SAF-RC-243
618-10 VPU Field Remediation – Other
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

No Distribution Required KW 9/2/16
INITIAL/DATE

COMMENTS:

SDG XP0230 SAF-RC-243

☑ Rad only Chem only Rad & Chem

☑ Complete Partial

Sample Location: VPU Secondary Auger Filter

WASHINGTON CLOSURE HANFORD

SAF: RC-243, SDG: XP0230

STANDARD LEVEL IV
REPORT OF ANALYSIS

WORK ORDER #16-08066-OR

August 30, 2016

EBERLINE ANALYTICAL/OAK RIDGE LABORATORY
OAK RIDGE, TN

TABLE OF CONTENTS

SECTION	DESCRIPTION	PAGE
I	Chain of Custody	0004
II	Sample Acknowledgement	0008
III	Case Narrative	0011
IV	Analytical Results Summary	0014
V	Analytical Standard	0018
VI	Quality Control Sample Results Summary	0024
VII	Laboratory Technician's Notes	0029
VIII	Analytical Data (Gross Alpha/Beta)	0037
IX	Analytical Data (Gamma Spectroscopy)	0061
	Last Page Number	0319

Eberline Services – Oak Ridge Laboratory

LABORATORY DATA SUPPORT CHECKLIST

MP-001-3

Eberline Services Work Order # 16-08066

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

Date for Partial	Initials	Date	Initials	Checklist Items
		8-16-16	SEB	Sample Log-In
		8/19/16	KBS	Data Compilation
		8/19/16	[illegible]	First Technical Data Review
		8/23/16	[illegible]	Second Technical Data Review
		8/25/16	[illegible]	Data Entry/Electronic Deliverable
		8/25/16	[illegible]	Case Narrative
		08/29/16	EJT	Electronic Deliverable Proof
		8/29/16	[illegible]	Samples Analyzed within Holding Time Yes? [X] No? [ ]
		8/29/16	[illegible]	QA/QC Review
		8/29/16	[illegible]	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: [illegible] [illegible] 8/29/16

Laboratory Manager Date

Copy No. _____

Radiochemistry Services

SECTION I

CHAIN OF CUSTODY

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-243-007

Collector WHITE, EC	**Company Contact** Joan Kessner	**Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH
Project Designation 618-10 Vertical Pipe Unit (VPU)	**Sampling Location** VPU Secondary Auger Filter		**SAF No.** RC-243
Ice Chest No. WCH-11-023	**Field Logbook No.** EL-1671	**COA** R618VPUY000	**Method of Shipment** Commercial Carrier
Shipped To Eberline Services Oak Ridge	**Offsite Property No.** A131460 TRE 8-15-16		**Bill of Lading/Air Bill No.** SEE OSPC

Price Code 9B

Data Turnaround 7 DAY

Other Labs Shipped To RCF

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Rad <DOT Limits

Special Handling and/or Storage

N/A

Preservation	None	None										
Type of Container	G/P	G/P										
No. of Container(s)	1	0										
Volume	1000mL	1000mL										
Sample Analysis	Gross Alpha & Gross Beta {Gross alpha, Gross beta}	See item (1) in Special Instructions										

Sample No.	Matrix	Sample Date	Sample Time										
J1V937 4	OTHER	8-11-16	1035	✓	✓		40222	17.3g					
J1V938 5	OTHER	8-11-16	1040	✓	✓		40223	21.9g					
J1V939 6	OTHER	8-11-16	1025	✓	✓		40224	20.6g					
J1V940 7	OTHER	8-11-16	1030	✓	✓		40225	18.3g					

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E. White / [signature]	8-11-16 1055	T.R. Edmundson / T.R. Edmundson	8-11-16 1055
T.R. Edmundson / T.R. Edmundson	8-11-16 1350	D Miller RCF / [signature]	8-11-16 1350
D Miller RCF / [signature]	8-15-16 0810	T.R. Edmundson / T.R. Edmundson	8-15-16 0810
T.R. Edmundson WCH / T.R. Edmundson	8-15-16 1500	Fed Ex	8-15-16
		James E Bailey / [signature]	8-16-16 1000

FINAL SAMPLE DISPOSITION — Disposal Method — Disposed By — Date/Time

SPECIAL INSTRUCTIONS

(1) RCF GEA Screen Tranship OR {Americium-241, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}

REC'D AUG 16 2016

16-08066

REVIEWED BY JKerstele DATE 8-15-16

XP0230

WCH-EE-011

EBERLINE SERVICES Oak Ridge Laboratory	Internal Chain of Custody	Work Order #	16-08066
		Lab Deadline	8/22/2016
		Analysis	GaGbT_ThSr - Level 4
		Sample Matrix	Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
	04	38	D1.4
	05	39	D1.4
	06	31	D1.4
	07	33	D1.4
Report on DRY WEIGHT basis.			

	Location (circle one)					Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	MG	19AUG16
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	MG	19AUG16 0950
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		8/19 0950
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		8/19 1715
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		

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EBERLINE SERVICES Oak Ridge Laboratory	Internal Chain of Custody	Work Order #	16-08066
		Lab Deadline	8/22/2016
		Analysis	Gamma - Level 4
		Sample Matrix	Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
Report Am241, Cs137, Co60, Eu152/154/155, K40, Pa234m, Pb212/214, Th234, Tl208, U235 and positives.	04	38	D1.4
	05	39	D1.4
	06	31	D1.4
	07	33	D1.4
Report on DRY WEIGHT basis.			

	Location (circle one)					Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1230	Kenyseij	8-16-16
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1325	Kenyseij	8-16-16
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1325		8/16
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		8/17 0801
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		

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SECTION II

SAMPLE ACKNOWLEDGEMENT

Client Name	Contract/PO	Project Type	Date Received	Required Turnaround Days	Eberline Services Work Order
Washington Closure Hanford	S00W235A01	Environmental	08/16/2016	7	16-08066
Project Name	**Client WO**	**Sample Disp**	**Lab Deadline**	**Internal Deadline**	**Client Deadline**
S00W235A01	SAF: RC-243 SDG: XP0230	H	08/22/2016	08/23/2016	08/23/2016

Internal ID	Client ID	Sample Date	Matrix	Storage	GaGbT	Gamma																							Tot
01	LCS	08/16/16	SO	D1.4	X	X																							2
02	BLANK	08/16/16	SO	D1.4	X	X																							2
03	DUP	08/16/16	SO	D1.4	X	X																							2
04	J1V937 SAF: RC-243	08/11/16 10:35	SO	D1.4	X	X																							2
05	J1V938 SAF: RC-243	08/11/16 10:40	SO	D1.4	X	X																							2
06	J1V939 SAF: RC-243	08/11/16 10:25	SO	D1.4	X	X																							2
07	J1V940 SAF: RC-243	08/11/16 10:30	SO	D1.4	X	X																							2
																													0
																													0
																													0
																													0
																													0
																													0
																													0
																													0
																													0
																													0
																													0
																													0
																													0
				Totals Per Analysis (non QA samples)	4	4	0	0	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
Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354
Voice
Fax

Contact
Joan Kessner
Voice 509-375-4688
Fax

Report Data
Joan Kessner
Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354
Voice 509-375-4688
Fax

Printed: 8/16/2016 11:38 AM

Eberline Services – Oak Ridge Laboratory

SAMPLE RECEIPT CHECKLIST
MP-001-2

WORK ORDER # 16-08066

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: 8-16-16

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-41181

August 29, 2016

Joan Kessner
Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

CASE NARRATIVE
SAF: RC-243, SDG: XP0230
Work Order # 16-08066-OR

SAMPLE RECEIPT

This work order contains four other samples received 08/16/2016. These samples were analyzed for Gross Alpha/Beta and by Gamma Spectroscopy.

CLIENT ID	LAB ID	CLIENT ID	LAB ID
J1V937	16-08066-04	J1V939	16-08066-06
J1V938	16-08066-05	J1V940	16-08066-07

ANALYTICAL METHODS

Gross Alpha/Beta was performed using Method LANL MLR-100 Modified. Gamma Spectroscopy was performed using Method LANL ER-130 Modified.

Laboratory qualifier is as follows:

U - Result is less than or equal to MDA.

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.

GROSS ALPHA & BETA

Samples were prepared by conducting an acid leach of the entire sample followed by volumetric dilutions. Aliquots were placed on steel planchets, evaporated and flamed. Planchets were weighed before and after evaporation and flaming to determine aliquot size. Samples were then counted on a gas proportional counter. Results were corrected as required for inherent self-absorption based on residual mass present.

ANALYTICAL RESULTS CONTINUED

GROSS ALPHA & BETA CONTINUED

Samples demonstrated acceptable results for all Gross Alpha and Beta determinations. Due to the filter media being glass fiber, Gross Beta results are less than Potassium-40 as a result of retention within the matrix. The Gross Alpha and Beta method blank demonstrated acceptable results. Results for the Gross Alpha duplicate demonstrated a high relative percent difference; however, normalized difference is within acceptable limits for the analytical technique. Results for the Gross Beta duplicate demonstrated an acceptable relative percent difference and normalized difference. Results for the Gross Alpha and Beta laboratory control sample demonstrated an acceptable percent recovery.

GAMMA SPECTROSCOPY

Filter media being analyzed by Gamma Spectroscopy was prepared by transferring directly to a standard geometry container. Samples were counted on High Purity Germanium (HPGe) gamma ray detectors.

Samples demonstrated acceptable results for all gamma emitting radionuclides as reported. The method blank demonstrated acceptable results for all gamma emitting radionuclides as reported. Results for the Americium-241, Cesium-137 and Potassium-40 replicate demonstrated a high relative percent difference; however, normalized difference is within acceptable limits for the analytical technique. 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: 8/29/2016

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

Joan Kessner
Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

SAF: RC-243
SDG: XP0230
Work Order: 16-08066
Date Received: 08/16/2016
Matrix: Other

Sample Number	Lab Sample ID	QC Type	Date Analyzed	Method Name	CAS Number	Isotope	Result	2-Sigma Counting Error	Total Propagated Uncertainty	MDA	Lab Qualifier	Analysis Units
NA	16-08066-01	LCS	8/19/2016	ALPHA_GPC	12587-46-1	Gross Alpha	299.442	3.87	32.93	0.32		pCi/sample
		LCS	8/19/2016	BETA_GPC	12587-47-2	Gross Beta	278.767	3.15	38.65	0.62		pCi/sample
		LCS	8/16/2016	GAMMA_GS	10198-40-0	Cobalt-60	136.377	7.71	10.41	0.74		pCi/sample
		LCS	8/16/2016	GAMMA_GS	10045-97-3	Cesium-137	87.452	7.16	8.45	0.78		pCi/sample
NA	16-08066-02	BLK	8/19/2016	ALPHA_GPC	12587-46-1	Gross Alpha	-0.139	0.12	0.12	0.34	U	pCi/sample
		BLK	8/19/2016	BETA_GPC	12587-47-2	Gross Beta	-0.054	0.23	0.23	0.50	U	pCi/sample
		BLK	8/16/2016	GAMMA_GS	14596-10-2	Americium-241	-0.003	0.02	0.02	0.05	U	pCi/sample
		BLK	8/16/2016	GAMMA_GS	10198-40-0	Cobalt-60	0	0.01	0.01	0.02	U	pCi/sample
		BLK	8/16/2016	GAMMA_GS	10045-97-3	Cesium-137	0.002	0.02	0.02	0.03	U	pCi/sample
		BLK	8/16/2016	GAMMA_GS	14683-23-9	Europium-152	0.004	0.05	0.05	0.07	U	pCi/sample
		BLK	8/16/2016	GAMMA_GS	15585-10-1	Europium-154	0.027	0.04	0.04	0.04	U	pCi/sample
		BLK	8/16/2016	GAMMA_GS	14391-16-3	Europium-155	0.025	0.04	0.04	0.06	U	pCi/sample
		BLK	8/16/2016	GAMMA_GS	13966-00-2	Potassium-40	-0.082	0.20	0.20	0.29	U	pCi/sample
		BLK	8/16/2016	GAMMA_GS	15100-28-4	Protactinium-234m	1.714	1.64	1.64	3.44	U	pCi/sample
		BLK	8/16/2016	GAMMA_GS	15092-94-1	Lead-212	0.032	0.04	0.04	0.06	U	pCi/sample
		BLK	8/16/2016	GAMMA_GS	15067-28-4	Lead-214	0.033	0.03	0.03	0.06	U	pCi/sample
		BLK	8/16/2016	GAMMA_GS	15065-10-8	Thorium-234	0.407	0.42	0.42	0.61	U	pCi/sample
		BLK	8/16/2016	GAMMA_GS	14913-50-9	Thallium-208	0.030	0.05	0.05	0.09	U	pCi/sample
		BLK	8/16/2016	GAMMA_GS	15117-96-1	Uranium-235	-0.011	0.11	0.11	0.14	U	pCi/sample
J1V937	16-08066-03	DUP	8/19/2016	ALPHA_GPC	12587-46-1	Gross Alpha	0	1.89	1.89	4.39	U	pCi/sample
		DUP	8/19/2016	BETA_GPC	12587-47-2	Gross Beta	11.210	2.91	3.29	4.93		pCi/sample
		DUP	8/17/2016	GAMMA_GS	14596-10-2	Americium-241	10.873	28.97	28.97	40.60	U	pCi/sample
		DUP	8/17/2016	GAMMA_GS	10198-40-0	Cobalt-60	-6.299	16.18	16.19	22.39	U	pCi/sample
		DUP	8/17/2016	GAMMA_GS	10045-97-3	Cesium-137	-6.673	14.64	14.64	20.96	U	pCi/sample
		DUP	8/17/2016	GAMMA_GS	14683-23-9	Europium-152	-24.224	46.29	46.31	55.59	U	pCi/sample
		DUP	8/17/2016	GAMMA_GS	15585-10-1	Europium-154	30.839	35.00	35.03	27.67		pCi/sample
		DUP	8/17/2016	GAMMA_GS	14391-16-3	Europium-155	-32.986	46.44	46.48	46.11	U	pCi/sample
		DUP	8/17/2016	GAMMA_GS	13966-00-2	Potassium-40	424.245	216.47	217.56	290.00		pCi/sample
		DUP	8/17/2016	GAMMA_GS	15100-28-4	Protactinium-234m	571.886	1507.72	1508.01	2693.86	U	pCi/sample
		DUP	8/17/2016	GAMMA_GS	15092-94-1	Lead-212	6.081	18.30	18.31	32.31	U	pCi/sample
		DUP	8/17/2016	GAMMA_GS	15067-28-4	Lead-214	19.755	26.18	26.20	48.68	U	pCi/sample
		DUP	8/17/2016	GAMMA_GS	15065-10-8	Thorium-234	666.037	323.11	324.91	515.03		pCi/sample
		DUP	8/17/2016	GAMMA_GS	14913-50-9	Thallium-208	-5.023	49.71	49.71	74.84	U	pCi/sample
		DUP	8/17/2016	GAMMA_GS	15117-96-1	Uranium-235	83.064	80.78	80.89	124.67	U	pCi/sample

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

Joan Kessner
Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

SAF: RC-243
SDG: XP0230
Work Order: 16-08066
Date Received: 08/16/2016
Matrix: Other

Sample Number	Lab Sample ID	QC Type	Date Analyzed	Method Name	CAS Number	Isotope	Result	2-Sigma Counting Error	Total Propagated Uncertainty	MDA	Lab Qualifier	Analysis Units
J1V937	16-08066-04		8/19/2016	ALPHA_GPC	12587-46-1	Gross Alpha	2.440	1.69	1.71	2.70	U	pCi/sample
			8/19/2016	BETA_GPC	12587-47-2	Gross Beta	14.017	2.91	3.50	4.54		pCi/sample
			8/17/2016	GAMMA_GS	14596-10-2	Americium-241	-7.682	31.95	31.95	39.93	U	pCi/sample
			8/17/2016	GAMMA_GS	10198-40-0	Cobalt-60	6.427	13.99	13.99	17.01	U	pCi/sample
			8/17/2016	GAMMA_GS	10045-97-3	Cesium-137	13.486	14.47	14.48	26.58	U	pCi/sample
			8/17/2016	GAMMA_GS	14683-23-9	Europium-152	-17.314	42.80	42.81	59.23	U	pCi/sample
			8/17/2016	GAMMA_GS	15585-10-1	Europium-154	-5.081	43.41	43.41	29.19	U	pCi/sample
			8/17/2016	GAMMA_GS	14391-16-3	Europium-155	-11.779	39.96	39.96	39.24	U	pCi/sample
			8/17/2016	GAMMA_GS	13966-00-2	Potassium-40	549.834	235.59	237.27	295.13		pCi/sample
			8/17/2016	GAMMA_GS	15100-28-4	Protactinium-234m	-1107.578	1869.84	1870.70	1952.54	U	pCi/sample
			8/17/2016	GAMMA_GS	15092-94-1	Lead-212	14.011	19.50	19.52	35.47	U	pCi/sample
			8/17/2016	GAMMA_GS	15067-28-4	Lead-214	28.635	23.81	23.85	46.84	U	pCi/sample
			8/17/2016	GAMMA_GS	15065-10-8	Thorium-234	709.670	307.17	309.32	501.05		pCi/sample
			8/17/2016	GAMMA_GS	14913-50-9	Thallium-208	56.580	44.90	45.00	83.73	U	pCi/sample
			8/17/2016	GAMMA_GS	15117-96-1	Uranium-235	46.325	85.30	85.34	121.00	U	pCi/sample
J1V938	16-08066-05		8/19/2016	ALPHA_GPC	12587-46-1	Gross Alpha	0.672	1.70	1.70	3.80	U	pCi/sample
			8/19/2016	BETA_GPC	12587-47-2	Gross Beta	15.703	3.82	4.39	6.60		pCi/sample
			8/17/2016	GAMMA_GS	14596-10-2	Americium-241	6.088	21.89	21.89	35.74	U	pCi/sample
			8/17/2016	GAMMA_GS	10198-40-0	Cobalt-60	1.513	7.53	7.53	21.34	U	pCi/sample
			8/17/2016	GAMMA_GS	10045-97-3	Cesium-137	3.993	16.77	16.77	27.28	U	pCi/sample
			8/17/2016	GAMMA_GS	14683-23-9	Europium-152	-18.949	60.04	60.05	55.26	U	pCi/sample
			8/17/2016	GAMMA_GS	15585-10-1	Europium-154	19.966	41.00	41.02	29.04	U	pCi/sample
			8/17/2016	GAMMA_GS	14391-16-3	Europium-155	27.188	38.40	38.43	41.19	U	pCi/sample
			8/17/2016	GAMMA_GS	13966-00-2	Potassium-40	536.577	243.10	244.66	297.10		pCi/sample
			8/17/2016	GAMMA_GS	15100-28-4	Protactinium-234m	1590.994	1422.30	1424.64	3083.21	U	pCi/sample
			8/17/2016	GAMMA_GS	15092-94-1	Lead-212	-22.749	30.30	30.32	34.23	U	pCi/sample
			8/17/2016	GAMMA_GS	15067-28-4	Lead-214	35.580	30.59	30.64	52.24	U	pCi/sample
			8/17/2016	GAMMA_GS	15065-10-8	Thorium-234	111.687	203.32	203.41	342.80	U	pCi/sample
			8/17/2016	GAMMA_GS	14913-50-9	Thallium-208	40.687	46.73	46.78	66.35	U	pCi/sample
			8/17/2016	GAMMA_GS	15117-96-1	Uranium-235	24.765	89.73	89.74	126.83	U	pCi/sample

Joan Kessner
Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

SAF: RC-243
SDG: XP0230
Work Order: 16-08066
Date Received: 08/16/2016
Matrix: Other

Sample Number	Lab Sample ID	QC Type	Date Analyzed	Method Name	CAS Number	Isotope	Result	2-Sigma Counting Error	Total Propagated Uncertainty	MDA	Lab Qualifier	Analysis Units
J1V939	16-08066-06		8/19/2016	ALPHA_GPC	12587-46-1	Gross Alpha	2.324	1.81	1.82	3.04	U	pCi/sample
			8/19/2016	BETA_GPC	12587-47-2	Gross Beta	14.800	3.17	3.77	4.99		pCi/sample
			8/17/2016	GAMMA_GS	14596-10-2	Americium-241	0.981	20.21	20.21	31.92	U	pCi/sample
			8/17/2016	GAMMA_GS	10198-40-0	Cobalt-60	6.810	11.24	11.24	24.01	U	pCi/sample
			8/17/2016	GAMMA_GS	10045-97-3	Cesium-137	-6.576	20.73	20.74	30.87	U	pCi/sample
			8/17/2016	GAMMA_GS	14683-23-9	Europium-152	-8.809	58.14	58.14	60.23	U	pCi/sample
			8/17/2016	GAMMA_GS	15585-10-1	Europium-154	54.104	34.27	34.38	32.12		pCi/sample
			8/17/2016	GAMMA_GS	14391-16-3	Europium-155	-45.615	50.25	50.31	42.16	U	pCi/sample
			8/17/2016	GAMMA_GS	13966-00-2	Potassium-40	461.751	225.71	226.95	281.00		pCi/sample
			8/17/2016	GAMMA_GS	15100-28-4	Protactinium-234m	1148.578	1690.21	1691.24	3166.06	U	pCi/sample
			8/17/2016	GAMMA_GS	15092-94-1	Lead-212	17.201	28.95	28.96	40.90	U	pCi/sample
			8/17/2016	GAMMA_GS	15067-28-4	Lead-214	45.129	28.60	28.69	52.24	U	pCi/sample
			8/17/2016	GAMMA_GS	15065-10-8	Thorium-234	266.445	182.68	183.19	340.43	U	pCi/sample
			8/17/2016	GAMMA_GS	14913-50-9	Thallium-208	39.565	47.24	47.28	85.44	U	pCi/sample
			8/17/2016	GAMMA_GS	15117-96-1	Uranium-235	96.624	95.03	95.16	142.79	U	pCi/sample
J1V940	16-08066-07		8/19/2016	ALPHA_GPC	12587-46-1	Gross Alpha	-1.187	1.98	1.98	5.10	U	pCi/sample
			8/19/2016	BETA_GPC	12587-47-2	Gross Beta	9.827	3.46	3.72	6.38		pCi/sample
			8/17/2016	GAMMA_GS	14596-10-2	Americium-241	-7.938	31.69	31.70	40.38	U	pCi/sample
			8/17/2016	GAMMA_GS	10198-40-0	Cobalt-60	0.750	15.22	15.22	21.26	U	pCi/sample
			8/17/2016	GAMMA_GS	10045-97-3	Cesium-137	-11.911	15.72	15.73	20.96	U	pCi/sample
			8/17/2016	GAMMA_GS	14683-23-9	Europium-152	28.808	46.44	46.46	65.24	U	pCi/sample
			8/17/2016	GAMMA_GS	15585-10-1	Europium-154	-12.115	44.46	44.47	31.67	U	pCi/sample
			8/17/2016	GAMMA_GS	14391-16-3	Europium-155	9.005	39.31	39.31	39.46	U	pCi/sample
			8/17/2016	GAMMA_GS	13966-00-2	Potassium-40	394.804	237.94	238.80	347.89		pCi/sample
			8/17/2016	GAMMA_GS	15100-28-4	Protactinium-234m	1861.959	1459.59	1462.72	2191.50	U	pCi/sample
			8/17/2016	GAMMA_GS	15092-94-1	Lead-212	14.502	19.81	19.82	35.72	U	pCi/sample
			8/17/2016	GAMMA_GS	15067-28-4	Lead-214	9.275	25.99	25.99	45.89	U	pCi/sample
			8/17/2016	GAMMA_GS	15065-10-8	Thorium-234	779.134	320.35	322.84	519.15		pCi/sample
			8/17/2016	GAMMA_GS	14913-50-9	Thallium-208	11.512	49.10	49.10	76.71	U	pCi/sample
			8/17/2016	GAMMA_GS	15117-96-1	Uranium-235	132.265	82.76	83.03	133.71	U	pCi/sample

SECTION V

ANALYTICAL STANDARD

ANALYTICS

QA/QC REVIEWED
Date 4/30/96 Initials WT

Am-4

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318 · U.S.A.

Phone (404) 352-8677
Fax (404) 352-2837

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

52094-416

Am-241 10 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared gravimetrically from a calibrated master liquid radionuclide solution source. The master source was calibrated by liquid scintillation counting.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

ISOTOPE:	Am-241
ACTIVITY (dps):	1.975 E+05
HALF-LIFE:	432.2 years
CALIBRATION DATE:	March 19, 1996 12:00 EST
TOTAL ERROR:	3.0%
SYSTEMATIC ERROR:	2.37%
RANDOM ERROR:	0.63%

10.01177 grams of solution 1M HCl.

P O NUMBER OR3830, Item 1

SOURCE PREPARED BY: Kare O'Brie Beverly
K. O. Beverly, Radiochemist

Q A APPROVED: D.M. [illegible] 4-26-96

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 (RE-CERTIFICATION)

Solution Reference # Analytics 52094-416
Date 7/27/2016 0:00
Solution # A/B-7 (alpha)

Principal Radionuclide	Half Life, Years	Half Life, Days
^{241}Americium	4.322E+02	1.579E+05

Radionuclide of Interest ^{241}Am
Parent Solution Conc. 1.19E+04 dpm/ml
Reference Date 3/19/1996 0:00

Chemical Composition of Standard Solution
$^{241}AmCl_3$ in 1M HCL

Dilution Instructions:
Dilution Solvent Used 1 M HNO_3

SECONDARY VOLUMETRIC DILUTION

Vol. Parent Solution: 60.0000 ml
Total Activity: 7.1100E+05 dpm
Final Volume: 1000.00 ml

Final Activity Concentration: 7.1100E+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: July 27, 2017

Verified & Approved By: _____ Date: 7/27/16

QC Approval: _____ Date: 7/27/16

Sr-90
13 uCi

National Institute of Standards & Technology

Certificate

Standard Reference Material 4234A
Strontium-90 Radioactivity Standard

This Standard Reference Material (SRM) consists of radioactive strontium-90 chloride, non-radioactive strontium chloride, non-radioactive yttrium chloride, and hydrochloric acid dissolved in 5 mL of distilled water. The solution is contained in a flame-sealed NIST borosilicate-glass ampoule. The SRM is intended for the calibration of beta-particle counting instruments and for the monitoring of radiochemical procedures.

Radiological Hazard

The SRM ampoule contains strontium-90 with a total activity of approximately 13 MBq. Strontium-90 decays by beta-particle emission to yttrium-90, which also decays by beta-particle emission. None of the beta particles escape from the SRM ampoule. The beta particles emitted from strontium-90 and yttrium-90 produce bremsstrahlung photons with energies up to 2 MeV. Most of these photons escape from the SRM ampoule and can represent a radiation hazard. Approximate unshielded dose rates at several distances (as of the reference time) are given in note [a]*. Appropriate shielding and/or distance should be used to minimize personnel exposure. The SRM should be used only by persons qualified to handle radioactive material.

Chemical Hazard

The SRM ampoule contains hydrochloric acid (HCl) with a concentration of 1 mole per liter of water. The solution is corrosive and represents a health hazard if it comes in contact with eyes or skin. If the ampoule is to be opened to transfer the solution, the recommended procedure is given on page 2. The ampoule should be opened only by persons qualified to handle both radioactive material and strong acid solution.

Storage and Handling

The SRM should be stored and used at a temperature between 5 and 65 °C. The solution in an unopened ampoule should remain stable and homogeneous until at least March 2005.

The ampoule (or any subsequent container) should always be clearly marked as containing radioactive material. If the ampoule is transported it should be packed, marked, labeled, and shipped in accordance with the applicable national, international, and carrier regulations. The solution in the ampoule is a dangerous good (hazardous material) both because of the radioactivity and because of the strong acid.

Preparation

This Standard Reference Material was prepared in the Physics Laboratory, Ionizing Radiation Division, Radioactivity Group, J.M.R. Hutchinson, Group Leader. The overall technical direction and physical measurements leading to certification were provided by L.L. Lucas of the Radioactivity Group and D.B. Golas, Nuclear Energy Institute Research Associate.

The support aspects involved in the preparation, certification, and issuance of this SRM were coordinated through the Standard Reference Materials Program by N.M. Trahey.

Gaithersburg, Maryland 20899
May 1995 (Text only revised November 1997)

Thomas E. Gills, Chief
Standard Reference Materials Program

*Notes and references are on pages 5 and 6.

EBERLINE SERVICES

QUALITY CONTROL PROGRAM
QCP-009

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

EBERLINE SERVICES - OAK RIDGE LABORATORY
RADIOACTIVE REFERENCE STANDARD SOLUTIONS
SECONDARY DILUTION (RE-CERTIFICATION)

QCP-009-1-A

Solution Reference # NIST 4234A

Date 7/27/2016 0:00

Solution # A/B-7 (beta)

Principal Radionuclide	Half Life, Years	Half Life, Days
^{90}Strontium	2.878E+01	1.051E+04

Radionuclide of Interest ^{90}Sr

Parent Solution Conc. 1.52E+06 dpm/ml

Reference Date 3/13/1995 0:00

The beta activity of solution reflects the original ^{90}Strontium concentration and an equal concentration of ^{90}Yttrium.

Chemical Composition of Standard Solution

$^{90}SrCl_2$ in 1 M HCl

Dilution Instructions:

Dilution Solvent Used 1 M HNO_3

SECONDARY VOLUMETRIC DILUTION

Vol. Parent Solution: 0.5000 ml

Total Activity: 7.5764E+05 dpm

Final Volume: 1000.00 ml

Final Activity Concentration: 7.5764E+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: July 27, 2017

Verified & Approved By _____ Date: 07/27/16

QC Approval _____ Date: 7/27/16

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	0.5	2.0	4.1	HPGe
Co-57	122.1	2.717E+02	8.913E+04	1.569E+03	0.4	1.7	3.5	HPGe
Ce-139	165.9	1.376E+02	1.241E+05	2.185E+03	0.4	1.7	3.5	HPGe
Hg-203	279.2	4.659E+01	2.675E+05	4.710E+03	0.3	1.7	3.5	HPGe
Sn-113	391.7	1.151E+02	1.796E+05	3.163E+03	0.4	1.9	3.9	HPGe
Cs-137	661.7	1.099E+04	1.111E+05	1.956E+03	0.7	1.9	4.0	HPGe
Y-88	898.0	1.066E+02	4.223E+05	7.435E+03	0.7	1.7	3.7	HPGe
Co-60	1173.2	1.925E+03	2.091E+05	3.683E+03	0.7	1.8	3.9	HPGe
Co-60	1332.5	1.925E+03	2.094E+05	3.687E+03	0.7	1.8	3.9	HPGe
Y-88	1836.1	1.066E+02	4.471E+05	7.872E+03	0.7	1.7	3.7	HPGe

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

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

(Certificate continued on reverse side)

ANA Form005 Rev. —

Corporate Office
24937 Avenue Tibbitts Valencia, California 91355

Laboratory
1380 Seaboard Industrial Blvd. Atlanta, Georgia, 30318

SECTION VI

QUALITY CONTROL SAMPLE RESULTS SUMMARY

WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
16-08066	GaGbT_ThSr	1	pCi	s	Washington Closure Hanford

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)
GROSS ALPHA_TH		111.55%	11.00%	100.00%	4.30%	2.68E+02	1.15E+01	2.99E+02	3.29E+01	A/B-07	5.95E+02	4.30E+00	1.00E+00
GROSS BETA_SR		97.12%	13.86%	100.00%	3.00%	2.87E+02	8.61E+00	2.79E+02	3.86E+01	A/B-07	6.36E+02	3.00E+00	1.00E+00

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
GROSS ALPHA_TH	1.88	200.00	2.44E+00	1.71E+00	0.00E+00	1.89E+00
GROSS BETA_SR	1.14	22.25	1.40E+01	3.50E+00	1.12E+01	3.29E+00

QC Summary

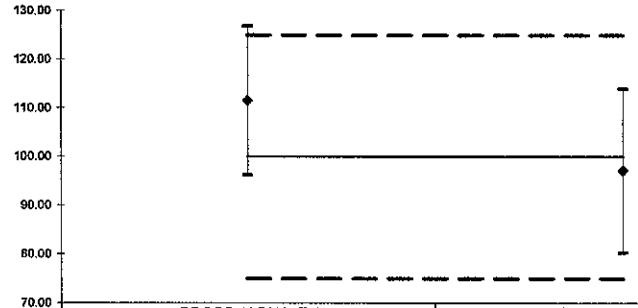
LCS Relative Bias	LCS % R		MS % R	MS ND	Rep RPD	Rep ND
1.12	OK					OK
0.97	OK				NA	OK

00025

Version

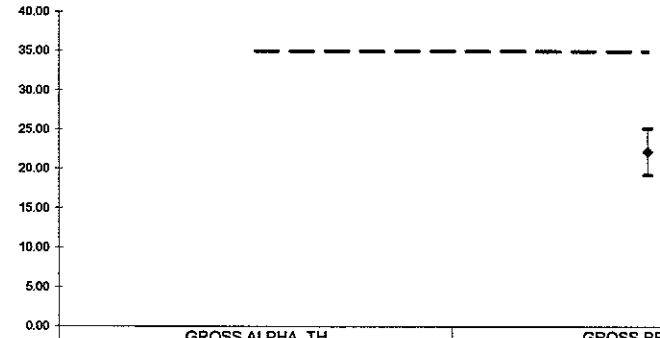
WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
16-08066	GaGbT_ThSr	1	pCi	s	Washington Closure Hanford

LCS % Recovery



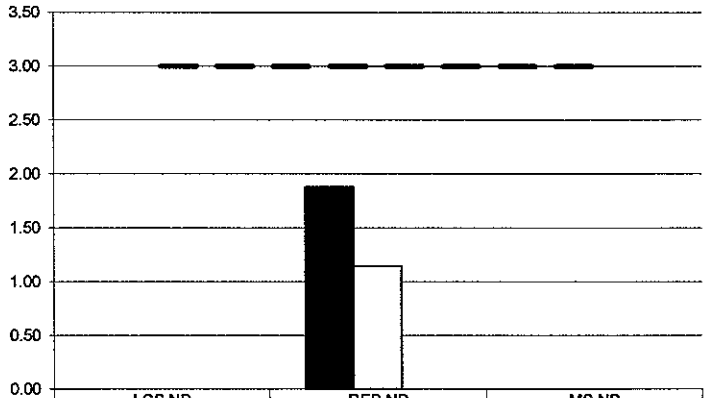
	GROSS ALPHA_TH	GROSS BETA_SR
Lower Error	96.26	80.26
Upper Error	126.85	113.99
%R	111.55	97.12
LCL	75	75
Mean	100	100
UCL	125	125

Replicate Sample RPD



	GROSS ALPHA_TH	GROSS BETA_SR
Lower Error	347.22	25.25
Upper Error	52.78	19.26
RPD	200.00	22.25
CL	35	35

Normalized Difference



	LCS ND	REP ND	MS ND
GROSS ALPHA_TH	0.00	1.88	0.00
GROSS BETA_SR	0.00	1.14	0.00
	0.00	0.00	0.00
UCL	3	3	3

No Matrix Spike

WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
16-08066	Gamma	1	pCi	s	Washington Closure Hanford

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		99.52%	7.64%	100.00%	4.00%	1.37E+02	5.48E+00	1.36E+02	1.04E+01	GAS-1302	1.37E+02	5.48E+00	7.36E+02
CS-137		100.60%	9.66%	100.00%	4.00%	8.69E+01	3.48E+00	8.75E+01	8.45E+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
AM-241	0.84	1162.69	-7.68E+00	3.20E+01	1.09E+01	2.90E+01
CS-137	1.92	591.85	1.35E+01	1.45E+01	-6.67E+00	1.46E+01
K-40	0.76	25.79	5.50E+02	2.37E+02	4.24E+02	2.18E+02

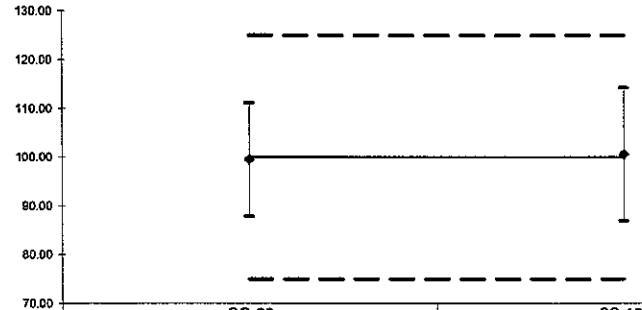
QC Summary

LCS Relative Bias	LCS % R		MS % R	MS ND	Rep RPD	Rep ND
1.00	OK		<CS-137	AM-241>	NA	
1.01	OK		<CO-60	CS-137>	NA	OK
				K-40>	NA	OK

Version

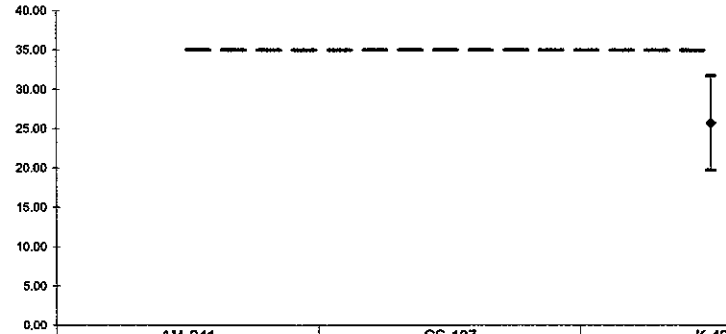
WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
16-08066	Gamma	1	pCi	s	Washington Closure Hanford

LCS % Recovery



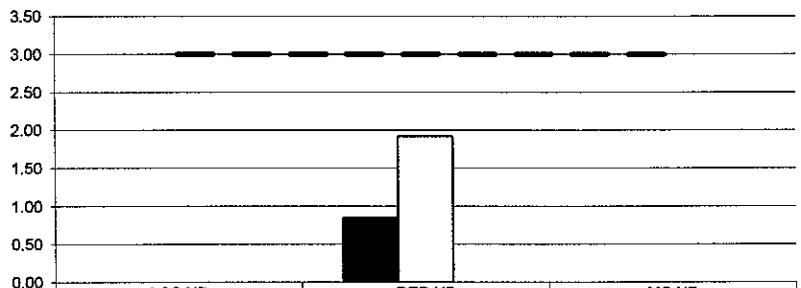
	CO-60	CS-137
Lower Error	87.88	86.94
Upper Error	111.15	114.26
%R	99.52	100.60
LCL	75	75
Mean	100	100
UCL	125	125

Replicate Sample RPD



	AM-241	CS-137	K-40
Lower Error	12259.21	1857.03	31.81
Upper Error	-9933.83	-673.34	19.77
RPD	1162.69	591.85	25.79
CL	35	35	35

Normalized Difference



	LCS ND	REP ND	MS ND
CO-60	0.00	0.84	0.00
CS-137	0.00	1.92	0.00
	0.00	0.00	0.00
UCL	3	3	3

No Matrix Spike

Version

SECTION VII

LABORATORY TECHNICIAN'S NOTES

ALPHA/BETA 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	16-08066
		Analysis Code	GaGbT_ThSr
		Run Number	1

#	Date	Dept	User	Notes
1	08/19/16 06:33	PREP	MHIGHTOWER	Leached, filtered, diluted, aliquotted, dried, nitrated, transferred to tared planchets, dried, flamed, re-weighed, and submitted to count room

MH 19AUG16

EBERLINE SERVICES

Reagents Used in an Analysis

Internal Work Order		
16-08066		
Analysis Code		Run
GaGbT_ThSr		1

Reagent ID	Reagent Name	Reagent Concentration	Analyst ID	Date Recorded
017533D03	Nitric Acid	3N	MHIGHTOWER	8/19/2016

LB4110 RGD

Date	Sample #	Client	Load Time	CT Time	Analysis	Tech
8112	1608011Pb(1-5)	UCON	1313	2h	Pb210	C
8119	EFFOC	LAB	0510	3h	LB	C
8119	BUGBOX	LAB	0547	6h	LB	C
8119	1608041NP(1-4)	UCON	0813	1h	NP237	C
8119	1607076SY (1-7)	ERA	0900	2h	SR9019	C
8119	1608014Pbb(1-4)	UCON	0927	2h	Pb210	C
8119	1608066AB(1-7)	Washington	1113	2h	LB	C

GAMMA NOTES

DATE	SAmple #	Client	Load Time	CT. Time	Analysis	Tech
8/16	1608059-~~08~~ 09	Weston	1108	1h	✓	✓
8/16/16	1608059-11	Weston	1209	1h	✓	KB
8/16	1607139-01	Sol. Tech	1311	15	Ba	C
8/16	1607139-03	Sol. Tech	1326	15	Ba	C
8/16	1607139-05	Sol. Tech	1342	15	Ba	C
8/16	1607139-07	Sol. Tech	1358	15	Ba	C
8/16/16	1607139-09	Sol. Technology	1413	15mins	Ba	KB
8/16/16	1607139-11	Sol. Technology	1429	15mins	Ba	KB
8/16/16	1607139-13	Sol. Technology	1445	15mins	Ba	KB
8/16/16	1607035-14	Terraphase	1503	2 hrs	✓	KB
8/16/16	1608066-02	Wash. Closure	1703	1h	✓	KB
8/16/16	1608062-01	Eden Foods	1804	30mins	✓	KB
8/16/16	1608062-04	Eden Foods	1836	4 hrs	✓	KB
8/17	EA714	HB	0458	15	✓	C
8/17	Daily R	HB	0520	15	✓	
8/17	1608066-03	Washington	0541	1h	✓	C
8/17	1608066-04	Washington	0644	1h	✓	
8/17	1608066-07	Washington	0747	1h	✓	C

GE2

DATE	Sample #	Client	Load Time	CT Time	Analysis	Tech
8115	1607035-06	Terraphase	0806	2h	✓	C
8115	1607035-08	Terraphase	1013	2h	✓	C
8/15/16	1608020-06	Weston	1214	1hr	✓	KB
8115	1608019-06	Weston	1315	1h	✓	C
8/15/16	1608019-09	Weston	1416	1hr	✓	KB
8/15/16	1608019-13	Weston	1518	1hr	✓	KB
8/15/16	1608019-14	Weston	1619	1hr	✓	KB
8/15/16	1608019-16	Weston	1720	1hr	✓	KB
8/15/16	1608061-05	Edenfoods	1822	2hrs	✓	KB
8116	GAS 1401	LAB	0523	15	✓	C
8116	Daily R	LAB	0543	15	✓	C
8116	1608061-07	Eden	0604	2h	✓	C
8116	1607035-11	Terraphase	0805	2h	✓	C
8116	1608059-05	Weston	1006	1h	✓	C
8116	1608059-08	Weston	1108	1h	✓	C
8/16/16	1608059-12	Weston	1210	1hr	✓	KB
8116	1607139-02	Sol. Tech	1311	15	Ba	C
8116	1607139-04	Sol. Tech	1326	15	Ba	C
8116	1607139-06	Sol. Tech	1342	15	Ba	C
8116	1607139-08	Sol. Tech	1358	15	Ba	C
8/16/16	1607139-10	Sol. Technology	1413	15mins	Ba	KB
8/16/16	1607139-12	Sol. Technology	1429	15mins	Ba	KB
8/16/16	1607139-14	Sol. Technology	1445	15mins	Ba	KB
8/16/16	1608060-05	Weston	1503	1hr	✓	KB
8/16/16	1608060-08	Weston	1604	1hr	✓	KB
8/16/16	1608060-11	Weston	1704	1hr	✓	KB
8/16/16	1608066-01	Wash. Closure	1805	30mins	✓	KB
8/16/16	1607035-17	Terraphase	1837	2hr	✓	KB
8117	GAS 1401	LAB	0458	15	✓	C
8117	Daily R	LAB	0520	15	✓	C
8117	1608066-05	Washington	0541	1h	✓	C
8117	1608066-06	Washington	0644	1h	✓	C

SECTION VIII

ANALYTICAL DATA (GROSS ALPHA/BETA)

16-08066
GaGbT_ThSr
Run 1

Work Order	16-08066
Analysis Code	GaGbT_ThSr
Run	1
Date Received	8/16/2016
Lab Deadline	8/22/2016
Client	Washington Closure Hanford
Project	S00W235A01
Report Level	4
Activity Units	pCi
Aliquot Units	s
Matrix	SO
Method	LANL MLR-100 Modified
Instrument Type	Alpha/Beta GPC
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		08/16/16 00:00	1.0000E+00
02	MBL	BLANK		08/16/16 00:00	1.0000E+00
03	DUP	J1V937 SAF: RC-243	38	08/11/16 10:35	1.0000E-01
04	DO	J1V937 SAF: RC-243	38	08/11/16 10:35	1.0000E-01
05	TRG	J1V938 SAF: RC-243	39	08/11/16 10:40	1.0000E-01
06	TRG	J1V939 SAF: RC-243	31	08/11/16 10:25	1.0000E-01
07	TRG	J1V940 SAF: RC-243	33	08/11/16 10:30	1.0000E-01

* 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.

16-08066
GaGbT_ThSr
Run 1

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		7.5265	7.5267	0.0002			1.00	1.00
02	MBL				0.00		7.5085	7.5086	0.0001			1.00	1.00
03	DUP				0.00		7.5298	7.5578	0.0280			1.00	1.00
04	DO				0.00		7.5702	7.6002	0.0300			1.00	1.00
05	TRG				0.00		7.5386	7.5793	0.0407			1.00	1.00
06	TRG				0.00		7.6191	7.6551	0.0360			1.00	1.00
07	TRG				0.00		7.5397	7.5747	0.0350			1.00	1.00

* 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.

00039

16-08066
GaGbT_ThSr
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			08/19/16 08:28	MHIGHTOWER				
02	MBL			08/19/16 08:28	MHIGHTOWER				
03	DUP			08/19/16 08:28	MHIGHTOWER				
04	DO			08/19/16 08:28	MHIGHTOWER				
05	TRG			08/19/16 08:28	MHIGHTOWER				
06	TRG			08/19/16 08:28	MHIGHTOWER				
07	TRG			08/19/16 08:28	MHIGHTOWER				

* 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: 16-08066-GaGbT-1

Run	Analysis Code	Eberline Analytical Work Order	Client
1	GaGbT	16-08066	Washington Closure Hanford

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	GROSS ALPHA	LCS	LCS	pCi/s	2.99E+02	3.87E+00	3.16E-01	2.68E+02	111.55	OK		OK	
02	GROSS ALPHA	MBL	BLANK	pCi/s	-1.39E-01	1.24E-01	3.44E-01					OK	OK
03	GROSS ALPHA	DUP	J1V937 SAF: RC-243	pCi/s	0.00E+00	1.89E+00	4.39E+00					OK	
04	GROSS ALPHA	DO	J1V937 SAF: RC-243	pCi/s	2.44E+00	1.69E+00	2.70E+00					OK	
05	GROSS ALPHA	TRG	J1V938 SAF: RC-243	pCi/s	6.72E-01	1.70E+00	3.80E+00					OK	
06	GROSS ALPHA	TRG	J1V939 SAF: RC-243	pCi/s	2.32E+00	1.81E+00	3.04E+00					OK	
07	GROSS ALPHA	TRG	J1V940 SAF: RC-243	pCi/s	-1.19E+00	1.98E+00	5.10E+00					OK	

Preliminary Data Report & Analytical Calculations

Work Order: 16-08066-GaGbT-1

Client: Washington Closure Hanford
Eberline Analytical Work Order: 16-08066
Analysis Code: GaGbT
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	GROSS ALPHA	LCS	08/16/16 00:00	1.00E+00	0.00	0.00	0.00	1.00		
02	GROSS ALPHA	MBL	08/16/16 00:00	1.00E+00	0.00	0.00	0.00	1.00		
03	GROSS ALPHA	DUP	08/11/16 10:35	1.00E-01	0.00	0.00	0.00	1.36		
04	GROSS ALPHA	DO	08/11/16 10:35	1.00E-01	0.00	0.00	0.00	1.41		
05	GROSS ALPHA	TRG	08/11/16 10:40	1.00E-01	0.00	0.00	0.00	1.68		
06	GROSS ALPHA	TRG	08/11/16 10:25	1.00E-01	0.00	0.00	0.00	1.56		
07	GROSS ALPHA	TRG	08/11/16 10:30	1.00E-01	0.00	0.00	0.00	1.54		

Preliminary Data Report & Analytical Calculations

Work Order: 16-08066-GaGbT-1

Client	Eberline Analytical Work Order	Analysis Code	Run
Washington Closure Hanford	16-08066	GaGbT	1

Lab Fraction	Nuclide	Sample Desc	Counting Date/Time	Halflife (days)	Detect	Carrier	Count Time	Counts	Bkg CPM	Eff
01	GROSS ALPHA	LCS	08/19/16 11:13		LB4110A	E1	120	23028	0.116666667	0.2885
02	GROSS ALPHA	MBL	08/19/16 11:13		LB4110A	E2	120	7	0.15	0.2968
03	GROSS ALPHA	DUP	08/19/16 11:13		LB4110A	E3	120	16	0.133333333	0.3007
04	GROSS ALPHA	DO	08/19/16 11:13		LB4110A	E4	120	17	0.033333333	0.2825
05	GROSS ALPHA	TRG	08/19/16 11:13		LB4110A	F1	120	9	0.05	0.2819
06	GROSS ALPHA	TRG	08/19/16 11:13		LB4110A	F2	120	15	0.033333333	0.2778
07	GROSS ALPHA	TRG	08/19/16 11:13		LB4110A	F3	120	10	0.133333333	0.2919

Preliminary Data Report & Analytical Calculations

Work Order: 16-08066-GaGbT-1

Run: 1
Analysis Code: GaGbT
Eberline Analytical Work Order: 16-08066
Client: Washington Closure Hanford

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	GROSS BETA	LCS	LCS	pCi/s	2.79E+02	3.15E+00	6.18E-01	2.87E+02	97.12	OK		OK	
02	GROSS BETA	MBL	BLANK	pCi/s	-5.39E-02	2.29E-01	5.00E-01					OK	OK
03	GROSS BETA	DUP	J1V937 SAF: RC-243	pCi/s	1.12E+01	2.91E+00	4.93E+00				NA	OK	
04	GROSS BETA	DO	J1V937 SAF: RC-243	pCi/s	1.40E+01	2.91E+00	4.54E+00					OK	
05	GROSS BETA	TRG	J1V938 SAF: RC-243	pCi/s	1.57E+01	3.82E+00	6.60E+00					OK	
06	GROSS BETA	TRG	J1V939 SAF: RC-243	pCi/s	1.48E+01	3.17E+00	4.99E+00					OK	
07	GROSS BETA	TRG	J1V940 SAF: RC-243	pCi/s	9.83E+00	3.46E+00	6.38E+00					OK	

Preliminary Data Report & Analytical Calculations
Work Order: 16-08066-GaGbT-1

Run	Analysis Code	Eberline Analytical Work Order	Client
1	GaGbT	16-08066	Washington Closure Hanford

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	GROSS BETA	LCS	08/16/16 00:00	1.00E+00	0.00	0.00	0.00	1.00		
02	GROSS BETA	MBL	08/16/16 00:00	1.00E+00	0.00	0.00	0.00	1.00		
03	GROSS BETA	DUP	08/11/16 10:35	1.00E-01	0.00	0.00	0.00	1.06		
04	GROSS BETA	DO	08/11/16 10:35	1.00E-01	0.00	0.00	0.00	1.06		
05	GROSS BETA	TRG	08/11/16 10:40	1.00E-01	0.00	0.00	0.00	1.09		
06	GROSS BETA	TRG	08/11/16 10:25	1.00E-01	0.00	0.00	0.00	1.08		
07	GROSS BETA	TRG	08/11/16 10:30	1.00E-01	0.00	0.00	0.00	1.07		

Preliminary Data Report & Analytical Calculations

Work Order: 16-08066-GaGbT-1

Client: Washington Closure Hanford

Eberline Analytical Work Order: 16-08066

Analysis Code: GaGbT

Run: 1

Lab Fraction	Nuclide	Sample Desc	Counting Date/Time	Halflife (days)	Detect	Carrier	Count Time	Counts	Bkg CPM	Eff	A to B, Cor
01	GROSS BETA	LCS	08/19/16 11:13		LB4110A	E1	120	41586	1.466666667	0.4777	297.09737
02	GROSS BETA	MBL	08/19/16 11:13		LB4110A	E2	120	111	0.983333333	0.4871	0.925
03	GROSS BETA	DUP	08/19/16 11:13		LB4110A	E3	120	272	1.016666667	0.531575394	2.266666667
04	GROSS BETA	DO	08/19/16 11:13		LB4110A	E4	120	285	0.833333333	0.526582251	2.375
05	GROSS BETA	TRG	08/19/16 11:13		LB4110A	F1	120	366	1.483333333	0.4886	3.05
06	GROSS BETA	TRG	08/19/16 11:13		LB4110A	F2	120	278	0.833333333	0.486	2.316666667
07	GROSS BETA	TRG	08/19/16 11:13		LB4110A	F3	120	297	1.466666667	0.4965	2.475

Count Room Report
Client: Washington Closure Hanfor

16-08066-GaGbT_ThSr-1 (pCi/s) 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	08/16/16 00:00	1.0000				0.00	1.00	1.00
02	MBL	BLANK	08/16/16 00:00	1.0000				0.00	1.00	1.00
03	DUP	J1V937 SAF: RC-243	08/11/16 10:35	0.1000				0.00	1.00	1.00
04	DO	J1V937 SAF: RC-243	08/11/16 10:35	0.1000				0.00	1.00	1.00
05	TRG	J1V938 SAF: RC-243	08/11/16 10:40	0.1000				0.00	1.00	1.00
06	TRG	J1V939 SAF: RC-243	08/11/16 10:25	0.1000				0.00	1.00	1.00
07	TRG	J1V940 SAF: RC-243	08/11/16 10:30	0.1000				0.00	1.00	1.00

Eberline Services
Oak Ridge Laboratory

Spike and Tracer Worksheet

Printed: 8/19/2016 8:28 AM

Internal Work Order	Run	Analysis Code	Date	Technician	Technician Initials	Witness Initials
16-08066	1	GaGbT_ThSr	8/19/2016 8:27	MHIGHTOWER	MH	

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*
Am-241	A/B-07	595.200	8/19/2016	**0.790**	**1.0012**				268.43	11.542	0.00	0.000	0.00	0.000	0.00	0.000
SrY-90	A/B-07	636.420	8/19/2016	**0.860**	**1.0012**				287.02	8.611	0.00	0.000	0.00	0.000	0.00	0.000
Tc-99 MS	Tc-2a	22043.52	3/3/2016	0.1												

Tracers

fraction	*Isotope*	*Sol #*	*Activity dpm/g*	*Solution Date*	*Volume Used (g)*	*Approx Addition*

Balance Printer Tapes

Tracer	LCS

Matrix Spike

Version 2.0 08/99

Eberline Analytical
Oak Ridge Laboratory

Aliquot Worksheet

Work Order	Run	Analysis Code	Rpt Units	Lab Deadline	Technician
16-08066	1	GaGbT_ThSr	s	8/22/2016	MHIGHTOWER

Lab Fraction	Washington Closure Hanford 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					1.0000E+00	1.0000E+00				
02	BLANK	MBL					1.0000E+00	1.0000E+00				
03	J1V937 SAF: RC-243	DUP		1	100.00	1.00E-02	1.0000E+01	1.0000E-01				
04	J1V937 SAF: RC-243	DO		1	100.00	1.00E-02	1.0000E+01	1.0000E-01				
05	J1V938 SAF: RC-243	TRG		1	100.00	1.00E-02	1.0000E+01	1.0000E-01				
06	J1V939 SAF: RC-243	TRG		1	100.00	1.00E-02	1.0000E+01	1.0000E-01				
07	J1V940 SAF: RC-243	TRG		1	100.00	1.00E-02	1.0000E+01	1.0000E-01				

Comments	

Technician: MV Date: 8/19/16

EBERLINE SERVICES	Internal Work Order	16-08066
	Fraction	> 03 <
Dilution Worksheet	Analysis Code	GaGbT_ThSr
	Run Number	1
	Analyst	MHIGHTOWER

Dilution Number	...	Amount Taken	Units	...	Diluted To	Units	Ratio
1	I took	1	ml	from the original sample and diluted it to	100	ml	0.0100
2	I took		ml	from the 1st dilution and diluted it to		ml	
3	I took		ml	from the 2nd dilution and diluted it to		ml	
4	I took		ml	from the 3rd dilution and diluted it to		ml	
5	I took		ml	from the 4th dilution and diluted it to		ml	

Dilutions Taken	1

Dilution Ratio	0.01
Dilution Factor	100

Diluted by: ML Date: 19 AUG 16

00050

EBERLINE SERVICES	Internal Work Order	16-08066
	Fraction	> 04 <
Dilution Worksheet	Analysis Code	GaGbT_ThSr
	Run Number	1
	Analyst	MHIGHTOWER

Dilution Number	...	Amount Taken	Units	...	Diluted To	Units	Ratio
1	I took	1	ml	from the original sample and diluted it to	100	ml	0.0100
2	I took		ml	from the 1st dilution and diluted it to		ml	
3	I took		ml	from the 2nd dilution and diluted it to		ml	
4	I took		ml	from the 3rd dilution and diluted it to		ml	
5	I took		ml	from the 4th dilution and diluted it to		ml	

Dilutions Taken	1

Dilution Ratio	0.01
Dilution Factor	100

Diluted by: ML Date: 19 AUG 16

EBERLINE SERVICES	Internal Work Order	16-08066
	Fraction	> 05 <
Dilution Worksheet	Analysis Code	GaGbT_ThSr
	Run Number	1
	Analyst	MHIGHTOWER

Dilution Number	...	Amount Taken	Units	...	Diluted To	Units	Ratio
1	I took	1	ml	from the original sample and diluted it to	100	ml	0.0100
2	I took		ml	from the 1st dilution and diluted it to		ml	
3	I took		ml	from the 2nd dilution and diluted it to		ml	
4	I took		ml	from the 3rd dilution and diluted it to		ml	
5	I took		ml	from the 4th dilution and diluted it to		ml	

Dilutions Taken	1

Dilution Ratio	0.01
Dilution Factor	100

Diluted by: MW Date: 17AUG16

00052

EBERLINE SERVICES	Internal Work Order	16-08066
	Fraction	> 06 <
Dilution Worksheet	Analysis Code	GaGbT_ThSr
	Run Number	1
	Analyst	MHIGHTOWER

Dilution Number	...	Amount Taken	Units	...	Diluted To	Units	Ratio
1	I took	1	ml	from the original sample and diluted it to	100	ml	0.0100
2	I took		ml	from the 1st dilution and diluted it to		ml	
3	I took		ml	from the 2nd dilution and diluted it to		ml	
4	I took		ml	from the 3rd dilution and diluted it to		ml	
5	I took		ml	from the 4th dilution and diluted it to		ml	

Dilutions Taken	1

Dilution Ratio	0.01
Dilution Factor	100

Diluted by: Mh Date: 19AUG16

00053

EBERLINE SERVICES	Internal Work Order	16-08066
	Fraction	> 07 <
Dilution Worksheet	Analysis Code	GaGbT_ThSr
	Run Number	1
	Analyst	MHIGHTOWER

Dilution Number	...	Amount Taken	Units	...	Diluted To	Units	Ratio
1	I took	1	ml	from the original sample and diluted it to	100	ml	0.0100
2	I took		ml	from the 1st dilution and diluted it to		ml	
3	I took		ml	from the 2nd dilution and diluted it to		ml	
4	I took		ml	from the 3rd dilution and diluted it to		ml	
5	I took		ml	from the 4th dilution and diluted it to		ml	

Dilutions Taken	1

Dilution Ratio	0.01
Dilution Factor	100

Diluted by: MV Date: 19 AUG 16

: 00054

Gravimetric Worksheet

Work Order	Run	Analysis Code	Gravimetric Carrier	Carrier Conc (mg/ml)	Technician
16-08066	1	GaGbT_ThSr			MHIGHTOWER

TRetec Fraction	Washington Closure Hanford Client ID	Sample Type	Carrier Data: Carrier Added (ml)	Filter Data: Filter Tare (g)	Filter Final (g)	Filter Net (g)	Gravimetric: % Recovery
01	LCS	LCS		7.5265	7.5267	0.0002	
02	BLANK	MBL		7.5085	7.5086	0.0001	
03	DUP	DUP		7.5298	7.5578	0.0280	
04	J1V937 SAF: RC-243	DO		7.5702	7.6002	0.0300	
05	J1V938 SAF: RC-243	TRG		7.5386	7.5793	0.0407	
06	J1V939 SAF: RC-243	TRG		7.6191	7.6551	0.0360	
07	J1V940 SAF: RC-243	TRG		7.5397	7.5747	0.0350	

Technician: _____ Date: 8 / 19 / 16

550055

8119

Detector ID	Sample ID	Alpha	Beta	Count Time	Voltage	TOD
E1	1608066-01	23028	41586	120	1410	8/19/2016 11:13:47 AM
E2	1608066-02	7	111	120	1410	8/19/2016 11:13:50 AM
E3	1608066-03	16	272	120	1410	8/19/2016 11:13:50 AM
E4	1608066-04	17	285	120	1410	8/19/2016 11:13:50 AM
F1	1608066-05	9	366	120	1410	8/19/2016 11:13:51 AM
F2	1608066-06	15	278	120	1410	8/19/2016 11:13:51 AM
F3	1608066-07	10	297	120	1410	8/19/2016 11:13:51 AM

00055

Eberline Analytical
Oak Ridge Laboratory

GPC Detector Report
(ALL Backgrounds)

8 u9

Detector	Alpha/Beta	Calibration Date	Count Date	Bkg CPM	PFW	LCL	Mean	UCL
LB4110A - A1	Alpha	10/20/2015	8/19/2016	1.67E-01	P	-5.95E-02	1.05E-01	2.69E-01
LB4110A - A2	Alpha	10/20/2015	8/19/2016	1.17E-01	P	-5.61E-02	8.09E-02	2.18E-01
LB4110A - A3	Alpha	10/20/2015	8/19/2016	1.00E-01	P	-4.25E-02	1.08E-01	2.58E-01
LB4110A - A4	Alpha	10/20/2015	8/19/2016	0.00E+00	P	-6.28E-02	9.20E-02	2.47E-01
LB4110A - B1	Alpha	10/20/2015	8/19/2016	8.33E-02	P	-7.19E-02	1.09E-01	2.90E-01
LB4110A - B2	Alpha	10/20/2015	8/19/2016	1.00E-01	P	-2.71E-02	1.11E-01	2.50E-01
LB4110A - B3	Alpha	10/20/2015	8/19/2016	5.00E-02	P	-5.80E-02	9.46E-02	2.47E-01
LB4110A - B4	Alpha	10/20/2015	8/19/2016	1.50E-01	P	-4.62E-02	8.11E-02	2.08E-01
LB4110A - C1	Alpha	10/20/2015	8/19/2016	6.67E-02	P	-1.03E-01	9.71E-02	2.98E-01
LB4110A - C2	Alpha	10/20/2015	8/19/2016	1.17E-01	P	-6.81E-02	7.27E-02	2.13E-01
LB4110A - C3	Alpha	10/20/2015	8/19/2016	1.50E-01	P	-7.09E-02	9.82E-02	2.67E-01
LB4110A - C4	Alpha	10/20/2015	8/19/2016	1.00E-01	P	-5.48E-02	8.20E-02	2.19E-01
LB4110A - D1	Alpha	10/20/2015	8/19/2016	2.00E-01	P	-3.38E-02	1.74E-01	3.81E-01
LB4110A - D2	Alpha	10/20/2015	8/19/2016	5.00E-02	P	-3.15E-02	1.63E-01	3.57E-01
LB4110A - D3	Alpha	10/20/2015	8/19/2016	1.67E-01	P	-6.64E-02	1.01E-01	2.68E-01
LB4110A - D4	Alpha	10/20/2015	8/19/2016	5.00E-02	P	-2.51E-02	1.22E-01	2.69E-01
LB4110A - E1	Alpha	10/20/2015	8/19/2016	1.17E-01	P	-1.02E-01	1.49E-01	4.00E-01
LB4110A - E2	Alpha	10/20/2015	8/19/2016	1.50E-01	P	-4.98E-02	6.66E-02	1.83E-01
LB4110A - E3	Alpha	10/20/2015	8/19/2016	1.33E-01	P	-6.55E-02	1.34E-01	3.33E-01
LB4110A - E4	Alpha	10/20/2015	8/19/2016	3.33E-02	P	-5.54E-02	7.52E-02	2.06E-01
LB4110A - F1	Alpha	10/20/2015	8/19/2016	5.00E-02	P	-5.31E-02	1.01E-01	2.55E-01
LB4110A - F2	Alpha	10/20/2015	8/19/2016	3.33E-02	P	-2.39E-01	7.85E-02	3.96E-01
LB4110A - F3	Alpha	10/20/2015	8/19/2016	1.33E-01	P	-8.39E-02	1.30E-01	3.44E-01
LB4110A - F4	Alpha	10/20/2015	8/19/2016	5.00E-02	P	-4.44E-02	8.22E-02	2.09E-01
LB4110A - G1	Alpha	10/20/2015	8/19/2016	6.67E-02	P	-6.05E-02	9.98E-02	2.60E-01
LB4110A - G2	Alpha	10/20/2015	8/19/2016	3.33E-02	P	-7.18E-02	7.71E-02	2.26E-01
LB4110A - G3	Alpha	10/20/2015	8/19/2016	8.33E-02	P	-5.89E-02	1.35E-01	3.28E-01
LB4110A - G4	Alpha	10/20/2015	8/19/2016	1.17E-01	P	-3.28E-02	9.14E-02	2.16E-01

000517

Eberline Analytical
Oak Ridge Laboratory

GPC Detector Report
(ALL Backgrounds)

9119

Detector	Alpha/Beta	Calibration Date	Count Date	Bkg CPM	PFW	LCL	Mean	UCL
LB4110A - A1	Beta	10/20/2015	8/19/2016	1.38E+00	P	9.35E-01	1.46E+00	1.99E+00
LB4110A - A2	Beta	10/20/2015	8/19/2016	1.47E+00	P	1.07E+00	1.49E+00	1.92E+00
LB4110A - A3	Beta	10/20/2015	8/19/2016	1.73E+00	P	1.05E+00	1.60E+00	2.15E+00
LB4110A - A4	Beta	10/20/2015	8/19/2016	1.40E+00	P	-6.83E-01	1.68E+00	4.04E+00
LB4110A - B1	Beta	10/20/2015	8/19/2016	1.75E+00	P	9.89E-01	1.63E+00	2.28E+00
LB4110A - B2	Beta	10/20/2015	8/19/2016	2.08E+00	F	7.79E-01	1.57E+00	2.36E+00
LB4110A - B3	Beta	10/20/2015	8/19/2016	1.58E+00	P	9.66E-01	1.48E+00	2.00E+00
LB4110A - B4	Beta	10/20/2015	8/19/2016	1.28E+00	P	9.25E-01	1.45E+00	1.98E+00
LB4110A - C1	Beta	10/20/2015	8/19/2016	1.40E+00	P	9.29E-01	1.38E+00	1.82E+00
LB4110A - C2	Beta	10/20/2015	8/19/2016	1.35E+00	P	7.21E-01	1.18E+00	1.64E+00
LB4110A - C3	Beta	10/20/2015	8/19/2016	1.78E+00	P	8.64E-01	1.75E+00	2.63E+00
LB4110A - C4	Beta	10/20/2015	8/19/2016	1.27E+00	P	8.22E-01	1.27E+00	1.72E+00
LB4110A - D1	Beta	10/20/2015	8/19/2016	1.35E+00	P	-2.25E+00	3.57E+00	9.38E+00
LB4110A - D2	Beta	10/20/2015	8/19/2016	1.42E+00	P	-1.15E+00	3.29E+00	7.74E+00
LB4110A - D3	Beta	10/20/2015	8/19/2016	1.42E+00	P	-4.95E-01	2.50E+00	5.49E+00
LB4110A - D4	Beta	10/20/2015	8/19/2016	2.42E+00	F	-1.30E+00	3.53E+00	8.36E+00
LB4110A - E1	Beta	10/20/2015	8/19/2016	1.47E+00	P	9.12E-01	1.43E+00	1.95E+00
LB4110A - E2	Beta	10/20/2015	8/19/2016	9.83E-01	P	5.35E-01	9.34E-01	1.33E+00
LB4110A - E3	Beta	10/20/2015	8/19/2016	1.02E+00	P	6.67E-01	1.21E+00	1.75E+00
LB4110A - E4	Beta	10/20/2015	8/19/2016	8.33E-01	P	6.54E-01	1.05E+00	1.44E+00
LB4110A - F1	Beta	10/20/2015	8/19/2016	1.48E+00	P	9.91E-01	1.50E+00	2.01E+00
LB4110A - F2	Beta	10/20/2015	8/19/2016	8.33E-01	P	-4.81E+02	2.99E+01	5.41E+02
LB4110A - F3	Beta	10/20/2015	8/19/2016	1.47E+00	P	6.88E-01	1.31E+00	1.92E+00
LB4110A - F4	Beta	10/20/2015	8/19/2016	1.23E+00	P	6.24E-01	1.10E+00	1.58E+00
LB4110A - G1	Beta	10/20/2015	8/19/2016	1.33E+00	P	7.48E-01	1.24E+00	1.74E+00
LB4110A - G2	Beta	10/20/2015	8/19/2016	1.58E+00	P	1.14E+00	1.64E+00	2.14E+00
LB4110A - G3	Beta	10/20/2015	8/19/2016	1.43E+00	P	7.75E-01	1.38E+00	1.98E+00
LB4110A - G4	Beta	10/20/2015	8/19/2016	1.35E+00	P	9.21E-01	1.35E+00	1.78E+00

Eberline Analytical
Oak Ridge Laboratory

GPC Detector Report
(ALL Efficiencies)

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8/19

Detector	Alpha/Beta	Calibration Date	Count Date	Eff	PFW	LCL	Mean	UCL
LB4110A - A1	Alpha	10/20/2015	8/19/2016	0.2286	P	0.2244	0.2325	0.2405
LB4110A - A2	Alpha	10/20/2015	8/19/2016	0.2139	P	0.2031	0.2111	0.2190
LB4110A - A3	Alpha	10/20/2015	8/19/2016	0.2039	P	0.1930	0.2019	0.2109
LB4110A - A4	Alpha	10/20/2015	8/19/2016	0.2322	P	0.2212	0.2301	0.2390
LB4110A - B1	Alpha	10/20/2015	8/19/2016	0.2236	P	0.1946	0.2161	0.2377
LB4110A - B2	Alpha	10/20/2015	8/19/2016	0.2022	P	0.1906	0.2110	0.2314
LB4110A - B3	Alpha	10/20/2015	8/19/2016	0.2412	P	0.2219	0.2362	0.2505
LB4110A - B4	Alpha	10/20/2015	8/19/2016	0.2298	P	0.2150	0.2258	0.2366
LB4110A - C1	Alpha	10/20/2015	8/19/2016	0.2155	P	0.2037	0.2121	0.2204
LB4110A - C2	Alpha	10/20/2015	8/19/2016	0.2194	P	0.2116	0.2219	0.2323
LB4110A - C3	Alpha	10/20/2015	8/19/2016	0.2439	P	0.2365	0.2477	0.2590
LB4110A - C4	Alpha	10/20/2015	8/19/2016	0.2205	P	0.2094	0.2208	0.2322
LB4110A - D1	Alpha	10/20/2015	8/19/2016	0.2178	P	0.2133	0.2223	0.2312
LB4110A - D2	Alpha	10/20/2015	8/19/2016	0.2483	P	0.2381	0.2505	0.2630
LB4110A - D3	Alpha	10/20/2015	8/19/2016	0.2554	P	0.2431	0.2549	0.2667
LB4110A - D4	Alpha	10/20/2015	8/19/2016	0.2013	P	0.1839	0.1940	0.2041
LB4110A - E1	Alpha	10/20/2015	8/19/2016	0.2345	P	0.2221	0.2342	0.2462
LB4110A - E2	Alpha	10/20/2015	8/19/2016	0.2096	P	0.2005	0.2124	0.2243
LB4110A - E3	Alpha	10/20/2015	8/19/2016	0.2097	P	0.2011	0.2107	0.2203
LB4110A - E4	Alpha	10/20/2015	8/19/2016	0.2410	P	0.2324	0.2435	0.2546
LB4110A - F1	Alpha	10/20/2015	8/19/2016	0.2083	P	0.1473	0.1993	0.2513
LB4110A - F2	Alpha	10/20/2015	8/19/2016	0.1782	P	0.1386	0.1927	0.2467
LB4110A - F3	Alpha	10/20/2015	8/19/2016	0.2348	P	0.1788	0.2391	0.2994
LB4110A - F4	Alpha	10/20/2015	8/19/2016	0.2198	P	0.1618	0.2161	0.2705
LB4110A - G1	Alpha	10/20/2015	8/19/2016	0.2032	P	0.1955	0.2060	0.2166
LB4110A - G2	Alpha	10/20/2015	8/19/2016	0.2082	P	0.1962	0.2087	0.2211
LB4110A - G3	Alpha	10/20/2015	8/19/2016	0.2275	P	0.2186	0.2296	0.2405
LB4110A - G4	Alpha	10/20/2015	8/19/2016	0.2046	P	0.1927	0.2037	0.2147

00055

Eberline Analytical
Oak Ridge Laboratory

GPC Detector Report
(ALL Efficiencies)

Detector	Alpha/Beta	Calibration Date	Count Date	Eff	PFW	LCL	Mean	UCL
LB4110A - A1	Beta	10/20/2015	8/19/2016	0.5514	P	0.5295	0.5470	0.5646
LB4110A - A2	Beta	10/20/2015	8/19/2016	0.4646	P	0.4595	0.4763	0.4932
LB4110A - A3	Beta	10/20/2015	8/19/2016	0.4817	P	0.4610	0.4778	0.4946
LB4110A - A4	Beta	10/20/2015	8/19/2016	0.5537	P	0.5384	0.5543	0.5703
LB4110A - B1	Beta	10/20/2015	8/19/2016	0.5363	P	0.4984	0.5313	0.5641
LB4110A - B2	Beta	10/20/2015	8/19/2016	0.5140	P	0.4846	0.5143	0.5441
LB4110A - B3	Beta	10/20/2015	8/19/2016	0.5979	P	0.5565	0.5839	0.6113
LB4110A - B4	Beta	10/20/2015	8/19/2016	0.5653	P	0.5302	0.5536	0.5769
LB4110A - C1	Beta	10/20/2015	8/19/2016	0.5022	P	0.4753	0.4951	0.5149
LB4110A - C2	Beta	10/20/2015	8/19/2016	0.5376	P	0.5056	0.5290	0.5525
LB4110A - C3	Beta	10/20/2015	8/19/2016	0.6224	P	0.5894	0.6163	0.6432
LB4110A - C4	Beta	10/20/2015	8/19/2016	0.5438	P	0.5092	0.5387	0.5683
LB4110A - D1	Beta	10/20/2015	8/19/2016	0.6646	P	0.6340	0.6548	0.6756
LB4110A - D2	Beta	10/20/2015	8/19/2016	0.6449	P	0.6186	0.6459	0.6732
LB4110A - D3	Beta	10/20/2015	8/19/2016	0.6466	P	0.6155	0.6376	0.6598
LB4110A - D4	Beta	10/20/2015	8/19/2016	0.5113	P	0.4436	0.4902	0.5368
LB4110A - E1	Beta	10/20/2015	8/19/2016	0.5623	P	0.5391	0.5592	0.5793
LB4110A - E2	Beta	10/20/2015	8/19/2016	0.5122	P	0.4862	0.5100	0.5337
LB4110A - E3	Beta	10/20/2015	8/19/2016	0.5133	P	0.4956	0.5122	0.5287
LB4110A - E4	Beta	10/20/2015	8/19/2016	0.5981	P	0.5854	0.6063	0.6271
LB4110A - F1	Beta	10/20/2015	8/19/2016	0.4946	P	0.3843	0.4834	0.5825
LB4110A - F2	Beta	10/20/2015	8/19/2016	0.4361	P	0.3538	0.4619	0.5700
LB4110A - F3	Beta	10/20/2015	8/19/2016	0.5884	P	0.4720	0.5960	0.7200
LB4110A - F4	Beta	10/20/2015	8/19/2016	0.5324	P	0.4194	0.5291	0.6388
LB4110A - G1	Beta	10/20/2015	8/19/2016	0.4756	P	0.4471	0.4686	0.4901
LB4110A - G2	Beta	10/20/2015	8/19/2016	0.4929	P	0.4738	0.5028	0.5318
LB4110A - G3	Beta	10/20/2015	8/19/2016	0.5600	P	0.5347	0.5596	0.5845
LB4110A - G4	Beta	10/20/2015	8/19/2016	0.4972	P	0.4742	0.5028	0.5314

8/19

SECTION IX

ANALYTICAL DATA (GAMMA SPECTROSCOPY)

16-08066
Gamma
Run 1

Work Order	16-08066
Analysis Code	Gamma
Run	1
Date Received	8/16/2016
Lab Deadline	8/22/2016
Client	Washington Closure Hanford
Project	S00W235A01
Report Level	4
Activity Units	pCi
Aliquot Units	s
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		08/16/16 00:00	1.0000E+00
02	MBL	BLANK		08/16/16 00:00	1.0000E+00
03	DUP	J1V937 SAF: RC-243	38	08/11/16 10:35	1.0000E+00
04	DO	J1V937 SAF: RC-243	38	08/11/16 10:35	1.0000E+00
05	TRG	J1V938 SAF: RC-243	39	08/11/16 10:40	1.0000E+00
06	TRG	J1V939 SAF: RC-243	31	08/11/16 10:25	1.0000E+00
07	TRG	J1V940 SAF: RC-243	33	08/11/16 10:30	1.0000E+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.

00052

16-08066
Gamma
Run 1

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								

* 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.

00063

Eberline Services
Oak Ridge Laboratory
Analysis Sheet

16-08066
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								
05	TRG								
06	TRG								
07	TRG								

* 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: 16-08066-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/s	1.36E+02	7.71E+00	7.39E-01	1.37E+02	99.52	OK		08/16/16 00:00	1.00E+00	08/16/16 18:05	YES
01	CS-137	LCS	LCS	pCi/s	8.75E+01	7.16E+00	7.83E-01	8.69E+01	100.60	OK		08/16/16 00:00	1.00E+00	08/16/16 18:05	YES
02	AM-241	MBL	BLANK	pCi/s	-3.22E-03	1.73E-02	5.10E-02					08/16/16 00:00	1.00E+00	08/16/16 17:03	NO
02	CO-60	MBL	BLANK	pCi/s	0.00E+00	1.40E-02	2.31E-02					08/16/16 00:00	1.00E+00	08/16/16 17:03	NO
02	CS-137	MBL	BLANK	pCi/s	1.89E-03	1.83E-02	3.00E-02					08/16/16 00:00	1.00E+00	08/16/16 17:03	NO
02	EU-152	MBL	BLANK	pCi/s	3.52E-03	5.25E-02	7.09E-02					08/16/16 00:00	1.00E+00	08/16/16 17:03	NO
02	EU-154	MBL	BLANK	pCi/s	2.70E-02	3.75E-02	3.55E-02					08/16/16 00:00	1.00E+00	08/16/16 17:03	NO
02	EU-155	MBL	BLANK	pCi/s	2.53E-02	4.09E-02	5.61E-02					08/16/16 00:00	1.00E+00	08/16/16 17:03	NO
02	K-40	MBL	BLANK	pCi/s	-8.24E-02	2.00E-01	2.87E-01					08/16/16 00:00	1.00E+00	08/16/16 17:03	NO
02	PA-234M	MBL	BLANK	pCi/s	1.71E+00	1.64E+00	3.44E+00					08/16/16 00:00	1.00E+00	08/16/16 17:03	NO
02	PB-212	MBL	BLANK	pCi/s	3.20E-02	3.66E-02	6.10E-02					08/16/16 00:00	1.00E+00	08/16/16 17:03	YES
02	PB-214	MBL	BLANK	pCi/s	3.34E-02	3.02E-02	5.92E-02					08/16/16 00:00	1.00E+00	08/16/16 17:03	NO
02	TH-234	MBL	BLANK	pCi/s	4.07E-01	4.19E-01	6.14E-01					08/16/16 00:00	1.00E+00	08/16/16 17:03	NO
02	TL-208	MBL	BLANK	pCi/s	2.96E-02	5.41E-02	9.31E-02					08/16/16 00:00	1.00E+00	08/16/16 17:03	NO
02	U-235	MBL	BLANK	pCi/s	-1.07E-02	1.07E-01	1.40E-01					08/16/16 00:00	1.00E+00	08/16/16 17:03	NO
03	AM-241	DUP	J1V937 SAF: RC-243	pCi/s	1.09E+01	2.90E+01	4.06E+01				NA	08/11/16 10:35	1.00E+00	08/17/16 05:40	NO
03	CO-60	DUP	J1V937 SAF: RC-243	pCi/s	-6.30E+00	1.62E+01	2.24E+01					08/11/16 10:35	1.00E+00	08/17/16 05:40	NO
03	CS-137	DUP	J1V937 SAF: RC-243	pCi/s	-6.67E+00	1.46E+01	2.10E+01				NA	08/11/16 10:35	1.00E+00	08/17/16 05:40	NO
03	EU-152	DUP	J1V937 SAF: RC-243	pCi/s	-2.42E+01	4.63E+01	5.56E+01					08/11/16 10:35	1.00E+00	08/17/16 05:40	NO
03	EU-154	DUP	J1V937 SAF: RC-243	pCi/s	3.08E+01	3.50E+01	2.77E+01					08/11/16 10:35	1.00E+00	08/17/16 05:40	NO
03	EU-155	DUP	J1V937 SAF: RC-243	pCi/s	-3.30E+01	4.64E+01	4.61E+01					08/11/16 10:35	1.00E+00	08/17/16 05:40	NO
03	K-40	DUP	J1V937 SAF: RC-243	pCi/s	4.24E+02	2.16E+02	2.90E+02				NA	08/11/16 10:35	1.00E+00	08/17/16 05:40	YES
03	PA-234M	DUP	J1V937 SAF: RC-243	pCi/s	5.72E+02	1.51E+03	2.69E+03					08/11/16 10:35	1.00E+00	08/17/16 05:40	NO
03	PB-212	DUP	J1V937 SAF: RC-243	pCi/s	6.08E+00	1.83E+01	3.23E+01					08/11/16 10:35	1.00E+00	08/17/16 05:40	NO
03	PB-214	DUP	J1V937 SAF: RC-243	pCi/s	1.98E+01	2.62E+01	4.87E+01					08/11/16 10:35	1.00E+00	08/17/16 05:40	NO
03	TH-234	DUP	J1V937 SAF: RC-243	pCi/s	6.66E+02	3.23E+02	5.15E+02					08/11/16 10:35	1.00E+00	08/17/16 05:40	NO
03	TL-208	DUP	J1V937 SAF: RC-243	pCi/s	-5.02E+00	4.97E+01	7.48E+01					08/11/16 10:35	1.00E+00	08/17/16 05:40	NO
03	U-235	DUP	J1V937 SAF: RC-243	pCi/s	8.31E+01	8.08E+01	1.25E+02					08/11/16 10:35	1.00E+00	08/17/16 05:40	NO
04	AM-241	DO	J1V937 SAF: RC-243	pCi/s	-7.68E+00	3.19E+01	3.99E+01					08/11/16 10:35	1.00E+00	08/17/16 06:44	NO
04	CO-60	DO	J1V937 SAF: RC-243	pCi/s	6.43E+00	1.40E+01	1.70E+01					08/11/16 10:35	1.00E+00	08/17/16 06:44	NO
04	CS-137	DO	J1V937 SAF: RC-243	pCi/s	1.35E+01	1.45E+01	2.66E+01					08/11/16 10:35	1.00E+00	08/17/16 06:44	NO
04	EU-152	DO	J1V937 SAF: RC-243	pCi/s	-1.73E+01	4.28E+01	5.92E+01					08/11/16 10:35	1.00E+00	08/17/16 06:44	NO
04	EU-154	DO	J1V937 SAF: RC-243	pCi/s	-5.08E+00	4.34E+01	2.92E+01					08/11/16 10:35	1.00E+00	08/17/16 06:44	NO
04	EU-155	DO	J1V937 SAF: RC-243	pCi/s	-1.18E+01	4.00E+01	3.92E+01					08/11/16 10:35	1.00E+00	08/17/16 06:44	NO
04	K-40	DO	J1V937 SAF: RC-243	pCi/s	5.50E+02	2.36E+02	2.95E+02					08/11/16 10:35	1.00E+00	08/17/16 06:44	YES
04	PA-234M	DO	J1V937 SAF: RC-243	pCi/s	-1.11E+03	1.87E+03	1.95E+03					08/11/16 10:35	1.00E+00	08/17/16 06:44	NO
04	PB-212	DO	J1V937 SAF: RC-243	pCi/s	1.40E+01	1.95E+01	3.55E+01					08/11/16 10:35	1.00E+00	08/17/16 06:44	NO
04	PB-214	DO	J1V937 SAF: RC-243	pCi/s	2.86E+01	2.38E+01	4.68E+01					08/11/16 10:35	1.00E+00	08/17/16 06:44	NO

Preliminary Data Report & Analytical Calculations

Work Order: 16-08066-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
04	TH-234	DO	J1V937 SAF: RC-243	pCi/s	7.10E+02	3.07E+02	5.01E+02					08/11/16 10:35	1.00E+00	08/17/16 06:44	NO
04	TL-208	DO	J1V937 SAF: RC-243	pCi/s	5.66E+01	4.49E+01	8.37E+01					08/11/16 10:35	1.00E+00	08/17/16 06:44	NO
04	U-235	DO	J1V937 SAF: RC-243	pCi/s	4.63E+01	8.53E+01	1.21E+02					08/11/16 10:35	1.00E+00	08/17/16 06:44	NO
05	AM-241	TRG	J1V938 SAF: RC-243	pCi/s	6.09E+00	2.19E+01	3.57E+01					08/11/16 10:40	1.00E+00	08/17/16 05:41	NO
05	CO-60	TRG	J1V938 SAF: RC-243	pCi/s	1.51E+00	7.53E+00	2.13E+01					08/11/16 10:40	1.00E+00	08/17/16 05:41	NO
05	CS-137	TRG	J1V938 SAF: RC-243	pCi/s	3.99E+00	1.68E+01	2.73E+01					08/11/16 10:40	1.00E+00	08/17/16 05:41	NO
05	EU-152	TRG	J1V938 SAF: RC-243	pCi/s	-1.89E+01	6.00E+01	5.53E+01					08/11/16 10:40	1.00E+00	08/17/16 05:41	NO
05	EU-154	TRG	J1V938 SAF: RC-243	pCi/s	2.00E+01	4.10E+01	2.90E+01					08/11/16 10:40	1.00E+00	08/17/16 05:41	NO
05	EU-155	TRG	J1V938 SAF: RC-243	pCi/s	2.72E+01	3.84E+01	4.12E+01					08/11/16 10:40	1.00E+00	08/17/16 05:41	NO
05	K-40	TRG	J1V938 SAF: RC-243	pCi/s	5.37E+02	2.43E+02	2.97E+02					08/11/16 10:40	1.00E+00	08/17/16 05:41	YES
05	PA-234M	TRG	J1V938 SAF: RC-243	pCi/s	1.59E+03	1.42E+03	3.08E+03					08/11/16 10:40	1.00E+00	08/17/16 05:41	NO
05	PB-212	TRG	J1V938 SAF: RC-243	pCi/s	-2.27E+01	3.03E+01	3.42E+01					08/11/16 10:40	1.00E+00	08/17/16 05:41	NO
05	PB-214	TRG	J1V938 SAF: RC-243	pCi/s	3.56E+01	3.06E+01	5.22E+01					08/11/16 10:40	1.00E+00	08/17/16 05:41	NO
05	TH-234	TRG	J1V938 SAF: RC-243	pCi/s	1.12E+02	2.03E+02	3.43E+02					08/11/16 10:40	1.00E+00	08/17/16 05:41	NO
05	TL-208	TRG	J1V938 SAF: RC-243	pCi/s	4.07E+01	4.67E+01	6.63E+01					08/11/16 10:40	1.00E+00	08/17/16 05:41	NO
05	U-235	TRG	J1V938 SAF: RC-243	pCi/s	2.48E+01	8.97E+01	1.27E+02					08/11/16 10:40	1.00E+00	08/17/16 05:41	NO
06	AM-241	TRG	J1V939 SAF: RC-243	pCi/s	9.81E-01	2.02E+01	3.19E+01					08/11/16 10:25	1.00E+00	08/17/16 06:44	NO
06	CO-60	TRG	J1V939 SAF: RC-243	pCi/s	6.81E+00	1.12E+01	2.40E+01					08/11/16 10:25	1.00E+00	08/17/16 06:44	NO
06	CS-137	TRG	J1V939 SAF: RC-243	pCi/s	-6.58E+00	2.07E+01	3.09E+01					08/11/16 10:25	1.00E+00	08/17/16 06:44	NO
06	EU-152	TRG	J1V939 SAF: RC-243	pCi/s	-8.81E+00	5.81E+01	6.02E+01					08/11/16 10:25	1.00E+00	08/17/16 06:44	NO
06	EU-154	TRG	J1V939 SAF: RC-243	pCi/s	5.41E+01	3.43E+01	3.21E+01					08/11/16 10:25	1.00E+00	08/17/16 06:44	NO
06	EU-155	TRG	J1V939 SAF: RC-243	pCi/s	-4.56E+01	5.03E+01	4.22E+01					08/11/16 10:25	1.00E+00	08/17/16 06:44	NO
06	K-40	TRG	J1V939 SAF: RC-243	pCi/s	4.62E+02	2.26E+02	2.81E+02					08/11/16 10:25	1.00E+00	08/17/16 06:44	YES
06	PA-234M	TRG	J1V939 SAF: RC-243	pCi/s	1.15E+03	1.69E+03	3.17E+03					08/11/16 10:25	1.00E+00	08/17/16 06:44	NO
06	PB-212	TRG	J1V939 SAF: RC-243	pCi/s	1.72E+01	2.89E+01	4.09E+01					08/11/16 10:25	1.00E+00	08/17/16 06:44	NO
06	PB-214	TRG	J1V939 SAF: RC-243	pCi/s	4.51E+01	2.86E+01	5.22E+01					08/11/16 10:25	1.00E+00	08/17/16 06:44	NO
06	TH-234	TRG	J1V939 SAF: RC-243	pCi/s	2.66E+02	1.83E+02	3.40E+02					08/11/16 10:25	1.00E+00	08/17/16 06:44	NO
06	TL-208	TRG	J1V939 SAF: RC-243	pCi/s	3.96E+01	4.72E+01	8.54E+01					08/11/16 10:25	1.00E+00	08/17/16 06:44	NO
06	U-235	TRG	J1V939 SAF: RC-243	pCi/s	9.66E+01	9.50E+01	1.43E+02					08/11/16 10:25	1.00E+00	08/17/16 06:44	NO
07	AM-241	TRG	J1V940 SAF: RC-243	pCi/s	-7.94E+00	3.17E+01	4.04E+01					08/11/16 10:30	1.00E+00	08/17/16 07:47	NO
07	CO-60	TRG	J1V940 SAF: RC-243	pCi/s	7.50E-01	1.52E+01	2.13E+01					08/11/16 10:30	1.00E+00	08/17/16 07:47	NO
07	CS-137	TRG	J1V940 SAF: RC-243	pCi/s	-1.19E+01	1.57E+01	2.10E+01					08/11/16 10:30	1.00E+00	08/17/16 07:47	NO
07	EU-152	TRG	J1V940 SAF: RC-243	pCi/s	2.88E+01	4.64E+01	6.52E+01					08/11/16 10:30	1.00E+00	08/17/16 07:47	NO
07	EU-154	TRG	J1V940 SAF: RC-243	pCi/s	-1.21E+01	4.45E+01	3.17E+01					08/11/16 10:30	1.00E+00	08/17/16 07:47	NO
07	EU-155	TRG	J1V940 SAF: RC-243	pCi/s	9.01E+00	3.93E+01	3.95E+01					08/11/16 10:30	1.00E+00	08/17/16 07:47	NO
07	K-40	TRG	J1V940 SAF: RC-243	pCi/s	3.95E+02	2.38E+02	3.48E+02					08/11/16 10:30	1.00E+00	08/17/16 07:47	YES
07	PA-234M	TRG	J1V940 SAF: RC-243	pCi/s	1.86E+03	1.46E+03	2.19E+03					08/11/16 10:30	1.00E+00	08/17/16 07:47	YES
07	PB-212	TRG	J1V940 SAF: RC-243	pCi/s	1.45E+01	1.98E+01	3.57E+01					08/11/16 10:30	1.00E+00	08/17/16 07:47	NO

Preliminary Data Report & Analytical Calculations

Work Order: 16-08066-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
07	PB-214	TRG	J1V940 SAF: RC-243	pCi/s	9.27E+00	2.60E+01	4.59E+01					08/11/16 10:30	1.00E+00	08/17/16 07:47	NO
07	TH-234	TRG	J1V940 SAF: RC-243	pCi/s	7.79E+02	3.20E+02	5.19E+02					08/11/16 10:30	1.00E+00	08/17/16 07:47	NO
07	TL-208	TRG	J1V940 SAF: RC-243	pCi/s	1.15E+01	4.91E+01	7.67E+01					08/11/16 10:30	1.00E+00	08/17/16 07:47	NO
07	U-235	TRG	J1V940 SAF: RC-243	pCi/s	1.32E+02	8.28E+01	1.34E+02					08/11/16 10:30	1.00E+00	08/17/16 07:47	NO

Count Room Report
Client: Washington Closure Hanfor

16-08066-Gamma-1 (pCi/s) 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	08/16/16 00:00	1.0000				0.00		
02	MBL	BLANK	08/16/16 00:00	1.0000				0.00		
03	DUP	J1V937 SAF: RC-243	08/11/16 10:35	1.0000				0.00		
04	DO	J1V937 SAF: RC-243	08/11/16 10:35	1.0000				0.00		
05	TRG	J1V938 SAF: RC-243	08/11/16 10:40	1.0000				0.00		
06	TRG	J1V939 SAF: RC-243	08/11/16 10:25	1.0000				0.00		
07	TRG	J1V940 SAF: RC-243	08/11/16 10:30	1.0000				0.00		

Eberline Analytical
Oak Ridge Laboratory

Aliquot Worksheet

Work Order	Run	Analysis Code	Rpt Units	Lab Deadline	Technician
16-08066	1	Gamma	s	8/22/2016	KSALLINGS

Lab Fraction	Washington Closure Hanford 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					1.0000E+00	1.0000E+00				
02	BLANK	MBL					1.0000E+00	1.0000E+00				
03	J1V937 SAF: RC-243	DUP					1.0000E+00	1.0000E+00				
04	J1V937 SAF: RC-243	DO					1.0000E+00	1.0000E+00				
05	J1V938 SAF: RC-243	TRG					1.0000E+00	1.0000E+00				
06	J1V939 SAF: RC-243	TRG					1.0000E+00	1.0000E+00				
07	J1V940 SAF: RC-243	TRG					1.0000E+00	1.0000E+00				

Comments	

Technician: Kenny Sallings Date: 8/16/16

00055

Eckert & Ziegler
Analytics

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Atlanta, Georgia 30318
Tel 404•352•8677
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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

: 00070

KB 8/16/16

Apex-Gamma

Analysis Report for 1608066-01

GAS 1302

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1608066-01
Sample Description	: GAS 1302
Sample Type	: SOIL
Sample Size	: 7.360E+02 sample
Facility	: Countroom
Sample Taken On	: 7/1/2013 4:37:30PM
Acquisition Started	: 8/16/2016 6:05:26PM
Procedure	: GAS-1401 pCi
Operator	: Administrator
Detector Name	: GE2
Geometry	: GAS-1402
Live Time	: 1800.0 seconds
Real Time	: 1823.7 seconds
Dead Time	: 1.30 %
Peak Locate Threshold	: 2.50
Peak Locate Range (in channels)	: 1 - 4096
Peak Area Range (in channels)	: 6 - 4096
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 11/2/2014
Efficiency Calibration Used Done On	: 4/6/2016
Efficiency Calibration Description	:
Sample Number	: 41709

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG 8/17/16

Analysis Report for 1608066-01

GAS 1302

PEAK LOCATE REPORT

Peak Locate Performed on : 8/17/2016 10:05:11AM
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	12.66	12.78	0.0000	0.00
2	22.14	22.25	0.0000	0.00
3	32.20	32.31	0.0000	0.00
4	50.00	50.10	0.0000	0.00
5	54.90	55.00	0.0000	0.00
6	60.00	60.10	0.0000	0.00
7	68.43	68.52	0.0000	0.00
8	88.09	88.17	0.0000	0.00
9	119.04	119.11	0.0000	0.00
10	122.05	122.11	0.0000	0.00
11	136.57	136.62	0.0000	0.00
12	165.96	166.00	0.0000	0.00
13	238.86	238.86	0.0000	0.00
14	377.89	377.81	0.0000	0.00
15	583.04	582.86	0.0000	0.00
16	662.12	661.91	0.0000	0.00
17	822.30	822.02	0.0000	0.00
18	969.28	968.93	0.0000	0.00
19	1013.87	1013.50	0.0000	0.00
20	1091.14	1090.75	0.0000	0.00
21	1174.06	1173.63	0.0000	0.00
22	1333.42	1332.94	0.0000	0.00
23	1523.41	1522.87	0.0000	0.00
24	2045.72	2045.05	0.0000	0.00
25	2060.00	2059.33	0.0000	0.00
26	2135.66	2134.98	0.0000	0.00
27	2154.04	2153.36	0.0000	0.00
28	2313.42	2312.71	0.0000	0.00
29	2386.50	2385.78	0.0000	0.00
30	2507.00	2506.27	0.0000	0.00
31	2616.20	2615.46	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1608066-01

GAS 1302

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/17/2016 10:05:11AM

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	12.66	11 -	16	12.78	6.40E+03	335.44	1.72E+04	1.72
	2	22.14	20 -	24	22.25	3.23E+04	651.61	8.58E+04	1.38
	3	32.20	30 -	35	32.31	1.63E+03	228.67	9.27E+03	1.52
M	4	50.00	46 -	63	50.10	3.44E+03	246.07	1.12E+04	1.10
m	5	54.90	46 -	63	55.00	2.97E+03	257.88	1.02E+04	1.00
m	6	60.00	46 -	63	60.10	7.25E+04	606.81	8.37E+03	1.10
	7	68.43	67 -	71	68.52	4.94E+02	252.41	1.37E+04	4.08
	8	88.09	84 -	91	88.17	2.41E+04	449.26	1.74E+04	1.21
M	9	119.04	118 -	126	119.11	1.20E+02	61.97	1.54E+03	1.13
m	10	122.05	118 -	126	122.11	3.62E+03	198.68	6.05E+03	1.19
	11	136.57	134 -	140	136.62	3.68E+02	238.37	1.01E+04	1.47
	12	165.96	165 -	168	166.00	1.58E+02	148.07	5.31E+03	0.95
	13	238.86	237 -	241	238.86	1.83E+02	169.48	6.20E+03	1.20
	14	377.89	375 -	381	377.81	2.06E+02	177.29	5.57E+03	4.48
	15	583.04	579 -	586	582.86	1.93E+02	150.03	3.61E+03	1.11
	16	662.12	658 -	665	661.91	2.69E+04	358.76	3.49E+03	1.40
	17	822.30	819 -	825	822.02	1.22E+02	129.08	2.94E+03	2.03
	18	969.28	966 -	972	968.93	1.28E+02	133.58	3.11E+03	3.27
	19	1013.87	1010 -	1017	1013.50	2.27E+02	135.65	2.91E+03	5.63
	20	1091.14	1088 -	1094	1090.75	1.06E+02	118.39	2.47E+03	2.78
	21	1174.06	1168 -	1179	1173.63	2.20E+04	325.14	2.20E+03	2.02
	22	1333.42	1327 -	1338	1332.94	2.00E+04	289.93	5.14E+02	1.92
	23	1523.41	1521 -	1525	1522.87	2.25E+01	15.73	3.50E+01	2.51
	24	2045.72	2037 -	2052	2045.05	3.80E+01	28.14	6.40E+01	1.24
	25	2060.00	2054 -	2065	2059.33	3.44E+01	21.73	4.13E+01	7.08
	26	2135.66	2132 -	2137	2134.98	1.22E+01	12.12	1.77E+01	2.63
	27	2154.04	2142 -	2163	2153.36	3.35E+01	37.70	9.90E+01	14.67
	28	2313.42	2307 -	2320	2312.71	2.24E+01	18.33	2.52E+01	6.47
	29	2386.50	2382 -	2391	2385.78	1.00E+01	10.49	1.00E+01	4.69
	30	2507.00	2501 -	2510	2506.27	2.47E+02	31.43	0.00E+00	2.67
	31	2616.20	2610 -	2619	2615.46	2.40E+01	9.80	0.00E+00	3.59

Analysis Report for 1608066-01

GAS 1302

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

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/17/2016 10:05:11AM

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	12.66	11 -	16	6.40E+03	335.44	1.72E+04	2.42E+02
	2	22.14	20 -	24	3.23E+04	651.61	8.58E+04	5.16E+02
	3	32.20	30 -	35	1.63E+03	228.67	9.27E+03	1.76E+02
M	4	50.00	46 -	63	3.44E+03	246.07	1.12E+04	1.74E+02
m	5	54.90	46 -	63	2.97E+03	257.88	1.02E+04	1.66E+02
m	6	60.00	46 -	63	7.25E+04	606.81	8.37E+03	1.50E+02
	7	68.43	67 -	71	4.94E+02	252.41	1.37E+04	2.04E+02
	8	88.09	84 -	91	2.41E+04	449.26	1.74E+04	2.67E+02
M	9	119.04	118 -	126	1.20E+02	61.97	1.54E+03	6.46E+01
m	10	122.05	118 -	126	3.62E+03	198.68	6.05E+03	1.28E+02
	11	136.57	134 -	140	3.68E+02	238.37	1.01E+04	1.93E+02
	12	165.96	165 -	168	1.58E+02	148.07	5.31E+03	1.20E+02
	13	238.86	237 -	241	1.83E+02	169.48	6.20E+03	1.38E+02
	14	377.89	375 -	381	2.06E+02	177.29	5.57E+03	1.44E+02
	15	583.04	579 -	586	1.93E+02	150.03	3.61E+03	1.21E+02
	16	662.12	658 -	665	2.69E+04	358.76	3.49E+03	1.19E+02
	17	822.30	819 -	825	1.22E+02	129.08	2.94E+03	1.05E+02
	18	969.28	966 -	972	1.28E+02	133.58	3.11E+03	1.08E+02
	19	1013.87	1010 -	1017	2.27E+02	135.65	2.91E+03	1.09E+02
	20	1091.14	1088 -	1094	1.06E+02	118.39	2.47E+03	9.58E+01
	21	1174.06	1168 -	1179	2.20E+04	325.14	2.20E+03	1.09E+02
	22	1333.42	1327 -	1338	2.00E+04	289.93	5.14E+02	5.28E+01
	23	1523.41	1521 -	1525	2.25E+01	15.73	3.50E+01	1.03E+01
	24	2045.72	2037 -	2052	3.80E+01	28.14	6.40E+01	2.08E+01
	25	2060.00	2054 -	2065	3.44E+01	21.73	4.13E+01	1.50E+01
	26	2135.66	2132 -	2137	1.22E+01	12.12	1.77E+01	8.15E+00
	27	2154.04	2142 -	2163	3.35E+01	37.70	9.90E+01	2.95E+01
	28	2313.42	2307 -	2320	2.24E+01	18.33	2.52E+01	1.29E+01
	29	2386.50	2382 -	2391	1.00E+01	10.49	1.00E+01	6.88E+00
	30	2507.00	2501 -	2510	2.47E+02	31.43	0.00E+00	0.00E+00
	31	2616.20	2610 -	2619	2.40E+01	9.80	0.00E+00	0.00E+00

Analysis Report for 1608066-01

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 WITH NID REPORT

Peak Analysis Performed on : 8/17/2016 10:05:11AM

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	12.66	11 -	16	12.78	6.40E+03	335.44	1.72E+04	.....
	2	22.14	20 -	24	22.25	3.23E+04	651.61	8.58E+04	.....
	3	32.20	30 -	35	32.31	1.63E+03	228.67	9.27E+03	.....
M	4	50.00	46 -	63	50.10	3.44E+03	246.07	1.12E+04	TH-227
									TE-132
m	5	54.90	46 -	63	55.00	2.97E+03	257.88	1.02E+04	.....
m	6	60.00	46 -	63	60.10	7.25E+04	606.81	8.37E+03	AM-241
	7	68.43	67 -	71	68.52	4.94E+02	252.41	1.37E+04	TI-44
									TA-182
									TH-230
	8	88.09	84 -	91	88.17	2.41E+04	449.26	1.74E+04	CD-109
									LU-176
									SN-126
M	9	119.04	118 -	126	119.11	1.20E+02	61.97	1.54E+03	.....
m	10	122.05	118 -	126	122.11	3.62E+03	198.68	6.05E+03	CO-57
									EU-152
									SE-75
	11	136.57	134 -	140	136.62	3.68E+02	238.37	1.01E+04	CO-57
									SE-75
	12	165.96	165 -	168	166.00	1.58E+02	148.07	5.31E+03	CE-139
	13	238.86	237 -	241	238.86	1.83E+02	169.48	6.20E+03	PB-212
	14	377.89	375 -	381	377.81	2.06E+02	177.29	5.57E+03	.....
	15	583.04	579 -	586	582.86	1.93E+02	150.03	3.61E+03	TL-208
	16	662.12	658 -	665	661.91	2.69E+04	358.76	3.49E+03	CS-137
	17	822.30	819 -	825	822.02	1.22E+02	129.08	2.94E+03	.....
	18	969.28	966 -	972	968.93	1.28E+02	133.58	3.11E+03	AC-228
	19	1013.87	1010 -	1017	1013.50	2.27E+02	135.65	2.91E+03	.....
	20	1091.14	1088 -	1094	1090.75	1.06E+02	118.39	2.47E+03	.....
	21	1174.06	1168 -	1179	1173.63	2.20E+04	325.14	2.20E+03	CO-60
	22	1333.42	1327 -	1338	1332.94	2.00E+04	289.93	5.14E+02	CO-60

Analysis Report for 1608066-01

GAS 1302

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
23	1523.41	1521 -	1525	1522.87	2.25E+01	15.73	3.50E+01	.....
24	2045.72	2037 -	2052	2045.05	3.80E+01	28.14	6.40E+01	.....
25	2060.00	2054 -	2065	2059.33	3.44E+01	21.73	4.13E+01	.....
26	2135.66	2132 -	2137	2134.98	1.22E+01	12.12	1.77E+01	.....
27	2154.04	2142 -	2163	2153.36	3.35E+01	37.70	9.90E+01	.....
28	2313.42	2307 -	2320	2312.71	2.24E+01	18.33	2.52E+01	.....
29	2386.50	2382 -	2391	2385.78	1.00E+01	10.49	1.00E+01	.....
30	2507.00	2501 -	2510	2506.27	2.47E+02	31.43	0.00E+00	.....
31	2616.20	2610 -	2619	2615.46	2.40E+01	9.80	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 : 8/17/2016 10:05:11AM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	12.66	6.40E+03	335.44	9.08E-06	1.66E-03
	2	22.14	3.23E+04	651.61	1.30E-03	1.66E-03
	3	32.20	1.63E+03	228.67	7.14E-03	1.66E-03
M	4	50.00	3.44E+03	246.07	1.89E-02	1.66E-03
m	5	54.90	2.97E+03	257.88	2.11E-02	1.66E-03
m	6	60.00	7.25E+04	606.81	2.28E-02	1.67E-03
	7	68.43	4.94E+02	252.41	2.47E-02	1.85E-03
	8	88.09	2.41E+04	449.26	2.60E-02	2.27E-03
M	9	119.04	1.20E+02	61.97	2.47E-02	2.26E-03
m	10	122.05	3.62E+03	198.68	2.44E-02	2.26E-03
	11	136.57	3.68E+02	238.37	2.34E-02	2.32E-03
	12	165.96	1.58E+02	148.07	2.12E-02	2.43E-03
	13	238.86	1.83E+02	169.48	1.70E-02	2.31E-03
	14	377.89	2.06E+02	177.29	1.23E-02	2.07E-03
	15	583.04	1.93E+02	150.03	8.79E-03	1.06E-03
	16	662.12	2.69E+04	358.76	7.93E-03	6.52E-04
	17	822.30	1.22E+02	129.08	6.63E-03	8.58E-04
	18	969.28	1.28E+02	133.58	5.79E-03	8.11E-04
	19	1013.87	2.27E+02	135.65	5.58E-03	7.21E-04
	20	1091.14	1.06E+02	118.39	5.26E-03	5.65E-04
	21	1174.06	2.20E+04	325.14	4.97E-03	3.99E-04

Analysis Report for 1608066-01

GAS 1302

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
22	1333.42	2.00E+04	289.93	4.51E-03	3.63E-04
23	1523.41	2.25E+01	15.73	4.12E-03	3.77E-04
24	2045.72	3.80E+01	28.14	3.53E-03	4.01E-04
25	2060.00	3.44E+01	21.73	3.52E-03	4.01E-04
26	2135.66	1.22E+01	12.12	3.48E-03	4.01E-04
27	2154.04	3.35E+01	37.70	3.47E-03	4.01E-04
28	2313.42	2.24E+01	18.33	3.42E-03	4.01E-04
29	2386.50	1.00E+01	10.49	3.40E-03	4.01E-04
30	2507.00	2.47E+02	31.43	3.39E-03	4.01E-04
31	2616.20	2.40E+01	9.80	3.40E-03	4.01E-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 : 8/17/2016 10:05:11AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000041519.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	12.66	6.40E+03	335.44	8.94E+02	1.26E+01	5.51E+03	3.36E+02
	2	22.14	3.23E+04	651.61	2.77E+01	5.06E+00	3.22E+04	6.52E+02
	3	32.20	1.63E+03	228.67			1.63E+03	2.29E+02
M	4	50.00	3.44E+03	246.07			3.44E+03	2.46E+02
m	5	54.90	2.97E+03	257.88			2.97E+03	2.58E+02
m	6	60.00	7.25E+04	606.81	4.96E+00	6.57E+00	7.25E+04	6.07E+02
	7	68.43	4.94E+02	252.41			4.94E+02	2.52E+02
	8	88.09	2.41E+04	449.26			2.41E+04	4.49E+02
M	9	119.04	1.20E+02	61.97			1.20E+02	6.20E+01
m	10	122.05	3.62E+03	198.68			3.62E+03	1.99E+02
	11	136.57	3.68E+02	238.37			3.68E+02	2.38E+02
	12	165.96	1.58E+02	148.07			1.58E+02	1.48E+02
	13	238.86	1.83E+02	169.48	3.37E+00	3.12E+00	1.80E+02	1.70E+02
	14	377.89	2.06E+02	177.29			2.06E+02	1.77E+02
	15	583.04	1.93E+02	150.03	1.31E+00	1.74E+00	1.91E+02	1.50E+02
	16	662.12	2.69E+04	358.76			2.69E+04	3.59E+02
	17	822.30	1.22E+02	129.08			1.22E+02	1.29E+02
	18	969.28	1.28E+02	133.58			1.28E+02	1.34E+02
	19	1013.87	2.27E+02	135.65			2.27E+02	1.36E+02
	20	1091.14	1.06E+02	118.39			1.06E+02	1.18E+02

Analysis Report for 1608066-01

GAS 1302

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
21	1174.06	2.20E+04	325.14	0.00E+00	0.00E+00	2.20E+04	3.25E+02
22	1333.42	2.00E+04	289.93	1.08E+00	1.12E+00	2.00E+04	2.90E+02
23	1523.41	2.25E+01	15.73			2.25E+01	1.57E+01
24	2045.72	3.80E+01	28.14			3.80E+01	2.81E+01
25	2060.00	3.44E+01	21.73			3.44E+01	2.17E+01
26	2135.66	1.22E+01	12.12			1.22E+01	1.21E+01
27	2154.04	3.35E+01	37.70			3.35E+01	3.77E+01
28	2313.42	2.24E+01	18.33			2.24E+01	1.83E+01
29	2386.50	1.00E+01	10.49			1.00E+01	1.05E+01
30	2507.00	2.47E+02	31.43			2.47E+02	3.14E+01
31	2616.20	2.40E+01	9.80			2.40E+01	9.80E+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 : 8/17/2016 10:05:11AM

Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000041519.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	12.66	6.40E+03	335.44	8.94E+02	1.26E+01	5.51E+03	3.36E+02
	2	22.14	3.23E+04	651.61	2.77E+01	5.06E+00	3.22E+04	6.52E+02
	3	32.20	1.63E+03	228.67			1.63E+03	2.29E+02
M	4	50.00	3.44E+03	246.07			3.44E+03	2.46E+02
m	5	54.90	2.97E+03	257.88			2.97E+03	2.58E+02
m	6	60.00	7.25E+04	606.81	4.96E+00	6.57E+00	7.25E+04	6.07E+02
	7	68.43	4.94E+02	252.41			4.94E+02	2.52E+02
	8	88.09	2.41E+04	449.26			2.41E+04	4.49E+02
M	9	119.04	1.20E+02	61.97			1.20E+02	6.20E+01
m	10	122.05	3.62E+03	198.68			3.62E+03	1.99E+02
	11	136.57	3.68E+02	238.37			3.68E+02	2.38E+02
	12	165.96	1.58E+02	148.07			1.58E+02	1.48E+02
	13	238.86	1.83E+02	169.48	3.37E+00	3.12E+00	1.80E+02	1.70E+02
	14	377.89	2.06E+02	177.29			2.06E+02	1.77E+02
	15	583.04	1.93E+02	150.03	1.31E+00	1.74E+00	1.91E+02	1.50E+02
	16	662.12	2.69E+04	358.76			2.69E+04	3.59E+02
	17	822.30	1.22E+02	129.08			1.22E+02	1.29E+02

Analysis Report for 1608066-01

GAS 1302

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
18	969.28	1.28E+02	133.58			1.28E+02	1.34E+02
19	1013.87	2.27E+02	135.65			2.27E+02	1.36E+02
20	1091.14	1.06E+02	118.39			1.06E+02	1.18E+02
21	1174.06	2.20E+04	325.14	0.00E+00	0.00E+00	2.20E+04	3.25E+02
22	1333.42	2.00E+04	289.93	1.08E+00	1.12E+00	2.00E+04	2.90E+02
23	1523.41	2.25E+01	15.73			2.25E+01	1.57E+01
24	2045.72	3.80E+01	28.14			3.80E+01	2.81E+01
25	2060.00	3.44E+01	21.73			3.44E+01	2.17E+01
26	2135.66	1.22E+01	12.12			1.22E+01	1.21E+01
27	2154.04	3.35E+01	37.70			3.35E+01	3.77E+01
28	2313.42	2.24E+01	18.33			2.24E+01	1.83E+01
29	2386.50	1.00E+01	10.49			1.00E+01	1.05E+01
30	2507.00	2.47E+02	31.43			2.47E+02	3.14E+01
31	2616.20	2.40E+01	9.80			2.40E+01	9.80E+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/sample)	Activity Uncertainty
CO-57	0.915	122.06	*	85.51	6.57E+01	7.12E+00
		136.48	*	10.60	5.63E+01	3.70E+01
CO-60	0.879	1173.22	*	100.00	1.36E+02	1.11E+01
		1332.49	*	100.00	1.36E+02	1.11E+01
CD-109	0.970	88.03	*	3.72	2.80E+03	3.00E+02
SN-126	0.957	87.57	*	37.00	5.11E+01	4.56E+00
CS-137	0.965	661.65	*	85.12	8.75E+01	7.30E+00
CE-139	0.707	165.85	*	80.35	5.95E+01	5.61E+01
PB-212	0.886	238.63	*	44.60	4.84E-01	4.61E-01
		300.09		3.41		
AM-241	0.966	59.54	*	35.90	1.82E+02	1.34E+01

Analysis Report for 1608066-01

GAS 1302

* = 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 : 8/17/2016 10:05:11AM
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	12.66	3.05910E+00	3.05		
	2	22.14	1.79027E+01	1.01		
	3	32.20	9.07287E-01	7.00		
M	4	50.00	1.91266E+00	3.57	Tol.	TE-132 TH-227
m	5	54.90	1.64768E+00	4.35		
	7	68.43	2.74455E-01	25.55	Tol.	TI-44 TA-182 TH-230
M	9	119.04	6.65942E-02	25.85	Sum	
	14	377.89	1.14436E-01	43.04		
	15	583.04	1.06376E-01	39.18	Tol.	TL-208
	17	822.30	6.75023E-02	53.12	S-Esc	
	18	969.28	7.11398E-02	52.16	Tol.	AC-228
	19	1013.87	1.26252E-01	29.84		
	20	1091.14	5.88872E-02	55.85		
	23	1523.41	1.25000E-02	34.96		
	24	2045.72	2.11111E-02	37.03		
	25	2060.00	1.90909E-02	31.61		
	26	2135.66	6.75926E-03	49.83		
	27	2154.04	1.86011E-02	56.29		
	28	2313.42	1.24444E-02	40.92		
	29	2386.50	5.55556E-03	52.44		
	30	2507.00	1.37222E-01	6.36	Sum	
	31	2616.20	1.33333E-02	20.41		

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 1608066-01

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/sample)	Activity Uncertainty
CO-57	0.91	122.06	*	85.51	6.57E+01	7.12E+00
		136.48	*	10.60	5.63E+01	3.70E+01
CO-60	0.87	1173.22	*	100.00	1.36E+02	1.11E+01
		1332.49	*	100.00	1.36E+02	1.11E+01
CD-109	0.97	88.03	*	3.72	2.80E+03	3.00E+02
SN-126	0.95	87.57	*	37.00	5.11E+01	4.56E+00
CS-137	0.96	661.65	*	85.12	8.75E+01	7.30E+00
CE-139	0.70	165.85	*	80.35	5.95E+01	5.61E+01
PB-212	0.88	238.63	*	44.60	4.84E-01	4.61E-01
		300.09		3.41		
AM-241	0.96	59.54	*	35.90	1.82E+02	1.34E+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/sample)	Wt mean Activity Uncertainty	Comments
	CO-57	0.915	6.53E+01	7.00E+00	
	CO-60	0.879	1.36E+02	7.87E+00	
?	CD-109	0.970	2.80E+03	3.00E+02	

Analysis Report for 1608066-01

GAS 1302

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/sample)	Wt mean Activity Uncertainty	Comments
?	SN-126	0.957	5.11E+01	4.56E+00	
	CS-137	0.965	8.75E+01	7.30E+00	
	CE-139	0.707	5.95E+01	5.61E+01	
	PB-212	0.886	4.84E-01	4.61E-01	
	AM-241	0.966	1.82E+02	1.34E+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 1608066-01

GAS 1302

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/17/2016 10:05:11AM
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	12.66	3.05910E+00	3.05		
	2	22.14	1.79027E+01	1.01		
	3	32.20	9.07287E-01	7.00		
M	4	50.00	1.91266E+00	3.57	Tol.	TE-132
						TH-227
m	5	54.90	1.64768E+00	4.35		
	7	68.43	2.74455E-01	25.55	Tol.	TI-44
						TA-182
						TH-230
M	9	119.04	6.65942E-02	25.85	Sum	
	14	377.89	1.14436E-01	43.04		
	15	583.04	1.06376E-01	39.18	Tol.	TL-208
	17	822.30	6.75023E-02	53.12	S-Esc	
	18	969.28	7.11398E-02	52.16	Tol.	AC-228
	19	1013.87	1.26252E-01	29.84		
	20	1091.14	5.88872E-02	55.85		
	23	1523.41	1.25000E-02	34.96		
	24	2045.72	2.11111E-02	37.03		
	25	2060.00	1.90909E-02	31.61		
	26	2135.66	6.75926E-03	49.83		
	27	2154.04	1.86011E-02	56.29		
	28	2313.42	1.24444E-02	40.92		
	29	2386.50	5.55556E-03	52.44		
	30	2507.00	1.37222E-01	6.36	Sum	
	31	2616.20	1.33333E-02	20.41		

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 1608066-01

GAS 1302

NUCLIDE MDA REPORT

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

		Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+		BE-7	477.59		10.42	-6.04E+05	1.07E+07	1.07E+07
+		NA-22	1274.54		99.94	-2.66E-01	5.93E-01	5.93E-01
+	@	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	-3.00E-02	2.01E-01	2.01E-01
+		K-40	1460.81		10.67	3.69E-01	1.92E+00	1.92E+00
+	@	AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+		TI-44	67.88		94.40	2.91E-01	2.59E-01	2.87E-01
			78.34		96.00	2.41E-01		2.59E-01
+		SC-46	889.25		99.98	1.97E+03	7.86E+03	8.23E+03
			1120.51		99.99	-5.74E+02		7.86E+03
+	@	V-48	983.52		99.98	1.00E+26	1.00E+26	1.00E+26
	@		1312.10		97.50	1.00E+26		1.00E+26
+		CR-51	320.08		9.83	-2.48E+12	8.45E+12	8.45E+12
+		MN-54	834.83		99.97	-8.14E-01	7.22E+00	7.22E+00
+		CO-56	846.75		99.96	6.42E+03	8.87E+03	1.34E+04
			1037.75		14.03	-1.16E+04		1.07E+05
			1238.25		67.00	1.05E+03		1.15E+04
			1771.40		15.51	-8.22E+03		2.69E+04
			2598.48		16.90	9.15E+02		8.87E+03
+		CO-57	122.06	*	85.51	6.57E+01	8.13E+00	8.13E+00
			136.48	*	10.60	5.63E+01		5.96E+01
+		CO-58	810.76		99.40	1.93E+03	3.95E+04	3.95E+04
+		FE-59	1099.22		56.50	4.38E+06	3.54E+07	6.07E+07
			1291.56		43.20	9.95E+06		3.54E+07
+		CO-60	1173.22	*	100.00	1.36E+02	7.39E-01	1.37E+00
			1332.49	*	100.00	1.36E+02		7.39E-01
+		ZN-65	1115.52		50.75	2.35E+00	3.27E+01	3.27E+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	1.44E+04	3.24E+02	1.52E+03
			136.00		59.20	4.67E+02		3.24E+02
			264.65		59.80	1.15E+01		3.85E+02
			279.53		25.20	-1.73E+02		9.19E+02
			400.65		11.40	4.93E+01		2.38E+03
+		RB-82	776.52		13.00	1.38E+13	1.14E+14	1.14E+14
+		RB-83	520.41		46.00	-2.62E+03	7.92E+03	7.92E+03
			529.64		30.30	-3.49E+03		1.18E+04
			552.65		16.40	6.86E+03		2.21E+04
+		KR-85	513.99		0.43	-2.95E+01	1.08E+02	1.08E+02
+		SR-85	513.99		99.27	-2.11E+04	7.73E+04	7.73E+04

Analysis Report for 1608066-01

GAS 1302

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	Y-88	898.02		93.40	-1.52E+02	4.11E+02	1.18E+03
		1836.01		99.38	1.69E+02		4.11E+02
+	NB-93M	16.57		9.43	2.36E+03	5.58E+02	5.58E+02
+	NB-94	702.63		100.00	-9.33E-02	4.65E-01	4.65E-01
		871.10		100.00	2.00E-01		6.18E-01
+	NB-95	765.79		99.81	1.32E+08	3.24E+09	3.24E+09
+	@ NB-95M	235.69		25.00	1.00E+26	1.00E+26	1.00E+26
+	ZR-95	724.18		43.70	2.96E+04	2.10E+05	2.62E+05
		756.72		55.30	-4.56E+04		2.10E+05
+	@ 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	-1.26E+08	2.28E+08	2.28E+08
+	RU-106	621.84		9.80	-1.52E+01	3.96E+01	3.96E+01
+	AG-108M	433.93		89.90	5.07E-02	4.47E-01	4.47E-01
		614.37		90.40	-3.48E-02		5.15E-01
		722.95		90.50	1.98E-04		5.46E-01
+	CD-109	88.03	*	3.72	2.80E+03	6.22E+01	6.22E+01
+	AG-110M	657.75		93.14	3.70E+00	2.18E+01	2.70E+01
		677.61		10.53	-5.57E+01		1.00E+02
		706.67		16.46	-1.13E+01		6.73E+01
		763.93		21.98	8.48E+00		5.46E+01
		884.67		71.63	1.16E+01		2.18E+01
		1384.27		23.94	3.93E+00		2.18E+01
+	CD-113M	263.70		0.02	2.26E+02	1.58E+03	1.58E+03
+	SN-113	255.12		1.93	4.45E+03	5.49E+02	1.56E+04
		391.69		64.90	-3.89E+01		5.49E+02
+	TE123M	159.00		84.10	4.04E+01	2.25E+02	2.25E+02
+	SB-124	602.71		97.87	-5.33E+04	2.01E+05	2.31E+05
		645.85		7.26	-5.68E+05		3.32E+06
		722.78		11.10	8.14E+02		2.25E+06
		1691.02		49.00	2.67E+04		2.01E+05
+	I-125	35.49		6.49	7.26E+06	4.26E+06	4.26E+06
+	SB-125	176.33		6.89	3.51E+00	2.91E+00	8.50E+00
		427.89		29.33	-1.74E-01		2.91E+00
		463.38		10.35	1.07E+00		9.12E+00
		600.56		17.80	8.20E-01		5.42E+00
		635.90		11.32	1.29E+00		9.02E+00
+	@ 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	5.11E+01	1.14E+00	1.14E+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	-1.52E+01	1.41E+00	1.41E+00
		33.60		13.20	-1.33E+01		4.82E+00

Analysis Report for 1608066-01

GAS 1302

		Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
		I-129	39.58		7.52	-7.88E+00	1.41E+00	5.57E+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
	@		228.16		88.00	1.00E+26		1.00E+26
+		BA-133	81.00		33.00	-2.74E-01	7.18E-01	8.84E-01
			302.84		17.80	-1.80E-01		2.19E+00
			356.01		60.00	3.67E-01		7.18E-01
+	@	I-133	529.87		86.30	1.00E+26	1.00E+26	1.00E+26
+	@	XE-133	81.00		38.00	1.00E+26	1.00E+26	1.00E+26
+		CS-134	563.23		8.38	2.46E+00	1.30E+00	1.26E+01
			569.32		15.43	9.66E-01		6.90E+00
			604.70		97.60	-4.14E-01		1.30E+00
			795.84		85.40	1.33E-01		1.76E+00
			801.93		8.73	-1.51E+00		1.72E+01
+		CS-135	268.24		16.00	-5.52E-01	1.94E+00	1.94E+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	1.00E+26	1.00E+26	1.00E+26
	@		163.89		4.61	1.00E+26		1.00E+26
	@		176.55		13.56	1.00E+26		1.00E+26
	@		273.65		12.66	1.00E+26		1.00E+26
	@		340.57		48.50	1.00E+26		1.00E+26
	@		818.50		99.70	1.00E+26		1.00E+26
	@		1048.07		79.60	1.00E+26		1.00E+26
	@		1235.34		19.70	1.00E+26		1.00E+26
+		CS-137	661.65	*	85.12	8.75E+01	7.83E-01	7.83E-01
+		LA-138	788.74		34.00	-4.11E-01	2.82E-01	1.54E+00
			1435.80		66.00	-5.46E-02		2.82E-01
+		CE-139	165.85	*	80.35	5.95E+01	9.13E+01	9.13E+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	5.10E+09	1.96E+10	1.96E+10
+	@	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	7.47E-01	3.73E+01	3.73E+01
+		PM-144	476.78		42.00	-4.89E-01	4.09E+00	8.63E+00

Analysis Report for 1608066-01

GAS 1302

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
	PM-144	618.01	98.60	3.77E-01	4.09E+00	4.09E+00
		696.49	99.49	4.85E-01		4.13E+00
+	PM-145	36.85	21.70	4.60E+00	1.35E+00	2.56E+00
		37.36	39.70	2.43E+00		1.35E+00
		42.30	15.10	-5.29E+00		3.10E+00
		72.40	2.31	5.94E-01		1.19E+01
+	PM-146	453.90	39.94	4.32E-01	1.56E+00	1.56E+00
		735.90	14.01	-1.74E-01		5.15E+00
		747.13	13.10	-2.32E-01		5.66E+00
+	@ 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	1.81E+01	1.73E+00	1.95E+00
		244.69	5.40	5.40E-01		6.77E+00
		344.27	19.13	5.23E-01		2.09E+00
		778.89	9.20	3.55E-01		6.65E+00
		964.01	10.40	8.73E-01		8.07E+00
		1085.78	7.22	5.53E+00		1.08E+01
		1112.02	9.60	-3.03E+00		8.16E+00
		1407.95	14.94	9.06E-01		1.73E+00
+	GD-153	97.43	31.30	-2.90E+00	1.94E+01	1.94E+01
		103.18	22.20	6.79E+00		2.76E+01
+	EU-154	123.07	40.50	9.89E+00	9.28E-01	1.07E+00
		723.30	19.70	1.14E-03		3.16E+00
		873.19	11.50	2.62E+00		6.92E+00
		996.32	10.30	1.04E+00		8.29E+00
		1004.76	17.90	1.43E+00		4.71E+00
		1274.45	35.50	-4.16E-01		9.28E-01
+	EU-155	86.50	30.90	9.37E+01	1.73E+00	3.16E+00
		105.30	20.70	5.28E-01		1.73E+00
+	@ EU-156	811.77	10.40	1.00E+26	1.00E+26	1.00E+26
	@	1153.47	7.20	1.00E+26		1.00E+26
	@	1230.71	8.90	1.00E+26		1.00E+26
+	HO-166M	184.41	72.60	7.49E-02	3.85E-01	3.85E-01
		280.45	29.60	-2.00E-01		1.06E+00
		410.94	11.10	-7.14E-01		3.41E+00
		711.69	54.10	-3.58E-01		8.63E-01
+	TM-171	66.72	0.14	5.53E+01	5.67E+02	5.67E+02
+	HF-172	81.75	4.52	2.21E+00	6.76E+00	1.70E+01
		125.81	11.30	2.84E+00		6.76E+00
+	@ 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	5.00E+00	7.17E+00	2.15E+01
		272.11	21.20	-9.95E-01		7.17E+00
+	HF-175	343.40	84.00	4.04E+03	3.29E+04	3.29E+04
+	LU-176	88.34	13.30	1.40E+02	3.43E-01	4.69E+00
		201.83	86.00	8.00E-02		3.46E-01

Analysis Report for 1608066-01

GAS 1302

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
	LU-176	306.78		94.00	6.07E-02	3.43E-01	3.43E-01
+	TA-182	67.75		41.20	6.50E+02	6.43E+02	6.43E+02
		1121.30		34.90	1.04E+02		1.79E+03
		1189.05		16.23	-2.34E+02		2.83E+03
		1221.41		26.98	3.64E+02		1.37E+03
		1231.02		11.44	-4.01E+02		3.09E+03
+	IR-192	308.46		29.68	-1.66E+04	3.99E+04	4.82E+04
		468.07		48.10	1.25E+04		3.99E+04
+	HG-203	279.19		77.30	3.09E+06	9.76E+06	9.76E+06
+	BI-207	569.67		97.72	5.69E-02	4.06E-01	4.06E-01
		1063.62		74.90	6.42E-02		9.38E-01
+	TL-208	583.14		30.22	1.42E+00	4.27E-01	1.53E+00
		860.37		4.48	3.48E+00		1.32E+01
		2614.66		35.85	4.02E-01		4.27E-01
+	BI-210M	262.00		45.00	4.11E-01	6.94E-01	6.94E-01
		300.00		23.00	4.15E-01		1.38E+00
+	PB-210	46.50		4.25	-8.20E+01	1.23E+01	1.23E+01
+	PB-211	404.84		2.90	-7.47E+00	1.27E+01	1.27E+01
		831.96		2.90	-5.56E+00		1.95E+01
+	BI-212	727.17		11.80	3.00E-01	4.15E+00	4.15E+00
		1620.62		2.75	-8.57E-01		6.91E+00
+	PB-212	238.63	*	44.60	4.84E-01	7.48E-01	7.48E-01
		300.09		3.41	2.80E+00		9.31E+00
+	BI-214	609.31		46.30	7.42E-01	9.93E-01	9.93E-01
		1120.29		15.10	-3.01E-01		4.13E+00
		1764.49		15.80	6.65E-01		1.25E+00
		2204.22		4.98	-7.96E-01		3.25E+00
+	PB-214	295.21		19.19	3.80E-02	9.24E-01	1.67E+00
		351.92		37.19	3.62E-02		9.24E-01
+	RN-219	401.80		6.50	3.28E-01	5.65E+00	5.65E+00
+	RA-223	323.87		3.88	3.06E+00	8.50E+00	8.50E+00
+	RA-224	240.98		3.95	2.18E+00	8.15E+00	8.15E+00
+	@ RA-225	40.00		31.00	1.00E+26	1.00E+26	1.00E+26
+	RA-226	186.21		3.28	3.40E+00	8.76E+00	8.76E+00
+	TH-227	50.10		8.40	2.74E+01	2.75E+00	6.88E+00
		236.00		11.50	-1.11E-01		2.75E+00
		256.20		6.30	4.03E+00		4.93E+00
+	AC-228	338.32		11.40	1.87E-01	2.46E+00	2.92E+00
		911.07		27.70	-4.46E-01		2.46E+00
		969.11		16.60	3.02E-02		4.11E+00
+	TH-230	48.44		16.90	8.60E+00	3.38E+00	3.38E+00
		62.85		4.60	-2.43E+01		4.95E+00
		67.67		0.37	7.17E+01		7.09E+01
+	PA-231	283.67		1.60	8.05E-01	1.38E+01	1.97E+01
		302.67		2.30	-1.13E+00		1.38E+01
+	TH-231	25.64		14.70	1.04E+03	3.83E+00	3.50E+01
		84.21		6.40	4.48E-01		3.83E+00
+	PA-233	311.98		38.60	1.96E+11	4.55E+12	4.55E+12

Analysis Report for 1608066-01

GAS 1302

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	PA-234	131.20		20.40	-5.84E-02	1.18E+00	1.18E+00
		733.99		8.80	3.51E-01		5.57E+00
		946.00		12.00	6.71E-02		6.16E+00
+	PA-234M	1001.03		0.92	-5.49E+00	7.21E+01	7.21E+01
+	TH-234	63.29		3.80	-2.93E+01	5.97E+00	5.97E+00
+	U-235	143.76		10.50	-2.48E+00	2.34E+00	2.34E+00
		163.35		4.70	5.01E-01		5.52E+00
		205.31		4.70	9.27E-03		6.32E+00
+	NP-237	86.50		12.60	1.48E+02	5.01E+00	5.01E+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	1.82E+02	2.93E+00	2.93E+00
+	AM-243	74.67		66.00	-3.04E-01	3.62E-01	3.62E-01
+	CM-243	209.75		3.29	-1.87E+00	2.43E+00	9.93E+00
		228.14		10.60	1.54E+00		3.27E+00
		277.60		14.00	6.26E-01		2.43E+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/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
	BE-7	477.59	10.42	1.07E+07	1.07E+07	-6.04E+05	5.26E+06
	NA-22	1274.54	99.94	5.93E-01	5.93E-01	-2.66E-01	2.83E-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	2.01E-01	2.01E-01	-3.00E-02	9.30E-02

Analysis Report for 1608066-01

GAS 1302

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
	K-40	1460.81		10.67	1.92E+00	1.92E+00	3.69E-01	8.98E-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	2.87E-01	2.59E-01	2.91E-01	1.42E-01
		78.34		96.00	2.59E-01		2.41E-01	1.28E-01
	SC-46	889.25		99.98	8.23E+03	7.86E+03	1.97E+03	4.06E+03
		1120.51		99.99	7.86E+03		-5.74E+02	3.86E+03
@	V-48	983.52		99.98	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@		1312.10		97.50	1.00E+26		1.00E+26	1.00E+20
	CR-51	320.08		9.83	8.45E+12	8.45E+12	-2.48E+12	4.17E+12
	MN-54	834.83		99.97	7.22E+00	7.22E+00	-8.14E-01	3.56E+00
	CO-56	846.75		99.96	1.34E+04	8.87E+03	6.42E+03	6.61E+03
		1037.75		14.03	1.07E+05		-1.16E+04	5.26E+04
		1238.25		67.00	1.15E+04		1.05E+03	5.54E+03
		1771.40		15.51	2.69E+04		-8.22E+03	1.24E+04
		2598.48		16.90	8.87E+03		9.15E+02	3.32E+03
+	CO-57	122.06	*	85.51	8.13E+00	8.13E+00	6.57E+01	4.04E+00
		136.48	*	10.60	5.96E+01		5.63E+01	2.96E+01
	CO-58	810.76		99.40	3.95E+04	3.95E+04	1.93E+03	1.94E+04
	FE-59	1099.22		56.50	6.07E+07	3.54E+07	4.38E+06	2.99E+07
		1291.56		43.20	3.54E+07		9.95E+06	1.70E+07
+	CO-60	1173.22	*	100.00	1.37E+00	7.39E-01	1.36E+02	6.76E-01
		1332.49	*	100.00	7.39E-01		1.36E+02	3.60E-01
	ZN-65	1115.52		50.75	3.27E+01	3.27E+01	2.35E+00	1.61E+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	1.52E+03	3.24E+02	1.44E+04	7.55E+02
		136.00		59.20	3.24E+02		4.67E+02	1.61E+02
		264.65		59.80	3.85E+02		1.15E+01	1.90E+02
		279.53		25.20	9.19E+02		-1.73E+02	4.54E+02
		400.65		11.40	2.38E+03		4.93E+01	1.17E+03
	RB-82	776.52		13.00	1.14E+14	1.14E+14	1.38E+13	5.60E+13
	RB-83	520.41		46.00	7.92E+03	7.92E+03	-2.62E+03	3.90E+03
		529.64		30.30	1.18E+04		-3.49E+03	5.82E+03
		552.65		16.40	2.21E+04		6.86E+03	1.09E+04
	KR-85	513.99		0.43	1.08E+02	1.08E+02	-2.95E+01	5.31E+01
	SR-85	513.99		99.27	7.73E+04	7.73E+04	-2.11E+04	3.81E+04
	Y-88	898.02		93.40	1.18E+03	4.11E+02	-1.52E+02	5.84E+02
		1836.01		99.38	4.11E+02		1.69E+02	1.93E+02
	NB-93M	16.57		9.43	5.58E+02	5.58E+02	2.36E+03	2.77E+02
	NB-94	702.63		100.00	4.65E-01	4.65E-01	-9.33E-02	2.29E-01
		871.10		100.00	6.18E-01		2.00E-01	3.04E-01
	NB-95	765.79		99.81	3.24E+09	3.24E+09	1.32E+08	1.59E+09
@	NB-95M	235.69		25.00	1.00E+26	1.00E+26	1.00E+26	1.00E+20
	ZR-95	724.18		43.70	2.62E+05	2.10E+05	2.96E+04	1.29E+05
		756.72		55.30	2.10E+05		-4.56E+04	1.04E+05
@	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	2.28E+08	2.28E+08	-1.26E+08	1.12E+08
	RU-106	621.84		9.80	3.96E+01	3.96E+01	-1.52E+01	1.95E+01
	AG-108M	433.93		89.90	4.47E-01	4.47E-01	5.07E-02	2.20E-01
		614.37		90.40	5.15E-01		-3.48E-02	2.54E-01

Analysis Report for 1608066-01

GAS 1302

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
	AG-108M	722.95		90.50	5.46E-01	4.47E-01	1.98E-04	2.69E-01
+	CD-109	88.03	*	3.72	6.22E+01	6.22E+01	2.80E+03	3.10E+01
	AG-110M	657.75		93.14	2.70E+01	2.18E+01	3.70E+00	1.34E+01
		677.61		10.53	1.00E+02		-5.57E+01	4.94E+01
		706.67		16.46	6.73E+01		-1.13E+01	3.31E+01
		763.93		21.98	5.46E+01		8.48E+00	2.69E+01
		884.67		71.63	2.18E+01		1.16E+01	1.08E+01
		1384.27		23.94	2.18E+01		3.93E+00	1.03E+01
	CD-113M	263.70		0.02	1.58E+03	1.58E+03	2.26E+02	7.82E+02
	SN-113	255.12		1.93	1.56E+04	5.49E+02	4.45E+03	7.71E+03
		391.69		64.90	5.49E+02		-3.89E+01	2.71E+02
	TE123M	159.00		84.10	2.25E+02	2.25E+02	4.04E+01	1.12E+02
	SB-124	602.71		97.87	2.31E+05	2.01E+05	-5.33E+04	1.14E+05
		645.85		7.26	3.32E+06		-5.68E+05	1.64E+06
		722.78		11.10	2.25E+06		8.14E+02	1.11E+06
		1691.02		49.00	2.01E+05		2.67E+04	9.30E+04
	I-125	35.49		6.49	4.26E+06	4.26E+06	7.26E+06	2.11E+06
	SB-125	176.33		6.89	8.50E+00	2.91E+00	3.51E+00	4.21E+00
		427.89		29.33	2.91E+00		-1.74E-01	1.43E+00
		463.38		10.35	9.12E+00		1.07E+00	4.50E+00
		600.56		17.80	5.42E+00		8.20E-01	2.67E+00
		635.90		11.32	9.02E+00		1.29E+00	4.45E+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	1.14E+00	1.14E+00	5.11E+01	5.65E-01
	@ 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	1.41E+00	1.41E+00	-1.52E+01	6.97E-01
		33.60		13.20	4.82E+00		-1.33E+01	2.39E+00
		39.58		7.52	5.57E+00		-7.88E+00	2.76E+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	8.84E-01	7.18E-01	-2.74E-01	4.38E-01
		302.84		17.80	2.19E+00		-1.80E-01	1.08E+00
		356.01		60.00	7.18E-01		3.67E-01	3.55E-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	1.26E+01	1.30E+00	2.46E+00	6.20E+00
		569.32		15.43	6.90E+00		9.66E-01	3.39E+00
		604.70		97.60	1.30E+00		-4.14E-01	6.41E-01
		795.84		85.40	1.76E+00		1.33E-01	8.68E-01
		801.93		8.73	1.72E+01		-1.51E+00	8.48E+00
	CS-135	268.24		16.00	1.94E+00	1.94E+00	-5.52E-01	9.58E-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

Analysis Report for 1608066-01

GAS 1302

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
@	CS-136	153.22		7.46	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@		163.89		4.61	1.00E+26		1.00E+26	1.00E+20
@		176.55		13.56	1.00E+26		1.00E+26	1.00E+20
@		273.65		12.66	1.00E+26		1.00E+26	1.00E+20
@		340.57		48.50	1.00E+26		1.00E+26	1.00E+20
@		818.50		99.70	1.00E+26		1.00E+26	1.00E+20
@		1048.07		79.60	1.00E+26		1.00E+26	1.00E+20
@		1235.34		19.70	1.00E+26		1.00E+26	1.00E+20
+	CS-137	661.65	*	85.12	7.83E-01	7.83E-01	8.75E+01	3.87E-01
	LA-138	788.74		34.00	1.54E+00	2.82E-01	-4.11E-01	7.59E-01
		1435.80		66.00	2.82E-01		-5.46E-02	1.31E-01
+	CE-139	165.85	*	80.35	9.13E+01	9.13E+01	5.95E+01	4.51E+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	1.96E+10	1.96E+10	5.10E+09	9.68E+09
@	CE-143	57.36		11.80	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@		293.26		42.00	1.00E+26		1.00E+26	1.00E+20
@		664.55		5.20	1.00E+26		1.00E+26	1.00E+20
	CE-144	133.54		10.80	3.73E+01	3.73E+01	7.47E-01	1.85E+01
	PM-144	476.78		42.00	8.63E+00	4.09E+00	-4.89E-01	4.26E+00
		618.01		98.60	4.09E+00		3.77E-01	2.01E+00
		696.49		99.49	4.13E+00		4.85E-01	2.03E+00
	PM-145	36.85		21.70	2.56E+00	1.35E+00	4.60E+00	1.27E+00
		37.36		39.70	1.35E+00		2.43E+00	6.69E-01
		42.30		15.10	3.10E+00		-5.29E+00	1.54E+00
		72.40		2.31	1.19E+01		5.94E-01	5.90E+00
	PM-146	453.90		39.94	1.56E+00	1.56E+00	4.32E-01	7.71E-01
		735.90		14.01	5.15E+00		-1.74E-01	2.53E+00
		747.13		13.10	5.66E+00		-2.32E-01	2.79E+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	1.95E+00	1.73E+00	1.81E+01	9.67E-01
		244.69		5.40	6.77E+00		5.40E-01	3.35E+00
		344.27		19.13	2.09E+00		5.23E-01	1.03E+00
		778.89		9.20	6.65E+00		3.55E-01	3.27E+00
		964.01		10.40	8.07E+00		8.73E-01	3.98E+00
		1085.78		7.22	1.08E+01		5.53E+00	5.32E+00
		1112.02		9.60	8.16E+00		-3.03E+00	4.02E+00
		1407.95		14.94	1.73E+00		9.06E-01	8.14E-01
	GD-153	97.43		31.30	1.94E+01	1.94E+01	-2.90E+00	9.60E+00
		103.18		22.20	2.76E+01		6.79E+00	1.37E+01
	EU-154	123.07		40.50	1.07E+00	9.28E-01	9.89E+00	5.32E-01
		723.30		19.70	3.16E+00		1.14E-03	1.55E+00
		873.19		11.50	6.92E+00		2.62E+00	3.41E+00
		996.32		10.30	8.29E+00		1.04E+00	4.09E+00

Analysis Report for 1608066-01

GAS 1302

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
	EU-154	1004.76		17.90	4.71E+00	9.28E-01	1.43E+00	2.32E+00
		1274.45		35.50	9.28E-01		-4.16E-01	4.43E-01
	EU-155	86.50		30.90	3.16E+00	1.73E+00	9.37E+01	1.58E+00
		105.30		20.70	1.73E+00		5.28E-01	8.55E-01
@	EU-156	811.77		10.40	1.00E+26	1.00E+26	1.00E+26	1.00E+20
@		1153.47		7.20	1.00E+26		1.00E+26	1.00E+20
@		1230.71		8.90	1.00E+26		1.00E+26	1.00E+20
	HO-166M	184.41		72.60	3.85E-01	3.85E-01	7.49E-02	1.90E-01
		280.45		29.60	1.06E+00		-2.00E-01	5.24E-01
		410.94		11.10	3.41E+00		-7.14E-01	1.68E+00
		711.69		54.10	8.63E-01		-3.58E-01	4.25E-01
	TM-171	66.72		0.14	5.67E+02	5.67E+02	5.53E+01	2.81E+02
	HF-172	81.75		4.52	1.70E+01	6.76E+00	2.21E+00	8.43E+00
		125.81		11.30	6.76E+00		2.84E+00	3.35E+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	2.15E+01	7.17E+00	5.00E+00	1.07E+01
		272.11		21.20	7.17E+00		-9.95E-01	3.55E+00
	HF-175	343.40		84.00	3.29E+04	3.29E+04	4.04E+03	1.62E+04
	LU-176	88.34		13.30	4.69E+00	3.43E-01	1.40E+02	2.34E+00
		201.83		86.00	3.46E-01		8.00E-02	1.71E-01
		306.78		94.00	3.43E-01		6.07E-02	1.70E-01
	TA-182	67.75		41.20	6.43E+02	6.43E+02	6.50E+02	3.19E+02
		1121.30		34.90	1.79E+03		1.04E+02	8.78E+02
		1189.05		16.23	2.83E+03		-2.34E+02	1.38E+03
		1221.41		26.98	1.37E+03		3.64E+02	6.65E+02
		1231.02		11.44	3.09E+03		-4.01E+02	1.49E+03
	IR-192	308.46		29.68	4.82E+04	3.99E+04	-1.66E+04	2.38E+04
		468.07		48.10	3.99E+04		1.25E+04	1.97E+04
	HG-203	279.19		77.30	9.76E+06	9.76E+06	3.09E+06	4.82E+06
	BI-207	569.67		97.72	4.06E-01	4.06E-01	5.69E-02	2.00E-01
		1063.62		74.90	9.38E-01		6.42E-02	4.62E-01
	TL-208	583.14		30.22	1.53E+00	4.27E-01	1.42E+00	7.55E-01
		860.37		4.48	1.32E+01		3.48E+00	6.53E+00
		2614.66		35.85	4.27E-01		4.02E-01	1.91E-01
	BI-210M	262.00		45.00	6.94E-01	6.94E-01	4.11E-01	3.43E-01
		300.00		23.00	1.38E+00		4.15E-01	6.82E-01
	PB-210	46.50		4.25	1.23E+01	1.23E+01	-8.20E+01	6.12E+00
	PB-211	404.84		2.90	1.27E+01	1.27E+01	-7.47E+00	6.28E+00
		831.96		2.90	1.95E+01		-5.56E+00	9.62E+00
	BI-212	727.17		11.80	4.15E+00	4.15E+00	3.00E-01	2.04E+00
		1620.62		2.75	6.91E+00		-8.57E-01	3.20E+00
+	PB-212	238.63	*	44.60	7.48E-01	7.48E-01	4.84E-01	3.70E-01
		300.09		3.41	9.31E+00		2.80E+00	4.60E+00
	BI-214	609.31		46.30	9.93E-01	9.93E-01	7.42E-01	4.89E-01
		1120.29		15.10	4.13E+00		-3.01E-01	2.03E+00
		1764.49		15.80	1.25E+00		6.65E-01	5.80E-01
		2204.22		4.98	3.25E+00		-7.96E-01	1.46E+00
	PB-214	295.21		19.19	1.67E+00	9.24E-01	3.80E-02	8.27E-01
		351.92		37.19	9.24E-01		3.62E-02	4.56E-01
	RN-219	401.80		6.50	5.65E+00	5.65E+00	3.28E-01	2.79E+00

Analysis Report for 1608066-01

GAS 1302

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
	RA-223	323.87		3.88	8.50E+00	8.50E+00	3.06E+00	4.20E+00
	RA-224	240.98		3.95	8.15E+00	8.15E+00	2.18E+00	4.03E+00
@	RA-225	40.00		31.00	1.00E+26	1.00E+26	1.00E+26	1.00E+20
	RA-226	186.21		3.28	8.76E+00	8.76E+00	3.40E+00	4.34E+00
	TH-227	50.10		8.40	6.88E+00	2.75E+00	2.74E+01	3.42E+00
		236.00		11.50	2.75E+00		-1.11E-01	1.36E+00
		256.20		6.30	4.93E+00		4.03E+00	2.44E+00
	AC-228	338.32		11.40	2.92E+00	2.46E+00	1.87E-01	1.44E+00
		911.07		27.70	2.46E+00		-4.46E-01	1.21E+00
		969.11		16.60	4.11E+00		3.02E-02	2.02E+00
	TH-230	48.44		16.90	3.38E+00	3.38E+00	8.60E+00	1.68E+00
		62.85		4.60	4.95E+00		-2.43E+01	2.45E+00
		67.67		0.37	7.09E+01		7.17E+01	3.51E+01
	PA-231	283.67		1.60	1.97E+01	1.38E+01	8.05E-01	9.73E+00
		302.67		2.30	1.38E+01		-1.13E+00	6.81E+00
	TH-231	25.64		14.70	3.50E+01	3.83E+00	1.04E+03	1.74E+01
		84.21		6.40	3.83E+00		4.48E-01	1.90E+00
	PA-233	311.98		38.60	4.55E+12	4.55E+12	1.96E+11	2.25E+12
	PA-234	131.20		20.40	1.18E+00	1.18E+00	-5.84E-02	5.85E-01
		733.99		8.80	5.57E+00		3.51E-01	2.74E+00
		946.00		12.00	6.16E+00		6.71E-02	3.04E+00
	PA-234M	1001.03		0.92	7.21E+01	7.21E+01	-5.49E+00	3.55E+01
	TH-234	63.29		3.80	5.97E+00	5.97E+00	-2.93E+01	2.95E+00
	U-235	143.76		10.50	2.34E+00	2.34E+00	-2.48E+00	1.16E+00
		163.35		4.70	5.52E+00		5.01E-01	2.73E+00
		205.31		4.70	6.32E+00		9.27E-03	3.13E+00
	NP-237	86.50		12.60	5.01E+00	5.01E+00	1.48E+02	2.50E+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	2.93E+00	2.93E+00	1.82E+02	1.46E+00
	AM-243	74.67		66.00	3.62E-01	3.62E-01	-3.04E-01	1.80E-01
	CM-243	209.75		3.29	9.93E+00	2.43E+00	-1.87E+00	4.91E+00
		228.14		10.60	3.27E+00		1.54E+00	1.62E+00
		277.60		14.00	2.43E+00		6.26E-01	1.20E+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.

Analysis Report for 1608066-01

GAS 1302

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: GAS 1302

Elapsed Live time: 1800
Elapsed Real Time: 1824

Channel								
1:	0	0	0	0	0	2	163	1231
9:	1334	1320	1782	3568	4795	1661	1767	1426
17:	1308	2649	1162	1239	3672	40276	27832	2120
25:	15326	7018	1511	586	654	667	740	1916
33:	1400	810	733	971	1112	864	875	998
41:	1145	1278	1473	1730	1839	2055	2320	2811
49:	4114	4840	4243	4131	4229	4156	4505	4592
57:	4901	4954	18587	65141	2045	1034	1012	1090
65:	1183	1286	1473	1513	1539	1461	1363	1368
73:	1385	1371	1388	1289	1456	1391	1317	1296
81:	1382	1441	1450	1470	1515	1479	1743	19024
89:	6045	793	753	736	781	758	756	752
97:	751	760	792	768	785	752	777	762
105:	745	738	757	729	782	764	743	755
113:	736	794	738	780	776	771	859	814
121:	860	3543	1627	756	691	716	761	736
129:	680	704	753	714	729	707	726	885
137:	1022	668	707	685	754	666	689	670
145:	671	735	738	700	693	681	706	646
153:	603	650	670	633	663	660	658	640
161:	700	669	636	673	677	843	634	661
169:	655	651	664	621	622	682	662	667
177:	656	615	642	630	587	654	650	622
185:	700	757	722	742	713	732	724	705
193:	701	745	684	721	645	716	670	709
201:	686	691	663	704	683	668	656	664
209:	676	672	663	734	717	734	700	718
217:	713	666	761	705	726	746	744	699
225:	689	686	666	715	689	703	650	657
233:	687	644	600	663	615	672	801	625
241:	571	645	582	580	638	582	575	549
249:	548	562	565	567	519	538	573	552
257:	582	519	508	525	540	565	542	531
265:	514	525	521	499	516	522	541	477
273:	510	521	524	494	559	493	476	530
281:	481	492	466	478	527	502	498	455
289:	474	475	470	490	480	485	505	495
297:	451	477	433	475	474	452	447	448
305:	454	448	490	470	451	459	496	442
313:	459	433	459	435	463	440	446	435
321:	446	420	442	460	482	432	421	467
329:	411	445	424	421	451	414	424	460
337:	455	413	414	395	425	438	420	447
345:	439	451	430	416	433	414	404	457
353:	410	459	423	441	423	456	423	414
361:	417	421	410	411	374	388	435	422

369:	388	412	415	367	426	395	399	438

Sample Title: GAS 1302

Channel								
377:	448	444	440	426	394	402	387	429
385:	413	419	413	434	413	406	422	472
393:	401	397	429	422	424	389	391	446
401:	399	376	389	406	407	419	392	462
409:	409	452	377	417	405	415	419	425
417:	391	403	392	447	407	412	414	427
425:	419	383	424	430	418	410	403	418
433:	417	441	390	406	394	429	388	415
441:	437	406	409	411	449	382	485	437
449:	412	442	453	427	406	441	476	456
457:	394	438	454	457	433	447	471	442
465:	448	429	440	463	454	454	443	410
473:	434	383	385	385	403	392	360	366
481:	381	361	324	325	344	292	349	317
489:	367	284	319	298	315	323	303	292
497:	287	302	300	297	334	293	314	313
505:	290	276	321	290	314	296	344	333
513:	298	285	271	302	320	280	291	254
521:	273	297	273	281	274	279	260	259
529:	270	273	252	283	258	253	299	242
537:	235	272	250	279	285	267	246	273
545:	226	252	257	245	237	258	231	254
553:	261	250	229	251	215	218	223	230
561:	248	233	236	244	235	227	247	257
569:	212	230	247	221	251	220	215	203
577:	240	256	214	249	273	225	315	241
585:	257	225	212	236	266	234	212	224
593:	224	205	233	223	220	215	211	215
601:	234	213	237	194	222	214	224	242
609:	245	221	257	233	222	213	233	218
617:	228	230	229	215	217	210	240	224
625:	195	235	222	198	223	237	241	222
633:	254	235	217	221	214	209	230	232
641:	198	222	195	200	227	229	225	241
649:	239	234	247	213	223	224	238	261
657:	248	243	224	401	6184	17330	3838	260
665:	193	192	174	190	154	202	158	189
673:	193	176	175	182	172	196	195	192
681:	191	214	193	198	174	167	173	193
689:	180	180	183	203	223	191	178	177
697:	179	187	206	170	201	189	188	183
705:	190	217	189	163	190	185	197	176
713:	208	186	185	198	194	202	198	192
721:	208	205	179	217	191	192	203	189
729:	206	193	199	202	189	200	227	178
737:	176	197	184	195	183	218	190	200
745:	178	186	226	205	217	183	218	177
753:	198	183	198	179	204	181	194	202
761:	189	185	216	180	197	236	158	188
769:	182	191	203	175	206	197	180	195
777:	203	206	207	190	213	193	205	211
785:	192	202	213	197	181	204	206	203
793:	206	221	184	195	175	208	195	197

801:	182	207	172	206	204	183	219	190

Sample Title: GAS 1302

Channel								
809:	203	201	218	212	206	199	231	215
817:	212	213	214	200	254	266	229	215
825:	212	202	203	237	180	220	209	234
833:	197	229	221	204	237	203	221	230
841:	214	218	211	216	213	198	225	218
849:	230	196	191	217	200	219	212	224
857:	221	207	215	223	256	214	213	218
865:	205	222	216	224	221	249	256	247
873:	217	231	230	233	226	235	242	263
881:	245	257	259	258	253	280	265	253
889:	223	254	248	252	255	226	266	233
897:	236	277	254	254	263	265	279	263
905:	269	250	262	265	232	281	278	275
913:	233	292	271	292	254	277	270	274
921:	288	239	304	259	300	285	258	300
929:	253	283	264	276	294	303	298	279
937:	279	289	304	307	278	293	296	302
945:	283	315	272	299	294	282	319	301
953:	270	296	266	266	316	286	290	302
961:	273	280	284	290	243	258	247	258
969:	270	247	233	170	236	209	249	210
977:	249	210	220	262	234	191	255	232
985:	218	233	205	237	203	187	200	249
993:	203	233	210	224	225	237	209	211
1001:	211	216	218	207	187	238	204	211
1009:	187	180	215	229	225	230	196	219
1017:	190	172	215	209	206	213	229	209
1025:	201	217	222	208	178	225	202	208
1033:	192	212	182	191	185	178	208	193
1041:	202	182	181	203	222	171	195	201
1049:	201	209	173	175	193	213	209	189
1057:	196	184	213	181	212	216	168	183
1065:	190	195	169	200	195	194	219	218
1073:	207	197	191	212	186	190	196	182
1081:	180	186	182	191	222	196	185	167
1089:	188	216	214	200	182	175	179	206
1097:	193	193	201	187	195	182	215	191
1105:	202	210	182	223	228	180	187	176
1113:	185	168	166	201	173	146	143	184
1121:	162	146	149	154	129	128	150	129
1129:	124	134	111	115	136	126	121	133
1137:	137	116	106	114	125	132	108	120
1145:	130	125	127	111	123	120	123	99
1153:	109	121	116	110	111	128	108	112
1161:	116	115	129	129	104	85	90	102
1169:	111	117	142	1231	8208	10359	2392	198
1177:	99	82	85	90	74	78	59	79
1185:	73	71	73	97	74	78	58	76
1193:	80	74	75	66	74	53	65	79
1201:	64	68	55	50	59	40	55	48
1209:	48	53	64	52	50	40	55	35
1217:	53	37	55	51	42	42	54	44
1225:	41	44	44	55	41	43	44	33

1233:	32	43	46	39	41	33	34	37

Sample Title: GAS 1302

Channel								
1241:	29	34	36	25	39	30	26	32
1249:	31	35	35	40	22	28	34	32
1257:	17	32	34	24	30	28	33	28
1265:	32	20	20	29	21	32	16	14
1273:	21	24	26	27	18	28	18	25
1281:	29	35	29	33	23	35	26	25
1289:	21	35	31	30	23	35	22	22
1297:	26	21	27	23	22	34	27	30
1305:	19	25	30	29	18	25	20	27
1313:	28	20	22	29	27	32	24	23
1321:	25	38	33	29	24	25	34	41
1329:	26	56	566	4995	9780	4331	359	27
1337:	15	11	16	9	16	12	15	18
1345:	16	13	9	12	12	17	11	10
1353:	10	10	9	8	9	10	9	7
1361:	9	12	9	6	5	12	13	7
1369:	6	13	12	6	5	14	11	12
1377:	13	13	10	10	11	12	13	12
1385:	18	12	14	12	15	8	9	11
1393:	9	9	12	12	12	10	6	13
1401:	11	15	10	13	12	15	12	14
1409:	9	15	9	5	19	16	4	10
1417:	7	9	9	7	12	13	9	4
1425:	6	11	4	8	11	8	8	6
1433:	8	10	4	10	10	13	11	12
1441:	10	9	9	6	8	12	11	8
1449:	12	7	6	5	8	10	6	8
1457:	16	5	6	7	19	12	8	12
1465:	10	5	14	10	11	8	9	7
1473:	9	13	10	9	11	10	10	8
1481:	8	8	6	13	11	8	9	10
1489:	7	7	5	9	10	9	7	11
1497:	9	8	9	8	9	7	5	8
1505:	6	11	4	15	6	7	8	8
1513:	6	6	9	10	5	10	6	3
1521:	4	11	13	9	3	4	8	6
1529:	12	7	7	8	8	6	5	3
1537:	8	7	7	5	11	8	9	9
1545:	12	12	1	12	6	11	8	8
1553:	6	6	5	11	10	10	9	7
1561:	12	2	7	3	4	6	9	8
1569:	7	6	7	11	10	12	11	7
1577:	5	7	5	4	7	5	4	10
1585:	4	7	5	6	7	8	5	2
1593:	8	1	7	7	9	5	4	9
1601:	3	8	7	8	11	8	5	7
1609:	2	6	8	7	11	7	5	7
1617:	1	6	7	3	11	4	6	9
1625:	6	8	6	6	5	7	4	6
1633:	5	10	10	7	7	7	7	8
1641:	3	2	4	6	4	7	6	6
1649:	4	8	5	7	4	7	6	8
1657:	3	7	4	3	2	5	5	2

1665:	6	6	10	4	6	4	6	6

Sample Title: GAS 1302

Channel								
1673:	8	5	8	5	3	5	7	6
1681:	4	3	3	9	6	8	9	7
1689:	5	5	8	5	2	3	3	5
1697:	5	7	1	7	7	1	2	8
1705:	5	3	3	6	7	2	9	9
1713:	8	6	6	7	4	8	6	4
1721:	9	5	6	8	2	7	3	2
1729:	7	16	2	6	6	9	4	4
1737:	5	6	7	6	8	6	3	12
1745:	5	3	4	5	11	8	5	6
1753:	9	4	10	4	5	7	3	4
1761:	5	5	4	5	10	9	4	7
1769:	3	2	6	7	7	3	4	4
1777:	2	11	7	4	7	1	6	5
1785:	3	2	7	9	6	8	7	7
1793:	5	4	5	4	1	4	8	5
1801:	9	4	7	5	4	3	9	3
1809:	11	5	6	7	8	6	5	8
1817:	8	1	2	9	1	9	5	1
1825:	5	5	6	7	5	3	5	7
1833:	14	5	7	7	20	9	5	4
1841:	12	9	3	6	4	7	7	7
1849:	6	9	6	4	2	3	3	2
1857:	11	5	7	4	4	4	5	4
1865:	6	1	5	4	7	4	4	7
1873:	7	7	4	8	4	7	2	7
1881:	5	3	3	5	7	2	0	3
1889:	6	7	7	6	7	5	2	5
1897:	5	3	9	8	4	2	4	5
1905:	4	4	5	9	7	4	5	8
1913:	5	3	9	7	3	8	6	4
1921:	4	4	8	4	6	3	6	7
1929:	5	4	4	6	8	7	6	6
1937:	2	5	4	4	6	2	2	4
1945:	3	4	5	9	2	3	6	4
1953:	5	8	6	7	4	3	5	2
1961:	1	4	7	3	0	3	1	3
1969:	4	4	2	3	2	7	9	7
1977:	3	4	4	6	3	7	4	1
1985:	4	3	4	5	5	6	5	7
1993:	3	3	7	7	4	5	3	8
2001:	4	9	4	6	6	6	4	5
2009:	2	4	3	7	6	3	4	5
2017:	1	3	2	3	6	4	5	5
2025:	5	1	4	4	4	2	4	4
2033:	5	7	4	1	3	3	5	1
2041:	5	4	4	5	11	2	6	4
2049:	5	4	6	2	2	2	3	5
2057:	9	7	4	5	4	6	6	2
2065:	2	1	7	4	5	3	1	4
2073:	2	6	4	6	7	3	4	3
2081:	6	7	3	1	3	3	9	6
2089:	1	5	3	3	7	3	5	4

2097:	3	4	7	2	2	3	2	3

Sample Title: GAS 1302

Channel								
2105:	4	2	4	6	4	2	2	4
2113:	2	2	3	3	5	5	4	2
2121:	6	5	0	5	3	3	1	4
2129:	5	3	3	3	3	5	4	6
2137:	0	1	1	3	2	2	1	3
2145:	3	6	5	6	2	2	4	2
2153:	6	4	2	6	5	7	5	5
2161:	3	4	0	5	6	2	5	4
2169:	4	6	6	2	5	3	1	2
2177:	2	4	2	4	7	3	6	2
2185:	3	6	5	4	4	2	4	5
2193:	4	5	4	10	3	0	8	4
2201:	1	4	3	3	4	5	3	1
2209:	6	5	1	4	4	2	2	2
2217:	2	3	4	3	7	4	7	4
2225:	6	4	3	0	4	3	6	5
2233:	6	6	0	5	5	5	4	7
2241:	3	2	7	3	2	2	5	1
2249:	5	2	3	8	6	2	3	4
2257:	2	4	6	3	4	5	3	4
2265:	5	4	6	3	2	7	6	7
2273:	1	3	3	5	3	2	4	4
2281:	4	5	6	6	6	2	5	3
2289:	3	2	5	5	3	4	2	1
2297:	1	3	4	5	3	4	3	2
2305:	3	3	0	4	3	5	3	4
2313:	0	3	6	3	2	1	1	0
2321:	1	4	3	4	2	1	5	0
2329:	1	1	1	1	1	2	2	3
2337:	3	3	1	0	2	3	2	0
2345:	4	1	2	0	2	3	3	1
2353:	3	1	2	2	2	3	1	1
2361:	1	2	3	1	0	5	1	1
2369:	0	0	1	0	0	2	4	4
2377:	1	3	3	2	1	0	3	1
2385:	4	0	4	0	1	1	1	0
2393:	1	0	2	0	0	0	1	2
2401:	1	0	2	1	1	1	0	2
2409:	1	0	1	1	0	1	1	1
2417:	1	0	0	0	1	1	1	0
2425:	0	0	1	0	1	1	1	0
2433:	0	0	1	1	1	0	2	0
2441:	2	3	0	0	1	0	0	0
2449:	3	0	0	0	0	0	0	0
2457:	0	2	0	1	1	0	0	0
2465:	2	0	0	2	2	0	1	2
2473:	0	1	1	0	2	2	2	2
2481:	1	0	2	1	2	0	1	0
2489:	0	0	0	0	2	1	1	1
2497:	0	0	0	0	0	1	1	15
2505:	41	82	74	29	4	0	0	0
2513:	0	0	0	0	0	0	1	0
2521:	0	0	0	1	0	1	0	1

2529:	0	0	0	1	0	0	0	0

Sample Title: GAS 1302

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

2961:	0	0	0	0	0	0	0	0

Sample Title: GAS 1302

Channel								
2969:	1	0	0	0	0	0	0	0
2977:	0	0	1	0	0	0	0	1
2985:	0	0	0	0	0	0	0	0
2993:	0	0	0	0	0	0	0	0
3001:	0	0	0	0	0	0	0	0
3009:	0	0	0	1	0	0	0	0
3017:	0	1	0	1	0	0	0	1
3025:	0	0	0	0	0	0	0	0
3033:	1	0	0	0	0	1	0	0
3041:	0	0	0	0	0	0	0	0
3049:	0	0	0	0	1	0	0	0
3057:	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0
3097:	0	0	0	0	0	0	0	0
3105:	0	0	0	1	0	0	0	1
3113:	0	0	0	0	1	0	0	0
3121:	0	0	0	0	0	1	1	0
3129:	0	0	1	0	0	0	0	0
3137:	0	0	0	1	0	0	0	0
3145:	1	0	0	0	0	0	0	0
3153:	0	0	1	0	0	0	0	1
3161:	0	0	0	0	0	0	0	1
3169:	0	0	0	0	0	0	0	0
3177:	0	0	0	0	0	0	0	0
3185:	0	0	0	0	0	0	0	0
3193:	0	0	0	0	0	0	0	0
3201:	1	0	0	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	1	0	0	0	0
3241:	0	0	0	0	0	0	0	0
3249:	0	0	0	0	0	0	0	0
3257:	0	0	0	0	0	2	0	0
3265:	0	0	0	0	0	0	0	0
3273:	0	0	0	0	0	0	0	0
3281:	0	0	0	0	0	0	0	0
3289:	0	0	0	0	0	0	0	1
3297:	0	0	0	0	0	0	0	0
3305:	1	0	0	0	0	0	0	0
3313:	0	0	0	0	0	0	0	0
3321:	0	0	0	0	0	0	0	0
3329:	0	0	0	0	0	0	0	0
3337:	0	0	0	0	0	0	0	0
3345:	0	0	0	0	0	0	0	0
3353:	0	0	2	0	0	0	0	0
3361:	0	0	0	0	0	0	0	0
3369:	0	0	0	1	0	0	0	0
3377:	0	0	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: GAS 1302

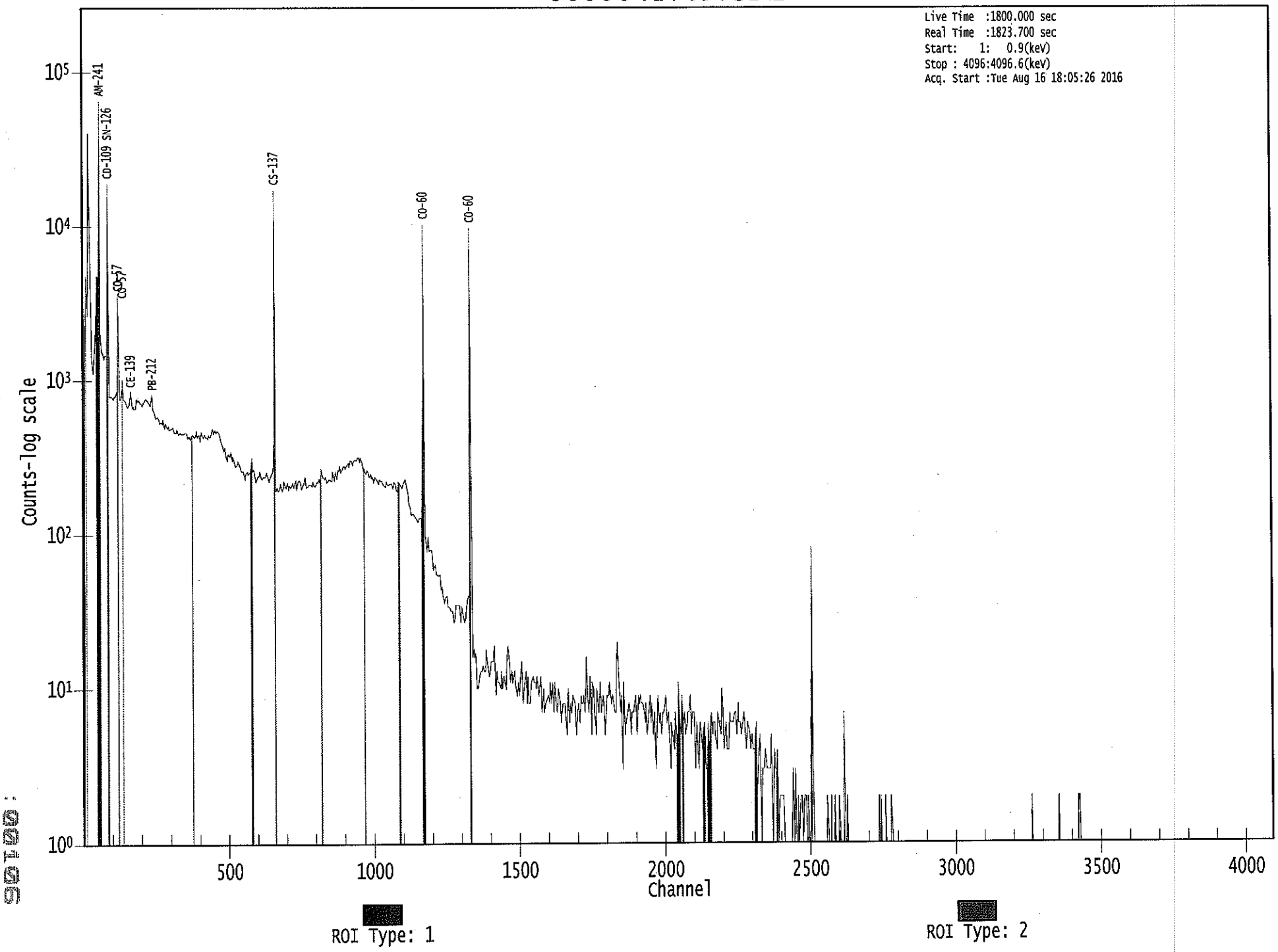
Channel								
3401:	0	0	0	0	0	0	0	1
3409:	0	0	0	1	0	0	0	0
3417:	0	0	0	0	0	2	0	1
3425:	0	2	0	0	1	0	0	0
3433:	0	0	0	0	1	0	0	0
3441:	0	0	0	0	0	0	0	0
3449:	0	0	0	0	0	0	0	0
3457:	0	0	0	0	0	0	0	0
3465:	0	0	0	0	0	0	0	1
3473:	0	0	0	0	0	0	0	0
3481:	0	0	0	0	0	0	0	0
3489:	0	1	1	1	0	0	0	0
3497:	0	0	0	1	0	0	0	0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

3825:	0	0	0	0	0	0	0	1

Sample Title: GAS 1302

Channel								
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	0	0	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	0	1	0	0	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	1	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	0
3921:	0	0	0	0	0	0	0	0
3929:	0	0	0	0	0	0	0	0
3937:	0	0	0	0	0	0	0	0
3945:	0	0	0	0	0	0	0	1
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:	1	0	0	0	0	0	0	0
3985:	1	0	1	0	0	0	0	0
3993:	0	0	0	0	0	0	0	0
4001:	0	0	1	0	0	0	0	0
4009:	0	0	0	0	0	0	0	0
4017:	0	0	0	0	0	0	0	0
4025:	0	0	0	1	0	0	0	0
4033:	0	0	0	0	0	0	0	0
4041:	0	0	0	0	0	0	0	0
4049:	0	0	0	0	0	0	0	0
4057:	0	1	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	1	1	0	0	0
4089:	0	1	1	0	0	0	0	0

0000041709.CNF



00106

Apex-Gamma

Analysis Report for 1608066-02

BLANK

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1608066-02
Sample Description	: BLANK
Sample Type	: SOIL
Sample Size	: 7.834E+02 sample
Facility	: Countroom
Sample Taken On	: 8/16/2016 4:37:55PM
Acquisition Started	: 8/16/2016 5:03:55PM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE1
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3600.4 seconds
Dead Time	: 0.01 %
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	: 41666

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG 8/17/16

Analysis Report for 1608066-02

BLANK

PEAK LOCATE REPORT

Peak Locate Performed on : 8/16/2016 6:03:58PM
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	60.93	61.27	0.0000	0.00
2	100.59	100.93	0.0000	0.00
3	239.59	239.88	0.0000	0.00
4	413.60	413.83	0.0000	0.00
5	511.67	511.86	0.0000	0.00
6	632.15	632.30	0.0000	0.00
7	672.19	672.33	0.0000	0.00
8	694.57	694.70	0.0000	0.00
9	729.22	729.34	0.0000	0.00
10	767.73	767.83	0.0000	0.00
11	788.25	788.35	0.0000	0.00
12	803.29	803.39	0.0000	0.00
13	807.54	807.63	0.0000	0.00
14	881.67	881.74	0.0000	0.00
15	990.46	990.49	0.0000	0.00
16	1037.73	1037.74	0.0000	0.00
17	1050.36	1050.37	0.0000	0.00
18	1053.67	1053.67	0.0000	0.00
19	1064.37	1064.37	0.0000	0.00
20	1098.91	1098.90	0.0000	0.00
21	1207.45	1207.40	0.0000	0.00
22	1371.03	1370.92	0.0000	0.00
23	1496.49	1496.33	0.0000	0.00
24	1516.41	1516.25	0.0000	0.00
25	1521.45	1521.28	0.0000	0.00
26	1572.93	1572.75	0.0000	0.00
27	2613.73	2613.14	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1608066-02

BLANK

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/16/2016 6:03:58PM

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	60.93	60 -	66	61.27	1.69E+01	15.30	6.06E+01	1.91
	2	100.59	98 -	104	100.93	4.12E+01	33.29	1.66E+02	4.19
	3	239.59	236 -	244	239.88	4.85E+01	32.73	1.35E+02	1.42
	4	413.60	409 -	419	413.83	2.46E+01	23.51	6.08E+01	4.87
	5	511.67	506 -	520	511.86	1.24E+02	38.36	9.46E+01	3.09
	6	632.15	626 -	640	632.30	2.34E+01	25.50	5.33E+01	10.46
	7	672.19	667 -	678	672.33	2.03E+01	22.63	5.34E+01	7.63
	8	694.57	691 -	697	694.70	2.00E+01	12.53	1.40E+01	2.98
	9	729.22	725 -	734	729.34	2.19E+01	13.82	1.41E+01	6.58
	10	767.73	764 -	771	767.83	1.18E+01	10.77	1.04E+01	1.17
	11	788.25	785 -	790	788.35	8.21E+00	9.59	1.16E+01	1.24
M	12	803.29	801 -	811	803.39	9.18E+00	10.05	1.64E+01	2.54
m	13	807.54	801 -	811	807.63	1.07E+01	13.27	1.82E+01	2.54
	14	881.67	877 -	887	881.74	1.45E+01	13.52	1.70E+01	5.65
	15	990.46	987 -	993	990.49	1.19E+01	10.23	1.01E+01	3.09
	16	1037.73	1035 -	1041	1037.74	7.04E+00	10.05	1.19E+01	2.47
M	17	1050.36	1049 -	1060	1050.37	6.96E+00	4.12	1.83E+00	2.72
m	18	1053.67	1049 -	1060	1053.67	1.20E+01	10.00	3.65E+00	2.70
	19	1064.37	1060 -	1069	1064.37	8.00E+00	10.10	1.00E+01	2.83
	20	1098.91	1087 -	1108	1098.90	2.18E+01	22.61	3.04E+01	21.49
	21	1207.45	1204 -	1210	1207.40	1.00E+01	6.32	0.00E+00	1.16
	22	1371.03	1368 -	1373	1370.92	4.50E+00	5.74	3.00E+00	1.25
	23	1496.49	1493 -	1498	1496.33	6.00E+00	4.90	0.00E+00	1.92
M	24	1516.41	1515 -	1524	1516.25	6.44E+00	4.00	0.00E+00	3.05
m	25	1521.45	1515 -	1524	1521.28	7.42E+00	5.66	0.00E+00	3.93
	26	1572.93	1569 -	1576	1572.75	8.00E+00	5.66	0.00E+00	1.16
	27	2613.73	2610 -	2616	2613.14	7.00E+00	5.29	0.00E+00	1.98

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 1608066-02

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PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/16/2016 6:03:58PM

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	60.93	60 -	66	1.69E+01	15.30	6.06E+01	1.28E+01
	2	100.59	98 -	104	4.12E+01	33.29	1.66E+02	2.52E+01
	3	239.59	236 -	244	4.85E+01	32.73	1.35E+02	2.44E+01
	4	413.60	409 -	419	2.46E+01	23.51	6.08E+01	1.75E+01
	5	511.67	506 -	520	1.24E+02	38.36	9.46E+01	1.21E+01
	6	632.15	626 -	640	2.34E+01	25.50	5.33E+01	1.94E+01
	7	672.19	667 -	678	2.03E+01	22.63	5.34E+01	1.71E+01
	8	694.57	691 -	697	2.00E+01	12.53	1.40E+01	7.21E+00
	9	729.22	725 -	734	2.19E+01	13.82	1.41E+01	8.35E+00
	10	767.73	764 -	771	1.18E+01	10.77	1.04E+01	6.82E+00
	11	788.25	785 -	790	8.21E+00	9.59	1.16E+01	6.32E+00
M	12	803.29	801 -	811	9.18E+00	10.05	1.64E+01	6.65E+00
m	13	807.54	801 -	811	1.07E+01	13.27	1.82E+01	7.01E+00
	14	881.67	877 -	887	1.45E+01	13.52	1.70E+01	9.18E+00
	15	990.46	987 -	993	1.19E+01	10.23	1.01E+01	6.21E+00
	16	1037.73	1035 -	1041	7.04E+00	10.05	1.19E+01	7.02E+00
M	17	1050.36	1049 -	1060	6.96E+00	4.12	1.83E+00	2.22E+00
m	18	1053.67	1049 -	1060	1.20E+01	10.00	3.65E+00	3.14E+00
	19	1064.37	1060 -	1069	8.00E+00	10.10	1.00E+01	6.88E+00
	20	1098.91	1087 -	1108	2.18E+01	22.61	3.04E+01	1.69E+01
	21	1207.45	1204 -	1210	1.00E+01	6.32	0.00E+00	0.00E+00
	22	1371.03	1368 -	1373	4.50E+00	5.74	3.00E+00	3.18E+00
	23	1496.49	1493 -	1498	6.00E+00	4.90	0.00E+00	0.00E+00
M	24	1516.41	1515 -	1524	6.44E+00	4.00	0.00E+00	0.00E+00
m	25	1521.45	1515 -	1524	7.42E+00	5.66	0.00E+00	0.00E+00
	26	1572.93	1569 -	1576	8.00E+00	5.66	0.00E+00	0.00E+00
	27	2613.73	2610 -	2616	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

Analysis Report for 1608066-02

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PEAK WITH NID REPORT

Peak Analysis Performed on : 8/16/2016 6:03:58PM

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	60.93	60 -	66	61.27	1.69E+01	15.30	6.06E+01	.....
	2	100.59	98 -	104	100.93	4.12E+01	33.29	1.66E+02	LU-173
	3	239.59	236 -	244	239.88	4.85E+01	32.73	1.35E+02	PB-212
	4	413.60	409 -	419	413.83	2.46E+01	23.51	6.08E+01	.....
	5	511.67	506 -	520	511.86	1.24E+02	38.36	9.46E+01	.....
	6	632.15	626 -	640	632.30	2.34E+01	25.50	5.33E+01	.....
	7	672.19	667 -	678	672.33	2.03E+01	22.63	5.34E+01	.....
	8	694.57	691 -	697	694.70	2.00E+01	12.53	1.40E+01	SB-126
	9	729.22	725 -	734	729.34	2.19E+01	13.82	1.41E+01	.....
	10	767.73	764 -	771	767.83	1.18E+01	10.77	1.04E+01	.....
	11	788.25	785 -	790	788.35	8.21E+00	9.59	1.16E+01	LA-138
M	12	803.29	801 -	811	803.39	9.18E+00	10.05	1.64E+01	.....
m	13	807.54	801 -	811	807.63	1.07E+01	13.27	1.82E+01	.....
	14	881.67	877 -	887	881.74	1.45E+01	13.52	1.70E+01	.....
	15	990.46	987 -	993	990.49	1.19E+01	10.23	1.01E+01	.....
	16	1037.73	1035 -	1041	1037.74	7.04E+00	10.05	1.19E+01	CO-56
M	17	1050.36	1049 -	1060	1050.37	6.96E+00	4.12	1.83E+00	.....
m	18	1053.67	1049 -	1060	1053.67	1.20E+01	10.00	3.65E+00	.....
	19	1064.37	1060 -	1069	1064.37	8.00E+00	10.10	1.00E+01	BI-207
	20	1098.91	1087 -	1108	1098.90	2.18E+01	22.61	3.04E+01	FE-59
	21	1207.45	1204 -	1210	1207.40	1.00E+01	6.32	0.00E+00	.....
	22	1371.03	1368 -	1373	1370.92	4.50E+00	5.74	3.00E+00	.....
	23	1496.49	1493 -	1498	1496.33	6.00E+00	4.90	0.00E+00	.....
M	24	1516.41	1515 -	1524	1516.25	6.44E+00	4.00	0.00E+00	.....
m	25	1521.45	1515 -	1524	1521.28	7.42E+00	5.66	0.00E+00	.....
	26	1572.93	1569 -	1576	1572.75	8.00E+00	5.66	0.00E+00	.....
	27	2613.73	2610 -	2616	2613.14	7.00E+00	5.29	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 1608066-02

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PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 8/16/2016 6:03:58PM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
M	1	60.93	1.69E+01	15.30	2.41E-02	1.83E-03
	2	100.59	4.12E+01	33.29	2.84E-02	2.49E-03
	3	239.59	4.85E+01	32.73	1.92E-02	1.63E-03
	4	413.60	2.46E+01	23.51	1.31E-02	1.09E-03
	5	511.67	1.24E+02	38.36	1.12E-02	9.90E-04
	6	632.15	2.34E+01	25.50	9.55E-03	8.65E-04
	7	672.19	2.03E+01	22.63	9.10E-03	8.25E-04
	8	694.57	2.00E+01	12.53	8.87E-03	8.05E-04
	9	729.22	2.19E+01	13.82	8.54E-03	7.74E-04
	10	767.73	1.18E+01	10.77	8.20E-03	7.39E-04
	11	788.25	8.21E+00	9.59	8.03E-03	7.21E-04
M	12	803.29	9.18E+00	10.05	7.91E-03	7.07E-04
m	13	807.54	1.07E+01	13.27	7.87E-03	7.03E-04
	14	881.67	1.45E+01	13.52	7.34E-03	6.37E-04
	15	990.46	1.19E+01	10.23	6.69E-03	5.74E-04
	16	1037.73	7.04E+00	10.05	6.44E-03	5.50E-04
M	17	1050.36	6.96E+00	4.12	6.38E-03	5.43E-04
m	18	1053.67	1.20E+01	10.00	6.37E-03	5.41E-04
	19	1064.37	8.00E+00	10.10	6.32E-03	5.36E-04
	20	1098.91	2.18E+01	22.61	6.16E-03	5.18E-04
	21	1207.45	1.00E+01	6.32	5.72E-03	4.73E-04
	22	1371.03	4.50E+00	5.74	5.20E-03	4.42E-04
	23	1496.49	6.00E+00	4.90	4.89E-03	4.10E-04
M	24	1516.41	6.44E+00	4.00	4.84E-03	4.05E-04
m	25	1521.45	7.42E+00	5.66	4.83E-03	4.04E-04
	26	1572.93	8.00E+00	5.66	4.72E-03	3.91E-04
	27	2613.73	7.00E+00	5.29	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 : 8/16/2016 6:03:58PM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000041518.CNF

Analysis Report for 1608066-02

BLANK

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	1	60.93	1.69E+01	15.30			1.69E+01	1.53E+01
	2	100.59	4.12E+01	33.29			4.12E+01	3.33E+01
	3	239.59	4.85E+01	32.73	1.99E+01	5.74E+00	2.86E+01	3.32E+01
	4	413.60	2.46E+01	23.51			2.46E+01	2.35E+01
	5	511.67	1.24E+02	38.36	7.89E+01	5.29E+00	4.48E+01	3.87E+01
	6	632.15	2.34E+01	25.50			2.34E+01	2.55E+01
	7	672.19	2.03E+01	22.63			2.03E+01	2.26E+01
	8	694.57	2.00E+01	12.53			2.00E+01	1.25E+01
	9	729.22	2.19E+01	13.82			2.19E+01	1.38E+01
	10	767.73	1.18E+01	10.77			1.18E+01	1.08E+01
	11	788.25	8.21E+00	9.59			8.21E+00	9.59E+00
M	12	803.29	9.18E+00	10.05			9.18E+00	1.00E+01
m	13	807.54	1.07E+01	13.27			1.07E+01	1.33E+01
	14	881.67	1.45E+01	13.52			1.45E+01	1.35E+01
	15	990.46	1.19E+01	10.23			1.19E+01	1.02E+01
	16	1037.73	7.04E+00	10.05			7.04E+00	1.00E+01
M	17	1050.36	6.96E+00	4.12			6.96E+00	4.12E+00
m	18	1053.67	1.20E+01	10.00			1.20E+01	1.00E+01
	19	1064.37	8.00E+00	10.10			8.00E+00	1.01E+01
	20	1098.91	2.18E+01	22.61			2.18E+01	2.26E+01
	21	1207.45	1.00E+01	6.32			1.00E+01	6.32E+00
	22	1371.03	4.50E+00	5.74			4.50E+00	5.74E+00
	23	1496.49	6.00E+00	4.90			6.00E+00	4.90E+00
M	24	1516.41	6.44E+00	4.00			6.44E+00	4.00E+00
m	25	1521.45	7.42E+00	5.66			7.42E+00	5.66E+00
	26	1572.93	8.00E+00	5.66			8.00E+00	5.66E+00
	27	2613.73	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 : 8/16/2016 6:03:58PM

Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000041518.CNF

Corrected Area is: Original * Peak Ratio - Background

Analysis Report for 1608066-02

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	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
M	1	60.93	1.69E+01	15.30			1.69E+01	1.53E+01
	2	100.59	4.12E+01	33.29			4.12E+01	3.33E+01
	3	239.59	4.85E+01	32.73	1.99E+01	5.74E+00	2.86E+01	3.32E+01
	4	413.60	2.46E+01	23.51			2.46E+01	2.35E+01
	5	511.67	1.24E+02	38.36	7.89E+01	5.29E+00	4.48E+01	3.87E+01
	6	632.15	2.34E+01	25.50			2.34E+01	2.55E+01
	7	672.19	2.03E+01	22.63			2.03E+01	2.26E+01
	8	694.57	2.00E+01	12.53			2.00E+01	1.25E+01
	9	729.22	2.19E+01	13.82			2.19E+01	1.38E+01
	10	767.73	1.18E+01	10.77			1.18E+01	1.08E+01
	11	788.25	8.21E+00	9.59			8.21E+00	9.59E+00
M	12	803.29	9.18E+00	10.05			9.18E+00	1.00E+01
m	13	807.54	1.07E+01	13.27			1.07E+01	1.33E+01
	14	881.67	1.45E+01	13.52			1.45E+01	1.35E+01
	15	990.46	1.19E+01	10.23			1.19E+01	1.02E+01
	16	1037.73	7.04E+00	10.05			7.04E+00	1.00E+01
M	17	1050.36	6.96E+00	4.12			6.96E+00	4.12E+00
m	18	1053.67	1.20E+01	10.00			1.20E+01	1.00E+01
	19	1064.37	8.00E+00	10.10			8.00E+00	1.01E+01
	20	1098.91	2.18E+01	22.61			2.18E+01	2.26E+01
	21	1207.45	1.00E+01	6.32			1.00E+01	6.32E+00
	22	1371.03	4.50E+00	5.74			4.50E+00	5.74E+00
	23	1496.49	6.00E+00	4.90			6.00E+00	4.90E+00
M	24	1516.41	6.44E+00	4.00			6.44E+00	4.00E+00
m	25	1521.45	7.42E+00	5.66			7.42E+00	5.66E+00
	26	1572.93	8.00E+00	5.66			8.00E+00	5.66E+00
	27	2613.73	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/sample)	Activity Uncertainty
FE-59	0.322	1099.22	*	56.50	6.01E-02	6.25E-02
		1291.56		43.20		
PB-212	0.766	238.63	*	44.60	3.20E-02	3.73E-02
		300.09		3.41		

Analysis Report for 1608066-02

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* = 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 : 8/16/2016 6:03:58PM
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	60.93	4.70275E-03	45.18		
	2	100.59	1.14561E-02	40.36	Tol.	LU-173
	4	413.60	6.82828E-03	47.82		
	5	511.67	1.24404E-02	43.23		
	6	632.15	6.48889E-03	54.57		
	7	672.19	5.64125E-03	55.71		
	8	694.57	5.55556E-03	31.32	Tol.	SB-126
	9	729.22	6.09195E-03	31.51		
	10	767.73	3.27614E-03	45.66		
	11	788.25	2.28175E-03	58.38	Tol.	LA-138
M	12	803.29	2.54992E-03	54.74		
m	13	807.54	2.97161E-03	62.01		
	14	881.67	4.03382E-03	46.55		
	15	990.46	3.31699E-03	42.85		
	16	1037.73	1.95513E-03	71.39	Tol.	CO-56
M	17	1050.36	1.93399E-03	29.61		
m	18	1053.67	3.32922E-03	41.72		
	19	1064.37	2.22222E-03	63.12	Tol.	BI-207
	21	1207.45	2.77778E-03	31.62		
	22	1371.03	1.25000E-03	63.83		
	23	1496.49	1.66667E-03	40.82		
M	24	1516.41	1.78911E-03	31.05		
m	25	1521.45	2.06087E-03	38.12		
	26	1572.93	2.22222E-03	35.36		
	27	2613.73	1.94444E-03	37.80	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

Analysis Report for 1608066-02
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NUCLIDE IDENTIFICATION REPORT

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

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/sample)	Activity Uncertainty
FE-59	0.32	1099.22	*	56.50	6.01E-02	6.25E-02
		1291.56		43.20		
PB-212	0.76	238.63	*	44.60	3.20E-02	3.73E-02
		300.09		3.41		

* = 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/sample)	Wt mean Activity Uncertainty	Comments
FE-59	0.322	6.01E-02	6.25E-02	
PB-212	0.766	3.20E-02	3.73E-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 1608066-02

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UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/16/2016 6:03:58PM
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	60.93	4.70275E-03	45.18		
	2	100.59	1.14561E-02	40.36	Tol.	LU-173
	4	413.60	6.82828E-03	47.82		
	5	511.67	1.24404E-02	43.23		
	6	632.15	6.48889E-03	54.57		
	7	672.19	5.64125E-03	55.71		
	8	694.57	5.55556E-03	31.32	Tol.	SB-126
	9	729.22	6.09195E-03	31.51		
	10	767.73	3.27614E-03	45.66		
	11	788.25	2.28175E-03	58.38	Tol.	LA-138
M	12	803.29	2.54992E-03	54.74		
m	13	807.54	2.97161E-03	62.01		
	14	881.67	4.03382E-03	46.55		
	15	990.46	3.31699E-03	42.85		
	16	1037.73	1.95513E-03	71.39	Tol.	CO-56
M	17	1050.36	1.93399E-03	29.61		
m	18	1053.67	3.32922E-03	41.72		
	19	1064.37	2.22222E-03	63.12	Tol.	BI-207
	21	1207.45	2.77778E-03	31.62		
	22	1371.03	1.25000E-03	63.83		
	23	1496.49	1.66667E-03	40.82		
M	24	1516.41	1.78911E-03	31.05		
m	25	1521.45	2.06087E-03	38.12		
	26	1572.93	2.22222E-03	35.36		
	27	2613.73	1.94444E-03	37.80	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

Analysis Report for 1608066-02

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NUCLIDE MDA REPORT

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

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	BE-7	477.59		10.42	-2.71E-03	1.95E-01	1.95E-01
+	NA-22	1274.54		99.94	9.60E-03	2.91E-02	2.91E-02
+	NA-24	1368.53		99.99	5.76E-03	2.46E-02	3.05E-02
		2754.09		99.86	-2.65E-03		2.46E-02
+	AL-26	1808.65		99.76	-3.88E-03	2.66E-02	2.66E-02
+	K-40	1460.81		10.67	-8.24E-02	2.87E-01	2.87E-01
+	AR-41	1293.64		99.16	1.26E-03	3.03E-02	3.03E-02
+	TI-44	67.88		94.40	4.17E-03	1.75E-02	1.78E-02
		78.34		96.00	-7.46E-03		1.75E-02
+	SC-46	889.25		99.98	-9.21E-03	2.09E-02	2.09E-02
		1120.51		99.99	7.85E-03		3.18E-02
+	V-48	983.52		99.98	1.43E-03	1.97E-02	2.87E-02
		1312.10		97.50	-1.37E-02		1.97E-02
+	CR-51	320.08		9.83	8.59E-02	1.92E-01	1.92E-01
+	MN-54	834.83		99.97	1.12E-02	2.81E-02	2.81E-02
+	CO-56	846.75		99.96	8.32E-03	2.91E-02	2.91E-02
		1037.75		14.03	6.16E-02		2.07E-01
		1238.25		67.00	2.17E-02		4.80E-02
		1771.40		15.51	9.87E-02		2.12E-01
		2598.48		16.90	1.66E-02		1.61E-01
+	CO-57	122.06		85.51	-9.66E-04	1.70E-02	1.70E-02
		136.48		10.60	-5.88E-02		1.27E-01
+	CO-58	810.76		99.40	4.30E-03	2.47E-02	2.47E-02
+	FE-59	1099.22	*	56.50	6.01E-02	5.35E-02	1.01E-01
		1291.56		43.20	-2.86E-03		5.35E-02
+	CO-60	1173.22		100.00	0.00E+00	2.31E-02	2.31E-02
		1332.49		100.00	3.38E-04		2.86E-02
+	ZN-65	1115.52		50.75	1.40E-02	5.63E-02	5.63E-02
+	GA-67	93.31		35.70	1.36E-01	6.75E-02	6.75E-02
		208.95		2.24	2.68E-01		8.00E-01
		300.22		16.00	-3.46E-02		1.11E-01
+	SE-75	121.11		16.70	-4.38E-02	2.34E-02	8.63E-02
		136.00		59.20	-4.45E-04		2.34E-02
		264.65		59.80	-8.48E-03		2.44E-02
		279.53		25.20	-1.10E-02		5.70E-02
		400.65		11.40	6.56E-02		1.71E-01
+	RB-82	776.52		13.00	-7.31E-02	1.65E-01	1.65E-01
+	RB-83	520.41		46.00	8.80E-03	4.61E-02	4.61E-02
		529.64		30.30	2.25E-02		6.95E-02
		552.65		16.40	-4.81E-02		1.27E-01
+	KR-85	513.99		0.43	1.34E+01	1.02E+01	1.02E+01
+	SR-85	513.99		99.27	5.85E-02	4.48E-02	4.48E-02

Analysis Report for 1608066-02

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	Y-88	898.02	93.40	-7.29E-03	2.42E-02	2.94E-02
		1836.01	99.38	1.12E-03		2.42E-02
+	NB-93M	16.57	9.43	-4.50E+01	2.74E+01	2.74E+01
+	NB-94	702.63	100.00	-9.59E-03	2.39E-02	2.39E-02
		871.10	100.00	8.54E-03		2.68E-02
+	NB-95	765.79	99.81	8.84E-03	2.63E-02	2.63E-02
+	NB-95M	235.69	25.00	-8.92E-04	7.03E-02	7.03E-02
+	ZR-95	724.18	43.70	7.67E-03	4.58E-02	6.01E-02
		756.72	55.30	3.26E-03		4.58E-02
+	MO-99	181.06	6.20	-7.48E-02	2.01E-01	2.70E-01
		739.58	12.80	3.58E-02		2.01E-01
		778.00	4.50	-2.12E-01		5.17E-01
+	RU-103	497.08	89.00	4.47E-03	2.16E-02	2.16E-02
+	RU-106	621.84	9.80	5.39E-02	2.85E-01	2.85E-01
+	AG-108M	433.93	89.90	-7.56E-03	2.55E-02	2.76E-02
		614.37	90.40	-2.20E-02		2.87E-02
		722.95	90.50	2.46E-03		2.55E-02
+	CD-109	88.03	3.72	-1.87E-01	4.28E-01	4.28E-01
+	AG-110M	657.75	93.14	-1.00E-03	2.61E-02	2.61E-02
		677.61	10.53	2.01E-02		2.37E-01
		706.67	16.46	-6.05E-02		1.60E-01
		763.93	21.98	1.59E-02		1.07E-01
		884.67	71.63	-7.31E-03		3.68E-02
		1384.27	23.94	-3.10E-03		1.02E-01
+	CD-113M	263.70	0.02	-2.55E+01	6.42E+01	6.42E+01
+	SN-113	255.12	1.93	4.45E-01	2.48E-02	9.52E-01
		391.69	64.90	-8.52E-05		2.48E-02
+	TE123M	159.00	84.10	-1.03E-02	1.71E-02	1.71E-02
+	SB-124	602.71	97.87	2.97E-03	2.52E-02	2.52E-02
		645.85	7.26	-8.76E-02		2.74E-01
		722.78	11.10	2.01E-02		2.08E-01
		1691.02	49.00	-2.17E-03		4.67E-02
+	I-125	35.49	6.49	8.76E-01	7.96E-01	7.96E-01
+	SB-125	176.33	6.89	8.64E-02	7.50E-02	2.56E-01
		427.89	29.33	-8.88E-03		7.50E-02
		463.38	10.35	5.43E-02		2.25E-01
		600.56	17.80	2.44E-02		1.38E-01
		635.90	11.32	8.78E-02		2.14E-01
+	SB-126	414.70	83.30	1.48E-02	2.18E-02	2.89E-02
		666.33	99.60	-2.57E-03		2.18E-02
		695.00	99.60	7.97E-03		2.92E-02
		720.50	53.80	2.01E-03		4.65E-02
+	SN-126	87.57	37.00	-1.88E-02	4.30E-02	4.30E-02
+	SB-127	473.00	25.00	-3.59E-02	5.47E-02	7.09E-02
		685.20	35.70	-1.96E-02		5.47E-02
		783.80	14.70	3.87E-02		1.78E-01
+	I-129	29.78	57.00	1.95E-01	1.96E-01	1.96E-01
		33.60	13.20	-2.52E-01		4.38E-01

Analysis Report for 1608066-02

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
	I-129	39.58	7.52	-2.22E-01	1.96E-01	4.41E-01
+	I-131	284.30	6.05	-5.21E-02	2.58E-02	2.69E-01
		364.48	81.20	6.52E-03		2.58E-02
		636.97	7.26	4.03E-02		3.13E-01
		722.89	1.80	1.24E-01		1.29E+00
+	TE-132	49.72	13.10	-8.94E-02	1.80E-02	1.86E-01
		228.16	88.00	-2.17E-04		1.80E-02
+	BA-133	81.00	33.00	-4.22E-02	3.21E-02	4.91E-02
		302.84	17.80	8.30E-03		9.93E-02
		356.01	60.00	-1.09E-02		3.21E-02
+	I-133	529.87	86.30	8.15E-03	2.52E-02	2.52E-02
+	XE-133	81.00	38.00	-3.68E-02	4.29E-02	4.29E-02
+	CS-134	563.23	8.38	2.21E-02	2.35E-02	3.04E-01
		569.32	15.43	-1.70E-02		1.53E-01
		604.70	97.60	-1.43E-02		2.39E-02
		795.84	85.40	2.27E-03		2.35E-02
		801.93	8.73	-2.77E-02		2.79E-01
+	CS-135	268.24	16.00	1.91E-02	1.11E-01	1.11E-01
+	I-135	1131.51	22.50	-8.25E-02	1.00E-01	1.17E-01
		1260.41	28.60	1.10E-02		1.00E-01
		1678.03	9.54	1.63E-02		2.63E-01
+	CS-136	153.22	7.46	-4.61E-02	2.24E-02	2.04E-01
		163.89	4.61	1.31E-01		3.66E-01
		176.55	13.56	4.40E-02		1.30E-01
		273.65	12.66	3.68E-03		1.34E-01
		340.57	48.50	7.21E-03		3.64E-02
		818.50	99.70	-1.17E-02		2.24E-02
		1048.07	79.60	-7.55E-03		3.29E-02
		1235.34	19.70	-6.77E-02		1.38E-01
+	CS-137	661.65	85.12	1.89E-03	3.00E-02	3.00E-02
+	LA-138	788.74	34.00	-3.51E-03	4.07E-02	7.07E-02
		1435.80	66.00	-9.14E-03		4.07E-02
+	CE-139	165.85	80.35	1.16E-02	2.29E-02	2.29E-02
+	BA-140	162.64	6.70	-2.72E-02	8.16E-02	2.36E-01
		304.84	4.50	-8.43E-03		3.74E-01
		423.70	3.20	2.41E-02		6.14E-01
		437.55	2.00	1.01E-01		1.25E+00
		537.32	25.00	1.77E-03		8.16E-02
+	LA-140	328.77	20.50	-4.32E-04	2.00E-02	8.26E-02
		487.03	45.50	-8.15E-03		4.87E-02
		815.85	23.50	1.17E-02		9.49E-02
		1596.49	95.49	-6.99E-03		2.00E-02
+	CE-141	145.44	48.40	7.08E-03	3.16E-02	3.16E-02
+	CE-143	57.36	11.80	-2.88E-02	4.61E-02	1.43E-01
		293.26	42.00	1.21E-02		4.61E-02
		664.55	5.20	1.94E-01		4.81E-01
+	CE-144	133.54	10.80	-4.21E-03	1.34E-01	1.34E-01
+	PM-144	476.78	42.00	-1.73E-02	2.86E-02	4.43E-02
		618.01	98.60	6.10E-03		2.86E-02

Analysis Report for 1608066-02

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
	PM-144	696.49	99.49	-5.44E-03	2.86E-02	3.07E-02
+	PM-145	36.85	21.70	-5.53E-02	1.03E-01	1.97E-01
		37.36	39.70	2.59E-02		1.03E-01
		42.30	15.10	-4.08E-02		1.88E-01
		72.40	2.31	-5.65E-01		6.55E-01
+	PM-146	453.90	39.94	3.03E-02	5.98E-02	5.98E-02
		735.90	14.01	-4.57E-02		1.57E-01
		747.13	13.10	-6.95E-02		1.58E-01
+	ND-147	91.11	28.90	-1.22E-01	6.88E-02	6.88E-02
		531.02	13.10	-1.15E-02		1.54E-01
+	PM-149	285.90	3.10	-1.78E-01	5.40E-01	5.40E-01
+	EU-152	121.78	20.50	-4.03E-03	7.09E-02	7.09E-02
		244.69	5.40	-2.18E-02		3.05E-01
		344.27	19.13	3.52E-03		9.13E-02
		778.89	9.20	2.01E-02		2.67E-01
		964.01	10.40	-3.15E-02		2.25E-01
		1085.78	7.22	-4.27E-02		3.87E-01
		1112.02	9.60	-1.06E-01		1.97E-01
		1407.95	14.94	3.56E-02		2.09E-01
+	GD-153	97.43	31.30	-5.37E-03	5.06E-02	5.06E-02
		103.18	22.20	1.21E-02		6.51E-02
+	EU-154	123.07	40.50	-4.49E-03	3.55E-02	3.55E-02
		723.30	19.70	1.13E-02		1.17E-01
		873.19	11.50	4.25E-02		2.20E-01
		996.32	10.30	-6.10E-02		2.54E-01
		1004.76	17.90	-7.44E-02		1.28E-01
		1274.45	35.50	2.70E-02		8.19E-02
+	EU-155	86.50	30.90	1.76E-02	5.61E-02	5.61E-02
		105.30	20.70	2.53E-02		6.68E-02
+	EU-156	811.77	10.40	3.14E-02	2.05E-01	2.05E-01
		1153.47	7.20	-2.50E-03		3.75E-01
		1230.71	8.90	1.38E-02		3.19E-01
+	HO-166M	184.41	72.60	3.78E-02	3.26E-02	3.26E-02
		280.45	29.60	-2.34E-02		4.78E-02
		410.94	11.10	-5.60E-02		1.92E-01
		711.69	54.10	6.95E-03		5.74E-02
+	TM-171	66.72	0.14	1.49E+00	1.39E+01	1.39E+01
+	HF-172	81.75	4.52	-3.64E-01	1.32E-01	3.61E-01
		125.81	11.30	-1.63E-02		1.32E-01
+	LU-172	181.53	20.60	2.29E-02	4.85E-02	8.39E-02
		810.06	16.63	2.46E-03		1.65E-01
		912.12	15.25	4.86E-02		2.21E-01
		1093.66	62.50	1.27E-02		4.85E-02
+	LU-173	100.72	5.24	3.14E-01	8.61E-02	3.18E-01
		272.11	21.20	2.38E-02		8.61E-02
+	HF-175	343.40	84.00	-2.81E-03	1.97E-02	1.97E-02
+	LU-176	88.34	13.30	-8.95E-02	1.63E-02	1.17E-01
		201.83	86.00	-2.60E-03		1.84E-02
		306.78	94.00	-3.51E-03		1.63E-02

Analysis Report for 1608066-02

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	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	TA-182	67.75		41.20	9.57E-03	4.08E-02	4.08E-02
		1121.30		34.90	3.02E-02		9.39E-02
		1189.05		16.23	-1.46E-02		1.53E-01
		1221.41		26.98	3.13E-03		9.94E-02
		1231.02		11.44	1.07E-02		2.48E-01
+	IR-192	308.46		29.68	-1.74E-02	4.39E-02	5.36E-02
		468.07		48.10	-7.34E-03		4.39E-02
+	HG-203	279.19		77.30	3.12E-03	1.96E-02	1.96E-02
+	BI-207	569.67		97.72	4.19E-03	2.42E-02	2.42E-02
		1063.62		74.90	1.10E-02		3.67E-02
+	TL-208	583.14		30.22	2.96E-02	9.31E-02	9.31E-02
		860.37		4.48	-7.15E-02		4.54E-01
		2614.66		35.85	0.00E+00		1.06E-01
+	BI-210M	262.00		45.00	8.70E-03	3.56E-02	3.56E-02
		300.00		23.00	-2.38E-02		7.63E-02
+	PB-210	46.50		4.25	3.46E-01	6.67E-01	6.67E-01
+	PB-211	404.84		2.90	-1.69E-02	5.69E-01	5.69E-01
		831.96		2.90	0.00E+00		8.65E-01
+	BI-212	727.17		11.80	-2.97E-02	2.23E-01	2.23E-01
		1620.62		2.75	0.00E+00		9.03E-01
+	PB-212	238.63	*	44.60	3.20E-02	6.10E-02	6.10E-02
		300.09		3.41	-1.61E-01		5.15E-01
+	BI-214	609.31		46.30	2.67E-02	6.11E-02	6.11E-02
		1120.29		15.10	5.19E-02		2.10E-01
		1764.49		15.80	-1.66E-02		1.81E-01
		2204.22		4.98	-1.40E-01		5.85E-01
+	PB-214	295.21		19.19	5.63E-02	5.92E-02	1.04E-01
		351.92		37.19	3.34E-02		5.92E-02
+	RN-219	401.80		6.50	1.37E-01	2.95E-01	2.95E-01
+	RA-223	323.87		3.88	-4.79E-03	4.31E-01	4.31E-01
+	RA-224	240.98		3.95	4.53E-01	5.60E-01	5.60E-01
+	RA-225	40.00		31.00	-5.26E-02	1.04E-01	1.04E-01
+	RA-226	186.21		3.28	7.51E-01	7.17E-01	7.17E-01
+	TH-227	50.10		8.40	-1.37E-01	1.52E-01	2.85E-01
		236.00		11.50	-1.93E-03		1.52E-01
		256.20		6.30	3.72E-02		2.87E-01
+	AC-228	338.32		11.40	1.04E-02	1.19E-01	1.54E-01
		911.07		27.70	2.75E-02		1.19E-01
		969.11		16.60	5.07E-02		1.86E-01
+	TH-230	48.44		16.90	1.56E-01	1.67E-01	1.67E-01
		62.85		4.60	8.40E-01		5.33E-01
		67.67		0.37	1.07E+00		4.55E+00
+	PA-231	283.67		1.60	3.32E-01	7.68E-01	1.01E+00
		302.67		2.30	6.42E-02		7.68E-01
+	TH-231	25.64		14.70	-5.49E-02	2.69E-01	3.11E+00
		84.21		6.40	-9.68E-03		2.69E-01
+	PA-233	311.98		38.60	1.56E-02	4.62E-02	4.62E-02
+	PA-234	131.20		20.40	1.55E-02	7.41E-02	7.41E-02

Analysis Report for 1608066-02

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	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
	PA-234	733.99	'8.80	3.48E-02	7.41E-02	2.73E-01
		946.00	12.00	-3.95E-02		2.32E-01
+	PA-234M	1001.03	0.92	1.71E+00	3.44E+00	3.44E+00
+	TH-234	63.29	3.80	4.07E-01	6.14E-01	6.14E-01
+	U-235	143.76	10.50	-1.07E-02	1.40E-01	1.40E-01
		163.35	4.70	1.28E-01		3.58E-01
		205.31	4.70	2.06E-01		3.59E-01
+	NP-237	86.50	12.60	4.33E-02	1.38E-01	1.38E-01
+	NP-239	106.10	22.70	2.34E-02	6.17E-02	6.17E-02
		228.18	10.70	-1.79E-03		1.49E-01
		277.60	14.10	2.61E-02		1.11E-01
+	AM-241	59.54	35.90	-3.22E-03	5.10E-02	5.10E-02
+	AM-243	74.67	66.00	-2.21E-02	2.37E-02	2.37E-02
+	CM-243	209.75	3.29	-2.24E-01	1.11E-01	5.07E-01
		228.14	10.60	-1.78E-03		1.49E-01
		277.60	14.00	2.60E-02		1.11E-01

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

NUCLIDE MDA REPORT

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

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
BE-7	477.59	10.42	1.95E-01	1.95E-01	-2.71E-03	8.68E-02
NA-22	1274.54	99.94	2.91E-02	2.91E-02	9.60E-03	1.22E-02
NA-24	1368.53	99.99	3.05E-02	2.46E-02	5.76E-03	1.26E-02
	2754.09	99.86	2.46E-02		-2.65E-03	8.71E-03
AL-26	1808.65	99.76	2.66E-02	2.66E-02	-3.88E-03	1.03E-02
K-40	1460.81	10.67	2.87E-01	2.87E-01	-8.24E-02	1.19E-01

Analysis Report for 1608066-02

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
	AR-41	1293.64		99.16	3.03E-02	3.03E-02	1.26E-03	1.17E-02
	TI-44	67.88		94.40	1.78E-02	1.75E-02	4.17E-03	8.37E-03
		78.34		96.00	1.75E-02		-7.46E-03	8.24E-03
	SC-46	889.25		99.98	2.09E-02	2.09E-02	-9.21E-03	8.66E-03
		1120.51		99.99	3.18E-02		7.85E-03	1.38E-02
	V-48	983.52		99.98	2.87E-02	1.97E-02	1.43E-03	1.24E-02
		1312.10		97.50	1.97E-02		-1.37E-02	7.38E-03
	CR-51	320.08		9.83	1.92E-01	1.92E-01	8.59E-02	8.75E-02
	MN-54	834.83		99.97	2.81E-02	2.81E-02	1.12E-02	1.23E-02
	CO-56	846.75		99.96	2.91E-02	2.91E-02	8.32E-03	1.28E-02
		1037.75		14.03	2.07E-01		6.16E-02	8.89E-02
		1238.25		67.00	4.80E-02		2.17E-02	2.05E-02
		1771.40		15.51	2.12E-01		9.87E-02	8.67E-02
		2598.48		16.90	1.61E-01		1.66E-02	6.02E-02
	CO-57	122.06		85.51	1.70E-02	1.70E-02	-9.66E-04	7.95E-03
		136.48		10.60	1.27E-01		-5.88E-02	5.86E-02
	CO-58	810.76		99.40	2.47E-02	2.47E-02	4.30E-03	1.07E-02
+	FE-59	1099.22	*	56.50	1.01E-01	5.35E-02	6.01E-02	4.67E-02
		1291.56		43.20	5.35E-02		-2.86E-03	2.12E-02
	CO-60	1173.22		100.00	2.31E-02	2.31E-02	0.00E+00	9.33E-03
		1332.49		100.00	2.86E-02		3.38E-04	1.19E-02
	ZN-65	1115.52		50.75	5.63E-02	5.63E-02	1.40E-02	2.39E-02
	GA-67	93.31		35.70	6.75E-02	6.75E-02	1.36E-01	3.25E-02
		208.95		2.24	8.00E-01		2.68E-01	3.72E-01
		300.22		16.00	1.11E-01		-3.46E-02	5.04E-02
	SE-75	121.11		16.70	8.63E-02	2.34E-02	-4.38E-02	4.03E-02
		136.00		59.20	2.34E-02		-4.45E-04	1.09E-02
		264.65		59.80	2.44E-02		-8.48E-03	1.10E-02
		279.53		25.20	5.70E-02		-1.10E-02	2.56E-02
		400.65		11.40	1.71E-01		6.56E-02	7.69E-02
	RB-82	776.52		13.00	1.65E-01	1.65E-01	-7.31E-02	7.01E-02
	RB-83	520.41		46.00	4.61E-02	4.61E-02	8.80E-03	2.05E-02
		529.64		30.30	6.95E-02		2.25E-02	3.08E-02
		552.65		16.40	1.27E-01		-4.81E-02	5.60E-02
	KR-85	513.99		0.43	1.02E+01	1.02E+01	1.34E+01	4.86E+00
	SR-85	513.99		99.27	4.48E-02	4.48E-02	5.85E-02	2.12E-02
	Y-88	898.02		93.40	2.94E-02	2.42E-02	-7.29E-03	1.28E-02
		1836.01		99.38	2.42E-02		1.12E-03	9.04E-03
	NB-93M	16.57		9.43	2.74E+01	2.74E+01	-4.50E+01	1.20E+01
	NB-94	702.63		100.00	2.39E-02	2.39E-02	-9.59E-03	1.05E-02
		871.10		100.00	2.68E-02		8.54E-03	1.17E-02
	NB-95	765.79		99.81	2.63E-02	2.63E-02	8.84E-03	1.15E-02
	NB-95M	235.69		25.00	7.03E-02	7.03E-02	-8.92E-04	3.25E-02
	ZR-95	724.18		43.70	6.01E-02	4.58E-02	7.67E-03	2.66E-02
		756.72		55.30	4.58E-02		3.26E-03	2.01E-02
	MO-99	181.06		6.20	2.70E-01	2.01E-01	-7.48E-02	1.26E-01
		739.58		12.80	2.01E-01		3.58E-02	8.84E-02
		778.00		4.50	5.17E-01		-2.12E-01	2.22E-01
	RU-103	497.08		89.00	2.16E-02	2.16E-02	4.47E-03	9.52E-03
	RU-106	621.84		9.80	2.85E-01	2.85E-01	5.39E-02	1.29E-01
	AG-108M	433.93		89.90	2.76E-02	2.55E-02	-7.56E-03	1.27E-02
		614.37		90.40	2.87E-02		-2.20E-02	1.29E-02
		722.95		90.50	2.55E-02		2.46E-03	1.11E-02

Analysis Report for 1608066-02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
CD-109	88.03	3.72	4.28E-01	4.28E-01	-1.87E-01	2.02E-01
AG-110M	657.75	93.14	2.61E-02	2.61E-02	-1.00E-03	1.16E-02
	677.61	10.53	2.37E-01		2.01E-02	1.05E-01
	706.67	16.46	1.60E-01		-6.05E-02	7.09E-02
	763.93	21.98	1.07E-01		1.59E-02	4.61E-02
	884.67	71.63	3.68E-02		-7.31E-03	1.59E-02
	1384.27	23.94	1.02E-01		-3.10E-03	4.03E-02
CD-113M	263.70	0.02	6.42E+01	6.42E+01	-2.55E+01	2.90E+01
SN-113	255.12	1.93	9.52E-01	2.48E-02	4.45E-01	4.39E-01
	391.69	64.90	2.48E-02		-8.52E-05	1.09E-02
TE123M	159.00	84.10	1.71E-02	1.71E-02	-1.03E-02	7.92E-03
SB-124	602.71	97.87	2.52E-02	2.52E-02	2.97E-03	1.13E-02
	645.85	7.26	2.74E-01		-8.76E-02	1.18E-01
	722.78	11.10	2.08E-01		2.01E-02	9.05E-02
	1691.02	49.00	4.67E-02		-2.17E-03	1.75E-02
I-125	35.49	6.49	7.96E-01	7.96E-01	8.76E-01	3.75E-01
SB-125	176.33	6.89	2.56E-01	7.50E-02	8.64E-02	1.20E-01
	427.89	29.33	7.50E-02		-8.88E-03	3.40E-02
	463.38	10.35	2.25E-01		5.43E-02	1.02E-01
	600.56	17.80	1.38E-01		2.44E-02	6.17E-02
	635.90	11.32	2.14E-01		8.78E-02	9.49E-02
SB-126	414.70	83.30	2.89E-02	2.18E-02	1.48E-02	1.32E-02
	666.33	99.60	2.18E-02		-2.57E-03	9.48E-03
	695.00	99.60	2.92E-02		7.97E-03	1.31E-02
	720.50	53.80	4.65E-02		2.01E-03	2.04E-02
SN-126	87.57	37.00	4.30E-02	4.30E-02	-1.88E-02	2.03E-02
SB-127	473.00	25.00	7.09E-02	5.47E-02	-3.59E-02	3.11E-02
	685.20	35.70	5.47E-02		-1.96E-02	2.33E-02
	783.80	14.70	1.78E-01		3.87E-02	7.81E-02
I-129	29.78	57.00	1.96E-01	1.96E-01	1.95E-01	9.28E-02
	33.60	13.20	4.38E-01		-2.52E-01	2.05E-01
	39.58	7.52	4.41E-01		-2.22E-01	2.06E-01
I-131	284.30	6.05	2.69E-01	2.58E-02	-5.21E-02	1.22E-01
	364.48	81.20	2.58E-02		6.52E-03	1.18E-02
	636.97	7.26	3.13E-01		4.03E-02	1.38E-01
	722.89	1.80	1.29E+00		1.24E-01	5.60E-01
TE-132	49.72	13.10	1.86E-01	1.80E-02	-8.94E-02	8.79E-02
	228.16	88.00	1.80E-02		-2.17E-04	8.27E-03
BA-133	81.00	33.00	4.91E-02	3.21E-02	-4.22E-02	2.32E-02
	302.84	17.80	9.93E-02		8.30E-03	4.52E-02
	356.01	60.00	3.21E-02		-1.09E-02	1.46E-02
I-133	529.87	86.30	2.52E-02	2.52E-02	8.15E-03	1.12E-02
XE-133	81.00	38.00	4.29E-02	4.29E-02	-3.68E-02	2.02E-02
CS-134	563.23	8.38	3.04E-01	2.35E-02	2.21E-02	1.37E-01
	569.32	15.43	1.53E-01		-1.70E-02	6.84E-02
	604.70	97.60	2.39E-02		-1.43E-02	1.06E-02
	795.84	85.40	2.35E-02		2.27E-03	9.83E-03
	801.93	8.73	2.79E-01		-2.77E-02	1.21E-01
CS-135	268.24	16.00	1.11E-01	1.11E-01	1.91E-02	5.07E-02
I-135	1131.51	22.50	1.17E-01	1.00E-01	-8.25E-02	4.80E-02
	1260.41	28.60	1.00E-01		1.10E-02	4.10E-02
	1678.03	9.54	2.63E-01		1.63E-02	9.85E-02
CS-136	153.22	7.46	2.04E-01	2.24E-02	-4.61E-02	9.50E-02

Analysis Report for 1608066-02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
CS-136	163.89	4.61	3.66E-01	2.24E-02	1.31E-01	1.71E-01
	176.55	13.56	1.30E-01		4.40E-02	6.11E-02
	273.65	12.66	1.34E-01		3.68E-03	6.11E-02
	340.57	48.50	3.64E-02		7.21E-03	1.64E-02
	818.50	99.70	2.24E-02		-1.17E-02	9.54E-03
	1048.07	79.60	3.29E-02		-7.55E-03	1.39E-02
	1235.34	19.70	1.38E-01		-6.77E-02	5.70E-02
CS-137	661.65	85.12	3.00E-02	3.00E-02	1.89E-03	1.33E-02
LA-138	788.74	34.00	7.07E-02	4.07E-02	-3.51E-03	3.06E-02
	1435.80	66.00	4.07E-02		-9.14E-03	1.64E-02
CE-139	165.85	80.35	2.29E-02	2.29E-02	1.16E-02	1.08E-02
BA-140	162.64	6.70	2.36E-01	8.16E-02	-2.72E-02	1.10E-01
	304.84	4.50	3.74E-01		-8.43E-03	1.69E-01
	423.70	3.20	6.14E-01		2.41E-02	2.76E-01
	437.55	2.00	1.25E+00		1.01E-01	5.74E-01
	537.32	25.00	8.16E-02		1.77E-03	3.60E-02
LA-140	328.77	20.50	8.26E-02	2.00E-02	-4.32E-04	3.72E-02
	487.03	45.50	4.87E-02		-8.15E-03	2.19E-02
	815.85	23.50	9.49E-02		1.17E-02	4.04E-02
	1596.49	95.49	2.00E-02		-6.99E-03	7.07E-03
CE-141	145.44	48.40	3.16E-02	3.16E-02	7.08E-03	1.47E-02
CE-143	57.36	11.80	1.43E-01	4.61E-02	-2.88E-02	6.67E-02
	293.26	42.00	4.61E-02		1.21E-02	2.12E-02
	664.55	5.20	4.81E-01		1.94E-01	2.13E-01
CE-144	133.54	10.80	1.34E-01	1.34E-01	-4.21E-03	6.26E-02
PM-144	476.78	42.00	4.43E-02	2.86E-02	-1.73E-02	1.95E-02
	618.01	98.60	2.86E-02		6.10E-03	1.30E-02
	696.49	99.49	3.07E-02		-5.44E-03	1.39E-02
PM-145	36.85	21.70	1.97E-01	1.03E-01	-5.53E-02	9.21E-02
	37.36	39.70	1.03E-01		2.59E-02	4.84E-02
	42.30	15.10	1.88E-01		-4.08E-02	8.80E-02
	72.40	2.31	6.55E-01		-5.65E-01	3.07E-01
PM-146	453.90	39.94	5.98E-02	5.98E-02	3.03E-02	2.73E-02
	735.90	14.01	1.57E-01		-4.57E-02	6.77E-02
	747.13	13.10	1.58E-01		-6.95E-02	6.74E-02
ND-147	91.11	28.90	6.88E-02	6.88E-02	-1.22E-01	3.28E-02
	531.02	13.10	1.54E-01		-1.15E-02	6.81E-02
PM-149	285.90	3.10	5.40E-01	5.40E-01	-1.78E-01	2.45E-01
EU-152	121.78	20.50	7.09E-02	7.09E-02	-4.03E-03	3.31E-02
	244.69	5.40	3.05E-01		-2.18E-02	1.40E-01
	344.27	19.13	9.13E-02		3.52E-03	4.11E-02
	778.89	9.20	2.67E-01		2.01E-02	1.16E-01
	964.01	10.40	2.25E-01		-3.15E-02	9.41E-02
	1085.78	7.22	3.87E-01		-4.27E-02	1.65E-01
	1112.02	9.60	1.97E-01		-1.06E-01	7.61E-02
	1407.95	14.94	2.09E-01		3.56E-02	8.77E-02
GD-153	97.43	31.30	5.06E-02	5.06E-02	-5.37E-03	2.38E-02
	103.18	22.20	6.51E-02		1.21E-02	3.05E-02
EU-154	123.07	40.50	3.55E-02	3.55E-02	-4.49E-03	1.66E-02
	723.30	19.70	1.17E-01		1.13E-02	5.10E-02
	873.19	11.50	2.20E-01		4.25E-02	9.45E-02
	996.32	10.30	2.54E-01		-6.10E-02	1.08E-01
	1004.76	17.90	1.28E-01		-7.44E-02	5.33E-02

Analysis Report for 1608066-02

BLANK

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
	EU-154	1274.45		35.50	8.19E-02	3.55E-02	2.70E-02	3.43E-02
	EU-155	86.50		30.90	5.61E-02	5.61E-02	1.76E-02	2.66E-02
		105.30		20.70	6.68E-02		2.53E-02	3.12E-02
	EU-156	811.77		10.40	2.05E-01	2.05E-01	3.14E-02	8.66E-02
		1153.47		7.20	3.75E-01		-2.50E-03	1.57E-01
		1230.71		8.90	3.19E-01		1.38E-02	1.33E-01
	HO-166M	184.41		72.60	3.26E-02	3.26E-02	3.78E-02	1.55E-02
		280.45		29.60	4.78E-02		-2.34E-02	2.14E-02
		410.94		11.10	1.92E-01		-5.60E-02	8.73E-02
		711.69		54.10	5.74E-02		6.95E-03	2.59E-02
	TM-171	66.72		0.14	1.39E+01	1.39E+01	1.49E+00	6.57E+00
	HF-172	81.75		4.52	3.61E-01	1.32E-01	-3.64E-01	1.71E-01
		125.81		11.30	1.32E-01		-1.63E-02	6.17E-02
	LU-172	181.53		20.60	8.39E-02	4.85E-02	2.29E-02	3.92E-02
		810.06		16.63	1.65E-01		2.46E-03	7.27E-02
		912.12		15.25	2.21E-01		4.86E-02	9.86E-02
		1093.66		62.50	4.85E-02		1.27E-02	2.09E-02
	LU-173	100.72		5.24	3.18E-01	8.61E-02	3.14E-01	1.50E-01
		272.11		21.20	8.61E-02		2.38E-02	3.96E-02
	HF-175	343.40		84.00	1.97E-02	1.97E-02	-2.81E-03	8.84E-03
	LU-176	88.34		13.30	1.17E-01	1.63E-02	-8.95E-02	5.48E-02
		201.83		86.00	1.84E-02		-2.60E-03	8.50E-03
		306.78		94.00	1.63E-02		-3.51E-03	7.30E-03
	TA-182	67.75		41.20	4.08E-02	4.08E-02	9.57E-03	1.92E-02
		1121.30		34.90	9.39E-02		3.02E-02	4.08E-02
		1189.05		16.23	1.53E-01		-1.46E-02	6.28E-02
		1221.41		26.98	9.94E-02		3.13E-03	4.12E-02
		1231.02		11.44	2.48E-01		1.07E-02	1.04E-01
	IR-192	308.46		29.68	5.36E-02	4.39E-02	-1.74E-02	2.41E-02
		468.07		48.10	4.39E-02		-7.34E-03	1.97E-02
	HG-203	279.19		77.30	1.96E-02	1.96E-02	3.12E-03	8.81E-03
	BI-207	569.67		97.72	2.42E-02	2.42E-02	4.19E-03	1.08E-02
		1063.62		74.90	3.67E-02		1.10E-02	1.56E-02
	TL-208	583.14		30.22	9.31E-02	9.31E-02	2.96E-02	4.23E-02
		860.37		4.48	4.54E-01		-7.15E-02	1.88E-01
		2614.66		35.85	1.06E-01		0.00E+00	4.34E-02
	BI-210M	262.00		45.00	3.56E-02	3.56E-02	8.70E-03	1.62E-02
		300.00		23.00	7.63E-02		-2.38E-02	3.47E-02
	PB-210	46.50		4.25	6.67E-01	6.67E-01	3.46E-01	3.16E-01
	PB-211	404.84		2.90	5.69E-01	5.69E-01	-1.69E-02	2.51E-01
		831.96		2.90	8.65E-01		0.00E+00	3.74E-01
	BI-212	727.17		11.80	2.23E-01	2.23E-01	-2.97E-02	9.88E-02
		1620.62		2.75	9.03E-01		0.00E+00	3.50E-01
+	PB-212	238.63	*	44.60	6.10E-02	6.10E-02	3.20E-02	2.90E-02
		300.09		3.41	5.15E-01		-1.61E-01	2.34E-01
	BI-214	609.31		46.30	6.11E-02	6.11E-02	2.67E-02	2.77E-02
		1120.29		15.10	2.10E-01		5.19E-02	9.11E-02
		1764.49		15.80	1.81E-01		-1.66E-02	7.18E-02
		2204.22		4.98	5.85E-01		-1.40E-01	2.27E-01
	PB-214	295.21		19.19	1.04E-01	5.92E-02	5.63E-02	4.77E-02
		351.92		37.19	5.92E-02		3.34E-02	2.72E-02
	RN-219	401.80		6.50	2.95E-01	2.95E-01	1.37E-01	1.33E-01
	RA-223	323.87		3.88	4.31E-01	4.31E-01	-4.79E-03	1.94E-01

Analysis Report for 1608066-02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
RA-224	240.98	3.95	5.60E-01	5.60E-01	4.53E-01	2.63E-01
RA-225	40.00	31.00	1.04E-01	1.04E-01	-5.26E-02	4.87E-02
RA-226	186.21	3.28	7.17E-01	7.17E-01	7.51E-01	3.41E-01
TH-227	50.10	8.40	2.85E-01	1.52E-01	-1.37E-01	1.34E-01
	236.00	11.50	1.52E-01		-1.93E-03	7.01E-02
	256.20	6.30	2.87E-01		3.72E-02	1.32E-01
AC-228	338.32	11.40	1.54E-01	1.19E-01	1.04E-02	6.94E-02
	911.07	27.70	1.19E-01		2.75E-02	5.28E-02
	969.11	16.60	1.86E-01		5.07E-02	8.14E-02
TH-230	48.44	16.90	1.67E-01	1.67E-01	1.56E-01	7.94E-02
	62.85	4.60	5.33E-01		8.40E-01	2.55E-01
	67.67	0.37	4.55E+00		1.07E+00	2.14E+00
PA-231	283.67	1.60	1.01E+00	7.68E-01	3.32E-01	4.60E-01
	302.67	2.30	7.68E-01		6.42E-02	3.50E-01
TH-231	25.64	14.70	3.11E+00	2.69E-01	-5.49E-02	1.52E+00
	84.21	6.40	2.69E-01		-9.68E-03	1.27E-01
PA-233	311.98	38.60	4.62E-02	4.62E-02	1.56E-02	2.10E-02
PA-234	131.20	20.40	7.41E-02	7.41E-02	1.55E-02	3.47E-02
	733.99	8.80	2.73E-01		3.48E-02	1.19E-01
	946.00	12.00	2.32E-01		-3.95E-02	1.00E-01
PA-234M	1001.03	0.92	3.44E+00	3.44E+00	1.71E+00	1.51E+00
TH-234	63.29	3.80	6.14E-01	6.14E-01	4.07E-01	2.93E-01
U-235	143.76	10.50	1.40E-01	1.40E-01	-1.07E-02	6.54E-02
	163.35	4.70	3.58E-01		1.28E-01	1.67E-01
	205.31	4.70	3.59E-01		2.06E-01	1.67E-01
NP-237	86.50	12.60	1.38E-01	1.38E-01	4.33E-02	6.52E-02
NP-239	106.10	22.70	6.17E-02	6.17E-02	2.34E-02	2.88E-02
	228.18	10.70	1.49E-01		-1.79E-03	6.82E-02
	277.60	14.10	1.11E-01		2.61E-02	5.04E-02
AM-241	59.54	35.90	5.10E-02	5.10E-02	-3.22E-03	2.40E-02
AM-243	74.67	66.00	2.37E-02	2.37E-02	-2.21E-02	1.11E-02
CM-243	209.75	3.29	5.07E-01	1.11E-01	-2.24E-01	2.34E-01
	228.14	10.60	1.49E-01		-1.78E-03	6.81E-02
	277.60	14.00	1.11E-01		2.60E-02	5.01E-02

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

No Action Level results available for reporting purposes.

Analysis Report for 1608066-02

BLANK

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: BLANK

Elapsed Live time: 3600
Elapsed Real Time: 3600

Channel								
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	17	53	42	83	589	348
25:	38	38	20	26	28	23	19	17
33:	8	20	16	15	21	16	7	16
41:	11	17	15	18	7	15	38	30
49:	12	13	25	13	15	17	12	8
57:	13	11	15	15	28	14	14	68
65:	46	13	19	21	15	18	17	11
73:	17	12	17	25	11	34	20	18
81:	15	23	17	22	35	19	14	21
89:	21	17	14	28	67	85	22	15
97:	15	16	20	25	18	20	18	7
105:	12	17	12	19	14	23	20	16
113:	17	22	10	10	17	19	16	15
121:	10	13	14	17	13	14	13	14
129:	16	12	15	16	14	14	10	10
137:	12	11	10	14	13	11	12	13
145:	21	5	13	14	11	10	17	15
153:	6	11	13	17	12	16	7	13
161:	5	14	9	19	16	14	16	21
169:	15	10	13	8	12	13	13	20
177:	16	14	10	11	16	12	13	15
185:	12	42	47	14	11	13	6	12
193:	13	17	9	13	14	14	14	11
201:	13	7	11	7	9	10	17	12
209:	3	10	18	9	11	11	10	12
217:	13	12	11	6	15	6	13	8
225:	8	7	4	12	9	9	9	8
233:	9	12	7	8	12	10	17	29
241:	9	12	12	7	8	8	6	11
249:	4	5	6	7	8	14	8	11
257:	8	6	7	11	5	7	6	6
265:	4	6	6	10	7	9	10	9
273:	9	7	6	6	6	6	7	5
281:	4	3	5	7	9	8	3	6
289:	14	8	3	6	8	8	10	11
297:	10	6	7	4	6	12	6	9
305:	2	6	8	2	7	6	4	10
313:	8	6	5	5	7	10	3	4
321:	8	12	1	6	4	5	6	5
329:	3	6	8	6	7	4	3	4
337:	4	9	9	3	4	5	8	4
345:	3	5	8	6	6	5	7	11
353:	16	6	7	2	13	5	5	5
361:	5	4	10	5	5	12	6	5

369:	9	6	5	2	5	1	5	8

Sample Title: BLANK

Channel								
377:	5	4	4	5	5	3	8	5
385:	5	7	11	6	3	5	5	5
393:	1	3	5	2	4	3	6	6
401:	7	5	4	5	2	2	6	4
409:	1	5	4	6	6	7	8	8
417:	3	4	3	3	4	4	4	3
425:	2	4	5	1	7	11	3	8
433:	6	7	9	5	4	6	6	5
441:	7	6	4	4	4	3	3	6
449:	2	5	7	2	5	8	4	4
457:	6	3	2	8	3	4	6	4
465:	4	5	7	4	1	2	3	4
473:	4	0	0	4	4	6	4	1
481:	4	4	5	4	2	5	5	3
489:	3	5	6	3	2	0	1	3
497:	4	6	2	3	2	1	2	9
505:	5	5	6	5	8	24	38	36
513:	20	5	7	4	2	6	2	3
521:	1	6	1	3	1	1	3	4
529:	3	2	3	4	2	1	4	3
537:	0	2	4	4	2	5	2	6
545:	3	0	3	5	4	1	2	4
553:	4	1	7	0	4	3	2	3
561:	3	4	7	4	3	5	4	6
569:	1	3	5	0	5	3	1	2
577:	7	3	4	5	3	5	6	9
585:	5	1	5	2	6	3	2	1
593:	2	3	0	4	1	3	3	5
601:	4	1	5	3	2	4	3	3
609:	2	9	9	2	2	4	1	7
617:	6	4	5	3	5	7	1	6
625:	3	3	2	6	7	6	3	2
633:	3	3	3	5	2	4	1	0
641:	2	2	0	0	1	0	7	3
649:	2	6	2	2	0	1	2	4
657:	5	2	4	1	2	8	1	4
665:	2	2	3	0	3	9	7	4
673:	4	5	3	2	6	1	3	4
681:	1	3	0	1	0	5	0	2
689:	4	1	1	2	3	6	7	7
697:	1	1	7	1	3	7	2	1
705:	1	2	2	5	3	7	5	3
713:	6	1	5	4	4	3	3	2
721:	2	6	2	0	2	1	7	4
729:	2	4	2	3	4	0	1	3
737:	3	0	2	4	3	2	4	2
745:	2	1	1	2	1	2	3	2
753:	3	3	0	5	4	1	1	3
761:	3	1	3	0	2	3	2	7
769:	1	2	0	0	4	2	1	0
777:	2	1	1	4	4	3	3	2
785:	1	2	2	3	6	0	1	0
793:	1	1	0	3	2	2	0	2

801:	1	3	1	6	1	2	6	5

Sample Title: BLANK

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

1233:	1	0	3	0	1	2	3	2

Sample Title: BLANK

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

1665:	0	3	1	0	0	1	1	0

Sample Title: BLANK

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

2097:	1	0	1	0	1	0	0	0

Sample Title: BLANK

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

2529:	0	0	0	1	0	1	0	1

Sample Title: BLANK

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

2961:	0	0	0	0	0	1	0	0

Sample Title: BLANK

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

3393:	0	0	1	0	0	0	0	0

Sample Title: BLANK

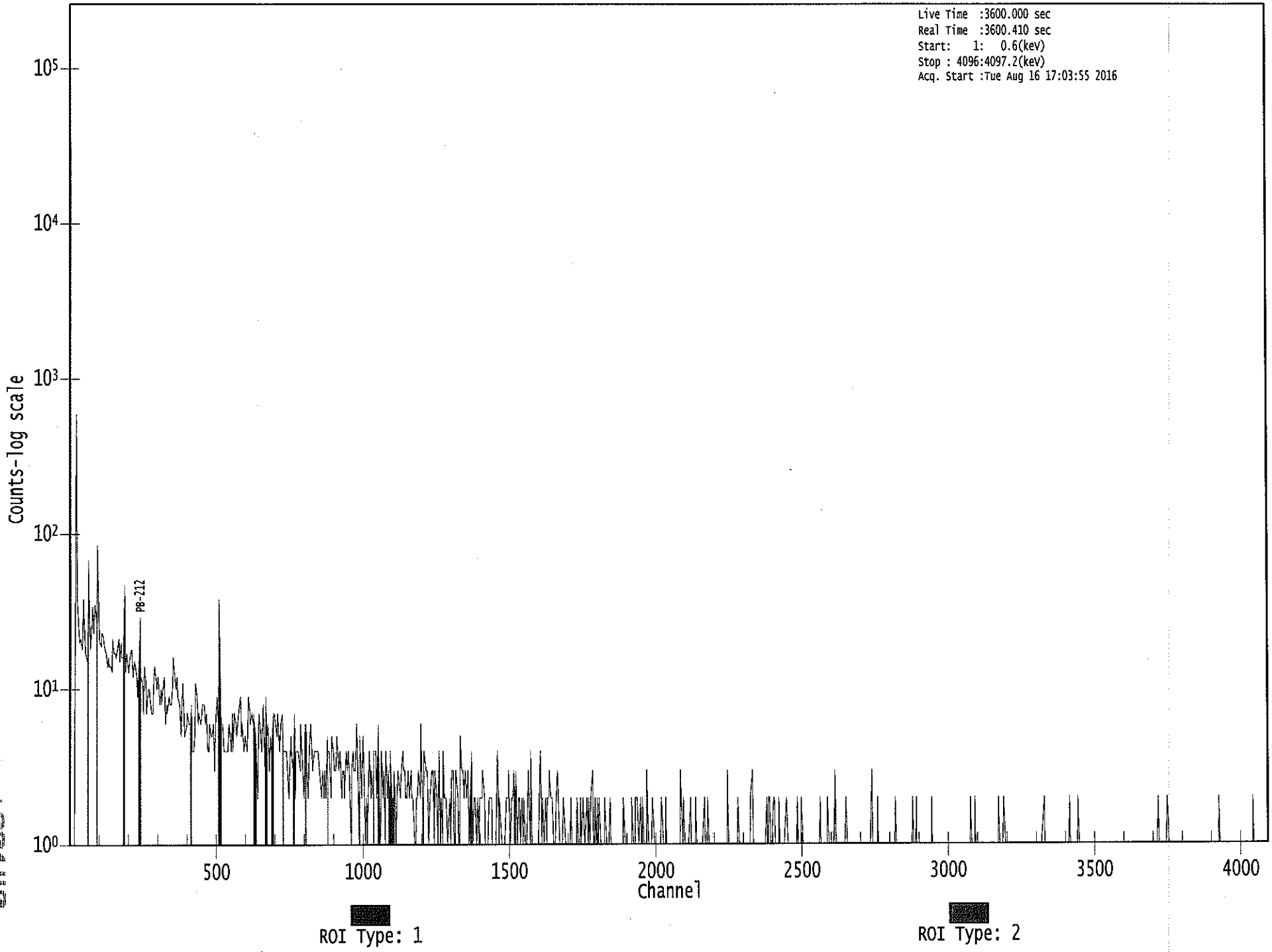
Channel								
3401:	0	1	0	0	0	0	0	0
3409:	0	0	0	1	0	2	0	0
3417:	0	0	0	0	0	0	0	1
3425:	0	0	0	1	0	0	0	0
3433:	0	0	0	0	0	0	0	0
3441:	0	2	1	0	0	0	1	1
3449:	0	0	0	0	0	0	0	1
3457:	1	0	0	0	1	0	0	0
3465:	0	1	0	0	1	0	0	0
3473:	0	0	0	0	0	1	0	0
3481:	0	0	0	1	0	0	0	0
3489:	0	0	0	1	0	0	0	1
3497:	0	0	0	0	0	0	0	0
3505:	0	0	0	0	0	0	0	0
3513:	0	1	0	0	0	1	0	0
3521:	0	0	0	0	0	1	0	0
3529:	0	0	0	0	0	0	0	0
3537:	0	0	0	0	0	0	0	0
3545:	0	1	1	0	0	1	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	1	0	0	0	0	0	1
3593:	0	0	0	0	0	1	1	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	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	1	0	0	0	0	0	0
3665:	1	0	0	1	0	0	0	0
3673:	0	0	0	0	0	0	0	0
3681:	0	0	0	0	0	0	0	0
3689:	0	0	0	0	0	0	0	0
3697:	0	0	1	0	0	0	0	0
3705:	0	0	0	0	0	0	0	0
3713:	0	1	0	0	0	2	0	0
3721:	1	0	0	0	0	0	1	0
3729:	0	0	1	0	0	0	0	0
3737:	0	0	0	0	0	0	0	1
3745:	0	1	0	0	2	0	0	0
3753:	0	1	0	0	0	0	0	0
3761:	0	1	0	0	0	0	0	0
3769:	1	0	0	0	0	0	0	0
3777:	1	0	0	0	0	0	0	0
3785:	1	0	0	0	0	0	0	0
3793:	0	1	0	0	1	0	0	0
3801:	0	0	0	0	1	0	0	0
3809:	0	0	0	0	0	0	0	0
3817:	0	0	0	0	1	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:	0	1	0	0	0	0	0	0
3849:	0	0	1	0	0	0	0	0
3857:	0	0	0	0	0	0	0	0
3865:	0	0	0	0	0	0	0	0
3873:	0	0	0	0	1	0	0	1
3881:	0	0	0	0	0	0	0	1
3889:	0	0	0	0	0	0	0	0
3897:	0	0	0	0	1	0	0	0
3905:	0	0	0	0	0	1	0	0
3913:	0	1	0	0	0	0	0	0
3921:	0	0	0	0	0	2	0	0
3929:	1	0	0	0	0	0	0	0
3937:	0	0	0	0	0	0	0	0
3945:	0	0	0	0	0	0	0	0
3953:	0	0	0	0	0	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:	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:	0	1	0	0	0	0	0	1
4017:	0	0	1	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	2	0	0	0	0	0	0
4049:	0	0	0	0	0	0	0	0
4057:	0	0	0	0	1	0	0	1
4065:	0	0	0	0	0	0	0	0
4073:	0	0	0	0	0	0	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	0	0	0	0	0

0000041666.CNF



Apex-Gamma

Analysis Report for 1608066-03

J1V937 SAF: RC-243

8/17

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1608066-03
Sample Description	: J1V937 SAF: RC-243
Sample Type	: SOIL
Sample Size	: 1.000E+00 sample
Facility	: Countroom
Sample Taken On	: 8/11/2016 4:38:30PM
Acquisition Started	: 8/17/2016 5:40:54AM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE1
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3600.4 seconds
Dead Time	: 0.01 %
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	: 41690

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
8/17/16

Analysis Report for 1608066-03

J1V937 SAF: RC-243

PEAK LOCATE REPORT

Peak Locate Performed on : 8/17/2016 6:40:58AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	478.88	479.08	0.0000	0.00
2	481.97	482.17	0.0000	0.00
3	630.88	631.03	0.0000	0.00
4	634.45	634.60	0.0000	0.00
5	678.41	678.55	0.0000	0.00
6	686.73	686.86	0.0000	0.00
7	690.71	690.84	0.0000	0.00
8	912.16	912.21	0.0000	0.00
9	919.44	919.49	0.0000	0.00
10	969.35	969.39	0.0000	0.00
11	1004.28	1004.30	0.0000	0.00
12	1165.81	1165.78	0.0000	0.00
13	1172.09	1172.05	0.0000	0.00
14	1193.33	1193.29	0.0000	0.00
15	1307.09	1307.00	0.0000	0.00
16	1342.87	1342.78	0.0000	0.00
17	1460.91	1460.77	0.0000	0.00
18	1482.26	1482.11	0.0000	0.00
19	1774.64	1774.38	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1608066-03

J1V937 SAF: RC-243

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/17/2016 6:40:58AM

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

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
M	1	478.88	477 -	486	479.08	1.37E+01	10.00	1.01E+01	1.89
m	2	481.97	477 -	486	482.17	9.50E+00	12.73	1.93E+01	1.89
M	3	630.88	629 -	638	631.03	7.88E+00	6.75	1.14E+01	2.41
m	4	634.45	629 -	638	634.60	1.28E+01	14.20	1.97E+01	2.41
	5	678.41	676 -	682	678.55	8.67E+00	12.06	1.87E+01	1.97
M	6	686.73	685 -	693	686.86	8.03E+00	8.49	1.52E+01	2.03
m	7	690.71	685 -	693	690.84	1.25E+01	12.29	1.98E+01	2.03
	8	912.16	909 -	916	912.21	1.56E+01	10.58	8.80E+00	1.50
	9	919.44	917 -	922	919.49	6.67E+00	7.35	4.67E+00	1.34
	10	969.35	966 -	972	969.39	1.04E+01	7.76	3.25E+00	1.17
	11	1004.28	999 -	1012	1004.30	2.20E+01	14.63	1.40E+01	6.20
M	12	1165.81	1158 -	1175	1165.78	9.11E+00	10.77	1.25E+01	2.76
m	13	1172.09	1158 -	1175	1172.05	7.37E+00	9.80	9.33E+00	2.77
	14	1193.33	1191 -	1195	1193.29	7.94E+00	6.50	2.11E+00	1.79
	15	1307.09	1303 -	1310	1307.00	7.00E+00	5.29	0.00E+00	1.92
	16	1342.87	1339 -	1346	1342.78	7.95E+00	7.48	4.10E+00	2.61
	17	1460.91	1456 -	1466	1460.77	3.70E+01	15.25	1.20E+01	2.73
	18	1482.26	1479 -	1485	1482.11	5.14E+00	6.34	3.71E+00	1.26
	19	1774.64	1771 -	1778	1774.38	5.80E+00	8.49	8.40E+00	1.47

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 : 8/17/2016 6:40:58AM

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

Analysis Report for 1608066-03

J1V937 SAF: RC-243

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
M	1	478.88	477 -	486	1.37E+01	10.00	1.01E+01	5.23E+00
m	2	481.97	477 -	486	9.50E+00	12.73	1.93E+01	7.22E+00
M	3	630.88	629 -	638	7.88E+00	6.75	1.14E+01	5.54E+00
m	4	634.45	629 -	638	1.28E+01	14.20	1.97E+01	7.30E+00
	5	678.41	676 -	682	8.67E+00	12.06	1.87E+01	8.65E+00
M	6	686.73	685 -	693	8.03E+00	8.49	1.52E+01	6.41E+00
m	7	690.71	685 -	693	1.25E+01	12.29	1.98E+01	7.31E+00
	8	912.16	909 -	916	1.56E+01	10.58	8.80E+00	5.79E+00
	9	919.44	917 -	922	6.67E+00	7.35	4.67E+00	4.30E+00
	10	969.35	966 -	972	1.04E+01	7.76	3.25E+00	3.56E+00
	11	1004.28	999 -	1012	2.20E+01	14.63	1.40E+01	9.23E+00
M	12	1165.81	1158 -	1175	9.11E+00	10.77	1.25E+01	5.81E+00
m	13	1172.09	1158 -	1175	7.37E+00	9.80	9.33E+00	5.02E+00
	14	1193.33	1191 -	1195	7.94E+00	6.50	2.11E+00	2.66E+00
	15	1307.09	1303 -	1310	7.00E+00	5.29	0.00E+00	0.00E+00
	16	1342.87	1339 -	1346	7.95E+00	7.48	4.10E+00	4.04E+00
	17	1460.91	1456 -	1466	3.70E+01	15.25	1.20E+01	7.56E+00
	18	1482.26	1479 -	1485	5.14E+00	6.34	3.71E+00	3.65E+00
	19	1774.64	1771 -	1778	5.80E+00	8.49	8.40E+00	5.74E+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 : 8/17/2016 6:40:58AM

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

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB
Peak Match Tolerance : 1.000 keV

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
M	1	478.88	477 -	486	479.08	1.37E+01	10.00	1.01E+01	.....
m	2	481.97	477 -	486	482.17	9.50E+00	12.73	1.93E+01	.....
M	3	630.88	629 -	638	631.03	7.88E+00	6.75	1.14E+01	.....
m	4	634.45	629 -	638	634.60	1.28E+01	14.20	1.97E+01	.....
	5	678.41	676 -	682	678.55	8.67E+00	12.06	1.87E+01	AG-110M
M	6	686.73	685 -	693	686.86	8.03E+00	8.49	1.52E+01	.....

Analysis Report for 1608066-03

J1V937 SAF: RC-243

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
m	7	690.71	685 -	693	690.84	1.25E+01	12.29	1.98E+01	.....
	8	912.16	909 -	916	912.21	1.56E+01	10.58	8.80E+00	LU-172
	9	919.44	917 -	922	919.49	6.67E+00	7.35	4.67E+00	.....
	10	969.35	966 -	972	969.39	1.04E+01	7.76	3.25E+00	AC-228
	11	1004.28	999 -	1012	1004.30	2.20E+01	14.63	1.40E+01	EU-154
M	12	1165.81	1158 -	1175	1165.78	9.11E+00	10.77	1.25E+01	.....
m	13	1172.09	1158 -	1175	1172.05	7.37E+00	9.80	9.33E+00	.....
	14	1193.33	1191 -	1195	1193.29	7.94E+00	6.50	2.11E+00	.....
	15	1307.09	1303 -	1310	1307.00	7.00E+00	5.29	0.00E+00	.....
	16	1342.87	1339 -	1346	1342.78	7.95E+00	7.48	4.10E+00	.....
	17	1460.91	1456 -	1466	1460.77	3.70E+01	15.25	1.20E+01	K-40
	18	1482.26	1479 -	1485	1482.11	5.14E+00	6.34	3.71E+00	.....
	19	1774.64	1771 -	1778	1774.38	5.80E+00	8.49	8.40E+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 : 8/17/2016 6:40:58AM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
M	1	478.88	1.37E+01	10.00	1.18E-02	1.02E-03
m	2	481.97	9.50E+00	12.73	1.17E-02	1.02E-03
M	3	630.88	7.88E+00	6.75	9.56E-03	8.66E-04
m	4	634.45	1.28E+01	14.20	9.52E-03	8.62E-04
	5	678.41	8.67E+00	12.06	9.04E-03	8.19E-04
M	6	686.73	8.03E+00	8.49	8.95E-03	8.12E-04
m	7	690.71	1.25E+01	12.29	8.91E-03	8.08E-04
	8	912.16	1.56E+01	10.58	7.14E-03	6.15E-04
	9	919.44	6.67E+00	7.35	7.10E-03	6.11E-04
	10	969.35	1.04E+01	7.76	6.80E-03	5.85E-04
	11	1004.28	2.20E+01	14.63	6.61E-03	5.67E-04
M	12	1165.81	9.11E+00	10.77	5.88E-03	4.83E-04
m	13	1172.09	7.37E+00	9.80	5.86E-03	4.80E-04
	14	1193.33	7.94E+00	6.50	5.78E-03	4.76E-04
	15	1307.09	7.00E+00	5.29	5.39E-03	4.56E-04
	16	1342.87	7.95E+00	7.48	5.28E-03	4.49E-04
	17	1460.91	3.70E+01	15.25	4.97E-03	4.19E-04

Analysis Report for 1608066-03

J1V937 SAF: RC-243

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
18	1482.26	5.14E+00	6.34	4.92E-03	4.14E-04
19	1774.64	5.80E+00	8.49	4.38E-03	3.41E-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 : 8/17/2016 6:40:58AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000041518.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	1	478.88	1.37E+01	10.00			1.37E+01	1.00E+01
m	2	481.97	9.50E+00	12.73			9.50E+00	1.27E+01
M	3	630.88	7.88E+00	6.75			7.88E+00	6.75E+00
m	4	634.45	1.28E+01	14.20			1.28E+01	1.42E+01
	5	678.41	8.67E+00	12.06			8.67E+00	1.21E+01
M	6	686.73	8.03E+00	8.49			8.03E+00	8.49E+00
m	7	690.71	1.25E+01	12.29			1.25E+01	1.23E+01
	8	912.16	1.56E+01	10.58	4.35E+00	2.38E+00	1.12E+01	1.08E+01
	9	919.44	6.67E+00	7.35			6.67E+00	7.35E+00
	10	969.35	1.04E+01	7.76	2.27E+00	2.48E+00	8.10E+00	8.15E+00
	11	1004.28	2.20E+01	14.63			2.20E+01	1.46E+01
M	12	1165.81	9.11E+00	10.77			9.11E+00	1.08E+01
m	13	1172.09	7.37E+00	9.80			7.37E+00	9.80E+00
	14	1193.33	7.94E+00	6.50			7.94E+00	6.50E+00
	15	1307.09	7.00E+00	5.29			7.00E+00	5.29E+00
	16	1342.87	7.95E+00	7.48			7.95E+00	7.48E+00
	17	1460.91	3.70E+01	15.25	7.03E+00	2.05E+00	3.00E+01	1.54E+01
	18	1482.26	5.14E+00	6.34			5.14E+00	6.34E+00
	19	1774.64	5.80E+00	8.49			5.80E+00	8.49E+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 1608066-03

J1V937 SAF: RC-243

AREA CORRECTION REPORT
REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 8/17/2016 6:40:58AM

Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000041518.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	478.88	1.37E+01	10.00			1.37E+01	1.00E+01
m	2	481.97	9.50E+00	12.73			9.50E+00	1.27E+01
M	3	630.88	7.88E+00	6.75			7.88E+00	6.75E+00
m	4	634.45	1.28E+01	14.20			1.28E+01	1.42E+01
	5	678.41	8.67E+00	12.06			8.67E+00	1.21E+01
M	6	686.73	8.03E+00	8.49			8.03E+00	8.49E+00
m	7	690.71	1.25E+01	12.29			1.25E+01	1.23E+01
	8	912.16	1.56E+01	10.58	4.35E+00	2.38E+00	1.12E+01	1.08E+01
	9	919.44	6.67E+00	7.35			6.67E+00	7.35E+00
	10	969.35	1.04E+01	7.76	2.27E+00	2.48E+00	8.10E+00	8.15E+00
	11	1004.28	2.20E+01	14.63			2.20E+01	1.46E+01
M	12	1165.81	9.11E+00	10.77			9.11E+00	1.08E+01
m	13	1172.09	7.37E+00	9.80			7.37E+00	9.80E+00
	14	1193.33	7.94E+00	6.50			7.94E+00	6.50E+00
	15	1307.09	7.00E+00	5.29			7.00E+00	5.29E+00
	16	1342.87	7.95E+00	7.48			7.95E+00	7.48E+00
	17	1460.91	3.70E+01	15.25	7.03E+00	2.05E+00	3.00E+01	1.54E+01
	18	1482.26	5.14E+00	6.34			5.14E+00	6.34E+00
	19	1774.64	5.80E+00	8.49			5.80E+00	8.49E+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

Analysis Report for 1608066-03

J1V937 SAF: RC-243

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/sample)	Activity Uncertainty
K-40	0.998	1460.81	*	10.67	4.24E+02	2.21E+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 : 8/17/2016 6:40:58AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
M	1	478.88	3.81470E-03	36.41		
m	2	481.97	2.63910E-03	66.98		
M	3	630.88	2.18879E-03	42.80		
m	4	634.45	3.55557E-03	55.45		
	5	678.41	2.40741E-03	69.59	Tol.	AG-110M
M	6	686.73	2.23186E-03	52.80		
m	7	690.71	3.46108E-03	49.31		
	8	912.16	3.12490E-03	48.21	Tol.	LU-172
	9	919.44	1.85185E-03	55.11		
	10	969.35	2.25116E-03	50.28	Tol.	AC-228
	11	1004.28	6.11111E-03	33.25	Tol.	EU-154
M	12	1165.81	2.53004E-03	59.12		
m	13	1172.09	2.04832E-03	66.44		
	14	1193.33	2.20679E-03	40.91		
	15	1307.09	1.94444E-03	37.80		
	16	1342.87	2.20833E-03	47.06		
	18	1482.26	1.42857E-03	61.68		
	19	1774.64	1.61111E-03	73.15		

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 1608066-03

J1V937 SAF: RC-243

NUCLIDE IDENTIFICATION REPORT

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

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/sample)	Activity Uncertainty
K-40	0.99	1460.81	*	10.67	4.24E+02	2.21E+02

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.998	4.24E+02	2.21E+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 1608066-03

J1V937 SAF: RC-243

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/17/2016 6:40:58AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
M	1	478.88	3.81470E-03	36.41		
m	2	481.97	2.63910E-03	66.98		
M	3	630.88	2.18879E-03	42.80		
m	4	634.45	3.55557E-03	55.45		
	5	678.41	2.40741E-03	69.59	Tol.	AG-110M
M	6	686.73	2.23186E-03	52.80		
m	7	690.71	3.46108E-03	49.31		
	8	912.16	3.12490E-03	48.21	Tol.	LU-172
	9	919.44	1.85185E-03	55.11		
	10	969.35	2.25116E-03	50.28	Tol.	AC-228
	11	1004.28	6.11111E-03	33.25	Tol.	EU-154
M	12	1165.81	2.53004E-03	59.12		
m	13	1172.09	2.04832E-03	66.44		
	14	1193.33	2.20679E-03	40.91		
	15	1307.09	1.94444E-03	37.80		
	16	1342.87	2.20833E-03	47.06		
	18	1482.26	1.42857E-03	61.68		
	19	1774.64	1.61111E-03	73.15		

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

NUCLIDE MDA REPORT

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

Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)

Analysis Report for 1608066-03

J1V937 SAF: RC-243

+	BE-7	477.59		10.42	-6.55E+00	1.67E+02	1.67E+02
+	NA-22	1274.54		99.94	1.10E+01	2.58E+01	2.58E+01
+	NA-24	1368.53		99.99	2.41E+03	1.02E+04	1.04E+04
		2754.09		99.86	2.85E+03		1.02E+04
+	AL-26	1808.65		99.76	4.56E+00	2.09E+01	2.09E+01
+	K-40	1460.81	*	10.67	4.24E+02	2.90E+02	2.90E+02
+	@ AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	-2.12E+01	1.39E+01	1.39E+01
		78.34		96.00	8.41E-01		1.49E+01
+	SC-46	889.25		99.98	-3.24E+00	1.96E+01	1.96E+01
		1120.51		99.99	6.44E+00		2.84E+01
+	V-48	983.52		99.98	5.23E+00	2.58E+01	2.58E+01
		1312.10		97.50	5.93E+00		3.04E+01
+	CR-51	320.08		9.83	5.92E+01	1.75E+02	1.75E+02
+	MN-54	834.83		99.97	7.33E-01	2.48E+01	2.48E+01
+	CO-56	846.75		99.96	1.67E+01	2.84E+01	2.84E+01
		1037.75		14.03	2.62E+01		1.52E+02
		1238.25		67.00	8.38E+00		3.80E+01
		1771.40		15.51	0.00E+00		1.52E+02
		2598.48		16.90	0.00E+00		3.33E+01
+	CO-57	122.06		85.51	4.24E+00	1.35E+01	1.35E+01
		136.48		10.60	1.37E+01		1.11E+02
+	CO-58	810.76		99.40	3.16E+00	2.34E+01	2.34E+01
+	FE-59	1099.22		56.50	1.28E+00	4.27E+01	4.27E+01
		1291.56		43.20	-2.61E+01		4.91E+01
+	CO-60	1173.22		100.00	-6.30E+00	2.24E+01	2.24E+01
		1332.49		100.00	9.68E+00		2.67E+01
+	ZN-65	1115.52		50.75	-1.70E+01	4.81E+01	4.81E+01
+	GA-67	93.31		35.70	3.83E+02	1.78E+02	1.78E+02
		208.95		2.24	4.00E+01		2.15E+03
		300.22		16.00	-2.91E+02		2.37E+02
+	SE-75	121.11		16.70	-4.28E+01	1.97E+01	6.64E+01
		136.00		59.20	-5.40E+00		1.97E+01
		264.65		59.80	-1.59E+01		2.18E+01
		279.53		25.20	-1.41E+01		5.64E+01
		400.65		11.40	-7.56E+01		1.02E+02
+	RB-82	776.52		13.00	2.19E+01	1.99E+02	1.99E+02
+	RB-83	520.41		46.00	2.10E+01	4.07E+01	4.07E+01
		529.64		30.30	3.34E+01		6.47E+01
		552.65		16.40	6.26E+01		1.19E+02
+	KR-85	513.99		0.43	7.35E+03	7.36E+03	7.36E+03
+	SR-85	513.99		99.27	3.41E+01	3.41E+01	3.41E+01
+	Y-88	898.02		93.40	-8.07E+00	1.34E+01	1.92E+01
		1836.01		99.38	-1.09E+01		1.34E+01
+	NB-93M	16.57		9.43	-3.04E+04	2.36E+04	2.36E+04
+	NB-94	702.63		100.00	-1.14E+00	2.18E+01	2.18E+01
		871.10		100.00	6.16E+00		2.33E+01
+	NB-95	765.79		99.81	-1.70E-01	2.61E+01	2.61E+01
+	NB-95M	235.69		25.00	-1.43E+02	1.36E+02	1.36E+02
+	ZR-95	724.18		43.70	-2.61E+01	3.39E+01	3.70E+01
		756.72		55.30	-1.58E+01		3.39E+01

Analysis Report for 1608066-03

J1V937 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	MO-99	181.06	6.20	5.01E+02	6.64E+02	9.13E+02
		739.58	12.80	1.76E+01		6.64E+02
		778.00	4.50	-3.67E+02		1.92E+03
+	RU-103	497.08	89.00	-9.36E+00	2.03E+01	2.03E+01
+	RU-106	621.84	9.80	8.00E+01	2.26E+02	2.26E+02
+	AG-108M	433.93	89.90	1.18E+01	1.88E+01	2.09E+01
		614.37	90.40	-1.67E+01		2.32E+01
		722.95	90.50	-9.02E+00		1.88E+01
+	CD-109	88.03	3.72	1.06E+02	3.72E+02	3.72E+02
+	AG-110M	657.75	93.14	-8.34E+00	1.78E+01	1.78E+01
		677.61	10.53	8.00E+01		1.88E+02
		706.67	16.46	7.88E+01		1.47E+02
		763.93	21.98	3.19E+01		1.11E+02
		884.67	71.63	-8.73E+00		2.31E+01
		1384.27	23.94	9.25E+00		8.08E+01
+	CD-113M	263.70	0.02	-4.18E+04	5.56E+04	5.56E+04
+	SN-113	255.12	1.93	2.71E+02	2.50E+01	7.10E+02
		391.69	64.90	-3.24E-01		2.50E+01
+	TE123M	159.00	84.10	-3.54E+00	1.38E+01	1.38E+01
+	SB-124	602.71	97.87	-1.58E+01	2.14E+01	2.14E+01
		645.85	7.26	5.97E+01		2.99E+02
		722.78	11.10	-7.84E+01		1.63E+02
		1691.02	49.00	3.62E+00		5.11E+01
+	I-125	35.49	6.49	3.81E+01	6.64E+02	6.64E+02
+	SB-125	176.33	6.89	-1.87E+02	5.38E+01	1.72E+02
		427.89	29.33	-2.46E+01		5.38E+01
		463.38	10.35	1.17E+02		1.91E+02
		600.56	17.80	-3.08E+00		1.15E+02
		635.90	11.32	6.72E+01		1.82E+02
+	SB-126	414.70	83.30	1.72E+01	2.85E+01	3.01E+01
		666.33	99.60	-2.10E+00		2.86E+01
		695.00	99.60	9.28E+00		2.85E+01
		720.50	53.80	8.90E+00		4.84E+01
+	SN-126	87.57	37.00	1.06E+01	3.72E+01	3.72E+01
+	SB-127	473.00	25.00	4.24E+01	1.40E+02	1.78E+02
		685.20	35.70	1.92E+01		1.40E+02
		783.80	14.70	-5.71E+01		3.68E+02
+	I-129	29.78	57.00	-3.23E+01	1.47E+02	1.47E+02
		33.60	13.20	7.30E+01		4.02E+02
		39.58	7.52	-3.41E+01		3.95E+02
+	I-131	284.30	6.05	3.15E+01	2.59E+01	3.63E+02
		364.48	81.20	-6.99E-01		2.59E+01
		636.97	7.26	-2.93E+00		4.49E+02
		722.89	1.80	-7.33E+02		1.53E+03
+	TE-132	49.72	13.10	-2.65E+02	4.63E+01	4.63E+02
		228.16	88.00	-6.44E+00		4.63E+01
+	BA-133	81.00	33.00	-1.95E+01	2.72E+01	4.04E+01
		302.84	17.80	2.04E+01		8.27E+01
		356.01	60.00	-1.13E+01		2.72E+01

Analysis Report for 1608066-03

J1V937 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	I-133	529.87	86.30	9.60E+02	1.86E+03	1.86E+03
+	XE-133	81.00	38.00	-3.53E+01	7.32E+01	7.32E+01
+	CS-134	563.23	8.38	-6.30E+01	2.27E+01	2.16E+02
		569.32	15.43	1.18E+01		1.20E+02
		604.70	97.60	-5.79E+00		2.27E+01
		795.84	85.40	-4.89E-01		2.43E+01
		801.93	8.73	1.19E+02		2.73E+02
+	CS-135	268.24	16.00	-2.64E+00	8.37E+01	8.37E+01
+	I-135	1131.51	22.50	-1.54E+07	6.87E+07	8.77E+07
		1260.41	28.60	7.15E+06		6.87E+07
		1678.03	9.54	6.28E+07		2.25E+08
+	CS-136	153.22	7.46	7.79E+01	2.84E+01	2.11E+02
		163.89	4.61	-2.12E+01		3.71E+02
		176.55	13.56	-1.27E+02		1.17E+02
		273.65	12.66	3.38E+01		1.57E+02
		340.57	48.50	1.76E+01		4.51E+01
		818.50	99.70	1.14E+00		2.84E+01
		1048.07	79.60	1.86E+00		4.33E+01
		1235.34	19.70	-1.34E+02		1.36E+02
+	CS-137	661.65	85.12	-6.67E+00	2.10E+01	2.10E+01
+	LA-138	788.74	34.00	1.95E+01	2.72E+01	6.75E+01
		1435.80	66.00	-1.02E+01		2.72E+01
+	CE-139	165.85	80.35	-1.46E+01	1.61E+01	1.61E+01
+	BA-140	162.64	6.70	1.25E+02	1.04E+02	2.67E+02
		304.84	4.50	2.11E+02		4.83E+02
		423.70	3.20	-6.36E+01		6.71E+02
		437.55	2.00	3.85E+02		1.28E+03
		537.32	25.00	3.53E+01		1.04E+02
+	LA-140	328.77	20.50	2.64E+01	3.20E+01	1.05E+02
		487.03	45.50	3.12E+00		5.40E+01
		815.85	23.50	-2.77E+01		1.18E+02
		1596.49	95.49	1.51E+00		3.20E+01
+	CE-141	145.44	48.40	1.70E+01	3.01E+01	3.01E+01
+	CE-143	57.36	11.80	-1.00E+03	6.16E+02	2.03E+03
		293.26	42.00	1.21E+02		6.16E+02
		664.55	5.20	1.93E+03		6.62E+03
+	CE-144	133.54	10.80	1.32E+01	1.01E+02	1.01E+02
+	PM-144	476.78	42.00	5.06E+00	2.11E+01	4.30E+01
		618.01	98.60	1.37E+00		2.23E+01
		696.49	99.49	1.43E+00		2.11E+01
+	PM-145	36.85	21.70	-1.32E+02	9.09E+01	1.60E+02
		37.36	39.70	4.39E+01		9.09E+01
		42.30	15.10	-1.80E+02		1.59E+02
		72.40	2.31	-6.63E+01		5.94E+02
+	PM-146	453.90	39.94	1.65E+00	4.51E+01	4.51E+01
		735.90	14.01	-2.69E+01		1.42E+02
		747.13	13.10	1.87E+01		1.54E+02
+	ND-147	91.11	28.90	-1.19E+02	8.21E+01	8.21E+01
		531.02	13.10	2.87E+00		1.97E+02

Analysis Report for 1608066-03

J1V937 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	PM-149	285.90	3.10	-1.29E+03	2.29E+03	2.29E+03
+	EU-152	121.78	20.50	1.74E+01	5.56E+01	5.56E+01
		244.69	5.40	2.40E+00		2.44E+02
		344.27	19.13	-2.42E+01		7.38E+01
		778.89	9.20	-3.36E+00		2.26E+02
		964.01	10.40	3.82E+01		1.84E+02
		1085.78	7.22	5.95E+01		2.79E+02
		1112.02	9.60	-3.31E+01		2.41E+02
		1407.95	14.94	-4.43E+01		1.39E+02
+	GD-153	97.43	31.30	-8.98E+00	3.77E+01	3.77E+01
		103.18	22.20	1.03E+01		4.95E+01
+	EU-154	123.07	40.50	3.11E-02	2.77E+01	2.77E+01
		723.30	19.70	-4.15E+01		8.65E+01
		873.19	11.50	-6.69E+01		1.78E+02
		996.32	10.30	-2.19E+01		1.55E+02
		1004.76	17.90	4.51E+01		1.49E+02
		1274.45	35.50	3.08E+01		7.26E+01
+	EU-155	86.50	30.90	1.63E+01	4.61E+01	4.61E+01
		105.30	20.70	-3.30E+01		5.25E+01
+	EU-156	811.77	10.40	-8.90E+01	2.60E+02	2.60E+02
		1153.47	7.20	2.05E+02		4.70E+02
		1230.71	8.90	5.78E+01		3.36E+02
+	HO-166M	184.41	72.60	2.79E+01	2.59E+01	2.59E+01
		280.45	29.60	9.11E+00		4.93E+01
		410.94	11.10	4.36E+01		1.61E+02
		711.69	54.10	-1.06E+01		3.21E+01
+	TM-171	66.72	0.14	-1.84E+04	1.06E+04	1.06E+04
+	HF-172	81.75	4.52	-2.78E+02	1.05E+02	2.85E+02
		125.81	11.30	4.13E+01		1.05E+02
+	LU-172	181.53	20.60	-5.38E+01	6.27E+01	1.19E+02
		810.06	16.63	6.13E+01		2.40E+02
		912.12	15.25	1.74E+02		2.75E+02
		1093.66	62.50	1.73E+00		6.27E+01
+	LU-173	100.72	5.24	6.92E+01	6.04E+01	2.29E+02
		272.11	21.20	-5.12E+01		6.04E+01
+	HF-175	343.40	84.00	-6.29E-01	1.90E+01	1.90E+01
+	LU-176	88.34	13.30	9.54E+00	1.57E+01	9.89E+01
		201.83	86.00	-4.69E+00		1.57E+01
		306.78	94.00	2.05E-01		1.61E+01
+	TA-182	67.75	41.20	-5.03E+01	3.29E+01	3.29E+01
		1121.30	34.90	8.72E+00		7.82E+01
		1189.05	16.23	-1.65E+01		1.24E+02
		1221.41	26.98	-2.54E+00		7.62E+01
		1231.02	11.44	3.61E+01		2.10E+02
+	IR-192	308.46	29.68	-1.10E+01	3.74E+01	5.04E+01
		468.07	48.10	-1.71E+00		3.74E+01
+	HG-203	279.19	77.30	-7.13E+00	2.02E+01	2.02E+01
+	BI-207	569.67	97.72	-1.08E+00	1.89E+01	1.89E+01
		1063.62	74.90	1.90E+01		3.65E+01

Analysis Report for 1608066-03

J1V937 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	TL-208	583.14	30.22	-5.02E+00	7.48E+01	7.48E+01
		860.37	4.48	-1.41E+02		4.77E+02
		2614.66	35.85	1.38E+01		7.78E+01
+	BI-210M	262.00	45.00	1.29E+01	3.25E+01	3.25E+01
		300.00	23.00	-6.21E+01		5.04E+01
+	PB-210	46.50	4.25	2.52E+02	5.54E+02	5.54E+02
+	PB-211	404.84	2.90	6.90E+01	5.03E+02	5.03E+02
		831.96	2.90	-1.68E+02		6.98E+02
+	BI-212	727.17	11.80	-5.32E+01	1.45E+02	1.45E+02
		1620.62	2.75	5.89E+01		6.34E+02
+	PB-212	238.63	44.60	6.08E+00	3.23E+01	3.23E+01
		300.09	3.41	-4.19E+02		3.40E+02
+	BI-214	609.31	46.30	3.63E+01	5.60E+01	5.60E+01
		1120.29	15.10	4.07E+01		1.79E+02
		1764.49	15.80	5.40E+01		1.42E+02
		2204.22	4.98	-1.27E+02		4.11E+02
+	PB-214	295.21	19.19	5.24E+01	4.87E+01	8.35E+01
		351.92	37.19	1.98E+01		4.87E+01
+	RN-219	401.80	6.50	-6.25E+01	1.88E+02	1.88E+02
+	RA-223	323.87	3.88	-5.43E+01	3.79E+02	3.79E+02
+	RA-224	240.98	3.95	1.78E+02	3.83E+02	3.83E+02
+	RA-225	40.00	31.00	-1.04E+01	1.21E+02	1.21E+02
+	RA-226	186.21	3.28	8.44E+02	5.99E+02	5.99E+02
+	TH-227	50.10	8.40	-1.25E+02	1.02E+02	2.19E+02
		236.00	11.50	-1.07E+02		1.02E+02
		256.20	6.30	-3.16E+00		2.06E+02
+	AC-228	338.32	11.40	-9.03E+00	8.30E+01	1.34E+02
		911.07	27.70	4.00E+01		8.30E+01
		969.11	16.60	5.82E+01		1.25E+02
+	TH-230	48.44	16.90	5.39E+00	1.27E+02	1.27E+02
		62.85	4.60	4.25E+02		4.30E+02
		67.67	0.37	-5.42E+03		3.54E+03
+	PA-231	283.67	1.60	-1.86E+02	6.39E+02	8.17E+02
		302.67	2.30	1.58E+02		6.39E+02
+	TH-231	25.64	14.70	-5.50E+03	2.09E+02	2.06E+03
		84.21	6.40	-1.99E+00		2.09E+02
+	PA-233	311.98	38.60	4.02E+00	4.28E+01	4.28E+01
+	PA-234	131.20	20.40	1.45E+01	5.49E+01	5.49E+01
		733.99	8.80	1.28E+02		2.46E+02
		946.00	12.00	-1.13E+02		1.70E+02
+	PA-234M	1001.03	0.92	5.72E+02	2.69E+03	2.69E+03
+	TH-234	63.29	3.80	6.66E+02	5.15E+02	5.15E+02
+	U-235	143.76	10.50	8.31E+01	1.25E+02	1.25E+02
		163.35	4.70	-1.55E+01		2.71E+02
		205.31	4.70	-5.58E+01		3.02E+02
+	NP-237	86.50	12.60	3.98E+01	1.13E+02	1.13E+02
+	NP-239	106.10	22.70	-1.55E+02	2.46E+02	2.46E+02

Analysis Report for 1608066-03

J1V937 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
	NP-239	228.18	10.70	-8.34E+01	2.46E+02	5.99E+02
		277.60	14.10	9.33E+01		5.45E+02
+	AM-241	59.54	35.90	1.09E+01	4.06E+01	4.06E+01
+	AM-243	74.67	66.00	-1.49E+01	2.04E+01	2.04E+01
+	CM-243	209.75	3.29	4.03E+02	1.07E+02	4.74E+02
		228.14	10.60	-1.64E+01		1.18E+02
		277.60	14.00	1.83E+01		1.07E+02

+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
> = MDA value not calculated
@ = Half-life too short to be able to perform the decay correction
? = 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/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
	BE-7	477.59		10.42	1.67E+02	1.67E+02	-6.55E+00	7.46E+01
	NA-22	1274.54		99.94	2.58E+01	2.58E+01	1.10E+01	1.11E+01
	NA-24	1368.53		99.99	1.04E+04	1.02E+04	2.41E+03	4.25E+03
		2754.09		99.86	1.02E+04		2.85E+03	3.83E+03
	AL-26	1808.65		99.76	2.09E+01	2.09E+01	4.56E+00	8.08E+00
+	K-40	1460.81	*	10.67	2.90E+02	2.90E+02	4.24E+02	1.26E+02
@	AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
	TI-44	67.88		94.40	1.39E+01	1.39E+01	-2.12E+01	6.52E+00
		78.34		96.00	1.49E+01		8.41E-01	7.09E+00
	SC-46	889.25		99.98	1.96E+01	1.96E+01	-3.24E+00	8.32E+00
		1120.51		99.99	2.84E+01		6.44E+00	1.24E+01
	V-48	983.52		99.98	2.58E+01	2.58E+01	5.23E+00	1.10E+01
		1312.10		97.50	3.04E+01		5.93E+00	1.27E+01
	CR-51	320.08		9.83	1.75E+02	1.75E+02	5.92E+01	7.98E+01
	MN-54	834.83		99.97	2.48E+01	2.48E+01	7.33E-01	1.11E+01
	CO-56	846.75		99.96	2.84E+01	2.84E+01	1.67E+01	1.28E+01

Analysis Report for 1608066-03

J1V937 SAF: RC-243

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
CO-56	1037.75	14.03	1.52E+02	2.84E+01	2.62E+01	6.42E+01
	1238.25	67.00	3.80E+01		8.38E+00	1.62E+01
	1771.40	15.51	1.52E+02		0.00E+00	6.03E+01
	2598.48	16.90	3.33E+01		0.00E+00	0.00E+00
CO-57	122.06	85.51	1.35E+01	1.35E+01	4.24E+00	6.32E+00
	136.48	10.60	1.11E+02		1.37E+01	5.15E+01
CO-58	810.76	99.40	2.34E+01	2.34E+01	3.16E+00	1.03E+01
FE-59	1099.22	56.50	4.27E+01	4.27E+01	1.28E+00	1.82E+01
	1291.56	43.20	4.91E+01		-2.61E+01	1.99E+01
CO-60	1173.22	100.00	2.24E+01	2.24E+01	-6.30E+00	9.46E+00
	1332.49	100.00	2.67E+01		9.68E+00	1.14E+01
ZN-65	1115.52	50.75	4.81E+01	4.81E+01	-1.70E+01	2.07E+01
GA-67	93.31	35.70	1.78E+02	1.78E+02	3.83E+02	8.59E+01
	208.95	2.24	2.15E+03		4.00E+01	1.00E+03
	300.22	16.00	2.37E+02		-2.91E+02	1.06E+02
SE-75	121.11	16.70	6.64E+01	1.97E+01	-4.28E+01	3.09E+01
	136.00	59.20	1.97E+01		-5.40E+00	9.16E+00
	264.65	59.80	2.18E+01		-1.59E+01	9.93E+00
	279.53	25.20	5.64E+01		-1.41E+01	2.58E+01
	400.65	11.40	1.02E+02		-7.56E+01	4.40E+01
RB-82	776.52	13.00	1.99E+02	1.99E+02	2.19E+01	8.82E+01
RB-83	520.41	46.00	4.07E+01	4.07E+01	2.10E+01	1.83E+01
	529.64	30.30	6.47E+01		3.34E+01	2.92E+01
	552.65	16.40	1.19E+02		6.26E+01	5.36E+01
KR-85	513.99	0.43	7.36E+03	7.36E+03	7.35E+03	3.47E+03
SR-85	513.99	99.27	3.41E+01	3.41E+01	3.41E+01	1.61E+01
Y-88	898.02	93.40	1.92E+01	1.34E+01	-8.07E+00	8.04E+00
	1836.01	99.38	1.34E+01		-1.09E+01	4.24E+00
NB-93M	16.57	9.43	2.36E+04	2.36E+04	-3.04E+04	1.05E+04
NB-94	702.63	100.00	2.18E+01	2.18E+01	-1.14E+00	9.73E+00
	871.10	100.00	2.33E+01		6.16E+00	1.03E+01
NB-95	765.79	99.81	2.61E+01	2.61E+01	-1.70E-01	1.17E+01
NB-95M	235.69	25.00	1.36E+02	1.36E+02	-1.43E+02	6.21E+01
ZR-95	724.18	43.70	3.70E+01	3.39E+01	-2.61E+01	1.56E+01
	756.72	55.30	3.39E+01		-1.58E+01	1.46E+01
MO-99	181.06	6.20	9.13E+02	6.64E+02	5.01E+02	4.27E+02
	739.58	12.80	6.64E+02		1.76E+01	2.94E+02
	778.00	4.50	1.92E+03		-3.67E+02	8.48E+02
RU-103	497.08	89.00	2.03E+01	2.03E+01	-9.36E+00	9.04E+00
RU-106	621.84	9.80	2.26E+02	2.26E+02	8.00E+01	1.02E+02
AG-108M	433.93	89.90	2.09E+01	1.88E+01	1.18E+01	9.56E+00
	614.37	90.40	2.32E+01		-1.67E+01	1.05E+01
	722.95	90.50	1.88E+01		-9.02E+00	8.10E+00
CD-109	88.03	3.72	3.72E+02	3.72E+02	1.06E+02	1.77E+02
AG-110M	657.75	93.14	1.78E+01	1.78E+01	-8.34E+00	7.70E+00
	677.61	10.53	1.88E+02		8.00E+01	8.33E+01
	706.67	16.46	1.47E+02		7.88E+01	6.63E+01
	763.93	21.98	1.11E+02		3.19E+01	5.00E+01
	884.67	71.63	2.31E+01		-8.73E+00	9.57E+00
	1384.27	23.94	8.08E+01		9.25E+00	3.21E+01
CD-113M	263.70	0.02	5.56E+04	5.56E+04	-4.18E+04	2.53E+04
SN-113	255.12	1.93	7.10E+02	2.50E+01	2.71E+02	3.26E+02
	391.69	64.90	2.50E+01		-3.24E-01	1.13E+01

Analysis Report for 1608066-03

J1V937 SAF: RC-243

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
TE123M	159.00	84.10	1.38E+01	1.38E+01	-3.54E+00	6.41E+00
SB-124	602.71	97.87	2.14E+01	2.14E+01	-1.58E+01	9.60E+00
	645.85	7.26	2.99E+02		5.97E+01	1.34E+02
	722.78	11.10	1.63E+02		-7.84E+01	7.04E+01
	1691.02	49.00	5.11E+01		3.62E+00	2.06E+01
I-125	35.49	6.49	6.64E+02	6.64E+02	3.81E+01	3.13E+02
SB-125	176.33	6.89	1.72E+02	5.38E+01	-1.87E+02	7.95E+01
	427.89	29.33	5.38E+01		-2.46E+01	2.42E+01
	463.38	10.35	1.91E+02		1.17E+02	8.75E+01
	600.56	17.80	1.15E+02		-3.08E+00	5.15E+01
	635.90	11.32	1.82E+02		6.72E+01	8.15E+01
SB-126	414.70	83.30	3.01E+01	2.85E+01	1.72E+01	1.38E+01
	666.33	99.60	2.86E+01		-2.10E+00	1.28E+01
	695.00	99.60	2.85E+01		9.28E+00	1.27E+01
	720.50	53.80	4.84E+01		8.90E+00	2.12E+01
SN-126	87.57	37.00	3.72E+01	3.72E+01	1.06E+01	1.76E+01
SB-127	473.00	25.00	1.78E+02	1.40E+02	4.24E+01	7.99E+01
	685.20	35.70	1.40E+02		1.92E+01	6.13E+01
	783.80	14.70	3.68E+02		-5.71E+01	1.61E+02
I-129	29.78	57.00	1.47E+02	1.47E+02	-3.23E+01	6.97E+01
	33.60	13.20	4.02E+02		7.30E+01	1.90E+02
	39.58	7.52	3.95E+02		-3.41E+01	1.86E+02
I-131	284.30	6.05	3.63E+02	2.59E+01	3.15E+01	1.66E+02
	364.48	81.20	2.59E+01		-6.99E-01	1.16E+01
	636.97	7.26	4.49E+02		-2.93E+00	2.01E+02
	722.89	1.80	1.53E+03		-7.33E+02	6.58E+02
TE-132	49.72	13.10	4.63E+02	4.63E+01	-2.65E+02	2.18E+02
	228.16	88.00	4.63E+01		-6.44E+00	2.12E+01
BA-133	81.00	33.00	4.04E+01	2.72E+01	-1.95E+01	1.91E+01
	302.84	17.80	8.27E+01		2.04E+01	3.79E+01
	356.01	60.00	2.72E+01		-1.13E+01	1.24E+01
I-133	529.87	86.30	1.86E+03	1.86E+03	9.60E+02	8.38E+02
XE-133	81.00	38.00	7.32E+01	7.32E+01	-3.53E+01	3.46E+01
CS-134	563.23	8.38	2.16E+02	2.27E+01	-6.30E+01	9.62E+01
	569.32	15.43	1.20E+02		1.18E+01	5.38E+01
	604.70	97.60	2.27E+01		-5.79E+00	1.03E+01
	795.84	85.40	2.43E+01		-4.89E-01	1.06E+01
	801.93	8.73	2.73E+02		1.19E+02	1.22E+02
CS-135	268.24	16.00	8.37E+01	8.37E+01	-2.64E+00	3.83E+01
I-135	1131.51	22.50	8.77E+07	6.87E+07	-1.54E+07	3.48E+07
	1260.41	28.60	6.87E+07		7.15E+06	2.66E+07
	1678.03	9.54	2.25E+08		6.28E+07	8.44E+07
CS-136	153.22	7.46	2.11E+02	2.84E+01	7.79E+01	9.79E+01
	163.89	4.61	3.71E+02		-2.12E+01	1.73E+02
	176.55	13.56	1.17E+02		-1.27E+02	5.40E+01
	273.65	12.66	1.57E+02		3.38E+01	7.22E+01
	340.57	48.50	4.51E+01		1.76E+01	2.07E+01
	818.50	99.70	2.84E+01		1.14E+00	1.24E+01
	1048.07	79.60	4.33E+01		1.86E+00	1.90E+01
	1235.34	19.70	1.36E+02		-1.34E+02	5.59E+01
CS-137	661.65	85.12	2.10E+01	2.10E+01	-6.67E+00	9.18E+00
LA-138	788.74	34.00	6.75E+01	2.72E+01	1.95E+01	3.00E+01
	1435.80	66.00	2.72E+01		-1.02E+01	1.05E+01

Analysis Report for 1608066-03

J1V937 SAF: RC-243

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
CE-139	165.85	80.35	1.61E+01	1.61E+01	-1.46E+01	7.50E+00
BA-140	162.64	6.70	2.67E+02	1.04E+02	1.25E+02	1.25E+02
	304.84	4.50	4.83E+02		2.11E+02	2.23E+02
	423.70	3.20	6.71E+02		-6.36E+01	3.02E+02
	437.55	2.00	1.28E+03		3.85E+02	5.84E+02
	537.32	25.00	1.04E+02		3.53E+01	4.70E+01
LA-140	328.77	20.50	1.05E+02	3.20E+01	2.64E+01	4.82E+01
	487.03	45.50	5.40E+01		3.12E+00	2.44E+01
	815.85	23.50	1.18E+02		-2.77E+01	5.15E+01
	1596.49	95.49	3.20E+01		1.51E+00	1.29E+01
CE-141	145.44	48.40	3.01E+01	3.01E+01	1.70E+01	1.41E+01
CE-143	57.36	11.80	2.03E+03	6.16E+02	-1.00E+03	9.50E+02
	293.26	42.00	6.16E+02		1.21E+02	2.84E+02
	664.55	5.20	6.62E+03		1.93E+03	2.96E+03
CE-144	133.54	10.80	1.01E+02	1.01E+02	1.32E+01	4.69E+01
PM-144	476.78	42.00	4.30E+01	2.11E+01	5.06E+00	1.94E+01
	618.01	98.60	2.23E+01		1.37E+00	1.01E+01
	696.49	99.49	2.11E+01		1.43E+00	9.40E+00
PM-145	36.85	21.70	1.60E+02	9.09E+01	-1.32E+02	7.51E+01
	37.36	39.70	9.09E+01		4.39E+01	4.29E+01
	42.30	15.10	1.59E+02		-1.80E+02	7.48E+01
	72.40	2.31	5.94E+02		-6.63E+01	2.81E+02
PM-146	453.90	39.94	4.51E+01	4.51E+01	1.65E+00	2.05E+01
	735.90	14.01	1.42E+02		-2.69E+01	6.25E+01
	747.13	13.10	1.54E+02		1.87E+01	6.77E+01
ND-147	91.11	28.90	8.21E+01	8.21E+01	-1.19E+02	3.93E+01
	531.02	13.10	1.97E+02		2.87E+00	8.85E+01
PM-149	285.90	3.10	2.29E+03	2.29E+03	-1.29E+03	1.03E+03
EU-152	121.78	20.50	5.56E+01	5.56E+01	1.74E+01	2.60E+01
	244.69	5.40	2.44E+02		2.40E+00	1.12E+02
	344.27	19.13	7.38E+01		-2.42E+01	3.34E+01
	778.89	9.20	2.26E+02		-3.36E+00	9.95E+01
	964.01	10.40	1.84E+02		3.82E+01	7.78E+01
	1085.78	7.22	2.79E+02		5.95E+01	1.17E+02
	1112.02	9.60	2.41E+02		-3.31E+01	1.03E+02
	1407.95	14.94	1.39E+02		-4.43E+01	5.62E+01
GD-153	97.43	31.30	3.77E+01	3.77E+01	-8.98E+00	1.77E+01
	103.18	22.20	4.95E+01		1.03E+01	2.31E+01
EU-154	123.07	40.50	2.77E+01	2.77E+01	3.11E-02	1.29E+01
	723.30	19.70	8.65E+01		-4.15E+01	3.72E+01
	873.19	11.50	1.78E+02		-6.69E+01	7.69E+01
	996.32	10.30	1.55E+02		-2.19E+01	6.25E+01
	1004.76	17.90	1.49E+02		4.51E+01	6.61E+01
	1274.45	35.50	7.26E+01		3.08E+01	3.11E+01
EU-155	86.50	30.90	4.61E+01	4.61E+01	1.63E+01	2.19E+01
	105.30	20.70	5.25E+01		-3.30E+01	2.45E+01
EU-156	811.77	10.40	2.60E+02	2.60E+02	-8.90E+01	1.14E+02
	1153.47	7.20	4.70E+02		2.05E+02	2.04E+02
	1230.71	8.90	3.36E+02		5.78E+01	1.42E+02
HO-166M	184.41	72.60	2.59E+01	2.59E+01	2.79E+01	1.23E+01
	280.45	29.60	4.93E+01		9.11E+00	2.27E+01
	410.94	11.10	1.61E+02		4.36E+01	7.34E+01
	711.69	54.10	3.21E+01		-1.06E+01	1.39E+01

Analysis Report for 1608066-03

J1V937 SAF: RC-243

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
TM-171	66.72	0.14	1.06E+04	1.06E+04	-1.84E+04	5.04E+03
HF-172	81.75	4.52	2.85E+02	1.05E+02	-2.78E+02	1.34E+02
	125.81	11.30	1.05E+02		4.13E+01	4.89E+01
LU-172	181.53	20.60	1.19E+02	6.27E+01	-5.38E+01	5.56E+01
	810.06	16.63	2.40E+02		6.13E+01	1.06E+02
	912.12	15.25	2.75E+02		1.74E+02	1.21E+02
	1093.66	62.50	6.27E+01		1.73E+00	2.67E+01
LU-173	100.72	5.24	2.29E+02	6.04E+01	6.92E+01	1.08E+02
	272.11	21.20	6.04E+01		-5.12E+01	2.75E+01
HF-175	343.40	84.00	1.90E+01	1.90E+01	-6.29E-01	8.65E+00
LU-176	88.34	13.30	9.89E+01	1.57E+01	9.54E+00	4.67E+01
	201.83	86.00	1.57E+01		-4.69E+00	7.31E+00
	306.78	94.00	1.61E+01		2.05E-01	7.41E+00
TA-182	67.75	41.20	3.29E+01	3.29E+01	-5.03E+01	1.55E+01
	1121.30	34.90	7.82E+01		8.72E+00	3.42E+01
	1189.05	16.23	1.24E+02		-1.65E+01	5.08E+01
	1221.41	26.98	7.62E+01		-2.54E+00	3.12E+01
	1231.02	11.44	2.10E+02		3.61E+01	8.85E+01
IR-192	308.46	29.68	5.04E+01	3.74E+01	-1.10E+01	2.30E+01
	468.07	48.10	3.74E+01		-1.71E+00	1.69E+01
HG-203	279.19	77.30	2.02E+01	2.02E+01	-7.13E+00	9.29E+00
BI-207	569.67	97.72	1.89E+01	1.89E+01	-1.08E+00	8.46E+00
	1063.62	74.90	3.65E+01		1.90E+01	1.61E+01
TL-208	583.14	30.22	7.48E+01	7.48E+01	-5.02E+00	3.41E+01
	860.37	4.48	4.77E+02		-1.41E+02	2.08E+02
	2614.66	35.85	7.78E+01		1.38E+01	3.15E+01
BI-210M	262.00	45.00	3.25E+01	3.25E+01	1.29E+01	1.50E+01
	300.00	23.00	5.04E+01		-6.21E+01	2.25E+01
PB-210	46.50	4.25	5.54E+02	5.54E+02	2.52E+02	2.63E+02
PB-211	404.84	2.90	5.03E+02	5.03E+02	6.90E+01	2.25E+02
	831.96	2.90	6.98E+02		-1.68E+02	3.03E+02
BI-212	727.17	11.80	1.45E+02	1.45E+02	-5.32E+01	6.24E+01
	1620.62	2.75	6.34E+02		5.89E+01	2.37E+02
PB-212	238.63	44.60	3.23E+01	3.23E+01	6.08E+00	1.50E+01
	300.09	3.41	3.40E+02		-4.19E+02	1.52E+02
BI-214	609.31	46.30	5.60E+01	5.60E+01	3.63E+01	2.58E+01
	1120.29	15.10	1.79E+02		4.07E+01	7.86E+01
	1764.49	15.80	1.42E+02		5.40E+01	5.62E+01
	2204.22	4.98	4.11E+02		-1.27E+02	1.54E+02
PB-214	295.21	19.19	8.35E+01	4.87E+01	5.24E+01	3.86E+01
	351.92	37.19	4.87E+01		1.98E+01	2.25E+01
RN-219	401.80	6.50	1.88E+02	1.88E+02	-6.25E+01	8.25E+01
RA-223	323.87	3.88	3.79E+02	3.79E+02	-5.43E+01	1.73E+02
RA-224	240.98	3.95	3.83E+02	3.83E+02	1.78E+02	1.78E+02
RA-225	40.00	31.00	1.21E+02	1.21E+02	-1.04E+01	5.70E+01
RA-226	186.21	3.28	5.99E+02	5.99E+02	8.44E+02	2.86E+02
TH-227	50.10	8.40	2.19E+02	1.02E+02	-1.25E+02	1.03E+02
	236.00	11.50	1.02E+02		-1.07E+02	4.64E+01
	256.20	6.30	2.06E+02		-3.16E+00	9.43E+01
AC-228	338.32	11.40	1.34E+02	8.30E+01	-9.03E+00	6.14E+01
	911.07	27.70	8.30E+01		4.00E+01	3.64E+01
	969.11	16.60	1.25E+02		5.82E+01	5.36E+01
TH-230	48.44	16.90	1.27E+02	1.27E+02	5.39E+00	6.04E+01

Analysis Report for 1608066-03

J1V937 SAF: RC-243

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
TH-230	62.85	4.60	4.30E+02	1.27E+02	4.25E+02	2.06E+02
	67.67	0.37	3.54E+03		-5.42E+03	1.67E+03
PA-231	283.67	1.60	8.17E+02	6.39E+02	-1.86E+02	3.71E+02
	302.67	2.30	6.39E+02		1.58E+02	2.93E+02
TH-231	25.64	14.70	2.06E+03	2.09E+02	-5.50E+03	9.98E+02
	84.21	6.40	2.09E+02		-1.99E+00	9.91E+01
PA-233	311.98	38.60	4.28E+01	4.28E+01	4.02E+00	1.95E+01
PA-234	131.20	20.40	5.49E+01	5.49E+01	1.45E+01	2.56E+01
	733.99	8.80	2.46E+02		1.28E+02	1.10E+02
	946.00	12.00	1.70E+02		-1.13E+02	7.27E+01
PA-234M	1001.03	0.92	2.69E+03	2.69E+03	5.72E+02	1.18E+03
TH-234	63.29	3.80	5.15E+02	5.15E+02	6.66E+02	2.47E+02
U-235	143.76	10.50	1.25E+02	1.25E+02	8.31E+01	5.86E+01
	163.35	4.70	2.71E+02		-1.55E+01	1.27E+02
	205.31	4.70	3.02E+02		-5.58E+01	1.41E+02
NP-237	86.50	12.60	1.13E+02	1.13E+02	3.98E+01	5.36E+01
NP-239	106.10	22.70	2.46E+02	2.46E+02	-1.55E+02	1.15E+02
	228.18	10.70	5.99E+02		-8.34E+01	2.75E+02
	277.60	14.10	5.45E+02		9.33E+01	2.51E+02
AM-241	59.54	35.90	4.06E+01	4.06E+01	1.09E+01	1.91E+01
AM-243	74.67	66.00	2.04E+01	2.04E+01	-1.49E+01	9.64E+00
CM-243	209.75	3.29	4.74E+02	1.07E+02	4.03E+02	2.22E+02
	228.14	10.60	1.18E+02		-1.64E+01	5.40E+01
	277.60	14.00	1.07E+02		1.83E+01	4.92E+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 1608066-03

J1V937 SAF: RC-243

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: J1V937 SAF: RC-243

Elapsed Live time: 3600
Elapsed Real Time: 3600

Channel								
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	21	52	30	68	695	236
25:	24	30	23	19	20	12	22	31
33:	23	20	11	21	18	18	13	26
41:	17	15	19	17	12	26	42	24
49:	11	19	15	20	11	22	21	18
57:	11	7	13	29	19	18	18	84
65:	42	17	19	7	23	19	23	18
73:	12	20	28	23	17	34	29	22
81:	16	23	13	21	28	24	20	20
89:	29	20	14	17	91	91	24	13
97:	16	10	20	20	13	19	11	16
105:	10	11	11	19	24	12	11	9
113:	16	15	10	10	15	16	10	15
121:	15	13	8	18	12	12	17	13
129:	13	17	11	9	14	12	9	13
137:	10	18	15	12	12	17	10	19
145:	18	17	9	15	11	17	12	12
153:	8	13	14	13	7	11	8	10
161:	17	12	17	17	10	11	12	14
169:	22	4	14	14	16	10	11	9
177:	10	11	11	24	10	14	13	9
185:	21	53	37	15	18	14	9	10
193:	11	12	4	16	10	11	13	12
201:	7	10	13	17	15	9	9	14
209:	15	13	17	17	7	6	16	7
217:	10	11	10	7	8	4	8	17
225:	11	5	11	8	12	6	6	6
233:	9	2	9	13	6	5	15	20
241:	8	6	10	5	14	6	8	7
249:	12	11	4	10	9	9	10	7
257:	6	7	3	11	18	6	5	9
265:	4	12	5	14	8	3	9	8
273:	8	6	13	12	11	8	7	9
281:	8	7	13	3	9	2	10	6
289:	7	10	7	7	11	8	7	15
297:	9	7	2	5	6	4	9	12
305:	9	11	7	6	9	5	9	7
313:	8	7	6	6	3	8	9	11
321:	4	6	7	5	13	5	9	8
329:	11	11	3	6	5	7	8	7
337:	8	3	16	7	3	11	5	4
345:	8	7	6	11	6	7	5	17
353:	12	9	3	9	11	7	3	12
361:	5	5	3	3	6	5	6	5

369:	4	6	7	6	3	4	0	3

Sample Title: J1V937 SAF: RC-243

Channel								
377:	7	4	8	5	9	4	7	8
385:	6	7	2	7	8	7	5	7
393:	7	5	6	5	8	5	1	1
401:	4	4	4	4	6	7	4	7
409:	2	3	7	5	4	10	4	2
417:	6	9	1	2	4	5	4	6
425:	5	4	0	10	2	4	2	3
433:	9	2	8	7	8	5	1	6
441:	4	3	4	9	4	4	1	6
449:	7	5	4	6	6	2	5	6
457:	4	5	2	3	2	11	4	8
465:	4	5	5	4	2	6	2	2
473:	4	7	4	0	2	3	9	5
481:	1	6	1	5	6	0	4	7
489:	6	2	5	5	6	3	4	1
497:	4	5	4	2	3	6	8	4
505:	4	4	4	7	6	19	35	24
513:	15	9	3	5	2	6	4	6
521:	6	1	0	3	1	1	5	5
529:	6	2	8	0	2	3	2	6
537:	7	5	1	5	3	3	3	3
545:	1	3	5	1	3	4	0	6
553:	3	5	3	5	1	2	5	3
561:	2	4	3	5	3	3	4	6
569:	2	4	4	1	3	2	6	3
577:	1	5	10	1	4	6	9	7
585:	3	6	2	5	5	7	3	1
593:	6	3	1	2	4	6	5	3
601:	4	2	5	2	4	5	7	7
609:	4	12	4	6	4	3	3	5
617:	2	5	5	7	3	6	3	4
625:	2	4	1	3	1	1	6	3
633:	2	7	5	5	4	0	2	1
641:	1	2	5	3	4	2	3	4
649:	3	4	3	4	4	4	2	3
657:	3	2	2	1	1	3	3	2
665:	5	3	6	2	3	4	6	5
673:	1	3	2	2	2	6	5	2
681:	1	0	2	4	0	4	6	1
689:	3	6	8	3	1	2	5	4
697:	3	4	1	3	2	5	3	4
705:	5	2	4	5	7	2	1	0
713:	2	2	0	1	4	3	4	4
721:	1	1	1	3	1	2	1	5
729:	0	1	0	8	1	4	1	4
737:	4	1	3	2	3	2	5	3
745:	3	4	3	2	3	0	2	1
753:	1	1	4	2	1	2	2	1
761:	4	5	3	3	2	3	6	2
769:	5	2	3	3	4	2	5	3
777:	3	2	3	3	0	4	3	1
785:	1	1	6	3	2	3	5	2
793:	4	2	4	3	1	2	1	3

00163A

801:	1	4	3	7	4	0	4	3

Sample Title: J1V937 SAF: RC-243

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

1233:	1	1	2	0	2	0	4	3

Sample Title: J1V937 SAF: RC-243

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

1665:	2	1	1	0	1	2	0	1

Sample Title: J1V937 SAF: RC-243

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

2097:	0	0	0	0	0	0	0	0

Sample Title: J1V937 SAF: RC-243

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

2529:	0	1	0	0	0	0	0	0

Sample Title: J1V937 SAF: RC-243

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

2961:	1	0	0	0	0	0	0	0

Sample Title: J1V937 SAF: RC-243

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

3393:	1	0	0	0	0	0	0	0

Sample Title: J1V937 SAF: RC-243

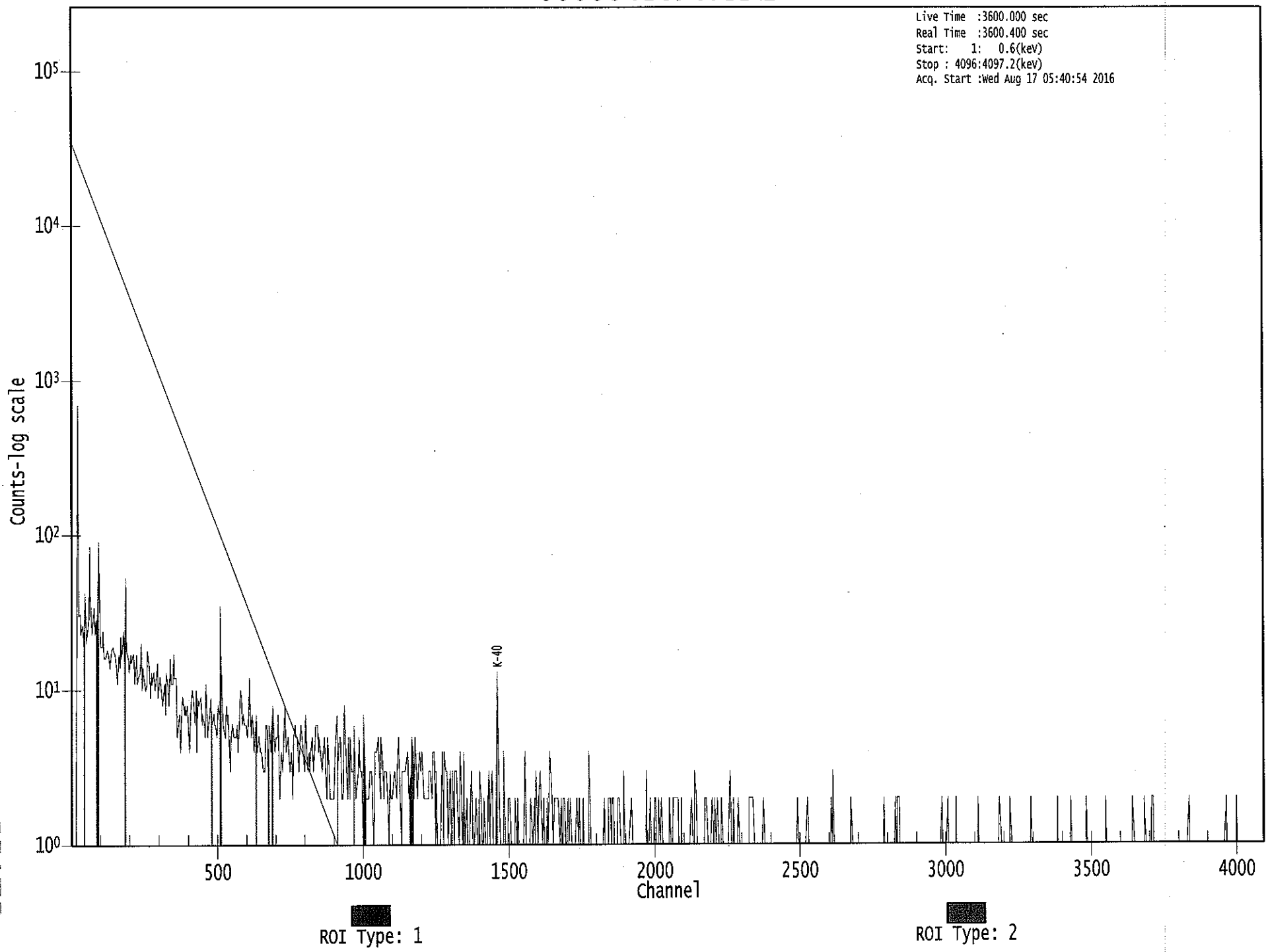
Channel								
3401:	0	1	0	0	0	0	0	0
3409:	1	0	0	0	1	0	0	0
3417:	0	1	0	0	0	0	0	0
3425:	0	0	0	1	2	0	0	0
3433:	0	0	0	0	0	0	0	0
3441:	0	0	0	0	0	0	0	0
3449:	0	0	0	1	0	0	1	0
3457:	0	0	0	0	0	0	1	0
3465:	0	1	0	1	0	0	0	0
3473:	0	0	0	0	0	0	0	0
3481:	0	0	2	0	0	1	0	0
3489:	0	0	0	0	0	0	0	1
3497:	0	0	0	0	0	0	1	0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

3825:	0	0	0	1	0	0	1	0

Sample Title: J1V937 SAF: RC-243

Channel								
3833:	0	0	0	2	0	0	0	0
3841:	0	0	0	0	0	0	0	1
3849:	0	0	0	0	0	0	1	0
3857:	0	0	0	0	0	1	0	0
3865:	1	1	0	0	0	0	0	0
3873:	0	0	0	0	0	0	0	0
3881:	0	1	0	0	0	1	0	0
3889:	0	0	0	0	0	0	1	0
3897:	0	0	0	0	1	0	0	1
3905:	0	1	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:	1	0	0	0	0	0	0	0
3945:	0	0	0	1	0	0	0	0
3953:	0	0	0	0	1	0	0	0
3961:	0	0	0	2	0	0	0	0
3969:	0	0	0	1	0	0	0	1
3977:	0	0	0	0	0	0	0	0
3985:	0	0	0	0	0	0	0	1
3993:	0	0	0	0	0	0	2	0
4001:	0	1	0	0	1	0	0	0
4009:	0	0	0	0	0	0	0	0
4017:	0	0	0	0	0	0	0	0
4025:	0	0	0	0	0	0	0	0
4033:	0	0	0	0	0	0	0	0
4041:	0	0	0	1	1	0	0	0
4049:	0	0	1	0	0	0	0	0
4057:	0	0	0	0	0	0	0	0
4065:	1	1	0	1	0	1	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

0000041690.CNF



Apex-Gamma

Analysis Report for 1608066-04

J1V937 SAF: RC-243

8/17

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1608066-04
Sample Description	: J1V937 SAF: RC-243
Sample Type	: SOIL
Sample Size	: 1.000E+00 sample
Facility	: Countroom
Sample Taken On	: 8/11/2016 4:39:00PM
Acquisition Started	: 8/17/2016 6:44:18AM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE1
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3600.4 seconds
Dead Time	: 0.01 %
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	: 41693

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
8/17/16

Analysis Report for 1608066-04

J1V937 SAF: RC-243

PEAK LOCATE REPORT

Peak Locate Performed on : 8/17/2016 7:44:22AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	376.63	376.87	0.0000	0.00
2	543.56	543.75	0.0000	0.00
3	584.15	584.32	0.0000	0.00
4	609.25	609.41	0.0000	0.00
5	734.42	734.53	0.0000	0.00
6	749.09	749.20	0.0000	0.00
7	771.82	771.92	0.0000	0.00
8	804.23	804.32	0.0000	0.00
9	856.97	857.05	0.0000	0.00
10	863.99	864.06	0.0000	0.00
11	1119.03	1119.02	0.0000	0.00
12	1185.78	1185.73	0.0000	0.00
13	1350.28	1350.18	0.0000	0.00
14	1356.33	1356.22	0.0000	0.00
15	1461.12	1460.98	0.0000	0.00
16	1564.93	1564.75	0.0000	0.00
17	1639.52	1639.31	0.0000	0.00
18	1680.09	1679.87	0.0000	0.00
19	1874.96	1874.67	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1608066-04

J1V937 SAF: RC-243

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/17/2016 7:44:22AM

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

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
1	376.63	374 -	380	376.87	2.19E+01	19.07	4.62E+01	1.96
2	543.56	537 -	551	543.75	2.54E+01	22.92	4.31E+01	8.87
3	584.15	579 -	590	584.32	3.40E+01	24.82	6.00E+01	3.77
4	609.25	606 -	612	609.41	2.24E+01	18.96	4.92E+01	1.10
5	734.42	730 -	738	734.53	1.30E+01	13.00	1.80E+01	2.84
6	749.09	745 -	752	749.20	1.40E+01	12.33	1.60E+01	1.28
7	771.82	767 -	776	771.92	1.72E+01	19.52	4.37E+01	1.42
8	804.23	802 -	807	804.32	8.85E+00	8.89	8.31E+00	2.27
9	856.97	855 -	859	857.05	9.62E+00	8.77	6.77E+00	2.81
10	863.99	861 -	869	864.06	1.27E+01	11.86	1.46E+01	2.22
11	1119.03	1115 -	1122	1119.02	9.38E+00	9.17	7.23E+00	2.96
12	1185.78	1182 -	1189	1185.73	6.00E+00	8.49	8.00E+00	1.45
13	1350.28	1347 -	1353	1350.18	1.10E+01	6.63	0.00E+00	4.44
14	1356.33	1354 -	1358	1356.22	9.00E+00	6.00	0.00E+00	1.77
15	1461.12	1456 -	1464	1460.98	4.59E+01	16.52	1.43E+01	1.68
16	1564.93	1560 -	1569	1564.75	1.20E+01	6.93	0.00E+00	1.66
17	1639.52	1637 -	1641	1639.31	4.67E+00	5.50	2.67E+00	2.48
18	1680.09	1677 -	1682	1679.87	4.58E+00	5.74	2.83E+00	2.72
19	1874.96	1871 -	1877	1874.67	9.00E+00	6.00	0.00E+00	1.66

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 : 8/17/2016 7:44:22AM

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

Analysis Report for 1608066-04

J1V937 SAF: RC-243

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
1	376.63	374 -	380	2.19E+01	19.07	4.62E+01	1.37E+01
2	543.56	537 -	551	2.54E+01	22.92	4.31E+01	1.69E+01
3	584.15	579 -	590	3.40E+01	24.82	6.00E+01	1.80E+01
4	609.25	606 -	612	2.24E+01	18.96	4.92E+01	1.35E+01
5	734.42	730 -	738	1.30E+01	13.00	1.80E+01	8.89E+00
6	749.09	745 -	752	1.40E+01	12.33	1.60E+01	8.05E+00
7	771.82	767 -	776	1.72E+01	19.52	4.37E+01	1.45E+01
8	804.23	802 -	807	8.85E+00	8.89	8.31E+00	5.43E+00
9	856.97	855 -	859	9.62E+00	8.77	6.77E+00	5.10E+00
10	863.99	861 -	869	1.27E+01	11.86	1.46E+01	7.80E+00
11	1119.03	1115 -	1122	9.38E+00	9.17	7.23E+00	5.60E+00
12	1185.78	1182 -	1189	6.00E+00	8.49	8.00E+00	5.70E+00
13	1350.28	1347 -	1353	1.10E+01	6.63	0.00E+00	0.00E+00
14	1356.33	1354 -	1358	9.00E+00	6.00	0.00E+00	0.00E+00
15	1461.12	1456 -	1464	4.59E+01	16.52	1.43E+01	7.77E+00
16	1564.93	1560 -	1569	1.20E+01	6.93	0.00E+00	0.00E+00
17	1639.52	1637 -	1641	4.67E+00	5.50	2.67E+00	2.80E+00
18	1680.09	1677 -	1682	4.58E+00	5.74	2.83E+00	3.15E+00
19	1874.96	1871 -	1877	9.00E+00	6.00	0.00E+00	0.00E+00

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

PEAK WITH NID REPORT

Peak Analysis Performed on : 8/17/2016 7:44:22AM

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

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB
Peak Match Tolerance : 1.000 keV

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
1	376.63	374 -	380	376.87	2.19E+01	19.07	4.62E+01	.....
2	543.56	537 -	551	543.75	2.54E+01	22.92	4.31E+01	.....
3	584.15	579 -	590	584.32	3.40E+01	24.82	6.00E+01	.....
4	609.25	606 -	612	609.41	2.24E+01	18.96	4.92E+01	BI-214
5	734.42	730 -	738	734.53	1.30E+01	13.00	1.80E+01	PA-234
6	749.09	745 -	752	749.20	1.40E+01	12.33	1.60E+01	.....

Analysis Report for 1608066-04

J1V937 SAF: RC-243

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
7	771.82	767 -	776	771.92	1.72E+01	19.52	4.37E+01	.....
8	804.23	802 -	807	804.32	8.85E+00	8.89	8.31E+00	.....
9	856.97	855 -	859	857.05	9.62E+00	8.77	6.77E+00	.....
10	863.99	861 -	869	864.06	1.27E+01	11.86	1.46E+01	.....
11	1119.03	1115 -	1122	1119.02	9.38E+00	9.17	7.23E+00	.....
12	1185.78	1182 -	1189	1185.73	6.00E+00	8.49	8.00E+00	.....
13	1350.28	1347 -	1353	1350.18	1.10E+01	6.63	0.00E+00	.....
14	1356.33	1354 -	1358	1356.22	9.00E+00	6.00	0.00E+00	.....
15	1461.12	1456 -	1464	1460.98	4.59E+01	16.52	1.43E+01	K-40
16	1564.93	1560 -	1569	1564.75	1.20E+01	6.93	0.00E+00	.....
17	1639.52	1637 -	1641	1639.31	4.67E+00	5.50	2.67E+00	.....
18	1680.09	1677 -	1682	1679.87	4.58E+00	5.74	2.83E+00	.....
19	1874.96	1871 -	1877	1874.67	9.00E+00	6.00	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 EFFICIENCY REPORT

Peak Analysis Performed on : 8/17/2016 7:44:22AM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	376.63	2.19E+01	19.07	1.41E-02	1.14E-03
2	543.56	2.54E+01	22.92	1.07E-02	9.57E-04
3	584.15	3.40E+01	24.82	1.02E-02	9.14E-04
4	609.25	2.24E+01	18.96	9.83E-03	8.88E-04
5	734.42	1.30E+01	13.00	8.49E-03	7.69E-04
6	749.09	1.40E+01	12.33	8.36E-03	7.56E-04
7	771.82	1.72E+01	19.52	8.16E-03	7.35E-04
8	804.23	8.85E+00	8.89	7.90E-03	7.06E-04
9	856.97	9.62E+00	8.77	7.51E-03	6.59E-04
10	863.99	1.27E+01	11.86	7.46E-03	6.53E-04
11	1119.03	9.38E+00	9.17	6.07E-03	5.07E-04
12	1185.78	6.00E+00	8.49	5.80E-03	4.77E-04
13	1350.28	1.10E+01	6.63	5.26E-03	4.47E-04
14	1356.33	9.00E+00	6.00	5.24E-03	4.45E-04
15	1461.12	4.59E+01	16.52	4.97E-03	4.19E-04
16	1564.93	1.20E+01	6.93	4.74E-03	3.93E-04
17	1639.52	4.67E+00	5.50	4.60E-03	3.75E-04

Analysis Report for 1608066-04

J1V937 SAF: RC-243

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
18	1680.09	4.58E+00	5.74	4.53E-03	3.65E-04
19	1874.96	9.00E+00	6.00	4.25E-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 : 8/17/2016 7:44:22AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000041518.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
1	376.63	2.19E+01	19.07			2.19E+01	1.91E+01
2	543.56	2.54E+01	22.92			2.54E+01	2.29E+01
3	584.15	3.40E+01	24.82	3.58E+00	3.78E+00	3.04E+01	2.51E+01
4	609.25	2.24E+01	18.96	5.75E+00	4.00E+00	1.66E+01	1.94E+01
5	734.42	1.30E+01	13.00			1.30E+01	1.30E+01
6	749.09	1.40E+01	12.33			1.40E+01	1.23E+01
7	771.82	1.72E+01	19.52			1.72E+01	1.95E+01
8	804.23	8.85E+00	8.89			8.85E+00	8.89E+00
9	856.97	9.62E+00	8.77			9.62E+00	8.77E+00
10	863.99	1.27E+01	11.86			1.27E+01	1.19E+01
11	1119.03	9.38E+00	9.17			9.38E+00	9.17E+00
12	1185.78	6.00E+00	8.49			6.00E+00	8.49E+00
13	1350.28	1.10E+01	6.63			1.10E+01	6.63E+00
14	1356.33	9.00E+00	6.00			9.00E+00	6.00E+00
15	1461.12	4.59E+01	16.52	7.03E+00	2.05E+00	3.88E+01	1.66E+01
16	1564.93	1.20E+01	6.93			1.20E+01	6.93E+00
17	1639.52	4.67E+00	5.50			4.67E+00	5.50E+00
18	1680.09	4.58E+00	5.74			4.58E+00	5.74E+00
19	1874.96	9.00E+00	6.00			9.00E+00	6.00E+00

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

Analysis Report for 1608066-04

J1V937 SAF: RC-243

AREA CORRECTION REPORT
REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 8/17/2016 7:44:22AM

Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000041518.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	376.63	2.19E+01	19.07			2.19E+01	1.91E+01
2	543.56	2.54E+01	22.92			2.54E+01	2.29E+01
3	584.15	3.40E+01	24.82	3.58E+00	3.78E+00	3.04E+01	2.51E+01
4	609.25	2.24E+01	18.96	5.75E+00	4.00E+00	1.66E+01	1.94E+01
5	734.42	1.30E+01	13.00			1.30E+01	1.30E+01
6	749.09	1.40E+01	12.33			1.40E+01	1.23E+01
7	771.82	1.72E+01	19.52			1.72E+01	1.95E+01
8	804.23	8.85E+00	8.89			8.85E+00	8.89E+00
9	856.97	9.62E+00	8.77			9.62E+00	8.77E+00
10	863.99	1.27E+01	11.86			1.27E+01	1.19E+01
11	1119.03	9.38E+00	9.17			9.38E+00	9.17E+00
12	1185.78	6.00E+00	8.49			6.00E+00	8.49E+00
13	1350.28	1.10E+01	6.63			1.10E+01	6.63E+00
14	1356.33	9.00E+00	6.00			9.00E+00	6.00E+00
15	1461.12	4.59E+01	16.52	7.03E+00	2.05E+00	3.88E+01	1.66E+01
16	1564.93	1.20E+01	6.93			1.20E+01	6.93E+00
17	1639.52	4.67E+00	5.50			4.67E+00	5.50E+00
18	1680.09	4.58E+00	5.74			4.58E+00	5.74E+00
19	1874.96	9.00E+00	6.00			9.00E+00	6.00E+00

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

NUCLIDE IDENTIFICATION REPORT

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

IDENTIFIED NUCLIDES

Analysis Report for 1608066-04

J1V937 SAF: RC-243

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/sample)	Activity Uncertainty
K-40	0.985	1460.81	*	10.67	5.50E+02	2.40E+02
BI-214	0.430	609.31	*	46.30	2.75E+01	3.21E+01
		1120.29		15.10		
		1764.49		15.80		
		2204.22		4.98		

* = 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 : 8/17/2016 7:44:22AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
1	376.63	6.08333E-03	43.54		
2	543.56	7.06265E-03	45.08		
3	584.15	8.45107E-03	41.26		
5	734.42	3.61111E-03	50.00	Tol.	PA-234
6	749.09	3.88889E-03	44.03		
7	771.82	4.76496E-03	56.89		
8	804.23	2.45727E-03	50.24		
9	856.97	2.67094E-03	45.63		
10	863.99	3.52083E-03	46.80		
11	1119.03	2.60684E-03	48.83		
12	1185.78	1.66667E-03	70.71		
13	1350.28	3.05556E-03	30.15		
14	1356.33	2.50000E-03	33.33		
16	1564.93	3.33333E-03	28.87		
17	1639.52	1.29630E-03	58.93		
18	1680.09	1.27315E-03	62.67		
19	1874.96	2.50000E-03	33.33		

Analysis Report for 1608066-04

J1V937 SAF: RC-243

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/sample)	Activity Uncertainty
K-40	0.98	1460.81	*	10.67	5.50E+02	2.40E+02
BI-214	0.43	609.31	*	46.30	2.75E+01	3.21E+01
		1120.29		15.10		
		1764.49		15.80		
		2204.22		4.98		

* = 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/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.985	5.50E+02	2.40E+02	

Analysis Report for 1608066-04

J1V937 SAF: RC-243

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/sample)	Wt mean Activity Uncertainty	Comments
BI-214	0.430	2.75E+01	3.21E+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 1608066-04

J1V937 SAF: RC-243

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/17/2016 7:44:22AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
1	376.63	6.08333E-03	43.54		
2	543.56	7.06265E-03	45.08		
3	584.15	8.45107E-03	41.26		
5	734.42	3.61111E-03	50.00	Tol.	PA-234
6	749.09	3.88889E-03	44.03		
7	771.82	4.76496E-03	56.89		
8	804.23	2.45727E-03	50.24		
9	856.97	2.67094E-03	45.63		
10	863.99	3.52083E-03	46.80		
11	1119.03	2.60684E-03	48.83		
12	1185.78	1.66667E-03	70.71		
13	1350.28	3.05556E-03	30.15		
14	1356.33	2.50000E-03	33.33		
16	1564.93	3.33333E-03	28.87		
17	1639.52	1.29630E-03	58.93		
18	1680.09	1.27315E-03	62.67		
19	1874.96	2.50000E-03	33.33		

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/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)

Analysis Report for 1608066-04

J1V937 SAF: RC-243

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	BE-7	477.59		10.42	-4.29E+01	1.93E+02	1.93E+02
+	NA-22	1274.54		99.94	-1.81E+00	2.49E+01	2.49E+01
+	NA-24	1368.53		99.99	-1.27E+03	8.70E+03	8.70E+03
		2754.09		99.86	1.66E+02		9.26E+03
+	AL-26	1808.65		99.76	-8.68E+00	1.61E+01	1.61E+01
+	K-40	1460.81	*	10.67	5.50E+02	2.95E+02	2.95E+02
+	@ AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	-9.06E+00	1.31E+01	1.46E+01
		78.34		96.00	-4.83E+00		1.31E+01
+	SC-46	889.25		99.98	1.08E+00	1.88E+01	1.88E+01
		1120.51		99.99	5.19E+00		2.35E+01
+	V-48	983.52		99.98	-8.80E+00	2.58E+01	2.58E+01
		1312.10		97.50	1.07E+01		3.32E+01
+	CR-51	320.08		9.83	4.00E+01	1.79E+02	1.79E+02
+	MN-54	834.83		99.97	5.34E+00	2.38E+01	2.38E+01
+	CO-56	846.75		99.96	3.07E+00	2.34E+01	2.34E+01
		1037.75		14.03	3.99E+01		1.70E+02
		1238.25		67.00	2.22E+01		4.47E+01
		1771.40		15.51	-1.10E+02		1.08E+02
		2598.48		16.90	8.20E+00		9.05E+01
+	CO-57	122.06		85.51	-5.17E-01	1.44E+01	1.44E+01
		136.48		10.60	1.38E+01		1.20E+02
+	CO-58	810.76		99.40	1.17E+00	1.77E+01	1.77E+01
+	FE-59	1099.22		56.50	1.18E+01	4.43E+01	4.43E+01
		1291.56		43.20	-7.32E+00		4.57E+01
+	CO-60	1173.22		100.00	6.43E+00	1.70E+01	2.59E+01
		1332.49		100.00	-1.59E+00		1.70E+01
+	ZN-65	1115.52		50.75	4.94E+00	4.65E+01	4.65E+01
+	GA-67	93.31		35.70	3.71E+02	1.77E+02	1.77E+02
		208.95		2.24	1.19E+02		1.86E+03
		300.22		16.00	4.84E+01		3.08E+02
+	SE-75	121.11		16.70	2.53E+01	2.22E+01	7.67E+01
		136.00		59.20	1.81E+01		2.22E+01
		264.65		59.80	7.05E+00		2.32E+01
		279.53		25.20	9.05E+00		5.64E+01
		400.65		11.40	1.32E+01		1.34E+02
+	RB-82	776.52		13.00	-3.64E+01	1.72E+02	1.72E+02
+	RB-83	520.41		46.00	-1.00E+01	4.00E+01	4.00E+01
		529.64		30.30	-9.91E+00		5.81E+01
		552.65		16.40	2.40E+01		1.01E+02
+	KR-85	513.99		0.43	8.19E+03	7.29E+03	7.29E+03
+	SR-85	513.99		99.27	3.80E+01	3.38E+01	3.38E+01
+	Y-88	898.02		93.40	6.99E+00	2.39E+01	2.39E+01
		1836.01		99.38	-3.65E-01		2.39E+01
+	NB-93M	16.57		9.43	-2.06E+04	2.15E+04	2.15E+04
+	NB-94	702.63		100.00	9.91E+00	1.84E+01	2.41E+01
		871.10		100.00	2.53E+00		1.84E+01

Analysis Report for 1608066-04

J1V937 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	NB-95	765.79	99.81	-6.65E-01	2.24E+01	2.24E+01
+	NB-95M	235.69	25.00	-1.56E+02	1.56E+02	1.56E+02
+	ZR-95	724.18	43.70	-9.22E-01	4.09E+01	4.41E+01
		756.72	55.30	9.05E+00		4.09E+01
+	MO-99	181.06	6.20	-2.90E+02	5.56E+02	8.86E+02
		739.58	12.80	0.00E+00		5.56E+02
		778.00	4.50	-3.14E+02		1.65E+03
+	RU-103	497.08	89.00	-9.33E+00	1.91E+01	1.91E+01
+	RU-106	621.84	9.80	9.16E+01	2.15E+02	2.15E+02
+	AG-108M	433.93	89.90	1.09E+01	2.06E+01	2.14E+01
		614.37	90.40	9.28E-01		2.29E+01
		722.95	90.50	6.94E-01		2.06E+01
+	CD-109	88.03	3.72	-1.76E+02	3.11E+02	3.11E+02
+	AG-110M	657.75	93.14	-4.42E-01	2.25E+01	2.25E+01
		677.61	10.53	-3.20E+00		1.66E+02
		706.67	16.46	-2.23E+01		1.22E+02
		763.93	21.98	4.22E+00		9.91E+01
		884.67	71.63	6.34E+00		2.93E+01
		1384.27	23.94	1.70E+01		9.78E+01
+	CD-113M	263.70	0.02	1.67E+04	5.83E+04	5.83E+04
+	SN-113	255.12	1.93	-2.87E+02	2.01E+01	6.44E+02
		391.69	64.90	-1.07E+01		2.01E+01
+	TE123M	159.00	84.10	2.74E+00	1.50E+01	1.50E+01
+	SB-124	602.71	97.87	4.03E+00	2.36E+01	2.36E+01
		645.85	7.26	4.70E+01		2.64E+02
		722.78	11.10	6.03E+00		1.79E+02
		1691.02	49.00	-1.45E+01		3.90E+01
+	I-125	35.49	6.49	3.23E+01	6.65E+02	6.65E+02
+	SB-125	176.33	6.89	4.90E+00	5.81E+01	1.81E+02
		427.89	29.33	-4.04E+00		5.81E+01
		463.38	10.35	-1.00E+02		1.77E+02
		600.56	17.80	7.01E+01		1.32E+02
		635.90	11.32	2.19E+01		1.45E+02
+	SB-126	414.70	83.30	5.35E-01	2.67E+01	3.12E+01
		666.33	99.60	1.04E+00		2.70E+01
		695.00	99.60	-1.33E+01		2.67E+01
		720.50	53.80	-1.11E+00		4.85E+01
+	SN-126	87.57	37.00	-1.75E+01	3.10E+01	3.10E+01
+	SB-127	473.00	25.00	-1.86E+02	1.29E+02	1.76E+02
		685.20	35.70	-1.54E+01		1.29E+02
		783.80	14.70	6.96E+01		3.15E+02
+	I-129	29.78	57.00	2.88E+01	1.43E+02	1.43E+02
		33.60	13.20	-6.75E+01		3.70E+02
		39.58	7.52	-1.70E+01		3.99E+02
+	I-131	284.30	6.05	1.67E+02	3.11E+01	3.69E+02
		364.48	81.20	6.08E+00		3.11E+01
		636.97	7.26	-5.67E+01		3.33E+02
		722.89	1.80	5.66E+01		1.68E+03

Analysis Report for 1608066-04

J1V937 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	TE-132	49.72	13.10	-4.50E+02	5.34E+01	4.87E+02
		228.16	88.00	2.66E+01		5.34E+01
+	BA-133	81.00	33.00	-6.31E+00	2.26E+01	3.52E+01
		302.84	17.80	-1.98E+01		7.58E+01
		356.01	60.00	-1.22E+01		2.26E+01
+	I-133	529.87	86.30	-2.95E+02	1.73E+03	1.73E+03
+	XE-133	81.00	38.00	-1.15E+01	6.42E+01	6.42E+01
+	CS-134	563.23	8.38	-2.86E+01	2.09E+01	2.12E+02
		569.32	15.43	7.32E+01		1.33E+02
		604.70	97.60	3.25E+00		2.30E+01
		795.84	85.40	-1.11E+00		2.09E+01
		801.93	8.73	-5.46E+00		2.26E+02
+	CS-135	268.24	16.00	2.15E+01	8.57E+01	8.57E+01
+	I-135	1131.51	22.50	2.49E+07	1.06E+08	1.24E+08
		1260.41	28.60	-2.98E+07		1.06E+08
		1678.03	9.54	0.00E+00		3.51E+08
+	CS-136	153.22	7.46	1.04E+02	2.92E+01	2.27E+02
		163.89	4.61	4.24E+01		3.59E+02
		176.55	13.56	3.34E+00		1.23E+02
		273.65	12.66	-3.86E+01		1.52E+02
		340.57	48.50	4.19E+00		4.05E+01
		818.50	99.70	7.98E+00		2.92E+01
		1048.07	79.60	2.61E+00		3.59E+01
		1235.34	19.70	1.01E+02		1.83E+02
+	CS-137	661.65	85.12	1.35E+01	2.66E+01	2.66E+01
+	LA-138	788.74	34.00	-1.49E+01	2.72E+01	4.80E+01
		1435.80	66.00	-2.83E+00		2.72E+01
+	CE-139	165.85	80.35	1.21E+00	1.60E+01	1.60E+01
+	BA-140	162.64	6.70	-9.49E+01	9.22E+01	2.38E+02
		304.84	4.50	-9.45E+01		3.96E+02
		423.70	3.20	2.26E+02		7.44E+02
		437.55	2.00	-1.62E+02		1.07E+03
		537.32	25.00	-3.76E-01		9.22E+01
+	LA-140	328.77	20.50	-4.61E+01	2.11E+01	8.61E+01
		487.03	45.50	-8.06E+00		4.98E+01
		815.85	23.50	1.32E+01		1.18E+02
		1596.49	95.49	-9.68E+00		2.11E+01
+	CE-141	145.44	48.40	7.77E+00	2.86E+01	2.86E+01
+	CE-143	57.36	11.80	5.93E+02	6.11E+02	2.14E+03
		293.26	42.00	2.70E+02		6.11E+02
		664.55	5.20	-1.93E+03		6.24E+03
+	CE-144	133.54	10.80	4.76E+00	1.10E+02	1.10E+02
+	PM-144	476.78	42.00	1.99E+00	2.16E+01	4.49E+01
		618.01	98.60	5.83E+00		2.16E+01
		696.49	99.49	6.16E+00		2.32E+01
+	PM-145	36.85	21.70	5.35E+01	8.77E+01	1.65E+02
		37.36	39.70	7.19E-01		8.77E+01
		42.30	15.10	-1.36E+01		1.69E+02
		72.40	2.31	-2.94E+02		6.42E+02

Analysis Report for 1608066-04

J1V937 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	PM-146	453.90	39.94	-1.81E+01	4.51E+01	4.51E+01
		735.90	14.01	3.38E+01		1.42E+02
		747.13	13.10	5.06E+01		1.61E+02
+	ND-147	91.11	28.90	-1.36E+02	7.44E+01	7.44E+01
		531.02	13.10	2.37E+01		1.91E+02
+	PM-149	285.90	3.10	9.41E+02	2.49E+03	2.49E+03
+	EU-152	121.78	20.50	-2.13E+00	5.92E+01	5.92E+01
		244.69	5.40	-6.28E+01		2.60E+02
		344.27	19.13	-1.73E+01		7.04E+01
		778.89	9.20	-2.58E+01		1.83E+02
		964.01	10.40	-5.75E+01		2.25E+02
		1085.78	7.22	1.08E+02		3.15E+02
		1112.02	9.60	-4.58E+00		2.14E+02
		1407.95	14.94	-9.86E+00		1.39E+02
+	GD-153	97.43	31.30	-6.90E+00	3.88E+01	3.88E+01
		103.18	22.20	-1.94E+01		4.62E+01
+	EU-154	123.07	40.50	-5.47E+00	2.92E+01	2.92E+01
		723.30	19.70	3.19E+00		9.47E+01
		873.19	11.50	-2.80E+01		1.66E+02
		996.32	10.30	-1.58E+01		1.74E+02
		1004.76	17.90	1.11E+01		1.35E+02
		1274.45	35.50	-5.08E+00		6.99E+01
+	EU-155	86.50	30.90	7.91E+00	3.92E+01	3.92E+01
		105.30	20.70	-1.18E+01		5.14E+01
+	EU-156	811.77	10.40	2.97E+01	2.07E+02	2.07E+02
		1153.47	7.20	-3.79E+01		3.20E+02
		1230.71	8.90	-8.69E+01		2.72E+02
+	HO-166M	184.41	72.60	5.53E+01	2.73E+01	2.73E+01
		280.45	29.60	-2.20E+00		4.32E+01
		410.94	11.10	-5.96E+01		1.53E+02
		711.69	54.10	1.18E+01		3.99E+01
+	TM-171	66.72	0.14	-1.52E+04	1.09E+04	1.09E+04
+	HF-172	81.75	4.52	-3.20E+02	1.04E+02	2.43E+02
		125.81	11.30	-5.03E+00		1.04E+02
+	LU-172	181.53	20.60	-2.96E+01	5.21E+01	1.20E+02
		810.06	16.63	-2.93E+01		1.54E+02
		912.12	15.25	4.38E+01		2.76E+02
		1093.66	62.50	-1.46E+01		5.21E+01
+	LU-173	100.72	5.24	7.36E+01	7.07E+01	2.22E+02
		272.11	21.20	2.29E+01		7.07E+01
+	HF-175	343.40	84.00	-9.79E+00	1.60E+01	1.60E+01
+	LU-176	88.34	13.30	-1.44E+01	1.48E+01	8.83E+01
		201.83	86.00	-3.68E+00		1.48E+01
		306.78	94.00	6.53E+00		1.50E+01
+	TA-182	67.75	41.20	-2.15E+01	3.47E+01	3.47E+01
		1121.30	34.90	-3.67E+00		6.39E+01
		1189.05	16.23	1.24E+01		1.38E+02
		1221.41	26.98	7.84E+00		9.20E+01
		1231.02	11.44	-5.42E+01		1.70E+02

Analysis Report for 1608066-04

J1V937 SAF: RC-243

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	IR-192	308.46		29.68	-1.26E+01	4.09E+01	4.57E+01
		468.07		48.10	-3.06E+00		4.09E+01
+	HG-203	279.19		77.30	7.75E+00	2.04E+01	2.04E+01
+	BI-207	569.67		97.72	8.54E+00	2.06E+01	2.06E+01
		1063.62		74.90	9.73E+00		3.29E+01
+	TL-208	583.14		30.22	5.66E+01	8.37E+01	8.37E+01
		860.37		4.48	-1.34E+02		4.64E+02
		2614.66		35.85	6.07E+01		1.00E+02
+	BI-210M	262.00		45.00	-1.28E+00	2.93E+01	2.93E+01
		300.00		23.00	1.02E+01		6.50E+01
+	PB-210	46.50		4.25	5.89E+02	6.14E+02	6.14E+02
+	PB-211	404.84		2.90	1.93E+02	5.21E+02	5.21E+02
		831.96		2.90	1.76E+02		7.37E+02
+	BI-212	727.17		11.80	-3.72E+00	1.40E+02	1.40E+02
		1620.62		2.75	-1.51E+02		9.82E+02
+	PB-212	238.63		44.60	1.40E+01	3.55E+01	3.55E+01
		300.09		3.41	6.89E+01		4.38E+02
+	BI-214	609.31	*	46.30	2.75E+01	5.22E+01	5.22E+01
		1120.29		15.10	3.28E+01		1.49E+02
		1764.49		15.80	1.15E+02		2.17E+02
		2204.22		4.98	6.87E+01		5.01E+02
+	PB-214	295.21		19.19	3.17E+01	4.68E+01	8.11E+01
		351.92		37.19	2.86E+01		4.68E+01
+	RN-219	401.80		6.50	-2.52E+01	2.15E+02	2.15E+02
+	RA-223	323.87		3.88	1.45E+02	3.88E+02	3.88E+02
+	RA-224	240.98		3.95	2.81E+02	4.22E+02	4.22E+02
+	RA-225	40.00		31.00	-5.24E+00	1.23E+02	1.23E+02
+	RA-226	186.21		3.28	4.73E+02	5.72E+02	5.72E+02
+	TH-227	50.10		8.40	-2.10E+02	1.16E+02	2.28E+02
		236.00		11.50	-1.15E+02		1.16E+02
		256.20		6.30	6.56E+01		2.11E+02
+	AC-228	338.32		11.40	7.64E+01	8.72E+01	1.36E+02
		911.07		27.70	3.21E+01		8.72E+01
		969.11		16.60	4.43E+00		1.38E+02
+	TH-230	48.44		16.90	1.40E+02	1.41E+02	1.41E+02
		62.85		4.60	4.18E+02		4.10E+02
		67.67		0.37	-2.31E+03		3.73E+03
+	PA-231	283.67		1.60	-3.04E+02	5.86E+02	7.48E+02
		302.67		2.30	-1.53E+02		5.86E+02
+	TH-231	25.64		14.70	-3.92E+03	1.87E+02	2.03E+03
		84.21		6.40	1.25E+01		1.87E+02
+	PA-233	311.98		38.60	-1.25E+01	3.82E+01	3.82E+01
+	PA-234	131.20		20.40	-4.69E+01	5.53E+01	5.53E+01
		733.99		8.80	1.51E+02		2.46E+02
		946.00		12.00	-3.78E+01		1.43E+02
+	PA-234M	1001.03		0.92	-1.11E+03	1.95E+03	1.95E+03
+	TH-234	63.29		3.80	7.10E+02	5.01E+02	5.01E+02

Analysis Report for 1608066-04

J1V937 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	U-235	143.76	10.50	4.63E+01	1.21E+02	1.21E+02
		163.35	4.70	3.09E+01		2.61E+02
		205.31	4.70	-3.11E+01		2.77E+02
+	NP-237	86.50	12.60	1.94E+01	9.60E+01	9.60E+01
+	NP-239	106.10	22.70	-5.59E+01	2.44E+02	2.44E+02
		228.18	10.70	3.45E+02		6.93E+02
		277.60	14.10	1.28E+02		5.41E+02
+	AM-241	59.54	35.90	-7.68E+00	3.99E+01	3.99E+01
+	AM-243	74.67	66.00	1.62E+01	2.36E+01	2.36E+01
+	CM-243	209.75	3.29	7.60E+00	1.05E+02	3.86E+02
		228.14	10.60	6.69E+01		1.34E+02
		277.60	14.00	2.48E+01		1.05E+02

+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
> = MDA value not calculated
@ = Half-life too short to be able to perform the decay correction
? = 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/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
	BE-7	477.59		10.42	1.93E+02	1.93E+02	-4.29E+01	8.76E+01
	NA-22	1274.54		99.94	2.49E+01	2.49E+01	-1.81E+00	1.06E+01
	NA-24	1368.53		99.99	8.70E+03	8.70E+03	-1.27E+03	3.37E+03
		2754.09		99.86	9.26E+03		1.66E+02	3.28E+03
	AL-26	1808.65		99.76	1.61E+01	1.61E+01	-8.68E+00	5.71E+00
+	K-40	1460.81	*	10.67	2.95E+02	2.95E+02	5.50E+02	1.28E+02
@	AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
	TI-44	67.88		94.40	1.46E+01	1.31E+01	-9.06E+00	6.89E+00
		78.34		96.00	1.31E+01		-4.83E+00	6.19E+00
	SC-46	889.25		99.98	1.88E+01	1.88E+01	1.08E+00	7.94E+00

Analysis Report for 1608066-04

J1V937 SAF: RC-243

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
SC-46	1120.51	99.99	2.35E+01	1.88E+01	5.19E+00	1.00E+01
V-48	983.52	99.98	2.58E+01	2.58E+01	-8.80E+00	1.10E+01
	1312.10	97.50	3.32E+01		1.07E+01	1.41E+01
CR-51	320.08	9.83	1.79E+02	1.79E+02	4.00E+01	8.19E+01
MN-54	834.83	99.97	2.38E+01	2.38E+01	5.34E+00	1.06E+01
CO-56	846.75	99.96	2.34E+01	2.34E+01	3.07E+00	1.03E+01
	1037.75	14.03	1.70E+02		3.99E+01	7.32E+01
	1238.25	67.00	4.47E+01		2.22E+01	1.95E+01
	1771.40	15.51	1.08E+02		-1.10E+02	3.81E+01
	2598.48	16.90	9.05E+01		8.20E+00	2.86E+01
CO-57	122.06	85.51	1.44E+01	1.44E+01	-5.17E-01	6.76E+00
	136.48	10.60	1.20E+02		1.38E+01	5.65E+01
CO-58	810.76	99.40	1.77E+01	1.77E+01	1.17E+00	7.48E+00
FE-59	1099.22	56.50	4.43E+01	4.43E+01	1.18E+01	1.90E+01
	1291.56	43.20	4.57E+01		-7.32E+00	1.81E+01
CO-60	1173.22	100.00	2.59E+01	1.70E+01	6.43E+00	1.12E+01
	1332.49	100.00	1.70E+01		-1.59E+00	6.59E+00
ZN-65	1115.52	50.75	4.65E+01	4.65E+01	4.94E+00	1.99E+01
GA-67	93.31	35.70	1.77E+02	1.77E+02	3.71E+02	8.50E+01
	208.95	2.24	1.86E+03		1.19E+02	8.60E+02
	300.22	16.00	3.08E+02		4.84E+01	1.41E+02
SE-75	121.11	16.70	7.67E+01	2.22E+01	2.53E+01	3.60E+01
	136.00	59.20	2.22E+01		1.81E+01	1.04E+01
	264.65	59.80	2.32E+01		7.05E+00	1.06E+01
	279.53	25.20	5.64E+01		9.05E+00	2.58E+01
	400.65	11.40	1.34E+02		1.32E+01	6.00E+01
RB-82	776.52	13.00	1.72E+02	1.72E+02	-3.64E+01	7.46E+01
RB-83	520.41	46.00	4.00E+01	4.00E+01	-1.00E+01	1.79E+01
	529.64	30.30	5.81E+01		-9.91E+00	2.59E+01
	552.65	16.40	1.01E+02		2.40E+01	4.46E+01
KR-85	513.99	0.43	7.29E+03	7.29E+03	8.19E+03	3.43E+03
SR-85	513.99	99.27	3.38E+01	3.38E+01	3.80E+01	1.59E+01
Y-88	898.02	93.40	2.39E+01	2.39E+01	6.99E+00	1.04E+01
	1836.01	99.38	2.39E+01		-3.65E-01	9.48E+00
NB-93M	16.57	9.43	2.15E+04	2.15E+04	-2.06E+04	9.40E+03
NB-94	702.63	100.00	2.41E+01	1.84E+01	9.91E+00	1.09E+01
	871.10	100.00	1.84E+01		2.53E+00	7.82E+00
NB-95	765.79	99.81	2.24E+01	2.24E+01	-6.65E-01	9.82E+00
NB-95M	235.69	25.00	1.56E+02	1.56E+02	-1.56E+02	7.18E+01
ZR-95	724.18	43.70	4.41E+01	4.09E+01	-9.22E-01	1.92E+01
	756.72	55.30	4.09E+01		9.05E+00	1.81E+01
MO-99	181.06	6.20	8.86E+02	5.56E+02	-2.90E+02	4.14E+02
	739.58	12.80	5.56E+02		0.00E+00	2.39E+02
	778.00	4.50	1.65E+03		-3.14E+02	7.09E+02
RU-103	497.08	89.00	1.91E+01	1.91E+01	-9.33E+00	8.44E+00
RU-106	621.84	9.80	2.15E+02	2.15E+02	9.16E+01	9.67E+01
AG-108M	433.93	89.90	2.14E+01	2.06E+01	1.09E+01	9.80E+00
	614.37	90.40	2.29E+01		9.28E-01	1.03E+01
	722.95	90.50	2.06E+01		6.94E-01	8.98E+00
CD-109	88.03	3.72	3.11E+02	3.11E+02	-1.76E+02	1.46E+02
AG-110M	657.75	93.14	2.25E+01	2.25E+01	-4.42E-01	1.01E+01
	677.61	10.53	1.66E+02		-3.20E+00	7.21E+01
	706.67	16.46	1.22E+02		-2.23E+01	5.37E+01

Analysis Report for 1608066-04

J1V937 SAF: RC-243

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
AG-110M	763.93	21.98	9.91E+01	2.25E+01	4.22E+00	4.39E+01
	884.67	71.63	2.93E+01		6.34E+00	1.27E+01
	1384.27	23.94	9.78E+01		1.70E+01	4.06E+01
CD-113M	263.70	0.02	5.83E+04	5.83E+04	1.67E+04	2.67E+04
SN-113	255.12	1.93	6.44E+02	2.01E+01	-2.87E+02	2.92E+02
	391.69	64.90	2.01E+01		-1.07E+01	8.87E+00
TE123M	159.00	84.10	1.50E+01	1.50E+01	2.74E+00	6.99E+00
SB-124	602.71	97.87	2.36E+01	2.36E+01	4.03E+00	1.07E+01
	645.85	7.26	2.64E+02		4.70E+01	1.16E+02
	722.78	11.10	1.79E+02		6.03E+00	7.81E+01
	1691.02	49.00	3.90E+01		-1.45E+01	1.46E+01
I-125	35.49	6.49	6.65E+02	6.65E+02	3.23E+01	3.13E+02
SB-125	176.33	6.89	1.81E+02	5.81E+01	4.90E+00	8.40E+01
	427.89	29.33	5.81E+01		-4.04E+00	2.64E+01
	463.38	10.35	1.77E+02		-1.00E+02	8.05E+01
	600.56	17.80	1.32E+02		7.01E+01	6.03E+01
	635.90	11.32	1.45E+02		2.19E+01	6.31E+01
SB-126	414.70	83.30	3.12E+01	2.67E+01	5.35E-01	1.43E+01
	666.33	99.60	2.70E+01		1.04E+00	1.20E+01
	695.00	99.60	2.67E+01		-1.33E+01	1.18E+01
	720.50	53.80	4.85E+01		-1.11E+00	2.12E+01
SN-126	87.57	37.00	3.10E+01	3.10E+01	-1.75E+01	1.45E+01
SB-127	473.00	25.00	1.76E+02	1.29E+02	-1.86E+02	7.89E+01
	685.20	35.70	1.29E+02		-1.54E+01	5.60E+01
	783.80	14.70	3.15E+02		6.96E+01	1.34E+02
I-129	29.78	57.00	1.43E+02	1.43E+02	2.88E+01	6.77E+01
	33.60	13.20	3.70E+02		-6.75E+01	1.74E+02
	39.58	7.52	3.99E+02		-1.70E+01	1.88E+02
I-131	284.30	6.05	3.69E+02	3.11E+01	1.67E+02	1.69E+02
	364.48	81.20	3.11E+01		6.08E+00	1.41E+01
	636.97	7.26	3.33E+02		-5.67E+01	1.42E+02
	722.89	1.80	1.68E+03		5.66E+01	7.32E+02
TE-132	49.72	13.10	4.87E+02	5.34E+01	-4.50E+02	2.30E+02
	228.16	88.00	5.34E+01		2.66E+01	2.48E+01
BA-133	81.00	33.00	3.52E+01	2.26E+01	-6.31E+00	1.65E+01
	302.84	17.80	7.58E+01		-1.98E+01	3.44E+01
	356.01	60.00	2.26E+01		-1.22E+01	1.01E+01
I-133	529.87	86.30	1.73E+03	1.73E+03	-2.95E+02	7.70E+02
XE-133	81.00	38.00	6.42E+01	6.42E+01	-1.15E+01	3.01E+01
CS-134	563.23	8.38	2.12E+02	2.09E+01	-2.86E+01	9.41E+01
	569.32	15.43	1.33E+02		7.32E+01	6.02E+01
	604.70	97.60	2.30E+01		3.25E+00	1.05E+01
	795.84	85.40	2.09E+01		-1.11E+00	8.94E+00
	801.93	8.73	2.26E+02		-5.46E+00	9.84E+01
CS-135	268.24	16.00	8.57E+01	8.57E+01	2.15E+01	3.93E+01
I-135	1131.51	22.50	1.24E+08	1.06E+08	2.49E+07	5.21E+07
	1260.41	28.60	1.06E+08		-2.98E+07	4.45E+07
	1678.03	9.54	3.51E+08		0.00E+00	1.44E+08
CS-136	153.22	7.46	2.27E+02	2.92E+01	1.04E+02	1.06E+02
	163.89	4.61	3.59E+02		4.24E+01	1.67E+02
	176.55	13.56	1.23E+02		3.34E+00	5.72E+01
	273.65	12.66	1.52E+02		-3.86E+01	7.00E+01
	340.57	48.50	4.05E+01		4.19E+00	1.84E+01

Analysis Report for 1608066-04

J1V937 SAF: RC-243

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
CS-136	818.50	99.70	2.92E+01	2.92E+01	7.98E+00	1.28E+01
	1048.07	79.60	3.59E+01		2.61E+00	1.53E+01
	1235.34	19.70	1.83E+02		1.01E+02	7.92E+01
CS-137	661.65	85.12	2.66E+01	2.66E+01	1.35E+01	1.20E+01
LA-138	788.74	34.00	4.80E+01	2.72E+01	-1.49E+01	2.03E+01
	1435.80	66.00	2.72E+01		-2.83E+00	1.05E+01
CE-139	165.85	80.35	1.60E+01	1.60E+01	1.21E+00	7.44E+00
BA-140	162.64	6.70	2.38E+02	9.22E+01	-9.49E+01	1.11E+02
	304.84	4.50	3.96E+02		-9.45E+01	1.79E+02
	423.70	3.20	7.44E+02		2.26E+02	3.39E+02
	437.55	2.00	1.07E+03		-1.62E+02	4.78E+02
	537.32	25.00	9.22E+01		-3.76E-01	4.10E+01
LA-140	328.77	20.50	8.61E+01	2.11E+01	-4.61E+01	3.87E+01
	487.03	45.50	4.98E+01		-8.06E+00	2.23E+01
	815.85	23.50	1.18E+02		1.32E+01	5.16E+01
	1596.49	95.49	2.11E+01		-9.68E+00	7.49E+00
CE-141	145.44	48.40	2.86E+01	2.86E+01	7.77E+00	1.34E+01
CE-143	57.36	11.80	2.14E+03	6.11E+02	5.93E+02	1.01E+03
	293.26	42.00	6.11E+02		2.70E+02	2.81E+02
	664.55	5.20	6.24E+03		-1.93E+03	2.76E+03
CE-144	133.54	10.80	1.10E+02	1.10E+02	4.76E+00	5.16E+01
PM-144	476.78	42.00	4.49E+01	2.16E+01	1.99E+00	2.04E+01
	618.01	98.60	2.16E+01		5.83E+00	9.75E+00
	696.49	99.49	2.32E+01		6.16E+00	1.04E+01
PM-145	36.85	21.70	1.65E+02	8.77E+01	5.35E+01	7.78E+01
	37.36	39.70	8.77E+01		7.19E-01	4.13E+01
	42.30	15.10	1.69E+02		-1.36E+01	7.98E+01
	72.40	2.31	6.42E+02		-2.94E+02	3.05E+02
PM-146	453.90	39.94	4.51E+01	4.51E+01	-1.81E+01	2.05E+01
	735.90	14.01	1.42E+02		3.38E+01	6.25E+01
	747.13	13.10	1.61E+02		5.06E+01	7.13E+01
ND-147	91.11	28.90	7.44E+01	7.44E+01	-1.36E+02	3.54E+01
	531.02	13.10	1.91E+02		2.37E+01	8.52E+01
PM-149	285.90	3.10	2.49E+03	2.49E+03	9.41E+02	1.13E+03
EU-152	121.78	20.50	5.92E+01	5.92E+01	-2.13E+00	2.78E+01
	244.69	5.40	2.60E+02		-6.28E+01	1.20E+02
	344.27	19.13	7.04E+01		-1.73E+01	3.17E+01
	778.89	9.20	1.83E+02		-2.58E+01	7.78E+01
	964.01	10.40	2.25E+02		-5.75E+01	9.84E+01
	1085.78	7.22	3.15E+02		1.08E+02	1.35E+02
	1112.02	9.60	2.14E+02		-4.58E+00	8.95E+01
	1407.95	14.94	1.39E+02		-9.86E+00	5.62E+01
GD-153	97.43	31.30	3.88E+01	3.88E+01	-6.90E+00	1.82E+01
	103.18	22.20	4.62E+01		-1.94E+01	2.15E+01
EU-154	123.07	40.50	2.92E+01	2.92E+01	-5.47E+00	1.37E+01
	723.30	19.70	9.47E+01		3.19E+00	4.13E+01
	873.19	11.50	1.66E+02		-2.80E+01	7.12E+01
	996.32	10.30	1.74E+02		-1.58E+01	7.21E+01
	1004.76	17.90	1.35E+02		1.11E+01	5.91E+01
	1274.45	35.50	6.99E+01		-5.08E+00	2.97E+01
EU-155	86.50	30.90	3.92E+01	3.92E+01	7.91E+00	1.85E+01
	105.30	20.70	5.14E+01		-1.18E+01	2.39E+01
EU-156	811.77	10.40	2.07E+02	2.07E+02	2.97E+01	8.75E+01

Analysis Report for 1608066-04

J1V937 SAF: RC-243

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
	EU-156	1153.47		7.20	3.20E+02	2.07E+02	-3.79E+01	1.29E+02
		1230.71		8.90	2.72E+02		-8.69E+01	1.10E+02
	HO-166M	184.41		72.60	2.73E+01	2.73E+01	5.53E+01	1.30E+01
		280.45		29.60	4.32E+01		-2.20E+00	1.96E+01
		410.94		11.10	1.53E+02		-5.96E+01	6.94E+01
		711.69		54.10	3.99E+01		1.18E+01	1.78E+01
	TM-171	66.72		0.14	1.09E+04	1.09E+04	-1.52E+04	5.17E+03
	HF-172	81.75		4.52	2.43E+02	1.04E+02	-3.20E+02	1.14E+02
		125.81		11.30	1.04E+02		-5.03E+00	4.86E+01
	LU-172	181.53		20.60	1.20E+02	5.21E+01	-2.96E+01	5.62E+01
		810.06		16.63	1.54E+02		-2.93E+01	6.32E+01
		912.12		15.25	2.76E+02		4.38E+01	1.22E+02
		1093.66		62.50	5.21E+01		-1.46E+01	2.14E+01
	LU-173	100.72		5.24	2.22E+02	7.07E+01	7.36E+01	1.04E+02
		272.11		21.20	7.07E+01		2.29E+01	3.26E+01
	HF-175	343.40		84.00	1.60E+01	1.60E+01	-9.79E+00	7.17E+00
	LU-176	88.34		13.30	8.83E+01	1.48E+01	-1.44E+01	4.15E+01
		201.83		86.00	1.48E+01		-3.68E+00	6.86E+00
		306.78		94.00	1.50E+01		6.53E+00	6.86E+00
	TA-182	67.75		41.20	3.47E+01	3.47E+01	-2.15E+01	1.64E+01
		1121.30		34.90	6.39E+01		-3.67E+00	2.70E+01
		1189.05		16.23	1.38E+02		1.24E+01	5.77E+01
		1221.41		26.98	9.20E+01		7.84E+00	3.92E+01
		1231.02		11.44	1.70E+02		-5.42E+01	6.86E+01
	IR-192	308.46		29.68	4.57E+01	4.09E+01	-1.26E+01	2.06E+01
		468.07		48.10	4.09E+01		-3.06E+00	1.86E+01
	HG-203	279.19		77.30	2.04E+01	2.04E+01	7.75E+00	9.40E+00
	BI-207	569.67		97.72	2.06E+01	2.06E+01	8.54E+00	9.30E+00
		1063.62		74.90	3.29E+01		9.73E+00	1.43E+01
	TL-208	583.14		30.22	8.37E+01	8.37E+01	5.66E+01	3.86E+01
		860.37		4.48	4.64E+02		-1.34E+02	2.02E+02
		2614.66		35.85	1.00E+02		6.07E+01	4.26E+01
	BI-210M	262.00		45.00	2.93E+01	2.93E+01	-1.28E+00	1.34E+01
		300.00		23.00	6.50E+01		1.02E+01	2.98E+01
	PB-210	46.50		4.25	6.14E+02	6.14E+02	5.89E+02	2.93E+02
	PB-211	404.84		2.90	5.21E+02	5.21E+02	1.93E+02	2.34E+02
		831.96		2.90	7.37E+02		1.76E+02	3.23E+02
	BI-212	727.17		11.80	1.40E+02	1.40E+02	-3.72E+00	5.99E+01
		1620.62		2.75	9.82E+02		-1.51E+02	4.11E+02
	PB-212	238.63		44.60	3.55E+01	3.55E+01	1.40E+01	1.66E+01
		300.09		3.41	4.38E+02		6.89E+01	2.01E+02
+	BI-214	609.31	*	46.30	5.22E+01	5.22E+01	2.75E+01	2.39E+01
		1120.29		15.10	1.49E+02		3.28E+01	6.32E+01
		1764.49		15.80	2.17E+02		1.15E+02	9.41E+01
		2204.22		4.98	5.01E+02		6.87E+01	1.99E+02
	PB-214	295.21		19.19	8.11E+01	4.68E+01	3.17E+01	3.74E+01
		351.92		37.19	4.68E+01		2.86E+01	2.16E+01
	RN-219	401.80		6.50	2.15E+02	2.15E+02	-2.52E+01	9.60E+01
	RA-223	323.87		3.88	3.88E+02	3.88E+02	1.45E+02	1.77E+02
	RA-224	240.98		3.95	4.22E+02	4.22E+02	2.81E+02	1.98E+02
	RA-225	40.00		31.00	1.23E+02	1.23E+02	-5.24E+00	5.78E+01
	RA-226	186.21		3.28	5.72E+02	5.72E+02	4.73E+02	2.72E+02
	TH-227	50.10		8.40	2.28E+02	1.16E+02	-2.10E+02	1.08E+02

Analysis Report for 1608066-04

J1V937 SAF: RC-243

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
TH-227	236.00	11.50	1.16E+02	1.16E+02	-1.15E+02	5.32E+01
	256.20	6.30	2.11E+02		6.56E+01	9.67E+01
AC-228	338.32	11.40	1.36E+02	8.72E+01	7.64E+01	6.22E+01
	911.07	27.70	8.72E+01		3.21E+01	3.84E+01
	969.11	16.60	1.38E+02		4.43E+00	5.99E+01
TH-230	48.44	16.90	1.41E+02	1.41E+02	1.40E+02	6.73E+01
	62.85	4.60	4.10E+02		4.18E+02	1.96E+02
	67.67	0.37	3.73E+03		-2.31E+03	1.76E+03
PA-231	283.67	1.60	7.48E+02	5.86E+02	-3.04E+02	3.37E+02
	302.67	2.30	5.86E+02		-1.53E+02	2.66E+02
TH-231	25.64	14.70	2.03E+03	1.87E+02	-3.92E+03	9.83E+02
	84.21	6.40	1.87E+02		1.25E+01	8.77E+01
PA-233	311.98	38.60	3.82E+01	3.82E+01	-1.25E+01	1.72E+01
PA-234	131.20	20.40	5.53E+01	5.53E+01	-4.69E+01	2.58E+01
	733.99	8.80	2.46E+02		1.51E+02	1.10E+02
	946.00	12.00	1.43E+02		-3.78E+01	5.93E+01
PA-234M	1001.03	0.92	1.95E+03	1.95E+03	-1.11E+03	8.10E+02
TH-234	63.29	3.80	5.01E+02	5.01E+02	7.10E+02	2.40E+02
U-235	143.76	10.50	1.21E+02	1.21E+02	4.63E+01	5.67E+01
	163.35	4.70	2.61E+02		3.09E+01	1.22E+02
	205.31	4.70	2.77E+02		-3.11E+01	1.28E+02
NP-237	86.50	12.60	9.60E+01	9.60E+01	1.94E+01	4.52E+01
NP-239	106.10	22.70	2.44E+02	2.44E+02	-5.59E+01	1.14E+02
	228.18	10.70	6.93E+02		3.45E+02	3.22E+02
	277.60	14.10	5.41E+02		1.28E+02	2.49E+02
AM-241	59.54	35.90	3.99E+01	3.99E+01	-7.68E+00	1.88E+01
AM-243	74.67	66.00	2.36E+01	2.36E+01	1.62E+01	1.12E+01
CM-243	209.75	3.29	3.86E+02	1.05E+02	7.60E+00	1.78E+02
	228.14	10.60	1.34E+02		6.69E+01	6.24E+01
	277.60	14.00	1.05E+02		2.48E+01	4.81E+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 1608066-04

J1V937 SAF: RC-243

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: J1V937 SAF: RC-243

Elapsed Live time: 3600
Elapsed Real Time: 3600

Channel								
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	17	38	28	76	661	233
25:	25	32	13	19	16	20	22	21
33:	21	15	12	20	18	23	14	14
41:	21	19	19	12	20	22	55	30
49:	16	21	16	14	15	23	16	18
57:	13	13	18	22	13	17	22	75
65:	37	18	18	24	17	18	17	20
73:	30	28	24	37	17	19	25	15
81:	14	12	11	16	24	14	18	19
89:	11	15	18	20	74	91	22	20
97:	13	14	20	17	16	12	13	12
105:	6	15	14	17	16	21	21	19
113:	15	14	13	18	16	13	18	20
121:	13	18	14	14	15	14	15	13
129:	15	17	14	14	7	12	22	14
137:	13	19	10	16	10	21	7	17
145:	24	7	13	9	14	12	6	12
153:	14	18	13	13	13	14	13	11
161:	12	10	6	15	14	17	11	6
169:	15	7	13	10	8	8	7	15
177:	11	11	14	14	15	6	17	19
185:	18	49	45	5	14	16	10	8
193:	10	16	13	15	15	19	17	12
201:	8	10	12	10	9	13	7	14
209:	11	8	9	7	11	9	8	7
217:	11	12	7	10	9	7	14	7
225:	11	8	16	13	10	9	6	7
233:	5	13	9	11	7	6	19	23
241:	11	16	4	8	12	9	16	11
249:	8	8	9	5	5	11	7	5
257:	5	13	8	6	5	9	9	10
265:	9	3	9	4	7	14	7	8
273:	6	13	10	7	8	13	9	8
281:	6	3	7	6	4	8	13	4
289:	6	3	9	5	11	4	13	12
297:	7	5	8	17	8	4	7	5
305:	9	5	5	8	9	4	3	10
313:	5	6	6	7	2	9	7	6
321:	9	9	8	8	8	5	3	5
329:	10	6	3	7	12	2	3	4
337:	5	9	10	5	9	5	4	6
345:	5	4	8	9	4	9	9	8
353:	12	8	4	4	6	4	8	6
361:	5	9	7	6	4	5	12	4

369:	5	4	10	5	5	6	7	8

Sample Title: J1V937 SAF: RC-243

Channel								
377:	11	6	5	2	2	7	7	2
385:	6	5	6	6	7	3	3	4
393:	2	7	8	4	8	5	6	5
401:	5	4	6	3	4	6	8	4
409:	1	1	10	4	9	5	5	7
417:	8	5	7	6	8	7	3	3
425:	7	0	7	3	1	6	8	6
433:	7	6	5	2	7	4	3	3
441:	2	1	5	2	6	3	9	7
449:	6	5	6	5	6	2	4	7
457:	3	9	5	5	5	5	5	8
465:	1	4	5	7	10	5	2	4
473:	4	4	4	1	9	4	6	5
481:	4	6	8	3	5	3	2	4
489:	5	3	1	3	6	4	1	2
497:	3	2	7	1	5	4	2	6
505:	3	2	4	4	4	10	32	27
513:	13	4	6	5	4	9	1	4
521:	7	3	1	0	4	5	2	1
529:	6	2	4	1	6	4	2	3
537:	1	2	4	5	5	7	1	4
545:	2	2	3	5	3	2	1	1
553:	2	2	4	6	2	3	2	1
561:	4	1	8	3	4	1	3	6
569:	3	4	8	5	0	1	4	6
577:	2	2	3	4	3	6	9	11
585:	6	7	3	5	4	3	2	4
593:	4	3	3	2	5	6	5	4
601:	6	5	4	7	3	2	4	8
609:	5	18	5	5	4	3	6	4
617:	0	5	4	1	8	2	3	5
625:	4	2	2	5	2	1	2	2
633:	3	1	3	2	2	4	0	0
641:	3	1	4	1	1	2	2	3
649:	5	2	2	3	4	3	1	3
657:	2	1	3	8	6	1	6	2
665:	3	1	4	3	2	1	4	4
673:	3	2	2	3	3	0	4	1
681:	2	4	0	1	3	0	4	2
689:	2	4	2	2	1	3	4	4
697:	4	1	6	5	3	5	6	2
705:	5	4	2	2	1	3	1	3
713:	7	4	4	1	4	3	3	2
721:	1	3	3	2	3	2	1	2
729:	2	0	3	3	2	2	4	3
737:	5	0	2	1	1	3	1	1
745:	1	2	2	4	2	8	3	0
753:	2	2	3	2	5	3	2	3
761:	4	2	3	3	2	2	4	1
769:	2	4	10	5	3	4	4	2
777:	1	2	1	1	2	2	1	1
785:	1	2	2	1	1	1	1	2
793:	2	4	2	1	2	1	0	2

801:	2	0	3	5	3	2	0	1

Sample Title: J1V937 SAF: RC-243

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

1233:	1	0	1	2	2	6	1	1

Sample Title: J1V937 SAF: RC-243

Channel								
1241:	3	1	1	1	0	2	2	2
1249:	0	1	0	1	2	2	1	4
1257:	1	0	1	1	0	1	5	2
1265:	0	2	2	0	1	2	2	0
1273:	2	1	1	4	1	3	1	2
1281:	2	1	1	0	3	0	1	0
1289:	1	2	0	0	0	2	2	1
1297:	0	2	1	2	0	1	0	0
1305:	0	0	1	0	0	2	0	3
1313:	2	2	2	2	0	0	2	1
1321:	1	1	1	0	2	1	0	2
1329:	0	1	0	1	1	1	0	1
1337:	0	4	1	1	2	0	0	1
1345:	2	0	0	2	1	3	3	2
1353:	0	0	1	5	3	0	0	0
1361:	0	0	1	0	1	0	0	2
1369:	1	0	0	2	0	0	1	2
1377:	1	1	1	0	1	1	1	1
1385:	0	2	2	0	2	1	1	1
1393:	2	0	0	2	0	2	1	0
1401:	1	1	1	1	0	1	1	3
1409:	0	0	1	2	0	0	2	1
1417:	0	0	2	0	0	1	2	0
1425:	0	0	1	4	0	0	0	0
1433:	0	0	2	0	1	0	1	3
1441:	0	0	2	1	0	0	0	1
1449:	1	2	0	0	0	0	3	0
1457:	1	2	2	12	25	9	2	0
1465:	0	0	0	1	0	0	0	0
1473:	0	1	0	0	3	0	2	0
1481:	2	2	0	0	1	0	1	0
1489:	0	2	2	0	2	2	0	1
1497:	3	2	0	1	0	3	0	1
1505:	0	1	1	1	0	0	1	2
1513:	0	0	1	0	0	0	1	2
1521:	1	0	0	0	0	0	0	0
1529:	3	2	0	1	0	0	1	0
1537:	0	1	0	2	1	2	0	0
1545:	1	0	0	1	2	0	2	0
1553:	1	0	0	1	0	0	0	0
1561:	0	1	2	4	1	1	2	1
1569:	0	0	1	1	0	1	1	0
1577:	0	0	1	0	0	0	1	1
1585:	0	1	0	1	1	0	0	2
1593:	0	0	0	0	0	1	1	1
1601:	0	0	0	2	0	0	1	1
1609:	5	1	0	1	0	2	1	3
1617:	3	1	1	2	1	0	1	2
1625:	1	1	0	2	1	1	0	0
1633:	0	2	0	0	0	2	0	4
1641:	0	1	0	0	0	0	1	2
1649:	0	1	1	0	1	1	0	1
1657:	0	1	0	0	1	0	0	2

1665:	1	0	0	1	0	1	0	1

Sample Title: J1V937 SAF: RC-243

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

2097:	1	1	0	0	0	2	1	0

Sample Title: J1V937 SAF: RC-243

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

2529:	1	0	1	1	0	0	0	1

Sample Title: J1V937 SAF: RC-243

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

2961:	0	1	0	1	1	0	0	0

Sample Title: J1V937 SAF: RC-243

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

3393:	0	0	0	0	1	0	0	0

Sample Title: J1V937 SAF: RC-243

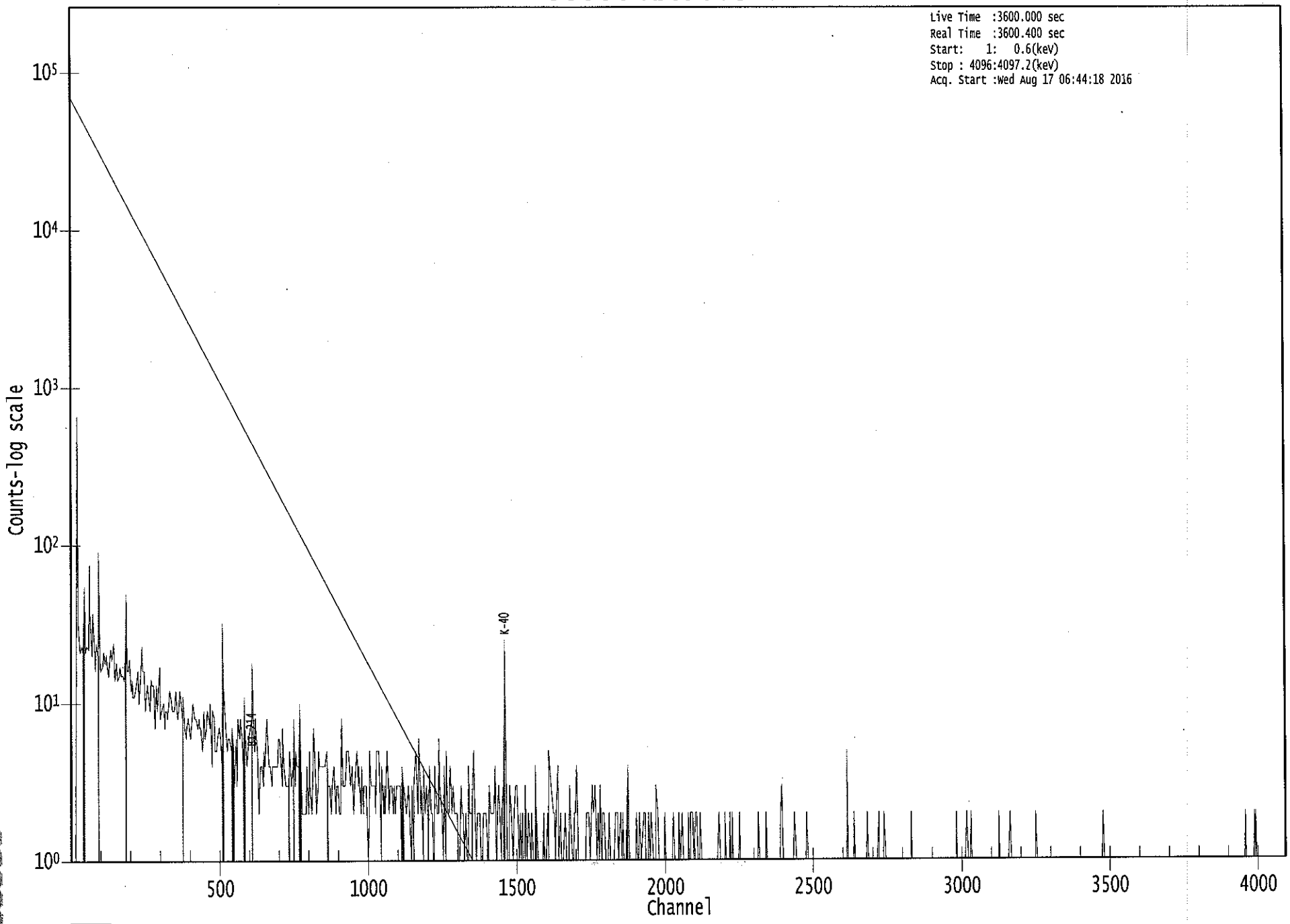
Channel								
3401:	0	0	0	1	0	0	0	0
3409:	0	0	0	0	0	0	1	0
3417:	0	0	0	0	0	0	1	0
3425:	1	0	0	0	0	0	0	1
3433:	0	1	0	0	0	0	1	0
3441:	0	0	0	0	0	0	0	0
3449:	0	0	1	0	0	0	0	0
3457:	0	0	0	0	1	1	1	0
3465:	0	0	0	0	1	0	0	0
3473:	0	1	0	0	2	0	0	0
3481:	0	0	0	0	1	0	1	0
3489:	1	1	0	0	1	0	0	1
3497:	0	0	0	1	0	0	0	0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

3825:	0	1	1	1	0	0	0	1

Sample Title: J1V937 SAF: RC-243

Channel								
3833:	0	0	1	0	1	0	0	0
3841:	0	0	0	1	0	0	0	1
3849:	0	1	0	0	0	0	1	0
3857:	0	0	0	0	0	0	0	0
3865:	0	0	0	0	0	0	0	1
3873:	0	0	0	0	0	0	0	0
3881:	0	1	0	0	0	0	0	0
3889:	0	0	0	0	0	0	0	0
3897:	0	1	0	0	0	0	1	0
3905:	0	0	1	0	0	0	0	0
3913:	0	0	0	0	0	0	0	0
3921:	0	0	0	0	0	1	0	0
3929:	0	1	0	0	0	0	0	0
3937:	1	0	0	0	0	0	1	0
3945:	0	0	0	0	0	0	1	0
3953:	0	0	1	0	0	2	0	0
3961:	0	0	0	0	0	0	0	0
3969:	0	0	0	0	0	0	0	1
3977:	0	0	0	0	0	0	0	0
3985:	0	1	0	2	0	0	0	1
3993:	2	0	0	0	0	0	0	0
4001:	0	0	0	0	0	0	0	1
4009:	1	0	0	0	0	0	1	0
4017:	0	0	0	0	0	0	1	0
4025:	0	0	0	0	0	0	0	0
4033:	0	0	0	1	0	0	0	0
4041:	1	0	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	1	0	0	0	0	0	0
4073:	0	0	0	0	0	0	0	0
4081:	0	0	0	0	1	0	1	0
4089:	0	0	0	0	0	0	0	0

0000041693.CNF



Apex-Gamma

Analysis Report for 1608066-05

J1V938 SAF: RC-243

8/17

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1608066-05
Sample Description	: J1V938 SAF: RC-243
Sample Type	: SOIL
Sample Size	: 1.000E+00 sample
Facility	: Countroom
Sample Taken On	: 8/11/2016 4:39:31PM
Acquisition Started	: 8/17/2016 5:41:03AM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE2
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3600.7 seconds
Dead Time	: 0.02 %
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	: 4/6/2016
Efficiency Calibration Description	:
Sample Number	: 41691

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
8/17/16

Analysis Report for 1608066-05

J1V938 SAF: RC-243

PEAK LOCATE REPORT

Peak Locate Performed on : 8/17/2016 6:41:15AM
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	46.71	46.81	0.0000	0.00
2	276.46	276.44	0.0000	0.00
3	384.93	384.85	0.0000	0.00
4	395.94	395.85	0.0000	0.00
5	570.69	570.52	0.0000	0.00
6	582.59	582.42	0.0000	0.00
7	606.02	605.83	0.0000	0.00
8	970.70	970.35	0.0000	0.00
9	1039.42	1039.05	0.0000	0.00
10	1047.27	1046.89	0.0000	0.00
11	1158.72	1158.30	0.0000	0.00
12	1178.15	1177.73	0.0000	0.00
13	1184.93	1184.50	0.0000	0.00
14	1267.35	1266.89	0.0000	0.00
15	1300.95	1300.47	0.0000	0.00
16	1385.70	1385.20	0.0000	0.00
17	1461.50	1460.97	0.0000	0.00
18	1650.04	1649.47	0.0000	0.00
19	1692.87	1692.29	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1608066-05

J1V938 SAF: RC-243

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/17/2016 6:41:15AM

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	46.71	43 -	51	46.81	8.11E+01	39.02	1.84E+02	1.57
	2	276.46	274 -	279	276.44	2.41E+01	20.88	6.17E+01	1.43
M	3	384.93	381 -	404	384.85	1.24E+01	14.09	3.11E+01	1.62
m	4	395.94	381 -	404	395.85	1.10E+01	13.66	2.04E+01	1.63
	5	570.69	566 -	574	570.52	2.19E+01	20.17	4.82E+01	5.32
	6	582.59	578 -	586	582.42	2.55E+01	16.66	2.70E+01	1.88
M	7	606.02	602 -	614	605.83	1.19E+01	15.91	4.14E+01	1.87
	8	970.70	965 -	974	970.35	1.21E+01	10.86	9.88E+00	4.94
	9	1039.42	1037 -	1041	1039.05	5.50E+00	7.40	7.00E+00	2.60
	10	1047.27	1042 -	1052	1046.89	1.25E+01	11.51	1.10E+01	7.52
	11	1158.72	1155 -	1161	1158.30	1.00E+01	6.32	0.00E+00	1.45
	12	1178.15	1172 -	1181	1177.73	9.38E+00	8.54	5.25E+00	1.22
	13	1184.93	1182 -	1187	1184.50	1.00E+01	6.32	0.00E+00	3.84
	14	1267.35	1264 -	1268	1266.89	8.55E+00	7.52	4.91E+00	1.02
	15	1300.95	1298 -	1302	1300.47	4.71E+00	6.36	4.57E+00	1.06
	16	1385.70	1382 -	1389	1385.20	6.00E+00	8.49	8.00E+00	2.87
	17	1461.50	1456 -	1464	1460.97	3.75E+01	14.44	9.00E+00	1.85
	18	1650.04	1646 -	1652	1649.47	8.30E+00	7.23	3.40E+00	2.29
	19	1692.87	1688 -	1695	1692.29	7.00E+00	5.29	0.00E+00	3.24

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 : 8/17/2016 6:41:15AM

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

Analysis Report for 1608066-05

J1V938 SAF: RC-243

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	1	46.71	43 -	51	8.11E+01	39.02	1.84E+02	2.85E+01
	2	276.46	274 -	279	2.41E+01	20.88	6.17E+01	1.51E+01
M	3	384.93	381 -	404	1.24E+01	14.09	3.11E+01	9.17E+00
m	4	395.94	381 -	404	1.10E+01	13.66	2.04E+01	7.43E+00
	5	570.69	566 -	574	2.19E+01	20.17	4.82E+01	1.47E+01
	6	582.59	578 -	586	2.55E+01	16.66	2.70E+01	1.09E+01
M	7	606.02	602 -	614	1.19E+01	15.91	4.14E+01	1.06E+01
	8	970.70	965 -	974	1.21E+01	10.86	9.88E+00	6.87E+00
	9	1039.42	1037 -	1041	5.50E+00	7.40	7.00E+00	4.70E+00
	10	1047.27	1042 -	1052	1.25E+01	11.51	1.10E+01	7.47E+00
	11	1158.72	1155 -	1161	1.00E+01	6.32	0.00E+00	0.00E+00
	12	1178.15	1172 -	1181	9.38E+00	8.54	5.25E+00	4.90E+00
	13	1184.93	1182 -	1187	1.00E+01	6.32	0.00E+00	0.00E+00
	14	1267.35	1264 -	1268	8.55E+00	7.52	4.91E+00	3.88E+00
	15	1300.95	1298 -	1302	4.71E+00	6.36	4.57E+00	3.82E+00
	16	1385.70	1382 -	1389	6.00E+00	8.49	8.00E+00	5.70E+00
	17	1461.50	1456 -	1464	3.75E+01	14.44	9.00E+00	6.29E+00
	18	1650.04	1646 -	1652	8.30E+00	7.23	3.40E+00	3.59E+00
	19	1692.87	1688 -	1695	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 : 8/17/2016 6:41:15AM

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	46.71	43 -	51	46.81	8.11E+01	39.02	1.84E+02	PB-210
	2	276.46	274 -	279	276.44	2.41E+01	20.88	6.17E+01	.....
M	3	384.93	381 -	404	384.85	1.24E+01	14.09	3.11E+01	.....
m	4	395.94	381 -	404	395.85	1.10E+01	13.66	2.04E+01	.....
	5	570.69	566 -	574	570.52	2.19E+01	20.17	4.82E+01	.....
	6	582.59	578 -	586	582.42	2.55E+01	16.66	2.70E+01	TL-208

Analysis Report for 1608066-05

J1V938 SAF: RC-243

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
M	7	606.02	602 -	614	605.83	1.19E+01	15.91	4.14E+01	.....
	8	970.70	965 -	974	970.35	1.21E+01	10.86	9.88E+00	.....
	9	1039.42	1037 -	1041	1039.05	5.50E+00	7.40	7.00E+00	.....
	10	1047.27	1042 -	1052	1046.89	1.25E+01	11.51	1.10E+01	CS-136
	11	1158.72	1155 -	1161	1158.30	1.00E+01	6.32	0.00E+00	.....
	12	1178.15	1172 -	1181	1177.73	9.38E+00	8.54	5.25E+00	.....
	13	1184.93	1182 -	1187	1184.50	1.00E+01	6.32	0.00E+00	.....
	14	1267.35	1264 -	1268	1266.89	8.55E+00	7.52	4.91E+00	.....
	15	1300.95	1298 -	1302	1300.47	4.71E+00	6.36	4.57E+00	.....
	16	1385.70	1382 -	1389	1385.20	6.00E+00	8.49	8.00E+00	.....
	17	1461.50	1456 -	1464	1460.97	3.75E+01	14.44	9.00E+00	K-40
	18	1650.04	1646 -	1652	1649.47	8.30E+00	7.23	3.40E+00	.....
	19	1692.87	1688 -	1695	1692.29	7.00E+00	5.29	0.00E+00	.....

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

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 8/17/2016 6:41:15AM

	Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
	1	46.71	8.11E+01	39.02	1.72E-02	1.66E-03
	2	276.46	2.41E+01	20.88	1.54E-02	2.25E-03
M	3	384.93	1.24E+01	14.09	1.21E-02	2.06E-03
m	4	395.94	1.10E+01	13.66	1.19E-02	2.03E-03
	5	570.69	2.19E+01	20.17	8.94E-03	1.12E-03
	6	582.59	2.55E+01	16.66	8.80E-03	1.06E-03
M	7	606.02	1.19E+01	15.91	8.52E-03	9.40E-04
	8	970.70	1.21E+01	10.86	5.79E-03	8.08E-04
	9	1039.42	5.50E+00	7.40	5.47E-03	6.69E-04
	10	1047.27	1.25E+01	11.51	5.44E-03	6.54E-04
	11	1158.72	1.00E+01	6.32	5.02E-03	4.28E-04
	12	1178.15	9.38E+00	8.54	4.95E-03	3.98E-04
	13	1184.93	1.00E+01	6.32	4.93E-03	3.96E-04
	14	1267.35	8.55E+00	7.52	4.69E-03	3.77E-04
	15	1300.95	4.71E+00	6.36	4.60E-03	3.70E-04
	16	1385.70	6.00E+00	8.49	4.39E-03	3.67E-04
	17	1461.50	3.75E+01	14.44	4.23E-03	3.72E-04

Analysis Report for 1608066-05

J1V938 SAF: RC-243

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
18	1650.04	8.30E+00	7.23	3.92E-03	3.87E-04
19	1692.87	7.00E+00	5.29	3.86E-03	3.90E-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 : 8/17/2016 6:41:15AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000041519.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	46.71	8.11E+01	39.02	1.97E+01	5.65E+00	6.14E+01	3.94E+01
	2	276.46	2.41E+01	20.88			2.41E+01	2.09E+01
M	3	384.93	1.24E+01	14.09			1.24E+01	1.41E+01
m	4	395.94	1.10E+01	13.66			1.10E+01	1.37E+01
	5	570.69	2.19E+01	20.17			2.19E+01	2.02E+01
	6	582.59	2.55E+01	16.66	2.63E+00	3.47E+00	2.29E+01	1.70E+01
M	7	606.02	1.19E+01	15.91			1.19E+01	1.59E+01
	8	970.70	1.21E+01	10.86			1.21E+01	1.09E+01
	9	1039.42	5.50E+00	7.40			5.50E+00	7.40E+00
	10	1047.27	1.25E+01	11.51			1.25E+01	1.15E+01
	11	1158.72	1.00E+01	6.32			1.00E+01	6.32E+00
	12	1178.15	9.38E+00	8.54			9.38E+00	8.54E+00
	13	1184.93	1.00E+01	6.32			1.00E+01	6.32E+00
	14	1267.35	8.55E+00	7.52			8.55E+00	7.52E+00
	15	1300.95	4.71E+00	6.36			4.71E+00	6.36E+00
	16	1385.70	6.00E+00	8.49			6.00E+00	8.49E+00
	17	1461.50	3.75E+01	14.44	5.24E+00	2.33E+00	3.23E+01	1.46E+01
	18	1650.04	8.30E+00	7.23			8.30E+00	7.23E+00
	19	1692.87	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 1608066-05

J1V938 SAF: RC-243

AREA CORRECTION REPORT
REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 8/17/2016 6:41:15AM

Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000041519.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	46.71	8.11E+01	39.02	1.97E+01	5.65E+00	6.14E+01	3.94E+01
	2	276.46	2.41E+01	20.88			2.41E+01	2.09E+01
M	3	384.93	1.24E+01	14.09			1.24E+01	1.41E+01
m	4	395.94	1.10E+01	13.66			1.10E+01	1.37E+01
	5	570.69	2.19E+01	20.17			2.19E+01	2.02E+01
	6	582.59	2.55E+01	16.66	2.63E+00	3.47E+00	2.29E+01	1.70E+01
M	7	606.02	1.19E+01	15.91			1.19E+01	1.59E+01
	8	970.70	1.21E+01	10.86			1.21E+01	1.09E+01
	9	1039.42	5.50E+00	7.40			5.50E+00	7.40E+00
	10	1047.27	1.25E+01	11.51			1.25E+01	1.15E+01
	11	1158.72	1.00E+01	6.32			1.00E+01	6.32E+00
	12	1178.15	9.38E+00	8.54			9.38E+00	8.54E+00
	13	1184.93	1.00E+01	6.32			1.00E+01	6.32E+00
	14	1267.35	8.55E+00	7.52			8.55E+00	7.52E+00
	15	1300.95	4.71E+00	6.36			4.71E+00	6.36E+00
	16	1385.70	6.00E+00	8.49			6.00E+00	8.49E+00
	17	1461.50	3.75E+01	14.44	5.24E+00	2.33E+00	3.23E+01	1.46E+01
	18	1650.04	8.30E+00	7.23			8.30E+00	7.23E+00
	19	1692.87	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

Analysis Report for 1608066-05

J1V938 SAF: RC-243

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/sample)	Activity Uncertainty
K-40	0.927	1460.81	*	10.67	5.37E+02	2.48E+02
PB-210	0.993	46.50	*	4.25	6.32E+02	4.11E+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 : 8/17/2016 6:41:15AM
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	276.46	6.70202E-03	43.27		
M	3	384.93	3.44707E-03	56.77		
m	4	395.94	3.05738E-03	62.04		
	5	570.69	6.08394E-03	46.04		
	6	582.59	6.35321E-03	37.20	Tol.	TL-208
M	7	606.02	3.31581E-03	66.63		
	8	970.70	3.34967E-03	45.04		
	9	1039.42	1.52778E-03	67.27		
	10	1047.27	3.47222E-03	46.04	Tol.	CS-136
	11	1158.72	2.77778E-03	31.62		
	12	1178.15	2.60417E-03	45.57		
	13	1184.93	2.77778E-03	31.62		
	14	1267.35	2.37374E-03	43.98		
	15	1300.95	1.30952E-03	67.50		
	16	1385.70	1.66667E-03	70.71		
	18	1650.04	2.30556E-03	43.54		
	19	1692.87	1.94444E-03	37.80		

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

Analysis Report for 1608066-05

J1V938 SAF: RC-243

NUCLIDE IDENTIFICATION REPORT

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

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/sample)	Activity Uncertainty
K-40	0.92	1460.81	*	10.67	5.37E+02	2.48E+02
PB-210	0.99	46.50	*	4.25	6.32E+02	4.11E+02

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.927	5.37E+02	2.48E+02	
PB-210	0.993	6.32E+02	4.11E+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 1608066-05

J1V938 SAF: RC-243

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/17/2016 6:41:15AM
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	276.46	6.70202E-03	43.27		
M	3	384.93	3.44707E-03	56.77		
m	4	395.94	3.05738E-03	62.04		
	5	570.69	6.08394E-03	46.04		
	6	582.59	6.35321E-03	37.20	Tol.	TL-208
M	7	606.02	3.31581E-03	66.63		
	8	970.70	3.34967E-03	45.04		
	9	1039.42	1.52778E-03	67.27		
	10	1047.27	3.47222E-03	46.04	Tol.	CS-136
	11	1158.72	2.77778E-03	31.62		
	12	1178.15	2.60417E-03	45.57		
	13	1184.93	2.77778E-03	31.62		
	14	1267.35	2.37374E-03	43.98		
	15	1300.95	1.30952E-03	67.50		
	16	1385.70	1.66667E-03	70.71		
	18	1650.04	2.30556E-03	43.54		
	19	1692.87	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/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)

Analysis Report for 1608066-05

J1V938 SAF: RC-243

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	BE-7	477.59		10.42	-3.55E+01	1.81E+02	1.81E+02
+	NA-22	1274.54		99.94	7.11E+00	2.82E+01	2.82E+01
+	NA-24	1368.53		99.99	-2.95E+03	1.22E+04	1.22E+04
		2754.09		99.86	1.84E+03		1.26E+04
+	AL-26	1808.65		99.76	3.37E-01	3.21E+01	3.21E+01
+	K-40	1460.81	*	10.67	5.37E+02	2.97E+02	2.97E+02
+	@ AR-41	1293.64		99.16	0.00E+00	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	2.36E-01	1.15E+01	1.24E+01
		78.34		96.00	4.17E+00		1.15E+01
+	SC-46	889.25		99.98	5.53E+00	2.54E+01	2.97E+01
		1120.51		99.99	-1.30E+01		2.54E+01
+	V-48	983.52		99.98	-1.44E+00	3.03E+01	3.03E+01
		1312.10		97.50	1.50E+01		3.22E+01
+	CR-51	320.08		9.83	2.99E+01	1.70E+02	1.70E+02
+	MN-54	834.83		99.97	6.91E+00	2.85E+01	2.85E+01
+	CO-56	846.75		99.96	-1.47E+01	2.45E+01	2.45E+01
		1037.75		14.03	-1.03E+00		2.06E+02
		1238.25		67.00	-6.99E+00		3.48E+01
		1771.40		15.51	-1.15E+02		1.25E+02
		2598.48		16.90	-2.29E+01		1.28E+02
+	CO-57	122.06		85.51	-1.06E+01	1.34E+01	1.34E+01
		136.48		10.60	-5.28E+01		1.13E+02
+	CO-58	810.76		99.40	4.36E+00	2.67E+01	2.67E+01
+	FE-59	1099.22		56.50	7.17E+00	5.02E+01	5.02E+01
		1291.56		43.20	2.67E+01		7.14E+01
+	CO-60	1173.22		100.00	1.51E+00	2.13E+01	2.13E+01
		1332.49		100.00	0.00E+00		2.78E+01
+	ZN-65	1115.52		50.75	1.64E+01	5.66E+01	5.66E+01
+	GA-67	93.31		35.70	1.00E+02	1.35E+02	1.35E+02
		208.95		2.24	7.08E+02		2.14E+03
		300.22		16.00	-1.05E+01		3.14E+02
+	SE-75	121.11		16.70	-2.13E+01	2.10E+01	7.17E+01
		136.00		59.20	4.63E+00		2.10E+01
		264.65		59.80	-1.56E+00		2.44E+01
		279.53		25.20	-2.23E+01		5.23E+01
		400.65		11.40	1.80E+01		1.26E+02
+	RB-82	776.52		13.00	2.90E+01	2.11E+02	2.11E+02
+	RB-83	520.41		46.00	4.65E+00	3.78E+01	3.78E+01
		529.64		30.30	5.46E+00		6.27E+01
		552.65		16.40	3.98E+01		1.11E+02
+	KR-85	513.99		0.43	2.94E+03	6.34E+03	6.34E+03
+	SR-85	513.99		99.27	1.36E+01	2.94E+01	2.94E+01
+	Y-88	898.02		93.40	-1.15E+01	2.78E+01	2.88E+01
		1836.01		99.38	4.24E+00		2.78E+01
+	NB-93M	16.57		9.43	1.99E+04	3.93E+04	3.93E+04
+	NB-94	702.63		100.00	-3.21E+00	2.44E+01	2.44E+01
		871.10		100.00	2.08E+01		2.85E+01

Analysis Report for 1608066-05

J1V938 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	NB-95	765.79	99.81	1.70E+01	2.99E+01	2.99E+01
+	NB-95M	235.69	25.00	1.38E+01	1.93E+02	1.93E+02
+	ZR-95	724.18	43.70	-3.91E+00	4.56E+01	6.43E+01
		756.72	55.30	5.75E+00		4.56E+01
+	MO-99	181.06	6.20	7.07E+02	6.62E+02	9.43E+02
		739.58	12.80	8.70E+01		6.62E+02
		778.00	4.50	-3.56E+02		1.96E+03
+	RU-103	497.08	89.00	2.06E+00	1.88E+01	1.88E+01
+	RU-106	621.84	9.80	-6.19E+01	2.03E+02	2.03E+02
+	AG-108M	433.93	89.90	6.40E+00	1.99E+01	1.99E+01
		614.37	90.40	3.52E-01		2.27E+01
		722.95	90.50	1.69E+00		2.92E+01
+	CD-109	88.03	3.72	1.41E+01	3.54E+02	3.54E+02
+	AG-110M	657.75	93.14	-9.75E+00	2.25E+01	2.25E+01
		677.61	10.53	5.68E+01		2.37E+02
		706.67	16.46	2.01E+00		1.54E+02
		763.93	21.98	-4.10E+01		1.02E+02
		884.67	71.63	-2.33E+01		3.09E+01
		1384.27	23.94	2.31E+01		1.15E+02
+	CD-113M	263.70	0.02	1.85E+04	6.44E+04	6.44E+04
+	SN-113	255.12	1.93	-3.46E+02	2.94E+01	8.03E+02
		391.69	64.90	2.54E+00		2.94E+01
+	TE123M	159.00	84.10	1.08E+01	1.69E+01	1.69E+01
+	SB-124	602.71	97.87	4.78E+00	3.14E+01	3.14E+01
		645.85	7.26	-4.19E+01		3.13E+02
		722.78	11.10	1.47E+01		2.54E+02
		1691.02	49.00	0.00E+00		6.35E+01
+	I-125	35.49	6.49	1.83E+01	4.04E+02	4.04E+02
+	SB-125	176.33	6.89	-2.87E+01	5.27E+01	1.95E+02
		427.89	29.33	-1.73E+01		5.27E+01
		463.38	10.35	2.30E+01		1.73E+02
		600.56	17.80	2.16E+01		1.43E+02
		635.90	11.32	-2.47E+01		2.03E+02
+	SB-126	414.70	83.30	1.03E+00	2.93E+01	2.93E+01
		666.33	99.60	1.03E-01		3.00E+01
		695.00	99.60	-6.28E+00		3.17E+01
		720.50	53.80	3.74E+00		6.19E+01
+	SN-126	87.57	37.00	1.41E+00	3.53E+01	3.53E+01
+	SB-127	473.00	25.00	2.95E+01	1.75E+02	2.05E+02
		685.20	35.70	1.11E+00		1.75E+02
		783.80	14.70	-1.76E+01		4.30E+02
+	I-129	29.78	57.00	-3.05E+01	8.49E+01	8.49E+01
		33.60	13.20	-6.71E+01		2.21E+02
		39.58	7.52	7.84E+01		2.52E+02
+	I-131	284.30	6.05	3.55E+01	3.07E+01	4.11E+02
		364.48	81.20	-9.07E+00		3.07E+01
		636.97	7.26	5.10E+00		5.21E+02
		722.89	1.80	1.37E+02		2.37E+03

Analysis Report for 1608066-05

J1V938 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	TE-132	49.72	13.10	1.62E+02	5.34E+01	3.35E+02
		228.16	88.00	-2.35E+01		5.34E+01
+	BA-133	81.00	33.00	7.87E-01	2.57E+01	3.07E+01
		302.84	17.80	3.59E+01		9.28E+01
		356.01	60.00	-6.78E+00		2.57E+01
+	I-133	529.87	86.30	8.63E+01	1.85E+03	1.85E+03
+	XE-133	81.00	38.00	1.43E+00	5.56E+01	5.56E+01
+	CS-134	563.23	8.38	4.48E+01	2.53E+01	2.24E+02
		569.32	15.43	-9.74E+00		1.49E+02
		604.70	97.60	-1.26E+01		2.77E+01
		795.84	85.40	-1.21E+01		2.53E+01
		801.93	8.73	5.74E+01		2.65E+02
+	CS-135	268.24	16.00	-4.97E+01	8.41E+01	8.41E+01
+	I-135	1131.51	22.50	1.87E+07	1.07E+08	1.25E+08
		1260.41	28.60	-3.74E+07		1.07E+08
		1678.03	9.54	6.60E+07		3.20E+08
+	CS-136	153.22	7.46	-5.89E+01	2.64E+01	2.25E+02
		163.89	4.61	-1.15E+02		3.32E+02
		176.55	13.56	-7.93E+01		1.29E+02
		273.65	12.66	-2.31E+01		1.74E+02
		340.57	48.50	-3.30E+01		4.06E+01
		818.50	99.70	2.58E+00		2.64E+01
		1048.07	79.60	3.49E+00		4.38E+01
		1235.34	19.70	-1.22E+01		1.61E+02
+	CS-137	661.65	85.12	3.99E+00	2.73E+01	2.73E+01
+	LA-138	788.74	34.00	-8.44E+00	2.86E+01	6.86E+01
		1435.80	66.00	3.10E+00		2.86E+01
+	CE-139	165.85	80.35	6.70E+00	1.60E+01	1.60E+01
+	BA-140	162.64	6.70	-1.20E+02	9.71E+01	2.29E+02
		304.84	4.50	-1.07E+02		4.55E+02
		423.70	3.20	1.52E+02		7.16E+02
		437.55	2.00	8.73E+02		1.24E+03
		537.32	25.00	2.16E+00		9.71E+01
+	LA-140	328.77	20.50	-4.48E+01	4.00E+01	9.26E+01
		487.03	45.50	9.66E+00		5.50E+01
		815.85	23.50	-4.69E+01		1.22E+02
		1596.49	95.49	6.65E+00		4.00E+01
+	CE-141	145.44	48.40	-3.55E-01	3.09E+01	3.09E+01
+	CE-143	57.36	11.80	2.29E+02	6.49E+02	1.76E+03
		293.26	42.00	-1.23E+02		6.49E+02
		664.55	5.20	-1.01E+03		6.94E+03
+	CE-144	133.54	10.80	-1.89E+01	1.07E+02	1.07E+02
+	PM-144	476.78	42.00	-8.26E+00	2.06E+01	4.21E+01
		618.01	98.60	9.17E-01		2.06E+01
		696.49	99.49	2.30E+00		2.46E+01
+	PM-145	36.85	21.70	4.14E+01	5.79E+01	1.10E+02
		37.36	39.70	2.18E+01		5.79E+01
		42.30	15.10	-1.85E+01		1.03E+02
		72.40	2.31	-6.32E+01		4.71E+02

Analysis Report for 1608066-05

J1V938 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	PM-146	453.90	39.94	-1.00E+00	4.22E+01	4.22E+01
		735.90	14.01	-4.98E+01		1.39E+02
		747.13	13.10	-5.20E+01		1.51E+02
+	ND-147	91.11	28.90	3.35E+01	7.27E+01	7.27E+01
		531.02	13.10	-2.85E+01		1.83E+02
+	PM-149	285.90	3.10	-8.01E+02	2.74E+03	2.74E+03
+	EU-152	121.78	20.50	-4.36E+01	5.53E+01	5.53E+01
		244.69	5.40	-1.32E+02		2.64E+02
		344.27	19.13	-1.89E+01		7.74E+01
		778.89	9.20	-1.81E+01		2.37E+02
		964.01	10.40	3.80E+01		2.16E+02
		1085.78	7.22	-1.58E+02		2.78E+02
		1112.02	9.60	-2.26E+01		2.52E+02
		1407.95	14.94	3.94E+01		1.52E+02
+	GD-153	97.43	31.30	1.04E+01	3.87E+01	3.87E+01
		103.18	22.20	1.27E+01		5.31E+01
+	EU-154	123.07	40.50	-3.23E+00	2.90E+01	2.90E+01
		723.30	19.70	7.76E+00		1.34E+02
		873.19	11.50	-2.85E+01		2.21E+02
		996.32	10.30	-1.07E+02		1.93E+02
		1004.76	17.90	5.77E+01		1.63E+02
		1274.45	35.50	2.00E+01		7.90E+01
+	EU-155	86.50	30.90	-2.28E+00	4.12E+01	4.12E+01
		105.30	20.70	2.72E+01		5.77E+01
+	EU-156	811.77	10.40	1.18E+02	3.19E+02	3.19E+02
		1153.47	7.20	9.34E+01		3.76E+02
		1230.71	8.90	1.13E+02		4.27E+02
+	HO-166M	184.41	72.60	2.31E+01	2.46E+01	2.46E+01
		280.45	29.60	-1.84E+01		4.32E+01
		410.94	11.10	-2.34E+01		1.41E+02
		711.69	54.10	1.81E+01		4.73E+01
+	TM-171	66.72	0.14	2.87E+03	8.63E+03	8.63E+03
+	HF-172	81.75	4.52	9.02E+01	1.08E+02	2.29E+02
		125.81	11.30	1.30E+01		1.08E+02
+	LU-172	181.53	20.60	-1.07E+02	7.65E+01	1.19E+02
		810.06	16.63	4.38E+01		2.68E+02
		912.12	15.25	-3.90E+01		2.89E+02
		1093.66	62.50	-1.49E+01		7.65E+01
+	LU-173	100.72	5.24	-1.22E+02	7.61E+01	2.16E+02
		272.11	21.20	8.75E+00		7.61E+01
+	HF-175	343.40	84.00	3.58E+00	1.99E+01	1.99E+01
+	LU-176	88.34	13.30	3.92E+00	1.52E+01	9.83E+01
		201.83	86.00	2.40E+00		1.73E+01
		306.78	94.00	-6.69E+00		1.52E+01
+	TA-182	67.75	41.20	5.59E-01	2.95E+01	2.95E+01
		1121.30	34.90	2.54E+01		8.42E+01
		1189.05	16.23	-2.43E+01		1.54E+02
		1221.41	26.98	-4.98E+00		1.12E+02
		1231.02	11.44	6.89E+01		2.57E+02

Analysis Report for 1608066-05

J1V938 SAF: RC-243

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	IR-192	308.46		29.68	3.61E-01	4.01E+01	5.34E+01
		468.07		48.10	7.53E+00		4.01E+01
+	HG-203	279.19		77.30	-1.47E+00	2.06E+01	2.06E+01
+	BI-207	569.67		97.72	-1.53E+00	2.34E+01	2.34E+01
		1063.62		74.90	-3.73E+00		3.51E+01
+	TL-208	583.14		30.22	4.07E+01	6.63E+01	8.43E+01
		860.37		4.48	-6.86E+01		5.11E+02
		2614.66		35.85	1.85E+01		6.63E+01
+	BI-210M	262.00		45.00	-6.42E+00	3.11E+01	3.11E+01
		300.00		23.00	-2.24E+00		6.69E+01
+	PB-210	46.50	*	4.25	6.32E+02	6.41E+02	6.41E+02
+	PB-211	404.84		2.90	-2.05E+02	4.17E+02	4.17E+02
		831.96		2.90	8.64E+01		1.04E+03
+	BI-212	727.17		11.80	1.70E+01	2.25E+02	2.25E+02
		1620.62		2.75	-1.90E+02		8.28E+02
+	PB-212	238.63		44.60	-2.27E+01	3.42E+01	3.42E+01
		300.09		3.41	-1.51E+01		4.52E+02
+	BI-214	609.31		46.30	3.64E+01	6.28E+01	6.28E+01
		1120.29		15.10	-8.20E+01		1.61E+02
		1764.49		15.80	5.14E+01		1.78E+02
		2204.22		4.98	-7.27E+01		3.21E+02
+	PB-214	295.21		19.19	5.94E+01	5.22E+01	9.29E+01
		351.92		37.19	3.56E+01		5.22E+01
+	RN-219	401.80		6.50	4.32E+01	2.04E+02	2.04E+02
+	RA-223	323.87		3.88	6.67E+01	4.08E+02	4.08E+02
+	RA-224	240.98		3.95	-1.71E+02	3.85E+02	3.85E+02
+	RA-225	40.00		31.00	2.41E+01	7.76E+01	7.76E+01
+	RA-226	186.21		3.28	2.71E+02	5.22E+02	5.22E+02
+	TH-227	50.10		8.40	7.65E+01	1.44E+02	1.58E+02
		236.00		11.50	1.03E+01		1.44E+02
		256.20		6.30	-3.27E+01		2.46E+02
+	AC-228	338.32		11.40	8.60E+00	9.73E+01	1.49E+02
		911.07		27.70	2.89E+01		9.73E+01
		969.11		16.60	5.68E+00		1.42E+02
+	TH-230	48.44		16.90	-5.02E+01	8.40E+01	8.40E+01
		62.85		4.60	9.27E+01		2.84E+02
		67.67		0.37	6.02E+01		3.18E+03
+	PA-231	283.67		1.60	8.30E+01	7.17E+02	9.61E+02
		302.67		2.30	2.77E+02		7.17E+02
+	TH-231	25.64		14.70	1.07E+02	1.45E+02	8.09E+02
		84.21		6.40	-4.96E+01		1.45E+02
+	PA-233	311.98		38.60	2.32E+01	5.27E+01	5.27E+01
+	PA-234	131.20		20.40	-1.45E+01	5.36E+01	5.36E+01
		733.99		8.80	-1.48E+01		2.43E+02
		946.00		12.00	-2.49E+01		1.84E+02
+	PA-234M	1001.03		0.92	1.59E+03	3.08E+03	3.08E+03
+	TH-234	63.29		3.80	1.12E+02	3.43E+02	3.43E+02

Analysis Report for 1608066-05

J1V938 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	U-235	143.76	10.50	2.48E+01	1.27E+02	1.27E+02
		163.35	4.70	-1.27E+02		2.42E+02
		205.31	4.70	-8.35E+01		2.71E+02
+	NP-237	86.50	12.60	-5.59E+00	1.01E+02	1.01E+02
+	NP-239	106.10	22.70	6.39E+01	2.65E+02	2.65E+02
		228.18	10.70	-3.04E+02		6.91E+02
		277.60	14.10	1.58E+01		5.46E+02
+	AM-241	59.54	35.90	6.09E+00	3.57E+01	3.57E+01
+	AM-243	74.67	66.00	6.70E+00	1.78E+01	1.78E+01
+	CM-243	209.75	3.29	1.11E+02	1.07E+02	4.51E+02
		228.14	10.60	-5.97E+01		1.36E+02
		277.60	14.00	3.10E+00		1.07E+02

+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
> = MDA value not calculated
@ = Half-life too short to be able to perform the decay correction
? = 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/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
	BE-7	477.59		10.42	1.81E+02	1.81E+02	-3.55E+01	8.02E+01
	NA-22	1274.54		99.94	2.82E+01	2.82E+01	7.11E+00	1.19E+01
	NA-24	1368.53		99.99	1.22E+04	1.22E+04	-2.95E+03	4.99E+03
		2754.09		99.86	1.26E+04		1.84E+03	4.89E+03
	AL-26	1808.65		99.76	3.21E+01	3.21E+01	3.37E-01	1.33E+01
+	K-40	1460.81	*	10.67	2.97E+02	2.97E+02	5.37E+02	1.26E+02
@	AR-41	1293.64		99.16	1.00E+26	1.00E+26	0.00E+00	1.00E+20
	TI-44	67.88		94.40	1.24E+01	1.15E+01	2.36E-01	5.78E+00
		78.34		96.00	1.15E+01		4.17E+00	5.33E+00
	SC-46	889.25		99.98	2.97E+01	2.54E+01	5.53E+00	1.32E+01

Analysis Report for 1608066-05

J1V938 SAF: RC-243

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
SC-46	1120.51	99.99	2.54E+01	2.54E+01	-1.30E+01	1.06E+01
V-48	983.52	99.98	3.03E+01	3.03E+01	-1.44E+00	1.29E+01
	1312.10	97.50	3.22E+01		1.50E+01	1.32E+01
CR-51	320.08	9.83	1.70E+02	1.70E+02	2.99E+01	7.64E+01
MN-54	834.83	99.97	2.85E+01	2.85E+01	6.91E+00	1.27E+01
CO-56	846.75	99.96	2.45E+01	2.45E+01	-1.47E+01	1.06E+01
	1037.75	14.03	2.06E+02		-1.03E+00	8.93E+01
	1238.25	67.00	3.48E+01		-6.99E+00	1.41E+01
	1771.40	15.51	1.25E+02		-1.15E+02	4.44E+01
	2598.48	16.90	1.28E+02		-2.29E+01	4.52E+01
CO-57	122.06	85.51	1.34E+01	1.34E+01	-1.06E+01	6.23E+00
	136.48	10.60	1.13E+02		-5.28E+01	5.25E+01
CO-58	810.76	99.40	2.67E+01	2.67E+01	4.36E+00	1.17E+01
FE-59	1099.22	56.50	5.02E+01	5.02E+01	7.17E+00	2.14E+01
	1291.56	43.20	7.14E+01		2.67E+01	3.02E+01
CO-60	1173.22	100.00	2.13E+01	2.13E+01	1.51E+00	8.62E+00
	1332.49	100.00	2.78E+01		0.00E+00	1.16E+01
ZN-65	1115.52	50.75	5.66E+01	5.66E+01	1.64E+01	2.44E+01
GA-67	93.31	35.70	1.35E+02	1.35E+02	1.00E+02	6.38E+01
	208.95	2.24	2.14E+03		7.08E+02	9.90E+02
	300.22	16.00	3.14E+02		-1.05E+01	1.43E+02
SE-75	121.11	16.70	7.17E+01	2.10E+01	-2.13E+01	3.33E+01
	136.00	59.20	2.10E+01		4.63E+00	9.74E+00
	264.65	59.80	2.44E+01		-1.56E+00	1.11E+01
	279.53	25.20	5.23E+01		-2.23E+01	2.34E+01
	400.65	11.40	1.26E+02		1.80E+01	5.54E+01
RB-82	776.52	13.00	2.11E+02	2.11E+02	2.90E+01	9.26E+01
RB-83	520.41	46.00	3.78E+01	3.78E+01	4.65E+00	1.65E+01
	529.64	30.30	6.27E+01		5.46E+00	2.77E+01
	552.65	16.40	1.11E+02		3.98E+01	4.85E+01
KR-85	513.99	0.43	6.34E+03	6.34E+03	2.94E+03	2.93E+03
SR-85	513.99	99.27	2.94E+01	2.94E+01	1.36E+01	1.36E+01
Y-88	898.02	93.40	2.88E+01	2.78E+01	-1.15E+01	1.26E+01
	1836.01	99.38	2.78E+01		4.24E+00	1.10E+01
NB-93M	16.57	9.43	3.93E+04	3.93E+04	1.99E+04	1.89E+04
NB-94	702.63	100.00	2.44E+01	2.44E+01	-3.21E+00	1.08E+01
	871.10	100.00	2.85E+01		2.08E+01	1.27E+01
NB-95	765.79	99.81	2.99E+01	2.99E+01	1.70E+01	1.33E+01
NB-95M	235.69	25.00	1.93E+02	1.93E+02	1.38E+01	8.95E+01
ZR-95	724.18	43.70	6.43E+01	4.56E+01	-3.91E+00	2.88E+01
	756.72	55.30	4.56E+01		5.75E+00	2.00E+01
MO-99	181.06	6.20	9.43E+02	6.62E+02	7.07E+02	4.39E+02
	739.58	12.80	6.62E+02		8.70E+01	2.86E+02
	778.00	4.50	1.96E+03		-3.56E+02	8.50E+02
RU-103	497.08	89.00	1.88E+01	1.88E+01	2.06E+00	8.11E+00
RU-106	621.84	9.80	2.03E+02	2.03E+02	-6.19E+01	8.90E+01
AG-108M	433.93	89.90	1.99E+01	1.99E+01	6.40E+00	8.93E+00
	614.37	90.40	2.27E+01		3.52E-01	9.99E+00
	722.95	90.50	2.92E+01		1.69E+00	1.31E+01
CD-109	88.03	3.72	3.54E+02	3.54E+02	1.41E+01	1.67E+02
AG-110M	657.75	93.14	2.25E+01	2.25E+01	-9.75E+00	9.85E+00
	677.61	10.53	2.37E+02		5.68E+01	1.06E+02
	706.67	16.46	1.54E+02		2.01E+00	6.87E+01

Analysis Report for 1608066-05

J1V938 SAF: RC-243

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
AG-110M	763.93	21.98	1.02E+02	2.25E+01	-4.10E+01	4.43E+01
	884.67	71.63	3.09E+01		-2.33E+01	1.32E+01
	1384.27	23.94	1.15E+02		2.31E+01	4.77E+01
CD-113M	263.70	0.02	6.44E+04	6.44E+04	1.85E+04	2.94E+04
SN-113	255.12	1.93	8.03E+02	2.94E+01	-3.46E+02	3.68E+02
	391.69	64.90	2.94E+01		2.54E+00	1.33E+01
TE123M	159.00	84.10	1.69E+01	1.69E+01	1.08E+01	7.90E+00
SB-124	602.71	97.87	3.14E+01	3.14E+01	4.78E+00	1.44E+01
	645.85	7.26	3.13E+02		-4.19E+01	1.38E+02
	722.78	11.10	2.54E+02		1.47E+01	1.14E+02
	1691.02	49.00	6.35E+01		0.00E+00	2.60E+01
I-125	35.49	6.49	4.04E+02	4.04E+02	1.83E+01	1.85E+02
SB-125	176.33	6.89	1.95E+02	5.27E+01	-2.87E+01	9.03E+01
	427.89	29.33	5.27E+01		-1.73E+01	2.32E+01
	463.38	10.35	1.73E+02		2.30E+01	7.71E+01
	600.56	17.80	1.43E+02		2.16E+01	6.49E+01
	635.90	11.32	2.03E+02		-2.47E+01	9.06E+01
SB-126	414.70	83.30	2.93E+01	2.93E+01	1.03E+00	1.32E+01
	666.33	99.60	3.00E+01		1.03E-01	1.32E+01
	695.00	99.60	3.17E+01		-6.28E+00	1.40E+01
	720.50	53.80	6.19E+01		3.74E+00	2.74E+01
SN-126	87.57	37.00	3.53E+01	3.53E+01	1.41E+00	1.66E+01
SB-127	473.00	25.00	2.05E+02	1.75E+02	2.95E+01	9.17E+01
	685.20	35.70	1.75E+02		1.11E+00	7.73E+01
	783.80	14.70	4.30E+02		-1.76E+01	1.87E+02
I-129	29.78	57.00	8.49E+01	8.49E+01	-3.05E+01	3.92E+01
	33.60	13.20	2.21E+02		-6.71E+01	1.01E+02
	39.58	7.52	2.52E+02		7.84E+01	1.15E+02
I-131	284.30	6.05	4.11E+02	3.07E+01	3.55E+01	1.88E+02
	364.48	81.20	3.07E+01		-9.07E+00	1.37E+01
	636.97	7.26	5.21E+02		5.10E+00	2.33E+02
	722.89	1.80	2.37E+03		1.37E+02	1.06E+03
TE-132	49.72	13.10	3.35E+02	5.34E+01	1.62E+02	1.54E+02
	228.16	88.00	5.34E+01		-2.35E+01	2.45E+01
BA-133	81.00	33.00	3.07E+01	2.57E+01	7.87E-01	1.42E+01
	302.84	17.80	9.28E+01		3.59E+01	4.24E+01
	356.01	60.00	2.57E+01		-6.78E+00	1.16E+01
I-133	529.87	86.30	1.85E+03	1.85E+03	8.63E+01	8.16E+02
XE-133	81.00	38.00	5.56E+01	5.56E+01	1.43E+00	2.56E+01
CS-134	563.23	8.38	2.24E+02	2.53E+01	4.48E+01	9.83E+01
	569.32	15.43	1.49E+02		-9.74E+00	6.72E+01
	604.70	97.60	2.77E+01		-1.26E+01	1.26E+01
	795.84	85.40	2.53E+01		-1.21E+01	1.09E+01
	801.93	8.73	2.65E+02		5.74E+01	1.15E+02
CS-135	268.24	16.00	8.41E+01	8.41E+01	-4.97E+01	3.80E+01
I-135	1131.51	22.50	1.25E+08	1.07E+08	1.87E+07	5.17E+07
	1260.41	28.60	1.07E+08		-3.74E+07	4.42E+07
	1678.03	9.54	3.20E+08		6.60E+07	1.27E+08
CS-136	153.22	7.46	2.25E+02	2.64E+01	-5.89E+01	1.04E+02
	163.89	4.61	3.32E+02		-1.15E+02	1.52E+02
	176.55	13.56	1.29E+02		-7.93E+01	5.95E+01
	273.65	12.66	1.74E+02		-2.31E+01	8.00E+01
	340.57	48.50	4.06E+01		-3.30E+01	1.82E+01

Analysis Report for 1608066-05

J1V938 SAF: RC-243

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
CS-136	818.50	99.70	2.64E+01	2.64E+01	2.58E+00	1.12E+01
	1048.07	79.60	4.38E+01		3.49E+00	1.87E+01
	1235.34	19.70	1.61E+02		-1.22E+01	6.58E+01
CS-137	661.65	85.12	2.73E+01	2.73E+01	3.99E+00	1.21E+01
LA-138	788.74	34.00	6.86E+01	2.86E+01	-8.44E+00	2.99E+01
	1435.80	66.00	2.86E+01		3.10E+00	1.07E+01
CE-139	165.85	80.35	1.60E+01	1.60E+01	6.70E+00	7.37E+00
BA-140	162.64	6.70	2.29E+02	9.71E+01	-1.20E+02	1.05E+02
	304.84	4.50	4.55E+02		-1.07E+02	2.06E+02
	423.70	3.20	7.16E+02		1.52E+02	3.20E+02
	437.55	2.00	1.24E+03		8.73E+02	5.57E+02
	537.32	25.00	9.71E+01		2.16E+00	4.27E+01
LA-140	328.77	20.50	9.26E+01	4.00E+01	-4.48E+01	4.14E+01
	487.03	45.50	5.50E+01		9.66E+00	2.45E+01
	815.85	23.50	1.22E+02		-4.69E+01	5.21E+01
	1596.49	95.49	4.00E+01		6.65E+00	1.64E+01
CE-141	145.44	48.40	3.09E+01	3.09E+01	-3.55E-01	1.44E+01
CE-143	57.36	11.80	1.76E+03	6.49E+02	2.29E+02	8.18E+02
	293.26	42.00	6.49E+02		-1.23E+02	2.97E+02
	664.55	5.20	6.94E+03		-1.01E+03	3.06E+03
CE-144	133.54	10.80	1.07E+02	1.07E+02	-1.89E+01	4.96E+01
PM-144	476.78	42.00	4.21E+01	2.06E+01	-8.26E+00	1.87E+01
	618.01	98.60	2.06E+01		9.17E-01	9.06E+00
	696.49	99.49	2.46E+01		2.30E+00	1.09E+01
PM-145	36.85	21.70	1.10E+02	5.79E+01	4.14E+01	5.04E+01
	37.36	39.70	5.79E+01		2.18E+01	2.66E+01
	42.30	15.10	1.03E+02		-1.85E+01	4.67E+01
	72.40	2.31	4.71E+02		-6.32E+01	2.18E+02
PM-146	453.90	39.94	4.22E+01	4.22E+01	-1.00E+00	1.87E+01
	735.90	14.01	1.39E+02		-4.98E+01	5.95E+01
	747.13	13.10	1.51E+02		-5.20E+01	6.44E+01
ND-147	91.11	28.90	7.27E+01	7.27E+01	3.35E+01	3.44E+01
	531.02	13.10	1.83E+02		-2.85E+01	8.00E+01
PM-149	285.90	3.10	2.74E+03	2.74E+03	-8.01E+02	1.25E+03
EU-152	121.78	20.50	5.53E+01	5.53E+01	-4.36E+01	2.56E+01
	244.69	5.40	2.64E+02		-1.32E+02	1.21E+02
	344.27	19.13	7.74E+01		-1.89E+01	3.47E+01
	778.89	9.20	2.37E+02		-1.81E+01	1.02E+02
	964.01	10.40	2.16E+02		3.80E+01	9.13E+01
	1085.78	7.22	2.78E+02		-1.58E+02	1.12E+02
	1112.02	9.60	2.52E+02		-2.26E+01	1.05E+02
	1407.95	14.94	1.52E+02		3.94E+01	6.03E+01
GD-153	97.43	31.30	3.87E+01	3.87E+01	1.04E+01	1.81E+01
	103.18	22.20	5.31E+01		1.27E+01	2.48E+01
EU-154	123.07	40.50	2.90E+01	2.90E+01	-3.23E+00	1.35E+01
	723.30	19.70	1.34E+02		7.76E+00	6.02E+01
	873.19	11.50	2.21E+02		-2.85E+01	9.64E+01
	996.32	10.30	1.93E+02		-1.07E+02	7.93E+01
	1004.76	17.90	1.63E+02		5.77E+01	7.16E+01
	1274.45	35.50	7.90E+01		2.00E+01	3.34E+01
EU-155	86.50	30.90	4.12E+01	4.12E+01	-2.28E+00	1.93E+01
	105.30	20.70	5.77E+01		2.72E+01	2.69E+01
EU-156	811.77	10.40	3.19E+02	3.19E+02	1.18E+02	1.41E+02

Analysis Report for 1608066-05

J1V938 SAF: RC-243

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
	EU-156	1153.47		7.20	3.76E+02	3.19E+02	9.34E+01	1.52E+02
		1230.71		8.90	4.27E+02		1.13E+02	1.83E+02
	HO-166M	184.41		72.60	2.46E+01	2.46E+01	2.31E+01	1.16E+01
		280.45		29.60	4.32E+01		-1.84E+01	1.93E+01
		410.94		11.10	1.41E+02		-2.34E+01	6.24E+01
		711.69		54.10	4.73E+01		1.81E+01	2.12E+01
	TM-171	66.72		0.14	8.63E+03	8.63E+03	2.87E+03	4.02E+03
	HF-172	81.75		4.52	2.29E+02	1.08E+02	9.02E+01	1.06E+02
		125.81		11.30	1.08E+02		1.30E+01	5.02E+01
	LU-172	181.53		20.60	1.19E+02	7.65E+01	-1.07E+02	5.54E+01
		810.06		16.63	2.68E+02		4.38E+01	1.18E+02
		912.12		15.25	2.89E+02		-3.90E+01	1.25E+02
		1093.66		62.50	7.65E+01		-1.49E+01	3.28E+01
	LU-173	100.72		5.24	2.16E+02	7.61E+01	-1.22E+02	1.00E+02
		272.11		21.20	7.61E+01		8.75E+00	3.49E+01
	HF-175	343.40		84.00	1.99E+01	1.99E+01	3.58E+00	8.96E+00
	LU-176	88.34		13.30	9.83E+01	1.52E+01	3.92E+00	4.62E+01
		201.83		86.00	1.73E+01		2.40E+00	8.02E+00
		306.78		94.00	1.52E+01		-6.69E+00	6.86E+00
	TA-182	67.75		41.20	2.95E+01	2.95E+01	5.59E-01	1.37E+01
		1121.30		34.90	8.42E+01		2.54E+01	3.62E+01
		1189.05		16.23	1.54E+02		-2.43E+01	6.40E+01
		1221.41		26.98	1.12E+02		-4.98E+00	4.81E+01
		1231.02		11.44	2.57E+02		6.89E+01	1.09E+02
	IR-192	308.46		29.68	5.34E+01	4.01E+01	3.61E-01	2.42E+01
		468.07		48.10	4.01E+01		7.53E+00	1.79E+01
	HG-203	279.19		77.30	2.06E+01	2.06E+01	-1.47E+00	9.35E+00
	BI-207	569.67		97.72	2.34E+01	2.34E+01	-1.53E+00	1.06E+01
		1063.62		74.90	3.51E+01		-3.73E+00	1.50E+01
	TL-208	583.14		30.22	8.43E+01	6.63E+01	4.07E+01	3.83E+01
		860.37		4.48	5.11E+02		-6.86E+01	2.20E+02
		2614.66		35.85	6.63E+01		1.85E+01	2.48E+01
	BI-210M	262.00		45.00	3.11E+01	3.11E+01	-6.42E+00	1.42E+01
		300.00		23.00	6.69E+01		-2.24E+00	3.04E+01
+	PB-210	46.50	*	4.25	6.41E+02	6.41E+02	6.32E+02	3.06E+02
	PB-211	404.84		2.90	4.17E+02	4.17E+02	-2.05E+02	1.78E+02
		831.96		2.90	1.04E+03		8.64E+01	4.67E+02
	BI-212	727.17		11.80	2.25E+02	2.25E+02	1.70E+01	1.01E+02
		1620.62		2.75	8.28E+02		-1.90E+02	3.21E+02
	PB-212	238.63		44.60	3.42E+01	3.42E+01	-2.27E+01	1.58E+01
		300.09		3.41	4.52E+02		-1.51E+01	2.05E+02
	BI-214	609.31		46.30	6.28E+01	6.28E+01	3.64E+01	2.88E+01
		1120.29		15.10	1.61E+02		-8.20E+01	6.73E+01
		1764.49		15.80	1.78E+02		5.14E+01	7.18E+01
		2204.22		4.98	3.21E+02		-7.27E+01	1.02E+02
	PB-214	295.21		19.19	9.29E+01	5.22E+01	5.94E+01	4.28E+01
		351.92		37.19	5.22E+01		3.56E+01	2.40E+01
	RN-219	401.80		6.50	2.04E+02	2.04E+02	4.32E+01	8.85E+01
	RA-223	323.87		3.88	4.08E+02	4.08E+02	6.67E+01	1.85E+02
	RA-224	240.98		3.95	3.85E+02	3.85E+02	-1.71E+02	1.77E+02
	RA-225	40.00		31.00	7.76E+01	7.76E+01	2.41E+01	3.55E+01
	RA-226	186.21		3.28	5.22E+02	5.22E+02	2.71E+02	2.45E+02
	TH-227	50.10		8.40	1.58E+02	1.44E+02	7.65E+01	7.27E+01

Analysis Report for 1608066-05

J1V938 SAF: RC-243

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
TH-227	236.00	11.50	1.44E+02	1.44E+02	1.03E+01	6.69E+01
	256.20	6.30	2.46E+02		-3.27E+01	1.13E+02
AC-228	338.32	11.40	1.49E+02	9.73E+01	8.60E+00	6.79E+01
	911.07	27.70	9.73E+01		2.89E+01	4.27E+01
	969.11	16.60	1.42E+02		5.68E+00	6.02E+01
TH-230	48.44	16.90	8.40E+01	8.40E+01	-5.02E+01	3.87E+01
	62.85	4.60	2.84E+02		9.27E+01	1.33E+02
	67.67	0.37	3.18E+03		6.02E+01	1.48E+03
PA-231	283.67	1.60	9.61E+02	7.17E+02	8.30E+01	4.39E+02
	302.67	2.30	7.17E+02		2.77E+02	3.28E+02
TH-231	25.64	14.70	8.09E+02	1.45E+02	1.07E+02	3.81E+02
	84.21	6.40	1.45E+02		-4.96E+01	6.64E+01
PA-233	311.98	38.60	5.27E+01	5.27E+01	2.32E+01	2.42E+01
PA-234	131.20	20.40	5.36E+01	5.36E+01	-1.45E+01	2.47E+01
	733.99	8.80	2.43E+02		-1.48E+01	1.06E+02
	946.00	12.00	1.84E+02		-2.49E+01	7.79E+01
PA-234M	1001.03	0.92	3.08E+03	3.08E+03	1.59E+03	1.35E+03
TH-234	63.29	3.80	3.43E+02	3.43E+02	1.12E+02	1.60E+02
U-235	143.76	10.50	1.27E+02	1.27E+02	2.48E+01	5.92E+01
	163.35	4.70	2.42E+02		-1.27E+02	1.11E+02
	205.31	4.70	2.71E+02		-8.35E+01	1.24E+02
NP-237	86.50	12.60	1.01E+02	1.01E+02	-5.59E+00	4.73E+01
NP-239	106.10	22.70	2.65E+02	2.65E+02	6.39E+01	1.23E+02
	228.18	10.70	6.91E+02		-3.04E+02	3.18E+02
	277.60	14.10	5.46E+02		1.58E+01	2.49E+02
AM-241	59.54	35.90	3.57E+01	3.57E+01	6.09E+00	1.66E+01
AM-243	74.67	66.00	1.78E+01	1.78E+01	6.70E+00	8.31E+00
CM-243	209.75	3.29	4.51E+02	1.07E+02	1.11E+02	2.09E+02
	228.14	10.60	1.36E+02		-5.97E+01	6.24E+01
	277.60	14.00	1.07E+02		3.10E+00	4.87E+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 1608066-05

J1V938 SAF: RC-243

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: J1V938 SAF: RC-243

Elapsed Live time: 3600
Elapsed Real Time: 3601

Channel								
1:	0	0	0	0	0	0	148	786
9:	978	487	312	1025	1279	98	79	105
17:	74	71	67	69	73	65	54	26
25:	28	32	24	26	13	19	16	17
33:	21	11	7	16	15	13	12	14
41:	13	8	13	16	21	24	39	16
49:	15	15	14	6	12	18	12	17
57:	14	23	19	19	22	15	31	22
65:	16	18	24	19	16	20	20	18
73:	15	19	26	19	17	21	19	12
81:	23	13	14	12	14	19	18	14
89:	14	19	18	21	37	20	12	11
97:	18	13	17	9	11	10	12	18
105:	12	12	12	9	10	14	19	9
113:	13	17	19	11	15	15	16	13
121:	13	7	8	13	17	12	11	8
129:	13	8	12	7	7	13	11	13
137:	11	8	11	15	15	10	14	14
145:	10	18	9	15	19	14	12	11
153:	15	6	10	12	12	16	13	11
161:	12	5	5	11	8	12	9	9
169:	8	9	22	11	11	15	11	11
177:	11	5	12	14	4	21	9	7
185:	21	35	15	6	14	11	8	9
193:	7	9	13	11	11	12	13	20
201:	10	11	11	4	9	8	7	9
209:	11	12	13	8	10	10	11	12
217:	17	5	8	12	10	13	7	8
225:	13	9	13	6	6	10	11	9
233:	8	14	5	14	7	17	13	5
241:	5	14	9	9	6	4	11	9
249:	11	11	5	11	8	8	8	7
257:	10	11	11	5	7	9	8	5
265:	6	10	5	6	3	6	11	8
273:	8	10	12	7	15	8	3	3
281:	5	6	12	6	6	7	8	7
289:	6	8	7	4	6	5	19	11
297:	7	6	3	6	10	9	7	8
305:	5	5	7	7	4	8	7	8
313:	8	12	7	4	5	4	3	8
321:	6	6	4	4	12	6	5	4
329:	8	4	3	8	4	7	4	10
337:	7	8	4	6	8	2	5	10
345:	4	4	5	5	6	4	8	20
353:	6	6	3	5	8	4	7	5
361:	6	3	6	4	4	8	7	3

369:	5	7	3	7	9	8	7	6

Sample Title: J1V938 SAF: RC-243

Channel								
377:	5	10	7	3	4	7	8	5
385:	11	3	2	7	9	4	9	7
393:	6	7	4	9	5	4	4	1
401:	6	4	2	2	1	5	2	8
409:	3	1	6	6	5	6	4	9
417:	4	4	6	4	7	4	4	3
425:	3	10	2	2	4	1	6	6
433:	4	3	8	5	4	3	7	1
441:	0	3	7	8	1	9	7	4
449:	2	2	6	5	5	2	6	3
457:	4	5	2	3	4	4	6	3
465:	6	4	6	9	3	2	4	3
473:	7	9	2	4	7	5	3	1
481:	5	3	4	4	2	5	5	8
489:	3	1	6	6	4	3	3	2
497:	3	2	4	1	2	4	4	3
505:	7	4	3	8	13	15	32	32
513:	7	3	5	3	3	4	1	7
521:	3	1	3	2	3	8	1	6
529:	6	4	2	2	2	5	3	4
537:	1	5	5	5	2	1	2	2
545:	6	2	3	3	1	3	4	4
553:	4	1	0	3	4	5	0	3
561:	4	3	5	1	5	2	5	6
569:	8	4	5	8	7	1	3	1
577:	2	1	4	5	5	4	5	9
585:	5	1	2	4	1	1	5	2
593:	3	3	1	9	6	4	3	6
601:	6	2	5	6	7	10	4	2
609:	7	9	3	7	1	1	4	2
617:	1	4	1	2	4	4	3	3
625:	0	4	4	1	2	3	5	3
633:	2	2	7	1	6	2	3	3
641:	4	4	4	2	2	1	4	3
649:	3	2	3	5	5	2	3	2
657:	1	3	3	4	1	5	3	3
665:	4	3	0	2	4	2	3	5
673:	3	2	6	2	5	2	4	3
681:	1	2	2	2	5	4	5	0
689:	2	5	1	2	3	5	0	1
697:	4	5	4	4	4	2	1	2
705:	5	2	4	4	5	6	1	3
713:	2	3	2	1	2	1	4	3
721:	5	3	3	3	5	3	3	5
729:	3	3	4	3	3	1	0	2
737:	2	1	3	2	2	2	2	3
745:	2	2	1	0	3	1	4	2
753:	2	2	3	2	4	4	1	2
761:	1	1	3	3	2	4	1	3
769:	7	2	1	3	3	4	1	2
777:	0	2	5	2	2	1	2	2
785:	6	2	1	1	2	1	3	4
793:	2	0	4	3	3	0	1	1

801:	5	1	2	3	2	1	2	2

Sample Title: J1V938 SAF: RC-243

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

1233:	1	1	1	0	2	0	0	2

Sample Title: J1V938 SAF: RC-243

Channel								
1241:	1	1	2	1	1	4	1	0
1249:	0	1	0	2	1	1	4	3
1257:	2	0	2	2	0	1	1	1
1265:	1	1	8	0	0	1	2	2
1273:	2	0	0	2	2	1	1	1
1281:	3	0	0	0	2	1	0	2
1289:	1	3	0	2	2	0	0	1
1297:	2	0	2	1	4	0	0	1
1305:	0	1	0	0	2	2	0	0
1313:	1	1	1	0	0	0	0	1
1321:	1	2	2	0	2	2	1	1
1329:	1	0	2	3	1	2	0	2
1337:	1	1	2	5	1	2	0	2
1345:	0	1	2	1	3	1	0	0
1353:	0	0	0	0	1	1	0	0
1361:	0	0	0	5	0	0	2	1
1369:	2	2	0	1	0	0	1	2
1377:	1	2	1	0	0	0	0	2
1385:	2	3	1	1	1	1	1	2
1393:	1	0	1	1	0	0	2	0
1401:	0	1	0	0	1	1	1	1
1409:	0	1	0	0	1	0	0	0
1417:	0	0	0	0	1	0	2	0
1425:	0	0	0	1	0	0	1	1
1433:	0	0	0	0	1	1	0	0
1441:	1	0	2	2	0	0	1	0
1449:	0	1	1	0	0	1	0	1
1457:	0	1	2	8	18	9	3	0
1465:	1	0	2	1	3	0	0	2
1473:	0	1	0	1	2	2	0	0
1481:	2	0	0	2	0	1	0	0
1489:	1	0	0	1	0	0	0	0
1497:	1	0	0	0	1	0	2	0
1505:	1	2	1	0	1	0	0	3
1513:	0	2	1	1	1	0	0	0
1521:	1	0	0	1	0	0	1	1
1529:	0	0	0	1	0	0	0	1
1537:	0	1	0	0	0	1	0	0
1545:	1	0	0	0	1	1	0	0
1553:	2	1	1	1	2	1	1	0
1561:	1	0	1	0	1	1	0	1
1569:	2	0	0	0	0	1	3	0
1577:	1	1	0	0	1	0	0	0
1585:	0	0	0	0	0	0	1	0
1593:	0	0	1	1	0	3	2	0
1601:	1	0	2	1	1	1	0	1
1609:	0	1	1	2	1	0	0	0
1617:	0	1	0	2	0	0	0	1
1625:	1	2	0	2	0	1	2	0
1633:	0	1	0	0	0	0	0	0
1641:	0	2	1	0	1	0	0	2
1649:	3	4	1	0	0	0	0	0
1657:	0	0	1	1	2	0	2	0

1665:	1	1	1	0	0	0	0	1

Sample Title: J1V938 SAF: RC-243

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

2097:	0	1	0	0	0	0	0	0

Sample Title: J1V938 SAF: RC-243

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

2529:	0	0	0	0	0	1	0	1

Sample Title: J1V938 SAF: RC-243

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

2961:	1	0	0	1	0	0	1	0

Sample Title: J1V938 SAF: RC-243

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

3393:	0	0	0	0	0	0	1	0

Sample Title: J1V938 SAF: RC-243

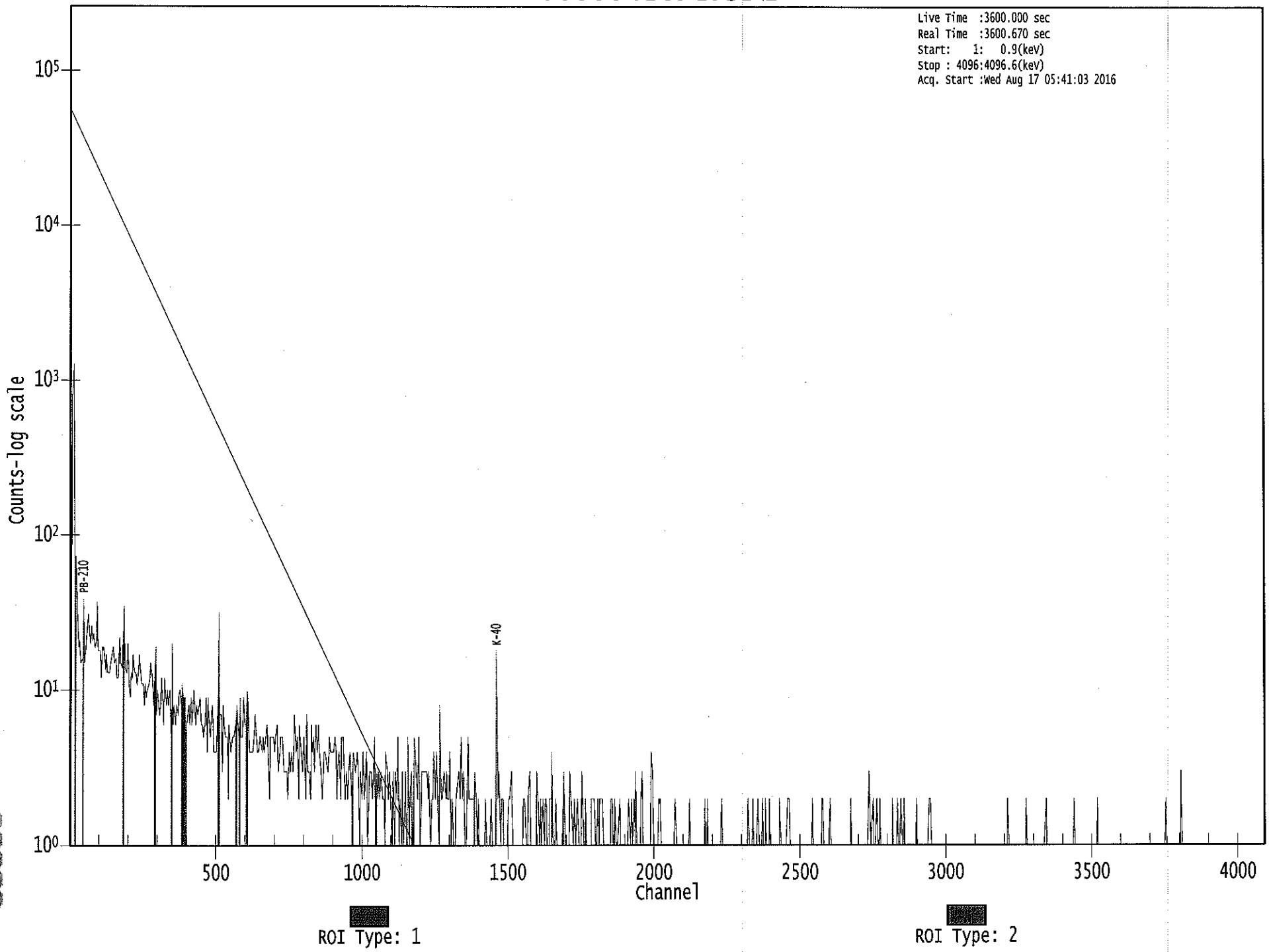
Channel								
3401:	0	0	0	0	0	1	0	0
3409:	1	0	0	0	0	0	0	0
3417:	0	0	0	0	0	0	0	0
3425:	0	0	0	0	0	0	0	0
3433:	1	0	0	1	0	0	0	2
3441:	0	0	1	0	0	0	0	0
3449:	0	0	0	0	0	0	1	0
3457:	0	0	0	0	0	1	0	0
3465:	1	0	1	0	0	0	0	0
3473:	0	0	1	0	0	0	0	0
3481:	0	0	0	0	0	0	0	0
3489:	0	1	0	0	0	0	0	0
3497:	0	0	0	0	0	1	0	0
3505:	0	0	0	0	0	1	0	0
3513:	0	0	0	0	1	0	1	2
3521:	0	0	0	0	0	1	0	0
3529:	0	0	0	0	0	0	1	0
3537:	0	0	0	0	0	0	0	0
3545:	0	1	0	0	0	0	0	0
3553:	0	0	0	0	0	0	0	0
3561:	1	0	0	0	0	0	1	0
3569:	0	0	0	0	0	0	0	0
3577:	0	0	0	0	0	0	0	0
3585:	0	0	0	0	1	0	0	0
3593:	0	0	0	0	0	0	0	0
3601:	0	0	0	1	0	0	1	0
3609:	0	0	0	0	0	0	0	0
3617:	1	0	0	0	0	0	0	0
3625:	0	0	0	0	0	0	0	0
3633:	0	0	0	0	0	0	0	0
3641:	0	0	0	1	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	0
3681:	0	0	0	1	0	0	0	0
3689:	0	0	0	0	0	1	0	0
3697:	0	0	0	0	0	0	0	0
3705:	0	0	0	1	0	1	0	0
3713:	0	0	0	0	0	0	0	0
3721:	0	0	0	0	0	0	0	0
3729:	0	0	0	0	0	0	0	0
3737:	0	1	0	0	0	0	0	1
3745:	0	0	1	0	0	0	1	0
3753:	0	0	2	1	0	0	0	0
3761:	0	0	0	0	0	0	0	0
3769:	0	0	0	0	0	1	0	0
3777:	1	0	0	0	0	0	0	0
3785:	0	0	0	0	0	0	0	0
3793:	0	0	1	1	0	0	0	0
3801:	1	0	1	0	0	3	0	0
3809:	0	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0

3825:	0	0	0	0	0	0	1	1

Sample Title: J1V938 SAF: RC-243

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	1	0	1	0	0
3865:	0	0	1	0	0	0	0	0
3873:	0	0	0	0	1	1	0	0
3881:	0	0	0	1	0	1	0	0
3889:	0	0	0	0	0	0	0	0
3897:	0	0	0	1	0	0	0	0
3905:	0	0	0	0	0	0	0	0
3913:	1	0	1	0	0	0	0	0
3921:	0	0	0	0	0	0	0	0
3929:	0	1	0	0	0	0	0	0
3937:	0	0	1	0	0	0	0	0
3945:	0	0	0	1	0	0	0	0
3953:	0	0	0	0	0	0	0	0
3961:	0	0	0	0	0	0	0	0
3969:	0	1	0	0	0	0	0	1
3977:	0	0	0	0	1	0	0	0
3985:	0	0	0	0	0	0	0	1
3993:	0	0	0	0	0	0	1	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	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:	1	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	1	0	0	0	0
4081:	1	0	0	0	0	0	0	1
4089:	0	0	0	0	0	0	0	0

0000041691.CNF



00239

Apex-Gamma

Analysis Report for 1608066-06

J1V939 SAF: RC-243

8/17

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1608066-06
Sample Description	: J1V939 SAF: RC-243
Sample Type	: SOIL
Sample Size	: 1.000E+00 sample
Facility	: Countroom
Sample Taken On	: 8/11/2016 4:40:56PM
Acquisition Started	: 8/17/2016 6:44:26AM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE2
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3600.7 seconds
Dead Time	: 0.02 %
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	: 4/6/2016
Efficiency Calibration Description	:
Sample Number	: 41694

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG 8/17/16

Analysis Report for 1608066-06

J1V939 SAF: RC-243

PEAK LOCATE REPORT

Peak Locate Performed on : 8/17/2016 7:44:39AM
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	76.82	76.91	0.0000	0.00
2	155.22	155.26	0.0000	0.00
3	240.50	240.50	0.0000	0.00
4	463.28	463.16	0.0000	0.00
5	558.01	557.84	0.0000	0.00
6	585.63	585.45	0.0000	0.00
7	816.42	816.13	0.0000	0.00
8	829.34	829.05	0.0000	0.00
9	890.47	890.15	0.0000	0.00
10	905.59	905.27	0.0000	0.00
11	912.59	912.27	0.0000	0.00
12	946.40	946.06	0.0000	0.00
13	969.26	968.91	0.0000	0.00
14	990.97	990.61	0.0000	0.00
15	1034.84	1034.46	0.0000	0.00
16	1078.61	1078.22	0.0000	0.00
17	1102.53	1102.13	0.0000	0.00
18	1108.78	1108.38	0.0000	0.00
19	1428.87	1428.35	0.0000	0.00
20	1461.58	1461.06	0.0000	0.00
21	1765.81	1765.20	0.0000	0.00
22	1784.97	1784.36	0.0000	0.00
23	2214.70	2214.00	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1608066-06

J1V939 SAF: RC-243

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/17/2016 7:44:39AM

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	76.82	73 -	80	76.91	5.72E+01	36.82	1.88E+02	1.32
2	155.22	152 -	158	155.26	4.29E+01	25.50	8.61E+01	3.96
3	240.50	236 -	248	240.50	5.51E+01	40.10	1.66E+02	4.95
4	463.28	460 -	467	463.16	2.30E+01	16.85	3.20E+01	2.78
5	558.01	554 -	561	557.84	1.62E+01	15.23	2.75E+01	3.58
6	585.63	579 -	591	585.45	2.55E+01	24.42	5.70E+01	7.42
7	816.42	814 -	818	816.13	7.59E+00	10.38	1.68E+01	2.37
8	829.34	826 -	832	829.05	1.42E+01	9.62	5.53E+00	3.32
9	890.47	887 -	894	890.15	8.43E+00	10.20	1.11E+01	3.03
10	905.59	902 -	909	905.27	1.08E+01	11.83	1.64E+01	1.92
11	912.59	909 -	915	912.27	1.03E+01	11.54	1.53E+01	3.54
12	946.40	943 -	949	946.06	8.15E+00	7.23	3.70E+00	3.34
13	969.26	958 -	979	968.91	2.63E+01	26.00	4.35E+01	15.62
14	990.97	986 -	996	990.61	1.52E+01	13.52	1.55E+01	3.84
15	1034.84	1030 -	1037	1034.46	8.92E+00	9.17	8.15E+00	2.63
16	1078.61	1076 -	1080	1078.22	6.59E+00	8.31	8.82E+00	2.43
17	1102.53	1099 -	1105	1102.13	8.00E+00	5.66	0.00E+00	2.22
18	1108.78	1106 -	1111	1108.38	8.00E+00	5.66	0.00E+00	2.98
19	1428.87	1425 -	1431	1428.35	6.80E+00	8.03	6.40E+00	1.45
20	1461.58	1457 -	1464	1461.06	3.30E+01	13.42	8.00E+00	1.86
21	1765.81	1762 -	1768	1765.20	8.15E+00	7.23	3.70E+00	2.04
22	1784.97	1782 -	1786	1784.36	4.50E+00	6.36	5.00E+00	1.02
23	2214.70	2210 -	2217	2214.00	8.00E+00	5.66	0.00E+00	3.00

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 1608066-06

J1V939 SAF: RC-243

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/17/2016 7:44:39AM

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	76.82	73 -	80	5.72E+01	36.82	1.88E+02	2.76E+01
2	155.22	152 -	158	4.29E+01	25.50	8.61E+01	1.80E+01
3	240.50	236 -	248	5.51E+01	40.10	1.66E+02	3.06E+01
4	463.28	460 -	467	2.30E+01	16.85	3.20E+01	1.14E+01
5	558.01	554 -	561	1.62E+01	15.23	2.75E+01	1.06E+01
6	585.63	579 -	591	2.55E+01	24.42	5.70E+01	1.83E+01
7	816.42	814 -	818	7.59E+00	10.38	1.68E+01	7.23E+00
8	829.34	826 -	832	1.42E+01	9.62	5.53E+00	4.90E+00
9	890.47	887 -	894	8.43E+00	10.20	1.11E+01	6.89E+00
10	905.59	902 -	909	1.08E+01	11.83	1.64E+01	8.09E+00
11	912.59	909 -	915	1.03E+01	11.54	1.53E+01	7.88E+00
12	946.40	943 -	949	8.15E+00	7.23	3.70E+00	3.64E+00
13	969.26	958 -	979	2.63E+01	26.00	4.35E+01	1.96E+01
14	990.97	986 -	996	1.52E+01	13.52	1.55E+01	9.07E+00
15	1034.84	1030 -	1037	8.92E+00	9.17	8.15E+00	5.71E+00
16	1078.61	1076 -	1080	6.59E+00	8.31	8.82E+00	5.37E+00
17	1102.53	1099 -	1105	8.00E+00	5.66	0.00E+00	0.00E+00
18	1108.78	1106 -	1111	8.00E+00	5.66	0.00E+00	0.00E+00
19	1428.87	1425 -	1431	6.80E+00	8.03	6.40E+00	5.02E+00
20	1461.58	1457 -	1464	3.30E+01	13.42	8.00E+00	5.70E+00
21	1765.81	1762 -	1768	8.15E+00	7.23	3.70E+00	3.64E+00
22	1784.97	1782 -	1786	4.50E+00	6.36	5.00E+00	3.90E+00
23	2214.70	2210 -	2217	8.00E+00	5.66	0.00E+00	0.00E+00

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

Analysis Report for 1608066-06

J1V939 SAF: RC-243

PEAK WITH NID REPORT

Peak Analysis Performed on : 8/17/2016 7:44:39AM

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	76.82	73 -	80	76.91	5.72E+01	36.82	1.88E+02	.....
2	155.22	152 -	158	155.26	4.29E+01	25.50	8.61E+01	.....
3	240.50	236 -	248	240.50	5.51E+01	40.10	1.66E+02	RA-224
4	463.28	460 -	467	463.16	2.30E+01	16.85	3.20E+01	SB-125
5	558.01	554 -	561	557.84	1.62E+01	15.23	2.75E+01	.....
6	585.63	579 -	591	585.45	2.55E+01	24.42	5.70E+01	.....
7	816.42	814 -	818	816.13	7.59E+00	10.38	1.68E+01	LA-140
8	829.34	826 -	832	829.05	1.42E+01	9.62	5.53E+00	.....
9	890.47	887 -	894	890.15	8.43E+00	10.20	1.11E+01	.....
10	905.59	902 -	909	905.27	1.08E+01	11.83	1.64E+01	.....
11	912.59	909 -	915	912.27	1.03E+01	11.54	1.53E+01	LU-172
12	946.40	943 -	949	946.06	8.15E+00	7.23	3.70E+00	PA-234
13	969.26	958 -	979	968.91	2.63E+01	26.00	4.35E+01	AC-228
14	990.97	986 -	996	990.61	1.52E+01	13.52	1.55E+01	.....
15	1034.84	1030 -	1037	1034.46	8.92E+00	9.17	8.15E+00	.....
16	1078.61	1076 -	1080	1078.22	6.59E+00	8.31	8.82E+00	.....
17	1102.53	1099 -	1105	1102.13	8.00E+00	5.66	0.00E+00	.....
18	1108.78	1106 -	1111	1108.38	8.00E+00	5.66	0.00E+00	.....
19	1428.87	1425 -	1431	1428.35	6.80E+00	8.03	6.40E+00	.....
20	1461.58	1457 -	1464	1461.06	3.30E+01	13.42	8.00E+00	K-40
21	1765.81	1762 -	1768	1765.20	8.15E+00	7.23	3.70E+00	.....
22	1784.97	1782 -	1786	1784.36	4.50E+00	6.36	5.00E+00	.....
23	2214.70	2210 -	2217	2214.00	8.00E+00	5.66	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 : 8/17/2016 7:44:39AM

Analysis Report for 1608066-06

J1V939 SAF: RC-243

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	76.82	5.72E+01	36.82	2.57E-02	2.03E-03
2	155.22	4.29E+01	25.50	2.20E-02	2.39E-03
3	240.50	5.51E+01	40.10	1.69E-02	2.31E-03
4	463.28	2.30E+01	16.85	1.05E-02	1.68E-03
5	558.01	1.62E+01	15.23	9.11E-03	1.19E-03
6	585.63	2.55E+01	24.42	8.76E-03	1.05E-03
7	816.42	7.59E+00	10.38	6.67E-03	8.51E-04
8	829.34	1.42E+01	9.62	6.59E-03	8.67E-04
9	890.47	8.43E+00	10.20	6.21E-03	9.46E-04
10	905.59	1.08E+01	11.83	6.12E-03	9.40E-04
11	912.59	1.03E+01	11.54	6.09E-03	9.26E-04
12	946.40	8.15E+00	7.23	5.91E-03	8.58E-04
13	969.26	2.63E+01	26.00	5.79E-03	8.11E-04
14	990.97	1.52E+01	13.52	5.69E-03	7.67E-04
15	1034.84	8.92E+00	9.17	5.49E-03	6.79E-04
16	1078.61	6.59E+00	8.31	5.31E-03	5.90E-04
17	1102.53	8.00E+00	5.66	5.22E-03	5.42E-04
18	1108.78	8.00E+00	5.66	5.20E-03	5.29E-04
19	1428.87	6.80E+00	8.03	4.30E-03	3.70E-04
20	1461.58	3.30E+01	13.42	4.23E-03	3.72E-04
21	1765.81	8.15E+00	7.23	3.77E-03	3.96E-04
22	1784.97	4.50E+00	6.36	3.75E-03	3.97E-04
23	2214.70	8.00E+00	5.66	3.45E-03	4.01E-04

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

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/17/2016 7:44:39AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000041519.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
1	76.82	5.72E+01	36.82			5.72E+01	3.68E+01
2	155.22	4.29E+01	25.50			4.29E+01	2.55E+01
3	240.50	5.51E+01	40.10			5.51E+01	4.01E+01
4	463.28	2.30E+01	16.85			2.30E+01	1.69E+01
5	558.01	1.62E+01	15.23			1.62E+01	1.52E+01

Analysis Report for 1608066-06

J1V939 SAF: RC-243

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
6	585.63	2.55E+01	24.42			2.55E+01	2.44E+01
7	816.42	7.59E+00	10.38			7.59E+00	1.04E+01
8	829.34	1.42E+01	9.62			1.42E+01	9.62E+00
9	890.47	8.43E+00	10.20			8.43E+00	1.02E+01
10	905.59	1.08E+01	11.83			1.08E+01	1.18E+01
11	912.59	1.03E+01	11.54	4.35E-01	2.69E+00	9.90E+00	1.19E+01
12	946.40	8.15E+00	7.23			8.15E+00	7.23E+00
13	969.26	2.63E+01	26.00			2.63E+01	2.60E+01
14	990.97	1.52E+01	13.52			1.52E+01	1.35E+01
15	1034.84	8.92E+00	9.17			8.92E+00	9.17E+00
16	1078.61	6.59E+00	8.31			6.59E+00	8.31E+00
17	1102.53	8.00E+00	5.66			8.00E+00	5.66E+00
18	1108.78	8.00E+00	5.66			8.00E+00	5.66E+00
19	1428.87	6.80E+00	8.03			6.80E+00	8.03E+00
20	1461.58	3.30E+01	13.42	5.24E+00	2.33E+00	2.78E+01	1.36E+01
21	1765.81	8.15E+00	7.23	1.37E+00	1.69E+00	6.78E+00	7.42E+00
22	1784.97	4.50E+00	6.36			4.50E+00	6.36E+00
23	2214.70	8.00E+00	5.66			8.00E+00	5.66E+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 : 8/17/2016 7:44:39AM

Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000041519.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	76.82	5.72E+01	36.82			5.72E+01	3.68E+01
2	155.22	4.29E+01	25.50			4.29E+01	2.55E+01
3	240.50	5.51E+01	40.10			5.51E+01	4.01E+01
4	463.28	2.30E+01	16.85			2.30E+01	1.69E+01
5	558.01	1.62E+01	15.23			1.62E+01	1.52E+01
6	585.63	2.55E+01	24.42			2.55E+01	2.44E+01
7	816.42	7.59E+00	10.38			7.59E+00	1.04E+01
8	829.34	1.42E+01	9.62			1.42E+01	9.62E+00
9	890.47	8.43E+00	10.20			8.43E+00	1.02E+01
10	905.59	1.08E+01	11.83			1.08E+01	1.18E+01

Analysis Report for 1608066-06

J1V939 SAF: RC-243

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Corrected Area	Corrected Uncert.
11	912.59	1.03E+01	11.54	4.35E-01	2.69E+00	9.90E+00	1.19E+01
12	946.40	8.15E+00	7.23			8.15E+00	7.23E+00
13	969.26	2.63E+01	26.00			2.63E+01	2.60E+01
14	990.97	1.52E+01	13.52			1.52E+01	1.35E+01
15	1034.84	8.92E+00	9.17			8.92E+00	9.17E+00
16	1078.61	6.59E+00	8.31			6.59E+00	8.31E+00
17	1102.53	8.00E+00	5.66			8.00E+00	5.66E+00
18	1108.78	8.00E+00	5.66			8.00E+00	5.66E+00
19	1428.87	6.80E+00	8.03			6.80E+00	8.03E+00
20	1461.58	3.30E+01	13.42	5.24E+00	2.33E+00	2.78E+01	1.36E+01
21	1765.81	8.15E+00	7.23	1.37E+00	1.69E+00	6.78E+00	7.42E+00
22	1784.97	4.50E+00	6.36			4.50E+00	6.36E+00
23	2214.70	8.00E+00	5.66			8.00E+00	5.66E+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/sample)	Activity Uncertainty
K-40	0.909	1460.81	*	10.67	4.62E+02	2.30E+02
RA-224	0.964	240.98	*	3.95	6.19E+02	4.58E+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 1608066-06

J1V939 SAF: RC-243

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/17/2016 7:44:39AM
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	76.82	1.58858E-02	32.20		
2	155.22	1.19299E-02	29.69		
4	463.28	6.38889E-03	36.64	Tol.	SB-125
5	558.01	4.50926E-03	46.91		
6	585.63	7.08333E-03	47.88		
7	816.42	2.10938E-03	68.35	Tol.	LA-140
8	829.34	3.95425E-03	33.78		
9	890.47	2.34127E-03	60.50		
10	905.59	2.99708E-03	54.83		
11	912.59	2.74941E-03	59.88	Tol.	LU-172
12	946.40	2.26389E-03	44.35	Tol.	PA-234
13	969.26	7.29745E-03	49.48	Tol.	AC-228
14	990.97	4.23309E-03	44.35		
15	1034.84	2.47863E-03	51.36		
16	1078.61	1.83081E-03	63.02		
17	1102.53	2.22222E-03	35.36		
18	1108.78	2.22222E-03	35.36		
19	1428.87	1.88889E-03	59.05		
21	1765.81	1.88456E-03	54.70		
22	1784.97	1.25000E-03	70.71		
23	2214.70	2.22222E-03	35.36		

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

NUCLIDE IDENTIFICATION REPORT

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

IDENTIFIED NUCLIDES

Analysis Report for 1608066-06

J1V939 SAF: RC-243

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/sample)	Activity Uncertainty
K-40	0.90	1460.81	*	10.67	4.62E+02	2.30E+02
RA-224	0.96	240.98	*	3.95	6.19E+02	4.58E+02

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.909	4.62E+02	2.30E+02	
RA-224	0.964	6.19E+02	4.58E+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 1608066-06

J1V939 SAF: RC-243

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/17/2016 7:44:39AM
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	76.82	1.58858E-02	32.20		
2	155.22	1.19299E-02	29.69		
4	463.28	6.38889E-03	36.64	Tol.	SB-125
5	558.01	4.50926E-03	46.91		
6	585.63	7.08333E-03	47.88		
7	816.42	2.10938E-03	68.35	Tol.	LA-140
8	829.34	3.95425E-03	33.78		
9	890.47	2.34127E-03	60.50		
10	905.59	2.99708E-03	54.83		
11	912.59	2.74941E-03	59.88	Tol.	LU-172
12	946.40	2.26389E-03	44.35	Tol.	PA-234
13	969.26	7.29745E-03	49.48	Tol.	AC-228
14	990.97	4.23309E-03	44.35		
15	1034.84	2.47863E-03	51.36		
16	1078.61	1.83081E-03	63.02		
17	1102.53	2.22222E-03	35.36		
18	1108.78	2.22222E-03	35.36		
19	1428.87	1.88889E-03	59.05		
21	1765.81	1.88456E-03	54.70		
22	1784.97	1.25000E-03	70.71		
23	2214.70	2.22222E-03	35.36		

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

NUCLIDE MDA REPORT

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

Analysis Report for 1608066-06

J1V939 SAF: RC-243

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	BE-7	477.59		10.42	-2.85E+01	1.81E+02	1.81E+02
+	NA-22	1274.54		99.94	1.93E+01	3.15E+01	3.15E+01
+	NA-24	1368.53		99.99	2.98E+03	1.02E+04	1.28E+04
		2754.09		99.86	-1.10E+03		1.02E+04
+	AL-26	1808.65		99.76	2.69E+00	2.17E+01	2.17E+01
+	K-40	1460.81	*	10.67	4.62E+02	2.81E+02	2.81E+02
+	@ AR-41	1293.64		99.16	0.00E+00	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	7.59E+00	1.26E+01	1.26E+01
		78.34		96.00	1.18E+01		1.31E+01
+	SC-46	889.25		99.98	8.10E+00	2.62E+01	2.62E+01
		1120.51		99.99	7.63E+00		2.77E+01
+	V-48	983.52		99.98	1.17E+01	3.04E+01	3.04E+01
		1312.10		97.50	1.18E+01		3.58E+01
+	CR-51	320.08		9.83	1.41E+01	2.01E+02	2.01E+02
+	MN-54	834.83		99.97	5.57E+00	2.41E+01	2.41E+01
+	CO-56	846.75		99.96	-5.11E+00	2.74E+01	2.74E+01
		1037.75		14.03	-1.03E+01		1.93E+02
		1238.25		67.00	-1.23E+00		4.65E+01
		1771.40		15.51	5.13E+01		1.91E+02
		2598.48		16.90	2.75E+01		1.28E+02
+	CO-57	122.06		85.51	-8.11E+00	1.47E+01	1.47E+01
		136.48		10.60	5.53E+01		1.28E+02
+	CO-58	810.76		99.40	-7.88E+00	2.53E+01	2.53E+01
+	FE-59	1099.22		56.50	4.62E-01	4.40E+01	4.40E+01
		1291.56		43.20	-1.82E+00		6.84E+01
+	CO-60	1173.22		100.00	6.81E+00	2.40E+01	2.40E+01
		1332.49		100.00	9.07E+00		2.78E+01
+	ZN-65	1115.52		50.75	3.15E+00	4.10E+01	4.10E+01
+	GA-67	93.31		35.70	7.77E+01	1.39E+02	1.39E+02
		208.95		2.24	5.63E+02		2.22E+03
		300.22		16.00	-6.37E+01		3.75E+02
+	SE-75	121.11		16.70	-1.04E+01	2.17E+01	7.78E+01
		136.00		59.20	-8.39E+00		2.17E+01
		264.65		59.80	4.90E+00		2.85E+01
		279.53		25.20	-2.53E+00		6.39E+01
		400.65		11.40	-1.01E+02		1.39E+02
+	RB-82	776.52		13.00	-2.42E+00	2.06E+02	2.06E+02
+	RB-83	520.41		46.00	-3.71E+00	3.78E+01	3.78E+01
		529.64		30.30	-2.46E+01		5.14E+01
		552.65		16.40	7.43E+00		1.11E+02
+	KR-85	513.99		0.43	1.10E+03	6.16E+03	6.16E+03
+	SR-85	513.99		99.27	5.09E+00	2.86E+01	2.86E+01
+	Y-88	898.02		93.40	1.28E+01	2.63E+01	2.63E+01
		1836.01		99.38	-1.70E+00		2.78E+01
+	NB-93M	16.57		9.43	1.97E+04	3.86E+04	3.86E+04
+	NB-94	702.63		100.00	7.89E+00	1.88E+01	2.58E+01
		871.10		100.00	3.26E+00		1.88E+01

Analysis Report for 1608066-06

J1V939 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	NB-95	765.79	99.81	1.19E-01	2.48E+01	2.48E+01
+	NB-95M	235.69	25.00	2.23E+01	1.85E+02	1.85E+02
+	ZR-95	724.18	43.70	1.59E+01	4.88E+01	5.56E+01
		756.72	55.30	1.35E+01		4.88E+01
+	MO-99	181.06	6.20	4.43E+02	6.90E+02	1.04E+03
		739.58	12.80	3.33E+01		6.90E+02
		778.00	4.50	-1.55E+02		1.98E+03
+	RU-103	497.08	89.00	5.54E+00	2.42E+01	2.42E+01
+	RU-106	621.84	9.80	3.71E+01	2.41E+02	2.41E+02
+	AG-108M	433.93	89.90	5.95E+00	1.92E+01	1.92E+01
		614.37	90.40	-2.91E+01		2.32E+01
		722.95	90.50	-2.02E+01		2.04E+01
+	CD-109	88.03	3.72	1.76E+02	3.58E+02	3.58E+02
+	AG-110M	657.75	93.14	-9.41E+00	2.76E+01	2.76E+01
		677.61	10.53	9.14E+01		2.42E+02
		706.67	16.46	1.23E+01		1.54E+02
		763.93	21.98	1.11E+01		1.05E+02
		884.67	71.63	-2.27E+00		2.84E+01
		1384.27	23.94	-4.05E+01		1.02E+02
+	CD-113M	263.70	0.02	2.10E+04	7.31E+04	7.31E+04
+	SN-113	255.12	1.93	-6.03E-01	2.55E+01	8.03E+02
		391.69	64.90	5.66E+00		2.55E+01
+	TE123M	159.00	84.10	2.06E+00	1.55E+01	1.55E+01
+	SB-124	602.71	97.87	6.28E+00	2.69E+01	2.69E+01
		645.85	7.26	-1.18E+02		2.91E+02
		722.78	11.10	-1.76E+02		1.77E+02
		1691.02	49.00	-1.64E+01		5.08E+01
+	I-125	35.49	6.49	-1.60E+02	4.28E+02	4.28E+02
+	SB-125	176.33	6.89	-6.22E+01	5.15E+01	1.97E+02
		427.89	29.33	-2.55E-01		5.15E+01
		463.38	10.35	1.66E+02		2.06E+02
		600.56	17.80	-2.72E+01		1.35E+02
		635.90	11.32	-9.98E+01		1.63E+02
+	SB-126	414.70	83.30	7.52E+00	2.89E+01	2.89E+01
		666.33	99.60	-7.90E+00		3.33E+01
		695.00	99.60	1.99E+01		3.98E+01
		720.50	53.80	1.65E+01		5.93E+01
+	SN-126	87.57	37.00	1.76E+01	3.57E+01	3.57E+01
+	SB-127	473.00	25.00	9.34E+01	1.72E+02	2.06E+02
		685.20	35.70	5.14E+01		1.72E+02
		783.80	14.70	1.12E+02		4.56E+02
+	I-129	29.78	57.00	-9.60E+00	9.34E+01	9.34E+01
		33.60	13.20	6.53E+01		2.65E+02
		39.58	7.52	-3.26E+01		2.77E+02
+	I-131	284.30	6.05	2.52E+00	3.24E+01	4.13E+02
		364.48	81.20	8.81E+00		3.24E+01
		636.97	7.26	-4.64E+01		4.48E+02
		722.89	1.80	-1.65E+03		1.66E+03

Analysis Report for 1608066-06

J1V939 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	TE-132	49.72	13.10	-1.18E+02	5.44E+01	3.23E+02
		228.16	88.00	9.63E+00		5.44E+01
+	BA-133	81.00	33.00	-9.70E+00	2.29E+01	2.76E+01
		302.84	17.80	6.41E+00		9.49E+01
		356.01	60.00	-2.07E+01		2.29E+01
+	I-133	529.87	86.30	-4.87E+02	1.63E+03	1.63E+03
+	XE-133	81.00	38.00	-1.77E+01	5.02E+01	5.02E+01
+	CS-134	563.23	8.38	-4.61E+01	2.47E+01	1.66E+02
		569.32	15.43	1.21E+01		1.31E+02
		604.70	97.60	-2.13E+01		2.47E+01
		795.84	85.40	1.05E+01		3.18E+01
		801.93	8.73	-6.96E+01		3.13E+02
+	CS-135	268.24	16.00	-1.21E+01	9.25E+01	9.25E+01
+	I-135	1131.51	22.50	-2.63E+07	8.06E+07	1.59E+08
		1260.41	28.60	-3.37E+07		8.06E+07
		1678.03	9.54	1.48E+08		4.09E+08
+	CS-136	153.22	7.46	-1.38E+02	3.57E+01	2.27E+02
		163.89	4.61	2.44E+02		4.21E+02
		176.55	13.56	-4.35E+01		1.34E+02
		273.65	12.66	6.95E+00		1.53E+02
		340.57	48.50	8.31E+00		4.14E+01
		818.50	99.70	-5.06E-01		3.57E+01
		1048.07	79.60	1.42E+00		3.88E+01
		1235.34	19.70	-8.47E+01		1.87E+02
+	CS-137	661.65	85.12	-6.58E+00	3.09E+01	3.09E+01
+	LA-138	788.74	34.00	2.05E+01	3.99E+01	7.22E+01
		1435.80	66.00	5.88E+00		3.99E+01
+	CE-139	165.85	80.35	1.97E+00	1.79E+01	1.79E+01
+	BA-140	162.64	6.70	-1.33E+01	9.24E+01	2.89E+02
		304.84	4.50	1.91E+02		4.99E+02
		423.70	3.20	5.16E+01		7.18E+02
		437.55	2.00	-2.95E+02		1.13E+03
		537.32	25.00	-2.22E+01		9.24E+01
+	LA-140	328.77	20.50	3.49E+01	3.50E+01	1.01E+02
		487.03	45.50	6.41E+00		5.41E+01
		815.85	23.50	2.92E+01		1.56E+02
		1596.49	95.49	-1.07E+01		3.50E+01
+	CE-141	145.44	48.40	9.72E-01	3.33E+01	3.33E+01
+	CE-143	57.36	11.80	-4.49E+01	7.33E+02	1.72E+03
		293.26	42.00	1.85E+02		7.33E+02
		664.55	5.20	3.81E+03		8.69E+03
+	CE-144	133.54	10.80	-7.40E+01	1.10E+02	1.10E+02
+	PM-144	476.78	42.00	-6.63E+00	2.38E+01	4.21E+01
		618.01	98.60	2.02E+00		2.38E+01
		696.49	99.49	8.47E+00		2.83E+01
+	PM-145	36.85	21.70	-2.62E+01	5.54E+01	1.05E+02
		37.36	39.70	-1.38E+01		5.54E+01
		42.30	15.10	5.21E+01		1.25E+02
		72.40	2.31	1.00E+02		4.28E+02

Analysis Report for 1608066-06

J1V939 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	PM-146	453.90	39.94	-5.13E+00	3.95E+01	3.95E+01
		735.90	14.01	-3.69E+00		1.53E+02
		747.13	13.10	5.20E+01		1.75E+02
+	ND-147	91.11	28.90	5.53E+01	7.60E+01	7.60E+01
		531.02	13.10	0.00E+00		1.73E+02
+	PM-149	285.90	3.10	-9.43E+02	2.89E+03	2.89E+03
+	EU-152	121.78	20.50	-3.33E+01	6.02E+01	6.02E+01
		244.69	5.40	-6.06E+01		2.73E+02
		344.27	19.13	-8.81E+00		7.45E+01
		778.89	9.20	1.72E+01		2.37E+02
		964.01	10.40	3.97E+01		2.57E+02
		1085.78	7.22	-1.18E+02		2.78E+02
		1112.02	9.60	-6.04E+01		1.98E+02
		1407.95	14.94	-1.57E+01		1.74E+02
+	GD-153	97.43	31.30	-1.44E+01	3.87E+01	3.87E+01
		103.18	22.20	2.08E+01		5.84E+01
+	EU-154	123.07	40.50	1.36E+01	3.21E+01	3.21E+01
		723.30	19.70	-9.31E+01		9.38E+01
		873.19	11.50	3.51E+01		1.73E+02
		996.32	10.30	-4.51E+01		2.15E+02
		1004.76	17.90	1.62E+01		1.55E+02
		1274.45	35.50	5.41E+01		8.84E+01
+	EU-155	86.50	30.90	-2.56E+00	4.22E+01	4.22E+01
		105.30	20.70	-4.56E+01		5.81E+01
+	EU-156	811.77	10.40	-9.04E+01	2.88E+02	2.88E+02
		1153.47	7.20	1.58E+02		4.66E+02
		1230.71	8.90	1.04E+02		4.28E+02
+	HO-166M	184.41	72.60	3.95E+00	2.52E+01	2.52E+01
		280.45	29.60	-2.09E+00		5.28E+01
		410.94	11.10	-8.47E+00		1.60E+02
		711.69	54.10	1.79E+01		4.73E+01
+	TM-171	66.72	0.14	3.42E+03	8.70E+03	8.70E+03
+	HF-172	81.75	4.52	6.55E+01	1.14E+02	2.31E+02
		125.81	11.30	1.30E+01		1.14E+02
+	LU-172	181.53	20.60	-2.37E+01	7.69E+01	1.36E+02
		810.06	16.63	-7.95E+01		2.56E+02
		912.12	15.25	6.82E+01		3.24E+02
		1093.66	62.50	2.04E+01		7.69E+01
+	LU-173	100.72	5.24	1.17E+02	7.10E+01	2.40E+02
		272.11	21.20	-1.29E+01		7.10E+01
+	HF-175	343.40	84.00	5.72E+00	1.95E+01	1.95E+01
+	LU-176	88.34	13.30	4.89E+01	1.62E+01	9.94E+01
		201.83	86.00	-3.62E+00		1.73E+01
		306.78	94.00	-8.21E+00		1.62E+01
+	TA-182	67.75	41.20	1.80E+01	2.99E+01	2.99E+01
		1121.30	34.90	2.16E+00		7.84E+01
		1189.05	16.23	3.65E+01		1.83E+02
		1221.41	26.98	6.27E+01		1.20E+02
		1231.02	11.44	7.09E+01		2.67E+02

Analysis Report for 1608066-06

J1V939 SAF: RC-243

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	IR-192	308.46		29.68	1.20E+01	3.16E+01	5.65E+01
		468.07		48.10	-3.15E-01		3.16E+01
+	HG-203	279.19		77.30	5.85E+00	2.14E+01	2.14E+01
+	BI-207	569.67		97.72	1.90E+00	2.06E+01	2.06E+01
		1063.62		74.90	7.97E+00		3.64E+01
+	TL-208	583.14		30.22	3.96E+01	8.54E+01	8.54E+01
		860.37		4.48	2.19E+01		4.94E+02
		2614.66		35.85	4.93E+01		9.78E+01
+	BI-210M	262.00		45.00	2.01E+01	3.78E+01	3.78E+01
		300.00		23.00	-1.35E+01		7.91E+01
+	PB-210	46.50		4.25	2.21E+02	4.14E+02	4.14E+02
+	PB-211	404.84		2.90	1.12E+02	5.85E+02	5.85E+02
		831.96		2.90	2.63E+01		8.17E+02
+	BI-212	727.17		11.80	2.76E+01	1.99E+02	1.99E+02
		1620.62		2.75	-4.48E+02		6.40E+02
+	PB-212	238.63		44.60	1.72E+01	4.09E+01	4.09E+01
		300.09		3.41	-9.08E+01		5.34E+02
+	BI-214	609.31		46.30	1.27E+01	5.85E+01	5.85E+01
		1120.29		15.10	4.82E+01		1.75E+02
		1764.49		15.80	0.00E+00		2.19E+02
		2204.22		4.98	3.88E+01		4.70E+02
+	PB-214	295.21		19.19	2.03E+01	5.22E+01	9.89E+01
		351.92		37.19	4.51E+01		5.22E+01
+	RN-219	401.80		6.50	8.54E+00	2.46E+02	2.46E+02
+	RA-223	323.87		3.88	-1.13E+02	3.90E+02	3.90E+02
+	RA-224	240.98	*	3.95	6.19E+02	7.18E+02	7.18E+02
+	RA-225	40.00		31.00	-1.00E+01	8.55E+01	8.55E+01
+	RA-226	186.21		3.28	4.01E+02	5.59E+02	5.59E+02
+	TH-227	50.10		8.40	-5.54E+01	1.37E+02	1.51E+02
		236.00		11.50	1.65E+01		1.37E+02
		256.20		6.30	1.10E+02		2.49E+02
+	AC-228	338.32		11.40	-8.41E+01	1.05E+02	1.23E+02
		911.07		27.70	4.31E+01		1.05E+02
		969.11		16.60	-2.62E+01		1.57E+02
+	TH-230	48.44		16.90	-7.93E+01	7.51E+01	7.51E+01
		62.85		4.60	2.21E+02		2.82E+02
		67.67		0.37	1.94E+03		3.23E+03
+	PA-231	283.67		1.60	5.87E+00	7.34E+02	9.61E+02
		302.67		2.30	4.95E+01		7.34E+02
+	TH-231	25.64		14.70	-9.76E+01	1.66E+02	7.33E+02
		84.21		6.40	6.97E+01		1.66E+02
+	PA-233	311.98		38.60	-7.17E+00	4.67E+01	4.67E+01
+	PA-234	131.20		20.40	6.17E+01	6.49E+01	6.49E+01
		733.99		8.80	3.89E+01		2.56E+02
		946.00		12.00	5.35E+01		1.84E+02
+	PA-234M	1001.03		0.92	1.15E+03	3.17E+03	3.17E+03
+	TH-234	63.29		3.80	2.66E+02	3.40E+02	3.40E+02

Analysis Report for 1608066-06

J1V939 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	U-235	143.76	10.50	9.66E+01	1.43E+02	1.43E+02
		163.35	4.70	-1.40E+01		3.04E+02
		205.31	4.70	-2.47E+02		2.92E+02
+	NP-237	86.50	12.60	-6.26E+00	1.03E+02	1.03E+02
+	NP-239	106.10	22.70	6.63E+01	2.83E+02	2.83E+02
		228.18	10.70	1.25E+02		7.07E+02
		277.60	14.10	-2.11E+02		5.31E+02
+	AM-241	59.54	35.90	9.81E-01	3.19E+01	3.19E+01
+	AM-243	74.67	66.00	-1.39E+01	1.63E+01	1.63E+01
+	CM-243	209.75	3.29	-7.41E+01	1.03E+02	4.55E+02
		228.14	10.60	2.43E+01		1.37E+02
		277.60	14.00	-4.07E+01		1.03E+02

+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
> = MDA value not calculated
@ = Half-life too short to be able to perform the decay correction
? = 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/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
	BE-7	477.59		10.42	1.81E+02	1.81E+02	-2.85E+01	8.02E+01
	NA-22	1274.54		99.94	3.15E+01	3.15E+01	1.93E+01	1.36E+01
	NA-24	1368.53		99.99	1.28E+04	1.02E+04	2.98E+03	5.23E+03
		2754.09		99.86	1.02E+04		-1.10E+03	3.63E+03
	AL-26	1808.65		99.76	2.17E+01	2.17E+01	2.69E+00	8.14E+00
+	K-40	1460.81	*	10.67	2.81E+02	2.81E+02	4.62E+02	1.18E+02
@	AR-41	1293.64		99.16	1.00E+26	1.00E+26	0.00E+00	1.00E+20
	TI-44	67.88		94.40	1.26E+01	1.26E+01	7.59E+00	5.87E+00
		78.34		96.00	1.31E+01		1.18E+01	6.16E+00
	SC-46	889.25		99.98	2.62E+01	2.62E+01	8.10E+00	1.14E+01

Analysis Report for 1608066-06

J1V939 SAF: RC-243

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
SC-46	1120.51	99.99	2.77E+01	2.62E+01	7.63E+00	1.18E+01
V-48	983.52	99.98	3.04E+01	3.04E+01	1.17E+01	1.29E+01
	1312.10	97.50	3.58E+01		1.18E+01	1.50E+01
CR-51	320.08	9.83	2.01E+02	2.01E+02	1.41E+01	9.19E+01
MN-54	834.83	99.97	2.41E+01	2.41E+01	5.57E+00	1.05E+01
CO-56	846.75	99.96	2.74E+01	2.74E+01	-5.11E+00	1.20E+01
	1037.75	14.03	1.93E+02		-1.03E+01	8.27E+01
	1238.25	67.00	4.65E+01		-1.23E+00	1.99E+01
	1771.40	15.51	1.91E+02		5.13E+01	7.70E+01
	2598.48	16.90	1.28E+02		2.75E+01	4.52E+01
CO-57	122.06	85.51	1.47E+01	1.47E+01	-8.11E+00	6.83E+00
	136.48	10.60	1.28E+02		5.53E+01	5.98E+01
CO-58	810.76	99.40	2.53E+01	2.53E+01	-7.88E+00	1.11E+01
FE-59	1099.22	56.50	4.40E+01	4.40E+01	4.62E-01	1.82E+01
	1291.56	43.20	6.84E+01		-1.82E+00	2.86E+01
CO-60	1173.22	100.00	2.40E+01	2.40E+01	6.81E+00	9.96E+00
	1332.49	100.00	2.78E+01		9.07E+00	1.16E+01
ZN-65	1115.52	50.75	4.10E+01	4.10E+01	3.15E+00	1.66E+01
GA-67	93.31	35.70	1.39E+02	1.39E+02	7.77E+01	6.59E+01
	208.95	2.24	2.22E+03		5.63E+02	1.03E+03
	300.22	16.00	3.75E+02		-6.37E+01	1.73E+02
SE-75	121.11	16.70	7.78E+01	2.17E+01	-1.04E+01	3.63E+01
	136.00	59.20	2.17E+01		-8.39E+00	1.01E+01
	264.65	59.80	2.85E+01		4.90E+00	1.32E+01
	279.53	25.20	6.39E+01		-2.53E+00	2.92E+01
	400.65	11.40	1.39E+02		-1.01E+02	6.16E+01
RB-82	776.52	13.00	2.06E+02	2.06E+02	-2.42E+00	9.00E+01
RB-83	520.41	46.00	3.78E+01	3.78E+01	-3.71E+00	1.65E+01
	529.64	30.30	5.14E+01		-2.46E+01	2.20E+01
	552.65	16.40	1.11E+02		7.43E+00	4.86E+01
KR-85	513.99	0.43	6.16E+03	6.16E+03	1.10E+03	2.84E+03
SR-85	513.99	99.27	2.86E+01	2.86E+01	5.09E+00	1.32E+01
Y-88	898.02	93.40	2.63E+01	2.63E+01	1.28E+01	1.13E+01
	1836.01	99.38	2.78E+01		-1.70E+00	1.10E+01
NB-93M	16.57	9.43	3.86E+04	3.86E+04	1.97E+04	1.86E+04
NB-94	702.63	100.00	2.58E+01	1.88E+01	7.89E+00	1.16E+01
	871.10	100.00	1.88E+01		3.26E+00	7.81E+00
NB-95	765.79	99.81	2.48E+01	2.48E+01	1.19E-01	1.08E+01
NB-95M	235.69	25.00	1.85E+02	1.85E+02	2.23E+01	8.53E+01
ZR-95	724.18	43.70	5.56E+01	4.88E+01	1.59E+01	2.45E+01
	756.72	55.30	4.88E+01		1.35E+01	2.16E+01
MO-99	181.06	6.20	1.04E+03	6.90E+02	4.43E+02	4.89E+02
	739.58	12.80	6.90E+02		3.33E+01	3.00E+02
	778.00	4.50	1.98E+03		-1.55E+02	8.59E+02
RU-103	497.08	89.00	2.42E+01	2.42E+01	5.54E+00	1.09E+01
RU-106	621.84	9.80	2.41E+02	2.41E+02	3.71E+01	1.08E+02
AG-108M	433.93	89.90	1.92E+01	1.92E+01	5.95E+00	8.58E+00
	614.37	90.40	2.32E+01		-2.91E+01	1.03E+01
	722.95	90.50	2.04E+01		-2.02E+01	8.68E+00
CD-109	88.03	3.72	3.58E+02	3.58E+02	1.76E+02	1.69E+02
AG-110M	657.75	93.14	2.76E+01	2.76E+01	-9.41E+00	1.24E+01
	677.61	10.53	2.42E+02		9.14E+01	1.08E+02
	706.67	16.46	1.54E+02		1.23E+01	6.88E+01

Analysis Report for 1608066-06

J1V939 SAF: RC-243

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
AG-110M	763.93	21.98	1.05E+02	2.76E+01	1.11E+01	4.58E+01
	884.67	71.63	2.84E+01		-2.27E+00	1.19E+01
	1384.27	23.94	1.02E+02		-4.05E+01	4.13E+01
CD-113M	263.70	0.02	7.31E+04	7.31E+04	2.10E+04	3.38E+04
SN-113	255.12	1.93	8.03E+02	2.55E+01	-6.03E-01	3.68E+02
	391.69	64.90	2.55E+01		5.66E+00	1.14E+01
TE123M	159.00	84.10	1.55E+01	1.55E+01	2.06E+00	7.19E+00
SB-124	602.71	97.87	2.69E+01	2.69E+01	6.28E+00	1.22E+01
	645.85	7.26	2.91E+02		-1.18E+02	1.27E+02
	722.78	11.10	1.77E+02		-1.76E+02	7.54E+01
	1691.02	49.00	5.08E+01		-1.64E+01	1.97E+01
I-125	35.49	6.49	4.28E+02	4.28E+02	-1.60E+02	1.96E+02
SB-125	176.33	6.89	1.97E+02	5.15E+01	-6.22E+01	9.11E+01
	427.89	29.33	5.15E+01		-2.55E-01	2.26E+01
	463.38	10.35	2.06E+02		1.66E+02	9.37E+01
	600.56	17.80	1.35E+02		-2.72E+01	6.07E+01
	635.90	11.32	1.63E+02		-9.98E+01	7.07E+01
SB-126	414.70	83.30	2.89E+01	2.89E+01	7.52E+00	1.30E+01
	666.33	99.60	3.33E+01		-7.90E+00	1.49E+01
	695.00	99.60	3.98E+01		1.99E+01	1.81E+01
	720.50	53.80	5.93E+01		1.65E+01	2.62E+01
SN-126	87.57	37.00	3.57E+01	3.57E+01	1.76E+01	1.68E+01
SB-127	473.00	25.00	2.06E+02	1.72E+02	9.34E+01	9.24E+01
	685.20	35.70	1.72E+02		5.14E+01	7.59E+01
	783.80	14.70	4.56E+02		1.12E+02	2.00E+02
I-129	29.78	57.00	9.34E+01	9.34E+01	-9.60E+00	4.34E+01
	33.60	13.20	2.65E+02		6.53E+01	1.23E+02
	39.58	7.52	2.77E+02		-3.26E+01	1.28E+02
I-131	284.30	6.05	4.13E+02	3.24E+01	2.52E+00	1.88E+02
	364.48	81.20	3.24E+01		8.81E+00	1.46E+01
	636.97	7.26	4.48E+02		-4.64E+01	1.97E+02
	722.89	1.80	1.66E+03		-1.65E+03	7.07E+02
TE-132	49.72	13.10	3.23E+02	5.44E+01	-1.18E+02	1.48E+02
	228.16	88.00	5.44E+01		9.63E+00	2.50E+01
BA-133	81.00	33.00	2.76E+01	2.29E+01	-9.70E+00	1.26E+01
	302.84	17.80	9.49E+01		6.41E+00	4.35E+01
	356.01	60.00	2.29E+01		-2.07E+01	1.01E+01
I-133	529.87	86.30	1.63E+03	1.63E+03	-4.87E+02	7.07E+02
XE-133	81.00	38.00	5.02E+01	5.02E+01	-1.77E+01	2.29E+01
CS-134	563.23	8.38	1.66E+02	2.47E+01	-4.61E+01	6.95E+01
	569.32	15.43	1.31E+02		1.21E+01	5.82E+01
	604.70	97.60	2.47E+01		-2.13E+01	1.11E+01
	795.84	85.40	3.18E+01		1.05E+01	1.41E+01
	801.93	8.73	3.13E+02		-6.96E+01	1.39E+02
CS-135	268.24	16.00	9.25E+01	9.25E+01	-1.21E+01	4.22E+01
I-135	1131.51	22.50	1.59E+08	8.06E+07	-2.63E+07	6.76E+07
	1260.41	28.60	8.06E+07		-3.37E+07	3.02E+07
	1678.03	9.54	4.09E+08		1.48E+08	1.68E+08
CS-136	153.22	7.46	2.27E+02	3.57E+01	-1.38E+02	1.05E+02
	163.89	4.61	4.21E+02		2.44E+02	1.96E+02
	176.55	13.56	1.34E+02		-4.35E+01	6.20E+01
	273.65	12.66	1.53E+02		6.95E+00	6.97E+01
	340.57	48.50	4.14E+01		8.31E+00	1.86E+01

Analysis Report for 1608066-06

J1V939 SAF: RC-243

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
CS-136	818.50	99.70	3.57E+01	3.57E+01	-5.06E-01	1.58E+01
	1048.07	79.60	3.88E+01		1.42E+00	1.63E+01
	1235.34	19.70	1.87E+02		-8.47E+01	7.88E+01
CS-137	661.65	85.12	3.09E+01	3.09E+01	-6.58E+00	1.39E+01
LA-138	788.74	34.00	7.22E+01	3.99E+01	2.05E+01	3.17E+01
	1435.80	66.00	3.99E+01		5.88E+00	1.64E+01
CE-139	165.85	80.35	1.79E+01	1.79E+01	1.97E+00	8.36E+00
BA-140	162.64	6.70	2.89E+02	9.24E+01	-1.33E+01	1.35E+02
	304.84	4.50	4.99E+02		1.91E+02	2.28E+02
	423.70	3.20	7.18E+02		5.16E+01	3.21E+02
	437.55	2.00	1.13E+03		-2.95E+02	5.04E+02
	537.32	25.00	9.24E+01		-2.22E+01	4.03E+01
LA-140	328.77	20.50	1.01E+02	3.50E+01	3.49E+01	4.56E+01
	487.03	45.50	5.41E+01		6.41E+00	2.41E+01
	815.85	23.50	1.56E+02		2.92E+01	6.91E+01
	1596.49	95.49	3.50E+01		-1.07E+01	1.39E+01
CE-141	145.44	48.40	3.33E+01	3.33E+01	9.72E-01	1.56E+01
CE-143	57.36	11.80	1.72E+03	7.33E+02	-4.49E+01	7.96E+02
	293.26	42.00	7.33E+02		1.85E+02	3.39E+02
	664.55	5.20	8.69E+03		3.81E+03	3.93E+03
CE-144	133.54	10.80	1.10E+02	1.10E+02	-7.40E+01	5.10E+01
PM-144	476.78	42.00	4.21E+01	2.38E+01	-6.63E+00	1.87E+01
	618.01	98.60	2.38E+01		2.02E+00	1.07E+01
	696.49	99.49	2.83E+01		8.47E+00	1.28E+01
PM-145	36.85	21.70	1.05E+02	5.54E+01	-2.62E+01	4.81E+01
	37.36	39.70	5.54E+01		-1.38E+01	2.54E+01
	42.30	15.10	1.25E+02		5.21E+01	5.78E+01
	72.40	2.31	4.28E+02		1.00E+02	1.97E+02
PM-146	453.90	39.94	3.95E+01	3.95E+01	-5.13E+00	1.74E+01
	735.90	14.01	1.53E+02		-3.69E+00	6.65E+01
	747.13	13.10	1.75E+02		5.20E+01	7.67E+01
ND-147	91.11	28.90	7.60E+01	7.60E+01	5.53E+01	3.61E+01
	531.02	13.10	1.73E+02		0.00E+00	7.50E+01
PM-149	285.90	3.10	2.89E+03	2.89E+03	-9.43E+02	1.32E+03
EU-152	121.78	20.50	6.02E+01	6.02E+01	-3.33E+01	2.81E+01
	244.69	5.40	2.73E+02		-6.06E+01	1.25E+02
	344.27	19.13	7.45E+01		-8.81E+00	3.32E+01
	778.89	9.20	2.37E+02		1.72E+01	1.02E+02
	964.01	10.40	2.57E+02		3.97E+01	1.12E+02
	1085.78	7.22	2.78E+02		-1.18E+02	1.12E+02
	1112.02	9.60	1.98E+02		-6.04E+01	7.85E+01
	1407.95	14.94	1.74E+02		-1.57E+01	7.13E+01
GD-153	97.43	31.30	3.87E+01	3.87E+01	-1.44E+01	1.81E+01
	103.18	22.20	5.84E+01		2.08E+01	2.74E+01
EU-154	123.07	40.50	3.21E+01	3.21E+01	1.36E+01	1.50E+01
	723.30	19.70	9.38E+01		-9.31E+01	3.99E+01
	873.19	11.50	1.73E+02		3.51E+01	7.23E+01
	996.32	10.30	2.15E+02		-4.51E+01	8.99E+01
	1004.76	17.90	1.55E+02		1.62E+01	6.73E+01
	1274.45	35.50	8.84E+01		5.41E+01	3.81E+01
EU-155	86.50	30.90	4.22E+01	4.22E+01	-2.56E+00	1.98E+01
	105.30	20.70	5.81E+01		-4.56E+01	2.71E+01
EU-156	811.77	10.40	2.88E+02	2.88E+02	-9.04E+01	1.25E+02

Analysis Report for 1608066-06

J1V939 SAF: RC-243

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
	EU-156	1153.47		7.20	4.66E+02	2.88E+02	1.58E+02	1.97E+02
		1230.71		8.90	4.28E+02		1.04E+02	1.83E+02
	HO-166M	184.41		72.60	2.52E+01	2.52E+01	3.95E+00	1.19E+01
		280.45		29.60	5.28E+01		-2.09E+00	2.42E+01
		410.94		11.10	1.60E+02		-8.47E+00	7.20E+01
		711.69		54.10	4.73E+01		1.79E+01	2.12E+01
	TM-171	66.72		0.14	8.70E+03	8.70E+03	3.42E+03	4.05E+03
	HF-172	81.75		4.52	2.31E+02	1.14E+02	6.55E+01	1.07E+02
		125.81		11.30	1.14E+02		1.30E+01	5.34E+01
	LU-172	181.53		20.60	1.36E+02	7.69E+01	-2.37E+01	6.37E+01
		810.06		16.63	2.56E+02		-7.95E+01	1.12E+02
		912.12		15.25	3.24E+02		6.82E+01	1.43E+02
		1093.66		62.50	7.69E+01		2.04E+01	3.29E+01
	LU-173	100.72		5.24	2.40E+02	7.10E+01	1.17E+02	1.12E+02
		272.11		21.20	7.10E+01		-1.29E+01	3.24E+01
	HF-175	343.40		84.00	1.95E+01	1.95E+01	5.72E+00	8.81E+00
	LU-176	88.34		13.30	9.94E+01	1.62E+01	4.89E+01	4.67E+01
		201.83		86.00	1.73E+01		-3.62E+00	8.02E+00
		306.78		94.00	1.62E+01		-8.21E+00	7.34E+00
	TA-182	67.75		41.20	2.99E+01	2.99E+01	1.80E+01	1.39E+01
		1121.30		34.90	7.84E+01		2.16E+00	3.33E+01
		1189.05		16.23	1.83E+02		3.65E+01	7.84E+01
		1221.41		26.98	1.20E+02		6.27E+01	5.20E+01
		1231.02		11.44	2.67E+02		7.09E+01	1.14E+02
	IR-192	308.46		29.68	5.65E+01	3.16E+01	1.20E+01	2.57E+01
		468.07		48.10	3.16E+01		-3.15E-01	1.37E+01
	HG-203	279.19		77.30	2.14E+01	2.14E+01	5.85E+00	9.76E+00
	BI-207	569.67		97.72	2.06E+01	2.06E+01	1.90E+00	9.15E+00
		1063.62		74.90	3.64E+01		7.97E+00	1.57E+01
	TL-208	583.14		30.22	8.54E+01	8.54E+01	3.96E+01	3.89E+01
		860.37		4.48	4.94E+02		2.19E+01	2.11E+02
		2614.66		35.85	9.78E+01		4.93E+01	4.06E+01
	BI-210M	262.00		45.00	3.78E+01	3.78E+01	2.01E+01	1.75E+01
		300.00		23.00	7.91E+01		-1.35E+01	3.65E+01
	PB-210	46.50		4.25	4.14E+02	4.14E+02	2.21E+02	1.93E+02
	PB-211	404.84		2.90	5.85E+02	5.85E+02	1.12E+02	2.63E+02
		831.96		2.90	8.17E+02		2.63E+01	3.55E+02
	BI-212	727.17		11.80	1.99E+02	1.99E+02	2.76E+01	8.79E+01
		1620.62		2.75	6.40E+02		-4.48E+02	2.27E+02
	PB-212	238.63		44.60	4.09E+01	4.09E+01	1.72E+01	1.91E+01
		300.09		3.41	5.34E+02		-9.08E+01	2.46E+02
	BI-214	609.31		46.30	5.85E+01	5.85E+01	1.27E+01	2.67E+01
		1120.29		15.10	1.75E+02		4.82E+01	7.44E+01
		1764.49		15.80	2.19E+02		0.00E+00	9.27E+01
		2204.22		4.98	4.70E+02		3.88E+01	1.76E+02
	PB-214	295.21		19.19	9.89E+01	5.22E+01	2.03E+01	4.59E+01
		351.92		37.19	5.22E+01		4.51E+01	2.40E+01
	RN-219	401.80		6.50	2.46E+02	2.46E+02	8.54E+00	1.10E+02
	RA-223	323.87		3.88	3.90E+02	3.90E+02	-1.13E+02	1.76E+02
+	RA-224	240.98	*	3.95	7.18E+02	7.18E+02	6.19E+02	3.44E+02
	RA-225	40.00		31.00	8.55E+01	8.55E+01	-1.00E+01	3.94E+01
	RA-226	186.21		3.28	5.59E+02	5.59E+02	4.01E+02	2.64E+02
	TH-227	50.10		8.40	1.51E+02	1.37E+02	-5.54E+01	6.93E+01

Analysis Report for 1608066-06

J1V939 SAF: RC-243

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
TH-227	236.00	11.50	1.37E+02	1.37E+02	1.65E+01	6.33E+01
	256.20	6.30	2.49E+02		1.10E+02	1.15E+02
AC-228	338.32	11.40	1.23E+02	1.05E+02	-8.41E+01	5.50E+01
	911.07	27.70	1.05E+02		4.31E+01	4.63E+01
	969.11	16.60	1.57E+02		-2.62E+01	6.80E+01
TH-230	48.44	16.90	7.51E+01	7.51E+01	-7.93E+01	3.42E+01
	62.85	4.60	2.82E+02		2.21E+02	1.32E+02
	67.67	0.37	3.23E+03		1.94E+03	1.50E+03
PA-231	283.67	1.60	9.61E+02	7.34E+02	5.87E+00	4.39E+02
	302.67	2.30	7.34E+02		4.95E+01	3.36E+02
TH-231	25.64	14.70	7.33E+02	1.66E+02	-9.76E+01	3.42E+02
	84.21	6.40	1.66E+02		6.97E+01	7.71E+01
PA-233	311.98	38.60	4.67E+01	4.67E+01	-7.17E+00	2.12E+01
PA-234	131.20	20.40	6.49E+01	6.49E+01	6.17E+01	3.03E+01
	733.99	8.80	2.56E+02		3.89E+01	1.12E+02
	946.00	12.00	1.84E+02		5.35E+01	7.79E+01
PA-234M	1001.03	0.92	3.17E+03	3.17E+03	1.15E+03	1.39E+03
TH-234	63.29	3.80	3.40E+02	3.40E+02	2.66E+02	1.59E+02
U-235	143.76	10.50	1.43E+02	1.43E+02	9.66E+01	6.72E+01
	163.35	4.70	3.04E+02		-1.40E+01	1.42E+02
	205.31	4.70	2.92E+02		-2.47E+02	1.34E+02
NP-237	86.50	12.60	1.03E+02	1.03E+02	-6.26E+00	4.85E+01
NP-239	106.10	22.70	2.83E+02	2.83E+02	6.63E+01	1.33E+02
	228.18	10.70	7.07E+02		1.25E+02	3.25E+02
	277.60	14.10	5.31E+02		-2.11E+02	2.41E+02
AM-241	59.54	35.90	3.19E+01	3.19E+01	9.81E-01	1.47E+01
AM-243	74.67	66.00	1.63E+01	1.63E+01	-1.39E+01	7.56E+00
CM-243	209.75	3.29	4.55E+02	1.03E+02	-7.41E+01	2.11E+02
	228.14	10.60	1.37E+02		2.43E+01	6.31E+01
	277.60	14.00	1.03E+02		-4.07E+01	4.67E+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 1608066-06

J1V939 SAF: RC-243

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: J1V939 SAF: RC-243

Elapsed Live time: 3600
Elapsed Real Time: 3601

Channel								
1:	0	0	0	0	0	0	161	863
9:	943	509	294	1032	1288	78	65	76
17:	80	85	69	72	75	56	39	39
25:	28	24	16	19	19	20	20	22
33:	17	20	21	13	9	18	13	17
41:	18	17	17	10	24	17	36	11
49:	10	15	15	21	17	20	14	15
57:	18	16	18	14	15	15	36	16
65:	10	19	28	15	18	10	19	12
73:	12	11	23	19	38	17	21	10
81:	13	15	23	16	15	12	20	19
89:	17	18	11	33	40	13	16	16
97:	22	9	10	11	17	21	15	12
105:	12	13	15	19	10	19	13	21
113:	10	11	11	8	23	19	15	12
121:	15	15	11	12	19	10	20	8
129:	14	12	17	13	15	5	7	14
137:	15	19	15	15	9	21	11	22
145:	13	18	12	11	17	14	6	8
153:	10	15	16	17	15	5	6	17
161:	10	12	13	11	21	11	8	12
169:	11	11	11	11	15	12	14	7
177:	10	11	12	14	20	17	10	11
185:	18	42	16	10	14	9	7	8
193:	9	11	14	16	16	16	14	7
201:	18	15	4	12	12	6	12	15
209:	6	11	11	11	12	8	7	9
217:	11	12	8	3	6	13	10	4
225:	9	8	12	8	6	11	7	12
233:	12	13	5	6	12	15	19	13
241:	10	13	10	9	5	13	5	8
249:	6	15	9	6	6	7	8	11
257:	9	10	6	10	6	11	12	13
265:	7	7	9	7	6	8	9	8
273:	5	7	10	4	5	8	8	8
281:	8	7	10	7	9	4	7	10
289:	9	5	12	6	9	9	15	11
297:	11	12	14	9	10	4	11	12
305:	4	7	5	6	10	7	7	9
313:	3	7	6	5	9	3	8	11
321:	10	7	6	5	9	2	6	8
329:	5	4	6	5	9	7	6	6
337:	7	3	3	4	9	6	4	5
345:	4	4	3	7	3	5	3	23
353:	7	6	3	2	6	3	9	7
361:	3	3	7	5	7	6	5	5

369:	5	5	6	5	6	3	6	8

Sample Title: J1V939 SAF: RC-243

Channel								
377:	3	7	2	2	3	9	5	6
385:	5	5	5	8	3	7	7	2
393:	3	5	4	6	4	9	5	6
401:	3	3	4	7	4	6	5	5
409:	4	9	4	4	7	5	8	4
417:	3	4	4	6	7	3	4	4
425:	6	7	2	3	4	2	5	1
433:	8	4	7	4	3	3	5	0
441:	11	3	3	3	4	5	4	4
449:	4	3	7	3	2	4	5	4
457:	3	4	3	1	2	11	9	8
465:	4	3	1	3	5	2	1	7
473:	8	5	4	1	3	8	5	1
481:	6	4	2	3	4	0	6	8
489:	4	3	7	1	5	2	6	4
497:	7	3	5	2	6	5	1	4
505:	3	4	5	7	10	20	24	26
513:	12	3	4	2	7	4	1	5
521:	2	4	3	3	5	6	2	3
529:	4	2	1	4	3	5	1	1
537:	4	5	5	3	6	4	4	2
545:	1	3	5	3	2	5	6	1
553:	1	3	3	2	6	5	6	4
561:	1	2	2	3	1	4	3	5
569:	7	4	2	7	2	7	3	4
577:	6	5	1	4	4	2	9	7
585:	5	4	4	2	6	5	1	2
593:	2	2	6	3	3	4	5	5
601:	2	8	1	6	4	4	1	4
609:	10	9	6	2	3	4	2	3
617:	0	6	6	3	5	3	3	3
625:	2	3	3	4	1	3	3	4
633:	1	2	2	2	2	2	3	4
641:	4	2	0	4	1	2	5	2
649:	2	7	1	7	3	2	3	7
657:	4	2	3	4	4	6	8	2
665:	6	3	1	2	2	6	2	2
673:	1	4	7	4	2	4	3	1
681:	3	2	2	2	3	5	3	2
689:	1	2	2	6	3	7	5	5
697:	4	3	3	3	2	4	5	5
705:	3	2	1	4	3	2	4	3
713:	3	5	2	3	6	5	1	1
721:	2	2	2	0	3	1	8	2
729:	3	2	3	2	2	2	2	2
737:	4	1	2	3	1	2	1	3
745:	2	1	1	5	3	2	3	0
753:	3	2	3	3	5	1	4	2
761:	3	0	2	3	2	3	3	1
769:	1	3	2	2	5	2	1	1
777:	2	5	0	2	3	1	1	3
785:	3	6	1	4	1	2	1	2
793:	1	1	6	1	6	3	4	3

801:	2	1	8	1	3	4	3	2

Sample Title: J1V939 SAF: RC-243

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

1233:	2	1	2	0	3	1	3	3

Sample Title: J1V939 SAF: RC-243

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

1665:	0	0	1	1	1	0	0	0

Sample Title: J1V939 SAF: RC-243

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

2097:	0	0	0	0	0	1	0	2

Sample Title: J1V939 SAF: RC-243

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

2529:	1	0	0	1	1	0	1	0

Sample Title: J1V939 SAF: RC-243

Channel								
2537:	0	0	1	2	1	0	1	0
2545:	1	0	0	0	0	1	0	1
2553:	0	0	0	0	0	0	0	0
2561:	0	0	1	0	0	1	0	0
2569:	0	0	0	0	0	0	0	0
2577:	0	0	0	0	1	0	0	1
2585:	1	0	0	0	0	0	0	0
2593:	0	0	0	1	0	0	0	0
2601:	1	0	0	0	0	0	0	0
2609:	0	0	0	1	1	2	2	2
2617:	0	0	0	0	0	0	0	0
2625:	0	0	0	0	0	0	0	1
2633:	0	0	0	0	0	0	1	1
2641:	0	0	0	0	0	0	0	0
2649:	0	1	2	0	0	1	0	0
2657:	0	0	0	0	1	0	0	0
2665:	0	0	0	3	0	0	1	0
2673:	0	0	0	1	0	0	0	0
2681:	0	0	0	1	0	0	1	0
2689:	0	0	0	0	0	1	0	0
2697:	0	0	0	0	0	1	0	0
2705:	1	0	1	0	0	0	0	1
2713:	1	2	0	0	0	0	0	0
2721:	0	1	0	0	0	1	0	0
2729:	0	0	0	0	0	0	0	0
2737:	0	0	1	1	1	0	0	0
2745:	0	0	0	1	0	0	0	0
2753:	0	0	0	2	0	0	0	1
2761:	1	0	2	0	0	0	0	0
2769:	1	0	0	1	0	0	0	0
2777:	0	0	0	0	0	0	0	0
2785:	0	0	0	0	0	1	0	0
2793:	0	0	0	0	0	0	0	0
2801:	2	0	0	0	0	0	1	2
2809:	0	0	1	0	1	0	0	0
2817:	0	0	0	0	0	1	0	0
2825:	0	1	0	0	0	0	0	0
2833:	0	0	1	0	0	0	0	0
2841:	0	2	0	0	1	0	0	0
2849:	1	0	0	1	0	1	1	0
2857:	0	1	0	0	0	0	0	0
2865:	1	0	1	0	0	1	1	0
2873:	1	0	0	0	1	0	1	0
2881:	0	0	0	0	0	1	1	1
2889:	0	0	0	0	0	0	0	0
2897:	0	0	0	0	0	0	0	0
2905:	0	0	0	0	0	0	0	0
2913:	0	0	0	0	0	0	0	0
2921:	0	0	0	0	1	0	0	0
2929:	0	0	0	0	0	0	0	0
2937:	1	0	0	0	0	0	0	1
2945:	0	0	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: J1V939 SAF: RC-243

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

3393:	0	0	0	0	0	0	2	0

Sample Title: J1V939 SAF: RC-243

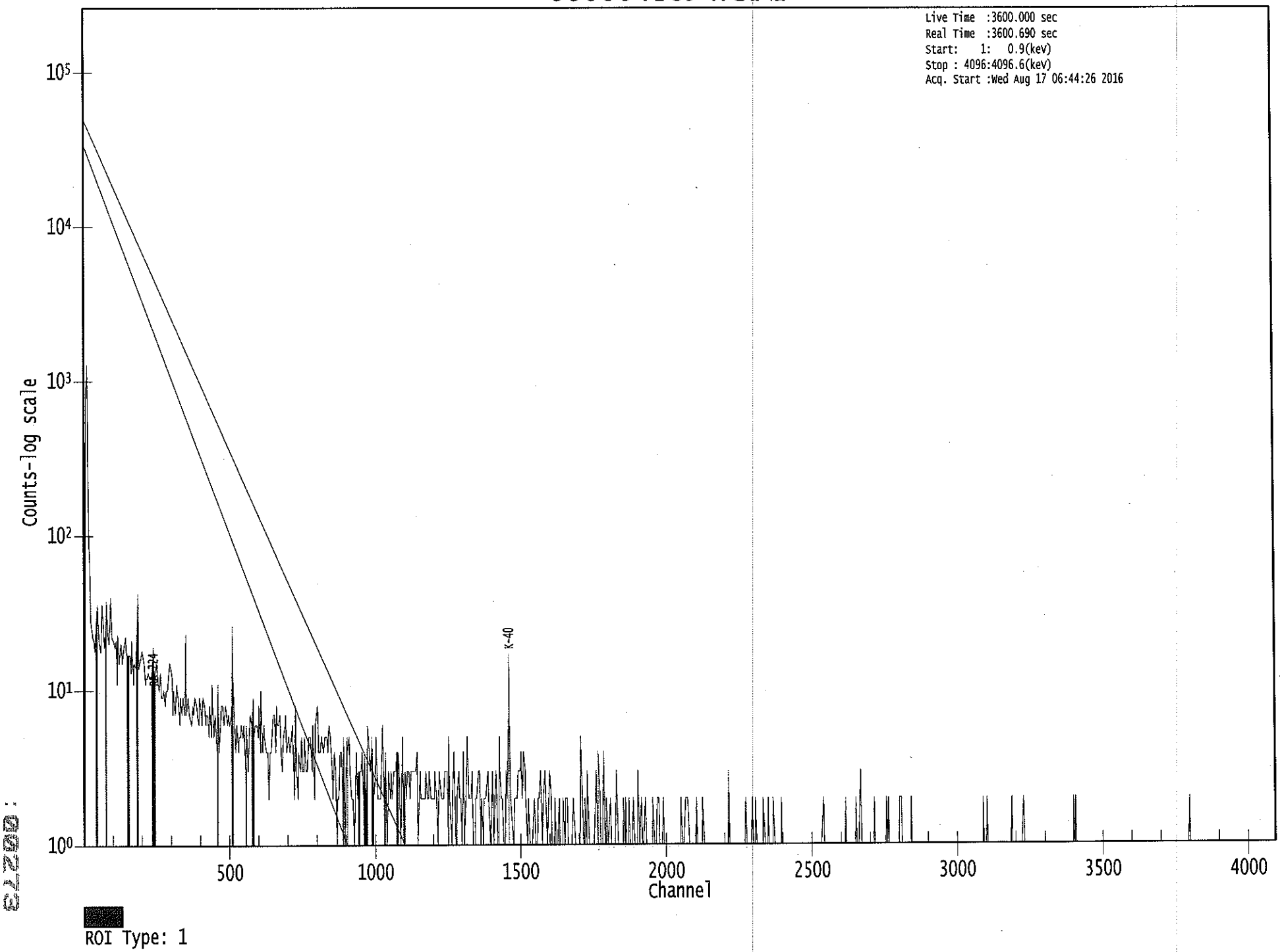
Channel								
3401:	0	0	0	1	0	2	0	0
3409:	0	0	0	0	0	0	0	0
3417:	0	0	0	0	0	0	1	0
3425:	0	0	0	0	0	0	0	0
3433:	1	0	0	0	0	0	0	0
3441:	0	0	1	0	0	0	0	0
3449:	1	0	0	0	0	0	0	0
3457:	0	0	0	0	0	0	0	0
3465:	0	0	0	0	1	0	0	1
3473:	1	1	0	0	0	0	0	0
3481:	0	1	0	0	0	0	0	0
3489:	0	0	0	0	0	0	1	1
3497:	0	1	0	0	0	0	0	0
3505:	0	0	0	0	0	0	0	0
3513:	0	0	0	0	0	0	0	0
3521:	0	0	0	0	0	0	0	0
3529:	0	0	0	0	0	0	0	0
3537:	0	0	0	0	1	1	0	1
3545:	0	0	0	0	0	0	0	0
3553:	0	0	0	0	0	0	0	1
3561:	0	1	0	0	0	0	0	0
3569:	0	0	0	0	1	0	0	0
3577:	0	0	0	0	0	1	0	0
3585:	0	0	1	0	0	0	1	0
3593:	0	1	1	1	0	0	1	0
3601:	0	1	0	0	0	1	0	0
3609:	0	0	0	0	0	0	1	0
3617:	0	0	0	0	0	0	0	0
3625:	0	1	0	0	0	1	1	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	1
3657:	0	0	0	0	0	0	0	0
3665:	0	0	0	0	0	0	0	0
3673:	0	1	0	0	0	0	0	0
3681:	0	0	1	0	0	0	0	0
3689:	0	0	0	1	0	0	0	1
3697:	0	0	0	0	0	0	0	0
3705:	0	0	0	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	1	0	1	1	0	0	0
3737:	0	0	0	0	0	0	0	0
3745:	0	0	0	0	0	0	0	0
3753:	0	0	1	0	1	0	0	0
3761:	0	0	0	1	0	0	0	0
3769:	1	0	0	0	0	0	0	0
3777:	0	0	0	0	0	0	0	0
3785:	0	0	0	0	1	1	0	0
3793:	0	1	0	0	1	0	2	0
3801:	1	0	0	0	0	0	0	0
3809:	0	0	1	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: J1V939 SAF: RC-243

Channel								
3833:	0	0	0	0	0	0	0	1
3841:	0	0	0	0	0	0	0	0
3849:	0	0	1	0	0	0	0	0
3857:	0	0	0	0	1	1	1	0
3865:	1	1	1	1	0	1	0	0
3873:	0	0	0	1	0	1	0	0
3881:	0	0	0	0	0	0	0	1
3889:	0	0	0	0	0	0	0	0
3897:	0	1	0	1	0	0	0	0
3905:	0	0	0	0	0	0	0	0
3913:	0	0	1	0	0	1	0	0
3921:	0	0	0	0	0	0	0	0
3929:	1	0	0	0	0	0	0	0
3937:	0	0	1	0	0	0	0	0
3945:	0	0	0	0	0	0	0	0
3953:	1	0	1	0	0	0	0	0
3961:	0	0	0	0	0	0	1	0
3969:	0	0	0	0	0	0	0	0
3977:	0	0	0	0	0	0	0	0
3985:	0	0	0	0	0	1	0	0
3993:	0	0	0	0	0	0	0	1
4001:	0	0	1	1	0	0	1	0
4009:	0	0	1	0	1	0	0	0
4017:	1	0	0	0	0	0	0	0
4025:	0	1	0	0	0	0	0	0
4033:	0	0	0	0	0	0	0	1
4041:	0	0	0	1	0	1	0	0
4049:	1	0	0	0	0	0	1	0
4057:	0	0	1	0	1	0	0	0
4065:	0	0	0	0	0	1	0	1
4073:	0	1	1	0	0	0	0	0
4081:	0	0	0	1	0	0	0	0
4089:	0	0	0	0	0	0	0	0

0000041694.CNF



E1200 :

Apex-Gamma

8/17

Analysis Report for 1608066-07

J1V940 SAF: RC-243

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 1608066-07
Sample Description	: J1V940 SAF: RC-243
Sample Type	: SOIL
Sample Size	: 1.000E+00 sample
Facility	: Countroom
Sample Taken On	: 8/11/2016 4:41:28PM
Acquisition Started	: 8/17/2016 7:47:26AM
Procedure	: GAS-1402 pCi
Operator	: Administrator
Detector Name	: GE1
Geometry	: GAS-1402
Live Time	: 3600.0 seconds
Real Time	: 3600.4 seconds
Dead Time	: 0.01 %
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	: 41699

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AP
8/17/16

Analysis Report for 1608066-07

J1V940 SAF: RC-243

PEAK LOCATE REPORT

Peak Locate Performed on : 8/17/2016 8:47:29AM
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	70.87	71.21	0.0000	0.00
2	121.43	121.76	0.0000	0.00
3	310.98	311.24	0.0000	0.00
4	353.60	353.85	0.0000	0.00
5	411.43	411.66	0.0000	0.00
6	478.37	478.58	0.0000	0.00
7	487.38	487.58	0.0000	0.00
8	498.30	498.50	0.0000	0.00
9	557.62	557.80	0.0000	0.00
10	609.71	609.87	0.0000	0.00
11	721.36	721.48	0.0000	0.00
12	947.65	947.69	0.0000	0.00
13	1000.43	1000.45	0.0000	0.00
14	1288.72	1288.64	0.0000	0.00
15	1319.64	1319.55	0.0000	0.00
16	1385.00	1384.89	0.0000	0.00
17	1461.31	1461.16	0.0000	0.00
18	1496.29	1496.14	0.0000	0.00
19	1519.51	1519.34	0.0000	0.00
20	1617.37	1617.17	0.0000	0.00
21	2203.30	2202.88	0.0000	0.00

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1608066-07

J1V940 SAF: RC-243

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/17/2016 8:47:29AM

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

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
1	70.87	69 -	74	71.21	3.13E+01	30.50	1.59E+02	2.77
2	121.43	118 -	126	121.76	4.62E+01	37.34	1.80E+02	3.86
3	310.98	308 -	316	311.24	2.26E+01	28.25	1.11E+02	1.91
4	353.60	349 -	358	353.85	2.47E+01	30.05	1.15E+02	1.75
5	411.43	408 -	416	411.66	1.80E+01	22.62	6.80E+01	6.30
6	478.37	474 -	484	478.58	2.97E+01	17.98	2.66E+01	7.79
7	487.38	485 -	490	487.58	1.51E+01	12.92	2.18E+01	1.34
8	498.30	493 -	503	498.50	2.05E+01	22.24	5.50E+01	6.59
9	557.62	554 -	562	557.80	1.72E+01	18.28	4.16E+01	3.05
10	609.71	607 -	613	609.87	2.43E+01	18.19	4.34E+01	1.18
11	721.36	719 -	724	721.48	1.43E+01	10.58	9.47E+00	3.80
12	947.65	943 -	954	947.69	1.50E+01	15.87	2.40E+01	2.62
13	1000.43	996 -	1004	1000.45	1.95E+01	11.68	9.00E+00	1.68
14	1288.72	1285 -	1291	1288.64	1.10E+01	6.63	0.00E+00	1.35
15	1319.64	1316 -	1322	1319.55	8.30E+00	7.23	3.40E+00	2.88
16	1385.00	1381 -	1389	1384.89	8.50E+00	9.62	9.00E+00	1.79
17	1461.31	1457 -	1464	1461.16	3.49E+01	16.85	2.42E+01	2.63
18	1496.29	1492 -	1499	1496.14	5.14E+00	6.63	3.71E+00	1.85
19	1519.51	1517 -	1521	1519.34	3.83E+00	6.04	4.33E+00	1.10
20	1617.37	1614 -	1619	1617.17	6.00E+00	4.90	0.00E+00	2.74
21	2203.30	2200 -	2205	2202.88	4.58E+00	5.74	2.83E+00	1.85

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 : 8/17/2016 8:47:29AM

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

Analysis Report for 1608066-07

J1V940 SAF: RC-243

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
1	70.87	69 -	74	3.13E+01	30.50	1.59E+02	2.33E+01
2	121.43	118 -	126	4.62E+01	37.34	1.80E+02	2.86E+01
3	310.98	308 -	316	2.26E+01	28.25	1.11E+02	2.19E+01
4	353.60	349 -	358	2.47E+01	30.05	1.15E+02	2.33E+01
5	411.43	408 -	416	1.80E+01	22.62	6.80E+01	1.72E+01
6	478.37	474 -	484	2.97E+01	17.98	2.66E+01	1.18E+01
7	487.38	485 -	490	1.51E+01	12.92	2.18E+01	8.49E+00
8	498.30	493 -	503	2.05E+01	22.24	5.50E+01	1.67E+01
9	557.62	554 -	562	1.72E+01	18.28	4.16E+01	1.34E+01
10	609.71	607 -	613	2.43E+01	18.19	4.34E+01	1.26E+01
11	721.36	719 -	724	1.43E+01	10.58	9.47E+00	6.09E+00
12	947.65	943 -	954	1.50E+01	15.87	2.40E+01	1.14E+01
13	1000.43	996 -	1004	1.95E+01	11.68	9.00E+00	6.29E+00
14	1288.72	1285 -	1291	1.10E+01	6.63	0.00E+00	0.00E+00
15	1319.64	1316 -	1322	8.30E+00	7.23	3.40E+00	3.59E+00
16	1385.00	1381 -	1389	8.50E+00	9.62	9.00E+00	6.29E+00
17	1461.31	1457 -	1464	3.49E+01	16.85	2.42E+01	9.88E+00
18	1496.29	1492 -	1499	5.14E+00	6.63	3.71E+00	3.98E+00
19	1519.51	1517 -	1521	3.83E+00	6.04	4.33E+00	3.78E+00
20	1617.37	1614 -	1619	6.00E+00	4.90	0.00E+00	0.00E+00
21	2203.30	2200 -	2205	4.58E+00	5.74	2.83E+00	3.15E+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 : 8/17/2016 8:47:29AM

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

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB
Peak Match Tolerance : 1.000 keV

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
1	70.87	69 -	74	71.21	3.13E+01	30.50	1.59E+02	.....

Analysis Report for 1608066-07

J1V940 SAF: RC-243

Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	Tentative Nuclide
2	121.43	118 -	126	121.76	4.62E+01	37.34	1.80E+02	SE-75 EU-152 CO-57
3	310.98	308 -	316	311.24	2.26E+01	28.25	1.11E+02	PA-233
4	353.60	349 -	358	353.85	2.47E+01	30.05	1.15E+02	.....
5	411.43	408 -	416	411.66	1.80E+01	22.62	6.80E+01	HO-166M
6	478.37	474 -	484	478.58	2.97E+01	17.98	2.66E+01	BE-7
7	487.38	485 -	490	487.58	1.51E+01	12.92	2.18E+01	LA-140
8	498.30	493 -	503	498.50	2.05E+01	22.24	5.50E+01	.....
9	557.62	554 -	562	557.80	1.72E+01	18.28	4.16E+01	.....
10	609.71	607 -	613	609.87	2.43E+01	18.19	4.34E+01	BI-214
11	721.36	719 -	724	721.48	1.43E+01	10.58	9.47E+00	SB-126
12	947.65	943 -	954	947.69	1.50E+01	15.87	2.40E+01	.....
13	1000.43	996 -	1004	1000.45	1.95E+01	11.68	9.00E+00	PA-234M
14	1288.72	1285 -	1291	1288.64	1.10E+01	6.63	0.00E+00	.....
15	1319.64	1316 -	1322	1319.55	8.30E+00	7.23	3.40E+00	.....
16	1385.00	1381 -	1389	1384.89	8.50E+00	9.62	9.00E+00	AG-110M
17	1461.31	1457 -	1464	1461.16	3.49E+01	16.85	2.42E+01	K-40
18	1496.29	1492 -	1499	1496.14	5.14E+00	6.63	3.71E+00	.....
19	1519.51	1517 -	1521	1519.34	3.83E+00	6.04	4.33E+00	.....
20	1617.37	1614 -	1619	1617.17	6.00E+00	4.90	0.00E+00	.....
21	2203.30	2200 -	2205	2202.88	4.58E+00	5.74	2.83E+00	BI-214

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 : 8/17/2016 8:47:29AM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	70.87	3.13E+01	30.50	2.68E-02	2.16E-03
2	121.43	4.62E+01	37.34	2.73E-02	2.08E-03
3	310.98	2.26E+01	28.25	1.61E-02	1.28E-03
4	353.60	2.47E+01	30.05	1.47E-02	1.19E-03
5	411.43	1.80E+01	22.62	1.32E-02	1.09E-03
6	478.37	2.97E+01	17.98	1.18E-02	1.02E-03
7	487.38	1.51E+01	12.92	1.16E-02	1.01E-03
8	498.30	2.05E+01	22.24	1.15E-02	1.00E-03

Analysis Report for 1608066-07

J1V940 SAF: RC-243

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
9	557.62	1.72E+01	18.28	1.05E-02	9.42E-04
10	609.71	2.43E+01	18.19	9.82E-03	8.88E-04
11	721.36	1.43E+01	10.58	8.61E-03	7.81E-04
12	947.65	1.50E+01	15.87	6.93E-03	5.97E-04
13	1000.43	1.95E+01	11.68	6.63E-03	5.69E-04
14	1288.72	1.10E+01	6.63	5.45E-03	4.59E-04
15	1319.64	8.30E+00	7.23	5.35E-03	4.53E-04
16	1385.00	8.50E+00	9.62	5.16E-03	4.38E-04
17	1461.31	3.49E+01	16.85	4.97E-03	4.19E-04
18	1496.29	5.14E+00	6.63	4.89E-03	4.10E-04
19	1519.51	3.83E+00	6.04	4.84E-03	4.05E-04
20	1617.37	6.00E+00	4.90	4.64E-03	3.80E-04
21	2203.30	4.58E+00	5.74	3.95E-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 : 8/17/2016 8:47:29AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000041518.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
1	70.87	3.13E+01	30.50			3.13E+01	3.05E+01
2	121.43	4.62E+01	37.34	5.92E+00	7.62E+00	4.03E+01	3.81E+01
3	310.98	2.26E+01	28.25			2.26E+01	2.82E+01
4	353.60	2.47E+01	30.05			2.47E+01	3.00E+01
5	411.43	1.80E+01	22.62			1.80E+01	2.26E+01
6	478.37	2.97E+01	17.98			2.97E+01	1.80E+01
7	487.38	1.51E+01	12.92			1.51E+01	1.29E+01
8	498.30	2.05E+01	22.24			2.05E+01	2.22E+01
9	557.62	1.72E+01	18.28			1.72E+01	1.83E+01
10	609.71	2.43E+01	18.19	5.75E+00	4.00E+00	1.86E+01	1.86E+01
11	721.36	1.43E+01	10.58			1.43E+01	1.06E+01
12	947.65	1.50E+01	15.87			1.50E+01	1.59E+01
13	1000.43	1.95E+01	11.68	4.36E+00	2.90E+00	1.51E+01	1.20E+01
14	1288.72	1.10E+01	6.63			1.10E+01	6.63E+00
15	1319.64	8.30E+00	7.23			8.30E+00	7.23E+00
16	1385.00	8.50E+00	9.62			8.50E+00	9.62E+00
17	1461.31	3.49E+01	16.85	7.03E+00	2.05E+00	2.79E+01	1.70E+01

Analysis Report for 1608066-07

J1V940 SAF: RC-243

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
18	1496.29	5.14E+00	6.63			5.14E+00	6.63E+00
19	1519.51	3.83E+00	6.04			3.83E+00	6.04E+00
20	1617.37	6.00E+00	4.90			6.00E+00	4.90E+00
21	2203.30	4.58E+00	5.74			4.58E+00	5.74E+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 : 8/17/2016 8:47:29AM

Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000041518.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	70.87	3.13E+01	30.50			3.13E+01	3.05E+01
2	121.43	4.62E+01	37.34	5.92E+00	7.62E+00	4.03E+01	3.81E+01
3	310.98	2.26E+01	28.25			2.26E+01	2.82E+01
4	353.60	2.47E+01	30.05			2.47E+01	3.00E+01
5	411.43	1.80E+01	22.62			1.80E+01	2.26E+01
6	478.37	2.97E+01	17.98			2.97E+01	1.80E+01
7	487.38	1.51E+01	12.92			1.51E+01	1.29E+01
8	498.30	2.05E+01	22.24			2.05E+01	2.22E+01
9	557.62	1.72E+01	18.28			1.72E+01	1.83E+01
10	609.71	2.43E+01	18.19	5.75E+00	4.00E+00	1.86E+01	1.86E+01
11	721.36	1.43E+01	10.58			1.43E+01	1.06E+01
12	947.65	1.50E+01	15.87			1.50E+01	1.59E+01
13	1000.43	1.95E+01	11.68	4.36E+00	2.90E+00	1.51E+01	1.20E+01
14	1288.72	1.10E+01	6.63			1.10E+01	6.63E+00
15	1319.64	8.30E+00	7.23			8.30E+00	7.23E+00
16	1385.00	8.50E+00	9.62			8.50E+00	9.62E+00
17	1461.31	3.49E+01	16.85	7.03E+00	2.05E+00	2.79E+01	1.70E+01
18	1496.29	5.14E+00	6.63			5.14E+00	6.63E+00
19	1519.51	3.83E+00	6.04			3.83E+00	6.04E+00
20	1617.37	6.00E+00	4.90			6.00E+00	4.90E+00
21	2203.30	4.58E+00	5.74			4.58E+00	5.74E+00

Analysis Report for 1608066-07

J1V940 SAF: RC-243

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/sample)	Activity Uncertainty
BE-7	0.907	477.59	*	10.42	1.95E+02	1.19E+02
K-40	0.961	1460.81	*	10.67	3.95E+02	2.43E+02
CO-57	0.771	122.06	*	85.51	1.31E+01	1.25E+01
		136.48		10.60		
BI-214	0.479	609.31	*	46.30	3.06E+01	3.09E+01
		1120.29		15.10		
		1764.49		15.80		
		2204.22	*	4.98	1.75E+02	2.20E+02
PA-233	0.852	311.98	*	38.60	3.16E+01	4.01E+01
PA-234M	0.943	1001.03	*	0.92	1.86E+03	1.49E+03

* = 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 : 8/17/2016 8:47:29AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide

Analysis Report for 1608066-07

J1V940 SAF: RC-243

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
1	70.87	8.68368E-03	48.78		
4	353.60	6.85468E-03	60.89		
5	411.43	4.99733E-03	62.87	Tol.	HO-166M
7	487.38	4.19338E-03	42.80	Tol.	LA-140
8	498.30	5.69444E-03	54.24		
9	557.62	4.78436E-03	53.07		
11	721.36	3.96199E-03	37.10	Tol.	SB-126
12	947.65	4.16667E-03	52.92		
14	1288.72	3.05556E-03	30.15		
15	1319.64	2.30556E-03	43.54		
16	1385.00	2.36111E-03	56.57	Tol.	AG-110M
18	1496.29	1.42857E-03	64.49		
19	1519.51	1.06481E-03	78.80		
20	1617.37	1.66667E-03	40.82		

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

NUCLIDE IDENTIFICATION REPORT

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

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (pCi/sample)	Activity Uncertainty
BE-7	0.90	477.59	*	10.42	1.95E+02	1.19E+02
K-40	0.96	1460.81	*	10.67	3.95E+02	2.43E+02
CO-57	0.77	122.06	*	85.51	1.31E+01	1.25E+01
		136.48		10.60		
BI-214	0.47	609.31	*	46.30	3.06E+01	3.09E+01
		1120.29		15.10		
		1764.49		15.80		
		2204.22	*	4.98	1.75E+02	2.20E+02
PA-233	0.85	311.98	*	38.60	3.16E+01	4.01E+01
PA-234M	0.94	1001.03	*	0.92	1.86E+03	1.49E+03

Analysis Report for 1608066-07

J1V940 SAF: RC-243

* = 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/sample)	Wt mean Activity Uncertainty	Comments
BE-7	0.907	1.95E+02	1.19E+02	
K-40	0.961	3.95E+02	2.43E+02	
CO-57	0.771	1.31E+01	1.25E+01	
BI-214	0.479	3.34E+01	3.06E+01	
PA-233	0.852	3.16E+01	4.01E+01	
PA-234M	0.943	1.86E+03	1.49E+03	

? = 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 1608066-07

J1V940 SAF: RC-243

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/17/2016 8:47:29AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
1	70.87	8.68368E-03	48.78		
4	353.60	6.85468E-03	60.89		
5	411.43	4.99733E-03	62.87	Tol.	HO-166M
7	487.38	4.19338E-03	42.80	Tol.	LA-140
8	498.30	5.69444E-03	54.24		
9	557.62	4.78436E-03	53.07		
11	721.36	3.96199E-03	37.10	Tol.	SB-126
12	947.65	4.16667E-03	52.92		
14	1288.72	3.05556E-03	30.15		
15	1319.64	2.30556E-03	43.54		
16	1385.00	2.36111E-03	56.57	Tol.	AG-110M
18	1496.29	1.42857E-03	64.49		
19	1519.51	1.06481E-03	78.80		
20	1617.37	1.66667E-03	40.82		

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

NUCLIDE MDA REPORT

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

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	BE-7	477.59	*	10.42	1.95E+02	1.72E+02	1.72E+02
+	NA-22	1274.54		99.94	-4.32E+00	2.06E+01	2.06E+01
+	NA-24	1368.53		99.99	-7.11E+02	1.13E+04	1.20E+04

Analysis Report for 1608066-07

J1V940 SAF: RC-243

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
	NA-24	2754.09		99.86	-2.56E+03	1.13E+04	1.13E+04
+	AL-26	1808.65		99.76	-3.47E+00	2.09E+01	2.09E+01
+	K-40	1460.81	*	10.67	3.95E+02	3.48E+02	3.48E+02
+	@ AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26
+	TI-44	67.88		94.40	-6.77E+00	1.42E+01	1.42E+01
		78.34		96.00	-1.08E+00		1.43E+01
+	SC-46	889.25		99.98	-5.26E+00	1.71E+01	1.71E+01
		1120.51		99.99	3.37E+00		2.26E+01
+	V-48	983.52		99.98	8.03E+00	2.20E+01	2.69E+01
		1312.10		97.50	9.16E-01		2.20E+01
+	CR-51	320.08		9.83	2.45E+01	1.59E+02	1.59E+02
+	MN-54	834.83		99.97	3.72E+00	2.11E+01	2.11E+01
+	CO-56	846.75		99.96	1.41E+01	2.61E+01	2.61E+01
		1037.75		14.03	-6.95E+01		1.70E+02
		1238.25		67.00	2.47E+01		4.59E+01
		1771.40		15.51	2.83E+01		1.84E+02
		2598.48		16.90	1.02E+01		1.48E+02
+	CO-57	122.06	*	85.51	1.31E+01	2.02E+01	2.02E+01
		136.48		10.60	-1.25E+01		1.11E+02
+	CO-58	810.76		99.40	1.17E+01	2.44E+01	2.44E+01
+	FE-59	1099.22		56.50	6.39E+00	3.54E+01	3.54E+01
		1291.56		43.20	-6.11E+00		6.33E+01
+	CO-60	1173.22		100.00	7.50E-01	2.13E+01	2.42E+01
		1332.49		100.00	-4.96E+00		2.13E+01
+	ZN-65	1115.52		50.75	-1.82E+01	3.71E+01	3.71E+01
+	GA-67	93.31		35.70	2.59E+02	1.76E+02	1.76E+02
		208.95		2.24	2.31E+02		2.05E+03
		300.22		16.00	4.55E+01		2.78E+02
+	SE-75	121.11		16.70	2.55E+01	2.00E+01	8.13E+01
		136.00		59.20	-3.27E+00		2.00E+01
		264.65		59.80	2.17E+00		2.40E+01
		279.53		25.20	-6.48E+00		5.30E+01
		400.65		11.40	1.75E+01		1.43E+02
+	RB-82	776.52		13.00	1.17E+02	1.91E+02	1.91E+02
+	RB-83	520.41		46.00	-3.38E+00	4.21E+01	4.21E+01
		529.64		30.30	-2.68E+00		5.45E+01
		552.65		16.40	3.20E+01		1.06E+02
+	KR-85	513.99		0.43	6.30E+03	7.32E+03	7.32E+03
+	SR-85	513.99		99.27	2.92E+01	3.40E+01	3.40E+01
+	Y-88	898.02		93.40	-4.96E+00	1.96E+01	2.39E+01
		1836.01		99.38	2.13E+00		1.96E+01
+	NB-93M	16.57		9.43	-2.26E+04	2.25E+04	2.25E+04
+	NB-94	702.63		100.00	7.30E+00	1.43E+01	2.33E+01
		871.10		100.00	-8.11E+00		1.43E+01
+	NB-95	765.79		99.81	-9.42E+00	2.00E+01	2.00E+01
+	NB-95M	235.69		25.00	-1.67E+02	1.57E+02	1.57E+02
+	ZR-95	724.18		43.70	0.00E+00	4.09E+01	4.89E+01

Analysis Report for 1608066-07

J1V940 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
	ZR-95	756.72	55.30	-3.48E+00	4.09E+01	4.09E+01
+	MO-99	181.06	6.20	1.02E+02	7.22E+02	8.83E+02
		739.58	12.80	1.02E+02		7.22E+02
		778.00	4.50	8.54E+02		1.92E+03
+	RU-103	497.08	89.00	3.36E+00	2.39E+01	2.39E+01
+	RU-106	621.84	9.80	-9.46E+01	1.96E+02	1.96E+02
+	AG-108M	433.93	89.90	5.51E+00	1.88E+01	1.88E+01
		614.37	90.40	-1.09E+00		2.29E+01
		722.95	90.50	-1.93E+00		2.37E+01
+	CD-109	88.03	3.72	3.31E+01	3.29E+02	3.29E+02
+	AG-110M	657.75	93.14	3.54E-01	2.30E+01	2.30E+01
		677.61	10.53	1.77E+01		1.84E+02
		706.67	16.46	-1.88E+01		1.35E+02
		763.93	21.98	1.33E+01		9.23E+01
		884.67	71.63	3.64E+00		3.10E+01
		1384.27	23.94	4.54E+01		1.12E+02
+	CD-113M	263.70	0.02	-1.89E+04	5.76E+04	5.76E+04
+	SN-113	255.12	1.93	2.65E+02	2.43E+01	6.26E+02
		391.69	64.90	-1.81E+00		2.43E+01
+	TE123M	159.00	84.10	1.78E+00	1.52E+01	1.52E+01
+	SB-124	602.71	97.87	6.14E+00	2.33E+01	2.33E+01
		645.85	7.26	-4.41E+01		2.76E+02
		722.78	11.10	-1.68E+01		2.06E+02
		1691.02	49.00	-5.44E+00		3.37E+01
+	I-125	35.49	6.49	5.77E+01	6.47E+02	6.47E+02
+	SB-125	176.33	6.89	1.82E+01	5.73E+01	1.84E+02
		427.89	29.33	1.17E+01		5.73E+01
		463.38	10.35	-8.88E+00		1.91E+02
		600.56	17.80	-3.25E+01		1.18E+02
		635.90	11.32	-2.54E+01		1.49E+02
+	SB-126	414.70	83.30	6.85E-01	2.59E+01	2.88E+01
		666.33	99.60	-6.35E+00		2.59E+01
		695.00	99.60	1.53E+01		3.03E+01
		720.50	53.80	1.85E+01		5.56E+01
+	SN-126	87.57	37.00	3.30E+00	3.28E+01	3.28E+01
+	SB-127	473.00	25.00	3.49E+00	1.34E+02	1.84E+02
		685.20	35.70	1.30E+00		1.34E+02
		783.80	14.70	1.75E+01		3.63E+02
+	I-129	29.78	57.00	-3.79E+01	1.47E+02	1.47E+02
		33.60	13.20	-2.58E+01		3.68E+02
		39.58	7.52	-2.19E+02		3.43E+02
+	I-131	284.30	6.05	4.54E+00	2.76E+01	3.75E+02
		364.48	81.20	-5.47E+00		2.76E+01
		636.97	7.26	-1.20E+02		3.88E+02
		722.89	1.80	-1.58E+02		1.94E+03
+	TE-132	49.72	13.10	-2.96E+01	4.77E+01	4.94E+02
		228.16	88.00	-1.41E+01		4.77E+01
+	BA-133	81.00	33.00	-4.33E+00	2.62E+01	4.08E+01
		302.84	17.80	-2.85E+01		6.44E+01

Analysis Report for 1608066-07

J1V940 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
	BA-133	356.01	60.00	-5.76E+00	2.62E+01	2.62E+01
+	I-133	529.87	86.30	-8.25E+01	1.68E+03	1.68E+03
+	XE-133	81.00	38.00	-7.93E+00	7.47E+01	7.47E+01
+	CS-134	563.23	8.38	6.15E+01	2.14E+01	2.50E+02
		569.32	15.43	2.47E+01		1.35E+02
		604.70	97.60	3.88E+00		2.14E+01
		795.84	85.40	6.10E+00		2.72E+01
		801.93	8.73	1.03E+02		2.26E+02
+	CS-135	268.24	16.00	8.99E+00	8.47E+01	8.47E+01
+	I-135	1131.51	22.50	-1.96E+07	1.18E+08	1.25E+08
		1260.41	28.60	-2.76E+06		1.18E+08
		1678.03	9.54	-1.30E+08		2.41E+08
+	CS-136	153.22	7.46	-1.02E+02	3.06E+01	2.00E+02
		163.89	4.61	1.01E+02		3.57E+02
		176.55	13.56	1.24E+01		1.25E+02
		273.65	12.66	-3.03E+01		1.41E+02
		340.57	48.50	-1.30E+01		4.17E+01
		818.50	99.70	3.26E+00		3.06E+01
		1048.07	79.60	-2.98E+00		3.46E+01
		1235.34	19.70	5.67E+01		1.84E+02
+	CS-137	661.65	85.12	-1.19E+01	2.10E+01	2.10E+01
+	LA-138	788.74	34.00	-3.92E+01	2.43E+01	4.99E+01
		1435.80	66.00	-1.13E+00		2.43E+01
+	CE-139	165.85	80.35	3.44E+00	1.50E+01	1.50E+01
+	BA-140	162.64	6.70	-6.94E+00	9.06E+01	2.47E+02
		304.84	4.50	-3.26E+01		3.67E+02
		423.70	3.20	2.39E+02		7.65E+02
		437.55	2.00	-1.70E+02		1.10E+03
		537.32	25.00	-6.82E+00		9.06E+01
+	LA-140	328.77	20.50	2.40E+01	2.74E+01	1.01E+02
		487.03	45.50	8.08E+00		5.17E+01
		815.85	23.50	-3.06E+00		1.31E+02
		1596.49	95.49	-3.14E+00		2.74E+01
+	CE-141	145.44	48.40	2.17E+01	3.24E+01	3.24E+01
+	CE-143	57.36	11.80	1.07E+03	6.24E+02	2.14E+03
		293.26	42.00	1.93E+02		6.24E+02
		664.55	5.20	-1.44E+03		6.38E+03
+	CE-144	133.54	10.80	6.77E+01	1.18E+02	1.18E+02
+	PM-144	476.78	42.00	2.46E+01	2.06E+01	4.43E+01
		618.01	98.60	8.87E-01		2.06E+01
		696.49	99.49	-1.00E+01		2.11E+01
+	PM-145	36.85	21.70	-3.68E+00	8.49E+01	1.57E+02
		37.36	39.70	5.61E+01		8.49E+01
		42.30	15.10	1.67E+01		1.48E+02
		72.40	2.31	-3.47E+02		5.45E+02
+	PM-146	453.90	39.94	-1.02E+01	4.70E+01	4.70E+01
		735.90	14.01	-2.53E+01		1.49E+02
		747.13	13.10	-1.31E+01		1.68E+02
+	ND-147	91.11	28.90	-1.03E+02	7.73E+01	7.73E+01

Analysis Report for 1608066-07

J1V940 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
	ND-147	531.02	13.10	6.09E+01	7.73E+01	1.76E+02
+	PM-149	285.90	3.10	4.17E+02	2.68E+03	2.68E+03
+	EU-152	121.78	20.50	6.01E+01	6.52E+01	6.52E+01
		244.69	5.40	1.35E+02		2.74E+02
		344.27	19.13	2.88E+01		8.51E+01
		778.89	9.20	-1.16E+02		1.96E+02
		964.01	10.40	-2.59E+01		1.84E+02
		1085.78	7.22	6.32E+01		2.79E+02
		1112.02	9.60	8.05E+01		2.33E+02
		1407.95	14.94	-9.86E+00		1.39E+02
+	GD-153	97.43	31.30	-1.60E+01	3.68E+01	3.68E+01
		103.18	22.20	1.49E+01		5.05E+01
+	EU-154	123.07	40.50	3.17E+01	3.17E+01	3.17E+01
		723.30	19.70	-8.88E+00		1.09E+02
		873.19	11.50	-5.87E+01		1.33E+02
		996.32	10.30	3.84E+01		2.06E+02
		1004.76	17.90	1.91E+01		1.24E+02
		1274.45	35.50	-1.21E+01		5.79E+01
+	EU-155	86.50	30.90	1.45E+01	3.95E+01	3.95E+01
		105.30	20.70	9.01E+00		5.43E+01
+	EU-156	811.77	10.40	-6.87E+01	2.61E+02	2.61E+02
		1153.47	7.20	-1.69E+02		3.61E+02
		1230.71	8.90	5.37E+01		3.51E+02
+	HO-166M	184.41	72.60	3.72E+01	2.52E+01	2.52E+01
		280.45	29.60	-6.35E+00		4.38E+01
		410.94	11.10	-3.87E+00		1.63E+02
		711.69	54.10	0.00E+00		3.83E+01
+	TM-171	66.72	0.14	-7.47E+03	1.05E+04	1.05E+04
+	HF-172	81.75	4.52	6.42E+01	9.38E+01	2.88E+02
		125.81	11.30	1.14E+01		9.38E+01
+	LU-172	181.53	20.60	-3.98E+01	4.92E+01	1.11E+02
		810.06	16.63	8.39E+01		2.37E+02
		912.12	15.25	7.32E+01		2.78E+02
		1093.66	62.50	-1.05E+01		4.92E+01
+	LU-173	100.72	5.24	-3.03E+01	6.20E+01	1.97E+02
		272.11	21.20	-8.10E+00		6.20E+01
+	HF-175	343.40	84.00	3.77E+00	2.02E+01	2.02E+01
+	LU-176	88.34	13.30	-6.60E-01	1.41E+01	8.98E+01
		201.83	86.00	-3.21E-02		1.47E+01
		306.78	94.00	2.87E-01		1.41E+01
+	TA-182	67.75	41.20	-1.61E+01	3.38E+01	3.38E+01
		1121.30	34.90	1.10E+01		6.40E+01
		1189.05	16.23	-9.50E+01		8.90E+01
		1221.41	26.98	-1.74E+01		7.62E+01
		1231.02	11.44	3.34E+01		2.18E+02
+	IR-192	308.46	29.68	-2.31E+01	4.25E+01	5.11E+01
		468.07	48.10	1.45E+01		4.25E+01
+	HG-203	279.19	77.30	1.44E+00	1.94E+01	1.94E+01
+	BI-207	569.67	97.72	-9.76E-01	2.00E+01	2.00E+01

Analysis Report for 1608066-07

J1V940 SAF: RC-243

	Nuclide Name	Energy (keV)		Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
	BI-207	1063.62		74.90	1.67E+01	2.00E+01	3.19E+01
+	TL-208	583.14		30.22	1.15E+01	7.67E+01	7.67E+01
		860.37		4.48	-2.69E+01		4.64E+02
		2614.66		35.85	3.15E+01		8.29E+01
+	BI-210M	262.00		45.00	1.82E+01	3.16E+01	3.16E+01
		300.00		23.00	9.53E+00		5.82E+01
+	PB-210	46.50		4.25	2.89E+02	5.28E+02	5.28E+02
+	PB-211	404.84		2.90	-7.59E+01	4.94E+02	4.94E+02
		831.96		2.90	-2.66E+02		6.56E+02
+	BI-212	727.17		11.80	-7.98E+01	1.35E+02	1.35E+02
		1620.62		2.75	-3.83E+02		7.72E+02
+	PB-212	238.63		44.60	1.45E+01	3.57E+01	3.57E+01
		300.09		3.41	6.43E+01		3.93E+02
+	BI-214	609.31	*	46.30	3.06E+01	4.93E+01	4.93E+01
		1120.29		15.10	2.13E+01		1.43E+02
		1764.49		15.80	-1.08E+01		1.52E+02
		2204.22	*	4.98	1.75E+02		3.44E+02
+	PB-214	295.21		19.19	-3.38E+00	4.59E+01	7.70E+01
		351.92		37.19	9.27E+00		4.59E+01
+	RN-219	401.80		6.50	-5.71E+01	2.27E+02	2.27E+02
+	RA-223	323.87		3.88	-3.71E+01	3.15E+02	3.15E+02
+	RA-224	240.98		3.95	1.12E+02	4.14E+02	4.14E+02
+	RA-225	40.00		31.00	-6.73E+01	1.06E+02	1.06E+02
+	RA-226	186.21		3.28	7.51E+02	5.47E+02	5.47E+02
+	TH-227	50.10		8.40	-1.37E+01	1.16E+02	2.29E+02
		236.00		11.50	-1.23E+02		1.16E+02
		256.20		6.30	-5.52E+01		1.66E+02
+	AC-228	338.32		11.40	7.17E+00	8.51E+01	1.38E+02
		911.07		27.70	2.65E+01		8.51E+01
		969.11		16.60	1.88E+01		1.38E+02
+	TH-230	48.44		16.90	1.21E+02	1.31E+02	1.31E+02
		62.85		4.60	6.79E+02		4.31E+02
		67.67		0.37	-1.73E+03		3.64E+03
+	PA-231	283.67		1.60	-1.22E+01	4.98E+02	8.38E+02
		302.67		2.30	-2.21E+02		4.98E+02
+	TH-231	25.64		14.70	-5.62E+03	1.93E+02	2.16E+03
		84.21		6.40	-2.41E+01		1.93E+02
+	PA-233	311.98	*	38.60	3.16E+01	6.49E+01	6.49E+01
+	PA-234	131.20		20.40	-1.41E+01	6.11E+01	6.11E+01
		733.99		8.80	2.79E+01		2.46E+02
		946.00		12.00	5.98E+01		2.07E+02
+	PA-234M	1001.03	*	0.92	1.86E+03	2.19E+03	2.19E+03
+	TH-234	63.29		3.80	7.79E+02	5.19E+02	5.19E+02
+	U-235	143.76		10.50	1.32E+02	1.34E+02	1.34E+02
		163.35		4.70	7.31E+01		2.59E+02
		205.31		4.70	-4.11E+01		2.77E+02
+	NP-237	86.50		12.60	3.56E+01	9.66E+01	9.66E+01

Analysis Report for 1608066-07

J1V940 SAF: RC-243

	Nuclide Name	Energy (keV)	Yield(%)	Activity (pCi/sample)	Nuclide MDA (pCi/sample)	Line MDA (pCi/sample)
+	NP-239	106.10	22.70	4.33E+01	2.61E+02	2.61E+02
		228.18	10.70	-1.84E+02		6.21E+02
		277.60	14.10	8.49E+01		5.13E+02
+	AM-241	59.54	35.90	-7.94E+00	4.04E+01	4.04E+01
+	AM-243	74.67	66.00	-1.01E+01	1.86E+01	1.86E+01
+	CM-243	209.75	3.29	6.07E+01	9.79E+01	4.07E+02
		228.14	10.60	-3.53E+01		1.19E+02
		277.60	14.00	1.62E+01		9.79E+01

+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
> = MDA value not calculated
@ = Half-life too short to be able to perform the decay correction
? = 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/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
+	BE-7	477.59	*	10.42	1.72E+02	1.72E+02	1.95E+02	7.72E+01
	NA-22	1274.54		99.94	2.06E+01	2.06E+01	-4.32E+00	8.45E+00
	NA-24	1368.53		99.99	1.20E+04	1.13E+04	-7.11E+02	4.99E+03
		2754.09		99.86	1.13E+04		-2.56E+03	4.21E+03
	AL-26	1808.65		99.76	2.09E+01	2.09E+01	-3.47E+00	8.08E+00
+	K-40	1460.81	*	10.67	3.48E+02	3.48E+02	3.95E+02	1.55E+02
@	AR-41	1293.64		99.16	1.00E+26	1.00E+26	1.00E+26	1.00E+20
	TI-44	67.88		94.40	1.42E+01	1.42E+01	-6.77E+00	6.71E+00
		78.34		96.00	1.43E+01		-1.08E+00	6.75E+00
	SC-46	889.25		99.98	1.71E+01	1.71E+01	-5.26E+00	7.10E+00
		1120.51		99.99	2.26E+01		3.37E+00	9.54E+00
	V-48	983.52		99.98	2.69E+01	2.20E+01	8.03E+00	1.15E+01
		1312.10		97.50	2.20E+01		9.16E-01	8.52E+00
	CR-51	320.08		9.83	1.59E+02	1.59E+02	2.45E+01	7.22E+01
	MN-54	834.83		99.97	2.11E+01	2.11E+01	3.72E+00	9.23E+00

Analysis Report for 1608066-07

J1V940 SAF: RC-243

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
	CO-56	846.75		99.96	2.61E+01	2.61E+01	1.41E+01	1.16E+01
		1037.75		14.03	1.70E+02		-6.95E+01	7.32E+01
		1238.25		67.00	4.59E+01		2.47E+01	2.01E+01
		1771.40		15.51	1.84E+02		2.83E+01	7.63E+01
		2598.48		16.90	1.48E+02		1.02E+01	5.72E+01
+	CO-57	122.06	*	85.51	2.02E+01	2.02E+01	1.31E+01	9.65E+00
		136.48		10.60	1.11E+02		-1.25E+01	5.15E+01
	CO-58	810.76		99.40	2.44E+01	2.44E+01	1.17E+01	1.08E+01
	FE-59	1099.22		56.50	3.54E+01	3.54E+01	6.39E+00	1.45E+01
		1291.56		43.20	6.33E+01		-6.11E+00	2.69E+01
	CO-60	1173.22		100.00	2.42E+01	2.13E+01	7.50E-01	1.04E+01
		1332.49		100.00	2.13E+01		-4.96E+00	8.72E+00
	ZN-65	1115.52		50.75	3.71E+01	3.71E+01	-1.82E+01	1.52E+01
	GA-67	93.31		35.70	1.76E+02	1.76E+02	2.59E+02	8.48E+01
		208.95		2.24	2.05E+03		2.31E+02	9.52E+02
		300.22		16.00	2.78E+02		4.55E+01	1.26E+02
	SE-75	121.11		16.70	8.13E+01	2.00E+01	2.55E+01	3.84E+01
		136.00		59.20	2.00E+01		-3.27E+00	9.31E+00
		264.65		59.80	2.40E+01		2.17E+00	1.10E+01
		279.53		25.20	5.30E+01		-6.48E+00	2.41E+01
		400.65		11.40	1.43E+02		1.75E+01	6.44E+01
	RB-82	776.52		13.00	1.91E+02	1.91E+02	1.17E+02	8.41E+01
	RB-83	520.41		46.00	4.21E+01	4.21E+01	-3.38E+00	1.90E+01
		529.64		30.30	5.45E+01		-2.68E+00	2.40E+01
		552.65		16.40	1.06E+02		3.20E+01	4.71E+01
	KR-85	513.99		0.43	7.32E+03	7.32E+03	6.30E+03	3.45E+03
	SR-85	513.99		99.27	3.40E+01	3.40E+01	2.92E+01	1.60E+01
	Y-88	898.02		93.40	2.39E+01	1.96E+01	-4.96E+00	1.04E+01
		1836.01		99.38	1.96E+01		2.13E+00	7.35E+00
	NB-93M	16.57		9.43	2.25E+04	2.25E+04	-2.26E+04	9.94E+03
	NB-94	702.63		100.00	2.33E+01	1.43E+01	7.30E+00	1.05E+01
		871.10		100.00	1.43E+01		-8.11E+00	5.77E+00
	NB-95	765.79		99.81	2.00E+01	2.00E+01	-9.42E+00	8.59E+00
	NB-95M	235.69		25.00	1.57E+02	1.57E+02	-1.67E+02	7.24E+01
	ZR-95	724.18		43.70	4.89E+01	4.09E+01	0.00E+00	2.16E+01
		756.72		55.30	4.09E+01		-3.48E+00	1.81E+01
	MO-99	181.06		6.20	8.83E+02	7.22E+02	1.02E+02	4.12E+02
		739.58		12.80	7.22E+02		1.02E+02	3.22E+02
		778.00		4.50	1.92E+03		8.54E+02	8.43E+02
	RU-103	497.08		89.00	2.39E+01	2.39E+01	3.36E+00	1.08E+01
	RU-106	621.84		9.80	1.96E+02	1.96E+02	-9.46E+01	8.73E+01
	AG-108M	433.93		89.90	1.88E+01	1.88E+01	5.51E+00	8.52E+00
		614.37		90.40	2.29E+01		-1.09E+00	1.03E+01
		722.95		90.50	2.37E+01		-1.93E+00	1.05E+01
	CD-109	88.03		3.72	3.29E+02	3.29E+02	3.31E+01	1.55E+02
	AG-110M	657.75		93.14	2.30E+01	2.30E+01	3.54E-01	1.03E+01
		677.61		10.53	1.84E+02		1.77E+01	8.12E+01
		706.67		16.46	1.35E+02		-1.88E+01	6.03E+01
		763.93		21.98	9.23E+01		1.33E+01	4.04E+01
		884.67		71.63	3.10E+01		3.64E+00	1.35E+01
		1384.27		23.94	1.12E+02		4.54E+01	4.76E+01
	CD-113M	263.70		0.02	5.76E+04	5.76E+04	-1.89E+04	2.64E+04
	SN-113	255.12		1.93	6.26E+02	2.43E+01	2.65E+02	2.83E+02

Analysis Report for 1608066-07

J1V940 SAF: RC-243

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
SN-113	391.69	64.90	2.43E+01	2.43E+01	-1.81E+00	1.10E+01
TE123M	159.00	84.10	1.52E+01	1.52E+01	1.78E+00	7.10E+00
SB-124	602.71	97.87	2.33E+01	2.33E+01	6.14E+00	1.05E+01
	645.85	7.26	2.76E+02		-4.41E+01	1.22E+02
	722.78	11.10	2.06E+02		-1.68E+01	9.16E+01
	1691.02	49.00	3.37E+01		-5.44E+00	1.19E+01
I-125	35.49	6.49	6.47E+02	6.47E+02	5.77E+01	3.04E+02
SB-125	176.33	6.89	1.84E+02	5.73E+01	1.82E+01	8.54E+01
	427.89	29.33	5.73E+01		1.17E+01	2.59E+01
	463.38	10.35	1.91E+02		-8.88E+00	8.75E+01
	600.56	17.80	1.18E+02		-3.25E+01	5.34E+01
	635.90	11.32	1.49E+02		-2.54E+01	6.52E+01
SB-126	414.70	83.30	2.88E+01	2.59E+01	6.85E-01	1.31E+01
	666.33	99.60	2.59E+01		-6.35E+00	1.14E+01
	695.00	99.60	3.03E+01		1.53E+01	1.36E+01
	720.50	53.80	5.56E+01		1.85E+01	2.48E+01
SN-126	87.57	37.00	3.28E+01	3.28E+01	3.30E+00	1.55E+01
SB-127	473.00	25.00	1.84E+02	1.34E+02	3.49E+00	8.27E+01
	685.20	35.70	1.34E+02		1.30E+00	5.84E+01
	783.80	14.70	3.63E+02		1.75E+01	1.58E+02
I-129	29.78	57.00	1.47E+02	1.47E+02	-3.79E+01	6.94E+01
	33.60	13.20	3.68E+02		-2.58E+01	1.73E+02
	39.58	7.52	3.43E+02		-2.19E+02	1.60E+02
I-131	284.30	6.05	3.75E+02	2.76E+01	4.54E+00	1.71E+02
	364.48	81.20	2.76E+01		-5.47E+00	1.24E+01
	636.97	7.26	3.88E+02		-1.20E+02	1.70E+02
	722.89	1.80	1.94E+03		-1.58E+02	8.62E+02
TE-132	49.72	13.10	4.94E+02	4.77E+01	-2.96E+01	2.33E+02
	228.16	88.00	4.77E+01		-1.41E+01	2.19E+01
BA-133	81.00	33.00	4.08E+01	2.62E+01	-4.33E+00	1.93E+01
	302.84	17.80	6.44E+01		-2.85E+01	2.87E+01
	356.01	60.00	2.62E+01		-5.76E+00	1.19E+01
I-133	529.87	86.30	1.68E+03	1.68E+03	-8.25E+01	7.40E+02
XE-133	81.00	38.00	7.47E+01	7.47E+01	-7.93E+00	3.53E+01
CS-134	563.23	8.38	2.50E+02	2.14E+01	6.15E+01	1.14E+02
	569.32	15.43	1.35E+02		2.47E+01	6.12E+01
	604.70	97.60	2.14E+01		3.88E+00	9.63E+00
	795.84	85.40	2.72E+01		6.10E+00	1.21E+01
	801.93	8.73	2.26E+02		1.03E+02	9.84E+01
CS-135	268.24	16.00	8.47E+01	8.47E+01	8.99E+00	3.88E+01
I-135	1131.51	22.50	1.25E+08	1.18E+08	-1.96E+07	5.11E+07
	1260.41	28.60	1.18E+08		-2.76E+06	4.95E+07
	1678.03	9.54	2.41E+08		-1.30E+08	8.55E+07
CS-136	153.22	7.46	2.00E+02	3.06E+01	-1.02E+02	9.25E+01
	163.89	4.61	3.57E+02		1.01E+02	1.66E+02
	176.55	13.56	1.25E+02		1.24E+01	5.83E+01
	273.65	12.66	1.41E+02		-3.03E+01	6.43E+01
	340.57	48.50	4.17E+01		-1.30E+01	1.90E+01
	818.50	99.70	3.06E+01		3.26E+00	1.35E+01
	1048.07	79.60	3.46E+01		-2.98E+00	1.46E+01
	1235.34	19.70	1.84E+02		5.67E+01	7.94E+01
CS-137	661.65	85.12	2.10E+01	2.10E+01	-1.19E+01	9.18E+00
LA-138	788.74	34.00	4.99E+01	2.43E+01	-3.92E+01	2.12E+01

Analysis Report for 1608066-07

J1V940 SAF: RC-243

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
LA-138	1435.80	66.00	2.43E+01	2.43E+01	-1.13E+00	9.11E+00
CE-139	165.85	80.35	1.50E+01	1.50E+01	3.44E+00	6.95E+00
BA-140	162.64	6.70	2.47E+02	9.06E+01	-6.94E+00	1.15E+02
	304.84	4.50	3.67E+02		-3.26E+01	1.65E+02
	423.70	3.20	7.65E+02		2.39E+02	3.49E+02
	437.55	2.00	1.10E+03		-1.70E+02	4.97E+02
	537.32	25.00	9.06E+01		-6.82E+00	4.02E+01
LA-140	328.77	20.50	1.01E+02	2.74E+01	2.40E+01	4.61E+01
	487.03	45.50	5.17E+01		8.08E+00	2.32E+01
	815.85	23.50	1.31E+02		-3.06E+00	5.78E+01
	1596.49	95.49	2.74E+01		-3.14E+00	1.06E+01
CE-141	145.44	48.40	3.24E+01	3.24E+01	2.17E+01	1.53E+01
CE-143	57.36	11.80	2.14E+03	6.24E+02	1.07E+03	1.00E+03
	293.26	42.00	6.24E+02		1.93E+02	2.87E+02
	664.55	5.20	6.38E+03		-1.44E+03	2.82E+03
CE-144	133.54	10.80	1.18E+02	1.18E+02	6.77E+01	5.56E+01
PM-144	476.78	42.00	4.43E+01	2.06E+01	2.46E+01	2.01E+01
	618.01	98.60	2.06E+01		8.87E-01	9.21E+00
	696.49	99.49	2.11E+01		-1.00E+01	9.40E+00
PM-145	36.85	21.70	1.57E+02	8.49E+01	-3.68E+00	7.37E+01
	37.36	39.70	8.49E+01		5.61E+01	3.99E+01
	42.30	15.10	1.48E+02		1.67E+01	6.90E+01
	72.40	2.31	5.45E+02		-3.47E+02	2.56E+02
PM-146	453.90	39.94	4.70E+01	4.70E+01	-1.02E+01	2.14E+01
	735.90	14.01	1.49E+02		-2.53E+01	6.59E+01
	747.13	13.10	1.68E+02		-1.31E+01	7.48E+01
ND-147	91.11	28.90	7.73E+01	7.73E+01	-1.03E+02	3.69E+01
	531.02	13.10	1.76E+02		6.09E+01	7.80E+01
PM-149	285.90	3.10	2.68E+03	2.68E+03	4.17E+02	1.23E+03
EU-152	121.78	20.50	6.52E+01	6.52E+01	6.01E+01	3.08E+01
	244.69	5.40	2.74E+02		1.35E+02	1.27E+02
	344.27	19.13	8.51E+01		2.88E+01	3.90E+01
	778.89	9.20	1.96E+02		-1.16E+02	8.46E+01
	964.01	10.40	1.84E+02		-2.59E+01	7.78E+01
	1085.78	7.22	2.79E+02		6.32E+01	1.17E+02
	1112.02	9.60	2.33E+02		8.05E+01	9.90E+01
	1407.95	14.94	1.39E+02		-9.86E+00	5.62E+01
GD-153	97.43	31.30	3.68E+01	3.68E+01	-1.60E+01	1.72E+01
	103.18	22.20	5.05E+01		1.49E+01	2.36E+01
EU-154	123.07	40.50	3.17E+01	3.17E+01	3.17E+01	1.49E+01
	723.30	19.70	1.09E+02		-8.88E+00	4.85E+01
	873.19	11.50	1.33E+02		-5.87E+01	5.44E+01
	996.32	10.30	2.06E+02		3.84E+01	8.84E+01
	1004.76	17.90	1.24E+02		1.91E+01	5.33E+01
	1274.45	35.50	5.79E+01		-1.21E+01	2.37E+01
EU-155	86.50	30.90	3.95E+01	3.95E+01	1.45E+01	1.86E+01
	105.30	20.70	5.43E+01		9.01E+00	2.54E+01
EU-156	811.77	10.40	2.61E+02	2.61E+02	-6.87E+01	1.14E+02
	1153.47	7.20	3.61E+02		-1.69E+02	1.50E+02
	1230.71	8.90	3.51E+02		5.37E+01	1.49E+02
HO-166M	184.41	72.60	2.52E+01	2.52E+01	3.72E+01	1.20E+01
	280.45	29.60	4.38E+01		-6.35E+00	1.99E+01
	410.94	11.10	1.63E+02		-3.87E+00	7.44E+01

Analysis Report for 1608066-07

J1V940 SAF: RC-243

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
	HO-166M	711.69		54.10	3.83E+01	2.52E+01	0.00E+00	1.70E+01
	TM-171	66.72		0.14	1.05E+04	1.05E+04	-7.47E+03	4.97E+03
	HF-172	81.75		4.52	2.88E+02	9.38E+01	6.42E+01	1.36E+02
		125.81		11.30	9.38E+01		1.14E+01	4.35E+01
	LU-172	181.53		20.60	1.11E+02	4.92E+01	-3.98E+01	5.15E+01
		810.06		16.63	2.37E+02		8.39E+01	1.05E+02
		912.12		15.25	2.78E+02		7.32E+01	1.22E+02
		1093.66		62.50	4.92E+01		-1.05E+01	1.99E+01
	LU-173	100.72		5.24	1.97E+02	6.20E+01	-3.03E+01	9.15E+01
		272.11		21.20	6.20E+01		-8.10E+00	2.83E+01
	HF-175	343.40		84.00	2.02E+01	2.02E+01	3.77E+00	9.26E+00
	LU-176	88.34		13.30	8.98E+01	1.41E+01	-6.60E-01	4.22E+01
		201.83		86.00	1.47E+01		-3.21E-02	6.80E+00
		306.78		94.00	1.41E+01		2.87E-01	6.37E+00
	TA-182	67.75		41.20	3.38E+01	3.38E+01	-1.61E+01	1.59E+01
		1121.30		34.90	6.40E+01		1.10E+01	2.70E+01
		1189.05		16.23	8.90E+01		-9.50E+01	3.33E+01
		1221.41		26.98	7.62E+01		-1.74E+01	3.12E+01
		1231.02		11.44	2.18E+02		3.34E+01	9.29E+01
	IR-192	308.46		29.68	5.11E+01	4.25E+01	-2.31E+01	2.33E+01
		468.07		48.10	4.25E+01		1.45E+01	1.94E+01
	HG-203	279.19		77.30	1.94E+01	1.94E+01	1.44E+00	8.86E+00
	BI-207	569.67		97.72	2.00E+01	2.00E+01	-9.76E-01	8.98E+00
		1063.62		74.90	3.19E+01		1.67E+01	1.38E+01
	TL-208	583.14		30.22	7.67E+01	7.67E+01	1.15E+01	3.50E+01
		860.37		4.48	4.64E+02		-2.69E+01	2.02E+02
		2614.66		35.85	8.29E+01		3.15E+01	3.40E+01
	BI-210M	262.00		45.00	3.16E+01	3.16E+01	1.82E+01	1.46E+01
		300.00		23.00	5.82E+01		9.53E+00	2.64E+01
	PB-210	46.50		4.25	5.28E+02	5.28E+02	2.89E+02	2.50E+02
	PB-211	404.84		2.90	4.94E+02	4.94E+02	-7.59E+01	2.21E+02
		831.96		2.90	6.56E+02		-2.66E+02	2.82E+02
	BI-212	727.17		11.80	1.35E+02	1.35E+02	-7.98E+01	5.74E+01
		1620.62		2.75	7.72E+02		-3.83E+02	3.07E+02
	PB-212	238.63		44.60	3.57E+01	3.57E+01	1.45E+01	1.67E+01
		300.09		3.41	3.93E+02		6.43E+01	1.78E+02
+	BI-214	609.31	*	46.30	4.93E+01	4.93E+01	3.06E+01	2.24E+01
		1120.29		15.10	1.43E+02		2.13E+01	6.03E+01
		1764.49		15.80	1.52E+02		-1.08E+01	6.16E+01
		2204.22	*	4.98	3.44E+02		1.75E+02	1.20E+02
	PB-214	295.21		19.19	7.70E+01	4.59E+01	-3.38E+00	3.53E+01
		351.92		37.19	4.59E+01		9.27E+00	2.11E+01
	RN-219	401.80		6.50	2.27E+02	2.27E+02	-5.71E+01	1.02E+02
	RA-223	323.87		3.88	3.15E+02	3.15E+02	-3.71E+01	1.41E+02
	RA-224	240.98		3.95	4.14E+02	4.14E+02	1.12E+02	1.94E+02
	RA-225	40.00		31.00	1.06E+02	1.06E+02	-6.73E+01	4.93E+01
	RA-226	186.21		3.28	5.47E+02	5.47E+02	7.51E+02	2.60E+02
	TH-227	50.10		8.40	2.29E+02	1.16E+02	-1.37E+01	1.08E+02
		236.00		11.50	1.16E+02		-1.23E+02	5.32E+01
		256.20		6.30	1.66E+02		-5.52E+01	7.40E+01
	AC-228	338.32		11.40	1.38E+02	8.51E+01	7.17E+00	6.30E+01
		911.07		27.70	8.51E+01		2.65E+01	3.74E+01
		969.11		16.60	1.38E+02		1.88E+01	5.99E+01

Analysis Report for 1608066-07

J1V940 SAF: RC-243

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (pCi/sample)	Nuclide MDA (pCi/sample)	Activity (pCi/sample)	Dec. Level (pCi/sample)
	TH-230	48.44		16.90	1.31E+02	1.31E+02	1.21E+02	6.22E+01
		62.85		4.60	4.31E+02		6.79E+02	2.07E+02
		67.67		0.37	3.64E+03		-1.73E+03	1.71E+03
	PA-231	283.67		1.60	8.38E+02	4.98E+02	-1.22E+01	3.82E+02
		302.67		2.30	4.98E+02		-2.21E+02	2.22E+02
	TH-231	25.64		14.70	2.16E+03	1.93E+02	-5.62E+03	1.05E+03
		84.21		6.40	1.93E+02		-2.41E+01	9.08E+01
+	PA-233	311.98	*	38.60	6.49E+01	6.49E+01	3.16E+01	3.06E+01
	PA-234	131.20		20.40	6.11E+01	6.11E+01	-1.41E+01	2.87E+01
		733.99		8.80	2.46E+02		2.79E+01	1.10E+02
		946.00		12.00	2.07E+02		5.98E+01	9.15E+01
+	PA-234M	1001.03	*	0.92	2.19E+03	2.19E+03	1.86E+03	9.29E+02
	TH-234	63.29		3.80	5.19E+02	5.19E+02	7.79E+02	2.49E+02
	U-235	143.76		10.50	1.34E+02	1.34E+02	1.32E+02	6.31E+01
		163.35		4.70	2.59E+02		7.31E+01	1.21E+02
		205.31		4.70	2.77E+02		-4.11E+01	1.28E+02
	NP-237	86.50		12.60	9.66E+01	9.66E+01	3.56E+01	4.54E+01
	NP-239	106.10		22.70	2.61E+02	2.61E+02	4.33E+01	1.22E+02
		228.18		10.70	6.21E+02		-1.84E+02	2.85E+02
		277.60		14.10	5.13E+02		8.49E+01	2.35E+02
	AM-241	59.54		35.90	4.04E+01	4.04E+01	-7.94E+00	1.90E+01
	AM-243	74.67		66.00	1.86E+01	1.86E+01	-1.01E+01	8.73E+00
	CM-243	209.75		3.29	4.07E+02	9.79E+01	6.07E+01	1.89E+02
		228.14		10.60	1.19E+02		-3.53E+01	5.46E+01
		277.60		14.00	9.79E+01		1.62E+01	4.48E+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 1608066-07

J1V940 SAF: RC-243

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: J1V940 SAF: RC-243

Elapsed Live time: 3600
Elapsed Real Time: 3600

Channel								
1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	19	42	40	72	649	243
25:	36	33	27	28	20	18	17	20
33:	21	17	10	20	19	17	12	15
41:	11	11	18	17	11	11	35	41
49:	6	14	22	15	13	18	11	11
57:	17	20	13	19	12	21	20	85
65:	44	12	20	17	12	29	18	21
73:	20	11	14	19	18	33	22	17
81:	17	24	25	14	14	21	15	16
89:	21	14	18	14	82	84	31	11
97:	26	12	9	17	11	10	13	14
105:	15	18	12	13	13	16	18	17
113:	13	19	14	9	15	11	16	16
121:	26	24	12	19	7	5	11	15
129:	13	12	18	21	16	12	21	10
137:	7	14	13	15	12	9	14	26
145:	26	19	7	13	11	14	12	9
153:	10	11	14	9	16	8	15	16
161:	10	14	13	13	11	10	10	11
169:	7	14	8	12	11	14	12	8
177:	12	10	18	9	15	7	15	13
185:	12	37	48	11	11	7	14	14
193:	13	11	8	11	6	12	19	16
201:	5	10	10	10	5	14	13	11
209:	13	11	11	9	8	11	14	9
217:	8	9	7	7	11	4	11	11
225:	7	13	6	8	6	10	11	12
233:	9	9	7	12	11	7	24	17
241:	8	8	13	13	13	9	7	7
249:	7	5	10	4	9	9	7	3
257:	3	2	3	10	11	5	12	8
265:	9	5	9	10	6	9	6	10
273:	5	6	10	6	11	8	10	4
281:	6	6	8	6	7	9	9	9
289:	9	5	11	7	9	9	6	14
297:	4	8	9	7	5	4	5	3
305:	6	9	3	7	6	9	12	17
313:	9	7	6	5	9	7	10	6
321:	3	5	5	4	5	5	5	7
329:	9	8	9	6	8	6	4	7
337:	9	12	5	7	6	6	11	9
345:	6	8	7	7	5	5	6	15
353:	15	3	10	7	9	7	4	3
361:	2	8	7	5	5	2	7	2

369:	12	4	7	4	5	5	5	9

Sample Title: J1V940 SAF: RC-243

Channel								
377:	4	7	9	5	4	5	5	3
385:	7	2	8	5	5	5	6	6
393:	9	3	8	6	4	4	7	6
401:	8	6	3	3	9	5	4	3
409:	6	9	9	3	5	4	9	4
417:	4	7	6	3	6	7	4	6
425:	4	5	5	3	4	5	5	2
433:	3	5	4	4	8	2	2	4
441:	4	4	6	4	8	5	3	9
449:	3	8	7	3	7	5	5	3
457:	6	5	8	3	4	8	3	9
465:	4	4	7	7	5	4	6	4
473:	0	3	2	7	7	4	2	7
481:	3	2	5	1	1	1	11	6
489:	5	2	3	3	2	2	3	7
497:	6	8	3	4	5	6	2	3
505:	5	5	4	4	8	27	31	29
513:	11	8	5	3	5	6	3	6
521:	4	2	4	3	6	3	1	2
529:	5	4	2	1	4	2	1	2
537:	5	3	4	2	4	3	4	0
545:	4	6	5	3	1	6	2	3
553:	1	1	1	6	7	7	4	5
561:	5	2	5	2	6	7	3	3
569:	9	5	1	3	3	4	1	3
577:	4	2	5	9	6	3	4	9
585:	3	4	4	7	4	1	5	4
593:	3	4	7	7	6	3	4	3
601:	5	2	5	7	6	2	2	4
609:	6	20	5	5	4	4	5	3
617:	3	3	5	2	4	3	3	1
625:	4	5	7	1	2	4	2	3
633:	2	2	4	2	3	2	1	3
641:	3	5	5	0	4	3	4	2
649:	2	4	2	1	6	3	6	3
657:	5	4	2	3	2	4	2	2
665:	2	2	6	2	3	6	2	5
673:	4	2	5	1	3	4	0	2
681:	4	3	1	4	1	2	1	3
689:	1	2	2	2	4	8	4	1
697:	3	3	2	1	7	4	5	3
705:	3	5	2	4	4	3	3	4
713:	4	1	2	4	2	4	0	6
721:	5	3	5	0	0	3	3	2
729:	1	2	5	4	3	2	1	4
737:	3	5	2	1	4	5	3	3
745:	3	1	8	3	1	3	4	2
753:	3	5	3	3	3	0	4	2
761:	4	3	5	0	2	1	2	2
769:	1	5	1	0	2	1	6	3
777:	2	3	0	4	0	1	1	6
785:	4	0	3	2	2	1	1	2
793:	4	1	5	4	2	1	5	1

801:	5	0	1	2	1	0	1	6

Sample Title: J1V940 SAF: RC-243

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

1233:	1	1	1	2	2	6	1	0

Sample Title: J1V940 SAF: RC-243

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

1665:	0	1	1	0	1	1	1	0

Sample Title: J1V940 SAF: RC-243

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

2097:	0	0	0	1	0	2	0	1

Sample Title: J1V940 SAF: RC-243

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

2529:	1	0	0	0	0	0	0	0

Sample Title: J1V940 SAF: RC-243

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

2961:	0	0	0	0	0	0	0	0

Sample Title: J1V940 SAF: RC-243

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

3393:	0	0	0	0	0	0	0	1

Sample Title: J1V940 SAF: RC-243

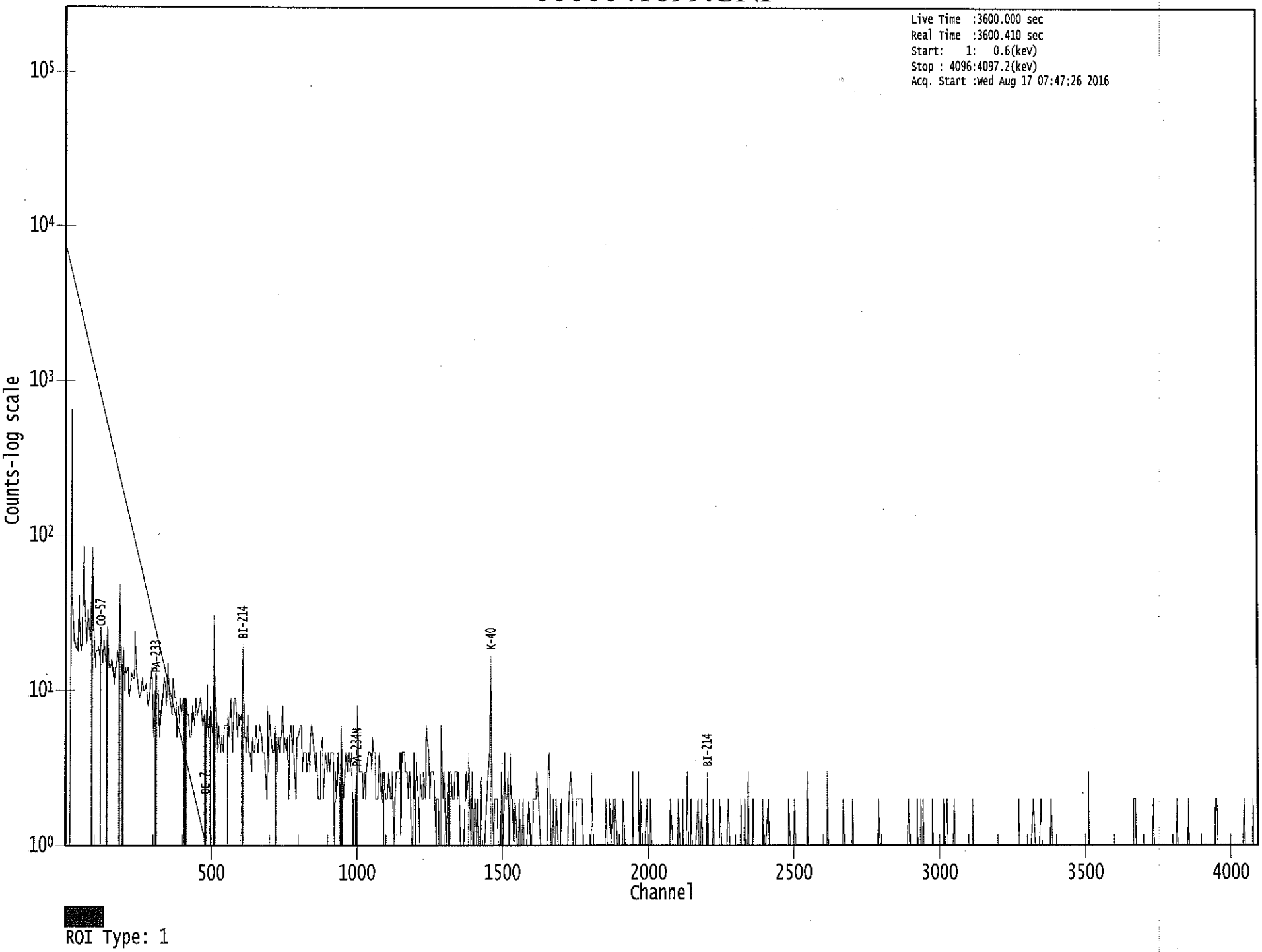
Channel								
3401:	0	0	0	0	0	0	0	0
3409:	0	0	0	0	1	1	1	0
3417:	0	0	0	0	0	1	0	0
3425:	0	0	0	0	0	0	0	0
3433:	1	0	0	0	0	0	0	0
3441:	0	0	0	0	0	0	0	0
3449:	0	0	0	1	1	0	0	0
3457:	0	0	0	0	0	0	0	0
3465:	1	0	1	0	1	0	0	0
3473:	0	1	0	1	0	0	0	0
3481:	0	0	0	1	0	0	1	0
3489:	0	0	1	0	0	1	0	1
3497:	0	0	0	0	0	0	0	0
3505:	0	0	0	0	0	3	1	1
3513:	1	0	0	0	0	0	0	1
3521:	0	0	0	1	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	1	0	0	0
3553:	0	0	0	0	0	0	0	0
3561:	0	0	0	1	0	0	0	0
3569:	0	0	0	0	0	0	1	0
3577:	0	0	1	0	1	1	0	1
3585:	0	0	0	0	0	0	0	0
3593:	0	0	0	0	0	0	0	0
3601:	0	1	0	0	0	0	0	0
3609:	0	0	0	0	0	0	0	0
3617:	0	0	0	1	0	0	0	0
3625:	1	0	0	0	0	0	0	0
3633:	0	0	0	1	0	0	0	0
3641:	0	0	0	0	0	0	0	0
3649:	0	0	0	1	0	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	2	0	0	0	1	0	0	2
3673:	0	0	0	0	0	0	0	0
3681:	0	1	0	0	0	0	0	1
3689:	0	1	0	0	1	0	0	0
3697:	0	0	1	0	0	0	0	1
3705:	0	0	1	0	0	0	1	1
3713:	0	0	0	0	0	0	0	1
3721:	0	0	0	0	1	0	0	0
3729:	0	0	1	0	0	2	0	0
3737:	0	0	0	0	0	1	0	0
3745:	1	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	1	0	0	0	0	0
3777:	0	0	0	0	0	0	0	0
3785:	0	0	0	0	0	0	0	1
3793:	0	0	0	0	0	0	0	0
3801:	0	1	0	0	0	0	0	0
3809:	0	0	1	0	0	0	2	1
3817:	0	1	0	0	1	0	0	0

3825:	0	0	0	0	0	0	1	0

Sample Title: J1V940 SAF: RC-243

Channel								
3833:	0	0	0	0	0	0	0	0
3841:	1	0	0	0	0	0	0	0
3849:	0	0	0	1	0	2	0	0
3857:	0	0	0	0	0	0	0	1
3865:	0	0	0	0	0	0	0	0
3873:	0	0	0	0	0	0	0	0
3881:	0	0	0	0	0	0	0	0
3889:	0	0	0	0	1	0	0	0
3897:	0	1	0	0	0	0	0	0
3905:	0	0	0	0	1	0	0	0
3913:	0	0	0	0	0	0	0	0
3921:	0	0	0	0	0	0	0	1
3929:	0	0	0	0	0	0	0	0
3937:	0	0	1	0	0	0	0	0
3945:	0	0	2	0	1	0	1	2
3953:	0	0	0	1	0	0	0	0
3961:	0	0	0	1	0	1	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:	1	0	1	0	0	0	0	0
4001:	0	0	1	0	0	0	0	0
4009:	0	1	1	0	1	1	0	0
4017:	0	1	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	1	0	0	0	2	0	0
4049:	0	0	0	0	1	0	0	0
4057:	0	0	0	0	1	0	0	0
4065:	0	1	0	0	0	0	0	0
4073:	0	0	0	2	0	0	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	0	0	0	0	0

0000041699.CNF



: 00307

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
8/16/16 5:57:46 AM

8/16

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: 8/16/16 5:42:33 AM
Measurement Date: 8/16/16 5:42:35 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: 2.2870E+000+/- 1.450]	2.2644E+000	-1.5559E-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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*************************************************************************
*****          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
8/16/16 5:39:12 AM

8/16

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: 8/16/16 5:23:42 AM
Elapsed Live Time: 900.0 seconds
Elapsed Real Time: 916.6 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Peak centroid 59.54 kev	6.0484E+001	
Boundary Limits: [5.800E+001, 6.100E+001]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak centroid 661.65 kev	6.6223E+002	
Boundary Limits: [6.600E+002, 6.630E+002]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak centroid 1332.49 ke	1.3326E+003	
Boundary Limits: [1.331E+003, 1.334E+003]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak centroid 1836.01 ke	1.8358E+003	
Boundary Limits: [1.834E+003, 1.838E+003]		< : : : >
Peak FWHM Am-241	8.6489E-001	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak FWHM Cs-137	1.7331E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak FWHM Co-60	2.1494E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Peak FWHM Y-90	1.7469E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Decay corrected activity	1.7371E+004	
Boundary Limits: [1.170E-002, 1.754E-002]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		

Decay corrected activity 6.1174E+003
Boundary Limits: [4.716E-003, 7.075E-003] < : : : >

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Decay corrected activity Boundary Limits: [7.572E-003, 1.136E-002]	1.0611E+004	< : : : >
Decay corrected activity Boundary Limits: [1.626E-002, 2.440E-002]	2.2478E+004	< : : : >

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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*************************************************************************
*****          G E N I E   Q U A L I T Y   A S S U R A N C E          *****
*************************************************************************
```

Last Results Report
8/16/16 5:57:55 AM

8/16

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: 8/16/16 5:42:41 AM
Measurement Date: 8/16/16 5:42:43 AM
Elapsed Live Time: 900.0 seconds
Elapsed Real Time: 900.2 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
DAILY BKG CT RATE GE2	3.3556E+000	3.6786E-002
[SD:-2.3023E+035+/-******]		< : : : >

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)

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*************************************************************************
*****          G E N I E   Q U A L I T Y   A S S U R A N C E          *****
*************************************************************************
```

Last Results Report
8/16/16 5:39:36 AM

8/16

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: 8/16/16 5:23:58 AM
Elapsed Live Time: 900.0 seconds
Elapsed Real Time: 927.4 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Peak centroid 59.54kev	6.0000E+001	
Boundary Limits: [5.800E+001, 6.100E+001]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak centroid 661.65 kev	6.6170E+002	
Boundary Limits: [6.600E+002, 6.640E+002]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak centroid 1332.49 ke	1.3325E+003	
Boundary Limits: [1.331E+003, 1.334E+003]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak centroid 1836.1 kev	1.8361E+003	
Boundary Limits: [1.834E+003, 1.838E+003]		< : : : >
Peak FWHM Am-241	1.2554E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak FWHM Cs-137	1.7995E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak FWHM Co-60	2.2309E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Peak FWHM Y-88	2.3893E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Decay corrected activity	1.5229E+005	
Boundary Limits: [1.224E-001, 1.836E-001]		< : : : >

Decay corrected activity 6.2036E+004
Boundary Limits: [4.971E-002, 7.457E-002] < : : : >

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Decay corrected activity Boundary Limits: [7.978E-002, 1.197E-001]	1.0167E+005	< : : : >
Decay corrected activity Boundary Limits: [1.714E-001, 2.571E-001]	2.1172E+005	< : : : >

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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*************************************************************************
*****          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
8/17/16 5:13:21 AM

8117

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: 8/17/16 4:57:44 AM
Elapsed Live Time: 900.0 seconds
Elapsed Real Time: 926.8 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Peak centroid 59.54kev	6.0000E+001	
Boundary Limits: [5.800E+001, 6.100E+001]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak centroid 661.65 kev	6.6165E+002	
Boundary Limits: [6.600E+002, 6.640E+002]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak centroid 1332.49 ke	1.3325E+003	
Boundary Limits: [1.331E+003, 1.334E+003]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak centroid 1836.1 kev	1.8361E+003	
Boundary Limits: [1.834E+003, 1.838E+003]		< : : : >
Peak FWHM Am-241	1.4272E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak FWHM Cs-137	1.8693E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak FWHM Co-60	2.2444E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Peak FWHM Y-88	2.1200E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Decay corrected activity	1.4892E+005	
Boundary Limits: [1.224E-001, 1.836E-001]		< : : : >

Decay corrected activity 6.1363E+004
Boundary Limits: [4.971E-002, 7.457E-002] < : : : >

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Decay corrected activity Boundary Limits: [7.978E-002, 1.197E-001]	9.9533E+004	< : : : >
Decay corrected activity Boundary Limits: [1.714E-001, 2.571E-001]	2.1606E+005	< : : : >

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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*************************************************************************
*****          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
8/17/16 5:13:06 AM

8/17

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: 8/17/16 4:57:36 AM
Elapsed Live Time: 900.0 seconds
Elapsed Real Time: 917.2 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Peak centroid 59.54 kev	6.0487E+001	
Boundary Limits: [5.800E+001, 6.100E+001]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak centroid 661.65 kev	6.6226E+002	
Boundary Limits: [6.600E+002, 6.630E+002]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak centroid 1332.49 ke	1.3326E+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	8.5490E-001	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak FWHM Cs-137	1.7966E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Trend Test: The last 9 samples exhibit a bias trend.		
Peak FWHM Co-60	2.1191E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Peak FWHM Y-90	2.1607E+000	
Boundary Limits: [5.000E-001, 3.000E+000]		< : : : >
Decay corrected activity	1.7952E+004	
Boundary Limits: [1.170E-002, 1.754E-002]		<Ab : : : >
Trend Test: The last 9 samples exhibit a bias trend.		

Decay corrected activity 6.3769E+003
Boundary Limits: [4.716E-003, 7.075E-003] < : : : >

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
Decay corrected activity Boundary Limits: [7.572E-003, 1.136E-002]	1.0552E+004	< : : : >
Decay corrected activity Boundary Limits: [1.626E-002, 2.440E-002]	2.0669E+004	< : : : >

Flags Key:
LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

****
***** G E N I E Q U A L I T Y A S S U R A N C E *****
****

Last Results Report
8/17/16 5:34:51 AM

8/17

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: 8/17/16 5:19:37 AM
Measurement Date: 8/17/16 5:19:38 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: 2.2870E+000+/- 1.449]	2.2711E+000	-1.0946E-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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*************************************************************************
*****          G E N I E   Q U A L I T Y   A S S U R A N C E        *****
*************************************************************************
```

Last Results Report
8/17/16 5:34:59 AM

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: 8/17/16 5:19:48 AM
Measurement Date: 8/17/16 5:19:50 AM
Elapsed Live Time: 900.0 seconds
Elapsed Real Time: 900.2 seconds

Parameter Description [Mean +/- Std. Dev.]	Value	Deviation/Flags < LU : SD : UD : BS >
DAILY BKG CT RATE GE2 [SD:-2.2992E+035+/-******]	3.3167E+000	3.6761E-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)