19.70	3.83E-01		1.38E-01	1.80E-01
		873.19		11.50	5.70E-01		9.85E-02	2.62E-01
		996.32		10.30	7.16E-01		-1.07E-01	3.30E-01
		1004.76		17.90	4.47E-01		2.47E-01	2.07E-01
		1274.45		35.50	2.42E-01		4.08E-02	1.11E-01
	EU-155	86.50		30.90	2.30E-01	2.30E-01	-7.91E-02	1.13E-01
		105.30		20.70	2.48E-01		1.00E-01	1.21E-01
	EU-156	811.77		10.40	3.00E+00	3.00E+00	5.56E-01	1.40E+00
		1153.47		7.20	5.53E+00		2.44E+00	2.58E+00
		1230.71		8.90	4.74E+00		-6.31E-02	2.21E+00
	HO-166M	184.41		72.60	9.71E-02	9.71E-02	4.82E-02	4.74E-02
		280.45		29.60	1.90E-01		-7.75E-02	9.09E-02
		410.94		11.10	5.58E-01		1.87E-03	2.66E-01
		711.69		54.10	1.43E-01		9.49E-02	6.73E-02
	TM-171	66.72		0.14	3.98E+01	3.98E+01	1.59E+00	1.94E+01
	HF-172	81.75		4.52	1.00E+00	4.69E-01	-1.46E+00	4.86E-01
		125.81		11.30	4.69E-01		-4.48E-01	2.28E-01
	LU-172	181.53		20.60	6.96E+00	3.81E+00	2.02E+00	3.38E+00
		810.06		16.63	1.05E+01		-4.52E+00	4.87E+00
		912.12		15.25	2.62E+01		7.34E+01	1.26E+01
		1093.66		62.50	3.81E+00		1.63E+00	1.78E+00
	LU-173	100.72		5.24	9.91E-01	3.26E-01	4.31E-01	4.83E-01
		272.11		21.20	3.26E-01		8.49E-02	1.58E-01
	HF-175	343.40		84.00	9.52E-02	9.52E-02	1.82E-02	4.55E-02
	LU-176	88.34		13.30	5.39E-01	6.05E-02	9.13E-01	2.65E-01
		201.83		86.00	6.91E-02		3.46E-02	3.35E-02
		306.78		94.00	6.05E-02		3.43E-02	2.90E-02
	TA-182	67.75		41.20	1.57E-01	1.57E-01	5.12E-02	7.66E-02
		1121.30		34.90	5.17E-01		7.78E-01	2.47E-01
		1189.05		16.23	5.90E-01		-3.52E-01	2.70E-01
		1221.41		26.98	4.30E-01		-5.74E-02	2.00E-01
		1231.02		11.44	1.00E+00		-4.15E-01	4.66E-01
	IR-192	308.46		29.68	2.50E-01	1.56E-01	1.58E-01	1.19E-01
		468.07		48.10	1.56E-01		2.86E-02	7.34E-02
	HG-203	279.19		77.30	1.23E-01	1.23E-01	5.23E-02	5.90E-02
	BI-207	569.67		97.72	6.03E-02	6.03E-02	-6.00E-04	2.82E-02
		1063.62		74.90	1.16E-01		7.67E-02	5.39E-02
+	TL-208	583.14	*	30.22	3.39E-01	1.11E-01	1.49E+00	1.63E-01
		860.37	*	4.48	2.69E+00		2.33E+00	1.29E+00
		2614.66	*	35.85	1.11E-01		1.10E+00	4.30E-02

Analysis Report for 1510091-13

CP1805S03-04

	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	1.25E-01	1.25E-01	2.12E-02	5.99E-02
		300.00		23.00	2.86E-01		3.54E-01	1.38E-01
	PB-210	46.50		4.25	2.64E+00	2.64E+00	3.66E+00	1.29E+00
	PB-211	404.84		2.90	2.19E+00	2.19E+00	-3.46E-01	1.04E+00
		831.96		2.90	2.58E+00		-3.27E-01	1.20E+00
+	BI-212	727.17	*	11.80	7.32E-01	7.32E-01	9.97E-01	3.47E-01
		1620.62		2.75	3.32E+00		2.28E+00	1.51E+00
+	PB-212	238.63	*	44.60	2.07E-01	2.07E-01	1.50E+00	1.01E-01
		300.09	*	3.41	3.65E+00		1.87E+00	1.79E+00
+	BI-214	609.31	*	46.30	2.16E-01	2.16E-01	1.66E+00	1.04E-01
		1120.29	*	15.10	1.23E+00		2.08E+00	5.96E-01
		1764.49	*	15.80	5.43E-01		1.80E+00	2.44E-01
		2204.22	*	4.98	8.84E-01		1.37E+00	3.50E-01
+	PB-214	295.21	*	19.19	6.39E-01	2.16E-01	1.70E+00	3.14E-01
		351.92	*	37.19	2.16E-01		1.73E+00	1.05E-01
	RN-219	401.80		6.50	9.45E-01	9.45E-01	-2.21E-01	4.50E-01
	RA-223	323.87		3.88	1.49E+00	1.49E+00	-6.46E-01	7.13E-01
+	RA-224	240.98	*	3.95	2.27E+00	2.27E+00	4.15E+00	1.11E+00
	RA-225	40.00		31.00	2.25E+00	2.25E+00	8.63E-01	1.09E+00
+	RA-226	186.21	*	3.28	2.50E+00	2.50E+00	3.36E+00	1.23E+00
	TH-227	50.10		8.40	9.54E-01	7.53E-01	3.98E-01	4.64E-01
		236.00		11.50	7.53E-01		-5.79E+00	3.68E-01
		256.20		6.30	8.81E-01		-3.69E-02	4.23E-01
	AC-228	338.32		11.40	7.65E-01	5.59E-01	1.62E+00	3.71E-01
		911.07		27.70	5.59E-01		1.45E+00	2.70E-01
		969.11		16.60	8.09E-01		8.78E-01	3.88E-01
	TH-230	48.44		16.90	5.19E-01	5.19E-01	-4.35E-01	2.52E-01
		62.85		4.60	1.38E+00		1.47E+00	6.74E-01
		67.67		0.37	1.45E+01		4.72E+00	7.07E+00
	PA-231	283.67		1.60	3.42E+00	2.51E+00	1.81E+00	1.64E+00
		302.67		2.30	2.51E+00		1.84E-01	1.20E+00
	TH-231	25.64		14.70	1.50E+01	7.77E-01	-2.27E+00	7.29E+00
		84.21		6.40	7.77E-01		7.91E-01	3.78E-01
	PA-233	311.98		38.60	3.01E-01	3.01E-01	-1.17E-01	1.43E-01
	PA-234	131.20		20.40	2.66E-01	2.66E-01	1.95E-01	1.30E-01
		733.99		8.80	8.06E-01		-5.90E-01	3.77E-01
		946.00		12.00	6.97E-01		3.58E-01	3.25E-01
	PA-234M	1001.03		0.92	9.11E+00	9.11E+00	9.95E-01	4.24E+00
	TH-234	63.29		3.80	1.66E+00	1.66E+00	1.76E+00	8.09E-01
	U-235	143.76		10.50	5.14E-01	5.14E-01	-4.51E-02	2.50E-01
		163.35		4.70	1.16E+00		2.20E-01	5.63E-01
		205.31		4.70	1.22E+00		1.90E-01	5.90E-01
	NP-237	86.50		12.60	5.58E-01	5.58E-01	-1.92E-01	2.74E-01
	NP-239	106.10		22.70	2.25E+03	2.25E+03	3.65E+02	1.10E+03
		228.18		10.70	5.50E+03		2.41E+03	2.66E+03
		277.60		14.10	4.24E+03		8.83E+02	2.04E+03
	AM-241	59.54		35.90	1.70E-01	1.70E-01	1.00E-01	8.28E-02
	AM-243	74.67		66.00	1.09E-01	1.09E-01	-2.79E-01	5.36E-02
	CM-243	209.75		3.29	1.94E+00	4.26E-01	1.65E+00	9.41E-01
		228.14		10.60	5.54E-01		2.43E-01	2.67E-01
		277.60		14.00	4.26E-01		8.86E-02	2.05E-01

Analysis Report for 1510091-13

CP1805S03-04

+ = 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: CP1805S03-04

Elapsed Live time: 3600
Elapsed Real Time: 3601

Channel								
1:	0	0	0	0	0	0	0	193
9:	607	1174	1100	431	659	1734	293	136
17:	176	144	128	130	112	142	105	119
25:	132	129	97	126	125	106	112	128
33:	120	128	129	129	130	138	133	143
41:	144	122	142	141	137	174	242	131
49:	128	154	123	117	138	141	103	99
57:	97	118	141	160	138	131	187	229
65:	146	140	149	155	147	139	146	137
73:	154	201	485	259	595	428	139	134
81:	125	121	121	183	177	127	279	252
89:	149	224	139	154	264	205	117	112
97:	91	104	111	111	84	81	94	77
105:	99	116	105	96	96	105	87	96
113:	107	82	98	94	53	88	96	79
121:	71	73	76	77	82	93	96	97
129:	132	92	76	104	74	71	76	107
137:	78	84	86	82	86	67	85	107
145:	80	91	89	93	80	90	85	76
153:	61	99	91	73	74	95	65	68
161:	88	77	65	72	75	75	97	58
169:	67	64	58	87	79	78	81	75
177:	64	52	50	72	69	82	74	53
185:	102	235	130	67	70	68	69	52
193:	81	64	60	65	63	85	64	76
201:	67	66	59	72	56	54	68	50
209:	109	102	55	56	53	51	40	69
217:	67	50	65	48	44	59	58	54
225:	47	60	42	55	55	67	50	51
233:	44	55	54	74	59	354	683	111
241:	115	184	85	26	39	40	47	33
249:	39	44	32	48	49	44	40	45
257:	39	44	39	44	40	42	50	34
265:	40	38	42	27	52	74	77	43
273:	47	40	52	36	64	48	29	42
281:	34	38	31	34	31	44	25	28
289:	34	32	29	33	47	58	271	175
297:	31	33	45	80	52	32	29	38
305:	31	33	40	36	33	20	21	26
313:	34	39	32	30	40	28	31	22
321:	28	41	32	34	25	34	45	58
329:	33	33	32	28	33	33	37	29
337:	37	131	128	41	32	31	38	31
345:	25	26	26	20	24	30	168	451
353:	121	24	23	25	22	29	29	21
361:	23	26	28	22	22	27	32	37

369:	22	30	19	23	21	22	36	23

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Channel								
377:	15	30	19	29	26	20	21	30
385:	28	32	19	22	21	30	19	24
393:	27	34	18	22	19	29	28	23
401:	26	28	29	32	32	25	28	33
409:	44	26	21	22	23	24	27	25
417:	24	22	23	16	21	21	25	24
425:	25	25	30	26	26	28	27	23
433:	22	14	13	11	12	23	20	20
441:	22	19	25	19	15	15	19	17
449:	15	18	15	24	16	15	23	16
457:	19	14	15	27	17	46	54	21
465:	15	20	11	19	16	24	17	15
473:	21	15	13	18	22	12	17	17
481:	23	18	16	21	21	16	22	20
489:	11	12	12	15	15	19	15	19
497:	10	20	18	22	11	15	15	9
505:	19	10	14	16	35	75	109	56
513:	23	18	23	19	15	16	21	18
521:	10	17	14	12	18	12	17	12
529:	14	13	22	17	17	6	10	21
537:	17	12	13	15	12	14	11	14
545:	14	25	14	10	14	19	13	11
553:	11	9	13	15	11	21	17	16
561:	17	15	19	13	10	17	13	11
569:	14	18	18	14	18	13	11	15
577:	14	14	16	22	9	61	208	99
585:	21	15	16	15	10	9	13	18
593:	22	12	6	10	11	16	17	19
601:	13	19	13	20	14	14	20	74
609:	302	199	20	12	8	12	14	14
617:	12	14	13	17	10	10	8	15
625:	13	11	14	14	12	11	16	16
633:	15	11	6	10	16	14	11	9
641:	9	9	10	16	17	10	12	9
649:	14	13	10	15	13	12	13	9
657:	14	17	12	10	13	17	13	10
665:	16	19	6	9	12	9	9	8
673:	11	12	17	15	8	10	9	14
681:	9	9	11	17	10	12	17	14
689:	13	12	11	12	12	19	13	17
697:	19	10	12	15	16	12	16	8
705:	8	15	4	12	11	14	13	20
713:	12	10	8	8	9	15	8	19
721:	10	16	6	5	10	18	51	26
729:	13	11	14	12	11	10	9	11
737:	6	16	17	7	15	7	11	16
745:	10	7	13	12	13	9	6	6
753:	8	12	13	9	15	8	5	11
761:	14	14	13	7	7	9	22	32
769:	32	15	9	12	16	14	12	11
777:	10	13	8	11	11	18	9	13
785:	15	24	15	14	7	2	9	8
793:	11	22	26	12	2	9	8	9

801:	7	14	10	14	15	14	5	5

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Channel								
809:	9	7	10	14	7	17	9	7
817:	8	5	7	10	11	11	4	9
825:	7	7	5	10	4	4	10	6
833:	12	13	17	18	9	8	12	10
841:	11	13	8	9	6	11	12	7
849:	12	5	7	6	9	4	7	10
857:	14	10	8	28	23	13	6	6
865:	14	7	11	5	4	2	11	5
873:	8	4	8	7	7	6	8	8
881:	8	5	9	10	12	7	4	6
889:	7	6	5	16	11	17	6	5
897:	9	9	10	9	10	8	16	14
905:	11	7	11	6	6	50	123	56
913:	12	8	11	5	6	8	10	9
921:	10	11	13	4	9	6	4	6
929:	8	13	8	10	9	22	12	7
937:	11	5	8	3	5	3	11	15
945:	10	10	10	4	7	11	5	10
953:	6	6	4	9	6	5	11	6
961:	8	3	14	34	29	14	8	50
969:	72	19	8	4	5	5	5	10
977:	7	9	8	7	7	11	11	2
985:	9	6	8	8	6	4	9	4
993:	8	6	3	6	4	11	8	3
1001:	13	12	9	5	8	3	4	5
1009:	4	7	6	5	10	7	4	5
1017:	8	6	6	9	12	11	10	5
1025:	7	9	2	7	9	9	4	5
1033:	7	9	9	6	10	4	5	4
1041:	8	2	7	5	7	2	6	6
1049:	8	7	10	8	4	4	5	5
1057:	4	5	3	9	4	9	7	8
1065:	13	9	4	7	3	11	6	8
1073:	7	11	7	6	5	6	4	6
1081:	4	4	5	7	9	7	7	7
1089:	8	7	11	6	6	19	10	7
1097:	8	5	7	9	8	5	1	9
1105:	5	8	8	5	8	6	8	6
1113:	5	8	5	9	11	8	26	68
1121:	38	10	12	8	8	14	7	11
1129:	9	16	4	7	8	11	9	8
1137:	3	7	9	9	10	8	6	6
1145:	12	7	9	7	6	4	9	10
1153:	11	6	12	11	11	2	3	2
1161:	9	7	4	12	6	11	14	6
1169:	12	7	9	8	6	7	12	13
1177:	7	4	12	12	8	14	8	9
1185:	9	5	5	3	9	7	6	5
1193:	6	10	15	8	5	15	4	11
1201:	9	4	8	8	11	6	10	7
1209:	11	8	12	6	9	7	7	4
1217:	13	2	8	11	12	5	8	12
1225:	9	10	15	6	5	5	8	17

1233:	8	7	11	9	23	35	15	14

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Channel								
1241:	11	7	4	6	8	7	13	6
1249:	10	7	6	6	8	7	3	5
1257:	6	3	3	4	6	4	7	10
1265:	4	4	5	6	7	4	4	7
1273:	9	6	4	8	4	2	8	3
1281:	10	6	3	4	6	2	8	6
1289:	7	3	4	5	6	5	5	4
1297:	2	3	4	2	8	6	6	6
1305:	7	7	5	5	5	7	4	5
1313:	1	4	7	1	2	5	7	2
1321:	2	6	5	2	6	2	4	2
1329:	4	4	6	4	2	5	3	3
1337:	4	4	3	2	4	5	8	8
1345:	4	4	3	7	3	3	1	5
1353:	5	8	4	4	2	6	2	4
1361:	5	4	2	4	4	5	6	7
1369:	2	2	2	3	1	5	6	16
1377:	21	11	2	0	2	5	1	2
1385:	4	3	2	1	6	5	4	5
1393:	2	8	2	2	4	4	3	2
1401:	6	7	7	1	6	6	8	6
1409:	4	3	2	4	2	4	2	5
1417:	4	4	2	2	1	3	2	5
1425:	4	3	5	1	2	5	4	3
1433:	2	5	5	0	3	2	1	1
1441:	2	1	2	1	5	3	2	3
1449:	4	5	2	1	3	2	6	1
1457:	1	18	107	256	265	84	14	3
1465:	3	0	3	3	3	1	1	2
1473:	0	2	2	3	1	2	3	2
1481:	2	0	2	4	3	5	0	2
1489:	2	3	4	5	7	5	3	3
1497:	2	3	1	3	5	1	3	2
1505:	0	2	1	6	9	7	6	4
1513:	7	1	2	3	2	1	2	5
1521:	3	1	3	2	2	3	3	3
1529:	1	1	2	1	2	1	2	1
1537:	3	2	2	2	1	2	6	4
1545:	1	1	3	3	1	0	2	2
1553:	1	1	1	2	3	2	1	0
1561:	4	0	1	2	3	1	3	0
1569:	1	3	3	0	1	2	1	1
1577:	3	2	4	6	3	2	2	3
1585:	3	1	5	9	5	3	8	6
1593:	3	7	1	4	0	2	4	3
1601:	1	3	1	2	2	1	1	3
1609:	1	2	1	2	1	2	1	5
1617:	0	4	12	5	2	2	3	1
1625:	2	1	1	3	2	4	4	3
1633:	2	1	3	1	1	3	2	1
1641:	1	4	3	2	0	4	2	1
1649:	2	0	2	0	1	0	0	1
1657:	3	2	4	2	2	2	2	0

1665:	0	2	2	1	2	2	1	1

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Channel								
1673:	0	1	4	2	1	2	1	4
1681:	1	1	1	2	2	0	2	2
1689:	0	2	5	4	1	2	0	0
1697:	0	1	3	2	0	2	1	0
1705:	1	2	0	2	2	0	1	0
1713:	3	2	1	1	0	0	1	1
1721:	1	3	2	1	1	2	5	3
1729:	7	7	4	0	1	1	0	2
1737:	1	1	0	4	0	1	2	3
1745:	2	0	2	1	1	2	2	3
1753:	0	2	2	2	2	1	1	2
1761:	2	8	27	35	21	6	1	1
1769:	1	0	2	0	2	2	1	0
1777:	3	1	0	3	0	1	1	1
1785:	0	1	1	1	0	0	0	1
1793:	2	2	2	1	0	0	0	0
1801:	0	0	0	0	1	2	2	1
1809:	3	0	1	3	0	2	0	1
1817:	1	1	0	0	1	0	3	3
1825:	1	0	1	1	2	1	1	3
1833:	3	1	3	1	3	2	1	0
1841:	0	1	2	0	3	4	5	0
1849:	2	2	0	2	0	1	0	1
1857:	1	1	1	0	0	4	0	2
1865:	2	1	1	0	1	0	1	2
1873:	0	2	3	1	3	0	4	6
1881:	1	1	2	1	1	1	3	1
1889:	1	1	2	0	1	1	1	2
1897:	0	3	3	1	0	0	1	2
1905:	0	2	0	1	1	1	4	0
1913:	1	0	1	1	1	1	0	1
1921:	0	0	1	2	1	1	1	4
1929:	1	1	1	2	1	2	0	0
1937:	2	0	1	1	0	1	0	3
1945:	0	1	1	0	1	1	3	0
1953:	0	1	0	0	1	0	2	1
1961:	4	3	1	2	0	2	1	0
1969:	2	1	1	1	0	1	0	1
1977:	1	1	0	0	2	3	1	2
1985:	3	4	1	1	0	0	2	1
1993:	3	0	1	0	1	1	1	3
2001:	1	0	0	1	0	1	1	2
2009:	0	2	2	2	1	1	0	0
2017:	0	0	0	2	2	1	2	1
2025:	1	1	0	0	1	2	0	1
2033:	2	1	2	3	0	2	2	2
2041:	1	2	0	1	0	2	2	1
2049:	0	3	0	1	0	1	0	1
2057:	0	1	2	1	0	2	0	1
2065:	1	2	1	1	0	1	0	2
2073:	0	1	3	1	2	2	2	2
2081:	3	0	0	0	2	1	0	0
2089:	0	1	1	0	2	3	2	0

2097:	0	1	1	1	5	10	6	2

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

2529:	0	1	1	0	1	1	0	0

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Channel								
2537:	0	0	0	0	0	0	1	0
2545:	0	1	0	1	0	1	0	0
2553:	0	1	1	0	0	0	0	0
2561:	0	2	1	1	0	0	1	1
2569:	1	0	0	1	1	0	0	0
2577:	0	0	0	1	1	0	1	2
2585:	0	0	1	0	0	1	1	0
2593:	0	1	0	0	0	1	2	0
2601:	1	1	1	0	0	0	0	0
2609:	1	1	3	17	43	35	20	7
2617:	0	0	1	1	0	0	0	0
2625:	0	0	0	1	0	0	0	0
2633:	0	0	1	1	1	0	0	0
2641:	0	0	0	0	0	0	0	0
2649:	1	0	0	2	1	2	0	0
2657:	1	0	1	0	0	0	0	1
2665:	0	0	0	0	0	1	1	0
2673:	0	0	0	0	0	0	2	1
2681:	1	0	0	0	1	1	0	1
2689:	0	0	0	0	1	0	1	0
2697:	1	0	2	0	0	0	1	0
2705:	0	0	0	0	0	0	0	0
2713:	0	3	0	0	0	1	1	0
2721:	2	1	0	0	0	0	0	1
2729:	1	0	0	0	0	0	0	1
2737:	0	0	0	0	0	0	0	0
2745:	1	0	0	0	0	0	1	0
2753:	0	0	1	0	0	0	0	0
2761:	0	0	1	0	1	0	1	1
2769:	0	0	0	0	1	0	1	0
2777:	2	0	0	1	0	0	0	0
2785:	1	0	1	0	0	0	1	1
2793:	0	0	1	0	1	0	0	0
2801:	0	0	0	0	0	0	1	1
2809:	0	0	0	0	0	0	0	1
2817:	0	0	1	0	0	1	1	2
2825:	0	0	0	0	0	0	0	0
2833:	0	0	0	0	0	0	0	0
2841:	0	0	2	0	0	0	0	1
2849:	0	0	0	0	0	0	0	1
2857:	0	0	0	0	0	2	0	0
2865:	2	1	0	0	0	0	0	0
2873:	0	0	1	1	0	0	0	0
2881:	0	1	0	0	1	0	0	0
2889:	0	0	0	0	0	0	1	1
2897:	0	0	0	0	0	0	0	0
2905:	0	1	1	0	0	0	0	1
2913:	0	0	2	1	2	0	1	0
2921:	2	0	1	0	0	0	0	0
2929:	0	0	1	0	0	0	0	0
2937:	0	0	0	1	1	0	0	1
2945:	0	0	0	2	0	1	0	0
2953:	1	0	0	0	0	1	0	0

2961:	0	0	2	0	0	1	0	1

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

3393:	1	0	0	0	0	0	0	0

Sample Title: CP1805S03-04

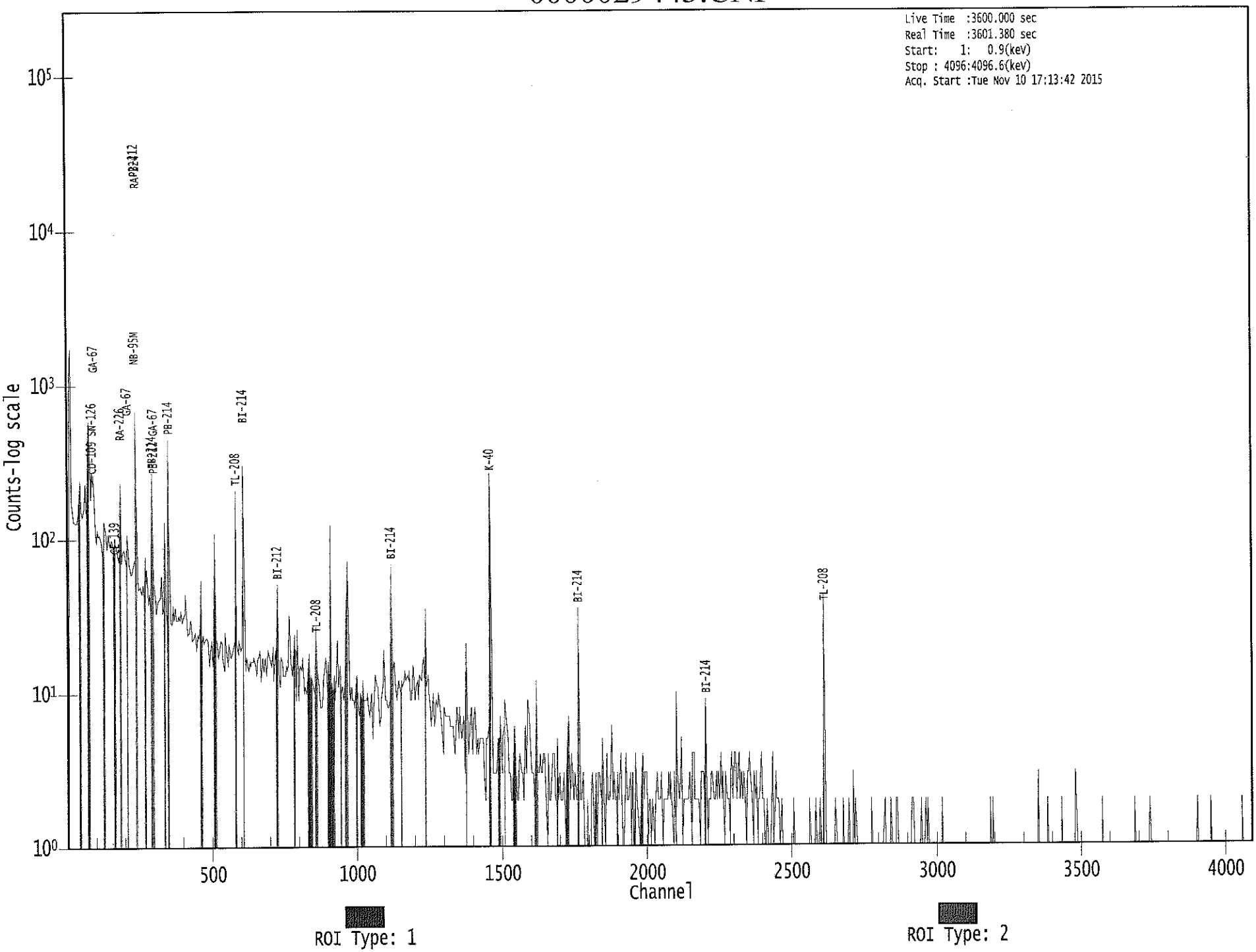
Channel								
3401:	0	0	1	0	1	0	0	0
3409:	0	1	0	0	0	0	0	0
3417:	0	0	0	0	0	0	0	0
3425:	0	0	0	0	0	0	0	0
3433:	2	1	0	0	0	0	0	0
3441:	0	0	0	0	0	0	0	0
3449:	0	0	0	0	0	0	1	0
3457:	0	0	0	0	0	0	1	0
3465:	0	0	0	0	0	0	0	0
3473:	1	0	0	0	0	1	0	0
3481:	3	0	0	0	0	0	0	1
3489:	0	1	0	0	1	0	0	0
3497:	0	0	0	0	0	0	0	0
3505:	0	0	0	0	0	1	0	0
3513:	0	0	0	0	0	0	0	0
3521:	0	0	0	0	0	0	0	1
3529:	0	0	1	0	0	0	0	0
3537:	0	0	0	0	0	0	0	0
3545:	0	0	0	0	0	1	0	0
3553:	0	1	0	0	0	0	0	0
3561:	0	0	0	0	0	0	0	0
3569:	0	0	0	0	2	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	0	0	0	0
3601:	1	0	1	0	1	0	1	1
3609:	0	0	0	0	0	1	0	0
3617:	0	0	0	0	1	0	0	0
3625:	0	0	0	0	1	0	1	0
3633:	0	0	0	0	0	0	0	0
3641:	0	0	0	0	0	0	0	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	1	0	0	0	0	0
3665:	0	0	0	0	0	0	0	0
3673:	0	1	0	0	0	1	0	0
3681:	0	0	0	0	2	0	0	0
3689:	0	0	0	0	0	1	0	0
3697:	1	0	0	0	0	0	0	0
3705:	0	1	1	0	0	0	0	0
3713:	0	0	1	0	0	0	0	0
3721:	0	1	0	1	0	1	0	0
3729:	0	0	1	0	0	0	1	0
3737:	2	0	0	0	0	0	1	0
3745:	0	0	0	0	0	1	0	0
3753:	0	0	0	0	0	0	0	0
3761:	0	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0
3777:	0	0	0	0	0	0	0	0
3785:	0	0	0	0	0	0	0	0
3793:	0	0	0	0	0	0	0	1
3801:	0	0	0	0	0	0	1	0
3809:	0	0	1	0	0	0	0	0
3817:	0	0	0	0	1	0	0	0

3825:	1	0	0	0	0	1	0	1

Sample Title: CP1805S03-04

Channel								
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	0	0	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	1	1	0	0	0
3865:	0	0	0	1	0	0	0	0
3873:	0	0	0	0	0	0	0	0
3881:	0	0	1	0	0	0	0	0
3889:	1	0	0	0	0	0	0	0
3897:	0	0	0	1	0	0	2	0
3905:	0	0	0	0	0	1	0	0
3913:	0	0	0	0	0	0	0	0
3921:	0	0	0	0	1	0	0	1
3929:	0	0	0	0	0	0	1	0
3937:	0	0	0	0	0	0	0	0
3945:	0	0	0	0	2	0	0	0
3953:	0	0	0	0	0	0	1	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	1	0
3985:	0	0	0	1	1	0	0	0
3993:	1	0	0	0	0	0	0	0
4001:	0	1	0	0	0	0	0	0
4009:	0	0	1	0	1	0	0	0
4017:	0	0	1	0	0	0	0	0
4025:	0	0	0	0	0	0	0	1
4033:	1	0	0	0	1	0	1	0
4041:	0	0	0	0	0	0	0	0
4049:	0	0	0	0	0	0	0	0
4057:	2	0	0	0	1	0	0	0
4065:	0	0	0	0	0	0	0	0
4073:	0	0	0	1	0	1	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	1	0	0	0	1

0000029443.CNF



Apex-Gamma

Analysis Report for 1510091-14
CP1805S05-06

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1510091-14
Sample Description	: CP1805S05-06
Sample Type	: SOIL
Sample Size	: 5.456E+02 grams
Facility	: Countroom
Sample Taken On	: 10/10/2015 10:17:25AM
Acquisition Started	: 11/10/2015 5:22:55PM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE4
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3641.6 seconds
Dead Time	: 1.14 %
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	: 29444

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

Analysis Report for 1510091-14

CP1805S05-06

PEAK LOCATE REPORT

Peak Locate Performed on : 11/10/2015 6:23:38PM
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	64.94	64.21	0.0000	0.00
2	76.25	75.52	0.0000	0.00
3	86.79	86.06	0.0000	0.00
4	186.07	185.38	0.0000	0.00
5	239.39	238.73	0.0000	0.00
6	282.05	281.41	0.0000	0.00
7	295.06	294.43	0.0000	0.00
8	338.42	337.80	0.0000	0.00
9	351.98	351.37	0.0000	0.00
10	477.57	477.01	0.0000	0.00
11	511.29	510.75	0.0000	0.00
12	583.58	583.08	0.0000	0.00
13	609.67	609.18	0.0000	0.00
14	724.60	724.17	0.0000	0.00
15	860.66	860.29	0.0000	0.00
16	911.41	911.07	0.0000	0.00
17	970.60	970.29	0.0000	0.00
18	1120.63	1120.40	0.0000	0.00
19	1279.70	1279.56	0.0000	0.00
20	1461.35	1461.33	0.0000	0.00
21	1514.92	1514.92	0.0000	0.00
22	1593.10	1593.15	0.0000	0.00
23	1746.66	1746.81	0.0000	0.00
24	1764.85	1765.01	0.0000	0.00
25	1881.33	1881.57	0.0000	0.00
26	1898.25	1898.50	0.0000	0.00
27	1906.14	1906.40	0.0000	0.00
28	2082.76	2083.14	0.0000	0.00
29	2204.85	2205.31	0.0000	0.00
30	2256.10	2256.60	0.0000	0.00
31	2432.14	2432.77	0.0000	0.00
32	2615.11	2615.88	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510091-14

CP1805S05-06

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 6:23:38PM

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	64.94	56 -	81	64.21	4.71E+02	169.96	2.53E+03	6.66
m	2	76.25	56 -	81	75.52	1.18E+03	161.37	2.41E+03	4.83
	3	86.79	82 -	90	86.06	1.89E+02	116.90	2.00E+03	3.38
	4	186.07	181 -	190	185.38	1.56E+02	84.59	9.28E+02	2.09
	5	239.39	234 -	244	238.73	7.29E+02	86.36	5.92E+02	2.57
	6	282.05	274 -	289	281.41	7.76E+01	85.16	6.87E+02	11.14
	7	295.06	290 -	299	294.43	1.64E+02	61.22	4.45E+02	2.59
	8	338.42	334 -	342	337.80	6.65E+01	51.27	3.61E+02	2.78
	9	351.98	346 -	356	351.37	2.87E+02	62.23	3.64E+02	2.32
	10	477.57	472 -	481	477.01	3.37E+01	35.85	1.63E+02	2.94
	11	511.29	506 -	517	510.75	1.27E+02	43.45	1.68E+02	4.28
	12	583.58	576 -	591	583.08	1.66E+02	54.63	2.33E+02	3.17
	13	609.67	605 -	615	609.18	2.15E+02	46.82	1.82E+02	2.48
	14	724.60	714 -	730	724.17	4.71E+01	48.27	2.04E+02	3.47
	15	860.66	857 -	863	860.29	2.16E+01	19.38	5.29E+01	1.69
	16	911.41	906 -	917	911.07	8.94E+01	32.74	8.73E+01	2.57
	17	970.60	966 -	975	970.29	5.13E+01	29.53	8.34E+01	1.96
	18	1120.63	1115 -	1128	1120.40	4.61E+01	32.71	9.97E+01	3.20
	19	1279.70	1272 -	1285	1279.56	2.12E+01	26.65	6.77E+01	2.72
	20	1461.35	1454 -	1467	1461.33	2.49E+02	37.93	4.92E+01	2.49
	21	1514.92	1512 -	1518	1514.92	9.31E+00	9.42	7.38E+00	2.00
	22	1593.10	1585 -	1600	1593.15	1.90E+01	19.90	3.20E+01	1.16
	23	1746.66	1742 -	1750	1746.81	5.69E+00	7.23	4.63E+00	1.35
	24	1764.85	1759 -	1771	1765.01	3.56E+01	14.08	6.82E+00	2.26
	25	1881.33	1877 -	1884	1881.57	7.00E+00	5.29	0.00E+00	3.00
	26	1898.25	1893 -	1902	1898.50	1.40E+01	7.48	0.00E+00	3.99
	27	1906.14	1903 -	1908	1906.40	5.00E+00	4.47	0.00E+00	1.24
	28	2082.76	2079 -	2087	2083.14	1.26E+01	8.96	4.73E+00	2.81
	29	2204.85	2200 -	2209	2205.31	1.60E+01	8.00	0.00E+00	2.98
	30	2256.10	2253 -	2258	2256.60	5.00E+00	4.47	0.00E+00	1.00
	31	2432.14	2428 -	2435	2432.77	5.63E+00	6.93	4.75E+00	2.46
	32	2615.11	2610 -	2619	2615.88	3.30E+01	11.49	0.00E+00	3.72

Analysis Report for 1510091-14

CP1805S05-06

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 : 11/10/2015 6:23:38PM

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	64.94	56 -	81	4.71E+02	169.96	2.53E+03	8.26E+01
m	2	76.25	56 -	81	1.18E+03	161.37	2.41E+03	8.08E+01
	3	86.79	82 -	90	1.89E+02	116.90	2.00E+03	9.34E+01
	4	186.07	181 -	190	1.56E+02	84.59	9.28E+02	6.64E+01
	5	239.39	234 -	244	7.29E+02	86.36	5.92E+02	5.54E+01
	6	282.05	274 -	289	7.76E+01	85.16	6.87E+02	6.85E+01
	7	295.06	290 -	299	1.64E+02	61.22	4.45E+02	4.57E+01
	8	338.42	334 -	342	6.65E+01	51.27	3.61E+02	4.00E+01
	9	351.98	346 -	356	2.87E+02	62.23	3.64E+02	4.29E+01
	10	477.57	472 -	481	3.37E+01	35.85	1.63E+02	2.79E+01
	11	511.29	506 -	517	1.27E+02	43.45	1.68E+02	3.05E+01
	12	583.58	576 -	591	1.66E+02	54.63	2.33E+02	3.96E+01
	13	609.67	605 -	615	2.15E+02	46.82	1.82E+02	3.00E+01
	14	724.60	714 -	730	4.71E+01	48.27	2.04E+02	3.80E+01
	15	860.66	857 -	863	2.16E+01	19.38	5.29E+01	1.40E+01
	16	911.41	906 -	917	8.94E+01	32.74	8.73E+01	2.20E+01
	17	970.60	966 -	975	5.13E+01	29.53	8.34E+01	2.12E+01
	18	1120.63	1115 -	1128	4.61E+01	32.71	9.97E+01	2.45E+01
	19	1279.70	1272 -	1285	2.12E+01	26.65	6.77E+01	2.06E+01
	20	1461.35	1454 -	1467	2.49E+02	37.93	4.92E+01	1.73E+01
	21	1514.92	1512 -	1518	9.31E+00	9.42	7.38E+00	5.90E+00
	22	1593.10	1585 -	1600	1.90E+01	19.90	3.20E+01	1.47E+01
	23	1746.66	1742 -	1750	5.69E+00	7.23	4.63E+00	4.46E+00
	24	1764.85	1759 -	1771	3.56E+01	14.08	6.82E+00	6.15E+00
	25	1881.33	1877 -	1884	7.00E+00	5.29	0.00E+00	0.00E+00
	26	1898.25	1893 -	1902	1.40E+01	7.48	0.00E+00	0.00E+00
	27	1906.14	1903 -	1908	5.00E+00	4.47	0.00E+00	0.00E+00
	28	2082.76	2079 -	2087	1.26E+01	8.96	4.73E+00	4.48E+00
	29	2204.85	2200 -	2209	1.60E+01	8.00	0.00E+00	0.00E+00
	30	2256.10	2253 -	2258	5.00E+00	4.47	0.00E+00	0.00E+00
	31	2432.14	2428 -	2435	5.63E+00	6.93	4.75E+00	4.15E+00

Analysis Report for 1510091-14

CP1805S05-06

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
32	2615.11	2610 -	2619	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 : 11/10/2015 6:23:38PM

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	64.94	56 -	81	64.21	4.71E+02	169.96	2.53E+03	.....
m	2	76.25	56 -	81	75.52	1.18E+03	161.37	2.41E+03	.....
	3	86.79	82 -	90	86.06	1.89E+02	116.90	2.00E+03	NP-237 EU-155 SN-126
	4	186.07	181 -	190	185.38	1.56E+02	84.59	9.28E+02	RA-226
	5	239.39	234 -	244	238.73	7.29E+02	86.36	5.92E+02	PB-212
	6	282.05	274 -	289	281.41	7.76E+01	85.16	6.87E+02	.....
	7	295.06	290 -	299	294.43	1.64E+02	61.22	4.45E+02	PB-214
	8	338.42	334 -	342	337.80	6.65E+01	51.27	3.61E+02	AC-228
	9	351.98	346 -	356	351.37	2.87E+02	62.23	3.64E+02	PB-214
	10	477.57	472 -	481	477.01	3.37E+01	35.85	1.63E+02	BE-7 PM-144
	11	511.29	506 -	517	510.75	1.27E+02	43.45	1.68E+02	.....
	12	583.58	576 -	591	583.08	1.66E+02	54.63	2.33E+02	TL-208
	13	609.67	605 -	615	609.18	2.15E+02	46.82	1.82E+02	BI-214
	14	724.60	714 -	730	724.17	4.71E+01	48.27	2.04E+02	ZR-95
	15	860.66	857 -	863	860.29	2.16E+01	19.38	5.29E+01	TL-208
	16	911.41	906 -	917	911.07	8.94E+01	32.74	8.73E+01	AC-228 LU-172
	17	970.60	966 -	975	970.29	5.13E+01	29.53	8.34E+01	.....
	18	1120.63	1115 -	1128	1120.40	4.61E+01	32.71	9.97E+01	SC-46 BI-214 TA-182
	19	1279.70	1272 -	1285	1279.56	2.12E+01	26.65	6.77E+01	.....

Analysis Report for 1510091-14

CP1805S05-06

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
20	1461.35	1454 -	1467	1461.33	2.49E+02	37.93	4.92E+01	K-40
21	1514.92	1512 -	1518	1514.92	9.31E+00	9.42	7.38E+00	.....
22	1593.10	1585 -	1600	1593.15	1.90E+01	19.90	3.20E+01	.....
23	1746.66	1742 -	1750	1746.81	5.69E+00	7.23	4.63E+00	.....
24	1764.85	1759 -	1771	1765.01	3.56E+01	14.08	6.82E+00	BI-214
25	1881.33	1877 -	1884	1881.57	7.00E+00	5.29	0.00E+00	.....
26	1898.25	1893 -	1902	1898.50	1.40E+01	7.48	0.00E+00	.....
27	1906.14	1903 -	1908	1906.40	5.00E+00	4.47	0.00E+00	.....
28	2082.76	2079 -	2087	2083.14	1.26E+01	8.96	4.73E+00	.....
29	2204.85	2200 -	2209	2205.31	1.60E+01	8.00	0.00E+00	BI-214
30	2256.10	2253 -	2258	2256.60	5.00E+00	4.47	0.00E+00	.....
31	2432.14	2428 -	2435	2432.77	5.63E+00	6.93	4.75E+00	.....
32	2615.11	2610 -	2619	2615.88	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 : 11/10/2015 6:23:38PM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
M	1	64.94	4.71E+02	169.96	2.30E-02	1.75E-03
m	2	76.25	1.18E+03	161.37	2.12E-02	1.69E-03
	3	86.79	1.89E+02	116.90	1.98E-02	1.64E-03
	4	186.07	1.56E+02	84.59	1.16E-02	1.15E-03
	5	239.39	7.29E+02	86.36	9.39E-03	9.85E-04
	6	282.05	7.76E+01	85.16	8.11E-03	8.58E-04
	7	295.06	1.64E+02	61.22	7.79E-03	8.43E-04
	8	338.42	6.65E+01	51.27	6.86E-03	7.95E-04
	9	351.98	2.87E+02	62.23	6.61E-03	7.80E-04
	10	477.57	3.37E+01	35.85	4.93E-03	6.10E-04
	11	511.29	1.27E+02	43.45	4.61E-03	5.61E-04
	12	583.58	1.66E+02	54.63	4.04E-03	4.55E-04
	13	609.67	2.15E+02	46.82	3.87E-03	4.16E-04
	14	724.60	4.71E+01	48.27	3.27E-03	3.05E-04
	15	860.66	2.16E+01	19.38	2.76E-03	2.29E-04
	16	911.41	8.94E+01	32.74	2.61E-03	2.06E-04
	17	970.60	5.13E+01	29.53	2.46E-03	1.99E-04

Analysis Report for 1510091-14

CP1805S05-06

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
18	1120.63	4.61E+01	32.71	2.14E-03	1.79E-04
19	1279.70	2.12E+01	26.65	1.90E-03	2.01E-04
20	1461.35	2.49E+02	37.93	1.68E-03	1.89E-04
21	1514.92	9.31E+00	9.42	1.63E-03	1.78E-04
22	1593.10	1.90E+01	19.90	1.56E-03	1.62E-04
23	1746.66	5.69E+00	7.23	1.45E-03	1.30E-04
24	1764.85	3.56E+01	14.08	1.43E-03	1.26E-04
25	1881.33	7.00E+00	5.29	1.36E-03	1.11E-04
26	1898.25	1.40E+01	7.48	1.35E-03	1.11E-04
27	1906.14	5.00E+00	4.47	1.35E-03	1.11E-04
28	2082.76	1.26E+01	8.96	1.26E-03	1.11E-04
29	2204.85	1.60E+01	8.00	1.21E-03	1.11E-04
30	2256.10	5.00E+00	4.47	1.19E-03	1.11E-04
31	2432.14	5.63E+00	6.93	1.13E-03	1.11E-04
32	2615.11	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 : 11/10/2015 6:23:38PM

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.
M	1	64.94	4.71E+02	169.96			4.71E+02	1.70E+02
m	2	76.25	1.18E+03	161.37			1.18E+03	1.61E+02
	3	86.79	1.89E+02	116.90			1.89E+02	1.17E+02
	4	186.07	1.56E+02	84.59	1.43E+01	7.33E+00	1.41E+02	8.49E+01
	5	239.39	7.29E+02	86.36	1.09E+01	6.39E+00	7.18E+02	8.66E+01
	6	282.05	7.76E+01	85.16			7.76E+01	8.52E+01
	7	295.06	1.64E+02	61.22			1.64E+02	6.12E+01
	8	338.42	6.65E+01	51.27			6.65E+01	5.13E+01
	9	351.98	2.87E+02	62.23	8.07E+00	5.01E+00	2.79E+02	6.24E+01
	10	477.57	3.37E+01	35.85			3.37E+01	3.58E+01
	11	511.29	1.27E+02	43.45	4.21E+01	4.92E+00	8.47E+01	4.37E+01
	12	583.58	1.66E+02	54.63			1.66E+02	5.46E+01
	13	609.67	2.15E+02	46.82	5.16E+00	1.63E+00	2.10E+02	4.68E+01
	14	724.60	4.71E+01	48.27			4.71E+01	4.83E+01
	15	860.66	2.16E+01	19.38			2.16E+01	1.94E+01

Analysis Report for 1510091-14

CP1805S05-06

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
16	911.41	8.94E+01	32.74	1.01E+00	2.85E+00	8.83E+01	3.29E+01
17	970.60	5.13E+01	29.53			5.13E+01	2.95E+01
18	1120.63	4.61E+01	32.71			4.61E+01	3.27E+01
19	1279.70	2.12E+01	26.65			2.12E+01	2.66E+01
20	1461.35	2.49E+02	37.93			2.49E+02	3.79E+01
21	1514.92	9.31E+00	9.42			9.31E+00	9.42E+00
22	1593.10	1.90E+01	19.90			1.90E+01	1.99E+01
23	1746.66	5.69E+00	7.23			5.69E+00	7.23E+00
24	1764.85	3.56E+01	14.08	1.11E-01	9.77E-01	3.55E+01	1.41E+01
25	1881.33	7.00E+00	5.29			7.00E+00	5.29E+00
26	1898.25	1.40E+01	7.48			1.40E+01	7.48E+00
27	1906.14	5.00E+00	4.47			5.00E+00	4.47E+00
28	2082.76	1.26E+01	8.96			1.26E+01	8.96E+00
29	2204.85	1.60E+01	8.00			1.60E+01	8.00E+00
30	2256.10	5.00E+00	4.47			5.00E+00	4.47E+00
31	2432.14	5.63E+00	6.93			5.63E+00	6.93E+00
32	2615.11	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

AREA CORRECTION REPORT
REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/10/2015 6:23:38PM

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	64.94	4.71E+02	169.96			4.71E+02	1.70E+02
m	2	76.25	1.18E+03	161.37			1.18E+03	1.61E+02
	3	86.79	1.89E+02	116.90			1.89E+02	1.17E+02
	4	186.07	1.56E+02	84.59	1.43E+01	7.33E+00	1.41E+02	8.49E+01
	5	239.39	7.29E+02	86.36	1.09E+01	6.39E+00	7.18E+02	8.66E+01
	6	282.05	7.76E+01	85.16			7.76E+01	8.52E+01
	7	295.06	1.64E+02	61.22			1.64E+02	6.12E+01
	8	338.42	6.65E+01	51.27			6.65E+01	5.13E+01
	9	351.98	2.87E+02	62.23	8.07E+00	5.01E+00	2.79E+02	6.24E+01
	10	477.57	3.37E+01	35.85			3.37E+01	3.58E+01
	11	511.29	1.27E+02	43.45	4.21E+01	4.92E+00	8.47E+01	4.37E+01

Analysis Report for 1510091-14

CP1805S05-06

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
12	583.58	1.66E+02	54.63			1.66E+02	5.46E+01
13	609.67	2.15E+02	46.82	5.16E+00	1.63E+00	2.10E+02	4.68E+01
14	724.60	4.71E+01	48.27			4.71E+01	4.83E+01
15	860.66	2.16E+01	19.38			2.16E+01	1.94E+01
16	911.41	8.94E+01	32.74	1.01E+00	2.85E+00	8.83E+01	3.29E+01
17	970.60	5.13E+01	29.53			5.13E+01	2.95E+01
18	1120.63	4.61E+01	32.71			4.61E+01	3.27E+01
19	1279.70	2.12E+01	26.65			2.12E+01	2.66E+01
20	1461.35	2.49E+02	37.93			2.49E+02	3.79E+01
21	1514.92	9.31E+00	9.42			9.31E+00	9.42E+00
22	1593.10	1.90E+01	19.90			1.90E+01	1.99E+01
23	1746.66	5.69E+00	7.23			5.69E+00	7.23E+00
24	1764.85	3.56E+01	14.08	1.11E-01	9.77E-01	3.55E+01	1.41E+01
25	1881.33	7.00E+00	5.29			7.00E+00	5.29E+00
26	1898.25	1.40E+01	7.48			1.40E+01	7.48E+00
27	1906.14	5.00E+00	4.47			5.00E+00	4.47E+00
28	2082.76	1.26E+01	8.96			1.26E+01	8.96E+00
29	2204.85	1.60E+01	8.00			1.60E+01	8.00E+00
30	2256.10	5.00E+00	4.47			5.00E+00	4.47E+00
31	2432.14	5.63E+00	6.93			5.63E+00	6.93E+00
32	2615.11	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

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
BE-7	0.998	477.59	*	10.42	1.36E+00	1.45E+00
K-40	0.954	1460.81	*	10.67	1.91E+01	3.63E+00
SN-126	0.907	87.57	*	37.00	3.55E-01	2.22E-01
EU-155	0.373	86.50	*	30.90	4.30E-01	2.69E-01
		105.30		20.70		
TL-208	0.970	583.14	*	30.22	1.86E+00	6.50E-01
		860.37	*	4.48	2.40E+00	2.17E+00
		2614.66	*	35.85	1.18E+00	4.29E-01
PB-212	0.815	238.63	*	44.60	2.36E+00	3.77E-01
		300.09		3.41		

Analysis Report for 1510091-14

CP1805S05-06

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
BI-214	0.977	609.31	*	46.30	1.61E+00	3.99E-01
		1120.29	*	15.10	1.96E+00	1.40E+00
		1764.49	*	15.80	2.15E+00	8.78E-01
		2204.22	*	4.98	3.67E+00	1.86E+00
PB-214	0.998	295.21	*	19.19	1.51E+00	5.87E-01
		351.92	*	37.19	1.56E+00	3.95E-01
RA-226	0.997	186.21	*	3.28	5.11E+00	9.85E+00
AC-228	0.577	338.32	*	11.40	1.17E+00	9.13E-01
		911.07	*	27.70	1.68E+00	6.40E-01
		969.11		16.60		
NP-237	0.987	86.50	*	12.60	1.04E+00	6.51E-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 : 11/10/2015 6:23:38PM
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	64.94	1.30913E-01	18.03		
m	2	76.25	3.26466E-01	6.87		
	6	282.05	2.15443E-02	54.90		
	11	511.29	2.35290E-02	25.81		
	14	724.60	1.30807E-02	51.25		
	17	970.60	1.42443E-02	28.79		
	19	1279.70	5.87879E-03	62.95		
	21	1514.92	2.58547E-03	50.61		
	22	1593.10	5.27778E-03	52.37	D-Esc	
	23	1746.66	1.57986E-03	63.55		
	25	1881.33	1.94444E-03	37.80		
	26	1898.25	3.88889E-03	26.73		
	27	1906.14	1.38889E-03	44.72		
	28	2082.76	3.50926E-03	35.45		
	30	2256.10	1.38889E-03	44.72		
	31	2432.14	1.56250E-03	61.58		

Analysis Report for 1510091-14

CP1805S05-06

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
BE-7	0.99	477.59	*	10.42	1.36E+00	1.45E+00
K-40	0.95	1460.81	*	10.67	1.91E+01	3.63E+00
SN-126	0.90	87.57	*	37.00	3.55E-01	2.22E-01
EU-155	0.37	86.50	*	30.90	4.30E-01	2.69E-01
		105.30		20.70		
TL-208	0.97	583.14	*	30.22	1.86E+00	6.50E-01
		860.37	*	4.48	2.40E+00	2.17E+00
		2614.66	*	35.85	1.18E+00	4.29E-01
PB-212	0.81	238.63	*	44.60	2.36E+00	3.77E-01
		300.09		3.41		
BI-214	0.97	609.31	*	46.30	1.61E+00	3.99E-01
		1120.29	*	15.10	1.96E+00	1.40E+00
		1764.49	*	15.80	2.15E+00	8.78E-01
		2204.22	*	4.98	3.67E+00	1.86E+00
PB-214	0.99	295.21	*	19.19	1.51E+00	5.87E-01
		351.92	*	37.19	1.56E+00	3.95E-01
RA-226	0.99	186.21	*	3.28	5.11E+00	9.85E+00
AC-228	0.57	338.32	*	11.40	1.17E+00	9.13E-01
		911.07	*	27.70	1.68E+00	6.40E-01
		969.11		16.60		
NP-237	0.98	86.50	*	12.60	1.04E+00	6.51E-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 1510091-14

CP1805S05-06

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	BE-7	0.998	1.36E+00	1.45E+00	
	K-40	0.954	1.91E+01	3.63E+00	
?	SN-126	0.907	3.55E-01	2.22E-01	
?	EU-155	0.373	4.30E-01	2.69E-01	
	TL-208	0.970	1.42E+00	3.53E-01	
	PB-212	0.815	2.36E+00	3.77E-01	
	BI-214	0.977	1.79E+00	3.46E-01	
	PB-214	0.998	1.55E+00	3.28E-01	
	RA-226	0.997	5.11E+00	9.85E+00	
	AC-228	0.577	1.51E+00	5.24E-01	
?	NP-237	0.987	1.04E+00	6.51E-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 1510091-14
CP1805S05-06

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 6:23:38PM
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	64.94	1.30913E-01	18.03		
m	2	76.25	3.26466E-01	6.87		
	6	282.05	2.15443E-02	54.90		
	11	511.29	2.35290E-02	25.81		
	14	724.60	1.30807E-02	51.25		
	17	970.60	1.42443E-02	28.79		
	19	1279.70	5.87879E-03	62.95		
	21	1514.92	2.58547E-03	50.61		
	22	1593.10	5.27778E-03	52.37	D-Esc	
	23	1746.66	1.57986E-03	63.55		
	25	1881.33	1.94444E-03	37.80		
	26	1898.25	3.88889E-03	26.73		
	27	1906.14	1.38889E-03	44.72		
	28	2082.76	3.50926E-03	35.45		
	30	2256.10	1.38889E-03	44.72		
	31	2432.14	1.56250E-03	61.58		

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	1.36E+00	2.35E+00	2.35E+00

Analysis Report for 1510091-14

CP1805S05-06

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	NA-22	1274.54		99.94	1.65E-03	2.12E-01	2.12E-01
+	NA-24	1368.53		99.99	-5.21E+13	1.19E+14	1.94E+14
		2754.09		99.86	-5.91E+13		1.19E+14
+	AL-26	1808.65		99.76	6.54E-03	1.64E-01	1.64E-01
+	K-40	1460.81	*	10.67	1.91E+01	2.86E+00	2.86E+00
+	@ AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	-1.97E-01	1.05E-01	1.05E-01
		78.34		96.00	3.28E-01		1.33E-01
+	SC-46	889.25		99.98	6.00E-02	2.46E-01	2.46E-01
		1120.51		99.99	3.74E-01		3.62E-01
+	V-48	983.52		99.98	1.37E-01	6.59E-01	6.59E-01
		1312.10		97.50	-1.78E-01		7.97E-01
+	CR-51	320.08		9.83	4.61E-01	2.71E+00	2.71E+00
+	MN-54	834.83		99.97	5.57E-02	2.04E-01	2.04E-01
+	CO-56	846.75		99.96	-5.77E-02	2.35E-01	2.35E-01
		1037.75		14.03	-2.58E-01		1.72E+00
		1238.25		67.00	2.86E-01		5.28E-01
		1771.40		15.51	-3.27E-01		1.48E+00
		2598.48		16.90	1.91E-01		1.20E+00
+	CO-57	122.06		85.51	-9.32E-02	1.24E-01	1.24E-01
		136.48		10.60	-8.72E-01		1.02E+00
+	CO-58	810.76		99.40	-2.58E-02	2.25E-01	2.25E-01
+	FE-59	1099.22		56.50	2.89E-02	6.09E-01	6.09E-01
		1291.56		43.20	4.30E-01		7.65E-01
+	CO-60	1173.22		100.00	1.71E-02	1.94E-01	2.20E-01
		1332.49		100.00	-3.35E-02		1.94E-01
+	ZN-65	1115.52		50.75	-1.04E-01	4.72E-01	4.72E-01
+	GA-67	93.31		35.70	1.36E+02	2.34E+02	2.34E+02
		208.95		2.24	-2.34E+02		4.26E+03
		300.22		16.00	-7.14E+01		6.58E+02
+	SE-75	121.11		16.70	-4.02E-01	2.02E-01	7.03E-01
		136.00		59.20	-1.84E-01		2.02E-01
		264.65		59.80	-2.76E-01		2.40E-01
		279.53		25.20	1.97E-01		6.13E-01
		400.65		11.40	1.20E-01		1.47E+00
+	RB-82	776.52		13.00	-1.44E+00	3.04E+00	3.04E+00
+	RB-83	520.41		46.00	-1.10E-01	3.44E-01	3.44E-01
		529.64		30.30	2.39E-01		6.61E-01
		552.65		16.40	-1.24E-01		1.10E+00
+	KR-85	513.99		0.43	5.30E+01	4.42E+01	4.42E+01
+	SR-85	513.99		99.27	3.22E-01	2.69E-01	2.69E-01
+	Y-88	898.02		93.40	-8.54E-02	1.60E-01	2.29E-01
		1836.01		99.38	-6.52E-03		1.60E-01
+	NB-93M	16.57		9.43	9.57E-01	4.73E-01	4.73E-01
+	NB-94	702.63		100.00	-8.17E-03	1.75E-01	1.80E-01
		871.10		100.00	-5.05E-02		1.75E-01
+	NB-95	765.79		99.81	1.69E-01	3.71E-01	3.71E-01

Analysis Report for 1510091-14

CP1805S05-06

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	NB-95M	235.69		25.00	-4.71E+01	3.24E+02	3.24E+02
+	ZR-95	724.18		43.70	3.99E-01	4.15E-01	6.34E-01
		756.72		55.30	-3.54E-01		4.15E-01
+	MO-99	181.06		6.20	-3.51E+02	3.56E+03	5.18E+03
		739.58		12.80	-9.28E+02		3.56E+03
		778.00		4.50	-4.72E+03		9.73E+03
+	RU-103	497.08		89.00	1.06E-01	2.88E-01	2.88E-01
+	RU-106	621.84		9.80	-4.03E-01	1.65E+00	1.65E+00
+	AG-108M	433.93		89.90	-2.30E-02	1.46E-01	1.46E-01
		614.37		90.40	2.28E-02		2.49E-01
		722.95		90.50	6.40E-02		2.13E-01
+	CD-109	88.03		3.72	3.85E+00	3.27E+00	3.27E+00
+	AG-110M	657.75		93.14	1.79E-02	1.85E-01	1.85E-01
		677.61		10.53	-3.32E-01		1.47E+00
		706.67		16.46	-5.98E-01		1.17E+00
		763.93		21.98	4.13E-01		9.70E-01
		884.67		71.63	-7.62E-02		2.73E-01
		1384.27		23.94	1.57E-01		8.35E-01
+	CD-113M	263.70		0.02	-4.50E+02	5.27E+02	5.27E+02
+	SN-113	255.12		1.93	3.01E-01	2.47E-01	7.65E+00
		391.69		64.90	-3.08E-02		2.47E-01
+	TE123M	159.00		84.10	2.57E-02	1.62E-01	1.62E-01
+	SB-124	602.71		97.87	5.21E-02	2.36E-01	2.36E-01
		645.85		7.26	-1.16E+00		2.99E+00
		722.78		11.10	-1.38E+00		2.35E+00
		1691.02		49.00	-1.36E-01		4.07E-01
+	I-125	35.49		6.49	-4.95E-03	1.22E+00	1.22E+00
+	SB-125	176.33		6.89	-4.59E-01	4.37E-01	1.68E+00
		427.89		29.33	-4.04E-02		4.37E-01
		463.38		10.35	9.72E-01		1.53E+00
		600.56		17.80	2.37E-01		9.31E-01
		635.90		11.32	4.99E-02		1.32E+00
+	SB-126	414.70		83.30	-9.31E-02	9.69E-01	9.69E-01
		666.33		99.60	4.41E-01		9.76E-01
		695.00		99.60	-5.76E-02		1.02E+00
		720.50		53.80	-2.02E+00		1.79E+00
+	SN-126	87.57	*	37.00	3.55E-01	3.57E-01	3.57E-01
+	SB-127	473.00		25.00	-2.05E+00	1.22E+02	1.52E+02
		685.20		35.70	-2.90E+01		1.22E+02
		783.80		14.70	7.47E+01		3.24E+02
+	I-129	29.78		57.00	1.32E-02	9.58E-02	9.58E-02
		33.60		13.20	-4.29E-02		4.13E-01
		39.58		7.52	-1.02E+00		7.49E-01
+	I-131	284.30		6.05	-9.40E+00	2.33E+00	3.03E+01
		364.48		81.20	-7.53E-01		2.33E+00
		636.97		7.26	-4.49E+00		2.95E+01
		722.89		1.80	-8.83E+01		1.50E+02
+	TE-132	49.72		13.10	3.53E+02	1.15E+02	4.20E+02

Analysis Report for 1510091-14

CP1805S05-06

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	TE-132	228.16	88.00	8.68E+01	1.15E+02	1.15E+02
+	BA-133	81.00	33.00	-4.55E-01	3.38E-01	3.60E-01
		302.84	17.80	2.71E-02		7.22E-01
		356.01	60.00	3.02E-02		3.38E-01
+	I-133	529.87	86.30	4.91E+09	1.36E+10	1.36E+10
+	XE-133	81.00	38.00	-2.47E+01	1.96E+01	1.96E+01
+	CS-134	563.23	8.38	1.46E-01	2.01E-01	1.84E+00
		569.32	15.43	2.72E-01		1.02E+00
		604.70	97.60	-2.06E-02		2.01E-01
		795.84	85.40	8.79E-02		2.30E-01
		801.93	8.73	1.13E-01		2.13E+00
+	CS-135	268.24	16.00	4.25E-01	8.19E-01	8.19E-01
+	@ I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@	1260.41	28.60	1.00E+26		1.00E+26
	@	1678.03	9.54	1.00E+26		1.00E+26
+	CS-136	153.22	7.46	5.45E-01	8.91E-01	7.79E+00
		163.89	4.61	-3.48E-01		1.26E+01
		176.55	13.56	-1.19E+00		4.34E+00
		273.65	12.66	3.04E+00		5.55E+00
		340.57	48.50	1.84E-01		1.63E+00
		818.50	99.70	8.46E-02		8.91E-01
		1048.07	79.60	-5.22E-01		1.27E+00
		1235.34	19.70	2.59E+00		7.08E+00
+	CS-137	661.65	85.12	-6.43E-02	1.88E-01	1.88E-01
+	LA-138	788.74	34.00	-5.52E-01	2.30E-01	4.66E-01
		1435.80	66.00	-5.32E-02		2.30E-01
+	CE-139	165.85	80.35	4.53E-02	1.63E-01	1.63E-01
+	BA-140	162.64	6.70	-1.50E+00	3.16E+00	9.12E+00
		304.84	4.50	3.00E+00		1.58E+01
		423.70	3.20	-3.46E+00		2.18E+01
		437.55	2.00	-1.16E+01		3.61E+01
		537.32	25.00	-7.79E-01		3.16E+00
+	LA-140	328.77	20.50	7.22E-01	1.13E+00	3.58E+00
		487.03	45.50	2.76E-01		1.51E+00
		815.85	23.50	1.88E+00		4.13E+00
		1596.49	95.49	1.46E-01		1.13E+00
+	CE-141	145.44	48.40	3.03E-01	4.49E-01	4.49E-01
+	CE-143	57.36	11.80	1.43E+05	2.72E+06	4.73E+06
		293.26	42.00	3.70E+06		2.72E+06
		664.55	5.20	9.02E+06		2.34E+07
+	CE-144	133.54	10.80	-5.15E-01	1.00E+00	1.00E+00
+	PM-144	476.78	42.00	1.60E-01	1.68E-01	3.62E-01
		618.01	98.60	-1.07E-02		1.68E-01
		696.49	99.49	-5.01E-02		1.86E-01
+	PM-145	36.85	21.70	-8.62E-03	1.40E-01	2.58E-01
		37.36	39.70	-4.80E-02		1.40E-01
		42.30	15.10	6.63E-02		4.12E-01
		72.40	2.31	9.84E+00		5.31E+00
+	PM-146	453.90	39.94	8.07E-02	3.44E-01	3.44E-01

Analysis Report for 1510091-14

CP1805S05-06

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	PM-146	735.90		14.01	-6.24E-01	3.44E-01	1.19E+00
		747.13		13.10	4.09E-01		1.40E+00
+	ND-147	91.11		28.90	2.88E+00	2.97E+00	2.97E+00
		531.02		13.10	4.44E+00		8.69E+00
+	PM-149	285.90		3.10	-1.68E+04	7.28E+04	7.28E+04
+	EU-152	121.78		20.50	-3.60E-01	4.80E-01	4.80E-01
		244.69		5.40	-8.23E-01		2.69E+00
		344.27		19.13	-1.23E-02		6.59E-01
		778.89		9.20	-8.69E-01		1.79E+00
		964.01		10.40	1.38E-03		2.22E+00
		1085.78		7.22	-1.08E+00		2.59E+00
		1112.02		9.60	3.93E-01		2.22E+00
		1407.95		14.94	-2.97E-01		1.16E+00
+	GD-153	97.43		31.30	-5.94E-01	3.19E-01	3.19E-01
		103.18		22.20	9.76E-02		4.45E-01
+	EU-154	123.07		40.50	-6.51E-02	2.49E-01	2.49E-01
		723.30		19.70	2.96E-01		9.86E-01
		873.19		11.50	-3.17E-01		1.55E+00
		996.32		10.30	-3.62E-01		1.72E+00
		1004.76		17.90	-1.51E-01		9.85E-01
		1274.45		35.50	4.56E-03		5.87E-01
+	EU-155	86.50	*	30.90	4.30E-01	4.32E-01	4.32E-01
		105.30		20.70	7.79E-03		4.46E-01
+	EU-156	811.77		10.40	-1.40E+00	6.41E+00	6.41E+00
		1153.47		7.20	-3.45E-01		1.19E+01
		1230.71		8.90	-4.22E+00		1.08E+01
+	HO-166M	184.41		72.60	2.47E-01	1.87E-01	1.87E-01
		280.45		29.60	4.28E-02		4.30E-01
		410.94		11.10	4.76E-01		1.31E+00
		711.69		54.10	5.46E-02		3.41E-01
+	TM-171	66.72		0.14	-8.92E+00	7.27E+01	7.27E+01
+	HF-172	81.75		4.52	-8.77E+00	9.41E-01	2.54E+00
		125.81		11.30	2.11E-01		9.41E-01
+	LU-172	181.53		20.60	1.15E+00	8.87E+00	1.57E+01
		810.06		16.63	-2.90E+00		2.52E+01
		912.12		15.25	7.09E+01		4.70E+01
		1093.66		62.50	2.77E+00		8.87E+00
+	LU-173	100.72		5.24	-1.88E+00	6.56E-01	1.76E+00
		272.11		21.20	3.45E-01		6.56E-01
+	HF-175	343.40		84.00	-3.80E-03	2.12E-01	2.12E-01
+	LU-176	88.34		13.30	3.97E-01	1.37E-01	8.93E-01
		201.83		86.00	-4.00E-03		1.43E-01
		306.78		94.00	2.69E-02		1.37E-01
+	TA-182	67.75		41.20	-5.44E-01	2.90E-01	2.90E-01
		1121.30		34.90	9.12E-01		9.69E-01
		1189.05		16.23	3.49E-01		1.75E+00
		1221.41		26.98	-2.88E-01		9.66E-01
		1231.02		11.44	-9.52E-01		2.43E+00
+	IR-192	308.46		29.68	-4.37E-03	3.98E-01	5.74E-01

Analysis Report for 1510091-14

CP1805S05-06

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	IR-192	468.07		48.10	-4.12E-02	3.98E-01	3.98E-01
+	HG-203	279.19		77.30	8.55E-02	2.65E-01	2.65E-01
+	BI-207	569.67		97.72	4.18E-02	1.57E-01	1.57E-01
		1063.62		74.90	4.43E-02		2.60E-01
+	TL-208	583.14	*	30.22	1.86E+00	9.69E-02	9.23E-01
		860.37	*	4.48	2.40E+00		3.42E+00
		2614.66	*	35.85	1.18E+00		9.69E-02
+	BI-210M	262.00		45.00	7.83E-02	2.75E-01	2.75E-01
		300.00		23.00	-1.46E-02		6.54E-01
+	PB-210	46.50		4.25	7.99E-01	1.58E+00	1.58E+00
+	PB-211	404.84		2.90	-8.96E-01	4.91E+00	4.91E+00
		831.96		2.90	-5.29E-01		6.19E+00
+	BI-212	727.17		11.80	6.63E-01	1.62E+00	1.62E+00
		1620.62		2.75	2.20E+00		6.54E+00
+	PB-212	238.63	*	44.60	2.36E+00	3.76E-01	3.76E-01
		300.09		3.41	-9.82E-02		4.41E+00
+	BI-214	609.31	*	46.30	1.61E+00	4.85E-01	4.85E-01
		1120.29	*	15.10	1.96E+00		2.20E+00
		1764.49	*	15.80	2.15E+00		9.20E-01
		2204.22	*	4.98	3.67E+00		6.20E-01
+	PB-214	295.21	*	19.19	1.51E+00	5.01E-01	8.67E-01
		351.92	*	37.19	1.56E+00		5.01E-01
+	RN-219	401.80		6.50	-5.20E-01	2.13E+00	2.13E+00
+	RA-223	323.87		3.88	-2.51E+00	3.12E+00	3.12E+00
+	RA-224	240.98		3.95	2.50E+01	5.44E+00	5.44E+00
+	RA-225	40.00		31.00	-1.07E+00	7.90E-01	7.90E-01
+	RA-226	186.21	*	3.28	5.11E+00	4.94E+00	4.94E+00
+	TH-227	50.10		8.40	7.05E-01	8.39E-01	8.39E-01
		236.00		11.50	-2.51E-01		1.73E+00
		256.20		6.30	5.16E-01		1.95E+00
+	AC-228	338.32	*	11.40	1.17E+00	8.96E-01	1.45E+00
		911.07	*	27.70	1.68E+00		8.96E-01
		969.11		16.60	1.60E+00		1.59E+00
+	TH-230	48.44		16.90	2.14E-01	4.09E-01	4.09E-01
		62.85		4.60	2.35E+00		2.02E+00
		67.67		0.37	-5.01E+01		2.67E+01
+	PA-231	283.67		1.60	-2.24E+00	5.55E+00	7.71E+00
		302.67		2.30	2.09E-01		5.55E+00
+	TH-231	25.64		14.70	-1.20E-01	3.66E-01	3.66E-01
		84.21		6.40	-7.34E+00		1.66E+00
+	PA-233	311.98		38.60	-5.31E-02	7.32E-01	7.32E-01
+	PA-234	131.20		20.40	2.71E-01	5.11E-01	5.11E-01
		733.99		8.80	-7.97E-01		1.80E+00
		946.00		12.00	3.51E-02		1.38E+00
+	PA-234M	1001.03		0.92	3.97E+00	2.02E+01	2.02E+01
+	TH-234	63.29		3.80	1.83E+00	2.46E+00	2.46E+00
+	U-235	143.76		10.50	8.96E-01	1.06E+00	1.06E+00

Analysis Report for 1510091-14

CP1805S05-06

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	U-235	163.35		4.70	-6.55E-02	1.06E+00	2.37E+00
		205.31		4.70	6.01E-01		2.64E+00
+	NP-237	86.50	*	12.60	1.04E+00	1.05E+00	1.05E+00
+	NP-239	106.10		22.70	7.10E+01	4.06E+03	4.06E+03
		228.18		10.70	4.97E+03		1.22E+04
		277.60		14.10	-4.44E+03		9.05E+03
+	AM-241	59.54		35.90	8.41E-02	2.38E-01	2.38E-01
+	AM-243	74.67		66.00	8.63E-01	1.99E-01	1.99E-01
+	CM-243	209.75		3.29	-9.42E-01	9.07E-01	3.72E+00
		228.14		10.60	9.23E-01		1.22E+00
		277.60		14.00	-4.45E-01		9.07E-01

\+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
> = MDA value not calculated
@ = Half-life too short to be able to perform the decay correction
? = 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	2.35E+00	2.35E+00	1.36E+00	1.12E+00
	NA-22	1274.54		99.94	2.12E-01	2.12E-01	1.65E-03	9.59E-02
	NA-24	1368.53		99.99	1.94E+14	1.19E+14	-5.21E+13	8.42E+13
		2754.09		99.86	1.19E+14		-5.91E+13	3.75E+13
	AL-26	1808.65		99.76	1.64E-01	1.64E-01	6.54E-03	6.85E-02
+	K-40	1460.81	*	10.67	2.86E+00	2.86E+00	1.91E+01	1.32E+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	1.05E-01	1.05E-01	-1.97E-01	5.16E-02
		78.34		96.00	1.33E-01		3.28E-01	6.55E-02
	SC-46	889.25		99.98	2.46E-01	2.46E-01	6.00E-02	1.14E-01
		1120.51		99.99	3.62E-01		3.74E-01	1.70E-01
	V-48	983.52		99.98	6.59E-01	6.59E-01	1.37E-01	3.00E-01

Analysis Report for 1510091-14

CP1805S05-06

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
V-48	1312.10	97.50	7.97E-01	6.59E-01	-1.78E-01	3.58E-01
CR-51	320.08	9.83	2.71E+00	2.71E+00	4.61E-01	1.30E+00
MN-54	834.83	99.97	2.04E-01	2.04E-01	5.57E-02	9.51E-02
CO-56	846.75	99.96	2.35E-01	2.35E-01	-5.77E-02	1.09E-01
	1037.75	14.03	1.72E+00		-2.58E-01	7.83E-01
	1238.25	67.00	5.28E-01		2.86E-01	2.45E-01
	1771.40	15.51	1.48E+00		-3.27E-01	6.31E-01
	2598.48	16.90	1.20E+00		1.91E-01	4.64E-01
CO-57	122.06	85.51	1.24E-01	1.24E-01	-9.32E-02	6.07E-02
	136.48	10.60	1.02E+00		-8.72E-01	4.97E-01
CO-58	810.76	99.40	2.25E-01	2.25E-01	-2.58E-02	1.04E-01
FE-59	1099.22	56.50	6.09E-01	6.09E-01	2.89E-02	2.80E-01
	1291.56	43.20	7.65E-01		4.30E-01	3.45E-01
CO-60	1173.22	100.00	2.20E-01	1.94E-01	1.71E-02	1.01E-01
	1332.49	100.00	1.94E-01		-3.35E-02	8.68E-02
ZN-65	1115.52	50.75	4.72E-01	4.72E-01	-1.04E-01	2.17E-01
GA-67	93.31	35.70	2.34E+02	2.34E+02	1.36E+02	1.15E+02
	208.95	2.24	4.26E+03		-2.34E+02	2.07E+03
	300.22	16.00	6.58E+02		-7.14E+01	3.17E+02
SE-75	121.11	16.70	7.03E-01	2.02E-01	-4.02E-01	3.43E-01
	136.00	59.20	2.02E-01		-1.84E-01	9.85E-02
	264.65	59.80	2.40E-01		-2.76E-01	1.15E-01
	279.53	25.20	6.13E-01		1.97E-01	2.95E-01
	400.65	11.40	1.47E+00		1.20E-01	7.01E-01
RB-82	776.52	13.00	3.04E+00	3.04E+00	-1.44E+00	1.41E+00
RB-83	520.41	46.00	3.44E-01	3.44E-01	-1.10E-01	1.61E-01
	529.64	30.30	6.61E-01		2.39E-01	3.13E-01
	552.65	16.40	1.10E+00		-1.24E-01	5.16E-01
KR-85	513.99	0.43	4.42E+01	4.42E+01	5.30E+01	2.12E+01
SR-85	513.99	99.27	2.69E-01	2.69E-01	3.22E-01	1.29E-01
Y-88	898.02	93.40	2.29E-01	1.60E-01	-8.54E-02	1.05E-01
	1836.01	99.38	1.60E-01		-6.52E-03	6.36E-02
NB-93M	16.57	9.43	4.73E-01	4.73E-01	9.57E-01	2.30E-01
NB-94	702.63	100.00	1.80E-01	1.75E-01	-8.17E-03	8.45E-02
	871.10	100.00	1.75E-01		-5.05E-02	8.05E-02
NB-95	765.79	99.81	3.71E-01	3.71E-01	1.69E-01	1.74E-01
NB-95M	235.69	25.00	3.24E+02	3.24E+02	-4.71E+01	1.59E+02
ZR-95	724.18	43.70	6.34E-01	4.15E-01	3.99E-01	2.99E-01
	756.72	55.30	4.15E-01		-3.54E-01	1.93E-01
MO-99	181.06	6.20	5.18E+03	3.56E+03	-3.51E+02	2.52E+03
	739.58	12.80	3.56E+03		-9.28E+02	1.66E+03
	778.00	4.50	9.73E+03		-4.72E+03	4.50E+03
RU-103	497.08	89.00	2.88E-01	2.88E-01	1.06E-01	1.36E-01
RU-106	621.84	9.80	1.65E+00	1.65E+00	-4.03E-01	7.74E-01
AG-108M	433.93	89.90	1.46E-01	1.46E-01	-2.30E-02	6.91E-02
	614.37	90.40	2.49E-01		2.28E-02	1.19E-01
	722.95	90.50	2.13E-01		6.40E-02	1.00E-01
CD-109	88.03	3.72	3.27E+00	3.27E+00	3.85E+00	1.61E+00
AG-110M	657.75	93.14	1.85E-01	1.85E-01	1.79E-02	8.67E-02
	677.61	10.53	1.47E+00		-3.32E-01	6.79E-01
	706.67	16.46	1.17E+00		-5.98E-01	5.49E-01
	763.93	21.98	9.70E-01		4.13E-01	4.55E-01
	884.67	71.63	2.73E-01		-7.62E-02	1.26E-01

Analysis Report for 1510091-14

CP1805S05-06

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	AG-110M	1384.27		23.94	8.35E-01	1.85E-01	1.57E-01	3.69E-01
	CD-113M	263.70		0.02	5.27E+02	5.27E+02	-4.50E+02	2.54E+02
	SN-113	255.12		1.93	7.65E+00	2.47E-01	3.01E-01	3.69E+00
		391.69		64.90	2.47E-01		-3.08E-02	1.18E-01
	TE123M	159.00		84.10	1.62E-01	1.62E-01	2.57E-02	7.90E-02
	SB-124	602.71		97.87	2.36E-01	2.36E-01	5.21E-02	1.11E-01
		645.85		7.26	2.99E+00		-1.16E+00	1.39E+00
		722.78		11.10	2.35E+00		-1.38E+00	1.10E+00
		1691.02		49.00	4.07E-01		-1.36E-01	1.67E-01
	I-125	35.49		6.49	1.22E+00	1.22E+00	-4.95E-03	5.97E-01
	SB-125	176.33		6.89	1.68E+00	4.37E-01	-4.59E-01	8.15E-01
		427.89		29.33	4.37E-01		-4.04E-02	2.06E-01
		463.38		10.35	1.53E+00		9.72E-01	7.26E-01
		600.56		17.80	9.31E-01		2.37E-01	4.38E-01
		635.90		11.32	1.32E+00		4.99E-02	6.17E-01
	SB-126	414.70		83.30	9.69E-01	9.69E-01	-9.31E-02	4.62E-01
		666.33		99.60	9.76E-01		4.41E-01	4.58E-01
		695.00		99.60	1.02E+00		-5.76E-02	4.77E-01
		720.50		53.80	1.79E+00		-2.02E+00	8.35E-01
+	SN-126	87.57	*	37.00	3.57E-01	3.57E-01	3.55E-01	1.76E-01
	SB-127	473.00		25.00	1.52E+02	1.22E+02	-2.05E+00	7.20E+01
		685.20		35.70	1.22E+02		-2.90E+01	5.65E+01
		783.80		14.70	3.24E+02		7.47E+01	1.50E+02
	I-129	29.78		57.00	9.58E-02	9.58E-02	1.32E-02	4.68E-02
		33.60		13.20	4.13E-01		-4.29E-02	2.02E-01
		39.58		7.52	7.49E-01		-1.02E+00	3.66E-01
	I-131	284.30		6.05	3.03E+01	2.33E+00	-9.40E+00	1.46E+01
		364.48		81.20	2.33E+00		-7.53E-01	1.11E+00
		636.97		7.26	2.95E+01		-4.49E+00	1.37E+01
		722.89		1.80	1.50E+02		-8.83E+01	7.05E+01
	TE-132	49.72		13.10	4.20E+02	1.15E+02	3.53E+02	2.06E+02
		228.16		88.00	1.15E+02		8.68E+01	5.58E+01
	BA-133	81.00		33.00	3.60E-01	3.38E-01	-4.55E-01	1.77E-01
		302.84		17.80	7.22E-01		2.71E-02	3.47E-01
		356.01		60.00	3.38E-01		3.02E-02	1.64E-01
	I-133	529.87		86.30	1.36E+10	1.36E+10	4.91E+09	6.45E+09
	XE-133	81.00		38.00	1.96E+01	1.96E+01	-2.47E+01	9.63E+00
	CS-134	563.23		8.38	1.84E+00	2.01E-01	1.46E-01	8.65E-01
		569.32		15.43	1.02E+00		2.72E-01	4.81E-01
		604.70		97.60	2.01E-01		-2.06E-02	9.55E-02
		795.84		85.40	2.30E-01		8.79E-02	1.08E-01
		801.93		8.73	2.13E+00		1.13E-01	9.89E-01
	CS-135	268.24		16.00	8.19E-01	8.19E-01	4.25E-01	3.96E-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	7.79E+00	8.91E-01	5.45E-01	3.80E+00
		163.89		4.61	1.26E+01		-3.48E-01	6.13E+00
		176.55		13.56	4.34E+00		-1.19E+00	2.11E+00
		273.65		12.66	5.55E+00		3.04E+00	2.68E+00
		340.57		48.50	1.63E+00		1.84E-01	7.84E-01
		818.50		99.70	8.91E-01		8.46E-02	4.12E-01
		1048.07		79.60	1.27E+00		-5.22E-01	5.80E-01

Analysis Report for 1510091-14

CP1805S05-06

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	CS-136	1235.34		19.70	7.08E+00	8.91E-01	2.59E+00	3.29E+00
	CS-137	661.65		85.12	1.88E-01	1.88E-01	-6.43E-02	8.76E-02
	LA-138	788.74		34.00	4.66E-01	2.30E-01	-5.52E-01	2.15E-01
		1435.80		66.00	2.30E-01		-5.32E-02	9.83E-02
	CE-139	165.85		80.35	1.63E-01	1.63E-01	4.53E-02	7.95E-02
	BA-140	162.64		6.70	9.12E+00	3.16E+00	-1.50E+00	4.44E+00
		304.84		4.50	1.58E+01		3.00E+00	7.59E+00
		423.70		3.20	2.18E+01		-3.46E+00	1.03E+01
		437.55		2.00	3.61E+01		-1.16E+01	1.71E+01
		537.32		25.00	3.16E+00		-7.79E-01	1.49E+00
	LA-140	328.77		20.50	3.58E+00	1.13E+00	7.22E-01	1.72E+00
		487.03		45.50	1.51E+00		2.76E-01	7.11E-01
		815.85		23.50	4.13E+00		1.88E+00	1.91E+00
		1596.49		95.49	1.13E+00		1.46E-01	4.98E-01
	CE-141	145.44		48.40	4.49E-01	4.49E-01	3.03E-01	2.19E-01
	CE-143	57.36		11.80	4.73E+06	2.72E+06	1.43E+05	2.32E+06
		293.26		42.00	2.72E+06		3.70E+06	1.32E+06
		664.55		5.20	2.34E+07		9.02E+06	1.10E+07
	CE-144	133.54		10.80	1.00E+00	1.00E+00	-5.15E-01	4.89E-01
	PM-144	476.78		42.00	3.62E-01	1.68E-01	1.60E-01	1.71E-01
		618.01		98.60	1.68E-01		-1.07E-02	7.86E-02
		696.49		99.49	1.86E-01		-5.01E-02	8.71E-02
	PM-145	36.85		21.70	2.58E-01	1.40E-01	-8.62E-03	1.26E-01
		37.36		39.70	1.40E-01		-4.80E-02	6.83E-02
		42.30		15.10	4.12E-01		6.63E-02	2.01E-01
		72.40		2.31	5.31E+00		9.84E+00	2.62E+00
	PM-146	453.90		39.94	3.44E-01	3.44E-01	8.07E-02	1.63E-01
		735.90		14.01	1.19E+00		-6.24E-01	5.52E-01
		747.13		13.10	1.40E+00		4.09E-01	6.57E-01
	ND-147	91.11		28.90	2.97E+00	2.97E+00	2.88E+00	1.46E+00
		531.02		13.10	8.69E+00		4.44E+00	4.11E+00
	PM-149	285.90		3.10	7.28E+04	7.28E+04	-1.68E+04	3.51E+04
	EU-152	121.78		20.50	4.80E-01	4.80E-01	-3.60E-01	2.34E-01
		244.69		5.40	2.69E+00		-8.23E-01	1.31E+00
		344.27		19.13	6.59E-01		-1.23E-02	3.15E-01
		778.89		9.20	1.79E+00		-8.69E-01	8.29E-01
		964.01		10.40	2.22E+00		1.38E-03	1.04E+00
		1085.78		7.22	2.59E+00		-1.08E+00	1.18E+00
		1112.02		9.60	2.22E+00		3.93E-01	1.02E+00
		1407.95		14.94	1.16E+00		-2.97E-01	5.10E-01
	GD-153	97.43		31.30	3.19E-01	3.19E-01	-5.94E-01	1.56E-01
		103.18		22.20	4.45E-01		9.76E-02	2.17E-01
	EU-154	123.07		40.50	2.49E-01	2.49E-01	-6.51E-02	1.21E-01
		723.30		19.70	9.86E-01		2.96E-01	4.64E-01
		873.19		11.50	1.55E+00		-3.17E-01	7.14E-01
		996.32		10.30	1.72E+00		-3.62E-01	7.84E-01
		1004.76		17.90	9.85E-01		-1.51E-01	4.48E-01
		1274.45		35.50	5.87E-01		4.56E-03	2.66E-01
+	EU-155	86.50	*	30.90	4.32E-01	4.32E-01	4.30E-01	2.13E-01
		105.30		20.70	4.46E-01		7.79E-03	2.18E-01
	EU-156	811.77		10.40	6.41E+00	6.41E+00	-1.40E+00	2.95E+00
		1153.47		7.20	1.19E+01		-3.45E-01	5.41E+00
		1230.71		8.90	1.08E+01		-4.22E+00	4.95E+00

Analysis Report for 1510091-14

CP1805S05-06

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	HO-166M	184.41		72.60	1.87E-01	1.87E-01	2.47E-01	9.12E-02
		280.45		29.60	4.30E-01		4.28E-02	2.07E-01
		410.94		11.10	1.31E+00		4.76E-01	6.24E-01
		711.69		54.10	3.41E-01		5.46E-02	1.60E-01
	TM-171	66.72		0.14	7.27E+01	7.27E+01	-8.92E+00	3.57E+01
	HF-172	81.75		4.52	2.54E+00	9.41E-01	-8.77E+00	1.25E+00
		125.81		11.30	9.41E-01		2.11E-01	4.59E-01
	LU-172	181.53		20.60	1.57E+01	8.87E+00	1.15E+00	7.65E+00
		810.06		16.63	2.52E+01		-2.90E+00	1.16E+01
		912.12		15.25	4.70E+01		7.09E+01	2.23E+01
		1093.66		62.50	8.87E+00		2.77E+00	4.09E+00
	LU-173	100.72		5.24	1.76E+00	6.56E-01	-1.88E+00	8.60E-01
		272.11		21.20	6.56E-01		3.45E-01	3.17E-01
	HF-175	343.40		84.00	2.12E-01	2.12E-01	-3.80E-03	1.02E-01
	LU-176	88.34		13.30	8.93E-01	1.37E-01	3.97E-01	4.39E-01
		201.83		86.00	1.43E-01		-4.00E-03	6.93E-02
		306.78		94.00	1.37E-01		2.69E-02	6.58E-02
	TA-182	67.75		41.20	2.90E-01	2.90E-01	-5.44E-01	1.43E-01
		1121.30		34.90	9.69E-01		9.12E-01	4.54E-01
		1189.05		16.23	1.75E+00		3.49E-01	8.06E-01
		1221.41		26.98	9.66E-01		-2.88E-01	4.41E-01
		1231.02		11.44	2.43E+00		-9.52E-01	1.12E+00
	IR-192	308.46		29.68	5.74E-01	3.98E-01	-4.37E-03	2.76E-01
		468.07		48.10	3.98E-01		-4.12E-02	1.89E-01
	HG-203	279.19		77.30	2.65E-01	2.65E-01	8.55E-02	1.28E-01
	BI-207	569.67		97.72	1.57E-01	1.57E-01	4.18E-02	7.39E-02
		1063.62		74.90	2.60E-01		4.43E-02	1.19E-01
+	TL-208	583.14	*	30.22	9.23E-01	9.69E-02	1.86E+00	4.46E-01
		860.37	*	4.48	3.42E+00		2.40E+00	1.56E+00
		2614.66	*	35.85	9.69E-02		1.18E+00	0.00E+00
	BI-210M	262.00		45.00	2.75E-01	2.75E-01	7.83E-02	1.33E-01
		300.00		23.00	6.54E-01		-1.46E-02	3.16E-01
	PB-210	46.50		4.25	1.58E+00	1.58E+00	7.99E-01	7.72E-01
	PB-211	404.84		2.90	4.91E+00	4.91E+00	-8.96E-01	2.35E+00
		831.96		2.90	6.19E+00		-5.29E-01	2.87E+00
	BI-212	727.17		11.80	1.62E+00	1.62E+00	6.63E-01	7.64E-01
		1620.62		2.75	6.54E+00		2.20E+00	2.83E+00
+	PB-212	238.63	*	44.60	3.76E-01	3.76E-01	2.36E+00	1.84E-01
		300.09		3.41	4.41E+00		-9.82E-02	2.13E+00
+	BI-214	609.31	*	46.30	4.85E-01	4.85E-01	1.61E+00	2.32E-01
		1120.29	*	15.10	2.20E+00		1.96E+00	1.04E+00
		1764.49	*	15.80	9.20E-01		2.15E+00	3.78E-01
		2204.22	*	4.98	6.20E-01		3.67E+00	0.00E+00
+	PB-214	295.21	*	19.19	8.67E-01	5.01E-01	1.51E+00	4.21E-01
		351.92	*	37.19	5.01E-01		1.56E+00	2.43E-01
	RN-219	401.80		6.50	2.13E+00	2.13E+00	-5.20E-01	1.02E+00
	RA-223	323.87		3.88	3.12E+00	3.12E+00	-2.51E+00	1.49E+00
	RA-224	240.98		3.95	5.44E+00	5.44E+00	2.50E+01	2.67E+00
	RA-225	40.00		31.00	7.90E-01	7.90E-01	-1.07E+00	3.86E-01
+	RA-226	186.21	*	3.28	4.94E+00	4.94E+00	5.11E+00	2.42E+00
	TH-227	50.10		8.40	8.39E-01	8.39E-01	7.05E-01	4.11E-01
		236.00		11.50	1.73E+00		-2.51E-01	8.46E-01
		256.20		6.30	1.95E+00		5.16E-01	9.42E-01

Analysis Report for 1510091-14

CP1805S05-06

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
+	AC-228	338.32	*	11.40	1.45E+00	8.96E-01	1.17E+00	7.04E-01
		911.07	*	27.70	8.96E-01		1.68E+00	4.22E-01
		969.11		16.60	1.59E+00		1.60E+00	7.52E-01
	TH-230	48.44		16.90	4.09E-01	4.09E-01	2.14E-01	2.00E-01
		62.85		4.60	2.02E+00		2.35E+00	9.94E-01
		67.67		0.37	2.67E+01		-5.01E+01	1.31E+01
	PA-231	283.67		1.60	7.71E+00	5.55E+00	-2.24E+00	3.71E+00
		302.67		2.30	5.55E+00		2.09E-01	2.67E+00
	TH-231	25.64		14.70	3.66E-01	3.66E-01	-1.20E-01	1.79E-01
		84.21		6.40	1.66E+00		-7.34E+00	8.18E-01
	PA-233	311.98		38.60	7.32E-01	7.32E-01	-5.31E-02	3.52E-01
	PA-234	131.20		20.40	5.11E-01	5.11E-01	2.71E-01	2.49E-01
		733.99		8.80	1.80E+00		-7.97E-01	8.37E-01
		946.00		12.00	1.38E+00		3.51E-02	6.27E-01
	PA-234M	1001.03		0.92	2.02E+01	2.02E+01	3.97E+00	9.23E+00
	TH-234	63.29		3.80	2.46E+00	2.46E+00	1.83E+00	1.21E+00
	U-235	143.76		10.50	1.06E+00	1.06E+00	8.96E-01	5.18E-01
		163.35		4.70	2.37E+00		-6.55E-02	1.15E+00
		205.31		4.70	2.64E+00		6.01E-01	1.28E+00
+	NP-237	86.50	*	12.60	1.05E+00	1.05E+00	1.04E+00	5.16E-01
	NP-239	106.10		22.70	4.06E+03	4.06E+03	7.10E+01	1.98E+03
		228.18		10.70	1.22E+04		4.97E+03	5.92E+03
		277.60		14.10	9.05E+03		-4.44E+03	4.37E+03
	AM-241	59.54		35.90	2.38E-01	2.38E-01	8.41E-02	1.17E-01
	AM-243	74.67		66.00	1.99E-01	1.99E-01	8.63E-01	9.82E-02
	CM-243	209.75		3.29	3.72E+00	9.07E-01	-9.42E-01	1.81E+00
		228.14		10.60	1.22E+00		9.23E-01	5.94E-01
		277.60		14.00	9.07E-01		-4.45E-01	4.37E-01

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

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

Creation Date	Comment	User

Analysis Report for 1510091-14

CP1805S05-06

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: CP1805S05-06

Elapsed Live time: 3600
Elapsed Real Time: 3642

Channel								
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	21	86
17:	84	84	81	67	58	76	73	69
25:	73	65	61	64	70	64	62	77
33:	66	57	77	43	56	67	70	61
41:	65	61	64	73	99	99	86	82
49:	80	78	73	81	85	82	89	61
57:	87	114	100	103	113	160	150	136
65:	129	106	114	117	140	131	149	129
73:	186	270	248	318	286	173	94	116
81:	86	96	108	121	144	152	165	136
89:	141	126	132	159	130	92	72	63
97:	58	68	71	58	51	72	67	86
105:	55	75	62	57	73	54	71	75
113:	62	81	78	66	55	70	63	60
121:	62	61	64	72	63	70	73	70
129:	67	73	60	58	54	56	53	56
137:	46	56	65	58	74	61	61	63
145:	70	69	60	58	55	51	52	51
153:	66	65	74	62	54	55	45	63
161:	47	54	57	54	55	55	45	48
169:	56	46	48	41	44	48	54	38
177:	55	54	48	52	47	45	65	67
185:	89	109	61	51	45	41	47	49
193:	33	43	47	45	47	48	49	45
201:	31	46	59	41	43	39	42	58
209:	47	35	46	35	35	42	49	35
217:	33	43	40	28	39	35	30	44
225:	45	37	36	50	40	45	42	31
233:	38	29	49	51	151	255	189	91
241:	80	65	43	22	22	24	35	28
249:	28	22	36	32	25	27	31	31
257:	28	36	32	27	27	26	27	31
265:	28	19	29	25	32	53	33	32
273:	26	23	31	28	31	39	31	17
281:	21	23	31	23	24	25	29	30
289:	15	23	26	24	37	68	82	55
297:	27	21	24	26	23	28	18	22
305:	20	31	26	24	20	22	23	15
313:	22	25	20	23	17	23	19	13
321:	19	21	18	17	11	20	29	31
329:	26	24	20	24	23	20	24	23
337:	42	46	40	18	18	16	22	17
345:	14	17	13	25	27	44	109	125
353:	57	16	18	18	17	19	22	16
361:	15	17	10	15	13	23	21	17

369:	17	19	17	12	18	16	18	13

Sample Title: CP1805S05-06

Channel								
377:	14	17	19	17	14	18	22	15
385:	18	13	14	14	13	20	15	17
393:	15	15	16	21	10	20	18	17
401:	17	15	19	11	18	18	13	23
409:	20	21	18	8	13	18	15	11
417:	14	21	16	12	14	13	7	15
425:	6	13	13	10	12	12	15	13
433:	11	9	15	11	12	14	12	16
441:	10	13	16	15	13	9	9	14
449:	12	15	12	13	9	13	16	9
457:	9	12	7	13	22	19	17	13
465:	15	13	17	11	18	7	9	10
473:	6	13	12	13	14	18	16	7
481:	6	8	10	7	10	6	13	13
489:	7	6	8	5	7	11	16	12
497:	14	13	12	15	7	9	13	16
505:	9	8	11	21	26	35	32	27
513:	14	15	10	7	5	7	9	12
521:	7	6	8	5	14	8	11	13
529:	17	5	13	9	15	16	10	11
537:	6	7	10	5	7	12	12	12
545:	5	7	12	8	6	9	8	10
553:	13	9	7	7	6	13	11	9
561:	7	10	8	12	11	12	5	12
569:	12	4	12	10	9	7	8	6
577:	9	8	9	10	22	43	55	51
585:	19	7	7	15	8	5	8	7
593:	6	10	6	6	11	11	14	13
601:	9	8	5	11	2	13	13	48
609:	91	77	27	8	7	9	11	8
617:	13	7	6	9	5	8	7	8
625:	9	10	8	9	9	3	9	4
633:	5	4	6	8	5	11	11	6
641:	7	7	9	9	4	9	7	8
649:	5	10	7	9	8	4	12	5
657:	7	9	8	7	9	10	3	5
665:	11	17	5	11	9	6	2	9
673:	4	4	10	2	5	9	8	5
681:	4	9	4	9	8	6	7	5
689:	8	2	12	10	11	5	7	12
697:	8	5	7	10	17	7	10	11
705:	7	5	11	7	9	8	9	12
713:	10	5	10	12	4	5	13	9
721:	10	5	3	3	10	18	15	17
729:	9	1	8	7	6	7	8	7
737:	6	5	5	11	10	5	6	11
745:	9	8	5	2	6	13	11	6
753:	6	2	11	6	4	8	6	6
761:	16	4	8	5	5	10	13	12
769:	9	6	7	8	12	6	7	6
777:	7	3	2	5	6	10	10	4
785:	6	5	7	4	7	4	4	6
793:	10	10	12	4	10	7	6	7

801:	6	7	9	4	8	6	3	8

Sample Title: CP1805S05-06

Channel								
809:	3	3	5	7	5	8	3	7
817:	4	6	11	2	2	8	6	2
825:	7	7	3	4	2	6	6	10
833:	5	3	9	10	5	8	9	12
841:	3	6	10	6	6	8	5	1
849:	3	7	7	4	7	5	4	3
857:	4	5	7	9	14	6	3	5
865:	8	6	5	9	7	3	6	8
873:	1	6	2	5	10	4	7	6
881:	6	8	4	3	7	4	4	6
889:	8	4	6	8	7	1	4	10
897:	4	6	6	3	6	4	7	4
905:	6	3	8	5	11	22	34	24
913:	7	7	4	4	4	2	4	6
921:	3	5	5	8	4	5	3	5
929:	4	3	8	7	5	6	7	6
937:	3	3	6	6	6	1	8	4
945:	3	5	2	2	5	5	2	4
953:	0	8	3	4	5	1	4	3
961:	6	4	6	9	11	6	9	15
969:	22	12	5	6	6	9	3	0
977:	1	3	5	2	3	2	2	6
985:	8	3	3	4	4	6	6	1
993:	2	1	7	5	5	6	4	5
1001:	4	5	3	5	3	3	5	2
1009:	0	9	3	3	4	6	5	4
1017:	3	5	4	5	5	7	5	5
1025:	4	1	4	1	6	2	6	5
1033:	4	5	4	2	2	3	7	4
1041:	5	7	3	4	5	7	2	1
1049:	6	7	3	5	3	10	7	3
1057:	4	7	3	3	5	6	9	3
1065:	3	2	5	5	3	1	5	2
1073:	4	3	4	2	4	4	1	8
1081:	4	4	4	8	2	2	5	6
1089:	3	0	3	6	8	9	8	5
1097:	5	3	4	4	5	8	2	3
1105:	3	2	6	6	8	7	3	4
1113:	3	5	1	6	7	8	9	15
1121:	11	11	4	6	6	4	2	6
1129:	2	8	4	7	5	3	5	0
1137:	4	3	6	2	7	3	7	3
1145:	5	6	5	4	4	5	4	6
1153:	5	3	2	6	2	3	6	2
1161:	4	4	4	8	4	6	5	6
1169:	7	6	4	5	3	3	4	3
1177:	6	5	1	4	5	4	3	3
1185:	6	4	6	7	4	3	5	8
1193:	4	6	7	3	3	5	6	7
1201:	7	7	5	7	1	9	6	2
1209:	8	2	2	4	0	7	5	4
1217:	3	5	7	2	6	4	3	4
1225:	3	5	4	6	8	2	3	8

1233:	2	2	7	6	7	10	13	8

Sample Title: CP1805S05-06

Channel								
1241:	4	1	7	2	3	5	7	3
1249:	5	4	1	2	2	5	3	5
1257:	4	1	4	5	2	4	3	5
1265:	7	5	3	3	2	2	4	3
1273:	2	4	4	5	5	2	7	4
1281:	9	2	5	2	1	2	1	5
1289:	4	1	4	5	2	4	3	2
1297:	1	1	1	1	2	6	3	2
1305:	4	7	0	4	1	5	5	2
1313:	3	0	5	2	3	2	6	3
1321:	0	2	3	1	2	3	4	2
1329:	0	4	3	2	3	1	3	6
1337:	3	4	3	2	3	3	1	1
1345:	3	5	5	1	3	2	4	3
1353:	3	0	2	2	3	2	0	2
1361:	4	0	2	1	0	2	1	2
1369:	0	3	4	2	1	4	3	3
1377:	4	2	2	5	1	1	0	3
1385:	3	2	3	2	0	1	2	3
1393:	2	0	1	3	3	1	0	2
1401:	4	5	4	1	3	2	2	3
1409:	3	2	0	1	0	1	3	0
1417:	3	1	1	4	0	0	0	3
1425:	2	2	2	1	1	0	4	0
1433:	1	1	1	3	2	0	1	3
1441:	2	2	2	1	2	0	0	2
1449:	0	0	4	1	2	2	1	2
1457:	2	3	15	41	90	78	28	6
1465:	2	2	2	1	2	0	2	3
1473:	1	2	3	2	2	2	0	2
1481:	2	1	1	2	2	2	0	1
1489:	1	1	2	3	1	1	2	2
1497:	0	0	2	2	1	3	1	0
1505:	1	1	3	1	4	2	0	3
1513:	1	1	4	3	1	0	0	0
1521:	0	1	3	1	1	2	2	1
1529:	2	1	1	0	1	3	1	2
1537:	2	3	3	3	1	2	2	2
1545:	2	4	2	1	0	1	0	1
1553:	1	1	0	0	1	1	2	2
1561:	0	1	3	0	0	1	1	1
1569:	0	1	1	0	2	1	3	0
1577:	2	1	2	2	1	1	2	1
1585:	1	1	1	4	1	2	0	7
1593:	3	4	1	2	2	3	1	2
1601:	0	3	0	0	1	1	5	2
1609:	0	2	0	0	2	1	2	0
1617:	2	1	3	0	2	2	1	3
1625:	0	1	1	0	2	1	2	1
1633:	3	1	0	1	2	0	2	0
1641:	1	2	2	3	2	0	3	1
1649:	0	0	0	2	0	1	0	0
1657:	1	1	0	0	1	3	0	1

1665:	0	3	1	1	1	1	1	1

Sample Title: CP1805S05-06

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

2097:	0	0	0	1	1	1	1	3

Sample Title: CP1805S05-06

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

2529:	1	1	1	0	0	0	0	0

Sample Title: CP1805S05-06

Channel								
2537:	0	0	0	0	0	0	1	0
2545:	0	0	0	0	0	0	0	1
2553:	1	0	0	0	1	0	0	0
2561:	0	0	0	1	0	0	0	0
2569:	0	0	0	1	1	0	0	0
2577:	0	1	0	1	1	0	0	1
2585:	0	1	0	0	0	0	0	0
2593:	0	0	0	1	1	0	0	0
2601:	2	0	0	0	1	0	0	0
2609:	0	0	1	0	2	2	7	8
2617:	8	5	0	0	0	0	0	0
2625:	0	2	0	0	0	0	1	0
2633:	0	0	0	0	0	0	0	0
2641:	0	1	0	1	0	0	1	1
2649:	0	0	0	0	1	0	0	0
2657:	0	1	0	0	0	0	0	0
2665:	0	0	0	0	0	0	1	0
2673:	0	0	0	1	0	0	0	0
2681:	1	0	0	0	0	1	0	0
2689:	0	0	0	0	0	1	0	0
2697:	2	0	0	0	0	0	0	0
2705:	1	0	0	0	1	0	1	0
2713:	0	0	0	0	0	0	0	0
2721:	1	0	0	0	1	1	1	0
2729:	0	0	0	0	0	1	0	1
2737:	0	0	1	1	0	0	0	0
2745:	0	0	1	1	0	0	0	0
2753:	1	0	0	0	0	0	0	0
2761:	1	0	0	0	0	0	0	0
2769:	0	0	0	0	0	0	2	0
2777:	0	0	1	0	1	0	0	0
2785:	0	0	0	0	0	0	0	0
2793:	1	0	0	0	0	0	0	0
2801:	0	0	0	0	0	0	0	1
2809:	0	0	0	0	0	0	0	0
2817:	0	0	1	0	0	1	0	0
2825:	0	0	1	0	0	0	0	0
2833:	0	0	0	0	0	1	0	0
2841:	0	0	0	0	0	1	0	0
2849:	0	0	0	0	0	0	1	0
2857:	0	0	0	0	0	0	0	1
2865:	0	1	0	0	0	0	0	0
2873:	0	0	0	0	0	0	0	0
2881:	0	0	0	0	0	0	0	0
2889:	0	0	0	1	0	0	1	1
2897:	0	0	0	1	2	0	1	0
2905:	0	0	0	0	0	0	0	0
2913:	0	0	0	0	1	0	0	0
2921:	0	1	0	1	0	0	0	1
2929:	0	1	0	0	0	0	0	0
2937:	1	0	0	0	0	0	0	0
2945:	1	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: CP1805S05-06

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

3393:	0	0	0	1	0	0	0	0

Sample Title: CP1805S05-06

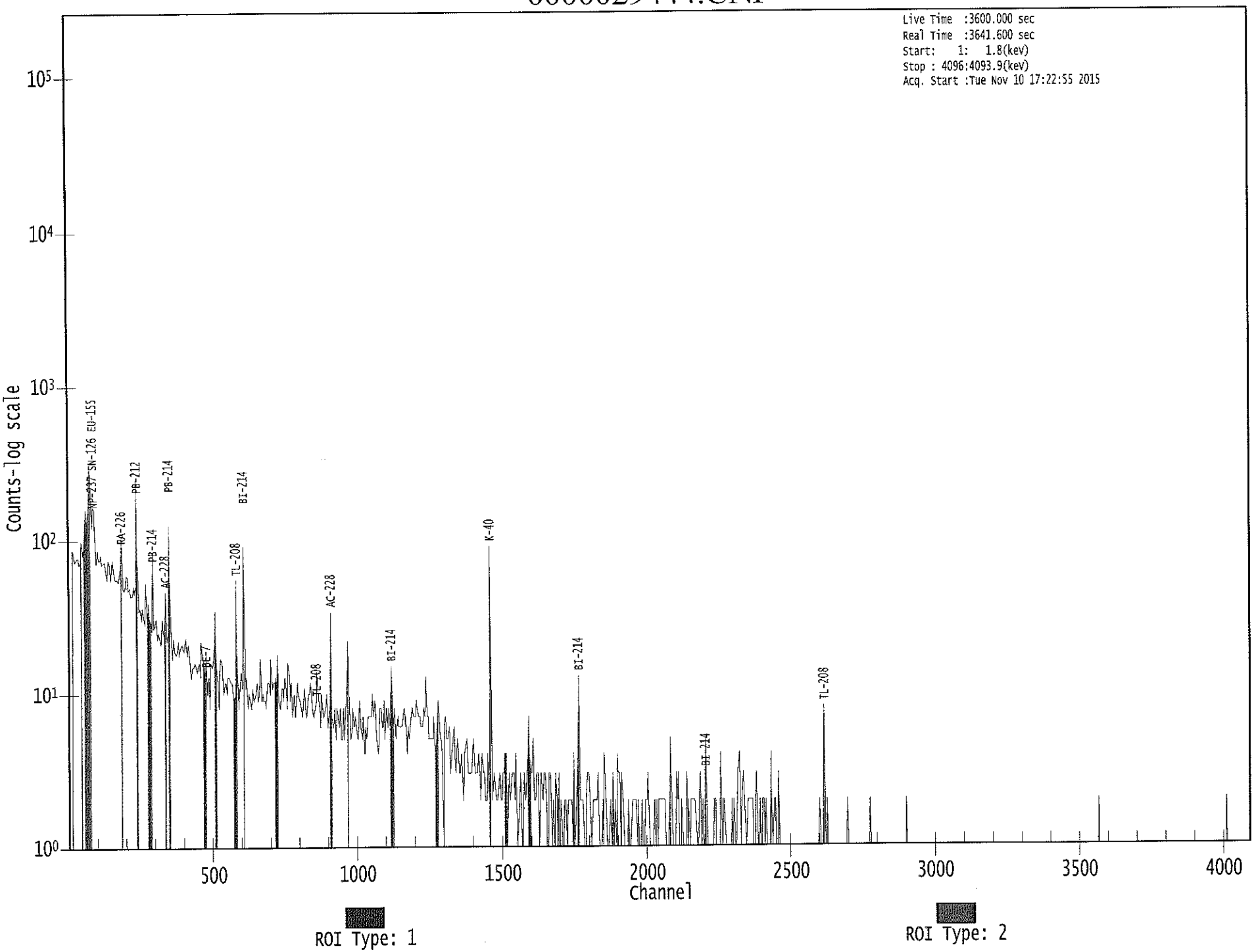
Channel								
3401:	0	0	0	0	0	0	1	0
3409:	1	0	0	0	0	0	0	0
3417:	0	0	0	0	0	0	0	0
3425:	1	0	0	0	0	0	0	0
3433:	1	1	0	0	1	0	0	0
3441:	0	0	0	0	0	0	1	0
3449:	1	0	1	0	0	0	1	0
3457:	0	0	0	0	0	0	0	0
3465:	0	0	0	0	0	0	0	0
3473:	0	0	0	0	0	1	0	0
3481:	0	0	0	0	0	0	0	0
3489:	0	1	0	0	0	0	0	0
3497:	0	0	0	0	0	0	0	0
3505:	0	0	0	0	0	0	0	0
3513:	0	0	0	0	1	0	0	0
3521:	0	0	0	0	0	0	0	0
3529:	0	0	1	0	0	1	0	0
3537:	0	0	0	0	0	0	0	0
3545:	0	0	0	0	0	0	0	1
3553:	0	0	0	0	0	0	0	0
3561:	0	0	0	0	0	0	0	2
3569:	0	0	0	0	0	0	0	1
3577:	0	0	0	0	0	0	0	0
3585:	0	0	0	0	0	0	0	1
3593:	0	0	0	0	0	0	0	0
3601:	0	0	0	1	0	0	0	0
3609:	0	0	0	0	0	1	0	0
3617:	0	0	0	0	1	0	0	0
3625:	0	0	0	1	0	0	1	0
3633:	0	0	0	1	0	0	0	0
3641:	0	0	0	0	1	0	0	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	0	1	0	0	0	0	0	1
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	1	0	0
3729:	0	0	0	0	0	0	0	0
3737:	0	1	0	0	0	0	0	0
3745:	0	0	0	0	0	1	0	0
3753:	0	0	1	0	0	1	0	1
3761:	0	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0
3777:	0	0	1	0	0	0	0	0
3785:	0	1	0	0	1	0	0	0
3793:	0	1	1	0	0	0	0	0
3801:	0	0	0	0	0	0	0	1
3809:	0	1	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0

3825:	0	0	1	0	0	0	1	0

Sample Title: CP1805S05-06

Channel								
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	0	0	0	0	0
3849:	0	0	1	1	0	0	0	0
3857:	0	0	0	0	0	0	1	0
3865:	0	0	0	0	0	0	0	0
3873:	0	0	0	0	0	0	0	0
3881:	0	0	1	0	0	0	0	0
3889:	0	0	0	0	0	0	0	0
3897:	0	0	0	0	0	0	0	0
3905:	0	0	0	1	0	0	0	1
3913:	0	1	0	0	0	0	0	0
3921:	0	0	0	0	0	0	0	0
3929:	0	0	1	0	0	0	0	1
3937:	0	0	1	0	0	1	1	0
3945:	0	0	0	1	0	0	0	0
3953:	0	0	0	0	0	0	1	0
3961:	0	0	1	0	0	0	0	0
3969:	0	0	0	0	0	0	0	0
3977:	0	0	0	0	0	0	0	0
3985:	0	0	0	1	0	0	0	0
3993:	0	0	0	1	0	0	0	0
4001:	0	0	0	0	0	0	0	0
4009:	0	0	2	0	0	0	0	0
4017:	0	0	0	0	0	0	0	0
4025:	0	0	0	1	0	0	0	0
4033:	0	1	0	0	0	0	0	0
4041:	1	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	1	0	1
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	0	0	0	0	0

0000029444.CNF



Apex-Gamma

Analysis Report for 1510091-15
CP1805S08-09

11/11

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1510091-15
Sample Description	: CP1805S08-09
Sample Type	: SOIL
Sample Size	: 5.388E+02 grams
Facility	: Countroom
Sample Taken On	: 10/10/2015 10:17:56AM
Acquisition Started	: 11/10/2015 5:59:36PM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE1
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3601.4 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	: 29446

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510091-15

CP1805S08-09

PEAK LOCATE REPORT

Peak Locate Performed on : 11/10/2015 6:59:41PM
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	46.44	46.79	0.0000	0.00
2	74.55	74.89	0.0000	0.00
3	77.40	77.74	0.0000	0.00
4	87.80	88.13	0.0000	0.00
5	92.69	93.03	0.0000	0.00
6	99.45	99.78	0.0000	0.00
7	114.45	114.78	0.0000	0.00
8	154.40	154.72	0.0000	0.00
9	182.00	182.31	0.0000	0.00
10	186.00	186.31	0.0000	0.00
11	209.76	210.06	0.0000	0.00
12	238.77	239.06	0.0000	0.00
13	241.68	241.97	0.0000	0.00
14	270.44	270.72	0.0000	0.00
15	295.14	295.40	0.0000	0.00
16	300.39	300.65	0.0000	0.00
17	328.10	328.36	0.0000	0.00
18	338.48	338.74	0.0000	0.00
19	352.15	352.40	0.0000	0.00
20	401.17	401.40	0.0000	0.00
21	408.70	408.93	0.0000	0.00
22	462.95	463.16	0.0000	0.00
23	510.92	511.11	0.0000	0.00
24	541.33	541.51	0.0000	0.00
25	562.34	562.51	0.0000	0.00
26	583.39	583.56	0.0000	0.00
27	609.58	609.74	0.0000	0.00
28	665.86	666.00	0.0000	0.00
29	727.44	727.56	0.0000	0.00
30	768.11	768.22	0.0000	0.00
31	785.24	785.34	0.0000	0.00
32	795.97	796.07	0.0000	0.00
33	837.35	837.43	0.0000	0.00
34	860.11	860.18	0.0000	0.00
35	889.27	889.34	0.0000	0.00
36	911.63	911.68	0.0000	0.00
37	964.60	964.64	0.0000	0.00
38	969.47	969.50	0.0000	0.00
39	1120.85	1120.84	0.0000	0.00
40	1155.75	1155.72	0.0000	0.00
41	1196.47	1196.43	0.0000	0.00
42	1208.67	1208.62	0.0000	0.00

Analysis Report for 1510091-15

CP1805S08-09

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1238.73	1238.67	0.0000	0.00
44	1378.80	1378.69	0.0000	0.00
45	1385.11	1384.99	0.0000	0.00
46	1461.42	1461.28	0.0000	0.00
47	1560.70	1560.52	0.0000	0.00
48	1588.64	1588.45	0.0000	0.00
49	1594.33	1594.13	0.0000	0.00
50	1621.27	1621.06	0.0000	0.00
51	1631.33	1631.12	0.0000	0.00
52	1636.18	1635.97	0.0000	0.00
53	1679.90	1679.67	0.0000	0.00
54	1730.39	1730.15	0.0000	0.00
55	1745.62	1745.37	0.0000	0.00
56	1765.16	1764.90	0.0000	0.00
57	1848.37	1848.08	0.0000	0.00
58	1871.65	1871.36	0.0000	0.00
59	1911.33	1911.02	0.0000	0.00
60	2103.98	2103.60	0.0000	0.00
61	2119.19	2118.80	0.0000	0.00
62	2205.61	2205.19	0.0000	0.00
63	2210.41	2209.99	0.0000	0.00
64	2330.75	2330.28	0.0000	0.00
65	2371.43	2370.94	0.0000	0.00
66	2417.69	2417.19	0.0000	0.00
67	2446.64	2446.13	0.0000	0.00
68	2615.34	2614.76	0.0000	0.00

? = Adjacent peak noted

Errors quoted at 2.000sigma

Analysis Report for 1510091-15

CP1805S08-09

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 6:59:41PM

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	46.44	44	49	46.79	1.30E+02	72.16	9.45E+02	1.19
M	2	74.55	72	83	74.89	3.71E+02	93.36	1.39E+03	2.40
m	3	77.40	72	83	77.74	9.01E+02	115.68	1.66E+03	1.96
M	4	87.80	83	97	88.13	2.81E+02	69.74	9.50E+02	1.48
m	5	92.69	83	97	93.03	3.26E+02	73.73	8.30E+02	1.49
	6	99.45	98	102	99.78	6.20E+01	63.28	8.22E+02	1.79
	7	114.45	112	118	114.78	9.21E+01	78.09	1.03E+03	3.02
	8	154.40	150	159	154.72	1.18E+02	100.58	1.36E+03	3.61
M	9	182.00	181	190	182.31	6.17E+01	36.61	3.23E+02	1.78
m	10	186.00	181	190	186.31	2.36E+02	60.04	5.93E+02	1.78
	11	209.76	207	214	210.06	8.88E+01	77.90	9.44E+02	1.95
M	12	238.77	235	248	239.06	1.10E+03	81.92	4.93E+02	1.58
m	13	241.68	235	248	241.97	2.68E+02	91.28	6.15E+02	2.24
	14	270.44	267	275	270.72	1.00E+02	66.23	6.15E+02	1.92
	15	295.14	291	298	295.40	3.09E+02	64.90	4.96E+02	1.75
	16	300.39	299	303	300.65	4.09E+01	39.25	3.04E+02	1.75
	17	328.10	325	332	328.36	4.82E+01	56.67	5.02E+02	1.86
	18	338.48	334	343	338.74	2.37E+02	70.21	5.65E+02	1.64
	19	352.15	348	356	352.40	5.10E+02	68.75	4.13E+02	1.87
	20	401.17	399	404	401.40	3.16E+01	34.38	2.13E+02	3.60
	21	408.70	406	411	408.93	3.53E+01	37.13	2.45E+02	2.05
	22	462.95	459	467	463.16	8.40E+01	44.75	2.56E+02	2.23
	23	510.92	507	516	511.11	1.96E+02	55.78	3.26E+02	2.03
	24	541.33	539	544	541.51	2.69E+01	27.26	1.24E+02	3.63
	25	562.34	559	567	562.51	4.94E+01	36.68	1.79E+02	2.72
	26	583.39	578	588	583.56	3.52E+02	59.96	2.92E+02	1.86
	27	609.58	605	615	609.74	4.13E+02	57.39	2.17E+02	1.88
	28	665.86	661	671	666.00	6.18E+01	41.07	1.90E+02	5.50
	29	727.44	722	733	727.56	1.05E+02	45.87	2.11E+02	2.16
	30	768.11	765	770	768.22	4.74E+01	27.22	1.09E+02	1.11
	31	785.24	780	791	785.34	6.04E+01	42.76	1.99E+02	4.85
	32	795.97	792	801	796.07	6.73E+01	40.02	1.91E+02	1.85
	33	837.35	833	842	837.43	5.64E+01	31.06	1.07E+02	7.28
	34	860.11	855	866	860.18	9.17E+01	39.60	1.51E+02	2.43
	35	889.27	887	891	889.34	1.55E+01	18.72	6.31E+01	1.19
	36	911.63	906	917	911.68	2.80E+02	41.71	7.59E+01	2.30
M	37	964.60	961	973	964.64	3.72E+01	28.14	1.25E+02	2.50
m	38	969.47	961	973	969.50	1.49E+02	32.43	8.82E+01	1.88
	39	1120.85	1118	1124	1120.84	8.31E+01	31.57	1.24E+02	1.70
	40	1155.75	1151	1159	1155.72	2.82E+01	29.98	1.20E+02	2.88

Analysis Report for 1510091-15

CP1805S08-09

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
M	41	1196.47	1193	1217	1196.43	2.24E+01	22.16	8.74E+01	2.78
m	42	1208.67	1193	1217	1208.62	3.18E+01	28.35	1.05E+02	2.79
	43	1238.73	1234	1243	1238.67	3.80E+01	34.67	1.50E+02	5.04
M	44	1378.80	1373	1388	1378.69	2.09E+01	18.79	2.57E+01	3.17
m	45	1385.11	1373	1388	1384.99	1.38E+01	14.14	1.71E+01	3.17
	46	1461.42	1456	1466	1461.28	8.64E+02	63.49	7.59E+01	2.24
	47	1560.70	1557	1563	1560.52	8.40E+00	7.23	3.20E+00	2.66
	48	1588.64	1584	1591	1588.45	2.00E+01	11.31	8.00E+00	1.69
	49	1594.33	1592	1598	1594.13	1.50E+01	8.73	2.06E+00	1.97
	50	1621.27	1618	1624	1621.06	1.95E+01	9.81	3.00E+00	2.95
	51	1631.33	1628	1633	1631.12	1.07E+01	10.63	1.26E+01	1.42
	52	1636.18	1634	1639	1635.97	7.06E+00	6.71	3.89E+00	2.82
	53	1679.90	1678	1682	1679.67	6.83E+00	7.40	4.33E+00	1.97
	54	1730.39	1725	1734	1730.15	1.73E+01	15.52	2.33E+01	1.49
	55	1745.62	1743	1747	1745.37	4.43E+00	6.36	5.14E+00	1.56
	56	1765.16	1760	1769	1764.90	7.72E+01	21.17	1.97E+01	1.57
	57	1848.37	1845	1850	1848.08	7.56E+00	6.71	2.89E+00	2.79
	58	1871.65	1867	1875	1871.36	1.40E+01	7.48	0.00E+00	6.00
	59	1911.33	1909	1913	1911.02	5.22E+00	7.81	7.56E+00	2.77
	60	2103.98	2100	2107	2103.60	2.50E+01	10.00	0.00E+00	4.29
	61	2119.19	2116	2120	2118.80	5.91E+00	8.31	1.02E+01	1.16
M	62	2205.61	2199	2212	2205.19	1.64E+01	10.58	0.00E+00	3.27
m	63	2210.41	2199	2212	2209.99	7.56E+00	5.66	0.00E+00	3.27
	64	2330.75	2327	2332	2330.28	6.33E+00	7.35	5.33E+00	1.08
	65	2371.43	2367	2374	2370.94	1.01E+01	8.00	3.83E+00	5.24
	66	2417.69	2413	2421	2417.19	1.22E+01	10.22	7.63E+00	3.38
	67	2446.64	2442	2450	2446.13	7.42E+00	9.41	9.17E+00	2.67
	68	2615.34	2611	2619	2614.76	1.05E+02	21.27	5.19E+00	1.70

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 : 11/10/2015 6:59:41PM

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

Analysis Report for 1510091-15

CP1805S08-09

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	1	46.44	44 -	49	1.30E+02	72.16	9.45E+02	5.63E+01
M	2	74.55	72 -	83	3.71E+02	93.36	1.39E+03	6.14E+01
m	3	77.40	72 -	83	9.01E+02	115.68	1.66E+03	6.70E+01
M	4	87.80	83 -	97	2.81E+02	69.74	9.50E+02	5.07E+01
m	5	92.69	83 -	97	3.26E+02	73.73	8.30E+02	4.74E+01
	6	99.45	98 -	102	6.20E+01	63.28	8.22E+02	5.04E+01
	7	114.45	112 -	118	9.21E+01	78.09	1.03E+03	6.22E+01
	8	154.40	150 -	159	1.18E+02	100.58	1.36E+03	4.45E+01
M	9	182.00	181 -	190	6.17E+01	36.61	3.23E+02	2.95E+01
m	10	186.00	181 -	190	2.36E+02	60.04	5.93E+02	4.00E+01
	11	209.76	207 -	214	8.88E+01	77.90	9.44E+02	6.21E+01
M	12	238.77	235 -	248	1.10E+03	81.92	4.93E+02	3.65E+01
m	13	241.68	235 -	248	2.68E+02	91.28	6.15E+02	4.08E+01
	14	270.44	267 -	275	1.00E+02	66.23	6.15E+02	5.19E+01
	15	295.14	291 -	298	3.09E+02	64.90	4.96E+02	4.48E+01
	16	300.39	299 -	303	4.09E+01	39.25	3.04E+02	3.05E+01
	17	328.10	325 -	332	4.82E+01	56.67	5.02E+02	4.52E+01
	18	338.48	334 -	343	2.37E+02	70.21	5.65E+02	5.19E+01
	19	352.15	348 -	356	5.10E+02	68.75	4.13E+02	4.26E+01
	20	401.17	399 -	404	3.16E+01	34.38	2.13E+02	2.67E+01
	21	408.70	406 -	411	3.53E+01	37.13	2.45E+02	2.89E+01
	22	462.95	459 -	467	8.40E+01	44.75	2.56E+02	3.36E+01
	23	510.92	507 -	516	1.96E+02	55.78	3.26E+02	3.96E+01
	24	541.33	539 -	544	2.69E+01	27.26	1.24E+02	2.07E+01
	25	562.34	559 -	567	4.94E+01	36.68	1.79E+02	2.79E+01
	26	583.39	578 -	588	3.52E+02	59.96	2.92E+02	3.84E+01
	27	609.58	605 -	615	4.13E+02	57.39	2.17E+02	3.33E+01
	28	665.86	661 -	671	6.18E+01	41.07	1.90E+02	3.12E+01
	29	727.44	722 -	733	1.05E+02	45.87	2.11E+02	3.37E+01
	30	768.11	765 -	770	4.74E+01	27.22	1.09E+02	1.93E+01
	31	785.24	780 -	791	6.04E+01	42.76	1.99E+02	3.27E+01
	32	795.97	792 -	801	6.73E+01	40.02	1.91E+02	3.00E+01
	33	837.35	833 -	842	5.64E+01	31.06	1.07E+02	2.24E+01
	34	860.11	855 -	866	9.17E+01	39.60	1.51E+02	2.85E+01
	35	889.27	887 -	891	1.55E+01	18.72	6.31E+01	1.40E+01
	36	911.63	906 -	917	2.80E+02	41.71	7.59E+01	2.05E+01
M	37	964.60	961 -	973	3.72E+01	28.14	1.25E+02	1.84E+01
m	38	969.47	961 -	973	1.49E+02	32.43	8.82E+01	1.54E+01
	39	1120.85	1118 -	1124	8.31E+01	31.57	1.24E+02	2.12E+01
	40	1155.75	1151 -	1159	2.82E+01	29.98	1.20E+02	2.30E+01
M	41	1196.47	1193 -	1217	2.24E+01	22.16	8.74E+01	1.54E+01
m	42	1208.67	1193 -	1217	3.18E+01	28.35	1.05E+02	1.69E+01
	43	1238.73	1234 -	1243	3.80E+01	34.67	1.50E+02	2.66E+01
M	44	1378.80	1373 -	1388	2.09E+01	18.79	2.57E+01	8.33E+00
m	45	1385.11	1373 -	1388	1.38E+01	14.14	1.71E+01	6.80E+00
	46	1461.42	1456 -	1466	8.64E+02	63.49	7.59E+01	1.97E+01
	47	1560.70	1557 -	1563	8.40E+00	7.23	3.20E+00	3.55E+00
	48	1588.64	1584 -	1591	2.00E+01	11.31	8.00E+00	5.70E+00
	49	1594.33	1592 -	1598	1.50E+01	8.73	2.06E+00	3.33E+00
	50	1621.27	1618 -	1624	1.95E+01	9.81	3.00E+00	3.51E+00
	51	1631.33	1628 -	1633	1.07E+01	10.63	1.26E+01	6.89E+00

Analysis Report for 1510091-15

CP1805S08-09

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	52	1636.18	1634 -	1639	7.06E+00	6.71	3.89E+00	3.37E+00
	53	1679.90	1678 -	1682	6.83E+00	7.40	4.33E+00	4.30E+00
	54	1730.39	1725 -	1734	1.73E+01	15.52	2.33E+01	1.08E+01
	55	1745.62	1743 -	1747	4.43E+00	6.36	5.14E+00	3.92E+00
	56	1765.16	1760 -	1769	7.72E+01	21.17	1.97E+01	9.70E+00
	57	1848.37	1845 -	1850	7.56E+00	6.71	2.89E+00	3.16E+00
	58	1871.65	1867 -	1875	1.40E+01	7.48	0.00E+00	0.00E+00
	59	1911.33	1909 -	1913	5.22E+00	7.81	7.56E+00	5.21E+00
	60	2103.98	2100 -	2107	2.50E+01	10.00	0.00E+00	0.00E+00
	61	2119.19	2116 -	2120	5.91E+00	8.31	1.02E+01	5.54E+00
M	62	2205.61	2199 -	2212	1.64E+01	10.58	0.00E+00	0.00E+00
m	63	2210.41	2199 -	2212	7.56E+00	5.66	0.00E+00	0.00E+00
	64	2330.75	2327 -	2332	6.33E+00	7.35	5.33E+00	4.40E+00
	65	2371.43	2367 -	2374	1.01E+01	8.00	3.83E+00	4.00E+00
	66	2417.69	2413 -	2421	1.22E+01	10.22	7.63E+00	6.14E+00
	67	2446.64	2442 -	2450	7.42E+00	9.41	9.17E+00	6.31E+00
	68	2615.34	2611 -	2619	1.05E+02	21.27	5.19E+00	4.55E+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 : 11/10/2015 6:59:41PM

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	46.44	44 -	49	46.79	1.30E+02	72.16	9.45E+02	PB-210
M	2	74.55	72 -	83	74.89	3.71E+02	93.36	1.39E+03	AM-243
m	3	77.40	72 -	83	77.74	9.01E+02	115.68	1.66E+03	TI-44
M	4	87.80	83 -	97	88.13	2.81E+02	69.74	9.50E+02	SN-126
									CD-109
									LU-176
m	5	92.69	83 -	97	93.03	3.26E+02	73.73	8.30E+02	GA-67
	6	99.45	98 -	102	99.78	6.20E+01	63.28	8.22E+02	.....

Analysis Report for 1510091-15

CP1805S08-09

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	7	114.45	112 -	118	114.78	9.21E+01	78.09	1.03E+03	.....
	8	154.40	150 -	159	154.72	1.18E+02	100.58	1.36E+03	.....
M	9	182.00	181 -	190	182.31	6.17E+01	36.61	3.23E+02	LU-172
									MO-99
m	10	186.00	181 -	190	186.31	2.36E+02	60.04	5.93E+02	RA-226
	11	209.76	207 -	214	210.06	8.88E+01	77.90	9.44E+02	CM-243
									GA-67
M	12	238.77	235 -	248	239.06	1.10E+03	81.92	4.93E+02	PB-212
m	13	241.68	235 -	248	241.97	2.68E+02	91.28	6.15E+02	RA-224
	14	270.44	267 -	275	270.72	1.00E+02	66.23	6.15E+02	.....
	15	295.14	291 -	298	295.40	3.09E+02	64.90	4.96E+02	PB-214
	16	300.39	299 -	303	300.65	4.09E+01	39.25	3.04E+02	GA-67
									PB-212
									BI-210M
	17	328.10	325 -	332	328.36	4.82E+01	56.67	5.02E+02	LA-140
	18	338.48	334 -	343	338.74	2.37E+02	70.21	5.65E+02	AC-228
	19	352.15	348 -	356	352.40	5.10E+02	68.75	4.13E+02	PB-214
	20	401.17	399 -	404	401.40	3.16E+01	34.38	2.13E+02	SE-75
									RN-219
	21	408.70	406 -	411	408.93	3.53E+01	37.13	2.45E+02	.....
	22	462.95	459 -	467	463.16	8.40E+01	44.75	2.56E+02	SB-125
	23	510.92	507 -	516	511.11	1.96E+02	55.78	3.26E+02	.....
	24	541.33	539 -	544	541.51	2.69E+01	27.26	1.24E+02	.....
	25	562.34	559 -	567	562.51	4.94E+01	36.68	1.79E+02	CS-134
	26	583.39	578 -	588	583.56	3.52E+02	59.96	2.92E+02	TL-208
	27	609.58	605 -	615	609.74	4.13E+02	57.39	2.17E+02	BI-214
	28	665.86	661 -	671	666.00	6.18E+01	41.07	1.90E+02	SB-126
	29	727.44	722 -	733	727.56	1.05E+02	45.87	2.11E+02	BI-212
	30	768.11	765 -	770	768.22	4.74E+01	27.22	1.09E+02	.....
	31	785.24	780 -	791	785.34	6.04E+01	42.76	1.99E+02	.....
	32	795.97	792 -	801	796.07	6.73E+01	40.02	1.91E+02	CS-134
	33	837.35	833 -	842	837.43	5.64E+01	31.06	1.07E+02	.....
	34	860.11	855 -	866	860.18	9.17E+01	39.60	1.51E+02	TL-208
	35	889.27	887 -	891	889.34	1.55E+01	18.72	6.31E+01	SC-46
	36	911.63	906 -	917	911.68	2.80E+02	41.71	7.59E+01	LU-172
									AC-228
M	37	964.60	961 -	973	964.64	3.72E+01	28.14	1.25E+02	EU-152
m	38	969.47	961 -	973	969.50	1.49E+02	32.43	8.82E+01	AC-228
	39	1120.85	1118 -	1124	1120.84	8.31E+01	31.57	1.24E+02	SC-46
									TA-182
									BI-214
	40	1155.75	1151 -	1159	1155.72	2.82E+01	29.98	1.20E+02	.....
M	41	1196.47	1193 -	1217	1196.43	2.24E+01	22.16	8.74E+01	.....
m	42	1208.67	1193 -	1217	1208.62	3.18E+01	28.35	1.05E+02	.....
	43	1238.73	1234 -	1243	1238.67	3.80E+01	34.67	1.50E+02	CO-56
M	44	1378.80	1373 -	1388	1378.69	2.09E+01	18.79	2.57E+01	.....
m	45	1385.11	1373 -	1388	1384.99	1.38E+01	14.14	1.71E+01	AG-110M
	46	1461.42	1456 -	1466	1461.28	8.64E+02	63.49	7.59E+01	K-40
	47	1560.70	1557 -	1563	1560.52	8.40E+00	7.23	3.20E+00	.....
	48	1588.64	1584 -	1591	1588.45	2.00E+01	11.31	8.00E+00	.....
	49	1594.33	1592 -	1598	1594.13	1.50E+01	8.73	2.06E+00	.....
	50	1621.27	1618 -	1624	1621.06	1.95E+01	9.81	3.00E+00	BI-212
	51	1631.33	1628 -	1633	1631.12	1.07E+01	10.63	1.26E+01	.....
	52	1636.18	1634 -	1639	1635.97	7.06E+00	6.71	3.89E+00	.....

Analysis Report for 1510091-15

CP1805S08-09

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	53	1679.90	1678 -	1682	1679.67	6.83E+00	7.40	4.33E+00	.....
	54	1730.39	1725 -	1734	1730.15	1.73E+01	15.52	2.33E+01	.....
	55	1745.62	1743 -	1747	1745.37	4.43E+00	6.36	5.14E+00	.....
	56	1765.16	1760 -	1769	1764.90	7.72E+01	21.17	1.97E+01	BI-214
	57	1848.37	1845 -	1850	1848.08	7.56E+00	6.71	2.89E+00	.....
	58	1871.65	1867 -	1875	1871.36	1.40E+01	7.48	0.00E+00	.....
	59	1911.33	1909 -	1913	1911.02	5.22E+00	7.81	7.56E+00	.....
	60	2103.98	2100 -	2107	2103.60	2.50E+01	10.00	0.00E+00	.....
	61	2119.19	2116 -	2120	2118.80	5.91E+00	8.31	1.02E+01	.....
M	62	2205.61	2199 -	2212	2205.19	1.64E+01	10.58	0.00E+00	.....
m	63	2210.41	2199 -	2212	2209.99	7.56E+00	5.66	0.00E+00	.....
	64	2330.75	2327 -	2332	2330.28	6.33E+00	7.35	5.33E+00	.....
	65	2371.43	2367 -	2374	2370.94	1.01E+01	8.00	3.83E+00	.....
	66	2417.69	2413 -	2421	2417.19	1.22E+01	10.22	7.63E+00	.....
	67	2446.64	2442 -	2450	2446.13	7.42E+00	9.41	9.17E+00	.....
	68	2615.34	2611 -	2619	2614.76	1.05E+02	21.27	5.19E+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 : 11/10/2015 6:59:41PM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	46.44	1.30E+02	72.16	1.67E-02	1.78E-03
M	2	74.55	3.71E+02	93.36	2.74E-02	2.29E-03
m	3	77.40	9.01E+02	115.68	2.78E-02	2.38E-03
M	4	87.80	2.81E+02	69.74	2.85E-02	2.73E-03
m	5	92.69	3.26E+02	73.73	2.86E-02	2.65E-03
	6	99.45	6.20E+01	63.28	2.85E-02	2.51E-03
	7	114.45	9.21E+01	78.09	2.78E-02	2.22E-03
	8	154.40	1.18E+02	100.58	2.47E-02	2.15E-03
M	9	182.00	6.17E+01	36.61	2.27E-02	2.06E-03
m	10	186.00	2.36E+02	60.04	2.24E-02	2.03E-03
	11	209.76	8.88E+01	77.90	2.08E-02	1.85E-03
M	12	238.77	1.10E+03	81.92	1.92E-02	1.64E-03
m	13	241.68	2.68E+02	91.28	1.91E-02	1.62E-03
	14	270.44	1.00E+02	66.23	1.77E-02	1.40E-03

Analysis Report for 1510091-15

CP1805S08-09

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	15	295.14	3.09E+02	64.90	1.67E-02	1.31E-03
	16	300.39	4.09E+01	39.25	1.65E-02	1.30E-03
	17	328.10	4.82E+01	56.67	1.55E-02	1.24E-03
	18	338.48	2.37E+02	70.21	1.52E-02	1.22E-03
	19	352.15	5.10E+02	68.75	1.48E-02	1.19E-03
	20	401.17	3.16E+01	34.38	1.34E-02	1.10E-03
	21	408.70	3.53E+01	37.13	1.33E-02	1.10E-03
	22	462.95	8.40E+01	44.75	1.21E-02	1.04E-03
	23	510.92	1.96E+02	55.78	1.12E-02	9.90E-04
	24	541.33	2.69E+01	27.26	1.08E-02	9.59E-04
	25	562.34	4.94E+01	36.68	1.05E-02	9.37E-04
	26	583.39	3.52E+02	59.96	1.02E-02	9.15E-04
	27	609.58	4.13E+02	57.39	9.82E-03	8.88E-04
	28	665.86	6.18E+01	41.07	9.17E-03	8.30E-04
	29	727.44	1.05E+02	45.87	8.55E-03	7.75E-04
	30	768.11	4.74E+01	27.22	8.19E-03	7.39E-04
	31	785.24	6.04E+01	42.76	8.05E-03	7.23E-04
	32	795.97	6.73E+01	40.02	7.96E-03	7.14E-04
	33	837.35	5.64E+01	31.06	7.65E-03	6.77E-04
	34	860.11	9.17E+01	39.60	7.49E-03	6.56E-04
	35	889.27	1.55E+01	18.72	7.29E-03	6.30E-04
	36	911.63	2.80E+02	41.71	7.15E-03	6.15E-04
M	37	964.60	3.72E+01	28.14	6.83E-03	5.88E-04
m	38	969.47	1.49E+02	32.43	6.80E-03	5.85E-04
	39	1120.85	8.31E+01	31.57	6.06E-03	5.06E-04
	40	1155.75	2.82E+01	29.98	5.92E-03	4.88E-04
M	41	1196.47	2.24E+01	22.16	5.76E-03	4.75E-04
m	42	1208.67	3.18E+01	28.35	5.72E-03	4.73E-04
	43	1238.73	3.80E+01	34.67	5.61E-03	4.68E-04
M	44	1378.80	2.09E+01	18.79	5.18E-03	4.40E-04
m	45	1385.11	1.38E+01	14.14	5.16E-03	4.38E-04
	46	1461.42	8.64E+02	63.49	4.97E-03	4.19E-04
	47	1560.70	8.40E+00	7.23	4.75E-03	3.94E-04
	48	1588.64	2.00E+01	11.31	4.69E-03	3.87E-04
	49	1594.33	1.50E+01	8.73	4.68E-03	3.86E-04
	50	1621.27	1.95E+01	9.81	4.63E-03	3.79E-04
	51	1631.33	1.07E+01	10.63	4.61E-03	3.77E-04
	52	1636.18	7.06E+00	6.71	4.60E-03	3.76E-04
	53	1679.90	6.83E+00	7.40	4.53E-03	3.65E-04
	54	1730.39	1.73E+01	15.52	4.45E-03	3.52E-04
	55	1745.62	4.43E+00	6.36	4.42E-03	3.48E-04
	56	1765.16	7.72E+01	21.17	4.39E-03	3.43E-04
	57	1848.37	7.56E+00	6.71	4.28E-03	3.26E-04
	58	1871.65	1.40E+01	7.48	4.25E-03	3.26E-04
	59	1911.33	5.22E+00	7.81	4.21E-03	3.26E-04
	60	2103.98	2.50E+01	10.00	4.02E-03	3.26E-04
	61	2119.19	5.91E+00	8.31	4.01E-03	3.26E-04
M	62	2205.61	1.64E+01	10.58	3.95E-03	3.26E-04
m	63	2210.41	7.56E+00	5.66	3.94E-03	3.26E-04
	64	2330.75	6.33E+00	7.35	3.88E-03	3.26E-04
	65	2371.43	1.01E+01	8.00	3.86E-03	3.26E-04
	66	2417.69	1.22E+01	10.22	3.84E-03	3.26E-04
	67	2446.64	7.42E+00	9.41	3.83E-03	3.26E-04

Analysis Report for 1510091-15

CP1805S08-09

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
68	2615.34	1.05E+02	21.27	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 : 11/10/2015 6:59:41PM

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	46.44	1.30E+02	72.16	4.50E+01	8.46E+00	8.46E+01	7.27E+01
M	2	74.55	3.71E+02	93.36	5.09E+00	4.37E+00	3.66E+02	9.35E+01
m	3	77.40	9.01E+02	115.68	9.75E+00	8.28E+00	8.91E+02	1.16E+02
M	4	87.80	2.81E+02	69.74			2.81E+02	6.97E+01
m	5	92.69	3.26E+02	73.73	1.34E+02	9.83E+00	1.92E+02	7.44E+01
	6	99.45	6.20E+01	63.28			6.20E+01	6.33E+01
	7	114.45	9.21E+01	78.09			9.21E+01	7.81E+01
	8	154.40	1.18E+02	100.58			1.18E+02	1.01E+02
M	9	182.00	6.17E+01	36.61			6.17E+01	3.66E+01
m	10	186.00	2.36E+02	60.04	6.41E+01	7.38E+00	1.72E+02	6.05E+01
	11	209.76	8.88E+01	77.90			8.88E+01	7.79E+01
M	12	238.77	1.10E+03	81.92	2.34E+01	6.34E+00	1.08E+03	8.22E+01
m	13	241.68	2.68E+02	91.28			2.68E+02	9.13E+01
	14	270.44	1.00E+02	66.23			1.00E+02	6.62E+01
	15	295.14	3.09E+02	64.90	4.17E+00	5.50E+00	3.05E+02	6.51E+01
	16	300.39	4.09E+01	39.25			4.09E+01	3.93E+01
	17	328.10	4.82E+01	56.67			4.82E+01	5.67E+01
	18	338.48	2.37E+02	70.21	2.22E-01	4.54E+00	2.37E+02	7.04E+01
	19	352.15	5.10E+02	68.75	8.83E+00	4.91E+00	5.01E+02	6.89E+01
	20	401.17	3.16E+01	34.38			3.16E+01	3.44E+01
	21	408.70	3.53E+01	37.13			3.53E+01	3.71E+01
	22	462.95	8.40E+01	44.75			8.40E+01	4.47E+01
	23	510.92	1.96E+02	55.78	8.12E+01	5.49E+00	1.15E+02	5.60E+01
	24	541.33	2.69E+01	27.26			2.69E+01	2.73E+01
	25	562.34	4.94E+01	36.68			4.94E+01	3.67E+01
	26	583.39	3.52E+02	59.96	6.34E+00	3.74E+00	3.46E+02	6.01E+01
	27	609.58	4.13E+02	57.39	5.20E+00	3.69E+00	4.07E+02	5.75E+01
	28	665.86	6.18E+01	41.07			6.18E+01	4.11E+01
	29	727.44	1.05E+02	45.87			1.05E+02	4.59E+01

Analysis Report for 1510091-15

CP1805S08-09

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	30	768.11	4.74E+01	27.22			4.74E+01	2.72E+01
	31	785.24	6.04E+01	42.76			6.04E+01	4.28E+01
	32	795.97	6.73E+01	40.02			6.73E+01	4.00E+01
	33	837.35	5.64E+01	31.06			5.64E+01	3.11E+01
	34	860.11	9.17E+01	39.60			9.17E+01	3.96E+01
	35	889.27	1.55E+01	18.72			1.55E+01	1.87E+01
	36	911.63	2.80E+02	41.71	3.28E+00	2.53E+00	2.77E+02	4.18E+01
M	37	964.60	3.72E+01	28.14			3.72E+01	2.81E+01
m	38	969.47	1.49E+02	32.43			1.49E+02	3.24E+01
	39	1120.85	8.31E+01	31.57	2.28E+00	2.55E+00	8.08E+01	3.17E+01
	40	1155.75	2.82E+01	29.98			2.82E+01	3.00E+01
M	41	1196.47	2.24E+01	22.16			2.24E+01	2.22E+01
m	42	1208.67	3.18E+01	28.35			3.18E+01	2.84E+01
	43	1238.73	3.80E+01	34.67			3.80E+01	3.47E+01
M	44	1378.80	2.09E+01	18.79			2.09E+01	1.88E+01
m	45	1385.11	1.38E+01	14.14			1.38E+01	1.41E+01
	46	1461.42	8.64E+02	63.49	6.46E+00	2.33E+00	8.58E+02	6.35E+01
	47	1560.70	8.40E+00	7.23			8.40E+00	7.23E+00
	48	1588.64	2.00E+01	11.31			2.00E+01	1.13E+01
	49	1594.33	1.50E+01	8.73			1.50E+01	8.73E+00
	50	1621.27	1.95E+01	9.81			1.95E+01	9.81E+00
	51	1631.33	1.07E+01	10.63			1.07E+01	1.06E+01
	52	1636.18	7.06E+00	6.71			7.06E+00	6.71E+00
	53	1679.90	6.83E+00	7.40			6.83E+00	7.40E+00
	54	1730.39	1.73E+01	15.52			1.73E+01	1.55E+01
	55	1745.62	4.43E+00	6.36			4.43E+00	6.36E+00
	56	1765.16	7.72E+01	21.17			7.72E+01	2.12E+01
	57	1848.37	7.56E+00	6.71			7.56E+00	6.71E+00
	58	1871.65	1.40E+01	7.48			1.40E+01	7.48E+00
	59	1911.33	5.22E+00	7.81			5.22E+00	7.81E+00
	60	2103.98	2.50E+01	10.00			2.50E+01	1.00E+01
	61	2119.19	5.91E+00	8.31			5.91E+00	8.31E+00
M	62	2205.61	1.64E+01	10.58			1.64E+01	1.06E+01
m	63	2210.41	7.56E+00	5.66			7.56E+00	5.66E+00
	64	2330.75	6.33E+00	7.35			6.33E+00	7.35E+00
	65	2371.43	1.01E+01	8.00			1.01E+01	8.00E+00
	66	2417.69	1.22E+01	10.22			1.22E+01	1.02E+01
	67	2446.64	7.42E+00	9.41			7.42E+00	9.41E+00
	68	2615.34	1.05E+02	21.27	3.47E+00	1.48E+00	1.02E+02	2.13E+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 1510091-15

CP1805S08-09

AREA CORRECTION REPORT
REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/10/2015 6:59:41PM

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	46.44	1.30E+02	72.16	4.50E+01	8.46E+00	8.46E+01	7.27E+01
M	2	74.55	3.71E+02	93.36	5.09E+00	4.37E+00	3.66E+02	9.35E+01
m	3	77.40	9.01E+02	115.68	9.75E+00	8.28E+00	8.91E+02	1.16E+02
M	4	87.80	2.81E+02	69.74			2.81E+02	6.97E+01
m	5	92.69	3.26E+02	73.73	1.34E+02	9.83E+00	1.92E+02	7.44E+01
	6	99.45	6.20E+01	63.28			6.20E+01	6.33E+01
	7	114.45	9.21E+01	78.09			9.21E+01	7.81E+01
	8	154.40	1.18E+02	100.58			1.18E+02	1.01E+02
M	9	182.00	6.17E+01	36.61			6.17E+01	3.66E+01
m	10	186.00	2.36E+02	60.04	6.41E+01	7.38E+00	1.72E+02	6.05E+01
	11	209.76	8.88E+01	77.90			8.88E+01	7.79E+01
M	12	238.77	1.10E+03	81.92	2.34E+01	6.34E+00	1.08E+03	8.22E+01
m	13	241.68	2.68E+02	91.28			2.68E+02	9.13E+01
	14	270.44	1.00E+02	66.23			1.00E+02	6.62E+01
	15	295.14	3.09E+02	64.90	4.17E+00	5.50E+00	3.05E+02	6.51E+01
	16	300.39	4.09E+01	39.25			4.09E+01	3.93E+01
	17	328.10	4.82E+01	56.67			4.82E+01	5.67E+01
	18	338.48	2.37E+02	70.21	2.22E-01	4.54E+00	2.37E+02	7.04E+01
	19	352.15	5.10E+02	68.75	8.83E+00	4.91E+00	5.01E+02	6.89E+01
	20	401.17	3.16E+01	34.38			3.16E+01	3.44E+01
	21	408.70	3.53E+01	37.13			3.53E+01	3.71E+01
	22	462.95	8.40E+01	44.75			8.40E+01	4.47E+01
	23	510.92	1.96E+02	55.78	8.12E+01	5.49E+00	1.15E+02	5.60E+01
	24	541.33	2.69E+01	27.26			2.69E+01	2.73E+01
	25	562.34	4.94E+01	36.68			4.94E+01	3.67E+01
	26	583.39	3.52E+02	59.96	6.34E+00	3.74E+00	3.46E+02	6.01E+01
	27	609.58	4.13E+02	57.39	5.20E+00	3.69E+00	4.07E+02	5.75E+01
	28	665.86	6.18E+01	41.07			6.18E+01	4.11E+01
	29	727.44	1.05E+02	45.87			1.05E+02	4.59E+01
	30	768.11	4.74E+01	27.22			4.74E+01	2.72E+01
	31	785.24	6.04E+01	42.76			6.04E+01	4.28E+01
	32	795.97	6.73E+01	40.02			6.73E+01	4.00E+01
	33	837.35	5.64E+01	31.06			5.64E+01	3.11E+01
	34	860.11	9.17E+01	39.60			9.17E+01	3.96E+01
	35	889.27	1.55E+01	18.72			1.55E+01	1.87E+01
	36	911.63	2.80E+02	41.71	3.28E+00	2.53E+00	2.77E+02	4.18E+01
M	37	964.60	3.72E+01	28.14			3.72E+01	2.81E+01
m	38	969.47	1.49E+02	32.43			1.49E+02	3.24E+01
	39	1120.85	8.31E+01	31.57	2.28E+00	2.55E+00	8.08E+01	3.17E+01
	40	1155.75	2.82E+01	29.98			2.82E+01	3.00E+01
M	41	1196.47	2.24E+01	22.16			2.24E+01	2.22E+01

Analysis Report for 1510091-15

CP1805S08-09

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
m	42	1208.67	3.18E+01	28.35			3.18E+01	2.84E+01
	43	1238.73	3.80E+01	34.67			3.80E+01	3.47E+01
M	44	1378.80	2.09E+01	18.79			2.09E+01	1.88E+01
m	45	1385.11	1.38E+01	14.14			1.38E+01	1.41E+01
	46	1461.42	8.64E+02	63.49	6.46E+00	2.33E+00	8.58E+02	6.35E+01
	47	1560.70	8.40E+00	7.23			8.40E+00	7.23E+00
	48	1588.64	2.00E+01	11.31			2.00E+01	1.13E+01
	49	1594.33	1.50E+01	8.73			1.50E+01	8.73E+00
	50	1621.27	1.95E+01	9.81			1.95E+01	9.81E+00
	51	1631.33	1.07E+01	10.63			1.07E+01	1.06E+01
	52	1636.18	7.06E+00	6.71			7.06E+00	6.71E+00
	53	1679.90	6.83E+00	7.40			6.83E+00	7.40E+00
	54	1730.39	1.73E+01	15.52			1.73E+01	1.55E+01
	55	1745.62	4.43E+00	6.36			4.43E+00	6.36E+00
	56	1765.16	7.72E+01	21.17			7.72E+01	2.12E+01
	57	1848.37	7.56E+00	6.71			7.56E+00	6.71E+00
	58	1871.65	1.40E+01	7.48			1.40E+01	7.48E+00
	59	1911.33	5.22E+00	7.81			5.22E+00	7.81E+00
	60	2103.98	2.50E+01	10.00			2.50E+01	1.00E+01
	61	2119.19	5.91E+00	8.31			5.91E+00	8.31E+00
M	62	2205.61	1.64E+01	10.58			1.64E+01	1.06E+01
m	63	2210.41	7.56E+00	5.66			7.56E+00	5.66E+00
	64	2330.75	6.33E+00	7.35			6.33E+00	7.35E+00
	65	2371.43	1.01E+01	8.00			1.01E+01	8.00E+00
	66	2417.69	1.22E+01	10.22			1.22E+01	1.02E+01
	67	2446.64	7.42E+00	9.41			7.42E+00	9.41E+00
	68	2615.34	1.05E+02	21.27	3.47E+00	1.48E+00	1.02E+02	2.13E+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	0.942	1460.81	*	10.67	2.25E+01	2.57E+00
GA-67	0.602	93.31	*	35.70	2.05E+02	8.71E+02
		208.95	*	2.24	2.07E+03	8.65E+03
		300.22	*	16.00	1.69E+02	7.33E+02

Analysis Report for 1510091-15

CP1805S08-09

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
CD-109	0.991	88.03	*	3.72	3.87E+00	1.05E+00
SN-126	0.992	87.57	*	37.00	3.71E-01	9.88E-02
TL-208	0.958	583.14	*	30.22	1.57E+00	3.07E-01
		860.37	*	4.48	3.81E+00	1.68E+00
		2614.66	*	35.85	1.04E+00	2.36E-01
PB-210	0.999	46.50	*	4.25	1.66E+00	1.44E+00
BI-212	0.978	727.17	*	11.80	1.45E+00	6.47E-01
		1620.62	*	2.75	2.13E+00	1.09E+00
PB-212	0.996	238.63	*	44.60	1.75E+00	2.00E-01
		300.09	*	3.41	1.01E+00	9.76E-01
BI-214	0.900	609.31	*	46.30	1.25E+00	2.09E-01
		1120.29	*	15.10	1.23E+00	4.93E-01
		1764.49	*	15.80	1.55E+00	4.42E-01
		2204.22		4.98		
PB-214	0.994	295.21	*	19.19	1.33E+00	3.02E-01
		351.92	*	37.19	1.27E+00	2.03E-01
RN-219	0.938	401.80	*	6.50	5.04E-01	5.50E-01
RA-224	0.925	240.98	*	3.95	4.97E+00	1.74E+00
RA-226	0.993	186.21	*	3.28	3.27E+00	6.10E+00
AC-228	0.969	338.32	*	11.40	1.91E+00	5.87E-01
		911.07	*	27.70	1.95E+00	3.39E-01
		969.11	*	16.60	1.84E+00	4.30E-01
AM-243	0.998	74.67	*	66.00	2.82E-01	7.57E-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 : 11/10/2015 6:59:41PM
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	77.40	2.47526E-01	6.51	Tol.	TI-44
	6	99.45	1.72360E-02	50.99	D-Esc	
	7	114.45	2.55843E-02	42.39		
	8	154.40	3.26723E-02	42.76		
M	9	182.00	1.71515E-02	29.65	Tol.	MO-99 LU-172

Analysis Report for 1510091-15

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	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	14	270.44	2.79044E-02	32.96		
	17	328.10	1.33807E-02	58.83	Tol.	LA-140
	21	408.70	9.81628E-03	52.54		
	22	462.95	2.33320E-02	26.64	Tol.	SB-125
	23	510.92	3.19448E-02	24.37	Sum	
	24	541.33	7.46099E-03	50.74	Sum	
	25	562.34	1.37150E-02	37.15	Sum	
	28	665.86	1.71630E-02	33.24	Tol.	SB-126
	30	768.11	1.31645E-02	28.72		
	31	785.24	1.67856E-02	35.38		
	32	795.97	1.87082E-02	29.71	Sum	
	33	837.35	1.56755E-02	27.52		
	35	889.27	4.29374E-03	60.56	Tol.	SC-46
M	37	964.60	1.03376E-02	37.81		
	40	1155.75	7.83775E-03	53.12	Sum	
M	41	1196.47	6.21970E-03	49.48		
m	42	1208.67	8.82301E-03	44.64	Sum	
	43	1238.73	1.05556E-02	45.62		
M	44	1378.80	5.81910E-03	44.84		
m	45	1385.11	3.84175E-03	51.13	Tol.	AG-110M
	47	1560.70	2.33333E-03	43.03		
	48	1588.64	5.55556E-03	28.28		
	49	1594.33	4.15799E-03	29.17	D-Esc	
	51	1631.33	2.96569E-03	49.78		
	52	1636.18	1.95988E-03	47.54		
	53	1679.90	1.89815E-03	54.14		
	54	1730.39	4.81322E-03	44.80	Sum	
	55	1745.62	1.23016E-03	71.85		
	57	1848.37	2.09877E-03	44.39	Sum	
	58	1871.65	3.88889E-03	26.73		
	59	1911.33	1.45062E-03	74.78		
	60	2103.98	6.94444E-03	20.00	S-Esc	
	61	2119.19	1.64141E-03	70.29		
M	62	2205.61	4.55537E-03	32.27	Sum	
m	63	2210.41	2.10092E-03	37.40		
	64	2330.75	1.75926E-03	58.01		
	65	2371.43	2.80093E-03	39.67		
	66	2417.69	3.38542E-03	41.94		
	67	2446.64	2.06019E-03	63.42		

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 1510091-15

CP1805S08-09

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	2.25E+01	2.57E+00
GA-67	0.60	93.31	*	35.70	2.05E+02	8.71E+02
		208.95	*	2.24	2.07E+03	8.65E+03
		300.22	*	16.00	1.69E+02	7.33E+02
CD-109	0.99	88.03	*	3.72	3.87E+00	1.05E+00
SN-126	0.99	87.57	*	37.00	3.71E-01	9.88E-02
TL-208	0.95	583.14	*	30.22	1.57E+00	3.07E-01
		860.37	*	4.48	3.81E+00	1.68E+00
		2614.66	*	35.85	1.04E+00	2.36E-01
PB-210	0.99	46.50	*	4.25	1.66E+00	1.44E+00
BI-212	0.97	727.17	*	11.80	1.45E+00	6.47E-01
		1620.62	*	2.75	2.13E+00	1.09E+00
PB-212	0.99	238.63	*	44.60	1.75E+00	2.00E-01
		300.09	*	3.41	1.01E+00	9.76E-01
BI-214	0.90	609.31	*	46.30	1.25E+00	2.09E-01
		1120.29	*	15.10	1.23E+00	4.93E-01
		1764.49	*	15.80	1.55E+00	4.42E-01
		2204.22		4.98		
PB-214	0.99	295.21	*	19.19	1.33E+00	3.02E-01
		351.92	*	37.19	1.27E+00	2.03E-01
RN-219	0.93	401.80	*	6.50	5.04E-01	5.50E-01
RA-224	0.92	240.98	*	3.95	4.97E+00	1.74E+00
RA-226	0.99	186.21	*	3.28	3.27E+00	6.10E+00
AC-228	0.96	338.32	*	11.40	1.91E+00	5.87E-01
		911.07	*	27.70	1.95E+00	3.39E-01
		969.11	*	16.60	1.84E+00	4.30E-01
AM-243	0.99	74.67	*	66.00	2.82E-01	7.57E-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 1510091-15

CP1805S08-09

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40	0.942	2.25E+01	2.57E+00	
X	SC-46	0.990			
	GA-67	0.602	1.44E+02	5.93E+02	
?	CD-109	0.991	3.87E+00	1.05E+00	
?	SN-126	0.992	3.71E-01	9.88E-02	
	TL-208	0.958	1.27E+00	1.86E-01	
	PB-210	0.999	1.66E+00	1.44E+00	
	BI-212	0.978	1.63E+00	5.56E-01	
	PB-212	0.996	1.69E+00	1.97E-01	
	BI-214	0.900	1.29E+00	1.77E-01	
	PB-214	0.994	1.29E+00	1.68E-01	
	RN-219	0.938	5.04E-01	5.50E-01	
	RA-224	0.925	4.97E+00	1.74E+00	
	RA-226	0.993	3.27E+00	6.10E+00	
	AC-228	0.969	1.91E+00	2.42E-01	
	AM-243	0.998	2.82E-01	7.57E-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 1510091-15

CP1805S08-09

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 6:59:41PM
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	77.40	2.47526E-01	6.51	Tol.	TI-44
	6	99.45	1.72360E-02	50.99	D-Esc	
	7	114.45	2.55843E-02	42.39		
	8	154.40	3.26723E-02	42.76		
M	9	182.00	1.71515E-02	29.65	Tol.	MO-99 LU-172
	14	270.44	2.79044E-02	32.96		
	17	328.10	1.33807E-02	58.83	Tol.	LA-140
	21	408.70	9.81628E-03	52.54		
	22	462.95	2.33320E-02	26.64	Tol.	SB-125
	23	510.92	3.19448E-02	24.37	Sum	
	24	541.33	7.46099E-03	50.74	Sum	
	25	562.34	1.37150E-02	37.15	Sum	
	28	665.86	1.71630E-02	33.24	Tol.	SB-126
	30	768.11	1.31645E-02	28.72		
	31	785.24	1.67856E-02	35.38		
	32	795.97	1.87082E-02	29.71	Sum	
	33	837.35	1.56755E-02	27.52		
	35	889.27	4.29374E-03	60.56	Tol.	SC-46
M	37	964.60	1.03376E-02	37.81		
	40	1155.75	7.83775E-03	53.12	Sum	
M	41	1196.47	6.21970E-03	49.48		
m	42	1208.67	8.82301E-03	44.64	Sum	
	43	1238.73	1.05556E-02	45.62		
M	44	1378.80	5.81910E-03	44.84		
m	45	1385.11	3.84175E-03	51.13	Tol.	AG-110M
	47	1560.70	2.33333E-03	43.03		
	48	1588.64	5.55556E-03	28.28		
	49	1594.33	4.15799E-03	29.17	D-Esc	
	51	1631.33	2.96569E-03	49.78		
	52	1636.18	1.95988E-03	47.54		
	53	1679.90	1.89815E-03	54.14		
	54	1730.39	4.81322E-03	44.80	Sum	
	55	1745.62	1.23016E-03	71.85		
	57	1848.37	2.09877E-03	44.39	Sum	

Analysis Report for 1510091-15

CP1805S08-09

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	58	1871.65	3.88889E-03	26.73		
	59	1911.33	1.45062E-03	74.78		
	60	2103.98	6.94444E-03	20.00	S-Esc	
	61	2119.19	1.64141E-03	70.29		
M	62	2205.61	4.55537E-03	32.27	Sum	
m	63	2210.41	2.10092E-03	37.40		
	64	2330.75	1.75926E-03	58.01		
	65	2371.43	2.80093E-03	39.67		
	66	2417.69	3.38542E-03	41.94		
	67	2446.64	2.06019E-03	63.42		

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	2.51E-01	9.00E-01	9.00E-01
+	NA-22	1274.54		99.94	-6.83E-02	7.43E-02	7.43E-02
+	NA-24	1368.53		99.99	1.74E+12	4.94E+13	8.18E+13
		2754.09		99.86	-6.63E+12		4.94E+13
+	AL-26	1808.65		99.76	1.38E-02	5.37E-02	5.37E-02
+	K-40	1460.81	*	10.67	2.25E+01	1.14E+00	1.14E+00
+	@ AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	5.59E-02	7.32E-02	7.32E-02
		78.34		96.00	2.39E-01		9.37E-02
+	SC-46	889.25	*	99.98	3.83E-02	7.60E-02	7.60E-02
		1120.51	*	99.99	2.41E-01		1.36E-01
+	V-48	983.52		99.98	2.74E-02	2.85E-01	2.85E-01
		1312.10		97.50	2.92E-03		3.29E-01
+	CR-51	320.08		9.83	-2.74E-01	1.14E+00	1.14E+00
+	MN-54	834.83		99.97	2.67E-03	8.33E-02	8.33E-02
+	CO-56	846.75		99.96	5.45E-02	9.68E-02	9.68E-02
		1037.75		14.03	-3.81E-01		6.60E-01
		1238.25		67.00	6.89E-02		2.20E-01

Analysis Report for 1510091-15

CP1805S08-09

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	CO-56	1771.40		15.51	5.40E-02	9.68E-02	4.28E-01
		2598.48		16.90	-1.11E-01		3.75E-01
+	CO-57	122.06		85.51	2.07E-02	6.30E-02	6.30E-02
		136.48		10.60	-5.01E-01		5.15E-01
+	CO-58	810.76		99.40	-4.83E-02	8.88E-02	8.88E-02
+	FE-59	1099.22		56.50	3.92E-02	2.52E-01	2.52E-01
		1291.56		43.20	1.30E-01		3.17E-01
+	CO-60	1173.22		100.00	3.38E-02	7.59E-02	1.01E-01
		1332.49		100.00	1.30E-02		7.59E-02
+	ZN-65	1115.52		50.75	1.54E-02	1.77E-01	1.77E-01
+	GA-67	93.31	*	35.70	2.05E+02	2.63E+02	2.96E+02
		208.95	*	2.24	2.07E+03		2.96E+03
		300.22	*	16.00	1.69E+02		2.63E+02
+	SE-75	121.11		16.70	1.73E-02	9.91E-02	3.49E-01
		136.00		59.20	2.89E-02		1.05E-01
		264.65		59.80	-2.35E-02		9.91E-02
		279.53		25.20	1.32E-01		2.60E-01
		400.65		11.40	3.05E-01		5.91E-01
+	RB-82	776.52		13.00	1.02E-01	1.25E+00	1.25E+00
+	RB-83	520.41		46.00	-3.40E-02	1.71E-01	1.71E-01
		529.64		30.30	2.52E-05		2.75E-01
		552.65		16.40	2.75E-01		4.83E-01
+	KR-85	513.99		0.43	3.32E+01	2.20E+01	2.20E+01
+	SR-85	513.99		99.27	2.02E-01	1.34E-01	1.34E-01
+	Y-88	898.02		93.40	3.61E-02	6.01E-02	9.17E-02
		1836.01		99.38	-1.43E-02		6.01E-02
+	NB-93M	16.57		9.43	-7.12E+01	7.24E+01	7.24E+01
+	NB-94	702.63		100.00	4.49E-03	7.11E-02	7.11E-02
		871.10		100.00	-1.84E-02		7.29E-02
+	NB-95	765.79		99.81	2.28E-03	1.72E-01	1.72E-01
+	NB-95M	235.69		25.00	-1.14E+03	1.14E+02	1.14E+02
+	ZR-95	724.18		43.70	-2.01E-01	1.94E-01	2.59E-01
		756.72		55.30	2.90E-02		1.94E-01
+	MO-99	181.06		6.20	4.39E+02	1.35E+03	2.29E+03
		739.58		12.80	-8.24E+02		1.35E+03
		778.00		4.50	-6.20E+02		4.10E+03
+	RU-103	497.08		89.00	-2.22E-02	1.21E-01	1.21E-01
+	RU-106	621.84		9.80	-9.78E-02	7.23E-01	7.23E-01
+	AG-108M	433.93		89.90	-2.67E-02	6.63E-02	6.63E-02
		614.37		90.40	-1.46E-02		6.71E-02
		722.95		90.50	-1.12E-02		7.66E-02
+	CD-109	88.03	*	3.72	3.87E+00	3.78E+00	3.78E+00
+	AG-110M	657.75		93.14	2.94E-03	7.72E-02	7.72E-02
		677.61		10.53	3.81E-02		7.15E-01
		706.67		16.46	-8.09E-02		4.65E-01
		763.93		21.98	2.15E-02		3.98E-01
		884.67		71.63	-9.26E-03		1.15E-01
		1384.27		23.94	6.96E-02		3.46E-01

Analysis Report for 1510091-15

CP1805S08-09

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	CD-113M	263.70		0.02	-4.64E+01	2.21E+02	2.21E+02
+	SN-113	255.12		1.93	1.57E-02	9.55E-02	3.17E+00
		391.69		64.90	-3.27E-02		9.55E-02
+	TE123M	159.00		84.10	-1.58E-02	7.06E-02	7.06E-02
+	SB-124	602.71		97.87	8.24E-03	9.90E-02	9.90E-02
		645.85		7.26	7.26E-01		1.43E+00
		722.78		11.10	-1.31E-01		8.95E-01
		1691.02		49.00	-3.39E-02		1.44E-01
+	I-125	35.49		6.49	8.58E-01	3.19E+00	3.19E+00
+	SB-125	176.33		6.89	1.70E-01	2.24E-01	7.52E-01
		427.89		29.33	3.92E-02		2.24E-01
		463.38		10.35	6.17E-01		7.33E-01
		600.56		17.80	6.70E-02		3.87E-01
		635.90		11.32	4.66E-02		6.10E-01
+	SB-126	414.70		83.30	8.35E-02	4.17E-01	4.59E-01
		666.33		99.60	2.68E-01		4.55E-01
		695.00		99.60	-2.72E-02		4.17E-01
		720.50		53.80	-2.33E-02		7.12E-01
+	SN-126	87.57	*	37.00	3.71E-01	3.63E-01	3.63E-01
+	SB-127	473.00		25.00	3.24E+01	5.84E+01	7.28E+01
		685.20		35.70	3.91E+01		5.84E+01
		783.80		14.70	1.06E+02		1.69E+02
+	I-129	29.78		57.00	3.86E-01	5.14E-01	5.14E-01
		33.60		13.20	2.65E-01		1.35E+00
		39.58		7.52	1.11E-01		1.44E+00
+	I-131	284.30		6.05	-2.19E+00	9.87E-01	1.25E+01
		364.48		81.20	-4.05E-01		9.87E-01
		636.97		7.26	1.03E+01		1.42E+01
		722.89		1.80	-8.39E+00		5.74E+01
+	TE-132	49.72		13.10	-2.69E+01	4.85E+01	4.45E+02
		228.16		88.00	9.70E-01		4.85E+01
+	BA-133	81.00		33.00	-8.20E-01	8.83E-02	1.90E-01
		302.84		17.80	-2.07E-02		3.06E-01
		356.01		60.00	-2.79E-04		8.83E-02
+	I-133	529.87		86.30	5.30E+05	5.77E+09	5.77E+09
+	XE-133	81.00		38.00	-4.46E+01	1.03E+01	1.03E+01
+	CS-134	563.23		8.38	8.01E-01	7.21E-02	8.76E-01
		569.32		15.43	-3.09E-02		4.29E-01
		604.70		97.60	-4.81E-03		7.21E-02
		795.84		85.40	1.02E-01		1.17E-01
		801.93		8.73	-1.87E-01		9.03E-01
+	CS-135	268.24		16.00	2.96E-01	3.75E-01	3.75E-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	2.84E+00	3.51E-01	3.94E+00
		163.89		4.61	6.63E-01		5.85E+00
		176.55		13.56	4.41E-01		1.95E+00
		273.65		12.66	-2.96E+00		2.19E+00

Analysis Report for 1510091-15

CP1805S08-09

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	CS-136	340.57	48.50	1.15E+00	3.51E-01	8.16E-01
		818.50	99.70	1.07E-01		3.51E-01
		1048.07	79.60	1.15E-01		5.86E-01
		1235.34	19.70	-4.31E-01		2.80E+00
+	CS-137	661.65	85.12	-3.26E-03	8.42E-02	8.42E-02
+	LA-138	788.74	34.00	7.41E-02	9.64E-02	2.44E-01
		1435.80	66.00	-2.80E-02		9.64E-02
+	CE-139	165.85	80.35	8.21E-03	7.61E-02	7.61E-02
+	BA-140	162.64	6.70	-4.60E-01	1.36E+00	4.12E+00
		304.84	4.50	-6.59E-01		6.17E+00
		423.70	3.20	3.35E+00		1.09E+01
		437.55	2.00	7.91E-01		1.71E+01
		537.32	25.00	-3.82E-01		1.36E+00
+	LA-140	328.77	20.50	1.13E+00	3.53E-01	1.66E+00
		487.03	45.50	3.08E-01		7.71E-01
		815.85	23.50	-3.20E-01		1.52E+00
		1596.49	95.49	1.47E-01		3.53E-01
+	CE-141	145.44	48.40	-7.52E-02	2.10E-01	2.10E-01
+	CE-143	57.36	11.80	1.18E+06	1.46E+06	4.34E+06
		293.26	42.00	4.12E+06		1.46E+06
		664.55	5.20	8.29E+06		1.12E+07
+	CE-144	133.54	10.80	1.20E-01	5.27E-01	5.27E-01
+	PM-144	476.78	42.00	2.23E-02	7.00E-02	1.58E-01
		618.01	98.60	1.81E-02		7.00E-02
		696.49	99.49	3.44E-02		8.03E-02
+	PM-145	36.85	21.70	-6.01E-01	3.27E-01	5.94E-01
		37.36	39.70	5.89E-02		3.27E-01
		42.30	15.10	-1.55E-01		6.04E-01
		72.40	2.31	-2.71E+00		3.50E+00
+	PM-146	453.90	39.94	1.19E-01	1.72E-01	1.72E-01
		735.90	14.01	1.35E-01		5.07E-01
		747.13	13.10	4.56E-01		6.01E-01
+	ND-147	91.11	28.90	-4.87E+00	1.79E+00	1.79E+00
		531.02	13.10	5.25E-01		3.63E+00
+	PM-149	285.90	3.10	7.77E+03	3.05E+04	3.05E+04
+	EU-152	121.78	20.50	8.00E-02	2.44E-01	2.44E-01
		244.69	5.40	-1.26E+00		1.05E+00
		344.27	19.13	2.44E-02		2.75E-01
		778.89	9.20	-2.44E-02		7.61E-01
		964.01	10.40	-1.85E+00		9.70E-01
		1085.78	7.22	2.52E-01		1.16E+00
		1112.02	9.60	-3.25E-02		9.11E-01
		1407.95	14.94	-1.56E-01		4.93E-01
+	GD-153	97.43	31.30	9.74E-02	1.84E-01	1.84E-01
		103.18	22.20	1.57E-01		2.44E-01
+	EU-154	123.07	40.50	7.36E-03	1.25E-01	1.25E-01
		723.30	19.70	-5.18E-02		3.54E-01
		873.19	11.50	9.50E-02		6.87E-01
		996.32	10.30	-9.01E-01		7.08E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	EU-154	1004.76		17.90	-2.44E-01	1.25E-01	4.26E-01
		1274.45		35.50	-1.89E-01		2.06E-01
+	EU-155	86.50		30.90	1.31E-01	2.33E-01	2.33E-01
		105.30		20.70	-2.92E-02		2.46E-01
+	EU-156	811.77		10.40	7.01E-01	2.72E+00	2.72E+00
		1153.47		7.20	-1.50E+00		5.52E+00
		1230.71		8.90	9.96E-01		4.70E+00
+	HO-166M	184.41		72.60	1.18E-01	9.42E-02	9.42E-02
		280.45		29.60	-6.29E-02		1.72E-01
		410.94		11.10	-1.38E-01		6.11E-01
		711.69		54.10	6.49E-02		1.39E-01
+	TM-171	66.72		0.14	-9.83E+01	5.09E+01	5.09E+01
+	HF-172	81.75		4.52	-1.78E+00	4.67E-01	1.41E+00
		125.81		11.30	1.93E-01		4.67E-01
+	LU-172	181.53		20.60	-3.29E+00	3.38E+00	6.55E+00
		810.06		16.63	-2.70E+00		1.03E+01
		912.12		15.25	8.49E+01		2.70E+01
		1093.66		62.50	8.17E-01		3.38E+00
+	LU-173	100.72		5.24	4.12E-01	3.06E-01	1.01E+00
		272.11		21.20	3.38E-01		3.06E-01
+	HF-175	343.40		84.00	1.63E-02	8.79E-02	8.79E-02
+	LU-176	88.34		13.30	9.77E-01	5.61E-02	5.49E-01
		201.83		86.00	1.53E-02		6.72E-02
		306.78		94.00	1.40E-02		5.61E-02
+	TA-182	67.75		41.20	1.55E-01	2.03E-01	2.03E-01
		1121.30		34.90	6.72E-01		4.68E-01
		1189.05		16.23	-2.30E-01		6.56E-01
		1221.41		26.98	2.22E-01		4.67E-01
		1231.02		11.44	2.24E-01		1.06E+00
+	IR-192	308.46		29.68	1.96E-02	1.78E-01	2.36E-01
		468.07		48.10	4.48E-02		1.78E-01
+	HG-203	279.19		77.30	5.25E-02	1.13E-01	1.13E-01
+	BI-207	569.67		97.72	8.72E-03	6.57E-02	6.57E-02
		1063.62		74.90	9.64E-03		1.11E-01
+	TL-208	583.14	*	30.22	1.57E+00	1.43E-01	3.64E-01
		860.37	*	4.48	3.81E+00		2.48E+00
		2614.66	*	35.85	1.04E+00		1.43E-01
+	BI-210M	262.00		45.00	2.26E-02	1.17E-01	1.17E-01
		300.00		23.00	-5.04E-01		2.51E-01
+	PB-210	46.50	*	4.25	1.66E+00	2.32E+00	2.32E+00
+	PB-211	404.84		2.90	-8.22E-01	1.90E+00	1.90E+00
		831.96		2.90	2.48E-01		2.35E+00
+	BI-212	727.17	*	11.80	1.45E+00	9.69E-01	9.69E-01
		1620.62	*	2.75	2.13E+00		1.06E+00
+	PB-212	238.63	*	44.60	1.75E+00	2.81E-01	2.81E-01
		300.09	*	3.41	1.01E+00		1.58E+00
+	BI-214	609.31	*	46.30	1.25E+00	2.15E-01	2.15E-01
		1120.29	*	15.10	1.23E+00		6.94E-01

Analysis Report for 1510091-15

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	BI-214	1764.49	*	15.80	1.55E+00	2.15E-01	4.44E-01
		2204.22		4.98	1.24E+00		1.90E+00
+	PB-214	295.21	*	19.19	1.33E+00	2.26E-01	4.05E-01
		351.92	*	37.19	1.27E+00		2.26E-01
+	RN-219	401.80	*	6.50	5.04E-01	8.95E-01	8.95E-01
+	RA-223	323.87		3.88	-6.04E-03	1.41E+00	1.41E+00
+	RA-224	240.98	*	3.95	4.97E+00	3.21E+00	3.21E+00
+	RA-225	40.00		31.00	1.14E-01	1.47E+00	1.47E+00
+	RA-226	186.21	*	3.28	3.27E+00	2.72E+00	2.72E+00
+	TH-227	50.10		8.40	-5.27E-02	6.04E-01	8.72E-01
		236.00		11.50	-6.03E+00		6.04E-01
		256.20		6.30	-1.98E-01		8.05E-01
+	AC-228	338.32	*	11.40	1.91E+00	3.12E-01	8.60E-01
		911.07	*	27.70	1.95E+00		3.12E-01
		969.11	*	16.60	1.84E+00		8.27E-01
+	TH-230	48.44		16.90	-5.61E-03	5.03E-01	5.03E-01
		62.85		4.60	1.44E+00		1.68E+00
		67.67		0.37	1.43E+01		1.87E+01
+	PA-231	283.67		1.60	-9.91E-02	2.35E+00	3.18E+00
		302.67		2.30	-1.59E-01		2.35E+00
+	TH-231	25.64		14.70	-1.85E+00	1.03E+00	4.15E+00
		84.21		6.40	-2.39E+00		1.03E+00
+	PA-233	311.98		38.60	-1.20E-01	2.92E-01	2.92E-01
+	PA-234	131.20		20.40	3.52E-01	2.66E-01	2.66E-01
		733.99		8.80	-2.31E-02		8.12E-01
		946.00		12.00	-1.00E-01		6.18E-01
+	PA-234M	1001.03		0.92	1.80E+00	8.85E+00	8.85E+00
+	TH-234	63.29		3.80	2.96E+00	2.04E+00	2.04E+00
+	U-235	143.76		10.50	-1.35E-01	4.96E-01	4.96E-01
		163.35		4.70	1.25E-01		1.10E+00
		205.31		4.70	2.66E-01		1.16E+00
+	NP-237	86.50		12.60	3.18E-01	5.64E-01	5.64E-01
+	NP-239	106.10		22.70	-2.67E+02	2.25E+03	2.25E+03
		228.18		10.70	1.03E+02		5.14E+03
		277.60		14.10	4.63E+02		3.85E+03
+	AM-241	59.54		35.90	-1.63E-01	1.98E-01	1.98E-01
+	AM-243	74.67	*	66.00	2.82E-01	1.93E-01	1.93E-01
+	CM-243	209.75		3.29	2.16E+00	3.83E-01	1.94E+00
		228.14		10.60	1.03E-02		5.13E-01
		277.60		14.00	4.60E-02		3.83E-01

\+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
\> = MDA value not calculated
@ = Half-life too short to be able to perform the decay correction
? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

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NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	BE-7	477.59		10.42	9.00E-01	9.00E-01	2.51E-01	4.27E-01
	NA-22	1274.54		99.94	7.43E-02	7.43E-02	-6.83E-02	3.36E-02
	NA-24	1368.53		99.99	8.18E+13	4.94E+13	1.74E+12	3.64E+13
		2754.09		99.86	4.94E+13		-6.63E+12	1.85E+13
	AL-26	1808.65		99.76	5.37E-02	5.37E-02	1.38E-02	2.25E-02
+	K-40	1460.81	*	10.67	1.14E+00	1.14E+00	2.25E+01	5.32E-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	7.32E-02	7.32E-02	5.59E-02	3.58E-02
		78.34		96.00	9.37E-02		2.39E-01	4.62E-02
	SC-46	889.25	*	99.98	7.60E-02	7.60E-02	3.83E-02	3.46E-02
		1120.51	*	99.99	1.36E-01		2.41E-01	6.38E-02
	V-48	983.52		99.98	2.85E-01	2.85E-01	2.74E-02	1.32E-01
		1312.10		97.50	3.29E-01		2.92E-03	1.51E-01
	CR-51	320.08		9.83	1.14E+00	1.14E+00	-2.74E-01	5.42E-01
	MN-54	834.83		99.97	8.33E-02	8.33E-02	2.67E-03	3.90E-02
	CO-56	846.75		99.96	9.68E-02	9.68E-02	5.45E-02	4.51E-02
		1037.75		14.03	6.60E-01		-3.81E-01	3.02E-01
		1238.25		67.00	2.20E-01		6.89E-02	1.03E-01
		1771.40		15.51	4.28E-01		5.40E-02	1.78E-01
		2598.48		16.90	3.75E-01		-1.11E-01	1.49E-01
	CO-57	122.06		85.51	6.30E-02	6.30E-02	2.07E-02	3.06E-02
		136.48		10.60	5.15E-01		-5.01E-01	2.50E-01
	CO-58	810.76		99.40	8.88E-02	8.88E-02	-4.83E-02	4.11E-02
	FE-59	1099.22		56.50	2.52E-01	2.52E-01	3.92E-02	1.17E-01
		1291.56		43.20	3.17E-01		1.30E-01	1.45E-01
	CO-60	1173.22		100.00	1.01E-01	7.59E-02	3.38E-02	4.72E-02
		1332.49		100.00	7.59E-02		1.30E-02	3.44E-02
	ZN-65	1115.52		50.75	1.77E-01	1.77E-01	1.54E-02	8.19E-02
+	GA-67	93.31	*	35.70	2.96E+02	2.63E+02	2.05E+02	1.46E+02
		208.95	*	2.24	2.96E+03		2.07E+03	1.45E+03
		300.22	*	16.00	2.63E+02		1.69E+02	1.26E+02
	SE-75	121.11		16.70	3.49E-01	9.91E-02	1.73E-02	1.70E-01
		136.00		59.20	1.05E-01		2.89E-02	5.13E-02
		264.65		59.80	9.91E-02		-2.35E-02	4.74E-02
		279.53		25.20	2.60E-01		1.32E-01	1.25E-01
		400.65		11.40	5.91E-01		3.05E-01	2.81E-01
	RB-82	776.52		13.00	1.25E+00	1.25E+00	1.02E-01	5.84E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	RB-83	520.41		46.00	1.71E-01	1.71E-01	-3.40E-02	8.09E-02
		529.64		30.30	2.75E-01		2.52E-05	1.30E-01
		552.65		16.40	4.83E-01		2.75E-01	2.28E-01
	KR-85	513.99		0.43	2.20E+01	2.20E+01	3.32E+01	1.06E+01
	SR-85	513.99		99.27	1.34E-01	1.34E-01	2.02E-01	6.46E-02
	Y-88	898.02		93.40	9.17E-02	6.01E-02	3.61E-02	4.24E-02
		1836.01		99.38	6.01E-02		-1.43E-02	2.46E-02
	NB-93M	16.57		9.43	7.24E+01	7.24E+01	-7.12E+01	3.37E+01
	NB-94	702.63		100.00	7.11E-02	7.11E-02	4.49E-03	3.34E-02
		871.10		100.00	7.29E-02		-1.84E-02	3.39E-02
	NB-95	765.79		99.81	1.72E-01	1.72E-01	2.28E-03	8.15E-02
	NB-95M	235.69		25.00	1.14E+02	1.14E+02	-1.14E+03	5.54E+01
	ZR-95	724.18		43.70	2.59E-01	1.94E-01	-2.01E-01	1.23E-01
		756.72		55.30	1.94E-01		2.90E-02	9.10E-02
	MO-99	181.06		6.20	2.29E+03	1.35E+03	4.39E+02	1.11E+03
		739.58		12.80	1.35E+03		-8.24E+02	6.30E+02
		778.00		4.50	4.10E+03		-6.20E+02	1.91E+03
	RU-103	497.08		89.00	1.21E-01	1.21E-01	-2.22E-02	5.73E-02
	RU-106	621.84		9.80	7.23E-01	7.23E-01	-9.78E-02	3.40E-01
	AG-108M	433.93		89.90	6.63E-02	6.63E-02	-2.67E-02	3.15E-02
		614.37		90.40	6.71E-02		-1.46E-02	3.14E-02
		722.95		90.50	7.66E-02		-1.12E-02	3.59E-02
+	CD-109	88.03	*	3.72	3.78E+00	3.78E+00	3.87E+00	1.87E+00
	AG-110M	657.75		93.14	7.72E-02	7.72E-02	2.94E-03	3.62E-02
		677.61		10.53	7.15E-01		3.81E-02	3.36E-01
		706.67		16.46	4.65E-01		-8.09E-02	2.18E-01
		763.93		21.98	3.98E-01		2.15E-02	1.88E-01
		884.67		71.63	1.15E-01		-9.26E-03	5.35E-02
		1384.27		23.94	3.46E-01		6.96E-02	1.57E-01
	CD-113M	263.70		0.02	2.21E+02	2.21E+02	-4.64E+01	1.06E+02
	SN-113	255.12		1.93	3.17E+00	9.55E-02	1.57E-02	1.52E+00
		391.69		64.90	9.55E-02		-3.27E-02	4.52E-02
	TE123M	159.00		84.10	7.06E-02	7.06E-02	-1.58E-02	3.42E-02
	SB-124	602.71		97.87	9.90E-02	9.90E-02	8.24E-03	4.67E-02
		645.85		7.26	1.43E+00		7.26E-01	6.75E-01
		722.78		11.10	8.95E-01		-1.31E-01	4.19E-01
		1691.02		49.00	1.44E-01		-3.39E-02	5.95E-02
	I-125	35.49		6.49	3.19E+00	3.19E+00	8.58E-01	1.55E+00
	SB-125	176.33		6.89	7.52E-01	2.24E-01	1.70E-01	3.64E-01
		427.89		29.33	2.24E-01		3.92E-02	1.07E-01
		463.38		10.35	7.33E-01		6.17E-01	3.51E-01
		600.56		17.80	3.87E-01		6.70E-02	1.82E-01
		635.90		11.32	6.10E-01		4.66E-02	2.87E-01
	SB-126	414.70		83.30	4.59E-01	4.17E-01	8.35E-02	2.20E-01
		666.33		99.60	4.55E-01		2.68E-01	2.16E-01
		695.00		99.60	4.17E-01		-2.72E-02	1.96E-01
		720.50		53.80	7.12E-01		-2.33E-02	3.32E-01
+	SN-126	87.57	*	37.00	3.63E-01	3.63E-01	3.71E-01	1.80E-01
	SB-127	473.00		25.00	7.28E+01	5.84E+01	3.24E+01	3.46E+01
		685.20		35.70	5.84E+01		3.91E+01	2.76E+01
		783.80		14.70	1.69E+02		1.06E+02	8.02E+01
	I-129	29.78		57.00	5.14E-01	5.14E-01	3.86E-01	2.50E-01
		33.60		13.20	1.35E+00		2.65E-01	6.55E-01

Analysis Report for 1510091-15

CP1805S08-09

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	1.44E+00	5.14E-01	1.11E-01	6.97E-01
I-131	284.30	6.05	1.25E+01	9.87E-01	-2.19E+00	5.96E+00
	364.48	81.20	9.87E-01		-4.05E-01	4.69E-01
	636.97	7.26	1.42E+01		1.03E+01	6.69E+00
	722.89	1.80	5.74E+01		-8.39E+00	2.69E+01
TE-132	49.72	13.10	4.45E+02	4.85E+01	-2.69E+01	2.17E+02
	228.16	88.00	4.85E+01		9.70E-01	2.34E+01
BA-133	81.00	33.00	1.90E-01	8.83E-02	-8.20E-01	9.30E-02
	302.84	17.80	3.06E-01		-2.07E-02	1.46E-01
	356.01	60.00	8.83E-02		-2.79E-04	4.20E-02
I-133	529.87	86.30	5.77E+09	5.77E+09	5.30E+05	2.73E+09
XE-133	81.00	38.00	1.03E+01	1.03E+01	-4.46E+01	5.06E+00
CS-134	563.23	8.38	8.76E-01	7.21E-02	8.01E-01	4.16E-01
	569.32	15.43	4.29E-01		-3.09E-02	2.02E-01
	604.70	97.60	7.21E-02		-4.81E-03	3.41E-02
	795.84	85.40	1.17E-01		1.02E-01	5.55E-02
	801.93	8.73	9.03E-01		-1.87E-01	4.24E-01
CS-135	268.24	16.00	3.75E-01	3.75E-01	2.96E-01	1.81E-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	3.51E-01	2.84E+00	1.92E+00
	163.89	4.61	5.85E+00		6.63E-01	2.84E+00
	176.55	13.56	1.95E+00		4.41E-01	9.44E-01
	273.65	12.66	2.19E+00		-2.96E+00	1.05E+00
	340.57	48.50	8.16E-01		1.15E+00	3.94E-01
	818.50	99.70	3.51E-01		1.07E-01	1.63E-01
	1048.07	79.60	5.86E-01		1.15E-01	2.74E-01
	1235.34	19.70	2.80E+00		-4.31E-01	1.31E+00
CS-137	661.65	85.12	8.42E-02	8.42E-02	-3.26E-03	3.97E-02
LA-138	788.74	34.00	2.44E-01	9.64E-02	7.41E-02	1.15E-01
	1435.80	66.00	9.64E-02		-2.80E-02	4.25E-02
CE-139	165.85	80.35	7.61E-02	7.61E-02	8.21E-03	3.69E-02
BA-140	162.64	6.70	4.12E+00	1.36E+00	-4.60E-01	2.00E+00
	304.84	4.50	6.17E+00		-6.59E-01	2.94E+00
	423.70	3.20	1.09E+01		3.35E+00	5.20E+00
	437.55	2.00	1.71E+01		7.91E-01	8.13E+00
	537.32	25.00	1.36E+00		-3.82E-01	6.42E-01
LA-140	328.77	20.50	1.66E+00	3.53E-01	1.13E+00	7.97E-01
	487.03	45.50	7.71E-01		3.08E-01	3.66E-01
	815.85	23.50	1.52E+00		-3.20E-01	7.03E-01
	1596.49	95.49	3.53E-01		1.47E-01	1.54E-01
CE-141	145.44	48.40	2.10E-01	2.10E-01	-7.52E-02	1.02E-01
CE-143	57.36	11.80	4.34E+06	1.46E+06	1.18E+06	2.12E+06
	293.26	42.00	1.46E+06		4.12E+06	7.10E+05
	664.55	5.20	1.12E+07		8.29E+06	5.29E+06
CE-144	133.54	10.80	5.27E-01	5.27E-01	1.20E-01	2.56E-01
PM-144	476.78	42.00	1.58E-01	7.00E-02	2.23E-02	7.48E-02
	618.01	98.60	7.00E-02		1.81E-02	3.29E-02
	696.49	99.49	8.03E-02		3.44E-02	3.79E-02
PM-145	36.85	21.70	5.94E-01	3.27E-01	-6.01E-01	2.88E-01
	37.36	39.70	3.27E-01		5.89E-02	1.59E-01
	42.30	15.10	6.04E-01		-1.55E-01	2.93E-01

Analysis Report for 1510091-15

CP1805S08-09

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	3.50E+00	3.27E-01	-2.71E+00	1.72E+00
PM-146	453.90	39.94	1.72E-01	1.72E-01	1.19E-01	8.21E-02
	735.90	14.01	5.07E-01		1.35E-01	2.37E-01
	747.13	13.10	6.01E-01		4.56E-01	2.83E-01
ND-147	91.11	28.90	1.79E+00	1.79E+00	-4.87E+00	8.79E-01
	531.02	13.10	3.63E+00		5.25E-01	1.72E+00
PM-149	285.90	3.10	3.05E+04	3.05E+04	7.77E+03	1.46E+04
EU-152	121.78	20.50	2.44E-01	2.44E-01	8.00E-02	1.18E-01
	244.69	5.40	1.05E+00		-1.26E+00	5.06E-01
	344.27	19.13	2.75E-01		2.44E-02	1.31E-01
	778.89	9.20	7.61E-01		-2.44E-02	3.55E-01
	964.01	10.40	9.70E-01		-1.85E+00	4.58E-01
	1085.78	7.22	1.16E+00		2.52E-01	5.38E-01
	1112.02	9.60	9.11E-01		-3.25E-02	4.23E-01
	1407.95	14.94	4.93E-01		-1.56E-01	2.22E-01
GD-153	97.43	31.30	1.84E-01	1.84E-01	9.74E-02	8.98E-02
	103.18	22.20	2.44E-01		1.57E-01	1.19E-01
EU-154	123.07	40.50	1.25E-01	1.25E-01	7.36E-03	6.10E-02
	723.30	19.70	3.54E-01		-5.18E-02	1.66E-01
	873.19	11.50	6.87E-01		9.50E-02	3.21E-01
	996.32	10.30	7.08E-01		-9.01E-01	3.26E-01
	1004.76	17.90	4.26E-01		-2.44E-01	1.97E-01
	1274.45	35.50	2.06E-01		-1.89E-01	9.32E-02
EU-155	86.50	30.90	2.33E-01	2.33E-01	1.31E-01	1.14E-01
	105.30	20.70	2.46E-01		-2.92E-02	1.20E-01
EU-156	811.77	10.40	2.72E+00	2.72E+00	7.01E-01	1.27E+00
	1153.47	7.20	5.52E+00		-1.50E+00	2.58E+00
	1230.71	8.90	4.70E+00		9.96E-01	2.19E+00
HO-166M	184.41	72.60	9.42E-02	9.42E-02	1.18E-01	4.59E-02
	280.45	29.60	1.72E-01		-6.29E-02	8.22E-02
	410.94	11.10	6.11E-01		-1.38E-01	2.92E-01
	711.69	54.10	1.39E-01		6.49E-02	6.57E-02
TM-171	66.72	0.14	5.09E+01	5.09E+01	-9.83E+01	2.49E+01
HF-172	81.75	4.52	1.41E+00	4.67E-01	-1.78E+00	6.91E-01
	125.81	11.30	4.67E-01		1.93E-01	2.27E-01
LU-172	181.53	20.60	6.55E+00	3.38E+00	-3.29E+00	3.17E+00
	810.06	16.63	1.03E+01		-2.70E+00	4.80E+00
	912.12	15.25	2.70E+01		8.49E+01	1.31E+01
	1093.66	62.50	3.38E+00		8.17E-01	1.56E+00
LU-173	100.72	5.24	1.01E+00	3.06E-01	4.12E-01	4.90E-01
	272.11	21.20	3.06E-01		3.38E-01	1.48E-01
HF-175	343.40	84.00	8.79E-02	8.79E-02	1.63E-02	4.19E-02
LU-176	88.34	13.30	5.49E-01	5.61E-02	9.77E-01	2.70E-01
	201.83	86.00	6.72E-02		1.53E-02	3.26E-02
	306.78	94.00	5.61E-02		1.40E-02	2.68E-02
TA-182	67.75	41.20	2.03E-01	2.03E-01	1.55E-01	9.93E-02
	1121.30	34.90	4.68E-01		6.72E-01	2.23E-01
	1189.05	16.23	6.56E-01		-2.30E-01	3.04E-01
	1221.41	26.98	4.67E-01		2.22E-01	2.19E-01
	1231.02	11.44	1.06E+00		2.24E-01	4.94E-01
IR-192	308.46	29.68	2.36E-01	1.78E-01	1.96E-02	1.13E-01
	468.07	48.10	1.78E-01		4.48E-02	8.48E-02
HG-203	279.19	77.30	1.13E-01	1.13E-01	5.25E-02	5.41E-02

Analysis Report for 1510091-15

CP1805S08-09

	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	6.57E-02	6.57E-02	8.72E-03	3.10E-02
		1063.62		74.90	1.11E-01		9.64E-03	5.13E-02
+	TL-208	583.14	*	30.22	3.64E-01	1.43E-01	1.57E+00	1.76E-01
		860.37	*	4.48	2.48E+00		3.81E+00	1.18E+00
		2614.66	*	35.85	1.43E-01		1.04E+00	5.76E-02
	BI-210M	262.00		45.00	1.17E-01	1.17E-01	2.26E-02	5.61E-02
		300.00		23.00	2.51E-01		-5.04E-01	1.21E-01
+	PB-210	46.50	*	4.25	2.32E+00	2.32E+00	1.66E+00	1.13E+00
	PB-211	404.84		2.90	1.90E+00	1.90E+00	-8.22E-01	9.01E-01
		831.96		2.90	2.35E+00		2.48E-01	1.09E+00
+	BI-212	727.17	*	11.80	9.69E-01	9.69E-01	1.45E+00	4.66E-01
		1620.62	*	2.75	1.06E+00		2.13E+00	3.84E-01
+	PB-212	238.63	*	44.60	2.81E-01	2.81E-01	1.75E+00	1.38E-01
		300.09	*	3.41	1.58E+00		1.01E+00	7.56E-01
+	BI-214	609.31	*	46.30	2.15E-01	2.15E-01	1.25E+00	1.03E-01
		1120.29	*	15.10	6.94E-01		1.23E+00	3.26E-01
		1764.49	*	15.80	4.44E-01		1.55E+00	1.95E-01
		2204.22		4.98	1.90E+00		1.24E+00	8.57E-01
+	PB-214	295.21	*	19.19	4.05E-01	2.26E-01	1.33E+00	1.97E-01
		351.92	*	37.19	2.26E-01		1.27E+00	1.09E-01
+	RN-219	401.80	*	6.50	8.95E-01	8.95E-01	5.04E-01	4.26E-01
	RA-223	323.87		3.88	1.41E+00	1.41E+00	-6.04E-03	6.73E-01
+	RA-224	240.98	*	3.95	3.21E+00	3.21E+00	4.97E+00	1.58E+00
	RA-225	40.00		31.00	1.47E+00	1.47E+00	1.14E-01	7.15E-01
+	RA-226	186.21	*	3.28	2.72E+00	2.72E+00	3.27E+00	1.34E+00
	TH-227	50.10		8.40	8.72E-01	6.04E-01	-5.27E-02	4.24E-01
		236.00		11.50	6.04E-01		-6.03E+00	2.93E-01
		256.20		6.30	8.05E-01		-1.98E-01	3.86E-01
+	AC-228	338.32	*	11.40	8.60E-01	3.12E-01	1.91E+00	4.19E-01
		911.07	*	27.70	3.12E-01		1.95E+00	1.46E-01
		969.11	*	16.60	8.27E-01		1.84E+00	3.97E-01
	TH-230	48.44		16.90	5.03E-01	5.03E-01	-5.61E-03	2.45E-01
		62.85		4.60	1.68E+00		1.44E+00	8.22E-01
		67.67		0.37	1.87E+01		1.43E+01	9.16E+00
	PA-231	283.67		1.60	3.18E+00	2.35E+00	-9.91E-02	1.52E+00
		302.67		2.30	2.35E+00		-1.59E-01	1.13E+00
	TH-231	25.64		14.70	4.15E+00	1.03E+00	-1.85E+00	2.02E+00
		84.21		6.40	1.03E+00		-2.39E+00	5.05E-01
	PA-233	311.98		38.60	2.92E-01	2.92E-01	-1.20E-01	1.39E-01
	PA-234	131.20		20.40	2.66E-01	2.66E-01	3.52E-01	1.30E-01
		733.99		8.80	8.12E-01		-2.31E-02	3.81E-01
		946.00		12.00	6.18E-01		-1.00E-01	2.86E-01
	PA-234M	1001.03		0.92	8.85E+00	8.85E+00	1.80E+00	4.12E+00
	TH-234	63.29		3.80	2.04E+00	2.04E+00	2.96E+00	1.00E+00
	U-235	143.76		10.50	4.96E-01	4.96E-01	-1.35E-01	2.41E-01
		163.35		4.70	1.10E+00		1.25E-01	5.33E-01
		205.31		4.70	1.16E+00		2.66E-01	5.62E-01
	NP-237	86.50		12.60	5.64E-01	5.64E-01	3.18E-01	2.77E-01
	NP-239	106.10		22.70	2.25E+03	2.25E+03	-2.67E+02	1.10E+03
		228.18		10.70	5.14E+03		1.03E+02	2.48E+03
		277.60		14.10	3.85E+03		4.63E+02	1.85E+03
	AM-241	59.54		35.90	1.98E-01	1.98E-01	-1.63E-01	9.67E-02
+	AM-243	74.67	*	66.00	1.93E-01	1.93E-01	2.82E-01	9.56E-02

Analysis Report for 1510091-15

CP1805S08-09

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	1.94E+00	3.83E-01	2.16E+00	9.42E-01
	228.14	10.60	5.13E-01		1.03E-02	2.47E-01
	277.60	14.00	3.83E-01		4.60E-02	1.84E-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

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: CP1805S08-09

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	63	102	94	88	89	108
25:	86	64	56	79	86	68	69	85
33:	68	64	66	83	70	63	62	101
41:	77	60	72	66	79	101	184	91
49:	81	92	84	91	96	118	101	101
57:	103	104	122	151	117	146	181	264
65:	128	138	140	172	150	145	130	150
73:	196	185	433	348	444	570	166	136
81:	135	147	118	157	173	126	224	282
89:	132	181	176	157	312	262	96	97
97:	96	91	108	119	87	68	83	81
105:	105	108	85	76	100	88	81	79
113:	87	104	102	94	72	71	68	72
121:	77	99	81	84	82	91	79	92
129:	75	106	80	100	77	107	61	90
137:	84	76	79	89	86	76	78	84
145:	81	79	84	65	90	68	80	97
153:	72	91	112	70	70	72	66	53
161:	64	69	71	67	60	78	69	73
169:	65	61	58	68	54	56	57	66
177:	63	61	58	58	46	89	69	58
185:	83	173	153	70	63	67	62	65
193:	57	52	68	61	64	66	72	77
201:	64	76	59	64	59	71	58	44
209:	94	115	81	62	58	49	61	52
217:	46	51	57	37	61	51	44	60
225:	49	54	46	47	44	64	43	53
233:	49	64	49	56	68	169	749	268
241:	119	162	105	38	45	32	32	31
249:	51	36	32	39	40	35	43	37
257:	35	40	39	46	41	43	37	31
265:	39	32	33	40	33	70	76	40
273:	42	38	36	35	30	62	32	31
281:	42	30	33	32	34	37	27	36
289:	32	26	34	38	38	35	142	197
297:	41	32	32	48	56	32	25	34
305:	25	36	29	37	33	35	22	28
313:	32	25	30	34	27	23	31	25
321:	30	31	27	35	30	36	33	58
329:	50	36	27	29	32	30	38	31
337:	33	95	156	53	28	31	25	27
345:	29	31	21	27	22	29	46	285
353:	219	47	23	18	26	14	19	21
361:	29	27	20	28	31	25	25	34

369:	30	25	22	21	18	23	27	23

Sample Title: CP1805S08-09

Channel								
377:	21	20	23	14	21	24	23	22
385:	27	21	26	19	28	18	28	25
393:	21	13	23	27	19	19	13	32
401:	21	28	29	15	23	22	27	27
409:	33	34	15	23	20	23	28	28
417:	20	23	19	21	16	23	17	20
425:	18	25	28	17	17	25	18	27
433:	14	16	22	10	16	23	18	20
441:	25	22	22	20	18	17	16	21
449:	23	11	10	23	22	28	20	24
457:	24	14	15	21	20	23	36	45
465:	25	15	12	16	18	20	21	19
473:	14	18	19	16	13	13	19	19
481:	18	12	15	15	14	22	24	15
489:	14	16	12	17	13	12	19	18
497:	20	12	15	12	18	18	13	13
505:	18	21	18	25	23	55	101	62
513:	30	16	14	15	13	14	14	9
521:	12	20	15	14	16	17	18	20
529:	12	15	16	15	11	21	8	17
537:	11	12	13	17	18	17	17	7
545:	11	17	24	8	13	16	14	10
553:	9	14	14	13	10	6	10	14
561:	15	21	24	17	13	15	10	13
569:	11	13	16	16	14	18	8	18
577:	12	14	15	15	21	25	137	188
585:	38	16	17	12	15	19	14	6
593:	14	12	17	10	13	13	13	18
601:	13	14	14	10	12	14	13	20
609:	146	216	57	13	13	7	10	8
617:	9	13	17	15	12	9	15	10
625:	10	19	11	15	11	17	18	7
633:	12	15	9	13	16	9	13	16
641:	7	7	10	18	18	13	11	15
649:	13	14	12	17	8	11	16	7
657:	10	12	14	7	12	11	14	16
665:	18	25	15	16	7	17	6	10
673:	13	16	12	15	17	14	6	8
681:	10	9	10	14	17	16	12	15
689:	8	9	12	10	11	13	14	14
697:	10	14	15	14	7	14	15	11
705:	9	12	9	9	10	19	11	10
713:	17	14	10	10	11	8	16	7
721:	7	8	11	11	8	22	35	47
729:	17	17	14	11	10	10	9	14
737:	9	11	11	7	8	8	7	9
745:	16	13	10	15	15	12	6	10
753:	9	14	14	16	8	12	10	10
761:	10	14	14	13	9	18	14	16
769:	39	6	9	7	15	13	10	9
777:	12	7	9	6	11	12	16	12
785:	18	22	17	14	14	9	9	9
793:	9	10	40	35	11	15	8	15

801:	11	9	13	11	10	14	12	3

Sample Title: CP1805S08-09

Channel								
809:	13	10	7	4	8	8	8	9
817:	4	6	10	7	15	5	6	4
825:	11	8	4	5	7	14	9	3
833:	5	12	6	15	20	13	9	9
841:	17	4	9	14	8	5	7	8
849:	11	11	5	6	8	7	5	12
857:	14	11	12	27	34	20	10	7
865:	9	6	7	7	8	10	14	6
873:	7	8	13	12	8	13	10	14
881:	10	8	10	15	4	9	6	11
889:	10	16	4	7	10	8	10	6
897:	13	8	9	3	3	1	6	10
905:	7	2	9	7	10	20	98	103
913:	41	15	7	4	2	2	11	6
921:	4	3	6	3	9	9	6	8
929:	7	7	5	7	6	18	8	10
937:	7	5	6	4	6	6	6	8
945:	10	8	6	10	6	12	9	8
953:	10	11	3	4	15	13	8	9
961:	10	7	12	17	29	16	9	19
969:	71	68	17	7	3	10	9	8
977:	9	11	6	5	12	9	10	3
985:	6	5	4	6	8	5	10	11
993:	10	5	8	5	12	3	4	9
1001:	20	10	8	6	9	4	8	6
1009:	5	10	4	4	5	7	7	6
1017:	7	4	12	6	12	8	8	13
1025:	2	8	14	9	2	7	12	8
1033:	5	10	5	3	6	6	7	7
1041:	7	7	12	4	13	6	6	12
1049:	9	12	10	11	7	4	4	7
1057:	6	4	6	8	10	4	5	8
1065:	9	11	9	7	9	6	5	4
1073:	8	12	7	8	8	10	8	9
1081:	8	6	6	13	6	9	6	9
1089:	6	4	9	3	6	8	8	8
1097:	11	10	5	7	9	10	5	10
1105:	10	11	3	10	13	14	6	7
1113:	5	7	6	12	7	4	10	33
1121:	56	19	8	15	8	8	11	5
1129:	5	8	5	5	6	5	4	7
1137:	5	7	7	10	6	7	9	8
1145:	10	5	5	13	9	7	9	6
1153:	11	6	17	10	12	10	7	4
1161:	10	10	5	4	11	5	9	9
1169:	9	13	6	11	16	4	7	14
1177:	7	8	8	7	6	7	4	13
1185:	11	11	6	4	9	5	12	6
1193:	9	6	10	17	13	7	14	9
1201:	4	5	8	7	7	9	15	11
1209:	22	9	13	6	10	12	8	8
1217:	2	10	14	8	10	5	14	12
1225:	12	7	8	9	9	13	14	6

1233:	8	7	11	8	13	21	14	8

Sample Title: CP1805S08-09

Channel								
1241:	8	16	7	8	10	9	11	6
1249:	7	6	12	7	5	12	7	7
1257:	5	10	9	9	7	6	5	12
1265:	9	13	13	6	10	7	6	5
1273:	3	7	3	6	1	6	10	7
1281:	8	9	4	5	3	5	7	7
1289:	5	6	1	9	8	6	2	3
1297:	4	10	6	4	3	12	1	9
1305:	4	3	6	4	5	2	7	6
1313:	6	8	5	5	7	7	12	3
1321:	3	9	4	6	1	1	5	3
1329:	7	2	2	4	5	5	6	3
1337:	4	5	3	3	3	5	6	4
1345:	2	12	3	3	5	5	6	4
1353:	5	4	5	5	1	5	1	4
1361:	4	2	6	4	3	4	2	3
1369:	3	2	5	2	1	4	5	3
1377:	8	7	10	5	5	4	6	4
1385:	4	6	1	0	2	3	1	2
1393:	2	1	1	4	0	4	1	5
1401:	4	3	4	5	4	3	1	9
1409:	4	3	3	7	4	3	3	5
1417:	3	1	3	7	4	5	1	0
1425:	7	6	6	4	4	1	1	5
1433:	6	0	5	3	2	1	2	4
1441:	4	2	5	4	1	4	3	1
1449:	5	1	4	5	4	3	5	4
1457:	5	3	16	154	370	273	64	8
1465:	4	1	4	2	2	1	5	2
1473:	2	2	4	0	5	4	1	3
1481:	1	1	3	1	2	3	1	1
1489:	2	2	0	2	0	1	2	6
1497:	2	4	2	0	5	0	2	1
1505:	1	2	1	1	6	1	6	2
1513:	2	2	2	4	1	2	2	2
1521:	4	3	4	1	3	0	3	4
1529:	5	2	1	1	4	3	1	2
1537:	0	2	7	2	2	1	4	2
1545:	2	2	2	3	1	6	2	2
1553:	5	2	1	0	1	1	1	2
1561:	2	3	0	0	0	2	1	0
1569:	1	1	0	0	2	0	1	5
1577:	2	1	3	4	2	1	1	0
1585:	2	1	1	6	11	3	0	1
1593:	6	5	1	1	2	0	0	2
1601:	0	1	2	3	3	2	1	3
1609:	2	4	0	2	0	3	2	1
1617:	1	0	1	6	7	6	1	0
1625:	0	1	3	2	3	0	8	4
1633:	0	0	4	1	3	1	0	1
1641:	3	1	1	0	1	1	1	1
1649:	1	0	0	0	3	0	0	1
1657:	2	2	1	1	3	4	2	2

1665:	1	1	1	1	1	2	0	0

Sample Title: CP1805S08-09

Channel								
1673:	1	0	5	1	2	1	4	3
1681:	1	0	0	2	1	2	2	2
1689:	1	2	0	1	1	1	2	1
1697:	1	1	1	0	2	0	1	2
1705:	0	1	4	1	0	1	1	0
1713:	2	2	1	0	0	1	1	1
1721:	0	2	2	2	2	2	1	2
1729:	5	10	3	2	1	1	0	0
1737:	0	1	2	2	1	0	0	0
1745:	4	3	0	2	1	2	1	1
1753:	2	2	2	0	3	2	1	2
1761:	0	0	8	16	41	15	3	1
1769:	1	0	0	3	0	3	1	0
1777:	2	1	1	1	0	0	0	1
1785:	1	3	1	2	0	0	1	1
1793:	1	2	2	0	3	0	1	0
1801:	3	2	2	0	2	1	1	3
1809:	1	0	1	0	1	1	0	1
1817:	1	1	0	1	1	1	0	1
1825:	3	2	1	2	0	1	2	2
1833:	1	1	0	1	0	3	1	0
1841:	2	0	2	0	0	0	3	2
1849:	4	0	1	1	1	0	0	1
1857:	1	2	2	2	1	0	0	0
1865:	0	0	0	1	3	0	3	2
1873:	3	2	0	0	0	0	1	0
1881:	0	1	1	1	0	1	2	2
1889:	0	0	1	3	1	2	3	1
1897:	2	2	3	0	0	1	1	3
1905:	1	1	1	4	0	4	2	3
1913:	0	0	1	0	0	0	1	1
1921:	0	1	0	0	1	1	1	1
1929:	1	0	2	1	0	0	0	1
1937:	1	2	1	0	1	0	1	1
1945:	3	0	1	3	0	0	1	0
1953:	0	3	0	0	3	1	1	1
1961:	0	3	0	1	1	1	0	2
1969:	0	0	1	0	0	2	2	0
1977:	1	1	1	2	1	0	3	1
1985:	1	0	1	3	2	1	0	0
1993:	1	0	4	1	0	0	0	0
2001:	0	1	1	1	2	1	0	0
2009:	1	1	0	0	0	0	0	0
2017:	1	0	3	0	2	0	0	4
2025:	1	1	0	0	3	0	2	0
2033:	2	2	3	0	2	1	2	4
2041:	0	1	3	2	1	0	1	1
2049:	1	0	0	0	0	1	1	1
2057:	0	0	1	0	0	1	0	0
2065:	0	2	0	0	1	3	0	0
2073:	0	2	1	0	0	2	1	0
2081:	2	0	0	0	1	1	3	0
2089:	0	1	1	0	0	1	2	0

2097:	1	2	0	0	1	7	4	5

Sample Title: CP1805S08-09

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

2529:	0	0	0	1	0	2	0	0

Sample Title: CP1805S08-09

Channel								
2537:	0	0	3	0	2	0	0	2
2545:	0	1	3	0	0	1	1	0
2553:	0	1	0	0	2	0	0	0
2561:	0	0	0	0	0	1	1	1
2569:	1	0	1	1	0	0	0	0
2577:	0	0	0	2	1	1	0	2
2585:	0	1	2	1	0	1	0	0
2593:	1	1	0	0	1	0	1	0
2601:	1	1	3	1	1	0	1	0
2609:	1	0	0	1	16	21	46	17
2617:	4	2	1	0	0	1	0	0
2625:	1	0	0	0	1	0	0	0
2633:	0	0	0	0	0	2	0	0
2641:	1	1	0	0	0	0	1	0
2649:	0	1	0	0	0	1	0	0
2657:	0	0	0	1	0	0	1	2
2665:	0	0	0	0	0	0	0	0
2673:	0	0	0	2	0	0	0	0
2681:	1	0	0	0	1	0	0	1
2689:	0	0	0	0	1	0	0	0
2697:	2	0	0	0	2	0	0	1
2705:	0	1	0	2	0	0	2	0
2713:	0	0	0	0	0	0	0	1
2721:	1	0	1	0	0	1	1	1
2729:	0	0	0	0	1	0	1	0
2737:	0	1	0	0	0	0	0	0
2745:	0	0	0	0	1	0	0	1
2753:	1	0	0	0	0	0	0	2
2761:	0	1	0	0	1	0	0	0
2769:	1	1	0	0	0	2	0	0
2777:	0	1	0	0	0	0	0	1
2785:	1	0	1	0	1	2	0	0
2793:	0	0	0	1	1	0	0	0
2801:	0	2	0	0	1	1	1	0
2809:	1	0	0	0	0	0	0	0
2817:	0	0	0	1	0	0	0	0
2825:	1	0	0	0	1	0	1	0
2833:	0	0	0	0	1	0	0	1
2841:	2	0	0	0	0	0	1	0
2849:	0	0	0	0	0	0	0	1
2857:	2	0	0	0	2	0	0	0
2865:	0	0	0	0	0	1	0	0
2873:	0	0	1	0	0	1	1	1
2881:	0	0	0	0	1	1	0	1
2889:	0	1	2	1	1	1	0	0
2897:	0	0	0	0	0	0	0	1
2905:	0	0	0	0	1	0	0	0
2913:	0	1	0	0	0	2	2	0
2921:	0	1	0	0	0	1	0	1
2929:	0	0	0	0	0	0	0	0
2937:	0	0	0	0	0	0	0	0
2945:	0	0	0	1	0	0	0	1
2953:	0	0	0	0	0	1	0	0

2961:	0	0	0	0	0	0	2	0

Sample Title: CP1805S08-09

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

3393:	0	1	0	0	0	0	0	0

Sample Title: CP1805S08-09

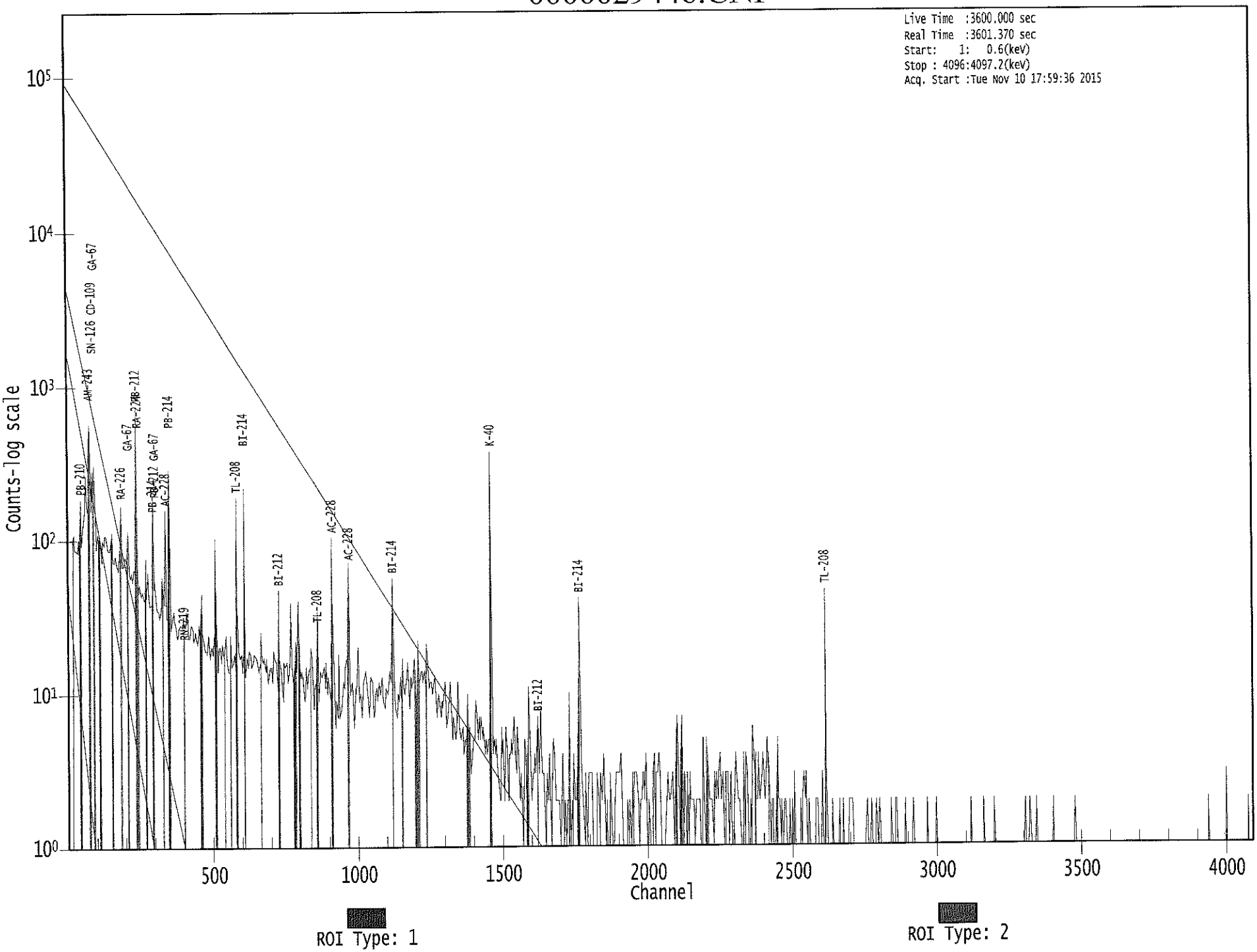
Channel								
3401:	0	0	2	0	0	0	0	0
3409:	0	0	0	0	1	0	0	0
3417:	0	0	0	0	0	1	0	0
3425:	0	0	0	0	0	0	0	0
3433:	0	0	0	1	0	0	1	0
3441:	0	0	1	0	0	0	0	0
3449:	0	0	0	0	0	0	0	0
3457:	0	0	0	0	0	0	0	0
3465:	0	0	0	0	1	0	0	0
3473:	0	0	1	0	1	2	1	1
3481:	0	0	1	0	1	0	0	0
3489:	0	0	0	0	0	0	0	0
3497:	0	0	0	0	0	0	0	0
3505:	0	0	1	1	0	0	0	0
3513:	1	0	0	0	0	0	0	0
3521:	0	0	0	1	1	0	0	0
3529:	0	0	0	0	0	0	0	1
3537:	0	0	0	0	1	0	0	0
3545:	1	0	1	1	1	0	0	0
3553:	0	0	0	0	0	0	0	0
3561:	0	0	0	0	0	0	0	0
3569:	1	0	0	0	0	0	0	0
3577:	0	0	0	1	0	0	0	0
3585:	1	0	0	0	0	0	0	1
3593:	0	1	0	0	1	0	0	0
3601:	0	0	0	0	1	0	0	0
3609:	0	0	0	0	0	1	1	1
3617:	0	0	0	0	0	0	0	0
3625:	0	1	0	1	0	0	0	0
3633:	0	0	0	1	0	0	0	0
3641:	0	0	1	1	0	0	0	0
3649:	0	0	0	0	0	0	0	0
3657:	0	1	0	0	0	0	0	0
3665:	0	1	0	0	0	0	1	0
3673:	0	0	0	0	0	0	0	0
3681:	1	0	0	0	0	0	0	1
3689:	0	0	0	0	0	0	0	0
3697:	0	0	0	0	0	0	0	0
3705:	0	0	1	0	0	0	0	0
3713:	0	0	1	0	0	0	0	0
3721:	0	0	0	0	0	0	0	0
3729:	0	0	0	0	0	0	0	1
3737:	0	1	0	0	0	0	0	0
3745:	0	0	1	1	1	0	0	1
3753:	0	0	1	0	0	0	1	0
3761:	0	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0
3777:	0	1	0	0	0	0	0	0
3785:	1	0	0	0	0	1	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	1	0	0

3825:	0	0	0	0	0	0	0	1

Sample Title: CP1805S08-09

Channel								
3833:	0	1	0	1	0	0	0	1
3841:	0	0	0	1	0	0	0	1
3849:	0	0	0	0	0	0	0	1
3857:	0	0	0	0	0	0	0	0
3865:	1	0	0	0	1	0	0	0
3873:	1	1	1	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	0	0	0	0	0
3905:	0	0	0	0	0	0	0	0
3913:	0	0	0	0	0	0	1	0
3921:	0	0	0	0	0	0	0	0
3929:	0	0	0	1	0	0	0	0
3937:	2	0	0	0	0	0	0	0
3945:	0	0	1	0	0	0	0	0
3953:	0	0	0	0	0	1	0	0
3961:	0	0	0	0	0	0	0	0
3969:	0	0	0	0	0	0	0	0
3977:	0	0	0	0	0	0	0	0
3985:	1	0	0	0	0	0	1	0
3993:	0	0	0	0	1	1	0	3
4001:	0	0	1	0	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	0	1	0	0	0
4049:	0	0	0	0	0	1	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	0	0	0	0	0	0	0
4073:	0	0	0	2	1	1	0	0
4081:	0	0	0	0	0	0	0	0
4089:	1	0	0	1	0	0	1	0

0000029446.CNF



Apex-Gamma

Analysis Report for 1510091-16
CP1805S11-12

11/11

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1510091-16
Sample Description	: CP1805S11-12
Sample Type	: SOIL
Sample Size	: 5.378E+02 grams
Facility	: Countroom
Sample Taken On	: 10/10/2015 10:18:23AM
Acquisition Started	: 11/10/2015 6:08:20PM
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	: 29447

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510091-16

CP1805S11-12

PEAK LOCATE REPORT

Peak Locate Performed on : 11/10/2015 7:08:38PM
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	76.26	76.48	0.0000	0.00
2	92.59	92.79	0.0000	0.00
3	129.09	129.28	0.0000	0.00
4	185.91	186.06	0.0000	0.00
5	209.51	209.65	0.0000	0.00
6	215.24	215.39	0.0000	0.00
7	238.85	238.98	0.0000	0.00
8	241.90	242.03	0.0000	0.00
9	270.55	270.66	0.0000	0.00
10	295.53	295.63	0.0000	0.00
11	300.28	300.37	0.0000	0.00
12	307.81	307.91	0.0000	0.00
13	338.71	338.78	0.0000	0.00
14	352.17	352.24	0.0000	0.00
15	439.52	439.54	0.0000	0.00
16	462.97	462.98	0.0000	0.00
17	468.44	468.45	0.0000	0.00
18	510.72	510.71	0.0000	0.00
19	528.72	528.70	0.0000	0.00
20	583.36	583.32	0.0000	0.00
21	609.52	609.46	0.0000	0.00
22	647.74	647.67	0.0000	0.00
23	653.32	653.24	0.0000	0.00
24	665.84	665.76	0.0000	0.00
25	790.14	790.00	0.0000	0.00
26	795.45	795.30	0.0000	0.00
27	860.78	860.61	0.0000	0.00
28	911.65	911.45	0.0000	0.00
29	921.50	921.30	0.0000	0.00
30	934.98	934.77	0.0000	0.00
31	967.98	967.76	0.0000	0.00
32	983.10	982.88	0.0000	0.00
33	1071.26	1071.00	0.0000	0.00
34	1078.70	1078.43	0.0000	0.00
35	1120.38	1120.09	0.0000	0.00
36	1160.49	1160.19	0.0000	0.00
37	1180.61	1180.30	0.0000	0.00
38	1211.89	1211.57	0.0000	0.00
39	1237.81	1237.47	0.0000	0.00
40	1378.02	1377.63	0.0000	0.00
41	1401.97	1401.57	0.0000	0.00
42	1426.20	1425.79	0.0000	0.00

Analysis Report for 1510091-16

CP1805S11-12

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1461.02	1460.60	0.0000	0.00
44	1686.00	1685.50	0.0000	0.00
45	1717.26	1716.75	0.0000	0.00
46	1729.12	1728.60	0.0000	0.00
47	1764.15	1763.62	0.0000	0.00
48	1846.76	1846.21	0.0000	0.00
49	2073.76	2073.13	0.0000	0.00
50	2102.96	2102.32	0.0000	0.00
51	2131.22	2130.57	0.0000	0.00
52	2145.45	2144.80	0.0000	0.00
53	2205.02	2204.35	0.0000	0.00
54	2614.72	2613.94	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510091-16

CP1805S11-12

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 7:08:38PM

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	76.26	71 -	81	76.48	1.21E+03	161.52	2.81E+03	3.87
	2	92.59	90 -	97	92.79	2.98E+02	108.96	1.72E+03	1.78
	3	129.09	126 -	132	129.28	6.71E+01	74.46	9.60E+02	1.86
	4	185.91	182 -	189	186.06	1.46E+02	76.89	8.89E+02	1.76
	5	209.51	207 -	212	209.65	9.01E+01	54.57	5.26E+02	1.78
	6	215.24	213 -	218	215.39	7.00E+01	51.50	4.66E+02	2.46
M	7	238.85	234 -	246	238.98	9.19E+02	73.53	4.25E+02	1.77
m	8	241.90	234 -	246	242.03	2.14E+02	81.93	4.90E+02	2.32
	9	270.55	267 -	274	270.66	5.42E+01	56.67	4.98E+02	2.03
M	10	295.53	292 -	305	295.63	2.98E+02	50.98	2.98E+02	2.14
m	11	300.28	292 -	305	300.37	6.82E+01	42.32	2.69E+02	2.15
	12	307.81	306 -	311	307.91	3.22E+01	37.48	2.56E+02	1.66
	13	338.71	335 -	343	338.78	1.55E+02	56.62	3.91E+02	2.03
	14	352.17	348 -	356	352.24	4.03E+02	67.72	4.53E+02	1.64
	15	439.52	437 -	442	439.54	2.53E+01	31.70	1.77E+02	3.02
	16	462.97	459 -	466	462.98	5.97E+01	38.42	2.03E+02	1.46
	17	468.44	467 -	471	468.45	2.19E+01	23.93	1.08E+02	1.98
	18	510.72	505 -	515	510.71	1.40E+02	50.82	2.70E+02	2.90
	19	528.72	522 -	536	528.70	5.49E+01	54.12	2.86E+02	11.39
	20	583.36	578 -	586	583.32	2.46E+02	48.91	2.19E+02	1.97
	21	609.52	605 -	613	609.46	2.51E+02	48.41	2.04E+02	1.93
M	22	647.74	645 -	656	647.67	1.76E+01	22.41	6.93E+01	2.69
m	23	653.32	645 -	656	653.24	2.74E+01	30.07	1.35E+02	2.70
	24	665.84	663 -	668	665.76	1.99E+01	25.08	1.08E+02	2.61
M	25	790.14	789 -	799	790.00	1.78E+01	11.18	3.27E+01	2.11
m	26	795.45	789 -	799	795.30	3.38E+01	28.77	1.12E+02	2.81
	27	860.78	857 -	864	860.61	3.50E+01	28.50	1.12E+02	2.03
	28	911.65	907 -	916	911.45	1.46E+02	39.29	1.31E+02	1.94
	29	921.50	917 -	925	921.30	3.16E+01	22.43	5.69E+01	3.83
	30	934.98	932 -	941	934.77	2.21E+01	27.62	9.99E+01	3.27
	31	967.98	963 -	972	967.76	1.10E+02	35.31	1.16E+02	1.65
	32	983.10	978 -	988	982.88	3.25E+01	27.38	8.30E+01	5.01
	33	1071.26	1068 -	1075	1071.00	3.30E+01	19.29	4.00E+01	5.02
	34	1078.70	1076 -	1081	1078.43	1.84E+01	17.41	4.73E+01	3.83
	35	1120.38	1116 -	1123	1120.09	6.21E+01	25.61	6.78E+01	2.44
	36	1160.49	1157 -	1164	1160.19	2.14E+01	18.76	4.52E+01	3.81
	37	1180.61	1175 -	1183	1180.30	2.21E+01	23.49	6.98E+01	3.21
	38	1211.89	1207 -	1216	1211.57	2.50E+01	25.69	8.00E+01	3.27
	39	1237.81	1234 -	1241	1237.47	3.70E+01	25.06	8.00E+01	1.61
	40	1378.02	1373 -	1381	1377.63	2.16E+01	17.72	3.28E+01	1.79

Analysis Report for 1510091-16

CP1805S11-12

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1401.97	1398 -	1405	1401.57	1.24E+01	10.95	1.13E+01	1.54
42	1426.20	1423 -	1430	1425.79	1.40E+01	14.14	2.40E+01	4.40
43	1461.02	1455 -	1465	1460.60	5.05E+02	48.04	3.86E+01	2.38
44	1686.00	1683 -	1688	1685.50	6.00E+00	4.90	0.00E+00	1.16
45	1717.26	1714 -	1720	1716.75	8.00E+00	8.51	8.00E+00	3.58
46	1729.12	1725 -	1731	1728.60	1.46E+01	9.82	6.78E+00	2.45
47	1764.15	1758 -	1768	1763.62	4.63E+01	15.04	5.45E+00	2.56
48	1846.76	1842 -	1850	1846.21	1.27E+01	8.96	4.67E+00	2.31
49	2073.76	2069 -	2076	2073.13	8.00E+00	5.66	0.00E+00	3.00
50	2102.96	2096 -	2107	2102.32	2.50E+01	12.17	6.07E+00	1.23
51	2131.22	2127 -	2133	2130.57	7.00E+00	5.29	0.00E+00	3.00
52	2145.45	2141 -	2147	2144.80	5.00E+00	4.47	0.00E+00	2.41
53	2205.02	2199 -	2212	2204.35	2.60E+01	10.20	0.00E+00	4.83
54	2614.72	2608 -	2618	2613.94	6.96E+01	20.07	1.68E+01	2.52

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 7:08:38PM

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	76.26	71 -	81	1.21E+03	161.52	2.81E+03	1.20E+02
	2	92.59	90 -	97	2.98E+02	108.96	1.72E+03	8.50E+01
	3	129.09	126 -	132	6.71E+01	74.46	9.60E+02	5.97E+01
	4	185.91	182 -	189	1.46E+02	76.89	8.89E+02	6.00E+01
	5	209.51	207 -	212	9.01E+01	54.57	5.26E+02	4.21E+01
	6	215.24	213 -	218	7.00E+01	51.50	4.66E+02	4.00E+01
M	7	238.85	234 -	246	9.19E+02	73.53	4.25E+02	3.39E+01
m	8	241.90	234 -	246	2.14E+02	81.93	4.90E+02	3.64E+01
	9	270.55	267 -	274	5.42E+01	56.67	4.98E+02	4.50E+01
M	10	295.53	292 -	305	2.98E+02	50.98	2.98E+02	2.84E+01
m	11	300.28	292 -	305	6.82E+01	42.32	2.69E+02	2.70E+01
	12	307.81	306 -	311	3.22E+01	37.48	2.56E+02	2.94E+01
	13	338.71	335 -	343	1.55E+02	56.62	3.91E+02	4.18E+01
	14	352.17	348 -	356	4.03E+02	67.72	4.53E+02	4.48E+01

Analysis Report for 1510091-16

CP1805S11-12

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	15	439.52	437 -	442	2.53E+01	31.70	1.77E+02	2.47E+01
	16	462.97	459 -	466	5.97E+01	38.42	2.03E+02	2.89E+01
	17	468.44	467 -	471	2.19E+01	23.93	1.08E+02	1.81E+01
	18	510.72	505 -	515	1.40E+02	50.82	2.70E+02	3.70E+01
	19	528.72	522 -	536	5.49E+01	54.12	2.86E+02	4.28E+01
	20	583.36	578 -	586	2.46E+02	48.91	2.19E+02	3.09E+01
	21	609.52	605 -	613	2.51E+02	48.41	2.04E+02	3.01E+01
M	22	647.74	645 -	656	1.76E+01	22.41	6.93E+01	1.37E+01
m	23	653.32	645 -	656	2.74E+01	30.07	1.35E+02	1.91E+01
	24	665.84	663 -	668	1.99E+01	25.08	1.08E+02	1.93E+01
M	25	790.14	789 -	799	1.78E+01	11.18	3.27E+01	9.40E+00
m	26	795.45	789 -	799	3.38E+01	28.77	1.12E+02	1.74E+01
	27	860.78	857 -	864	3.50E+01	28.50	1.12E+02	2.13E+01
	28	911.65	907 -	916	1.46E+02	39.29	1.31E+02	2.55E+01
	29	921.50	917 -	925	3.16E+01	22.43	5.69E+01	1.60E+01
	30	934.98	932 -	941	2.21E+01	27.62	9.99E+01	2.14E+01
	31	967.98	963 -	972	1.10E+02	35.31	1.16E+02	2.33E+01
	32	983.10	978 -	988	3.25E+01	27.38	8.30E+01	2.05E+01
	33	1071.26	1068 -	1075	3.30E+01	19.29	4.00E+01	1.27E+01
	34	1078.70	1076 -	1081	1.84E+01	17.41	4.73E+01	1.25E+01
	35	1120.38	1116 -	1123	6.21E+01	25.61	6.78E+01	1.66E+01
	36	1160.49	1157 -	1164	2.14E+01	18.76	4.52E+01	1.34E+01
	37	1180.61	1175 -	1183	2.21E+01	23.49	6.98E+01	1.77E+01
	38	1211.89	1207 -	1216	2.50E+01	25.69	8.00E+01	1.95E+01
	39	1237.81	1234 -	1241	3.70E+01	25.06	8.00E+01	1.80E+01
	40	1378.02	1373 -	1381	2.16E+01	17.72	3.28E+01	1.24E+01
	41	1401.97	1398 -	1405	1.24E+01	10.95	1.13E+01	6.90E+00
	42	1426.20	1423 -	1430	1.40E+01	14.14	2.40E+01	9.86E+00
	43	1461.02	1455 -	1465	5.05E+02	48.04	3.86E+01	1.40E+01
	44	1686.00	1683 -	1688	6.00E+00	4.90	0.00E+00	0.00E+00
	45	1717.26	1714 -	1720	8.00E+00	8.51	8.00E+00	5.23E+00
	46	1729.12	1725 -	1731	1.46E+01	9.82	6.78E+00	5.07E+00
	47	1764.15	1758 -	1768	4.63E+01	15.04	5.45E+00	5.27E+00
	48	1846.76	1842 -	1850	1.27E+01	8.96	4.67E+00	4.47E+00
	49	2073.76	2069 -	2076	8.00E+00	5.66	0.00E+00	0.00E+00
	50	2102.96	2096 -	2107	2.50E+01	12.17	6.07E+00	5.70E+00
	51	2131.22	2127 -	2133	7.00E+00	5.29	0.00E+00	0.00E+00
	52	2145.45	2141 -	2147	5.00E+00	4.47	0.00E+00	0.00E+00
	53	2205.02	2199 -	2212	2.60E+01	10.20	0.00E+00	0.00E+00
	54	2614.72	2608 -	2618	6.96E+01	20.07	1.68E+01	9.17E+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 1510091-16

CP1805S11-12

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/10/2015 7:08:38PM

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	76.26	71 -	81	76.48	1.21E+03	161.52	2.81E+03	.....
	2	92.59	90 -	97	92.79	2.98E+02	108.96	1.72E+03	GA-67
	3	129.09	126 -	132	129.28	6.71E+01	74.46	9.60E+02	.....
	4	185.91	182 -	189	186.06	1.46E+02	76.89	8.89E+02	RA-226
	5	209.51	207 -	212	209.65	9.01E+01	54.57	5.26E+02	CM-243 GA-67
	6	215.24	213 -	218	215.39	7.00E+01	51.50	4.66E+02	.....
M	7	238.85	234 -	246	238.98	9.19E+02	73.53	4.25E+02	PB-212
m	8	241.90	234 -	246	242.03	2.14E+02	81.93	4.90E+02	RA-224
	9	270.55	267 -	274	270.66	5.42E+01	56.67	4.98E+02	.....
M	10	295.53	292 -	305	295.63	2.98E+02	50.98	2.98E+02	PB-214
m	11	300.28	292 -	305	300.37	6.82E+01	42.32	2.69E+02	GA-67 PB-212 BI-210M
	12	307.81	306 -	311	307.91	3.22E+01	37.48	2.56E+02	IR-192
	13	338.71	335 -	343	338.78	1.55E+02	56.62	3.91E+02	AC-228
	14	352.17	348 -	356	352.24	4.03E+02	67.72	4.53E+02	PB-214
	15	439.52	437 -	442	439.54	2.53E+01	31.70	1.77E+02	.....
	16	462.97	459 -	466	462.98	5.97E+01	38.42	2.03E+02	SB-125
	17	468.44	467 -	471	468.45	2.19E+01	23.93	1.08E+02	IR-192
	18	510.72	505 -	515	510.71	1.40E+02	50.82	2.70E+02	.....
	19	528.72	522 -	536	528.70	5.49E+01	54.12	2.86E+02	RB-83
	20	583.36	578 -	586	583.32	2.46E+02	48.91	2.19E+02	TL-208
	21	609.52	605 -	613	609.46	2.51E+02	48.41	2.04E+02	BI-214
M	22	647.74	645 -	656	647.67	1.76E+01	22.41	6.93E+01	.....
m	23	653.32	645 -	656	653.24	2.74E+01	30.07	1.35E+02	.....
	24	665.84	663 -	668	665.76	1.99E+01	25.08	1.08E+02	SB-126
M	25	790.14	789 -	799	790.00	1.78E+01	11.18	3.27E+01	.....
m	26	795.45	789 -	799	795.30	3.38E+01	28.77	1.12E+02	CS-134
	27	860.78	857 -	864	860.61	3.50E+01	28.50	1.12E+02	TL-208
	28	911.65	907 -	916	911.45	1.46E+02	39.29	1.31E+02	LU-172 AC-228
	29	921.50	917 -	925	921.30	3.16E+01	22.43	5.69E+01	.....
	30	934.98	932 -	941	934.77	2.21E+01	27.62	9.99E+01	.....
	31	967.98	963 -	972	967.76	1.10E+02	35.31	1.16E+02	.....
	32	983.10	978 -	988	982.88	3.25E+01	27.38	8.30E+01	V-48
	33	1071.26	1068 -	1075	1071.00	3.30E+01	19.29	4.00E+01	.....
	34	1078.70	1076 -	1081	1078.43	1.84E+01	17.41	4.73E+01	.....
	35	1120.38	1116 -	1123	1120.09	6.21E+01	25.61	6.78E+01	BI-214 SC-46 TA-182

Analysis Report for 1510091-16

CP1805S11-12

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
36	1160.49	1157 -	1164	1160.19	2.14E+01	18.76	4.52E+01	.....
37	1180.61	1175 -	1183	1180.30	2.21E+01	23.49	6.98E+01	.....
38	1211.89	1207 -	1216	1211.57	2.50E+01	25.69	8.00E+01	.....
39	1237.81	1234 -	1241	1237.47	3.70E+01	25.06	8.00E+01	CO-56
40	1378.02	1373 -	1381	1377.63	2.16E+01	17.72	3.28E+01	.....
41	1401.97	1398 -	1405	1401.57	1.24E+01	10.95	1.13E+01	.....
42	1426.20	1423 -	1430	1425.79	1.40E+01	14.14	2.40E+01	.....
43	1461.02	1455 -	1465	1460.60	5.05E+02	48.04	3.86E+01	K-40
44	1686.00	1683 -	1688	1685.50	6.00E+00	4.90	0.00E+00	.....
45	1717.26	1714 -	1720	1716.75	8.00E+00	8.51	8.00E+00	.....
46	1729.12	1725 -	1731	1728.60	1.46E+01	9.82	6.78E+00	.....
47	1764.15	1758 -	1768	1763.62	4.63E+01	15.04	5.45E+00	BI-214
48	1846.76	1842 -	1850	1846.21	1.27E+01	8.96	4.67E+00	.....
49	2073.76	2069 -	2076	2073.13	8.00E+00	5.66	0.00E+00	.....
50	2102.96	2096 -	2107	2102.32	2.50E+01	12.17	6.07E+00	.....
51	2131.22	2127 -	2133	2130.57	7.00E+00	5.29	0.00E+00	.....
52	2145.45	2141 -	2147	2144.80	5.00E+00	4.47	0.00E+00	.....
53	2205.02	2199 -	2212	2204.35	2.60E+01	10.20	0.00E+00	BI-214
54	2614.72	2608 -	2618	2613.94	6.96E+01	20.07	1.68E+01	TL-208

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/10/2015 7:08:38PM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	76.26	1.21E+03	161.52	2.38E-02	2.14E-03
	2	92.59	2.98E+02	108.96	2.44E-02	2.42E-03
	3	129.09	6.71E+01	74.46	2.25E-02	1.70E-03
	4	185.91	1.46E+02	76.89	1.83E-02	1.42E-03
	5	209.51	9.01E+01	54.57	1.68E-02	1.31E-03
	6	215.24	7.00E+01	51.50	1.65E-02	1.29E-03
M	7	238.85	9.19E+02	73.53	1.52E-02	1.18E-03
m	8	241.90	2.14E+02	81.93	1.51E-02	1.17E-03
	9	270.55	5.42E+01	56.67	1.38E-02	1.04E-03
M	10	295.53	2.98E+02	50.98	1.28E-02	9.74E-04
m	11	300.28	6.82E+01	42.32	1.26E-02	9.67E-04

Analysis Report for 1510091-16

CP1805S11-12

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	12	307.81	3.22E+01	37.48	1.24E-02	9.56E-04
	13	338.71	1.55E+02	56.62	1.14E-02	9.12E-04
	14	352.17	4.03E+02	67.72	1.11E-02	8.93E-04
	15	439.52	2.53E+01	31.70	9.13E-03	7.90E-04
	16	462.97	5.97E+01	38.42	8.73E-03	7.66E-04
	17	468.44	2.19E+01	23.93	8.64E-03	7.61E-04
	18	510.72	1.40E+02	50.82	8.02E-03	7.18E-04
	19	528.72	5.49E+01	54.12	7.78E-03	7.00E-04
	20	583.36	2.46E+02	48.91	7.14E-03	6.46E-04
	21	609.52	2.51E+02	48.41	6.87E-03	6.20E-04
M	22	647.74	1.76E+01	22.41	6.51E-03	5.82E-04
m	23	653.32	2.74E+01	30.07	6.47E-03	5.76E-04
	24	665.84	1.99E+01	25.08	6.36E-03	5.64E-04
M	25	790.14	1.78E+01	11.18	5.48E-03	4.63E-04
m	26	795.45	3.38E+01	28.77	5.45E-03	4.58E-04
	27	860.78	3.50E+01	28.50	5.09E-03	4.05E-04
	28	911.65	1.46E+02	39.29	4.85E-03	3.72E-04
	29	921.50	3.16E+01	22.43	4.81E-03	3.70E-04
	30	934.98	2.21E+01	27.62	4.75E-03	3.68E-04
	31	967.98	1.10E+02	35.31	4.61E-03	3.62E-04
	32	983.10	3.25E+01	27.38	4.55E-03	3.59E-04
	33	1071.26	3.30E+01	19.29	4.23E-03	3.42E-04
	34	1078.70	1.84E+01	17.41	4.21E-03	3.41E-04
	35	1120.38	6.21E+01	25.61	4.08E-03	3.33E-04
	36	1160.49	2.14E+01	18.76	3.96E-03	3.26E-04
	37	1180.61	2.21E+01	23.49	3.90E-03	3.22E-04
	38	1211.89	2.50E+01	25.69	3.82E-03	3.15E-04
	39	1237.81	3.70E+01	25.06	3.76E-03	3.09E-04
	40	1378.02	2.16E+01	17.72	3.45E-03	2.82E-04
	41	1401.97	1.24E+01	10.95	3.40E-03	2.78E-04
	42	1426.20	1.40E+01	14.14	3.35E-03	2.75E-04
	43	1461.02	5.05E+02	48.04	3.29E-03	2.69E-04
	44	1686.00	6.00E+00	4.90	2.95E-03	2.36E-04
	45	1717.26	8.00E+00	8.51	2.91E-03	2.31E-04
	46	1729.12	1.46E+01	9.82	2.90E-03	2.29E-04
	47	1764.15	4.63E+01	15.04	2.86E-03	2.24E-04
	48	1846.76	1.27E+01	8.96	2.77E-03	2.13E-04
	49	2073.76	8.00E+00	5.66	2.56E-03	2.13E-04
	50	2102.96	2.50E+01	12.17	2.54E-03	2.13E-04
	51	2131.22	7.00E+00	5.29	2.52E-03	2.13E-04
	52	2145.45	5.00E+00	4.47	2.50E-03	2.13E-04
	53	2205.02	2.60E+01	10.20	2.46E-03	2.13E-04
	54	2614.72	6.96E+01	20.07	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 1510091-16

CP1805S11-12

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/10/2015 7:08:38PM

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	76.26	1.21E+03	161.52			1.21E+03	1.62E+02
	2	92.59	2.98E+02	108.96	9.04E+01	2.62E+01	2.07E+02	1.12E+02
	3	129.09	6.71E+01	74.46			6.71E+01	7.45E+01
	4	185.91	1.46E+02	76.89	3.93E+01	6.56E+00	1.06E+02	7.72E+01
	5	209.51	9.01E+01	54.57			9.01E+01	5.46E+01
	6	215.24	7.00E+01	51.50			7.00E+01	5.15E+01
M	7	238.85	9.19E+02	73.53	1.34E+01	2.14E+00	9.06E+02	7.36E+01
m	8	241.90	2.14E+02	81.93	2.69E+00	1.46E+00	2.12E+02	8.19E+01
	9	270.55	5.42E+01	56.67			5.42E+01	5.67E+01
M	10	295.53	2.98E+02	50.98			2.98E+02	5.10E+01
m	11	300.28	6.82E+01	42.32			6.82E+01	4.23E+01
	12	307.81	3.22E+01	37.48			3.22E+01	3.75E+01
	13	338.71	1.55E+02	56.62			1.55E+02	5.66E+01
	14	352.17	4.03E+02	67.72	3.99E+00	4.73E+00	3.99E+02	6.79E+01
	15	439.52	2.53E+01	31.70			2.53E+01	3.17E+01
	16	462.97	5.97E+01	38.42			5.97E+01	3.84E+01
	17	468.44	2.19E+01	23.93			2.19E+01	2.39E+01
	18	510.72	1.40E+02	50.82	5.78E+01	4.60E+00	8.23E+01	5.10E+01
	19	528.72	5.49E+01	54.12			5.49E+01	5.41E+01
	20	583.36	2.46E+02	48.91	5.96E+00	3.46E+00	2.40E+02	4.90E+01
	21	609.52	2.51E+02	48.41	6.71E+00	3.44E+00	2.44E+02	4.85E+01
M	22	647.74	1.76E+01	22.41			1.76E+01	2.24E+01
m	23	653.32	2.74E+01	30.07			2.74E+01	3.01E+01
	24	665.84	1.99E+01	25.08			1.99E+01	2.51E+01
M	25	790.14	1.78E+01	11.18			1.78E+01	1.12E+01
m	26	795.45	3.38E+01	28.77			3.38E+01	2.88E+01
	27	860.78	3.50E+01	28.50			3.50E+01	2.85E+01
	28	911.65	1.46E+02	39.29	2.32E+00	2.73E+00	1.43E+02	3.94E+01
	29	921.50	3.16E+01	22.43			3.16E+01	2.24E+01
	30	934.98	2.21E+01	27.62			2.21E+01	2.76E+01
	31	967.98	1.10E+02	35.31			1.10E+02	3.53E+01
	32	983.10	3.25E+01	27.38			3.25E+01	2.74E+01
	33	1071.26	3.30E+01	19.29			3.30E+01	1.93E+01
	34	1078.70	1.84E+01	17.41			1.84E+01	1.74E+01
	35	1120.38	6.21E+01	25.61	2.00E+00	2.20E+00	6.01E+01	2.57E+01
	36	1160.49	2.14E+01	18.76			2.14E+01	1.88E+01
	37	1180.61	2.21E+01	23.49			2.21E+01	2.35E+01
	38	1211.89	2.50E+01	25.69			2.50E+01	2.57E+01
	39	1237.81	3.70E+01	25.06			3.70E+01	2.51E+01
	40	1378.02	2.16E+01	17.72			2.16E+01	1.77E+01
	41	1401.97	1.24E+01	10.95			1.24E+01	1.10E+01
	42	1426.20	1.40E+01	14.14			1.40E+01	1.41E+01
	43	1461.02	5.05E+02	48.04	2.36E+00	1.83E+00	5.02E+02	4.81E+01
	44	1686.00	6.00E+00	4.90			6.00E+00	4.90E+00

Analysis Report for 1510091-16

CP1805S11-12

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
45	1717.26	8.00E+00	8.51			8.00E+00	8.51E+00
46	1729.12	1.46E+01	9.82			1.46E+01	9.82E+00
47	1764.15	4.63E+01	15.04	1.45E+00	1.16E+00	4.48E+01	1.51E+01
48	1846.76	1.27E+01	8.96			1.27E+01	8.96E+00
49	2073.76	8.00E+00	5.66			8.00E+00	5.66E+00
50	2102.96	2.50E+01	12.17			2.50E+01	1.22E+01
51	2131.22	7.00E+00	5.29			7.00E+00	5.29E+00
52	2145.45	5.00E+00	4.47			5.00E+00	4.47E+00
53	2205.02	2.60E+01	10.20			2.60E+01	1.02E+01
54	2614.72	6.96E+01	20.07			6.96E+01	2.01E+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 : 11/10/2015 7:08:38PM

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	76.26	1.21E+03	161.52			1.21E+03	1.62E+02
	2	92.59	2.98E+02	108.96	9.04E+01	2.62E+01	2.07E+02	1.12E+02
	3	129.09	6.71E+01	74.46			6.71E+01	7.45E+01
	4	185.91	1.46E+02	76.89	3.93E+01	6.56E+00	1.06E+02	7.72E+01
	5	209.51	9.01E+01	54.57			9.01E+01	5.46E+01
	6	215.24	7.00E+01	51.50			7.00E+01	5.15E+01
M	7	238.85	9.19E+02	73.53	1.34E+01	2.14E+00	9.06E+02	7.36E+01
m	8	241.90	2.14E+02	81.93	2.69E+00	1.46E+00	2.12E+02	8.19E+01
	9	270.55	5.42E+01	56.67			5.42E+01	5.67E+01
M	10	295.53	2.98E+02	50.98			2.98E+02	5.10E+01
m	11	300.28	6.82E+01	42.32			6.82E+01	4.23E+01
	12	307.81	3.22E+01	37.48			3.22E+01	3.75E+01
	13	338.71	1.55E+02	56.62			1.55E+02	5.66E+01
	14	352.17	4.03E+02	67.72	3.99E+00	4.73E+00	3.99E+02	6.79E+01
	15	439.52	2.53E+01	31.70			2.53E+01	3.17E+01
	16	462.97	5.97E+01	38.42			5.97E+01	3.84E+01
	17	468.44	2.19E+01	23.93			2.19E+01	2.39E+01
	18	510.72	1.40E+02	50.82	5.78E+01	4.60E+00	8.23E+01	5.10E+01

Analysis Report for 1510091-16

CP1805S11-12

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	19	528.72	5.49E+01	54.12			5.49E+01	5.41E+01
	20	583.36	2.46E+02	48.91	5.96E+00	3.46E+00	2.40E+02	4.90E+01
	21	609.52	2.51E+02	48.41	6.71E+00	3.44E+00	2.44E+02	4.85E+01
M	22	647.74	1.76E+01	22.41			1.76E+01	2.24E+01
m	23	653.32	2.74E+01	30.07			2.74E+01	3.01E+01
	24	665.84	1.99E+01	25.08			1.99E+01	2.51E+01
M	25	790.14	1.78E+01	11.18			1.78E+01	1.12E+01
m	26	795.45	3.38E+01	28.77			3.38E+01	2.88E+01
	27	860.78	3.50E+01	28.50			3.50E+01	2.85E+01
	28	911.65	1.46E+02	39.29	2.32E+00	2.73E+00	1.43E+02	3.94E+01
	29	921.50	3.16E+01	22.43			3.16E+01	2.24E+01
	30	934.98	2.21E+01	27.62			2.21E+01	2.76E+01
	31	967.98	1.10E+02	35.31			1.10E+02	3.53E+01
	32	983.10	3.25E+01	27.38			3.25E+01	2.74E+01
	33	1071.26	3.30E+01	19.29			3.30E+01	1.93E+01
	34	1078.70	1.84E+01	17.41			1.84E+01	1.74E+01
	35	1120.38	6.21E+01	25.61	2.00E+00	2.20E+00	6.01E+01	2.57E+01
	36	1160.49	2.14E+01	18.76			2.14E+01	1.88E+01
	37	1180.61	2.21E+01	23.49			2.21E+01	2.35E+01
	38	1211.89	2.50E+01	25.69			2.50E+01	2.57E+01
	39	1237.81	3.70E+01	25.06			3.70E+01	2.51E+01
	40	1378.02	2.16E+01	17.72			2.16E+01	1.77E+01
	41	1401.97	1.24E+01	10.95			1.24E+01	1.10E+01
	42	1426.20	1.40E+01	14.14			1.40E+01	1.41E+01
	43	1461.02	5.05E+02	48.04	2.36E+00	1.83E+00	5.02E+02	4.81E+01
	44	1686.00	6.00E+00	4.90			6.00E+00	4.90E+00
	45	1717.26	8.00E+00	8.51			8.00E+00	8.51E+00
	46	1729.12	1.46E+01	9.82			1.46E+01	9.82E+00
	47	1764.15	4.63E+01	15.04	1.45E+00	1.16E+00	4.48E+01	1.51E+01
	48	1846.76	1.27E+01	8.96			1.27E+01	8.96E+00
	49	2073.76	8.00E+00	5.66			8.00E+00	5.66E+00
	50	2102.96	2.50E+01	12.17			2.50E+01	1.22E+01
	51	2131.22	7.00E+00	5.29			7.00E+00	5.29E+00
	52	2145.45	5.00E+00	4.47			5.00E+00	4.47E+00
	53	2205.02	2.60E+01	10.20			2.60E+01	1.02E+01
	54	2614.72	6.96E+01	20.07			6.96E+01	2.01E+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 1510091-16
CP1805S11-12

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.993	1460.81	*	10.67	2.00E+01	2.55E+00
GA-67	0.595	93.31	*	35.70	2.60E+02	1.11E+03
		208.95	*	2.24	2.62E+03	1.08E+04
		300.22	*	16.00	3.68E+02	1.58E+03
IR-192	0.961	308.46	*	29.68	1.64E-01	1.91E-01
		468.07	*	48.10	9.86E-02	1.08E-01
TL-208	0.995	583.14	*	30.22	1.55E+00	3.47E-01
		860.37	*	4.48	2.14E+00	1.75E+00
		2614.66	*	35.85	1.21E+00	3.67E-01
PB-212	0.993	238.63	*	44.60	1.86E+00	2.09E-01
		300.09	*	3.41	2.21E+00	1.38E+00
BI-214	0.986	609.31	*	46.30	1.07E+00	2.34E-01
		1120.29	*	15.10	1.36E+00	5.93E-01
		1764.49	*	15.80	1.39E+00	4.79E-01
		2204.22	*	4.98	2.96E+00	1.19E+00
PB-214	0.988	295.21	*	19.19	1.69E+00	3.17E-01
		351.92	*	37.19	1.36E+00	2.55E-01
RA-224	0.873	240.98	*	3.95	4.96E+00	1.96E+00
RA-226	0.985	186.21	*	3.28	2.47E+00	4.87E+00
AC-228	0.548	338.32	*	11.40	1.66E+00	6.21E-01
		911.07	*	27.70	1.49E+00	4.25E-01
		969.11		16.60		

* = 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 : 11/10/2015 7:08:38PM
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	76.26	3.37420E-01	6.65		
3	129.09	1.86299E-02	55.51		
6	215.24	1.94362E-02	36.80		
9	270.55	1.50477E-02	52.31		

Analysis Report for 1510091-16

CP1805S11-12

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	15	439.52	7.01754E-03	62.74	D-Esc	
	16	462.97	1.65752E-02	32.19	Tol.	SB-125
	18	510.72	2.28688E-02	30.99	Sum	
	19	528.72	1.52483E-02	49.30		
M	22	647.74	4.88710E-03	63.67	Sum	
m	23	653.32	7.61432E-03	54.84	Sum	
	24	665.84	5.52365E-03	63.06	Tol.	SB-126
M	25	790.14	4.95269E-03	31.35		
m	26	795.45	9.40149E-03	42.51	Sum	
	29	921.50	8.76389E-03	35.55	Sum	
	30	934.98	6.13040E-03	62.58	Sum	
	31	967.98	3.05928E-02	16.03		
	32	983.10	9.02590E-03	42.13	Tol.	V-48
	33	1071.26	9.16667E-03	29.22	Sum	
	34	1078.70	5.10251E-03	47.38	Sum	
	36	1160.49	5.94066E-03	43.86	Sum	
	37	1180.61	6.13548E-03	53.18		
	38	1211.89	6.94444E-03	51.38	Sum	
	39	1237.81	1.02778E-02	33.86		
	40	1378.02	5.99415E-03	41.06		
	41	1401.97	3.43364E-03	44.31		
	42	1426.20	3.88889E-03	50.51		
	44	1686.00	1.66667E-03	40.82		
	45	1717.26	2.22222E-03	53.22		
	46	1729.12	4.05864E-03	33.62	Sum	
	48	1846.76	3.51852E-03	35.36		
	49	2073.76	2.22222E-03	35.36		
	50	2102.96	6.93452E-03	24.37	S-Esc	
	51	2131.22	1.94444E-03	37.80		
	52	2145.45	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

Analysis Report for 1510091-16

CP1805S11-12

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.99	1460.81	*	10.67	2.00E+01	2.55E+00
GA-67	0.59	93.31	*	35.70	2.60E+02	1.11E+03
		208.95	*	2.24	2.62E+03	1.08E+04
		300.22	*	16.00	3.68E+02	1.58E+03
IR-192	0.96	308.46	*	29.68	1.64E-01	1.91E-01
		468.07	*	48.10	9.86E-02	1.08E-01
TL-208	0.99	583.14	*	30.22	1.55E+00	3.47E-01
		860.37	*	4.48	2.14E+00	1.75E+00
		2614.66	*	35.85	1.21E+00	3.67E-01
PB-212	0.99	238.63	*	44.60	1.86E+00	2.09E-01
		300.09	*	3.41	2.21E+00	1.38E+00
BI-214	0.98	609.31	*	46.30	1.07E+00	2.34E-01
		1120.29	*	15.10	1.36E+00	5.93E-01
		1764.49	*	15.80	1.39E+00	4.79E-01
		2204.22	*	4.98	2.96E+00	1.19E+00
PB-214	0.98	295.21	*	19.19	1.69E+00	3.17E-01
		351.92	*	37.19	1.36E+00	2.55E-01
RA-224	0.87	240.98	*	3.95	4.96E+00	1.96E+00
RA-226	0.98	186.21	*	3.28	2.47E+00	4.87E+00
AC-228	0.54	338.32	*	11.40	1.66E+00	6.21E-01
		911.07	*	27.70	1.49E+00	4.25E-01
		969.11		16.60		

* = 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	2.00E+01	2.55E+00	
GA-67	0.595	2.18E+02	9.00E+02	
IR-192	0.961	1.14E-01	9.41E-02	
TL-208	0.995	1.41E+00	2.50E-01	
PB-212	0.993	1.84E+00	2.08E-01	

Analysis Report for 1510091-16

CP1805S11-12

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
BI-214	0.986	1.21E+00	1.95E-01	
PB-214	0.988	1.49E+00	1.99E-01	
RA-224	0.873	4.96E+00	1.96E+00	
RA-226	0.985	2.47E+00	4.87E+00	
AC-228	0.548	1.55E+00	3.51E-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 1510091-16

CP1805S11-12

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 7:08:38PM
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	76.26	3.37420E-01	6.65		
	3	129.09	1.86299E-02	55.51		
	6	215.24	1.94362E-02	36.80		
	9	270.55	1.50477E-02	52.31		
	15	439.52	7.01754E-03	62.74	D-Esc	
	16	462.97	1.65752E-02	32.19	Tol.	SB-125
	18	510.72	2.28688E-02	30.99	Sum	
	19	528.72	1.52483E-02	49.30		
M	22	647.74	4.88710E-03	63.67	Sum	
m	23	653.32	7.61432E-03	54.84	Sum	
	24	665.84	5.52365E-03	63.06	Tol.	SB-126
M	25	790.14	4.95269E-03	31.35		
m	26	795.45	9.40149E-03	42.51	Sum	
	29	921.50	8.76389E-03	35.55	Sum	
	30	934.98	6.13040E-03	62.58	Sum	
	31	967.98	3.05928E-02	16.03		
	32	983.10	9.02590E-03	42.13	Tol.	V-48
	33	1071.26	9.16667E-03	29.22	Sum	
	34	1078.70	5.10251E-03	47.38	Sum	
	36	1160.49	5.94066E-03	43.86	Sum	
	37	1180.61	6.13548E-03	53.18		
	38	1211.89	6.94444E-03	51.38	Sum	
	39	1237.81	1.02778E-02	33.86		
	40	1378.02	5.99415E-03	41.06		
	41	1401.97	3.43364E-03	44.31		
	42	1426.20	3.88889E-03	50.51		
	44	1686.00	1.66667E-03	40.82		
	45	1717.26	2.22222E-03	53.22		
	46	1729.12	4.05864E-03	33.62	Sum	
	48	1846.76	3.51852E-03	35.36		
	49	2073.76	2.22222E-03	35.36		
	50	2102.96	6.93452E-03	24.37	S-Esc	
	51	2131.22	1.94444E-03	37.80		
	52	2145.45	1.38889E-03	44.72		

Analysis Report for 1510091-16

CP1805S11-12

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59		10.42	6.21E-01	1.20E+00	1.20E+00
+	NA-22	1274.54		99.94	2.76E-02	1.39E-01	1.39E-01
+	NA-24	1368.53		99.99	-7.24E+12	7.45E+13	1.42E+14
		2754.09		99.86	-8.02E+12		7.45E+13
+	AL-26	1808.65		99.76	7.75E-03	8.30E-02	8.30E-02
+	K-40	1460.81	*	10.67	2.00E+01	1.24E+00	1.24E+00
+	@ AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	-4.25E-02	8.17E-02	8.17E-02
		78.34		96.00	2.75E-01		1.03E-01
+	SC-46	889.25		99.98	4.16E-02	1.42E-01	1.42E-01
		1120.51		99.99	2.55E-01		2.12E-01
+	V-48	983.52		99.98	4.25E-01	4.64E-01	4.64E-01
		1312.10		97.50	2.10E-02		5.17E-01
+	CR-51	320.08		9.83	-5.52E-01	1.69E+00	1.69E+00
+	MN-54	834.83		99.97	-2.82E-02	1.07E-01	1.07E-01
+	CO-56	846.75		99.96	-7.40E-02	1.16E-01	1.16E-01
		1037.75		14.03	-6.21E-01		9.24E-01
		1238.25		67.00	2.23E-01		3.08E-01
		1771.40		15.51	-1.43E-01		6.25E-01
		2598.48		16.90	1.78E-01		6.35E-01
+	CO-57	122.06		85.51	-6.12E-03	6.69E-02	6.69E-02
		136.48		10.60	2.51E-01		6.35E-01
+	CO-58	810.76		99.40	-5.26E-02	1.28E-01	1.28E-01
+	FE-59	1099.22		56.50	4.43E-02	3.29E-01	3.29E-01
		1291.56		43.20	1.86E-01		5.11E-01
+	CO-60	1173.22		100.00	3.94E-02	1.17E-01	1.17E-01
		1332.49		100.00	7.37E-02		1.24E-01
+	ZN-65	1115.52		50.75	-3.46E-02	2.10E-01	2.10E-01
+	GA-67	93.31	*	35.70	2.60E+02	2.27E+02	2.27E+02
		208.95	*	2.24	2.62E+03		2.52E+03
		300.22	*	16.00	3.68E+02		6.55E+02
+	SE-75	121.11		16.70	-6.19E-02	1.23E-01	3.81E-01

Analysis Report for 1510091-16

CP1805S11-12

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	SE-75	136.00	59.20	4.18E-03	1.23E-01	1.23E-01
		264.65	59.80	3.80E-02		1.47E-01
		279.53	25.20	2.28E-01		3.64E-01
		400.65	11.40	-1.72E-01		8.45E-01
+	RB-82	776.52	13.00	-6.63E-01	1.75E+00	1.75E+00
+	RB-83	520.41	46.00	2.45E-02	2.12E-01	2.12E-01
		529.64	30.30	-2.68E-01		3.52E-01
		552.65	16.40	-2.24E-01		6.25E-01
+	KR-85	513.99	0.43	2.91E+00	2.65E+01	2.65E+01
+	SR-85	513.99	99.27	1.77E-02	1.61E-01	1.61E-01
+	Y-88	898.02	93.40	-2.08E-02	9.31E-02	1.18E-01
		1836.01	99.38	-2.13E-02		9.31E-02
+	NB-93M	16.57	9.43	1.78E+01	9.00E+01	9.00E+01
+	NB-94	702.63	100.00	-8.72E-03	8.90E-02	9.70E-02
		871.10	100.00	-6.26E-02		8.90E-02
+	NB-95	765.79	99.81	4.04E-02	2.12E-01	2.12E-01
+	NB-95M	235.69	25.00	6.93E+02	2.26E+02	2.26E+02
+	ZR-95	724.18	43.70	9.20E-02	2.45E-01	3.68E-01
		756.72	55.30	-1.38E-01		2.45E-01
+	MO-99	181.06	6.20	1.12E+02	1.99E+03	2.60E+03
		739.58	12.80	-3.95E+02		1.99E+03
		778.00	4.50	-2.09E+02		5.78E+03
+	RU-103	497.08	89.00	1.98E-02	1.60E-01	1.60E-01
+	RU-106	621.84	9.80	-5.67E-01	8.40E-01	8.40E-01
+	AG-108M	433.93	89.90	-1.20E-02	9.03E-02	9.03E-02
		614.37	90.40	4.51E-02		9.86E-02
		722.95	90.50	-1.67E-01		1.09E-01
+	CD-109	88.03	3.72	2.74E-01	2.17E+00	2.17E+00
+	AG-110M	657.75	93.14	2.52E-03	1.16E-01	1.16E-01
		677.61	10.53	1.02E-01		1.04E+00
		706.67	16.46	3.11E-01		6.71E-01
		763.93	21.98	-1.04E-01		5.47E-01
		884.67	71.63	-8.44E-02		1.40E-01
		1384.27	23.94	9.75E-02		4.45E-01
+	CD-113M	263.70	0.02	6.26E+01	3.22E+02	3.22E+02
+	SN-113	255.12	1.93	4.04E-01	1.61E-01	4.64E+00
		391.69	64.90	1.09E-01		1.61E-01
+	TE123M	159.00	84.10	-1.74E-02	8.61E-02	8.61E-02
+	SB-124	602.71	97.87	4.28E-02	1.42E-01	1.42E-01
		645.85	7.26	2.97E-01		1.71E+00
		722.78	11.10	-1.95E+00		1.27E+00
		1691.02	49.00	-2.16E-02		2.08E-01
+	I-125	35.49	6.49	-3.40E+00	3.60E+00	3.60E+00
+	SB-125	176.33	6.89	2.46E-01	2.94E-01	9.16E-01
		427.89	29.33	1.36E-01		2.94E-01
		463.38	10.35	4.93E-01		9.31E-01
		600.56	17.80	3.75E-01		5.53E-01
		635.90	11.32	1.53E-01		7.54E-01

Analysis Report for 1510091-16

CP1805S11-12

		Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+		SB-126	414.70	83.30	-4.23E-01	4.88E-01	4.88E-01
			666.33	99.60	3.65E-02		5.77E-01
			695.00	99.60	1.90E-01		5.85E-01
			720.50	53.80	-2.63E-01		9.84E-01
+		SN-126	87.57	37.00	2.63E-02	2.08E-01	2.08E-01
+		SB-127	473.00	25.00	1.93E+01	7.66E+01	8.85E+01
			685.20	35.70	1.61E+01		7.66E+01
			783.80	14.70	-2.30E+01		1.85E+02
+		I-129	29.78	57.00	-2.93E-02	5.29E-01	5.29E-01
			33.60	13.20	-3.38E-01		1.50E+00
			39.58	7.52	-1.69E-01		1.70E+00
+		I-131	284.30	6.05	-3.95E+00	1.37E+00	1.77E+01
			364.48	81.20	-2.88E-01		1.37E+00
			636.97	7.26	-3.60E+00		1.68E+01
			722.89	1.80	-1.25E+02		8.13E+01
+		TE-132	49.72	13.10	-9.99E+02	6.94E+01	5.41E+02
			228.16	88.00	1.34E+01		6.94E+01
+		BA-133	81.00	33.00	-8.59E-02	1.71E-01	2.00E-01
			302.84	17.80	-1.06E-02		4.64E-01
			356.01	60.00	-3.30E-02		1.71E-01
+		I-133	529.87	86.30	-5.66E+09	7.43E+09	7.43E+09
+		XE-133	81.00	38.00	-4.68E+00	1.09E+01	1.09E+01
+		CS-134	563.23	8.38	-2.51E-01	1.15E-01	1.12E+00
			569.32	15.43	3.34E-01		6.05E-01
			604.70	97.60	3.09E-02		1.15E-01
			795.84	85.40	1.22E-01		1.40E-01
			801.93	8.73	-5.27E-01		1.02E+00
+		CS-135	268.24	16.00	5.52E-02	5.02E-01	5.02E-01
+	@	I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@		1260.41	28.60	1.00E+26		1.00E+26
	@		1678.03	9.54	1.00E+26		1.00E+26
+		CS-136	153.22	7.46	3.79E+00	4.75E-01	4.64E+00
			163.89	4.61	1.17E+00		6.75E+00
			176.55	13.56	-7.64E-02		2.33E+00
			273.65	12.66	-3.08E-01		3.22E+00
			340.57	48.50	1.68E+00		1.09E+00
			818.50	99.70	2.16E-01		4.75E-01
			1048.07	79.60	-4.66E-01		6.41E-01
			1235.34	19.70	4.23E-01		4.17E+00
+		CS-137	661.65	85.12	1.03E-02	1.16E-01	1.16E-01
+		LA-138	788.74	34.00	1.07E-02	1.59E-01	3.11E-01
			1435.80	66.00	1.23E-02		1.59E-01
+		CE-139	165.85	80.35	2.25E-02	8.75E-02	8.75E-02
+		BA-140	162.64	6.70	-1.19E+00	1.87E+00	4.76E+00
			304.84	4.50	-5.06E+00		9.44E+00
			423.70	3.20	-3.02E+00		1.43E+01
			437.55	2.00	1.33E+00		2.44E+01
			537.32	25.00	-3.31E-01		1.87E+00
+		LA-140	328.77	20.50	8.89E-01	7.65E-01	2.31E+00

Analysis Report for 1510091-16

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	LA-140	487.03	45.50	6.46E-02	7.65E-01	9.16E-01
		815.85	23.50	2.12E+00		2.40E+00
		1596.49	95.49	4.69E-01		7.65E-01
+	CE-141	145.44	48.40	9.40E-02	2.48E-01	2.48E-01
+	CE-143	57.36	11.80	-8.39E+05	1.93E+06	5.19E+06
		293.26	42.00	7.38E+04		1.93E+06
		664.55	5.20	1.40E+05		1.44E+07
+	CE-144	133.54	10.80	1.77E-01	5.90E-01	5.90E-01
+	PM-144	476.78	42.00	5.27E-02	8.84E-02	2.09E-01
		618.01	98.60	-7.54E-03		8.84E-02
		696.49	99.49	1.18E-02		1.06E-01
+	PM-145	36.85	21.70	3.94E-02	3.71E-01	6.96E-01
		37.36	39.70	-5.76E-02		3.71E-01
		42.30	15.10	-8.11E-01		7.39E-01
		72.40	2.31	-4.78E+00		4.02E+00
+	PM-146	453.90	39.94	-6.65E-02	1.91E-01	1.91E-01
		735.90	14.01	-4.98E-01		6.64E-01
		747.13	13.10	1.05E-01		7.84E-01
+	ND-147	91.11	28.90	-4.34E-01	1.93E+00	1.93E+00
		531.02	13.10	8.46E-01		4.81E+00
+	PM-149	285.90	3.10	-1.55E+04	4.28E+04	4.28E+04
+	EU-152	121.78	20.50	-2.36E-02	2.58E-01	2.58E-01
		244.69	5.40	1.10E-01		1.67E+00
		344.27	19.13	3.06E-02		4.04E-01
		778.89	9.20	-2.93E-01		1.00E+00
		964.01	10.40	-4.18E-01		1.21E+00
		1085.78	7.22	-1.12E-01		1.47E+00
		1112.02	9.60	5.22E-01		1.21E+00
		1407.95	14.94	9.87E-02		6.37E-01
+	GD-153	97.43	31.30	6.89E-02	2.05E-01	2.05E-01
		103.18	22.20	-3.01E-01		2.57E-01
+	EU-154	123.07	40.50	1.05E-02	1.33E-01	1.33E-01
		723.30	19.70	-7.70E-01		5.02E-01
		873.19	11.50	1.30E-01		8.15E-01
		996.32	10.30	-5.17E-01		8.93E-01
		1004.76	17.90	-2.25E-01		5.52E-01
		1274.45	35.50	7.65E-02		3.84E-01
+	EU-155	86.50	30.90	1.05E-01	2.49E-01	2.49E-01
		105.30	20.70	-1.37E-01		2.64E-01
+	EU-156	811.77	10.40	-1.46E+00	3.86E+00	3.86E+00
		1153.47	7.20	9.96E-01		6.24E+00
		1230.71	8.90	2.55E-01		6.07E+00
+	HO-166M	184.41	72.60	1.69E-01	1.04E-01	1.04E-01
		280.45	29.60	-3.63E-02		2.50E-01
		410.94	11.10	2.20E-01		7.14E-01
		711.69	54.10	-7.52E-02		1.65E-01
+	TM-171	66.72	0.14	-8.36E+01	5.79E+01	5.79E+01
+	HF-172	81.75	4.52	-5.20E-02	5.01E-01	1.53E+00
		125.81	11.30	8.63E-02		5.01E-01

Analysis Report for 1510091-16

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	LU-172	181.53		20.60	-2.12E-01	4.66E+00	7.47E+00
		810.06		16.63	-2.45E+00		1.50E+01
		912.12		15.25	6.96E+01		3.21E+01
		1093.66		62.50	6.42E-02		4.66E+00
+	LU-173	100.72		5.24	5.40E-01	3.98E-01	1.12E+00
		272.11		21.20	2.15E-01		3.98E-01
+	HF-175	343.40		84.00	-3.71E-02	1.25E-01	1.25E-01
+	LU-176	88.34		13.30	2.19E-01	7.87E-02	5.86E-01
		201.83		86.00	5.54E-02		8.79E-02
		306.78		94.00	-8.52E-03		7.87E-02
+	TA-182	67.75		41.20	-1.18E-01	2.26E-01	2.26E-01
		1121.30		34.90	7.03E-01		5.79E-01
		1189.05		16.23	2.97E-01		9.54E-01
		1221.41		26.98	1.50E-01		5.97E-01
		1231.02		11.44	1.39E-01		1.35E+00
+	IR-192	308.46	*	29.68	1.64E-01	1.75E-01	3.13E-01
		468.07	*	48.10	9.86E-02		1.75E-01
+	HG-203	279.19		77.30	1.24E-01	1.60E-01	1.60E-01
+	BI-207	569.67		97.72	4.59E-02	9.30E-02	9.30E-02
		1063.62		74.90	1.45E-01		1.63E-01
+	TL-208	583.14	*	30.22	1.55E+00	3.66E-01	4.22E-01
		860.37	*	4.48	2.14E+00		2.77E+00
		2614.66	*	35.85	1.21E+00		3.66E-01
+	BI-210M	262.00		45.00	4.27E-02	1.65E-01	1.65E-01
		300.00		23.00	-1.20E+00		3.79E-01
+	PB-210	46.50		4.25	9.38E-01	2.50E+00	2.50E+00
+	PB-211	404.84		2.90	-5.13E-01	2.92E+00	2.92E+00
		831.96		2.90	-8.55E-01		3.21E+00
+	BI-212	727.17		11.80	8.24E-01	1.04E+00	1.04E+00
		1620.62		2.75	-1.55E+00		3.46E+00
+	PB-212	238.63	*	44.60	1.86E+00	3.03E-01	3.03E-01
		300.09	*	3.41	2.21E+00		3.93E+00
+	BI-214	609.31	*	46.30	1.07E+00	2.80E-01	2.80E-01
		1120.29	*	15.10	1.36E+00		8.26E-01
		1764.49	*	15.80	1.39E+00		4.37E-01
		2204.22	*	4.98	2.96E+00		3.08E-01
+	PB-214	295.21	*	19.19	1.69E+00	3.16E-01	6.92E-01
		351.92	*	37.19	1.36E+00		3.16E-01
+	RN-219	401.80		6.50	2.61E-01	1.27E+00	1.27E+00
+	RA-223	323.87		3.88	-1.40E+00	2.10E+00	2.10E+00
+	RA-224	240.98	*	3.95	4.96E+00	3.47E+00	3.47E+00
+	RA-225	40.00		31.00	-1.74E-01	1.75E+00	1.75E+00
+	RA-226	186.21	*	3.28	2.47E+00	2.91E+00	2.91E+00
+	TH-227	50.10		8.40	-1.96E+00	1.06E+00	1.06E+00
		236.00		11.50	3.67E+00		1.20E+00
		256.20		6.30	2.94E-01		1.19E+00
+	AC-228	338.32	*	11.40	1.66E+00	5.63E-01	9.25E-01
		911.07	*	27.70	1.49E+00		5.63E-01

Analysis Report for 1510091-16

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	AC-228	969.11	16.60	1.14E+00	5.63E-01	1.01E+00
+	TH-230	48.44	16.90	1.44E-01	5.90E-01	5.90E-01
		62.85	4.60	1.45E+00		1.97E+00
		67.67	0.37	-1.09E+01		2.09E+01
+	PA-231	283.67	1.60	-1.00E+00	3.57E+00	4.48E+00
		302.67	2.30	-8.17E-02		3.57E+00
+	TH-231	25.64	14.70	-1.92E+00	1.09E+00	3.67E+00
		84.21	6.40	-1.38E+00		1.09E+00
+	PA-233	311.98	38.60	6.53E-02	4.25E-01	4.25E-01
+	PA-234	131.20	20.40	8.49E-02	2.98E-01	2.98E-01
		733.99	8.80	4.16E-01		1.11E+00
		946.00	12.00	1.82E-01		8.40E-01
+	PA-234M	1001.03	0.92	4.06E+00	1.17E+01	1.17E+01
+	TH-234	63.29	3.80	2.93E+00	2.37E+00	2.37E+00
+	U-235	143.76	10.50	1.46E-03	5.71E-01	5.71E-01
		163.35	4.70	2.21E-01		1.27E+00
		205.31	4.70	2.42E-01		1.53E+00
+	NP-237	86.50	12.60	2.55E-01	6.04E-01	6.04E-01
+	NP-239	106.10	22.70	-3.76E+02	2.47E+03	2.47E+03
		228.18	10.70	1.42E+03		7.37E+03
		277.60	14.10	2.16E+03		5.51E+03
+	AM-241	59.54	35.90	-1.72E-01	2.37E-01	2.37E-01
+	AM-243	74.67	66.00	3.69E-01	1.65E-01	1.65E-01
+	CM-243	209.75	3.29	1.06E+00	5.47E-01	2.44E+00
		228.14	10.60	1.42E-01		7.34E-01
		277.60	14.00	2.15E-01		5.47E-01

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

0929A

Analysis Report for 1510091-16

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	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	1.20E+00	1.20E+00	6.21E-01	5.70E-01
	NA-22	1274.54		99.94	1.39E-01	1.39E-01	2.76E-02	6.41E-02
	NA-24	1368.53		99.99	1.42E+14	7.45E+13	-7.24E+12	6.44E+13
		2754.09		99.86	7.45E+13		-8.02E+12	2.64E+13
	AL-26	1808.65		99.76	8.30E-02	8.30E-02	7.75E-03	3.48E-02
+	K-40	1460.81	*	10.67	1.24E+00	1.24E+00	2.00E+01	5.68E-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	8.17E-02	8.17E-02	-4.25E-02	4.00E-02
		78.34		96.00	1.03E-01		2.75E-01	5.07E-02
	SC-46	889.25		99.98	1.42E-01	1.42E-01	4.16E-02	6.58E-02
		1120.51		99.99	2.12E-01		2.55E-01	1.00E-01
	V-48	983.52		99.98	4.64E-01	4.64E-01	4.25E-01	2.16E-01
		1312.10		97.50	5.17E-01		2.10E-02	2.38E-01
	CR-51	320.08		9.83	1.69E+00	1.69E+00	-5.52E-01	8.08E-01
	MN-54	834.83		99.97	1.07E-01	1.07E-01	-2.82E-02	4.94E-02
	CO-56	846.75		99.96	1.16E-01	1.16E-01	-7.40E-02	5.31E-02
		1037.75		14.03	9.24E-01		-6.21E-01	4.21E-01
		1238.25		67.00	3.08E-01		2.23E-01	1.44E-01
		1771.40		15.51	6.25E-01		-1.43E-01	2.56E-01
		2598.48		16.90	6.35E-01		1.78E-01	2.52E-01
	CO-57	122.06		85.51	6.69E-02	6.69E-02	-6.12E-03	3.24E-02
		136.48		10.60	6.35E-01		2.51E-01	3.09E-01
	CO-58	810.76		99.40	1.28E-01	1.28E-01	-5.26E-02	5.91E-02
	FE-59	1099.22		56.50	3.29E-01	3.29E-01	4.43E-02	1.51E-01
		1291.56		43.20	5.11E-01		1.86E-01	2.36E-01
	CO-60	1173.22		100.00	1.17E-01	1.17E-01	3.94E-02	5.36E-02
		1332.49		100.00	1.24E-01		7.37E-02	5.64E-02
	ZN-65	1115.52		50.75	2.10E-01	2.10E-01	-3.46E-02	9.52E-02
+	GA-67	93.31	*	35.70	2.27E+02	2.27E+02	2.60E+02	1.12E+02
		208.95	*	2.24	2.52E+03		2.62E+03	1.22E+03
		300.22	*	16.00	6.55E+02		3.68E+02	3.20E+02
	SE-75	121.11		16.70	3.81E-01	1.23E-01	-6.19E-02	1.84E-01
		136.00		59.20	1.23E-01		4.18E-03	5.96E-02
		264.65		59.80	1.47E-01		3.80E-02	7.06E-02
		279.53		25.20	3.64E-01		2.28E-01	1.75E-01
		400.65		11.40	8.45E-01		-1.72E-01	4.02E-01
	RB-82	776.52		13.00	1.75E+00	1.75E+00	-6.63E-01	8.14E-01
	RB-83	520.41		46.00	2.12E-01	2.12E-01	2.45E-02	9.91E-02
		529.64		30.30	3.52E-01		-2.68E-01	1.66E-01
		552.65		16.40	6.25E-01		-2.24E-01	2.93E-01
	KR-85	513.99		0.43	2.65E+01	2.65E+01	2.91E+00	1.27E+01
	SR-85	513.99		99.27	1.61E-01	1.61E-01	1.77E-02	7.72E-02
	Y-88	898.02		93.40	1.18E-01	9.31E-02	-2.08E-02	5.42E-02
		1836.01		99.38	9.31E-02		-2.13E-02	3.82E-02
	NB-93M	16.57		9.43	9.00E+01	9.00E+01	1.78E+01	4.38E+01
	NB-94	702.63		100.00	9.70E-02	8.90E-02	-8.72E-03	4.54E-02
		871.10		100.00	8.90E-02		-6.26E-02	4.07E-02
	NB-95	765.79		99.81	2.12E-01	2.12E-01	4.04E-02	9.95E-02
	NB-95M	235.69		25.00	2.26E+02	2.26E+02	6.93E+02	1.11E+02
	ZR-95	724.18		43.70	3.68E-01	2.45E-01	9.20E-02	1.74E-01
		756.72		55.30	2.45E-01		-1.38E-01	1.14E-01

Analysis Report for 1510091-16

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
MO-99	181.06	6.20	2.60E+03	1.99E+03	1.12E+02	1.26E+03
	739.58	12.80	1.99E+03		-3.95E+02	9.27E+02
	778.00	4.50	5.78E+03		-2.09E+02	2.69E+03
RU-103	497.08	89.00	1.60E-01	1.60E-01	1.98E-02	7.57E-02
RU-106	621.84	9.80	8.40E-01	8.40E-01	-5.67E-01	3.90E-01
AG-108M	433.93	89.90	9.03E-02	9.03E-02	-1.20E-02	4.29E-02
	614.37	90.40	9.86E-02		4.51E-02	4.62E-02
	722.95	90.50	1.09E-01		-1.67E-01	5.07E-02
CD-109	88.03	3.72	2.17E+00	2.17E+00	2.74E-01	1.06E+00
AG-110M	657.75	93.14	1.16E-01	1.16E-01	2.52E-03	5.45E-02
	677.61	10.53	1.04E+00		1.02E-01	4.86E-01
	706.67	16.46	6.71E-01		3.11E-01	3.15E-01
	763.93	21.98	5.47E-01		-1.04E-01	2.57E-01
	884.67	71.63	1.40E-01		-8.44E-02	6.44E-02
	1384.27	23.94	4.45E-01		9.75E-02	1.97E-01
CD-113M	263.70	0.02	3.22E+02	3.22E+02	6.26E+01	1.55E+02
SN-113	255.12	1.93	4.64E+00	1.61E-01	4.04E-01	2.24E+00
	391.69	64.90	1.61E-01		1.09E-01	7.69E-02
TE123M	159.00	84.10	8.61E-02	8.61E-02	-1.74E-02	4.17E-02
SB-124	602.71	97.87	1.42E-01	1.42E-01	4.28E-02	6.69E-02
	645.85	7.26	1.71E+00		2.97E-01	7.98E-01
	722.78	11.10	1.27E+00		-1.95E+00	5.93E-01
	1691.02	49.00	2.08E-01		-2.16E-02	8.54E-02
I-125	35.49	6.49	3.60E+00	3.60E+00	-3.40E+00	1.75E+00
SB-125	176.33	6.89	9.16E-01	2.94E-01	2.46E-01	4.43E-01
	427.89	29.33	2.94E-01		1.36E-01	1.40E-01
	463.38	10.35	9.31E-01		4.93E-01	4.44E-01
	600.56	17.80	5.53E-01		3.75E-01	2.61E-01
	635.90	11.32	7.54E-01		1.53E-01	3.51E-01
SB-126	414.70	83.30	4.88E-01	4.88E-01	-4.23E-01	2.31E-01
	666.33	99.60	5.77E-01		3.65E-02	2.71E-01
	695.00	99.60	5.85E-01		1.90E-01	2.74E-01
	720.50	53.80	9.84E-01		-2.63E-01	4.58E-01
SN-126	87.57	37.00	2.08E-01	2.08E-01	2.63E-02	1.02E-01
SB-127	473.00	25.00	8.85E+01	7.66E+01	1.93E+01	4.17E+01
	685.20	35.70	7.66E+01		1.61E+01	3.59E+01
	783.80	14.70	1.85E+02		-2.30E+01	8.61E+01
I-129	29.78	57.00	5.29E-01	5.29E-01	-2.93E-02	2.57E-01
	33.60	13.20	1.50E+00		-3.38E-01	7.28E-01
	39.58	7.52	1.70E+00		-1.69E-01	8.28E-01
I-131	284.30	6.05	1.77E+01	1.37E+00	-3.95E+00	8.50E+00
	364.48	81.20	1.37E+00		-2.88E-01	6.51E-01
	636.97	7.26	1.68E+01		-3.60E+00	7.82E+00
	722.89	1.80	8.13E+01		-1.25E+02	3.80E+01
TE-132	49.72	13.10	5.41E+02	6.94E+01	-9.99E+02	2.64E+02
	228.16	88.00	6.94E+01		1.34E+01	3.36E+01
BA-133	81.00	33.00	2.00E-01	1.71E-01	-8.59E-02	9.78E-02
	302.84	17.80	4.64E-01		-1.06E-02	2.24E-01
	356.01	60.00	1.71E-01		-3.30E-02	8.26E-02
I-133	529.87	86.30	7.43E+09	7.43E+09	-5.66E+09	3.50E+09
XE-133	81.00	38.00	1.09E+01	1.09E+01	-4.68E+00	5.33E+00
CS-134	563.23	8.38	1.12E+00	1.15E-01	-2.51E-01	5.28E-01
	569.32	15.43	6.05E-01		3.34E-01	2.85E-01

Analysis Report for 1510091-16

CP1805S11-12

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
CS-134	604.70	97.60	1.15E-01	1.15E-01	3.09E-02	5.47E-02
	795.84	85.40	1.40E-01		1.22E-01	6.58E-02
	801.93	8.73	1.02E+00		-5.27E-01	4.69E-01
CS-135	268.24	16.00	5.02E-01	5.02E-01	5.52E-02	2.43E-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	4.64E+00	4.75E-01	3.79E+00	2.26E+00
	163.89	4.61	6.75E+00		1.17E+00	3.27E+00
	176.55	13.56	2.33E+00		-7.64E-02	1.13E+00
	273.65	12.66	3.22E+00		-3.08E-01	1.56E+00
	340.57	48.50	1.09E+00		1.68E+00	5.25E-01
	818.50	99.70	4.75E-01		2.16E-01	2.19E-01
	1048.07	79.60	6.41E-01		-4.66E-01	2.92E-01
	1235.34	19.70	4.17E+00		4.23E-01	1.95E+00
CS-137	661.65	85.12	1.16E-01	1.16E-01	1.03E-02	5.45E-02
LA-138	788.74	34.00	3.11E-01	1.59E-01	1.07E-02	1.46E-01
	1435.80	66.00	1.59E-01		1.23E-02	7.07E-02
CE-139	165.85	80.35	8.75E-02	8.75E-02	2.25E-02	4.23E-02
BA-140	162.64	6.70	4.76E+00	1.87E+00	-1.19E+00	2.31E+00
	304.84	4.50	9.44E+00		-5.06E+00	4.54E+00
	423.70	3.20	1.43E+01		-3.02E+00	6.79E+00
	437.55	2.00	2.44E+01		1.33E+00	1.16E+01
	537.32	25.00	1.87E+00		-3.31E-01	8.79E-01
LA-140	328.77	20.50	2.31E+00	7.65E-01	8.89E-01	1.11E+00
	487.03	45.50	9.16E-01		6.46E-02	4.31E-01
	815.85	23.50	2.40E+00		2.12E+00	1.12E+00
	1596.49	95.49	7.65E-01		4.69E-01	3.47E-01
CE-141	145.44	48.40	2.48E-01	2.48E-01	9.40E-02	1.20E-01
CE-143	57.36	11.80	5.19E+06	1.93E+06	-8.39E+05	2.53E+06
	293.26	42.00	1.93E+06		7.38E+04	9.38E+05
	664.55	5.20	1.44E+07		1.40E+05	6.78E+06
CE-144	133.54	10.80	5.90E-01	5.90E-01	1.77E-01	2.86E-01
PM-144	476.78	42.00	2.09E-01	8.84E-02	5.27E-02	9.88E-02
	618.01	98.60	8.84E-02		-7.54E-03	4.12E-02
	696.49	99.49	1.06E-01		1.18E-02	4.97E-02
PM-145	36.85	21.70	6.96E-01	3.71E-01	3.94E-02	3.38E-01
	37.36	39.70	3.71E-01		-5.76E-02	1.80E-01
	42.30	15.10	7.39E-01		-8.11E-01	3.59E-01
	72.40	2.31	4.02E+00		-4.78E+00	1.98E+00
PM-146	453.90	39.94	1.91E-01	1.91E-01	-6.65E-02	9.02E-02
	735.90	14.01	6.64E-01		-4.98E-01	3.09E-01
	747.13	13.10	7.84E-01		1.05E-01	3.67E-01
ND-147	91.11	28.90	1.93E+00	1.93E+00	-4.34E-01	9.45E-01
	531.02	13.10	4.81E+00		8.46E-01	2.27E+00
PM-149	285.90	3.10	4.28E+04	4.28E+04	-1.55E+04	2.05E+04
EU-152	121.78	20.50	2.58E-01	2.58E-01	-2.36E-02	1.25E-01
	244.69	5.40	1.67E+00		1.10E-01	8.10E-01
	344.27	19.13	4.04E-01		3.06E-02	1.93E-01
	778.89	9.20	1.00E+00		-2.93E-01	4.65E-01
	964.01	10.40	1.21E+00		-4.18E-01	5.63E-01
	1085.78	7.22	1.47E+00		-1.12E-01	6.74E-01
	1112.02	9.60	1.21E+00		5.22E-01	5.56E-01

Analysis Report for 1510091-16

CP1805S11-12

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	EU-152	1407.95		14.94	6.37E-01	2.58E-01	9.87E-02	2.81E-01
	GD-153	97.43		31.30	2.05E-01	2.05E-01	6.89E-02	9.96E-02
		103.18		22.20	2.57E-01		-3.01E-01	1.25E-01
	EU-154	123.07		40.50	1.33E-01	1.33E-01	1.05E-02	6.46E-02
		723.30		19.70	5.02E-01		-7.70E-01	2.35E-01
		873.19		11.50	8.15E-01		1.30E-01	3.75E-01
		996.32		10.30	8.93E-01		-5.17E-01	4.05E-01
		1004.76		17.90	5.52E-01		-2.25E-01	2.52E-01
		1274.45		35.50	3.84E-01		7.65E-02	1.78E-01
	EU-155	86.50		30.90	2.49E-01	2.49E-01	1.05E-01	1.22E-01
		105.30		20.70	2.64E-01		-1.37E-01	1.28E-01
	EU-156	811.77		10.40	3.86E+00	3.86E+00	-1.46E+00	1.79E+00
		1153.47		7.20	6.24E+00		9.96E-01	2.84E+00
		1230.71		8.90	6.07E+00		2.55E-01	2.80E+00
	HO-166M	184.41		72.60	1.04E-01	1.04E-01	1.69E-01	5.07E-02
		280.45		29.60	2.50E-01		-3.63E-02	1.20E-01
		410.94		11.10	7.14E-01		2.20E-01	3.39E-01
		711.69		54.10	1.65E-01		-7.52E-02	7.68E-02
	TM-171	66.72		0.14	5.79E+01	5.79E+01	-8.36E+01	2.83E+01
	HF-172	81.75		4.52	1.53E+00	5.01E-01	-5.20E-02	7.45E-01
		125.81		11.30	5.01E-01		8.63E-02	2.43E-01
	LU-172	181.53		20.60	7.47E+00	4.66E+00	-2.12E-01	3.61E+00
		810.06		16.63	1.50E+01		-2.45E+00	6.97E+00
		912.12		15.25	3.21E+01		6.96E+01	1.54E+01
		1093.66		62.50	4.66E+00		6.42E-02	2.15E+00
	LU-173	100.72		5.24	1.12E+00	3.98E-01	5.40E-01	5.46E-01
		272.11		21.20	3.98E-01		2.15E-01	1.92E-01
	HF-175	343.40		84.00	1.25E-01	1.25E-01	-3.71E-02	5.98E-02
	LU-176	88.34		13.30	5.86E-01	7.87E-02	2.19E-01	2.87E-01
		201.83		86.00	8.79E-02		5.54E-02	4.27E-02
		306.78		94.00	7.87E-02		-8.52E-03	3.77E-02
	TA-182	67.75		41.20	2.26E-01	2.26E-01	-1.18E-01	1.11E-01
		1121.30		34.90	5.79E-01		7.03E-01	2.73E-01
		1189.05		16.23	9.54E-01		2.97E-01	4.41E-01
		1221.41		26.98	5.97E-01		1.50E-01	2.76E-01
		1231.02		11.44	1.35E+00		1.39E-01	6.24E-01
+	IR-192	308.46	*	29.68	3.13E-01	1.75E-01	1.64E-01	1.50E-01
		468.07	*	48.10	1.75E-01		9.86E-02	8.16E-02
	HG-203	279.19		77.30	1.60E-01	1.60E-01	1.24E-01	7.71E-02
	BI-207	569.67		97.72	9.30E-02	9.30E-02	4.59E-02	4.38E-02
		1063.62		74.90	1.63E-01		1.45E-01	7.57E-02
+	TL-208	583.14	*	30.22	4.22E-01	3.66E-01	1.55E+00	2.02E-01
		860.37	*	4.48	2.77E+00		2.14E+00	1.30E+00
		2614.66	*	35.85	3.66E-01		1.21E+00	1.60E-01
	BI-210M	262.00		45.00	1.65E-01	1.65E-01	4.27E-02	7.97E-02
		300.00		23.00	3.79E-01		-1.20E+00	1.83E-01
	PB-210	46.50		4.25	2.50E+00	2.50E+00	9.38E-01	1.22E+00
	PB-211	404.84		2.90	2.92E+00	2.92E+00	-5.13E-01	1.39E+00
		831.96		2.90	3.21E+00		-8.55E-01	1.48E+00
	BI-212	727.17		11.80	1.04E+00	1.04E+00	8.24E-01	4.94E-01
		1620.62		2.75	3.46E+00		-1.55E+00	1.50E+00
+	PB-212	238.63	*	44.60	3.03E-01	3.03E-01	1.86E+00	1.49E-01
		300.09	*	3.41	3.93E+00		2.21E+00	1.92E+00

Analysis Report for 1510091-16

CP1805S11-12

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
+	BI-214	609.31	*	46.30	2.80E-01	2.80E-01	1.07E+00	1.34E-01
		1120.29	*	15.10	8.26E-01		1.36E+00	3.82E-01
		1764.49	*	15.80	4.37E-01		1.39E+00	1.77E-01
		2204.22	*	4.98	3.08E-01		2.96E+00	0.00E+00
+	PB-214	295.21	*	19.19	6.92E-01	3.16E-01	1.69E+00	3.38E-01
		351.92	*	37.19	3.16E-01		1.36E+00	1.53E-01
	RN-219	401.80		6.50	1.27E+00	1.27E+00	2.61E-01	6.03E-01
	RA-223	323.87		3.88	2.10E+00	2.10E+00	-1.40E+00	1.01E+00
+	RA-224	240.98	*	3.95	3.47E+00	3.47E+00	4.96E+00	1.70E+00
	RA-225	40.00		31.00	1.75E+00	1.75E+00	-1.74E-01	8.51E-01
+	RA-226	186.21	*	3.28	2.91E+00	2.91E+00	2.47E+00	1.42E+00
	TH-227	50.10		8.40	1.06E+00	1.06E+00	-1.96E+00	5.17E-01
		236.00		11.50	1.20E+00		3.67E+00	5.87E-01
		256.20		6.30	1.19E+00		2.94E-01	5.72E-01
+	AC-228	338.32	*	11.40	9.25E-01	5.63E-01	1.66E+00	4.48E-01
		911.07	*	27.70	5.63E-01		1.49E+00	2.67E-01
		969.11		16.60	1.01E+00		1.14E+00	4.83E-01
	TH-230	48.44		16.90	5.90E-01	5.90E-01	1.44E-01	2.88E-01
		62.85		4.60	1.97E+00		1.45E+00	9.64E-01
		67.67		0.37	2.09E+01		-1.09E+01	1.02E+01
	PA-231	283.67		1.60	4.48E+00	3.57E+00	-1.00E+00	2.15E+00
		302.67		2.30	3.57E+00		-8.17E-02	1.72E+00
	TH-231	25.64		14.70	3.67E+00	1.09E+00	-1.92E+00	1.78E+00
		84.21		6.40	1.09E+00		-1.38E+00	5.33E-01
	PA-233	311.98		38.60	4.25E-01	4.25E-01	6.53E-02	2.04E-01
	PA-234	131.20		20.40	2.98E-01	2.98E-01	8.49E-02	1.45E-01
		733.99		8.80	1.11E+00		4.16E-01	5.17E-01
		946.00		12.00	8.40E-01		1.82E-01	3.86E-01
	PA-234M	1001.03		0.92	1.17E+01	1.17E+01	4.06E+00	5.40E+00
	TH-234	63.29		3.80	2.37E+00	2.37E+00	2.93E+00	1.16E+00
	U-235	143.76		10.50	5.71E-01	5.71E-01	1.46E-03	2.77E-01
		163.35		4.70	1.27E+00		2.21E-01	6.13E-01
		205.31		4.70	1.53E+00		2.42E-01	7.44E-01
	NP-237	86.50		12.60	6.04E-01	6.04E-01	2.55E-01	2.96E-01
	NP-239	106.10		22.70	2.47E+03	2.47E+03	-3.76E+02	1.20E+03
		228.18		10.70	7.37E+03		1.42E+03	3.57E+03
		277.60		14.10	5.51E+03		2.16E+03	2.65E+03
	AM-241	59.54		35.90	2.37E-01	2.37E-01	-1.72E-01	1.16E-01
	AM-243	74.67		66.00	1.65E-01	1.65E-01	3.69E-01	8.13E-02
	CM-243	209.75		3.29	2.44E+00	5.47E-01	1.06E+00	1.19E+00
		228.14		10.60	7.34E-01		1.42E-01	3.55E-01
		277.60		14.00	5.47E-01		2.15E-01	2.64E-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 1510091-16

CP1805S11-12

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: CP1805S11-12

Elapsed Live time: 3600
Elapsed Real Time: 3616

Channel								
1:	0	0	0	0	0	0	0	0
9:	22	177	189	146	124	105	120	84
17:	92	99	71	80	74	108	92	87
25:	86	88	71	86	95	86	96	88
33:	105	77	80	86	89	75	96	89
41:	97	81	90	87	86	124	172	92
49:	100	119	94	102	120	137	114	105
57:	113	115	130	163	141	143	188	235
65:	153	143	136	143	126	140	149	142
73:	173	170	433	263	483	466	127	110
81:	104	123	106	148	149	127	186	214
89:	108	169	147	141	241	185	94	83
97:	96	80	94	103	87	65	69	74
105:	59	102	74	83	101	82	74	81
113:	81	72	80	77	72	60	73	67
121:	61	68	65	68	76	60	67	77
129:	112	101	63	67	71	78	82	85
137:	74	79	97	74	79	56	70	86
145:	77	78	71	71	68	79	66	66
153:	74	112	104	62	66	73	80	57
161:	56	52	72	62	59	67	56	67
169:	52	58	65	61	62	70	57	62
177:	52	63	59	47	62	48	59	60
185:	74	138	103	57	51	61	47	61
193:	48	41	61	53	50	55	71	58
201:	43	54	46	50	59	39	44	45
209:	75	96	54	39	52	52	56	60
217:	42	41	28	47	43	55	38	40
225:	50	47	56	43	50	45	42	46
233:	53	43	38	59	49	200	576	216
241:	102	125	89	45	32	33	32	45
249:	37	36	32	36	40	42	35	37
257:	37	26	38	34	33	37	31	36
265:	35	34	31	27	39	51	58	35
273:	29	33	27	32	38	45	29	35
281:	28	32	24	22	27	34	30	29
289:	29	35	30	23	39	48	134	151
297:	41	29	31	54	45	34	35	24
305:	21	21	32	39	22	25	21	22
313:	33	24	29	26	25	22	20	26
321:	33	31	22	30	29	29	31	45
329:	46	30	24	21	26	29	22	25
337:	29	84	90	35	21	25	20	18
345:	27	18	34	25	22	22	75	265
353:	147	25	25	24	19	19	17	27
361:	19	18	18	22	22	16	25	16

369:	24	16	22	17	16	22	28	18

Sample Title: CP1805S11-12

Channel								
377:	18	16	22	23	19	20	23	22
385:	20	29	18	17	22	22	26	25
393:	19	29	22	22	13	21	10	26
401:	19	17	18	25	27	21	19	22
409:	21	25	17	15	13	13	12	14
417:	19	11	20	18	15	25	18	18
425:	20	16	21	23	21	13	20	13
433:	14	17	21	20	15	25	16	28
441:	19	11	15	14	14	14	17	10
449:	13	20	6	15	13	19	15	15
457:	12	16	15	20	15	16	46	27
465:	13	9	12	22	21	12	9	13
473:	11	15	15	20	16	13	11	15
481:	17	11	10	13	13	13	14	10
489:	10	12	12	13	11	16	7	12
497:	20	18	15	8	16	11	18	15
505:	8	13	18	16	21	47	60	52
513:	19	14	7	19	10	11	11	12
521:	13	4	13	15	20	16	9	14
529:	14	7	15	18	10	18	16	9
537:	12	18	6	11	16	13	9	9
545:	17	15	12	18	10	14	14	8
553:	11	11	6	10	10	14	15	15
561:	15	15	18	13	7	12	15	16
569:	12	14	15	8	12	6	14	9
577:	17	11	16	15	13	37	133	103
585:	23	4	16	10	12	14	10	7
593:	10	10	15	6	6	14	9	9
601:	14	19	13	17	11	12	18	32
609:	113	138	20	5	4	14	8	15
617:	11	10	7	7	6	11	9	11
625:	5	11	14	5	11	12	5	13
633:	10	3	16	10	6	10	8	7
641:	7	10	13	5	4	6	14	8
649:	16	10	8	12	22	12	15	11
657:	10	11	9	15	14	8	13	8
665:	16	13	18	6	10	12	12	6
673:	11	10	11	10	16	13	12	8
681:	12	12	11	10	9	12	10	11
689:	9	9	6	14	14	11	16	8
697:	8	9	11	10	11	4	10	18
705:	9	10	14	9	7	11	6	12
713:	8	4	11	10	11	5	12	6
721:	9	15	3	8	12	17	33	26
729:	6	10	10	12	10	13	9	6
737:	7	3	11	18	9	8	9	9
745:	10	13	10	6	10	13	7	13
753:	8	8	13	13	3	8	11	6
761:	12	14	15	13	9	7	11	18
769:	13	10	9	13	11	11	15	10
777:	2	4	7	12	9	9	5	6
785:	6	12	11	9	8	16	6	8
793:	14	10	19	22	6	6	7	5

801:	7	5	8	5	7	7	15	7

Sample Title: CP1805S11-12

Channel								
809:	7	5	8	5	9	10	10	6
817:	11	7	9	1	3	0	4	8
825:	8	7	8	5	5	11	6	7
833:	3	5	11	12	7	10	10	10
841:	7	8	8	4	7	6	5	6
849:	7	6	10	9	3	4	5	9
857:	5	8	7	23	24	11	7	6
865:	8	7	12	6	7	3	7	2
873:	8	7	8	9	5	4	7	7
881:	5	3	5	9	8	3	9	12
889:	9	5	10	12	4	7	6	6
897:	7	4	4	5	7	7	7	13
905:	2	11	9	11	6	25	76	51
913:	15	5	9	4	4	6	5	12
921:	7	10	8	4	4	1	4	5
929:	8	6	4	3	9	12	11	9
937:	7	7	5	5	4	8	8	7
945:	7	8	5	6	4	6	4	3
953:	6	5	11	5	7	7	7	3
961:	1	2	8	13	18	14	13	21
969:	43	20	9	9	4	7	5	4
977:	5	2	5	5	11	13	7	6
985:	11	7	5	2	6	4	6	5
993:	4	5	3	6	4	7	4	4
1001:	13	8	7	4	3	7	5	4
1009:	6	7	3	2	8	11	3	9
1017:	8	3	4	6	8	7	5	5
1025:	3	6	7	1	9	7	3	6
1033:	11	4	4	8	5	3	7	4
1041:	5	8	9	9	4	5	6	6
1049:	5	5	4	8	7	2	9	2
1057:	4	5	3	7	10	7	10	5
1065:	11	5	2	3	10	8	10	8
1073:	10	3	1	4	8	7	10	10
1081:	3	7	8	3	9	4	7	3
1089:	5	8	5	7	6	7	8	4
1097:	6	10	8	6	6	5	4	5
1105:	6	9	5	9	7	10	11	6
1113:	4	3	4	2	4	8	16	29
1121:	22	12	3	8	6	8	3	4
1129:	3	6	4	4	5	6	6	3
1137:	6	5	5	7	7	2	3	4
1145:	3	5	9	3	7	4	4	4
1153:	7	9	5	3	1	7	4	9
1161:	10	5	5	3	4	6	7	3
1169:	7	8	4	8	4	9	3	5
1177:	5	4	11	15	4	9	1	3
1185:	4	7	10	6	8	5	6	8
1193:	7	7	10	9	8	5	6	8
1201:	8	9	4	9	4	7	1	6
1209:	8	6	10	7	13	8	2	4
1217:	4	8	3	15	7	10	5	4
1225:	7	8	6	7	9	5	5	11

1233:	5	5	7	12	12	21	10	6

Sample Title: CP1805S11-12

Channel								
1241:	4	6	7	8	6	10	10	7
1249:	3	9	5	8	2	11	7	3
1257:	4	6	2	6	3	1	4	8
1265:	3	2	5	7	2	4	7	6
1273:	5	6	4	4	5	9	5	5
1281:	7	6	3	2	8	4	9	4
1289:	2	3	9	7	6	5	4	3
1297:	2	5	7	5	2	6	6	4
1305:	2	8	3	6	6	4	3	5
1313:	7	5	2	5	4	4	4	4
1321:	4	4	5	4	3	1	5	6
1329:	3	4	7	7	2	3	4	1
1337:	2	1	2	3	1	3	3	1
1345:	3	0	2	2	1	2	2	2
1353:	3	2	3	1	5	3	5	2
1361:	4	2	6	2	4	2	5	1
1369:	2	6	4	4	3	3	0	2
1377:	15	11	2	1	1	0	4	1
1385:	3	4	4	3	2	4	2	3
1393:	4	2	1	2	1	1	2	2
1401:	6	3	1	3	0	1	3	3
1409:	3	0	4	2	2	2	5	0
1417:	0	1	4	4	4	3	0	5
1425:	7	5	2	5	2	0	3	3
1433:	0	2	4	2	4	3	2	2
1441:	5	2	2	5	1	0	2	1
1449:	4	0	4	1	3	3	1	2
1457:	2	10	46	184	191	78	7	3
1465:	0	3	0	1	4	2	3	1
1473:	0	2	1	0	1	1	7	0
1481:	1	3	3	2	2	3	3	0
1489:	2	1	0	2	2	1	5	2
1497:	0	5	4	0	3	0	4	2
1505:	1	2	1	3	4	0	1	2
1513:	0	2	3	1	2	1	2	0
1521:	5	2	2	2	2	2	1	2
1529:	1	3	1	0	1	1	4	1
1537:	1	5	1	3	1	1	1	2
1545:	3	1	0	4	0	3	2	1
1553:	2	0	0	1	1	2	3	1
1561:	2	2	0	1	0	0	2	2
1569:	2	0	4	2	2	1	3	1
1577:	0	2	1	0	1	2	0	0
1585:	3	4	7	7	1	1	3	7
1593:	6	4	4	3	0	5	3	1
1601:	1	2	3	1	0	2	2	1
1609:	2	2	1	1	1	4	2	1
1617:	1	3	2	3	3	1	1	0
1625:	2	3	1	1	0	2	4	3
1633:	1	2	2	0	0	4	1	0
1641:	2	1	1	0	1	1	1	1
1649:	3	3	1	0	1	2	1	1
1657:	1	0	2	1	1	0	0	0

1665:	2	0	0	1	0	2	1	0

Sample Title: CP1805S11-12

Channel								
1673:	0	2	0	0	2	1	2	3
1681:	0	0	0	0	4	1	1	0
1689:	0	0	0	1	1	2	2	2
1697:	2	2	0	0	1	1	0	2
1705:	0	1	1	1	0	2	2	1
1713:	0	0	2	2	3	4	1	0
1721:	2	0	0	2	0	2	1	6
1729:	6	3	0	0	1	1	2	2
1737:	1	3	3	1	1	1	1	1
1745:	1	1	2	0	3	2	1	3
1753:	2	1	2	1	0	1	2	2
1761:	2	4	9	15	9	4	1	0
1769:	0	0	2	0	3	0	1	1
1777:	1	1	1	4	1	1	0	1
1785:	1	1	0	0	4	2	0	0
1793:	0	0	0	0	1	0	1	2
1801:	1	1	1	0	2	2	0	1
1809:	1	0	0	3	2	0	0	2
1817:	0	0	1	0	0	1	1	2
1825:	0	4	0	0	1	4	0	1
1833:	1	1	1	0	1	1	1	2
1841:	0	0	1	2	1	4	3	2
1849:	2	0	1	0	0	0	1	0
1857:	0	0	1	2	0	1	1	2
1865:	2	4	0	2	0	3	2	1
1873:	3	0	3	2	1	1	1	3
1881:	2	1	0	0	1	1	1	0
1889:	3	1	1	2	0	0	1	1
1897:	0	0	0	1	1	1	0	0
1905:	1	1	1	0	0	1	2	0
1913:	1	0	0	0	1	0	0	0
1921:	1	0	2	1	1	0	2	0
1929:	1	1	2	2	0	0	1	0
1937:	1	1	0	1	1	1	1	2
1945:	1	1	1	2	1	0	0	0
1953:	1	1	1	1	0	2	1	1
1961:	1	1	0	1	1	0	1	0
1969:	1	4	0	2	0	3	2	1
1977:	1	2	1	0	0	0	1	2
1985:	1	0	2	1	0	0	1	2
1993:	0	0	0	0	1	1	1	0
2001:	0	0	0	1	2	0	0	3
2009:	0	2	2	1	0	0	1	1
2017:	0	0	0	0	0	1	0	1
2025:	1	0	0	2	1	0	0	0
2033:	2	2	0	0	1	2	5	0
2041:	1	0	1	1	0	1	0	0
2049:	0	2	2	0	0	1	0	0
2057:	1	0	0	1	0	0	1	1
2065:	0	0	1	0	0	1	1	0
2073:	3	0	3	0	0	0	1	3
2081:	0	0	1	0	2	1	0	2
2089:	2	1	0	2	2	0	1	0

2097: 1 2 2 2 3 2 10 2

Sample Title: CP1805S11-12

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

2529:	0	0	0	0	0	1	1	2

Sample Title: CP1805S11-12

Channel								
2537:	0	1	0	0	0	0	0	0
2545:	0	1	0	0	0	0	0	1
2553:	0	0	2	0	2	1	1	0
2561:	0	0	0	1	0	0	0	0
2569:	0	0	0	0	0	0	0	0
2577:	0	1	0	1	0	0	0	1
2585:	0	1	1	1	0	0	1	0
2593:	0	0	1	1	1	0	0	1
2601:	0	1	0	0	0	0	2	0
2609:	1	0	2	5	23	25	13	8
2617:	1	0	1	0	0	0	0	0
2625:	0	0	3	0	0	0	0	0
2633:	0	0	0	1	0	1	0	0
2641:	1	0	0	0	0	0	0	0
2649:	0	0	1	1	0	0	0	0
2657:	1	0	0	0	1	0	0	0
2665:	0	0	0	0	0	0	0	0
2673:	0	1	0	0	0	1	0	0
2681:	0	0	1	0	0	0	1	0
2689:	2	0	1	0	0	0	1	0
2697:	0	1	1	0	1	0	0	0
2705:	1	0	0	0	0	0	0	0
2713:	0	0	0	0	1	0	0	0
2721:	0	0	0	0	0	1	0	0
2729:	0	1	0	0	0	0	0	0
2737:	1	0	0	0	0	0	0	0
2745:	0	1	0	0	0	0	1	0
2753:	0	1	0	0	0	1	0	0
2761:	0	0	1	0	0	0	1	0
2769:	0	2	0	1	1	0	0	0
2777:	0	0	0	0	0	0	0	2
2785:	0	0	0	2	0	0	0	0
2793:	1	0	0	0	0	0	1	0
2801:	0	1	0	2	1	0	0	0
2809:	0	0	2	0	0	0	0	1
2817:	0	1	0	0	0	1	0	0
2825:	0	2	0	0	0	0	0	1
2833:	2	0	0	0	0	0	0	0
2841:	0	0	0	0	0	0	0	0
2849:	0	0	0	0	0	1	0	0
2857:	0	0	1	0	1	0	0	1
2865:	0	0	0	0	0	0	0	1
2873:	0	1	0	0	0	0	0	0
2881:	1	0	0	0	0	2	0	0
2889:	0	0	0	0	0	1	0	1
2897:	0	0	0	0	0	0	0	1
2905:	0	0	0	0	0	1	1	0
2913:	0	0	0	0	0	0	0	0
2921:	0	0	1	0	0	0	0	1
2929:	1	1	0	0	0	0	1	1
2937:	0	0	1	0	1	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: CP1805S11-12

Channel								
2969:	0	0	0	0	0	0	0	0
2977:	0	0	0	0	0	1	0	0
2985:	0	0	1	0	0	0	1	1
2993:	0	0	0	0	1	1	1	0
3001:	1	1	0	1	0	0	0	0
3009:	1	0	0	0	1	0	0	0
3017:	0	0	0	1	0	0	0	0
3025:	0	0	0	0	0	0	0	0
3033:	1	0	0	1	0	0	0	1
3041:	0	0	1	0	0	0	0	0
3049:	0	0	0	0	0	0	0	0
3057:	0	0	0	0	0	0	0	1
3065:	1	0	0	0	0	0	1	0
3073:	0	0	0	0	0	0	0	0
3081:	0	1	0	0	0	0	0	0
3089:	0	0	0	1	1	0	0	0
3097:	1	0	0	0	0	0	0	0
3105:	0	0	0	0	0	0	0	0
3113:	0	0	0	0	0	0	0	0
3121:	0	0	0	0	2	0	0	2
3129:	0	0	1	1	0	0	0	0
3137:	0	0	1	1	0	0	0	0
3145:	0	0	0	2	0	1	1	0
3153:	0	0	0	0	0	1	0	0
3161:	1	0	0	0	1	1	0	0
3169:	0	0	0	0	0	0	0	0
3177:	0	0	0	0	0	0	0	0
3185:	0	0	0	0	0	0	0	1
3193:	0	0	0	1	0	0	0	0
3201:	0	1	0	0	0	0	0	0
3209:	1	1	1	0	0	0	0	0
3217:	0	0	1	0	0	0	0	0
3225:	0	0	0	0	0	0	1	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:	0	0	0	0	0	0	0	1
3265:	0	0	0	0	0	0	0	0
3273:	0	0	0	1	0	0	0	0
3281:	0	0	0	1	0	0	0	0
3289:	0	0	0	0	0	0	0	1
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	1
3329:	0	0	0	0	0	1	0	0
3337:	0	0	0	0	0	0	0	0
3345:	0	0	0	0	0	1	0	0
3353:	0	1	0	0	0	0	0	0
3361:	0	0	0	0	1	0	0	1
3369:	0	0	0	0	1	0	0	0
3377:	1	0	0	0	0	0	0	0
3385:	0	0	0	0	0	1	0	0

3393:	0	0	0	0	0	0	0	0

Sample Title: CP1805S11-12

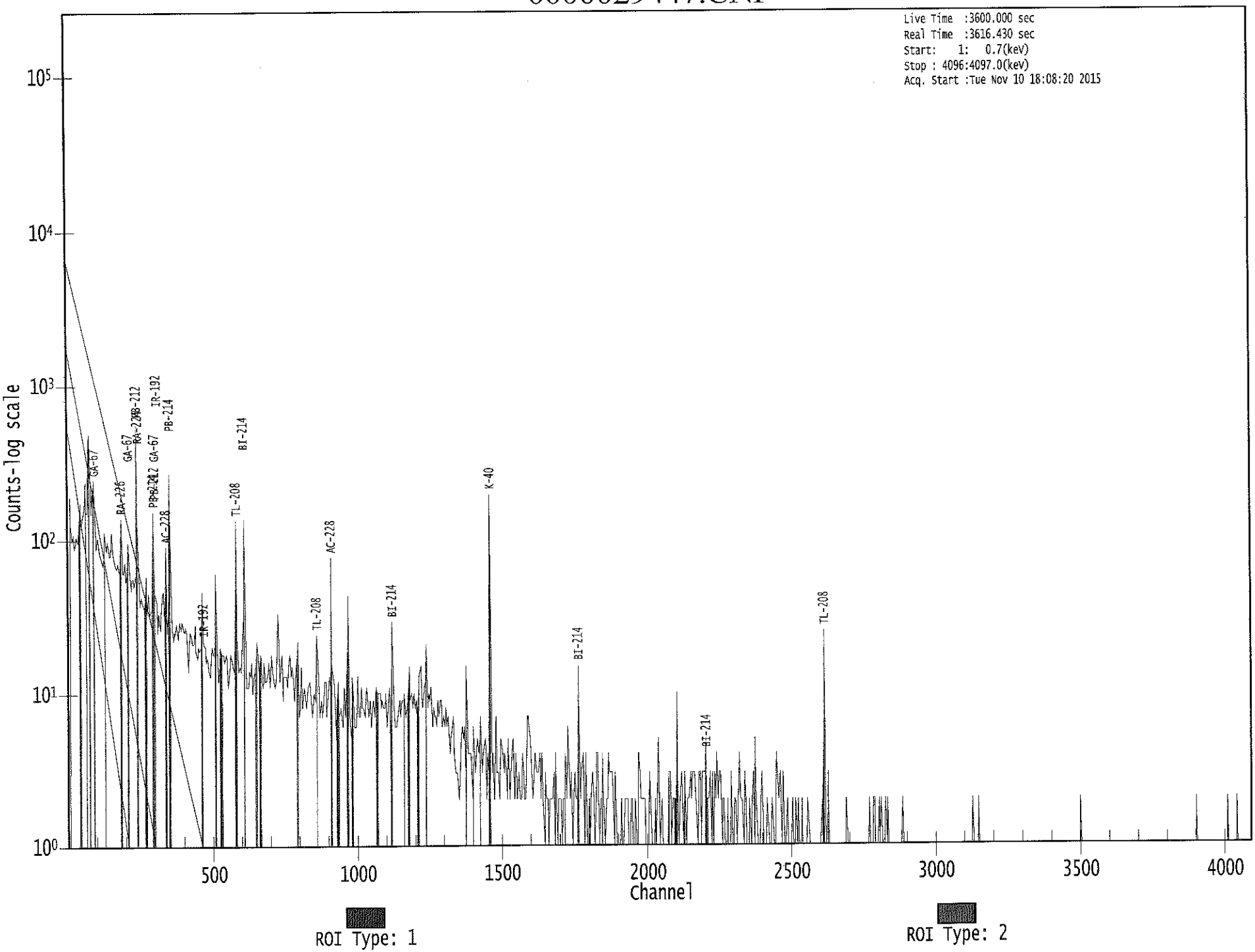
Channel								
3401:	0	0	0	0	0	0	0	0
3409:	0	0	0	0	0	0	0	1
3417:	0	0	0	0	0	0	0	0
3425:	0	0	0	0	0	0	0	1
3433:	0	0	0	0	0	0	0	0
3441:	0	0	0	0	0	1	0	0
3449:	0	0	0	1	0	0	0	1
3457:	0	0	0	0	0	1	1	0
3465:	0	0	0	0	0	0	0	0
3473:	0	0	0	0	0	0	0	0
3481:	0	0	0	1	0	0	0	0
3489:	0	0	0	0	0	0	0	0
3497:	0	0	2	0	0	0	1	0
3505:	1	0	0	0	0	0	0	0
3513:	0	0	0	0	0	0	0	0
3521:	0	0	1	0	0	0	0	1
3529:	0	0	0	0	0	0	0	0
3537:	0	0	0	0	0	0	1	0
3545:	0	0	0	0	0	0	0	0
3553:	0	0	0	0	0	0	0	0
3561:	0	0	0	0	0	0	0	0
3569:	0	0	0	0	0	0	0	0
3577:	0	1	0	0	0	0	0	0
3585:	0	0	0	0	0	0	0	0
3593:	0	0	0	0	0	0	0	0
3601:	0	0	0	0	0	0	0	0
3609:	0	0	0	0	0	0	0	0
3617:	0	1	0	0	0	0	0	0
3625:	0	0	1	0	0	0	0	0
3633:	0	0	0	0	0	0	0	0
3641:	1	0	0	0	0	1	0	1
3649:	0	0	0	0	0	0	1	0
3657:	0	1	0	0	0	0	0	1
3665:	0	0	0	0	0	1	0	0
3673:	0	0	0	0	0	0	0	0
3681:	0	0	0	1	0	0	0	0
3689:	0	1	0	0	0	0	0	1
3697:	0	0	0	0	0	0	0	0
3705:	0	0	1	0	0	0	1	0
3713:	0	0	0	0	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:	1	0	0	0	0	0	0	0
3753:	0	0	0	0	0	1	0	0
3761:	0	0	0	1	0	0	0	0
3769:	0	0	1	0	0	0	0	0
3777:	0	0	0	0	0	0	1	0
3785:	0	0	0	0	0	0	0	0
3793:	0	0	0	0	0	0	0	0
3801:	0	0	0	0	0	0	1	0
3809:	0	0	0	0	1	1	1	0
3817:	0	0	1	0	1	0	0	0

3825:	0	1	0	0	0	0	0	1

Sample Title: CP1805S11-12

Channel								
3833:	0	0	0	1	0	0	0	0
3841:	0	0	0	0	0	0	0	0
3849:	1	0	0	0	0	0	0	0
3857:	0	0	0	0	0	1	0	0
3865:	1	0	0	0	1	0	0	0
3873:	0	0	1	1	1	0	0	0
3881:	1	0	0	0	0	0	0	0
3889:	0	0	1	0	0	0	0	0
3897:	0	0	0	0	2	0	0	0
3905:	0	0	0	0	0	0	0	0
3913:	0	0	0	0	0	0	0	0
3921:	0	0	0	0	0	0	0	0
3929:	0	0	0	0	0	0	0	0
3937:	0	0	0	0	1	1	0	0
3945:	0	0	0	0	0	0	0	1
3953:	0	0	0	0	0	0	0	0
3961:	0	0	0	0	0	0	0	0
3969:	1	0	0	0	0	0	0	0
3977:	1	0	0	0	0	0	0	1
3985:	0	0	1	0	0	0	0	0
3993:	0	0	0	0	1	0	0	0
4001:	0	0	0	0	0	0	0	0
4009:	0	2	0	0	0	0	0	0
4017:	0	0	0	0	0	1	0	0
4025:	0	0	0	0	0	0	0	0
4033:	0	0	0	0	0	0	0	0
4041:	0	0	2	0	1	0	0	0
4049:	1	0	0	1	0	0	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	0	0	0	0	0	0	0
4073:	0	0	1	0	0	0	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	0	0	0	0	0

0000029447.CNF



Apex-Gamma

Analysis Report for 1510091-17
CP1805S13-14

C
11/11

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1510091-17
Sample Description	: CP1805S13-14
Sample Type	: SOIL
Sample Size	: 5.396E+02 grams
Facility	: Countroom
Sample Taken On	: 10/10/2015 10:18:55AM
Acquisition Started	: 11/10/2015 6:14:25PM
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	: 29448

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510091-17

CP1805S13-14

PEAK LOCATE REPORT

Peak Locate Performed on : 11/10/2015 7:14:29PM
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	46.55	46.66	0.0000	0.00
2	63.27	63.37	0.0000	0.00
3	76.36	76.45	0.0000	0.00
4	88.07	88.15	0.0000	0.00
5	93.39	93.47	0.0000	0.00
6	128.61	128.67	0.0000	0.00
7	143.84	143.89	0.0000	0.00
8	186.04	186.07	0.0000	0.00
9	208.73	208.75	0.0000	0.00
10	239.23	239.22	0.0000	0.00
11	270.37	270.35	0.0000	0.00
12	295.24	295.21	0.0000	0.00
13	300.32	300.29	0.0000	0.00
14	327.91	327.86	0.0000	0.00
15	338.62	338.56	0.0000	0.00
16	352.06	352.00	0.0000	0.00
17	464.75	464.62	0.0000	0.00
18	500.70	500.56	0.0000	0.00
19	510.61	510.47	0.0000	0.00
20	583.16	582.98	0.0000	0.00
21	600.18	599.99	0.0000	0.00
22	609.43	609.24	0.0000	0.00
23	651.38	651.17	0.0000	0.00
24	727.63	727.38	0.0000	0.00
25	768.31	768.04	0.0000	0.00
26	795.85	795.57	0.0000	0.00
27	806.56	806.28	0.0000	0.00
28	815.39	815.10	0.0000	0.00
29	836.25	835.95	0.0000	0.00
30	911.34	911.01	0.0000	0.00
31	918.15	917.82	0.0000	0.00
32	934.33	934.00	0.0000	0.00
33	964.73	964.38	0.0000	0.00
34	969.26	968.91	0.0000	0.00
35	1120.66	1120.26	0.0000	0.00
36	1140.08	1139.67	0.0000	0.00
37	1234.67	1234.22	0.0000	0.00
38	1238.23	1237.78	0.0000	0.00
39	1460.90	1460.38	0.0000	0.00
40	1565.28	1564.72	0.0000	0.00
41	1631.80	1631.23	0.0000	0.00
42	1661.19	1660.61	0.0000	0.00

Analysis Report for 1510091-17

CP1805S13-14

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1729.80	1729.20	0.0000	0.00
44	1736.60	1736.00	0.0000	0.00
45	1752.00	1751.40	0.0000	0.00
46	1764.75	1764.15	0.0000	0.00
47	1847.89	1847.27	0.0000	0.00
48	1971.81	1971.15	0.0000	0.00
49	1984.07	1983.42	0.0000	0.00
50	2039.66	2039.00	0.0000	0.00
51	2104.51	2103.84	0.0000	0.00
52	2203.50	2202.81	0.0000	0.00
53	2211.86	2211.17	0.0000	0.00
54	2614.26	2613.52	0.0000	0.00
55	2673.54	2672.80	0.0000	0.00
56	3196.75	3196.00	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510091-17

CP1805S13-14

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 7:14:29PM

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	46.55	43 -	50	46.66	1.82E+02	106.77	1.76E+03	1.27
	2	63.27	60 -	67	63.37	1.42E+02	107.16	1.83E+03	1.93
	3	76.36	72 -	79	76.45	1.05E+03	124.35	1.87E+03	3.47
	4	88.07	86 -	91	88.15	2.07E+02	88.60	1.41E+03	3.30
	5	93.39	91 -	96	93.47	2.02E+02	85.19	1.22E+03	1.81
	6	128.61	126 -	132	128.67	9.20E+01	73.47	9.16E+02	1.66
	7	143.84	142 -	147	143.89	6.27E+01	62.47	7.37E+02	2.39
	8	186.04	183 -	189	186.07	1.65E+02	68.06	7.17E+02	1.30
	9	208.73	204 -	214	208.75	1.13E+02	88.51	9.84E+02	2.32
	10	239.23	234 -	245	239.22	1.05E+03	106.68	8.99E+02	1.57
	11	270.37	268 -	272	270.35	5.04E+01	38.16	2.77E+02	1.72
M	12	295.24	290 -	306	295.21	3.25E+02	48.95	2.61E+02	1.60
m	13	300.32	290 -	306	300.29	7.55E+01	38.00	2.48E+02	1.66
	14	327.91	324 -	332	327.86	8.44E+01	50.98	3.51E+02	1.49
	15	338.62	334 -	343	338.56	1.98E+02	60.45	4.05E+02	1.73
	16	352.06	347 -	356	352.00	3.91E+02	74.30	5.66E+02	1.47
	17	464.75	459 -	472	464.62	9.80E+01	56.18	3.04E+02	1.84
	18	500.70	498 -	504	500.56	2.60E+01	29.01	1.36E+02	2.94
	19	510.61	505 -	515	510.47	1.98E+02	51.06	2.42E+02	2.07
	20	583.16	578 -	588	582.98	3.05E+02	52.82	2.10E+02	1.86
M	21	600.18	596 -	613	599.99	3.36E+01	26.76	1.18E+02	2.05
m	22	609.43	596 -	613	609.24	3.33E+02	42.79	1.14E+02	1.75
	23	651.38	646 -	656	651.17	3.00E+01	34.50	1.42E+02	7.33
	24	727.63	723 -	732	727.38	3.47E+01	39.19	1.99E+02	2.15
	25	768.31	765 -	771	768.04	2.92E+01	30.77	1.52E+02	1.15
	26	795.85	791 -	800	795.57	5.80E+01	31.13	1.06E+02	1.79
	27	806.56	802 -	811	806.28	3.86E+01	29.12	9.68E+01	1.87
	28	815.39	812 -	818	815.10	1.81E+01	20.51	6.37E+01	3.18
	29	836.25	833 -	840	835.95	2.32E+01	24.98	8.96E+01	2.94
M	30	911.34	907 -	925	911.01	1.88E+02	31.77	5.50E+01	1.82
m	31	918.15	907 -	925	917.82	1.95E+01	20.15	6.60E+01	2.15
	32	934.33	931 -	937	934.00	2.40E+01	21.93	7.00E+01	1.61
M	33	964.73	960 -	981	964.38	4.47E+01	25.77	9.20E+01	2.02
m	34	969.26	960 -	981	968.91	1.42E+02	31.24	9.67E+01	2.11
	35	1120.66	1114 -	1127	1120.26	9.99E+01	39.12	1.24E+02	3.02
	36	1140.08	1137 -	1143	1139.67	1.63E+01	18.86	5.34E+01	3.80
M	37	1234.67	1233 -	1242	1234.22	2.09E+01	11.68	2.28E+01	2.39
m	38	1238.23	1233 -	1242	1237.78	4.14E+01	23.84	6.31E+01	2.39
	39	1460.90	1455 -	1465	1460.38	6.25E+02	53.20	4.42E+01	2.23
	40	1565.28	1562 -	1567	1564.72	1.27E+01	8.06	2.57E+00	1.71

Analysis Report for 1510091-17

CP1805S13-14

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
41	1631.80	1626 -	1635	1631.23	1.75E+01	10.25	5.00E+00	1.20
42	1661.19	1656 -	1664	1660.61	1.05E+01	10.02	9.00E+00	6.42
43	1729.80	1724 -	1733	1729.20	2.20E+01	12.57	1.00E+01	3.20
44	1736.60	1734 -	1738	1736.00	6.50E+00	6.96	5.00E+00	1.31
45	1752.00	1749 -	1753	1751.40	6.00E+00	7.40	6.00E+00	0.93
46	1764.75	1760 -	1768	1764.15	6.10E+01	21.77	3.40E+01	2.09
47	1847.89	1843 -	1851	1847.27	1.50E+01	7.75	0.00E+00	4.38
48	1971.81	1968 -	1974	1971.15	5.50E+00	7.78	7.00E+00	1.02
49	1984.07	1981 -	1986	1983.42	8.25E+00	7.00	3.50E+00	1.38
50	2039.66	2035 -	2042	2039.00	7.11E+00	7.21	3.78E+00	3.15
51	2104.51	2100 -	2108	2103.84	1.49E+01	11.86	1.02E+01	5.20
52	2203.50	2199 -	2206	2202.81	1.70E+01	10.77	8.00E+00	1.37
53	2211.86	2208 -	2213	2211.17	6.50E+00	6.40	3.00E+00	1.11
54	2614.26	2609 -	2618	2613.52	1.05E+02	20.49	0.00E+00	2.55
55	2673.54	2667 -	2674	2672.80	5.00E+00	4.47	0.00E+00	1.16
56	3196.75	3193 -	3198	3196.00	5.00E+00	4.47	0.00E+00	1.50

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 7:14:29PM

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	46.55	43 -	50	1.82E+02	106.77	1.76E+03	8.49E+01
	2	63.27	60 -	67	1.42E+02	107.16	1.83E+03	8.59E+01
	3	76.36	72 -	79	1.05E+03	124.35	1.87E+03	8.73E+01
	4	88.07	86 -	91	2.07E+02	88.60	1.41E+03	6.89E+01
	5	93.39	91 -	96	2.02E+02	85.19	1.22E+03	6.60E+01
	6	128.61	126 -	132	9.20E+01	73.47	9.16E+02	5.83E+01
	7	143.84	142 -	147	6.27E+01	62.47	7.37E+02	4.97E+01
	8	186.04	183 -	189	1.65E+02	68.06	7.17E+02	5.18E+01
	9	208.73	204 -	214	1.13E+02	88.51	9.84E+02	7.06E+01
	10	239.23	234 -	245	1.05E+03	106.68	8.99E+02	2.86E+01
	11	270.37	268 -	272	5.04E+01	38.16	2.77E+02	2.91E+01
M	12	295.24	290 -	306	3.25E+02	48.95	2.61E+02	2.66E+01

Analysis Report for 1510091-17

CP1805S13-14

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
m	13	300.32	290 -	306	7.55E+01	38.00	2.48E+02	2.59E+01
	14	327.91	324 -	332	8.44E+01	50.98	3.51E+02	3.91E+01
	15	338.62	334 -	343	1.98E+02	60.45	4.05E+02	4.40E+01
	16	352.06	347 -	356	3.91E+02	74.30	5.66E+02	5.17E+01
	17	464.75	459 -	472	9.80E+01	56.18	3.04E+02	1.91E+01
	18	500.70	498 -	504	2.60E+01	29.01	1.36E+02	2.23E+01
	19	510.61	505 -	515	1.98E+02	51.06	2.42E+02	3.50E+01
	20	583.16	578 -	588	3.05E+02	52.82	2.10E+02	3.26E+01
M	21	600.18	596 -	613	3.36E+01	26.76	1.18E+02	1.78E+01
m	22	609.43	596 -	613	3.33E+02	42.79	1.14E+02	1.76E+01
	23	651.38	646 -	656	3.00E+01	34.50	1.42E+02	2.69E+01
	24	727.63	723 -	732	3.47E+01	39.19	1.99E+02	3.07E+01
	25	768.31	765 -	771	2.92E+01	30.77	1.52E+02	2.37E+01
	26	795.85	791 -	800	5.80E+01	31.13	1.06E+02	2.23E+01
	27	806.56	802 -	811	3.86E+01	29.12	9.68E+01	2.16E+01
	28	815.39	812 -	818	1.81E+01	20.51	6.37E+01	1.53E+01
	29	836.25	833 -	840	2.32E+01	24.98	8.96E+01	1.89E+01
M	30	911.34	907 -	925	1.88E+02	31.77	5.50E+01	1.22E+01
m	31	918.15	907 -	925	1.95E+01	20.15	6.60E+01	1.34E+01
	32	934.33	931 -	937	2.40E+01	21.93	7.00E+01	1.61E+01
M	33	964.73	960 -	981	4.47E+01	25.77	9.20E+01	1.58E+01
m	34	969.26	960 -	981	1.42E+02	31.24	9.67E+01	1.62E+01
	35	1120.66	1114 -	1127	9.99E+01	39.12	1.24E+02	2.76E+01
	36	1140.08	1137 -	1143	1.63E+01	18.86	5.34E+01	1.40E+01
M	37	1234.67	1233 -	1242	2.09E+01	11.68	2.28E+01	7.85E+00
m	38	1238.23	1233 -	1242	4.14E+01	23.84	6.31E+01	1.31E+01
	39	1460.90	1455 -	1465	6.25E+02	53.20	4.42E+01	1.49E+01
	40	1565.28	1562 -	1567	1.27E+01	8.06	2.57E+00	3.09E+00
	41	1631.80	1626 -	1635	1.75E+01	10.25	5.00E+00	4.86E+00
	42	1661.19	1656 -	1664	1.05E+01	10.02	9.00E+00	6.29E+00
	43	1729.80	1724 -	1733	2.20E+01	12.57	1.00E+01	6.88E+00
	44	1736.60	1734 -	1738	6.50E+00	6.96	5.00E+00	3.90E+00
	45	1752.00	1749 -	1753	6.00E+00	7.40	6.00E+00	4.56E+00
	46	1764.75	1760 -	1768	6.10E+01	21.77	3.40E+01	1.25E+01
	47	1847.89	1843 -	1851	1.50E+01	7.75	0.00E+00	0.00E+00
	48	1971.81	1968 -	1974	5.50E+00	7.78	7.00E+00	5.10E+00
	49	1984.07	1981 -	1986	8.25E+00	7.00	3.50E+00	3.29E+00
	50	2039.66	2035 -	2042	7.11E+00	7.21	3.78E+00	3.99E+00
	51	2104.51	2100 -	2108	1.49E+01	11.86	1.02E+01	7.40E+00
	52	2203.50	2199 -	2206	1.70E+01	10.77	8.00E+00	5.70E+00
	53	2211.86	2208 -	2213	6.50E+00	6.40	3.00E+00	3.18E+00
	54	2614.26	2609 -	2618	1.05E+02	20.49	0.00E+00	0.00E+00
	55	2673.54	2667 -	2674	5.00E+00	4.47	0.00E+00	0.00E+00
	56	3196.75	3193 -	3198	5.00E+00	4.47	0.00E+00	0.00E+00

Analysis Report for 1510091-17

CP1805S13-14

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 : 11/10/2015 7:14:29PM

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	46.55	43 -	50	46.66	1.82E+02	106.77	1.76E+03	PB-210
	2	63.27	60 -	67	63.37	1.42E+02	107.16	1.83E+03	TH-234
									TH-230
	3	76.36	72 -	79	76.45	1.05E+03	124.35	1.87E+03	.....
	4	88.07	86 -	91	88.15	2.07E+02	88.60	1.41E+03	CD-109
									LU-176
									SN-126
	5	93.39	91 -	96	93.47	2.02E+02	85.19	1.22E+03	GA-67
	6	128.61	126 -	132	128.67	9.20E+01	73.47	9.16E+02	.....
	7	143.84	142 -	147	143.89	6.27E+01	62.47	7.37E+02	U-235
	8	186.04	183 -	189	186.07	1.65E+02	68.06	7.17E+02	RA-226
	9	208.73	204 -	214	208.75	1.13E+02	88.51	9.84E+02	GA-67
	10	239.23	234 -	245	239.22	1.05E+03	106.68	8.99E+02	PB-212
	11	270.37	268 -	272	270.35	5.04E+01	38.16	2.77E+02	.....
M	12	295.24	290 -	306	295.21	3.25E+02	48.95	2.61E+02	PB-214
m	13	300.32	290 -	306	300.29	7.55E+01	38.00	2.48E+02	GA-67
									PB-212
									BI-210M
	14	327.91	324 -	332	327.86	8.44E+01	50.98	3.51E+02	LA-140
	15	338.62	334 -	343	338.56	1.98E+02	60.45	4.05E+02	AC-228
	16	352.06	347 -	356	352.00	3.91E+02	74.30	5.66E+02	PB-214
	17	464.75	459 -	472	464.62	9.80E+01	56.18	3.04E+02	.....
	18	500.70	498 -	504	500.56	2.60E+01	29.01	1.36E+02	.....
	19	510.61	505 -	515	510.47	1.98E+02	51.06	2.42E+02	.....
	20	583.16	578 -	588	582.98	3.05E+02	52.82	2.10E+02	TL-208
M	21	600.18	596 -	613	599.99	3.36E+01	26.76	1.18E+02	SB-125
m	22	609.43	596 -	613	609.24	3.33E+02	42.79	1.14E+02	BI-214
	23	651.38	646 -	656	651.17	3.00E+01	34.50	1.42E+02	.....
	24	727.63	723 -	732	727.38	3.47E+01	39.19	1.99E+02	BI-212
	25	768.31	765 -	771	768.04	2.92E+01	30.77	1.52E+02	.....

Analysis Report for 1510091-17

CP1805S13-14

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	26	795.85	791 -	800	795.57	5.80E+01	31.13	1.06E+02	CS-134
	27	806.56	802 -	811	806.28	3.86E+01	29.12	9.68E+01	.....
	28	815.39	812 -	818	815.10	1.81E+01	20.51	6.37E+01	LA-140
	29	836.25	833 -	840	835.95	2.32E+01	24.98	8.96E+01	.....
M	30	911.34	907 -	925	911.01	1.88E+02	31.77	5.50E+01	AC-228
									LU-172
m	31	918.15	907 -	925	917.82	1.95E+01	20.15	6.60E+01	.....
	32	934.33	931 -	937	934.00	2.40E+01	21.93	7.00E+01	.....
M	33	964.73	960 -	981	964.38	4.47E+01	25.77	9.20E+01	EU-152
m	34	969.26	960 -	981	968.91	1.42E+02	31.24	9.67E+01	AC-228
	35	1120.66	1114 -	1127	1120.26	9.99E+01	39.12	1.24E+02	SC-46
									BI-214
									TA-182
	36	1140.08	1137 -	1143	1139.67	1.63E+01	18.86	5.34E+01	.....
M	37	1234.67	1233 -	1242	1234.22	2.09E+01	11.68	2.28E+01	CS-136
m	38	1238.23	1233 -	1242	1237.78	4.14E+01	23.84	6.31E+01	CO-56
	39	1460.90	1455 -	1465	1460.38	6.25E+02	53.20	4.42E+01	K-40
	40	1565.28	1562 -	1567	1564.72	1.27E+01	8.06	2.57E+00	.....
	41	1631.80	1626 -	1635	1631.23	1.75E+01	10.25	5.00E+00	.....
	42	1661.19	1656 -	1664	1660.61	1.05E+01	10.02	9.00E+00	.....
	43	1729.80	1724 -	1733	1729.20	2.20E+01	12.57	1.00E+01	.....
	44	1736.60	1734 -	1738	1736.00	6.50E+00	6.96	5.00E+00	.....
	45	1752.00	1749 -	1753	1751.40	6.00E+00	7.40	6.00E+00	.....
	46	1764.75	1760 -	1768	1764.15	6.10E+01	21.77	3.40E+01	BI-214
	47	1847.89	1843 -	1851	1847.27	1.50E+01	7.75	0.00E+00	.....
	48	1971.81	1968 -	1974	1971.15	5.50E+00	7.78	7.00E+00	.....
	49	1984.07	1981 -	1986	1983.42	8.25E+00	7.00	3.50E+00	.....
	50	2039.66	2035 -	2042	2039.00	7.11E+00	7.21	3.78E+00	.....
	51	2104.51	2100 -	2108	2103.84	1.49E+01	11.86	1.02E+01	.....
	52	2203.50	2199 -	2206	2202.81	1.70E+01	10.77	8.00E+00	BI-214
	53	2211.86	2208 -	2213	2211.17	6.50E+00	6.40	3.00E+00	.....
	54	2614.26	2609 -	2618	2613.52	1.05E+02	20.49	0.00E+00	TL-208
	55	2673.54	2667 -	2674	2672.80	5.00E+00	4.47	0.00E+00	.....
	56	3196.75	3193 -	3198	3196.00	5.00E+00	4.47	0.00E+00	.....

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/10/2015 7:14:29PM

Analysis Report for 1510091-17

CP1805S13-14

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	46.55	1.82E+02	106.77	1.34E-02	1.68E-03
	2	63.27	1.42E+02	107.16	2.37E-02	2.05E-03
	3	76.36	1.05E+03	124.35	2.74E-02	3.35E-03
	4	88.07	2.07E+02	88.60	2.84E-02	4.50E-03
	5	93.39	2.02E+02	85.19	2.85E-02	4.27E-03
	6	128.61	9.20E+01	73.47	2.61E-02	2.79E-03
	7	143.84	6.27E+01	62.47	2.46E-02	2.33E-03
	8	186.04	1.65E+02	68.06	2.11E-02	1.65E-03
	9	208.73	1.13E+02	88.51	1.95E-02	1.63E-03
	10	239.23	1.05E+03	106.68	1.78E-02	1.60E-03
	11	270.37	5.04E+01	38.16	1.64E-02	1.57E-03
M	12	295.24	3.25E+02	48.95	1.55E-02	1.48E-03
m	13	300.32	7.55E+01	38.00	1.53E-02	1.46E-03
	14	327.91	8.44E+01	50.98	1.44E-02	1.32E-03
	15	338.62	1.98E+02	60.45	1.41E-02	1.27E-03
	16	352.06	3.91E+02	74.30	1.37E-02	1.21E-03
	17	464.75	9.80E+01	56.18	1.13E-02	9.45E-04
	18	500.70	2.60E+01	29.01	1.07E-02	9.09E-04
	19	510.61	1.98E+02	51.06	1.06E-02	8.99E-04
	20	583.16	3.05E+02	52.82	9.58E-03	8.25E-04
M	21	600.18	3.36E+01	26.76	9.38E-03	8.08E-04
m	22	609.43	3.33E+02	42.79	9.27E-03	7.98E-04
	23	651.38	3.00E+01	34.50	8.81E-03	7.56E-04
	24	727.63	3.47E+01	39.19	8.08E-03	7.03E-04
	25	768.31	2.92E+01	30.77	7.74E-03	6.77E-04
	26	795.85	5.80E+01	31.13	7.53E-03	6.59E-04
	27	806.56	3.86E+01	29.12	7.45E-03	6.52E-04
	28	815.39	1.81E+01	20.51	7.38E-03	6.46E-04
	29	836.25	2.32E+01	24.98	7.23E-03	6.33E-04
M	30	911.34	1.88E+02	31.77	6.74E-03	5.87E-04
m	31	918.15	1.95E+01	20.15	6.70E-03	5.83E-04
	32	934.33	2.40E+01	21.93	6.61E-03	5.75E-04
M	33	964.73	4.47E+01	25.77	6.44E-03	5.59E-04
m	34	969.26	1.42E+02	31.24	6.41E-03	5.57E-04
	35	1120.66	9.99E+01	39.12	5.70E-03	4.80E-04
	36	1140.08	1.63E+01	18.86	5.62E-03	4.70E-04
M	37	1234.67	2.09E+01	11.68	5.28E-03	4.81E-04
m	38	1238.23	4.14E+01	23.84	5.27E-03	4.83E-04
	39	1460.90	6.25E+02	53.20	4.67E-03	4.73E-04
	40	1565.28	1.27E+01	8.06	4.47E-03	4.30E-04
	41	1631.80	1.75E+01	10.25	4.36E-03	4.02E-04
	42	1661.19	1.05E+01	10.02	4.32E-03	3.90E-04
	43	1729.80	2.20E+01	12.57	4.23E-03	3.62E-04
	44	1736.60	6.50E+00	6.96	4.22E-03	3.59E-04
	45	1752.00	6.00E+00	7.40	4.20E-03	3.53E-04
	46	1764.75	6.10E+01	21.77	4.18E-03	3.47E-04
	47	1847.89	1.50E+01	7.75	4.10E-03	3.18E-04
	48	1971.81	5.50E+00	7.78	4.01E-03	3.18E-04
	49	1984.07	8.25E+00	7.00	4.00E-03	3.18E-04
	50	2039.66	7.11E+00	7.21	3.97E-03	3.18E-04
	51	2104.51	1.49E+01	11.86	3.95E-03	3.18E-04
	52	2203.50	1.70E+01	10.77	3.93E-03	3.18E-04
	53	2211.86	6.50E+00	6.40	3.93E-03	3.18E-04

Analysis Report for 1510091-17

CP1805S13-14

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
54	2614.26	1.05E+02	20.49	4.05E-03	3.18E-04
55	2673.54	5.00E+00	4.47	4.09E-03	3.18E-04
56	3196.75	5.00E+00	4.47	4.78E-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 : 11/10/2015 7:14:29PM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	46.55	1.82E+02	106.77	6.46E+01	1.16E+01	1.18E+02	1.07E+02
	2	63.27	1.42E+02	107.16	4.34E+01	1.15E+01	9.88E+01	1.08E+02
	3	76.36	1.05E+03	124.35			1.05E+03	1.24E+02
	4	88.07	2.07E+02	88.60	1.46E+00	7.88E+00	2.06E+02	8.89E+01
	5	93.39	2.02E+02	85.19	5.70E+01	9.03E+00	1.45E+02	8.57E+01
	6	128.61	9.20E+01	73.47			9.20E+01	7.35E+01
	7	143.84	6.27E+01	62.47	8.10E+00	1.90E+01	5.46E+01	6.53E+01
	8	186.04	1.65E+02	68.06	4.72E+01	7.97E+00	1.18E+02	6.85E+01
	9	208.73	1.13E+02	88.51			1.13E+02	8.85E+01
	10	239.23	1.05E+03	106.68	2.36E+01	1.35E+01	1.02E+03	1.08E+02
	11	270.37	5.04E+01	38.16			5.04E+01	3.82E+01
M	12	295.24	3.25E+02	48.95	8.57E+00	6.10E+00	3.17E+02	4.93E+01
m	13	300.32	7.55E+01	38.00			7.55E+01	3.80E+01
	14	327.91	8.44E+01	50.98	0.00E+00	0.00E+00	8.44E+01	5.10E+01
	15	338.62	1.98E+02	60.45			1.98E+02	6.04E+01
	16	352.06	3.91E+02	74.30	1.40E+01	5.55E+00	3.77E+02	7.45E+01
	17	464.75	9.80E+01	56.18			9.80E+01	5.62E+01
	18	500.70	2.60E+01	29.01			2.60E+01	2.90E+01
	19	510.61	1.98E+02	51.06	8.41E+01	5.50E+00	1.14E+02	5.14E+01
	20	583.16	3.05E+02	52.82	7.32E+00	4.08E+00	2.98E+02	5.30E+01
M	21	600.18	3.36E+01	26.76			3.36E+01	2.68E+01
m	22	609.43	3.33E+02	42.79	1.30E+01	3.89E+00	3.20E+02	4.30E+01
	23	651.38	3.00E+01	34.50			3.00E+01	3.45E+01
	24	727.63	3.47E+01	39.19			3.47E+01	3.92E+01
	25	768.31	2.92E+01	30.77			2.92E+01	3.08E+01
	26	795.85	5.80E+01	31.13			5.80E+01	3.11E+01
	27	806.56	3.86E+01	29.12			3.86E+01	2.91E+01

Analysis Report for 1510091-17

CP1805S13-14

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	28	815.39	1.81E+01	20.51			1.81E+01	2.05E+01
	29	836.25	2.32E+01	24.98			2.32E+01	2.50E+01
M	30	911.34	1.88E+02	31.77	5.60E+00	3.32E+00	1.82E+02	3.19E+01
m	31	918.15	1.95E+01	20.15			1.95E+01	2.01E+01
	32	934.33	2.40E+01	21.93			2.40E+01	2.19E+01
M	33	964.73	4.47E+01	25.77			4.47E+01	2.58E+01
m	34	969.26	1.42E+02	31.24			1.42E+02	3.12E+01
	35	1120.66	9.99E+01	39.12	3.93E+00	2.96E+00	9.59E+01	3.92E+01
	36	1140.08	1.63E+01	18.86			1.63E+01	1.89E+01
M	37	1234.67	2.09E+01	11.68			2.09E+01	1.17E+01
m	38	1238.23	4.14E+01	23.84			4.14E+01	2.38E+01
	39	1460.90	6.25E+02	53.20	1.12E+01	2.55E+00	6.14E+02	5.33E+01
	40	1565.28	1.27E+01	8.06			1.27E+01	8.06E+00
	41	1631.80	1.75E+01	10.25			1.75E+01	1.02E+01
	42	1661.19	1.05E+01	10.02			1.05E+01	1.00E+01
	43	1729.80	2.20E+01	12.57			2.20E+01	1.26E+01
	44	1736.60	6.50E+00	6.96			6.50E+00	6.96E+00
	45	1752.00	6.00E+00	7.40			6.00E+00	7.40E+00
	46	1764.75	6.10E+01	21.77	4.23E+00	2.21E+00	5.68E+01	2.19E+01
	47	1847.89	1.50E+01	7.75			1.50E+01	7.75E+00
	48	1971.81	5.50E+00	7.78			5.50E+00	7.78E+00
	49	1984.07	8.25E+00	7.00			8.25E+00	7.00E+00
	50	2039.66	7.11E+00	7.21			7.11E+00	7.21E+00
	51	2104.51	1.49E+01	11.86			1.49E+01	1.19E+01
	52	2203.50	1.70E+01	10.77	5.94E-01	1.16E+00	1.64E+01	1.08E+01
	53	2211.86	6.50E+00	6.40			6.50E+00	6.40E+00
	54	2614.26	1.05E+02	20.49	7.38E+00	1.57E+00	9.76E+01	2.06E+01
	55	2673.54	5.00E+00	4.47			5.00E+00	4.47E+00
	56	3196.75	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 : 11/10/2015 7:14:29PM

Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

Corrected Area is: Original * Peak Ratio - Background

Analysis Report for 1510091-17

CP1805S13-14

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	1	46.55	1.82E+02	106.77	6.46E+01	1.16E+01	1.18E+02	1.07E+02
	2	63.27	1.42E+02	107.16	4.34E+01	1.15E+01	9.88E+01	1.08E+02
	3	76.36	1.05E+03	124.35			1.05E+03	1.24E+02
	4	88.07	2.07E+02	88.60	1.46E+00	7.88E+00	2.06E+02	8.89E+01
	5	93.39	2.02E+02	85.19	5.70E+01	9.03E+00	1.45E+02	8.57E+01
	6	128.61	9.20E+01	73.47			9.20E+01	7.35E+01
	7	143.84	6.27E+01	62.47	8.10E+00	1.90E+01	5.46E+01	6.53E+01
	8	186.04	1.65E+02	68.06	4.72E+01	7.97E+00	1.18E+02	6.85E+01
	9	208.73	1.13E+02	88.51			1.13E+02	8.85E+01
	10	239.23	1.05E+03	106.68	2.36E+01	1.35E+01	1.02E+03	1.08E+02
	11	270.37	5.04E+01	38.16			5.04E+01	3.82E+01
M	12	295.24	3.25E+02	48.95	8.57E+00	6.10E+00	3.17E+02	4.93E+01
m	13	300.32	7.55E+01	38.00			7.55E+01	3.80E+01
	14	327.91	8.44E+01	50.98	0.00E+00	0.00E+00	8.44E+01	5.10E+01
	15	338.62	1.98E+02	60.45			1.98E+02	6.04E+01
	16	352.06	3.91E+02	74.30	1.40E+01	5.55E+00	3.77E+02	7.45E+01
	17	464.75	9.80E+01	56.18			9.80E+01	5.62E+01
	18	500.70	2.60E+01	29.01			2.60E+01	2.90E+01
	19	510.61	1.98E+02	51.06	8.41E+01	5.50E+00	1.14E+02	5.14E+01
	20	583.16	3.05E+02	52.82	7.32E+00	4.08E+00	2.98E+02	5.30E+01
M	21	600.18	3.36E+01	26.76			3.36E+01	2.68E+01
m	22	609.43	3.33E+02	42.79	1.30E+01	3.89E+00	3.20E+02	4.30E+01
	23	651.38	3.00E+01	34.50			3.00E+01	3.45E+01
	24	727.63	3.47E+01	39.19			3.47E+01	3.92E+01
	25	768.31	2.92E+01	30.77			2.92E+01	3.08E+01
	26	795.85	5.80E+01	31.13			5.80E+01	3.11E+01
	27	806.56	3.86E+01	29.12			3.86E+01	2.91E+01
	28	815.39	1.81E+01	20.51			1.81E+01	2.05E+01
	29	836.25	2.32E+01	24.98			2.32E+01	2.50E+01
M	30	911.34	1.88E+02	31.77	5.60E+00	3.32E+00	1.82E+02	3.19E+01
m	31	918.15	1.95E+01	20.15			1.95E+01	2.01E+01
	32	934.33	2.40E+01	21.93			2.40E+01	2.19E+01
M	33	964.73	4.47E+01	25.77			4.47E+01	2.58E+01
m	34	969.26	1.42E+02	31.24			1.42E+02	3.12E+01
	35	1120.66	9.99E+01	39.12	3.93E+00	2.96E+00	9.59E+01	3.92E+01
	36	1140.08	1.63E+01	18.86			1.63E+01	1.89E+01
M	37	1234.67	2.09E+01	11.68			2.09E+01	1.17E+01
m	38	1238.23	4.14E+01	23.84			4.14E+01	2.38E+01
	39	1460.90	6.25E+02	53.20	1.12E+01	2.55E+00	6.14E+02	5.33E+01
	40	1565.28	1.27E+01	8.06			1.27E+01	8.06E+00
	41	1631.80	1.75E+01	10.25			1.75E+01	1.02E+01
	42	1661.19	1.05E+01	10.02			1.05E+01	1.00E+01
	43	1729.80	2.20E+01	12.57			2.20E+01	1.26E+01
	44	1736.60	6.50E+00	6.96			6.50E+00	6.96E+00
	45	1752.00	6.00E+00	7.40			6.00E+00	7.40E+00
	46	1764.75	6.10E+01	21.77	4.23E+00	2.21E+00	5.68E+01	2.19E+01
	47	1847.89	1.50E+01	7.75			1.50E+01	7.75E+00
	48	1971.81	5.50E+00	7.78			5.50E+00	7.78E+00
	49	1984.07	8.25E+00	7.00			8.25E+00	7.00E+00
	50	2039.66	7.11E+00	7.21			7.11E+00	7.21E+00
	51	2104.51	1.49E+01	11.86			1.49E+01	1.19E+01
	52	2203.50	1.70E+01	10.77	5.94E-01	1.16E+00	1.64E+01	1.08E+01
	53	2211.86	6.50E+00	6.40			6.50E+00	6.40E+00
	54	2614.26	1.05E+02	20.49	7.38E+00	1.57E+00	9.76E+01	2.06E+01

Analysis Report for 1510091-17

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Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
55	2673.54	5.00E+00	4.47			5.00E+00	4.47E+00
56	3196.75	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	0.999	1460.81	*	10.67	1.71E+01	2.31E+00
GA-67	0.629	93.31	*	35.70	1.55E+02	6.65E+02
		208.95	*	2.24	2.81E+03	1.17E+04
		300.22	*	16.00	3.36E+02	1.43E+03
CD-109	1.000	88.03	*	3.72	2.84E+00	1.32E+00
SN-126	0.961	87.57	*	37.00	2.72E-01	1.25E-01
TL-208	0.880	583.14	*	30.22	1.43E+00	2.83E-01
		860.37		4.48		
		2614.66	*	35.85	9.35E-01	2.10E-01
PB-210	1.000	46.50	*	4.25	2.87E+00	2.65E+00
BI-212	0.739	727.17	*	11.80	5.06E-01	5.73E-01
		1620.62		2.75		
PB-212	0.948	238.63	*	44.60	1.79E+00	2.47E-01
		300.09	*	3.41	2.01E+00	1.03E+00
BI-214	0.988	609.31	*	46.30	1.04E+00	1.65E-01
		1120.29	*	15.10	1.55E+00	6.47E-01
		1764.49	*	15.80	1.19E+00	4.71E-01
		2204.22	*	4.98	1.17E+00	7.76E-01
PB-214	0.998	295.21	*	19.19	1.48E+00	2.71E-01
		351.92	*	37.19	1.03E+00	2.22E-01
RA-226	0.995	186.21	*	3.28	2.38E+00	4.57E+00
AC-228	0.990	338.32	*	11.40	1.72E+00	5.46E-01
		911.07	*	27.70	1.36E+00	2.66E-01
		969.11	*	16.60	1.85E+00	4.39E-01
TH-234	1.000	63.29	*	3.80	1.52E+00	1.67E+00

Analysis Report for 1510091-17

CP1805S13-14

* = 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 : 11/10/2015 7:14:29PM
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	76.36	2.90903E-01	5.94		
	6	128.61	2.55657E-02	39.91		
	7	143.84	1.51639E-02	59.81	Tol.	U-235
	11	270.37	1.40101E-02	37.83		
	14	327.91	2.34514E-02	30.19	Sum	
	17	464.75	2.72111E-02	28.67		
	18	500.70	7.21336E-03	55.85		
	19	510.61	3.16986E-02	22.50		
M	21	600.18	9.33341E-03	39.82	Sum	
	23	651.38	8.33608E-03	57.49		
	25	768.31	8.09921E-03	52.76	Sum	
	26	795.85	1.61124E-02	26.83	Sum	
	27	806.56	1.07248E-02	37.71		
	28	815.39	5.03889E-03	56.52	Sum	
	29	836.25	6.45016E-03	53.79		
m	31	918.15	5.41065E-03	51.72		
	32	934.33	6.66667E-03	45.69	Sum	
M	33	964.73	1.24256E-02	28.80	Tol.	EU-152
	36	1140.08	4.53165E-03	57.81		
M	37	1234.67	5.79515E-03	28.00		
m	38	1238.23	1.15080E-02	28.78		
	40	1565.28	3.53175E-03	31.71		
	41	1631.80	4.86111E-03	29.28		
	42	1661.19	2.91667E-03	47.74		
	43	1729.80	6.11111E-03	28.57	Sum	
	44	1736.60	1.80556E-03	53.57		
	45	1752.00	1.66667E-03	61.66		
	47	1847.89	4.16667E-03	25.82	Sum	
	48	1971.81	1.52778E-03	70.71		
	49	1984.07	2.29167E-03	42.42		
	50	2039.66	1.97531E-03	50.70		
	51	2104.51	4.13889E-03	39.81		
	53	2211.86	1.80556E-03	49.25		
	55	2673.54	1.38889E-03	44.72		

Analysis Report for 1510091-17
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Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
56	3196.75	1.38889E-03	44.72	Sum	

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

NUCLIDE 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	1.71E+01	2.31E+00
GA-67	0.62	93.31	*	35.70	1.55E+02	6.65E+02
		208.95	*	2.24	2.81E+03	1.17E+04
		300.22	*	16.00	3.36E+02	1.43E+03
CD-109	1.00	88.03	*	3.72	2.84E+00	1.32E+00
SN-126	0.96	87.57	*	37.00	2.72E-01	1.25E-01
TL-208	0.88	583.14	*	30.22	1.43E+00	2.83E-01
		860.37		4.48		
		2614.66	*	35.85	9.35E-01	2.10E-01
PB-210	1.00	46.50	*	4.25	2.87E+00	2.65E+00
BI-212	0.73	727.17	*	11.80	5.06E-01	5.73E-01
		1620.62		2.75		
PB-212	0.94	238.63	*	44.60	1.79E+00	2.47E-01
		300.09	*	3.41	2.01E+00	1.03E+00
BI-214	0.98	609.31	*	46.30	1.04E+00	1.65E-01
		1120.29	*	15.10	1.55E+00	6.47E-01
		1764.49	*	15.80	1.19E+00	4.71E-01
		2204.22	*	4.98	1.17E+00	7.76E-01
PB-214	0.99	295.21	*	19.19	1.48E+00	2.71E-01
		351.92	*	37.19	1.03E+00	2.22E-01
RA-226	0.99	186.21	*	3.28	2.38E+00	4.57E+00
AC-228	0.99	338.32	*	11.40	1.72E+00	5.46E-01
		911.07	*	27.70	1.36E+00	2.66E-01
		969.11	*	16.60	1.85E+00	4.39E-01
TH-234	1.00	63.29	*	3.80	1.52E+00	1.67E+00

Analysis Report for 1510091-17

CP1805S13-14

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40	0.999	1.71E+01	2.31E+00	
	GA-67	0.629	1.33E+02	5.50E+02	
?	CD-109	1.000	2.84E+00	1.32E+00	
?	SN-126	0.961	2.72E-01	1.25E-01	
	TL-208	0.880	1.11E+00	1.69E-01	
	PB-210	1.000	2.87E+00	2.65E+00	
	BI-212	0.739	5.06E-01	5.73E-01	
	PB-212	0.948	1.76E+00	2.42E-01	
	BI-214	0.988	1.09E+00	1.49E-01	
	PB-214	0.998	1.21E+00	1.72E-01	
	RA-226	0.995	2.38E+00	4.57E+00	
	AC-228	0.990	1.52E+00	2.10E-01	
	TH-234	1.000	1.52E+00	1.67E+00	

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510091-17

CP1805S13-14

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 7:14:29PM
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	76.36	2.90903E-01	5.94		
	6	128.61	2.55657E-02	39.91		
	7	143.84	1.51639E-02	59.81	Tol.	U-235
	11	270.37	1.40101E-02	37.83		
	14	327.91	2.34514E-02	30.19	Sum	
	17	464.75	2.72111E-02	28.67		
	18	500.70	7.21336E-03	55.85		
	19	510.61	3.16986E-02	22.50		
M	21	600.18	9.33341E-03	39.82	Sum	
	23	651.38	8.33608E-03	57.49		
	25	768.31	8.09921E-03	52.76	Sum	
	26	795.85	1.61124E-02	26.83	Sum	
	27	806.56	1.07248E-02	37.71		
	28	815.39	5.03889E-03	56.52	Sum	
	29	836.25	6.45016E-03	53.79		
m	31	918.15	5.41065E-03	51.72		
	32	934.33	6.66667E-03	45.69	Sum	
M	33	964.73	1.24256E-02	28.80	Tol.	EU-152
	36	1140.08	4.53165E-03	57.81		
M	37	1234.67	5.79515E-03	28.00		
m	38	1238.23	1.15080E-02	28.78		
	40	1565.28	3.53175E-03	31.71		
	41	1631.80	4.86111E-03	29.28		
	42	1661.19	2.91667E-03	47.74		
	43	1729.80	6.11111E-03	28.57	Sum	
	44	1736.60	1.80556E-03	53.57		
	45	1752.00	1.66667E-03	61.66		
	47	1847.89	4.16667E-03	25.82	Sum	
	48	1971.81	1.52778E-03	70.71		
	49	1984.07	2.29167E-03	42.42		
	50	2039.66	1.97531E-03	50.70		
	51	2104.51	4.13889E-03	39.81		
	53	2211.86	1.80556E-03	49.25		
	55	2673.54	1.38889E-03	44.72		
	56	3196.75	1.38889E-03	44.72	Sum	

Analysis Report for 1510091-17

CP1805S13-14

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	8.56E-02	7.22E-01	7.22E-01
+	NA-22	1274.54		99.94	2.21E-02	9.18E-02	9.18E-02
+	NA-24	1368.53		99.99	-1.18E+13	3.91E+13	8.96E+13
		2754.09		99.86	8.43E+12		3.91E+13
+	AL-26	1808.65		99.76	1.27E-02	6.78E-02	6.78E-02
+	K-40	1460.81	*	10.67	1.71E+01	9.73E-01	9.73E-01
+	@ AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	-1.20E-02	5.20E-02	5.20E-02
		78.34		96.00	2.83E-01		7.52E-02
+	SC-46	889.25		99.98	1.90E-02	9.59E-02	9.59E-02
		1120.51		99.99	2.17E-01		1.70E-01
+	V-48	983.52		99.98	2.78E-02	2.65E-01	3.13E-01
		1312.10		97.50	-9.24E-02		2.65E-01
+	CR-51	320.08		9.83	1.28E+00	1.23E+00	1.23E+00
+	MN-54	834.83		99.97	3.07E-02	8.10E-02	8.10E-02
+	CO-56	846.75		99.96	3.02E-02	9.53E-02	9.53E-02
		1037.75		14.03	-3.27E-01		6.51E-01
		1238.25		67.00	1.70E-01		2.33E-01
		1771.40		15.51	3.25E-02		5.33E-01
		2598.48		16.90	2.09E-02		2.89E-01
+	CO-57	122.06		85.51	3.34E-03	5.85E-02	5.85E-02
		136.48		10.60	-3.92E-02		5.04E-01
+	CO-58	810.76		99.40	-1.04E-01	8.52E-02	8.52E-02
+	FE-59	1099.22		56.50	-1.02E-01	2.32E-01	2.32E-01
		1291.56		43.20	1.10E-01		3.18E-01
+	CO-60	1173.22		100.00	5.66E-02	7.33E-02	9.99E-02
		1332.49		100.00	5.64E-04		7.33E-02
+	ZN-65	1115.52		50.75	-7.20E-03	1.85E-01	1.85E-01
+	GA-67	93.31	*	35.70	1.55E+02	1.48E+02	1.48E+02
		208.95	*	2.24	2.81E+03		3.59E+03
		300.22	*	16.00	3.36E+02		6.65E+02
+	SE-75	121.11		16.70	-1.28E-01	9.93E-02	3.20E-01

Analysis Report for 1510091-17

CP1805S13-14

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	SE-75	136.00		59.20	-9.82E-03	9.93E-02	9.93E-02
		264.65		59.80	3.86E-02		1.05E-01
		279.53		25.20	7.30E-02		2.75E-01
		400.65		11.40	-2.56E-01		5.77E-01
+	RB-82	776.52		13.00	-7.66E-01	1.27E+00	1.27E+00
+	RB-83	520.41		46.00	-1.33E-02	1.39E-01	1.39E-01
		529.64		30.30	-2.64E-02		2.21E-01
		552.65		16.40	-7.45E-02		4.04E-01
+	KR-85	513.99		0.43	-1.80E+01	1.41E+01	1.41E+01
+	SR-85	513.99		99.27	-1.09E-01	8.54E-02	8.54E-02
+	Y-88	898.02		93.40	-1.86E-02	7.27E-02	9.35E-02
		1836.01		99.38	3.67E-02		7.27E-02
+	NB-93M	16.57		9.43	-7.77E+03	5.59E+03	5.59E+03
+	NB-94	702.63		100.00	-5.92E-03	6.60E-02	7.06E-02
		871.10		100.00	-4.67E-02		6.60E-02
+	NB-95	765.79		99.81	6.40E-03	1.67E-01	1.67E-01
+	NB-95M	235.69		25.00	-8.71E+02	1.33E+02	1.33E+02
+	ZR-95	724.18		43.70	1.10E-02	1.79E-01	2.66E-01
		756.72		55.30	2.80E-02		1.79E-01
+	MO-99	181.06		6.20	8.57E+02	1.45E+03	2.31E+03
		739.58		12.80	1.85E+02		1.45E+03
		778.00		4.50	1.14E+03		4.47E+03
+	RU-103	497.08		89.00	-1.17E-02	8.89E-02	8.89E-02
+	RU-106	621.84		9.80	3.42E-01	7.40E-01	7.40E-01
+	AG-108M	433.93		89.90	-2.94E-02	5.25E-02	5.25E-02
		614.37		90.40	2.20E-02		7.91E-02
		722.95		90.50	9.62E-03		8.24E-02
+	CD-109	88.03	*	3.72	2.84E+00	1.95E+00	1.95E+00
+	AG-110M	657.75		93.14	-1.16E-02	7.96E-02	7.96E-02
		677.61		10.53	2.43E-01		7.39E-01
		706.67		16.46	6.74E-03		4.70E-01
		763.93		21.98	-7.55E-02		3.65E-01
		884.67		71.63	-4.66E-02		1.09E-01
		1384.27		23.94	-4.54E-02		3.14E-01
+	CD-113M	263.70		0.02	6.76E+01	2.26E+02	2.26E+02
+	SN-113	255.12		1.93	-1.09E+00	9.91E-02	3.13E+00
		391.69		64.90	3.66E-02		9.91E-02
+	TE123M	159.00		84.10	3.15E-02	7.14E-02	7.14E-02
+	SB-124	602.71		97.87	-1.38E-01	1.08E-01	1.08E-01
		645.85		7.26	4.16E-01		1.28E+00
		722.78		11.10	1.12E-01		9.63E-01
		1691.02		49.00	-3.88E-02		1.92E-01
+	I-125	35.49		6.49	2.17E-01	5.65E+00	5.65E+00
+	SB-125	176.33		6.89	-6.58E-02	1.79E-01	7.68E-01
		427.89		29.33	-2.83E-03		1.79E-01
		463.38		10.35	5.27E-01		6.43E-01
		600.56		17.80	6.81E-02		4.03E-01
		635.90		11.32	1.75E-01		5.75E-01

Analysis Report for 1510091-17

CP1805S13-14

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	SB-126	414.70		83.30	3.58E-02	3.80E-01	3.80E-01
		666.33		99.60	2.54E-01		4.13E-01
		695.00		99.60	9.97E-02		4.41E-01
		720.50		53.80	-2.06E-01		7.31E-01
+	SN-126	87.57	*	37.00	2.72E-01	1.87E-01	1.87E-01
+	SB-127	473.00		25.00	-1.35E+01	5.15E+01	5.24E+01
		685.20		35.70	-1.61E+01		5.15E+01
		783.80		14.70	5.16E+01		1.46E+02
+	I-129	29.78		57.00	-1.59E-01	1.21E+00	1.21E+00
		33.60		13.20	-2.34E+00		2.45E+00
		39.58		7.52	9.92E-01		2.24E+00
+	I-131	284.30		6.05	2.80E+00	9.35E-01	1.22E+01
		364.48		81.20	1.12E-01		9.35E-01
		636.97		7.26	7.11E+00		1.32E+01
		722.89		1.80	7.21E+00		6.18E+01
+	TE-132	49.72		13.10	-1.48E+02	4.74E+01	4.51E+02
		228.16		88.00	-1.57E+01		4.74E+01
+	BA-133	81.00		33.00	6.49E-02	9.08E-02	1.27E-01
		302.84		17.80	-9.07E-02		3.29E-01
		356.01		60.00	-2.63E-03		9.08E-02
+	I-133	529.87		86.30	-2.86E+09	4.64E+09	4.64E+09
+	XE-133	81.00		38.00	3.54E+00	6.91E+00	6.91E+00
+	CS-134	563.23		8.38	3.43E-01	8.54E-02	7.92E-01
		569.32		15.43	2.99E-02		3.83E-01
		604.70		97.60	-6.69E-01		8.54E-02
		795.84		85.40	1.23E-01		1.07E-01
		801.93		8.73	-8.05E-01		8.30E-01
+	CS-135	268.24		16.00	3.16E-02	3.48E-01	3.48E-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	2.28E+00	3.62E-01	3.70E+00
		163.89		4.61	2.34E+00		5.68E+00
		176.55		13.56	-9.36E-01		1.97E+00
		273.65		12.66	1.91E-01		2.19E+00
		340.57		48.50	-6.91E-01		6.94E-01
		818.50		99.70	4.90E-02		3.62E-01
		1048.07		79.60	-1.64E-01		4.52E-01
		1235.34		19.70	-6.49E-02		2.94E+00
+	CS-137	661.65		85.12	2.43E-02	8.58E-02	8.58E-02
+	LA-138	788.74		34.00	5.83E-02	8.69E-02	1.94E-01
		1435.80		66.00	-2.01E-02		8.69E-02
+	CE-139	165.85		80.35	2.68E-03	7.24E-02	7.24E-02
+	BA-140	162.64		6.70	-2.97E+00	1.21E+00	3.98E+00
		304.84		4.50	-3.07E-01		6.45E+00
		423.70		3.20	-1.02E+00		8.89E+00
		437.55		2.00	8.75E+00		1.50E+01
		537.32		25.00	-1.65E-01		1.21E+00
+	LA-140	328.77		20.50	1.46E+00	3.95E-01	1.66E+00

Analysis Report for 1510091-17

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	LA-140	487.03	45.50	-2.17E-02	3.95E-01	6.24E-01
		815.85	23.50	3.52E-01		1.61E+00
		1596.49	95.49	-1.28E-01		3.95E-01
+	CE-141	145.44	48.40	1.85E-01	2.14E-01	2.14E-01
+	CE-143	57.36	11.80	-1.43E+06	1.39E+06	3.32E+06
		293.26	42.00	1.63E+05		1.39E+06
		664.55	5.20	4.36E+06		1.03E+07
+	CE-144	133.54	10.80	-1.10E-01	4.86E-01	4.86E-01
+	PM-144	476.78	42.00	1.50E-02	6.57E-02	1.26E-01
		618.01	98.60	-5.10E-02		6.57E-02
		696.49	99.49	-1.04E-02		7.91E-02
+	PM-145	36.85	21.70	3.05E-01	5.23E-01	1.02E+00
		37.36	39.70	1.57E-01		5.23E-01
		42.30	15.10	-2.24E-01		8.54E-01
		72.40	2.31	-6.33E-01		2.23E+00
+	PM-146	453.90	39.94	5.66E-02	1.43E-01	1.43E-01
		735.90	14.01	-1.88E-01		4.58E-01
		747.13	13.10	4.07E-02		6.01E-01
+	ND-147	91.11	28.90	-2.76E+00	1.61E+00	1.61E+00
		531.02	13.10	-1.30E+00		2.85E+00
+	PM-149	285.90	3.10	2.05E+02	3.01E+04	3.01E+04
+	EU-152	121.78	20.50	1.29E-02	2.26E-01	2.26E-01
		244.69	5.40	1.14E-01		9.87E-01
		344.27	19.13	1.65E-01		2.80E-01
		778.89	9.20	3.02E-02		8.09E-01
		964.01	10.40	-3.47E+00		1.03E+00
		1085.78	7.22	-4.82E-01		1.00E+00
		1112.02	9.60	-7.69E-02		8.60E-01
		1407.95	14.94	1.08E-01		4.38E-01
+	GD-153	97.43	31.30	7.64E-02	1.61E-01	1.61E-01
		103.18	22.20	-1.70E-01		2.31E-01
+	EU-154	123.07	40.50	3.51E-02	1.15E-01	1.15E-01
		723.30	19.70	4.45E-02		3.81E-01
		873.19	11.50	9.59E-02		6.27E-01
		996.32	10.30	8.73E-02		6.97E-01
		1004.76	17.90	-2.07E-01		4.08E-01
		1274.45	35.50	6.12E-02		2.54E-01
+	EU-155	86.50	30.90	-1.21E-01	2.08E-01	2.08E-01
		105.30	20.70	2.93E-02		2.33E-01
+	EU-156	811.77	10.40	-3.00E+00	2.51E+00	2.51E+00
		1153.47	7.20	2.50E+00		5.30E+00
		1230.71	8.90	-1.85E+00		4.14E+00
+	HO-166M	184.41	72.60	5.44E-02	8.74E-02	8.74E-02
		280.45	29.60	5.19E-02		1.96E-01
		410.94	11.10	9.00E-03		5.01E-01
		711.69	54.10	-3.79E-02		1.31E-01
+	TM-171	66.72	0.14	3.42E+01	3.83E+01	3.83E+01
+	HF-172	81.75	4.52	-1.21E+00	4.49E-01	9.21E-01
		125.81	11.30	1.75E-01		4.49E-01

Analysis Report for 1510091-17

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	LU-172	181.53		20.60	9.80E-01	3.52E+00	6.56E+00
		810.06		16.63	-1.17E+01		9.59E+00
		912.12		15.25	6.55E+01		2.55E+01
		1093.66		62.50	1.23E+00		3.52E+00
+	LU-173	100.72		5.24	2.83E-01	2.93E-01	9.33E-01
		272.11		21.20	7.22E-02		2.93E-01
+	HF-175	343.40		84.00	-3.69E-02	8.41E-02	8.41E-02
+	LU-176	88.34		13.30	6.60E-01	5.33E-02	4.92E-01
		201.83		86.00	8.27E-03		6.13E-02
		306.78		94.00	2.63E-03		5.33E-02
+	TA-182	67.75		41.20	-3.33E-02	1.44E-01	1.44E-01
		1121.30		34.90	6.91E-01		4.58E-01
		1189.05		16.23	-1.86E-03		6.19E-01
		1221.41		26.98	8.81E-02		4.50E-01
		1231.02		11.44	-4.16E-01		9.80E-01
+	IR-192	308.46		29.68	7.74E-02	1.51E-01	2.26E-01
		468.07		48.10	-5.97E-04		1.51E-01
+	HG-203	279.19		77.30	1.12E-01	1.23E-01	1.23E-01
+	BI-207	569.67		97.72	4.59E-03	5.88E-02	5.88E-02
		1063.62		74.90	4.62E-02		1.14E-01
+	TL-208	583.14	*	30.22	1.43E+00	1.15E-01	3.31E-01
		860.37		4.48	1.04E+00		1.85E+00
		2614.66	*	35.85	9.35E-01		1.15E-01
+	BI-210M	262.00		45.00	-1.91E-02	1.11E-01	1.11E-01
		300.00		23.00	2.52E-01		2.71E-01
+	PB-210	46.50	*	4.25	2.87E+00	4.30E+00	4.30E+00
+	PB-211	404.84		2.90	-8.82E-02	1.92E+00	1.92E+00
		831.96		2.90	-1.76E-01		2.35E+00
+	BI-212	727.17	*	11.80	5.06E-01	9.36E-01	9.36E-01
		1620.62		2.75	6.10E-01		2.59E+00
+	PB-212	238.63	*	44.60	1.79E+00	2.53E-01	2.53E-01
		300.09	*	3.41	2.01E+00		3.98E+00
+	BI-214	609.31	*	46.30	1.04E+00	3.40E-01	3.40E-01
		1120.29	*	15.10	1.55E+00		9.47E-01
		1764.49	*	15.80	1.19E+00		6.06E-01
		2204.22	*	4.98	1.17E+00		1.03E+00
+	PB-214	295.21	*	19.19	1.48E+00	2.93E-01	7.04E-01
		351.92	*	37.19	1.03E+00		2.93E-01
+	RN-219	401.80		6.50	-4.03E-01	8.38E-01	8.38E-01
+	RA-223	323.87		3.88	1.93E-02	1.22E+00	1.22E+00
+	RA-224	240.98		3.95	1.08E+01	2.91E+00	2.91E+00
+	RA-225	40.00		31.00	1.00E+00	2.27E+00	2.27E+00
+	RA-226	186.21	*	3.28	2.38E+00	2.21E+00	2.21E+00
+	TH-227	50.10		8.40	-2.87E-01	7.03E-01	8.77E-01
		236.00		11.50	-4.61E+00		7.03E-01
		256.20		6.30	-9.04E-02		8.08E-01
+	AC-228	338.32	*	11.40	1.72E+00	5.85E-01	7.86E-01
		911.07	*	27.70	1.36E+00		5.85E-01

Analysis Report for 1510091-17

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	AC-228	969.11	*	16.60	1.85E+00	5.85E-01	1.41E+00
+	TH-230	48.44		16.90	-2.95E-01	4.93E-01	4.93E-01
		62.85		4.60	2.16E+00		1.37E+00
		67.67		0.37	-3.07E+00		1.33E+01
+	PA-231	283.67		1.60	7.08E-01	2.53E+00	3.08E+00
		302.67		2.30	-6.98E-01		2.53E+00
+	TH-231	25.64		14.70	4.63E-01	6.96E-01	1.52E+01
		84.21		6.40	5.84E-01		6.96E-01
+	PA-233	311.98		38.60	-1.13E-01	2.90E-01	2.90E-01
+	PA-234	131.20		20.40	6.74E-03	2.50E-01	2.50E-01
		733.99		8.80	-2.31E-01		7.33E-01
		946.00		12.00	-2.99E-02		6.01E-01
+	PA-234M	1001.03		0.92	1.49E+00	8.13E+00	8.13E+00
+	TH-234	63.29	*	3.80	1.52E+00	2.73E+00	2.73E+00
+	U-235	143.76		10.50	2.55E-01	4.93E-01	4.93E-01
		163.35		4.70	-7.75E-01		1.04E+00
		205.31		4.70	-2.29E-01		1.13E+00
+	NP-237	86.50		12.60	-2.92E-01	5.03E-01	5.03E-01
+	NP-239	106.10		22.70	1.32E+03	2.16E+03	2.16E+03
		228.18		10.70	-1.67E+03		5.04E+03
		277.60		14.10	2.05E+03		4.26E+03
+	AM-241	59.54		35.90	-8.09E-02	1.46E-01	1.46E-01
+	AM-243	74.67		66.00	-2.59E-01	1.03E-01	1.03E-01
+	CM-243	209.75		3.29	2.15E+00	4.23E-01	1.87E+00
		228.14		10.60	-1.66E-01		5.01E-01
		277.60		14.00	2.04E-01		4.23E-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 1510091-17

CP1805S13-14

	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	7.22E-01	7.22E-01	8.56E-02	3.37E-01
	NA-22	1274.54		99.94	9.18E-02	9.18E-02	2.21E-02	4.21E-02
	NA-24	1368.53		99.99	8.96E+13	3.91E+13	-1.18E+13	4.00E+13
		2754.09		99.86	3.91E+13		8.43E+12	1.39E+13
	AL-26	1808.65		99.76	6.78E-02	6.78E-02	1.27E-02	2.93E-02
+	K-40	1460.81	*	10.67	9.73E-01	9.73E-01	1.71E+01	4.49E-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	5.20E-02	5.20E-02	-1.20E-02	2.52E-02
		78.34		96.00	7.52E-02		2.83E-01	3.69E-02
	SC-46	889.25		99.98	9.59E-02	9.59E-02	1.90E-02	4.44E-02
		1120.51		99.99	1.70E-01		2.17E-01	8.09E-02
	V-48	983.52		99.98	3.13E-01	2.65E-01	2.78E-02	1.45E-01
		1312.10		97.50	2.65E-01		-9.24E-02	1.18E-01
	CR-51	320.08		9.83	1.23E+00	1.23E+00	1.28E+00	5.85E-01
	MN-54	834.83		99.97	8.10E-02	8.10E-02	3.07E-02	3.77E-02
	CO-56	846.75		99.96	9.53E-02	9.53E-02	3.02E-02	4.42E-02
		1037.75		14.03	6.51E-01		-3.27E-01	2.96E-01
		1238.25		67.00	2.33E-01		1.70E-01	1.09E-01
		1771.40		15.51	5.33E-01		3.25E-02	2.28E-01
		2598.48		16.90	2.89E-01		2.09E-02	1.08E-01
	CO-57	122.06		85.51	5.85E-02	5.85E-02	3.34E-03	2.84E-02
		136.48		10.60	5.04E-01		-3.92E-02	2.44E-01
	CO-58	810.76		99.40	8.52E-02	8.52E-02	-1.04E-01	3.91E-02
	FE-59	1099.22		56.50	2.32E-01	2.32E-01	-1.02E-01	1.07E-01
		1291.56		43.20	3.18E-01		1.10E-01	1.45E-01
	CO-60	1173.22		100.00	9.99E-02	7.33E-02	5.66E-02	4.65E-02
		1332.49		100.00	7.33E-02		5.64E-04	3.28E-02
	ZN-65	1115.52		50.75	1.85E-01	1.85E-01	-7.20E-03	8.53E-02
+	GA-67	93.31	*	35.70	1.48E+02	1.48E+02	1.55E+02	7.25E+01
		208.95	*	2.24	3.59E+03		2.81E+03	1.76E+03
		300.22	*	16.00	6.65E+02		3.36E+02	3.27E+02
	SE-75	121.11		16.70	3.20E-01	9.93E-02	-1.28E-01	1.55E-01
		136.00		59.20	9.93E-02		-9.82E-03	4.81E-02
		264.65		59.80	1.05E-01		3.86E-02	5.02E-02
		279.53		25.20	2.75E-01		7.30E-02	1.32E-01
		400.65		11.40	5.77E-01		-2.56E-01	2.73E-01
	RB-82	776.52		13.00	1.27E+00	1.27E+00	-7.66E-01	5.93E-01
	RB-83	520.41		46.00	1.39E-01	1.39E-01	-1.33E-02	6.44E-02
		529.64		30.30	2.21E-01		-2.64E-02	1.03E-01
		552.65		16.40	4.04E-01		-7.45E-02	1.87E-01
	KR-85	513.99		0.43	1.41E+01	1.41E+01	-1.80E+01	6.61E+00
	SR-85	513.99		99.27	8.54E-02	8.54E-02	-1.09E-01	4.02E-02
	Y-88	898.02		93.40	9.35E-02	7.27E-02	-1.86E-02	4.31E-02
		1836.01		99.38	7.27E-02		3.67E-02	3.07E-02
	NB-93M	16.57		9.43	5.59E+03	5.59E+03	-7.77E+03	2.72E+03
	NB-94	702.63		100.00	7.06E-02	6.60E-02	-5.92E-03	3.31E-02
		871.10		100.00	6.60E-02		-4.67E-02	3.03E-02
	NB-95	765.79		99.81	1.67E-01	1.67E-01	6.40E-03	7.92E-02
	NB-95M	235.69		25.00	1.33E+02	1.33E+02	-8.71E+02	6.48E+01
	ZR-95	724.18		43.70	2.66E-01	1.79E-01	1.10E-02	1.26E-01
		756.72		55.30	1.79E-01		2.80E-02	8.32E-02

Analysis Report for 1510091-17

CP1805S13-14

	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	2.31E+03	1.45E+03	8.57E+02	1.12E+03
		739.58		12.80	1.45E+03		1.85E+02	6.73E+02
		778.00		4.50	4.47E+03		1.14E+03	2.09E+03
	RU-103	497.08		89.00	8.89E-02	8.89E-02	-1.17E-02	4.10E-02
	RU-106	621.84		9.80	7.40E-01	7.40E-01	3.42E-01	3.47E-01
	AG-108M	433.93		89.90	5.25E-02	5.25E-02	-2.94E-02	2.45E-02
		614.37		90.40	7.91E-02		2.20E-02	3.73E-02
		722.95		90.50	8.24E-02		9.62E-03	3.86E-02
+	CD-109	88.03	*	3.72	1.95E+00	1.95E+00	2.84E+00	9.54E-01
	AG-110M	657.75		93.14	7.96E-02	7.96E-02	-1.16E-02	3.73E-02
		677.61		10.53	7.39E-01		2.43E-01	3.46E-01
		706.67		16.46	4.70E-01		6.74E-03	2.20E-01
		763.93		21.98	3.65E-01		-7.55E-02	1.70E-01
		884.67		71.63	1.09E-01		-4.66E-02	5.04E-02
		1384.27		23.94	3.14E-01		-4.54E-02	1.39E-01
	CD-113M	263.70		0.02	2.26E+02	2.26E+02	6.76E+01	1.08E+02
	SN-113	255.12		1.93	3.13E+00	9.91E-02	-1.09E+00	1.50E+00
		391.69		64.90	9.91E-02		3.66E-02	4.68E-02
	TE123M	159.00		84.10	7.14E-02	7.14E-02	3.15E-02	3.45E-02
	SB-124	602.71		97.87	1.08E-01	1.08E-01	-1.38E-01	5.13E-02
		645.85		7.26	1.28E+00		4.16E-01	5.99E-01
		722.78		11.10	9.63E-01		1.12E-01	4.52E-01
		1691.02		49.00	1.92E-01		-3.88E-02	8.29E-02
	I-125	35.49		6.49	5.65E+00	5.65E+00	2.17E-01	2.74E+00
	SB-125	176.33		6.89	7.68E-01	1.79E-01	-6.58E-02	3.71E-01
		427.89		29.33	1.79E-01		-2.83E-03	8.41E-02
		463.38		10.35	6.43E-01		5.27E-01	3.05E-01
		600.56		17.80	4.03E-01		6.81E-02	1.90E-01
		635.90		11.32	5.75E-01		1.75E-01	2.68E-01
	SB-126	414.70		83.30	3.80E-01	3.80E-01	3.58E-02	1.79E-01
		666.33		99.60	4.13E-01		2.54E-01	1.94E-01
		695.00		99.60	4.41E-01		9.97E-02	2.07E-01
		720.50		53.80	7.31E-01		-2.06E-01	3.41E-01
+	SN-126	87.57	*	37.00	1.87E-01	1.87E-01	2.72E-01	9.16E-02
	SB-127	473.00		25.00	5.24E+01	5.15E+01	-1.35E+01	2.43E+01
		685.20		35.70	5.15E+01		-1.61E+01	2.40E+01
		783.80		14.70	1.46E+02		5.16E+01	6.83E+01
	I-129	29.78		57.00	1.21E+00	1.21E+00	-1.59E-01	5.85E-01
		33.60		13.20	2.45E+00		-2.34E+00	1.18E+00
		39.58		7.52	2.24E+00		9.92E-01	1.09E+00
	I-131	284.30		6.05	1.22E+01	9.35E-01	2.80E+00	5.80E+00
		364.48		81.20	9.35E-01		1.12E-01	4.42E-01
		636.97		7.26	1.32E+01		7.11E+00	6.16E+00
		722.89		1.80	6.18E+01		7.21E+00	2.90E+01
	TE-132	49.72		13.10	4.51E+02	4.74E+01	-1.48E+02	2.18E+02
		228.16		88.00	4.74E+01		-1.57E+01	2.28E+01
	BA-133	81.00		33.00	1.27E-01	9.08E-02	6.49E-02	6.13E-02
		302.84		17.80	3.29E-01		-9.07E-02	1.57E-01
		356.01		60.00	9.08E-02		-2.63E-03	4.31E-02
	I-133	529.87		86.30	4.64E+09	4.64E+09	-2.86E+09	2.15E+09
	XE-133	81.00		38.00	6.91E+00	6.91E+00	3.54E+00	3.34E+00
	CS-134	563.23		8.38	7.92E-01	8.54E-02	3.43E-01	3.73E-01
		569.32		15.43	3.83E-01		2.99E-02	1.78E-01

Analysis Report for 1510091-17

CP1805S13-14

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	8.54E-02	8.54E-02	-6.69E-01	4.06E-02
	795.84	85.40	1.07E-01		1.23E-01	5.05E-02
	801.93	8.73	8.30E-01		-8.05E-01	3.85E-01
CS-135	268.24	16.00	3.48E-01	3.48E-01	3.16E-02	1.67E-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	3.62E-01	2.28E+00	1.80E+00
	163.89	4.61	5.68E+00		2.34E+00	2.75E+00
	176.55	13.56	1.97E+00		-9.36E-01	9.52E-01
	273.65	12.66	2.19E+00		1.91E-01	1.05E+00
	340.57	48.50	6.94E-01		-6.91E-01	3.33E-01
	818.50	99.70	3.62E-01		4.90E-02	1.67E-01
	1048.07	79.60	4.52E-01		-1.64E-01	2.05E-01
	1235.34	19.70	2.94E+00		-6.49E-02	1.38E+00
CS-137	661.65	85.12	8.58E-02	8.58E-02	2.43E-02	4.03E-02
LA-138	788.74	34.00	1.94E-01	8.69E-02	5.83E-02	8.97E-02
	1435.80	66.00	8.69E-02		-2.01E-02	3.74E-02
CE-139	165.85	80.35	7.24E-02	7.24E-02	2.68E-03	3.50E-02
BA-140	162.64	6.70	3.98E+00	1.21E+00	-2.97E+00	1.92E+00
	304.84	4.50	6.45E+00		-3.07E-01	3.07E+00
	423.70	3.20	8.89E+00		-1.02E+00	4.18E+00
	437.55	2.00	1.50E+01		8.75E+00	7.08E+00
	537.32	25.00	1.21E+00		-1.65E-01	5.65E-01
LA-140	328.77	20.50	1.66E+00	3.95E-01	1.46E+00	7.94E-01
	487.03	45.50	6.24E-01		-2.17E-02	2.91E-01
	815.85	23.50	1.61E+00		3.52E-01	7.43E-01
	1596.49	95.49	3.95E-01		-1.28E-01	1.73E-01
CE-141	145.44	48.40	2.14E-01	2.14E-01	1.85E-01	1.04E-01
CE-143	57.36	11.80	3.32E+06	1.39E+06	-1.43E+06	1.61E+06
	293.26	42.00	1.39E+06		1.63E+05	6.74E+05
	664.55	5.20	1.03E+07		4.36E+06	4.86E+06
CE-144	133.54	10.80	4.86E-01	4.86E-01	-1.10E-01	2.35E-01
PM-144	476.78	42.00	1.26E-01	6.57E-02	1.50E-02	5.90E-02
	618.01	98.60	6.57E-02		-5.10E-02	3.06E-02
	696.49	99.49	7.91E-02		-1.04E-02	3.72E-02
PM-145	36.85	21.70	1.02E+00	5.23E-01	3.05E-01	4.94E-01
	37.36	39.70	5.23E-01		1.57E-01	2.54E-01
	42.30	15.10	8.54E-01		-2.24E-01	4.15E-01
	72.40	2.31	2.23E+00		-6.33E-01	1.08E+00
PM-146	453.90	39.94	1.43E-01	1.43E-01	5.66E-02	6.76E-02
	735.90	14.01	4.58E-01		-1.88E-01	2.12E-01
	747.13	13.10	6.01E-01		4.07E-02	2.82E-01
ND-147	91.11	28.90	1.61E+00	1.61E+00	-2.76E+00	7.90E-01
	531.02	13.10	2.85E+00		-1.30E+00	1.33E+00
PM-149	285.90	3.10	3.01E+04	3.01E+04	2.05E+02	1.44E+04
EU-152	121.78	20.50	2.26E-01	2.26E-01	1.29E-02	1.09E-01
	244.69	5.40	9.87E-01		1.14E-01	4.73E-01
	344.27	19.13	2.80E-01		1.65E-01	1.33E-01
	778.89	9.20	8.09E-01		3.02E-02	3.78E-01
	964.01	10.40	1.03E+00		-3.47E+00	4.88E-01
	1085.78	7.22	1.00E+00		-4.82E-01	4.55E-01
	1112.02	9.60	8.60E-01		-7.69E-02	3.96E-01

Analysis Report for 1510091-17

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	EU-152	1407.95		14.94	4.38E-01	2.26E-01	1.08E-01	1.93E-01
	GD-153	97.43		31.30	1.61E-01	1.61E-01	7.64E-02	7.81E-02
		103.18		22.20	2.31E-01		-1.70E-01	1.12E-01
	EU-154	123.07		40.50	1.15E-01	1.15E-01	3.51E-02	5.58E-02
		723.30		19.70	3.81E-01		4.45E-02	1.79E-01
		873.19		11.50	6.27E-01		9.59E-02	2.90E-01
		996.32		10.30	6.97E-01		8.73E-02	3.19E-01
		1004.76		17.90	4.08E-01		-2.07E-01	1.87E-01
		1274.45		35.50	2.54E-01		6.12E-02	1.17E-01
	EU-155	86.50		30.90	2.08E-01	2.08E-01	-1.21E-01	1.02E-01
		105.30		20.70	2.33E-01		2.93E-02	1.13E-01
	EU-156	811.77		10.40	2.51E+00	2.51E+00	-3.00E+00	1.15E+00
		1153.47		7.20	5.30E+00		2.50E+00	2.46E+00
		1230.71		8.90	4.14E+00		-1.85E+00	1.90E+00
	HO-166M	184.41		72.60	8.74E-02	8.74E-02	5.44E-02	4.25E-02
		280.45		29.60	1.96E-01		5.19E-02	9.38E-02
		410.94		11.10	5.01E-01		9.00E-03	2.37E-01
		711.69		54.10	1.31E-01		-3.79E-02	6.13E-02
	TM-171	66.72		0.14	3.83E+01	3.83E+01	3.42E+01	1.86E+01
	HF-172	81.75		4.52	9.21E-01	4.49E-01	-1.21E+00	4.45E-01
		125.81		11.30	4.49E-01		1.75E-01	2.18E-01
	LU-172	181.53		20.60	6.56E+00	3.52E+00	9.80E-01	3.17E+00
		810.06		16.63	9.59E+00		-1.17E+01	4.41E+00
		912.12		15.25	2.55E+01		6.55E+01	1.23E+01
		1093.66		62.50	3.52E+00		1.23E+00	1.63E+00
	LU-173	100.72		5.24	9.33E-01	2.93E-01	2.83E-01	4.53E-01
		272.11		21.20	2.93E-01		7.22E-02	1.41E-01
	HF-175	343.40		84.00	8.41E-02	8.41E-02	-3.69E-02	3.99E-02
	LU-176	88.34		13.30	4.92E-01	5.33E-02	6.60E-01	2.41E-01
		201.83		86.00	6.13E-02		8.27E-03	2.95E-02
		306.78		94.00	5.33E-02		2.63E-03	2.53E-02
	TA-182	67.75		41.20	1.44E-01	1.44E-01	-3.33E-02	7.00E-02
		1121.30		34.90	4.58E-01		6.91E-01	2.17E-01
		1189.05		16.23	6.19E-01		-1.86E-03	2.84E-01
		1221.41		26.98	4.50E-01		8.81E-02	2.09E-01
		1231.02		11.44	9.80E-01		-4.16E-01	4.52E-01
	IR-192	308.46		29.68	2.26E-01	1.51E-01	7.74E-02	1.07E-01
		468.07		48.10	1.51E-01		-5.97E-04	7.09E-02
	HG-203	279.19		77.30	1.23E-01	1.23E-01	1.12E-01	5.92E-02
	BI-207	569.67		97.72	5.88E-02	5.88E-02	4.59E-03	2.74E-02
		1063.62		74.90	1.14E-01		4.62E-02	5.30E-02
+	TL-208	583.14	*	30.22	3.31E-01	1.15E-01	1.43E+00	1.59E-01
		860.37		4.48	1.85E+00		1.04E+00	8.67E-01
		2614.66	*	35.85	1.15E-01		9.35E-01	4.46E-02
	BI-210M	262.00		45.00	1.11E-01	1.11E-01	-1.91E-02	5.30E-02
		300.00		23.00	2.71E-01		2.52E-01	1.30E-01
+	PB-210	46.50	*	4.25	4.30E+00	4.30E+00	2.87E+00	2.12E+00
	PB-211	404.84		2.90	1.92E+00	1.92E+00	-8.82E-02	9.09E-01
		831.96		2.90	2.35E+00		-1.76E-01	1.09E+00
+	BI-212	727.17	*	11.80	9.36E-01	9.36E-01	5.06E-01	4.48E-01
		1620.62		2.75	2.59E+00		6.10E-01	1.14E+00
+	PB-212	238.63	*	44.60	2.53E-01	2.53E-01	1.79E+00	1.24E-01
		300.09	*	3.41	3.98E+00		2.01E+00	1.96E+00

Analysis Report for 1510091-17

CP1805S13-14

	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	3.40E-01	3.40E-01	1.04E+00	1.66E-01
		1120.29	*	15.10	9.47E-01		1.55E+00	4.52E-01
		1764.49	*	15.80	6.06E-01		1.19E+00	2.75E-01
		2204.22	*	4.98	1.03E+00		1.17E+00	4.20E-01
+	PB-214	295.21	*	19.19	7.04E-01	2.93E-01	1.48E+00	3.46E-01
		351.92	*	37.19	2.93E-01		1.03E+00	1.43E-01
	RN-219	401.80		6.50	8.38E-01	8.38E-01	-4.03E-01	3.96E-01
	RA-223	323.87		3.88	1.22E+00	1.22E+00	1.93E-02	5.77E-01
	RA-224	240.98		3.95	2.91E+00	2.91E+00	1.08E+01	1.43E+00
	RA-225	40.00		31.00	2.27E+00	2.27E+00	1.00E+00	1.10E+00
+	RA-226	186.21	*	3.28	2.21E+00	2.21E+00	2.38E+00	1.08E+00
	TH-227	50.10		8.40	8.77E-01	7.03E-01	-2.87E-01	4.25E-01
		236.00		11.50	7.03E-01		-4.61E+00	3.42E-01
		256.20		6.30	8.08E-01		-9.04E-02	3.86E-01
+	AC-228	338.32	*	11.40	7.86E-01	5.85E-01	1.72E+00	3.81E-01
		911.07	*	27.70	5.85E-01		1.36E+00	2.83E-01
		969.11	*	16.60	1.41E+00		1.85E+00	6.85E-01
	TH-230	48.44		16.90	4.93E-01	4.93E-01	-2.95E-01	2.39E-01
		62.85		4.60	1.37E+00		2.16E+00	6.66E-01
		67.67		0.37	1.33E+01		-3.07E+00	6.45E+00
	PA-231	283.67		1.60	3.08E+00	2.53E+00	7.08E-01	1.47E+00
		302.67		2.30	2.53E+00		-6.98E-01	1.21E+00
	TH-231	25.64		14.70	1.52E+01	6.96E-01	4.63E-01	7.38E+00
		84.21		6.40	6.96E-01		5.84E-01	3.38E-01
	PA-233	311.98		38.60	2.90E-01	2.90E-01	-1.13E-01	1.38E-01
	PA-234	131.20		20.40	2.50E-01	2.50E-01	6.74E-03	1.22E-01
		733.99		8.80	7.33E-01		-2.31E-01	3.40E-01
		946.00		12.00	6.01E-01		-2.99E-02	2.77E-01
	PA-234M	1001.03		0.92	8.13E+00	8.13E+00	1.49E+00	3.74E+00
+	TH-234	63.29	*	3.80	2.73E+00	2.73E+00	1.52E+00	1.34E+00
	U-235	143.76		10.50	4.93E-01	4.93E-01	2.55E-01	2.39E-01
		163.35		4.70	1.04E+00		-7.75E-01	5.02E-01
		205.31		4.70	1.13E+00		-2.29E-01	5.46E-01
	NP-237	86.50		12.60	5.03E-01	5.03E-01	-2.92E-01	2.46E-01
	NP-239	106.10		22.70	2.16E+03	2.16E+03	1.32E+03	1.05E+03
		228.18		10.70	5.04E+03		-1.67E+03	2.42E+03
		277.60		14.10	4.26E+03		2.05E+03	2.05E+03
	AM-241	59.54		35.90	1.46E-01	1.46E-01	-8.09E-02	7.05E-02
	AM-243	74.67		66.00	1.03E-01	1.03E-01	-2.59E-01	5.06E-02
	CM-243	209.75		3.29	1.87E+00	4.23E-01	2.15E+00	9.05E-01
		228.14		10.60	5.01E-01		-1.66E-01	2.41E-01
		277.60		14.00	4.23E-01		2.04E-01	2.03E-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

Analysis Report for 1510091-17

CP1805S13-14

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: CP1805S13-14

Elapsed Live time: 3600
Elapsed Real Time: 3601

Channel								
1:	0	0	0	0	0	0	0	209
9:	601	1233	1069	410	695	1664	275	141
17:	137	131	136	119	94	111	97	130
25:	112	113	116	104	95	118	111	116
33:	108	108	94	137	112	116	121	148
41:	125	118	129	136	122	126	204	131
49:	116	98	102	107	117	118	113	87
57:	94	98	100	95	101	122	183	192
65:	115	123	128	130	91	119	138	144
73:	139	165	402	216	500	332	84	105
81:	104	94	88	143	125	93	191	217
89:	114	178	121	127	231	185	85	62
97:	85	65	81	91	74	77	71	78
105:	91	93	70	79	70	70	79	79
113:	89	69	78	68	82	58	57	74
121:	61	54	72	79	74	54	80	89
129:	113	77	69	68	65	72	72	70
137:	79	54	75	71	60	50	83	89
145:	78	65	66	66	77	72	82	57
153:	62	85	70	52	62	62	60	67
161:	52	54	56	55	61	68	52	47
169:	56	48	57	68	59	65	41	68
177:	64	47	58	62	60	56	54	53
185:	76	169	80	42	50	47	50	47
193:	74	47	56	44	41	54	53	59
201:	58	39	45	45	44	60	52	62
209:	85	84	48	41	40	44	45	47
217:	47	49	39	36	43	47	50	47
225:	39	36	43	50	34	47	52	46
233:	43	33	38	58	49	302	555	97
241:	110	138	56	28	31	43	33	35
249:	36	28	30	33	33	34	34	30
257:	28	38	35	31	30	25	28	39
265:	31	40	28	31	28	58	50	22
273:	31	47	34	30	41	61	35	33
281:	33	27	31	33	27	15	19	44
289:	25	30	27	29	33	48	209	128
297:	20	23	29	69	41	38	33	31
305:	28	20	28	23	24	26	21	24
313:	24	25	31	27	21	26	37	24
321:	26	28	13	19	20	21	37	61
329:	27	25	25	25	20	25	25	13
337:	35	123	81	27	29	30	13	24
345:	16	36	16	27	30	27	106	283
353:	113	18	21	33	28	17	21	22
361:	18	25	16	24	15	19	19	23

369:	11	19	29	24	16	22	18	29

Sample Title: CP1805S13-14

Channel								
377:	26	20	20	15	19	15	26	18
385:	18	11	25	18	16	22	18	17
393:	23	18	16	13	20	22	28	21
401:	17	18	17	26	22	22	16	23
409:	23	25	20	16	16	20	20	18
417:	22	16	21	23	14	10	21	18
425:	18	16	20	14	16	14	16	14
433:	7	12	15	17	17	22	18	12
441:	17	13	19	19	21	13	12	13
449:	10	11	17	21	18	13	17	21
457:	19	10	14	16	15	22	40	26
465:	14	15	14	13	21	15	15	10
473:	10	12	8	16	11	16	13	16
481:	9	11	7	17	12	8	16	17
489:	14	14	16	9	7	17	16	3
497:	9	6	15	15	20	14	12	12
505:	11	15	16	21	30	62	88	34
513:	17	14	11	10	11	12	12	9
521:	10	12	17	8	12	20	12	10
529:	14	11	12	11	10	23	12	16
537:	16	13	9	14	12	15	12	11
545:	18	13	2	10	16	5	10	16
553:	15	8	14	9	17	20	12	13
561:	9	20	20	15	21	13	14	11
569:	7	20	13	9	9	9	13	19
577:	10	8	18	15	18	54	155	94
585:	16	9	13	10	10	7	7	16
593:	10	12	8	11	8	10	12	29
601:	12	9	12	15	13	12	17	45
609:	188	117	22	12	10	15	10	13
617:	10	10	5	13	4	16	13	19
625:	12	10	5	7	13	5	9	4
633:	12	9	10	8	7	8	14	13
641:	5	6	12	11	9	5	8	11
649:	13	12	12	6	6	8	15	5
657:	7	14	11	12	10	12	15	11
665:	14	13	11	12	4	3	8	6
673:	11	7	18	12	10	11	9	11
681:	10	9	3	10	13	9	9	10
689:	11	11	10	16	16	9	9	15
697:	12	9	11	11	13	9	8	5
705:	15	10	12	10	12	8	11	11
713:	11	8	13	12	9	5	9	10
721:	10	11	10	9	9	18	29	25
729:	8	6	12	8	11	6	3	11
737:	4	12	6	10	9	10	12	10
745:	11	8	14	10	11	16	15	7
753:	14	11	9	9	7	4	9	9
761:	4	7	14	10	10	15	8	30
769:	17	13	12	11	8	10	7	9
777:	10	8	9	12	13	6	9	11
785:	12	12	7	10	2	5	3	6
793:	6	17	27	11	10	14	10	7

801:	6	6	10	7	11	18	11	5

Sample Title: CP1805S13-14

Channel								
809:	6	8	5	3	5	11	10	9
817:	8	4	6	8	8	6	5	5
825:	5	6	5	6	6	7	10	4
833:	6	11	6	16	10	9	7	3
841:	9	6	7	9	6	4	8	10
849:	11	3	7	10	10	5	4	8
857:	9	8	9	24	9	8	5	3
865:	12	9	7	10	3	6	8	4
873:	6	6	12	9	6	7	6	6
881:	13	10	5	6	6	4	6	11
889:	11	4	6	11	8	6	8	9
897:	4	5	3	13	6	5	12	7
905:	6	9	2	11	10	45	105	47
913:	10	4	11	9	3	15	10	4
921:	11	15	11	11	2	9	6	3
929:	13	4	6	8	7	15	10	8
937:	5	5	10	6	8	6	12	6
945:	9	5	1	8	4	7	6	6
953:	3	5	8	5	11	10	10	5
961:	10	6	17	24	27	10	7	48
969:	77	21	9	4	9	4	6	5
977:	6	7	8	11	6	11	4	7
985:	11	3	5	6	7	4	2	5
993:	5	6	7	5	3	4	10	8
1001:	5	3	2	12	8	5	6	9
1009:	6	3	7	7	4	5	9	7
1017:	7	4	4	4	8	6	3	7
1025:	10	5	5	2	6	10	7	5
1033:	7	6	4	3	8	6	4	4
1041:	10	6	7	7	5	5	7	2
1049:	8	2	5	7	5	8	4	9
1057:	3	6	8	2	6	10	9	11
1065:	6	9	5	3	6	6	5	4
1073:	5	6	9	7	5	13	6	11
1081:	6	4	4	9	3	5	5	5
1089:	6	6	9	4	7	10	5	10
1097:	5	6	4	6	5	8	9	9
1105:	7	7	8	5	8	3	8	7
1113:	5	5	9	6	8	9	21	31
1121:	30	15	7	9	6	4	2	6
1129:	6	3	4	9	9	5	6	2
1137:	5	9	3	11	10	5	0	8
1145:	1	3	6	5	3	3	7	13
1153:	7	10	6	7	6	6	11	9
1161:	5	5	5	11	8	6	7	8
1169:	5	13	9	9	8	9	7	6
1177:	3	7	9	4	7	5	4	3
1185:	7	2	4	3	3	11	9	9
1193:	8	6	3	8	6	7	9	7
1201:	3	2	6	9	1	8	8	5
1209:	8	3	6	6	3	4	9	6
1217:	4	7	7	14	12	5	5	9
1225:	7	11	8	5	4	12	8	2

1233:	5	13	6	9	14	23	13	9

Sample Title: CP1805S13-14

Channel								
1241:	8	4	7	4	8	10	3	6
1249:	6	6	7	3	10	4	7	3
1257:	1	6	3	5	6	2	6	6
1265:	4	2	4	9	5	5	2	7
1273:	8	5	7	5	9	6	4	7
1281:	8	6	1	3	5	3	2	4
1289:	11	5	6	4	1	6	6	3
1297:	2	4	6	7	6	4	4	2
1305:	6	3	4	2	4	2	2	4
1313:	5	3	1	5	5	7	3	4
1321:	3	3	4	1	3	3	6	4
1329:	3	3	3	7	3	5	1	2
1337:	3	5	3	4	3	1	2	3
1345:	2	3	4	2	2	0	4	0
1353:	3	3	2	2	1	2	6	5
1361:	2	2	4	6	2	5	6	4
1369:	0	4	2	4	2	3	3	5
1377:	10	9	6	2	2	1	4	2
1385:	4	6	2	4	2	1	3	1
1393:	4	0	1	2	2	4	1	3
1401:	10	3	0	3	2	1	2	6
1409:	2	2	0	4	1	1	3	5
1417:	1	4	3	0	3	3	1	0
1425:	1	2	5	2	4	0	5	3
1433:	0	1	0	2	5	2	2	3
1441:	2	3	2	2	1	4	2	0
1449:	5	5	1	2	3	3	0	3
1457:	2	12	86	257	216	56	12	2
1465:	1	4	2	1	4	1	4	1
1473:	2	1	2	2	2	0	1	1
1481:	1	1	2	3	0	1	2	0
1489:	1	2	1	1	3	2	5	5
1497:	1	1	4	3	2	2	3	2
1505:	1	2	4	1	5	2	3	2
1513:	1	1	1	0	2	1	2	6
1521:	1	3	2	2	3	3	3	1
1529:	1	1	3	2	2	1	1	2
1537:	1	2	2	4	3	3	2	2
1545:	1	2	2	0	1	3	2	0
1553:	1	1	3	3	2	2	2	2
1561:	0	1	2	2	6	3	0	0
1569:	0	5	0	3	0	3	1	1
1577:	0	1	1	1	3	3	4	2
1585:	2	6	1	4	4	4	3	3
1593:	1	2	3	1	0	1	3	3
1601:	2	2	1	0	1	0	2	1
1609:	0	0	1	1	0	2	3	2
1617:	1	1	2	5	2	2	1	2
1625:	1	0	1	1	2	2	8	1
1633:	3	2	0	0	1	1	4	0
1641:	2	0	0	0	0	2	1	3
1649:	0	2	2	1	1	2	0	1
1657:	2	0	2	1	3	3	3	0

1665:	1	2	1	3	4	2	2	1

Sample Title: CP1805S13-14

Channel								
1673:	1	1	0	3	2	0	0	3
1681:	1	0	3	2	1	2	1	0
1689:	3	0	1	4	1	2	4	1
1697:	2	1	3	1	1	0	3	2
1705:	1	1	1	1	1	0	0	0
1713:	2	0	2	0	1	2	1	0
1721:	2	2	0	1	1	2	1	4
1729:	5	7	4	2	0	1	1	5
1737:	2	0	1	0	0	1	0	1
1745:	2	0	0	2	1	3	0	5
1753:	0	0	2	1	3	0	4	2
1761:	0	4	17	31	17	5	2	0
1769:	2	0	2	1	2	0	3	1
1777:	2	1	1	0	1	0	0	2
1785:	1	3	4	2	3	3	0	1
1793:	2	0	3	2	1	0	4	1
1801:	0	0	1	1	1	3	3	2
1809:	1	1	1	1	1	0	4	1
1817:	2	1	1	0	1	0	0	2
1825:	0	2	2	0	0	0	0	0
1833:	1	0	2	2	2	2	1	0
1841:	1	0	0	1	1	3	3	3
1849:	3	1	0	0	0	2	0	1
1857:	0	1	0	0	1	1	0	2
1865:	1	0	2	0	1	0	0	2
1873:	1	1	4	0	1	1	2	2
1881:	2	0	2	0	1	1	0	1
1889:	2	0	2	1	0	1	0	2
1897:	2	2	2	0	1	0	0	3
1905:	2	3	0	3	0	1	1	1
1913:	2	1	1	0	3	2	0	1
1921:	1	2	0	2	1	1	2	2
1929:	0	0	0	2	0	3	0	3
1937:	1	1	0	0	2	1	0	1
1945:	1	2	1	2	0	0	0	2
1953:	0	1	1	1	1	1	1	0
1961:	0	0	0	1	0	2	0	1
1969:	1	0	4	1	2	0	1	1
1977:	2	2	0	0	0	2	2	5
1985:	1	0	1	1	0	1	3	1
1993:	0	2	2	0	0	0	0	1
2001:	1	2	1	0	2	0	0	0
2009:	2	1	1	1	2	0	2	0
2017:	1	1	1	1	1	0	0	1
2025:	0	0	1	1	3	0	1	0
2033:	1	0	1	0	0	3	1	3
2041:	1	0	0	0	0	1	0	2
2049:	1	1	1	1	0	0	1	1
2057:	1	0	3	0	0	0	0	1
2065:	1	2	0	0	2	1	0	2
2073:	0	1	0	1	1	2	0	0
2081:	0	1	2	1	1	0	0	1
2089:	1	3	0	2	0	0	0	0

2097:	2	2	2	1	5	1	3	2

Sample Title: CP1805S13-14

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

2529:	1	0	0	0	0	0	1	1

Sample Title: CP1805S13-14

Channel								
2537:	0	2	0	1	1	0	2	1
2545:	0	2	1	0	0	0	0	0
2553:	0	1	1	0	0	1	0	0
2561:	0	0	1	1	0	1	0	0
2569:	0	0	0	0	2	1	0	0
2577:	0	0	1	0	0	0	0	0
2585:	0	0	1	1	0	0	0	0
2593:	0	0	0	2	1	0	0	0
2601:	0	0	1	0	0	0	0	0
2609:	0	1	4	14	35	31	14	3
2617:	3	0	0	1	0	0	0	1
2625:	0	1	3	0	1	0	0	0
2633:	0	0	0	0	0	1	0	0
2641:	0	1	0	1	0	0	0	0
2649:	1	0	0	1	0	1	0	0
2657:	1	0	0	0	1	0	1	0
2665:	1	0	0	0	0	0	0	1
2673:	4	0	0	0	2	1	0	1
2681:	1	0	1	0	0	0	0	0
2689:	0	1	0	0	0	1	0	0
2697:	0	1	0	1	0	0	0	0
2705:	0	0	0	0	0	0	1	0
2713:	0	0	0	1	1	0	0	0
2721:	0	0	0	0	1	0	0	0
2729:	0	0	1	0	0	0	1	0
2737:	0	1	0	0	0	0	0	0
2745:	0	0	0	0	0	0	1	0
2753:	0	1	0	0	0	0	0	0
2761:	0	0	0	0	0	0	1	0
2769:	1	0	0	0	0	0	0	0
2777:	2	0	0	0	0	0	0	0
2785:	1	0	0	0	0	0	0	0
2793:	0	2	0	0	0	0	0	0
2801:	0	0	0	2	1	0	0	0
2809:	0	0	0	0	1	0	0	0
2817:	0	1	0	0	1	0	1	1
2825:	0	0	0	0	0	0	1	0
2833:	1	0	1	0	0	0	0	0
2841:	0	1	0	0	0	0	0	0
2849:	1	1	0	0	0	0	1	0
2857:	1	0	1	0	0	0	0	0
2865:	0	0	0	0	1	0	0	1
2873:	0	0	0	0	0	0	0	0
2881:	0	1	0	0	1	0	0	0
2889:	1	0	1	0	2	0	0	1
2897:	0	0	0	0	0	0	0	1
2905:	0	0	0	0	0	1	0	0
2913:	1	0	0	0	0	0	1	0
2921:	0	0	0	0	0	0	0	0
2929:	0	0	0	0	1	0	0	0
2937:	1	0	1	0	0	1	0	0
2945:	0	0	0	0	0	0	1	0
2953:	0	0	0	0	0	0	0	2

2961:	0	2	0	0	1	0	0	0

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

3393:	0	1	0	0	0	1	1	2

Sample Title: CP1805S13-14

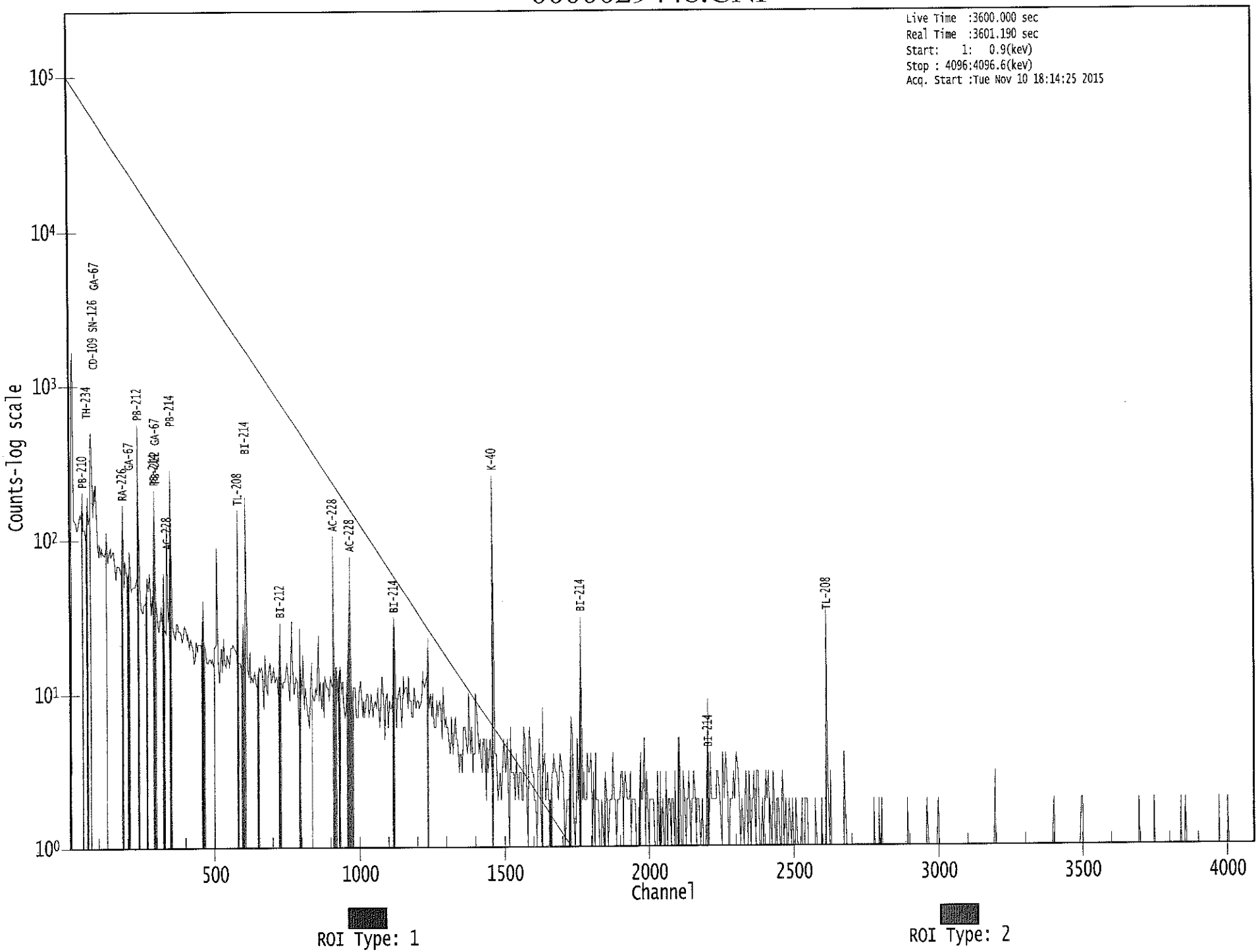
Channel								
3401:	0	0	1	0	0	0	0	0
3409:	0	1	0	1	0	0	0	0
3417:	1	0	0	0	0	0	0	0
3425:	0	0	0	0	1	0	0	0
3433:	0	1	1	0	0	0	0	0
3441:	0	0	0	1	0	0	1	0
3449:	0	0	0	0	0	0	0	0
3457:	0	0	1	0	0	0	0	0
3465:	0	0	0	0	0	0	0	0
3473:	0	1	0	0	0	0	1	0
3481:	0	0	0	0	0	0	0	0
3489:	0	0	1	0	0	0	2	0
3497:	0	0	0	2	0	0	0	0
3505:	0	0	1	0	1	0	0	0
3513:	1	0	0	0	0	1	0	0
3521:	0	1	0	0	0	0	0	0
3529:	0	0	0	0	0	0	0	1
3537:	1	0	0	0	0	0	0	0
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	1	0	0	0	0	0	0
3577:	1	0	0	0	0	0	0	0
3585:	1	0	0	0	0	0	0	0
3593:	0	1	0	0	0	0	0	1
3601:	0	1	0	1	0	1	0	0
3609:	0	0	0	0	0	0	0	0
3617:	0	0	0	0	0	0	1	1
3625:	0	0	0	0	0	0	0	0
3633:	0	0	0	0	0	0	0	0
3641:	0	0	0	0	1	0	0	0
3649:	0	0	0	0	1	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	0	0	0	0	0	0	1	0
3673:	0	1	0	1	0	0	0	0
3681:	1	0	0	0	0	0	0	0
3689:	0	0	0	0	0	2	0	1
3697:	0	1	0	0	0	0	0	0
3705:	0	0	1	0	0	0	0	0
3713:	0	0	0	0	1	0	0	0
3721:	0	0	0	0	0	0	0	0
3729:	0	1	1	0	0	0	0	0
3737:	0	0	0	1	0	0	0	0
3745:	0	1	2	0	0	0	0	0
3753:	0	1	1	0	0	0	0	0
3761:	0	0	1	0	0	0	0	0
3769:	1	0	0	0	0	0	0	0
3777:	0	0	0	0	0	0	0	0
3785:	1	0	0	0	0	0	0	0
3793:	0	1	1	0	0	0	0	0
3801:	1	0	0	0	0	0	0	0
3809:	0	0	0	0	0	0	0	0
3817:	0	0	0	1	1	0	0	1

3825:	0	0	0	0	0	0	0	0

Sample Title: CP1805S13-14

Channel								
3833:	0	0	0	0	0	0	2	0
3841:	0	0	0	0	0	0	0	0
3849:	0	0	0	0	0	2	0	0
3857:	1	0	0	1	0	0	0	0
3865:	0	0	0	0	0	0	0	0
3873:	0	0	0	0	0	1	0	1
3881:	0	0	1	1	0	1	0	0
3889:	0	0	0	0	0	0	0	1
3897:	1	0	0	0	0	0	0	0
3905:	1	0	1	0	0	1	0	0
3913:	0	0	1	0	1	0	0	0
3921:	0	0	0	0	0	0	0	0
3929:	0	0	0	0	1	0	0	0
3937:	0	0	0	0	0	0	0	0
3945:	0	1	0	0	0	1	0	0
3953:	0	0	0	0	0	0	0	0
3961:	0	0	0	0	0	0	0	0
3969:	0	0	2	0	0	0	0	0
3977:	1	0	1	0	0	0	0	0
3985:	0	0	0	0	0	0	1	0
3993:	0	0	0	0	0	0	0	0
4001:	2	0	0	0	1	0	0	0
4009:	0	0	0	0	0	0	0	0
4017:	0	1	0	0	0	0	0	0
4025:	0	0	0	0	0	0	1	0
4033:	0	0	0	0	1	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	1
4073:	1	0	0	0	1	0	0	0
4081:	0	0	0	0	0	1	0	0
4089:	0	0	0	0	0	0	0	0

0000029448.CNF



Apex-Gamma

Analysis Report for 1510091-18
CP1805S15-16

11/11

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1510091-18
Sample Description	: CP1805S15-16
Sample Type	: SOIL
Sample Size	: 5.633E+02 grams
Facility	: Countroom
Sample Taken On	: 10/10/2015 10:19:23AM
Acquisition Started	: 11/10/2015 6:23:55PM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE4
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3647.7 seconds
Dead Time	: 1.31 %
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	: 29449

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510091-18

CP1805S15-16

PEAK LOCATE REPORT

Peak Locate Performed on : 11/10/2015 7:24:44PM
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	46.69	45.95	0.0000	0.00
2	64.25	63.51	0.0000	0.00
3	76.03	75.30	0.0000	0.00
4	87.28	86.56	0.0000	0.00
5	92.63	91.90	0.0000	0.00
6	128.96	128.25	0.0000	0.00
7	184.96	184.27	0.0000	0.00
8	207.99	207.32	0.0000	0.00
9	239.54	238.87	0.0000	0.00
10	295.54	294.90	0.0000	0.00
11	338.64	338.02	0.0000	0.00
12	352.39	351.78	0.0000	0.00
13	454.32	453.76	0.0000	0.00
14	571.61	571.10	0.0000	0.00
15	583.56	583.06	0.0000	0.00
16	609.48	608.98	0.0000	0.00
17	727.15	726.72	0.0000	0.00
18	734.50	734.07	0.0000	0.00
19	767.46	767.05	0.0000	0.00
20	911.52	911.18	0.0000	0.00
21	925.62	925.29	0.0000	0.00
22	945.85	945.53	0.0000	0.00
23	968.58	968.27	0.0000	0.00
24	1029.25	1028.97	0.0000	0.00
25	1078.28	1078.03	0.0000	0.00
26	1120.50	1120.27	0.0000	0.00
27	1278.61	1278.48	0.0000	0.00
28	1335.20	1335.10	0.0000	0.00
29	1375.86	1375.78	0.0000	0.00
30	1433.17	1433.13	0.0000	0.00
31	1441.29	1441.25	0.0000	0.00
32	1461.15	1461.12	0.0000	0.00
33	1544.48	1544.51	0.0000	0.00
34	1591.50	1591.55	0.0000	0.00
35	1729.51	1729.65	0.0000	0.00
36	1764.70	1764.86	0.0000	0.00
37	2063.19	2063.56	0.0000	0.00
38	2174.56	2175.00	0.0000	0.00
39	2469.07	2469.73	0.0000	0.00
40	2615.35	2616.12	0.0000	0.00

Analysis Report for 1510091-18

CP1805S15-16

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510091-18

CP1805S15-16

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/10/2015 7:24:44PM

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	46.69	42 -	51	45.95	1.07E+02	95.39	1.25E+03	2.50
M	2	64.25	57 -	82	63.51	2.69E+02	127.73	1.84E+03	4.13
m	3	76.03	57 -	82	75.30	8.22E+02	138.38	1.97E+03	4.15
M	4	87.28	83 -	95	86.56	1.73E+02	81.83	1.12E+03	2.91
m	5	92.63	83 -	95	91.90	2.33E+02	90.84	1.14E+03	2.72
	6	128.96	125 -	132	128.25	7.73E+01	72.42	8.27E+02	1.88
	7	184.96	179 -	191	184.27	1.53E+02	92.67	9.45E+02	7.75
	8	207.99	203 -	212	207.32	7.46E+01	70.14	6.61E+02	4.07
	9	239.54	232 -	245	238.87	6.66E+02	98.16	7.66E+02	2.49
	10	295.54	288 -	298	294.90	9.65E+01	66.55	5.39E+02	2.36
	11	338.64	332 -	342	338.02	5.17E+01	59.55	4.45E+02	2.21
	12	352.39	346 -	358	351.78	2.62E+02	64.33	3.61E+02	2.51
	13	454.32	450 -	458	453.76	2.95E+01	31.55	1.35E+02	2.22
	14	571.61	568 -	575	571.10	1.88E+01	22.63	7.45E+01	2.84
	15	583.56	579 -	588	583.06	1.40E+02	41.55	1.58E+02	2.94
	16	609.48	603 -	612	608.98	1.48E+02	38.81	1.33E+02	2.82
M	17	727.15	721 -	743	726.72	3.60E+01	25.69	6.50E+01	3.09
m	18	734.50	721 -	743	734.07	1.92E+01	23.49	7.87E+01	3.09
	19	767.46	759 -	774	767.05	6.81E+01	39.24	1.22E+02	13.30
M	20	911.52	906 -	932	911.18	9.05E+01	25.27	5.09E+01	3.14
m	21	925.62	906 -	932	925.29	2.57E+01	19.96	4.38E+01	3.14
	22	945.85	942 -	950	945.53	2.19E+01	17.14	3.21E+01	5.83
	23	968.58	962 -	973	968.27	4.52E+01	33.76	1.20E+02	1.81
	24	1029.25	1020 -	1035	1028.97	2.74E+01	28.71	6.92E+01	10.50
	25	1078.28	1075 -	1082	1078.03	2.18E+01	15.75	2.45E+01	1.69
	26	1120.50	1113 -	1124	1120.27	3.26E+01	28.35	8.47E+01	2.54
	27	1278.61	1270 -	1289	1278.48	3.00E+01	28.98	6.00E+01	10.15
	28	1335.20	1327 -	1343	1335.10	2.90E+01	21.75	3.40E+01	10.99
	29	1375.86	1370 -	1383	1375.78	2.73E+01	15.43	1.54E+01	7.74
	30	1433.17	1430 -	1436	1433.13	8.00E+00	5.66	0.00E+00	1.16
	31	1441.29	1438 -	1444	1441.25	1.12E+01	8.02	3.69E+00	4.20
	32	1461.15	1453 -	1467	1461.12	2.31E+02	32.63	1.50E+01	2.76
	33	1544.48	1541 -	1547	1544.51	1.00E+01	8.75	6.00E+00	1.66
	34	1591.50	1586 -	1596	1591.55	2.05E+01	15.52	1.91E+01	5.21
	35	1729.51	1723 -	1735	1729.65	1.23E+01	14.65	1.93E+01	3.61
	36	1764.70	1759 -	1769	1764.86	2.95E+01	12.58	5.06E+00	2.81
	37	2063.19	2058 -	2068	2063.56	9.00E+00	6.00	0.00E+00	7.98
	38	2174.56	2171 -	2178	2175.00	1.10E+01	6.63	0.00E+00	2.48
	39	2469.07	2466 -	2473	2469.73	7.95E+00	7.48	4.10E+00	1.94
	40	2615.35	2611 -	2621	2616.12	4.20E+01	12.96	0.00E+00	4.14

Analysis Report for 1510091-18

CP1805S15-16

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 : 11/10/2015 7:24:44PM

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	46.69	42 -	51	1.07E+02	95.39	1.25E+03	7.65E+01
M	2	64.25	57 -	82	2.69E+02	127.73	1.84E+03	7.05E+01
m	3	76.03	57 -	82	8.22E+02	138.38	1.97E+03	7.29E+01
M	4	87.28	83 -	95	1.73E+02	81.83	1.12E+03	5.50E+01
m	5	92.63	83 -	95	2.33E+02	90.84	1.14E+03	5.55E+01
	6	128.96	125 -	132	7.73E+01	72.42	8.27E+02	5.77E+01
	7	184.96	179 -	191	1.53E+02	92.67	9.45E+02	7.34E+01
	8	207.99	203 -	212	7.46E+01	70.14	6.61E+02	5.59E+01
	9	239.54	232 -	245	6.66E+02	98.16	7.66E+02	6.86E+01
	10	295.54	288 -	298	9.65E+01	66.55	5.39E+02	5.23E+01
	11	338.64	332 -	342	5.17E+01	59.55	4.45E+02	4.75E+01
	12	352.39	346 -	358	2.62E+02	64.33	3.61E+02	4.57E+01
	13	454.32	450 -	458	2.95E+01	31.55	1.35E+02	2.44E+01
	14	571.61	568 -	575	1.88E+01	22.63	7.45E+01	1.72E+01
	15	583.56	579 -	588	1.40E+02	41.55	1.58E+02	2.81E+01
	16	609.48	603 -	612	1.48E+02	38.81	1.33E+02	2.49E+01
M	17	727.15	721 -	743	3.60E+01	25.69	6.50E+01	1.33E+01
m	18	734.50	721 -	743	1.92E+01	23.49	7.87E+01	1.46E+01
	19	767.46	759 -	774	6.81E+01	39.24	1.22E+02	2.93E+01
M	20	911.52	906 -	932	9.05E+01	25.27	5.09E+01	1.17E+01
m	21	925.62	906 -	932	2.57E+01	19.96	4.38E+01	1.09E+01
	22	945.85	942 -	950	2.19E+01	17.14	3.21E+01	1.18E+01
	23	968.58	962 -	973	4.52E+01	33.76	1.20E+02	2.55E+01
	24	1029.25	1020 -	1035	2.74E+01	28.71	6.92E+01	2.20E+01
	25	1078.28	1075 -	1082	2.18E+01	15.75	2.45E+01	1.04E+01
	26	1120.50	1113 -	1124	3.26E+01	28.35	8.47E+01	2.13E+01
	27	1278.61	1270 -	1289	3.00E+01	28.98	6.00E+01	2.21E+01
	28	1335.20	1327 -	1343	2.90E+01	21.75	3.40E+01	1.55E+01
	29	1375.86	1370 -	1383	2.73E+01	15.43	1.54E+01	9.33E+00
	30	1433.17	1430 -	1436	8.00E+00	5.66	0.00E+00	0.00E+00
	31	1441.29	1438 -	1444	1.12E+01	8.02	3.69E+00	3.64E+00

Analysis Report for 1510091-18

CP1805S15-16

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
32	1461.15	1453 -	1467	2.31E+02	32.63	1.50E+01	9.81E+00
33	1544.48	1541 -	1547	1.00E+01	8.75	6.00E+00	4.97E+00
34	1591.50	1586 -	1596	2.05E+01	15.52	1.91E+01	1.04E+01
35	1729.51	1723 -	1735	1.23E+01	14.65	1.93E+01	1.06E+01
36	1764.70	1759 -	1769	2.95E+01	12.58	5.06E+00	5.22E+00
37	2063.19	2058 -	2068	9.00E+00	6.00	0.00E+00	0.00E+00
38	2174.56	2171 -	2178	1.10E+01	6.63	0.00E+00	0.00E+00
39	2469.07	2466 -	2473	7.95E+00	7.48	4.10E+00	4.04E+00
40	2615.35	2611 -	2621	4.20E+01	12.96	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 : 11/10/2015 7:24:44PM

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	46.69	42 -	51	45.95	1.07E+02	95.39	1.25E+03	PB-210
M	2	64.25	57 -	82	63.51	2.69E+02	127.73	1.84E+03	TH-234
m	3	76.03	57 -	82	75.30	8.22E+02	138.38	1.97E+03	.....
M	4	87.28	83 -	95	86.56	1.73E+02	81.83	1.12E+03	SN-126 CD-109 NP-237 EU-155
m	5	92.63	83 -	95	91.90	2.33E+02	90.84	1.14E+03	GA-67
	6	128.96	125 -	132	128.25	7.73E+01	72.42	8.27E+02	.....
	7	184.96	179 -	191	184.27	1.53E+02	92.67	9.45E+02	HO-166M
	8	207.99	203 -	212	207.32	7.46E+01	70.14	6.61E+02	GA-67
	9	239.54	232 -	245	238.87	6.66E+02	98.16	7.66E+02	PB-212
	10	295.54	288 -	298	294.90	9.65E+01	66.55	5.39E+02	PB-214
	11	338.64	332 -	342	338.02	5.17E+01	59.55	4.45E+02	AC-228
	12	352.39	346 -	358	351.78	2.62E+02	64.33	3.61E+02	PB-214
	13	454.32	450 -	458	453.76	2.95E+01	31.55	1.35E+02	PM-146
	14	571.61	568 -	575	571.10	1.88E+01	22.63	7.45E+01	.....

Analysis Report for 1510091-18

CP1805S15-16

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
	15	583.56	579 -	588	583.06	1.40E+02	41.55	1.58E+02	TL-208
	16	609.48	603 -	612	608.98	1.48E+02	38.81	1.33E+02	BI-214
M	17	727.15	721 -	743	726.72	3.60E+01	25.69	6.50E+01	BI-212
m	18	734.50	721 -	743	734.07	1.92E+01	23.49	7.87E+01	PA-234
	19	767.46	759 -	774	767.05	6.81E+01	39.24	1.22E+02	.....
M	20	911.52	906 -	932	911.18	9.05E+01	25.27	5.09E+01	AC-228
									LU-172
m	21	925.62	906 -	932	925.29	2.57E+01	19.96	4.38E+01	.....
	22	945.85	942 -	950	945.53	2.19E+01	17.14	3.21E+01	PA-234
	23	968.58	962 -	973	968.27	4.52E+01	33.76	1.20E+02	AC-228
	24	1029.25	1020 -	1035	1028.97	2.74E+01	28.71	6.92E+01	.....
	25	1078.28	1075 -	1082	1078.03	2.18E+01	15.75	2.45E+01	.....
	26	1120.50	1113 -	1124	1120.27	3.26E+01	28.35	8.47E+01	SC-46
									BI-214
									TA-182
	27	1278.61	1270 -	1289	1278.48	3.00E+01	28.98	6.00E+01	.....
	28	1335.20	1327 -	1343	1335.10	2.90E+01	21.75	3.40E+01	.....
	29	1375.86	1370 -	1383	1375.78	2.73E+01	15.43	1.54E+01	.....
	30	1433.17	1430 -	1436	1433.13	8.00E+00	5.66	0.00E+00	.....
	31	1441.29	1438 -	1444	1441.25	1.12E+01	8.02	3.69E+00	.....
	32	1461.15	1453 -	1467	1461.12	2.31E+02	32.63	1.50E+01	K-40
	33	1544.48	1541 -	1547	1544.51	1.00E+01	8.75	6.00E+00	.....
	34	1591.50	1586 -	1596	1591.55	2.05E+01	15.52	1.91E+01	.....
	35	1729.51	1723 -	1735	1729.65	1.23E+01	14.65	1.93E+01	.....
	36	1764.70	1759 -	1769	1764.86	2.95E+01	12.58	5.06E+00	BI-214
	37	2063.19	2058 -	2068	2063.56	9.00E+00	6.00	0.00E+00	.....
	38	2174.56	2171 -	2178	2175.00	1.10E+01	6.63	0.00E+00	.....
	39	2469.07	2466 -	2473	2469.73	7.95E+00	7.48	4.10E+00	.....
	40	2615.35	2611 -	2621	2616.12	4.20E+01	12.96	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 : 11/10/2015 7:24:44PM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	46.69	1.07E+02	95.39	2.63E-02	1.78E-03

Analysis Report for 1510091-18

CP1805S15-16

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
M	2	64.25	2.69E+02	127.73	2.31E-02	1.76E-03
m	3	76.03	8.22E+02	138.38	2.13E-02	1.69E-03
M	4	87.28	1.73E+02	81.83	1.97E-02	1.64E-03
m	5	92.63	2.33E+02	90.84	1.90E-02	1.62E-03
	6	128.96	7.73E+01	72.42	1.53E-02	1.48E-03
	7	184.96	1.53E+02	92.67	1.17E-02	1.15E-03
	8	207.99	7.46E+01	70.14	1.06E-02	1.08E-03
	9	239.54	6.66E+02	98.16	9.39E-03	9.84E-04
	10	295.54	9.65E+01	66.55	7.78E-03	8.43E-04
	11	338.64	5.17E+01	59.55	6.85E-03	7.95E-04
	12	352.39	2.62E+02	64.33	6.60E-03	7.80E-04
	13	454.32	2.95E+01	31.55	5.17E-03	6.44E-04
	14	571.61	1.88E+01	22.63	4.13E-03	4.72E-04
	15	583.56	1.40E+02	41.55	4.04E-03	4.55E-04
	16	609.48	1.48E+02	38.81	3.87E-03	4.17E-04
M	17	727.15	3.60E+01	25.69	3.25E-03	3.04E-04
m	18	734.50	1.92E+01	23.49	3.22E-03	2.99E-04
	19	767.46	6.81E+01	39.24	3.09E-03	2.81E-04
M	20	911.52	9.05E+01	25.27	2.61E-03	2.06E-04
m	21	925.62	2.57E+01	19.96	2.57E-03	2.04E-04
	22	945.85	2.19E+01	17.14	2.52E-03	2.02E-04
	23	968.58	4.52E+01	33.76	2.46E-03	1.99E-04
	24	1029.25	2.74E+01	28.71	2.32E-03	1.91E-04
	25	1078.28	2.18E+01	15.75	2.22E-03	1.85E-04
	26	1120.50	3.26E+01	28.35	2.14E-03	1.79E-04
	27	1278.61	3.00E+01	28.98	1.90E-03	2.01E-04
	28	1335.20	2.90E+01	21.75	1.82E-03	2.15E-04
	29	1375.86	2.73E+01	15.43	1.78E-03	2.07E-04
	30	1433.17	8.00E+00	5.66	1.71E-03	1.95E-04
	31	1441.29	1.12E+01	8.02	1.70E-03	1.93E-04
	32	1461.15	2.31E+02	32.63	1.68E-03	1.89E-04
	33	1544.48	1.00E+01	8.75	1.60E-03	1.72E-04
	34	1591.50	2.05E+01	15.52	1.56E-03	1.62E-04
	35	1729.51	1.23E+01	14.65	1.46E-03	1.33E-04
	36	1764.70	2.95E+01	12.58	1.43E-03	1.26E-04
	37	2063.19	9.00E+00	6.00	1.27E-03	1.11E-04
	38	2174.56	1.10E+01	6.63	1.22E-03	1.11E-04
	39	2469.07	7.95E+00	7.48	1.11E-03	1.11E-04
	40	2615.35	4.20E+01	12.96	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 : 11/10/2015 7:24:44PM

Analysis Report for 1510091-18

CP1805S15-16

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	46.69	1.07E+02	95.39	2.00E+01	7.38E+00	8.73E+01	9.57E+01
M	2	64.25	2.69E+02	127.73	5.38E+01	9.34E+00	2.15E+02	1.28E+02
m	3	76.03	8.22E+02	138.38			8.22E+02	1.38E+02
M	4	87.28	1.73E+02	81.83			1.73E+02	8.18E+01
m	5	92.63	2.33E+02	90.84	5.44E+01	8.36E+00	1.79E+02	9.12E+01
	6	128.96	7.73E+01	72.42			7.73E+01	7.24E+01
	7	184.96	1.53E+02	92.67	1.43E+01	7.33E+00	1.39E+02	9.30E+01
	8	207.99	7.46E+01	70.14			7.46E+01	7.01E+01
	9	239.54	6.66E+02	98.16	1.09E+01	6.39E+00	6.55E+02	9.84E+01
	10	295.54	9.65E+01	66.55			9.65E+01	6.65E+01
	11	338.64	5.17E+01	59.55			5.17E+01	5.96E+01
	12	352.39	2.62E+02	64.33	8.07E+00	5.01E+00	2.54E+02	6.45E+01
	13	454.32	2.95E+01	31.55			2.95E+01	3.16E+01
	14	571.61	1.88E+01	22.63			1.88E+01	2.26E+01
	15	583.56	1.40E+02	41.55			1.40E+02	4.15E+01
	16	609.48	1.48E+02	38.81	5.16E+00	1.63E+00	1.42E+02	3.88E+01
M	17	727.15	3.60E+01	25.69			3.60E+01	2.57E+01
m	18	734.50	1.92E+01	23.49			1.92E+01	2.35E+01
	19	767.46	6.81E+01	39.24			6.81E+01	3.92E+01
M	20	911.52	9.05E+01	25.27	1.01E+00	2.85E+00	8.95E+01	2.54E+01
m	21	925.62	2.57E+01	19.96			2.57E+01	2.00E+01
	22	945.85	2.19E+01	17.14			2.19E+01	1.71E+01
	23	968.58	4.52E+01	33.76			4.52E+01	3.38E+01
	24	1029.25	2.74E+01	28.71			2.74E+01	2.87E+01
	25	1078.28	2.18E+01	15.75			2.18E+01	1.57E+01
	26	1120.50	3.26E+01	28.35			3.26E+01	2.84E+01
	27	1278.61	3.00E+01	28.98			3.00E+01	2.90E+01
	28	1335.20	2.90E+01	21.75			2.90E+01	2.17E+01
	29	1375.86	2.73E+01	15.43			2.73E+01	1.54E+01
	30	1433.17	8.00E+00	5.66			8.00E+00	5.66E+00
	31	1441.29	1.12E+01	8.02			1.12E+01	8.02E+00
	32	1461.15	2.31E+02	32.63			2.31E+02	3.26E+01
	33	1544.48	1.00E+01	8.75			1.00E+01	8.75E+00
	34	1591.50	2.05E+01	15.52			2.05E+01	1.55E+01
	35	1729.51	1.23E+01	14.65			1.23E+01	1.47E+01
	36	1764.70	2.95E+01	12.58	1.11E-01	9.77E-01	2.94E+01	1.26E+01
	37	2063.19	9.00E+00	6.00			9.00E+00	6.00E+00
	38	2174.56	1.10E+01	6.63			1.10E+01	6.63E+00
	39	2469.07	7.95E+00	7.48			7.95E+00	7.48E+00
	40	2615.35	4.20E+01	12.96			4.20E+01	1.30E+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 1510091-18

CP1805S15-16

AREA CORRECTION REPORT
REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/10/2015 7:24:44PM

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	46.69	1.07E+02	95.39	2.00E+01	7.38E+00	8.73E+01	9.57E+01
M	2	64.25	2.69E+02	127.73	5.38E+01	9.34E+00	2.15E+02	1.28E+02
m	3	76.03	8.22E+02	138.38			8.22E+02	1.38E+02
M	4	87.28	1.73E+02	81.83			1.73E+02	8.18E+01
m	5	92.63	2.33E+02	90.84	5.44E+01	8.36E+00	1.79E+02	9.12E+01
	6	128.96	7.73E+01	72.42			7.73E+01	7.24E+01
	7	184.96	1.53E+02	92.67	1.43E+01	7.33E+00	1.39E+02	9.30E+01
	8	207.99	7.46E+01	70.14			7.46E+01	7.01E+01
	9	239.54	6.66E+02	98.16	1.09E+01	6.39E+00	6.55E+02	9.84E+01
	10	295.54	9.65E+01	66.55			9.65E+01	6.65E+01
	11	338.64	5.17E+01	59.55			5.17E+01	5.96E+01
	12	352.39	2.62E+02	64.33	8.07E+00	5.01E+00	2.54E+02	6.45E+01
	13	454.32	2.95E+01	31.55			2.95E+01	3.16E+01
	14	571.61	1.88E+01	22.63			1.88E+01	2.26E+01
	15	583.56	1.40E+02	41.55			1.40E+02	4.15E+01
	16	609.48	1.48E+02	38.81	5.16E+00	1.63E+00	1.42E+02	3.88E+01
M	17	727.15	3.60E+01	25.69			3.60E+01	2.57E+01
m	18	734.50	1.92E+01	23.49			1.92E+01	2.35E+01
	19	767.46	6.81E+01	39.24			6.81E+01	3.92E+01
M	20	911.52	9.05E+01	25.27	1.01E+00	2.85E+00	8.95E+01	2.54E+01
m	21	925.62	2.57E+01	19.96			2.57E+01	2.00E+01
	22	945.85	2.19E+01	17.14			2.19E+01	1.71E+01
	23	968.58	4.52E+01	33.76			4.52E+01	3.38E+01
	24	1029.25	2.74E+01	28.71			2.74E+01	2.87E+01
	25	1078.28	2.18E+01	15.75			2.18E+01	1.57E+01
	26	1120.50	3.26E+01	28.35			3.26E+01	2.84E+01
	27	1278.61	3.00E+01	28.98			3.00E+01	2.90E+01
	28	1335.20	2.90E+01	21.75			2.90E+01	2.17E+01
	29	1375.86	2.73E+01	15.43			2.73E+01	1.54E+01
	30	1433.17	8.00E+00	5.66			8.00E+00	5.66E+00
	31	1441.29	1.12E+01	8.02			1.12E+01	8.02E+00
	32	1461.15	2.31E+02	32.63			2.31E+02	3.26E+01
	33	1544.48	1.00E+01	8.75			1.00E+01	8.75E+00
	34	1591.50	2.05E+01	15.52			2.05E+01	1.55E+01
	35	1729.51	1.23E+01	14.65			1.23E+01	1.47E+01
	36	1764.70	2.95E+01	12.58	1.11E-01	9.77E-01	2.94E+01	1.26E+01
	37	2063.19	9.00E+00	6.00			9.00E+00	6.00E+00
	38	2174.56	1.10E+01	6.63			1.10E+01	6.63E+00
	39	2469.07	7.95E+00	7.48			7.95E+00	7.48E+00
	40	2615.35	4.20E+01	12.96			4.20E+01	1.30E+01

Analysis Report for 1510091-18

CP1805S15-16

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.982	1460.81	*	10.67	1.71E+01	3.11E+00
GA-67	0.380	93.31	*	35.70	2.75E+02	1.18E+03
		208.95	*	2.24	3.29E+03	1.38E+04
		300.22		16.00		
CD-109	0.914	88.03	*	3.72	3.30E+00	1.59E+00
SN-126	0.987	87.57	*	37.00	3.16E-01	1.52E-01
PM-146	0.427	453.90	*	39.94	1.92E-01	2.07E-01
		735.90		14.01		
		747.13		13.10		
EU-155	0.324	86.50	*	30.90	3.83E-01	1.84E-01
		105.30		20.70		
TL-208	0.837	583.14	*	30.22	1.53E+00	4.84E-01
		860.37		4.48		
		2614.66	*	35.85	1.46E+00	4.74E-01
PB-210	0.994	46.50	*	4.25	1.05E+00	1.15E+00
BI-212	0.779	727.17	*	11.80	1.25E+00	8.99E-01
		1620.62		2.75		
PB-212	0.782	238.63	*	44.60	2.09E+00	3.82E-01
		300.09		3.41		
BI-214	0.931	609.31	*	46.30	1.06E+00	3.10E-01
		1120.29	*	15.10	1.34E+00	1.17E+00
		1764.49	*	15.80	1.73E+00	7.57E-01
		2204.22		4.98		
PB-214	0.972	295.21	*	19.19	8.62E-01	6.02E-01
		351.92	*	37.19	1.38E+00	3.86E-01
AC-228	0.968	338.32	*	11.40	8.83E-01	1.02E+00
		911.07	*	27.70	1.65E+00	4.87E-01
		969.11	*	16.60	1.48E+00	1.11E+00
TH-234	0.863	63.29	*	3.80	3.26E+00	1.96E+00
NP-237	0.907	86.50	*	12.60	9.29E-01	4.46E-01

Analysis Report for 1510091-18

CP1805S15-16

* = 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 : 11/10/2015 7:24:44PM
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	76.03	2.28363E-01	8.42		
	6	128.96	2.14774E-02	46.83	Sum	
	7	184.96	3.86271E-02	33.43	Sum	
	14	571.61	5.20833E-03	60.34		
m	18	734.50	5.33833E-03	61.13	Tol.	PA-234
	19	767.46	1.89255E-02	28.80		
m	21	925.62	7.13799E-03	38.84		
	22	945.85	6.09284E-03	39.07	Tol.	PA-234
	24	1029.25	7.61425E-03	52.36		
	25	1078.28	6.04575E-03	36.18		
	27	1278.61	8.33333E-03	48.30		
	28	1335.20	8.05556E-03	37.50		
	29	1375.86	7.58730E-03	28.24		
	30	1433.17	2.22222E-03	35.36		
	31	1441.29	3.09829E-03	35.93		
	33	1544.48	2.77778E-03	43.73		
	34	1591.50	5.68519E-03	37.93		
	35	1729.51	3.42803E-03	59.37	Sum	
	37	2063.19	2.50000E-03	33.33		
	38	2174.56	3.05556E-03	30.15		
	39	2469.07	2.20833E-03	47.06		

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 1510091-18

CP1805S15-16

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.98	1460.81	*	10.67	1.71E+01	3.11E+00
GA-67	0.38	93.31	*	35.70	2.75E+02	1.18E+03
		208.95	*	2.24	3.29E+03	1.38E+04
		300.22		16.00		
CD-109	0.91	88.03	*	3.72	3.30E+00	1.59E+00
SN-126	0.98	87.57	*	37.00	3.16E-01	1.52E-01
PM-146	0.42	453.90	*	39.94	1.92E-01	2.07E-01
		735.90		14.01		
		747.13		13.10		
EU-155	0.32	86.50	*	30.90	3.83E-01	1.84E-01
		105.30		20.70		
TL-208	0.83	583.14	*	30.22	1.53E+00	4.84E-01
		860.37		4.48		
		2614.66	*	35.85	1.46E+00	4.74E-01
PB-210	0.99	46.50	*	4.25	1.05E+00	1.15E+00
BI-212	0.77	727.17	*	11.80	1.25E+00	8.99E-01
		1620.62		2.75		
PB-212	0.78	238.63	*	44.60	2.09E+00	3.82E-01
		300.09		3.41		
BI-214	0.93	609.31	*	46.30	1.06E+00	3.10E-01
		1120.29	*	15.10	1.34E+00	1.17E+00
		1764.49	*	15.80	1.73E+00	7.57E-01
		2204.22		4.98		
PB-214	0.97	295.21	*	19.19	8.62E-01	6.02E-01
		351.92	*	37.19	1.38E+00	3.86E-01
AC-228	0.96	338.32	*	11.40	8.83E-01	1.02E+00
		911.07	*	27.70	1.65E+00	4.87E-01
		969.11	*	16.60	1.48E+00	1.11E+00
TH-234	0.86	63.29	*	3.80	3.26E+00	1.96E+00
NP-237	0.90	86.50	*	12.60	9.29E-01	4.46E-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 1510091-18

CP1805S15-16

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40	0.982	1.71E+01	3.11E+00	
	GA-67	0.380	3.11E+02	1.31E+03	
?	CD-109	0.914	3.30E+00	1.59E+00	
?	SN-126	0.987	3.16E-01	1.52E-01	
	PM-146	0.427	1.92E-01	2.07E-01	
?	EU-155	0.324	3.83E-01	1.84E-01	
	TL-208	0.837	1.49E+00	3.39E-01	
	PB-210	0.994	1.05E+00	1.15E+00	
	BI-212	0.779	1.25E+00	8.99E-01	
	PB-212	0.782	2.09E+00	3.82E-01	
	BI-214	0.931	1.16E+00	2.79E-01	
	PB-214	0.972	1.23E+00	3.25E-01	
	AC-228	0.968	1.50E+00	4.08E-01	
	TH-234	0.863	3.26E+00	1.96E+00	
?	NP-237	0.907	9.29E-01	4.46E-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 1510091-18
CP1805S15-16

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/10/2015 7:24:44PM
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	76.03	2.28363E-01	8.42		
	6	128.96	2.14774E-02	46.83	Sum	
	7	184.96	3.86271E-02	33.43	Sum	
	14	571.61	5.20833E-03	60.34		
m	18	734.50	5.33833E-03	61.13	Tol.	PA-234
	19	767.46	1.89255E-02	28.80		
m	21	925.62	7.13799E-03	38.84		
	22	945.85	6.09284E-03	39.07	Tol.	PA-234
	24	1029.25	7.61425E-03	52.36		
	25	1078.28	6.04575E-03	36.18		
	27	1278.61	8.33333E-03	48.30		
	28	1335.20	8.05556E-03	37.50		
	29	1375.86	7.58730E-03	28.24		
	30	1433.17	2.22222E-03	35.36		
	31	1441.29	3.09829E-03	35.93		
	33	1544.48	2.77778E-03	43.73		
	34	1591.50	5.68519E-03	37.93		
	35	1729.51	3.42803E-03	59.37	Sum	
	37	2063.19	2.50000E-03	33.33		
	38	2174.56	3.05556E-03	30.15		
	39	2469.07	2.20833E-03	47.06		

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Analysis Report for 1510091-18

CP1805S15-16

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59		10.42	4.14E-01	1.96E+00	1.96E+00
+	NA-22	1274.54		99.94	3.04E-02	1.99E-01	1.99E-01
+	NA-24	1368.53		99.99	-2.53E+13	1.20E+14	1.85E+14
		2754.09		99.86	1.63E+13		1.20E+14
+	AL-26	1808.65		99.76	-4.12E-02	1.25E-01	1.25E-01
+	K-40	1460.81	*	10.67	1.71E+01	1.66E+00	1.66E+00
+	@ AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	-1.53E-01	9.45E-02	9.45E-02
		78.34		96.00	3.48E-01		1.20E-01
+	SC-46	889.25		99.98	-9.45E-02	2.08E-01	2.08E-01
		1120.51		99.99	1.88E-01		3.24E-01
+	V-48	983.52		99.98	1.15E-01	6.56E-01	6.56E-01
		1312.10		97.50	6.63E-02		7.06E-01
+	CR-51	320.08		9.83	-7.05E-01	2.56E+00	2.56E+00
+	MN-54	834.83		99.97	1.21E-01	1.95E-01	1.95E-01
+	CO-56	846.75		99.96	1.02E-02	2.08E-01	2.08E-01
		1037.75		14.03	4.85E-02		1.66E+00
		1238.25		67.00	9.31E-02		4.73E-01
		1771.40		15.51	-5.28E-02		1.64E+00
		2598.48		16.90	-3.38E-01		1.16E+00
+	CO-57	122.06		85.51	3.89E-02	1.18E-01	1.18E-01
		136.48		10.60	4.86E-02		9.45E-01
+	CO-58	810.76		99.40	-5.83E-02	1.98E-01	1.98E-01
+	FE-59	1099.22		56.50	-4.02E-01	4.88E-01	4.88E-01
		1291.56		43.20	2.67E-02		6.42E-01
+	CO-60	1173.22		100.00	-8.64E-02	1.95E-01	2.08E-01
		1332.49		100.00	4.88E-02		1.95E-01
+	ZN-65	1115.52		50.75	1.78E-02	4.33E-01	4.33E-01
+	GA-67	93.31	*	35.70	2.75E+02	3.18E+02	3.18E+02
		208.95	*	2.24	3.29E+03		5.05E+03
		300.22		16.00	-9.35E+01		6.40E+02
+	SE-75	121.11		16.70	2.53E-01	1.90E-01	6.78E-01
		136.00		59.20	1.43E-02		1.90E-01
		264.65		59.80	-1.40E-01		2.26E-01
		279.53		25.20	1.94E-01		5.77E-01
		400.65		11.40	2.05E-02		1.36E+00
+	RB-82	776.52		13.00	-9.82E-01	2.47E+00	2.47E+00
+	RB-83	520.41		46.00	7.11E-02	3.82E-01	3.82E-01
		529.64		30.30	-6.51E-03		5.70E-01
		552.65		16.40	-6.43E-01		9.93E-01
+	KR-85	513.99		0.43	6.09E+01	4.31E+01	4.31E+01
+	SR-85	513.99		99.27	3.70E-01	2.62E-01	2.62E-01
+	Y-88	898.02		93.40	9.24E-02	1.67E-01	2.22E-01
		1836.01		99.38	-2.76E-02		1.67E-01
+	NB-93M	16.57		9.43	8.71E-01	4.35E-01	4.35E-01
+	NB-94	702.63		100.00	-4.28E-02	1.42E-01	1.42E-01
		871.10		100.00	-4.26E-02		1.50E-01

Analysis Report for 1510091-18

CP1805S15-16

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	NB-95	765.79		99.81	1.43E-01	3.62E-01	3.62E-01
+	NB-95M	235.69		25.00	8.47E+02	3.03E+02	3.03E+02
+	ZR-95	724.18		43.70	2.10E-01	4.25E-01	5.71E-01
		756.72		55.30	2.98E-02		4.25E-01
+	MO-99	181.06		6.20	-8.54E+02	2.82E+03	4.64E+03
		739.58		12.80	-1.43E+03		2.82E+03
		778.00		4.50	-2.20E+03		8.24E+03
+	RU-103	497.08		89.00	7.01E-02	2.56E-01	2.56E-01
+	RU-106	621.84		9.80	1.31E-01	1.49E+00	1.49E+00
+	AG-108M	433.93		89.90	5.21E-02	1.45E-01	1.45E-01
		614.37		90.40	-1.81E-01		1.90E-01
		722.95		90.50	1.88E-03		1.92E-01
+	CD-109	88.03	*	3.72	3.30E+00	3.90E+00	3.90E+00
+	AG-110M	657.75		93.14	8.94E-03	1.73E-01	1.73E-01
		677.61		10.53	1.53E-01		1.48E+00
		706.67		16.46	5.80E-01		1.01E+00
		763.93		21.98	3.47E-01		9.62E-01
		884.67		71.63	4.59E-02		2.56E-01
		1384.27		23.94	-2.46E-02		5.99E-01
+	CD-113M	263.70		0.02	-1.92E+02	4.92E+02	4.92E+02
+	SN-113	255.12		1.93	4.12E-01	2.24E-01	6.54E+00
		391.69		64.90	-1.25E-01		2.24E-01
+	TE123M	159.00		84.10	4.11E-02	1.46E-01	1.46E-01
+	SB-124	602.71		97.87	1.28E-02	2.12E-01	2.12E-01
		645.85		7.26	9.10E-01		2.98E+00
		722.78		11.10	-3.51E-02		2.10E+00
		1691.02		49.00	-8.76E-02		3.15E-01
+	I-125	35.49		6.49	8.97E-02	1.09E+00	1.09E+00
+	SB-125	176.33		6.89	-7.44E-02	4.65E-01	1.55E+00
		427.89		29.33	2.67E-01		4.65E-01
		463.38		10.35	9.49E-01		1.33E+00
		600.56		17.80	3.99E-02		8.05E-01
		635.90		11.32	6.48E-02		1.36E+00
+	SB-126	414.70		83.30	-2.96E-01	7.54E-01	8.23E-01
		666.33		99.60	1.45E-02		9.12E-01
		695.00		99.60	-1.84E-01		7.54E-01
		720.50		53.80	8.07E-02		1.59E+00
+	SN-126	87.57	*	37.00	3.16E-01	3.74E-01	3.74E-01
+	SB-127	473.00		25.00	-5.56E-01	1.14E+02	1.49E+02
		685.20		35.70	3.58E+01		1.14E+02
		783.80		14.70	5.94E+01		2.99E+02
+	I-129	29.78		57.00	3.93E-02	8.55E-02	8.55E-02
		33.60		13.20	-2.44E-01		3.61E-01
		39.58		7.52	-4.17E-02		6.78E-01
+	I-131	284.30		6.05	3.46E+00	2.08E+00	2.98E+01
		364.48		81.20	-2.58E-01		2.08E+00
		636.97		7.26	-1.24E+01		2.91E+01
		722.89		1.80	-2.25E+00		1.35E+02

Analysis Report for 1510091-18

CP1805S15-16

		Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+		TE-132	49.72	13.10	-5.07E+01	1.03E+02	3.89E+02
			228.16	88.00	1.22E+01		1.03E+02
+		BA-133	81.00	33.00	-3.27E-01	3.03E-01	3.20E-01
			302.84	17.80	-2.57E-01		6.85E-01
			356.01	60.00	6.20E-01		3.03E-01
+		I-133	529.87	86.30	-1.39E+08	1.21E+10	1.21E+10
+		XE-133	81.00	38.00	-1.79E+01	1.75E+01	1.75E+01
+		CS-134	563.23	8.38	2.82E-02	1.90E-01	1.66E+00
			569.32	15.43	-2.29E-01		8.38E-01
			604.70	97.60	-3.60E-03		1.90E-01
			795.84	85.40	1.83E-02		1.99E-01
			801.93	8.73	4.33E-01		2.06E+00
+		CS-135	268.24	16.00	2.97E-01	7.55E-01	7.55E-01
+	@	I-135	1131.51	22.50	1.00E+26	1.00E+26	1.00E+26
	@		1260.41	28.60	1.00E+26		1.00E+26
	@		1678.03	9.54	1.00E+26		1.00E+26
+		CS-136	153.22	7.46	-3.01E+00	7.37E-01	6.91E+00
			163.89	4.61	2.13E+00		1.15E+01
			176.55	13.56	-1.93E-01		4.03E+00
			273.65	12.66	4.02E+00		5.13E+00
			340.57	48.50	1.37E-01		1.57E+00
			818.50	99.70	-4.96E-01		7.37E-01
			1048.07	79.60	-4.50E-01		1.09E+00
			1235.34	19.70	3.90E+00		6.71E+00
+		CS-137	661.65	85.12	-3.82E-02	1.77E-01	1.77E-01
+		LA-138	788.74	34.00	-2.11E-01	2.14E-01	4.60E-01
			1435.80	66.00	-1.13E-01		2.14E-01
+		CE-139	165.85	80.35	-2.78E-02	1.46E-01	1.46E-01
+		BA-140	162.64	6.70	-2.14E+00	3.10E+00	8.25E+00
			304.84	4.50	4.46E+00		1.49E+01
			423.70	3.20	-4.21E+00		2.12E+01
			437.55	2.00	-8.27E+00		3.30E+01
			537.32	25.00	2.07E-01		3.10E+00
+		LA-140	328.77	20.50	9.88E-01	8.16E-01	3.36E+00
			487.03	45.50	3.98E-01		1.56E+00
			815.85	23.50	-5.34E-01		3.31E+00
			1596.49	95.49	-1.14E-01		8.16E-01
+		CE-141	145.44	48.40	1.11E-01	4.01E-01	4.01E-01
+		CE-143	57.36	11.80	-1.78E+05	2.57E+06	4.39E+06
			293.26	42.00	2.49E+06		2.57E+06
			664.55	5.20	6.87E+06		2.24E+07
+		CE-144	133.54	10.80	-3.80E-01	9.26E-01	9.26E-01
+		PM-144	476.78	42.00	2.20E-02	1.42E-01	3.39E-01
			618.01	98.60	-1.14E-02		1.47E-01
			696.49	99.49	-5.80E-02		1.42E-01
+		PM-145	36.85	21.70	-6.43E-02	1.25E-01	2.27E-01
			37.36	39.70	-4.91E-02		1.25E-01
			42.30	15.10	5.28E-04		3.81E-01
			72.40	2.31	8.45E+00		4.78E+00

Analysis Report for 1510091-18

CP1805S15-16

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	PM-146	453.90	*	39.94	1.92E-01	3.35E-01	3.35E-01
		735.90		14.01	-1.63E-01		1.07E+00
		747.13		13.10	-4.05E-02		1.11E+00
+	ND-147	91.11		28.90	6.04E+00	2.67E+00	2.67E+00
		531.02		13.10	1.80E+00		7.73E+00
+	PM-149	285.90		3.10	2.61E+04	7.35E+04	7.35E+04
+	EU-152	121.78		20.50	1.50E-01	4.57E-01	4.57E-01
		244.69		5.40	-2.52E-01		2.51E+00
		344.27		19.13	2.56E-02		6.21E-01
		778.89		9.20	-4.00E-01		1.50E+00
		964.01		10.40	-1.41E-01		1.89E+00
		1085.78		7.22	-6.33E-01		2.22E+00
		1112.02		9.60	8.61E-02		1.90E+00
		1407.95		14.94	-4.72E-01		1.10E+00
+	GD-153	97.43		31.30	-1.18E-02	3.10E-01	3.10E-01
		103.18		22.20	-1.99E-01		4.13E-01
+	EU-154	123.07		40.50	2.21E-02	2.31E-01	2.31E-01
		723.30		19.70	8.67E-03		8.90E-01
		873.19		11.50	0.00E+00		1.36E+00
		996.32		10.30	-1.22E-02		1.75E+00
		1004.76		17.90	-4.22E-01		9.02E-01
		1274.45		35.50	8.42E-02		5.51E-01
+	EU-155	86.50	*	30.90	3.83E-01	4.15E-01	4.53E-01
		105.30		20.70	-1.64E-01		4.15E-01
+	EU-156	811.77		10.40	-2.27E+00	5.69E+00	5.69E+00
		1153.47		7.20	-8.53E-01		1.16E+01
		1230.71		8.90	-5.74E+00		1.02E+01
+	HO-166M	184.41		72.60	2.42E-01	1.64E-01	1.64E-01
		280.45		29.60	-9.07E-02		3.96E-01
		410.94		11.10	3.54E-01		1.15E+00
		711.69		54.10	3.57E-03		2.73E-01
+	TM-171	66.72		0.14	-2.16E+01	6.46E+01	6.46E+01
+	HF-172	81.75		4.52	-7.61E+00	8.78E-01	2.22E+00
		125.81		11.30	-9.32E-02		8.78E-01
+	LU-172	181.53		20.60	-2.16E+00	8.28E+00	1.36E+01
		810.06		16.63	-6.57E+00		2.23E+01
		912.12		15.25	5.72E+01		4.50E+01
		1093.66		62.50	3.99E+00		8.28E+00
+	LU-173	100.72		5.24	-9.58E-01	6.01E-01	1.68E+00
		272.11		21.20	1.64E-01		6.01E-01
+	HF-175	343.40		84.00	7.90E-03	2.06E-01	2.06E-01
+	LU-176	88.34		13.30	1.26E+00	1.24E-01	7.81E-01
		201.83		86.00	4.66E-02		1.28E-01
		306.78		94.00	-2.70E-02		1.24E-01
+	TA-182	67.75		41.20	-4.23E-01	2.61E-01	2.61E-01
		1121.30		34.90	2.68E-01		8.42E-01
		1189.05		16.23	1.01E-01		1.61E+00
		1221.41		26.98	-7.81E-02		1.12E+00
		1231.02		11.44	-1.29E+00		2.30E+00

Analysis Report for 1510091-18

CP1805S15-16

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	IR-192	308.46		29.68	-2.77E-01	3.57E-01	5.02E-01
		468.07		48.10	-2.24E-01		3.57E-01
+	HG-203	279.19		77.30	8.39E-02	2.50E-01	2.50E-01
+	BI-207	569.67		97.72	-3.52E-02	1.29E-01	1.29E-01
		1063.62		74.90	-1.69E-02		2.49E-01
+	TL-208	583.14	*	30.22	1.53E+00	9.39E-02	6.42E-01
		860.37		4.48	8.08E-02		3.77E+00
		2614.66	*	35.85	1.46E+00		9.39E-02
+	BI-210M	262.00		45.00	7.97E-02	2.50E-01	2.50E-01
		300.00		23.00	1.15E-01		6.27E-01
+	PB-210	46.50	*	4.25	1.05E+00	1.88E+00	1.88E+00
+	PB-211	404.84		2.90	2.97E-01	4.51E+00	4.51E+00
		831.96		2.90	-1.89E+00		5.47E+00
+	BI-212	727.17	*	11.80	1.25E+00	2.80E+00	2.80E+00
		1620.62		2.75	1.57E+00		5.71E+00
+	PB-212	238.63	*	44.60	2.09E+00	4.48E-01	4.48E-01
		300.09		3.41	7.78E-01		4.23E+00
+	BI-214	609.31	*	46.30	1.06E+00	3.95E-01	3.95E-01
		1120.29	*	15.10	1.34E+00		1.87E+00
		1764.49	*	15.80	1.73E+00		7.84E-01
		2204.22		4.98	1.48E-01		3.52E+00
+	PB-214	295.21	*	19.19	8.62E-01	5.16E-01	9.58E-01
		351.92	*	37.19	1.38E+00		5.16E-01
+	RN-219	401.80		6.50	-1.00E+00	1.95E+00	1.95E+00
+	RA-223	323.87		3.88	7.29E-01	3.12E+00	3.12E+00
+	RA-224	240.98		3.95	2.32E+01	5.09E+00	5.09E+00
+	RA-225	40.00		31.00	-4.41E-02	7.17E-01	7.17E-01
+	RA-226	186.21		3.28	3.41E+00	3.60E+00	3.60E+00
+	TH-227	50.10		8.40	-1.01E-01	7.70E-01	7.70E-01
		236.00		11.50	4.47E+00		1.60E+00
		256.20		6.30	8.43E-01		1.74E+00
+	AC-228	338.32	*	11.40	8.83E-01	1.67E+00	1.67E+00
		911.07	*	27.70	1.65E+00		2.36E+00
		969.11	*	16.60	1.48E+00		1.75E+00
+	TH-230	48.44		16.90	3.20E-01	3.81E-01	3.81E-01
		62.85		4.60	2.03E+00		1.81E+00
		67.67		0.37	-3.89E+01		2.41E+01
+	PA-231	283.67		1.60	-1.65E-01	5.27E+00	7.46E+00
		302.67		2.30	-1.98E+00		5.27E+00
+	TH-231	25.64		14.70	4.97E-03	3.31E-01	3.31E-01
		84.21		6.40	-5.40E+00		1.46E+00
+	PA-233	311.98		38.60	1.54E-01	6.65E-01	6.65E-01
+	PA-234	131.20		20.40	8.06E-02	4.83E-01	4.83E-01
		733.99		8.80	-6.82E-01		1.73E+00
		946.00		12.00	4.67E-01		1.38E+00
+	PA-234M	1001.03		0.92	3.09E+00	1.91E+01	1.91E+01
+	TH-234	63.29	*	3.80	3.26E+00	6.06E+00	6.06E+00

Analysis Report for 1510091-18

CP1805S15-16

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	U-235	143.76		10.50	4.68E-01	9.43E-01	9.43E-01
		163.35		4.70	4.00E-01		2.16E+00
		205.31		4.70	4.70E-01		2.51E+00
+	NP-237	86.50	*	12.60	9.29E-01	1.10E+00	1.10E+00
+	NP-239	106.10		22.70	-1.52E+03	3.83E+03	3.83E+03
		228.18		10.70	7.12E+02		1.09E+04
		277.60		14.10	-3.12E+03		8.45E+03
+	AM-241	59.54		35.90	-5.17E-03	2.14E-01	2.14E-01
+	AM-243	74.67		66.00	7.29E-01	1.79E-01	1.79E-01
+	CM-243	209.75		3.29	3.77E+00	8.36E-01	3.60E+00
		228.14		10.60	1.29E-01		1.08E+00
		277.60		14.00	-3.09E-01		8.36E-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	1.96E+00	1.96E+00	4.14E-01	9.25E-01
	NA-22	1274.54		99.94	1.99E-01	1.99E-01	3.04E-02	8.98E-02
	NA-24	1368.53		99.99	1.85E+14	1.20E+14	-2.53E+13	7.95E+13
		2754.09		99.86	1.20E+14		1.63E+13	3.80E+13
	AL-26	1808.65		99.76	1.25E-01	1.25E-01	-4.12E-02	4.94E-02
+	K-40	1460.81	*	10.67	1.66E+00	1.66E+00	1.71E+01	7.28E-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	9.45E-02	9.45E-02	-1.53E-01	4.64E-02
		78.34		96.00	1.20E-01		3.48E-01	5.91E-02
	SC-46	889.25		99.98	2.08E-01	2.08E-01	-9.45E-02	9.51E-02

Analysis Report for 1510091-18

CP1805S15-16

	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	3.24E-01	2.08E-01	1.88E-01	1.51E-01
	V-48	983.52		99.98	6.56E-01	6.56E-01	1.15E-01	2.99E-01
		1312.10		97.50	7.06E-01		6.63E-02	3.14E-01
	CR-51	320.08		9.83	2.56E+00	2.56E+00	-7.05E-01	1.23E+00
	MN-54	834.83		99.97	1.95E-01	1.95E-01	1.21E-01	9.06E-02
	CO-56	846.75		99.96	2.08E-01	2.08E-01	1.02E-02	9.56E-02
		1037.75		14.03	1.66E+00		4.85E-02	7.58E-01
		1238.25		67.00	4.73E-01		9.31E-02	2.18E-01
		1771.40		15.51	1.64E+00		-5.28E-02	7.14E-01
		2598.48		16.90	1.16E+00		-3.38E-01	4.49E-01
	CO-57	122.06		85.51	1.18E-01	1.18E-01	3.89E-02	5.77E-02
		136.48		10.60	9.45E-01		4.86E-02	4.60E-01
	CO-58	810.76		99.40	1.98E-01	1.98E-01	-5.83E-02	9.05E-02
	FE-59	1099.22		56.50	4.88E-01	4.88E-01	-4.02E-01	2.20E-01
		1291.56		43.20	6.42E-01		2.67E-02	2.85E-01
	CO-60	1173.22		100.00	2.08E-01	1.95E-01	-8.64E-02	9.54E-02
		1332.49		100.00	1.95E-01		4.88E-02	8.75E-02
	ZN-65	1115.52		50.75	4.33E-01	4.33E-01	1.78E-02	1.99E-01
+	GA-67	93.31	*	35.70	3.18E+02	3.18E+02	2.75E+02	1.57E+02
		208.95	*	2.24	5.05E+03		3.29E+03	2.46E+03
		300.22		16.00	6.40E+02		-9.35E+01	3.09E+02
	SE-75	121.11		16.70	6.78E-01	1.90E-01	2.53E-01	3.31E-01
		136.00		59.20	1.90E-01		1.43E-02	9.25E-02
		264.65		59.80	2.26E-01		-1.40E-01	1.09E-01
		279.53		25.20	5.77E-01		1.94E-01	2.78E-01
		400.65		11.40	1.36E+00		2.05E-02	6.46E-01
	RB-82	776.52		13.00	2.47E+00	2.47E+00	-9.82E-01	1.13E+00
	RB-83	520.41		46.00	3.82E-01	3.82E-01	7.11E-02	1.80E-01
		529.64		30.30	5.70E-01		-6.51E-03	2.68E-01
		552.65		16.40	9.93E-01		-6.43E-01	4.63E-01
	KR-85	513.99		0.43	4.31E+01	4.31E+01	6.09E+01	2.06E+01
	SR-85	513.99		99.27	2.62E-01	2.62E-01	3.70E-01	1.25E-01
	Y-88	898.02		93.40	2.22E-01	1.67E-01	9.24E-02	1.02E-01
		1836.01		99.38	1.67E-01		-2.76E-02	6.75E-02
	NB-93M	16.57		9.43	4.35E-01	4.35E-01	8.71E-01	2.11E-01
	NB-94	702.63		100.00	1.42E-01	1.42E-01	-4.28E-02	6.58E-02
		871.10		100.00	1.50E-01		-4.26E-02	6.82E-02
	NB-95	765.79		99.81	3.62E-01	3.62E-01	1.43E-01	1.70E-01
	NB-95M	235.69		25.00	3.03E+02	3.03E+02	8.47E+02	1.48E+02
	ZR-95	724.18		43.70	5.71E-01	4.25E-01	2.10E-01	2.68E-01
		756.72		55.30	4.25E-01		2.98E-02	1.98E-01
	MO-99	181.06		6.20	4.64E+03	2.82E+03	-8.54E+02	2.25E+03
		739.58		12.80	2.82E+03		-1.43E+03	1.29E+03
		778.00		4.50	8.24E+03		-2.20E+03	3.77E+03
	RU-103	497.08		89.00	2.56E-01	2.56E-01	7.01E-02	1.21E-01
	RU-106	621.84		9.80	1.49E+00	1.49E+00	1.31E-01	6.96E-01
	AG-108M	433.93		89.90	1.45E-01	1.45E-01	5.21E-02	6.90E-02
		614.37		90.40	1.90E-01		-1.81E-01	8.97E-02
		722.95		90.50	1.92E-01		1.88E-03	9.01E-02
+	CD-109	88.03	*	3.72	3.90E+00	3.90E+00	3.30E+00	1.92E+00
	AG-110M	657.75		93.14	1.73E-01	1.73E-01	8.94E-03	8.08E-02
		677.61		10.53	1.48E+00		1.53E-01	6.89E-01
		706.67		16.46	1.01E+00		5.80E-01	4.67E-01

Analysis Report for 1510091-18

CP1805S15-16

	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	9.62E-01	1.73E-01	3.47E-01	4.52E-01
		884.67		71.63	2.56E-01		4.59E-02	1.18E-01
		1384.27		23.94	5.99E-01		-2.46E-02	2.53E-01
	CD-113M	263.70		0.02	4.92E+02	4.92E+02	-1.92E+02	2.37E+02
	SN-113	255.12		1.93	6.54E+00	2.24E-01	4.12E-01	3.14E+00
		391.69		64.90	2.24E-01		-1.25E-01	1.06E-01
	TE123M	159.00		84.10	1.46E-01	1.46E-01	4.11E-02	7.11E-02
	SB-124	602.71		97.87	2.12E-01	2.12E-01	1.28E-02	9.91E-02
		645.85		7.26	2.98E+00		9.10E-01	1.39E+00
		722.78		11.10	2.10E+00		-3.51E-02	9.79E-01
		1691.02		49.00	3.15E-01		-8.76E-02	1.22E-01
	I-125	35.49		6.49	1.09E+00	1.09E+00	8.97E-02	5.32E-01
	SB-125	176.33		6.89	1.55E+00	4.65E-01	-7.44E-02	7.53E-01
		427.89		29.33	4.65E-01		2.67E-01	2.21E-01
		463.38		10.35	1.33E+00		9.49E-01	6.30E-01
		600.56		17.80	8.05E-01		3.99E-02	3.76E-01
		635.90		11.32	1.36E+00		6.48E-02	6.35E-01
	SB-126	414.70		83.30	8.23E-01	7.54E-01	-2.96E-01	3.90E-01
		666.33		99.60	9.12E-01		1.45E-02	4.27E-01
		695.00		99.60	7.54E-01		-1.84E-01	3.46E-01
		720.50		53.80	1.59E+00		8.07E-02	7.37E-01
+	SN-126	87.57	*	37.00	3.74E-01	3.74E-01	3.16E-01	1.85E-01
	SB-127	473.00		25.00	1.49E+02	1.14E+02	-5.56E-01	7.06E+01
		685.20		35.70	1.14E+02		3.58E+01	5.28E+01
		783.80		14.70	2.99E+02		5.94E+01	1.38E+02
	I-129	29.78		57.00	8.55E-02	8.55E-02	3.93E-02	4.17E-02
		33.60		13.20	3.61E-01		-2.44E-01	1.76E-01
		39.58		7.52	6.78E-01		-4.17E-02	3.31E-01
	I-131	284.30		6.05	2.98E+01	2.08E+00	3.46E+00	1.43E+01
		364.48		81.20	2.08E+00		-2.58E-01	9.89E-01
		636.97		7.26	2.91E+01		-1.24E+01	1.35E+01
		722.89		1.80	1.35E+02		-2.25E+00	6.28E+01
	TE-132	49.72		13.10	3.89E+02	1.03E+02	-5.07E+01	1.90E+02
		228.16		88.00	1.03E+02		1.22E+01	4.97E+01
	BA-133	81.00		33.00	3.20E-01	3.03E-01	-3.27E-01	1.57E-01
		302.84		17.80	6.85E-01		-2.57E-01	3.29E-01
		356.01		60.00	3.03E-01		6.20E-01	1.47E-01
	I-133	529.87		86.30	1.21E+10	1.21E+10	-1.39E+08	5.70E+09
	XE-133	81.00		38.00	1.75E+01	1.75E+01	-1.79E+01	8.58E+00
	CS-134	563.23		8.38	1.66E+00	1.90E-01	2.82E-02	7.77E-01
		569.32		15.43	8.38E-01		-2.29E-01	3.90E-01
		604.70		97.60	1.90E-01		-3.60E-03	9.02E-02
		795.84		85.40	1.99E-01		1.83E-02	9.22E-02
		801.93		8.73	2.06E+00		4.33E-01	9.58E-01
	CS-135	268.24		16.00	7.55E-01	7.55E-01	2.97E-01	3.64E-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	6.91E+00	7.37E-01	-3.01E+00	3.36E+00
		163.89		4.61	1.15E+01		2.13E+00	5.61E+00
		176.55		13.56	4.03E+00		-1.93E-01	1.96E+00
		273.65		12.66	5.13E+00		4.02E+00	2.47E+00
		340.57		48.50	1.57E+00		1.37E-01	7.55E-01

Analysis Report for 1510091-18

CP1805S15-16

	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	7.37E-01	7.37E-01	-4.96E-01	3.36E-01
		1048.07		79.60	1.09E+00		-4.50E-01	4.95E-01
		1235.34		19.70	6.71E+00		3.90E+00	3.11E+00
	CS-137	661.65		85.12	1.77E-01	1.77E-01	-3.82E-02	8.24E-02
	LA-138	788.74		34.00	4.60E-01	2.14E-01	-2.11E-01	2.12E-01
		1435.80		66.00	2.14E-01		-1.13E-01	9.11E-02
	CE-139	165.85		80.35	1.46E-01	1.46E-01	-2.78E-02	7.12E-02
	BA-140	162.64		6.70	8.25E+00	3.10E+00	-2.14E+00	4.01E+00
		304.84		4.50	1.49E+01		4.46E+00	7.14E+00
		423.70		3.20	2.12E+01		-4.21E+00	1.00E+01
		437.55		2.00	3.30E+01		-8.27E+00	1.56E+01
		537.32		25.00	3.10E+00		2.07E-01	1.46E+00
	LA-140	328.77		20.50	3.36E+00	8.16E-01	9.88E-01	1.61E+00
		487.03		45.50	1.56E+00		3.98E-01	7.36E-01
		815.85		23.50	3.31E+00		-5.34E-01	1.51E+00
		1596.49		95.49	8.16E-01		-1.14E-01	3.42E-01
	CE-141	145.44		48.40	4.01E-01	4.01E-01	1.11E-01	1.95E-01
	CE-143	57.36		11.80	4.39E+06	2.57E+06	-1.78E+05	2.15E+06
		293.26		42.00	2.57E+06		2.49E+06	1.24E+06
		664.55		5.20	2.24E+07		6.87E+06	1.05E+07
	CE-144	133.54		10.80	9.26E-01	9.26E-01	-3.80E-01	4.51E-01
	PM-144	476.78		42.00	3.39E-01	1.42E-01	2.20E-02	1.60E-01
		618.01		98.60	1.47E-01		-1.14E-02	6.82E-02
		696.49		99.49	1.42E-01		-5.80E-02	6.54E-02
	PM-145	36.85		21.70	2.27E-01	1.25E-01	-6.43E-02	1.10E-01
		37.36		39.70	1.25E-01		-4.91E-02	6.09E-02
		42.30		15.10	3.81E-01		5.28E-04	1.86E-01
		72.40		2.31	4.78E+00		8.45E+00	2.35E+00
+	PM-146	453.90	*	39.94	3.35E-01	3.35E-01	1.92E-01	1.59E-01
		735.90		14.01	1.07E+00		-1.63E-01	4.97E-01
		747.13		13.10	1.11E+00		-4.05E-02	5.12E-01
	ND-147	91.11		28.90	2.67E+00	2.67E+00	6.04E+00	1.31E+00
		531.02		13.10	7.73E+00		1.80E+00	3.64E+00
	PM-149	285.90		3.10	7.35E+04	7.35E+04	2.61E+04	3.54E+04
	EU-152	121.78		20.50	4.57E-01	4.57E-01	1.50E-01	2.23E-01
		244.69		5.40	2.51E+00		-2.52E-01	1.22E+00
		344.27		19.13	6.21E-01		2.56E-02	2.96E-01
		778.89		9.20	1.50E+00		-4.00E-01	6.86E-01
		964.01		10.40	1.89E+00		-1.41E-01	8.73E-01
		1085.78		7.22	2.22E+00		-6.33E-01	9.96E-01
		1112.02		9.60	1.90E+00		8.61E-02	8.63E-01
		1407.95		14.94	1.10E+00		-4.72E-01	4.79E-01
	GD-153	97.43		31.30	3.10E-01	3.10E-01	-1.18E-02	1.51E-01
		103.18		22.20	4.13E-01		-1.99E-01	2.01E-01
	EU-154	123.07		40.50	2.31E-01	2.31E-01	2.21E-02	1.13E-01
		723.30		19.70	8.90E-01		8.67E-03	4.17E-01
		873.19		11.50	1.36E+00		0.00E+00	6.23E-01
		996.32		10.30	1.75E+00		-1.22E-02	8.00E-01
		1004.76		17.90	9.02E-01		-4.22E-01	4.09E-01
		1274.45		35.50	5.51E-01		8.42E-02	2.49E-01
+	EU-155	86.50	*	30.90	4.53E-01	4.15E-01	3.83E-01	2.24E-01
		105.30		20.70	4.15E-01		-1.64E-01	2.02E-01
	EU-156	811.77		10.40	5.69E+00	5.69E+00	-2.27E+00	2.60E+00

Analysis Report for 1510091-18

CP1805S15-16

	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	1.16E+01	5.69E+00	-8.53E-01	5.32E+00
		1230.71		8.90	1.02E+01		-5.74E+00	4.69E+00
	HO-166M	184.41		72.60	1.64E-01	1.64E-01	2.42E-01	8.01E-02
		280.45		29.60	3.96E-01		-9.07E-02	1.90E-01
		410.94		11.10	1.15E+00		3.54E-01	5.48E-01
		711.69		54.10	2.73E-01		3.57E-03	1.27E-01
	TM-171	66.72		0.14	6.46E+01	6.46E+01	-2.16E+01	3.17E+01
	HF-172	81.75		4.52	2.22E+00	8.78E-01	-7.61E+00	1.09E+00
		125.81		11.30	8.78E-01		-9.32E-02	4.28E-01
	LU-172	181.53		20.60	1.36E+01	8.28E+00	-2.16E+00	6.63E+00
		810.06		16.63	2.23E+01		-6.57E+00	1.02E+01
		912.12		15.25	4.50E+01		5.72E+01	2.13E+01
		1093.66		62.50	8.28E+00		3.99E+00	3.80E+00
	LU-173	100.72		5.24	1.68E+00	6.01E-01	-9.58E-01	8.21E-01
		272.11		21.20	6.01E-01		1.64E-01	2.90E-01
	HF-175	343.40		84.00	2.06E-01	2.06E-01	7.90E-03	9.87E-02
	LU-176	88.34		13.30	7.81E-01	1.24E-01	1.26E+00	3.84E-01
		201.83		86.00	1.28E-01		4.66E-02	6.22E-02
		306.78		94.00	1.24E-01		-2.70E-02	5.94E-02
	TA-182	67.75		41.20	2.61E-01	2.61E-01	-4.23E-01	1.28E-01
		1121.30		34.90	8.42E-01		2.68E-01	3.92E-01
		1189.05		16.23	1.61E+00		1.01E-01	7.38E-01
		1221.41		26.98	1.12E+00		-7.81E-02	5.21E-01
		1231.02		11.44	2.30E+00		-1.29E+00	1.06E+00
	IR-192	308.46		29.68	5.02E-01	3.57E-01	-2.77E-01	2.40E-01
		468.07		48.10	3.57E-01		-2.24E-01	1.69E-01
	HG-203	279.19		77.30	2.50E-01	2.50E-01	8.39E-02	1.20E-01
	BI-207	569.67		97.72	1.29E-01	1.29E-01	-3.52E-02	5.99E-02
		1063.62		74.90	2.49E-01		-1.69E-02	1.14E-01
+	TL-208	583.14	*	30.22	6.42E-01	9.39E-02	1.53E+00	3.06E-01
		860.37		4.48	3.77E+00		8.08E-02	1.74E+00
		2614.66	*	35.85	9.39E-02		1.46E+00	0.00E+00
	BI-210M	262.00		45.00	2.50E-01	2.50E-01	7.97E-02	1.20E-01
		300.00		23.00	6.27E-01		1.15E-01	3.03E-01
+	PB-210	46.50	*	4.25	1.88E+00	1.88E+00	1.05E+00	9.24E-01
	PB-211	404.84		2.90	4.51E+00	4.51E+00	2.97E-01	2.15E+00
		831.96		2.90	5.47E+00		-1.89E+00	2.51E+00
+	BI-212	727.17	*	11.80	2.80E+00	2.80E+00	1.25E+00	1.35E+00
		1620.62		2.75	5.71E+00		1.57E+00	2.43E+00
+	PB-212	238.63	*	44.60	4.48E-01	4.48E-01	2.09E+00	2.20E-01
		300.09		3.41	4.23E+00		7.78E-01	2.05E+00
+	BI-214	609.31	*	46.30	3.95E-01	3.95E-01	1.06E+00	1.87E-01
		1120.29	*	15.10	1.87E+00		1.34E+00	8.79E-01
		1764.49	*	15.80	7.84E-01		1.73E+00	3.13E-01
		2204.22		4.98	3.52E+00		1.48E-01	1.46E+00
+	PB-214	295.21	*	19.19	9.58E-01	5.16E-01	8.62E-01	4.67E-01
		351.92	*	37.19	5.16E-01		1.38E+00	2.50E-01
	RN-219	401.80		6.50	1.95E+00	1.95E+00	-1.00E+00	9.26E-01
	RA-223	323.87		3.88	3.12E+00	3.12E+00	7.29E-01	1.50E+00
	RA-224	240.98		3.95	5.09E+00	5.09E+00	2.32E+01	2.49E+00
	RA-225	40.00		31.00	7.17E-01	7.17E-01	-4.41E-02	3.49E-01
	RA-226	186.21		3.28	3.60E+00	3.60E+00	3.41E+00	1.75E+00
	TH-227	50.10		8.40	7.70E-01	7.70E-01	-1.01E-01	3.77E-01

Analysis Report for 1510091-18

CP1805S15-16

	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	1.60E+00	7.70E-01	4.47E+00	7.83E-01
		256.20		6.30	1.74E+00		8.43E-01	8.36E-01
+	AC-228	338.32	*	11.40	1.67E+00	1.67E+00	8.83E-01	8.11E-01
		911.07	*	27.70	2.36E+00		1.65E+00	1.16E+00
		969.11	*	16.60	1.75E+00		1.48E+00	8.31E-01
	TH-230	48.44		16.90	3.81E-01	3.81E-01	3.20E-01	1.86E-01
		62.85		4.60	1.81E+00		2.03E+00	8.88E-01
		67.67		0.37	2.41E+01		-3.89E+01	1.18E+01
	PA-231	283.67		1.60	7.46E+00	5.27E+00	-1.65E-01	3.59E+00
		302.67		2.30	5.27E+00		-1.98E+00	2.53E+00
	TH-231	25.64		14.70	3.31E-01	3.31E-01	4.97E-03	1.61E-01
		84.21		6.40	1.46E+00		-5.40E+00	7.18E-01
	PA-233	311.98		38.60	6.65E-01	6.65E-01	1.54E-01	3.18E-01
	PA-234	131.20		20.40	4.83E-01	4.83E-01	8.06E-02	2.35E-01
		733.99		8.80	1.73E+00		-6.82E-01	8.03E-01
		946.00		12.00	1.38E+00		4.67E-01	6.33E-01
	PA-234M	1001.03		0.92	1.91E+01	1.91E+01	3.09E+00	8.71E+00
+	TH-234	63.29	*	3.80	6.06E+00	6.06E+00	3.26E+00	3.01E+00
	U-235	143.76		10.50	9.43E-01	9.43E-01	4.68E-01	4.59E-01
		163.35		4.70	2.16E+00		4.00E-01	1.05E+00
		205.31		4.70	2.51E+00		4.70E-01	1.22E+00
+	NP-237	86.50	*	12.60	1.10E+00	1.10E+00	9.29E-01	5.42E-01
	NP-239	106.10		22.70	3.83E+03	3.83E+03	-1.52E+03	1.87E+03
		228.18		10.70	1.09E+04		7.12E+02	5.26E+03
		277.60		14.10	8.45E+03		-3.12E+03	4.07E+03
	AM-241	59.54		35.90	2.14E-01	2.14E-01	-5.17E-03	1.05E-01
	AM-243	74.67		66.00	1.79E-01	1.79E-01	7.29E-01	8.82E-02
	CM-243	209.75		3.29	3.60E+00	8.36E-01	3.77E+00	1.75E+00
		228.14		10.60	1.08E+00		1.29E-01	5.24E-01
		277.60		14.00	8.36E-01		-3.09E-01	4.03E-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

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

Creation Date	Comment	User

Analysis Report for 1510091-18

CP1805S15-16

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: CP1805S15-16

Elapsed Live time: 3600
Elapsed Real Time: 3648

Channel								
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	18	82
17:	85	75	69	51	51	56	66	59
25:	56	63	60	61	57	42	68	50
33:	52	43	50	39	63	56	66	51
41:	56	52	58	73	91	98	76	73
49:	68	75	67	72	64	83	71	80
57:	69	90	77	99	101	103	152	113
65:	102	109	103	81	113	117	120	118
73:	163	224	242	273	245	122	89	81
81:	99	87	84	92	93	129	136	99
89:	110	102	119	158	107	93	59	74
97:	76	69	61	65	62	65	54	52
105:	52	71	60	67	69	68	65	69
113:	69	63	58	67	74	58	71	73
121:	55	61	62	48	47	61	57	85
129:	82	43	62	54	56	52	46	39
137:	41	60	64	46	40	57	45	52
145:	74	55	54	58	47	44	46	45
153:	50	50	56	59	44	48	49	60
161:	40	42	47	49	43	41	51	35
169:	54	33	52	41	44	47	57	44
177:	45	28	36	53	40	47	44	56
185:	65	68	59	49	36	38	35	45
193:	36	37	52	38	43	38	45	40
201:	46	41	24	35	39	56	46	47
209:	58	32	35	33	34	24	36	30
217:	32	33	25	33	32	29	35	43
225:	33	40	36	28	34	23	34	33
233:	38	31	41	49	127	230	179	85
241:	75	56	46	33	26	18	19	20
249:	9	19	18	21	36	23	19	26
257:	19	26	26	30	28	25	25	27
265:	23	24	20	25	36	35	34	31
273:	20	20	32	22	31	27	19	19
281:	33	24	31	14	25	32	27	23
289:	25	23	22	22	36	49	68	49
297:	30	19	29	30	24	24	25	12
305:	19	22	25	24	18	14	17	13
313:	23	16	22	15	19	18	15	22
321:	13	24	16	23	14	30	22	18
329:	20	19	21	21	17	19	17	23
337:	35	50	39	21	18	14	25	13
345:	13	17	16	14	23	45	93	98
353:	48	17	16	23	20	13	13	13
361:	10	21	9	10	22	10	17	11

369:	13	12	16	18	20	11	15	13

Sample Title: CP1805S15-16

Channel								
377:	16	16	10	18	12	16	18	26
385:	15	11	11	17	11	14	13	13
393:	12	9	21	18	14	17	17	14
401:	19	14	14	7	12	13	21	21
409:	13	13	14	10	8	12	10	15
417:	13	10	12	9	9	14	12	11
425:	10	19	14	10	20	12	18	7
433:	18	6	18	10	8	11	11	4
441:	11	13	12	11	11	15	6	8
449:	9	6	12	11	11	19	16	11
457:	4	7	8	5	16	18	16	10
465:	11	14	11	11	9	6	14	10
473:	11	14	11	14	10	10	11	11
481:	12	12	12	8	13	11	10	10
489:	5	10	8	3	10	8	7	16
497:	11	6	12	9	10	8	7	14
505:	11	7	9	17	26	41	27	24
513:	14	10	8	11	12	3	10	12
521:	12	9	9	10	5	10	7	9
529:	6	10	12	9	14	12	8	7
537:	13	10	9	7	9	10	8	9
545:	15	5	13	6	12	8	8	5
553:	2	8	7	10	10	9	10	8
561:	9	10	10	12	4	6	4	3
569:	6	12	9	9	8	7	2	9
577:	4	17	6	14	17	46	56	44
585:	18	6	7	5	6	8	8	10
593:	6	8	6	7	7	11	6	6
601:	9	8	9	6	9	9	18	42
609:	58	41	19	3	6	4	4	6
617:	8	10	7	7	9	6	4	7
625:	4	8	7	8	8	7	13	6
633:	9	9	5	6	7	9	7	4
641:	11	8	6	11	9	6	6	7
649:	5	8	6	4	6	8	10	2
657:	5	9	6	8	10	9	9	5
665:	4	14	8	6	7	9	4	8
673:	11	4	3	11	6	8	3	5
681:	5	5	6	4	8	7	8	4
689:	8	8	2	3	4	4	9	4
697:	6	7	4	4	4	6	11	1
705:	7	7	10	8	4	4	3	5
713:	4	7	9	7	7	6	9	3
721:	3	6	8	4	11	14	16	12
729:	8	5	5	6	7	11	7	5
737:	3	5	2	2	9	4	3	7
745:	4	4	8	7	4	7	2	5
753:	3	9	3	10	6	8	4	14
761:	4	6	10	10	3	11	17	8
769:	14	6	6	5	10	1	3	4
777:	6	4	3	2	9	6	3	8
785:	7	7	4	5	3	6	8	1
793:	8	4	12	9	3	5	4	9

801:	4	6	8	10	9	5	3	7

Sample Title: CP1805S15-16

Channel								
809:	1	6	6	3	6	2	3	3
817:	2	6	6	5	4	5	10	9
825:	4	8	4	2	3	6	8	4
833:	2	5	7	8	14	6	2	8
841:	5	8	3	5	5	8	2	4
849:	5	3	1	7	5	2	11	5
857:	5	5	4	10	6	4	4	5
865:	5	6	3	4	5	2	4	6
873:	5	5	2	6	4	4	6	3
881:	4	6	3	6	8	4	4	7
889:	4	6	2	2	3	6	8	6
897:	5	3	2	1	9	4	4	4
905:	4	2	5	5	9	17	33	21
913:	11	6	5	7	4	11	4	3
921:	3	3	4	8	11	6	3	5
929:	6	2	3	1	3	10	3	4
937:	7	12	4	2	2	1	9	3
945:	6	3	3	6	5	2	2	5
953:	3	5	7	0	4	8	4	3
961:	4	4	2	8	9	6	6	10
969:	26	18	6	6	4	8	8	5
977:	1	3	4	4	4	5	6	4
985:	6	3	0	2	7	2	6	2
993:	4	10	1	3	5	4	7	4
1001:	4	4	4	3	3	5	3	1
1009:	4	7	3	4	5	5	2	4
1017:	1	6	4	3	4	3	2	7
1025:	5	6	4	1	4	3	3	6
1033:	6	4	1	1	4	5	6	6
1041:	3	6	3	4	3	3	4	6
1049:	1	1	6	3	5	7	4	3
1057:	6	8	5	4	3	3	2	5
1065:	5	5	6	5	2	3	4	2
1073:	8	2	3	5	6	10	4	3
1081:	3	0	2	5	3	2	4	3
1089:	3	4	2	8	8	8	3	2
1097:	5	1	4	4	1	3	6	5
1105:	3	3	4	3	4	3	4	4
1113:	5	2	3	5	6	4	8	15
1121:	11	8	4	4	1	6	10	4
1129:	5	4	1	8	4	4	2	5
1137:	3	1	3	6	4	4	2	7
1145:	5	6	4	4	5	4	2	8
1153:	3	2	7	4	3	3	5	5
1161:	5	4	7	5	7	7	7	4
1169:	8	6	2	4	6	2	2	4
1177:	5	3	6	8	0	5	3	4
1185:	8	6	4	6	7	2	4	4
1193:	1	6	2	6	7	6	3	2
1201:	6	4	5	4	2	9	2	5
1209:	5	4	3	4	1	10	10	3
1217:	5	6	4	8	4	12	6	4
1225:	6	7	6	3	4	2	9	5

1233:	5	6	0	6	8	7	9	7

Sample Title: CP1805S15-16

Channel								
1241:	2	4	5	3	2	5	6	4
1249:	5	4	6	4	5	3	6	5
1257:	4	2	7	2	1	3	4	4
1265:	4	2	2	3	1	2	3	2
1273:	4	7	5	2	2	2	3	4
1281:	3	2	5	2	2	3	2	4
1289:	1	2	2	1	1	5	3	2
1297:	3	1	3	3	2	0	3	0
1305:	0	2	4	4	1	1	3	3
1313:	3	4	1	2	3	3	1	4
1321:	3	2	3	3	1	1	1	3
1329:	1	3	5	4	4	3	1	2
1337:	2	5	2	2	7	1	0	2
1345:	0	1	2	5	0	2	1	0
1353:	1	2	2	2	1	1	4	1
1361:	3	1	2	1	2	2	2	1
1369:	0	0	1	4	2	3	2	4
1377:	6	5	5	1	1	1	0	2
1385:	0	3	2	0	0	2	4	1
1393:	2	3	2	0	2	3	0	1
1401:	3	3	3	2	1	4	1	1
1409:	4	2	0	1	3	0	5	1
1417:	1	0	0	1	2	3	2	3
1425:	2	0	2	2	0	0	0	4
1433:	1	1	2	0	0	0	2	1
1441:	4	3	3	0	1	0	2	1
1449:	1	3	1	0	1	1	2	1
1457:	3	7	17	37	70	63	26	5
1465:	2	3	0	1	3	2	3	2
1473:	2	1	2	0	0	4	0	2
1481:	1	2	0	3	1	0	0	1
1489:	2	3	1	4	1	1	3	2
1497:	0	1	1	3	1	1	1	1
1505:	0	2	3	3	2	2	5	2
1513:	2	2	1	0	1	1	1	1
1521:	0	1	2	1	1	0	6	3
1529:	0	5	1	1	0	0	0	0
1537:	1	2	2	1	1	1	2	3
1545:	5	1	0	0	0	1	2	0
1553:	0	1	0	1	1	0	0	1
1561:	0	0	4	0	1	1	0	0
1569:	3	1	1	1	0	0	0	0
1577:	1	0	1	2	3	0	3	1
1585:	3	1	2	4	3	4	3	6
1593:	2	2	3	0	0	1	0	1
1601:	0	1	0	0	1	2	1	1
1609:	1	0	0	1	0	1	0	1
1617:	0	1	1	2	1	2	0	0
1625:	4	0	0	2	2	1	2	1
1633:	1	1	1	3	0	2	0	0
1641:	2	0	2	0	0	0	0	0
1649:	1	1	1	4	1	1	0	2
1657:	0	1	0	0	1	0	1	2

1665:	1	1	1	1	2	0	0	0

Sample Title: CP1805S15-16

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

2097:	0	0	0	1	1	2	2	2

Sample Title: CP1805S15-16

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

2529:	0	0	1	0	1	1	1	0

Sample Title: CP1805S15-16

Channel								
2537:	0	0	0	0	0	0	0	1
2545:	1	0	0	0	0	1	0	0
2553:	0	1	0	1	0	0	1	0
2561:	0	1	0	1	2	0	1	0
2569:	0	2	1	0	0	1	0	0
2577:	1	0	0	0	0	1	0	0
2585:	0	0	0	0	1	2	0	2
2593:	1	0	0	0	0	1	0	1
2601:	0	0	0	2	0	0	0	1
2609:	0	0	0	0	0	6	13	6
2617:	7	8	1	1	0	0	0	0
2625:	0	0	0	0	0	0	1	0
2633:	0	0	0	0	0	0	0	0
2641:	0	1	0	0	1	0	0	0
2649:	0	0	0	0	0	0	0	0
2657:	0	0	2	1	0	0	0	0
2665:	0	1	0	1	0	0	0	0
2673:	0	0	1	0	0	1	0	0
2681:	0	0	0	0	1	1	0	0
2689:	1	1	1	0	0	1	0	0
2697:	0	1	0	0	0	1	1	0
2705:	0	0	0	0	0	0	0	0
2713:	0	0	0	0	1	0	0	1
2721:	0	0	0	0	1	0	0	0
2729:	0	0	1	0	0	0	0	0
2737:	0	1	0	0	0	0	0	0
2745:	0	0	0	0	0	0	0	0
2753:	0	0	0	0	0	1	0	0
2761:	0	0	0	0	0	0	0	0
2769:	0	0	0	0	0	0	0	0
2777:	0	0	0	0	0	0	1	0
2785:	0	0	0	0	0	0	0	0
2793:	0	0	0	0	0	0	0	0
2801:	0	1	0	0	0	0	0	0
2809:	0	0	1	0	0	0	0	0
2817:	1	0	1	0	0	0	0	0
2825:	0	0	0	1	0	1	0	0
2833:	0	0	0	0	0	0	0	0
2841:	0	0	0	0	0	0	0	0
2849:	0	0	0	0	0	1	0	0
2857:	0	0	0	0	0	0	0	0
2865:	0	1	0	0	0	0	1	0
2873:	0	0	0	0	0	0	0	0
2881:	1	0	0	1	0	0	0	0
2889:	0	1	0	2	1	0	0	0
2897:	0	0	0	0	0	0	0	0
2905:	0	0	0	0	0	0	0	0
2913:	0	0	1	0	1	0	0	0
2921:	0	0	1	0	0	0	0	0
2929:	0	0	0	0	2	1	0	0
2937:	0	0	2	0	1	0	0	0
2945:	1	1	0	0	0	0	0	0
2953:	0	0	0	0	0	0	0	1

2961:	0	1	0	0	0	0	0	0

Sample Title: CP1805S15-16

Channel								
2969:	0	0	0	0	1	0	0	0
2977:	1	0	0	0	0	0	0	0
2985:	0	0	0	1	1	0	0	0
2993:	0	0	0	0	0	0	0	0
3001:	2	0	0	0	0	0	0	0
3009:	0	0	1	0	0	0	0	0
3017:	0	0	0	0	0	0	0	0
3025:	0	0	0	0	0	0	0	0
3033:	1	0	0	0	0	0	0	1
3041:	0	0	0	0	0	0	0	0
3049:	0	1	0	0	0	0	0	0
3057:	0	0	0	0	0	0	0	0
3065:	0	0	0	0	0	0	0	0
3073:	0	1	0	0	0	0	1	0
3081:	0	0	0	0	1	0	0	0
3089:	0	1	0	0	0	0	0	0
3097:	0	0	0	0	0	0	0	0
3105:	0	1	0	0	0	0	0	0
3113:	0	0	0	0	0	0	0	0
3121:	1	0	0	1	0	0	0	0
3129:	0	0	0	0	0	0	0	0
3137:	1	0	0	0	0	0	0	0
3145:	0	0	0	0	1	0	0	0
3153:	0	0	0	0	0	0	0	0
3161:	0	0	0	0	0	1	0	0
3169:	0	0	0	1	0	0	1	0
3177:	1	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:	1	1	0	0	0	0	0	0
3209:	0	0	0	0	1	0	0	0
3217:	0	0	0	0	0	0	1	0
3225:	0	0	0	0	0	1	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:	0	0	0	0	0	1	0	0
3265:	0	0	0	1	0	1	0	0
3273:	0	0	0	0	0	0	0	0
3281:	0	0	0	0	1	0	0	0
3289:	0	0	0	0	0	0	0	0
3297:	0	1	0	2	0	1	0	0
3305:	1	0	0	0	0	0	1	0
3313:	0	0	0	0	0	0	1	0
3321:	0	0	1	1	0	0	0	1
3329:	0	0	2	0	0	0	0	0
3337:	0	0	0	0	0	0	0	0
3345:	1	0	0	0	1	0	0	0
3353:	0	0	0	0	0	0	0	0
3361:	0	0	0	0	1	0	0	0
3369:	0	0	0	0	0	0	0	1
3377:	0	0	1	0	1	0	0	0
3385:	0	0	1	0	0	0	0	0

3393:	0	0	1	0	0	1	0	0

Sample Title: CP1805S15-16

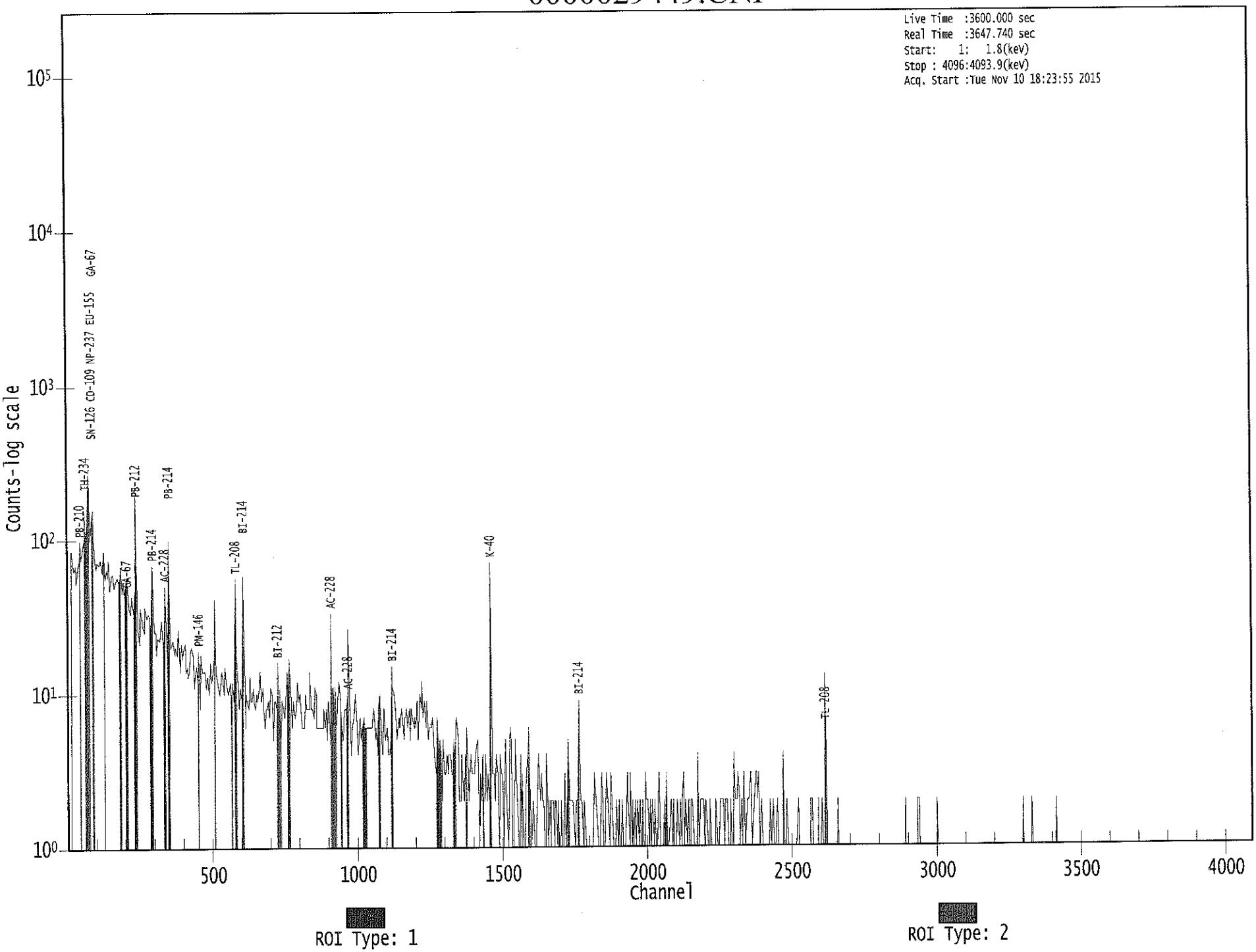
Channel								
3401:	0	1	0	0	1	0	0	1
3409:	0	0	0	0	1	0	2	0
3417:	0	0	0	0	0	0	0	0
3425:	0	0	0	0	0	0	0	0
3433:	0	0	0	0	0	0	0	1
3441:	0	0	0	0	0	0	1	0
3449:	0	0	0	0	0	0	0	0
3457:	0	0	0	0	0	0	0	0
3465:	0	0	0	0	1	1	0	0
3473:	0	1	0	0	1	0	0	1
3481:	0	0	0	0	0	0	0	0
3489:	0	0	0	0	0	0	0	0
3497:	0	0	0	1	0	0	0	0
3505:	0	0	0	1	0	0	0	0
3513:	1	0	0	0	0	0	0	0
3521:	0	0	0	1	1	0	0	0
3529:	0	0	0	0	0	0	0	0
3537:	0	0	0	1	0	0	0	0
3545:	0	0	0	1	0	0	0	0
3553:	1	0	0	1	0	0	1	0
3561:	0	1	0	0	0	0	0	0
3569:	0	0	0	0	0	0	1	0
3577:	0	0	0	0	0	0	0	0
3585:	0	0	0	0	1	0	0	0
3593:	0	0	1	0	0	0	0	0
3601:	1	0	1	0	0	0	0	0
3609:	0	0	0	0	0	0	0	1
3617:	0	0	0	0	0	0	0	0
3625:	0	0	0	0	0	0	0	0
3633:	0	1	0	0	1	0	0	0
3641:	0	0	0	0	0	0	0	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	0	0	1
3665:	1	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	0
3697:	0	0	0	0	0	0	0	0
3705:	0	1	0	0	0	0	0	0
3713:	0	0	0	0	1	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	1
3745:	0	0	0	0	0	1	0	0
3753:	1	0	0	0	0	0	0	0
3761:	0	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	1	0
3777:	0	1	0	0	0	0	0	0
3785:	0	0	0	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	1	0	0	0	0	0	0

3825:	0	0	0	0	0	0	0	0

Sample Title: CP1805S15-16

Channel								
3833:	0	0	0	1	0	0	0	0
3841:	1	0	0	0	0	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	1	0	0	1	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	0	0	0
3897:	0	0	0	0	0	0	0	0
3905:	0	1	0	0	0	0	0	1
3913:	0	0	0	0	0	0	0	0
3921:	0	0	1	0	0	0	0	0
3929:	0	0	0	0	0	0	0	0
3937:	0	0	0	0	1	0	0	0
3945:	0	0	0	0	0	0	0	0
3953:	0	0	0	0	0	0	1	0
3961:	0	0	0	0	0	0	0	0
3969:	0	1	0	0	1	0	0	1
3977:	0	0	0	1	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	0	0	0	0
4009:	0	0	0	0	1	0	0	0
4017:	0	1	0	0	1	0	0	0
4025:	0	0	0	0	0	0	0	0
4033:	1	0	1	0	0	0	0	0
4041:	0	0	1	0	1	0	0	0
4049:	0	1	0	1	0	0	0	0
4057:	0	0	0	0	0	0	0	0
4065:	1	1	0	0	0	0	0	0
4073:	0	0	1	0	0	0	0	0
4081:	0	0	0	0	0	1	0	0
4089:	0	0	0	0	0	0	0	0

0000029449.CNF



Apex-Gamma

Analysis Report for 1510091-19
CO1805S18-19

11/11

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1510091-19
Sample Description	: CO1805S18-19
Sample Type	: SOIL
Sample Size	: 5.189E+02 grams
Facility	: Countroom
Sample Taken On	: 10/10/2015 10:19:50AM
Acquisition Started	: 11/11/2015 6:17:35AM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE1
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3601.1 seconds
Dead Time	: 0.03 %
Peak Locate Threshold	: 2.50
Peak Locate Range (in channels)	: 1 - 4096
Peak Area Range (in channels)	: 19 - 4096
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 10/25/2014
Efficiency Calibration Used Done On	: 10/25/2014
Efficiency Calibration Description	:
Sample Number	: 29460

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/11/15

Analysis Report for 1510091-19

CO1805S18-19

PEAK LOCATE REPORT

Peak Locate Performed on : 11/11/2015 7:17:39AM
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	76.43	76.77	0.0000	0.00
2	88.03	88.37	0.0000	0.00
3	93.19	93.53	0.0000	0.00
4	98.76	99.10	0.0000	0.00
5	129.19	129.51	0.0000	0.00
6	186.03	186.33	0.0000	0.00
7	209.43	209.73	0.0000	0.00
8	238.69	238.98	0.0000	0.00
9	241.49	241.77	0.0000	0.00
10	270.45	270.73	0.0000	0.00
11	295.29	295.56	0.0000	0.00
12	338.44	338.69	0.0000	0.00
13	351.83	352.08	0.0000	0.00
14	409.87	410.10	0.0000	0.00
15	420.61	420.83	0.0000	0.00
16	463.91	464.12	0.0000	0.00
17	474.03	474.24	0.0000	0.00
18	510.89	511.09	0.0000	0.00
19	583.47	583.64	0.0000	0.00
20	589.83	590.00	0.0000	0.00
21	609.56	609.72	0.0000	0.00
22	665.26	665.40	0.0000	0.00
23	727.66	727.78	0.0000	0.00
24	754.29	754.40	0.0000	0.00
25	768.08	768.19	0.0000	0.00
26	772.90	773.00	0.0000	0.00
27	841.51	841.59	0.0000	0.00
28	860.71	860.79	0.0000	0.00
29	864.14	864.21	0.0000	0.00
30	911.51	911.56	0.0000	0.00
31	934.53	934.58	0.0000	0.00
32	961.87	961.91	0.0000	0.00
33	965.16	965.20	0.0000	0.00
34	969.16	969.20	0.0000	0.00
35	1120.58	1120.56	0.0000	0.00
36	1152.72	1152.68	0.0000	0.00
37	1156.01	1155.98	0.0000	0.00
38	1165.43	1165.39	0.0000	0.00
39	1238.22	1238.16	0.0000	0.00
40	1259.99	1259.92	0.0000	0.00
41	1408.91	1408.78	0.0000	0.00
42	1441.77	1441.63	0.0000	0.00

Analysis Report for 1510091-19

CO1805S18-19

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
43	1461.21	1461.07	0.0000	0.00
44	1499.15	1499.00	0.0000	0.00
45	1587.60	1587.41	0.0000	0.00
46	1593.80	1593.61	0.0000	0.00
47	1730.02	1729.78	0.0000	0.00
48	1737.58	1737.33	0.0000	0.00
49	1764.76	1764.50	0.0000	0.00
50	1769.24	1768.98	0.0000	0.00
51	1890.53	1890.22	0.0000	0.00
52	2104.21	2103.82	0.0000	0.00
53	2204.71	2204.29	0.0000	0.00
54	2277.58	2277.13	0.0000	0.00
55	2383.48	2382.98	0.0000	0.00
56	2447.99	2447.47	0.0000	0.00
57	2614.86	2614.27	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510091-19

CO1805S18-19

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/11/2015 7:17:39AM

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	76.43	73	81	76.77	1.00E+03	135.99	2.20E+03	3.74
	2	88.03	86	91	88.37	1.51E+02	91.92	1.57E+03	1.29
	3	93.19	91	96	93.53	2.40E+02	88.23	1.29E+03	1.81
	4	98.76	97	102	99.10	8.44E+01	66.09	7.91E+02	1.12
	5	129.19	125	135	129.51	1.38E+02	103.28	1.35E+03	3.73
	6	186.03	184	188	186.33	1.79E+02	53.70	4.84E+02	1.66
	7	209.43	207	213	209.73	8.90E+01	63.82	6.70E+02	1.30
M	8	238.69	234	246	238.98	9.16E+02	74.09	3.53E+02	1.61
m	9	241.49	234	246	241.77	2.45E+02	88.05	5.28E+02	2.71
	10	270.45	267	274	270.73	6.40E+01	56.39	4.86E+02	1.92
	11	295.29	292	299	295.56	1.91E+02	63.97	5.60E+02	1.79
	12	338.44	335	341	338.69	2.07E+02	46.62	2.43E+02	1.46
	13	351.83	347	355	352.08	4.65E+02	61.09	2.87E+02	1.73
	14	409.87	407	413	410.10	3.60E+01	34.96	1.96E+02	2.63
	15	420.61	417	425	420.83	4.13E+01	42.87	2.59E+02	3.46
	16	463.91	459	469	464.12	8.44E+01	48.48	2.65E+02	2.13
	17	474.03	471	478	474.24	3.08E+01	35.10	1.86E+02	2.94
	18	510.89	506	517	511.09	1.84E+02	58.92	3.43E+02	2.21
M	19	583.47	578	593	583.64	2.85E+02	38.99	8.86E+01	1.65
m	20	589.83	578	593	590.00	2.19E+01	20.80	5.64E+01	1.79
	21	609.56	606	614	609.72	3.26E+02	52.58	2.24E+02	1.98
	22	665.26	661	669	665.40	3.16E+01	32.06	1.37E+02	2.71
	23	727.66	725	731	727.78	4.10E+01	29.35	1.16E+02	1.43
	24	754.29	750	758	754.40	2.85E+01	27.52	9.90E+01	1.42
M	25	768.08	763	776	768.19	4.17E+01	24.17	8.12E+01	2.08
m	26	772.90	763	776	773.00	1.65E+01	22.36	9.16E+01	1.89
	27	841.51	839	846	841.59	3.68E+01	28.00	1.02E+02	4.06
M	28	860.71	858	869	860.79	4.60E+01	20.52	4.79E+01	2.34
m	29	864.14	858	869	864.21	1.56E+01	23.94	7.29E+01	2.34
	30	911.51	907	916	911.56	1.88E+02	40.16	1.17E+02	1.99
	31	934.53	931	937	934.58	2.99E+01	20.09	5.03E+01	2.33
M	32	961.87	960	974	961.91	1.34E+01	16.63	4.50E+01	2.18
m	33	965.16	960	974	965.20	6.56E+01	26.09	6.30E+01	2.18
m	34	969.16	960	974	969.20	1.53E+02	31.88	6.30E+01	2.19
	35	1120.58	1116	1125	1120.56	6.80E+01	31.18	1.00E+02	2.57
M	36	1152.72	1151	1161	1152.68	1.70E+01	10.95	1.60E+01	2.76
m	37	1156.01	1151	1161	1155.98	2.15E+01	19.49	3.20E+01	2.51
	38	1165.43	1162	1168	1165.39	2.36E+01	18.08	4.28E+01	3.51
	39	1238.22	1234	1242	1238.16	4.17E+01	25.54	7.06E+01	2.43
	40	1259.99	1258	1262	1259.92	1.75E+01	12.41	1.71E+01	2.90

Analysis Report for 1510091-19

CO1805S18-19

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	41	1408.91	1406 -	1413	1408.78	9.50E+00	12.65	2.10E+01	1.59
	42	1441.77	1435 -	1448	1441.63	2.30E+01	14.76	1.40E+01	4.92
	43	1461.21	1456 -	1466	1461.07	5.47E+02	51.76	6.31E+01	2.14
	44	1499.15	1494 -	1503	1499.00	2.10E+01	13.67	1.39E+01	7.12
	45	1587.60	1583 -	1591	1587.41	1.75E+01	14.74	2.30E+01	2.05
	46	1593.80	1592 -	1596	1593.61	9.67E+00	10.76	1.67E+01	4.43
	47	1730.02	1725 -	1733	1729.78	1.04E+01	13.46	1.93E+01	2.42
	48	1737.58	1734 -	1740	1737.33	9.00E+00	6.00	0.00E+00	2.98
M	49	1764.76	1761 -	1771	1764.50	7.48E+01	19.08	8.00E+00	2.59
m	50	1769.24	1761 -	1771	1768.98	8.05E+00	15.12	7.00E+00	3.73
	51	1890.53	1886 -	1893	1890.22	9.00E+00	6.00	0.00E+00	2.99
	52	2104.21	2099 -	2110	2103.82	2.45E+01	12.17	6.93E+00	3.88
	53	2204.71	2200 -	2208	2204.29	2.19E+01	10.78	4.17E+00	1.39
	54	2277.58	2272 -	2281	2277.13	8.38E+00	10.10	9.23E+00	2.40
	55	2383.48	2380 -	2385	2382.98	6.56E+00	7.35	4.89E+00	1.16
	56	2447.99	2444 -	2450	2447.47	9.36E+00	7.50	3.27E+00	2.77
	57	2614.86	2610 -	2618	2614.27	1.36E+02	23.92	4.71E+00	2.87

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/11/2015 7:17:39AM

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	76.43	73 -	81	1.00E+03	135.99	2.20E+03	9.89E+01
	2	88.03	86 -	91	1.51E+02	91.92	1.57E+03	7.28E+01
	3	93.19	91 -	96	2.40E+02	88.23	1.29E+03	6.79E+01
	4	98.76	97 -	102	8.44E+01	66.09	7.91E+02	5.22E+01
	5	129.19	125 -	135	1.38E+02	103.28	1.35E+03	8.27E+01
	6	186.03	184 -	188	1.79E+02	53.70	4.84E+02	3.83E+01
	7	209.43	207 -	213	8.90E+01	63.82	6.70E+02	5.01E+01
M	8	238.69	234 -	246	9.16E+02	74.09	3.53E+02	3.09E+01
m	9	241.49	234 -	246	2.45E+02	88.05	5.28E+02	3.78E+01
	10	270.45	267 -	274	6.40E+01	56.39	4.86E+02	4.44E+01
	11	295.29	292 -	299	1.91E+02	63.97	5.60E+02	4.74E+01

Analysis Report for 1510091-19

CO1805S18-19

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	12	338.44	335 -	341	2.07E+02	46.62	2.43E+02	3.01E+01
	13	351.83	347 -	355	4.65E+02	61.09	2.87E+02	3.56E+01
	14	409.87	407 -	413	3.60E+01	34.96	1.96E+02	2.70E+01
	15	420.61	417 -	425	4.13E+01	42.87	2.59E+02	3.36E+01
	16	463.91	459 -	469	8.44E+01	48.48	2.65E+02	3.69E+01
	17	474.03	471 -	478	3.08E+01	35.10	1.86E+02	2.74E+01
	18	510.89	506 -	517	1.84E+02	58.92	3.43E+02	4.30E+01
M	19	583.47	578 -	593	2.85E+02	38.99	8.86E+01	1.55E+01
m	20	589.83	578 -	593	2.19E+01	20.80	5.64E+01	1.23E+01
	21	609.56	606 -	614	3.26E+02	52.58	2.24E+02	3.14E+01
	22	665.26	661 -	669	3.16E+01	32.06	1.37E+02	2.47E+01
	23	727.66	725 -	731	4.10E+01	29.35	1.16E+02	2.17E+01
	24	754.29	750 -	758	2.85E+01	27.52	9.90E+01	2.09E+01
M	25	768.08	763 -	776	4.17E+01	24.17	8.12E+01	1.48E+01
m	26	772.90	763 -	776	1.65E+01	22.36	9.16E+01	1.57E+01
	27	841.51	839 -	846	3.68E+01	28.00	1.02E+02	2.07E+01
M	28	860.71	858 -	869	4.60E+01	20.52	4.79E+01	1.14E+01
m	29	864.14	858 -	869	1.56E+01	23.94	7.29E+01	1.40E+01
	30	911.51	907 -	916	1.88E+02	40.16	1.17E+02	2.41E+01
	31	934.53	931 -	937	2.99E+01	20.09	5.03E+01	1.39E+01
M	32	961.87	960 -	974	1.34E+01	16.63	4.50E+01	1.10E+01
m	33	965.16	960 -	974	6.56E+01	26.09	6.30E+01	1.30E+01
m	34	969.16	960 -	974	1.53E+02	31.88	6.30E+01	1.30E+01
	35	1120.58	1116 -	1125	6.80E+01	31.18	1.00E+02	2.17E+01
M	36	1152.72	1151 -	1161	1.70E+01	10.95	1.60E+01	6.58E+00
m	37	1156.01	1151 -	1161	2.15E+01	19.49	3.20E+01	9.30E+00
	38	1165.43	1162 -	1168	2.36E+01	18.08	4.28E+01	1.25E+01
	39	1238.22	1234 -	1242	4.17E+01	25.54	7.06E+01	1.81E+01
	40	1259.99	1258 -	1262	1.75E+01	12.41	1.71E+01	7.54E+00
	41	1408.91	1406 -	1413	9.50E+00	12.65	2.10E+01	9.08E+00
	42	1441.77	1435 -	1448	2.30E+01	14.76	1.40E+01	9.23E+00
	43	1461.21	1456 -	1466	5.47E+02	51.76	6.31E+01	1.82E+01
	44	1499.15	1494 -	1503	2.10E+01	13.67	1.39E+01	8.34E+00
	45	1587.60	1583 -	1591	1.75E+01	14.74	2.30E+01	9.97E+00
	46	1593.80	1592 -	1596	9.67E+00	10.76	1.67E+01	7.22E+00
	47	1730.02	1725 -	1733	1.04E+01	13.46	1.93E+01	9.72E+00
	48	1737.58	1734 -	1740	9.00E+00	6.00	0.00E+00	0.00E+00
M	49	1764.76	1761 -	1771	7.48E+01	19.08	8.00E+00	4.65E+00
m	50	1769.24	1761 -	1771	8.05E+00	15.12	7.00E+00	4.35E+00
	51	1890.53	1886 -	1893	9.00E+00	6.00	0.00E+00	0.00E+00
	52	2104.21	2099 -	2110	2.45E+01	12.17	6.93E+00	5.80E+00
	53	2204.71	2200 -	2208	2.19E+01	10.78	4.17E+00	4.39E+00
	54	2277.58	2272 -	2281	8.38E+00	10.10	9.23E+00	6.80E+00
	55	2383.48	2380 -	2385	6.56E+00	7.35	4.89E+00	4.33E+00
	56	2447.99	2444 -	2450	9.36E+00	7.50	3.27E+00	3.56E+00
	57	2614.86	2610 -	2618	1.36E+02	23.92	4.71E+00	4.48E+00

Analysis Report for 1510091-19

CO1805S18-19

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 7:17:39AM

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	76.43	73 -	81	76.77	1.00E+03	135.99	2.20E+03	.....
	2	88.03	86 -	91	88.37	1.51E+02	91.92	1.57E+03	CD-109
									LU-176
									SN-126
	3	93.19	91 -	96	93.53	2.40E+02	88.23	1.29E+03	GA-67
	4	98.76	97 -	102	99.10	8.44E+01	66.09	7.91E+02	.....
	5	129.19	125 -	135	129.51	1.38E+02	103.28	1.35E+03	.....
	6	186.03	184 -	188	186.33	1.79E+02	53.70	4.84E+02	RA-226
	7	209.43	207 -	213	209.73	8.90E+01	63.82	6.70E+02	CM-243
									GA-67
M	8	238.69	234 -	246	238.98	9.16E+02	74.09	3.53E+02	PB-212
m	9	241.49	234 -	246	241.77	2.45E+02	88.05	5.28E+02	RA-224
	10	270.45	267 -	274	270.73	6.40E+01	56.39	4.86E+02	.....
	11	295.29	292 -	299	295.56	1.91E+02	63.97	5.60E+02	PB-214
	12	338.44	335 -	341	338.69	2.07E+02	46.62	2.43E+02	AC-228
	13	351.83	347 -	355	352.08	4.65E+02	61.09	2.87E+02	PB-214
	14	409.87	407 -	413	410.10	3.60E+01	34.96	1.96E+02	.....
	15	420.61	417 -	425	420.83	4.13E+01	42.87	2.59E+02	.....
	16	463.91	459 -	469	464.12	8.44E+01	48.48	2.65E+02	SB-125
	17	474.03	471 -	478	474.24	3.08E+01	35.10	1.86E+02	.....
	18	510.89	506 -	517	511.09	1.84E+02	58.92	3.43E+02	.....
M	19	583.47	578 -	593	583.64	2.85E+02	38.99	8.86E+01	TL-208
m	20	589.83	578 -	593	590.00	2.19E+01	20.80	5.64E+01	.....
	21	609.56	606 -	614	609.72	3.26E+02	52.58	2.24E+02	BI-214
	22	665.26	661 -	669	665.40	3.16E+01	32.06	1.37E+02	CE-143
	23	727.66	725 -	731	727.78	4.10E+01	29.35	1.16E+02	BI-212
	24	754.29	750 -	758	754.40	2.85E+01	27.52	9.90E+01	.....
M	25	768.08	763 -	776	768.19	4.17E+01	24.17	8.12E+01	.....
m	26	772.90	763 -	776	773.00	1.65E+01	22.36	9.16E+01	.....
	27	841.51	839 -	846	841.59	3.68E+01	28.00	1.02E+02	.....

Analysis Report for 1510091-19

CO1805S18-19

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
M	28	860.71	858 -	869	860.79	4.60E+01	20.52	4.79E+01	TL-208
m	29	864.14	858 -	869	864.21	1.56E+01	23.94	7.29E+01	.....
	30	911.51	907 -	916	911.56	1.88E+02	40.16	1.17E+02	AC-228 LU-172
	31	934.53	931 -	937	934.58	2.99E+01	20.09	5.03E+01	.....
M	32	961.87	960 -	974	961.91	1.34E+01	16.63	4.50E+01	.....
m	33	965.16	960 -	974	965.20	6.56E+01	26.09	6.30E+01	.....
m	34	969.16	960 -	974	969.20	1.53E+02	31.88	6.30E+01	AC-228
	35	1120.58	1116 -	1125	1120.56	6.80E+01	31.18	1.00E+02	SC-46 BI-214 TA-182
M	36	1152.72	1151 -	1161	1152.68	1.70E+01	10.95	1.60E+01	EU-156
m	37	1156.01	1151 -	1161	1155.98	2.15E+01	19.49	3.20E+01	.....
	38	1165.43	1162 -	1168	1165.39	2.36E+01	18.08	4.28E+01	.....
	39	1238.22	1234 -	1242	1238.16	4.17E+01	25.54	7.06E+01	CO-56
	40	1259.99	1258 -	1262	1259.92	1.75E+01	12.41	1.71E+01	I-135
	41	1408.91	1406 -	1413	1408.78	9.50E+00	12.65	2.10E+01	EU-152
	42	1441.77	1435 -	1448	1441.63	2.30E+01	14.76	1.40E+01	.....
	43	1461.21	1456 -	1466	1461.07	5.47E+02	51.76	6.31E+01	K-40
	44	1499.15	1494 -	1503	1499.00	2.10E+01	13.67	1.39E+01	.....
	45	1587.60	1583 -	1591	1587.41	1.75E+01	14.74	2.30E+01	.....
	46	1593.80	1592 -	1596	1593.61	9.67E+00	10.76	1.67E+01	.....
	47	1730.02	1725 -	1733	1729.78	1.04E+01	13.46	1.93E+01	.....
	48	1737.58	1734 -	1740	1737.33	9.00E+00	6.00	0.00E+00	.....
M	49	1764.76	1761 -	1771	1764.50	7.48E+01	19.08	8.00E+00	BI-214
m	50	1769.24	1761 -	1771	1768.98	8.05E+00	15.12	7.00E+00	.....
	51	1890.53	1886 -	1893	1890.22	9.00E+00	6.00	0.00E+00	.....
	52	2104.21	2099 -	2110	2103.82	2.45E+01	12.17	6.93E+00	.....
	53	2204.71	2200 -	2208	2204.29	2.19E+01	10.78	4.17E+00	BI-214
	54	2277.58	2272 -	2281	2277.13	8.38E+00	10.10	9.23E+00	.....
	55	2383.48	2380 -	2385	2382.98	6.56E+00	7.35	4.89E+00	.....
	56	2447.99	2444 -	2450	2447.47	9.36E+00	7.50	3.27E+00	.....
	57	2614.86	2610 -	2618	2614.27	1.36E+02	23.92	4.71E+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 7:17:39AM

Analysis Report for 1510091-19

CO1805S18-19

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	76.43	1.00E+03	135.99	2.77E-02	2.35E-03
	2	88.03	1.51E+02	91.92	2.85E-02	2.74E-03
	3	93.19	2.40E+02	88.23	2.86E-02	2.64E-03
	4	98.76	8.44E+01	66.09	2.85E-02	2.53E-03
	5	129.19	1.38E+02	103.28	2.67E-02	2.09E-03
	6	186.03	1.79E+02	53.70	2.24E-02	2.03E-03
	7	209.43	8.90E+01	63.82	2.09E-02	1.85E-03
M	8	238.69	9.16E+02	74.09	1.92E-02	1.64E-03
m	9	241.49	2.45E+02	88.05	1.91E-02	1.62E-03
	10	270.45	6.40E+01	56.39	1.77E-02	1.40E-03
	11	295.29	1.91E+02	63.97	1.67E-02	1.31E-03
	12	338.44	2.07E+02	46.62	1.52E-02	1.22E-03
	13	351.83	4.65E+02	61.09	1.48E-02	1.19E-03
	14	409.87	3.60E+01	34.96	1.32E-02	1.10E-03
	15	420.61	4.13E+01	42.87	1.30E-02	1.08E-03
	16	463.91	8.44E+01	48.48	1.21E-02	1.04E-03
	17	474.03	3.08E+01	35.10	1.19E-02	1.03E-03
	18	510.89	1.84E+02	58.92	1.12E-02	9.90E-04
M	19	583.47	2.85E+02	38.99	1.02E-02	9.15E-04
m	20	589.83	2.19E+01	20.80	1.01E-02	9.09E-04
	21	609.56	3.26E+02	52.58	9.82E-03	8.88E-04
	22	665.26	3.16E+01	32.06	9.18E-03	8.31E-04
	23	727.66	4.10E+01	29.35	8.55E-03	7.75E-04
	24	754.29	2.85E+01	27.52	8.31E-03	7.51E-04
M	25	768.08	4.17E+01	24.17	8.19E-03	7.39E-04
m	26	772.90	1.65E+01	22.36	8.15E-03	7.34E-04
	27	841.51	3.68E+01	28.00	7.62E-03	6.73E-04
M	28	860.71	4.60E+01	20.52	7.48E-03	6.56E-04
m	29	864.14	1.56E+01	23.94	7.46E-03	6.53E-04
	30	911.51	1.88E+02	40.16	7.15E-03	6.15E-04
	31	934.53	2.99E+01	20.09	7.00E-03	6.03E-04
M	32	961.87	1.34E+01	16.63	6.85E-03	5.89E-04
m	33	965.16	6.56E+01	26.09	6.83E-03	5.87E-04
m	34	969.16	1.53E+02	31.88	6.80E-03	5.85E-04
	35	1120.58	6.80E+01	31.18	6.07E-03	5.07E-04
M	36	1152.72	1.70E+01	10.95	5.93E-03	4.90E-04
m	37	1156.01	2.15E+01	19.49	5.92E-03	4.88E-04
	38	1165.43	2.36E+01	18.08	5.88E-03	4.83E-04
	39	1238.22	4.17E+01	25.54	5.61E-03	4.68E-04
	40	1259.99	1.75E+01	12.41	5.54E-03	4.64E-04
	41	1408.91	9.50E+00	12.65	5.10E-03	4.32E-04
	42	1441.77	2.30E+01	14.76	5.02E-03	4.24E-04
	43	1461.21	5.47E+02	51.76	4.97E-03	4.19E-04
	44	1499.15	2.10E+01	13.67	4.88E-03	4.10E-04
	45	1587.60	1.75E+01	14.74	4.70E-03	3.88E-04
	46	1593.80	9.67E+00	10.76	4.68E-03	3.86E-04
	47	1730.02	1.04E+01	13.46	4.45E-03	3.52E-04
	48	1737.58	9.00E+00	6.00	4.44E-03	3.50E-04
M	49	1764.76	7.48E+01	19.08	4.40E-03	3.44E-04
m	50	1769.24	8.05E+00	15.12	4.39E-03	3.42E-04
	51	1890.53	9.00E+00	6.00	4.23E-03	3.26E-04
	52	2104.21	2.45E+01	12.17	4.02E-03	3.26E-04
	53	2204.71	2.19E+01	10.78	3.95E-03	3.26E-04

Analysis Report for 1510091-19

CO1805S18-19

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
54	2277.58	8.38E+00	10.10	3.91E-03	3.26E-04
55	2383.48	6.56E+00	7.35	3.86E-03	3.26E-04
56	2447.99	9.36E+00	7.50	3.83E-03	3.26E-04
57	2614.86	1.36E+02	23.92	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 7:17:39AM

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	76.43	1.00E+03	135.99	9.75E+00	8.28E+00	9.91E+02	1.36E+02
	2	88.03	1.51E+02	91.92			1.51E+02	9.19E+01
	3	93.19	2.40E+02	88.23	1.34E+02	9.83E+00	1.06E+02	8.88E+01
	4	98.76	8.44E+01	66.09			8.44E+01	6.61E+01
	5	129.19	1.38E+02	103.28			1.38E+02	1.03E+02
	6	186.03	1.79E+02	53.70	6.41E+01	7.38E+00	1.15E+02	5.42E+01
	7	209.43	8.90E+01	63.82			8.90E+01	6.38E+01
M	8	238.69	9.16E+02	74.09	2.34E+01	6.34E+00	8.93E+02	7.44E+01
m	9	241.49	2.45E+02	88.05			2.45E+02	8.80E+01
	10	270.45	6.40E+01	56.39			6.40E+01	5.64E+01
	11	295.29	1.91E+02	63.97	4.17E+00	5.50E+00	1.87E+02	6.42E+01
	12	338.44	2.07E+02	46.62	2.22E-01	4.54E+00	2.07E+02	4.68E+01
	13	351.83	4.65E+02	61.09	8.83E+00	4.91E+00	4.56E+02	6.13E+01
	14	409.87	3.60E+01	34.96			3.60E+01	3.50E+01
	15	420.61	4.13E+01	42.87			4.13E+01	4.29E+01
	16	463.91	8.44E+01	48.48			8.44E+01	4.85E+01
	17	474.03	3.08E+01	35.10			3.08E+01	3.51E+01
	18	510.89	1.84E+02	58.92	8.12E+01	5.49E+00	1.02E+02	5.92E+01
M	19	583.47	2.85E+02	38.99	6.34E+00	3.74E+00	2.79E+02	3.92E+01
m	20	589.83	2.19E+01	20.80			2.19E+01	2.08E+01
	21	609.56	3.26E+02	52.58	5.20E+00	3.69E+00	3.21E+02	5.27E+01
	22	665.26	3.16E+01	32.06			3.16E+01	3.21E+01
	23	727.66	4.10E+01	29.35			4.10E+01	2.94E+01
	24	754.29	2.85E+01	27.52			2.85E+01	2.75E+01
M	25	768.08	4.17E+01	24.17			4.17E+01	2.42E+01
m	26	772.90	1.65E+01	22.36			1.65E+01	2.24E+01

Analysis Report for 1510091-19

CO1805S18-19

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	27	841.51	3.68E+01	28.00			3.68E+01	2.80E+01
M	28	860.71	4.60E+01	20.52			4.60E+01	2.05E+01
m	29	864.14	1.56E+01	23.94			1.56E+01	2.39E+01
	30	911.51	1.88E+02	40.16	3.28E+00	2.53E+00	1.85E+02	4.02E+01
	31	934.53	2.99E+01	20.09			2.99E+01	2.01E+01
M	32	961.87	1.34E+01	16.63			1.34E+01	1.66E+01
m	33	965.16	6.56E+01	26.09			6.56E+01	2.61E+01
m	34	969.16	1.53E+02	31.88			1.53E+02	3.19E+01
	35	1120.58	6.80E+01	31.18	2.28E+00	2.55E+00	6.57E+01	3.13E+01
M	36	1152.72	1.70E+01	10.95			1.70E+01	1.10E+01
m	37	1156.01	2.15E+01	19.49			2.15E+01	1.95E+01
	38	1165.43	2.36E+01	18.08			2.36E+01	1.81E+01
	39	1238.22	4.17E+01	25.54			4.17E+01	2.55E+01
	40	1259.99	1.75E+01	12.41			1.75E+01	1.24E+01
	41	1408.91	9.50E+00	12.65			9.50E+00	1.26E+01
	42	1441.77	2.30E+01	14.76			2.30E+01	1.48E+01
	43	1461.21	5.47E+02	51.76	6.46E+00	2.33E+00	5.41E+02	5.18E+01
	44	1499.15	2.10E+01	13.67			2.10E+01	1.37E+01
	45	1587.60	1.75E+01	14.74			1.75E+01	1.47E+01
	46	1593.80	9.67E+00	10.76			9.67E+00	1.08E+01
	47	1730.02	1.04E+01	13.46			1.04E+01	1.35E+01
	48	1737.58	9.00E+00	6.00			9.00E+00	6.00E+00
M	49	1764.76	7.48E+01	19.08			7.48E+01	1.91E+01
m	50	1769.24	8.05E+00	15.12			8.05E+00	1.51E+01
	51	1890.53	9.00E+00	6.00			9.00E+00	6.00E+00
	52	2104.21	2.45E+01	12.17			2.45E+01	1.22E+01
	53	2204.71	2.19E+01	10.78			2.19E+01	1.08E+01
	54	2277.58	8.38E+00	10.10			8.38E+00	1.01E+01
	55	2383.48	6.56E+00	7.35			6.56E+00	7.35E+00
	56	2447.99	9.36E+00	7.50			9.36E+00	7.50E+00
	57	2614.86	1.36E+02	23.92	3.47E+00	1.48E+00	1.32E+02	2.40E+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 7:17:39AM

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

Analysis Report for 1510091-19

CO1805S18-19

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
	1	76.43	1.00E+03	135.99	9.75E+00	8.28E+00	9.91E+02	1.36E+02
	2	88.03	1.51E+02	91.92			1.51E+02	9.19E+01
	3	93.19	2.40E+02	88.23	1.34E+02	9.83E+00	1.06E+02	8.88E+01
	4	98.76	8.44E+01	66.09			8.44E+01	6.61E+01
	5	129.19	1.38E+02	103.28			1.38E+02	1.03E+02
	6	186.03	1.79E+02	53.70	6.41E+01	7.38E+00	1.15E+02	5.42E+01
	7	209.43	8.90E+01	63.82			8.90E+01	6.38E+01
M	8	238.69	9.16E+02	74.09	2.34E+01	6.34E+00	8.93E+02	7.44E+01
m	9	241.49	2.45E+02	88.05			2.45E+02	8.80E+01
	10	270.45	6.40E+01	56.39			6.40E+01	5.64E+01
	11	295.29	1.91E+02	63.97	4.17E+00	5.50E+00	1.87E+02	6.42E+01
	12	338.44	2.07E+02	46.62	2.22E-01	4.54E+00	2.07E+02	4.68E+01
	13	351.83	4.65E+02	61.09	8.83E+00	4.91E+00	4.56E+02	6.13E+01
	14	409.87	3.60E+01	34.96			3.60E+01	3.50E+01
	15	420.61	4.13E+01	42.87			4.13E+01	4.29E+01
	16	463.91	8.44E+01	48.48			8.44E+01	4.85E+01
	17	474.03	3.08E+01	35.10			3.08E+01	3.51E+01
	18	510.89	1.84E+02	58.92	8.12E+01	5.49E+00	1.02E+02	5.92E+01
M	19	583.47	2.85E+02	38.99	6.34E+00	3.74E+00	2.79E+02	3.92E+01
m	20	589.83	2.19E+01	20.80			2.19E+01	2.08E+01
	21	609.56	3.26E+02	52.58	5.20E+00	3.69E+00	3.21E+02	5.27E+01
	22	665.26	3.16E+01	32.06			3.16E+01	3.21E+01
	23	727.66	4.10E+01	29.35			4.10E+01	2.94E+01
	24	754.29	2.85E+01	27.52			2.85E+01	2.75E+01
M	25	768.08	4.17E+01	24.17			4.17E+01	2.42E+01
m	26	772.90	1.65E+01	22.36			1.65E+01	2.24E+01
	27	841.51	3.68E+01	28.00			3.68E+01	2.80E+01
M	28	860.71	4.60E+01	20.52			4.60E+01	2.05E+01
m	29	864.14	1.56E+01	23.94			1.56E+01	2.39E+01
	30	911.51	1.88E+02	40.16	3.28E+00	2.53E+00	1.85E+02	4.02E+01
	31	934.53	2.99E+01	20.09			2.99E+01	2.01E+01
M	32	961.87	1.34E+01	16.63			1.34E+01	1.66E+01
m	33	965.16	6.56E+01	26.09			6.56E+01	2.61E+01
m	34	969.16	1.53E+02	31.88			1.53E+02	3.19E+01
	35	1120.58	6.80E+01	31.18	2.28E+00	2.55E+00	6.57E+01	3.13E+01
M	36	1152.72	1.70E+01	10.95			1.70E+01	1.10E+01
m	37	1156.01	2.15E+01	19.49			2.15E+01	1.95E+01
	38	1165.43	2.36E+01	18.08			2.36E+01	1.81E+01
	39	1238.22	4.17E+01	25.54			4.17E+01	2.55E+01
	40	1259.99	1.75E+01	12.41			1.75E+01	1.24E+01
	41	1408.91	9.50E+00	12.65			9.50E+00	1.26E+01
	42	1441.77	2.30E+01	14.76			2.30E+01	1.48E+01
	43	1461.21	5.47E+02	51.76	6.46E+00	2.33E+00	5.41E+02	5.18E+01
	44	1499.15	2.10E+01	13.67			2.10E+01	1.37E+01
	45	1587.60	1.75E+01	14.74			1.75E+01	1.47E+01
	46	1593.80	9.67E+00	10.76			9.67E+00	1.08E+01
	47	1730.02	1.04E+01	13.46			1.04E+01	1.35E+01
	48	1737.58	9.00E+00	6.00			9.00E+00	6.00E+00
M	49	1764.76	7.48E+01	19.08			7.48E+01	1.91E+01
m	50	1769.24	8.05E+00	15.12			8.05E+00	1.51E+01
	51	1890.53	9.00E+00	6.00			9.00E+00	6.00E+00
	52	2104.21	2.45E+01	12.17			2.45E+01	1.22E+01
	53	2204.71	2.19E+01	10.78			2.19E+01	1.08E+01
	54	2277.58	8.38E+00	10.10			8.38E+00	1.01E+01

Analysis Report for 1510091-19
CO1805S18-19

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
55	2383.48	6.56E+00	7.35			6.56E+00	7.35E+00
56	2447.99	9.36E+00	7.50			9.36E+00	7.50E+00
57	2614.86	1.36E+02	23.92	3.47E+00	1.48E+00	1.32E+02	2.40E+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	0.975	1460.81	*	10.67	1.48E+01	1.91E+00
GA-67	0.376	93.31	*	35.70	1.31E+02	5.74E+02
		208.95	*	2.24	2.40E+03	1.01E+04
		300.22		16.00		
CD-109	1.000	88.03	*	3.72	2.16E+00	1.34E+00
SN-126	0.967	87.57	*	37.00	2.07E-01	1.28E-01
TL-208	0.988	583.14	*	30.22	1.31E+00	2.19E-01
		860.37	*	4.48	1.99E+00	9.03E-01
		2614.66	*	35.85	1.41E+00	2.82E-01
BI-212	0.735	727.17	*	11.80	5.88E-01	4.24E-01
		1620.62		2.75		
PB-212	0.894	238.63	*	44.60	1.51E+00	1.80E-01
		300.09		3.41		
BI-214	0.988	609.31	*	46.30	1.02E+00	1.91E-01
		1120.29	*	15.10	1.04E+00	5.02E-01
		1764.49	*	15.80	1.56E+00	4.16E-01
		2204.22	*	4.98	1.61E+00	8.04E-01
PB-214	0.999	295.21	*	19.19	8.45E-01	2.98E-01
		351.92	*	37.19	1.20E+00	1.88E-01
RA-224	0.960	240.98	*	3.95	4.70E+00	1.74E+00
RA-226	0.995	186.21	*	3.28	2.26E+00	4.28E+00
AC-228	0.984	338.32	*	11.40	1.73E+00	4.16E-01
		911.07	*	27.70	1.35E+00	3.16E-01
		969.11	*	16.60	1.95E+00	4.42E-01

Analysis Report for 1510091-19

CO1805S18-19

* = 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 7:17:39AM
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	76.43	2.75266E-01	6.87		
	4	98.76	2.34375E-02	39.16	D-Esc	
	5	129.19	3.83803E-02	37.38		
	10	270.45	1.77895E-02	44.03		
	14	409.87	1.00000E-02	48.55		
	15	420.61	1.14628E-02	51.95		
	16	463.91	2.34543E-02	28.71	Tol.	SB-125
	17	474.03	8.56631E-03	56.91		
	18	510.89	2.84677E-02	28.87		
m	20	589.83	6.08304E-03	47.48	Sum	
	22	665.26	8.77083E-03	50.77	Tol.	CE-143
	24	754.29	7.91667E-03	48.29		
M	25	768.08	1.15933E-02	28.95		
m	26	772.90	4.58597E-03	67.72		
	27	841.51	1.02178E-02	38.06		
m	29	864.14	4.33645E-03	76.67		
	31	934.53	8.29546E-03	33.64	Sum	
M	32	961.87	3.72587E-03	61.99	Sum	
m	33	965.16	1.82187E-02	19.89		
M	36	1152.72	4.72982E-03	32.17	Sum	
m	37	1156.01	5.97707E-03	45.30	Sum	
	38	1165.43	6.56173E-03	38.28		
	39	1238.22	1.15783E-02	30.64		
	40	1259.99	4.85043E-03	35.53		
	41	1408.91	2.63889E-03	66.57	Tol.	EU-152
	42	1441.77	6.38889E-03	32.10		
	44	1499.15	5.84325E-03	32.50		
	45	1587.60	4.86590E-03	42.07	Sum	
	46	1593.80	2.68519E-03	55.65	D-Esc	
	47	1730.02	2.88194E-03	64.88	Sum	
	48	1737.58	2.50000E-03	33.33		
m	50	1769.24	2.23706E-03	93.85		
	51	1890.53	2.50000E-03	33.33		
	52	2104.21	6.81548E-03	24.79	S-Esc	

Analysis Report for 1510091-19
CO1805S18-19

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
54	2277.58	2.32906E-03	60.23		
55	2383.48	1.82099E-03	56.05		
56	2447.99	2.60101E-03	40.05		

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

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/grams)	Activity Uncertainty
K-40	0.97	1460.81	*	10.67	1.48E+01	1.91E+00
GA-67	0.37	93.31	*	35.70	1.31E+02	5.74E+02
		208.95	*	2.24	2.40E+03	1.01E+04
		300.22		16.00		
CD-109	1.00	88.03	*	3.72	2.16E+00	1.34E+00
SN-126	0.96	87.57	*	37.00	2.07E-01	1.28E-01
TL-208	0.98	583.14	*	30.22	1.31E+00	2.19E-01
		860.37	*	4.48	1.99E+00	9.03E-01
		2614.66	*	35.85	1.41E+00	2.82E-01
BI-212	0.73	727.17	*	11.80	5.88E-01	4.24E-01
		1620.62		2.75		
PB-212	0.89	238.63	*	44.60	1.51E+00	1.80E-01
		300.09		3.41		
BI-214	0.98	609.31	*	46.30	1.02E+00	1.91E-01
		1120.29	*	15.10	1.04E+00	5.02E-01
		1764.49	*	15.80	1.56E+00	4.16E-01
		2204.22	*	4.98	1.61E+00	8.04E-01
PB-214	0.99	295.21	*	19.19	8.45E-01	2.98E-01
		351.92	*	37.19	1.20E+00	1.88E-01
RA-224	0.96	240.98	*	3.95	4.70E+00	1.74E+00
RA-226	0.99	186.21	*	3.28	2.26E+00	4.28E+00
AC-228	0.98	338.32	*	11.40	1.73E+00	4.16E-01
		911.07	*	27.70	1.35E+00	3.16E-01
		969.11	*	16.60	1.95E+00	4.42E-01

Analysis Report for 1510091-19

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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
	K-40	0.975	1.48E+01	1.91E+00	
	GA-67	0.376	1.56E+02	6.74E+02	
?	CD-109	1.000	2.16E+00	1.34E+00	
?	SN-126	0.967	2.07E-01	1.28E-01	
	TL-208	0.988	1.37E+00	1.70E-01	
	BI-212	0.735	5.88E-01	4.24E-01	
	PB-212	0.894	1.51E+00	1.80E-01	
	BI-214	0.988	1.13E+00	1.61E-01	
	PB-214	0.999	1.10E+00	1.59E-01	
	RA-224	0.960	4.70E+00	1.74E+00	
	RA-226	0.995	2.26E+00	4.28E+00	
	AC-228	0.984	1.61E+00	2.19E-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 1510091-19
CO1805S18-19

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/11/2015 7:17:39AM
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	76.43	2.75266E-01	6.87		
	4	98.76	2.34375E-02	39.16	D-Esc	
	5	129.19	3.83803E-02	37.38		
	10	270.45	1.77895E-02	44.03		
	14	409.87	1.00000E-02	48.55		
	15	420.61	1.14628E-02	51.95		
	16	463.91	2.34543E-02	28.71	Tol.	SB-125
	17	474.03	8.56631E-03	56.91		
	18	510.89	2.84677E-02	28.87		
m	20	589.83	6.08304E-03	47.48	Sum	
	22	665.26	8.77083E-03	50.77	Tol.	CE-143
	24	754.29	7.91667E-03	48.29		
M	25	768.08	1.15933E-02	28.95		
m	26	772.90	4.58597E-03	67.72		
	27	841.51	1.02178E-02	38.06		
m	29	864.14	4.33645E-03	76.67		
	31	934.53	8.29546E-03	33.64	Sum	
M	32	961.87	3.72587E-03	61.99	Sum	
m	33	965.16	1.82187E-02	19.89		
M	36	1152.72	4.72982E-03	32.17	Sum	
m	37	1156.01	5.97707E-03	45.30	Sum	
	38	1165.43	6.56173E-03	38.28		
	39	1238.22	1.15783E-02	30.64		
	40	1259.99	4.85043E-03	35.53		
	41	1408.91	2.63889E-03	66.57	Tol.	EU-152
	42	1441.77	6.38889E-03	32.10		
	44	1499.15	5.84325E-03	32.50		
	45	1587.60	4.86590E-03	42.07	Sum	
	46	1593.80	2.68519E-03	55.65	D-Esc	
	47	1730.02	2.88194E-03	64.88	Sum	
	48	1737.58	2.50000E-03	33.33		
m	50	1769.24	2.23706E-03	93.85		
	51	1890.53	2.50000E-03	33.33		
	52	2104.21	6.81548E-03	24.79	S-Esc	
	54	2277.58	2.32906E-03	60.23		

Analysis Report for 1510091-19
CO1805S18-19

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
55	2383.48	1.82099E-03	56.05		
56	2447.99	2.60101E-03	40.05		

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

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	BE-7	477.59		10.42	-6.19E-02	8.82E-01	8.82E-01
+	NA-22	1274.54		99.94	2.29E-02	8.05E-02	8.05E-02
+	NA-24	1368.53		99.99	3.10E+13	7.81E+13	1.64E+14
		2754.09		99.86	-2.94E+13		7.81E+13
+	AL-26	1808.65		99.76	-1.84E-02	4.39E-02	4.39E-02
+	K-40	1460.81	*	10.67	1.48E+01	1.10E+00	1.10E+00
+	@ AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	-3.01E-02	6.71E-02	6.71E-02
		78.34		96.00	2.06E-01		8.85E-02
+	SC-46	889.25		99.98	-7.67E-03	9.28E-02	9.28E-02
		1120.51		99.99	1.96E-01		1.53E-01
+	V-48	983.52		99.98	-2.06E-01	2.23E-01	2.23E-01
		1312.10		97.50	-2.59E-01		2.28E-01
+	CR-51	320.08		9.83	-4.10E-01	1.05E+00	1.05E+00
+	MN-54	834.83		99.97	-1.90E-02	8.26E-02	8.26E-02
+	CO-56	846.75		99.96	-1.04E-02	8.66E-02	8.66E-02
		1037.75		14.03	-2.04E-01		6.49E-01
		1238.25		67.00	2.09E-01		2.11E-01
		1771.40		15.51	-9.85E-02		4.47E-01
		2598.48		16.90	3.48E-02		2.77E-01
+	CO-57	122.06		85.51	-3.33E-03	5.62E-02	5.62E-02
		136.48		10.60	-6.92E-02		4.83E-01
+	CO-58	810.76		99.40	-6.20E-03	8.94E-02	8.94E-02
+	FE-59	1099.22		56.50	-6.52E-02	2.03E-01	2.03E-01
		1291.56		43.20	-1.64E-01		2.37E-01
+	CO-60	1173.22		100.00	3.55E-02	6.18E-02	8.39E-02
		1332.49		100.00	-6.89E-03		6.18E-02

Analysis Report for 1510091-19
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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	ZN-65	1115.52		50.75	3.37E-03	1.81E-01	1.81E-01
+	GA-67	93.31	*	35.70	1.31E+02	1.79E+02	1.79E+02
		208.95	*	2.24	2.40E+03		2.78E+03
		300.22		16.00	2.20E+02		3.17E+02
+	SE-75	121.11		16.70	-6.07E-03	9.42E-02	3.20E-01
		136.00		59.20	-1.02E-02		9.42E-02
		264.65		59.80	-5.20E-03		9.61E-02
		279.53		25.20	4.25E-02		2.36E-01
		400.65		11.40	4.10E-02		5.69E-01
+	RB-82	776.52		13.00	2.17E-01	1.14E+00	1.14E+00
+	RB-83	520.41		46.00	-1.33E-01	1.51E-01	1.51E-01
		529.64		30.30	-8.34E-02		2.44E-01
		552.65		16.40	1.24E-01		4.60E-01
+	KR-85	513.99		0.43	3.73E+01	2.25E+01	2.25E+01
+	SR-85	513.99		99.27	2.28E-01	1.38E-01	1.38E-01
+	Y-88	898.02		93.40	-2.53E-02	5.46E-02	8.94E-02
		1836.01		99.38	-8.33E-03		5.46E-02
+	NB-93M	16.57		9.43	-2.09E+01	7.23E+01	7.23E+01
+	NB-94	702.63		100.00	1.02E-02	6.20E-02	7.87E-02
		871.10		100.00	-5.66E-03		6.20E-02
+	NB-95	765.79		99.81	4.65E-02	1.52E-01	1.52E-01
+	NB-95M	235.69		25.00	-8.66E+02	1.22E+02	1.22E+02
+	ZR-95	724.18		43.70	2.37E-02	1.79E-01	2.52E-01
		756.72		55.30	2.23E-02		1.79E-01
+	MO-99	181.06		6.20	1.87E+03	1.62E+03	2.46E+03
		739.58		12.80	-2.18E+02		1.62E+03
		778.00		4.50	-6.07E+01		4.11E+03
+	RU-103	497.08		89.00	-2.57E-02	1.16E-01	1.16E-01
+	RU-106	621.84		9.80	-4.95E-02	6.52E-01	6.52E-01
+	AG-108M	433.93		89.90	-3.48E-02	6.15E-02	6.15E-02
		614.37		90.40	7.15E-03		7.35E-02
		722.95		90.50	-1.65E-02		7.70E-02
+	CD-109	88.03	*	3.72	2.16E+00	2.12E+00	2.12E+00
+	AG-110M	657.75		93.14	-7.05E-03	7.42E-02	7.42E-02
		677.61		10.53	-1.88E-01		6.28E-01
		706.67		16.46	2.47E-01		5.22E-01
		763.93		21.98	-1.92E-02		3.33E-01
		884.67		71.63	-2.34E-02		1.08E-01
		1384.27		23.94	8.74E-02		2.94E-01
+	CD-113M	263.70		0.02	-1.94E+01	2.09E+02	2.09E+02
+	SN-113	255.12		1.93	1.63E-01	9.49E-02	2.95E+00
		391.69		64.90	1.57E-03		9.49E-02
+	TE123M	159.00		84.10	-4.17E-02	6.89E-02	6.89E-02
+	SB-124	602.71		97.87	6.58E-02	1.06E-01	1.06E-01
		645.85		7.26	-1.57E-01		1.32E+00
		722.78		11.10	-1.95E-01		9.05E-01
		1691.02		49.00	9.28E-02		1.71E-01
+	I-125	35.49		6.49	-1.70E-01	3.02E+00	3.02E+00

Analysis Report for 1510091-19

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	SB-125	176.33		6.89	-6.33E-01	2.06E-01	6.97E-01
		427.89		29.33	5.69E-02		2.06E-01
		463.38		10.35	7.51E-01		7.29E-01
		600.56		17.80	1.67E-02		3.98E-01
		635.90		11.32	-6.18E-02		5.41E-01
+	SB-126	414.70		83.30	2.65E-02	3.99E-01	4.03E-01
		666.33		99.60	1.34E-01		4.17E-01
		695.00		99.60	-9.89E-02		3.99E-01
		720.50		53.80	-9.66E-02		7.55E-01
+	SN-126	87.57	*	37.00	2.07E-01	2.04E-01	2.04E-01
+	SB-127	473.00		25.00	2.15E+01	5.54E+01	7.64E+01
		685.20		35.70	1.10E+01		5.54E+01
		783.80		14.70	-1.80E+01		1.38E+02
+	I-129	29.78		57.00	-1.16E-01	4.67E-01	4.67E-01
		33.60		13.20	-2.96E-01		1.23E+00
		39.58		7.52	6.81E-01		1.40E+00
+	I-131	284.30		6.05	-1.67E+00	1.04E+00	1.23E+01
		364.48		81.20	1.56E-01		1.04E+00
		636.97		7.26	3.61E+00		1.32E+01
		722.89		1.80	-1.30E+01		6.03E+01
+	TE-132	49.72		13.10	-7.44E+02	5.18E+01	4.86E+02
		228.16		88.00	1.60E+01		5.18E+01
+	BA-133	81.00		33.00	8.73E-03	8.00E-02	1.79E-01
		302.84		17.80	2.69E-02		2.97E-01
		356.01		60.00	-1.22E-02		8.00E-02
+	I-133	529.87		86.30	-2.63E+09	7.68E+09	7.68E+09
+	XE-133	81.00		38.00	5.08E-01	1.04E+01	1.04E+01
+	CS-134	563.23		8.38	3.05E-01	7.85E-02	7.50E-01
		569.32		15.43	-1.14E-02		4.01E-01
		604.70		97.60	2.42E-02		7.85E-02
		795.84		85.40	4.49E-02		9.18E-02
		801.93		8.73	-8.58E-02		7.82E-01
+	CS-135	268.24		16.00	2.48E-01	3.58E-01	3.58E-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	7.11E-01	3.77E-01	3.72E+00
		163.89		4.61	8.30E-01		5.76E+00
		176.55		13.56	-1.68E+00		1.86E+00
		273.65		12.66	-8.72E-01		2.10E+00
		340.57		48.50	-6.25E-02		7.73E-01
		818.50		99.70	2.26E-01		3.77E-01
		1048.07		79.60	-1.33E-01		4.66E-01
		1235.34		19.70	-3.67E-01		2.69E+00
+	CS-137	661.65		85.12	1.30E-02	8.19E-02	8.19E-02
+	LA-138	788.74		34.00	-5.48E-02	7.59E-02	2.04E-01
		1435.80		66.00	0.00E+00		7.59E-02
+	CE-139	165.85		80.35	1.10E-02	6.95E-02	6.95E-02
+	BA-140	162.64		6.70	1.86E+00	1.46E+00	4.16E+00

Analysis Report for 1510091-19

CO1805S18-19

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	BA-140	304.84	4.50	-2.96E+00	1.46E+00	5.96E+00
		423.70	3.20	5.36E-01		1.11E+01
		437.55	2.00	4.49E+00		1.65E+01
		537.32	25.00	5.32E-01		1.46E+00
+	LA-140	328.77	20.50	3.28E-01	4.28E-01	1.61E+00
		487.03	45.50	-6.98E-02		7.11E-01
		815.85	23.50	-6.08E-01		1.55E+00
		1596.49	95.49	-1.52E-02		4.28E-01
+	CE-141	145.44	48.40	-3.58E-02	1.90E-01	1.90E-01
+	CE-143	57.36	11.80	-5.42E+06	1.77E+06	5.26E+06
		293.26	42.00	3.84E+06		1.77E+06
		664.55	5.20	9.93E+06		1.32E+07
+	CE-144	133.54	10.80	3.46E-02	4.78E-01	4.78E-01
+	PM-144	476.78	42.00	1.93E-02	6.68E-02	1.61E-01
		618.01	98.60	-1.51E-02		6.68E-02
		696.49	99.49	-7.66E-03		7.32E-02
+	PM-145	36.85	21.70	-1.43E-01	3.08E-01	5.71E-01
		37.36	39.70	7.76E-02		3.08E-01
		42.30	15.10	-9.32E-01		5.62E-01
		72.40	2.31	4.45E-01		3.33E+00
+	PM-146	453.90	39.94	4.49E-02	1.59E-01	1.59E-01
		735.90	14.01	-1.83E-01		4.30E-01
		747.13	13.10	-4.83E-02		4.66E-01
+	ND-147	91.11	28.90	-3.38E+00	1.76E+00	1.76E+00
		531.02	13.10	-1.08E+00		3.33E+00
+	PM-149	285.90	3.10	7.68E+03	3.45E+04	3.45E+04
+	EU-152	121.78	20.50	-1.29E-02	2.17E-01	2.17E-01
		244.69	5.40	-8.31E-01		1.00E+00
		344.27	19.13	7.32E-02		2.52E-01
		778.89	9.20	7.10E-02		6.68E-01
		964.01	10.40	-1.75E+00		1.00E+00
		1085.78	7.22	2.25E-01		1.08E+00
		1112.02	9.60	3.36E-01		9.07E-01
		1407.95	14.94	3.49E-02		4.28E-01
+	GD-153	97.43	31.30	5.28E-02	1.76E-01	1.76E-01
		103.18	22.20	1.67E-01		2.30E-01
+	EU-154	123.07	40.50	2.05E-02	1.12E-01	1.12E-01
		723.30	19.70	-7.65E-02		3.56E-01
		873.19	11.50	1.54E-01		5.75E-01
		996.32	10.30	-2.91E-01		7.06E-01
		1004.76	17.90	-1.85E-01		4.26E-01
		1274.45	35.50	6.35E-02		2.23E-01
+	EU-155	86.50	30.90	4.01E-02	2.20E-01	2.20E-01
		105.30	20.70	5.43E-02		2.29E-01
+	EU-156	811.77	10.40	-1.25E+00	2.52E+00	2.52E+00
		1153.47	7.20	-8.38E-01		4.87E+00
		1230.71	8.90	1.44E-01		4.35E+00
+	HO-166M	184.41	72.60	1.62E-01	8.70E-02	8.70E-02
		280.45	29.60	-1.30E-01		1.53E-01

Analysis Report for 1510091-19

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
	HO-166M	410.94		11.10	3.42E-01	8.70E-02	5.68E-01
		711.69		54.10	-3.11E-02		1.23E-01
+	TM-171	66.72		0.14	-8.13E+01	4.82E+01	4.82E+01
+	HF-172	81.75		4.52	-4.69E-01	4.28E-01	1.32E+00
		125.81		11.30	-4.03E-01		4.28E-01
+	LU-172	181.53		20.60	9.06E-01	3.39E+00	6.32E+00
		810.06		16.63	9.03E-01		1.09E+01
		912.12		15.25	6.75E+01		2.61E+01
		1093.66		62.50	1.06E+00		3.39E+00
+	LU-173	100.72		5.24	-3.25E-01	2.84E-01	9.30E-01
		272.11		21.20	2.41E-01		2.84E-01
+	HF-175	343.40		84.00	-9.36E-03	7.85E-02	7.85E-02
+	LU-176	88.34		13.30	6.15E-01	5.12E-02	5.24E-01
		201.83		86.00	5.15E-03		6.27E-02
		306.78		94.00	-2.16E-02		5.12E-02
+	TA-182	67.75		41.20	-8.38E-02	1.86E-01	1.86E-01
		1121.30		34.90	5.24E-01		4.10E-01
		1189.05		16.23	6.61E-02		5.79E-01
		1221.41		26.98	6.44E-02		3.85E-01
		1231.02		11.44	3.17E-02		9.59E-01
+	IR-192	308.46		29.68	-7.17E-02	1.69E-01	2.25E-01
		468.07		48.10	-2.13E-01		1.69E-01
+	HG-203	279.19		77.30	7.62E-02	1.09E-01	1.09E-01
+	BI-207	569.67		97.72	6.33E-03	6.16E-02	6.16E-02
		1063.62		74.90	1.20E-02		9.38E-02
+	TL-208	583.14	*	30.22	1.31E+00	1.47E-01	3.92E-01
		860.37	*	4.48	1.99E+00		2.15E+00
		2614.66	*	35.85	1.41E+00		1.47E-01
+	BI-210M	262.00		45.00	-6.90E-03	1.07E-01	1.07E-01
		300.00		23.00	1.75E-01		2.53E-01
+	PB-210	46.50		4.25	1.27E+00	2.00E+00	2.00E+00
+	PB-211	404.84		2.90	2.11E-01	1.72E+00	1.72E+00
		831.96		2.90	-1.70E+00		2.37E+00
+	BI-212	727.17	*	11.80	5.88E-01	6.62E-01	6.62E-01
		1620.62		2.75	1.06E+00		2.42E+00
+	PB-212	238.63	*	44.60	1.51E+00	2.33E-01	2.33E-01
		300.09		3.41	1.18E+00		1.71E+00
+	BI-214	609.31	*	46.30	1.02E+00	2.11E-01	2.11E-01
		1120.29	*	15.10	1.04E+00		7.38E-01
		1764.49	*	15.80	1.56E+00		3.56E-01
		2204.22	*	4.98	1.61E+00		8.46E-01
+	PB-214	295.21	*	19.19	8.45E-01	1.97E-01	4.44E-01
		351.92	*	37.19	1.20E+00		1.97E-01
+	RN-219	401.80		6.50	6.65E-02	8.24E-01	8.24E-01
+	RA-223	323.87		3.88	-3.70E-01	1.33E+00	1.33E+00
+	RA-224	240.98	*	3.95	4.70E+00	2.70E+00	2.70E+00
+	RA-225	40.00		31.00	7.14E-01	1.46E+00	1.46E+00
+	RA-226	186.21	*	3.28	2.26E+00	1.67E+00	1.67E+00

Analysis Report for 1510091-19

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/grams)	Nuclide MDA (pCi/grams)	Line MDA (pCi/grams)
+	TH-227	50.10		8.40	-1.31E+00	5.86E-01	8.55E-01
		236.00		11.50	-4.16E+00		5.86E-01
		256.20		6.30	-3.79E-01		7.23E-01
+	AC-228	338.32	*	11.40	1.73E+00	3.76E-01	5.31E-01
		911.07	*	27.70	1.35E+00		3.76E-01
		969.11	*	16.60	1.95E+00		7.46E-01
+	TH-230	48.44		16.90	2.06E-01	4.82E-01	4.82E-01
		62.85		4.60	3.14E+00		1.66E+00
		67.67		0.37	-7.70E+00		1.71E+01
+	PA-231	283.67		1.60	-7.59E-01	2.28E+00	2.90E+00
		302.67		2.30	2.07E-01		2.28E+00
+	TH-231	25.64		14.70	2.24E+00	9.63E-01	3.79E+00
		84.21		6.40	2.47E-01		9.63E-01
+	PA-233	311.98		38.60	4.09E-02	3.14E-01	3.14E-01
+	PA-234	131.20		20.40	3.93E-02	2.50E-01	2.50E-01
		733.99		8.80	3.49E-01		6.76E-01
		946.00		12.00	5.97E-02		5.89E-01
+	PA-234M	1001.03		0.92	7.19E-01	8.44E+00	8.44E+00
+	TH-234	63.29		3.80	2.28E+00	1.99E+00	1.99E+00
+	U-235	143.76		10.50	-1.05E-02	4.52E-01	4.52E-01
		163.35		4.70	1.52E-01		1.05E+00
		205.31		4.70	8.11E-02		1.17E+00
+	NP-237	86.50		12.60	9.72E-02	5.32E-01	5.32E-01
+	NP-239	106.10		22.70	5.78E+02	2.44E+03	2.44E+03
		228.18		10.70	1.77E+03		5.73E+03
		277.60		14.10	1.74E+03		4.28E+03
+	AM-241	59.54		35.90	-4.46E-02	1.89E-01	1.89E-01
+	AM-243	74.67		66.00	-2.31E-01	1.35E-01	1.35E-01
+	CM-243	209.75		3.29	1.64E+00	3.66E-01	1.83E+00
		228.14		10.60	1.52E-01		4.91E-01
		277.60		14.00	1.49E-01		3.66E-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 1510091-19

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NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	BE-7	477.59		10.42	8.82E-01	8.82E-01	-6.19E-02	4.17E-01
	NA-22	1274.54		99.94	8.05E-02	8.05E-02	2.29E-02	3.66E-02
	NA-24	1368.53		99.99	1.64E+14	7.81E+13	3.10E+13	7.37E+13
		2754.09		99.86	7.81E+13		-2.94E+13	2.77E+13
	AL-26	1808.65		99.76	4.39E-02	4.39E-02	-1.84E-02	1.74E-02
+	K-40	1460.81	*	10.67	1.10E+00	1.10E+00	1.48E+01	5.12E-01
@	AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
	TI-44	67.88		94.40	6.71E-02	6.71E-02	-3.01E-02	3.27E-02
		78.34		96.00	8.85E-02		2.06E-01	4.35E-02
	SC-46	889.25		99.98	9.28E-02	9.28E-02	-7.67E-03	4.29E-02
		1120.51		99.99	1.53E-01		1.96E-01	7.22E-02
	V-48	983.52		99.98	2.23E-01	2.23E-01	-2.06E-01	9.97E-02
		1312.10		97.50	2.28E-01		-2.59E-01	9.91E-02
	CR-51	320.08		9.83	1.05E+00	1.05E+00	-4.10E-01	4.96E-01
	MN-54	834.83		99.97	8.26E-02	8.26E-02	-1.90E-02	3.86E-02
	CO-56	846.75		99.96	8.66E-02	8.66E-02	-1.04E-02	3.99E-02
		1037.75		14.03	6.49E-01		-2.04E-01	2.96E-01
		1238.25		67.00	2.11E-01		2.09E-01	9.84E-02
		1771.40		15.51	4.47E-01		-9.85E-02	1.85E-01
		2598.48		16.90	2.77E-01		3.48E-02	9.82E-02
	CO-57	122.06		85.51	5.62E-02	5.62E-02	-3.33E-03	2.72E-02
		136.48		10.60	4.83E-01		-6.92E-02	2.34E-01
	CO-58	810.76		99.40	8.94E-02	8.94E-02	-6.20E-03	4.13E-02
	FE-59	1099.22		56.50	2.03E-01	2.03E-01	-6.52E-02	9.25E-02
		1291.56		43.20	2.37E-01		-1.64E-01	1.05E-01
	CO-60	1173.22		100.00	8.39E-02	6.18E-02	3.55E-02	3.86E-02
		1332.49		100.00	6.18E-02		-6.89E-03	2.72E-02
	ZN-65	1115.52		50.75	1.81E-01	1.81E-01	3.37E-03	8.35E-02
+	GA-67	93.31	*	35.70	1.79E+02	1.79E+02	1.31E+02	8.78E+01
		208.95	*	2.24	2.78E+03		2.40E+03	1.35E+03
		300.22		16.00	3.17E+02		2.20E+02	1.52E+02
	SE-75	121.11		16.70	3.20E-01	9.42E-02	-6.07E-03	1.55E-01
		136.00		59.20	9.42E-02		-1.02E-02	4.56E-02
		264.65		59.80	9.61E-02		-5.20E-03	4.58E-02
		279.53		25.20	2.36E-01		4.25E-02	1.13E-01
		400.65		11.40	5.69E-01		4.10E-02	2.69E-01
	RB-82	776.52		13.00	1.14E+00	1.14E+00	2.17E-01	5.24E-01
	RB-83	520.41		46.00	1.51E-01	1.51E-01	-1.33E-01	7.03E-02
		529.64		30.30	2.44E-01		-8.34E-02	1.14E-01
		552.65		16.40	4.60E-01		1.24E-01	2.15E-01
	KR-85	513.99		0.43	2.25E+01	2.25E+01	3.73E+01	1.09E+01
	SR-85	513.99		99.27	1.38E-01	1.38E-01	2.28E-01	6.64E-02
	Y-88	898.02		93.40	8.94E-02	5.46E-02	-2.53E-02	4.11E-02
		1836.01		99.38	5.46E-02		-8.33E-03	2.17E-02
	NB-93M	16.57		9.43	7.23E+01	7.23E+01	-2.09E+01	3.36E+01

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/grams)	Nuclide MDA (pCi/grams)	Activity (pCi/grams)	Dec. Level (pCi/grams)
	NB-94	702.63		100.00	7.87E-02	6.20E-02	1.02E-02	3.71E-02
		871.10		100.00	6.20E-02		-5.66E-03	2.84E-02
	NB-95	765.79		99.81	1.52E-01	1.52E-01	4.65E-02	7.15E-02
	NB-95M	235.69		25.00	1.22E+02	1.22E+02	-8.66E+02	5.91E+01
	ZR-95	724.18		43.70	2.52E-01	1.79E-01	2.37E-02	1.19E-01
		756.72		55.30	1.79E-01		2.23E-02	8.36E-02
	MO-99	181.06		6.20	2.46E+03	1.62E+03	1.87E+03	1.19E+03
		739.58		12.80	1.62E+03		-2.18E+02	7.56E+02
		778.00		4.50	4.11E+03		-6.07E+01	1.89E+03
	RU-103	497.08		89.00	1.16E-01	1.16E-01	-2.57E-02	5.45E-02
	RU-106	621.84		9.80	6.52E-01	6.52E-01	-4.95E-02	3.04E-01
	AG-108M	433.93		89.90	6.15E-02	6.15E-02	-3.48E-02	2.91E-02
		614.37		90.40	7.35E-02		7.15E-03	3.45E-02
		722.95		90.50	7.70E-02		-1.65E-02	3.60E-02
+	CD-109	88.03	*	3.72	2.12E+00	2.12E+00	2.16E+00	1.04E+00
	AG-110M	657.75		93.14	7.42E-02	7.42E-02	-7.05E-03	3.46E-02
		677.61		10.53	6.28E-01		-1.88E-01	2.91E-01
		706.67		16.46	5.22E-01		2.47E-01	2.46E-01
		763.93		21.98	3.33E-01		-1.92E-02	1.55E-01
		884.67		71.63	1.08E-01		-2.34E-02	5.01E-02
		1384.27		23.94	2.94E-01		8.74E-02	1.30E-01
	CD-113M	263.70		0.02	2.09E+02	2.09E+02	-1.94E+01	9.96E+01
	SN-113	255.12		1.93	2.95E+00	9.49E-02	1.63E-01	1.41E+00
		391.69		64.90	9.49E-02		1.57E-03	4.48E-02
	TE123M	159.00		84.10	6.89E-02	6.89E-02	-4.17E-02	3.33E-02
	SB-124	602.71		97.87	1.06E-01	1.06E-01	6.58E-02	5.01E-02
		645.85		7.26	1.32E+00		-1.57E-01	6.21E-01
		722.78		11.10	9.05E-01		-1.95E-01	4.23E-01
		1691.02		49.00	1.71E-01		9.28E-02	7.29E-02
	I-125	35.49		6.49	3.02E+00	3.02E+00	-1.70E-01	1.46E+00
	SB-125	176.33		6.89	6.97E-01	2.06E-01	-6.33E-01	3.36E-01
		427.89		29.33	2.06E-01		5.69E-02	9.76E-02
		463.38		10.35	7.29E-01		7.51E-01	3.49E-01
		600.56		17.80	3.98E-01		1.67E-02	1.88E-01
		635.90		11.32	5.41E-01		-6.18E-02	2.52E-01
	SB-126	414.70		83.30	4.03E-01	3.99E-01	2.65E-02	1.91E-01
		666.33		99.60	4.17E-01		1.34E-01	1.96E-01
		695.00		99.60	3.99E-01		-9.89E-02	1.86E-01
		720.50		53.80	7.55E-01		-9.66E-02	3.53E-01
+	SN-126	87.57	*	37.00	2.04E-01	2.04E-01	2.07E-01	1.00E-01
	SB-127	473.00		25.00	7.64E+01	5.54E+01	2.15E+01	3.62E+01
		685.20		35.70	5.54E+01		1.10E+01	2.58E+01
		783.80		14.70	1.38E+02		-1.80E+01	6.40E+01
	I-129	29.78		57.00	4.67E-01	4.67E-01	-1.16E-01	2.26E-01
		33.60		13.20	1.23E+00		-2.96E-01	5.95E-01
		39.58		7.52	1.40E+00		6.81E-01	6.76E-01
	I-131	284.30		6.05	1.23E+01	1.04E+00	-1.67E+00	5.84E+00
		364.48		81.20	1.04E+00		1.56E-01	4.93E-01
		636.97		7.26	1.32E+01		3.61E+00	6.18E+00
		722.89		1.80	6.03E+01		-1.30E+01	2.82E+01
	TE-132	49.72		13.10	4.86E+02	5.18E+01	-7.44E+02	2.36E+02
		228.16		88.00	5.18E+01		1.60E+01	2.49E+01
	BA-133	81.00		33.00	1.79E-01	8.00E-02	8.73E-03	8.72E-02

Analysis Report for 1510091-19

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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-133	302.84	17.80	2.97E-01	8.00E-02	2.69E-02	1.42E-01
	356.01	60.00	8.00E-02		-1.22E-02	3.77E-02
I-133	529.87	86.30	7.68E+09	7.68E+09	-2.63E+09	3.60E+09
XE-133	81.00	38.00	1.04E+01	1.04E+01	5.08E-01	5.08E+00
CS-134	563.23	8.38	7.50E-01	7.85E-02	3.05E-01	3.52E-01
	569.32	15.43	4.01E-01		-1.14E-02	1.88E-01
	604.70	97.60	7.85E-02		2.42E-02	3.72E-02
	795.84	85.40	9.18E-02		4.49E-02	4.29E-02
	801.93	8.73	7.82E-01		-8.58E-02	3.62E-01
CS-135	268.24	16.00	3.58E-01	3.58E-01	2.48E-01	1.72E-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	3.72E+00	3.77E-01	7.11E-01	1.80E+00
	163.89	4.61	5.76E+00		8.30E-01	2.78E+00
	176.55	13.56	1.86E+00		-1.68E+00	8.95E-01
	273.65	12.66	2.10E+00		-8.72E-01	1.00E+00
	340.57	48.50	7.73E-01		-6.25E-02	3.72E-01
	818.50	99.70	3.77E-01		2.26E-01	1.75E-01
	1048.07	79.60	4.66E-01		-1.33E-01	2.12E-01
	1235.34	19.70	2.69E+00		-3.67E-01	1.25E+00
CS-137	661.65	85.12	8.19E-02	8.19E-02	1.30E-02	3.85E-02
LA-138	788.74	34.00	2.04E-01	7.59E-02	-5.48E-02	9.48E-02
	1435.80	66.00	7.59E-02		0.00E+00	3.20E-02
CE-139	165.85	80.35	6.95E-02	6.95E-02	1.10E-02	3.36E-02
BA-140	162.64	6.70	4.16E+00	1.46E+00	1.86E+00	2.01E+00
	304.84	4.50	5.96E+00		-2.96E+00	2.83E+00
	423.70	3.20	1.11E+01		5.36E-01	5.30E+00
	437.55	2.00	1.65E+01		4.49E+00	7.79E+00
	537.32	25.00	1.46E+00		5.32E-01	6.89E-01
LA-140	328.77	20.50	1.61E+00	4.28E-01	3.28E-01	7.70E-01
	487.03	45.50	7.11E-01		-6.98E-02	3.35E-01
	815.85	23.50	1.55E+00		-6.08E-01	7.14E-01
	1596.49	95.49	4.28E-01		-1.52E-02	1.89E-01
CE-141	145.44	48.40	1.90E-01	1.90E-01	-3.58E-02	9.17E-02
CE-143	57.36	11.80	5.26E+06	1.77E+06	-5.42E+06	2.56E+06
	293.26	42.00	1.77E+06		3.84E+06	8.59E+05
	664.55	5.20	1.32E+07		9.93E+06	6.22E+06
CE-144	133.54	10.80	4.78E-01	4.78E-01	3.46E-02	2.32E-01
PM-144	476.78	42.00	1.61E-01	6.68E-02	1.93E-02	7.61E-02
	618.01	98.60	6.68E-02		-1.51E-02	3.12E-02
	696.49	99.49	7.32E-02		-7.66E-03	3.42E-02
PM-145	36.85	21.70	5.71E-01	3.08E-01	-1.43E-01	2.76E-01
	37.36	39.70	3.08E-01		7.76E-02	1.49E-01
	42.30	15.10	5.62E-01		-9.32E-01	2.72E-01
	72.40	2.31	3.33E+00		4.45E-01	1.63E+00
PM-146	453.90	39.94	1.59E-01	1.59E-01	4.49E-02	7.57E-02
	735.90	14.01	4.30E-01		-1.83E-01	1.99E-01
	747.13	13.10	4.66E-01		-4.83E-02	2.15E-01
ND-147	91.11	28.90	1.76E+00	1.76E+00	-3.38E+00	8.63E-01
	531.02	13.10	3.33E+00		-1.08E+00	1.56E+00
PM-149	285.90	3.10	3.45E+04	3.45E+04	7.68E+03	1.64E+04
EU-152	121.78	20.50	2.17E-01	2.17E-01	-1.29E-02	1.05E-01

Analysis Report for 1510091-19

CO1805S18-19

	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	1.00E+00	2.17E-01	-8.31E-01	4.83E-01
		344.27		19.13	2.52E-01		7.32E-02	1.19E-01
		778.89		9.20	6.68E-01		7.10E-02	3.08E-01
		964.01		10.40	1.00E+00		-1.75E+00	4.73E-01
		1085.78		7.22	1.08E+00		2.25E-01	4.94E-01
		1112.02		9.60	9.07E-01		3.36E-01	4.20E-01
		1407.95		14.94	4.28E-01		3.49E-02	1.88E-01
	GD-153	97.43		31.30	1.76E-01	1.76E-01	5.28E-02	8.56E-02
		103.18		22.20	2.30E-01		1.67E-01	1.11E-01
	EU-154	123.07		40.50	1.12E-01	1.12E-01	2.05E-02	5.43E-02
		723.30		19.70	3.56E-01		-7.65E-02	1.66E-01
		873.19		11.50	5.75E-01		1.54E-01	2.64E-01
		996.32		10.30	7.06E-01		-2.91E-01	3.24E-01
		1004.76		17.90	4.26E-01		-1.85E-01	1.96E-01
		1274.45		35.50	2.23E-01		6.35E-02	1.01E-01
	EU-155	86.50		30.90	2.20E-01	2.20E-01	4.01E-02	1.08E-01
		105.30		20.70	2.29E-01		5.43E-02	1.11E-01
	EU-156	811.77		10.40	2.52E+00	2.52E+00	-1.25E+00	1.16E+00
		1153.47		7.20	4.87E+00		-8.38E-01	2.24E+00
		1230.71		8.90	4.35E+00		1.44E-01	2.01E+00
	HO-166M	184.41		72.60	8.70E-02	8.70E-02	1.62E-01	4.23E-02
		280.45		29.60	1.53E-01		-1.30E-01	7.27E-02
		410.94		11.10	5.68E-01		3.42E-01	2.71E-01
		711.69		54.10	1.23E-01		-3.11E-02	5.72E-02
	TM-171	66.72		0.14	4.82E+01	4.82E+01	-8.13E+01	2.36E+01
	HF-172	81.75		4.52	1.32E+00	4.28E-01	-4.69E-01	6.44E-01
		125.81		11.30	4.28E-01		-4.03E-01	2.07E-01
	LU-172	181.53		20.60	6.32E+00	3.39E+00	9.06E-01	3.05E+00
		810.06		16.63	1.09E+01		9.03E-01	5.06E+00
		912.12		15.25	2.61E+01		6.75E+01	1.26E+01
		1093.66		62.50	3.39E+00		1.06E+00	1.56E+00
	LU-173	100.72		5.24	9.30E-01	2.84E-01	-3.25E-01	4.51E-01
		272.11		21.20	2.84E-01		2.41E-01	1.37E-01
	HF-175	343.40		84.00	7.85E-02	7.85E-02	-9.36E-03	3.71E-02
	LU-176	88.34		13.30	5.24E-01	5.12E-02	6.15E-01	2.57E-01
		201.83		86.00	6.27E-02		5.15E-03	3.03E-02
		306.78		94.00	5.12E-02		-2.16E-02	2.43E-02
	TA-182	67.75		41.20	1.86E-01	1.86E-01	-8.38E-02	9.10E-02
		1121.30		34.90	4.10E-01		5.24E-01	1.94E-01
		1189.05		16.23	5.79E-01		6.61E-02	2.64E-01
		1221.41		26.98	3.85E-01		6.44E-02	1.77E-01
		1231.02		11.44	9.59E-01		3.17E-02	4.43E-01
	IR-192	308.46		29.68	2.25E-01	1.69E-01	-7.17E-02	1.07E-01
		468.07		48.10	1.69E-01		-2.13E-01	7.97E-02
	HG-203	279.19		77.30	1.09E-01	1.09E-01	7.62E-02	5.20E-02
	BI-207	569.67		97.72	6.16E-02	6.16E-02	6.33E-03	2.89E-02
		1063.62		74.90	9.38E-02		1.20E-02	4.27E-02
+	TL-208	583.14	*	30.22	3.92E-01	1.47E-01	1.31E+00	1.90E-01
		860.37	*	4.48	2.15E+00		1.99E+00	1.01E+00
		2614.66	*	35.85	1.47E-01		1.41E+00	5.92E-02
	BI-210M	262.00		45.00	1.07E-01	1.07E-01	-6.90E-03	5.10E-02
		300.00		23.00	2.53E-01		1.75E-01	1.21E-01
	PB-210	46.50		4.25	2.00E+00	2.00E+00	1.27E+00	9.74E-01

Analysis Report for 1510091-19

CO1805S18-19

	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	1.72E+00	1.72E+00	2.11E-01	8.11E-01
		831.96		2.90	2.37E+00		-1.70E+00	1.10E+00
+	BI-212	727.17	*	11.80	6.62E-01	6.62E-01	5.88E-01	3.11E-01
		1620.62		2.75	2.42E+00		1.06E+00	1.06E+00
+	PB-212	238.63	*	44.60	2.33E-01	2.33E-01	1.51E+00	1.14E-01
		300.09		3.41	1.71E+00		1.18E+00	8.18E-01
+	BI-214	609.31	*	46.30	2.11E-01	2.11E-01	1.02E+00	1.01E-01
		1120.29	*	15.10	7.38E-01		1.04E+00	3.48E-01
		1764.49	*	15.80	3.56E-01		1.56E+00	1.50E-01
		2204.22	*	4.98	8.46E-01		1.61E+00	3.24E-01
+	PB-214	295.21	*	19.19	4.44E-01	1.97E-01	8.45E-01	2.16E-01
		351.92	*	37.19	1.97E-01		1.20E+00	9.52E-02
	RN-219	401.80		6.50	8.24E-01	8.24E-01	6.65E-02	3.89E-01
	RA-223	323.87		3.88	1.33E+00	1.33E+00	-3.70E-01	6.32E-01
+	RA-224	240.98	*	3.95	2.70E+00	2.70E+00	4.70E+00	1.32E+00
	RA-225	40.00		31.00	1.46E+00	1.46E+00	7.14E-01	7.09E-01
+	RA-226	186.21	*	3.28	1.67E+00	1.67E+00	2.26E+00	8.07E-01
	TH-227	50.10		8.40	8.55E-01	5.86E-01	-1.31E+00	4.15E-01
		236.00		11.50	5.86E-01		-4.16E+00	2.84E-01
		256.20		6.30	7.23E-01		-3.79E-01	3.44E-01
+	AC-228	338.32	*	11.40	5.31E-01	3.76E-01	1.73E+00	2.54E-01
		911.07	*	27.70	3.76E-01		1.35E+00	1.78E-01
		969.11	*	16.60	7.46E-01		1.95E+00	3.55E-01
	TH-230	48.44		16.90	4.82E-01	4.82E-01	2.06E-01	2.34E-01
		62.85		4.60	1.66E+00		3.14E+00	8.15E-01
		67.67		0.37	1.71E+01		-7.70E+00	8.36E+00
	PA-231	283.67		1.60	2.90E+00	2.28E+00	-7.59E-01	1.38E+00
		302.67		2.30	2.28E+00		2.07E-01	1.09E+00
	TH-231	25.64		14.70	3.79E+00	9.63E-01	2.24E+00	1.83E+00
		84.21		6.40	9.63E-01		2.47E-01	4.71E-01
	PA-233	311.98		38.60	3.14E-01	3.14E-01	4.09E-02	1.50E-01
	PA-234	131.20		20.40	2.50E-01	2.50E-01	3.93E-02	1.21E-01
		733.99		8.80	6.76E-01		3.49E-01	3.12E-01
		946.00		12.00	5.89E-01		5.97E-02	2.71E-01
	PA-234M	1001.03		0.92	8.44E+00	8.44E+00	7.19E-01	3.90E+00
	TH-234	63.29		3.80	1.99E+00	1.99E+00	2.28E+00	9.75E-01
	U-235	143.76		10.50	4.52E-01	4.52E-01	-1.05E-02	2.19E-01
		163.35		4.70	1.05E+00		1.52E-01	5.09E-01
		205.31		4.70	1.17E+00		8.11E-02	5.65E-01
	NP-237	86.50		12.60	5.32E-01	5.32E-01	9.72E-02	2.61E-01
	NP-239	106.10		22.70	2.44E+03	2.44E+03	5.78E+02	1.18E+03
		228.18		10.70	5.73E+03		1.77E+03	2.76E+03
		277.60		14.10	4.28E+03		1.74E+03	2.05E+03
	AM-241	59.54		35.90	1.89E-01	1.89E-01	-4.46E-02	9.23E-02
	AM-243	74.67		66.00	1.35E-01	1.35E-01	-2.31E-01	6.65E-02
	CM-243	209.75		3.29	1.83E+00	3.66E-01	1.64E+00	8.85E-01
		228.14		10.60	4.91E-01		1.52E-01	2.36E-01
		277.60		14.00	3.66E-01		1.49E-01	1.75E-01

Analysis Report for 1510091-19

CO1805S18-19

+ = 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: CO1805S18-19

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	58	69	70	73	64	71
25:	52	57	68	54	42	62	71	65
33:	59	44	60	52	53	73	56	76
41:	56	55	56	64	51	88	139	86
49:	60	78	88	78	85	91	105	96
57:	75	91	119	90	123	117	141	250
65:	131	113	119	139	102	103	122	144
73:	131	141	375	259	376	481	135	113
81:	91	132	101	120	150	102	171	229
89:	118	170	148	122	244	198	102	70
97:	84	91	75	109	63	58	60	73
105:	72	98	60	62	74	85	69	71
113:	84	69	69	92	69	67	60	52
121:	62	70	60	57	62	68	69	74
129:	99	102	77	85	60	58	60	66
137:	57	64	68	71	65	61	59	66
145:	60	59	59	45	62	69	77	61
153:	62	85	69	66	57	63	58	55
161:	51	67	64	54	58	49	59	45
169:	42	63	69	40	41	63	59	40
177:	43	39	60	61	48	48	47	42
185:	52	161	119	47	56	62	54	57
193:	42	35	54	59	42	46	55	47
201:	56	44	59	67	52	51	53	55
209:	69	105	51	44	47	43	43	48
217:	46	41	36	42	45	42	55	41
225:	36	53	37	44	39	43	37	41
233:	46	33	46	42	47	185	610	203
241:	107	118	81	35	35	35	27	39
249:	20	28	24	24	36	23	27	28
257:	36	26	40	34	29	31	25	33
265:	27	33	30	31	35	61	55	31
273:	39	25	34	24	39	49	27	21
281:	30	21	23	28	26	28	28	32
289:	28	29	30	30	35	29	120	151
297:	43	34	29	49	50	25	22	26
305:	26	31	16	28	21	39	25	26
313:	34	25	38	23	23	21	26	23
321:	13	23	30	23	22	32	31	43
329:	46	22	25	35	31	22	19	27
337:	25	70	139	36	13	16	25	22
345:	24	16	15	25	24	32	50	261
353:	163	27	12	21	13	23	23	22
361:	18	29	22	29	24	26	20	22

369:	22	17	21	21	21	24	15	17

Sample Title: CO1805S18-19

Channel								
377:	18	22	25	22	16	15	24	17
385:	16	21	26	20	22	21	21	19
393:	13	21	19	16	15	22	28	17
401:	19	23	17	26	16	15	13	17
409:	23	29	23	19	10	18	19	12
417:	13	18	18	21	27	20	23	14
425:	17	15	18	15	15	20	14	11
433:	14	14	16	10	18	12	24	15
441:	13	15	11	15	19	18	15	13
449:	19	13	18	16	19	11	20	24
457:	11	12	16	13	14	19	41	32
465:	21	17	17	15	12	9	12	13
473:	20	18	23	12	17	9	16	17
481:	8	19	12	24	7	10	21	12
489:	7	7	11	13	16	19	9	17
497:	11	8	18	7	17	11	15	12
505:	18	10	11	13	27	51	97	76
513:	15	12	15	11	17	12	10	11
521:	7	11	11	6	16	15	10	10
529:	8	14	13	13	8	13	9	19
537:	11	15	8	25	10	10	14	14
545:	9	14	18	7	9	12	12	16
553:	9	9	5	11	9	10	8	8
561:	12	9	14	11	15	10	9	8
569:	12	9	11	16	10	8	8	14
577:	13	11	9	14	10	22	115	152
585:	28	5	11	12	6	17	9	10
593:	8	2	11	9	17	10	9	16
601:	12	16	15	15	17	9	12	23
609:	134	174	51	11	15	9	15	12
617:	10	10	10	10	3	12	10	10
625:	10	10	9	6	13	10	11	8
633:	5	8	9	8	10	7	15	9
641:	10	8	17	5	15	7	7	8
649:	17	14	13	11	11	11	5	13
657:	5	10	15	11	7	13	10	12
665:	12	16	15	10	5	8	10	9
673:	8	9	11	8	9	11	7	5
681:	6	13	8	8	6	12	7	9
689:	7	12	8	11	10	11	11	7
697:	3	15	9	15	8	14	11	12
705:	19	15	14	12	10	11	8	9
713:	13	6	7	8	10	11	10	4
721:	7	7	13	15	12	11	23	37
729:	9	5	2	9	8	3	8	12
737:	6	4	7	9	14	9	14	15
745:	4	7	4	7	7	4	8	10
753:	9	9	12	19	5	2	9	9
761:	9	6	6	11	9	4	13	28
769:	15	14	13	7	16	6	6	7
777:	9	5	5	10	3	7	6	5
785:	13	15	4	6	12	5	10	7
793:	8	13	20	13	5	6	6	10

801:	3	8	12	4	9	9	11	11

Sample Title: CO1805S18-19

Channel								
809:	3	7	8	7	6	7	5	6
817:	7	6	11	12	8	7	4	4
825:	12	8	7	6	8	5	10	12
833:	1	6	11	15	15	7	9	19
841:	18	5	18	6	9	4	7	7
849:	7	6	8	9	8	6	5	8
857:	5	4	12	18	23	17	3	13
865:	10	9	7	5	5	6	2	6
873:	9	6	12	3	4	6	2	11
881:	9	5	7	3	13	7	10	6
889:	3	11	9	5	7	8	7	8
897:	8	7	2	5	8	8	8	8
905:	9	11	7	11	9	19	77	93
913:	20	5	4	2	5	9	6	6
921:	10	2	3	7	4	5	10	5
929:	5	4	6	4	5	17	13	9
937:	1	4	7	5	6	3	4	2
945:	4	11	7	9	8	8	7	7
953:	5	7	4	9	7	9	6	3
961:	6	11	5	16	36	18	7	22
969:	74	54	15	9	9	4	5	5
977:	9	9	5	6	4	1	1	3
985:	8	5	3	5	12	3	8	3
993:	5	7	6	7	7	7	4	9
1001:	11	8	6	5	7	6	9	6
1009:	7	9	6	7	5	6	6	8
1017:	4	4	5	6	5	2	5	3
1025:	3	1	2	4	5	3	4	8
1033:	7	5	5	3	4	7	4	5
1041:	8	6	8	9	8	6	2	4
1049:	7	4	5	6	4	3	4	6
1057:	3	2	5	6	4	8	8	3
1065:	4	5	4	5	3	5	4	5
1073:	5	4	2	8	4	3	8	5
1081:	5	4	8	6	9	8	5	4
1089:	3	3	8	3	7	11	5	5
1097:	5	5	7	3	5	4	3	7
1105:	7	6	6	4	9	12	5	8
1113:	9	7	3	7	5	6	12	26
1121:	28	16	7	6	5	5	7	7
1129:	10	6	5	2	7	6	11	3
1137:	5	5	4	8	7	3	10	8
1145:	5	5	5	4	8	2	2	10
1153:	3	7	8	12	7	10	6	9
1161:	2	2	5	7	10	7	12	2
1169:	6	3	7	6	6	7	6	9
1177:	6	3	9	5	4	6	8	5
1185:	4	6	5	8	2	2	5	9
1193:	6	4	4	7	3	5	12	9
1201:	8	6	4	8	12	5	10	9
1209:	8	3	7	7	7	5	0	9
1217:	6	12	8	2	11	3	4	4
1225:	2	7	2	10	9	7	6	5

1233:	5	7	9	5	10	18	14	8

Sample Title: CO1805S18-19

Channel								
1241:	5	1	4	7	7	3	6	4
1249:	4	6	7	4	0	2	6	5
1257:	3	3	9	6	7	1	1	6
1265:	2	6	8	7	4	5	2	9
1273:	4	7	2	4	6	4	2	9
1281:	7	7	1	5	5	4	10	3
1289:	4	3	0	7	1	2	4	4
1297:	3	2	3	4	3	6	6	5
1305:	2	3	5	6	2	2	2	3
1313:	2	4	0	7	4	3	1	4
1321:	2	2	6	8	0	4	3	7
1329:	5	2	4	2	3	1	1	0
1337:	4	2	5	2	4	2	2	4
1345:	1	3	3	1	1	4	3	0
1353:	6	5	4	5	1	3	2	2
1361:	3	1	3	1	3	5	5	3
1369:	2	4	5	1	7	1	1	3
1377:	4	13	5	1	4	1	6	2
1385:	2	2	2	2	0	4	1	4
1393:	1	3	1	4	2	3	2	5
1401:	3	4	5	2	0	2	1	6
1409:	4	2	3	2	0	3	1	3
1417:	3	5	4	3	3	0	4	2
1425:	2	2	1	2	1	4	1	2
1433:	2	0	1	1	1	4	1	3
1441:	4	5	1	2	2	2	2	1
1449:	0	2	2	3	1	1	8	1
1457:	4	6	26	123	244	140	25	6
1465:	3	1	2	1	1	1	2	1
1473:	0	2	1	1	1	1	5	2
1481:	0	2	2	2	2	2	2	1
1489:	1	2	2	2	3	0	3	6
1497:	2	3	2	2	5	5	0	0
1505:	1	0	1	2	5	3	1	3
1513:	1	2	2	2	3	0	2	0
1521:	2	1	0	1	2	2	2	4
1529:	3	0	0	2	2	2	1	4
1537:	2	4	1	2	2	2	3	4
1545:	0	0	3	0	1	1	1	2
1553:	1	0	1	2	3	2	1	6
1561:	3	1	2	0	2	3	3	4
1569:	1	3	2	0	2	2	2	1
1577:	1	2	2	2	3	0	1	3
1585:	1	3	4	7	9	1	0	4
1593:	5	3	5	1	2	3	1	2
1601:	2	3	1	1	2	2	1	0
1609:	3	2	2	0	1	1	0	1
1617:	1	1	1	4	3	2	4	3
1625:	0	0	1	4	1	3	4	4
1633:	3	2	2	3	1	3	1	0
1641:	2	0	4	2	0	3	0	2
1649:	2	0	5	2	3	1	1	0
1657:	1	0	0	2	2	6	1	2

1665:	1	1	1	2	1	1	2	3

Sample Title: CO1805S18-19

Channel								
1673:	0	1	2	2	2	2	1	1
1681:	1	2	0	1	1	1	0	1
1689:	3	2	2	2	1	0	0	0
1697:	2	1	1	0	1	0	0	1
1705:	1	0	0	1	2	0	1	1
1713:	0	3	1	0	1	2	2	2
1721:	0	2	0	3	2	0	2	3
1729:	5	5	2	1	0	0	1	1
1737:	3	2	2	0	0	1	0	0
1745:	0	2	0	0	3	3	0	1
1753:	0	2	0	0	2	1	0	1
1761:	0	1	10	27	31	10	3	1
1769:	5	1	0	1	0	0	1	2
1777:	1	1	1	2	0	2	0	1
1785:	2	1	0	3	1	1	1	1
1793:	0	1	0	0	1	2	0	1
1801:	0	2	1	2	1	1	1	0
1809:	1	0	1	0	3	1	2	2
1817:	1	0	0	3	1	1	0	3
1825:	0	1	0	1	1	1	1	1
1833:	0	0	1	1	1	0	2	1
1841:	1	0	1	0	1	6	3	4
1849:	1	0	3	2	0	1	1	1
1857:	0	2	2	1	1	2	0	1
1865:	0	0	1	0	2	2	0	2
1873:	2	2	1	1	2	1	0	1
1881:	0	2	1	0	0	0	1	1
1889:	0	3	1	3	0	0	0	4
1897:	0	3	2	1	4	0	1	1
1905:	2	0	3	1	1	1	2	1
1913:	1	0	0	0	0	0	1	0
1921:	0	2	0	0	0	1	0	0
1929:	1	1	1	1	1	0	1	1
1937:	1	0	0	0	0	0	2	1
1945:	2	1	1	1	3	0	3	0
1953:	1	0	1	0	1	1	1	0
1961:	1	0	1	1	1	3	0	0
1969:	1	1	1	0	1	1	1	1
1977:	0	1	1	2	2	2	1	1
1985:	1	1	3	0	0	2	2	0
1993:	1	1	1	2	1	1	0	4
2001:	0	0	2	2	2	0	2	2
2009:	1	0	2	0	0	1	0	1
2017:	1	0	1	2	1	1	1	2
2025:	0	1	2	1	1	1	1	1
2033:	1	1	0	1	0	1	0	0
2041:	1	1	0	2	1	1	0	2
2049:	2	0	1	1	0	3	1	3
2057:	1	0	1	1	1	0	0	1
2065:	1	0	1	0	1	1	0	1
2073:	1	2	1	2	2	0	1	0
2081:	0	1	1	3	1	2	0	2
2089:	1	0	0	2	0	2	1	0

2097:	0	0	0	1	2	3	6	4

Sample Title: CO1805S18-19

Channel								
2105:	6	3	1	1	1	0	1	1
2113:	1	1	0	2	2	2	1	1
2121:	2	2	1	0	1	1	1	0
2129:	1	0	1	0	1	1	1	0
2137:	1	1	1	1	2	2	2	1
2145:	0	2	1	1	0	1	2	0
2153:	0	2	3	3	0	0	0	0
2161:	0	1	2	0	0	2	0	0
2169:	1	1	2	2	1	2	0	2
2177:	1	2	0	4	1	0	1	1
2185:	1	2	0	1	0	0	2	0
2193:	1	1	0	0	1	0	1	0
2201:	2	1	3	10	3	3	2	0
2209:	0	0	0	1	1	0	1	4
2217:	0	3	0	3	0	0	0	0
2225:	1	1	1	0	0	1	1	1
2233:	2	0	0	0	3	0	2	1
2241:	0	1	0	0	1	1	1	1
2249:	1	0	2	0	2	0	1	1
2257:	3	1	0	4	0	2	1	1
2265:	1	1	0	0	0	2	0	0
2273:	1	1	1	1	1	3	3	2
2281:	0	2	1	0	1	0	3	0
2289:	0	2	1	0	0	2	1	1
2297:	0	1	3	1	2	1	1	0
2305:	0	1	2	0	1	2	1	0
2313:	1	1	3	0	2	1	2	1
2321:	4	1	2	0	3	1	0	5
2329:	2	1	2	0	1	2	1	1
2337:	0	1	1	3	1	2	0	1
2345:	0	2	0	0	0	3	2	1
2353:	1	0	1	1	2	2	1	3
2361:	1	3	1	0	3	1	1	0
2369:	0	2	1	0	0	3	2	1
2377:	1	1	1	1	1	1	5	1
2385:	0	0	1	3	1	1	1	0
2393:	0	0	0	2	1	4	2	0
2401:	3	1	0	2	1	1	0	2
2409:	0	0	1	1	1	0	0	0
2417:	0	1	0	0	2	0	2	1
2425:	0	1	1	1	0	1	0	2
2433:	1	2	1	1	0	0	1	0
2441:	0	2	0	1	0	1	5	1
2449:	3	0	0	1	0	1	0	2
2457:	0	0	0	1	1	1	0	3
2465:	2	0	0	0	0	2	1	1
2473:	0	0	1	0	1	0	0	0
2481:	3	0	1	1	0	2	1	0
2489:	0	1	0	0	1	2	0	0
2497:	1	1	1	0	1	1	0	0
2505:	1	0	2	0	1	0	0	0
2513:	2	1	1	0	0	1	0	0
2521:	0	0	1	0	0	0	1	0

2529:	1	0	0	0	0	1	2	2

Sample Title: CO1805S18-19

Channel								
2537:	1	0	0	0	0	2	0	1
2545:	0	1	0	0	0	0	1	1
2553:	0	0	1	1	0	0	1	0
2561:	1	0	0	0	1	0	0	0
2569:	0	2	0	0	0	1	1	1
2577:	1	0	0	0	2	1	0	1
2585:	1	0	0	0	0	2	0	1
2593:	0	0	1	0	0	1	0	0
2601:	0	0	0	0	0	0	3	2
2609:	0	0	3	4	29	40	44	12
2617:	6	0	1	0	0	0	0	0
2625:	1	0	0	0	1	0	0	0
2633:	0	0	0	0	0	2	1	0
2641:	0	0	1	0	0	0	0	0
2649:	0	0	1	0	0	0	0	1
2657:	1	0	0	1	0	1	1	1
2665:	1	1	1	1	0	2	0	1
2673:	0	0	2	0	1	0	0	1
2681:	0	1	1	0	1	0	0	0
2689:	0	1	0	0	0	0	1	1
2697:	0	0	2	1	0	0	0	0
2705:	0	0	0	0	2	0	0	0
2713:	0	1	0	1	0	0	0	0
2721:	0	0	0	0	2	0	0	0
2729:	1	2	0	1	0	0	0	0
2737:	0	1	0	0	0	1	0	0
2745:	1	0	0	0	0	0	1	0
2753:	0	1	0	0	0	1	0	2
2761:	0	0	0	1	0	0	1	1
2769:	0	1	0	1	0	2	0	0
2777:	1	0	0	1	0	1	0	1
2785:	0	0	0	0	0	2	0	1
2793:	0	0	1	2	0	0	0	0
2801:	1	0	0	1	0	1	0	0
2809:	0	1	1	1	1	0	0	0
2817:	0	0	0	0	0	0	0	0
2825:	0	1	0	1	2	0	1	0
2833:	1	0	1	0	0	1	0	0
2841:	0	0	0	0	0	0	0	0
2849:	0	0	1	0	0	0	0	0
2857:	0	0	0	0	0	1	1	0
2865:	0	1	0	0	0	1	0	0
2873:	0	0	0	0	0	1	0	0
2881:	0	0	0	0	1	0	0	1
2889:	0	0	1	0	0	0	0	0
2897:	0	0	0	0	0	0	2	0
2905:	0	0	2	0	1	0	0	0
2913:	0	0	0	0	0	0	0	1
2921:	0	0	1	0	0	1	0	0
2929:	1	0	0	0	0	0	0	1
2937:	1	0	0	0	0	0	0	0
2945:	0	3	1	1	0	0	1	0
2953:	1	0	0	0	0	1	0	0

2961:	0	0	1	0	0	0	1	0

Sample Title: CO1805S18-19

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

3393:	0	0	0	1	1	0	1	0

Sample Title: CO1805S18-19

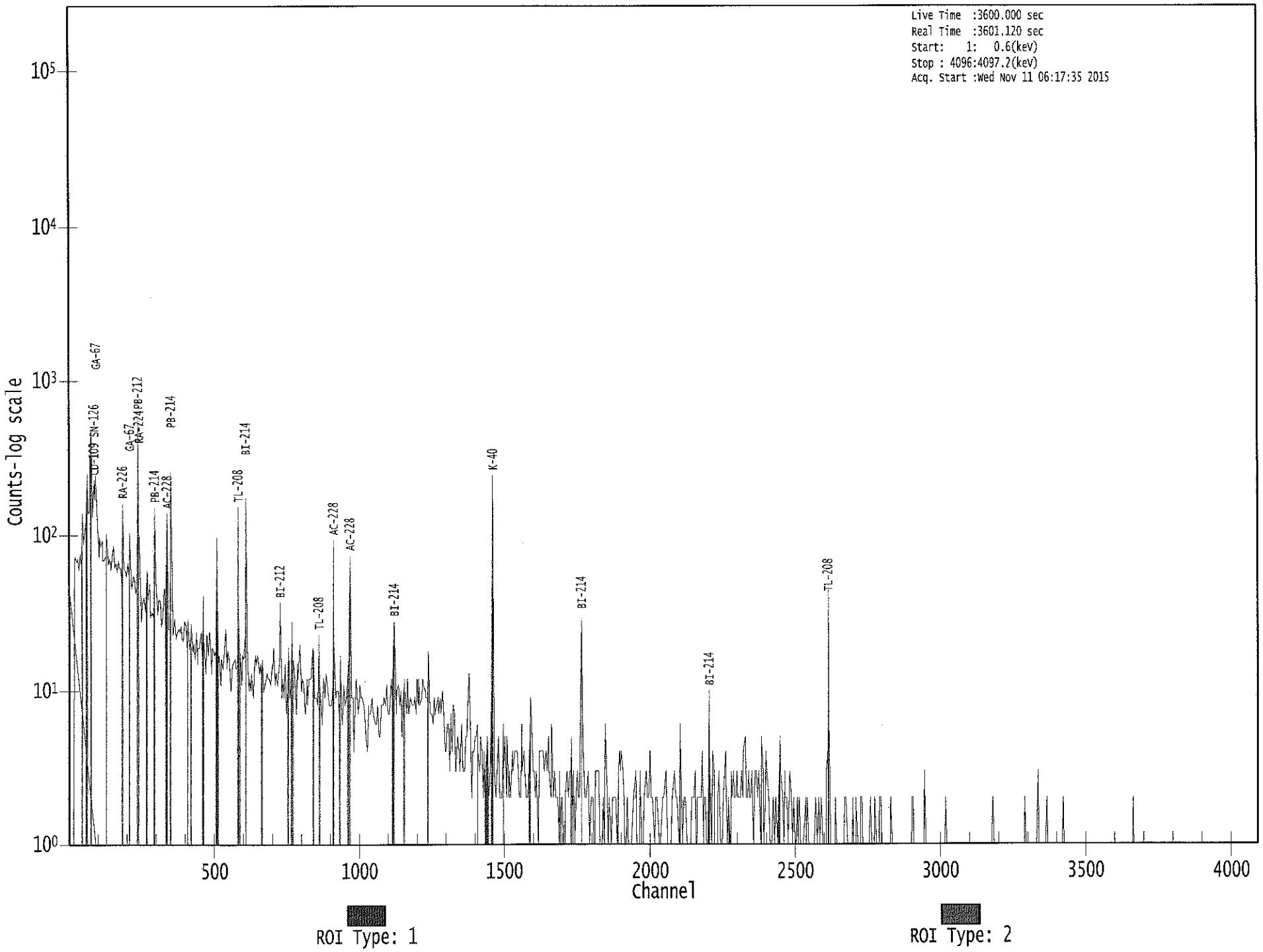
Channel								
3401:	1	1	1	0	0	0	0	0
3409:	0	0	1	0	1	0	0	0
3417:	0	0	1	0	0	0	2	0
3425:	0	0	0	0	0	0	0	0
3433:	0	0	1	0	0	0	0	0
3441:	0	0	1	0	0	0	0	1
3449:	1	0	0	0	0	0	1	0
3457:	0	0	0	0	0	0	0	0
3465:	0	0	0	0	0	0	0	0
3473:	0	0	0	0	1	0	0	1
3481:	0	0	0	0	0	0	0	0
3489:	1	0	0	0	0	0	0	0
3497:	0	0	0	0	0	0	0	0
3505:	0	0	0	0	0	0	0	0
3513:	0	1	0	0	0	1	0	0
3521:	0	0	0	0	0	0	1	0
3529:	0	0	0	0	0	0	0	0
3537:	0	0	0	0	0	0	0	0
3545:	0	0	0	1	0	0	1	0
3553:	0	0	0	0	0	0	0	0
3561:	0	0	0	0	0	0	0	0
3569:	0	0	1	0	1	0	0	1
3577:	0	1	0	0	1	0	0	0
3585:	0	0	0	0	0	1	1	0
3593:	1	0	0	0	0	0	0	0
3601:	0	0	0	0	0	0	0	0
3609:	0	0	0	0	0	1	0	0
3617:	1	0	0	0	0	1	0	1
3625:	1	0	0	0	0	0	0	0
3633:	0	1	0	0	0	1	0	0
3641:	0	0	0	0	1	0	0	0
3649:	1	0	0	0	0	1	0	0
3657:	0	0	0	0	0	0	2	0
3665:	0	1	0	0	0	0	1	0
3673:	0	0	0	0	0	0	0	0
3681:	0	1	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	0	0	0
3713:	0	0	0	0	1	0	1	1
3721:	1	0	0	0	0	0	1	0
3729:	0	0	0	0	0	0	0	0
3737:	0	0	1	0	0	0	1	0
3745:	0	0	0	0	0	0	0	0
3753:	0	0	1	0	0	0	0	0
3761:	0	0	1	0	0	0	0	0
3769:	0	0	0	0	0	0	0	1
3777:	0	0	0	0	0	0	0	0
3785:	0	0	0	0	0	0	0	0
3793:	0	1	0	0	0	0	1	0
3801:	0	0	0	0	0	0	0	0
3809:	0	0	0	0	0	0	0	0
3817:	0	0	0	1	0	0	0	0

3825:	1	1	0	1	0	0	0	1

Sample Title: CO1805S18-19

Channel								
3833:	0	0	0	0	0	0	0	0
3841:	0	0	1	0	0	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	1	0	0	0	0	0	0	0
3865:	0	0	0	0	0	0	1	1
3873:	0	0	0	0	0	0	0	1
3881:	0	0	0	1	0	0	0	0
3889:	0	0	0	0	0	0	0	0
3897:	0	1	0	0	0	0	0	0
3905:	1	0	0	0	0	1	0	1
3913:	1	0	0	0	0	0	0	1
3921:	0	0	0	0	0	0	1	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	1	0	0	0	0	0
3961:	1	0	0	0	0	0	0	0
3969:	0	0	0	0	0	0	0	0
3977:	0	0	0	0	1	0	0	0
3985:	1	0	0	0	0	0	0	0
3993:	0	0	0	1	0	1	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	0	0	0	0	0
4041:	1	0	1	0	0	0	0	0
4049:	0	0	0	0	0	0	0	0
4057:	0	0	0	0	1	0	1	0
4065:	0	0	0	0	0	0	0	0
4073:	0	0	0	1	0	0	0	0
4081:	0	0	0	1	1	0	0	0
4089:	0	0	0	0	0	0	0	0

0000029460.CNF



****
***** GENIE QUALITY ASSURANCE *****
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Last Results Report
11/10/15 6:18:58 AM

AC
11/10/15

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: 11/10/15 6:03:47 AM
Measurement Date: 11/10/15 6:03:50 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 GE1 [SD: 2.3020E+000+/- 1.691]	2.1167E+000	-1.0963E-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 *****
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Last Results Report
11/10/15 6:18:40 AM

AG 11/10/15

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: 11/10/15 6:03:26 AM
Measurement Date: 11/10/15 6:03:29 AM
Elapsed Live Time: 900.0 seconds
Elapsed Real Time: 900.1 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
DAILY BKG CT RATE GE2 [SD: 4.5523E+000+/- 0.280]	4.3867E+000	-5.9113E-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 ****
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Last Results Report
11/10/15 6:37:16 AM

AG 11/10/15

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: 11/10/15 6:21:39 AM
Elapsed Live Time: 900.0 seconds
Elapsed Real Time: 923.8 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Peak centroid 59.54 kev	6.0186E+001	
Boundary Limits: [5.800E+001, 6.100E+001]		< : : : >
Peak centroid 661.65 kev	6.6200E+002	
Boundary Limits: [6.600E+002, 6.630E+002]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak centroid 1332.49 ke	1.3327E+003	
Boundary Limits: [1.331E+003, 1.334E+003]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak centroid 1836.01 ke	1.8364E+003	
Boundary Limits: [1.834E+003, 1.838E+003]		< : : : >
Peak FWHM Am-241	1.0375E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Peak FWHM Cs-137	1.5572E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak FWHM Co-60	2.0524E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak FWHM Y-90	2.4002E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Decay corrected activity	1.4251E+004	
Boundary Limits: [1.170E-002, 1.754E-002]		< : : : >
Decay corrected activity	6.0617E+003	

Boundary Limits: [4.716E-003, 7.075E-003]		< : : : >
Decay corrected activity	1.0628E+004	
Boundary Limits: [7.572E-003, 1.136E-002]		< : : : >

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Decay corrected activity	2.0857E+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)

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***** GENIE QUALITY ASSURANCE *****
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AG
11/10/15

Last Results Report
11/10/15 6:37:29 AM

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000002GAS-1401C.QC

Detector: GE2
Geometry: <None>
Certificate: GAS-1401
Sample ID: QA Calibration C
Sample Desc: QA Count
Sample Quantity: 1.0000E+000
Sample Date: 10/1/14 12:00:00 AM
Measurement Date: 11/10/15 6:21:52 AM
Elapsed Live Time: 900.0 seconds
Elapsed Real Time: 926.5 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	6.6149E+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	1.3248E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak FWHM Cs-137	2.1571E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak FWHM Co-60	2.1401E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Peak FWHM Y-88	2.6387E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Decay corrected activity	1.5485E+005	
Boundary Limits: [1.224E-001, 1.836E-001]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		

Decay corrected activity 6.4100E+004
Boundary Limits: [4.971E-002, 7.457E-002] < : : : >
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	1.0605E+005	
Boundary Limits: [7.978E-002, 1.197E-001]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Decay corrected activity	2.2477E+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)

****
**** GENIE QUALITY ASSURANCE ****
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AG 11/10/15

Last Results Report
11/10/15 6:18:26 AM

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000003B.QCK

Detector: GE3
Geometry: <None>
Certificate: <None>
Sample ID: QA Background Ch
Sample Desc: QA Count
Sample Quantity: 1.0000E+000
Sample Date: 11/10/15 6:02:52 AM
Measurement Date: 11/10/15 6:03:13 AM
Elapsed Live Time: 900.0 seconds
Elapsed Real Time: 904.3 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
DAILY BKG CT RATE GE3 [SD: 2.2860E+003+/-1494.8]	1.7260E+003	-3.7465E-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 *****
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Last Results Report
11/10/15 6:18:00 AM

AG 11/10/15

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: 11/10/15 6:02:35 AM
Measurement Date: 11/10/15 6:02:39 AM
Elapsed Live Time: 900.0 seconds
Elapsed Real Time: 910.8 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
DAILY BKG CT RATE GE4 [SD: 8.7217E+000+/-163.52]	1.5611E+000	-4.3788E-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)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
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Last Results Report
11/10/15 6:37:58 AM

AG 11/10/15

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000003GAS-1402C.QC

Detector: GE3
Geometry: <None>
Certificate: GAS-1402
Sample ID: QA Calibration C
Sample Desc: QA Count
Sample Quantity: 1.0000E+000
Sample Date: 10/1/14 12:00:00 AM
Measurement Date: 11/10/15 6:22:09 AM
Elapsed Live Time: 900.0 seconds
Elapsed Real Time: 936.9 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Peak centroid 59.54 kev	5.9920E+001	
Boundary Limits: [5.800E+001, 6.100E+001]		< : : : >
Peak centroid 661.65 kev	6.6152E+002	
Boundary Limits: [6.600E+002, 6.640E+002]		< : : : >
Peak centroid 1332.49 ke	1.3319E+003	
Boundary Limits: [1.331E+003, 1.334E+003]		< : : : >
Peak centroid 1836.1 kev	1.8351E+003	
Boundary Limits: [1.833E+003, 1.838E+003]		< : : : >
Peak FWHM Am-241	1.6309E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Peak FWHM Cs-137	2.1830E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Peak FWHM Co-60	2.2546E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Peak FWHM Y-88	2.3990E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Decay corrected activity	1.8171E+005	
Boundary Limits: [1.223E-001, 1.834E-001]		< : : : >
Decay corrected activity	6.3665E+004	
Boundary Limits: [4.969E-002, 7.453E-002]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Decay corrected activity	9.8323E+004	

Boundary Limits: [7.972E-002, 1.120E-001] < : : : >
Trend Test: The last 9 samples exhibit a bias trend.

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Decay corrected activity	2.1267E+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 *****
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Last Results Report
11/10/15 6:38:32 AM

AG 11/10/15

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: 11/10/15 6:22:24 AM
Elapsed Live Time: 900.0 seconds
Elapsed Real Time: 955.3 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Peak centroid 59.54 kev	5.8736E+001	
Boundary Limits: [5.800E+001, 6.100E+001]		< : : : >
Peak centroid 661.65 kev	6.6119E+002	
Boundary Limits: [6.600E+002, 6.630E+002]		< : : : >
Peak centroid 1332.49 ke	1.3326E+003	
Boundary Limits: [1.331E+003, 1.334E+003]		< : : : >
Peak centroid 1836.1 kev	1.8366E+003	
Boundary Limits: [1.834E+003, 1.838E+003]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak FWHM Am-241	2.2345E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Peak FWHM Cs-137	2.6991E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Peak FWHM Co-60	3.0051E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		<Ab : : : >
Peak FWHM Y-88	3.1863E+000	
Boundary Limits: [5.000E-001, 3.500E+000]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Decay corrected activity	1.2382E+005	
Boundary Limits: [1.200E-001, 1.816E-001]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Decay corrected activity	6.4477E+004	
Boundary Limits: [4.918E-002, 7.377E-002]		< : : : >

Decay corrected activity 9.5381E+004
Boundary Limits: [7.892E-002, 1.184E-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	2.0767E+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 *****
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Last Results Report
11/11/15 5:40:00 AM

11/11

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	6.0175E+001	
Boundary Limits: [5.800E+001, 6.100E+001]		< : : : >
Peak centroid 661.65 kev	6.6200E+002	
Boundary Limits: [6.600E+002, 6.630E+002]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak centroid 1332.49 ke	1.3327E+003	
Boundary Limits: [1.331E+003, 1.334E+003]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak centroid 1836.01 ke	1.8363E+003	
Boundary Limits: [1.834E+003, 1.838E+003]		< : : : >
Peak FWHM Am-241	1.0456E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Peak FWHM Cs-137	1.5832E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak FWHM Co-60	2.0599E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak FWHM Y-90	2.3489E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Decay corrected activity	1.4258E+004	
Boundary Limits: [1.170E-002, 1.754E-002]		< : : : >
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 [Mean +/- Std. Dev.]	Value	Deviation/Flags < 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)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
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Last Results Report
11/11/15 6:07:11 AM

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 [Mean +/- Std. Dev.]	Value	Deviation/Flags < 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)