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Batch contact testing with variable Na AN-107 and AP-105

November 2025

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U.S. DEPARTMENT of ENERGY

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Summary

The Hanford Site stores an estimated 56 million gallons of mixed radioactive and chemically hazardous waste in large underground tanks. In support of the Direct Feed Low-Activity Waste (DFLAW) program for expediting Hanford tank waste supernate treatment, laboratory-scale ion exchange processing using prototypic unit operations was conducted on AW-105 tank waste at the Pacific Northwest National Laboratory Radiochemical Processing Laboratory.

This report describes the batch contact testing for tanks AN-107 and AP-105 to help evaluate CST performance on tanks waste supernate after processing it in the ion exchange columns to strip ^{137}Cs. The volume of each supernate was adjusted to six Na concentrations (3.5 M, 4.5 M, 5.5 M, 6.0 M, 7.0 M, and 8.0 M Na) which were then spiked with ^{133}Cs at four concentrations (1.7E-04 M, 4.0E-04 M, 1.0E-03 M, and 1.7E-02 M Cs). Table S-1 provides a summary of the K_d and Q values for each tank waste matrix. All matrices showed a linear decrease in K_d with increasing Na concentration. The K_d and Q values for tanks AN-107 and AP-105 were compared to values from AP-107 results conducted in a separate study. Results from this work show slightly higher K_d values and significantly lower Q values than the AP-107 data.

Table S-1. Summary Kd and Q Values with CST.

		AN-107		AP-105	
Na (mol/L)	**^{133}Cs (mol/L)**	**K_d (mL/g)**	**Q (mmoles Cs/g)**	**K_d (mL/g)**	**Q (mmoles Cs/g)**
3.5	1.7E-04 M	2421	0.03	1891	0.02
	4.0E-04 M	2518	0.07	2129	0.05
	1.0E-03 M	3005	0.19	2074	0.14
	1.7E-02 M	119	1.27	101	1.01
4.5	1.7E-04 M	1569	0.03	1298	0.02
	4.0E-04 M	1627	0.07	1292	0.05
	1.0E-03 M	1823	0.18	1412	0.13
	1.7E-02 M	106	1.21	84	0.91
5.5	1.7E-04 M	1128	0.03	991	0.02
	4.0E-04 M	1190	0.07	1005	0.05
	1.0E-03 M	1150	0.17	1216	0.13
	1.7E-02 M	97	1.13	82	0.90
6.0	1.7E-04 M	710	0.03	759	0.02
	4.0E-04 M	732	0.06	830	0.05
	1.0E-03 M	887	0.16	896	0.13
	1.7E-02 M	109	1.21	69	0.81
7.0	1.7E-04 M	407	0.02	679	0.02
	4.0E-04 M	354	0.05	709	0.05
	1.0E-03 M	315	0.12	770	0.12
	1.7E-02 M	93	1.08	81	0.89
8.0	1.7E-04 M	415	0.02	565	0.02
	4.0E-04 M	523	0.06	613	0.05
	1.0E-03 M	405	0.14	669	0.12
	1.7E-02 M	96	1.14	126	0.14

Acknowledgments

The authors thank the Analytical Support Operations (ASO) count room staff Truc Trang-Le for rapid ^{137}Cs analysis for batch contact sample analyses. We thank the ASO staff Dave Blanchard, Leah Arrigo, and Catalin Harabagiu for sample analysis processing and reporting. We thank Heather Colburn and Austin Bachman for conducting technical reviews of calculation files, test data packages and this technical report. The authors also thank David MacPherson and Alyssa Petersen for the quality review of the calculation files and test data packages.

Acronyms and Abbreviations

AMPS	Advanced Modular Pretreatment System
ASO	Analytical Support Operations
ASR	Analytical Service Request
BC	batch contact(s)
CST	crystalline silicotitanate
DF	decontamination factor
DFLAW	Direct Feed Low-Activity Waste
DI	deionized
DOE	U.S. Department of Energy
GEA	gamma energy analysis
H2C	Hanford Tank Waste Operations and Closure
ICP-OES	inductively coupled plasma optical emission spectroscopy
LAW	low-activity waste
NQAP	Nuclear Quality Assurance Program
PNNL	Pacific Northwest National Laboratory
RPM	revolutions per minute
TSCR	Tank Side Cesium Removal
WAC	waste acceptance criteria
WRPS	Washington River Protection Solutions
WTP	Hanford Waste Treatment and Immobilization Plant

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1.0 Introduction

Hanford Tank Waste Operations and Closure (H2C) is the tank operations contactor for the U.S. Department of Energy (DOE) Hanford Field Office on the Hanford Site. The Hanford Site stores an estimated 56 million gallons of mixed radioactive and chemically hazardous waste in large underground tanks. In support of the Direct Feed Low-Activity Waste (DFLAW) Program, DOE deployed a strategy to pretreat supernate waste at tank farms and send it directly to Hanford's Waste Treatment and Immobilization Plant (WTP) Low-Activity Waste (LAW) facility for vitrification. To accommodate this strategy, DOE and H2C developed a two-phased approach. The first phase consisted of the deployment of a Tank Side Cesium Removal (TSCR) system located at AP Farm as a part of the TSCR Demonstration Project, which began operations in January 2022. This system provides the initial feed for hot commissioning of the WTP-LAW facility. The second phase will consist of the deployment of a higher capacity pretreatment system called the Advanced Modular Pretreatment System (AMPS) that can deliver sufficient feed for two melters in the WTP-LAW facility. Decanted tank waste supernate will be pretreated using AMPS to meet the WTP LAW Facility waste acceptance criteria (WAC). Specific to ^{137}Cs, this requirement is <3.18E-5 Ci ^{137}Cs/mole of Na.

The goal of this work was to test the effectiveness of CST to remove Cs from AN-107 and AP-105 supernate at six Na concentrations (3.5, 4.5, 5.5, 6.0, 7.0, and 8.0 M Na).

H2C funded PNNL to conduct testing with AP-105 tank waste under the Task 2 of the WRPS statement of work *FY 2022 Radioactive Waste Test Platform Testing*, Rev. 2, Requisition 351656, dated July 21, 2022. Testing with AN-107 tank waste was conducted under the WRPS statement of work *Tank 241-AN-107 Large Volume Sample Collection to Support Platform Testing, Phase 2, FY23*, Rev. 0, Requisition 366862, dated June 29, 2023. There are no deviations from the statement of work.

2.0 Quality Assurance

This work was conducted with funding from WRPS under requisition 366862: Tank 241-AN-107 Large Volume Sample Collection to Support Platform Testing, Phase 2, FY23. H2C funded PNNL to conduct testing with AP-105 tank waste under the Task 2 of the WRPS statement of work *FY 2022 Radioactive Waste Test Platform Testing*, Rev. 2, Requisition 351656, dated July 21, 2022. This work was performed in accordance with the Pacific Northwest National Laboratory (PNNL) Nuclear Quality Assurance Program (NQAP). The NQAP complies with the United States Department of Energy Order 414.1D, Quality Assurance, and 10 CFR 830, Subpart A, Quality Assurance Requirements. The NQAP uses NQA-1-2012, Quality Assurance Requirements for Nuclear Facility Applications, as its consensus standard and NQA-1-2012, Subpart 4.2.1, as the basis for its graded approach to quality. The data associated with this report was collected under technology readiness level (TRL) 5, the highest level of applied research under NQAP.

3.0 Test Conditions

This section describes the CST media, AN-107 tank waste, AP-105 tank waste, and batch contact conditions. All testing was conducted in accordance with a test plan prepared by PNNL and approved by the tank farm contractor.

3.1 CST media

The CST ion exchange media used in this study was procured by WRPS as ten 5-gallon buckets (149 kg total) of IONSIV R9140-B CST, Product 8056202-999, Lot No. 2002009604 from Honeywell UOP LLC (Des Plaines, IL, USA). Details of the procurement and material properties can be found elsewhere (Fiskum et al. 2019). The CST was sieved through a #30 sieve assembly and pretreated by contacting with 0.1 M NaOH to remove colloidal fines.

3.2 AN-107 Tank Waste Sample

The tank farm contractor collected multiple samples (36 at nominally 250 mL each) from the AN-107 Hanford tank in August and September of 2023. Characterization of the AN-107 samples are described elsewhere (Westesen et al. 2024). A source of ~5.5 M Na AN-107 was received for this study. The AN-107 source was separated into six aliquots for Na concentration adjustment. The aliquots were either diluted with DI water or heated to adjust the volume for the appropriate Na concentration for batch contact feed. The batch contact (BC) feed solutions were transferred into poly bottles to record gross mass. Sub-aliquots (2 mL) of each AN-107 BC feed were analyzed to determine ^{137}Cs content and Na concentration (ASR 2094).

Table 3-1. AP-105 sample volumes for Na concentration adjusting.

Desired Na Concentration, M	Amount of current AN-107	Added DIW, mL	Amount Evaporated, mL	Total Volume Produced, mL
3.5	95	55	NA	150
4.5	125	25	NA	150
5.5	150	NA	NA	150
6.0	165	NA	15	150
7.0	190	NA	40	150
8.0	220	NA	70	150

3.3 AP-105 Tank Waste Sample

The tank farm contractor collected multiple samples (36 each at nominally 250 mL) from the AP-105 Hanford tank in October 2022. Characterization of the AP-105 samples are described elsewhere (Westesen et al. 2023). A source of ~5.5 M Na AP-105 was received for this study. The AP-105 source was separated into six aliquots for Na concentration adjustment. The aliquots were either diluted with DI water or heated to adjust the volume to achieve the appropriate Na concentration for batch contact feed. The BC feed solutions were transferred into poly bottles to

record gross mass. Sub-aliquots (2 mL) of each AP-105 feed were analyzed to determine ^{137}Cs content and Na concentration (ASR 2120).

Table 3-2. AP-105 sample volumes for Na concentration adjusting.

Desired Na Concentration, M	Amount of current AP-105	Added DIW, mL	Amount Evaporated, mL	Total Volume Produced, mL
3.48	95	55	NA	150
4.58	125	25	NA	150
5.5	150	NA	NA	150
6.05	165	NA	15	150
6.97	190	NA	40	150
8.07	220	NA	70	150

3.4 Batch contact conditions

Batch contact experiments with AN-107 and AP-105 effluents were conducted to evaluate Cs loading at various Na concentrations. Stock solutions of 0.753 M (100 mg/mL) and 9.98E-02 M (13.3 mg/mL) $^{133}CsNO_3$ were prepared by dissolving the nitrate salt in a tared volumetric flask and diluted with DI water. Stocks of ^{133}Cs with known concentration and density were used for spiking of both AN-107 and AP-105 effluent samples. Four 50 mL centrifuge tubes were prepared for each BC feed solution to achieve 1.7E-04, 4.0E-04, 1.0E-03, and 1.7E-02 M Cs. The 0.084 M ^{133}Cs stock was spike in various volumes to 3 of the 4 centrifuge tubes per feed solution. The fourth centrifuge tube was spiked with the 0.753 M ^{133}Cs stock. A 30 mL aliquot of each feed solution was added to its appropriate 50 mL centrifuge tube. The solutions were prepared gravimetrically, and exact volumes were calculated from mass and density measurements.

A nominal 0.075 g (dry mass basis) aliquot of CST was measured into 20 mL vials and used to determine the dry mass of the exchanger. The F-factor was measured at nominally 105 °C with a value of 0.4262 for AN-107 and 0.3737 for AP-105 BC testing, respectively. The lower-than-expected F-factor is likely due to the CST not being fully dry before F-factor testing. This F-factor was used to calculate the target mass of CST for the batch contact tests. F-factor samples were again collected in duplicate, bracketing batch contact sample collection. The average F-factor was measured at 105 °C with an average value of 0.5404 for AN-107 and 0.5181 for the AP-105 BC testing, respectively. These values were used to measure the dry mass of CST for their respective tank waste samples.

Aliquots (15 mL) of the BC feed solutions were added to the appropriate vials (in duplicate); the exact volume transferred was calculated from net solution mass and density. The solution-to-mass phase ratio was averaged 193 ± 4 and 141 ± 1 for AN-107 and AP-105, respectively.

Batch contact tests were conducted subsequently; first the AN-107 then with AP-105. All samples were contacted at ambient temperature on a large orbital shaker set to 200 RPM. The temperature was monitored using a vial of DI water co-located with each sample set.

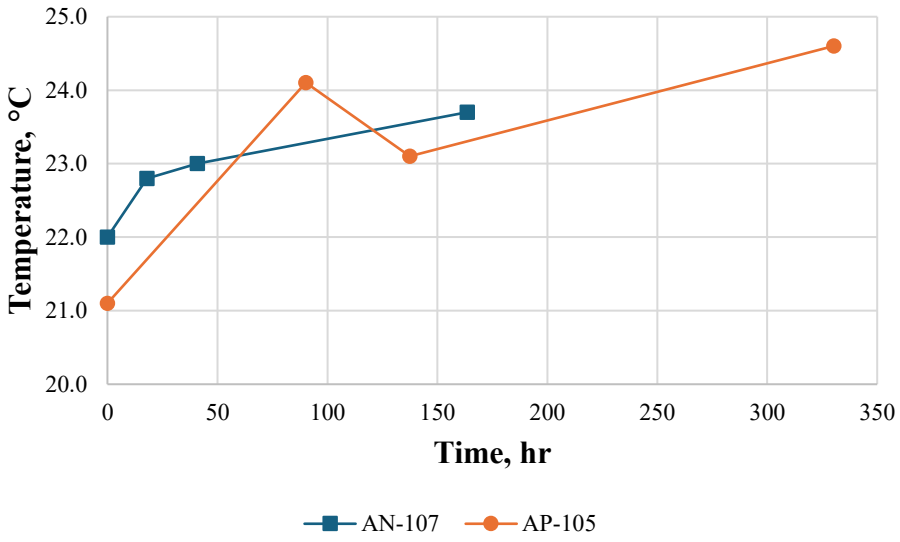


Figure 3-1. Temperature profile of batch contact testing with AN-107 and AP-105 tank waste supernate.

After contact, 2 mL of the supernate was removed and filtered through a 0.45 µm pore size nylon syringe filter and transferred to a glass vial for gamma energy analysis (GEA). The ^{137}Cs activity measured by GEA in pre- and post-contacted solutions was used to determine the total Cs exchange. Analysis and data reduction were conducted using the methods previously reported (Fiskum et al. 2019a). The isotherm data were fitted to a Freundlich/Langmuir hybrid equilibrium fit (Hamm et al. 2002).

The batch distribution coefficients were calculated according to Eq. (3.1).

$$\frac{(A_0 - A_1)}{A_1} \times \frac{V}{M \times F} = K_d \qquad 3.1$$

where A_0 = initial 137Cs concentration (µCi/mL)
A_1 = final (equilibrium) ^{137}Cs concentration (µCi/mL)
V = volume of the batch contact liquid (mL)
M = measured mass of CST (g)
F = F-factor, mass of the 105 °C dried CST divided by the mass of the undried CST
K_d = batch-distribution coefficient (mL/g)

Final (equilibrium) Cs concentrations (C_{Eq}) were calculated relative to the tracer removed in the contacted samples (A_1/A_0) and the initial Cs concentration (C_0) according to Eq. (3.2).

$$C_0 \times \left(\frac{A_1}{A_0}\right) = C_{Eq} \qquad 3.2$$

where C_0 = initial Cs concentration in solution (µg/mL or M)
C_{Eq} = equilibrium Cs concentration in solution (µg/mL or M)

The equilibrium Cs concentrations loaded on to the CST (Q in units of mmoles Cs per gram of dry CST mass) were calculated according to Eq. (3.3).

$$\frac{C_0 \times V \times \left(1 - \frac{A_1}{A_0}\right)}{M \times F \times 1000 \times FW} = Q \qquad 3.3$$

Where Q = equilibrium Cs concentration in the CST (mmole/g CST)
1000 = conversion factor to convert µg to mg
FW = Cs formula weight

3.5 Sample analysis

Cesium load performance was determined from the ^{137}Cs measured in the collected samples relative to the native ^{137}Cs in each respective feed. The samples collected were analyzed directly to determine the ^{137}Cs concentration using GEA.

The ASO was responsible for the preparation and analysis of appropriate analytical batch and instrument quality control samples and for providing any additional processing to the sub-samples that might be required (e.g. acid digestion, radiochemical separations, dilutions). All analyses were conducted by the ASO according to their standard operating procedures, the ASO AQ Plan, and the Analytical Service Request (ASR). Samples were analyzed directly (no preparation) by GEA.

4.0 Results

This section discusses the Cs exchange behavior during batch contact testing with variable Na AN-107 and AP-105 tank waste. Batch contact raw data are provided in Appendix A.

4.1 K_d and isotherm results

Figure 4-1 shows the K_d dependence on Cs concentration in AN-107 at various Na concentrations. The K_d increased with decreasing Na concentration. This result is expected as Na competes directly with Cs for CST sites (Campbell 2023). The data show negligible changes in the K_d for the three lower Cs concentrations (1.7E-04 M, 4.4E-04 M, and 1.0E-03 M) measured. This behavior has been observed for AP-105 (Westesen 2023) and suggests that there is no impact on K_d with small changes in Cs concentrations of <1E-03 M Cs. For the lower Cs concentration samples at 6.0 M Na, there is a significant change in K_d between the duplicate measurements. Also at the lower Cs concentrations, the 7.0 M Na samples show a slightly lower K_d than the 8.0 M Na samples. These results are likely just associated with analytical uncertainty in the K_d measurements and should not be taken as a significant deviation. Rather, trends should be assessed across the entirety of the data set to evaluate the impact of changing Na concentrations on CST performance.

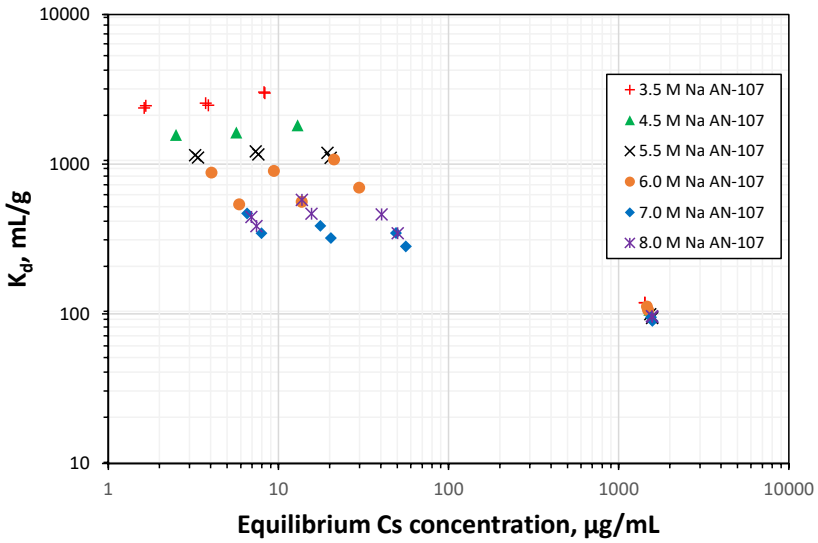


Figure 4-1. Cs K_d vs Cs concentration, AN-107 at six Na concentrations.

Figure 4-2 shows the K_d dependence on Cs concentration in AP-105 at various Na concentrations. Similar to the AN-107 batch contact study, the K_d is shown to increase with decreasing Na concentration and minimal changes to the K_d were seen as the Cs concentration varied between the three lowest conditions. At the higher Cs concentration, there is little change to the K_d at all Na concentrations.

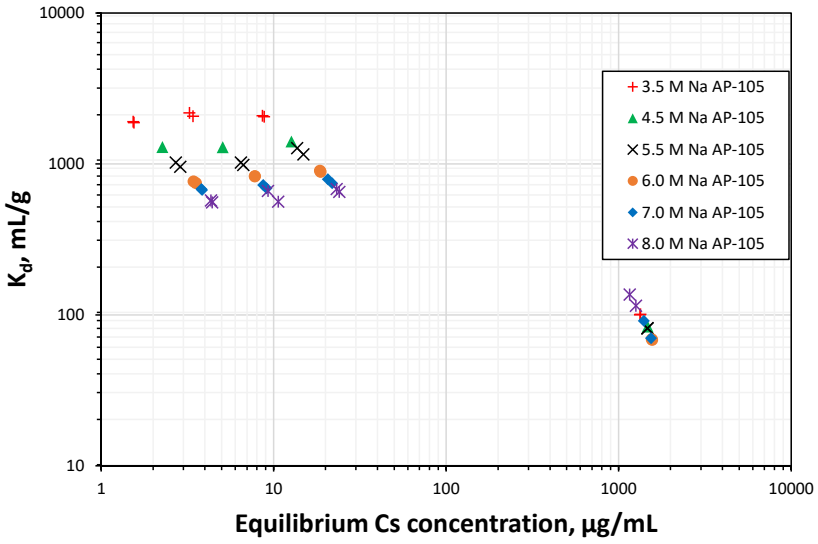


Figure 4-2. Cs K_d vs Cs concentration, AP-105 at six Na concentrations.

Figure 4-3 and Figure 4-4 show the impact of Na concentration on K_d in AN-107 and AP-105, respectively. At the lower Cs concentrations, the K_d shows a steady decrease with increasing Na concentration.

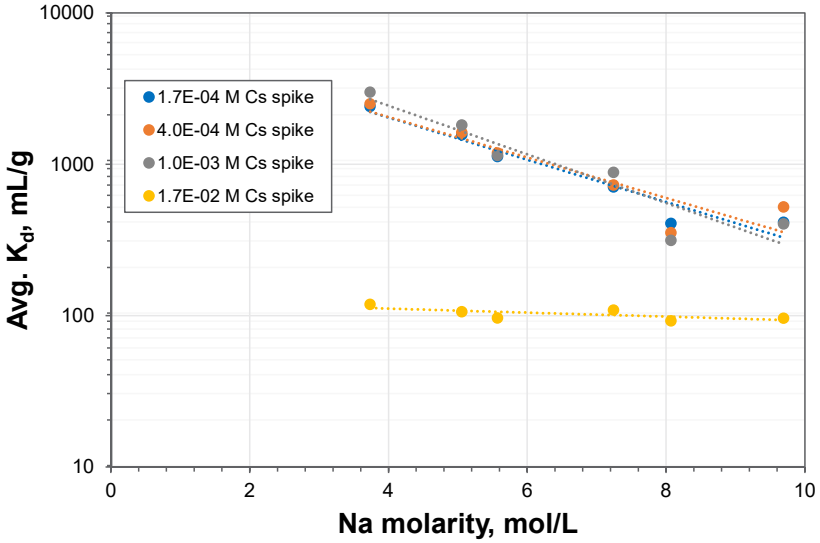


Figure 4-3. Average K_d vs Na concentration, AN-107 at four Cs concentrations.

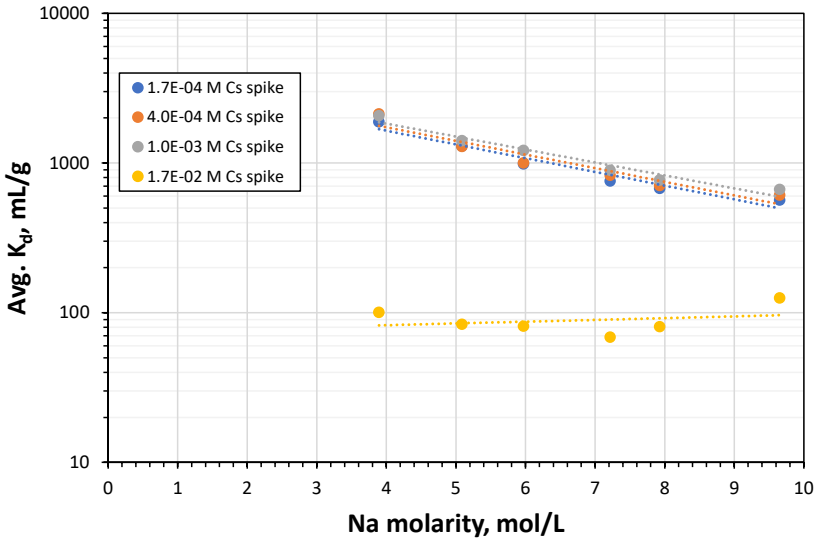


Figure 4-4. Average K_d vs Na concentration, AN-107 at four Cs concentrations.

Figure 4-5 and Figure 4-6 show corresponding isotherms and Q (mmoles Cs/g dry CST) values against Cs molarity at all Na concentrations for AN-107 and AP-105 tank waste, respectively. For this model, the α_i (total capacity in the matrix) was set to 0.68 mmoles Cs/g CST for this evolution of testing. Also provided are the curve fits to the Freundlich/Langmuir hybrid equilibrium model as given in Eq. 4.1.

$$Q = \frac{\alpha_i \times [Cs]}{(\beta + [Cs])} \qquad 4.1$$

where [Cs] = equilibrium Cs concentration, mmoles/mL or M
Q = equilibrium Cs loading on the CST, mmole Cs per g CST
αi = isotherm parameter constant (mmoles/g), equivalent to total capacity in the matrix
β = isotherm parameter constant (mmoles/mL or M), selectivity coefficient, dependent on matrix and temperature; the larger the value, the less selective the CST is for Cs

The results for both tanks show a decreasing trend in Cs loadings (Q values) with increasing Na concentrations. This can be attributed reduced ionic strength and decreased competitive ion effects as a result of sample dilution. For the AN-107 tank, the 7.0 M Na model shows lower Cs loadings than the 8.0 M Na model. This is consistent with the K_d values recorded; the trend is attributed to analytical uncertainty and considered negligible.

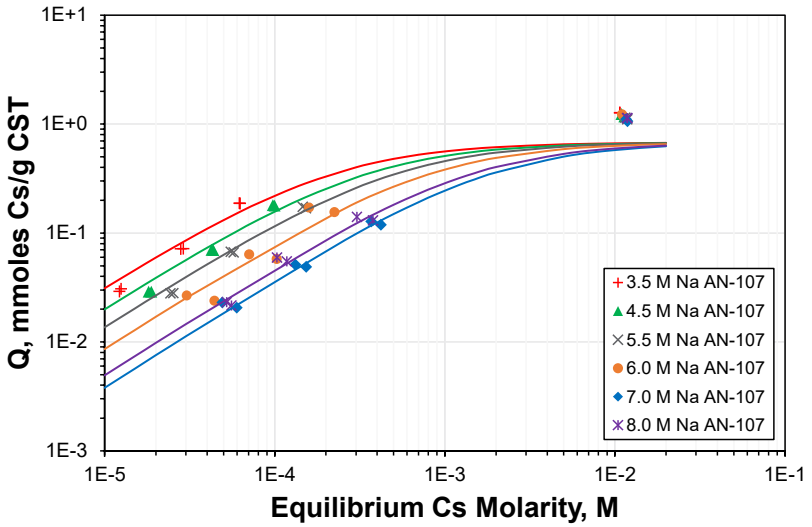


Figure 4-5. Q vs equilibrium Cs concentration for AN-107 tank waste with Freundlich/Langmuir hybrid equilibrium fits at various Na concentrations.

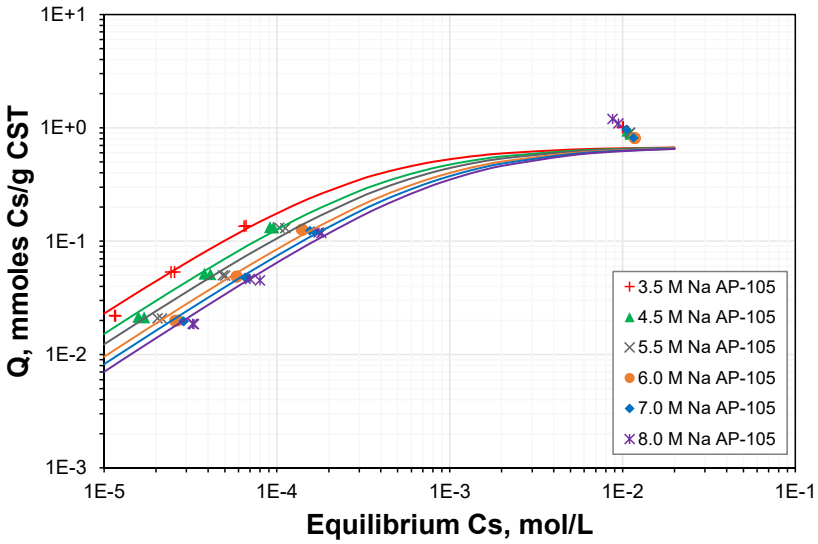


Figure 4-6. Q vs equilibrium Cs concentration for AP-105 tank waste with Freundlich/Langmuir hybrid equilibrium fits at various Na concentrations.

4.2 Tank waste comparisons

Batch contact studies were conducted on AN-107 and AP-105 (this work) and AP-107 (Campbell 2023) to assess Cs removal at variable Na concentrations. Table 4-1 shows a comparison of the K_d and Q values for CST in the three tank samples; data is normalized to Na concentrations in AN-107. For all tank wastes, both K_d and Q values show a general decreasing trend with increasing Na concentration as expected with increasing ionic strength. The AN-107 data show higher K_d values than either AP-105 or AP-107. This is due to the lower potassium concentration in this sample. The data for AP-107 and AP-105 overlap – indicating that there are nominal separations between these two tanks. Prior column testing has demonstrated that CST has a

slightly greater capacity for cesium in the AP-107 matrix (implying slightly higher K_d values), but this is difference is difficult to assess solely from batch contact tests. It is interesting to note that the AN-107 sample shows a much greater dependence on sodium loading. The cesium loading varies by more than a factor of 2 between 3.5 M and 8 M. This is assessed by multiplying the sodium molarity by the K_d. In contrast, AP-105 and AP-107 showed roughly a 30% decrease in cesium capacity. Again, this is likely associated with the much lower potassium content in the AN-107 sample but should be validated with other low potassium matrices. These changes are due to the changes in activity coefficients as a function of the ionic strength of the solution (as a result of dilution) and the mix of anions that are present. Prior work has shown that the cesium activity coefficient is impacted more by increases in ionic strength than the sodium activity coefficient. This non-ideality results in lower effective cesium loading at higher ionic strength.

Table 4-1. K_d and Q calculated using the Freundlich/Langmuir Hybrid Isotherm model parameters for AN-107, AP-105, and AP-107 at with α = 0.68 mmol/g CST.

[Na] (M)	AN-107			AP-105			AP-107		
	[Cs] (M)	K_d (mL/g)	Q (mmol/g)	[Cs] (M)	K_d (mL/g)	Q (mmol/g)	[Cs] (M)	K_d (mL/g)	Q (mmol/g)
3.5	4.37E-05	2267	0.110	4.05E-05	1772	0.079	4.49.E-05	1639	0.077
4.5	5.91E-05	1397	0.091	5.29E-05	1155	0.065	5.77.E-05	1206	0.072
5.5	6.51E-05	1114	0.079	6.21E-05	978	0.069	7.05.E-05	1015	0.074
6.0	8.47E-05	588	0.055	7.51E-05	628	0.054	7.69.E-05	733	0.059
7.0	9.43E-05	353	0.030	8.25E-05	589	0.054	8.97.E-05	594	0.055
8.0	1.13E-04	342	0.043	1.00E-04	466	0.053	1.03.E-04	419	0.045

5.0 Conclusions

A comparative analysis of batch contact testing was conducted for AN-107 and AP-105 samples at various Na and Cs concentrations. Batch contacts were conducted in duplicate with 0.075 g dry CST (Lot No. 2002009604) per 15 mL of solution and agitated at ambient temperature for an average of ~240 hours. The isotherm data were fit to the Freundlich/Langmuir hybrid equilibrium model to calculate K_d and Q values. These results were compared to AP-107 data. The following conclusions were made from this testing:

1. For all tank wastes, the data suggests CST's selectivity and capacity for Cs removal are more pronounced in scenarios with lower Na concentrations; this is influenced by the overall lower ionic strength of the tank waste samples and the impact on activity coefficients associated with these changes in ionic strength.

2. All tank wastes exhibited decreasing K_d values with increasing Na concentration, indicating the influence of competitive ion presence on the CST's affinity for Cs.

3. AN-107 showed generally higher K_d and Q values across all tested Na concentrations compared to AP-105. The differences are primarily due to the lower potassium in AN-107.

4. AP-105 and AP-107 showed similar K_d values, however prior column testing has demonstrated that CST has a slightly higher affinity for cesium in the AP-107 matrix.

6.0 References

Campbell, E. L., et al. (2023). *Investigation into Na and Cs activity coefficients in high salt solutions to support Cs removal in Hanford tank waste*. Radiochimica Acta **111**(10): 735-739.

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Fiskum SK, AM Rovira, HA Colburn, AM Carney, and RA Peterson. 2019a. *Cesium Ion Exchange Testing Using a Three-Column System with Crystalline Silicotitanate and Hanford Tank Waste 241-AP-107*. PNNL-28958, Rev. 0; RPT-DFTP-013, Rev. 0. Pacific Northwest National Laboratory, Richland, Washington.

Hamm LL, T Hang, DJ McCabe, and WD King. 2002. *Preliminary Ion Exchange Modeling for Removal of Cesium from Hanford Waste Using Hydrous Crystalline Silicotitanate Material*. WSRC-TR-2001-00400; SRT-RPP-2001-00134. Westinghouse Savannah River Company, Aiken, South Carolina.

Westesen AM, EL Campbell, C Alvarez, AM Carney, TT Trang-Le, RA Peterson. 2023. *Cesium Removal from 5.5 and 7.0 M Na AP-105 Using Crystalline Silicotitanate*. PNNL-34395, Rev. 0; RPT-DFTP-037, Rev. 0. Pacific Northwest National Laboratory, Richland, Washington.

Appendix A – Analytical Reports

This appendix includes analytical reports provided by Pacific Northwest National Laboratory's Analytical Support Operations (ASO).

Appendix A Table of Contents

ASO Analytical Service Request (ASR) 2094, AN-107

- ASR 2094 summary list……A2
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ASO Analytical Service Request (ASR) 2120, AP-105

- ASR 2120 summary list……A1063
- ASR 2120 GEA……A1067
- ASR 2120 ICP-OES……A1989

ASR 2094 Shirmir Branch
NU4045

#	RPL ID	Customer ID	Analysis needed 1st	Analysis needed 2nd
1	24-2282	3.5M-AN107-A	GEA	ICP-OES
2	24-2283	3.5M-AN107-d-A	GEA	ICP-OES
3	24-2284	4.5M-AN107-A	GEA	ICP-OES
4	24-2285	4.5M-AN107-d-A	GEA	ICP-OES
5	24-2286	5.5M-AN107-A	GEA	ICP-OES
6	24-2287	5.5M-AN107-d-A	GEA	ICP-OES
7	24-2288	6.0M-AN107-A	GEA	ICP-OES
8	24-2289	6.0M-AN107-d-A	GEA	ICP-OES
9	24-2290	7.0M-AN107-A	GEA	ICP-OES
10	24-2291	7.0M-AN107-d-A	GEA	ICP-OES
11	24-2292	8.0M-AN107-A	GEA	ICP-OES
12	24-2293	8.0M-AN107-d-A	GEA	ICP-OES
13	24-2294	VSM-3.5M-S1-CST-A	GEA	
14	24-2295	VSM-3.5M-S1-CST-d-A	GEA	
15	24-2296	VSM-3.5M-S2-CST-A	GEA	
16	24-2297	VSM-3.5M-S2-CST-d-A	GEA	
17	24-2298	VSM-3.5M-S3-CST-A	GEA	
18	24-2299	VSM-3.5M-S3-CST-d-A	GEA	
19	24-2300	VSM-3.5M-S4-CST-A	GEA	
20	24-2301	VSM-3.5M-S4-CST-d-A	GEA	
21	24-2302	VSM-4.5M-S1-CST-A	GEA	
22	24-2303	VSM-4.5M-S1-CST-d-A	GEA	
23	24-2304	VSM-4.5M-S2-CST-A	GEA	
24	24-2305	VSM-4.5M-S2-CST-d-A	GEA	
25	24-2306	VSM-4.5M-S3-CST-A	GEA	
26	24-2307	VSM-4.5M-S3-CST-d-A	GEA	
27	24-2308	VSM-4.5M-S4-CST-A	GEA	
28	24-2309	VSM-4.5M-S4-CST-d-A	GEA	
29	24-2310	VSM-5.5M-S1-CST-A	GEA	
30	24-2311	VSM-5.5M-S1-CST-d-A	GEA	
31	24-2312	VSM-5.5M-S2-CST-A	GEA	
32	24-2313	VSM-5.5M-S2-CST-d-A	GEA	
33	24-2314	VSM-5.5M-S3-CST-A	GEA	
34	24-2315	VSM-5.5M-S3-CST-d-A	GEA	
35	24-2316	VSM-5.5M-S4-CST-A	GEA	
36	24-2317	VSM-5.5M-S4-CST-d-A	GEA	
37	24-2318	VSM-6.0M-S1-CST-A	GEA	
38	24-2319	VSM-6.0M-S1-CST-d-A	GEA	
39	24-2320	VSM-6.0M-S2-CST-A	GEA	
40	24-2321	VSM-6.0M-S2-CST-d-A	GEA	
41	24-2322	VSM-6.0M-S3-CST-A	GEA	
42	24-2323	VSM-6.0M-S3-CST-d-A	GEA	

ASR 2094 Shirmir Branch
NU4045

#	RPL ID	Customer ID	Analysis needed 1st	Analysis needed 2nd
43	24-2324	VSM-6.0M-S4-CST-A	GEA	
44	24-2325	VSM-6.0M-S4-CST-d-A	GEA	
45	24-2326	VSM-7.0M-S1-CST-A	GEA	
46	24-2327	VSM-7.0M-S1-CST-d-A	GEA	
47	24-2328	VSM-7.0M-S2-CST-A	GEA	
48	24-2329	VSM-7.0M-S2-CST-d-A	GEA	
49	24-2330	VSM-7.0M-S3-CST-A	GEA	
50	24-2331	VSM-7.0M-S3-CST-d-A	GEA	
51	24-2332	VSM-7.0M-S4-CST-A	GEA	
52	24-2333	VSM-7.0M-S4-CST-d-A	GEA	
53	24-2334	VSM-8.0M-S1-CST-A	GEA	
54	24-2335	VSM-8.0M-S1-CST-d-A	GEA	
55	24-2336	VSM-8.0M-S2-CST-A	GEA	
56	24-2337	VSM-8.0M-S2-CST-d-A	GEA	
57	24-2338	VSM-8.0M-S3-CST-A	GEA	
58	24-2339	VSM-8.0M-S3-CST-d-A	GEA	
59	24-2340	VSM-8.0M-S4-CST-A	GEA	
60	24-2341	VSM-8.0M-S4-CST-d-A	GEA	

Branch_ASR2094 GEA Summary

Det and Geom	RPL #	Sample	(Reported) Cs (uCi)	(unc ± 1s)	(Reported) (unc ± 1s)	Comments
24-2282 3.5M-AN107-A F5_567784	24-2282	3.5M-AN107-A	2.13E-02	3.95E-04	2%	
24-2283 3.5M-AN107d-A F5_567797	24-2283	3.5M-AN107d-A	2.05E-02	2.46E-04	2%	
24-2284 4.5M AN107-A Q5_567785	24-2284	4.5M AN107-A	2.92E-02	5.02E-04	2%	
24-2285 4.5M AN107-d-A Q5_567798	24-2285	4.5M AN107-d-A	2.91E-02	5.55E-04	2%	
24-2286 5.5M-AN107-A S5_567786	24-2286	5.5M-AN107-A	3.31E-02	5.61E-04	2%	
24-2287 5.5M-AN107-d-A S5_567799	24-2287	5.5M-AN107-d-A	3.33E-02	5.70E-04	2%	
24-2288 6.0M AN107-A W5_567781	24-2288	6.0M AN107-A	3.30E-02	6.42E-04	2%	
24-2288 6.0M-AN107-A F3_567998	24-2288	6.0M-AN107-A	4.09E-02	3.30E-04	2%	Reccount
24-2289 6.0M AN107-d-A W5_567794	24-2289	6.0M AN107-d-A	4.03E-02	4.40E-04	2%	
24-2289 6.0M-AN107-d-A F3_568004	24-2289	6.0M-AN107-d-A	3.98E-02	2.66E-04	2%	Reccount
24-2290 7.0M AN-107-A X5_567782	24-2290	7.0M AN-107-A	4.46E-02	4.19E-04	2%	
24-2291 7.0M AN107-d-A X5_567795	24-2291	7.0M AN107-d-A	4.44E-02	8.94E-04	2%	
24-2292 8.0M-AN-107-A Z5_567783	24-2292	8.0M-AN-107-A	5.13E-02	8.55E-04	2%	
24-2293 8.0M-AN107-d-A Z5_567796	24-2293	8.0M-AN107-d-A	5.19E-02	9.86E-04	2%	
24-2294 VSM-3.5M-S1-CST-A W3_567803	24-2294	VSM-3.5M-S1-CST-A	1.69E-03	5.86E-05	3%	
24-2295 VSM-3.5M-S1-CST-d-A W3_567836	24-2295	VSM-3.5M-S1-CST-d-A	1.67E-03	6.31E-05	4%	
24-2296 VSM-3.5M-S2-CST-A X3_567804	24-2296	VSM-3.5M-S2-CST-A	1.77E-03	6.18E-05	3%	
24-2297 VSM-3.5M-S2-CST-d-A X3_567837	24-2297	VSM-3.5M-S2-CST-d-A	1.61E-03	2.09E-05	2%	
24-2298 VSM-3.5M-S3-CST-A Z3_567806	24-2298	VSM-3.5M-S3-CST-A	1.63E-03	2.20E-05	2%	
24-2299 VSM-3.5M-S3-CST-d-A Z3_567839	24-2299	VSM-3.5M-S3-CST-d-A	1.57E-03	5.51E-05	4%	
24-2300 VSM-3.5M-S4-CST-A R3_567807	24-2300	VSM-3.5M-S4-CST-A	1.40E-02	1.82E-04	2%	
24-2301 VSM-3.5M-S4-CST-d-A R3_567812	24-2301	VSM-3.5M-S4-CST-d-A	1.42E-02	2.67E-04	2%	
24-2302 VSM-4.5M-S1-CST-A U3_567808	24-2302	VSM-4.5M-S1-CST-A	3.69E-03	9.07E-05	2%	
24-2303 VSM-4.5M-S1-CST-d-A U3_567834	24-2303	VSM-4.5M-S1-CST-d-A	3.68E-03	7.72E-05	2%	
24-2304 VSM-4.5M-S2-CVST-A Y3_567809	24-2304	VSM-4.5M-S2-CVST-A	3.58E-03	3.47E-05	2%	
24-2305 VSM-4.5M-S2-CST-d-A Y3_567838	24-2305	VSM-4.5M-S2-CST-d-A	3.60E-03	8.17E-05	2%	
24-2306 VSM-4.5M-S3-CST-A F3_567810	24-2306	VSM-4.5M-S3-CST-A	3.22E-03	4.06E-05	2%	
24-2307 VSM-4.5M-S3-d-CST-A F3_567830	24-2307	VSM-4.5M-S3-d-CST-A	3.38E-03	8.33E-05	2%	
24-2308 VSM-4.5M-S4-CST-A Q3_567811	24-2308	VSM-4.5M-S4-CST-A	2.29E-02	3.48E-04	2%	
24-2309 VSM-4.5M-S4-CST-d-A Q3_567816	24-2309	VSM-4.5M-S4-CST-d-A	2.09E-02	2.32E-04	2%	
24-2310 VSM-5.5M-S1-CST-A S3_567813	24-2310	VSM-5.5M-S1-CST-A	5.84E-03	5.63E-05	2%	
24-2311 VSM-5.5M-S1-CST-d-A S3_567833	24-2311	VSM-5.5M-S1-CST-d-A	5.53E-03	8.41E-05	2%	
24-2312 VSM-5.5M-S2-CST-A R3_567817	24-2312	VSM-5.5M-S2-CST-A	5.46E-03	6.72E-05	2%	
24-2313 VSM-5.5M-S2-CST-d-A R3_567832	24-2313	VSM-5.5M-S2-CST-d-A	5.07E-03	9.28E-05	2%	
24-2314 VSM-5.5M-S3-CST-A V3_567819	24-2314	VSM-5.5M-S3-CST-A	5.57E-03	7.60E-05	2%	
24-2315 VSM-5.5M-S3-CST-d-A V3_567835	24-2315	VSM-5.5M-S3-CST-d-A	5.35E-03	9.77E-05	2%	
24-2316 VSM-5.5M-S4-CST-A Q3_567820	24-2316	VSM-5.5M-S4-CST-A	2.33E-02	3.67E-04	2%	
24-2317 VSM-5.5M-S4-CST-d-A Q3_567831	24-2317	VSM-5.5M-S4-CST-d-A	2.50E-02	1.93E-04	2%	
24-2318 VSM-6.0-S1-CST A F3_567850	24-2318	VSM-6.0-S1-CST A	8.68E-03	2.78E-04	3%	
24-2322 VSM-6.0M-S3-CST-A Q3r	24-2322	VSM-6.0M-S3-CST-A	8.54E-03	3.32E-04	4%	Recount
24-2319 VSM-6.0M-S1-CST-d-A F3_567859	24-2319	VSM-6.0M-S1-CST-d-A	1.22E-02	1.29E-04	2%	
24-2319 VSM-6.0M-S1-CST-d-A R3_567988	24-2319	VSM-6.0M-S1-CST-d-A	1.23E-02	3.52E-04	3%	Recount
24-2320 VSM-6.0M-S2-CST-A Q3_567851	24-2320	VSM-6.0M-S2-CST-A	1.27E-02	2.87E-04	2%	
24-2320 VSM-6.0M-S2-CST-A S3_567989	24-2320	VSM-6.0M-S2-CST-A	1.33E-02	3.28E-04	2%	Recount
24-2321 VSM-6.0M-S2-CST-d-A Q3_567860	24-2321	VSM-6.0M-S2-CST-d-A	8.31E-03	2.61E-04	3%	
24-2321 VSM-6.0M-S2-CST-d-A S3_567991	24-2321	VSM-6.0M-S2-CST-d-A	7.77E-03	2.00E-04	3%	Recount
24-2322 VSM-6.0M-S3-CST-A R3_567852	24-2322	VSM-6.0M-S3-CST-A	7.32E-03	2.46E-04	3%	
24-2323 VSM-6.0M-S3-CST-d-A R3_567861	24-2323	VSM-6.0M-S3-CST-d-A	1.00E-02	2.58E-04	3%	
24-2323 VSM-6.0M-S3-CST-d-A R3_567993	24-2323	VSM-6.0M-S3-CST-d-A	9.99E-03	1.11E-04	2%	Recount
24-2324 VSM-6.0M-S4-CST-A S3_567853	24-2324	VSM-6.0M-S4-CST-A	3.12E-02	3.66E-04	2%	
24-2325 VSM-6.0M-S4-CST-d-A S3_567862	24-2325	VSM-6.0M-S4-CST-d-A	2.89E-02	3.66E-04	2%	
24-2326 VSM-7.0M-S1-CST-A U3_567854	24-2326	VSM-7.0M-S1-CST-A	1.55E-02	2.80E-04	2%	
24-2327 VSM-7.0M-S1-CST-d-A U3_567863	24-2327	VSM-7.0M-S1-CST-d-A	1.91E-02	1.85E-04	2%	
24-2328 VSM-7.0M-S2-CST-A V3_567855	24-2328	VSM-7.0M-S2-CST-A	1.98E-02	3.23E-04	2%	
24-2329 VSM-7.0M-S2-CST-d-A V3_567864	24-2329	VSM-7.0M-S2-CST-d-A	1.72E-02	3.25E-04	2%	
24-2330 VSM-7.0M-S3-CST-A W3_567856	24-2330	VSM-7.0M-S3-CST-A	2.17E-02	1.66E-04	2%	
24-2331 VSM-7.0M-S3-CST-d-A W3_567865	24-2331	VSM-7.0M-S3-CST-d-A	1.90E-02	1.63E-04	2%	

Branch_ASR2094 GEA Summary

Det and Geom	RPL #	Sample	Cs (uCi) (Reported)	(unc ± 1s)	(unc ± 1s) (Reported)	Comments
24-2332 VSM-7.0M-S4-CST-A X3_567857	24-2332	VSM-7.0M-S4-CST-A	3.50E-02	3.82E-04	2%	
24-2333 VSM-7.0M-S4-CST-d-A X3_567866	24-2333	VSM-7.0M-S4-CST-d-A	3.50E-02	2.66E-04	2%	
24-2334 VSM-8.0M-S1-CST-A Z3_567858	24-2334	VSM-8.0M-S1-CST-A	1.90E-02	3.23E-04	2%	
24-2335 VSM-8.0M-S1-CST-d-A Z3_567927	24-2335	VSM-8.0M-S1-CST-d-A	1.99E-02	3.68E-04	2%	
24-2336 VSM-8.0M-S2-CST-A F3_567869	24-2336	VSM-8.0M-S2-CST-A	1.53E-02	1.45E-04	2%	
24-2337 VSM-8.0M-S2-CST-d-A F3_567877	24-2337	VSM-8.0M-S2-CST-d-A	1.79E-02	1.33E-04	2%	
24-2338 VSM-8.0M-S3-CST-A Q3_567870	24-2338	VSM-8.0M-S3-CST-A	2.22E-02	3.65E-04	2%	
24-2339 VSM-8.0M-S3-CST-d-A Q3_567878	24-2339	VSM-8.0M-S3-CST-d-A	1.76E-02	2.46E-04	2%	
24-2340 VSM-8.0M-S4-CST-A R3_567871	24-2340	VSM-8.0M-S4-CST-A	4.24E-02	4.89E-04	2%	
24-2341 VSM-8.0M-S4-CST-d-A R3_567879	24-2341	VSM-8.0M-S4-CST-d-A	4.05E-02	2.99E-04	2%	

Apex-Gamma

Analysis Report for 24-2282 3.5M-AN107-A F5

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2282 3.5M-AN107-A F5
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 9:14:56AM
Procedure	: P5_GSV02mlw
Operator	: Administrator
Detector Name	: F
Geometry	: P5_GSV2MLW
Live Time	: 7017.4 seconds
Real Time	: 7080.9 seconds
Dead Time	: 0.90 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: P5_gsv2ml2_R717
Sample Number	: 567784
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 11:13:02AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2282 3.5M-AN107-A F5

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.90	120.55	0.2989	4.16
2	56.89	160.00	0.0000	0.00
3	59.61	167.13	0.0626	104.87
4	72.43	202.76	0.3423	3.86
5	74.83	209.84	0.2768	5.07
6	105.62	295.33	0.2894	3.55
7	123.13	344.64	0.0883	47.34
8	247.92	693.44	0.1606	12.97
9	352.29	985.18	0.2765	3.85
10	414.85	1159.89	0.1941	8.80
11	511.01	1428.84	0.1650	6.58
12	582.80	1628.99	0.2916	3.88
13	591.91	1654.77	0.1397	14.51
14	609.33	1703.77	0.2482	3.99
15	661.79	1850.13	0.0656	60.80
16	666.41	1863.34	0.1967	7.57
17	692.81	1936.41	0.3231	3.24
18	695.40	1944.17	0.2139	6.85
19	723.49	2022.53	0.0893	31.04
20	757.06	2116.45	0.1432	11.24
21	778.98	2177.69	0.3020	3.31
22	846.17	2365.03	0.2727	3.51
23	873.41	2441.55	0.0999	23.87
24	892.97	2496.09	0.2492	4.08
25	904.77	2529.33	0.2774	3.42
26	996.52	2785.47	0.1094	18.51
27	1005.05	2809.41	0.0895	28.33
28	1173.52	3280.18	0.0978	22.88
29	1246.51	3483.80	0.2195	4.53
30	1274.74	3562.89	0.0790	31.89
31	1332.85	3725.29	0.0995	19.31
32	1408.46	3936.31	0.2173	4.52
33	1461.22	4084.30	0.1842	5.23
34	1494.24	4176.00	0.2302	4.14
35	1596.94	4463.02	0.1734	6.33
36	1720.18	4807.25	0.2843	3.10
37	1765.06	4932.39	0.2177	4.28

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2282 3.5M-AN107-A F5

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 11:13:02AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.90	112	124	120.43	1.45E+03	251.90	9.60E+04	1.09
M	2	56.89	152	174	159.53	2.41E+03	260.87	1.32E+05	1.22
m	3	59.61	152	174	167.12	7.72E+04	1288.64	1.28E+05	1.23
M	4	72.43	200	214	202.96	1.23E+03	251.02	7.43E+04	1.16
m	5	74.83	200	214	209.67	2.00E+03	267.70	1.01E+05	1.17
F	6	105.62	292	303	295.73	2.03E+03	262.30	8.01E+04	1.64
F	7	123.13	337	353	344.66	1.92E+04	825.08	8.98E+04	1.26
F	8	247.92	689	703	693.45	2.08E+03	114.48	1.80E+04	1.32
F	9	352.29	980	990	985.15	3.12E+02	68.47	5.01E+03	1.33
F	10	414.85	1155	1168	1159.99	6.56E+02	60.37	4.42E+03	1.32
F	11	511.01	1417	1440	1428.73	2.24E+03	281.59	4.29E+03	3.12
F	12	582.80	1617	1636	1629.37	2.87E+02	221.05	2.45E+03	1.14
F	13	591.91	1644	1665	1654.82	1.19E+03	156.67	2.50E+03	1.74
F	14	609.33	1695	1709	1703.51	3.46E+02	176.17	1.57E+03	2.26
M	15	661.79	1837	1870	1850.12	1.33E+04	234.12	1.50E+03	1.81
m	16	666.41	1837	1870	1863.04	5.21E+02	39.43	1.52E+03	1.82
M	17	692.81	1929	1953	1936.82	3.26E+02	101.55	1.25E+03	1.74
m	18	695.40	1929	1953	1944.04	5.49E+02	135.15	1.79E+03	1.74
F	19	723.49	2012	2035	2022.56	3.91E+03	181.10	1.59E+03	1.88
F	20	757.06	2107	2124	2116.37	8.73E+02	39.32	1.11E+03	2.00
F	21	778.98	2166	2186	2177.61	1.10E+02	73.62	1.18E+03	1.31
F	22	846.17	2359	2372	2365.38	6.23E+01	94.04	6.63E+02	0.49
F	23	873.41	2431	2449	2441.49	2.14E+03	125.98	8.37E+02	1.89
F	24	892.97	2492	2502	2496.16	1.38E+02	24.40	3.91E+02	1.86
F	25	904.77	2520	2536	2529.13	1.41E+02	91.48	5.98E+02	1.82
F	26	996.52	2776	2796	2785.51	1.63E+03	43.93	6.83E+02	2.07
F	27	1005.05	2796	2823	2809.36	3.06E+03	56.76	8.30E+02	2.01
F	28	1173.52	3268	3292	3280.13	2.18E+03	111.24	3.37E+02	2.27
F	29	1246.51	3477	3494	3484.07	9.49E+01	14.75	1.72E+02	1.92
F	30	1274.74	3550	3575	3562.96	5.18E+03	128.79	1.95E+02	2.48
F	31	1332.85	3714	3736	3725.33	1.96E+03	81.64	1.15E+02	2.53
F	32	1408.46	3926	3944	3936.59	1.15E+02	67.46	7.62E+01	2.43
F	33	1461.22	4073	4095	4084.02	2.05E+02	14.90	6.35E+01	2.70
F	34	1494.24	4169	4184	4176.26	7.88E+01	10.34	3.62E+01	2.30
F	35	1596.94	4453	4475	4463.22	2.48E+02	15.61	3.96E+01	2.83
F	36	1720.18	4801	4813	4807.55	1.32E+01	4.85	9.60E+00	1.41
F	37	1765.06	4923	4939	4932.94	4.68E+01	19.47	2.52E+01	1.22

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ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 11:13:02AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567378.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.90	1.45E+03	251.90			1.45E+03	2.52E+02
M	2	56.89	2.41E+03	260.87			2.41E+03	2.61E+02
m	3	59.61	7.72E+04	1288.64			7.72E+04	1.29E+03
M	4	72.43	1.23E+03	251.02	1.08E+02	7.22E+00	1.13E+03	2.51E+02
m	5	74.83	2.00E+03	267.70	2.37E+02	1.30E+01	1.76E+03	2.68E+02
F	6	105.62	2.03E+03	262.30			2.03E+03	2.62E+02
F	7	123.13	1.92E+04	825.08			1.92E+04	8.25E+02
F	8	247.92	2.08E+03	114.48			2.08E+03	1.14E+02
F	9	352.29	3.12E+02	68.47	1.87E+02	2.76E+00	1.25E+02	6.85E+01
F	10	414.85	6.56E+02	60.37			6.56E+02	6.04E+01
F	11	511.01	2.24E+03	281.59	2.75E+02	1.01E+01	1.97E+03	2.82E+02
F	12	582.80	2.87E+02	221.05	3.26E+01	5.18E+00	2.54E+02	2.21E+02
F	13	591.91	1.19E+03	156.67			1.19E+03	1.57E+02
F	14	609.33	3.46E+02	176.17	1.76E+02	2.45E+00	1.70E+02	1.76E+02
M	15	661.79	1.33E+04	234.12			1.33E+04	2.34E+02
m	16	666.41	5.21E+02	39.43			5.21E+02	3.94E+01
M	17	692.81	3.26E+02	101.55			3.26E+02	1.02E+02
m	18	695.40	5.49E+02	135.15			5.49E+02	1.35E+02
F	19	723.49	3.91E+03	181.10			3.91E+03	1.81E+02
F	20	757.06	8.73E+02	39.32			8.73E+02	3.93E+01
F	21	778.98	1.10E+02	73.62			1.10E+02	7.36E+01
F	22	846.17	6.23E+01	94.04			6.23E+01	9.40E+01
F	23	873.41	2.14E+03	125.98			2.14E+03	1.26E+02
F	24	892.97	1.38E+02	24.40			1.38E+02	2.44E+01
F	25	904.77	1.41E+02	91.48			1.41E+02	9.15E+01
F	26	996.52	1.63E+03	43.93			1.63E+03	4.39E+01
F	27	1005.05	3.06E+03	56.76			3.06E+03	5.68E+01
F	28	1173.52	2.18E+03	111.24			2.18E+03	1.11E+02
F	29	1246.51	9.49E+01	14.75			9.49E+01	1.47E+01
F	30	1274.74	5.18E+03	128.79			5.18E+03	1.29E+02
F	31	1332.85	1.96E+03	81.64			1.96E+03	8.16E+01
F	32	1408.46	1.15E+02	67.46	8.80E+00	8.06E-01	1.07E+02	6.75E+01
F	33	1461.22	2.05E+02	14.90	2.03E+02	2.30E+00	2.73E+00	1.51E+01

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Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 34	1494.24	7.88E+01	10.34			7.88E+01	1.03E+01
F 35	1596.94	2.48E+02	15.61			2.48E+02	1.56E+01
F 36	1720.18	1.32E+01	4.85			1.32E+01	4.85E+00
F 37	1765.06	4.68E+01	19.47	5.65E+01	3.26E+00	-9.64E+00	1.97E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.97	1460.83	*	10.67	5.54E-05	3.06E-04	miss
CO-60	0.97	1173.24	*	99.97	4.13E-03	2.12E-04	miss
		1332.50	*	99.99	4.01E-03	1.69E-04	miss
		2505.74		1.00			
RH-106	0.38	511.86	*	20.70	1.12E-02	1.64E-03	miss
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	8.26E-04	7.89E-05	miss
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	7.16E-04	5.44E-05	miss
		674.80		3.10			
		695.00	*	99.60	7.73E-04	1.90E-04	miss
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
CS-137	0.99	661.66	*	85.20	2.13E-02	3.95E-04	miss
EU-154	0.99	42.70	*	20.45	1.90E-02	3.39E-03	miss

Analysis Report for 24-2282 3.5M-AN107-A F5

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.99	123.07	*	40.40	3.01E-02	1.35E-03	miss
		247.93	*	6.89	2.43E-02	1.38E-03	miss
		591.76	*	4.95	3.07E-02	4.07E-03	miss
		692.42	*	1.78	2.57E-02	8.01E-03	miss
		723.30	*	20.06	2.79E-02	1.33E-03	miss
		756.80	*	4.52	2.84E-02	1.32E-03	miss
		873.18	*	12.08	2.83E-02	1.69E-03	miss
		996.29	*	10.48	2.68E-02	7.76E-04	miss
		1004.76	*	18.01	2.93E-02	6.35E-04	miss
		1246.12	*	0.86	2.17E-02	3.39E-03	miss
		1274.43	*	34.80	2.96E-02	7.97E-04	miss
		1494.05	*	0.70	2.48E-02	3.27E-03	miss
		1596.48	*	1.80	3.17E-02	2.05E-03	miss
EU-155	0.21	43.00	*	18.70	2.08E-02	3.69E-03	miss
		60.01	*	1.22	7.08E+00	2.76E-01	miss
		86.55		30.70			
		105.31	*	21.10	5.88E-03	7.75E-04	miss
RA-226	0.31	74.81	*	6.44	2.09E-02	3.27E-03	miss
		77.11		10.80			
		87.30		4.84			
		186.21		3.59			
		242.00		7.43			
		295.22		19.30			
		351.93	*	37.60	3.20E-04	1.75E-04	miss
		609.31	*	46.10	4.80E-04	4.97E-04	miss
		768.36		4.94			
		1120.29		15.10			
		1238.11		5.79			
		1764.49	*	15.40	-1.55E-04	3.17E-04	miss
AM-241	0.99	59.54	*	35.90	2.41E-01	6.48E-03	miss

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2282 3.5M-AN107-A F5

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.976	5.54E-05	3.06E-04	
CO-60	0.978	4.06E-03	1.32E-04	
RH-106	0.383	1.12E-02	1.64E-03	
SB-126	0.481	7.52E-04	4.36E-05	
CS-137	0.997	2.13E-02	3.95E-04	
EU-154	0.992	2.83E-02	3.16E-04	
EU-155	0.213	5.21E-03	7.46E-04	
RA-226	0.310	3.90E-04	1.65E-04	
AM-241	0.999	2.40E-01	5.08E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2282 3.5M-AN107-A F5

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 11:13:02AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
M	2	56.89	3.43988E-01	10.81		
M	4	72.43	1.60516E-01	22.29		
F	12	582.80	3.62389E-02	86.95	Tol.	TH-232
F	21	778.98	1.56593E-02	66.99		
F	22	846.17	8.87205E-03	151.05	Sum	
F	24	892.97	1.97276E-02	17.63		
F	25	904.77	2.00992E-02	64.86		
F	32	1408.46	1.52051E-02	63.23	Sum	
F	36	1720.18	1.87421E-03	36.91	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	4.37E-03	4.37E-03	1.79E-03	2.17E-03
+	K-40	1460.83	*	10.67	1.74E-03	1.74E-03	5.54E-05	8.44E-04
	MN-54	834.84		99.98	3.04E-04	3.04E-04	-1.25E-04	1.50E-04
	CO-58	810.78		99.45	3.12E-04	3.12E-04	-2.96E-04	1.54E-04
		863.96		0.68	4.53E-02		-1.24E-02	2.23E-02
		1674.73		0.52	1.72E-02		1.36E-02	7.98E-03
	FE-59	142.65		1.00	9.52E-02	3.77E-04	-2.60E-02	4.75E-02
		192.35		3.01	2.67E-02		-6.03E-03	1.33E-02

Analysis Report for 24-2282 3.5M-AN107-A F5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	FE-59	334.80		0.27	2.05E-01	3.77E-04	3.65E-01	1.02E-01
		1099.25		56.30	4.52E-04		-1.73E-04	2.22E-04
		1291.60		43.70	3.77E-04		3.30E-05	1.82E-04
+	CO-60	1173.24	*	99.97	3.12E-04	1.92E-04	4.13E-03	1.54E-04
		1332.50	*	99.99	1.92E-04		4.01E-03	9.35E-05
		2505.74		1.00	9.46E-03		4.53E-03	4.27E-03
	SR-85	514.00		96.00	5.12E-04	5.12E-04	1.14E-04	2.54E-04
		868.60		0.01	3.85E+00		6.09E-01	1.91E+00
	NB-94	702.62		97.90	3.53E-04	3.53E-04	-6.35E-05	1.74E-04
		871.09		99.98	4.61E-04		3.31E-03	2.28E-04
	NB-95	765.81		99.81	3.34E-04	3.34E-04	3.47E-04	1.65E-04
	RU-103	497.05		91.00	4.83E-04	4.83E-04	-2.69E-04	2.40E-04
		610.30		5.76	6.95E-03		1.08E-02	3.45E-03
+	RH-106	511.86	*	20.70	3.29E-03	3.29E-03	1.12E-02	1.64E-03
		621.92		9.93	3.78E-03		-2.09E-03	1.87E-03
		1050.36		1.56	1.74E-02		4.09E-03	8.54E-03
	AG-108M	79.13		6.60	2.20E-02	4.36E-04	-9.57E-04	1.10E-02
		433.90		90.50	5.20E-04		-6.35E-04	2.58E-04
		614.30		89.80	4.36E-04		7.82E-05	2.16E-04
		722.90		90.80	5.91E-04		5.85E-03	2.93E-04
	CD-109	88.03		3.61	3.55E-02	3.55E-02	2.72E-02	1.77E-02
	SB-125	176.31		6.82	1.24E-02	1.61E-03	5.30E-03	6.16E-03
		380.45		1.52	3.27E-02		2.37E-02	1.63E-02
		427.87		29.55	1.61E-03		-4.08E-05	8.00E-04
		463.36		10.48	4.36E-03		-4.17E-04	2.17E-03
		600.60		17.76	2.13E-03		1.61E-03	1.06E-03
		606.71		5.02	7.93E-03		8.61E-03	3.93E-03
		635.95		11.32	3.28E-03		-1.07E-03	1.62E-03
		671.44		1.78	2.16E-02		1.42E-04	1.07E-02
+	SB-126	223.90		1.39	5.07E-02	2.53E-04	-9.14E-03	2.53E-02
		278.20		2.40	2.65E-02		3.48E-03	1.32E-02
		296.50		4.50	1.35E-02		1.43E-02	6.72E-03
		414.70	*	83.30	5.89E-04		8.26E-04	2.93E-04
		556.30		1.69	2.36E-02		5.45E-03	1.17E-02
		573.90		6.70	5.85E-03		2.28E-03	2.90E-03
		593.20		7.50	5.70E-03		2.18E-02	2.83E-03
		656.30		2.19	3.32E-02		3.05E-03	1.65E-02
		666.50	*	99.60	2.53E-04		7.16E-04	1.25E-04
		674.80		3.10	1.14E-02		2.78E-03	5.66E-03
		695.00	*	99.60	2.81E-04		7.73E-04	1.39E-04
		697.00		29.00	1.38E-03		4.66E-04	6.81E-04
		720.70		53.80	9.99E-04		1.88E-04	4.96E-04
		856.80		17.60	1.73E-03		1.64E-03	8.53E-04
		989.60		6.80	5.39E-03		4.27E-03	2.66E-03
		1213.30		2.39	8.00E-03		8.58E-03	3.89E-03
	Sn-126	64.28		9.60	1.99E-02	2.82E-03	9.62E-03	9.95E-03
		87.30		45.90	2.82E-03		5.40E-03	1.41E-03
	I-129	29.70		56.60	3.03E-02	3.03E-02	-3.41E-02	1.51E-02
		33.60		10.04	1.02E-01		-1.59E-01	5.08E-02
		34.40		2.01	4.66E-01		-4.61E-01	2.32E-01
		39.60		7.51	7.90E-02		-4.50E-02	3.94E-02
	CS-134	563.25		8.34	4.71E-03	3.73E-04	-2.54E-03	2.33E-03
		569.33		15.37	2.56E-03		1.45E-03	1.27E-03

Analysis Report for 24-2282 3.5M-AN107-A F5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-134	604.72		97.62	4.07E-04	3.73E-04	1.32E-04	2.02E-04
		795.86		85.46	3.73E-04		1.81E-04	1.84E-04
		801.95		8.69	3.61E-03		-8.05E-06	1.78E-03
+	CS-137	661.66	*	85.20	2.93E-04	2.93E-04	2.13E-02	1.44E-04
	CE-139	165.85		79.89	1.11E-03	1.11E-03	-5.78E-04	5.54E-04
	CE-141	40.70		3.35	1.67E-01	1.96E-03	-5.01E-02	8.35E-02
		145.44		48.29	1.96E-03		1.01E-03	9.79E-04
	CE-144	80.12		1.36	1.05E-01	8.89E-03	2.25E-02	5.25E-02
		133.51		11.09	8.89E-03		1.86E-03	4.43E-03
	EU-152	121.78		28.58	3.92E-03	8.40E-04	-2.47E-05	1.96E-03
		344.28		26.50	2.03E-03		2.01E-03	1.01E-03
		778.90		12.94	2.45E-03		2.15E-03	1.21E-03
		964.08		14.73	2.00E-03		1.75E-03	9.83E-04
		1085.87		10.24	2.55E-03		1.98E-03	1.25E-03
		1112.07		13.69	1.89E-03		-1.93E-05	9.25E-04
		1408.01		21.07	8.40E-04		5.57E-04	4.06E-04
	GD-153	97.43		29.00	4.15E-03	4.15E-03	3.56E-03	2.07E-03
		103.18		21.10	5.46E-03		-1.82E-03	2.73E-03
+	EU-154	42.70	*	20.45	2.77E-02	7.33E-04	1.90E-02	1.39E-02
		123.07	*	40.40	3.56E-03		3.01E-02	1.78E-03
		247.93	*	6.89	1.13E-02		2.43E-02	5.65E-03
		591.76	*	4.95	1.09E-02		3.07E-02	5.43E-03
		692.42	*	1.78	1.32E-02		2.57E-02	6.48E-03
		723.30	*	20.06	2.50E-03		2.79E-02	1.24E-03
		756.80	*	4.52	8.46E-03		2.84E-02	4.19E-03
		873.18	*	12.08	3.05E-03		2.83E-02	1.51E-03
		996.29	*	10.48	3.58E-03		2.68E-02	1.77E-03
		1004.76	*	18.01	2.60E-03		2.93E-02	1.29E-03
		1246.12	*	0.86	2.40E-02		2.17E-02	1.17E-02
		1274.43	*	34.80	7.33E-04		2.96E-02	3.59E-04
		1494.05	*	0.70	1.48E-02		2.48E-02	6.98E-03
		1596.48	*	1.80	7.22E-03		3.17E-02	3.44E-03
+	EU-155	43.00	*	18.70	3.03E-02	4.26E-03	2.08E-02	1.51E-02
		60.01	*	1.22	1.53E-01		7.08E+00	7.64E-02
		86.55		30.70	4.26E-03		1.49E-02	2.13E-03
		105.31	*	21.10	5.42E-03		5.88E-03	2.71E-03
	HG-203	72.87		6.30	2.64E-02	7.90E-04	8.59E-03	1.32E-02
		279.20		81.46	7.90E-04		-9.12E-05	3.94E-04
	BI-207	569.15		97.80	4.02E-04	3.55E-04	2.28E-04	1.99E-04
		1063.10		74.90	3.55E-04		9.56E-05	1.75E-04
	PB-210	46.54		4.25	9.18E-02	9.18E-02	-1.02E-01	4.58E-02
+	RA-226	74.81	*	6.44	1.76E-02	7.89E-04	2.09E-02	8.80E-03
		77.11		10.80	1.40E-02		3.33E-03	6.98E-03
		87.30		4.84	2.67E-02		5.12E-02	1.33E-02
		186.21		3.59	2.26E-02		7.91E-03	1.13E-02
		242.00		7.43	8.92E-03		-6.01E-03	4.44E-03
		295.22		19.30	3.16E-03		3.57E-03	1.57E-03
		351.93	*	37.60	1.17E-03		3.20E-04	5.80E-04
		609.31	*	46.10	8.20E-04		4.80E-04	4.06E-04
		768.36		4.94	6.54E-03		3.82E-03	3.23E-03
		1120.29		15.10	1.64E-03		-4.40E-03	8.05E-04
		1238.11		5.79	3.29E-03		4.52E-03	1.60E-03
		1764.49	*	15.40	7.89E-04		-1.55E-04	3.73E-04

Analysis Report for 24-2282 3.5M-AN107-A F5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PA-231	283.70		1.59	3.93E-02	2.51E-02	-4.56E-02	1.96E-02
		300.07		2.38	2.51E-02		-3.06E-02	1.25E-02
		302.67		1.71	3.47E-02		8.19E-03	1.73E-02
		330.07		1.32	4.18E-02		-9.05E-03	2.08E-02
	TH-232	74.81		11.62	1.36E-02	4.63E-04	3.09E-02	6.79E-03
		77.11		17.50	8.62E-03		2.06E-03	4.31E-03
		87.30		7.80	1.66E-02		3.18E-02	8.28E-03
		238.63		43.30	1.54E-03		-1.25E-04	7.69E-04
		338.32		11.30	4.80E-03		1.21E-03	2.39E-03
		583.19		30.37	1.29E-03		1.66E-03	6.39E-04
		727.33		6.58	8.14E-03		6.68E-05	4.04E-03
		911.21		26.60	1.13E-03		5.17E-04	5.58E-04
		968.97		16.20	1.80E-03		1.25E-03	8.86E-04
		2614.53		35.64	4.63E-04		8.73E-04	2.18E-04
	U-235	143.76		10.96	8.53E-03	1.42E-03	3.07E-03	4.26E-03
		185.71		57.20	1.42E-03		4.20E-04	7.09E-04
		205.31		5.01	1.50E-02		-4.21E-03	7.50E-03
	U-238	63.29		3.70	5.74E-02	2.84E-02	2.91E-03	2.87E-02
		92.51		4.23	2.84E-02		6.28E-04	1.42E-02
		112.81		0.21	5.15E-01		-2.49E-01	2.57E-01
		742.81		0.11	3.09E-01		-1.36E-01	1.53E-01
		766.28		0.32	1.03E-01		3.44E-02	5.08E-02
		1001.03		0.84	7.37E-02		9.50E-01	3.66E-02
	NP-239	99.60		12.80	1.19E-02	5.55E-03	8.84E-03	5.95E-03
		103.80		20.40	7.28E-03		3.85E-04	3.63E-03
		106.10		26.40	5.55E-03		9.35E-03	2.77E-03
		116.90		7.61	1.81E-02		2.69E-03	9.03E-03
		228.20		11.20	8.01E-03		5.71E-03	3.99E-03
		277.60		14.50	5.70E-03		2.98E-04	2.84E-03
		315.90		1.60	4.61E-02		-6.27E-02	2.29E-02
		334.30		2.06	3.45E-02		-2.32E-02	1.72E-02
+	AM-241	59.54	*	35.90	5.20E-03	5.20E-03	2.41E-01	2.60E-03

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

Apex-Gamma

Analysis Report for 24-2283 3.5M-AN107d-A F5

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2283 3.5M-AN107d-A F5
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 11:21:49AM
Procedure	: P5_GSV02mlw
Operator	: Administrator
Detector Name	: F
Geometry	: P5_GSV2MLW
Live Time	: 5110.5 seconds
Real Time	: 5156.2 seconds
Dead Time	: 0.89 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: P5_gsv2ml2_R717
Sample Number	: 567797
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 12:47:50PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2283 3.5M-AN107d-A F5

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.84	120.40	0.3045	3.40
2	59.61	167.13	0.0684	88.49
3	75.00	210.12	0.3038	4.39
4	123.11	344.57	0.0974	37.31
5	247.97	693.54	0.1677	11.80
6	263.91	738.16	0.3769	3.12
7	414.79	1159.71	0.2377	6.17
8	511.03	1428.77	0.1773	5.87
9	582.63	1627.26	0.2635	4.44
10	591.83	1654.52	0.1514	11.73
11	609.55	1704.17	0.3024	3.65
12	649.33	1814.91	0.3136	3.43
13	661.80	1850.16	0.0712	51.40
14	666.44	1863.18	0.2143	6.92
15	692.50	1935.36	0.2804	4.33
16	695.07	1943.66	0.2439	4.67
17	723.47	2022.51	0.0953	26.74
18	756.94	2115.98	0.1480	11.14
19	815.71	2280.43	0.3196	3.10
20	873.43	2441.47	0.1121	18.53
21	893.36	2496.71	0.2925	3.15
22	904.31	2527.79	0.2540	4.00
23	996.59	2785.86	0.1170	17.04
24	1005.10	2809.46	0.0986	22.61
25	1173.53	3280.04	0.1064	18.73
26	1246.44	3483.79	0.2324	3.94
27	1274.77	3563.01	0.0850	28.33
28	1332.78	3724.98	0.1075	17.30
29	1408.18	3935.95	0.2205	4.08
30	1461.18	4083.95	0.1887	5.30
31	1494.43	4176.97	0.2453	3.20
32	1596.94	4462.76	0.1848	4.61
33	1765.35	4933.56	0.2238	4.46

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2283 3.5M-AN107d-A F5

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 12:47:50PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.84	112	123	120.26	1.38E+03	218.14	6.33E+04	1.35
F	2	59.61	159	174	167.14	5.46E+04	1001.43	1.14E+05	1.23
F	3	75.00	204	218	210.15	2.60E+03	1373.54	9.82E+04	1.53
F	4	123.11	340	353	344.62	1.34E+04	215.90	5.31E+04	1.30
F	5	247.97	689	701	693.59	1.93E+03	98.62	1.08E+04	1.48
F	6	263.91	734	745	738.15	1.85E+02	65.85	8.55E+03	0.73
F	7	414.79	1156	1168	1159.82	3.24E+02	48.33	3.01E+03	1.12
F	8	511.03	1418	1440	1428.80	1.89E+03	283.93	2.85E+03	3.43
F	9	582.63	1621	1639	1628.90	3.85E+02	39.01	1.46E+03	3.76
F	10	591.83	1642	1662	1654.61	1.09E+03	145.97	1.56E+03	2.00
F	11	609.55	1698	1711	1704.12	1.11E+02	102.34	1.17E+03	1.26
F	12	649.33	1810	1819	1815.30	8.22E+01	135.92	6.09E+02	0.45
M	13	661.80	1840	1869	1850.15	9.34E+03	97.72	1.27E+03	1.76
m	14	666.44	1840	1869	1863.10	2.86E+02	32.24	1.24E+03	1.77
M	15	692.50	1931	1949	1935.95	1.98E+02	28.30	7.64E+02	1.64
m	16	695.07	1931	1949	1943.14	2.62E+02	29.41	9.29E+02	1.64
F	17	723.47	2009	2035	2022.48	2.96E+03	57.59	1.34E+03	1.86
F	18	756.94	2110	2126	2116.02	6.84E+02	34.20	7.68E+02	1.92
F	19	815.71	2273	2285	2280.25	1.01E+02	73.43	4.17E+02	1.55
F	20	873.43	2433	2450	2441.57	1.54E+03	42.50	5.61E+02	2.00
F	21	893.36	2488	2502	2497.25	8.42E+01	59.57	4.01E+02	0.74
F	22	904.31	2520	2535	2527.85	8.21E+01	19.91	4.60E+02	1.48
F	23	996.59	2776	2794	2785.73	1.15E+03	111.45	5.37E+02	1.92
F	24	1005.10	2800	2820	2809.50	2.17E+03	48.59	5.46E+02	2.03
F	25	1173.53	3271	3291	3280.16	1.57E+03	39.20	1.67E+02	2.28
F	26	1246.44	3477	3490	3483.89	7.83E+01	12.72	9.06E+01	2.04
F	27	1274.77	3548	3575	3563.04	3.69E+03	58.10	1.42E+02	2.37
F	28	1332.78	3714	3738	3725.14	1.45E+03	77.60	9.31E+01	2.50
F	29	1408.18	3927	3945	3935.81	7.27E+01	10.76	6.20E+01	2.08
F	30	1461.18	4073	4095	4083.89	1.75E+02	40.24	3.97E+01	2.66
F	31	1494.43	4166	4186	4176.78	8.57E+01	34.76	3.15E+01	2.67
F	32	1596.94	4452	4473	4463.23	1.66E+02	12.86	2.69E+01	2.73
F	33	1765.35	4927	4940	4933.74	4.74E+01	37.32	1.91E+01	1.78

Analysis Report for 24-2283 3.5M-AN107d-A F5

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 12:47:50PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567378.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.84	1.38E+03	218.14			1.38E+03	2.18E+02
F	2	59.61	5.46E+04	1001.43			5.46E+04	1.00E+03
F	3	75.00	2.60E+03	1373.54	1.72E+02	9.50E+00	2.43E+03	1.37E+03
F	4	123.11	1.34E+04	215.90			1.34E+04	2.16E+02
F	5	247.97	1.93E+03	98.62			1.93E+03	9.86E+01
F	6	263.91	1.85E+02	65.85			1.85E+02	6.59E+01
F	7	414.79	3.24E+02	48.33			3.24E+02	4.83E+01
F	8	511.03	1.89E+03	283.93	2.00E+02	7.32E+00	1.69E+03	2.84E+02
F	9	582.63	3.85E+02	39.01	2.37E+01	3.77E+00	3.62E+02	3.92E+01
F	10	591.83	1.09E+03	145.97			1.09E+03	1.46E+02
F	11	609.55	1.11E+02	102.34	1.29E+02	1.78E+00	-1.71E+01	1.02E+02
F	12	649.33	8.22E+01	135.92			8.22E+01	1.36E+02
M	13	661.80	9.34E+03	97.72			9.34E+03	9.77E+01
m	14	666.44	2.86E+02	32.24			2.86E+02	3.22E+01
M	15	692.50	1.98E+02	28.30			1.98E+02	2.83E+01
m	16	695.07	2.62E+02	29.41			2.62E+02	2.94E+01
F	17	723.47	2.96E+03	57.59			2.96E+03	5.76E+01
F	18	756.94	6.84E+02	34.20			6.84E+02	3.42E+01
F	19	815.71	1.01E+02	73.43			1.01E+02	7.34E+01
F	20	873.43	1.54E+03	42.50			1.54E+03	4.25E+01
F	21	893.36	8.42E+01	59.57			8.42E+01	5.96E+01
F	22	904.31	8.21E+01	19.91			8.21E+01	1.99E+01
F	23	996.59	1.15E+03	111.45			1.15E+03	1.11E+02
F	24	1005.10	2.17E+03	48.59			2.17E+03	4.86E+01
F	25	1173.53	1.57E+03	39.20			1.57E+03	3.92E+01
F	26	1246.44	7.83E+01	12.72			7.83E+01	1.27E+01
F	27	1274.77	3.69E+03	58.10			3.69E+03	5.81E+01
F	28	1332.78	1.45E+03	77.60			1.45E+03	7.76E+01
F	29	1408.18	7.27E+01	10.76	6.41E+00	5.87E-01	6.63E+01	1.08E+01
F	30	1461.18	1.75E+02	40.24	1.48E+02	1.67E+00	2.73E+01	4.03E+01
F	31	1494.43	8.57E+01	34.76			8.57E+01	3.48E+01
F	32	1596.94	1.66E+02	12.86			1.66E+02	1.29E+01
F	33	1765.35	4.74E+01	37.32	4.11E+01	2.38E+00	6.26E+00	3.74E+01

Analysis Report for 24-2283 3.5M-AN107d-A F5

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.98	1460.83	*	10.67	7.59E-04	1.12E-03	miss
CO-60	0.98	1173.24	*	99.97	4.08E-03	1.04E-04	miss
		1332.50	*	99.99	4.06E-03	2.19E-04	miss
		2505.74		1.00			
RH-106	0.38	511.86	*	20.70	1.32E-02	2.26E-03	miss
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	5.59E-04	8.47E-05	miss
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	5.39E-04	6.09E-05	miss
		674.80		3.10			
		695.00	*	99.60	5.06E-04	5.69E-05	miss
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
CS-137	0.99	661.66	*	85.20	2.05E-02	2.46E-04	miss
EU-154	0.99	42.70	*	20.45	2.50E-02	4.06E-03	miss
		123.07	*	40.40	2.89E-02	5.99E-04	miss
		247.93	*	6.89	3.11E-02	1.64E-03	miss
		591.76	*	4.95	3.86E-02	5.20E-03	miss
		692.42	*	1.78	2.14E-02	3.07E-03	miss
		723.30	*	20.06	2.91E-02	6.51E-04	miss
		756.80	*	4.52	3.06E-02	1.56E-03	miss
		873.18	*	12.08	2.79E-02	8.33E-04	miss
		996.29	*	10.48	2.59E-02	2.53E-03	miss

Analysis Report for 24-2283 3.5M-AN107d-A F5

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.99	1004.76	*	18.01	2.86E-02	7.15E-04	miss
		1246.12	*	0.86	2.46E-02	4.01E-03	miss
		1274.43	*	34.80	2.89E-02	5.46E-04	miss
		1494.05	*	0.70	3.70E-02	1.50E-02	miss
		1596.48	*	1.80	2.91E-02	2.30E-03	miss
AM-241	0.99	59.54	*	35.90	2.34E-01	6.54E-03	miss

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.981	7.59E-04	1.12E-03	
CO-60	0.981	4.08E-03	9.40E-05	
RH-106	0.387	1.32E-02	2.26E-03	
SB-126	0.487	5.29E-04	3.73E-05	
CS-137	0.997	2.05E-02	2.46E-04	
EU-154	0.991	2.88E-02	2.74E-04	
AM-241	0.999	2.34E-01	6.54E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2283 3.5M-AN107d-A F5

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 12:47:50PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	75.00	4.75045E-01	56.58	Tol.	RA-226 TH-232
F	6	263.91	3.62909E-02	35.51	Tol.	SE-75
F	9	582.63	7.07470E-02	10.84	Tol.	TH-232
F	11	609.55	-3.34449E-03	- 598.85	Tol.	RA-226
F	12	649.33	1.60898E-02	165.30		
F	19	815.71	1.96871E-02	72.98	Sum	
F	21	893.36	1.64677E-02	70.78		
F	22	904.31	1.60657E-02	24.25		
F	29	1408.18	1.29718E-02	16.26		
F	33	1765.35	1.22586E-03	596.89	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	5.11E-03	5.11E-03	7.47E-04	2.54E-03
+	K-40	1460.83	*	10.67	1.95E-03	1.95E-03	7.59E-04	9.36E-04
	MN-54	834.84		99.98	3.59E-04	3.59E-04	2.13E-04	1.76E-04
	CO-58	810.78		99.45	3.68E-04	3.68E-04	-1.23E-04	1.81E-04

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CO-58	863.96		0.68	5.19E-02	3.68E-04	4.27E-02	2.55E-02
		1674.73		0.52	1.87E-02		-5.37E-02	8.50E-03
	FE-59	142.65		1.00	1.11E-01	4.43E-04	-3.01E-03	5.55E-02
		192.35		3.01	3.11E-02		3.10E-02	1.55E-02
		334.80		0.27	2.41E-01		7.09E-02	1.20E-01
		1099.25		56.30	5.36E-04		-4.49E-05	2.62E-04
		1291.60		43.70	4.43E-04		4.83E-05	2.13E-04
+	CO-60	1173.24	*	99.97	2.81E-04	2.48E-04	4.08E-03	1.37E-04
		1332.50	*	99.99	2.48E-04		4.06E-03	1.20E-04
		2505.74		1.00	1.10E-02		9.35E-03	4.87E-03
	SR-85	514.00		96.00	6.09E-04	6.09E-04	-3.00E-06	3.02E-04
		868.60		0.01	4.42E+00		1.54E+00	2.19E+00
	NB-94	702.62		97.90	4.07E-04	4.07E-04	-9.94E-06	2.01E-04
		871.09		99.98	5.33E-04		3.34E-03	2.63E-04
	NB-95	765.81		99.81	3.89E-04	3.89E-04	3.23E-04	1.92E-04
	RU-103	497.05		91.00	5.61E-04	5.61E-04	1.77E-04	2.78E-04
		610.30		5.76	8.18E-03		1.59E-02	4.05E-03
+	RH-106	511.86	*	20.70	3.62E-03	3.62E-03	1.32E-02	1.80E-03
		621.92		9.93	4.45E-03		-2.57E-03	2.20E-03
		1050.36		1.56	2.05E-02		1.51E-02	1.00E-02
	AG-108M	79.13		6.60	2.56E-02	5.08E-04	1.05E-02	1.28E-02
		433.90		90.50	6.16E-04		5.82E-04	3.06E-04
		614.30		89.80	5.08E-04		-2.92E-04	2.51E-04
		722.90		90.80	6.98E-04		6.65E-03	3.46E-04
	CD-109	88.03		3.61	4.14E-02	4.14E-02	5.45E-02	2.07E-02
	SB-125	176.31		6.82	1.44E-02	1.88E-03	1.00E-02	7.19E-03
		380.45		1.52	3.81E-02		-2.61E-02	1.89E-02
		427.87		29.55	1.88E-03		-1.62E-03	9.33E-04
		463.36		10.48	5.11E-03		4.52E-04	2.54E-03
		600.60		17.76	2.46E-03		-5.74E-04	1.22E-03
		606.71		5.02	9.16E-03		2.45E-03	4.53E-03
		635.95		11.32	3.81E-03		-2.24E-03	1.88E-03
		671.44		1.78	2.55E-02		1.06E-02	1.26E-02
+	SB-126	223.90		1.39	5.92E-02	2.79E-04	-9.78E-03	2.95E-02
		278.20		2.40	3.10E-02		6.56E-03	1.54E-02
		296.50		4.50	1.56E-02		1.19E-02	7.79E-03
		414.70	*	83.30	6.50E-04		5.59E-04	3.22E-04
		556.30		1.69	2.75E-02		1.09E-02	1.36E-02
		573.90		6.70	6.64E-03		-3.72E-03	3.29E-03
		593.20		7.50	6.74E-03		4.70E-04	3.34E-03
		656.30		2.19	3.85E-02		6.30E-03	1.92E-02
		666.50	*	99.60	3.14E-04		5.39E-04	1.54E-04
		674.80		3.10	1.35E-02		5.16E-03	6.67E-03
		695.00	*	99.60	2.79E-04		5.06E-04	1.37E-04
		697.00		29.00	1.56E-03		2.54E-04	7.71E-04
		720.70		53.80	1.18E-03		-9.76E-05	5.84E-04
		856.80		17.60	2.01E-03		-6.74E-04	9.86E-04
		989.60		6.80	6.16E-03		3.70E-04	3.03E-03
		1213.30		2.39	9.02E-03		-2.13E-03	4.36E-03
	Sn-126	64.28		9.60	2.32E-02	3.29E-03	-2.86E-03	1.16E-02
		87.30		45.90	3.29E-03		9.84E-03	1.64E-03
	I-129	29.70		56.60	3.52E-02	3.52E-02	-6.95E-02	1.76E-02
		33.60		10.04	1.19E-01		-2.16E-01	5.91E-02

Analysis Report for 24-2283 3.5M-AN107d-A F5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-129	34.40		2.01	5.42E-01	3.52E-02	-8.57E-01	2.70E-01
		39.60		7.51	9.20E-02		-5.00E-02	4.59E-02
	CS-134	563.25		8.34	5.57E-03	4.16E-04	5.20E-03	2.76E-03
		569.33		15.37	2.96E-03		-4.18E-04	1.47E-03
		604.72		97.62	4.70E-04		-2.67E-04	2.33E-04
		795.86		85.46	4.16E-04		-2.90E-04	2.05E-04
		801.95		8.69	4.16E-03		-3.06E-03	2.05E-03
+	CS-137	661.66	*	85.20	3.71E-04	3.71E-04	2.05E-02	1.82E-04
	CE-139	165.85		79.89	1.30E-03	1.30E-03	1.07E-03	6.46E-04
	CE-141	40.70		3.35	1.95E-01	2.29E-03	-4.82E-02	9.75E-02
		145.44		48.29	2.29E-03		6.46E-04	1.14E-03
	CE-144	80.12		1.36	1.22E-01	1.04E-02	3.40E-02	6.10E-02
		133.51		11.09	1.04E-02		2.18E-04	5.18E-03
	EU-152	121.78		28.58	4.57E-03	9.64E-04	-8.65E-04	2.28E-03
		344.28		26.50	2.38E-03		-1.36E-03	1.18E-03
		778.90		12.94	3.03E-03		6.26E-03	1.49E-03
		964.08		14.73	2.40E-03		8.41E-04	1.18E-03
		1085.87		10.24	3.06E-03		2.31E-04	1.50E-03
		1112.07		13.69	2.14E-03		-1.63E-03	1.05E-03
		1408.01		21.07	9.64E-04		1.33E-03	4.63E-04
	GD-153	97.43		29.00	4.84E-03	4.84E-03	1.01E-03	2.42E-03
		103.18		21.10	6.37E-03		4.12E-03	3.18E-03
+	EU-154	42.70	*	20.45	3.01E-02	9.00E-04	2.50E-02	1.50E-02
		123.07	*	40.40	3.49E-03		2.89E-02	1.74E-03
		247.93	*	6.89	1.14E-02		3.11E-02	5.68E-03
		591.76	*	4.95	1.16E-02		3.86E-02	5.76E-03
		692.42	*	1.78	1.42E-02		2.14E-02	6.96E-03
		723.30	*	20.06	3.32E-03		2.91E-02	1.65E-03
		756.80	*	4.52	9.59E-03		3.06E-02	4.74E-03
		873.18	*	12.08	3.36E-03		2.79E-02	1.66E-03
		996.29	*	10.48	4.18E-03		2.59E-02	2.06E-03
		1004.76	*	18.01	2.55E-03		2.86E-02	1.26E-03
		1246.12	*	0.86	2.17E-02		2.46E-02	1.04E-02
		1274.43	*	34.80	9.00E-04		2.89E-02	4.39E-04
		1494.05	*	0.70	2.11E-02		3.70E-02	9.98E-03
		1596.48	*	1.80	8.15E-03		2.91E-02	3.84E-03
	EU-155	43.00		18.70	2.95E-02	4.96E-03	1.13E-02	1.47E-02
		60.01		1.22	2.52E-01		-8.49E-03	1.26E-01
		86.55		30.70	4.96E-03		7.13E-03	2.48E-03
		105.31		21.10	6.25E-03		5.32E-03	3.12E-03
	HG-203	72.87		6.30	3.08E-02	9.24E-04	-9.45E-03	1.54E-02
		279.20		81.46	9.24E-04		5.38E-04	4.60E-04
	BI-207	569.15		97.80	4.65E-04	4.08E-04	-6.56E-05	2.30E-04
		1063.10		74.90	4.08E-04		-7.09E-05	2.00E-04
	PB-210	46.54		4.25	1.07E-01	1.07E-01	-1.25E-01	5.34E-02
	RA-226	74.81		6.44	2.86E-02	1.00E-03	6.67E-02	1.43E-02
		77.11		10.80	1.63E-02		-1.78E-03	8.13E-03
		87.30		4.84	3.12E-02		9.33E-02	1.56E-02
		186.21		3.59	2.64E-02		7.43E-03	1.32E-02
		242.00		7.43	1.04E-02		3.72E-03	5.19E-03
		295.22		19.30	3.66E-03		3.19E-03	1.82E-03
		351.93		37.60	1.65E-03		-8.75E-04	8.18E-04
		609.31		46.10	1.00E-03		1.04E-03	4.96E-04

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	768.36		4.94	7.60E-03	1.00E-03	-7.20E-03	3.75E-03
		1120.29		15.10	1.99E-03		-5.34E-03	9.71E-04
		1238.11		5.79	3.96E-03		2.69E-03	1.92E-03
		1764.49		15.40	1.06E-03		2.11E-03	5.02E-04
	PA-231	283.70		1.59	4.59E-02	2.92E-02	-4.44E-02	2.28E-02
		300.07		2.38	2.92E-02		6.09E-03	1.45E-02
		302.67		1.71	4.03E-02		2.28E-02	2.01E-02
		330.07		1.32	4.92E-02		-3.65E-02	2.44E-02
	TH-232	74.81		11.62	1.58E-02	5.62E-04	3.70E-02	7.91E-03
		77.11		17.50	1.01E-02		-1.10E-03	5.02E-03
		87.30		7.80	1.93E-02		5.79E-02	9.65E-03
		238.63		43.30	1.80E-03		-7.70E-04	8.98E-04
		338.32		11.30	5.65E-03		3.10E-03	2.81E-03
		583.19		30.37	1.50E-03		1.36E-03	7.41E-04
		727.33		6.58	9.63E-03		-2.00E-03	4.77E-03
		911.21		26.60	1.32E-03		8.25E-04	6.46E-04
		968.97		16.20	2.20E-03		2.76E-03	1.08E-03
		2614.53		35.64	5.62E-04		9.23E-04	2.62E-04
	U-235	143.76		10.96	9.93E-03	1.66E-03	-2.49E-03	4.95E-03
		185.71		57.20	1.66E-03		5.92E-04	8.28E-04
		205.31		5.01	1.75E-02		-2.13E-02	8.73E-03
	U-238	63.29		3.70	6.69E-02	3.32E-02	-8.25E-03	3.34E-02
		92.51		4.23	3.32E-02		-7.59E-04	1.66E-02
		112.81		0.21	5.98E-01		9.28E-02	2.99E-01
		742.81		0.11	3.50E-01		-4.28E-01	1.72E-01
		766.28		0.32	1.19E-01		7.10E-03	5.87E-02
		1001.03		0.84	8.73E-02		1.52E-02	4.33E-02
	NP-239	99.60		12.80	1.42E-02	6.60E-03	-2.22E-03	7.11E-03
		103.80		20.40	8.66E-03		4.92E-03	4.32E-03
		106.10		26.40	6.60E-03		9.76E-03	3.29E-03
		116.90		7.61	2.16E-02		3.16E-04	1.08E-02
		228.20		11.20	9.61E-03		1.79E-03	4.79E-03
		277.60		14.50	6.81E-03		6.84E-06	3.39E-03
		315.90		1.60	5.58E-02		2.42E-02	2.77E-02
		334.30		2.06	4.15E-02		3.31E-02	2.06E-02
+	AM-241	59.54	*	35.90	1.07E-02	1.07E-02	2.34E-01	5.33E-03

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

Apex-Gamma

Analysis Report for 24-2284 4.5M AN107-A Q5
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2284 4.5M AN107-A Q5
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 9:18:47AM
Procedure	: P5_GSV02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: P5_GSV2MLW
Live Time	: 6784.3 seconds
Real Time	: 6865.9 seconds
Dead Time	: 1.19 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: Q5_gsv2ml_R717
Sample Number	: 567785
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 11:13:16AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2284 4.5M AN107-A Q5

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.89	137.10	0.3184	3.60
2	59.59	190.36	0.0592	103.40
3	72.54	230.96	0.3664	3.27
4	74.86	239.02	0.2772	5.60
5	86.91	277.42	0.2868	3.80
6	105.67	337.15	0.2871	3.95
7	123.14	392.89	0.0842	48.87
8	247.95	790.70	0.1394	16.54
9	322.00	1027.28	0.3604	3.28
10	324.41	1035.15	0.3398	3.25
11	344.79	1098.39	0.2704	4.22
12	401.28	1279.93	0.3819	3.06
13	414.86	1322.77	0.1868	7.42
14	444.76	1418.21	0.3300	3.13
15	511.03	1629.58	0.1527	7.83
16	521.69	1663.44	0.3156	3.57
17	582.22	1856.38	0.2393	4.06
18	591.90	1887.37	0.1285	14.93
19	609.59	1943.37	0.2375	4.58
20	661.82	2110.19	0.0596	69.03
21	666.50	2125.38	0.1698	9.35
22	692.57	2207.64	0.2122	7.10
23	695.17	2216.78	0.1906	7.84
24	723.48	2306.69	0.0810	36.95
25	757.00	2413.60	0.1263	14.35
26	815.72	2600.81	0.2676	3.02
27	845.59	2696.36	0.2557	3.04
28	873.43	2784.65	0.0931	27.22
29	893.07	2847.37	0.2835	3.66
30	904.41	2883.16	0.2193	4.01
31	996.53	3177.11	0.0987	21.96
32	1004.97	3204.01	0.0819	32.11
33	1112.58	3547.02	0.2609	3.89
34	1173.51	3741.24	0.0912	23.78
35	1246.42	3973.45	0.1915	5.64
36	1274.74	4063.92	0.0711	38.94
37	1332.81	4249.06	0.0900	22.96
38	1408.40	4490.03	0.1934	5.11
39	1461.27	4658.22	0.1661	6.72
40	1494.72	4764.45	0.1885	5.52
41	1520.57	4847.47	0.2697	3.12
42	1597.13	5091.35	0.1534	8.23
43	1764.71	5625.55	0.2324	3.37

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2284 4.5M AN107-A Q5

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 11:13:16AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	1	42.89	129	140	137.10	6.64E+02	633.82	9.97E+04	0.47
F	2	59.59	182	198	190.33	8.91E+04	1357.21	1.87E+05	1.17
M	3	72.54	228	247	231.61	1.44E+03	928.81	1.04E+05	1.20
m	4	74.86	228	247	239.03	2.69E+03	1513.41	1.45E+05	1.21
F	5	86.91	272	286	277.45	2.18E+03	304.72	1.43E+05	1.27
F	6	105.67	332	346	337.25	2.45E+03	286.87	1.14E+05	1.69
F	7	123.14	387	402	392.93	2.42E+04	285.62	9.70E+04	1.25
F	8	247.95	786	801	790.81	3.26E+03	129.36	2.15E+04	1.31
M	9	322.00	1024	1041	1026.87	3.97E+01	120.76	2.74E+03	0.35
m	10	324.41	1024	1041	1034.56	4.51E+01	137.15	3.33E+03	0.35
F	11	344.79	1092	1102	1099.52	4.91E+02	51.23	6.23E+03	0.39
F	12	401.28	1276	1283	1279.61	1.19E+02	21.04	3.13E+03	0.36
F	13	414.86	1315	1327	1322.88	7.59E+02	67.91	4.88E+03	1.45
	14	444.76	1413	1427	1418.21	7.10E+01	151.20	4.78E+03	0.80
F	15	511.03	1617	1641	1629.47	2.66E+03	309.28	5.28E+03	2.84
	16	521.69	1659	1667	1663.44	5.83E+01	77.35	1.80E+03	0.60
F	17	582.22	1846	1863	1856.39	4.88E+02	221.60	2.31E+03	2.24
F	18	591.90	1881	1894	1887.23	1.39E+03	54.01	1.95E+03	1.62
F	19	609.59	1937	1952	1943.63	3.61E+02	42.64	2.01E+03	1.88
M	20	661.82	2097	2131	2110.12	1.74E+04	281.42	1.91E+03	1.71
m	21	666.50	2097	2131	2125.05	7.02E+02	43.08	1.70E+03	1.71
M	22	692.57	2199	2224	2208.15	4.90E+02	37.45	1.59E+03	1.60
m	23	695.17	2199	2224	2216.44	6.05E+02	38.91	1.59E+03	1.60
F	24	723.48	2294	2316	2306.69	5.21E+03	196.23	1.89E+03	1.72
F	25	757.00	2407	2420	2413.54	1.13E+03	43.85	9.97E+02	1.75
F	26	815.72	2593	2608	2600.71	1.40E+02	28.89	9.26E+02	1.79
F	27	845.59	2687	2703	2695.92	1.59E+02	114.02	8.12E+02	1.85
F	28	873.43	2775	2794	2784.67	2.95E+03	163.53	8.62E+02	1.80
F	29	893.07	2843	2855	2847.25	6.02E+01	20.41	6.13E+02	0.77
F	30	904.41	2876	2891	2883.42	1.79E+02	26.44	6.77E+02	1.84
F	31	996.53	3162	3186	3177.05	2.20E+03	49.77	9.20E+02	1.97
F	32	1004.97	3189	3218	3203.95	4.08E+03	159.62	1.03E+03	1.94
F	33	1112.58	3542	3553	3546.95	6.11E+01	17.84	2.64E+02	1.39
F	34	1173.51	3726	3752	3741.17	2.79E+03	121.46	2.87E+02	2.16
F	35	1246.42	3965	3982	3973.55	1.49E+02	16.32	1.68E+02	1.87
F	36	1274.74	4048	4075	4063.80	6.54E+03	164.26	3.48E+02	2.14
F	37	1332.81	4233	4261	4248.90	2.59E+03	105.22	1.37E+02	2.22
F	38	1408.40	4479	4498	4489.83	1.45E+02	13.86	8.51E+01	2.20
F	39	1461.27	4649	4668	4658.34	1.94E+02	15.96	9.93E+01	2.05
F	40	1494.72	4755	4774	4764.97	1.25E+02	12.57	6.12E+01	2.08

Analysis Report for 24-2284 4.5M AN107-A Q5

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1520.57	4842 -	4853	4847.34	1.99E+01	6.06	1.51E+01	1.40
F	42	1597.13	5077 -	5101	5091.35	2.97E+02	45.41	3.67E+01	2.01
F	43	1764.71	5616 -	5633	5625.48	6.23E+01	8.42	1.81E+01	2.53

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 11:13:16AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567379.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	42.89	6.64E+02	633.82			6.64E+02	6.34E+02
F	2	59.59	8.91E+04	1357.21			8.91E+04	1.36E+03
M	3	72.54	1.44E+03	928.81	1.24E+02	7.78E+00	1.31E+03	9.29E+02
m	4	74.86	2.69E+03	1513.41	2.61E+02	1.38E+01	2.43E+03	1.51E+03
F	5	86.91	2.18E+03	304.72	4.93E+01	3.31E+00	2.13E+03	3.05E+02
F	6	105.67	2.45E+03	286.87			2.45E+03	2.87E+02
F	7	123.14	2.42E+04	285.62			2.42E+04	2.86E+02
F	8	247.95	3.26E+03	129.36			3.26E+03	1.29E+02
M	9	322.00	3.97E+01	120.76			3.97E+01	1.21E+02
m	10	324.41	4.51E+01	137.15			4.51E+01	1.37E+02
F	11	344.79	4.91E+02	51.23			4.91E+02	5.12E+01
F	12	401.28	1.19E+02	21.04			1.19E+02	2.10E+01
F	13	414.86	7.59E+02	67.91			7.59E+02	6.79E+01
	14	444.76	7.10E+01	151.20			7.10E+01	1.51E+02
F	15	511.03	2.66E+03	309.28	2.66E+02	1.12E+01	2.39E+03	3.09E+02
	16	521.69	5.83E+01	77.35			5.83E+01	7.74E+01
F	17	582.22	4.88E+02	221.60			4.88E+02	2.22E+02
F	18	591.90	1.39E+03	54.01			1.39E+03	5.40E+01
F	19	609.59	3.61E+02	42.64	1.85E+02	2.38E+00	1.76E+02	4.27E+01
M	20	661.82	1.74E+04	281.42			1.74E+04	2.81E+02
m	21	666.50	7.02E+02	43.08			7.02E+02	4.31E+01
M	22	692.57	4.90E+02	37.45			4.90E+02	3.74E+01
m	23	695.17	6.05E+02	38.91			6.05E+02	3.89E+01
F	24	723.48	5.21E+03	196.23			5.21E+03	1.96E+02
F	25	757.00	1.13E+03	43.85			1.13E+03	4.38E+01
F	26	815.72	1.40E+02	28.89			1.40E+02	2.89E+01

Analysis Report for 24-2284 4.5M AN107-A Q5

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	27	845.59	1.59E+02	114.02			1.59E+02	1.14E+02
F	28	873.43	2.95E+03	163.53			2.95E+03	1.64E+02
F	29	893.07	6.02E+01	20.41			6.02E+01	2.04E+01
F	30	904.41	1.79E+02	26.44			1.79E+02	2.64E+01
F	31	996.53	2.20E+03	49.77			2.20E+03	4.98E+01
F	32	1004.97	4.08E+03	159.62			4.08E+03	1.60E+02
F	33	1112.58	6.11E+01	17.84			6.11E+01	1.78E+01
F	34	1173.51	2.79E+03	121.46			2.79E+03	1.21E+02
F	35	1246.42	1.49E+02	16.32			1.49E+02	1.63E+01
F	36	1274.74	6.54E+03	164.26			6.54E+03	1.64E+02
F	37	1332.81	2.59E+03	105.22			2.59E+03	1.05E+02
F	38	1408.40	1.45E+02	13.86	7.35E+00	2.67E+00	1.38E+02	1.41E+01
F	39	1461.27	1.94E+02	15.96	2.05E+02	5.28E+00	-1.09E+01	1.68E+01
F	40	1494.72	1.25E+02	12.57			1.25E+02	1.26E+01
F	41	1520.57	1.99E+01	6.06			1.99E+01	6.06E+00
F	42	1597.13	2.97E+02	45.41			2.97E+02	4.54E+01
F	43	1764.71	6.23E+01	8.42	5.36E+01	2.93E+00	8.71E+00	8.92E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.97	1460.83	*	10.67	-2.33E-04	3.59E-04	miss
CO-60	0.98	1173.24	*	99.97	5.57E-03	2.44E-04	miss
		1332.50	*	99.99	5.57E-03	2.29E-04	miss
		2505.74		1.00			
RH-106	0.38	511.86	*	20.70	1.42E-02	1.88E-03	miss
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	9.86E-04	9.19E-05	miss
		556.30		1.69			

Analysis Report for 24-2284 4.5M AN107-A Q5

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.01E-03	6.23E-05	miss
		674.80		3.10			
		695.00	*	99.60	8.93E-04	5.77E-05	miss
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
CS-137	0.99	661.66	*	85.20	2.92E-02	5.02E-04	miss
EU-154	0.99	42.70	*	20.45	1.20E-02	1.15E-02	miss
		123.07	*	40.40	3.98E-02	7.10E-04	miss
		247.93	*	6.89	3.92E-02	1.64E-03	miss
		591.76	*	4.95	3.76E-02	1.52E-03	miss
		692.42	*	1.78	4.05E-02	3.13E-03	miss
		723.30	*	20.06	3.91E-02	1.53E-03	miss
		756.80	*	4.52	3.86E-02	1.55E-03	miss
		873.18	*	12.08	4.11E-02	2.32E-03	miss
		996.29	*	10.48	3.81E-02	9.54E-04	miss
		1004.76	*	18.01	4.13E-02	1.68E-03	miss
		1246.12	*	0.86	3.59E-02	3.97E-03	miss
		1274.43	*	34.80	3.93E-02	1.07E-03	miss
		1494.05	*	0.70	4.13E-02	4.20E-03	miss
		1596.48	*	1.80	3.99E-02	6.13E-03	miss
EU-155	0.98	43.00	*	18.70	1.31E-02	1.25E-02	miss
		60.01	*	1.22	9.44E+00	3.63E-01	miss
		86.55	*	30.70	4.94E-03	7.17E-04	miss
		105.31	*	21.10	7.58E-03	9.07E-04	miss
AM-241	1.00	59.54	*	35.90	3.21E-01	8.36E-03	miss

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2284 4.5M AN107-A Q5

ASR 2094 Branch

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	K-40	0.970	-2.33E-04	3.59E-04	
	CO-60	0.980	5.57E-03	1.67E-04	
	RH-106	0.389	1.42E-02	1.88E-03	
	SB-126	0.487	9.54E-04	3.84E-05	
X	Sn-126	0.750			
	CS-137	0.996	2.92E-02	5.02E-04	
	EU-154	0.992	3.93E-02	3.60E-04	
	EU-155	0.984	5.90E-03	5.53E-04	
	AM-241	1.000	3.20E-01	6.42E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2284 4.5M AN107-A Q5

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 11:13:16AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
M	3	72.54	1.93654E-01	70.70		
m	4	74.86	3.58284E-01	62.27		
M	9	322.00	5.85617E-03	303.96		
m	10	324.41	6.65126E-03	303.95		
F	11	344.79	7.23850E-02	10.43	Tol.	EU-152
F	12	401.28	1.75152E-02	17.70	Tol.	SE-75
	14	444.76	1.04619E-02	213.03		
	16	521.69	8.59657E-03	132.63		
F	17	582.22	7.18860E-02	45.44		
F	19	609.59	2.59393E-02	24.27	Tol.	RU-103
F	26	815.72	2.06749E-02	20.59	Sum	
F	27	845.59	2.35015E-02	71.51		
F	29	893.07	8.87000E-03	33.91		
F	30	904.41	2.64327E-02	14.74		
F	33	1112.58	9.01165E-03	29.19	Tol.	EU-152
F	38	1408.40	2.03055E-02	10.24	Tol.	EU-152
F	41	1520.57	2.94060E-03	30.38	Sum	
F	43	1764.71	1.28405E-03	102.38	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Analysis Report for 24-2284 4.5M AN107-A Q5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	4.97E-03	4.97E-03	2.45E-03	2.47E-03
+	K-40	1460.83	*	10.67	2.08E-03	2.08E-03	-2.33E-04	1.01E-03
	MN-54	834.84		99.98	3.45E-04	3.45E-04	-3.11E-05	1.70E-04
	CO-58	810.78		99.45	3.77E-04	3.77E-04	1.32E-04	1.86E-04
		863.96		0.68	5.03E-02		1.44E-02	2.48E-02
		1674.73		0.52	1.98E-02		2.72E-03	9.26E-03
	FE-59	142.65		1.00	1.11E-01	4.27E-04	1.24E-01	5.53E-02
		192.35		3.01	2.94E-02		1.98E-03	1.47E-02
		334.80		0.27	2.34E-01		-2.02E-02	1.17E-01
		1099.25		56.30	5.14E-04		1.35E-04	2.52E-04
		1291.60		43.70	4.27E-04		3.51E-04	2.07E-04
+	CO-60	1173.24	*	99.97	3.11E-04	2.44E-04	5.57E-03	1.53E-04
		1332.50	*	99.99	2.44E-04		5.57E-03	1.19E-04
		2505.74		1.00	8.38E-03		1.51E-03	3.71E-03
	SR-85	514.00		96.00	6.00E-04	6.00E-04	-7.58E-05	2.98E-04
		868.60		0.01	4.49E+00		1.77E+00	2.23E+00
	NB-94	702.62		97.90	3.99E-04	3.99E-04	-1.73E-04	1.97E-04
		871.09		99.98	5.43E-04		5.27E-03	2.69E-04
	NB-95	765.81		99.81	3.92E-04	3.92E-04	2.21E-04	1.94E-04
	RU-103	497.05		91.00	5.63E-04	5.63E-04	2.16E-05	2.80E-04
		610.30		5.76	7.77E-03		5.74E-03	3.85E-03
+	RH-106	511.86	*	20.70	3.85E-03	3.85E-03	1.42E-02	1.92E-03
		621.92		9.93	4.28E-03		2.47E-04	2.12E-03
		1050.36		1.56	2.06E-02		-5.57E-03	1.01E-02
	AG-108M	79.13		6.60	2.66E-02	4.88E-04	7.23E-03	1.33E-02
		433.90		90.50	6.03E-04		4.00E-04	3.00E-04
		614.30		89.80	4.88E-04		-2.59E-05	2.42E-04
		722.90		90.80	7.03E-04		8.82E-03	3.49E-04
	CD-109	88.03		3.61	4.27E-02	4.27E-02	1.86E-02	2.13E-02
	SB-125	176.31		6.82	1.36E-02	1.79E-03	-4.40E-03	6.81E-03
		380.45		1.52	3.73E-02		-2.78E-02	1.86E-02
		427.87		29.55	1.79E-03		1.02E-03	8.88E-04
		463.36		10.48	5.05E-03		-1.91E-03	2.51E-03
		600.60		17.76	2.45E-03		1.08E-03	1.22E-03
		606.71		5.02	8.85E-03		-1.36E-03	4.39E-03
		635.95		11.32	3.63E-03		2.82E-04	1.80E-03
		671.44		1.78	2.46E-02		1.34E-03	1.22E-02
+	SB-126	223.90		1.39	6.00E-02	2.78E-04	-4.35E-02	2.99E-02
		278.20		2.40	2.92E-02		-9.54E-03	1.46E-02
		296.50		4.50	1.47E-02		-1.89E-03	7.34E-03
		414.70	*	83.30	6.19E-04		9.86E-04	3.08E-04
		556.30		1.69	2.71E-02		-2.53E-02	1.34E-02
		573.90		6.70	6.63E-03		7.13E-05	3.29E-03
		593.20		7.50	6.61E-03		2.24E-02	3.28E-03
		656.30		2.19	3.14E-02		-7.86E-03	1.56E-02
		666.50	*	99.60	2.80E-04		1.01E-03	1.38E-04
		674.80		3.10	1.32E-02		6.24E-04	6.53E-03
		695.00	*	99.60	2.78E-04		8.93E-04	1.37E-04
		697.00		29.00	1.57E-03		-1.51E-04	7.81E-04
		720.70		53.80	1.19E-03		4.32E-05	5.92E-04
		856.80		17.60	1.95E-03		-1.61E-03	9.61E-04
		989.60		6.80	5.69E-03		8.96E-04	2.81E-03
		1213.30		2.39	9.21E-03		1.42E-02	4.49E-03

Analysis Report for 24-2284 4.5M AN107-A Q5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Sn-126	64.28		9.60	2.62E-02	4.22E-03	1.91E-02	1.31E-02
		87.30	*	45.90	4.22E-03		3.31E-03	2.11E-03
	I-129	29.70		56.60	7.10E-02	7.10E-02	-8.54E-02	3.54E-02
		33.60		10.04	1.97E-01		-1.51E-01	9.84E-02
		34.40		2.01	8.72E-01		-9.90E-01	4.36E-01
		39.60		7.51	1.23E-01		-6.42E-02	6.16E-02
	CS-134	563.25		8.34	5.50E-03	4.30E-04	1.03E-03	2.73E-03
		569.33		15.37	2.94E-03		1.95E-03	1.46E-03
		604.72		97.62	4.51E-04		-2.75E-04	2.23E-04
		795.86		85.46	4.30E-04		-1.94E-04	2.12E-04
		801.95		8.69	4.18E-03		-9.17E-04	2.06E-03
+	CS-137	661.66	*	85.20	3.45E-04	3.45E-04	2.92E-02	1.70E-04
	CE-139	165.85		79.89	1.23E-03	1.23E-03	-1.31E-04	6.14E-04
	CE-141	40.70		3.35	2.55E-01	2.27E-03	-1.37E-02	1.27E-01
		145.44		48.29	2.27E-03		4.44E-04	1.13E-03
	CE-144	80.12		1.36	1.27E-01	1.04E-02	-2.10E-01	6.33E-02
		133.51		11.09	1.04E-02		5.98E-03	5.18E-03
	EU-152	121.78		28.58	4.60E-03	9.34E-04	-9.04E-04	2.30E-03
		344.28		26.50	2.32E-03		1.01E-03	1.15E-03
		778.90		12.94	2.99E-03		1.60E-03	1.48E-03
		964.08		14.73	2.30E-03		8.57E-04	1.13E-03
		1085.87		10.24	2.87E-03		1.46E-03	1.41E-03
		1112.07		13.69	2.07E-03		-1.96E-04	1.02E-03
		1408.01		21.07	9.34E-04		1.35E-03	4.53E-04
	GD-153	97.43		29.00	4.75E-03	4.75E-03	5.19E-03	2.37E-03
		103.18		21.10	6.24E-03		5.59E-07	3.11E-03
+	EU-154	42.70	*	20.45	3.77E-02	1.07E-03	1.20E-02	1.88E-02
		123.07	*	40.40	3.79E-03		3.98E-02	1.89E-03
		247.93	*	6.89	1.30E-02		3.92E-02	6.51E-03
		591.76	*	4.95	8.43E-03		3.76E-02	4.18E-03
		692.42	*	1.78	1.56E-02		4.05E-02	7.66E-03
		723.30	*	20.06	2.81E-03		3.91E-02	1.40E-03
		756.80	*	4.52	7.65E-03		3.86E-02	3.78E-03
		873.18	*	12.08	3.33E-03		4.11E-02	1.65E-03
		996.29	*	10.48	4.74E-03		3.81E-02	2.35E-03
		1004.76	*	18.01	3.14E-03		4.13E-02	1.56E-03
		1246.12	*	0.86	2.47E-02		3.59E-02	1.20E-02
		1274.43	*	34.80	1.07E-03		3.93E-02	5.25E-04
		1494.05	*	0.70	2.17E-02		4.13E-02	1.04E-02
		1596.48	*	1.80	7.53E-03		3.99E-02	3.58E-03
+	EU-155	43.00	*	18.70	4.12E-02	6.31E-03	1.31E-02	2.06E-02
		60.01	*	1.22	3.45E-01		9.44E+00	1.73E-01
		86.55	*	30.70	6.31E-03		4.94E-03	3.15E-03
		105.31	*	21.10	7.50E-03		7.58E-03	3.75E-03
	HG-203	72.87		6.30	3.22E-02	8.71E-04	4.55E-03	1.61E-02
		279.20		81.46	8.71E-04		9.68E-04	4.34E-04
	BI-207	569.15		97.80	4.62E-04	4.03E-04	3.07E-04	2.29E-04
		1063.10		74.90	4.03E-04		-1.03E-04	1.98E-04
	PB-210	46.54		4.25	1.31E-01	1.31E-01	-1.62E-01	6.55E-02
	RA-226	74.81		6.44	2.98E-02	9.25E-04	-1.74E-04	1.49E-02
		77.11		10.80	1.69E-02		-2.22E-03	8.46E-03
		87.30		4.84	3.22E-02		8.65E-02	1.61E-02
		186.21		3.59	2.49E-02		2.19E-02	1.24E-02

Analysis Report for 24-2284 4.5M AN107-A Q5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	242.00		7.43	1.05E-02	9.25E-04	-3.16E-03	5.26E-03
		295.22		19.30	3.45E-03		8.27E-04	1.72E-03
		351.93		37.60	1.61E-03		6.09E-04	8.01E-04
		609.31		46.10	9.60E-04		1.39E-03	4.76E-04
		768.36		4.94	7.80E-03		3.44E-03	3.86E-03
		1120.29		15.10	1.93E-03		-3.79E-04	9.45E-04
		1238.11		5.79	3.73E-03		9.29E-04	1.82E-03
		1764.49		15.40	9.25E-04		1.91E-03	4.40E-04
	PA-231	283.70		1.59	4.32E-02	2.76E-02	-2.68E-02	2.15E-02
		300.07		2.38	2.76E-02		1.08E-02	1.38E-02
		302.67		1.71	3.83E-02		5.89E-03	1.91E-02
		330.07		1.32	4.79E-02		8.11E-02	2.39E-02
	TH-232	74.81		11.62	1.65E-02	1.30E-03	-9.65E-05	8.26E-03
		77.11		17.50	1.05E-02		-1.37E-03	5.22E-03
		87.30		7.80	2.00E-02		5.37E-02	9.99E-03
		238.63		43.30	1.83E-03		2.59E-03	9.12E-04
		338.32		11.30	5.44E-03		-7.26E-03	2.71E-03
		583.19		30.37	1.48E-03		1.41E-03	7.33E-04
		727.33		6.58	9.59E-03		-2.13E-03	4.76E-03
		911.21		26.60	1.30E-03		1.58E-04	6.39E-04
		968.97		16.20	2.09E-03		1.92E-03	1.03E-03
>		2614.53		35.64	0.00E+00		0.00E+00	0.00E+00
	U-235	143.76		10.96	9.94E-03	1.57E-03	1.59E-03	4.96E-03
		185.71		57.20	1.57E-03		-6.07E-04	7.82E-04
		205.31		5.01	1.78E-02		-7.09E-03	8.88E-03
	U-238	63.29		3.70	7.55E-02	3.42E-02	5.34E-03	3.77E-02
		92.51		4.23	3.42E-02		5.75E-03	1.71E-02
		112.81		0.21	6.07E-01		3.95E-01	3.03E-01
		742.81		0.11	3.59E-01		5.20E-02	1.78E-01
		766.28		0.32	1.21E-01		-1.59E-01	5.98E-02
		1001.03		0.84	8.85E-02		-6.17E-04	4.40E-02
	NP-239	99.60		12.80	1.36E-02	6.29E-03	2.18E-03	6.81E-03
		103.80		20.40	8.30E-03		-1.75E-03	4.14E-03
		106.10		26.40	6.31E-03		2.66E-03	3.15E-03
		116.90		7.61	2.13E-02		-6.71E-03	1.06E-02
		228.20		11.20	9.50E-03		9.97E-03	4.74E-03
		277.60		14.50	6.29E-03		1.98E-03	3.13E-03
		315.90		1.60	5.12E-02		-1.41E-02	2.55E-02
		334.30		2.06	3.94E-02		-1.00E-02	1.96E-02
+	AM-241	59.54	*	35.90	1.17E-02	1.17E-02	3.21E-01	5.86E-03

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

Apex-Gamma

Analysis Report for 24-2285 4.5M AN107-d-A Q5

ASR 2094

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2285 4.5M AN107-d-A Q5
Sample Description	: ASR 2094
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 11:23:35AM
Procedure	: P5_GSV02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: P5_GSV2MLW
Live Time	: 5012.8 seconds
Real Time	: 5073.1 seconds
Dead Time	: 1.19 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: Q5_gsv2ml_R717
Sample Number	: 567798
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 12:48:13PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2285 4.5M AN107-d-A Q5

ASR 2094

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.60	190.38	0.0640	88.29
2	74.98	239.22	0.2927	5.47
3	123.14	392.90	0.0926	39.85
4	247.88	790.55	0.1557	13.57
5	415.03	1323.21	0.2072	6.31
6	511.03	1629.32	0.1697	7.39
7	582.41	1856.59	0.3008	3.42
8	591.85	1887.07	0.1438	12.42
9	661.81	2110.15	0.0643	59.50
10	666.56	2125.27	0.1769	8.89
11	692.49	2207.39	0.2343	5.82
12	695.06	2216.46	0.1884	7.97
13	723.47	2306.68	0.0868	31.31
14	757.01	2413.62	0.1366	13.22
15	873.45	2784.63	0.0993	23.85
16	904.63	2883.11	0.2333	4.66
17	964.25	3073.97	0.2956	3.21
18	996.55	3177.15	0.1017	21.40
19	1004.97	3203.99	0.0895	27.03
20	1112.18	3545.84	0.2405	4.32
21	1129.08	3599.56	0.2596	4.14
22	1173.53	3741.30	0.0973	21.45
23	1246.62	3973.13	0.2118	4.96
24	1274.69	4063.77	0.0763	33.68
25	1332.81	4248.95	0.0967	21.66
26	1408.40	4489.83	0.2062	5.04
27	1461.01	4657.42	0.1843	5.50
28	1494.47	4763.94	0.2252	4.16
29	1597.01	5090.88	0.1623	7.33
30	1764.90	5626.12	0.2290	3.90

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2285 4.5M AN107-d-A Q5

ASR 2094

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 12:48:13PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.60	182	198	190.36	6.55E+04	1255.25	1.37E+05	1.18
F	2	74.98	235	247	239.40	1.45E+03	390.58	9.84E+04	0.75
F	3	123.14	385	402	392.93	1.85E+04	822.02	7.96E+04	1.32
F	4	247.88	784	798	790.57	2.14E+03	108.59	1.51E+04	1.24
F	5	415.03	1313	1330	1323.44	6.23E+02	200.18	4.88E+03	1.17
F	6	511.03	1619	1641	1629.47	1.64E+03	59.02	3.88E+03	2.46
F	7	582.41	1852	1863	1857.01	6.81E+01	24.73	1.34E+03	0.56
F	8	591.85	1874	1895	1887.08	1.06E+03	171.41	2.21E+03	1.73
M	9	661.81	2098	2135	2110.10	1.28E+04	232.75	1.39E+03	1.71
m	10	666.56	2098	2135	2125.24	4.63E+02	36.63	1.35E+03	1.71
M	11	692.49	2203	2223	2207.91	3.57E+02	31.02	7.92E+02	1.57
m	12	695.06	2203	2223	2216.08	4.91E+02	34.19	1.15E+03	1.58
F	13	723.47	2294	2315	2306.66	4.01E+03	177.91	1.36E+03	1.73
F	14	757.01	2400	2424	2413.55	8.37E+02	117.30	1.28E+03	1.59
F	15	873.45	2777	2795	2784.71	2.07E+03	48.64	6.63E+02	1.74
F	16	904.63	2878	2889	2884.13	1.51E+02	179.74	3.40E+02	0.89
F	17	964.25	3069	3080	3074.15	1.00E+02	209.49	2.86E+02	1.18
F	18	996.55	3165	3186	3177.10	1.78E+03	117.02	5.41E+02	1.81
F	19	1004.97	3192	3217	3203.95	2.88E+03	134.97	6.17E+02	1.96
F	20	1112.18	3539	3551	3545.69	8.48E+01	57.57	1.99E+02	1.43
	21	1129.08	3594	3605	3599.56	1.03E+01	27.18	1.82E+02	0.53
F	22	1173.53	3729	3752	3741.22	1.98E+03	109.20	2.94E+02	2.05
F	23	1246.62	3965	3988	3974.18	1.26E+02	14.81	1.63E+02	2.11
F	24	1274.69	4048	4078	4063.65	4.80E+03	128.84	1.94E+02	2.17
F	25	1332.81	4235	4261	4248.91	1.88E+03	96.63	1.08E+02	2.09
F	26	1408.40	4481	4499	4489.83	1.01E+02	38.19	5.70E+01	1.90
F	27	1461.01	4648	4667	4657.51	1.46E+02	41.29	4.47E+01	2.21
F	28	1494.47	4758	4773	4764.17	5.91E+01	10.04	4.67E+01	1.83
F	29	1597.01	5078	5101	5091.00	2.19E+02	42.14	3.61E+01	1.79
F	30	1764.90	5617	5632	5626.08	5.75E+01	29.95	4.12E+00	2.32

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2285 4.5M AN107-d-A Q5

ASR 2094

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 12:48:13PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567379.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.60	6.55E+04	1255.25			6.55E+04	1.26E+03
F	2	74.98	1.45E+03	390.58	1.93E+02	1.02E+01	1.26E+03	3.91E+02
F	3	123.14	1.85E+04	822.02			1.85E+04	8.22E+02
F	4	247.88	2.14E+03	108.59			2.14E+03	1.09E+02
F	5	415.03	6.23E+02	200.18			6.23E+02	2.00E+02
F	6	511.03	1.64E+03	59.02	1.97E+02	8.26E+00	1.45E+03	5.96E+01
F	7	582.41	6.81E+01	24.73	1.91E+01	1.02E+00	4.90E+01	2.47E+01
F	8	591.85	1.06E+03	171.41			1.06E+03	1.71E+02
M	9	661.81	1.28E+04	232.75			1.28E+04	2.33E+02
m	10	666.56	4.63E+02	36.63			4.63E+02	3.66E+01
M	11	692.49	3.57E+02	31.02			3.57E+02	3.10E+01
m	12	695.06	4.91E+02	34.19			4.91E+02	3.42E+01
F	13	723.47	4.01E+03	177.91			4.01E+03	1.78E+02
F	14	757.01	8.37E+02	117.30			8.37E+02	1.17E+02
F	15	873.45	2.07E+03	48.64			2.07E+03	4.86E+01
F	16	904.63	1.51E+02	179.74			1.51E+02	1.80E+02
F	17	964.25	1.00E+02	209.49	1.34E+00	5.91E-01	9.89E+01	2.09E+02
F	18	996.55	1.78E+03	117.02			1.78E+03	1.17E+02
F	19	1004.97	2.88E+03	134.97			2.88E+03	1.35E+02
F	20	1112.18	8.48E+01	57.57			8.48E+01	5.76E+01
	21	1129.08	1.03E+01	27.18			1.03E+01	2.72E+01
F	22	1173.53	1.98E+03	109.20			1.98E+03	1.09E+02
F	23	1246.62	1.26E+02	14.81			1.26E+02	1.48E+01
F	24	1274.69	4.80E+03	128.84			4.80E+03	1.29E+02
F	25	1332.81	1.88E+03	96.63			1.88E+03	9.66E+01
F	26	1408.40	1.01E+02	38.19	5.43E+00	1.97E+00	9.59E+01	3.82E+01
F	27	1461.01	1.46E+02	41.29	1.51E+02	3.90E+00	-5.46E+00	4.15E+01
F	28	1494.47	5.91E+01	10.04			5.91E+01	1.00E+01
F	29	1597.01	2.19E+02	42.14			2.19E+02	4.21E+01
F	30	1764.90	5.75E+01	29.95	3.96E+01	2.17E+00	1.78E+01	3.00E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2285 4.5M AN107-d-A Q5
ASR 2094

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.99	1460.83	*	10.67	-1.58E-04	1.20E-03	miss
CO-60	0.98	1173.24	*	99.97	5.34E-03	2.96E-04	miss
		1332.50	*	99.99	5.48E-03	2.84E-04	miss
		2505.74		1.00			
RH-106	0.38	511.86	*	20.70	1.16E-02	5.87E-04	miss
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.10E-03	3.53E-04	miss
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	9.01E-04	7.15E-05	miss
		674.80		3.10			
		695.00	*	99.60	9.81E-04	6.85E-05	miss
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
CS-137	0.99	661.66	*	85.20	2.91E-02	5.55E-04	miss
EU-154	0.88	42.70		20.45			
		123.07	*	40.40	4.12E-02	1.91E-03	miss
		247.93	*	6.89	3.48E-02	1.83E-03	miss
		591.76	*	4.95	3.87E-02	6.28E-03	miss
		692.42	*	1.78	3.98E-02	3.50E-03	miss
		723.30	*	20.06	4.07E-02	1.86E-03	miss
		756.80	*	4.52	3.87E-02	5.44E-03	miss
		873.18	*	12.08	3.89E-02	1.02E-03	miss
		996.29	*	10.48	4.16E-02	2.78E-03	miss
		1004.76	*	18.01	3.95E-02	1.90E-03	miss
		1246.12	*	0.86	4.12E-02	4.87E-03	miss
		1274.43	*	34.80	3.91E-02	1.13E-03	miss
		1494.05	*	0.70	2.65E-02	4.51E-03	miss
		1596.48	*	1.80	3.98E-02	7.69E-03	miss
AM-241	0.99	59.54	*	35.90	3.19E-01	9.11E-03	miss

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* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	*Nuclide Id Confidence*	*Wt mean Activity (µCi/sample)*	*Wt mean Activity Uncertainty*	*Comments*
K-40	0.995	-1.58E-04	1.20E-03	
CO-60	0.980	5.42E-03	2.05E-04	
RH-106	0.389	1.16E-02	5.87E-04	
SB-126	0.485	9.46E-04	4.90E-05	
CS-137	0.996	2.91E-02	5.55E-04	
EU-154	0.882	3.90E-02	5.53E-04	
AM-241	0.999	3.19E-01	9.11E-03	

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

Errors quoted at 1.000sigma

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UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 12:48:13PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	74.98	2.51046E-01	31.05	Tol.	RA-226 TH-232
F	7	582.41	9.76676E-03	50.55	Tol.	TH-232
F	16	904.63	3.01951E-02	118.75		
F	17	964.25	1.97329E-02	211.79	Tol.	EU-152
F	20	1112.18	1.69107E-02	67.91	Tol.	EU-152
	21	1129.08	2.06035E-03	263.20	Sum	
F	26	1408.40	1.91344E-02	39.87	Tol.	EU-152
F	30	1764.90	3.55625E-03	168.46	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	5.79E-03	5.79E-03	5.08E-03	2.87E-03
+	K-40	1460.83	*	10.67	2.06E-03	2.06E-03	-1.58E-04	9.90E-04
	MN-54	834.84		99.98	4.03E-04	4.03E-04	-2.97E-04	1.99E-04
	CO-58	810.78		99.45	4.34E-04	4.34E-04	-4.22E-05	2.14E-04
		863.96		0.68	5.84E-02		6.06E-02	2.88E-02
		1674.73		0.52	2.16E-02		-4.73E-02	9.93E-03

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	FE-59	142.65		1.00	1.29E-01	4.93E-04	-9.03E-02	6.42E-02
		192.35		3.01	3.41E-02		4.21E-02	1.70E-02
		334.80		0.27	2.70E-01		1.20E-01	1.34E-01
		1099.25		56.30	5.96E-04		-2.49E-04	2.92E-04
		1291.60		43.70	4.93E-04		-1.45E-04	2.38E-04
+	CO-60	1173.24	*	99.97	4.10E-04	2.85E-04	5.34E-03	2.01E-04
		1332.50	*	99.99	2.85E-04		5.48E-03	1.39E-04
		2505.74		1.00	1.03E-02		7.72E-03	4.49E-03
	SR-85	514.00		96.00	6.98E-04	6.98E-04	-1.19E-04	3.47E-04
		868.60		0.01	5.18E+00		-6.73E-01	2.56E+00
	NB-94	702.62		97.90	4.60E-04	4.60E-04	-1.86E-04	2.27E-04
		871.09		99.98	6.27E-04		4.88E-03	3.10E-04
	NB-95	765.81		99.81	4.49E-04	4.49E-04	3.51E-05	2.22E-04
	RU-103	497.05		91.00	6.53E-04	6.53E-04	-3.38E-04	3.24E-04
		610.30		5.76	8.90E-03		2.97E-03	4.41E-03
+	RH-106	511.86	*	20.70	4.32E-03	4.32E-03	1.16E-02	2.15E-03
		621.92		9.93	4.97E-03		1.86E-03	2.46E-03
		1050.36		1.56	2.36E-02		-1.14E-03	1.16E-02
	AG-108M	79.13		6.60	3.08E-02	5.58E-04	2.62E-04	1.54E-02
		433.90		90.50	6.94E-04		1.94E-05	3.45E-04
		614.30		89.80	5.58E-04		-7.38E-04	2.76E-04
		722.90		90.80	8.33E-04		9.33E-03	4.13E-04
	CD-109	88.03		3.61	4.95E-02	4.95E-02	6.79E-02	2.47E-02
	SB-125	176.31		6.82	1.59E-02	2.08E-03	2.18E-03	7.93E-03
		380.45		1.52	4.32E-02		-5.40E-02	2.15E-02
		427.87		29.55	2.08E-03		-3.25E-04	1.03E-03
		463.36		10.48	5.85E-03		-4.70E-03	2.91E-03
		600.60		17.76	2.83E-03		1.57E-03	1.40E-03
		606.71		5.02	1.01E-02		5.76E-03	5.00E-03
		635.95		11.32	4.18E-03		-6.53E-04	2.07E-03
		671.44		1.78	2.85E-02		1.97E-02	1.41E-02
+	SB-126	223.90		1.39	6.95E-02	3.21E-04	-1.56E-02	3.46E-02
		278.20		2.40	3.37E-02		3.86E-03	1.68E-02
		296.50		4.50	1.72E-02		-1.12E-02	8.55E-03
		414.70	*	83.30	9.54E-04		1.10E-03	4.75E-04
		556.30		1.69	3.17E-02		-2.72E-03	1.57E-02
		573.90		6.70	7.71E-03		2.19E-03	3.82E-03
		593.20		7.50	7.70E-03		2.26E-03	3.82E-03
		656.30		2.19	3.63E-02		7.22E-03	1.80E-02
		666.50	*	99.60	3.39E-04		9.01E-04	1.67E-04
		674.80		3.10	1.53E-02		-1.46E-03	7.55E-03
		695.00	*	99.60	3.21E-04		9.81E-04	1.58E-04
		697.00		29.00	1.81E-03		-1.55E-04	8.95E-04
		720.70		53.80	1.41E-03		1.55E-02	6.98E-04
		856.80		17.60	2.26E-03		-9.39E-04	1.11E-03
		989.60		6.80	6.70E-03		-2.56E-03	3.30E-03
		1213.30		2.39	1.05E-02		-8.78E-03	5.10E-03
	Sn-126	64.28		9.60	3.03E-02	3.94E-03	2.93E-04	1.51E-02
		87.30		45.90	3.94E-03		9.49E-03	1.97E-03
	I-129	29.70		56.60	8.23E-02	8.23E-02	-4.87E-02	4.11E-02
		33.60		10.04	2.28E-01		-1.16E-01	1.14E-01
		34.40		2.01	1.01E+00		-1.71E+00	5.03E-01
		39.60		7.51	1.42E-01		-4.52E-01	7.09E-02

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-134	563.25		8.34	6.28E-03	4.91E-04	-9.67E-03	3.11E-03
		569.33		15.37	3.38E-03		-1.15E-04	1.68E-03
		604.72		97.62	5.18E-04		-1.70E-04	2.57E-04
		795.86		85.46	4.91E-04		6.93E-05	2.42E-04
		801.95		8.69	4.83E-03		1.78E-04	2.38E-03
+	CS-137	661.66	*	85.20	3.99E-04	3.99E-04	2.91E-02	1.96E-04
	CE-139	165.85		79.89	1.43E-03	1.43E-03	8.43E-04	7.12E-04
	CE-141	40.70		3.35	2.95E-01	2.64E-03	-1.07E-01	1.47E-01
		145.44		48.29	2.64E-03		-2.22E-03	1.32E-03
	CE-144	80.12		1.36	1.47E-01	1.20E-02	-3.64E-02	7.35E-02
		133.51		11.09	1.20E-02		1.67E-03	5.99E-03
	EU-152	121.78		28.58	5.34E-03	1.09E-03	-8.15E-04	2.66E-03
		344.28		26.50	2.67E-03		4.93E-04	1.33E-03
		778.90		12.94	3.42E-03		1.09E-03	1.69E-03
		964.08		14.73	2.64E-03		1.43E-04	1.30E-03
		1085.87		10.24	3.39E-03		2.18E-03	1.66E-03
		1112.07		13.69	2.47E-03		-2.13E-03	1.21E-03
		1408.01		21.07	1.09E-03		1.07E-03	5.28E-04
	GD-153	97.43		29.00	5.50E-03	5.50E-03	-6.43E-04	2.75E-03
		103.18		21.10	7.23E-03		3.64E-03	3.61E-03
+	EU-154	42.70		20.45	3.97E-02	1.13E-03	4.03E-02	1.98E-02
		123.07	*	40.40	4.87E-03		4.12E-02	2.43E-03
		247.93	*	6.89	1.44E-02		3.48E-02	7.17E-03
		591.76	*	4.95	1.45E-02		3.87E-02	7.20E-03
		692.42	*	1.78	1.49E-02		3.98E-02	7.31E-03
		723.30	*	20.06	3.18E-03		4.07E-02	1.58E-03
		756.80	*	4.52	1.48E-02		3.87E-02	7.33E-03
		873.18	*	12.08	3.90E-03		3.89E-02	1.92E-03
		996.29	*	10.48	4.63E-03		4.16E-02	2.28E-03
		1004.76	*	18.01	3.10E-03		3.95E-02	1.53E-03
		1246.12	*	0.86	3.69E-02		4.12E-02	1.80E-02
		1274.43	*	34.80	1.13E-03		3.91E-02	5.52E-04
		1494.05	*	0.70	2.38E-02		2.65E-02	1.13E-02
		1596.48	*	1.80	1.00E-02		3.98E-02	4.77E-03
	EU-155	43.00		18.70	4.24E-02	5.95E-03	2.15E-02	2.11E-02
		60.01		1.22	3.18E-01		9.03E+00	1.59E-01
		86.55		30.70	5.95E-03		1.17E-02	2.97E-03
		105.31		21.10	7.10E-03		6.03E-03	3.55E-03
	HG-203	72.87		6.30	3.75E-02	1.00E-03	3.96E-03	1.87E-02
		279.20		81.46	1.00E-03		-1.73E-04	5.00E-04
	BI-207	569.15		97.80	5.31E-04	4.85E-04	-1.80E-05	2.63E-04
		1063.10		74.90	4.85E-04		8.16E-04	2.38E-04
	PB-210	46.54		4.25	1.52E-01	1.52E-01	-3.02E-01	7.60E-02
	RA-226	74.81		6.44	3.46E-02	1.09E-03	6.78E-02	1.73E-02
		77.11		10.80	1.97E-02		4.25E-03	9.82E-03
		87.30		4.84	3.73E-02		9.00E-02	1.86E-02
		186.21		3.59	2.91E-02		1.91E-02	1.45E-02
		242.00		7.43	1.22E-02		-4.81E-05	6.10E-03
		295.22		19.30	4.02E-03		-2.08E-03	2.00E-03
		351.93		37.60	1.86E-03		2.58E-03	9.23E-04
		609.31		46.10	1.09E-03		1.31E-03	5.42E-04
		768.36		4.94	8.89E-03		-2.87E-03	4.39E-03
		1120.29		15.10	2.27E-03		2.94E-03	1.11E-03

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	1238.11		5.79	4.53E-03	1.09E-03	9.07E-04	2.20E-03
		1764.49		15.40	1.10E-03		1.89E-03	5.19E-04
	PA-231	283.70		1.59	4.98E-02	3.21E-02	-3.34E-02	2.48E-02
		300.07		2.38	3.21E-02		8.63E-03	1.60E-02
		302.67		1.71	4.43E-02		-2.21E-02	2.21E-02
		330.07		1.32	5.54E-02		8.77E-03	2.76E-02
	TH-232	74.81		11.62	1.92E-02	1.48E-03	3.76E-02	9.58E-03
		77.11		17.50	1.21E-02		2.62E-03	6.06E-03
		87.30		7.80	2.32E-02		5.59E-02	1.16E-02
		238.63		43.30	2.13E-03		3.82E-03	1.06E-03
		338.32		11.30	6.36E-03		5.14E-03	3.16E-03
		583.19		30.37	1.72E-03		2.24E-03	8.54E-04
		727.33		6.58	1.14E-02		1.24E-03	5.65E-03
		911.21		26.60	1.48E-03		9.62E-04	7.29E-04
		968.97		16.20	2.43E-03		3.80E-04	1.20E-03
>		2614.53		35.64	0.00E+00		0.00E+00	0.00E+00
	U-235	143.76		10.96	1.15E-02	1.83E-03	-6.12E-04	5.75E-03
		185.71		57.20	1.83E-03		9.70E-04	9.12E-04
		205.31		5.01	2.07E-02		-1.53E-02	1.03E-02
	U-238	63.29		3.70	8.76E-02	3.96E-02	2.49E-02	4.37E-02
		92.51		4.23	3.96E-02		4.80E-03	1.97E-02
		112.81		0.21	7.02E-01		-4.73E-01	3.50E-01
		742.81		0.11	4.17E-01		-2.58E-01	2.06E-01
		766.28		0.32	1.39E-01		9.43E-02	6.86E-02
		1001.03		0.84	1.03E-01		8.80E-04	5.10E-02
	NP-239	99.60		12.80	1.62E-02	7.42E-03	-7.66E-03	8.06E-03
		103.80		20.40	9.86E-03		8.57E-03	4.92E-03
		106.10		26.40	7.49E-03		1.48E-02	3.74E-03
		116.90		7.61	2.52E-02		-7.88E-03	1.26E-02
		228.20		11.20	1.13E-02		-6.48E-03	5.65E-03
		277.60		14.50	7.42E-03		9.19E-04	3.69E-03
		315.90		1.60	6.12E-02		-2.54E-02	3.05E-02
		334.30		2.06	4.65E-02		1.61E-02	2.31E-02
+	AM-241	59.54	*	35.90	1.36E-02	1.36E-02	3.19E-01	6.80E-03

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

Apex-Gamma

Analysis Report for 24-2286 5.5M-AN107-A S5

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2286 5.5M-AN107-A S5
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 9:21:35AM
Procedure	: P5_GSV02mlw
Operator	: Administrator
Detector Name	: S
Geometry	: P5_GSV2MLW
Live Time	: 6584.9 seconds
Real Time	: 6717.6 seconds
Dead Time	: 1.98 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 6/27/2024
Efficiency Calibration Used Done On	: 3/5/2019
Efficiency Calibration Description	: P5_gsv2ml_R717P
Sample Number	: 567786
Certificate Name	: R735-b9 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 11:13:37AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2286 5.5M-AN107-A S5

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.56	183.43	0.0550	122.00
2	74.83	230.10	0.2805	5.20
3	86.69	266.36	0.2898	3.86
4	105.30	323.33	0.3096	3.32
5	123.07	377.79	0.0821	56.52
6	247.94	760.14	0.1344	19.64
7	277.37	850.24	0.3260	3.92
8	312.17	956.47	0.3388	3.25
9	414.82	1270.87	0.1809	10.18
10	444.43	1361.71	0.2805	4.88
11	511.24	1565.65	0.1702	7.53
12	582.28	1783.65	0.2348	5.16
13	591.81	1812.92	0.1243	18.37
14	661.74	2027.04	0.0593	77.48
15	666.43	2041.45	0.1739	9.78
16	692.55	2121.23	0.2262	6.34
17	695.13	2129.64	0.1938	8.11
18	723.43	2215.98	0.0793	43.74
19	756.88	2318.32	0.1246	17.49
20	815.62	2498.31	0.3023	3.01
21	873.36	2674.99	0.0926	29.50
22	892.65	2733.90	0.2870	3.03
23	904.11	2769.11	0.2359	4.96
24	964.18	2953.44	0.2723	3.81
25	996.44	3051.90	0.0963	26.40
26	1004.90	3077.75	0.0836	34.87
27	1141.08	3494.73	0.2649	3.60
28	1173.42	3593.70	0.0897	28.34
29	1246.71	3817.87	0.1997	5.80
30	1274.62	3903.68	0.0694	46.59
31	1332.68	4081.53	0.0878	28.83
32	1408.27	4312.76	0.1893	5.87
33	1461.29	4474.85	0.2140	4.76
34	1494.34	4576.14	0.2015	5.54
35	1596.68	4889.95	0.1477	9.41
36	1764.66	5404.69	0.2235	3.77
37	2223.64	6809.12	0.2602	3.08
38	2614.84	8008.15	0.2402	3.07

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2286 5.5M-AN107-A S5

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 11:13:37AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.56	175 -	191	183.42	1.07E+05	1476.97	2.03E+05	1.14
F	2	74.83	226 -	238	230.17	2.06E+03	280.99	1.56E+05	1.02
F	3	86.69	257 -	274	266.48	6.55E+03	2129.35	2.03E+05	2.19
F	4	105.30	319 -	331	323.45	3.29E+03	377.54	1.20E+05	2.40
F	5	123.07	371 -	386	377.84	3.02E+04	979.87	1.17E+05	1.22
F	6	247.94	754 -	769	760.13	3.59E+03	526.10	2.68E+04	1.15
	7	277.37	846 -	854	850.24	7.43E+01	193.09	1.14E+04	0.70
F	8	312.17	953 -	962	956.79	3.29E+02	81.42	9.03E+03	1.03
F	9	414.82	1267 -	1280	1271.05	9.16E+02	64.99	6.07E+03	1.22
	10	444.43	1355 -	1365	1361.71	1.33E+02	129.79	4.43E+03	0.90
F	11	511.24	1554 -	1576	1566.25	2.86E+03	72.40	6.25E+03	2.55
F	12	582.28	1778 -	1791	1783.76	3.44E+02	41.66	2.40E+03	1.42
F	13	591.81	1806 -	1822	1812.95	1.76E+03	54.30	2.84E+03	1.49
M	14	661.74	2015 -	2053	2027.05	2.02E+04	320.81	2.20E+03	1.59
m	15	666.43	2015 -	2053	2041.41	7.87E+02	45.83	2.04E+03	1.59
M	16	692.55	2114 -	2138	2121.40	6.25E+02	140.90	1.62E+03	1.67
m	17	695.13	2114 -	2138	2129.29	7.99E+02	148.96	2.28E+03	1.67
F	18	723.43	2203 -	2225	2215.94	6.32E+03	219.41	2.38E+03	1.53
F	19	756.88	2309 -	2327	2318.35	1.23E+03	154.37	1.75E+03	1.45
F	20	815.62	2489 -	2506	2498.21	2.21E+02	159.65	1.17E+03	1.84
F	21	873.36	2666 -	2685	2675.02	3.23E+03	58.26	1.25E+03	1.63
F	22	892.65	2727 -	2741	2734.07	8.94E+01	23.33	7.62E+02	1.42
F	23	904.11	2762 -	2774	2769.16	1.38E+02	25.60	7.42E+02	1.29
F	24	964.18	2941 -	2958	2953.07	9.92E+01	74.29	8.05E+02	1.12
F	25	996.44	3038 -	3062	3051.86	2.71E+03	144.41	9.74E+02	1.78
F	26	1004.90	3064 -	3089	3077.77	4.62E+03	165.35	1.06E+03	1.81
F	27	1141.08	3489 -	3500	3494.77	8.72E+01	72.11	2.01E+02	1.43
F	28	1173.42	3579 -	3606	3593.77	3.31E+03	132.91	3.29E+02	1.97
F	29	1246.71	3809 -	3826	3818.20	1.66E+02	54.72	1.85E+02	1.41
F	30	1274.62	3889 -	3917	3903.69	7.84E+03	172.92	3.33E+02	1.93
F	31	1332.68	4071 -	4092	4081.47	3.01E+03	102.75	2.12E+02	1.95
F	32	1408.27	4307 -	4320	4312.95	1.38E+02	13.65	7.25E+01	1.85
F	33	1461.29	4469 -	4485	4475.30	9.86E+01	11.84	6.96E+01	1.89
F	34	1494.34	4569 -	4584	4576.50	1.51E+02	6276.27	5.47E+01	1.98
F	35	1596.68	4878 -	4899	4889.92	3.75E+02	49.19	3.92E+01	2.16
F	36	1764.66	5397 -	5413	5404.34	5.89E+01	26.16	1.40E+01	1.97
F	37	2223.64	6804 -	6815	6809.99	1.73E+01	4.46	7.98E+00	1.76
F	38	2614.84	8000 -	8016	8008.19	4.34E+01	29.40	1.23E+01	2.42

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M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 11:13:37AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567335.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.56	1.07E+05	1476.97			1.07E+05	1.48E+03
F	2	74.83	2.06E+03	280.99	1.84E+02	1.15E+01	1.88E+03	2.81E+02
F	3	86.69	6.55E+03	2129.35	5.63E+01	4.09E+00	6.49E+03	2.13E+03
F	4	105.30	3.29E+03	377.54			3.29E+03	3.78E+02
F	5	123.07	3.02E+04	979.87			3.02E+04	9.80E+02
F	6	247.94	3.59E+03	526.10			3.59E+03	5.26E+02
	7	277.37	7.43E+01	193.09			7.43E+01	1.93E+02
F	8	312.17	3.29E+02	81.42			3.29E+02	8.14E+01
F	9	414.82	9.16E+02	64.99			9.16E+02	6.50E+01
	10	444.43	1.33E+02	129.79			1.33E+02	1.30E+02
F	11	511.24	2.86E+03	72.40	2.29E+02	9.64E+00	2.63E+03	7.30E+01
F	12	582.28	3.44E+02	41.66			3.44E+02	4.17E+01
F	13	591.81	1.76E+03	54.30			1.76E+03	5.43E+01
M	14	661.74	2.02E+04	320.81			2.02E+04	3.21E+02
m	15	666.43	7.87E+02	45.83	7.98E+00	9.36E-01	7.79E+02	4.58E+01
M	16	692.55	6.25E+02	140.90			6.25E+02	1.41E+02
m	17	695.13	7.99E+02	148.96			7.99E+02	1.49E+02
F	18	723.43	6.32E+03	219.41			6.32E+03	2.19E+02
F	19	756.88	1.23E+03	154.37			1.23E+03	1.54E+02
F	20	815.62	2.21E+02	159.65			2.21E+02	1.60E+02
F	21	873.36	3.23E+03	58.26	3.47E-01	1.36E+00	3.23E+03	5.83E+01
F	22	892.65	8.94E+01	23.33			8.94E+01	2.33E+01
F	23	904.11	1.38E+02	25.60			1.38E+02	2.56E+01
F	24	964.18	9.92E+01	74.29			9.92E+01	7.43E+01
F	25	996.44	2.71E+03	144.41			2.71E+03	1.44E+02
F	26	1004.90	4.62E+03	165.35			4.62E+03	1.65E+02
F	27	1141.08	8.72E+01	72.11			8.72E+01	7.21E+01
F	28	1173.42	3.31E+03	132.91			3.31E+03	1.33E+02
F	29	1246.71	1.66E+02	54.72			1.66E+02	5.47E+01
F	30	1274.62	7.84E+03	172.92			7.84E+03	1.73E+02
F	31	1332.68	3.01E+03	102.75			3.01E+03	1.03E+02
F	32	1408.27	1.38E+02	13.65	1.30E+01	1.98E+00	1.25E+02	1.38E+01
F	33	1461.29	9.86E+01	11.84	1.11E+02	3.87E+00	-1.21E+01	1.25E+01

Analysis Report for 24-2286 5.5M-AN107-A S5

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 34	1494.34	1.51E+02	6276.27			1.51E+02	6.28E+03
F 35	1596.68	3.75E+02	49.19			3.75E+02	4.92E+01
F 36	1764.66	5.89E+01	26.16	6.84E+01	1.29E+00	-9.47E+00	2.62E+01
F 37	2223.64	1.73E+01	4.46	4.28E+00	4.71E-01	1.30E+01	4.49E+00
F 38	2614.84	4.34E+01	29.40	4.75E+01	2.54E+00	-4.03E+00	2.95E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.96	1460.83	*	10.67	-2.59E-04	2.66E-04	miss
CO-60	0.98	1173.24	*	99.97	6.57E-03	2.66E-04	miss
		1332.50	*	99.99	6.47E-03	2.24E-04	miss
		2505.74		1.00			
RH-106	0.41	511.86	*	20.70	1.52E-02	6.14E-04	miss
		621.92		9.93			
		1050.36		1.56			
SB-126	0.49	223.90		1.39			
		278.20	*	2.40	2.60E-03	6.78E-03	miss
		296.50		4.50			
		414.70	*	83.30	1.15E-03	8.72E-05	miss
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.10E-03	6.50E-05	miss
		674.80		3.10			
		695.00	*	99.60	1.16E-03	2.16E-04	miss
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.72	64.28		9.60			

Analysis Report for 24-2286 5.5M-AN107-A S5

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
Sn-126	0.72	87.30	*	45.90	9.50E-03	3.15E-03	miss
CS-137	0.99	661.66	*	85.20	3.31E-02	5.61E-04	miss
EU-154	0.88	42.70		20.45			
		123.07	*	40.40	4.77E-02	1.67E-03	miss
		247.93	*	6.89	4.15E-02	6.10E-03	miss
		591.76	*	4.95	4.66E-02	1.53E-03	miss
		692.42	*	1.78	5.06E-02	1.14E-02	miss
		723.30	*	20.06	4.66E-02	1.70E-03	miss
		756.80	*	4.52	4.12E-02	5.21E-03	miss
		873.18	*	12.08	4.43E-02	9.43E-04	miss
		996.29	*	10.48	4.65E-02	2.52E-03	miss
		1004.76	*	18.01	4.63E-02	1.73E-03	miss
		1246.12	*	0.86	3.98E-02	1.32E-02	miss
		1274.43	*	34.80	4.70E-02	1.15E-03	miss
		1494.05	*	0.70	5.02E-02	2.08E+00	miss
		1596.48	*	1.80	5.05E-02	6.67E-03	miss
EU-155	0.78	43.00		18.70			
		60.01	*	1.22	1.09E+01	4.09E-01	miss
		86.55	*	30.70	1.42E-02	4.67E-03	miss
		105.31	*	21.10	9.59E-03	1.13E-03	miss
AM-241	1.00	59.54	*	35.90	3.69E-01	9.21E-03	miss

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.967	-2.59E-04	2.66E-04	
CO-60	0.989	6.51E-03	1.71E-04	
RH-106	0.419	1.52E-02	6.14E-04	

Analysis Report for 24-2286 5.5M-AN107-A S5

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
SB-126	0.499	1.12E-03	5.07E-05	
Sn-126	0.723	3.09E-03	3.20E-03	
CS-137	0.999	3.31E-02	5.61E-04	
EU-154	0.882	4.60E-02	5.26E-04	
EU-155	0.784	9.59E-03	1.10E-03	
AM-241	1.000	3.69E-01	6.83E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2286 5.5M-AN107-A S5

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 11:13:37AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	74.83	2.85685E-01	14.95	Tol.	RA-226 TH-232
F	8	312.17	4.99038E-02	24.78		
	10	444.43	2.01745E-02	97.70		
F	12	582.28	5.23053E-02	12.10	Tol.	TH-232
F	20	815.62	3.35518E-02	72.26	Sum	
F	22	892.65	1.35800E-02	26.09		
F	23	904.11	2.09707E-02	18.54		
F	24	964.18	1.50636E-02	74.89		
F	27	1141.08	1.32458E-02	82.67		
F	32	1408.27	1.90220E-02	11.01		
F	36	1764.66	-1.43781E-03	- 276.61	Sum	
F	37	2223.64	1.97187E-03	34.57		
F	38	2614.84	-6.12452E-04	- 731.70	Tol.	TH-232

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)

Analysis Report for 24-2286 5.5M-AN107-A S5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	5.23E-03	5.23E-03	3.75E-03	2.60E-03
+	K-40	1460.83	*	10.67	1.61E-03	1.61E-03	-2.59E-04	7.74E-04
	MN-54	834.84		99.98	3.55E-04	3.55E-04	-7.18E-05	1.75E-04
	CO-58	810.78		99.45	3.83E-04	3.83E-04	2.02E-05	1.89E-04
		863.96		0.68	5.14E-02		-6.18E-02	2.54E-02
		1674.73		0.52	1.98E-02		-1.09E-02	9.23E-03
	FE-59	142.65		1.00	1.12E-01	4.43E-04	-3.48E-02	5.58E-02
		192.35		3.01	3.11E-02		-2.30E-02	1.55E-02
		334.80		0.27	2.40E-01		7.31E-04	1.20E-01
		1099.25		56.30	5.35E-04		-3.72E-04	2.63E-04
		1291.60		43.70	4.43E-04		-5.67E-04	2.15E-04
+	CO-60	1173.24	*	99.97	3.40E-04	2.68E-04	6.57E-03	1.67E-04
		1332.50	*	99.99	2.68E-04		6.47E-03	1.31E-04
		2505.74		1.00	8.31E-03		1.92E-03	3.67E-03
	SR-85	514.00		96.00	6.16E-04	6.16E-04	9.55E-05	3.07E-04
		868.60		0.01	4.57E+00		1.50E+00	2.27E+00
	NB-94	702.62		97.90	4.21E-04	4.21E-04	1.54E-05	2.08E-04
		871.09		99.98	5.66E-04		8.18E-05	2.81E-04
	NB-95	765.81		99.81	4.01E-04	4.01E-04	8.02E-04	1.98E-04
	RU-103	497.05		91.00	5.73E-04	5.73E-04	3.26E-05	2.85E-04
		610.30		5.76	8.02E-03		9.92E-03	3.98E-03
+	RH-106	511.86	*	20.70	3.93E-03	3.93E-03	1.52E-02	1.96E-03
		621.92		9.93	4.51E-03		2.04E-03	2.24E-03
		1050.36		1.56	2.16E-02		1.45E-02	1.06E-02
	AG-108M	79.13		6.60	2.59E-02	5.00E-04	1.73E-03	1.29E-02
		433.90		90.50	6.04E-04		1.56E-04	3.00E-04
		614.30		89.80	5.00E-04		-6.14E-04	2.48E-04
		722.90		90.80	7.60E-04		1.09E-02	3.78E-04
	CD-109	88.03		3.61	4.39E-02	4.39E-02	-1.03E-02	2.19E-02
	SB-125	176.31		6.82	1.45E-02	1.86E-03	4.45E-03	7.22E-03
		380.45		1.52	3.87E-02		-3.57E-02	1.93E-02
		427.87		29.55	1.86E-03		1.11E-03	9.27E-04
		463.36		10.48	5.20E-03		-1.94E-03	2.58E-03
		600.60		17.76	2.53E-03		2.87E-04	1.25E-03
		606.71		5.02	9.11E-03		6.24E-03	4.52E-03
		635.95		11.32	3.84E-03		2.00E-03	1.90E-03
		671.44		1.78	2.61E-02		-8.31E-05	1.29E-02
+	SB-126	223.90		1.39	5.92E-02	3.01E-04	4.22E-03	2.95E-02
		278.20	*	2.40	2.23E-02		2.60E-03	1.11E-02
		296.50		4.50	1.58E-02		1.12E-02	7.88E-03
		414.70	*	83.30	6.91E-04		1.15E-03	3.44E-04
		556.30		1.69	2.77E-02		1.32E-02	1.38E-02
		573.90		6.70	6.73E-03		1.88E-03	3.34E-03
		593.20		7.50	6.92E-03		2.81E-02	3.44E-03
		656.30		2.19	3.29E-02		-1.59E-02	1.64E-02
		666.50	*	99.60	3.01E-04		1.10E-03	1.49E-04
		674.80		3.10	1.38E-02		2.15E-03	6.82E-03
		695.00	*	99.60	3.25E-04		1.16E-03	1.61E-04
		697.00		29.00	1.66E-03		3.65E-04	8.25E-04
		720.70		53.80	1.28E-03		4.24E-05	6.37E-04
		856.80		17.60	2.00E-03		9.04E-04	9.88E-04
		989.60		6.80	5.50E-03		-1.83E-04	2.71E-03
		1213.30		2.39	8.68E-03		-1.06E-02	4.23E-03

Analysis Report for 24-2286 5.5M-AN107-A S5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	Sn-126	64.28		9.60	2.53E-02	5.09E-03	7.32E-03	1.26E-02
		87.30	*	45.90	5.09E-03		9.50E-03	2.54E-03
	I-129	29.70		56.60	4.97E-02	4.97E-02	-1.02E-01	2.48E-02
		33.60		10.04	1.48E-01		-4.18E-01	7.37E-02
		34.40		2.01	6.61E-01		-1.61E+00	3.30E-01
		39.60		7.51	1.03E-01		-3.09E-01	5.12E-02
	CS-134	563.25		8.34	5.52E-03	4.41E-04	-2.90E-03	2.74E-03
		569.33		15.37	2.93E-03		-5.71E-04	1.46E-03
		604.72		97.62	4.66E-04		-1.97E-04	2.31E-04
		795.86		85.46	4.41E-04		-3.72E-04	2.18E-04
		801.95		8.69	4.29E-03		1.00E-03	2.12E-03
+	CS-137	661.66	*	85.20	3.63E-04	3.63E-04	3.31E-02	1.79E-04
	CE-139	165.85		79.89	1.30E-03	1.30E-03	1.41E-04	6.48E-04
	CE-141	40.70		3.35	2.15E-01	2.40E-03	9.75E-03	1.07E-01
		145.44		48.29	2.40E-03		2.89E-03	1.20E-03
	CE-144	80.12		1.36	1.24E-01	1.05E-02	-6.98E-03	6.19E-02
		133.51		11.09	1.05E-02		2.08E-03	5.23E-03
	EU-152	121.78		28.58	4.67E-03	9.67E-04	-4.26E-04	2.33E-03
		344.28		26.50	2.40E-03		3.54E-04	1.20E-03
		778.90		12.94	3.02E-03		1.68E-04	1.50E-03
		964.08		14.73	2.40E-03		1.89E-03	1.18E-03
		1085.87		10.24	3.07E-03		-1.40E-03	1.51E-03
		1112.07		13.69	2.18E-03		-3.70E-05	1.07E-03
		1408.01		21.07	9.67E-04		2.01E-03	4.69E-04
	GD-153	97.43		29.00	4.89E-03	4.89E-03	4.25E-03	2.44E-03
		103.18		21.10	6.45E-03		-3.68E-03	3.22E-03
+	EU-154	42.70		20.45	3.01E-02	1.05E-03	3.03E-02	1.50E-02
		123.07	*	40.40	3.99E-03		4.77E-02	1.99E-03
		247.93	*	6.89	1.40E-02		4.15E-02	6.97E-03
		591.76	*	4.95	1.07E-02		4.66E-02	5.31E-03
		692.42	*	1.78	1.54E-02		5.06E-02	7.58E-03
		723.30	*	20.06	3.10E-03		4.66E-02	1.54E-03
		756.80	*	4.52	1.12E-02		4.12E-02	5.54E-03
		873.18	*	12.08	3.96E-03		4.43E-02	1.96E-03
		996.29	*	10.48	4.79E-03		4.65E-02	2.37E-03
		1004.76	*	18.01	2.96E-03		4.63E-02	1.47E-03
		1246.12	*	0.86	2.59E-02		3.98E-02	1.26E-02
		1274.43	*	34.80	1.05E-03		4.70E-02	5.17E-04
		1494.05	*	0.70	1.89E-02		5.02E-02	8.98E-03
		1596.48	*	1.80	7.51E-03		5.05E-02	3.57E-03
+	EU-155	43.00		18.70	3.20E-02	6.88E-03	3.23E-02	1.60E-02
		60.01	*	1.22	3.45E-01		1.09E+01	1.72E-01
		86.55	*	30.70	7.62E-03		1.42E-02	3.80E-03
		105.31	*	21.10	6.88E-03		9.59E-03	3.44E-03
	HG-203	72.87		6.30	3.14E-02	9.27E-04	-2.36E-03	1.57E-02
		279.20		81.46	9.27E-04		-4.83E-04	4.62E-04
	BI-207	569.15		97.80	4.62E-04	4.36E-04	-1.40E-06	2.29E-04
		1063.10		74.90	4.36E-04		4.23E-04	2.15E-04
	PB-210	46.54		4.25	1.14E-01	1.14E-01	-2.92E-01	5.67E-02
	RA-226	74.81		6.44	2.91E-02	8.57E-04	5.71E-02	1.45E-02
		77.11		10.80	1.65E-02		7.40E-04	8.26E-03
		87.30		4.84	3.30E-02		-4.20E-03	1.65E-02
		186.21		3.59	2.64E-02		9.22E-04	1.32E-02

Analysis Report for 24-2286 5.5M-AN107-A S5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	242.00		7.43	1.04E-02	8.57E-04	-4.95E-03	5.21E-03
		295.22		19.30	3.71E-03		2.51E-03	1.85E-03
		351.93		37.60	1.67E-03		1.24E-03	8.30E-04
		609.31		46.10	9.87E-04		9.30E-04	4.90E-04
		768.36		4.94	7.86E-03		-4.00E-03	3.89E-03
		1120.29		15.10	1.92E-03		-9.53E-04	9.44E-04
		1238.11		5.79	3.88E-03		-3.86E-04	1.89E-03
		1764.49		15.40	8.57E-04		1.42E-03	4.05E-04
	PA-231	283.70		1.59	4.62E-02	2.95E-02	1.30E-02	2.30E-02
		300.07		2.38	2.95E-02		-5.19E-03	1.47E-02
		302.67		1.71	4.07E-02		-1.94E-02	2.03E-02
		330.07		1.32	4.93E-02		2.97E-02	2.46E-02
	TH-232	74.81		11.62	1.61E-02	4.41E-04	3.17E-02	8.05E-03
		77.11		17.50	1.02E-02		4.56E-04	5.09E-03
		87.30		7.80	2.05E-02		-2.60E-03	1.02E-02
		238.63		43.30	1.81E-03		4.37E-05	9.05E-04
		338.32		11.30	5.66E-03		-1.56E-03	2.82E-03
		583.19		30.37	1.57E-03		2.32E-03	7.79E-04
		727.33		6.58	1.04E-02		-4.07E-03	5.15E-03
		911.21		26.60	1.29E-03		-5.19E-04	6.35E-04
		968.97		16.20	2.16E-03		6.48E-04	1.06E-03
		2614.53		35.64	4.41E-04		6.00E-04	2.06E-04
	U-235	143.76		10.96	1.00E-02	1.66E-03	-5.53E-03	5.00E-03
		185.71		57.20	1.66E-03		5.48E-05	8.30E-04
		205.31		5.01	1.75E-02		-6.11E-03	8.76E-03
	U-238	63.29		3.70	7.08E-02	3.51E-02	3.37E-02	3.54E-02
		92.51		4.23	3.51E-02		2.15E-02	1.75E-02
		112.81		0.21	6.07E-01		-3.34E-01	3.03E-01
		742.81		0.11	3.71E-01		3.71E-01	1.84E-01
		766.28		0.32	1.23E-01		-9.10E-02	6.09E-02
		1001.03		0.84	9.33E-02		1.28E+00	4.64E-02
	NP-239	99.60		12.80	1.41E-02	6.54E-03	-1.07E-02	7.02E-03
		103.80		20.40	8.59E-03		-3.69E-03	4.29E-03
		106.10		26.40	6.54E-03		9.15E-03	3.27E-03
		116.90		7.61	2.14E-02		1.81E-02	1.07E-02
		228.20		11.20	9.40E-03		-2.12E-03	4.69E-03
		277.60		14.50	6.69E-03		3.85E-03	3.34E-03
		315.90		1.60	5.51E-02		-8.77E-03	2.75E-02
		334.30		2.06	4.06E-02		-2.59E-02	2.02E-02
+	AM-241	59.54	*	35.90	1.17E-02	1.17E-02	3.69E-01	5.86E-03

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

Apex-Gamma

Analysis Report for 24-2287 5.5M-AN107-d-A S5
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2287 5.5M-AN107-d-A S5
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 11:26:07AM
Procedure	: P5_GSV02mlw
Operator	: Administrator
Detector Name	: S
Geometry	: P5_GSV2MLW
Live Time	: 4901.1 seconds
Real Time	: 4960.5 seconds
Dead Time	: 1.20 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 6/27/2024
Efficiency Calibration Used Done On	: 3/5/2019
Efficiency Calibration Description	: P5_gsv2ml_R717P
Sample Number	: 567799
Certificate Name	: R735-b9 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 12:48:53PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2287 5.5M-AN107-d-A S5

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.97	132.43	0.3151	3.75
2	59.57	183.46	0.0584	106.90
3	74.96	230.36	0.3117	4.25
4	87.10	266.77	0.3024	3.84
5	99.76	305.96	0.3422	4.11
6	105.39	323.61	0.2932	4.60
7	123.10	377.89	0.0865	50.89
8	248.03	760.32	0.1450	15.67
9	277.95	851.97	0.3127	3.77
10	344.49	1055.83	0.2925	3.93
11	414.93	1271.19	0.1943	8.18
12	435.48	1334.31	0.3200	3.37
13	511.22	1565.54	0.1688	5.84
14	591.97	1813.41	0.1348	15.69
15	609.32	1866.50	0.2920	3.27
16	661.87	2027.46	0.0624	67.27
17	666.60	2041.86	0.1696	9.99
18	692.61	2121.11	0.2249	6.56
19	695.40	2130.31	0.1890	8.38
20	723.55	2216.33	0.0843	36.54
21	757.15	2319.18	0.1324	14.81
22	815.77	2498.63	0.2307	4.78
23	845.65	2590.05	0.2669	3.20
24	873.51	2675.35	0.0974	26.33
25	893.38	2736.17	0.2783	3.46
26	904.32	2769.53	0.2137	5.07
27	996.67	3052.57	0.1019	23.16
28	1005.10	3078.44	0.0876	31.03
29	1112.85	3408.44	0.2960	3.51
30	1173.65	3594.52	0.0952	25.13
31	1246.69	3817.80	0.2213	4.78
32	1274.89	3904.50	0.0747	39.58
33	1332.96	4082.33	0.0946	24.44
34	1368.75	4191.64	0.2989	3.19
35	1408.56	4313.78	0.2057	4.85
36	1461.30	4475.31	0.2252	4.63
37	1494.77	4577.18	0.2068	4.93
38	1597.02	4890.84	0.1606	8.41
39	1765.37	5405.85	0.2249	3.98
40	2224.04	6810.86	0.2764	3.03
41	2614.77	8008.09	0.2216	4.31

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2287 5.5M-AN107-d-A S5

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 12:48:53PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.97	124	135	132.62	1.13E+03	488.66	6.27E+04	0.62
F	2	59.57	175	189	183.45	7.93E+04	1413.43	1.32E+05	1.13
F	3	74.96	227	238	230.56	1.21E+03	238.23	1.07E+05	0.90
F	4	87.10	263	275	267.73	2.88E+03	273.59	1.09E+05	1.93
F	5	99.76	303	314	306.48	7.02E+02	182.24	8.76E+04	0.28
F	6	105.39	319	332	323.71	1.89E+03	1082.34	9.53E+04	1.08
F	7	123.10	371	386	377.92	2.14E+04	1055.42	8.78E+04	1.19
F	8	248.03	753	770	760.42	3.24E+03	109.22	2.18E+04	1.36
F	9	277.95	847	858	852.01	4.00E+02	326.94	1.09E+04	0.89
F	10	344.49	1052	1061	1055.72	2.85E+02	63.06	5.20E+03	1.07
F	11	414.93	1265	1280	1271.39	6.15E+02	55.46	5.29E+03	1.20
	12	435.48	1329	1338	1334.31	7.14E+01	101.88	2.92E+03	0.66
F	13	511.22	1556	1576	1566.20	1.85E+03	59.23	4.28E+03	2.30
F	14	591.97	1805	1820	1813.44	1.18E+03	174.04	2.04E+03	1.42
F	15	609.32	1861	1874	1866.55	1.72E+02	34.09	1.69E+03	1.48
M	16	661.87	2017	2053	2027.46	1.51E+04	242.82	1.38E+03	1.56
m	17	666.60	2017	2053	2041.94	6.79E+02	39.33	1.31E+03	1.56
M	18	692.61	2115	2136	2121.58	3.83E+02	110.61	1.19E+03	1.52
m	19	695.40	2115	2136	2130.12	5.92E+02	145.45	1.55E+03	1.52
F	20	723.55	2204	2223	2216.30	4.71E+03	181.03	1.32E+03	1.56
F	21	757.15	2312	2327	2319.19	9.90E+02	38.32	1.06E+03	1.55
F	22	815.77	2494	2505	2498.66	1.72E+02	24.63	5.84E+02	1.52
F	23	845.65	2585	2596	2590.14	9.93E+01	22.82	5.61E+02	1.53
F	24	873.51	2662	2685	2675.46	2.58E+03	82.79	9.41E+02	1.73
F	25	893.38	2727	2747	2736.29	1.54E+02	92.46	7.17E+02	1.96
F	26	904.32	2764	2782	2769.81	2.43E+02	23.78	6.98E+02	1.84
F	27	996.67	3043	3065	3052.57	2.09E+03	127.71	5.44E+02	1.78
F	28	1005.10	3066	3091	3078.38	3.49E+03	137.53	7.46E+02	1.77
F	29	1112.85	3400	3413	3408.30	5.07E+01	14.65	2.78E+02	0.92
F	30	1173.65	3583	3603	3594.49	2.31E+03	110.85	2.25E+02	1.81
F	31	1246.69	3809	3825	3818.15	1.30E+02	14.40	1.52E+02	1.91
F	32	1274.89	3890	3915	3904.52	5.93E+03	145.43	1.64E+02	1.94
F	33	1332.96	4071	4094	4082.32	2.26E+03	96.34	1.49E+02	1.99
F	34	1368.75	4187	4196	4191.92	2.66E+01	5.54	2.43E+01	0.48
F	35	1408.56	4306	4321	4313.81	9.85E+01	11.44	5.99E+01	1.80
F	36	1461.30	4467	4483	4475.32	8.03E+01	33.63	4.69E+01	1.74
F	37	1494.77	4569	4588	4577.82	1.25E+02	10.95	2.71E+01	2.28
F	38	1597.02	4880	4902	4890.95	2.68E+02	38.47	1.69E+01	2.14
F	39	1765.37	5398	5414	5406.52	4.51E+01	7.42	1.97E+01	1.78
F	40	2224.04	6805	6816	6811.22	1.15E+01	3.91	2.89E+00	1.33

Analysis Report for 24-2287 5.5M-AN107-d-A S5

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	2614.77	8001 -	8015	8007.97	2.89E+01	20.44	7.97E+00	1.40

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 12:48:53PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567335.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.97	1.13E+03	488.66			1.13E+03	4.89E+02
F	2	59.57	7.93E+04	1413.43			7.93E+04	1.41E+03
F	3	74.96	1.21E+03	238.23	1.37E+02	8.58E+00	1.08E+03	2.38E+02
F	4	87.10	2.88E+03	273.59	4.19E+01	3.05E+00	2.83E+03	2.74E+02
F	5	99.76	7.02E+02	182.24			7.02E+02	1.82E+02
F	6	105.39	1.89E+03	1082.34			1.89E+03	1.08E+03
F	7	123.10	2.14E+04	1055.42			2.14E+04	1.06E+03
F	8	248.03	3.24E+03	109.22			3.24E+03	1.09E+02
F	9	277.95	4.00E+02	326.94			4.00E+02	3.27E+02
F	10	344.49	2.85E+02	63.06			2.85E+02	6.31E+01
F	11	414.93	6.15E+02	55.46			6.15E+02	5.55E+01
	12	435.48	7.14E+01	101.88			7.14E+01	1.02E+02
F	13	511.22	1.85E+03	59.23	1.70E+02	7.18E+00	1.68E+03	5.97E+01
F	14	591.97	1.18E+03	174.04			1.18E+03	1.74E+02
F	15	609.32	1.72E+02	34.09	1.90E+02	1.89E+00	-1.78E+01	3.41E+01
M	16	661.87	1.51E+04	242.82			1.51E+04	2.43E+02
m	17	666.60	6.79E+02	39.33	5.94E+00	6.97E-01	6.73E+02	3.93E+01
M	18	692.61	3.83E+02	110.61			3.83E+02	1.11E+02
m	19	695.40	5.92E+02	145.45			5.92E+02	1.45E+02
F	20	723.55	4.71E+03	181.03			4.71E+03	1.81E+02
F	21	757.15	9.90E+02	38.32			9.90E+02	3.83E+01
F	22	815.77	1.72E+02	24.63			1.72E+02	2.46E+01
F	23	845.65	9.93E+01	22.82			9.93E+01	2.28E+01
F	24	873.51	2.58E+03	82.79	2.58E-01	1.01E+00	2.58E+03	8.28E+01
F	25	893.38	1.54E+02	92.46			1.54E+02	9.25E+01
F	26	904.32	2.43E+02	23.78			2.43E+02	2.38E+01
F	27	996.67	2.09E+03	127.71			2.09E+03	1.28E+02
F	28	1005.10	3.49E+03	137.53			3.49E+03	1.38E+02

Analysis Report for 24-2287 5.5M-AN107-d-A S5

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 29	1112.85	5.07E+01	14.65			5.07E+01	1.47E+01
F 30	1173.65	2.31E+03	110.85			2.31E+03	1.11E+02
F 31	1246.69	1.30E+02	14.40			1.30E+02	1.44E+01
F 32	1274.89	5.93E+03	145.43			5.93E+03	1.45E+02
F 33	1332.96	2.26E+03	96.34			2.26E+03	9.63E+01
F 34	1368.75	2.66E+01	5.54			2.66E+01	5.54E+00
F 35	1408.56	9.85E+01	11.44	9.69E+00	1.48E+00	8.88E+01	1.15E+01
F 36	1461.30	8.03E+01	33.63	8.24E+01	2.88E+00	-2.12E+00	3.38E+01
F 37	1494.77	1.25E+02	10.95			1.25E+02	1.09E+01
F 38	1597.02	2.68E+02	38.47			2.68E+02	3.85E+01
F 39	1765.37	4.51E+01	7.42	5.09E+01	9.62E-01	-5.79E+00	7.48E+00
F 40	2224.04	1.15E+01	3.91	3.19E+00	3.51E-01	8.34E+00	3.93E+00
F 41	2614.77	2.89E+01	20.44	3.53E+01	1.89E+00	-6.43E+00	2.05E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.96	1460.83	*	10.67	-6.07E-05	9.69E-04	miss
CO-60	0.96	1173.24	*	99.97	6.17E-03	2.97E-04	miss
		1332.50	*	99.99	6.52E-03	2.81E-04	miss
		2505.74		1.00			
RH-106	0.41	511.86	*	20.70	1.30E-02	6.00E-04	miss
		621.92		9.93			
		1050.36		1.56			
CD-109	0.87	88.03	*	3.61	7.07E-02	7.13E-03	miss
SB-126	0.49	223.90		1.39			
		278.20	*	2.40	1.88E-02	1.61E-02	miss
		296.50		4.50			
		414.70	*	83.30	1.04E-03	9.78E-05	miss
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			

Analysis Report for 24-2287 5.5M-AN107-d-A S5

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.49	666.50	*	99.60	1.28E-03	7.49E-05	miss
		674.80		3.10			
		695.00	*	99.60	1.15E-03	2.83E-04	miss
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
CS-137	0.99	661.66	*	85.20	3.33E-02	5.70E-04	miss
EU-154	0.98	42.70	*	20.45	2.53E-02	1.10E-02	miss
		123.07	*	40.40	4.53E-02	2.32E-03	miss
		247.93	*	6.89	5.02E-02	1.82E-03	miss
		591.76	*	4.95	4.17E-02	6.19E-03	miss
		692.42	*	1.78	4.16E-02	1.20E-02	miss
		723.30	*	20.06	4.66E-02	1.87E-03	miss
		756.80	*	4.52	4.47E-02	1.79E-03	miss
		873.18	*	12.08	4.76E-02	1.62E-03	miss
		996.29	*	10.48	4.82E-02	2.98E-03	miss
		1004.76	*	18.01	4.70E-02	1.92E-03	miss
		1246.12	*	0.86	4.20E-02	4.68E-03	miss
		1274.43	*	34.80	4.78E-02	1.27E-03	miss
		1494.05	*	0.70	5.59E-02	4.93E-03	miss
		1596.48	*	1.80	4.86E-02	7.01E-03	miss
NP-239	0.26	99.60	*	12.80	6.07E-03	1.58E-03	miss
		103.80		20.40			
		106.10	*	26.40	7.85E-03	4.49E-03	miss
		116.90		7.61			
		228.20		11.20			
		277.60	*	14.50	4.14E-03	3.38E-03	miss
		315.90		1.60			
		334.30		2.06			
AM-241	1.00	59.54	*	35.90	3.67E-01	1.01E-02	miss

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2287 5.5M-AN107-d-A S5

ASR 2094 Branch

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	K-40	0.966	-6.07E-05	9.69E-04	
	CO-60	0.964	6.35E-03	2.04E-04	
	RH-106	0.417	1.30E-02	6.00E-04	
	CD-109	0.871	7.07E-02	7.13E-03	
	SB-126	0.492	1.18E-03	5.74E-05	
X	Sn-126	0.765			
	CS-137	0.993	3.33E-02	5.70E-04	
	EU-154	0.985	4.72E-02	6.18E-04	
X	EU-155	0.979			
	NP-239	0.266	5.88E-03	1.36E-03	
	AM-241	1.000	3.67E-01	1.01E-02	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2287 5.5M-AN107-d-A S5

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 12:48:53PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	74.96	2.19477E-01	22.16	Tol.	TH-232
F	10	344.49	5.81234E-02	22.14		
	12	435.48	1.45749E-02	142.63		
F	15	609.32	-3.62746E-03	- 192.06		
F	22	815.77	3.51163E-02	14.31	Sum	
F	23	845.65	2.02694E-02	22.98	Sum	
F	25	893.38	3.13397E-02	60.20		
F	26	904.32	4.96130E-02	9.78		
F	29	1112.85	1.03433E-02	28.90		
F	34	1368.75	5.43627E-03	20.79		
F	35	1408.56	1.81139E-02	12.99		
F	39	1765.37	-1.18100E-03	- 129.28	Sum	
F	40	2224.04	1.70149E-03	47.11		
F	41	2614.77	-1.31206E-03	- 319.15	Tol.	TH-232

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	5.99E-03	5.99E-03	-9.26E-04	2.97E-03
+	K-40	1460.83	*	10.67	1.81E-03	1.81E-03	-6.07E-05	8.68E-04

Analysis Report for 24-2287 5.5M-AN107-d-A S5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	MN-54	834.84		99.98	4.07E-04	4.07E-04	-2.39E-04	2.01E-04
	CO-58	810.78		99.45	4.44E-04	4.44E-04	-1.02E-04	2.19E-04
		863.96		0.68	5.96E-02		1.40E-02	2.94E-02
		1674.73		0.52	2.34E-02		3.28E-03	1.08E-02
	FE-59	142.65		1.00	1.29E-01	5.33E-04	8.32E-02	6.46E-02
		192.35		3.01	3.61E-02		1.82E-02	1.80E-02
		334.80		0.27	2.78E-01		-1.86E-01	1.39E-01
		1099.25		56.30	6.15E-04		-8.47E-04	3.01E-04
		1291.60		43.70	5.33E-04		4.02E-04	2.58E-04
+	CO-60	1173.24	*	99.97	3.36E-04	3.14E-04	6.17E-03	1.64E-04
		1332.50	*	99.99	3.14E-04		6.52E-03	1.53E-04
		2505.74		1.00	1.31E-02		1.31E-02	5.87E-03
	SR-85	514.00		96.00	7.06E-04	7.06E-04	-1.29E-05	3.50E-04
		868.60		0.01	5.29E+00		1.40E+00	2.62E+00
	NB-94	702.62		97.90	4.88E-04	4.88E-04	-1.16E-04	2.41E-04
		871.09		99.98	6.62E-04		-2.98E-05	3.28E-04
	NB-95	765.81		99.81	4.66E-04	4.66E-04	6.91E-04	2.30E-04
	RU-103	497.05		91.00	6.62E-04	6.62E-04	-4.34E-04	3.28E-04
		610.30		5.76	9.54E-03		1.81E-02	4.73E-03
+	RH-106	511.86	*	20.70	4.21E-03	4.21E-03	1.30E-02	2.10E-03
		621.92		9.93	5.21E-03		2.82E-03	2.58E-03
		1050.36		1.56	2.42E-02		1.35E-02	1.19E-02
	AG-108M	79.13		6.60	3.00E-02	5.95E-04	2.05E-02	1.50E-02
		433.90		90.50	6.98E-04		4.78E-04	3.47E-04
		614.30		89.80	5.95E-04		-4.24E-04	2.95E-04
		722.90		90.80	8.63E-04		9.47E-03	4.28E-04
+	CD-109	88.03	*	3.61	5.59E-02	5.59E-02	7.07E-02	2.79E-02
	SB-125	176.31		6.82	1.67E-02	2.15E-03	3.55E-03	8.34E-03
		380.45		1.52	4.49E-02		3.70E-02	2.23E-02
		427.87		29.55	2.15E-03		9.99E-04	1.07E-03
		463.36		10.48	6.05E-03		-3.49E-03	3.00E-03
		600.60		17.76	2.97E-03		2.34E-03	1.47E-03
		606.71		5.02	1.08E-02		8.10E-03	5.33E-03
		635.95		11.32	4.47E-03		2.47E-03	2.21E-03
		671.44		1.78	3.02E-02		1.33E-02	1.50E-02
+	SB-126	223.90		1.39	6.81E-02	3.25E-04	-6.83E-02	3.39E-02
		278.20	*	2.40	3.25E-02		1.88E-02	1.62E-02
		296.50		4.50	1.81E-02		-1.01E-02	9.04E-03
		414.70	*	83.30	9.12E-04		1.04E-03	4.54E-04
		556.30		1.69	3.20E-02		8.59E-03	1.59E-02
		573.90		6.70	7.89E-03		7.56E-03	3.91E-03
		593.20		7.50	8.05E-03		3.68E-02	3.99E-03
		656.30		2.19	3.55E-02		-1.22E-02	1.77E-02
		666.50	*	99.60	3.25E-04		1.28E-03	1.60E-04
		674.80		3.10	1.58E-02		4.25E-04	7.84E-03
		695.00	*	99.60	3.61E-04		1.15E-03	1.78E-04
		697.00		29.00	1.94E-03		5.96E-04	9.61E-04
		720.70		53.80	1.46E-03		1.65E-02	7.25E-04
		856.80		17.60	2.31E-03		-4.36E-04	1.14E-03
		989.60		6.80	6.13E-03		-1.68E-03	3.02E-03
		1213.30		2.39	1.04E-02		1.01E-02	5.06E-03
	Sn-126	64.28		9.60	2.90E-02	4.39E-03	-1.82E-02	1.45E-02
		87.30	*	45.90	4.39E-03		5.55E-03	2.19E-03

Analysis Report for 24-2287 5.5M-AN107-d-A S5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-129	29.70		56.60	5.68E-02	5.68E-02	-8.74E-02	2.83E-02
		33.60		10.04	1.70E-01		-7.96E-02	8.50E-02
		34.40		2.01	7.63E-01		-5.94E-01	3.81E-01
		39.60		7.51	1.18E-01		-5.52E-02	5.90E-02
	CS-134	563.25		8.34	6.39E-03	5.10E-04	-4.00E-03	3.17E-03
		569.33		15.37	3.44E-03		-1.65E-03	1.70E-03
		604.72		97.62	5.47E-04		2.44E-04	2.71E-04
		795.86		85.46	5.10E-04		-5.71E-04	2.51E-04
		801.95		8.69	4.95E-03		-1.44E-03	2.44E-03
+	CS-137	661.66	*	85.20	3.87E-04	3.87E-04	3.33E-02	1.91E-04
	CE-139	165.85		79.89	1.50E-03	1.50E-03	-2.78E-04	7.48E-04
	CE-141	40.70		3.35	2.48E-01	2.77E-03	-2.67E-02	1.24E-01
		145.44		48.29	2.77E-03		-5.85E-04	1.38E-03
	CE-144	80.12		1.36	1.43E-01	1.21E-02	-9.83E-02	7.16E-02
		133.51		11.09	1.21E-02		6.21E-04	6.05E-03
	EU-152	121.78		28.58	5.40E-03	1.02E-03	2.72E-04	2.69E-03
		344.28		26.50	2.78E-03		3.45E-03	1.38E-03
		778.90		12.94	3.57E-03		3.35E-03	1.76E-03
		964.08		14.73	2.72E-03		3.67E-05	1.34E-03
		1085.87		10.24	3.50E-03		9.04E-04	1.72E-03
		1112.07		13.69	2.57E-03		-2.37E-04	1.26E-03
		1408.01		21.07	1.02E-03		1.13E-03	4.93E-04
	GD-153	97.43		29.00	5.65E-03	5.65E-03	-2.38E-03	2.82E-03
		103.18		21.10	7.44E-03		-2.29E-05	3.71E-03
+	EU-154	42.70	*	20.45	3.72E-02	9.61E-04	2.53E-02	1.86E-02
		123.07	*	40.40	4.63E-03		4.53E-02	2.31E-03
		247.93	*	6.89	1.77E-02		5.02E-02	8.84E-03
		591.76	*	4.95	1.19E-02		4.17E-02	5.89E-03
		692.42	*	1.78	1.78E-02		4.16E-02	8.73E-03
		723.30	*	20.06	2.94E-03		4.66E-02	1.46E-03
		756.80	*	4.52	1.09E-02		4.47E-02	5.41E-03
		873.18	*	12.08	5.01E-03		4.76E-02	2.48E-03
		996.29	*	10.48	4.66E-03		4.82E-02	2.30E-03
		1004.76	*	18.01	3.35E-03		4.70E-02	1.66E-03
		1246.12	*	0.86	3.10E-02		4.20E-02	1.51E-02
		1274.43	*	34.80	9.61E-04		4.78E-02	4.70E-04
		1494.05	*	0.70	1.94E-02		5.59E-02	9.11E-03
		1596.48	*	1.80	6.81E-03		4.86E-02	3.16E-03
	EU-155	43.00	*	18.70	4.07E-02	6.57E-03	2.77E-02	2.03E-02
		60.01	*	1.22	3.55E-01		1.08E+01	1.77E-01
		86.55	*	30.70	6.57E-03		8.31E-03	3.28E-03
		105.31	*	21.10	8.47E-03		7.40E-03	4.23E-03
	HG-203	72.87		6.30	3.64E-02	1.08E-03	-1.04E-02	1.82E-02
		279.20		81.46	1.08E-03		8.02E-04	5.36E-04
	BI-207	569.15		97.80	5.40E-04	4.88E-04	-2.74E-04	2.67E-04
		1063.10		74.90	4.88E-04		-4.49E-04	2.40E-04
	PB-210	46.54		4.25	1.31E-01	1.31E-01	-1.86E-01	6.55E-02
	RA-226	74.81		6.44	3.37E-02	9.96E-04	8.99E-02	1.68E-02
		77.11		10.80	1.91E-02		1.87E-03	9.55E-03
		87.30		4.84	3.82E-02		1.34E-01	1.91E-02
		186.21		3.59	3.06E-02		1.50E-02	1.52E-02
		242.00		7.43	1.21E-02		3.29E-03	6.01E-03
		295.22		19.30	4.25E-03		-2.86E-03	2.12E-03

Analysis Report for 24-2287 5.5M-AN107-d-A S5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	351.93		37.60	1.91E-03	9.96E-04	6.26E-04	9.52E-04
		609.31		46.10	1.17E-03		4.79E-04	5.78E-04
		768.36		4.94	9.20E-03		-1.99E-03	4.55E-03
		1120.29		15.10	2.23E-03		8.74E-04	1.09E-03
		1238.11		5.79	4.51E-03		-1.88E-04	2.19E-03
		1764.49		15.40	9.96E-04		1.26E-03	4.67E-04
	PA-231	283.70		1.59	5.33E-02	3.40E-02	8.72E-03	2.66E-02
		300.07		2.38	3.40E-02		7.98E-04	1.70E-02
		302.67		1.71	4.72E-02		2.82E-02	2.35E-02
		330.07		1.32	5.70E-02		-7.12E-03	2.84E-02
	TH-232	74.81		11.62	1.87E-02	5.06E-04	4.98E-02	9.31E-03
		77.11		17.50	1.18E-02		1.15E-03	5.90E-03
		87.30		7.80	2.37E-02		8.32E-02	1.18E-02
		238.63		43.30	2.09E-03		1.68E-03	1.04E-03
		338.32		11.30	6.53E-03		-3.86E-03	3.25E-03
		583.19		30.37	1.80E-03		1.05E-03	8.94E-04
		727.33		6.58	1.19E-02		-2.99E-03	5.89E-03
		911.21		26.60	1.50E-03		5.90E-04	7.37E-04
		968.97		16.20	2.51E-03		1.90E-03	1.23E-03
		2614.53		35.64	5.06E-04		3.20E-04	2.33E-04
	U-235	143.76		10.96	1.16E-02	1.92E-03	1.34E-03	5.77E-03
		185.71		57.20	1.92E-03		-1.62E-03	9.58E-04
		205.31		5.01	2.03E-02		1.04E-05	1.01E-02
	U-238	63.29		3.70	8.15E-02	4.06E-02	-3.96E-02	4.07E-02
		92.51		4.23	4.06E-02		1.33E-02	2.03E-02
		112.81		0.21	7.02E-01		2.03E-01	3.50E-01
		742.81		0.11	4.23E-01		-2.37E-01	2.09E-01
		766.28		0.32	1.43E-01		-6.55E-02	7.07E-02
		1001.03		0.84	1.09E-01		1.37E+00	5.40E-02
+	NP-239	99.60	*	12.80	1.69E-02	7.14E-03	6.07E-03	8.44E-03
		103.80		20.40	1.01E-02		-3.13E-05	5.05E-03
		106.10	*	26.40	8.98E-03		7.85E-03	4.48E-03
		116.90		7.61	2.53E-02		-1.49E-02	1.26E-02
		228.20		11.20	1.11E-02		2.95E-03	5.53E-03
		277.60	*	14.50	7.14E-03		4.14E-03	3.56E-03
		315.90		1.60	6.49E-02		-5.83E-02	3.23E-02
		334.30		2.06	4.80E-02		2.84E-02	2.39E-02
+	AM-241	59.54	*	35.90	1.21E-02	1.21E-02	3.67E-01	6.02E-03

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

Apex-Gamma

Analysis Report for 24-2288 6.0M AN107-A W5

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2288 6.0M AN107-A W5
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 9:03:18AM
Procedure	: W5_gsv2mlw
Operator	: Administrator
Detector Name	: W
Geometry	: W5_gsv02mlw
Live Time	: 4426.7 seconds
Real Time	: 4495.2 seconds
Dead Time	: 1.52 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 8/11/2023
Efficiency Calibration Used Done On	: 6/25/2021
Efficiency Calibration Description	: W5_gsv02mlw_R724a12
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567781
Certificate Name	: R735-A10 20ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 10:18:16AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2288 6.0M AN107-A W5

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.54	162.04	0.0658	99.48
2	74.70	202.97	0.3283	3.92
3	86.81	235.85	0.3784	3.05
4	105.48	286.00	0.3076	4.89
5	123.06	333.48	0.0903	43.65
6	247.92	670.51	0.1534	14.85
7	351.46	949.94	0.4042	3.05
8	414.68	1120.58	0.2069	6.95
9	443.77	1199.18	0.3152	3.92
10	511.15	1381.00	0.1763	6.33
11	582.16	1572.61	0.3050	3.65
12	591.78	1598.63	0.1449	14.98
13	661.65	1787.19	0.0664	64.74
14	666.27	1799.86	0.1916	8.33
15	692.29	1869.51	0.2482	5.51
16	695.03	1877.57	0.2163	6.76
17	723.31	1953.77	0.0918	32.13
18	756.99	2044.66	0.1418	13.27
19	779.02	2103.95	0.3011	4.10
20	845.86	2284.34	0.2997	3.20
21	873.27	2358.43	0.1043	23.67
22	904.07	2441.65	0.2278	5.37
23	996.35	2690.78	0.1128	19.22
24	1004.81	2713.66	0.0933	28.26
25	1173.32	3168.59	0.1008	22.84
26	1246.12	3365.29	0.2265	4.32
27	1274.48	3441.87	0.0795	34.75
28	1332.55	3598.66	0.1030	20.34
29	1408.16	3802.86	0.2312	4.34
30	1460.99	3944.97	0.2283	3.80
31	1493.94	4034.50	0.2225	3.43
32	1596.56	4311.51	0.1717	6.28

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2288 6.0M AN107-A W5

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 10:18:16AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.54	154	169	162.05	8.72E+04	1369.51	1.87E+05	1.29
F	2	74.70	195	210	202.96	3.98E+03	1844.58	1.81E+05	1.89
F	3	86.81	228	243	235.65	4.07E+03	1977.76	1.69E+05	2.32
F	4	105.48	283	293	286.04	1.28E+03	236.15	9.38E+04	0.94
F	5	123.06	329	341	333.49	2.31E+04	262.28	8.77E+04	1.31
F	6	247.92	664	678	670.48	3.01E+03	121.16	2.29E+04	1.33
	7	351.46	946	957	949.94	7.91E+01	171.21	7.25E+03	0.61
F	8	414.68	1115	1127	1120.59	7.96E+02	67.27	5.35E+03	1.55
F	9	443.77	1195	1208	1199.10	1.62E+02	43.39	4.74E+03	0.65
F	10	511.15	1371	1391	1380.96	2.20E+03	68.11	5.19E+03	2.66
F	11	582.16	1565	1581	1572.65	2.86E+02	91.33	2.65E+03	1.59
F	12	591.78	1592	1607	1598.62	1.29E+03	189.37	2.44E+03	1.56
M	13	661.65	1779	1806	1787.22	1.65E+04	283.01	1.97E+03	1.76
m	14	666.27	1779	1806	1799.71	5.32E+02	43.67	1.81E+03	1.76
M	15	692.29	1865	1885	1869.95	4.44E+02	37.46	1.26E+03	1.82
m	16	695.03	1865	1885	1877.33	6.00E+02	39.70	1.64E+03	1.82
F	17	723.31	1942	1964	1953.69	5.01E+03	190.26	2.02E+03	1.85
F	18	756.99	2035	2052	2044.61	1.08E+03	136.28	1.45E+03	1.66
F	19	779.02	2095	2110	2104.07	8.49E+01	24.08	1.21E+03	0.84
F	20	845.86	2277	2290	2284.52	1.40E+02	27.47	7.25E+02	1.94
F	21	873.27	2349	2367	2358.50	2.52E+03	55.73	1.02E+03	1.89
F	22	904.07	2436	2449	2441.67	1.86E+02	26.97	6.48E+02	1.60
F	23	996.35	2678	2698	2690.78	2.09E+03	126.71	6.70E+02	2.15
F	24	1004.81	2705	2726	2713.63	3.61E+03	159.55	8.98E+02	2.03
F	25	1173.32	3156	3178	3168.59	2.63E+03	119.47	3.30E+02	2.23
F	26	1246.12	3358	3371	3365.15	1.55E+02	69.03	1.41E+02	2.15
F	27	1274.48	3432	3455	3441.74	6.15E+03	77.91	2.50E+02	2.30
F	28	1332.55	3585	3611	3598.55	2.40E+03	100.22	1.28E+02	2.41
F	29	1408.16	3793	3809	3802.69	9.79E+01	43.38	7.58E+01	1.66
F	30	1460.99	3937	3956	3945.34	1.25E+02	13.13	5.58E+01	2.69
F	31	1493.94	4026	4041	4034.34	1.05E+02	12.58	4.77E+01	2.50
F	32	1596.56	4302	4321	4311.43	2.63E+02	44.43	5.46E+01	2.46

Analysis Report for 24-2288 6.0M AN107-A W5

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 10:18:16AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567383.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.54	8.72E+04	1369.51			8.72E+04	1.37E+03
F	2	74.70	3.98E+03	1844.58	1.10E+02	1.07E+01	3.87E+03	1.84E+03
F	3	86.81	4.07E+03	1977.76	2.42E+01	1.80E+00	4.05E+03	1.98E+03
F	4	105.48	1.28E+03	236.15			1.28E+03	2.36E+02
F	5	123.06	2.31E+04	262.28			2.31E+04	2.62E+02
F	6	247.92	3.01E+03	121.16			3.01E+03	1.21E+02
	7	351.46	7.91E+01	171.21	9.94E+01	6.23E+00	-2.03E+01	1.71E+02
F	8	414.68	7.96E+02	67.27			7.96E+02	6.73E+01
F	9	443.77	1.62E+02	43.39			1.62E+02	4.34E+01
F	10	511.15	2.20E+03	68.11	1.62E+02	6.57E+00	2.04E+03	6.84E+01
F	11	582.16	2.86E+02	91.33			2.86E+02	9.13E+01
F	12	591.78	1.29E+03	189.37			1.29E+03	1.89E+02
M	13	661.65	1.65E+04	283.01			1.65E+04	2.83E+02
m	14	666.27	5.32E+02	43.67			5.32E+02	4.37E+01
M	15	692.29	4.44E+02	37.46			4.44E+02	3.75E+01
m	16	695.03	6.00E+02	39.70			6.00E+02	3.97E+01
F	17	723.31	5.01E+03	190.26			5.01E+03	1.90E+02
F	18	756.99	1.08E+03	136.28			1.08E+03	1.36E+02
F	19	779.02	8.49E+01	24.08			8.49E+01	2.41E+01
F	20	845.86	1.40E+02	27.47			1.40E+02	2.75E+01
F	21	873.27	2.52E+03	55.73			2.52E+03	5.57E+01
F	22	904.07	1.86E+02	26.97			1.86E+02	2.70E+01
F	23	996.35	2.09E+03	126.71			2.09E+03	1.27E+02
F	24	1004.81	3.61E+03	159.55			3.61E+03	1.60E+02
F	25	1173.32	2.63E+03	119.47			2.63E+03	1.19E+02
F	26	1246.12	1.55E+02	69.03			1.55E+02	6.90E+01
F	27	1274.48	6.15E+03	77.91			6.15E+03	7.79E+01
F	28	1332.55	2.40E+03	100.22			2.40E+03	1.00E+02
F	29	1408.16	9.79E+01	43.38	4.50E+00	4.77E-01	9.34E+01	4.34E+01
F	30	1460.99	1.25E+02	13.13	9.50E+01	1.31E+00	2.96E+01	1.32E+01
F	31	1493.94	1.05E+02	12.58			1.05E+02	1.26E+01
F	32	1596.56	2.63E+02	44.43			2.63E+02	4.44E+01

Analysis Report for 24-2288 6.0M AN107-A W5

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\Dosimetry2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (Bq/sample)	Activity Uncertainty	Coinc Corr
NA-22	0.99	511.00	*	179.91	7.50E+01	2.62E+00	1.000
		1274.54	*	99.94	7.24E+02	1.10E+01	0.985
K-40	0.99	1460.82	*	10.66	3.51E+01	1.57E+01	miss
MN-56	0.38	846.76	*	98.85	3.31E+03	6.48E+02	0.997
		1810.73		26.90			
		2113.09		14.20			
CO-60	0.99	1173.23	*	99.85	2.92E+02	1.34E+01	0.992
		1332.49	*	99.98	2.88E+02	1.23E+01	0.992
ZR-95	0.94	724.19	*	44.27	9.34E+02	3.67E+01	free
		756.72	*	54.38	1.69E+02	2.13E+01	free
RU-106	0.92	511.86	*	20.40	6.62E+02	2.65E+01	miss
Te-129m	0.89	695.88	*	3.00	1.63E+03	3.43E+02	free
CS-137	1.00	661.66	*	85.10	1.50E+03	2.92E+01	miss
EU-154	0.88	42.70		20.45			
		123.07	*	40.40	2.05E+03	7.57E+01	0.991
		247.93	*	6.89	1.94E+03	9.28E+01	0.989
		591.76	*	4.95	1.92E+03	2.82E+02	0.986
		692.42	*	1.78	2.01E+03	1.72E+02	0.990
		723.30	*	20.06	2.06E+03	8.28E+01	0.990
		756.80	*	4.52	2.04E+03	2.58E+02	0.986
		873.18	*	12.08	1.94E+03	4.92E+01	0.989
		996.29	*	10.48	1.99E+03	1.23E+02	0.997
		1004.76	*	18.01	2.01E+03	9.22E+01	0.996
		1246.12	*	0.86	2.10E+03	9.33E+02	0.988
		1274.43	*	34.80	2.05E+03	3.59E+01	0.996
		1494.05	*	0.70	1.93E+03	2.33E+02	1.003
		1596.48	*	1.80	1.90E+03	3.23E+02	1.034
EU-155	0.79	43.00		18.12			
		60.01	*	1.17	4.60E+05	2.22E+04	1.000
		86.55	*	30.70	4.86E+02	2.37E+02	free
		105.31	*	21.10	2.13E+02	3.99E+01	1.000
NP-237	0.98	86.48	*	12.20	1.22E+03	5.98E+02	1.000
AM-241	1.00	59.54	*	35.90	1.50E+04	6.36E+02	free

Analysis Report for 24-2288 6.0M AN107-A W5

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (Bq/sample)	Activity Uncertainty	Coinc Corr
AM-243	0.93	43.53		5.90			
		74.66	*	67.20	2.40E+02	1.14E+02	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (Bq/sample)	Wt mean Activity Uncertainty	Comments
	NA-22	0.998	2.60E+01	1.52E+01	
	K-40	0.996	3.51E+01	1.57E+01	
	MN-56	0.389	3.31E+03	6.48E+02	
	CO-60	0.999	2.90E+02	9.08E+00	
X	CU-64	0.969			
X	GA-66	0.489			
	ZR-95	0.940	1.33E+01	1.91E+01	
	RU-106	0.922	4.32E+02	1.36E+02	
	Te-129m	0.890	1.63E+03	3.43E+02	
	CS-137	1.000	1.50E+03	2.92E+01	
	EU-154	0.889	1.98E+03	2.96E+01	
	EU-155	0.791	2.13E+02	3.96E+01	
	NP-237	0.983	6.87E+02	6.05E+02	
	AM-241	1.000	1.50E+04	6.14E+02	
	AM-243	0.937	2.40E+02	1.14E+02	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2288 6.0M AN107-A W5

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 10:18:16AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	7	351.46	-4.58471E-03	- 844.16	Tol.	CE-143
F	8	414.68	1.79770E-01	8.45	Tol.	RH-102M PU-239
F	9	443.77	3.66493E-02	26.74	Tol.	ND-149
F	11	582.16	6.45783E-02	31.95		
m	14	666.27	1.20232E-01	8.21	Sum	
F	19	779.02	1.91841E-02	28.35	Sum	
F	22	904.07	4.21051E-02	14.47	Tol.	Re-184
F	29	1408.16	2.10905E-02	46.47	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\Dosimetry2023.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
	BE-7	477.60		10.44	2.67E+02	2.67E+02	-2.85E+02	1.33E+02
+	NA-22	511.00	*	179.91	2.20E+01	1.67E+01	7.50E+01	1.09E+01
		1274.54	*	99.94	1.67E+01		7.24E+02	8.19E+00
	NA-24	1368.63		99.99	2.16E+01	9.60E+00	6.51E+00	1.03E+01
		2754.01		99.87	9.60E+00		5.12E-01	4.02E+00
	AL-26	1129.67		2.50	5.59E+02	3.90E+00	2.96E+02	2.74E+02

Analysis Report for 24-2288 6.0M AN107-A W5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
	AL-26	1808.65		99.76	3.90E+00	3.90E+00	-5.34E-01	1.75E+00
+	K-40	1460.82	*	10.66	8.36E+01	8.36E+01	3.51E+01	4.02E+01
	K-42	312.60		0.34	3.19E+04	1.12E+02	4.28E+04	1.59E+04
		1524.60		18.08	1.12E+02		4.53E+01	5.29E+01
	Sc-44	1157.02		99.90	4.62E+02	4.62E+02	-3.97E+02	2.26E+02
		1499.46		0.91	3.72E+04		9.35E+01	1.79E+04
	Sc-44m	271.24		86.74	5.50E+01	5.50E+01	-1.44E+01	2.74E+01
		1001.83		1.20	4.17E+03		2.24E+02	2.07E+03
		1126.06		1.20	1.54E+03		1.49E+03	7.54E+02
		1157.00		1.20	1.35E+03		-1.16E+03	6.60E+02
	TI-44	67.87		93.00	1.12E+02	8.91E+01	9.70E+01	5.59E+01
		78.32		96.40	8.91E+01		-3.74E+01	4.45E+01
	SC-46	889.28		99.98	1.82E+01	1.42E+01	1.39E+01	8.96E+00
		1120.55		99.99	1.42E+01		-2.84E+01	6.93E+00
	CA-47	489.23		5.90	5.13E+02	1.68E+01	-7.37E+02	2.55E+02
		807.86		5.90	3.61E+02		1.61E+02	1.78E+02
		1297.09		67.00	1.68E+01		6.15E+00	8.13E+00
	SC-47	159.38		68.30	9.02E+01	9.02E+01	2.45E+01	4.50E+01
	SC-48	175.36		7.47	9.32E+02	1.26E+01	7.74E+02	4.65E+02
		983.53		100.00	2.38E+01		1.08E+01	1.17E+01
		1037.52		97.50	2.32E+01		1.35E+01	1.14E+01
		1312.12		100.00	1.26E+01		2.10E+00	6.06E+00
	V-48	944.13		7.87	2.29E+02	9.65E+00	-1.51E+02	1.13E+02
		983.53		99.98	1.80E+01		8.12E+00	8.84E+00
		1312.11		98.20	9.65E+00		1.61E+00	4.65E+00
		2240.40		2.33	1.49E+02		8.57E+00	6.37E+01
	CR-51	320.08		9.91	3.40E+02	3.40E+02	-7.04E+01	1.69E+02
	Fe-52	168.69		99.20	2.95E+02	2.95E+02	-1.12E+02	1.47E+02
		377.75		1.64	9.92E+03		-1.88E+04	4.93E+03
	Mn-52	744.23		90.00	2.46E+01	7.41E+00	-4.07E+00	1.21E+01
		848.18		3.32	6.36E+02		7.50E+02	3.14E+02
		935.54		94.50	2.07E+01		-1.21E+01	1.02E+01
		1246.28		4.21	3.41E+02		4.81E+02	1.66E+02
		1333.65		5.07	6.38E+02		6.32E+03	3.15E+02
		1434.09		100.00	7.41E+00		-3.18E+00	3.51E+00
	MN-54	834.85		99.98	1.85E+01	1.85E+01	3.47E+00	9.11E+00
	Co-55	411.50		1.07	6.07E+03	5.30E+01	2.90E+02	3.02E+03
		477.20		20.20	3.09E+02		-5.19E+01	1.54E+02
		803.70		1.87	2.27E+03		2.74E+03	1.12E+03
		931.10		75.00	5.30E+01		3.27E+00	2.61E+01
		1316.60		7.10	2.81E+02		1.73E+00	1.35E+02
		1370.00		2.90	6.55E+02		1.35E+02	3.15E+02
		1408.50		16.90	1.27E+02		6.54E+01	6.14E+01
	Co-56	846.77		99.94	1.90E+01	1.81E+01	-5.90E-01	9.38E+00
		977.37		1.42	1.23E+03		-1.06E+03	6.06E+02
		1037.84		14.05	1.19E+02		6.87E+01	5.83E+01
		1175.10		2.25	1.32E+03		3.01E+01	6.52E+02
		1238.29		66.46	1.81E+01		4.02E+00	8.81E+00
		1360.21		4.28	1.95E+02		8.77E+00	9.38E+01
		1771.36		15.41	3.91E+01		8.50E+00	1.83E+01
		2015.20		3.02	1.12E+02		-4.06E+01	4.88E+01
		2034.79		7.77	5.61E+01		1.35E+01	2.52E+01
		2598.50		16.97	2.39E+01		1.59E+01	1.03E+01

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
+	MN-56	846.76	*	98.85	4.49E+03	3.84E+03	3.31E+03	2.21E+03
		1810.73		26.90	3.84E+03		2.20E+03	1.72E+03
		2113.09		14.20	8.51E+03		5.65E+03	3.84E+03
	Ni-56	158.38		98.80	5.79E+01	2.52E+01	-5.49E+00	2.89E+01
		269.50		36.50	1.14E+02		1.83E+00	5.66E+01
		480.44		36.50	8.23E+01		-9.52E+00	4.09E+01
		749.50		49.50	4.35E+01		1.78E+00	2.15E+01
		811.85		86.00	2.52E+01		-3.05E+00	1.24E+01
		1561.80		14.00	4.71E+01		9.77E+00	2.21E+01
	CO-57	122.06		85.60	7.64E+01	7.64E+01	-4.59E+01	3.81E+01
		136.47		10.68	5.43E+02		-1.75E+02	2.71E+02
	NI-57	127.16		16.70	5.33E+02	1.46E+01	1.96E+02	2.66E+02
		1377.63		81.70	1.46E+01		-1.42E+01	6.98E+00
		1757.55		5.75	1.66E+02		9.88E+01	7.81E+01
		1919.52		12.30	4.51E+01		1.79E-01	2.00E+01
	CO-58	810.76		99.45	1.92E+01	1.92E+01	-2.40E+00	9.50E+00
		863.96		0.69	2.69E+03		2.65E+02	1.32E+03
		1674.73		0.52	9.43E+02		-3.20E+02	4.35E+02
	FE-59	142.65		1.02	5.57E+03	2.18E+01	-1.46E+03	2.78E+03
		192.34		3.08	1.55E+03		-1.13E+03	7.73E+02
		1099.24		56.50	2.62E+01		9.18E+00	1.28E+01
		1291.59		43.20	2.18E+01		-2.07E+01	1.05E+01
+	CO-60	1173.23	*	99.85	1.76E+01	1.28E+01	2.92E+02	8.66E+00
		1332.49	*	99.98	1.28E+01		2.88E+02	6.24E+00
	CU-64	511.00	*	35.00	3.49E+02	3.49E+02	1.19E+03	1.74E+02
		1345.77		0.47	5.79E+03		-1.69E+03	2.79E+03
	NI-65	366.27		4.81	1.83E+05	8.21E+03	1.14E+05	9.12E+04
		1115.53		15.43	2.93E+04		3.64E+04	1.44E+04
		1481.84		23.59	8.21E+03		-4.12E+03	3.89E+03
	ZN-65	1115.54		50.04	3.05E+01	3.05E+01	3.79E+01	1.50E+01
	GA-66	511.00	*	114.00	1.57E+02	6.55E+01	5.36E+02	7.81E+01
		833.53		5.90	1.41E+03		4.12E+02	6.95E+02
		1039.22		37.00	1.99E+02		1.31E+02	9.78E+01
		1333.11	*	1.17	4.91E+03		1.11E+05	2.39E+03
		1918.33		1.99	8.25E+02		-7.37E+01	3.65E+02
		2189.62		5.30	2.97E+02		5.16E+01	1.28E+02
		2751.83		22.70	6.55E+01		-2.74E+01	2.68E+01
	CU-67	91.27		7.00	1.33E+03	1.25E+02	6.24E+01	6.63E+02
		93.31		16.10	5.66E+02		1.19E+02	2.83E+02
		184.58		48.70	1.25E+02		1.32E+02	6.25E+01
		300.22		0.80	5.44E+03		-1.80E+03	2.71E+03
		393.53		0.22	1.62E+04		-1.93E+03	8.05E+03
	GA-67	91.26		3.11	2.86E+03	2.24E+02	1.34E+02	1.43E+03
		93.31		38.81	2.24E+02		4.70E+01	1.12E+02
		184.58		21.41	2.72E+02		2.87E+02	1.35E+02
		208.95		2.46	2.16E+03		4.57E+02	1.08E+03
		300.22		16.64	2.49E+02		-8.24E+01	1.24E+02
		393.53		4.56	7.29E+02		-8.71E+01	3.63E+02
	ZN-69m	438.63		94.85	8.53E+01	8.53E+01	3.03E+01	4.24E+01
	GA-72	629.97		26.13	2.32E+02	5.00E+01	1.17E+02	1.15E+02
		834.13		95.45	5.37E+01		3.46E+01	2.65E+01
		894.33		10.14	4.86E+02		2.64E+02	2.40E+02
		1050.79		6.99	6.52E+02		-3.62E+01	3.20E+02

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
GA-72	2201.59	26.87	5.00E+01	5.00E+01	-5.40E+00	2.25E+01
	2491.03	7.73	1.17E+02		1.41E+01	4.90E+01
	2507.72	13.33	8.29E+01		5.77E+01	3.59E+01
Zn-72	144.70	82.78	9.12E+01	9.12E+01	-7.62E+01	4.55E+01
	191.50	9.35	6.83E+02		1.80E+02	3.41E+02
SE-75	121.12	17.20	3.86E+02	6.56E+01	-3.11E+02	1.93E+02
	136.00	58.50	1.00E+02		-3.49E+01	5.01E+01
	264.66	58.90	6.56E+01		4.32E+01	3.27E+01
	279.54	25.02	1.48E+02		2.72E+01	7.36E+01
	400.66	11.41	2.34E+02		6.47E+01	1.16E+02
BR-83	529.59	1.30	7.92E+05	7.92E+05	3.75E+04	3.93E+05
BR-84	604.80	1.70	6.83E+14	1.27E+13	1.00E+14	3.38E+14
	736.50	1.29	7.90E+14		8.44E+14	3.91E+14
	802.20	6.00	1.60E+14		-7.26E+13	7.90E+13
	881.60	42.00	2.18E+13		8.43E+12	1.07E+13
	987.30	0.79	1.11E+15		5.60E+14	5.46E+14
	1015.90	6.20	1.36E+14		8.15E+13	6.71E+13
	1213.30	2.60	2.30E+14		1.28E+14	1.12E+14
	1463.80	2.00	2.48E+14		4.06E+14	1.19E+14
	1741.20	1.60	1.42E+14		7.16E+13	6.45E+13
	1877.50	1.12	1.72E+14		-1.33E+14	7.63E+13
	1897.60	14.60	1.27E+13		1.08E+13	5.63E+12
	2029.60	2.10	1.12E+14		-1.11E+13	5.06E+13
	2200.70	1.16	2.14E+14		-5.21E+13	9.68E+13
	2484.10	6.70	2.93E+13		1.96E+13	1.26E+13
	2824.10	1.12	1.56E+14		-1.92E+14	6.40E+13
KR-85m	151.20	75.20	1.75E+03	1.75E+03	-1.01E+03	8.75E+02
	304.87	14.00	5.92E+03		-2.96E+03	2.95E+03
Y-87	388.53	82.20	4.14E+01	3.58E+01	-3.38E-01	2.06E+01
	484.80	89.80	3.58E+01		3.85E+00	1.78E+01
KR-88	165.98	3.10	2.73E+05	1.50E+03	4.55E+05	1.36E+05
	196.30	26.00	2.83E+04		-2.02E+02	1.41E+04
	362.23	2.25	2.09E+05		6.50E+03	1.04E+05
	471.80	0.73	6.10E+05		-7.75E+05	3.03E+05
	834.83	13.00	2.27E+04		4.26E+03	1.12E+04
	985.78	1.31	2.08E+05		-1.16E+04	1.02E+05
	1141.33	1.28	1.65E+05		-6.99E+03	8.09E+04
	1179.51	1.00	3.97E+05		1.36E+05	1.96E+05
	1250.67	1.12	1.76E+05		1.78E+04	8.59E+04
	1369.50	1.48	9.06E+04		8.30E+04	4.35E+04
	1518.39	2.15	4.30E+04		-2.82E+04	2.02E+04
	1529.77	10.90	9.29E+03		1.42E+03	4.38E+03
	2029.84	4.53	1.62E+04		-1.60E+03	7.33E+03
	2035.41	3.74	1.84E+04		-4.05E+03	8.25E+03
	2195.84	13.20	5.16E+03		-5.93E+02	2.29E+03
	2231.77	3.39	1.70E+04		-2.57E+03	7.38E+03
	2352.08	0.73	7.90E+04		-1.72E+05	3.40E+04
	2392.11	34.60	1.50E+03		-1.81E+02	6.34E+02
RB-88	898.03	14.40	2.00E+04	3.25E+03	8.41E+03	9.84E+03
	1382.45	0.78	1.67E+05		1.64E+05	8.02E+04
	1836.00	22.81	3.25E+03		2.84E+03	1.48E+03
	2677.89	2.13	2.89E+04		-7.39E+03	1.23E+04
Y-88	898.04	93.70	1.94E+01	4.72E+00	8.16E+00	9.55E+00

Analysis Report for 24-2288 6.0M AN107-A W5

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
	Y-88	1836.06	99.20	4.72E+00	4.72E+00	4.13E+00	2.16E+00
@	RB-89	272.42	1.53	3.70E+24	3.70E+24	3.70E+24	1.00E+20
@		657.77	10.80	3.70E+24		3.70E+24	1.00E+20
@		947.73	10.00	3.70E+24		3.70E+24	1.00E+20
@		1031.92	63.00	3.70E+24		3.70E+24	1.00E+20
@		1248.14	46.00	3.70E+24		3.70E+24	1.00E+20
@		1538.07	2.77	3.70E+24		3.70E+24	1.00E+20
@		2007.50	2.58	3.70E+24		3.70E+24	1.00E+20
@		2195.92	14.50	3.70E+24		3.70E+24	1.00E+20
@		2570.20	10.70	3.70E+24		3.70E+24	1.00E+20
@		2707.26	2.20	3.70E+24		3.70E+24	1.00E+20
	SR-89	908.96	0.01	1.97E+05	1.97E+05	3.52E+03	9.73E+04
	Sr-91	652.90	11.35	8.57E+02	2.15E+02	-3.50E+02	4.24E+02
		749.80	23.70	3.65E+02		4.23E+00	1.80E+02
		925.80	3.85	2.02E+03		-3.29E+02	9.94E+02
		1024.30	33.50	2.15E+02		-5.24E+00	1.06E+02
	Y-91	1204.77	0.26	4.18E+03	4.18E+03	2.34E+03	2.03E+03
	NB-92M	912.60	1.78	1.05E+03	1.86E+01	2.65E+02	5.17E+02
		934.44	99.15	1.86E+01		-1.55E+01	9.14E+00
		1847.50	0.85	5.89E+02		5.37E+02	2.69E+02
	SR-92	241.56	2.93	3.21E+05	2.16E+03	1.15E+05	1.60E+05
		430.49	3.28	2.11E+05		1.15E+05	1.05E+05
		953.31	3.52	1.18E+05		-3.37E+03	5.80E+04
		1142.35	2.79	1.14E+05		-7.42E+04	5.56E+04
		1383.93	90.00	2.16E+03		6.77E+02	1.04E+03
	MO-93M	114.04	0.68	7.49E+04	5.66E+01	2.42E+04	3.74E+04
		263.05	57.40	5.39E+02		2.56E+02	2.69E+02
		684.69	99.90	1.69E+02		7.23E+01	8.37E+01
		1363.02	0.81	8.22E+03		9.21E+02	3.94E+03
		1477.14	99.10	5.66E+01		-1.41E+01	2.69E+01
@	SR-93	168.50	18.40	3.70E+24	3.70E+24	3.70E+24	1.00E+20
@		260.12	7.40	3.70E+24		3.70E+24	1.00E+20
@		346.49	3.28	3.70E+24		3.70E+24	1.00E+20
@		446.20	2.36	3.70E+24		3.70E+24	1.00E+20
@		590.24	68.00	3.70E+24		3.70E+24	1.00E+20
@		710.31	21.80	3.70E+24		3.70E+24	1.00E+20
@		875.73	24.50	3.70E+24		3.70E+24	1.00E+20
@		888.13	22.10	3.70E+24		3.70E+24	1.00E+20
@		1040.63	3.20	3.70E+24		3.70E+24	1.00E+20
@		1094.00	1.76	3.70E+24		3.70E+24	1.00E+20
@		1122.48	4.00	3.70E+24		3.70E+24	1.00E+20
@		1215.48	2.50	3.70E+24		3.70E+24	1.00E+20
@		1269.47	7.10	3.70E+24		3.70E+24	1.00E+20
@		1321.24	2.61	3.70E+24		3.70E+24	1.00E+20
@		1387.11	3.50	3.70E+24		3.70E+24	1.00E+20
@		1694.07	2.58	3.70E+24		3.70E+24	1.00E+20
@		1699.06	3.30	3.70E+24		3.70E+24	1.00E+20
@		2543.84	3.03	3.70E+24		3.70E+24	1.00E+20
@		2688.65	2.13	3.70E+24		3.70E+24	1.00E+20
	Y-93	266.90	7.40	2.09E+03	9.44E+02	-2.10E+02	1.04E+03
		947.10	2.10	3.36E+03		3.81E+03	1.65E+03
		1917.80	1.57	9.44E+02		4.02E+00	4.18E+02
	NB-94	702.65	99.81	2.04E+01	2.04E+01	-8.45E+00	1.01E+01

Analysis Report for 24-2288 6.0M AN107-A W5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
	NB-94	871.09		99.89	2.85E+01	2.04E+01	2.52E+02	1.41E+01
	Y-94	381.60		2.02	9.84E+22	2.13E+21	-2.11E+22	4.90E+22
		550.90		4.90	3.35E+22		-2.28E+22	1.66E+22
		752.60		1.40	1.15E+23		1.85E+22	5.68E+22
		918.74		56.00	2.13E+21		-1.47E+21	1.05E+21
		1138.90		6.00	1.54E+22		-7.20E+21	7.52E+21
		1671.40		2.50	1.31E+22		-1.06E+22	6.03E+21
		2140.60		0.95	2.06E+22		-1.80E+22	8.64E+21
	NB-95	765.80		99.81	2.00E+01	2.00E+01	1.99E+01	9.86E+00
+	ZR-95	724.19	*	44.27	7.23E+01	4.63E+01	9.34E+02	3.59E+01
		756.72	*	54.38	4.63E+01		1.69E+02	2.29E+01
	NB-96	219.08		2.97	2.63E+03	3.77E+01	2.59E+02	1.31E+03
		241.38		3.50	2.06E+03		7.87E+02	1.03E+03
		350.05		1.54	3.68E+03		-1.78E+03	1.83E+03
		352.56		0.83	6.78E+03		1.66E+02	3.37E+03
		371.81		2.62	2.07E+03		1.86E+01	1.03E+03
		460.04		26.62	1.95E+02		-2.28E+02	9.69E+01
		480.71		5.84	8.61E+02		-9.97E+01	4.28E+02
		568.87		58.00	7.38E+01		-2.80E+01	3.66E+01
		719.56		6.85	9.05E+02		3.05E+02	4.50E+02
		721.63		1.02	6.08E+03		5.31E+02	3.02E+03
		778.22		96.45	3.77E+01		2.81E+01	1.86E+01
		810.33		11.09	3.13E+02		-1.32E+02	1.55E+02
		812.58		2.95	1.24E+03		2.06E+03	6.11E+02
		847.69		1.14	3.03E+03		3.45E+03	1.50E+03
		849.93		20.45	1.69E+02		1.95E+01	8.32E+01
		1091.35		48.50	5.81E+01		-3.33E+00	2.85E+01
		1200.23		19.97	9.78E+01		-6.50E+01	4.75E+01
		1441.13		0.44	2.61E+03		-2.89E+03	1.23E+03
		1497.81		3.28	5.14E+02		7.53E+02	2.47E+02
	Nb-97	657.94		98.23	1.23E+02	1.23E+02	-8.02E-01	6.10E+01
		1024.40		1.09	3.52E+03		-8.59E+01	1.73E+03
	ZR-97	254.17		1.15	7.69E+03	4.97E+01	5.55E+03	3.83E+03
		355.40		2.09	3.47E+03		3.66E+03	1.72E+03
		507.64		5.03	1.40E+03		3.28E+02	6.96E+02
		743.36		93.09	4.97E+01		2.32E+01	2.46E+01
		1147.97		2.62	1.19E+03		-5.13E+02	5.83E+02
	MO-99	181.07		6.14	1.00E+03	2.03E+02	-1.80E+02	5.00E+02
		366.42		1.20	3.05E+03		2.47E+03	1.52E+03
		739.50		12.26	2.03E+02		3.83E+01	1.00E+02
		777.92		4.30	5.68E+02		4.23E+02	2.81E+02
	TC-99M	140.51		90.80	7.76E+01	7.76E+01	3.13E+01	3.87E+01
	RH-101	127.23		68.00	8.82E+01	6.32E+01	3.25E+01	4.40E+01
		198.01		73.00	6.32E+01		1.33E+01	3.15E+01
		325.23		11.80	2.63E+02		1.71E+02	1.31E+02
	RH-101M	306.86		81.00	4.78E+01	4.78E+01	-2.59E+01	2.38E+01
		545.12		4.30	6.37E+02		-9.28E+01	3.16E+02
	RH-102M	415.25		2.10	1.39E+03	2.96E+01	2.70E+03	6.92E+02
		418.52		9.40	3.07E+02		1.02E+02	1.53E+02
		420.40		3.20	8.69E+02		-5.55E+01	4.32E+02
		475.06		95.00	2.96E+01		6.67E+00	1.47E+01
		628.05		8.30	2.67E+02		-1.21E+02	1.32E+02
		631.29		56.00	3.89E+01		-1.28E+01	1.93E+01

Analysis Report for 24-2288 6.0M AN107-A W5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
	RH-102M	692.40		1.60	1.52E+03	2.96E+01	-2.67E+02	7.54E+02
		695.60		2.90	8.36E+02		3.41E+03	4.14E+02
		697.49		44.00	5.41E+01		-2.36E+00	2.68E+01
		766.84		34.00	5.83E+01		2.52E+01	2.88E+01
		1046.59		34.00	4.86E+01		-1.23E+01	2.39E+01
		1103.16		4.60	3.20E+02		6.56E+01	1.57E+02
		1112.84		19.00	8.14E+01		-2.51E-01	3.99E+01
	RU-103	497.08		91.00	2.90E+01	2.90E+01	-2.90E+01	1.44E+01
		610.33		5.76	3.94E+02		3.30E+02	1.95E+02
	RH-105	306.31		4.66	1.09E+03	2.92E+02	-5.85E+02	5.41E+02
		319.23		16.90	2.92E+02		-1.46E+02	1.46E+02
	AG-106M	221.70		6.60	6.84E+02	3.64E+01	6.91E+01	3.41E+02
		228.63		2.10	2.10E+03		2.74E+03	1.05E+03
		328.46		1.14	3.04E+03		7.92E+02	1.51E+03
		391.04		3.68	8.29E+02		-3.56E+02	4.12E+02
		406.18		13.40	2.24E+02		-3.55E+00	1.11E+02
		429.65		13.20	2.34E+02		1.35E+02	1.16E+02
		450.98		28.20	1.09E+02		3.22E+01	5.41E+01
		511.85		88.00	3.64E+01		2.17E+02	1.81E+01
		601.17		1.61	1.50E+03		6.74E+02	7.41E+02
		616.17		21.60	1.09E+02		-6.18E+01	5.41E+01
		646.03		1.46	1.65E+03		1.51E+03	8.17E+02
		680.42		2.18	1.04E+03		4.20E+02	5.14E+02
		703.11		4.47	4.83E+02		1.34E+02	2.39E+02
		717.34		28.90	9.28E+01		6.73E+01	4.60E+01
		748.36		20.60	1.01E+02		1.87E+01	5.00E+01
		793.17		5.90	3.44E+02		1.19E+01	1.70E+02
		804.28		12.40	1.61E+02		-3.66E+01	7.94E+01
		808.36		4.00	4.97E+02		-5.98E+02	2.45E+02
		824.69		15.30	1.29E+02		-8.27E+01	6.36E+01
		847.15		4.40	4.56E+02		1.33E+02	2.25E+02
		1019.72		1.04	1.68E+03		8.06E+01	8.27E+02
		1045.83		29.60	5.91E+01		-4.96E+01	2.90E+01
		1128.02		11.80	1.28E+02		3.37E+01	6.25E+01
		1199.39		11.20	1.03E+02		3.92E+00	4.99E+01
		1222.88		7.00	1.71E+02		-3.51E+01	8.30E+01
		1394.35		1.49	6.20E+02		-5.69E+01	2.98E+02
		1527.65		16.30	4.09E+01		4.62E+00	1.93E+01
		1572.35		6.60	9.20E+01		-1.97E+02	4.31E+01
		1722.76		1.40	4.06E+02		3.76E+02	1.88E+02
		1839.05		2.00	2.42E+02		-7.56E+02	1.10E+02
	RH-106	621.93		9.93	2.26E+02	2.26E+02	2.90E+02	1.12E+02
		873.49		0.44	6.52E+03		5.39E+04	3.23E+03
		1050.41		1.56	1.05E+03		1.81E+02	5.18E+02
+	RU-106	511.86	*	20.40	1.94E+02	1.94E+02	6.62E+02	9.65E+01
	AG-108M	79.13		6.60	1.28E+03	2.51E+01	2.45E+02	6.37E+02
		433.94		90.50	3.21E+01		-2.07E+01	1.60E+01
		614.28		89.80	2.51E+01		-1.57E+01	1.24E+01
		722.91		90.80	3.77E+01		4.61E+02	1.87E+01
	CD-109	88.03		3.64	2.10E+03	2.10E+03	-5.84E+02	1.05E+03
	AG-110M	446.81		3.70	7.99E+02	2.40E+01	-1.39E+02	3.97E+02
		620.35		2.73	8.35E+02		-2.80E+02	4.14E+02
		657.76		95.61	5.44E+01		-1.73E+00	2.71E+01

Analysis Report for 24-2288 6.0M AN107-A W5

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
AG-110M	677.62	10.70	2.01E+02	2.40E+01	-1.06E+02	9.94E+01
	687.01	6.53	3.39E+02		-2.84E+02	1.68E+02
	706.68	16.69	1.21E+02		-4.79E+01	6.00E+01
	744.28	4.77	4.20E+02		-6.97E+01	2.08E+02
	763.94	22.60	8.93E+01		-3.28E+00	4.42E+01
	818.02	7.43	2.69E+02		7.18E+01	1.33E+02
	884.68	75.00	2.40E+01		1.00E+01	1.18E+01
	937.48	35.00	5.03E+01		9.47E+00	2.48E+01
	1384.29	25.10	3.29E+01		2.14E+01	1.58E+01
	1475.78	4.08	1.69E+02		-1.29E+02	8.01E+01
	1505.03	13.33	4.99E+01		5.68E+01	2.36E+01
	1562.29	1.22	4.76E+02		2.27E+02	2.24E+02
AG-111	245.40	1.11	3.91E+03	5.08E+02	-3.70E+02	1.95E+03
	342.13	6.68	5.08E+02		2.22E+02	2.53E+02
AG-112	606.82	3.10	1.43E+03	1.01E+02	1.15E+03	7.09E+02
	617.52	43.00	1.01E+02		1.12E+02	5.03E+01
	692.82	1.19	3.96E+03		1.33E+04	1.96E+03
	694.87	2.90	1.63E+03		7.20E+03	8.07E+02
	851.28	1.02	3.60E+03		1.06E+03	1.78E+03
	1312.36	1.11	1.62E+03		7.30E+02	7.82E+02
	1387.68	5.30	3.01E+02		-5.56E+01	1.44E+02
	1613.66	2.80	3.44E+02		9.57E+01	1.59E+02
	1798.50	0.89	7.83E+02		3.82E+02	3.47E+02
	2106.31	2.40	3.93E+02		1.17E+02	1.78E+02
	2506.70	1.06	7.16E+02		-3.86E+02	3.08E+02
CD-113M	263.70	0.03	1.43E+05	1.43E+05	-8.04E+04	7.12E+04
SN-113	255.13	2.11	1.78E+03	4.39E+01	1.30E+03	8.89E+02
	391.70	64.97	4.39E+01		-8.53E+00	2.18E+01
IN-114M	190.27	15.56	3.08E+02	3.08E+02	1.23E+02	1.53E+02
	558.43	4.40	5.49E+02		1.54E+01	2.72E+02
	725.24	4.40	7.79E+02		-7.39E-02	3.87E+02
CD-115	260.90	1.94	2.59E+03	8.98E+01	-6.81E+02	1.29E+03
	336.24	46.02	8.98E+01		-2.22E+01	4.47E+01
	527.90	27.45	1.18E+02		-3.62E+01	5.87E+01
CD-115M	933.84	2.00	8.80E+02	8.80E+02	-1.22E+03	4.33E+02
	1290.59	0.90	1.04E+03		-3.63E+02	5.01E+02
IN-115M	336.24	45.90	1.68E+03	1.68E+03	-4.16E+02	8.35E+02
IN-116M	138.29	3.70	1.15E+10	8.38E+07	4.05E+09	5.73E+09
	416.90	27.20	7.69E+08		1.37E+09	3.83E+08
	818.68	12.13	1.19E+09		5.91E+08	5.87E+08
	1097.28	58.50	1.83E+08		-1.29E+07	8.99E+07
	1293.56	84.80	8.38E+07		2.87E+07	4.05E+07
	1507.59	9.92	4.59E+08		-2.56E+08	2.16E+08
	2112.29	15.09	2.29E+08		1.53E+08	1.04E+08
SB-125	176.31	6.84	7.30E+02	9.75E+01	-3.02E+02	3.64E+02
	380.45	1.52	1.89E+03		-9.80E+02	9.40E+02
	427.87	29.60	9.75E+01		-3.03E+01	4.85E+01
	463.36	10.49	2.68E+02		1.41E+02	1.33E+02
	600.60	17.65	1.27E+02		-2.16E+01	6.30E+01
	606.71	4.98	4.51E+02		4.33E+02	2.24E+02
	635.95	11.22	1.89E+02		-6.66E+01	9.36E+01
	671.44	1.79	1.28E+03		-8.05E+01	6.35E+02
SN-125	332.10	1.40	2.46E+03	1.65E+02	-7.51E+02	1.22E+03

Analysis Report for 24-2288 6.0M AN107-A W5

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
SN-125	469.85	1.50	2.02E+03	1.65E+02	1.56E+03	1.00E+03
	800.28	1.10	1.82E+03		8.43E+02	9.00E+02
	822.48	4.30	4.66E+02		-8.05E+02	2.30E+02
	915.55	4.10	4.53E+02		-7.56E+01	2.23E+02
	1067.10	10.00	1.65E+02		-6.65E+01	8.11E+01
	1087.70	1.20	1.40E+03		3.63E+02	6.86E+02
	1089.10	4.60	3.58E+02		1.07E+02	1.76E+02
	2002.10	1.90	1.74E+02		-1.93E+01	7.50E+01
SB-127	61.10	1.43	1.23E+04	6.67E+01	-2.03E+03	6.15E+03
	252.40	8.50	5.35E+02		3.41E+02	2.67E+02
	290.80	2.02	2.05E+03		-1.05E+03	1.02E+03
	412.10	3.80	8.84E+02		6.83E+01	4.39E+02
	445.10	4.30	7.87E+02		5.40E+02	3.91E+02
	473.00	25.80	1.26E+02		8.95E+01	6.26E+01
	543.30	2.90	9.64E+02		9.14E+02	4.78E+02
	603.50	4.50	5.84E+02		-1.21E+03	2.90E+02
	685.70	36.80	6.67E+01		1.34E+01	3.30E+01
	698.50	3.64	7.33E+02		1.11E+01	3.63E+02
	722.20	1.88	2.09E+03		2.44E+04	1.04E+03
	783.70	15.10	1.51E+02		-3.23E+01	7.45E+01
SN-127	119.70	2.20	2.64E+06	3.65E+04	-2.25E+06	1.32E+06
	262.50	2.30	1.52E+06		6.19E+05	7.58E+05
	266.20	2.10	1.66E+06		1.72E+06	8.26E+05
	284.30	2.70	1.22E+06		1.17E+05	6.06E+05
	438.20	6.10	4.27E+05		1.91E+05	2.12E+05
	490.90	5.30	4.53E+05		-6.53E+04	2.25E+05
	493.20	3.10	7.76E+05		1.69E+05	3.86E+05
	545.40	2.30	9.50E+05		-1.30E+04	4.71E+05
	583.30	3.20	6.63E+05		3.04E+05	3.28E+05
	805.90	8.20	2.07E+05		3.17E+04	1.02E+05
	823.10	11.00	1.54E+05		-1.11E+05	7.62E+04
	824.70	6.10	2.75E+05		-1.77E+05	1.36E+05
	859.50	8.00	2.04E+05		9.18E+04	1.01E+05
	979.20	7.20	2.17E+05		-8.82E+04	1.07E+05
	1093.30	3.80	3.57E+05		-4.44E+05	1.75E+05
	1095.60	19.00	6.99E+04		-7.29E+04	3.43E+04
	1114.30	38.00	3.65E+04		3.33E+03	1.79E+04
	1160.40	2.40	4.69E+05		1.02E+05	2.29E+05
	2003.40	5.30	5.38E+04		-1.91E+03	2.31E+04
SB-129	180.42	2.84	4.59E+04	1.09E+03	-3.15E+04	2.29E+04
	359.20	2.39	3.34E+04		2.68E+04	1.66E+04
	404.64	1.17	6.34E+04		-3.70E+04	3.15E+04
	523.13	1.55	4.35E+04		8.31E+04	2.16E+04
	544.56	15.42	4.13E+03		1.56E+03	2.05E+03
	633.74	2.53	2.23E+04		5.71E+03	1.11E+04
	654.28	2.97	2.02E+04		-1.22E+04	1.00E+04
	682.77	5.76	9.63E+03		-3.20E+03	4.76E+03
	761.12	4.32	1.45E+04		6.38E+03	7.17E+03
	773.37	2.82	1.84E+04		5.35E+03	9.07E+03
	786.36	1.07	4.73E+04		-2.09E+03	2.34E+04
	787.16	1.74	2.92E+04		1.79E+04	1.44E+04
	812.97	48.20	1.09E+03		1.66E+03	5.38E+02
	819.51	1.39	3.71E+04		4.20E+04	1.83E+04

Analysis Report for 24-2288 6.0M AN107-A W5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
	SB-129	876.65		2.75	2.71E+04	1.09E+03	7.24E+03	1.34E+04
		914.96		23.30	1.98E+03		-1.59E+03	9.73E+02
		966.78		8.96	5.20E+03		2.57E+03	2.56E+03
		1030.65		15.13	2.88E+03		1.85E+03	1.42E+03
		1656.10		1.31	1.08E+04		7.69E+03	5.01E+03
		1738.16		7.45	1.66E+03		-1.35E+03	7.61E+02
	TE-129	459.60		7.70	3.72E+02	3.72E+02	7.39E+00	1.85E+02
		487.39		1.42	1.91E+03		1.37E+03	9.49E+02
+	Te-129m	695.88	*	3.00	5.17E+02	5.17E+02	1.63E+03	2.55E+02
	I-131	80.18		2.62	3.44E+03	3.92E+01	-1.39E+03	1.72E+03
		284.30		6.12	6.33E+02		6.12E+01	3.16E+02
		364.49		81.50	3.92E+01		1.86E+01	1.95E+01
		636.99		7.16	3.19E+02		-5.42E+01	1.58E+02
		722.91		1.77	2.05E+03		2.50E+04	1.02E+03
	Te-131m	773.67		36.80	8.30E+01	8.30E+01	1.99E+01	4.10E+01
		793.75		13.40	2.22E+02		4.12E+01	1.10E+02
		852.21		19.90	1.45E+02		4.02E+01	7.13E+01
		1125.46		11.00	2.04E+02		2.19E+02	9.99E+01
		1206.60		9.41	1.76E+02		-2.57E+02	8.56E+01
	I-132	262.90		1.28	3.60E+03	3.12E+01	2.59E+03	1.79E+03
		284.90		0.71	6.08E+03		3.12E+03	3.03E+03
		505.79		4.93	7.02E+02		1.16E+02	3.49E+02
		522.65		16.00	1.94E+02		2.37E+02	9.63E+01
		547.20		1.14	2.55E+03		-9.48E+02	1.27E+03
		621.20		1.97	1.39E+03		-2.67E+02	6.87E+02
		630.19		13.30	1.99E+02		-1.57E+02	9.86E+01
		650.50		2.57	1.06E+03		1.37E+01	5.26E+02
		667.71		98.70	4.84E+01		1.38E+01	2.40E+01
		669.80		4.60	6.19E+02		2.46E+01	3.07E+02
		671.40		3.50	8.10E+02		-5.08E+01	4.01E+02
		727.10		5.40	7.65E+02		-1.02E+02	3.80E+02
		728.40		1.60	2.44E+03		4.12E+02	1.21E+03
		772.60		75.60	3.12E+01		-9.45E+00	1.54E+01
		809.50		2.60	8.82E+02		-1.55E+03	4.35E+02
		812.00		5.50	4.39E+02		5.07E+02	2.17E+02
		910.10		0.93	2.40E+03		-1.69E+03	1.18E+03
		954.55		17.60	1.19E+02		-4.08E+01	5.88E+01
		1136.00		3.01	5.47E+02		-4.13E+02	2.68E+02
		1172.90		1.09	3.22E+03		3.17E+04	1.59E+03
		1290.80		1.13	9.98E+02		-3.50E+02	4.82E+02
		1295.10		1.88	6.16E+02		4.51E+02	2.98E+02
		1297.90		0.89	1.24E+03		1.74E+02	6.01E+02
		1372.07		2.47	4.19E+02		1.94E+02	2.02E+02
		1398.57		7.01	1.47E+02		6.87E+01	7.06E+01
		1442.56		1.40	5.23E+02		-2.56E+02	2.47E+02
	TE-132	49.72		15.00	1.80E+03	5.62E+01	4.58E+02	9.00E+02
		111.76		1.74	4.40E+03		-1.10E+03	2.20E+03
		116.30		1.96	3.81E+03		-1.80E+03	1.90E+03
		228.16		88.00	5.62E+01		-1.21E+01	2.80E+01
	BA-133	81.00		32.90	2.52E+02	4.90E+01	-1.17E+02	1.26E+02
		276.40		7.16	5.16E+02		5.39E+02	2.57E+02
		302.85		18.34	1.87E+02		-3.08E+01	9.30E+01
		356.01		62.05	4.90E+01		2.94E+01	2.44E+01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
BA-133	383.85	8.94	3.18E+02	4.90E+01	-3.15E+02	1.58E+02
I-133	529.87	87.00	5.64E+01	5.64E+01	-5.36E+01	2.80E+01
	706.58	1.51	2.62E+03		-1.04E+03	1.30E+03
	856.28	1.24	2.95E+03		-2.79E+02	1.45E+03
	875.33	4.51	1.24E+03		1.01E+04	6.13E+02
	1236.44	1.51	1.46E+03		-8.60E+02	7.10E+02
	1298.22	2.35	8.24E+02		1.16E+02	3.99E+02
@ TE-133	312.08	62.40	3.70E+24	3.70E+24	3.70E+24	1.00E+20
@	407.63	27.10	3.70E+24		3.70E+24	1.00E+20
@	410.40	0.94	3.70E+24		3.70E+24	1.00E+20
@	474.85	0.88	3.70E+24		3.70E+24	1.00E+20
@	719.71	8.90	3.70E+24		3.70E+24	1.00E+20
@	786.93	5.40	3.70E+24		3.70E+24	1.00E+20
@	844.36	3.31	3.70E+24		3.70E+24	1.00E+20
@	884.30	0.72	3.70E+24		3.70E+24	1.00E+20
@	930.71	3.81	3.70E+24		3.70E+24	1.00E+20
@	997.70	1.04	3.70E+24		3.70E+24	1.00E+20
@	1000.72	3.62	3.70E+24		3.70E+24	1.00E+20
@	1021.13	2.81	3.70E+24		3.70E+24	1.00E+20
@	1061.61	1.19	3.70E+24		3.70E+24	1.00E+20
@	1252.08	1.44	3.70E+24		3.70E+24	1.00E+20
@	1312.80	0.85	3.70E+24		3.70E+24	1.00E+20
@	1333.21	10.67	3.70E+24		3.70E+24	1.00E+20
@	1717.61	3.18	3.70E+24		3.70E+24	1.00E+20
@	1881.52	1.22	3.70E+24		3.70E+24	1.00E+20
@	2136.51	1.25	3.70E+24		3.70E+24	1.00E+20
@	2229.64	0.87	3.70E+24		3.70E+24	1.00E+20
Xe-133	81.00	36.90	2.49E+02	2.49E+02	-1.16E+02	1.24E+02
CS-134	475.36	1.48	1.87E+03	2.23E+01	2.89E+03	9.31E+02
	563.25	8.34	2.83E+02		-2.93E+02	1.40E+02
	569.33	15.37	1.54E+02		3.30E+01	7.62E+01
	604.72	97.62	2.33E+01		3.43E+00	1.15E+01
	795.86	85.46	2.23E+01		-3.39E+00	1.10E+01
	801.95	8.69	2.17E+02		-9.87E+01	1.07E+02
	1038.61	0.99	1.66E+03		5.98E+02	8.17E+02
	1167.97	1.79	1.51E+03		8.44E+01	7.47E+02
	1365.19	3.02	2.62E+02		-1.02E+02	1.26E+02
I-135	220.50	1.75	2.14E+04	3.13E+02	1.38E+04	1.07E+04
	288.45	3.10	1.02E+04		4.38E+03	5.07E+03
	417.63	3.53	7.16E+03		-2.22E+03	3.56E+03
	546.56	7.15	2.95E+03		-8.01E+02	1.46E+03
	836.80	6.69	2.44E+03		2.16E+03	1.20E+03
	971.96	0.89	1.73E+04		-6.90E+03	8.50E+03
	972.62	1.21	1.27E+04		-4.93E+03	6.24E+03
	1038.76	7.90	1.82E+03		3.62E+02	8.93E+02
	1101.58	1.61	8.05E+03		2.76E+03	3.94E+03
	1124.00	3.62	3.56E+03		2.72E+03	1.74E+03
	1131.51	22.60	5.38E+02		-9.74E+01	2.63E+02
	1240.47	0.90	1.27E+04		-9.08E+03	6.17E+03
	1260.41	28.70	3.13E+02		-6.89E+01	1.52E+02
	1457.56	8.70	9.83E+02		-2.75E+02	4.74E+02
	1502.79	1.08	5.57E+03		-1.89E+03	2.64E+03
	1566.41	1.29	4.00E+03		3.83E+02	1.88E+03

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
	I-135	1678.03		9.60	4.27E+02	3.13E+02	-1.07E+02	1.96E+02
		1706.46		4.10	9.42E+02		-7.10E+02	4.30E+02
		1791.20		7.72	3.56E+02		-7.31E+01	1.55E+02
		2408.65		0.96	3.60E+03		2.61E+03	1.57E+03
	XE-135	249.79		90.00	2.12E+02	2.12E+02	7.18E+01	1.06E+02
	XE-135m	526.56		80.40	2.74E+02	2.74E+02	3.30E+02	1.36E+02
	CS-136	66.88		4.79	2.37E+03	2.08E+01	1.31E+03	1.18E+03
		86.36		5.90	1.41E+03		1.61E+02	7.03E+02
		153.25		7.70	7.35E+02		2.80E+02	3.67E+02
		163.92		4.69	1.16E+03		2.31E+01	5.76E+02
		176.60		13.70	3.88E+02		-2.45E+02	1.93E+02
		273.65		12.66	3.13E+02		-1.18E+02	1.56E+02
		340.55		46.80	7.15E+01		1.51E+01	3.56E+01
		818.51		99.70	2.08E+01		1.69E+01	1.02E+01
		1048.07		80.00	2.18E+01		3.23E+01	1.07E+01
		1235.36		20.00	5.80E+01		-2.16E+01	2.82E+01
+	CS-137	661.66	*	85.10	1.91E+01	1.91E+01	1.50E+03	9.41E+00
	BA-139	33.44		3.84	1.26E+09	6.94E+06	-2.66E+09	6.29E+08
		165.86		23.70	6.94E+06		1.16E+07	3.46E+06
	BA-140	132.69		0.20	3.07E+04	1.05E+02	1.29E+04	1.53E+04
		162.66		6.22	8.59E+02		1.93E+02	4.28E+02
		304.85		4.29	8.33E+02		-4.16E+02	4.15E+02
		423.72		3.10	9.09E+02		-4.22E+02	4.52E+02
		437.58		1.93	1.54E+03		7.84E+02	7.68E+02
		537.26		24.39	1.05E+02		1.14E+01	5.19E+01
	LA-140	109.42		0.22	3.10E+04	1.36E+01	6.17E+03	1.55E+04
		131.12		0.47	1.34E+04		7.64E+03	6.68E+03
		173.54		0.13	4.18E+04		2.23E+04	2.08E+04
		241.93		0.41	9.85E+03		-4.26E+02	4.91E+03
		266.54		0.47	8.54E+03		1.89E+02	4.26E+03
		328.76		20.30	1.69E+02		-1.18E+02	8.39E+01
		432.49		2.90	1.05E+03		-8.20E+02	5.21E+02
		487.02		45.50	6.24E+01		1.35E+02	3.10E+01
		618.10		0.04	6.26E+04		8.00E+04	3.10E+04
		751.64		4.33	5.39E+02		2.47E+01	2.67E+02
		815.77		23.28	8.81E+01		4.19E+01	4.35E+01
		867.85		5.50	4.86E+02		6.02E+01	2.41E+02
		919.55		2.66	6.78E+02		-2.06E+02	3.34E+02
		925.19		6.90	2.69E+02		-6.10E+01	1.32E+02
		950.99		0.52	3.52E+03		1.26E+03	1.73E+03
		1596.21		95.40	1.36E+01		4.65E+01	6.61E+00
		2347.88		0.85	4.88E+02		3.79E+02	2.14E+02
		2521.40		3.46	9.46E+01		-4.36E+01	3.92E+01
		2547.34		0.10	3.12E+03		-1.65E+03	1.28E+03
	BA-141	33.44		7.93	3.94E+24	2.13E+22	-8.30E+24	1.97E+24
		190.33		44.80	2.13E+22		6.22E+21	1.06E+22
		276.95		23.60	3.15E+22		-1.44E+22	1.57E+22
		304.19		26.10	2.63E+22		-6.73E+21	1.31E+22
		343.67		15.10	4.18E+22		5.80E+21	2.08E+22
		389.74		1.37	4.20E+23		4.76E+23	2.09E+23
		457.51		5.00	1.14E+23		-7.64E+22	5.67E+22
		462.06		5.10	1.12E+23		-1.81E+22	5.55E+22
		467.22		5.60	1.01E+23		9.37E+22	5.04E+22

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	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
	BA-141	625.08	3.45	1.29E+23	2.13E+22	1.80E+22	6.40E+22
		647.78	5.70	7.94E+22		1.74E+22	3.94E+22
		738.95	4.39	9.13E+22		-5.31E+22	4.51E+22
		831.46	1.64	2.24E+23		-6.10E+22	1.11E+23
		876.09	3.45	1.64E+23		-3.72E+20	8.15E+22
		1160.72	1.12	2.21E+23		-8.34E+22	1.08E+23
		1197.28	4.35	5.11E+22		1.11E+22	2.49E+22
		1323.92	0.92	2.60E+23		2.28E+22	1.27E+23
		1654.00	0.65	1.61E+23		1.10E+23	7.46E+22
		1682.19	1.19	7.89E+22		4.93E+22	3.62E+22
	CE-141	145.44	48.30	1.17E+02	1.17E+02	1.28E+01	5.83E+01
@	BA-142	33.44	14.20	3.70E+24	3.70E+24	3.70E+24	1.00E+20
@		77.59	7.00	3.70E+24		3.70E+24	1.00E+20
@		177.00	2.12	3.70E+24		3.70E+24	1.00E+20
@		231.61	12.20	3.70E+24		3.70E+24	1.00E+20
@		255.30	20.70	3.70E+24		3.70E+24	1.00E+20
@		286.30	1.11	3.70E+24		3.70E+24	1.00E+20
@		309.20	2.60	3.70E+24		3.70E+24	1.00E+20
@		335.00	1.53	3.70E+24		3.70E+24	1.00E+20
@		363.96	4.76	3.70E+24		3.70E+24	1.00E+20
@		425.04	5.75	3.70E+24		3.70E+24	1.00E+20
@		599.80	1.85	3.70E+24		3.70E+24	1.00E+20
@		840.40	3.63	3.70E+24		3.70E+24	1.00E+20
@		895.20	13.90	3.70E+24		3.70E+24	1.00E+20
@		949.10	10.70	3.70E+24		3.70E+24	1.00E+20
@		1001.20	9.80	3.70E+24		3.70E+24	1.00E+20
@		1078.70	11.50	3.70E+24		3.70E+24	1.00E+20
@		1094.10	2.82	3.70E+24		3.70E+24	1.00E+20
@		1126.80	1.50	3.70E+24		3.70E+24	1.00E+20
@		1202.40	5.60	3.70E+24		3.70E+24	1.00E+20
@		1204.30	14.30	3.70E+24		3.70E+24	1.00E+20
@		1380.20	3.42	3.70E+24		3.70E+24	1.00E+20
	CE-143	57.36	11.70	2.34E+03	1.27E+02	-6.81E+02	1.17E+03
		231.55	2.05	3.07E+03		2.55E+01	1.53E+03
		293.27	42.80	1.27E+02		1.08E+02	6.33E+01
		350.62	3.23	1.45E+03		-2.44E+02	7.22E+02
		490.37	2.16	1.89E+03		7.51E+02	9.41E+02
		664.57	5.69	1.42E+03		2.69E+01	7.06E+02
		721.93	5.39	9.58E+02		1.12E+04	4.76E+02
		880.46	1.03	2.96E+03		5.12E+02	1.46E+03
	CE-144	80.12	1.36	6.12E+03	5.32E+02	-2.47E+03	3.05E+03
		133.51	11.09	5.32E+02		-6.66E+01	2.66E+02
	ND-147	38.17	13.20	5.13E+03	1.99E+02	-1.83E+04	2.56E+03
		38.72	23.80	2.62E+03		-6.62E+03	1.31E+03
		91.11	28.90	2.70E+02		1.27E+01	1.35E+02
		275.39	0.79	4.97E+03		-1.17E+03	2.48E+03
		319.41	1.97	1.78E+03		-8.89E+02	8.85E+02
		398.13	0.87	3.44E+03		3.39E+03	1.71E+03
		439.88	1.20	2.52E+03		1.24E+03	1.25E+03
		531.01	13.11	1.99E+02		-1.18E+02	9.85E+01
		685.88	0.82	2.70E+03		5.42E+02	1.33E+03
@	PR-147	36.85	19.70	3.70E+24	3.70E+24	3.70E+24	1.00E+20
@		37.36	35.50	3.70E+24		3.70E+24	1.00E+20

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
@ PR-147	49.88	4.00	3.70E+24	3.70E+24	3.70E+24	1.00E+20
@	77.97	9.70	3.70E+24		3.70E+24	1.00E+20
@	86.69	5.40	3.70E+24		3.70E+24	1.00E+20
@	127.80	7.40	3.70E+24		3.70E+24	1.00E+20
@	249.20	1.32	3.70E+24		3.70E+24	1.00E+20
@	314.70	18.20	3.70E+24		3.70E+24	1.00E+20
@	328.80	4.00	3.70E+24		3.70E+24	1.00E+20
@	335.70	4.70	3.70E+24		3.70E+24	1.00E+20
@	388.80	1.41	3.70E+24		3.70E+24	1.00E+20
@	466.80	1.70	3.70E+24		3.70E+24	1.00E+20
@	477.90	4.60	3.70E+24		3.70E+24	1.00E+20
@	516.70	1.30	3.70E+24		3.70E+24	1.00E+20
@	554.70	5.90	3.70E+24		3.70E+24	1.00E+20
@	577.90	13.70	3.70E+24		3.70E+24	1.00E+20
@	641.40	16.10	3.70E+24		3.70E+24	1.00E+20
@	996.00	1.52	3.70E+24		3.70E+24	1.00E+20
@	1136.70	1.42	3.70E+24		3.70E+24	1.00E+20
@	1261.10	8.40	3.70E+24		3.70E+24	1.00E+20
@	1300.40	2.30	3.70E+24		3.70E+24	1.00E+20
ND-149	38.17	9.00	2.85E+07	6.67E+05	-1.02E+08	1.42E+07
	38.72	16.30	1.45E+07		-3.66E+07	7.23E+06
	58.88	1.30	5.12E+07		-5.29E+06	2.56E+07
	74.32	2.11	1.75E+07		4.36E+07	8.72E+06
	97.00	1.48	1.91E+07		5.97E+06	9.54E+06
	114.31	19.20	1.32E+06		4.26E+05	6.57E+05
	155.87	5.95	3.55E+06		2.45E+05	1.77E+06
	188.64	1.79	1.08E+07		7.28E+05	5.38E+06
	198.93	1.39	1.32E+07		-4.17E+06	6.60E+06
	208.15	2.55	6.94E+06		4.59E+06	3.46E+06
	211.31	26.00	6.67E+05		1.74E+05	3.33E+05
	240.22	3.95	3.97E+06		6.32E+04	1.98E+06
	245.72	0.81	2.00E+07		-2.98E+06	9.97E+06
	267.69	6.05	2.52E+06		1.33E+06	1.26E+06
	270.17	10.80	1.39E+06		2.63E+05	6.92E+05
	326.55	4.57	2.86E+06		1.02E+06	1.42E+06
	349.23	1.38	9.00E+06		-2.27E+06	4.48E+06
	423.55	7.50	1.44E+06		-5.15E+05	7.15E+05
	443.55	1.15	1.01E+07		6.90E+06	5.00E+06
	540.51	6.60	1.47E+06		2.07E+02	7.30E+05
	654.83	8.00	1.18E+06		-6.91E+05	5.83E+05
PM-149	285.95	3.10	1.51E+03	1.51E+03	1.55E+03	7.52E+02
PM-150	39.52	0.63	1.70E+07	9.45E+03	-3.49E+07	8.49E+06
	40.12	1.14	8.72E+06		-1.65E+07	4.36E+06
	333.92	68.00	9.45E+03		2.67E+03	4.70E+03
	406.51	5.60	1.00E+05		-3.18E+03	4.99E+04
	565.70	1.31	3.56E+05		-4.26E+05	1.77E+05
	587.02	1.34	3.79E+05		2.36E+04	1.88E+05
	612.25	0.93	4.83E+05		8.08E+04	2.40E+05
	712.22	4.40	9.21E+04		7.92E+03	4.55E+04
	737.50	2.25	1.77E+05		1.05E+05	8.77E+04
	831.85	11.90	3.09E+04		2.65E+03	1.53E+04
	859.95	3.40	1.05E+05		-1.42E+05	5.19E+04
	876.41	7.30	7.75E+04		2.07E+04	3.84E+04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
PM-150	1165.77	15.80	1.95E+04	9.45E+03	-2.59E+03	9.54E+03
	1170.90	1.06	5.52E+05		5.40E+06	2.73E+05
	1193.87	4.80	4.80E+04		-1.64E+04	2.34E+04
	1213.72	1.03	2.28E+05		1.07E+05	1.11E+05
	1223.28	2.80	7.93E+04		-7.60E+03	3.86E+04
	1324.51	17.50	1.56E+04		1.22E+03	7.64E+03
	1379.32	3.10	5.28E+04		-2.97E+04	2.53E+04
	1736.40	6.90	1.49E+04		5.47E+03	6.88E+03
	1963.71	1.47	5.51E+04		-3.31E+04	2.46E+04
	2033.46	0.97	9.06E+04		-2.07E+04	4.08E+04
@ ND-151	38.17	5.94	3.70E+24	3.70E+24	3.70E+24	1.00E+20
@	38.72	10.70	3.70E+24		3.70E+24	1.00E+20
@	68.98	1.26	3.70E+24		3.70E+24	1.00E+20
@	85.12	2.05	3.70E+24		3.70E+24	1.00E+20
@	89.96	1.53	3.70E+24		3.70E+24	1.00E+20
@	116.80	39.00	3.70E+24		3.70E+24	1.00E+20
@	138.89	7.00	3.70E+24		3.70E+24	1.00E+20
@	170.76	2.87	3.70E+24		3.70E+24	1.00E+20
@	175.07	6.30	3.70E+24		3.70E+24	1.00E+20
@	255.68	14.80	3.70E+24		3.70E+24	1.00E+20
@	300.58	1.82	3.70E+24		3.70E+24	1.00E+20
@	423.56	5.90	3.70E+24		3.70E+24	1.00E+20
@	460.59	0.96	3.70E+24		3.70E+24	1.00E+20
@	585.22	1.30	3.70E+24		3.70E+24	1.00E+20
@	677.88	2.38	3.70E+24		3.70E+24	1.00E+20
@	736.23	5.90	3.70E+24		3.70E+24	1.00E+20
@	739.20	1.52	3.70E+24		3.70E+24	1.00E+20
@	755.57	1.17	3.70E+24		3.70E+24	1.00E+20
@	797.53	4.70	3.70E+24		3.70E+24	1.00E+20
@	1016.40	2.50	3.70E+24		3.70E+24	1.00E+20
@	1122.63	4.10	3.70E+24		3.70E+24	1.00E+20
@	1180.89	13.30	3.70E+24		3.70E+24	1.00E+20
Pm-151	167.75	8.30	1.04E+03	2.31E+02	-9.85E+02	5.18E+02
	177.16	3.80	2.18E+03		-1.73E+03	1.09E+03
	240.09	3.80	1.71E+03		2.72E+01	8.53E+02
	275.21	6.80	8.99E+02		-2.11E+02	4.48E+02
	340.08	22.50	2.31E+02		6.96E+01	1.15E+02
EU-152	121.78	28.53	2.31E+02	4.60E+01	-1.39E+02	1.15E+02
	344.28	26.59	1.18E+02		8.21E+01	5.86E+01
	778.90	12.93	1.54E+02		1.16E+02	7.59E+01
	867.37	4.23	5.69E+02		3.99E+01	2.81E+02
	964.08	14.51	1.21E+02		1.02E+01	5.98E+01
	1085.87	10.11	1.54E+02		1.16E+02	7.58E+01
	1112.07	13.67	1.12E+02		1.45E+02	5.48E+01
	1408.01	20.87	4.60E+01		4.57E+01	2.22E+01
@ ND-152	44.44	5.50	3.70E+24	3.70E+24	3.70E+24	1.00E+20
@	250.15	16.40	3.70E+24		3.70E+24	1.00E+20
@	278.56	26.00	3.70E+24		3.70E+24	1.00E+20
@	294.47	2.90	3.70E+24		3.70E+24	1.00E+20
@	545.70	0.83	3.70E+24		3.70E+24	1.00E+20
@	592.50	0.99	3.70E+24		3.70E+24	1.00E+20
GD-153	69.67	2.45	4.08E+03	2.35E+02	-7.90E+02	2.04E+03
	97.43	30.00	2.35E+02		-6.72E+01	1.17E+02

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
	GD-153	103.18		22.10	3.08E+02	2.35E+02	3.88E+01	1.54E+02
	SM-153	69.67		4.67	2.91E+03	3.17E+02	-5.62E+02	1.45E+03
		103.18		29.14	3.17E+02		3.99E+01	1.58E+02
+	EU-154	42.70		20.45	1.80E+03	4.74E+01	1.98E+03	8.97E+02
		123.07	*	40.40	1.79E+02		2.05E+03	8.96E+01
		247.93	*	6.89	7.03E+02		1.94E+03	3.51E+02
		591.76	*	4.95	5.44E+02		1.92E+03	2.70E+02
		692.42	*	1.78	7.61E+02		2.01E+03	3.74E+02
		723.30	*	20.06	1.60E+02		2.06E+03	7.93E+01
		756.80	*	4.52	5.59E+02		2.04E+03	2.77E+02
		873.18	*	12.08	1.96E+02		1.94E+03	9.69E+01
		996.29	*	10.48	2.06E+02		1.99E+03	1.02E+02
		1004.76	*	18.01	1.44E+02		2.01E+03	7.11E+01
		1246.12	*	0.86	1.16E+03		2.10E+03	5.60E+02
		1274.43	*	34.80	4.74E+01		2.05E+03	2.32E+01
		1494.05	*	0.70	9.82E+02		1.93E+03	4.66E+02
		1596.48	*	1.80	4.51E+02		1.90E+03	2.16E+02
+	EU-155	43.00		18.12	1.97E+03	3.26E+02	3.17E+03	9.83E+02
		60.01	*	1.17	1.68E+04		4.60E+05	8.40E+03
		86.55	*	30.70	3.63E+02		4.86E+02	1.82E+02
		105.31	*	21.10	3.26E+02		2.13E+02	1.63E+02
	EU-156	88.97		8.40	9.49E+02	9.96E+01	-1.72E+02	4.74E+02
		646.29		6.30	3.73E+02		3.43E+02	1.85E+02
		723.47		5.40	6.53E+02		8.02E+03	3.24E+02
		811.77		9.70	2.06E+02		7.59E+01	1.02E+02
		1065.14		4.90	3.34E+02		6.81E+01	1.64E+02
		1079.16		4.60	3.50E+02		-3.73E+02	1.72E+02
		1153.80		11.50	1.17E+02		1.72E+02	5.73E+01
		1230.71		8.00	1.40E+02		-1.85E+02	6.81E+01
		1242.42		6.60	2.06E+02		4.69E+02	1.01E+02
		1277.43		2.89	1.59E+03		2.62E+04	7.88E+02
		1366.41		1.57	5.44E+02		6.89E+01	2.61E+02
		1965.95		3.90	1.00E+02		-5.56E+01	4.44E+01
		2097.70		3.80	1.26E+02		2.96E+01	5.70E+01
		2186.71		3.50	9.96E+01		-6.14E+01	4.29E+01
	Sm-156	87.60		24.00	1.47E+03	9.76E+02	2.94E+01	7.36E+02
		165.80		13.00	1.85E+03		1.10E+03	9.26E+02
		204.00		21.00	9.76E+02		2.49E+02	4.87E+02
	EU-158	42.31		5.80	8.59E+11	7.47E+09	3.83E+11	4.29E+11
		43.00		10.40	4.46E+11		7.18E+11	2.23E+11
		79.49		10.50	1.04E+11		-3.84E+10	5.18E+10
		181.97		2.30	2.76E+11		2.19E+11	1.38E+11
		528.05		1.53	2.11E+11		-6.46E+10	1.05E+11
		606.39		4.00	7.31E+10		7.01E+10	3.62E+10
		743.02		3.60	7.12E+10		6.41E+10	3.52E+10
		897.61		12.40	1.86E+10		9.84E+09	9.18E+09
		906.50		1.83	1.33E+11		2.69E+11	6.55E+10
		922.51		1.62	1.40E+11		-4.21E+10	6.92E+10
		944.15		30.00	7.47E+09		-4.94E+09	3.68E+09
		953.03		1.98	1.13E+11		-3.85E+10	5.57E+10
		962.09		1.89	1.20E+11		-7.84E+08	5.90E+10
		977.14		16.30	1.36E+10		-1.17E+10	6.71E+09
		986.96		1.35	1.63E+11		1.31E+11	8.04E+10

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
EU-158	1107.63	5.10	3.95E+10	7.47E+09	2.87E+10	1.94E+10
	1184.10	3.00	5.22E+10		2.60E+10	2.55E+10
	1186.00	2.90	5.41E+10		-2.48E+09	2.64E+10
	1187.10	4.40	3.56E+10		2.04E+10	1.73E+10
	1263.61	2.20	6.04E+10		1.16E+10	2.93E+10
	1347.95	1.65	6.93E+10		8.01E+09	3.33E+10
	1944.47	1.62	2.95E+10		-1.17E+10	1.30E+10
TB-160	86.79	13.20	6.00E+02	7.09E+01	1.72E+03	3.00E+02
	298.58	26.10	1.35E+02		2.14E+02	6.74E+01
	879.38	30.10	7.86E+01		2.39E+01	3.89E+01
	962.32	9.81	1.80E+02		-1.17E+00	8.85E+01
	966.17	25.10	7.09E+01		9.52E+01	3.49E+01
	1177.96	14.90	1.93E+02		4.72E+01	9.53E+01
TB-161	25.65	23.20	9.01E+04	9.73E+02	-6.97E+04	4.50E+04
	48.91	17.00	1.50E+03		-1.62E+03	7.50E+02
	52.00	3.43	6.24E+03		1.17E+04	3.12E+03
	57.19	1.79	1.08E+04		-2.68E+03	5.40E+03
	74.57	10.20	9.73E+02		2.43E+03	4.86E+02
YB-169	63.12	43.62	3.12E+02	1.30E+02	-3.56E+01	1.56E+02
	93.61	2.58	2.90E+03		2.15E+03	1.45E+03
	109.78	17.39	3.81E+02		1.09E+02	1.90E+02
	130.52	11.38	5.44E+02		7.76E+02	2.71E+02
	177.21	22.28	2.30E+02		-1.82E+02	1.15E+02
	197.96	35.93	1.30E+02		2.74E+01	6.49E+01
	307.74	10.05	3.38E+02		-1.72E+02	1.68E+02
HF-172	54.07	63.00	2.81E+02	2.81E+02	1.78E+02	1.40E+02
	67.35	5.30	1.97E+03		4.88E+01	9.86E+02
	81.75	4.50	1.81E+03		-2.00E+01	9.04E+02
	114.06	2.60	2.42E+03		7.82E+02	1.21E+03
	125.81	11.30	5.64E+02		-2.08E+02	2.82E+02
	127.91	1.46	4.20E+03		-1.22E+01	2.10E+03
LU-173	59.30	24.44	6.62E+02	1.77E+02	2.23E+04	3.31E+02
	78.63	11.90	7.22E+02		9.66E+01	3.61E+02
	100.72	5.24	1.32E+03		1.38E+03	6.58E+02
	171.39	2.90	1.78E+03		7.17E+02	8.86E+02
	272.11	21.20	1.77E+02		2.90E+01	8.82E+01
LU-177	112.95	6.23	1.11E+03	4.62E+02	4.96E+02	5.54E+02
	208.37	10.41	4.62E+02		3.06E+02	2.30E+02
	249.67	0.20	2.18E+04		7.38E+03	1.09E+04
	321.32	0.22	1.64E+04		1.69E+03	8.19E+03
HF-181	133.02	43.30	1.40E+02	3.43E+01	3.77E+01	6.97E+01
	345.93	15.12	2.09E+02		9.85E+01	1.04E+02
	482.18	80.50	3.43E+01		-2.90E+01	1.70E+01
W-181	56.28	18.70	9.48E+02	5.50E+02	1.31E+02	4.74E+02
	57.53	32.00	5.50E+02		-1.60E+02	2.75E+02
	65.00	10.60	1.05E+03		-5.58E+02	5.26E+02
TA-182	57.98	10.01	1.72E+03	4.04E+01	-1.10E+02	8.61E+02
	59.32	17.20	9.43E+02		3.17E+04	4.71E+02
	65.72	3.01	3.71E+03		2.94E+03	1.85E+03
	67.75	46.67	2.25E+02		1.95E+02	1.13E+02
	84.68	2.65	3.04E+03		3.01E+02	1.52E+03
	100.11	14.20	4.94E+02		-5.06E+01	2.47E+02
	113.67	1.87	3.45E+03		-6.62E+02	1.72E+03

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
TA-182	116.42	0.44	1.40E+04	4.04E+01	-6.63E+03	7.00E+03
	152.43	7.02	7.77E+02		9.75E+02	3.88E+02
	156.39	2.67	2.00E+03		6.19E+02	9.97E+02
	179.39	3.12	1.61E+03		-1.16E+03	8.01E+02
	198.35	1.47	3.19E+03		6.76E+02	1.59E+03
	222.11	7.57	5.62E+02		-1.98E+02	2.80E+02
	229.32	3.64	1.14E+03		-2.47E+01	5.69E+02
	264.08	3.61	1.07E+03		3.60E+01	5.35E+02
	928.00	0.61	2.91E+03		1.21E+03	1.44E+03
	959.73	0.35	5.05E+03		-3.20E+02	2.49E+03
	1001.70	2.09	1.89E+03		1.02E+02	9.38E+02
	1044.42	0.24	7.01E+03		4.84E+03	3.44E+03
	1113.41	0.44	3.47E+03		5.94E+01	1.70E+03
	1121.29	35.24	4.04E+01		-5.05E+01	1.98E+01
	1157.30	0.73	1.71E+03		-9.97E+02	8.33E+02
	1189.04	16.49	7.23E+01		5.05E+01	3.52E+01
	1221.40	27.23	4.21E+01		2.06E+01	2.05E+01
	1223.60	0.24	4.48E+03		3.42E+03	2.18E+03
	1231.00	11.62	9.36E+01		-8.16E+01	4.55E+01
	1257.41	1.51	6.85E+02		-1.59E+02	3.32E+02
	1273.72	0.66	6.37E+03		1.05E+05	3.16E+03
	1289.15	1.37	6.13E+02		3.13E+01	2.96E+02
	1342.73	0.26	3.49E+03		3.57E+03	1.68E+03
	1373.82	0.22	3.39E+03		-2.72E+03	1.63E+03
Ta-183	84.71	1.35	6.61E+03	1.66E+02	-6.33E+01	3.30E+03
	99.08	6.80	1.15E+03		1.07E+03	5.73E+02
	107.93	11.20	6.57E+02		-1.46E+02	3.28E+02
	161.35	9.10	6.31E+02		-2.28E+02	3.15E+02
	162.32	5.00	1.14E+03		1.79E+02	5.70E+02
	244.26	8.80	5.10E+02		9.20E+01	2.54E+02
	246.06	27.20	1.66E+02		-1.11E+01	8.26E+01
	353.99	11.60	2.95E+02		1.70E+02	1.47E+02
Re-184	111.21	17.20	3.78E+02	4.85E+01	4.58E+01	1.88E+02
	252.85	3.00	1.30E+03		1.36E+03	6.46E+02
	792.01	37.70	5.07E+01		-5.63E+01	2.50E+01
	894.76	15.70	1.14E+02		3.05E+01	5.60E+01
	903.28	38.10	4.85E+01		6.68E+01	2.39E+01
W-185	59.72	0.01	1.34E+06	3.36E+05	4.48E+07	6.71E+05
	61.14	0.02	7.38E+05		-1.21E+05	3.69E+05
	69.20	0.01	1.47E+06		-9.24E+05	7.36E+05
	125.36	0.02	3.36E+05		-5.87E+04	1.68E+05
W-187	61.14	14.30	1.90E+03	1.15E+02	-3.12E+02	9.48E+02
	69.20	4.82	3.78E+03		-2.37E+03	1.89E+03
	72.00	13.55	1.29E+03		-2.26E+02	6.45E+02
	134.25	10.36	1.04E+03		-5.14E+02	5.18E+02
	479.53	26.60	1.89E+02		9.81E+01	9.38E+01
	618.37	7.57	5.31E+02		2.61E+02	2.63E+02
	685.81	33.20	1.15E+02		2.31E+01	5.69E+01
Ir-188	155.05	29.60	2.52E+02	3.25E+01	4.35E+00	1.26E+02
	478.00	14.70	2.65E+02		-9.77E+01	1.32E+02
	633.02	17.90	1.68E+02		5.11E+01	8.31E+01
	634.97	5.00	6.00E+02		2.89E+02	2.97E+02
	829.42	5.10	5.04E+02		-2.73E+01	2.49E+02

Analysis Report for 24-2288 6.0M AN107-A W5

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
Ir-188	1209.77	6.90	2.33E+02	3.25E+01	-5.75E+01	1.14E+02
	1715.67	6.20	1.11E+02		1.61E+01	5.09E+01
	2214.59	18.60	3.25E+01		-1.75E+00	1.45E+01
W-188	227.07	0.23	1.77E+04	8.54E+03	2.99E+03	8.81E+03
	290.68	0.42	8.54E+03		-1.03E+04	4.25E+03
Ir-189	245.08	6.00	7.02E+02	7.02E+02	2.20E+02	3.50E+02
Ir-190	186.68	50.00	1.01E+02	6.29E+01	3.82E+01	5.03E+01
	361.09	12.30	2.55E+02		1.81E+01	1.27E+02
	371.24	21.60	1.43E+02		-7.15E+01	7.11E+01
	407.22	27.00	1.08E+02		-7.47E+00	5.38E+01
	518.55	32.20	8.32E+01		-1.48E+01	4.13E+01
	557.95	28.50	8.75E+01		7.40E+01	4.34E+01
	569.30	27.00	9.05E+01		1.94E+01	4.49E+01
	605.14	37.80	6.29E+01		4.53E+01	3.12E+01
OS-191	63.29	15.70	8.30E+02	2.37E+02	-3.25E+02	4.14E+02
	64.99	26.70	4.32E+02		-2.29E+02	2.16E+02
	73.45	9.21	1.05E+03		-1.34E+01	5.23E+02
	129.43	26.50	2.37E+02		1.35E+02	1.18E+02
Pt-191	359.90	5.80	6.41E+02	2.11E+02	-1.31E+02	3.19E+02
	456.47	3.30	1.06E+03		2.88E+02	5.28E+02
	538.90	14.30	2.11E+02		1.76E+02	1.04E+02
IR-192	205.79	3.31	1.37E+03	4.09E+01	9.51E+02	6.81E+02
	295.96	28.71	1.25E+02		6.44E+01	6.21E+01
	308.45	29.70	1.16E+02		-4.98E+01	5.78E+01
	316.51	82.86	4.09E+01		-1.27E+01	2.04E+01
	468.07	47.84	5.95E+01		-3.71E+00	2.96E+01
	588.58	4.52	5.79E+02		3.55E+01	2.88E+02
	604.41	8.22	2.72E+02		-1.12E+02	1.35E+02
	612.46	5.34	4.08E+02		-6.02E+01	2.02E+02
IR-192m	155.16	0.09	5.73E+04	5.73E+04	3.94E+03	2.86E+04
IR-193m	80.22	0.00	1.88E+06	1.88E+06	-7.60E+05	9.38E+05
Pt-193m	135.50	0.11	5.82E+04	5.82E+04	-2.84E+04	2.90E+04
Au-194	293.55	10.90	4.70E+02	7.49E+01	7.94E+01	2.34E+02
	328.47	62.80	7.49E+01		1.95E+01	3.73E+01
	364.84	1.60	2.70E+03		2.10E+03	1.34E+03
	528.77	1.78	2.03E+03		7.31E+02	1.01E+03
	645.16	2.32	1.40E+03		2.37E+02	6.95E+02
	948.32	2.29	1.10E+03		-1.09E+02	5.40E+02
	1104.06	2.15	9.96E+02		-1.18E+03	4.88E+02
	1175.36	2.14	1.97E+03		9.36E+01	9.77E+02
	1468.90	6.80	1.70E+02		-1.20E+02	8.14E+01
	1595.81	1.89	9.45E+02		2.88E+03	4.58E+02
	2043.72	3.74	1.52E+02		7.32E+01	6.76E+01
Ir-194	293.54	2.50	2.97E+03	5.20E+02	5.01E+02	1.48E+03
	328.47	13.10	5.20E+02		1.35E+02	2.59E+02
AU-195	98.86	11.21	6.21E+02	6.21E+02	5.81E+02	3.10E+02
	129.74	0.84	7.20E+03		5.80E+03	3.59E+03
Pt-195m	98.90	11.70	6.88E+02	6.88E+02	6.44E+02	3.44E+02
	129.79	2.90	2.41E+03		1.94E+03	1.20E+03
Au-196	333.03	22.90	1.55E+02	3.88E+01	-1.76E+02	7.71E+01
	355.73	87.00	3.88E+01		1.76E+01	1.93E+01
	426.10	6.60	4.49E+02		4.54E+00	2.23E+02
Au-196m	147.81	43.50	5.59E+02	5.59E+02	-3.34E+02	2.79E+02

Analysis Report for 24-2288 6.0M AN107-A W5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
	Au-196m	188.27		30.00	7.07E+02	5.59E+02	-3.64E+00	3.53E+02
	Pt-197	77.35		17.00	1.05E+03	1.05E+03	-1.17E+02	5.24E+02
		191.44		3.70	2.61E+03		6.88E+02	1.30E+03
	AU-198	411.80		95.62	3.74E+01	3.74E+01	1.79E+00	1.86E+01
	AU-199	158.38		40.00	1.57E+02	1.57E+02	-1.49E+01	7.82E+01
		208.20		8.72	6.10E+02		4.03E+02	3.04E+02
	TL-201	135.34		2.61	2.72E+03	6.33E+02	2.36E+02	1.36E+03
		167.43		10.00	6.33E+02		-4.99E+02	3.16E+02
	TL-202	439.51		91.50	3.28E+01	3.28E+01	9.58E+00	1.63E+01
	PB-203	70.83		26.40	4.85E+02	5.99E+01	-8.53E+01	2.42E+02
		72.87		44.20	2.79E+02		-4.59E+01	1.40E+02
		82.40		15.56	6.86E+02		1.77E+02	3.42E+02
		279.20		80.90	5.99E+01		-2.22E+01	2.99E+01
		401.32		3.35	1.12E+03		-4.23E+02	5.56E+02
	PB-210	46.54		4.25	6.51E+03	6.51E+03	-1.61E+04	3.25E+03
	Pa-233	86.60		2.01	3.89E+03	8.79E+01	1.11E+04	1.94E+03
		94.65		8.90	8.04E+02		-1.79E+02	4.02E+02
		98.43		14.20	4.90E+02		2.59E+02	2.45E+02
		300.13		6.54	5.26E+02		-1.74E+02	2.62E+02
		311.90		38.20	8.79E+01		-8.00E+01	4.38E+01
		340.48		4.44	7.09E+02		1.50E+02	3.53E+02
	U-235	89.96		2.90	2.58E+03	8.42E+01	-4.56E+02	1.29E+03
		93.35		4.70	1.54E+03		3.22E+02	7.67E+02
		109.19		1.64	3.95E+03		7.86E+02	1.97E+03
		143.76		10.93	5.10E+02		3.40E+02	2.55E+02
		163.36		5.07	9.97E+02		-1.62E+02	4.97E+02
		185.71		57.20	8.42E+01		-2.04E+01	4.20E+01
		202.11		1.07	4.21E+03		-4.03E+02	2.10E+03
		205.31		5.03	8.84E+02		5.12E+02	4.41E+02
+	NP-237	86.48	*	12.20	9.14E+02	9.14E+02	1.22E+03	4.57E+02
	U-237	59.54		34.50	5.07E+02	2.28E+02	1.69E+04	2.53E+02
		97.07		15.40	4.99E+02		1.56E+02	2.49E+02
		101.06		24.50	3.05E+02		2.13E+02	1.52E+02
		113.30		3.07	2.24E+03		-7.77E+02	1.12E+03
		114.23		5.81	1.18E+03		3.82E+02	5.89E+02
		117.46		2.27	2.97E+03		3.85E+02	1.48E+03
		208.00		21.20	2.28E+02		1.26E+02	1.13E+02
	NP-238	103.37		0.00	1.89E+06	9.04E+01	6.40E+05	9.43E+05
		882.63		0.80	2.93E+03		2.80E+03	1.44E+03
		923.99		2.60	9.00E+02		5.17E+02	4.43E+02
		984.45		25.20	9.04E+01		9.36E+01	4.45E+01
		1025.87		8.75	2.47E+02		2.72E+02	1.22E+02
		1028.53		18.23	1.19E+02		-1.27E+01	5.87E+01
	U-238	63.29		3.70	3.39E+03	1.72E+03	-1.33E+03	1.69E+03
		92.51		4.23	1.72E+03		7.12E+02	8.59E+02
		112.81		0.21	3.01E+04		-2.67E+03	1.50E+04
		742.81		0.11	1.85E+04		1.66E+04	9.13E+03
		766.42		0.32	6.14E+03		-3.62E+02	3.03E+03
		1001.03		0.84	4.62E+03		2.46E+02	2.29E+03
	Am-239	181.71		1.08	1.51E+04	8.16E+02	-1.45E+03	7.52E+03
		209.80		3.50	4.15E+03		-7.98E+01	2.07E+03
		226.40		3.30	4.17E+03		-9.49E+02	2.08E+03
		228.10		11.30	1.21E+03		-2.61E+02	6.03E+02

Analysis Report for 24-2288 6.0M AN107-A W5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (Bq/sample)	Nuclide MDA (Bq/sample)	Activity (Bq/sample)	Dec. Level (Bq/sample)
	Am-239	277.60		15.00	8.16E+02	8.16E+02	6.64E+02	4.07E+02
	NP-239	61.46		1.30	1.46E+04	3.27E+02	-4.80E+03	7.30E+03
		99.53		12.90	6.89E+02		-1.22E+02	3.44E+02
		103.37		20.50	4.25E+02		1.44E+02	2.12E+02
		106.12		25.34	3.38E+02		2.47E+02	1.69E+02
		209.75		3.36	1.67E+03		-3.21E+01	8.35E+02
		228.18		11.24	4.71E+02		-1.02E+02	2.35E+02
		277.60		14.51	3.27E+02		2.66E+02	1.63E+02
		285.46		0.79	5.84E+03		-6.96E+02	2.91E+03
		315.88		1.60	2.68E+03		1.94E+03	1.33E+03
		334.31		2.06	1.97E+03		1.12E+03	9.81E+02
	PU-239	38.66		0.01	5.71E+06	7.35E+05	-1.44E+07	2.85E+06
		51.62		0.03	7.35E+05		1.51E+06	3.67E+05
		98.50		0.01	9.57E+05		5.05E+05	4.78E+05
		111.03		0.00	4.80E+06		5.82E+05	2.40E+06
		129.30		0.01	9.57E+05		5.44E+05	4.78E+05
		171.39		0.00	4.66E+07		1.88E+07	2.32E+07
		203.55		0.00	7.86E+06		-3.63E+05	3.92E+06
		332.85		0.00	6.44E+06		-9.52E+05	3.21E+06
		336.11		0.00	2.82E+07		-6.99E+06	1.40E+07
		345.01		0.00	5.58E+06		4.78E+06	2.78E+06
		375.05		0.00	1.87E+06		1.11E+06	9.31E+05
		380.19		0.00	9.42E+06		6.18E+06	4.69E+06
		382.75		0.00	1.10E+07		-1.02E+07	5.48E+06
		413.71		0.00	1.95E+06		3.96E+06	9.70E+05
		422.60		0.00	2.21E+07		-3.49E+06	1.10E+07
		451.48		0.00	1.51E+07		1.39E+06	7.50E+06
	Am-240	99.53		18.40	4.97E+02	3.12E+01	-8.82E+01	2.48E+02
		103.37		29.20	3.07E+02		1.04E+02	1.53E+02
		117.23		6.93	1.18E+03		-2.82E+02	5.90E+02
		888.85		24.70	9.65E+01		1.35E+02	4.76E+01
		987.79		72.20	3.12E+01		1.10E+01	1.54E+01
	Np-240m	554.60		20.90	3.13E+02	3.13E+02	1.40E+02	1.55E+02
		597.40		11.70	5.71E+02		-2.27E+02	2.83E+02
	U-240	44.10		1.05	8.91E+04	5.45E+04	-5.30E+04	4.45E+04
		66.50		0.15	1.92E+05		1.33E+05	9.57E+04
		169.20		0.12	1.24E+05		7.72E+04	6.19E+04
		189.70		0.24	5.45E+04		-3.69E+04	2.72E+04
+	AM-241	59.54	*	35.90	5.48E+02	5.48E+02	1.50E+04	2.74E+02
	AM-242m	49.35		0.13	1.70E+05	1.70E+05	-1.25E+05	8.47E+04
		66.89		0.01	7.09E+05		3.94E+05	3.54E+05
		86.65		0.02	3.41E+05		9.76E+05	1.70E+05
		163.25		0.02	3.30E+05		-5.38E+04	1.65E+05
+	AM-243	43.53		5.90	5.72E+03	1.94E+02	4.78E+03	2.85E+03
		74.66	*	67.20	1.94E+02		2.40E+02	9.70E+01

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

Apex-Gamma

Analysis Report for 24-2288 6.0M-AN107-A F3r
Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2288 6.0M-AN107-A F3r
Sample Description	: Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/29/2024 9:21:49AM
Procedure	: F3_gsv02mlw
Operator	: Administrator
Detector Name	: F
Geometry	: F3_gsv02mlw
Live Time	: 1491.6 seconds
Real Time	: 1613.5 seconds
Dead Time	: 7.56 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: F3_gsv2mlw_R717
Sample Number	: 567998
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/29/2024 12:29:58PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2288 6.0M-AN107-A F3r

Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.95	120.68	0.2591	6.10
2	59.61	167.12	0.0500	164.75
3	87.03	243.67	0.2371	5.53
4	105.54	295.54	0.2734	3.89
5	123.12	344.63	0.0727	68.50
6	247.92	693.44	0.1282	20.12
7	314.94	880.52	0.3340	3.35
8	344.12	962.31	0.2540	4.95
9	414.85	1160.04	0.1718	10.00
10	511.00	1428.65	0.1456	9.73
11	570.19	1593.99	0.3722	3.01
12	582.38	1627.86	0.2519	3.77
13	591.83	1654.60	0.1223	17.71
14	661.81	1850.16	0.0552	85.89
15	666.40	1863.34	0.1668	12.08
16	692.52	1935.61	0.2347	6.18
17	695.21	1943.80	0.1886	8.21
18	723.46	2022.46	0.0750	43.41
19	757.05	2116.28	0.1202	17.30
20	779.13	2177.67	0.2683	4.09
21	815.70	2280.00	0.2275	4.42
22	845.68	2363.68	0.2781	3.18
23	850.57	2378.80	0.3461	3.19
24	873.43	2441.47	0.0873	31.08
25	892.94	2496.09	0.2926	3.06
26	904.33	2528.20	0.2199	4.64
27	996.61	2785.70	0.0910	26.33
28	1005.03	2809.32	0.0781	37.29
29	1128.46	3153.65	0.2363	3.89
30	1173.56	3280.28	0.0850	28.59
31	1246.51	3484.12	0.1911	6.28
32	1274.80	3563.09	0.0675	44.90
33	1332.90	3725.47	0.0854	26.17
34	1397.79	3906.94	0.1890	5.89
35	1408.69	3937.18	0.2001	5.53
36	1461.27	4083.95	0.2719	3.09
37	1494.42	4176.60	0.1881	5.41
38	1596.99	4463.45	0.1418	9.24
39	1719.55	4805.38	0.2475	3.62

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2288 6.0M-AN107-A F3r

Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/29/2024 12:29:58PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.95	113	124	120.56	4.22E+03	1257.35	1.76E+05	1.02
F	2	59.61	159	174	167.12	1.80E+05	1772.30	3.07E+05	1.24
F	3	87.03	240	251	243.78	4.24E+03	387.60	1.88E+05	1.46
F	4	105.54	291	304	295.51	3.08E+03	344.90	1.73E+05	1.56
F	5	123.12	338	353	344.65	4.14E+04	1367.60	1.54E+05	1.31
F	6	247.92	689	703	693.45	4.85E+03	158.00	3.23E+04	1.39
F	7	314.94	877	888	880.76	3.28E+02	248.95	1.37E+04	0.74
	8	344.12	956	967	962.31	1.24E+02	216.53	1.16E+04	1.03
F	9	414.85	1154	1166	1159.99	1.41E+03	235.68	7.51E+03	1.67
F	10	511.00	1417	1440	1428.70	3.70E+03	347.75	8.46E+03	2.93
F	11	570.19	1590	1597	1594.14	1.17E+02	42.95	1.97E+03	0.86
F	12	582.38	1619	1639	1628.20	4.95E+02	56.56	5.03E+03	2.19
F	13	591.83	1647	1661	1654.61	1.91E+03	66.56	3.62E+03	1.68
M	14	661.81	1840	1872	1850.18	2.66E+04	163.32	3.34E+03	1.80
m	15	666.40	1840	1872	1863.00	9.49E+02	53.29	3.29E+03	1.80
M	16	692.52	1928	1953	1936.00	7.11E+02	165.54	2.32E+03	1.90
m	17	695.21	1928	1953	1943.52	9.65E+02	182.16	3.08E+03	1.90
F	18	723.46	2009	2031	2022.47	7.75E+03	248.40	3.09E+03	1.88
F	19	757.05	2108	2124	2116.32	1.61E+03	53.54	2.00E+03	1.88
F	20	779.13	2170	2182	2178.05	2.11E+02	152.52	1.44E+03	0.89
F	21	815.70	2274	2286	2280.22	2.11E+02	35.63	1.23E+03	1.77
M	22	845.68	2354	2383	2364.01	3.71E+02	208.07	1.79E+03	3.02
m	23	850.57	2354	2383	2377.67	6.90E+01	44.91	2.37E+03	3.02
F	24	873.43	2432	2454	2441.56	3.99E+03	68.39	1.84E+03	1.95
	25	892.94	2490	2501	2496.09	2.22E+01	62.09	9.55E+02	0.69
F	26	904.33	2517	2534	2527.91	3.01E+02	125.20	1.20E+03	2.03
F	27	996.61	2776	2799	2785.77	3.38E+03	63.21	1.65E+03	2.09
F	28	1005.03	2799	2822	2809.30	5.94E+03	196.72	1.27E+03	2.16
F	29	1128.46	3145	3163	3154.21	2.18E+02	24.36	5.69E+02	2.63
F	30	1173.56	3269	3291	3280.24	4.15E+03	138.55	4.50E+02	2.40
F	31	1246.51	3474	3490	3484.06	1.63E+02	73.98	2.64E+02	1.82
F	32	1274.80	3551	3575	3563.11	9.73E+03	160.57	3.27E+02	2.50
F	33	1332.90	3712	3739	3725.46	3.78E+03	59.34	3.39E+02	2.50
F	34	1397.79	3898	3915	3906.77	1.53E+02	16.21	1.53E+02	2.09
F	35	1408.69	3926	3943	3937.22	1.24E+02	43.62	1.44E+02	1.56
F	36	1461.27	4079	4090	4084.14	4.23E+01	10.11	4.99E+01	2.00
F	37	1494.42	4167	4187	4176.78	1.70E+02	14.61	8.33E+01	2.50
F	38	1596.99	4450	4475	4463.36	4.95E+02	54.84	5.20E+01	2.75
F	39	1719.55	4800	4812	4805.78	3.61E+01	8.25	2.85E+01	1.83

Analysis Report for 24-2288 6.0M-AN107-A F3r

Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/29/2024 12:29:58PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567378.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.95	4.22E+03	1257.35			4.22E+03	1.26E+03
F	2	59.61	1.80E+05	1772.30			1.80E+05	1.77E+03
F	3	87.03	4.24E+03	387.60	1.11E+01	7.00E-01	4.23E+03	3.88E+02
F	4	105.54	3.08E+03	344.90			3.08E+03	3.45E+02
F	5	123.12	4.14E+04	1367.60			4.14E+04	1.37E+03
F	6	247.92	4.85E+03	158.00			4.85E+03	1.58E+02
F	7	314.94	3.28E+02	248.95			3.28E+02	2.49E+02
	8	344.12	1.24E+02	216.53			1.24E+02	2.17E+02
F	9	414.85	1.41E+03	235.68			1.41E+03	2.36E+02
F	10	511.00	3.70E+03	347.75	5.85E+01	2.14E+00	3.64E+03	3.48E+02
F	11	570.19	1.17E+02	42.95			1.17E+02	4.29E+01
F	12	582.38	4.95E+02	56.56	6.93E+00	1.10E+00	4.88E+02	5.66E+01
F	13	591.83	1.91E+03	66.56			1.91E+03	6.66E+01
M	14	661.81	2.66E+04	163.32			2.66E+04	1.63E+02
m	15	666.40	9.49E+02	53.29			9.49E+02	5.33E+01
M	16	692.52	7.11E+02	165.54			7.11E+02	1.66E+02
m	17	695.21	9.65E+02	182.16			9.65E+02	1.82E+02
F	18	723.46	7.75E+03	248.40			7.75E+03	2.48E+02
F	19	757.05	1.61E+03	53.54			1.61E+03	5.35E+01
F	20	779.13	2.11E+02	152.52			2.11E+02	1.53E+02
F	21	815.70	2.11E+02	35.63			2.11E+02	3.56E+01
M	22	845.68	3.71E+02	208.07			3.71E+02	2.08E+02
m	23	850.57	6.90E+01	44.91			6.90E+01	4.49E+01
F	24	873.43	3.99E+03	68.39			3.99E+03	6.84E+01
	25	892.94	2.22E+01	62.09			2.22E+01	6.21E+01
F	26	904.33	3.01E+02	125.20			3.01E+02	1.25E+02
F	27	996.61	3.38E+03	63.21			3.38E+03	6.32E+01
F	28	1005.03	5.94E+03	196.72			5.94E+03	1.97E+02
F	29	1128.46	2.18E+02	24.36			2.18E+02	2.44E+01
F	30	1173.56	4.15E+03	138.55			4.15E+03	1.39E+02
F	31	1246.51	1.63E+02	73.98			1.63E+02	7.40E+01
F	32	1274.80	9.73E+03	160.57			9.73E+03	1.61E+02
F	33	1332.90	3.78E+03	59.34			3.78E+03	5.93E+01

Analysis Report for 24-2288 6.0M-AN107-A F3r

Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 34	1397.79	1.53E+02	16.21			1.53E+02	1.62E+01
F 35	1408.69	1.24E+02	43.62	1.87E+00	1.71E-01	1.22E+02	4.36E+01
F 36	1461.27	4.23E+01	10.11	4.31E+01	4.88E-01	-7.36E-01	1.01E+01
F 37	1494.42	1.70E+02	14.61			1.70E+02	1.46E+01
F 38	1596.99	4.95E+02	54.84			4.95E+02	5.48E+01
F 39	1719.55	3.61E+01	8.25			3.61E+01	8.25E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.97	1460.83	*	10.67	-1.47E-05	2.03E-04	miss
CO-60	0.97	1173.24	*	99.97	8.00E-03	2.70E-04	0.965
		1332.50	*	99.99	7.91E-03	1.32E-04	0.963
		2505.74		1.00			
RH-106	0.38	511.86	*	20.70	2.04E-02	2.04E-03	0.975
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.90E-03	3.22E-04	0.877
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.43E-03	8.08E-05	0.875
		674.80		3.10			
		695.00	*	99.60	1.49E-03	2.82E-04	0.874
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			

Analysis Report for 24-2288 6.0M-AN107-A F3r
Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
Sn-126	0.75	64.28		9.60			
		87.30	*	45.90	5.13E-03	5.22E-04	miss
CS-137	0.99	661.66	*	85.20	4.09E-02	3.30E-04	miss
EU-154	0.99	42.70	*	20.45	5.04E-02	1.51E-02	miss
		123.07	*	40.40	5.67E-02	2.01E-03	0.958
		247.93	*	6.89	5.39E-02	1.88E-03	0.945
		591.76	*	4.95	5.06E-02	1.86E-03	0.934
		692.42	*	1.78	5.69E-02	1.33E-02	0.949
		723.30	*	20.06	5.62E-02	1.91E-03	0.952
		756.80	*	4.52	5.45E-02	1.90E-03	0.932
		873.18	*	12.08	5.42E-02	1.12E-03	0.945
		996.29	*	10.48	5.50E-02	1.18E-03	0.986
		1004.76	*	18.01	5.70E-02	1.99E-03	0.978
		1246.12	*	0.86	3.92E-02	1.78E-02	0.941
		1274.43	*	34.80	5.59E-02	1.09E-03	0.980
		1494.05	*	0.70	5.22E-02	4.53E-03	1.014
		1596.48	*	1.80	5.40E-02	6.02E-03	1.158
EU-155	0.98	43.00	*	18.70	5.52E-02	1.65E-02	1.000
		60.01	*	1.22	1.36E+01	4.92E-01	0.999
		86.55	*	30.70	7.69E-03	7.28E-04	free
		105.31	*	21.10	7.62E-03	8.75E-04	1.000
AM-241	0.99	59.54	*	35.90	4.60E-01	1.04E-02	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.970	-1.47E-05	2.03E-04	
CO-60	0.973	7.93E-03	1.18E-04	

Analysis Report for 24-2288 6.0M-AN107-A F3r

Branch

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	RH-106	0.384	2.04E-02	2.04E-03	
X	CD-109	0.853			
	SB-126	0.486	1.46E-03	7.55E-05	
	Sn-126	0.752	6.78E-05	7.40E-04	
	CS-137	0.996	4.09E-02	3.30E-04	
	EU-154	0.990	5.49E-02	4.52E-04	
	EU-155	0.981	7.59E-03	8.55E-04	
	AM-241	0.999	4.59E-01	7.01E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2288 6.0M-AN107-A F3r
Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/29/2024 12:29:58PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	7	314.94	2.19816E-01	75.93	Tol.	NP-239
	8	344.12	8.28869E-02	175.14		
F	11	570.19	7.82491E-02	36.80	Sum	
F	12	582.38	3.27461E-01	11.58	Tol.	TH-232
F	20	779.13	1.41366E-01	72.33	Sum	
F	21	815.70	1.41460E-01	16.89	Sum	
M	22	845.68	2.48613E-01	56.11	Sum	
m	23	850.57	4.62304E-02	65.12		
	25	892.94	1.49096E-02	279.21		
F	26	904.33	2.01919E-01	41.57		
F	29	1128.46	1.45868E-01	11.20	Sum	
F	34	1397.79	1.02306E-01	10.62	Sum	
F	35	1408.69	8.18150E-02	35.74		
F	39	1719.55	2.42037E-02	22.86	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	6.10E-03	6.10E-03	6.77E-04	3.03E-03
+	K-40	1460.83	*	10.67	1.08E-03	1.08E-03	-1.47E-05	5.13E-04

Analysis Report for 24-2288 6.0M-AN107-A F3r

Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	MN-54	834.84		99.98	4.11E-04	4.11E-04	6.57E-04	2.03E-04
	CO-58	810.78		99.45	4.57E-04	4.57E-04	4.35E-04	2.26E-04
		863.96		0.68	6.49E-02		2.66E-02	3.21E-02
		1674.73		0.52	1.89E-02		-3.12E-02	8.81E-03
	FE-59	142.65		1.00	1.19E-01	5.34E-04	8.31E-02	5.93E-02
		192.35		3.01	3.55E-02		-3.16E-02	1.77E-02
		334.80		0.27	2.83E-01		-1.33E-01	1.41E-01
		1099.25		56.30	6.56E-04		-1.19E-03	3.23E-04
		1291.60		43.70	5.34E-04		-8.60E-04	2.60E-04
+	CO-60	1173.24	*	99.97	3.56E-04	3.56E-04	8.00E-03	1.75E-04
		1332.50	*	99.99	3.63E-04		7.91E-03	1.79E-04
		2505.74		1.00	1.23E-02		1.53E-02	5.74E-03
	SR-85	514.00		96.00	7.08E-04	7.08E-04	-9.98E-05	3.52E-04
		868.60		0.01	5.34E+00		7.74E-01	2.65E+00
	NB-94	702.62		97.90	4.83E-04	4.83E-04	-3.07E-04	2.40E-04
		871.09		99.98	6.30E-04		1.25E-04	3.13E-04
	NB-95	765.81		99.81	4.99E-04	4.99E-04	-1.30E-04	2.48E-04
	RU-103	497.05		91.00	6.95E-04	6.95E-04	2.24E-04	3.46E-04
		610.30		5.76	9.92E-03		3.02E-03	4.93E-03
+	RH-106	511.86	*	20.70	4.51E-03	4.51E-03	2.04E-02	2.25E-03
		621.92		9.93	5.34E-03		7.65E-03	2.65E-03
		1050.36		1.56	2.50E-02		-2.50E-02	1.23E-02
	AG-108M	79.13		6.60	2.53E-02	6.10E-04	-3.55E-02	1.26E-02
		433.90		90.50	7.34E-04		-3.26E-05	3.65E-04
		614.30		89.80	6.10E-04		4.93E-05	3.03E-04
		722.90		90.80	8.67E-04		1.20E-02	4.31E-04
	CD-109	88.03	*	3.61	4.46E-02	4.46E-02	6.59E-02	2.23E-02
	SB-125	176.31		6.82	1.44E-02	2.10E-03	-5.20E-03	7.17E-03
		380.45		1.52	4.20E-02		-3.20E-02	2.09E-02
		427.87		29.55	2.10E-03		-1.78E-04	1.04E-03
		463.36		10.48	5.72E-03		3.14E-03	2.85E-03
		600.60		17.76	2.83E-03		3.57E-04	1.40E-03
		606.71		5.02	1.02E-02		7.67E-03	5.08E-03
		635.95		11.32	4.35E-03		-3.92E-04	2.16E-03
		671.44		1.78	2.91E-02		-1.08E-03	1.45E-02
+	SB-126	223.90		1.39	6.05E-02	4.04E-04	-1.46E-02	3.02E-02
		278.20		2.40	3.77E-02		7.60E-03	1.88E-02
		296.50		4.50	1.95E-02		-3.01E-03	9.73E-03
		414.70	*	83.30	7.96E-04		1.90E-03	3.96E-04
		556.30		1.69	3.66E-02		1.47E-02	1.82E-02
		573.90		6.70	9.02E-03		1.55E-03	4.48E-03
		593.20		7.50	8.50E-03		4.09E-02	4.22E-03
		656.30		2.19	5.27E-02		7.77E-03	2.62E-02
		666.50	*	99.60	4.07E-04		1.43E-03	2.02E-04
		674.80		3.10	1.82E-02		7.07E-03	9.05E-03
		695.00	*	99.60	4.04E-04		1.49E-03	2.00E-04
		697.00		29.00	2.12E-03		-5.01E-04	1.05E-03
		720.70		53.80	1.57E-03		6.73E-04	7.82E-04
		856.80		17.60	2.61E-03		3.51E-03	1.29E-03
		989.60		6.80	8.19E-03		2.93E-03	4.06E-03
		1213.30		2.39	1.15E-02		6.88E-03	5.63E-03
+	Sn-126	64.28		9.60	2.28E-02	3.47E-03	3.78E-03	1.14E-02
		87.30	*	45.90	3.47E-03		5.13E-03	1.73E-03

Analysis Report for 24-2288 6.0M-AN107-A F3r

Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-129	29.70		56.60	6.15E-02	6.15E-02	-1.43E-01	3.07E-02
		33.60		10.04	1.68E-01		-4.71E-01	8.39E-02
		34.40		2.01	7.43E-01		-1.47E+00	3.71E-01
		39.60		7.51	1.08E-01		-1.10E-01	5.39E-02
	CS-134	563.25		8.34	6.76E-03	5.26E-04	1.06E-03	3.36E-03
		569.33		15.37	3.67E-03		-1.12E-03	1.82E-03
		604.72		97.62	5.54E-04		2.18E-04	2.75E-04
		795.86		85.46	5.26E-04		3.45E-04	2.61E-04
		801.95		8.69	5.20E-03		-1.02E-03	2.57E-03
+	CS-137	661.66	*	85.20	4.18E-04	4.18E-04	4.09E-02	2.07E-04
	CE-139	165.85		79.89	1.32E-03	1.32E-03	1.11E-03	6.57E-04
	CE-141	40.70		3.35	2.54E-01	2.53E-03	-1.35E-01	1.27E-01
		145.44		48.29	2.53E-03		-6.45E-04	1.26E-03
	CE-144	80.12		1.36	1.23E-01	1.02E-02	-7.98E-02	6.12E-02
		133.51		11.09	1.02E-02		9.13E-03	5.09E-03
	EU-152	121.78		28.58	4.70E-03	1.02E-03	4.62E-04	2.35E-03
		344.28		26.50	2.67E-03		2.98E-03	1.33E-03
		778.90		12.94	3.52E-03		4.57E-03	1.74E-03
		964.08		14.73	2.72E-03		5.19E-04	1.34E-03
		1085.87		10.24	3.38E-03		1.84E-03	1.67E-03
		1112.07		13.69	2.55E-03		3.03E-04	1.26E-03
		1408.01		21.07	1.02E-03		1.12E-03	4.98E-04
	GD-153	97.43		29.00	4.93E-03	4.93E-03	2.67E-03	2.46E-03
		103.18		21.10	6.51E-03		-2.31E-03	3.25E-03
+	EU-154	42.70	*	20.45	3.32E-02	9.39E-04	5.04E-02	1.66E-02
		123.07	*	40.40	3.97E-03		5.67E-02	1.98E-03
		247.93	*	6.89	1.44E-02		5.39E-02	7.19E-03
		591.76	*	4.95	1.15E-02		5.06E-02	5.72E-03
		692.42	*	1.78	1.81E-02		5.69E-02	8.96E-03
		723.30	*	20.06	3.48E-03		5.62E-02	1.73E-03
		756.80	*	4.52	1.15E-02		5.45E-02	5.69E-03
		873.18	*	12.08	5.04E-03		5.42E-02	2.50E-03
		996.29	*	10.48	5.83E-03		5.50E-02	2.89E-03
		1004.76	*	18.01	3.04E-03		5.70E-02	1.51E-03
		1246.12	*	0.86	3.01E-02		3.92E-02	1.47E-02
		1274.43	*	34.80	9.39E-04		5.59E-02	4.61E-04
		1494.05	*	0.70	2.38E-02		5.22E-02	1.15E-02
		1596.48	*	1.80	7.38E-03		5.40E-02	3.54E-03
+	EU-155	43.00	*	18.70	3.63E-02	5.21E-03	5.52E-02	1.81E-02
		60.01	*	1.22	3.09E-01		1.36E+01	1.54E-01
		86.55	*	30.70	5.21E-03		7.69E-03	2.60E-03
		105.31	*	21.10	7.22E-03		7.62E-03	3.61E-03
	HG-203	72.87		6.30	3.29E-02	1.06E-03	5.99E-02	1.64E-02
		279.20		81.46	1.06E-03		5.92E-05	5.26E-04
	BI-207	569.15		97.80	5.60E-04	5.09E-04	-1.71E-04	2.78E-04
		1063.10		74.90	5.09E-04		6.22E-04	2.51E-04
	PB-210	46.54		4.25	1.12E-01	1.12E-01	-1.65E-01	5.62E-02
	RA-226	74.81		6.44	2.80E-02	5.96E-04	4.95E-02	1.40E-02
		77.11		10.80	1.60E-02		1.17E-02	8.00E-03
		87.30		4.84	3.09E-02		1.15E-01	1.55E-02
		186.21		3.59	2.64E-02		4.62E-02	1.32E-02
		242.00		7.43	1.07E-02		-5.21E-03	5.34E-03
		295.22		19.30	3.88E-03		-1.22E-03	1.93E-03

Analysis Report for 24-2288 6.0M-AN107-A F3r

Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	351.93		37.60	1.78E-03	5.96E-04	-1.61E-03	8.85E-04
		609.31		46.10	1.10E-03		-7.54E-04	5.46E-04
		768.36		4.94	8.75E-03		1.92E-03	4.34E-03
		1120.29		15.10	2.18E-03		-1.11E-03	1.07E-03
		1238.11		5.79	4.13E-03		3.32E-03	2.02E-03
		1764.49		15.40	5.96E-04		1.53E-04	2.77E-04
	PA-231	283.70		1.59	4.82E-02	3.12E-02	-2.79E-02	2.40E-02
		300.07		2.38	3.12E-02		8.73E-03	1.56E-02
		302.67		1.71	4.33E-02		4.85E-02	2.16E-02
		330.07		1.32	5.25E-02		4.25E-02	2.62E-02
	TH-232	74.81		11.62	1.55E-02	2.40E-04	2.74E-02	7.76E-03
		77.11		17.50	9.89E-03		7.24E-03	4.94E-03
		87.30		7.80	1.92E-02		7.13E-02	9.59E-03
		238.63		43.30	1.85E-03		2.35E-04	9.23E-04
		338.32		11.30	6.09E-03		3.25E-03	3.03E-03
		583.19		30.37	1.72E-03		3.00E-03	8.55E-04
		727.33		6.58	1.10E-02		-1.31E-03	5.48E-03
		911.21		26.60	1.48E-03		1.53E-03	7.30E-04
		968.97		16.20	2.36E-03		-4.75E-04	1.17E-03
		2614.53		35.64	2.40E-04		2.31E-04	1.08E-04
	U-235	143.76		10.96	9.69E-03	1.66E-03	-3.51E-03	4.84E-03
		185.71		57.20	1.66E-03		8.08E-04	8.27E-04
		205.31		5.01	1.77E-02		-9.97E-03	8.84E-03
	U-238	63.29		3.70	6.67E-02	3.30E-02	4.07E-02	3.33E-02
		92.51		4.23	3.30E-02		1.72E-02	1.65E-02
		112.81		0.21	5.88E-01		-5.24E-02	2.94E-01
		742.81		0.11	4.09E-01		1.38E-01	2.03E-01
		766.28		0.32	1.37E-01		7.93E-02	6.79E-02
		1001.03		0.84	1.01E-01		1.84E+00	5.02E-02
	NP-239	99.60		12.80	8.00E-02	3.76E-02	3.18E-02	3.99E-02
		103.80		20.40	4.88E-02		-9.96E-03	2.44E-02
		106.10		26.40	3.76E-02		1.53E-01	1.88E-02
		116.90		7.61	1.19E-01		2.05E-02	5.93E-02
		228.20		11.20	5.63E-02		7.39E-02	2.81E-02
		277.60		14.50	4.09E-02		1.36E-02	2.04E-02
		315.90		1.60	3.29E-01		2.96E-01	1.64E-01
		334.30		2.06	2.36E-01		-2.39E-01	1.18E-01
+	AM-241	59.54	*	35.90	1.04E-02	1.04E-02	4.60E-01	5.22E-03

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

Apex-Gamma

Analysis Report for 24-2289 6.0M AN107-d- W5
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2289 6.0M AN107-d- W5
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 10:25:59AM
Procedure	: P5_GSV02mlw
Operator	: Administrator
Detector Name	: W
Geometry	: P5_GSV2MLW
Live Time	: 2880.8 seconds
Real Time	: 2925.5 seconds
Dead Time	: 1.53 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 8/11/2023
Efficiency Calibration Used Done On	: 3/11/2019
Efficiency Calibration Description	: W5_gsv2mlw_R717P
Sample Number	: 567794
Certificate Name	: R735-A10 20ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 11:14:49AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2289 6.0M AN107-d- W5

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.53	162.02	0.0732	79.82
2	123.05	333.42	0.1025	34.46
3	166.70	451.27	0.4168	3.23
4	185.29	501.60	0.3823	3.07
5	247.92	670.51	0.1672	12.55
6	414.63	1120.34	0.2240	6.64
7	444.59	1201.30	0.3131	3.88
8	511.06	1380.28	0.2022	6.57
9	582.14	1572.58	0.2784	3.57
10	591.77	1598.58	0.1626	10.24
11	661.66	1787.20	0.0738	51.52
12	666.38	1800.61	0.2196	5.87
13	692.26	1869.22	0.2870	4.52
14	695.11	1877.77	0.2079	7.31
15	723.32	1953.75	0.1003	27.82
16	756.87	2044.40	0.1579	10.72
17	873.27	2358.47	0.1142	19.47
18	903.67	2440.90	0.2686	3.50
19	996.39	2690.78	0.1249	15.85
20	1004.86	2713.75	0.1047	22.16
21	1173.31	3168.56	0.1111	18.49
22	1246.12	3365.05	0.2350	4.81
23	1274.48	3441.79	0.0870	29.61
24	1332.56	3598.60	0.1127	17.11
25	1408.16	3802.55	0.2429	4.34
26	1460.95	3945.80	0.2628	3.64
27	1596.46	4311.14	0.1886	5.53
28	2614.43	7060.73	0.2658	3.10

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2289 6.0M AN107-d- W5

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 11:14:49AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.53	154	169	162.02	5.69E+04	1120.69	1.22E+05	1.30
F	2	123.05	327	341	333.47	1.63E+04	214.94	6.58E+04	1.41
	3	166.70	448	458	451.27	1.93E+01	319.95	2.71E+04	0.44
F	4	185.29	498	510	501.45	1.97E+02	83.20	2.55E+04	0.32
F	5	247.92	665	679	670.48	1.93E+03	97.21	1.48E+04	1.28
F	6	414.63	1111	1130	1120.43	6.11E+02	54.39	5.25E+03	1.57
	7	444.59	1196	1205	1201.30	6.08E+01	90.05	2.28E+03	0.60
F	8	511.06	1371	1390	1380.73	1.40E+03	54.70	3.25E+03	2.66
F	9	582.14	1565	1579	1572.59	3.39E+02	163.25	1.42E+03	1.94
F	10	591.77	1588	1607	1598.61	9.24E+02	43.67	1.96E+03	1.84
M	11	661.66	1776	1806	1787.25	1.08E+04	105.36	1.29E+03	1.75
m	12	666.38	1776	1806	1799.99	3.56E+02	33.31	1.22E+03	1.76
M	13	692.26	1865	1888	1869.86	2.28E+02	29.90	8.43E+02	1.69
m	14	695.11	1865	1888	1877.56	4.33E+02	33.32	1.08E+03	1.70
F	15	723.32	1942	1965	1953.70	3.25E+03	162.75	1.28E+03	1.79
F	16	756.87	2034	2052	2044.29	6.57E+02	155.78	9.93E+02	1.76
F	17	873.27	2350	2367	2358.52	1.81E+03	128.61	5.58E+02	1.96
F	18	903.67	2434	2448	2440.57	1.16E+02	78.65	4.70E+02	1.78
F	19	996.39	2682	2703	2690.91	1.43E+03	40.97	5.03E+02	2.20
F	20	1004.86	2705	2722	2713.76	2.39E+03	117.86	3.69E+02	2.09
F	21	1173.31	3159	3179	3168.58	1.72E+03	42.21	1.63E+02	2.21
F	22	1246.12	3358	3375	3365.16	8.46E+01	13.35	1.27E+02	1.69
F	23	1274.48	3428	3454	3441.74	4.19E+03	108.91	1.08E+02	2.27
F	24	1332.56	3586	3609	3598.56	1.47E+03	76.74	8.94E+01	2.26
F	25	1408.16	3796	3809	3802.69	5.27E+01	10.78	6.78E+01	1.57
F	26	1460.95	3936	3953	3945.25	7.48E+01	10.79	4.50E+01	2.43
F	27	1596.46	4302	4323	4311.17	1.81E+02	36.70	3.30E+01	2.49
F	28	2614.43	7055	7068	7060.71	2.07E+01	5.61	9.84E+00	1.65

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2289 6.0M AN107-d- W5

ASR 2094 Branch

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 11:14:49AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567383.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.53	5.69E+04	1120.69			5.69E+04	1.12E+03
F	2	123.05	1.63E+04	214.94			1.63E+04	2.15E+02
	3	166.70	1.93E+01	319.95			1.93E+01	3.20E+02
F	4	185.29	1.97E+02	83.20	5.68E+01	1.16E+00	1.41E+02	8.32E+01
F	5	247.92	1.93E+03	97.21			1.93E+03	9.72E+01
F	6	414.63	6.11E+02	54.39			6.11E+02	5.44E+01
	7	444.59	6.08E+01	90.05			6.08E+01	9.00E+01
F	8	511.06	1.40E+03	54.70	1.05E+02	4.27E+00	1.29E+03	5.49E+01
F	9	582.14	3.39E+02	163.25			3.39E+02	1.63E+02
F	10	591.77	9.24E+02	43.67			9.24E+02	4.37E+01
M	11	661.66	1.08E+04	105.36			1.08E+04	1.05E+02
m	12	666.38	3.56E+02	33.31			3.56E+02	3.33E+01
M	13	692.26	2.28E+02	29.90			2.28E+02	2.99E+01
m	14	695.11	4.33E+02	33.32			4.33E+02	3.33E+01
F	15	723.32	3.25E+03	162.75			3.25E+03	1.63E+02
F	16	756.87	6.57E+02	155.78			6.57E+02	1.56E+02
F	17	873.27	1.81E+03	128.61			1.81E+03	1.29E+02
F	18	903.67	1.16E+02	78.65			1.16E+02	7.87E+01
F	19	996.39	1.43E+03	40.97			1.43E+03	4.10E+01
F	20	1004.86	2.39E+03	117.86			2.39E+03	1.18E+02
F	21	1173.31	1.72E+03	42.21			1.72E+03	4.22E+01
F	22	1246.12	8.46E+01	13.35			8.46E+01	1.34E+01
F	23	1274.48	4.19E+03	108.91			4.19E+03	1.09E+02
F	24	1332.56	1.47E+03	76.74			1.47E+03	7.67E+01
F	25	1408.16	5.27E+01	10.78	2.93E+00	3.11E-01	4.98E+01	1.08E+01
F	26	1460.95	7.48E+01	10.79	6.18E+01	8.55E-01	1.30E+01	1.08E+01
F	27	1596.46	1.81E+02	36.70			1.81E+02	3.67E+01
F	28	2614.43	2.07E+01	5.61	2.28E+01	5.31E-01	-2.11E+00	5.64E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2289 6.0M AN107-d- W5

ASR 2094 Branch

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.99	1460.83	*	10.67	6.38E-04	5.31E-04	miss
CO-57	0.69	122.06	*	85.60	2.76E-02	5.65E-04	miss
		136.47		10.68			
CO-60	0.99	1173.24	*	99.97	7.82E-03	1.95E-04	miss
		1332.50	*	99.99	7.28E-03	3.81E-04	miss
		2505.74		1.00			
RH-106	0.39	511.86	*	20.70	1.69E-02	8.73E-04	miss
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.76E-03	1.63E-04	miss
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.14E-03	1.07E-04	miss
		674.80		3.10			
		695.00	*	99.60	1.42E-03	1.10E-04	miss
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
CS-137	1.00	661.66	*	85.20	4.03E-02	4.40E-04	miss
CE-139	0.89	165.85	*	79.89	3.81E-05	6.32E-04	miss
EU-154	0.87	42.70		20.45			
		123.07	*	40.40	5.83E-02	1.32E-03	miss
		247.93	*	6.89	5.14E-02	2.67E-03	miss
		591.76	*	4.95	5.52E-02	2.68E-03	miss
		692.42	*	1.78	4.18E-02	5.51E-03	miss
		723.30	*	20.06	5.43E-02	2.78E-03	miss
		756.80	*	4.52	5.01E-02	1.19E-02	miss
		873.18	*	12.08	5.64E-02	4.06E-03	miss
		996.29	*	10.48	5.59E-02	1.71E-03	miss
		1004.76	*	18.01	5.47E-02	2.76E-03	miss
		1246.12	*	0.86	4.67E-02	7.39E-03	miss
		1274.43	*	34.80	5.77E-02	1.61E-03	miss
		1494.05		0.70			
		1596.48	*	1.80	5.60E-02	1.14E-02	miss
U-235	0.62	143.76		10.96			

Analysis Report for 24-2289 6.0M AN107-d- W5

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
U-235	0.62	185.71	*	57.20	4.00E-04	2.37E-04	miss
		205.31		5.01			
AM-241	1.00	59.54	*	35.90	4.75E-01	1.34E-02	miss

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.998	6.38E-04	5.31E-04	
CO-57	0.694	1.44E-03	6.82E-04	
CO-60	0.993	7.71E-03	1.74E-04	
RH-106	0.394	1.69E-02	8.73E-04	
SB-126	0.488	1.36E-03	6.92E-05	
CS-137	1.000	4.03E-02	4.40E-04	
CE-139	0.891	3.81E-05	6.32E-04	
EU-154	0.875	5.52E-02	8.17E-04	
U-235	0.623	4.00E-04	2.37E-04	
AM-241	1.000	4.75E-01	1.34E-02	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2289 6.0M AN107-d- W5

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 11:14:49AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	7	444.59	2.10927E-02	148.20		
F	9	582.14	1.17544E-01	48.21	Sum	
F	18	903.67	4.03881E-02	67.60		
F	25	1408.16	1.72928E-02	21.66	Tol.	EU-152
F	28	2614.43	-7.31630E-04	- 267.54	Tol.	TH-232

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	8.85E-03	8.85E-03	9.75E-03	4.39E-03
+	K-40	1460.83	*	10.67	2.98E-03	2.98E-03	6.38E-04	1.42E-03
	MN-54	834.84		99.98	6.10E-04	6.10E-04	3.87E-04	3.00E-04
	CO-58	810.78		99.45	6.26E-04	6.26E-04	-1.82E-04	3.08E-04
		863.96		0.68	8.73E-02		1.76E-02	4.29E-02
		1674.73		0.52	3.10E-02		9.50E-03	1.40E-02
	FE-59	142.65		1.00	1.90E-01	6.95E-04	1.69E-01	9.49E-02
		192.35		3.01	5.33E-02		-2.56E-02	2.66E-02
		334.80		0.27	3.94E-01		5.34E-02	1.96E-01
		1099.25		56.30	8.92E-04		-3.37E-04	4.35E-04
		1291.60		43.70	6.95E-04		-1.53E-03	3.32E-04
+	CO-60	1173.24	*	99.97	4.92E-04	4.18E-04	7.82E-03	2.40E-04

Analysis Report for 24-2289 6.0M AN107-d- W5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CO-60	1332.50	*	99.99	4.18E-04	4.18E-04	7.28E-03	2.03E-04
		2505.74		1.00	1.51E-02		-1.01E-02	6.50E-03
	SR-85	514.00		96.00	1.04E-03	1.04E-03	-4.74E-05	5.17E-04
		868.60		0.01	7.75E+00		1.28E+00	3.83E+00
	NB-94	702.62		97.90	6.98E-04	6.98E-04	-1.70E-05	3.45E-04
		871.09		99.98	9.49E-04		7.20E-03	4.70E-04
	NB-95	765.81		99.81	6.65E-04	6.65E-04	4.29E-04	3.27E-04
	RU-103	497.05		91.00	9.69E-04	9.69E-04	-8.69E-04	4.81E-04
		610.30		5.76	1.28E-02		-6.58E-03	6.32E-03
+	RH-106	511.86	*	20.70	6.07E-03	6.07E-03	1.69E-02	3.02E-03
		621.92		9.93	7.28E-03		-3.82E-04	3.60E-03
		1050.36		1.56	3.67E-02		1.51E-02	1.80E-02
	AG-108M	79.13		6.60	4.67E-02	8.15E-04	-8.50E-02	2.33E-02
		433.90		90.50	1.05E-03		1.02E-03	5.20E-04
		614.30		89.80	8.15E-04		-7.40E-05	4.03E-04
		722.90		90.80	1.22E-03		1.17E-02	6.06E-04
	CD-109	88.03		3.61	7.37E-02	7.37E-02	3.11E-02	3.68E-02
	SB-125	176.31		6.82	2.47E-02	3.26E-03	1.26E-02	1.23E-02
		380.45		1.52	6.25E-02		-3.79E-03	3.11E-02
		427.87		29.55	3.26E-03		-2.35E-03	1.62E-03
		463.36		10.48	8.75E-03		1.77E-03	4.34E-03
		600.60		17.76	4.18E-03		1.78E-03	2.07E-03
		606.71		5.02	1.46E-02		-3.35E-03	7.21E-03
		635.95		11.32	6.23E-03		8.06E-03	3.08E-03
		671.44		1.78	4.25E-02		2.54E-02	2.10E-02
+	SB-126	223.90		1.39	1.01E-01	5.12E-04	-4.78E-02	5.02E-02
		278.20		2.40	5.11E-02		5.20E-02	2.54E-02
		296.50		4.50	2.59E-02		1.04E-02	1.29E-02
		414.70	*	83.30	1.69E-03		1.76E-03	8.40E-04
		556.30		1.69	4.70E-02		2.80E-02	2.33E-02
		573.90		6.70	1.13E-02		5.77E-03	5.61E-03
		593.20		7.50	1.14E-02		1.66E-03	5.63E-03
		656.30		2.19	6.13E-02		-2.81E-02	3.05E-02
		666.50	*	99.60	5.27E-04		1.14E-03	2.59E-04
		674.80		3.10	2.26E-02		1.79E-02	1.11E-02
		695.00	*	99.60	5.12E-04		1.42E-03	2.51E-04
		697.00		29.00	2.77E-03		-2.50E-04	1.37E-03
		720.70		53.80	2.06E-03		7.55E-05	1.02E-03
		856.80		17.60	3.35E-03		-3.97E-03	1.64E-03
		989.60		6.80	1.00E-02		-2.95E-03	4.92E-03
		1213.30		2.39	1.52E-02		-1.54E-02	7.31E-03
	Sn-126	64.28		9.60	4.69E-02	5.87E-03	2.97E-02	2.34E-02
		87.30		45.90	5.87E-03		1.75E-02	2.93E-03
	I-129	29.70		56.60	5.28E-02	5.28E-02	-9.14E-02	2.64E-02
		33.60		10.04	1.95E-01		-3.23E-01	9.72E-02
		34.40		2.01	9.03E-01		-1.42E+00	4.51E-01
		39.60		7.51	1.63E-01		-3.45E-01	8.16E-02
	CS-134	563.25		8.34	9.34E-03	7.46E-04	-1.07E-02	4.62E-03
		569.33		15.37	4.97E-03		3.08E-03	2.46E-03
		604.72		97.62	7.53E-04		1.02E-04	3.72E-04
		795.86		85.46	7.46E-04		6.96E-04	3.68E-04
		801.95		8.69	7.13E-03		-4.69E-03	3.51E-03
+	CS-137	661.66	*	85.20	6.31E-04	6.31E-04	4.03E-02	3.11E-04

Analysis Report for 24-2289 6.0M AN107-d- W5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	CE-139	165.85	*	79.89	2.08E-03	2.08E-03	3.81E-05	1.04E-03
	CE-141	40.70		3.35	3.51E-01	3.91E-03	1.39E-02	1.75E-01
		145.44		48.29	3.91E-03		-2.10E-03	1.95E-03
	CE-144	80.12		1.36	2.22E-01	1.77E-02	-4.31E-02	1.11E-01
		133.51		11.09	1.77E-02		1.53E-02	8.84E-03
	EU-152	121.78		28.58	7.51E-03	1.63E-03	8.82E-04	3.75E-03
		344.28		26.50	3.97E-03		2.26E-03	1.98E-03
		778.90		12.94	5.09E-03		2.71E-03	2.51E-03
		964.08		14.73	3.85E-03		-1.88E-03	1.89E-03
		1085.87		10.24	5.23E-03		4.52E-03	2.56E-03
		1112.07		13.69	3.79E-03		2.09E-03	1.85E-03
		1408.01		21.07	1.63E-03		1.60E-03	7.84E-04
	GD-153	97.43		29.00	8.04E-03	8.04E-03	6.03E-03	4.01E-03
		103.18		21.10	1.05E-02		-5.23E-04	5.25E-03
+	EU-154	42.70		20.45	5.02E-02	1.35E-03	6.68E-02	2.51E-02
		123.07	*	40.40	6.62E-03		5.83E-02	3.30E-03
		247.93	*	6.89	2.34E-02		5.14E-02	1.16E-02
		591.76	*	4.95	2.15E-02		5.52E-02	1.07E-02
		692.42	*	1.78	2.53E-02		4.18E-02	1.24E-02
		723.30	*	20.06	5.25E-03		5.43E-02	2.60E-03
		756.80	*	4.52	1.92E-02		5.01E-02	9.48E-03
		873.18	*	12.08	5.79E-03		5.64E-02	2.85E-03
		996.29	*	10.48	7.47E-03		5.59E-02	3.68E-03
		1004.76	*	18.01	3.45E-03		5.47E-02	1.69E-03
		1246.12	*	0.86	4.98E-02		4.67E-02	2.41E-02
		1274.43	*	34.80	1.35E-03		5.77E-02	6.56E-04
		1494.05		0.70	4.43E-02		6.36E-02	2.11E-02
		1596.48	*	1.80	1.58E-02		5.60E-02	7.50E-03
	EU-155	43.00		18.70	5.41E-02	8.88E-03	6.41E-02	2.70E-02
		60.01		1.22	5.05E-01		-4.75E-02	2.52E-01
		86.55		30.70	8.88E-03		1.90E-02	4.43E-03
		105.31		21.10	1.03E-02		2.34E-02	5.16E-03
	HG-203	72.87		6.30	5.72E-02	1.52E-03	1.33E-01	2.86E-02
		279.20		81.46	1.52E-03		1.05E-04	7.59E-04
	BI-207	569.15		97.80	7.84E-04	7.33E-04	6.72E-04	3.88E-04
		1063.10		74.90	7.33E-04		-1.71E-04	3.59E-04
	PB-210	46.54		4.25	2.12E-01	2.12E-01	-4.11E-01	1.06E-01
	RA-226	74.81		6.44	5.27E-02	1.10E-03	3.60E-02	2.63E-02
		77.11		10.80	2.98E-02		2.58E-02	1.49E-02
		87.30		4.84	5.56E-02		1.66E-01	2.78E-02
		186.21		3.59	4.52E-02		8.67E-03	2.25E-02
		242.00		7.43	1.78E-02		4.97E-03	8.86E-03
		295.22		19.30	6.05E-03		-3.63E-03	3.01E-03
		351.93		37.60	2.71E-03		6.56E-04	1.35E-03
		609.31		46.10	1.57E-03		-5.44E-04	7.75E-04
		768.36		4.94	1.33E-02		3.78E-03	6.55E-03
		1120.29		15.10	3.19E-03		-5.14E-03	1.56E-03
		1238.11		5.79	6.34E-03		1.08E-02	3.06E-03
		1764.49		15.40	1.10E-03		4.42E-05	5.00E-04
	PA-231	283.70		1.59	7.55E-02	4.86E-02	-6.93E-03	3.76E-02
		300.07		2.38	4.86E-02		-2.00E-02	2.42E-02
		302.67		1.71	6.73E-02		7.70E-02	3.35E-02
		330.07		1.32	8.06E-02		1.47E-01	4.01E-02

Analysis Report for 24-2289 6.0M AN107-d- W5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	74.81		11.62	2.92E-02	7.48E-04	2.00E-02	1.46E-02
		77.11		17.50	1.84E-02		1.59E-02	9.19E-03
		87.30		7.80	3.45E-02		1.03E-01	1.72E-02
		238.63		43.30	3.08E-03		-2.08E-03	1.53E-03
		338.32		11.30	9.30E-03		-6.68E-03	4.62E-03
		583.19		30.37	2.55E-03		3.07E-03	1.26E-03
		727.33		6.58	1.67E-02		-4.46E-03	8.29E-03
		911.21		26.60	2.21E-03		-4.50E-04	1.08E-03
		968.97		16.20	3.56E-03		3.64E-03	1.75E-03
		2614.53		35.64	7.48E-04		9.69E-04	3.44E-04
+	U-235	143.76		10.96	1.70E-02	3.10E-03	1.17E-02	8.48E-03
		185.71	*	57.20	3.10E-03		4.00E-04	1.55E-03
		205.31		5.01	3.00E-02		3.47E-02	1.50E-02
	U-238	63.29		3.70	1.33E-01	5.82E-02	6.23E-03	6.66E-02
		92.51		4.23	5.82E-02		3.10E-02	2.91E-02
		112.81		0.21	9.78E-01		-1.49E-01	4.88E-01
		742.81		0.11	6.05E-01		9.31E-02	2.98E-01
		766.28		0.32	2.05E-01		1.71E-01	1.01E-01
		1001.03		0.84	1.55E-01		1.75E+00	7.69E-02
	NP-239	99.60		12.80	2.32E-02	1.07E-02	-7.14E-03	1.16E-02
		103.80		20.40	1.41E-02		1.25E-02	7.04E-03
		106.10		26.40	1.07E-02		3.04E-02	5.36E-03
		116.90		7.61	3.46E-02		1.21E-02	1.73E-02
		228.20		11.20	1.61E-02		1.55E-02	8.04E-03
		277.60		14.50	1.10E-02		-8.24E-03	5.50E-03
		315.90		1.60	9.06E-02		8.03E-02	4.51E-02
		334.30		2.06	6.67E-02		-7.07E-02	3.32E-02
+	AM-241	59.54	*	35.90	2.15E-02	2.15E-02	4.75E-01	1.08E-02

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

Apex-Gamma

Analysis Report for 24-2289 6.0M-AN107-d-A F3r

Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2289 6.0M-AN107-d-A F3r
Sample Description	: Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/29/2024 9:54:32AM
Procedure	: F3_gsv02mlw
Operator	: Administrator
Detector Name	: F
Geometry	: F3_gsv02mlw
Live Time	: 3346.4 seconds
Real Time	: 3617.4 seconds
Dead Time	: 7.49 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: F3_gsv2mlw_R717
Sample Number	: 568004
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/29/2024 12:32:11PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2289 6.0M-AN107-d-A F3r

Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.85	120.45	0.2105	8.16
2	48.85	137.00	0.2845	5.32
3	57.05	159.00	0.0000	0.00
4	59.60	167.12	0.0410	244.93
5	75.02	209.99	0.2517	6.65
6	86.81	242.88	0.1883	10.74
7	105.53	295.56	0.2150	8.18
8	107.93	304.00	0.0000	0.00
9	123.13	344.63	0.0593	102.38
10	125.98	353.00	0.0000	0.00
11	145.78	407.98	0.4202	3.06
12	247.91	693.43	0.1064	29.30
13	277.31	775.61	0.3120	3.57
14	344.23	962.59	0.2273	6.50
15	360.85	1009.02	0.3597	3.33
16	414.87	1159.95	0.1462	14.48
17	511.11	1429.25	0.1220	12.81
18	582.23	1627.58	0.2158	5.39
19	591.89	1654.79	0.1006	27.17
20	661.82	1850.16	0.0453	126.73
21	666.45	1863.50	0.1373	16.23
22	692.62	1935.75	0.1872	9.41
23	695.24	1943.93	0.1552	12.62
24	723.50	2022.58	0.0620	63.87
25	757.02	2116.20	0.0977	27.06
26	779.40	2178.80	0.2412	3.49
27	815.84	2280.80	0.2192	4.98
28	827.95	2314.46	0.3154	3.30
29	845.93	2364.42	0.2117	5.49
30	873.45	2441.56	0.0725	44.93
31	893.12	2496.82	0.2174	5.32
32	904.27	2527.60	0.1801	7.79
33	934.75	2612.54	0.3189	3.17
34	964.17	2695.26	0.2162	5.59
35	996.55	2785.54	0.0748	40.30
36	1005.06	2809.34	0.0646	52.76
37	1086.14	3036.06	0.2470	4.42
38	1112.51	3109.50	0.2071	5.77
39	1128.64	3154.66	0.2050	5.64
40	1173.54	3280.19	0.0688	44.33
41	1246.54	3484.22	0.1762	6.77
42	1274.82	3563.09	0.0550	67.46
43	1332.89	3725.50	0.0694	39.66
44	1397.93	3907.05	0.1536	8.98
45	1408.53	3936.94	0.1591	7.55
46	1494.54	4177.08	0.1552	6.67
47	1596.91	4462.99	0.1155	13.61
48	1719.83	4806.37	0.1816	6.27
49	2506.21	7004.59	0.2097	3.45

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2289 6.0M-AN107-d-A F3r

Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/29/2024 12:32:11PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.85	112 -	123	120.30	5.49E+03	524.48	3.91E+05	1.05
F	2	48.85	129 -	144	137.06	5.55E+03	2605.99	6.33E+05	1.33
M	3	57.05	154 -	174	159.97	6.44E+03	554.91	5.22E+05	1.24
m	4	59.60	154 -	174	167.12	4.03E+05	2905.57	5.52E+05	1.24
F	5	75.02	203 -	218	210.21	1.02E+04	4415.79	6.19E+05	1.21
F	6	86.81	238 -	251	243.16	1.26E+04	2924.76	4.87E+05	1.59
M	7	105.53	291 -	312	295.48	6.55E+03	2156.03	2.78E+05	1.17
m	8	107.93	291 -	312	302.19	5.47E+02	375.36	4.63E+05	1.17
M	9	123.13	338 -	361	344.67	9.07E+04	4024.76	2.83E+05	1.32
m	10	125.98	338 -	361	352.63	1.63E+03	378.35	2.67E+05	1.32
	11	145.78	399 -	416	407.98	2.19E+03	1249.07	2.83E+05	0.75
F	12	247.91	689 -	700	693.44	1.07E+04	235.68	5.77E+04	1.41
	13	277.31	771 -	783	775.61	2.08E+02	446.84	4.67E+04	0.59
F	14	344.23	959 -	968	962.63	1.07E+03	139.48	2.10E+04	1.16
F	15	360.85	1005 -	1019	1009.09	2.96E+02	100.37	2.77E+04	0.67
F	16	414.87	1154 -	1169	1160.05	2.84E+03	125.88	2.08E+04	1.62
F	17	511.11	1417 -	1440	1429.03	8.14E+03	567.60	1.89E+04	3.09
F	18	582.23	1621 -	1635	1627.79	1.09E+03	369.51	7.74E+03	2.28
F	19	591.89	1642 -	1666	1654.79	5.01E+03	338.18	1.23E+04	1.85
M	20	661.82	1841 -	1871	1850.19	5.81E+04	241.77	7.05E+03	1.80
m	21	666.45	1841 -	1871	1863.13	2.21E+03	78.34	6.93E+03	1.80
M	22	692.62	1923 -	1951	1936.28	1.62E+03	298.14	6.10E+03	1.85
m	23	695.24	1923 -	1951	1943.59	2.00E+03	312.76	6.06E+03	1.86
F	24	723.50	2010 -	2032	2022.58	1.71E+04	370.63	6.91E+03	1.89
F	25	757.02	2109 -	2128	2116.24	3.72E+03	81.25	5.42E+03	1.85
	26	779.40	2172 -	2191	2178.80	1.75E+02	176.73	5.16E+03	1.47
F	27	815.84	2269 -	2285	2280.61	5.30E+02	213.85	3.46E+03	2.10
	28	827.95	2310 -	2319	2314.46	6.12E+01	84.59	2.01E+03	0.77
F	29	845.93	2359 -	2374	2364.72	3.93E+02	52.09	3.18E+03	1.81
F	30	873.45	2429 -	2454	2441.62	9.36E+03	267.59	4.23E+03	2.11
F	31	893.12	2489 -	2503	2496.57	3.44E+02	75.09	2.42E+03	1.87
F	32	904.27	2519 -	2534	2527.73	6.04E+02	185.19	2.52E+03	1.87
F	33	934.75	2608 -	2617	2612.92	6.09E+01	26.03	1.41E+03	0.55
F	34	964.17	2690 -	2702	2695.12	2.66E+02	42.83	1.87E+03	1.49
F	35	996.55	2773 -	2797	2785.60	7.54E+03	92.68	3.31E+03	2.10
F	36	1005.06	2798 -	2823	2809.38	1.30E+04	115.23	3.16E+03	2.17
F	37	1086.14	3024 -	3042	3035.95	2.72E+02	141.91	1.71E+03	1.99
F	38	1112.51	3104 -	3119	3109.65	2.64E+02	35.97	1.33E+03	1.72
F	39	1128.64	3142 -	3168	3154.72	4.82E+02	151.24	1.68E+03	2.53
F	40	1173.54	3265 -	3294	3280.19	9.04E+03	193.78	1.65E+03	2.32

Analysis Report for 24-2289 6.0M-AN107-d-A F3r

Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1246.54	3476 -	3495	3484.15	4.31E+02	29.28	6.88E+02	2.55
F	42	1274.82	3548 -	3574	3563.18	2.16E+04	140.78	9.76E+02	2.39
F	43	1332.89	3710 -	3737	3725.44	8.26E+03	161.83	6.11E+02	2.52
F	44	1397.93	3893 -	3920	3907.16	4.87E+02	78.43	3.43E+02	2.49
F	45	1408.53	3921 -	3949	3936.79	4.77E+02	78.74	3.97E+02	2.61
F	46	1494.54	4165 -	4188	4177.11	4.28E+02	21.99	1.80E+02	2.82
F	47	1596.91	4449 -	4476	4463.12	1.03E+03	32.06	1.82E+02	2.61
F	48	1719.83	4797 -	4817	4806.55	1.19E+02	12.00	4.12E+01	2.14
F	49	2506.21	6994 -	7013	7003.43	7.30E+01	9.51	2.53E+01	3.36

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/29/2024 12:32:11PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567378.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.85	5.49E+03	524.48			5.49E+03	5.24E+02
F	2	48.85	5.55E+03	2605.99			5.55E+03	2.61E+03
M	3	57.05	6.44E+03	554.91			6.44E+03	5.55E+02
m	4	59.60	4.03E+05	2905.57			4.03E+05	2.91E+03
F	5	75.02	1.02E+04	4415.79	1.13E+02	6.22E+00	1.01E+04	4.42E+03
F	6	86.81	1.26E+04	2924.76	2.48E+01	1.57E+00	1.25E+04	2.92E+03
M	7	105.53	6.55E+03	2156.03			6.55E+03	2.16E+03
m	8	107.93	5.47E+02	375.36			5.47E+02	3.75E+02
M	9	123.13	9.07E+04	4024.76			9.07E+04	4.02E+03
m	10	125.98	1.63E+03	378.35			1.63E+03	3.78E+02
	11	145.78	2.19E+03	1249.07			2.19E+03	1.25E+03
F	12	247.91	1.07E+04	235.68			1.07E+04	2.36E+02
	13	277.31	2.08E+02	446.84			2.08E+02	4.47E+02
F	14	344.23	1.07E+03	139.48			1.07E+03	1.39E+02
F	15	360.85	2.96E+02	100.37			2.96E+02	1.00E+02
F	16	414.87	2.84E+03	125.88			2.84E+03	1.26E+02
F	17	511.11	8.14E+03	567.60	1.31E+02	4.80E+00	8.01E+03	5.68E+02
F	18	582.23	1.09E+03	369.51	1.55E+01	2.47E+00	1.07E+03	3.70E+02
F	19	591.89	5.01E+03	338.18			5.01E+03	3.38E+02
M	20	661.82	5.81E+04	241.77			5.81E+04	2.42E+02

Analysis Report for 24-2289 6.0M-AN107-d-A F3r

Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
m	21	666.45	2.21E+03	78.34			2.21E+03	7.83E+01
M	22	692.62	1.62E+03	298.14			1.62E+03	2.98E+02
m	23	695.24	2.00E+03	312.76			2.00E+03	3.13E+02
F	24	723.50	1.71E+04	370.63			1.71E+04	3.71E+02
F	25	757.02	3.72E+03	81.25			3.72E+03	8.13E+01
	26	779.40	1.75E+02	176.73			1.75E+02	1.77E+02
F	27	815.84	5.30E+02	213.85			5.30E+02	2.14E+02
	28	827.95	6.12E+01	84.59			6.12E+01	8.46E+01
F	29	845.93	3.93E+02	52.09			3.93E+02	5.21E+01
F	30	873.45	9.36E+03	267.59			9.36E+03	2.68E+02
F	31	893.12	3.44E+02	75.09			3.44E+02	7.51E+01
F	32	904.27	6.04E+02	185.19			6.04E+02	1.85E+02
F	33	934.75	6.09E+01	26.03	4.91E+00	4.94E-01	5.60E+01	2.60E+01
F	34	964.17	2.66E+02	42.83			2.66E+02	4.28E+01
F	35	996.55	7.54E+03	92.68			7.54E+03	9.27E+01
F	36	1005.06	1.30E+04	115.23			1.30E+04	1.15E+02
F	37	1086.14	2.72E+02	141.91			2.72E+02	1.42E+02
F	38	1112.51	2.64E+02	35.97			2.64E+02	3.60E+01
F	39	1128.64	4.82E+02	151.24			4.82E+02	1.51E+02
F	40	1173.54	9.04E+03	193.78			9.04E+03	1.94E+02
F	41	1246.54	4.31E+02	29.28			4.31E+02	2.93E+01
F	42	1274.82	2.16E+04	140.78			2.16E+04	1.41E+02
F	43	1332.89	8.26E+03	161.83			8.26E+03	1.62E+02
F	44	1397.93	4.87E+02	78.43			4.87E+02	7.84E+01
F	45	1408.53	4.77E+02	78.74	4.20E+00	3.85E-01	4.72E+02	7.87E+01
F	46	1494.54	4.28E+02	21.99			4.28E+02	2.20E+01
F	47	1596.91	1.03E+03	32.06			1.03E+03	3.21E+01
F	48	1719.83	1.19E+02	12.00			1.19E+02	1.20E+01
F	49	2506.21	7.30E+01	9.51			7.30E+01	9.51E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr

Analysis Report for 24-2289 6.0M-AN107-d-A F3r

Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.98	1173.24	*	99.97	7.78E-03	1.71E-04	0.965
		1332.50	*	99.99	7.70E-03	1.57E-04	0.963
		2505.74	*	1.00	1.04E-02	1.43E-03	miss
RH-106	0.40	511.86	*	20.70	2.00E-02	1.54E-03	0.975
		621.92		9.93			
		1050.36		1.56			
SB-126	0.49	223.90		1.39			
		278.20	*	2.40	3.47E-03	7.50E-03	0.860
		296.50		4.50			
		414.70	*	83.30	1.71E-03	9.04E-05	0.877
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.49E-03	5.33E-05	0.875
		674.80		3.10			
		695.00	*	99.60	1.38E-03	2.16E-04	0.874
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.73	64.28		9.60			
		87.30	*	45.90	6.79E-03	1.61E-03	miss
CS-137	0.99	661.66	*	85.20	3.98E-02	2.66E-04	miss
CE-141	0.93	40.70		3.35			
		145.44	*	48.29	1.31E-03	7.47E-04	free
EU-152	0.47	121.78		28.58			
		344.28	*	26.50	1.63E-03	2.16E-04	0.971
		778.90	*	12.94	9.11E-04	9.17E-04	0.961
		964.08	*	14.73	1.37E-03	2.21E-04	0.967
		1085.87	*	10.24	2.08E-03	1.09E-03	1.008
		1112.07	*	13.69	1.57E-03	2.15E-04	0.982
		1408.01	*	21.07	2.14E-03	3.57E-04	0.975
EU-154	0.99	42.70	*	20.45	2.95E-02	3.01E-03	miss
		123.07	*	40.40	5.54E-02	2.56E-03	0.958
		247.93	*	6.89	5.29E-02	1.34E-03	0.945
		591.76	*	4.95	5.92E-02	4.05E-03	0.934
		692.42	*	1.78	5.79E-02	1.07E-02	0.949
		723.30	*	20.06	5.52E-02	1.35E-03	0.952
		756.80	*	4.52	5.60E-02	1.36E-03	0.932
		873.18	*	12.08	5.67E-02	1.75E-03	0.945
		996.29	*	10.48	5.47E-02	8.90E-04	0.986
		1004.76	*	18.01	5.54E-02	7.91E-04	0.978
		1246.12	*	0.86	4.60E-02	3.19E-03	0.941
		1274.43	*	34.80	5.54E-02	6.75E-04	0.980
		1494.05	*	0.70	5.84E-02	3.09E-03	1.014
		1596.48	*	1.80	5.02E-02	1.69E-03	1.158
AM-241	0.99	59.54	*	35.90	4.59E-01	9.92E-03	free

Analysis Report for 24-2289 6.0M-AN107-d-A F3r

Branch

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-60	0.980	7.75E-03	1.15E-04	
	RH-106	0.402	2.00E-02	1.54E-03	
	SB-126	0.497	1.54E-03	4.49E-05	
	Sn-126	0.730	6.79E-03	1.61E-03	
	CS-137	0.996	3.98E-02	2.66E-04	
	CE-141	0.936	1.31E-03	7.47E-04	
	EU-152	0.470	1.59E-03	1.17E-04	
	EU-154	0.990	5.46E-02	3.55E-04	
X	EU-155	0.992			
	AM-241	0.999	4.59E-01	9.92E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2289 6.0M-AN107-d-A F3r

Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/29/2024 12:32:11PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	48.85	1.65824E+00	46.96		
M	3	57.05	1.92422E+00	8.62		
F	5	75.02	3.02627E+00	43.60	Tol.	TH-232
M	7	105.53	1.95864E+00	32.89	Tol.	EU-155
m	8	107.93	1.63359E-01	68.66		
m	10	125.98	4.88020E-01	23.17		
F	15	360.85	8.83590E-02	33.94		
F	18	582.23	3.19593E-01	34.55	Tol.	TH-232
F	27	815.84	1.58351E-01	40.36	Sum	
	28	827.95	1.83022E-02	138.11		
F	29	845.93	1.17500E-01	13.25	Sum	
F	31	893.12	1.02720E-01	21.85		
F	32	904.27	1.80346E-01	30.69		
F	33	934.75	1.67329E-02	46.50		
F	39	1128.64	1.43908E-01	31.41	Sum	
F	44	1397.93	1.45623E-01	16.09	Sum	
F	48	1719.83	3.54479E-02	10.12	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Analysis Report for 24-2289 6.0M-AN107-d-A F3r

Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	4.08E-03	4.08E-03	-6.11E-04	2.03E-03
	K-40	1460.83		10.67	1.01E-03	1.01E-03	1.07E-03	4.95E-04
	MN-54	834.84		99.98	2.72E-04	2.72E-04	1.20E-04	1.35E-04
	CO-58	810.78		99.45	2.99E-04	2.99E-04	7.83E-05	1.49E-04
		863.96		0.68	4.29E-02		-3.20E-03	2.13E-02
		1674.73		0.52	1.28E-02		3.53E-03	6.11E-03
	FE-59	142.65		1.00	7.88E-02	3.64E-04	5.19E-03	3.94E-02
		192.35		3.01	2.36E-02		8.44E-03	1.18E-02
		334.80		0.27	1.88E-01		9.28E-03	9.40E-02
		1099.25		56.30	4.37E-04		-4.76E-05	2.16E-04
		1291.60		43.70	3.64E-04		1.85E-04	1.79E-04
+	CO-60	1173.24	*	99.97	3.37E-04	2.18E-04	7.78E-03	1.68E-04
		1332.50	*	99.99	2.18E-04		7.70E-03	1.08E-04
		2505.74	*	1.00	6.17E-03		1.04E-02	2.90E-03
	SR-85	514.00		96.00	4.69E-04	4.69E-04	-1.37E-05	2.34E-04
		868.60		0.01	3.56E+00		-6.97E-01	1.77E+00
	NB-94	702.62		97.90	3.21E-04	3.21E-04	-1.03E-05	1.59E-04
		871.09		99.98	4.22E-04		7.83E-05	2.10E-04
	NB-95	765.81		99.81	3.30E-04	3.30E-04	1.14E-04	1.64E-04
	RU-103	497.05		91.00	4.64E-04	4.64E-04	-5.70E-04	2.31E-04
		610.30		5.76	6.60E-03		-2.72E-03	3.28E-03
+	RH-106	511.86	*	20.70	3.00E-03	3.00E-03	2.00E-02	1.50E-03
		621.92		9.93	3.54E-03		8.38E-04	1.76E-03
		1050.36		1.56	1.64E-02		1.16E-02	8.15E-03
	AG-108M	79.13		6.60	1.68E-02	4.05E-04	1.38E-03	8.39E-03
		433.90		90.50	4.89E-04		1.16E-04	2.44E-04
		614.30		89.80	4.05E-04		-3.04E-04	2.01E-04
		722.90		90.80	5.73E-04		1.23E-02	2.86E-04
	CD-109	88.03		3.61	2.76E-02	2.76E-02	1.16E-01	1.38E-02
	SB-125	176.31		6.82	9.53E-03	1.40E-03	4.01E-03	4.76E-03
		380.45		1.52	2.80E-02		4.86E-03	1.40E-02
		427.87		29.55	1.40E-03		6.14E-04	6.95E-04
		463.36		10.48	3.83E-03		-2.53E-03	1.91E-03
		600.60		17.76	1.87E-03		1.24E-03	9.32E-04
		606.71		5.02	6.76E-03		-3.91E-03	3.37E-03
		635.95		11.32	2.89E-03		-9.90E-04	1.44E-03
		671.44		1.78	1.92E-02		3.48E-04	9.57E-03
+	SB-126	223.90		1.39	4.01E-02	2.52E-04	3.99E-03	2.00E-02
		278.20	*	2.40	2.45E-02		3.47E-03	1.22E-02
		296.50		4.50	1.30E-02		8.18E-04	6.47E-03
		414.70	*	83.30	6.40E-04		1.71E-03	3.19E-04
		556.30		1.69	2.45E-02		1.88E-02	1.22E-02
		573.90		6.70	6.03E-03		1.91E-03	3.00E-03
		593.20		7.50	5.65E-03		-3.46E-04	2.82E-03
		656.30		2.19	3.48E-02		5.44E-03	1.74E-02
		666.50	*	99.60	2.63E-04		1.49E-03	1.30E-04
		674.80		3.10	1.19E-02		5.13E-03	5.94E-03
		695.00	*	99.60	2.52E-04		1.38E-03	1.25E-04
		697.00		29.00	1.41E-03		-3.02E-04	7.01E-04
		720.70		53.80	1.04E-03		2.44E-04	5.18E-04
		856.80		17.60	1.73E-03		2.98E-03	8.61E-04
		989.60		6.80	5.44E-03		5.64E-04	2.70E-03
		1213.30		2.39	7.53E-03		4.03E-03	3.71E-03

Analysis Report for 24-2289 6.0M-AN107-d-A F3r

Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	Sn-126	64.28		9.60	1.52E-02	2.64E-03	1.32E-02	7.58E-03
		87.30	*	45.90	2.64E-03		6.79E-03	1.32E-03
	I-129	29.70		56.60	4.09E-02	4.09E-02	-1.64E-01	2.04E-02
		33.60		10.04	1.12E-01		-4.23E-01	5.59E-02
		34.40		2.01	4.95E-01		-2.00E+00	2.47E-01
		39.60		7.51	7.17E-02		-1.15E-02	3.58E-02
	CS-134	563.25		8.34	4.55E-03	3.42E-04	4.66E-03	2.27E-03
		569.33		15.37	2.45E-03		2.31E-03	1.22E-03
		604.72		97.62	3.68E-04		4.24E-04	1.83E-04
		795.86		85.46	3.42E-04		-3.55E-04	1.70E-04
		801.95		8.69	3.40E-03		-1.26E-03	1.69E-03
+	CS-137	661.66	*	85.20	2.70E-04	2.70E-04	3.98E-02	1.34E-04
	CE-139	165.85		79.89	8.76E-04	8.76E-04	7.21E-04	4.38E-04
+	CE-141	40.70		3.35	1.69E-01	2.46E-03	-6.63E-02	8.42E-02
		145.44	*	48.29	2.46E-03		1.31E-03	1.23E-03
	CE-144	80.12		1.36	8.15E-02	6.77E-03	1.98E-02	4.07E-02
		133.51		11.09	6.77E-03		7.61E-03	3.38E-03
+	EU-152	121.78		28.58	3.12E-03	8.66E-04	-8.97E-04	1.56E-03
		344.28	*	26.50	1.36E-03		1.63E-03	6.80E-04
		778.90	*	12.94	3.02E-03		9.11E-04	1.50E-03
		964.08	*	14.73	1.53E-03		1.37E-03	7.60E-04
		1085.87	*	10.24	2.52E-03		2.08E-03	1.25E-03
		1112.07	*	13.69	1.62E-03		1.57E-03	8.01E-04
		1408.01	*	21.07	8.66E-04		2.14E-03	4.27E-04
	GD-153	97.43		29.00	3.28E-03	3.28E-03	2.20E-03	1.64E-03
		103.18		21.10	4.33E-03		-2.44E-03	2.16E-03
+	EU-154	42.70	*	20.45	2.22E-02	7.41E-04	2.95E-02	1.11E-02
		123.07	*	40.40	1.51E-03		5.54E-02	7.56E-04
		247.93	*	6.89	7.88E-03		5.29E-02	3.93E-03
		591.76	*	4.95	1.16E-02		5.92E-02	5.80E-03
		692.42	*	1.78	1.31E-02		5.79E-02	6.48E-03
		723.30	*	20.06	2.31E-03		5.52E-02	1.15E-03
		756.80	*	4.52	9.04E-03		5.60E-02	4.50E-03
		873.18	*	12.08	3.57E-03		5.67E-02	1.78E-03
		996.29	*	10.48	3.72E-03		5.47E-02	1.85E-03
		1004.76	*	18.01	2.18E-03		5.54E-02	1.09E-03
		1246.12	*	0.86	2.30E-02		4.60E-02	1.13E-02
		1274.43	*	34.80	7.41E-04		5.54E-02	3.67E-04
		1494.05	*	0.70	1.63E-02		5.84E-02	7.97E-03
		1596.48	*	1.80	6.23E-03		5.02E-02	3.05E-03
	EU-155	43.00	*	18.70	2.43E-02	2.71E-03	3.23E-02	1.21E-02
		60.01	*	1.22	1.17E-01		1.36E+01	5.83E-02
		86.55	*	30.70	3.96E-03		1.02E-02	1.98E-03
		105.31	*	21.10	2.71E-03		7.24E-03	1.35E-03
	HG-203	72.87		6.30	2.19E-02	7.01E-04	2.75E-03	1.10E-02
		279.20		81.46	7.01E-04		5.72E-04	3.50E-04
	BI-207	569.15		97.80	3.75E-04	3.39E-04	3.53E-04	1.87E-04
		1063.10		74.90	3.39E-04		2.76E-04	1.68E-04
	PB-210	46.54		4.25	7.47E-02	7.47E-02	-4.55E-02	3.73E-02
	RA-226	74.81		6.44	1.86E-02	3.88E-04	3.99E-02	9.31E-03
		77.11		10.80	1.07E-02		1.23E-03	5.33E-03
		87.30		4.84	2.06E-02		8.37E-02	1.03E-02
		186.21		3.59	1.75E-02		3.26E-02	8.75E-03

Analysis Report for 24-2289 6.0M-AN107-d-A F3r

Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	242.00		7.43	7.12E-03	3.88E-04	-8.46E-03	3.55E-03
		295.22		19.30	2.58E-03		-4.75E-04	1.29E-03
		351.93		37.60	1.18E-03		5.23E-04	5.89E-04
		609.31		46.10	7.31E-04		-1.11E-04	3.64E-04
		768.36		4.94	5.80E-03		1.80E-03	2.88E-03
		1120.29		15.10	1.43E-03		9.24E-04	7.09E-04
		1238.11		5.79	2.75E-03		2.95E-04	1.36E-03
		1764.49		15.40	3.88E-04		4.02E-04	1.85E-04
	PA-231	283.70		1.59	3.21E-02	2.07E-02	1.87E-02	1.60E-02
		300.07		2.38	2.07E-02		1.71E-03	1.03E-02
		302.67		1.71	2.86E-02		2.90E-02	1.43E-02
		330.07		1.32	3.50E-02		-3.98E-02	1.74E-02
	TH-232	74.81		11.62	1.03E-02	1.50E-04	2.21E-02	5.16E-03
		77.11		17.50	6.58E-03		7.59E-04	3.29E-03
		87.30		7.80	1.28E-02		5.19E-02	6.38E-03
		238.63		43.30	1.23E-03		-4.29E-04	6.14E-04
		338.32		11.30	4.03E-03		-2.92E-03	2.01E-03
		583.19		30.37	1.13E-03		1.14E-03	5.61E-04
		727.33		6.58	7.26E-03		2.20E-03	3.62E-03
		911.21		26.60	9.87E-04		-2.13E-04	4.90E-04
		968.97		16.20	1.60E-03		2.21E-03	7.92E-04
		2614.53		35.64	1.50E-04		2.15E-04	6.92E-05
	U-235	143.76		10.96	6.44E-03	1.10E-03	7.18E-04	3.21E-03
		185.71		57.20	1.10E-03		2.09E-03	5.50E-04
		205.31		5.01	1.18E-02		-2.74E-03	5.87E-03
	U-238	63.29		3.70	4.43E-02	2.20E-02	4.90E-03	2.22E-02
		92.51		4.23	2.20E-02		2.73E-02	1.10E-02
		112.81		0.21	3.91E-01		-1.65E-01	1.95E-01
		742.81		0.11	2.69E-01		-3.60E-01	1.34E-01
		766.28		0.32	9.03E-02		-3.45E-02	4.49E-02
		1001.03		0.84	6.63E-02		1.79E+00	3.30E-02
	NP-239	99.60		12.80	5.37E-02	2.52E-02	-5.14E-02	2.68E-02
		103.80		20.40	3.27E-02		-3.30E-02	1.64E-02
		106.10		26.40	2.52E-02		-8.15E-03	1.26E-02
		116.90		7.61	7.98E-02		2.76E-02	3.99E-02
		228.20		11.20	3.76E-02		1.74E-02	1.88E-02
		277.60		14.50	2.74E-02		-1.27E-02	1.37E-02
		315.90		1.60	2.20E-01		-1.23E-01	1.10E-01
		334.30		2.06	1.59E-01		-3.64E-03	7.93E-02
+	AM-241	59.54	*	35.90	3.95E-03	3.95E-03	4.59E-01	1.97E-03

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

Apex-Gamma

Analysis Report for 24-2290 7.0M AN-107-A X5

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2290 7.0M AN-107-A X5
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 9:07:41AM
Procedure	: P5_GSV02mlw
Operator	: Administrator
Detector Name	: X
Geometry	: P5_GSV2MLW
Live Time	: 4182.6 seconds
Real Time	: 4255.0 seconds
Dead Time	: 1.70 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 7/9/2024
Efficiency Calibration Used Done On	: 3/13/2019
Efficiency Calibration Description	: X5_gsv2mlw_R717P
Sample Number	: 567782
Certificate Name	: QA_Q
Certificate Date	: 3/23/1994 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 10:18:39AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2290 7.0M AN-107-A X5

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.52	184.16	0.0544	101.89
2	74.85	231.44	0.2452	5.64
3	105.50	325.43	0.2889	3.74
4	123.04	380.11	0.0768	48.95
5	210.41	649.68	0.3418	3.08
6	247.87	765.22	0.1271	16.37
7	344.65	1063.80	0.2598	4.34
8	414.81	1280.30	0.1693	9.02
9	444.31	1370.95	0.2586	4.64
10	511.01	1576.86	0.1419	7.56
11	582.21	1796.51	0.2325	4.61
12	591.78	1825.91	0.1202	15.69
13	661.69	2041.99	0.0541	73.35
14	666.29	2056.77	0.1633	10.63
15	688.06	2124.00	0.2907	3.54
16	692.43	2135.94	0.2059	6.53
17	695.02	2145.22	0.2103	5.74
18	723.33	2232.18	0.0742	38.15
19	756.80	2335.44	0.1169	16.07
20	816.04	2518.30	0.2277	4.55
21	873.22	2694.74	0.0836	29.09
22	893.00	2756.05	0.2486	3.12
23	904.08	2790.01	0.1997	5.17
24	964.29	2975.08	0.2252	3.72
25	996.33	3074.59	0.0888	23.97
26	1004.81	3100.68	0.0759	33.02
27	1085.99	3351.18	0.2944	3.00
28	1112.14	3430.99	0.2155	4.50
29	1173.28	3620.60	0.0819	26.62
30	1246.32	3845.74	0.1889	5.00
31	1274.47	3932.78	0.0646	42.02
32	1332.57	4112.14	0.0817	26.31
33	1407.82	4344.12	0.1706	6.52
34	1460.99	4508.33	0.2108	4.19
35	1493.96	4609.93	0.1845	3.84
36	1596.66	4926.70	0.1429	8.18

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2290 7.0M AN-107-A X5

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 10:18:39AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.52	173	194	184.15	8.31E+04	1507.49	2.21E+05	1.49
F	2	74.85	220	242	231.45	3.95E+03	1270.47	2.33E+05	1.17
F	3	105.50	319	336	326.01	3.17E+03	298.52	1.42E+05	2.49
F	4	123.04	371	390	380.11	2.62E+04	1162.00	1.26E+05	1.58
	5	210.41	645	653	649.68	1.62E+02	250.45	1.91E+04	0.77
F	6	247.87	758	774	765.25	3.45E+03	130.61	2.48E+04	1.58
F	7	344.65	1058	1069	1063.84	3.43E+02	250.36	7.33E+03	0.96
F	8	414.81	1268	1291	1280.30	8.59E+02	217.16	9.24E+03	1.53
F	9	444.31	1364	1375	1371.33	3.59E+02	365.39	3.83E+03	0.78
F	10	511.01	1562	1591	1577.13	2.95E+03	345.85	6.25E+03	3.58
F	11	582.21	1786	1804	1796.79	3.96E+02	295.66	2.72E+03	1.32
F	12	591.78	1813	1833	1826.31	1.62E+03	57.54	3.06E+03	1.73
M	13	661.69	2030	2071	2042.01	1.70E+04	128.76	2.36E+03	1.88
m	14	666.29	2030	2071	2056.22	6.81E+02	43.07	2.21E+03	1.89
M	15	688.06	2119	2159	2123.39	8.33E+01	33.66	1.26E+03	1.90
m	16	692.43	2119	2159	2136.86	5.21E+02	39.13	1.88E+03	1.90
m	17	695.02	2119	2159	2144.85	5.99E+02	40.32	1.87E+03	1.90
F	18	723.33	2219	2246	2232.21	5.48E+03	214.30	2.15E+03	2.04
F	19	756.80	2324	2346	2335.49	1.07E+03	162.80	1.77E+03	1.81
F	20	816.04	2507	2525	2518.27	1.83E+02	98.91	1.07E+03	1.48
F	21	873.22	2683	2707	2694.67	2.95E+03	165.31	1.28E+03	2.02
F	22	893.00	2749	2763	2755.71	1.54E+02	88.52	6.07E+02	2.31
F	23	904.08	2781	2799	2789.89	1.71E+02	27.49	8.80E+02	1.78
F	24	964.29	2965	2984	2975.67	1.28E+02	24.18	7.03E+02	1.99
M	25	996.33	3062	3114	3074.54	2.41E+03	83.98	7.33E+02	2.28
m	26	1004.81	3062	3114	3100.69	4.14E+03	129.73	7.33E+02	2.28
	27	1085.99	3346	3357	3351.18	1.38E+01	36.66	3.23E+02	0.59
F	28	1112.14	3424	3442	3431.89	1.25E+02	20.35	3.82E+02	2.08
F	29	1173.28	3607	3638	3620.54	2.69E+03	51.64	4.76E+02	2.30
F	30	1246.32	3838	3856	3845.90	1.16E+02	17.10	2.22E+02	2.09
F	31	1274.47	3918	3946	3932.77	6.60E+03	138.89	2.32E+02	2.45
F	32	1332.57	4099	4124	4112.04	2.57E+03	110.82	1.83E+02	2.39
F	33	1407.82	4337	4354	4344.22	1.22E+02	13.53	7.28E+01	1.96
F	34	1460.99	4502	4516	4508.30	5.37E+01	11.21	6.75E+01	1.90
F	35	1493.96	4599	4620	4610.04	1.11E+02	12.25	6.04E+01	2.64
F	36	1596.66	4916	4939	4926.93	2.68E+02	17.07	6.05E+01	2.56

Analysis Report for 24-2290 7.0M AN-107-A X5

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 10:18:39AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567386.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.52	8.31E+04	1507.49			8.31E+04	1.51E+03
F	2	74.85	3.95E+03	1270.47	1.33E+02	9.24E+00	3.82E+03	1.27E+03
F	3	105.50	3.17E+03	298.52			3.17E+03	2.99E+02
F	4	123.04	2.62E+04	1162.00			2.62E+04	1.16E+03
	5	210.41	1.62E+02	250.45			1.62E+02	2.50E+02
F	6	247.87	3.45E+03	130.61			3.45E+03	1.31E+02
F	7	344.65	3.43E+02	250.36			3.43E+02	2.50E+02
F	8	414.81	8.59E+02	217.16			8.59E+02	2.17E+02
F	9	444.31	3.59E+02	365.39			3.59E+02	3.65E+02
F	10	511.01	2.95E+03	345.85			2.95E+03	3.46E+02
F	11	582.21	3.96E+02	295.66	1.27E+01	8.11E-01	3.83E+02	2.96E+02
F	12	591.78	1.62E+03	57.54			1.62E+03	5.75E+01
M	13	661.69	1.70E+04	128.76			1.70E+04	1.29E+02
m	14	666.29	6.81E+02	43.07			6.81E+02	4.31E+01
M	15	688.06	8.33E+01	33.66			8.33E+01	3.37E+01
m	16	692.43	5.21E+02	39.13			5.21E+02	3.91E+01
m	17	695.02	5.99E+02	40.32			5.99E+02	4.03E+01
F	18	723.33	5.48E+03	214.30			5.48E+03	2.14E+02
F	19	756.80	1.07E+03	162.80			1.07E+03	1.63E+02
F	20	816.04	1.83E+02	98.91			1.83E+02	9.89E+01
F	21	873.22	2.95E+03	165.31			2.95E+03	1.65E+02
F	22	893.00	1.54E+02	88.52			1.54E+02	8.85E+01
F	23	904.08	1.71E+02	27.49			1.71E+02	2.75E+01
F	24	964.29	1.28E+02	24.18			1.28E+02	2.42E+01
M	25	996.33	2.41E+03	83.98			2.41E+03	8.40E+01
m	26	1004.81	4.14E+03	129.73			4.14E+03	1.30E+02
	27	1085.99	1.38E+01	36.66			1.38E+01	3.67E+01
F	28	1112.14	1.25E+02	20.35			1.25E+02	2.03E+01
F	29	1173.28	2.69E+03	51.64			2.69E+03	5.16E+01
F	30	1246.32	1.16E+02	17.10			1.16E+02	1.71E+01
F	31	1274.47	6.60E+03	138.89			6.60E+03	1.39E+02
F	32	1332.57	2.57E+03	110.82			2.57E+03	1.11E+02
F	33	1407.82	1.22E+02	13.53			1.22E+02	1.35E+01

Analysis Report for 24-2290 7.0M AN-107-A X5

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 34	1460.99	5.37E+01	11.21			5.37E+01	1.12E+01
F 35	1493.96	1.11E+02	12.25			1.11E+02	1.22E+01
F 36	1596.66	2.68E+02	17.07			2.68E+02	1.71E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.99	1460.83	*	10.67	1.85E-03	3.87E-04	miss
CO-57	0.69	122.06	*	85.60	3.17E-02	1.44E-03	miss
		136.47		10.68			
CO-60	0.99	1173.24	*	99.97	8.55E-03	1.70E-04	miss
		1332.50	*	99.99	8.87E-03	3.87E-04	miss
		2505.74		1.00			
RH-106	0.38	511.86	*	20.70	2.72E-02	3.29E-03	miss
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.74E-03	4.43E-04	miss
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.53E-03	9.72E-05	miss
		674.80		3.10			
		695.00	*	99.60	1.38E-03	9.33E-05	miss
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
CS-137	1.00	661.66	*	85.20	4.46E-02	4.19E-04	miss

Analysis Report for 24-2290 7.0M AN-107-A X5

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-152	0.35	121.78		28.58			
		344.28	*	26.50	1.98E-03	1.44E-03	miss
		778.90		12.94			
		964.08	*	14.73	2.43E-03	4.61E-04	miss
		1085.87	*	10.24	4.09E-04	1.08E-03	miss
		1112.07	*	13.69	2.80E-03	4.57E-04	miss
		1408.01	*	21.07	2.08E-03	2.31E-04	miss
EU-154	0.90	42.70		20.45			
		123.07	*	40.40	6.71E-02	3.12E-03	miss
		247.93	*	6.89	6.50E-02	2.61E-03	miss
		591.76	*	4.95	6.82E-02	2.54E-03	miss
		692.42	*	1.78	6.72E-02	5.11E-03	miss
		723.30	*	20.06	6.43E-02	2.61E-03	miss
		756.80	*	4.52	5.76E-02	8.74E-03	miss
		873.18	*	12.08	6.44E-02	3.69E-03	miss
		996.29	*	10.48	6.59E-02	2.40E-03	miss
		1004.76	*	18.01	6.62E-02	2.20E-03	miss
		1246.12	*	0.86	4.48E-02	6.63E-03	miss
		1274.43	*	34.80	6.36E-02	1.49E-03	miss
		1494.05	*	0.70	5.94E-02	6.60E-03	miss
		1596.48	*	1.80	5.83E-02	3.82E-03	miss
AM-241	1.00	59.54	*	35.90	5.28E-01	2.26E-02	miss

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.996	1.85E-03	3.87E-04	
CO-57	0.698	1.27E-03	1.49E-03	

Analysis Report for 24-2290 7.0M AN-107-A X5

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.993	8.61E-03	1.56E-04	
RH-106	0.386	2.72E-02	3.29E-03	
SB-126	0.487	1.46E-03	6.66E-05	
CS-137	1.000	4.46E-02	4.19E-04	
EU-152	0.357	2.20E-03	1.84E-04	
EU-154	0.906	6.44E-02	7.77E-04	
AM-241	1.000	5.28E-01	2.26E-02	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2290 7.0M AN-107-A X5

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 10:18:39AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	74.85	9.12808E-01	33.28	Tol.	RA-226 TH-232
F	3	105.50	7.57496E-01	9.42	Tol.	NP-239
	5	210.41	3.87292E-02	154.61		
F	9	444.31	8.57393E-02	101.89		
F	11	582.21	9.15721E-02	77.19	Tol.	TH-232
M	15	688.06	1.99201E-02	40.40		
F	20	816.04	4.37943E-02	54.00	Sum	
F	22	893.00	3.69218E-02	57.32		
F	23	904.08	4.09431E-02	16.05		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	8.91E-03	8.91E-03	-1.61E-03	4.43E-03
+	K-40	1460.83	*	10.67	2.13E-03	2.13E-03	1.85E-03	1.02E-03
	MN-54	834.84		99.98	6.16E-04	6.16E-04	3.72E-04	3.04E-04
	CO-58	810.78		99.45	6.46E-04	6.46E-04	-6.56E-05	3.19E-04
		863.96		0.68	8.87E-02		-5.94E-02	4.38E-02

Analysis Report for 24-2290 7.0M AN-107-A X5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CO-58	1674.73		0.52	3.10E-02	6.46E-04	-2.10E-02	1.44E-02
	FE-59	142.65		1.00	1.97E-01	7.37E-04	-6.47E-02	9.84E-02
		192.35		3.01	5.60E-02		-7.00E-03	2.80E-02
		334.80		0.27	4.11E-01		-8.25E-02	2.05E-01
		1099.25		56.30	9.10E-04		-7.75E-04	4.47E-04
		1291.60		43.70	7.37E-04		2.19E-04	3.58E-04
+	CO-60	1173.24	*	99.97	6.96E-04	4.31E-04	8.55E-03	3.44E-04
		1332.50	*	99.99	4.31E-04		8.87E-03	2.11E-04
		2505.74		1.00	1.45E-02		4.83E-03	6.48E-03
	SR-85	514.00		96.00	1.01E-03	1.01E-03	-1.70E-04	5.02E-04
		868.60		0.01	7.56E+00		-2.03E+00	3.75E+00
	NB-94	702.62		97.90	7.25E-04	7.25E-04	1.95E-04	3.60E-04
		871.09		99.98	9.01E-04		8.66E-03	4.47E-04
	NB-95	765.81		99.81	6.73E-04	6.73E-04	-7.31E-06	3.33E-04
	RU-103	497.05		91.00	9.70E-04	9.70E-04	-1.32E-04	4.82E-04
		610.30		5.76	1.30E-02		1.72E-02	6.46E-03
+	RH-106	511.86	*	20.70	7.03E-03	7.03E-03	2.72E-02	3.50E-03
		621.92		9.93	7.29E-03		1.81E-03	3.61E-03
		1050.36		1.56	3.49E-02		-1.54E-02	1.72E-02
	AG-108M	79.13		6.60	4.87E-02	8.19E-04	-4.96E-03	2.43E-02
		433.90		90.50	1.04E-03		-1.45E-03	5.17E-04
		614.30		89.80	8.19E-04		7.45E-04	4.06E-04
		722.90		90.80	1.16E-03		1.35E-02	5.74E-04
	CD-109	88.03		3.61	7.79E-02	7.79E-02	1.83E-01	3.89E-02
	SB-125	176.31		6.82	2.52E-02	3.22E-03	2.10E-02	1.26E-02
		380.45		1.52	6.73E-02		1.48E-02	3.35E-02
		427.87		29.55	3.22E-03		1.47E-04	1.60E-03
		463.36		10.48	8.98E-03		7.07E-03	4.46E-03
		600.60		17.76	4.19E-03		-3.15E-03	2.08E-03
		606.71		5.02	1.48E-02		8.89E-03	7.36E-03
		635.95		11.32	6.61E-03		-2.91E-04	3.28E-03
		671.44		1.78	4.31E-02		7.23E-03	2.14E-02
+	SB-126	223.90		1.39	1.06E-01	4.70E-04	-9.69E-02	5.28E-02
		278.20		2.40	5.15E-02		2.22E-02	2.57E-02
		296.50		4.50	2.61E-02		-1.86E-02	1.30E-02
		414.70	*	83.30	1.71E-03		1.74E-03	8.50E-04
		556.30		1.69	4.69E-02		3.63E-02	2.33E-02
		573.90		6.70	1.15E-02		-4.49E-03	5.69E-03
		593.20		7.50	1.12E-02		4.19E-02	5.56E-03
		656.30		2.19	6.93E-02		8.02E-04	3.45E-02
		666.50	*	99.60	4.97E-04		1.53E-03	2.46E-04
		674.80		3.10	2.29E-02		1.26E-02	1.14E-02
		695.00	*	99.60	4.70E-04		1.38E-03	2.32E-04
		697.00		29.00	2.67E-03		1.58E-03	1.33E-03
		720.70		53.80	1.96E-03		8.33E-04	9.73E-04
		856.80		17.60	3.44E-03		-2.27E-03	1.70E-03
		989.60		6.80	1.19E-02		-1.61E-04	5.91E-03
		1213.30		2.39	1.55E-02		-1.06E-02	7.56E-03
	Sn-126	64.28		9.60	5.29E-02	6.18E-03	4.39E-02	2.64E-02
		87.30		45.90	6.18E-03		1.79E-02	3.09E-03
	I-129	29.70		56.60	3.67E-01	3.66E-01	-8.47E-01	1.83E-01
		33.60		10.04	7.47E-01		-1.53E+00	3.73E-01
		34.40		2.01	3.14E+00		-6.01E+00	1.57E+00

Analysis Report for 24-2290 7.0M AN-107-A X5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-129	39.60		7.51	3.66E-01	3.66E-01	-8.64E-01	1.83E-01
	CS-134	563.25		8.34	9.37E-03	7.47E-04	5.20E-03	4.65E-03
		569.33		15.37	5.05E-03		-2.77E-03	2.51E-03
		604.72		97.62	7.65E-04		-7.18E-05	3.80E-04
		795.86		85.46	7.47E-04		-2.69E-04	3.70E-04
		801.95		8.69	7.32E-03		6.05E-03	3.62E-03
+	CS-137	661.66	*	85.20	5.99E-04	5.99E-04	4.46E-02	2.96E-04
	CE-139	165.85		79.89	2.26E-03	2.26E-03	1.90E-04	1.13E-03
	CE-141	40.70		3.35	7.20E-01	4.06E-03	-1.62E+00	3.59E-01
		145.44		48.29	4.06E-03		1.80E-04	2.02E-03
	CE-144	80.12		1.36	2.32E-01	1.83E-02	-1.79E-01	1.16E-01
		133.51		11.09	1.83E-02		-1.65E-02	9.14E-03
+	EU-152	121.78		28.58	8.03E-03	1.18E-03	-2.03E-03	4.01E-03
		344.28	*	26.50	3.27E-03		1.98E-03	1.63E-03
		778.90		12.94	5.03E-03		2.22E-03	2.49E-03
		964.08	*	14.73	4.13E-03		2.43E-03	2.04E-03
		1085.87	*	10.24	3.63E-03		4.09E-04	1.77E-03
		1112.07	*	13.69	3.52E-03		2.80E-03	1.73E-03
		1408.01	*	21.07	1.18E-03		2.08E-03	5.65E-04
	GD-153	97.43		29.00	8.95E-03	8.95E-03	1.20E-02	4.47E-03
		103.18		21.10	1.17E-02		5.05E-03	5.85E-03
+	EU-154	42.70		20.45	9.07E-02	1.41E-03	-1.66E-01	4.53E-02
		123.07	*	40.40	7.33E-03		6.71E-02	3.66E-03
		247.93	*	6.89	2.24E-02		6.50E-02	1.12E-02
		591.76	*	4.95	1.93E-02		6.82E-02	9.60E-03
		692.42	*	1.78	2.64E-02		6.72E-02	1.30E-02
		723.30	*	20.06	5.09E-03		6.43E-02	2.53E-03
		756.80	*	4.52	1.94E-02		5.76E-02	9.62E-03
		873.18	*	12.08	7.02E-03		6.44E-02	3.48E-03
		996.29	*	10.48	3.52E-03		6.59E-02	1.72E-03
		1004.76	*	18.01	2.06E-03		6.62E-02	1.01E-03
		1246.12	*	0.86	4.65E-02		4.48E-02	2.27E-02
		1274.43	*	34.80	1.41E-03		6.36E-02	6.93E-04
		1494.05	*	0.70	3.63E-02		5.94E-02	1.74E-02
		1596.48	*	1.80	1.50E-02		5.83E-02	7.20E-03
	EU-155	43.00		18.70	9.60E-02	9.34E-03	-2.17E-01	4.79E-02
		60.01		1.22	5.21E-01		1.48E+01	2.60E-01
		86.55		30.70	9.34E-03		3.06E-02	4.66E-03
		105.31		21.10	1.15E-02		1.13E-02	5.72E-03
	HG-203	72.87		6.30	5.90E-02	1.54E-03	2.61E-02	2.95E-02
		279.20		81.46	1.54E-03		1.36E-03	7.65E-04
	BI-207	569.15		97.80	7.93E-04	6.97E-04	-4.34E-04	3.94E-04
		1063.10		74.90	6.97E-04		-9.25E-04	3.43E-04
	PB-210	46.54		4.25	3.01E-01	3.01E-01	-4.74E-01	1.51E-01
	RA-226	74.81		6.44	5.45E-02	1.22E-03	9.42E-02	2.72E-02
		77.11		10.80	3.10E-02		1.18E-02	1.55E-02
		87.30		4.84	5.86E-02		1.70E-01	2.93E-02
		186.21		3.59	4.75E-02		7.68E-03	2.37E-02
		242.00		7.43	1.88E-02		-1.66E-03	9.39E-03
		295.22		19.30	6.13E-03		3.77E-03	3.05E-03
		351.93		37.60	2.90E-03		2.78E-03	1.44E-03
		609.31		46.10	1.61E-03		6.33E-04	7.97E-04
		768.36		4.94	1.32E-02		8.70E-03	6.52E-03

Analysis Report for 24-2290 7.0M AN-107-A X5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	1120.29		15.10	3.33E-03	1.22E-03	-1.68E-03	1.64E-03
		1238.11		5.79	6.75E-03		-8.85E-04	3.30E-03
		1764.49		15.40	1.22E-03		1.41E-03	5.72E-04
	PA-231	283.70		1.59	7.64E-02	4.92E-02	-6.45E-02	3.81E-02
		300.07		2.38	4.92E-02		5.01E-02	2.45E-02
		302.67		1.71	6.98E-02		-4.89E-02	3.48E-02
		330.07		1.32	8.42E-02		9.51E-02	4.19E-02
	TH-232	74.81		11.62	3.02E-02	5.93E-04	5.22E-02	1.51E-02
		77.11		17.50	1.91E-02		7.31E-03	9.55E-03
		87.30		7.80	3.64E-02		1.06E-01	1.82E-02
		238.63		43.30	3.24E-03		2.97E-04	1.61E-03
		338.32		11.30	9.66E-03		4.62E-03	4.81E-03
		583.19		30.37	2.53E-03		1.11E-03	1.26E-03
		727.33		6.58	1.60E-02		-3.21E-03	7.94E-03
		911.21		26.60	2.21E-03		-1.51E-03	1.09E-03
		968.97		16.20	3.49E-03		3.07E-03	1.72E-03
		2614.53		35.64	5.93E-04		3.21E-04	2.74E-04
	U-235	143.76		10.96	1.77E-02	2.98E-03	2.41E-02	8.83E-03
		185.71		57.20	2.98E-03		-2.22E-03	1.49E-03
		205.31		5.01	3.15E-02		9.56E-03	1.57E-02
	U-238	63.29		3.70	1.48E-01	6.24E-02	-5.86E-03	7.39E-02
		92.51		4.23	6.24E-02		-1.48E-01	3.11E-02
		112.81		0.21	1.09E+00		9.56E-01	5.43E-01
		742.81		0.11	6.28E-01		-1.55E-02	3.11E-01
		766.28		0.32	2.07E-01		2.37E-02	1.02E-01
		1001.03		0.84	1.44E-01		2.08E+00	7.13E-02
	NP-239	99.60		12.80	2.55E-02	1.10E-02	5.21E-03	1.27E-02
		103.80		20.40	1.55E-02		1.92E-03	7.73E-03
		106.10		26.40	1.17E-02		1.36E-02	5.86E-03
		116.90		7.61	3.78E-02		-1.53E-03	1.89E-02
		228.20		11.20	1.66E-02		-1.66E-02	8.31E-03
		277.60		14.50	1.10E-02		7.95E-03	5.48E-03
		315.90		1.60	9.25E-02		-1.77E-01	4.61E-02
		334.30		2.06	6.88E-02		-1.96E-02	3.43E-02
+	AM-241	59.54	*	35.90	2.51E-02	2.51E-02	5.28E-01	1.25E-02

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

Apex-Gamma

Analysis Report for 24-2291 7.0M AN107-d-A X5

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2291 7.0M AN107-d-A X5
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 10:28:34AM
Procedure	: P5_GSV02mlw
Operator	: Administrator
Detector Name	: X
Geometry	: P5_GSV2MLW
Live Time	: 2711.6 seconds
Real Time	: 2758.0 seconds
Dead Time	: 1.68 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 7/9/2024
Efficiency Calibration Used Done On	: 3/13/2019
Efficiency Calibration Description	: X5_gsv2mlw_R717P
Sample Number	: 567795
Certificate Name	: QA_Q
Certificate Date	: 3/23/1994 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 11:14:37AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2291 7.0M AN107-d-A X5

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.51	184.12	0.0612	81.28
2	105.56	325.59	0.3385	3.06
3	123.02	380.06	0.0854	40.24
4	247.89	765.31	0.1419	13.04
5	414.99	1280.42	0.2285	4.96
6	444.73	1371.54	0.2714	3.44
7	510.76	1575.92	0.1486	7.36
8	582.12	1796.11	0.2645	3.09
9	591.73	1826.21	0.1315	12.61
10	609.25	1878.43	0.2759	3.16
11	661.68	2041.97	0.0605	58.67
12	666.45	2057.43	0.2012	6.64
13	692.45	2135.74	0.2902	3.17
14	695.22	2145.83	0.2146	5.20
15	723.32	2232.18	0.0823	31.57
16	756.76	2335.32	0.1292	13.27
17	778.81	2403.47	0.2344	3.78
18	873.25	2694.79	0.0947	23.23
19	892.86	2754.92	0.2618	3.33
20	904.34	2790.66	0.1965	5.69
21	996.34	3074.51	0.0986	19.84
22	1004.78	3100.59	0.0834	27.53
23	1112.26	3432.25	0.2656	3.23
24	1173.26	3620.44	0.0903	22.39
25	1246.37	3846.20	0.1980	4.66
26	1274.49	3932.85	0.0721	34.03
27	1332.58	4112.14	0.0910	20.89
28	1408.11	4343.61	0.2081	4.38
29	1461.37	4508.37	0.2055	4.36
30	1493.95	4610.14	0.2092	4.38
31	1596.53	4926.47	0.1557	7.10

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2291 7.0M AN107-d-A X5

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 11:14:37AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.51	173	191	184.13	5.27E+04	1185.27	1.22E+05	1.50
F	2	105.56	322	336	326.20	1.63E+03	886.45	7.59E+04	5.68
F	3	123.02	372	391	380.07	1.64E+04	844.53	8.10E+04	1.55
F	4	247.89	758	776	765.33	2.05E+03	103.03	1.75E+04	1.52
F	5	414.99	1273	1288	1280.85	3.47E+02	217.70	3.92E+03	0.85
F	6	444.73	1360	1377	1372.61	4.64E+02	17.57	3.51E+03	0.93
F	7	510.76	1568	1588	1576.34	1.39E+03	55.23	3.28E+03	2.67
F	8	582.12	1789	1805	1796.53	1.77E+02	36.06	1.69E+03	1.84
F	9	591.73	1816	1834	1826.16	8.81E+02	193.56	1.76E+03	1.87
F	10	609.25	1874	1888	1880.23	2.57E+02	41.82	1.15E+03	3.43
M	11	661.68	2027	2069	2041.98	1.10E+04	212.81	1.38E+03	1.96
m	12	666.45	2027	2069	2056.70	4.44E+02	36.71	1.26E+03	1.96
M	13	692.45	2129	2155	2136.93	3.14E+02	34.79	1.14E+03	2.21
m	14	695.22	2129	2155	2145.48	4.63E+02	36.16	1.54E+03	2.22
F	15	723.32	2217	2243	2232.17	3.42E+03	169.12	1.43E+03	1.93
F	16	756.76	2319	2346	2335.35	8.30E+02	108.59	1.17E+03	1.90
F	17	778.81	2395	2411	2403.39	1.20E+02	25.36	7.30E+02	1.80
F	18	873.25	2685	2708	2694.79	1.80E+03	133.81	7.28E+02	2.00
F	19	892.86	2749	2765	2755.28	8.74E+01	21.13	4.72E+02	1.81
F	20	904.34	2780	2797	2790.70	1.67E+02	22.45	4.91E+02	1.75
M	21	996.34	3064	3117	3074.58	1.49E+03	63.56	4.18E+02	2.24
m	22	1004.78	3064	3117	3100.60	2.74E+03	101.34	4.12E+02	2.24
F	23	1112.26	3417	3440	3432.23	8.01E+01	53.69	3.35E+02	1.34
F	24	1173.26	3608	3636	3620.47	1.78E+03	106.73	2.30E+02	2.34
F	25	1246.37	3839	3855	3846.05	8.94E+01	13.26	9.82E+01	2.17
F	26	1274.49	3917	3946	3932.83	4.25E+03	114.46	1.78E+02	2.44
F	27	1332.58	4097	4126	4112.05	1.66E+03	84.15	7.52E+01	2.43
F	28	1408.11	4335	4356	4345.12	9.59E+01	11.03	4.76E+01	3.04
F	29	1461.37	4499	4515	4509.47	5.99E+01	20.10	4.64E+01	0.61
F	30	1493.95	4601	4618	4609.99	6.19E+01	30.01	3.95E+01	1.79
F	31	1596.53	4917	4936	4926.55	1.69E+02	13.78	3.69E+01	2.40

Analysis Report for 24-2291 7.0M AN107-d-A X5

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 11:14:37AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567386.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.51	5.27E+04	1185.27			5.27E+04	1.19E+03
F	2	105.56	1.63E+03	886.45			1.63E+03	8.86E+02
F	3	123.02	1.64E+04	844.53			1.64E+04	8.45E+02
F	4	247.89	2.05E+03	103.03			2.05E+03	1.03E+02
F	5	414.99	3.47E+02	217.70			3.47E+02	2.18E+02
F	6	444.73	4.64E+02	17.57			4.64E+02	1.76E+01
F	7	510.76	1.39E+03	55.23			1.39E+03	5.52E+01
F	8	582.12	1.77E+02	36.06	8.23E+00	5.26E-01	1.69E+02	3.61E+01
F	9	591.73	8.81E+02	193.56			8.81E+02	1.94E+02
F	10	609.25	2.57E+02	41.82			2.57E+02	4.18E+01
M	11	661.68	1.10E+04	212.81			1.10E+04	2.13E+02
m	12	666.45	4.44E+02	36.71			4.44E+02	3.67E+01
M	13	692.45	3.14E+02	34.79			3.14E+02	3.48E+01
m	14	695.22	4.63E+02	36.16			4.63E+02	3.62E+01
F	15	723.32	3.42E+03	169.12			3.42E+03	1.69E+02
F	16	756.76	8.30E+02	108.59			8.30E+02	1.09E+02
F	17	778.81	1.20E+02	25.36			1.20E+02	2.54E+01
F	18	873.25	1.80E+03	133.81			1.80E+03	1.34E+02
F	19	892.86	8.74E+01	21.13			8.74E+01	2.11E+01
F	20	904.34	1.67E+02	22.45			1.67E+02	2.25E+01
M	21	996.34	1.49E+03	63.56			1.49E+03	6.36E+01
m	22	1004.78	2.74E+03	101.34			2.74E+03	1.01E+02
F	23	1112.26	8.01E+01	53.69			8.01E+01	5.37E+01
F	24	1173.26	1.78E+03	106.73			1.78E+03	1.07E+02
F	25	1246.37	8.94E+01	13.26			8.94E+01	1.33E+01
F	26	1274.49	4.25E+03	114.46			4.25E+03	1.14E+02
F	27	1332.58	1.66E+03	84.15			1.66E+03	8.41E+01
F	28	1408.11	9.59E+01	11.03			9.59E+01	1.10E+01
F	29	1461.37	5.99E+01	20.10			5.99E+01	2.01E+01
F	30	1493.95	6.19E+01	30.01			6.19E+01	3.00E+01
F	31	1596.53	1.69E+02	13.78			1.69E+02	1.38E+01

Analysis Report for 24-2291 7.0M AN107-d-A X5

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.95	1460.83	*	10.67	3.18E-03	1.07E-03	miss
CO-57	0.70	122.06	*	85.60	3.06E-02	1.61E-03	miss
		136.47		10.68			
CO-60	0.99	1173.24	*	99.97	8.73E-03	5.26E-04	miss
		1332.50	*	99.99	8.82E-03	4.52E-04	miss
		2505.74		1.00			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.09E-03	6.83E-04	miss
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.54E-03	1.28E-04	miss
		674.80		3.10			
		695.00	*	99.60	1.65E-03	1.29E-04	miss
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
CS-137	1.00	661.66	*	85.20	4.44E-02	8.94E-04	miss
EU-154	0.90	42.70		20.45			
		123.07	*	40.40	6.47E-02	3.45E-03	miss
		247.93	*	6.89	5.96E-02	3.10E-03	miss
		591.76	*	4.95	5.72E-02	1.26E-02	miss
		692.42	*	1.78	6.24E-02	6.96E-03	miss
		723.30	*	20.06	6.19E-02	3.14E-03	miss
		756.80	*	4.52	6.85E-02	9.00E-03	miss
		873.18	*	12.08	6.07E-02	4.57E-03	miss
		996.29	*	10.48	6.31E-02	2.77E-03	miss
		1004.76	*	18.01	6.76E-02	2.61E-03	miss

Analysis Report for 24-2291 7.0M AN107-d-A X5

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.90	1246.12	*	0.86	5.32E-02	7.93E-03	miss
		1274.43	*	34.80	6.32E-02	1.82E-03	miss
		1494.05	*	0.70	5.11E-02	2.48E-02	miss
		1596.48	*	1.80	5.67E-02	4.70E-03	miss
AM-241	1.00	59.54	*	35.90	5.17E-01	2.32E-02	miss

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.955	3.18E-03	1.07E-03	
CO-57	0.701	9.27E-04	1.67E-03	
CO-60	0.993	8.79E-03	3.42E-04	
SB-126	0.484	1.59E-03	9.00E-05	
CS-137	1.000	4.44E-02	8.94E-04	
EU-154	0.906	6.27E-02	1.00E-03	
AM-241	1.000	5.17E-01	2.32E-02	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2291 7.0M AN107-d-A X5

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 11:14:37AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	105.56	5.99755E-01	54.51	Tol.	EU-155 NP-239
F	6	444.73	1.71056E-01	3.79		
F	7	510.76	5.14160E-01	3.96		
F	8	582.12	6.23613E-02	21.33		
F	10	609.25	9.48745E-02	16.26	Tol.	RA-226
F	17	778.81	4.44104E-02	21.06		
F	19	892.86	3.22249E-02	24.19		
F	20	904.34	6.17718E-02	13.40		
F	23	1112.26	2.95509E-02	67.01		
F	28	1408.11	3.53634E-02	11.51		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	1.09E-02	1.09E-02	-9.89E-03	5.43E-03
+	K-40	1460.83	*	10.67	2.87E-03	2.87E-03	3.18E-03	1.36E-03
	MN-54	834.84		99.98	7.55E-04	7.55E-04	-4.39E-04	3.72E-04
	CO-58	810.78		99.45	7.90E-04	7.90E-04	-4.66E-05	3.90E-04

Analysis Report for 24-2291 7.0M AN107-d-A X5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CO-58	863.96		0.68	1.10E-01	7.90E-04	5.08E-03	5.44E-02
		1674.73		0.52	4.12E-02		2.01E-02	1.90E-02
	FE-59	142.65		1.00	2.44E-01	8.44E-04	1.29E-02	1.22E-01
		192.35		3.01	6.94E-02		1.55E-02	3.46E-02
		334.80		0.27	5.10E-01		1.00E+00	2.54E-01
		1099.25		56.30	1.09E-03		-3.49E-04	5.32E-04
		1291.60		43.70	8.44E-04		-1.36E-03	4.05E-04
+	CO-60	1173.24	*	99.97	7.19E-04	4.58E-04	8.73E-03	3.53E-04
		1332.50	*	99.99	4.58E-04		8.82E-03	2.22E-04
		2505.74		1.00	1.59E-02		9.65E-03	6.77E-03
	SR-85	514.00		96.00	1.26E-03	1.26E-03	5.73E-03	6.25E-04
		868.60		0.01	9.24E+00		2.62E+00	4.58E+00
	NB-94	702.62		97.90	9.04E-04	9.04E-04	-4.49E-04	4.47E-04
		871.09		99.98	1.10E-03		8.05E-03	5.45E-04
	NB-95	765.81		99.81	8.30E-04	8.30E-04	6.82E-04	4.10E-04
	RU-103	497.05		91.00	1.21E-03	1.21E-03	-2.38E-04	6.01E-04
		610.30		5.76	1.64E-02		1.47E-02	8.12E-03
	RH-106	511.86		20.70	5.79E-03	5.79E-03	1.88E-02	2.88E-03
		621.92		9.93	9.12E-03		-4.25E-03	4.51E-03
		1050.36		1.56	4.44E-02		1.48E-02	2.18E-02
	AG-108M	79.13		6.60	6.02E-02	1.04E-03	-4.25E-02	3.01E-02
		433.90		90.50	1.30E-03		2.61E-03	6.45E-04
		614.30		89.80	1.04E-03		5.12E-04	5.14E-04
		722.90		90.80	1.44E-03		1.22E-02	7.12E-04
	CD-109	88.03		3.61	9.63E-02	9.63E-02	1.71E-01	4.81E-02
	SB-125	176.31		6.82	3.11E-02	3.98E-03	-6.09E-04	1.55E-02
		380.45		1.52	8.37E-02		-8.25E-02	4.16E-02
		427.87		29.55	3.98E-03		-7.69E-05	1.98E-03
		463.36		10.48	1.10E-02		7.97E-03	5.48E-03
		600.60		17.76	5.14E-03		4.52E-03	2.55E-03
		606.71		5.02	1.85E-02		4.58E-03	9.18E-03
		635.95		11.32	8.26E-03		6.59E-03	4.09E-03
		671.44		1.78	5.38E-02		1.05E-02	2.66E-02
+	SB-126	223.90		1.39	1.31E-01	5.83E-04	6.38E-02	6.56E-02
		278.20		2.40	6.40E-02		2.33E-02	3.19E-02
		296.50		4.50	3.24E-02		-6.11E-03	1.61E-02
		414.70	*	83.30	1.46E-03		1.09E-03	7.24E-04
		556.30		1.69	5.83E-02		-7.95E-03	2.89E-02
		573.90		6.70	1.41E-02		1.71E-03	6.97E-03
		593.20		7.50	1.36E-02		1.70E-02	6.77E-03
		656.30		2.19	8.59E-02		1.17E-02	4.27E-02
		666.50	*	99.60	5.83E-04		1.54E-03	2.87E-04
		674.80		3.10	2.86E-02		1.21E-02	1.42E-02
		695.00	*	99.60	6.59E-04		1.65E-03	3.24E-04
		697.00		29.00	3.35E-03		1.23E-02	1.66E-03
		720.70		53.80	2.42E-03		2.15E-02	1.20E-03
		856.80		17.60	4.24E-03		-2.30E-03	2.09E-03
		989.60		6.80	1.47E-02		1.84E-03	7.25E-03
		1213.30		2.39	1.95E-02		-3.42E-03	9.47E-03
	Sn-126	64.28		9.60	6.52E-02	7.63E-03	8.83E-03	3.26E-02
		87.30		45.90	7.63E-03		4.31E-03	3.81E-03
	I-129	29.70		56.60	4.55E-01	4.53E-01	-6.28E-02	2.27E-01
		33.60		10.04	9.24E-01		-1.69E+00	4.61E-01

Analysis Report for 24-2291 7.0M AN107-d-A X5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-129	34.40		2.01	3.87E+00	4.53E-01	-9.90E+00	1.93E+00
		39.60		7.51	4.53E-01		-6.01E-01	2.26E-01
	CS-134	563.25		8.34	1.18E-02	9.19E-04	7.38E-03	5.85E-03
		569.33		15.37	6.19E-03		-1.75E-03	3.07E-03
		604.72		97.62	9.52E-04		-3.63E-04	4.71E-04
		795.86		85.46	9.19E-04		1.10E-03	4.53E-04
		801.95		8.69	8.83E-03		-8.11E-03	4.36E-03
+	CS-137	661.66	*	85.20	7.09E-04	7.09E-04	4.44E-02	3.49E-04
	CE-139	165.85		79.89	2.80E-03	2.80E-03	2.21E-03	1.40E-03
	CE-141	40.70		3.35	8.91E-01	5.01E-03	-1.46E+00	4.45E-01
		145.44		48.29	5.01E-03		-2.37E-04	2.50E-03
	CE-144	80.12		1.36	2.87E-01	2.27E-02	-7.92E-01	1.44E-01
		133.51		11.09	2.27E-02		1.35E-02	1.13E-02
	EU-152	121.78		28.58	9.94E-03	1.91E-03	3.24E-03	4.96E-03
		344.28		26.50	5.08E-03		1.55E-03	2.53E-03
		778.90		12.94	6.33E-03		8.00E-04	3.13E-03
		964.08		14.73	4.66E-03		-2.92E-03	2.29E-03
		1085.87		10.24	6.40E-03		-2.01E-03	3.14E-03
		1112.07		13.69	4.59E-03		-7.45E-03	2.25E-03
		1408.01		21.07	1.91E-03		1.77E-03	9.18E-04
	GD-153	97.43		29.00	1.11E-02	1.11E-02	-2.64E-04	5.53E-03
		103.18		21.10	1.45E-02		2.00E-03	7.23E-03
+	EU-154	42.70		20.45	1.12E-01	1.93E-03	-1.24E-01	5.60E-02
		123.07	*	40.40	9.07E-03		6.47E-02	4.53E-03
		247.93	*	6.89	3.05E-02		5.96E-02	1.52E-02
		591.76	*	4.95	2.17E-02		5.72E-02	1.07E-02
		692.42	*	1.78	3.18E-02		6.24E-02	1.56E-02
		723.30	*	20.06	6.33E-03		6.19E-02	3.14E-03
		756.80	*	4.52	2.65E-02		6.85E-02	1.32E-02
		873.18	*	12.08	8.05E-03		6.07E-02	3.98E-03
		996.29	*	10.48	4.13E-03		6.31E-02	2.01E-03
		1004.76	*	18.01	2.40E-03		6.76E-02	1.17E-03
		1246.12	*	0.86	4.64E-02		5.32E-02	2.24E-02
		1274.43	*	34.80	1.93E-03		6.32E-02	9.46E-04
		1494.05	*	0.70	4.23E-02		5.11E-02	2.00E-02
		1596.48	*	1.80	1.70E-02		5.67E-02	8.07E-03
	EU-155	43.00		18.70	1.19E-01	1.15E-02	-1.49E-01	5.93E-02
		60.01		1.22	6.44E-01		1.41E+01	3.22E-01
		86.55		30.70	1.15E-02		1.66E-02	5.76E-03
		105.31		21.10	1.42E-02		-3.40E-03	7.08E-03
	HG-203	72.87		6.30	7.31E-02	1.90E-03	2.03E-01	3.65E-02
		279.20		81.46	1.90E-03		1.12E-03	9.49E-04
	BI-207	569.15		97.80	9.71E-04	8.67E-04	-2.75E-04	4.81E-04
		1063.10		74.90	8.67E-04		-4.84E-04	4.25E-04
	PB-210	46.54		4.25	3.73E-01	3.73E-01	-5.94E-02	1.86E-01
	RA-226	74.81		6.44	6.75E-02	1.44E-03	6.01E-02	3.37E-02
		77.11		10.80	3.83E-02		-1.48E-02	1.91E-02
		87.30		4.84	7.24E-02		4.09E-02	3.61E-02
		186.21		3.59	5.87E-02		1.36E-02	2.93E-02
		242.00		7.43	2.33E-02		1.27E-02	1.16E-02
		295.22		19.30	7.62E-03		1.31E-02	3.79E-03
		351.93		37.60	3.59E-03		-9.93E-04	1.79E-03
		609.31		46.10	2.02E-03		2.41E-03	1.00E-03

Analysis Report for 24-2291 7.0M AN107-d-A X5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	768.36		4.94	1.64E-02	1.44E-03	1.55E-02	8.08E-03
		1120.29		15.10	4.17E-03		-4.29E-03	2.04E-03
		1238.11		5.79	8.11E-03		2.14E-03	3.93E-03
		1764.49		15.40	1.44E-03		7.37E-04	6.65E-04
	PA-231	283.70		1.59	9.48E-02	6.03E-02	-9.48E-02	4.72E-02
		300.07		2.38	6.03E-02		-5.26E-02	3.00E-02
		302.67		1.71	8.56E-02		-3.91E-02	4.26E-02
		330.07		1.32	1.03E-01		-6.18E-02	5.15E-02
	TH-232	74.81		11.62	3.74E-02	7.35E-04	3.33E-02	1.87E-02
		77.11		17.50	2.36E-02		-9.14E-03	1.18E-02
		87.30		7.80	4.49E-02		2.54E-02	2.24E-02
		238.63		43.30	4.02E-03		-2.04E-03	2.00E-03
		338.32		11.30	1.20E-02		-6.45E-03	6.00E-03
		583.19		30.37	3.19E-03		2.42E-03	1.58E-03
		727.33		6.58	1.98E-02		1.59E-03	9.82E-03
		911.21		26.60	2.83E-03		-1.30E-03	1.39E-03
		968.97		16.20	4.30E-03		9.36E-03	2.11E-03
		2614.53		35.64	7.35E-04		7.96E-04	3.33E-04
	U-235	143.76		10.96	2.18E-02	3.69E-03	1.37E-02	1.09E-02
		185.71		57.20	3.69E-03		1.49E-03	1.84E-03
		205.31		5.01	3.91E-02		3.47E-02	1.95E-02
	U-238	63.29		3.70	1.83E-01	7.72E-02	5.41E-02	9.12E-02
		92.51		4.23	7.72E-02		-7.00E-02	3.85E-02
		112.81		0.21	1.35E+00		5.03E-01	6.73E-01
		742.81		0.11	7.60E-01		-2.72E-01	3.76E-01
		766.28		0.32	2.55E-01		6.85E-02	1.26E-01
		1001.03		0.84	1.78E-01		2.19E+00	8.84E-02
	NP-239	99.60		12.80	3.20E-02	1.39E-02	-1.41E-02	1.60E-02
		103.80		20.40	1.94E-02		-1.40E-03	9.70E-03
		106.10		26.40	1.47E-02		2.27E-03	7.36E-03
		116.90		7.61	4.74E-02		2.07E-03	2.37E-02
		228.20		11.20	2.10E-02		-4.80E-03	1.05E-02
		277.60		14.50	1.39E-02		1.07E-02	6.91E-03
		315.90		1.60	1.16E-01		1.75E-02	5.79E-02
		334.30		2.06	8.63E-02		-1.78E-02	4.29E-02
+	AM-241	59.54	*	35.90	2.71E-02	2.71E-02	5.17E-01	1.35E-02

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

Apex-Gamma

Analysis Report for 24-2292 8.0M-AN-107-A Z5

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2292 8.0M-AN-107-A Z5
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 9:11:52AM
Procedure	: P5_GSV02mlw
Operator	: Administrator
Detector Name	: Z
Geometry	: P5_GSV2MLW
Live Time	: 3942.7 seconds
Real Time	: 4034.2 seconds
Dead Time	: 2.27 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 7/18/2024
Efficiency Calibration Used Done On	: 3/13/2019
Efficiency Calibration Description	: Z5_gsv2mlw_R717P
Sample Number	: 567783
Certificate Name	: R735-A4 2ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 10:19:09AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2292 8.0M-AN-107-A Z5

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.76	121.45	0.2766	4.50
2	59.56	168.70	0.0570	129.48
3	75.00	211.90	0.2877	4.98
4	86.70	245.03	0.3153	3.48
5	105.47	297.46	0.3369	3.23
6	123.01	347.24	0.0816	59.48
7	247.73	698.33	0.1340	18.82
8	344.14	969.56	0.2871	4.35
9	414.45	1167.59	0.2019	7.68
10	510.66	1438.15	0.1547	8.15
11	581.57	1637.87	0.2492	4.45
12	591.45	1665.57	0.1218	17.33
13	608.73	1714.40	0.2864	3.89
14	661.30	1862.38	0.0576	76.14
15	666.00	1875.79	0.1632	10.50
16	692.23	1948.68	0.2536	5.15
17	694.73	1956.72	0.1866	8.82
18	722.95	2035.85	0.0781	42.01
19	756.45	2130.13	0.1202	17.82
20	844.72	2378.75	0.2198	6.07
21	872.75	2457.50	0.0892	29.04
22	892.51	2512.29	0.2789	3.39
23	903.63	2544.35	0.2205	5.30
24	963.83	2714.21	0.2967	3.16
25	995.77	2803.71	0.0925	26.41
26	1004.22	2827.54	0.0812	32.90
27	1127.99	3175.97	0.2751	3.33
28	1172.52	3301.16	0.0877	26.86
29	1245.41	3506.07	0.1964	5.40
30	1273.72	3586.03	0.0681	43.48
31	1331.74	3749.37	0.0871	25.48
32	1407.26	3961.56	0.2084	4.46
33	1459.99	4109.83	0.2053	3.86
34	1493.57	4203.80	0.1926	4.85
35	1595.70	4492.03	0.1454	9.21

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2292 8.0M-AN-107-A Z5

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 10:19:09AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.76	114	125	121.35	3.12E+03	1521.21	1.47E+05	1.29
F	2	59.56	162	175	168.65	1.18E+05	1609.68	2.20E+05	1.11
F	3	75.00	207	219	212.11	3.09E+03	310.27	1.81E+05	1.30
F	4	86.70	237	252	245.03	7.28E+03	2388.27	2.01E+05	2.52
F	5	105.47	293	305	297.87	2.19E+03	271.10	1.31E+05	1.50
F	6	123.01	339	355	347.23	2.85E+04	1068.25	1.35E+05	1.20
F	7	247.73	693	707	698.31	4.15E+03	129.07	2.58E+04	1.37
F	8	344.14	966	978	969.67	3.50E+02	75.75	9.60E+03	1.00
F	9	414.45	1160	1177	1167.55	7.91E+02	279.13	8.27E+03	1.44
F	10	510.66	1426	1449	1438.36	2.91E+03	73.35	6.33E+03	2.76
F	11	581.57	1631	1646	1637.96	3.91E+02	226.70	2.85E+03	1.55
F	12	591.45	1660	1676	1665.76	1.86E+03	57.15	2.74E+03	1.79
	13	608.73	1709	1720	1714.40	1.21E+01	89.31	1.98E+03	0.70
M	14	661.30	1854	1881	1862.34	1.89E+04	295.93	2.29E+03	1.74
m	15	666.00	1854	1881	1875.58	6.29E+02	47.48	2.15E+03	1.74
M	16	692.23	1942	1966	1949.39	4.58E+02	38.58	1.80E+03	1.62
m	17	694.73	1942	1966	1956.43	6.52E+02	41.54	2.02E+03	1.63
F	18	722.95	2022	2048	2035.86	6.04E+03	219.02	2.59E+03	1.81
F	19	756.45	2123	2139	2130.15	1.38E+03	46.08	1.37E+03	1.82
F	20	844.72	2374	2383	2378.59	1.96E+02	107.33	5.49E+02	1.35
F	21	872.75	2443	2471	2457.48	3.27E+03	60.10	1.65E+03	1.93
F	22	892.51	2506	2526	2513.09	2.04E+02	28.33	9.20E+02	3.11
F	23	903.63	2540	2553	2544.37	1.80E+02	28.04	7.43E+02	1.65
F	24	963.83	2702	2722	2713.81	1.27E+02	85.42	9.61E+02	1.48
F	25	995.77	2792	2812	2803.69	2.64E+03	150.58	8.80E+02	2.05
F	26	1004.22	2813	2839	2827.47	4.53E+03	165.58	1.09E+03	2.19
F	27	1127.99	3171	3182	3175.80	6.66E+01	17.99	2.56E+02	1.66
F	28	1172.52	3288	3314	3301.13	2.99E+03	121.29	4.64E+02	2.34
F	29	1245.41	3499	3515	3506.26	1.39E+02	17.70	2.24E+02	2.07
F	30	1273.72	3570	3598	3585.92	7.65E+03	165.81	2.80E+02	2.36
F	31	1331.74	3736	3762	3749.22	2.85E+03	118.60	2.44E+02	2.40
F	32	1407.26	3952	3971	3961.73	1.20E+02	13.69	1.08E+02	2.48
F	33	1459.99	4104	4120	4110.13	8.84E+01	12.75	7.79E+01	2.42
F	34	1493.57	4193	4213	4204.63	1.37E+02	45.98	4.69E+01	1.71
F	35	1595.70	4478	4502	4492.03	3.61E+02	47.27	3.66E+01	2.49

Analysis Report for 24-2292 8.0M-AN-107-A Z5

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 10:19:09AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567388.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.76	3.12E+03	1521.21			3.12E+03	1.52E+03
F	2	59.56	1.18E+05	1609.68			1.18E+05	1.61E+03
F	3	75.00	3.09E+03	310.27	1.55E+02	7.38E+00	2.94E+03	3.10E+02
F	4	86.70	7.28E+03	2388.27	3.31E+01	2.00E+00	7.25E+03	2.39E+03
F	5	105.47	2.19E+03	271.10			2.19E+03	2.71E+02
F	6	123.01	2.85E+04	1068.25			2.85E+04	1.07E+03
F	7	247.73	4.15E+03	129.07			4.15E+03	1.29E+02
F	8	344.14	3.50E+02	75.75			3.50E+02	7.57E+01
F	9	414.45	7.91E+02	279.13			7.91E+02	2.79E+02
F	10	510.66	2.91E+03	73.35	1.57E+02	6.08E+00	2.75E+03	7.36E+01
F	11	581.57	3.91E+02	226.70			3.91E+02	2.27E+02
F	12	591.45	1.86E+03	57.15			1.86E+03	5.71E+01
	13	608.73	1.21E+01	89.31			1.21E+01	8.93E+01
M	14	661.30	1.89E+04	295.93			1.89E+04	2.96E+02
m	15	666.00	6.29E+02	47.48			6.29E+02	4.75E+01
M	16	692.23	4.58E+02	38.58			4.58E+02	3.86E+01
m	17	694.73	6.52E+02	41.54			6.52E+02	4.15E+01
F	18	722.95	6.04E+03	219.02			6.04E+03	2.19E+02
F	19	756.45	1.38E+03	46.08			1.38E+03	4.61E+01
F	20	844.72	1.96E+02	107.33			1.96E+02	1.07E+02
F	21	872.75	3.27E+03	60.10			3.27E+03	6.01E+01
F	22	892.51	2.04E+02	28.33			2.04E+02	2.83E+01
F	23	903.63	1.80E+02	28.04			1.80E+02	2.80E+01
F	24	963.83	1.27E+02	85.42			1.27E+02	8.54E+01
F	25	995.77	2.64E+03	150.58			2.64E+03	1.51E+02
F	26	1004.22	4.53E+03	165.58			4.53E+03	1.66E+02
F	27	1127.99	6.66E+01	17.99			6.66E+01	1.80E+01
F	28	1172.52	2.99E+03	121.29			2.99E+03	1.21E+02
F	29	1245.41	1.39E+02	17.70			1.39E+02	1.77E+01
F	30	1273.72	7.65E+03	165.81			7.65E+03	1.66E+02
F	31	1331.74	2.85E+03	118.60			2.85E+03	1.19E+02
F	32	1407.26	1.20E+02	13.69			1.20E+02	1.37E+01
F	33	1459.99	8.84E+01	12.75			8.84E+01	1.27E+01

Analysis Report for 24-2292 8.0M-AN-107-A Z5

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 34	1493.57	1.37E+02	45.98			1.37E+02	4.60E+01
F 35	1595.70	3.61E+02	47.27			3.61E+02	4.73E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.89	1460.83	*	10.67	3.14E-03	4.55E-04	miss
CO-60	0.91	1173.24	*	99.97	9.86E-03	4.03E-04	miss
		1332.50	*	99.99	1.02E-02	4.28E-04	miss
		2505.74		1.00			
SB-126	0.47	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.66E-03	5.86E-04	miss
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.47E-03	1.11E-04	miss
		674.80		3.10			
		695.00	*	99.60	1.56E-03	9.99E-05	miss
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.72	64.28		9.60			
		87.30	*	45.90	1.73E-02	5.76E-03	miss
CS-137	0.97	661.66	*	85.20	5.13E-02	8.55E-04	miss
EU-154	0.97	42.70	*	20.45	6.39E-02	3.13E-02	miss
		123.07	*	40.40	7.39E-02	2.99E-03	miss
		247.93	*	6.89	7.97E-02	2.71E-03	miss
		591.76	*	4.95	8.11E-02	2.66E-03	miss

Analysis Report for 24-2292 8.0M-AN-107-A Z5

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.97	692.42	*	1.78	6.14E-02	5.22E-03	miss
		723.30	*	20.06	7.37E-02	2.79E-03	miss
		756.80	*	4.52	7.71E-02	2.69E-03	miss
		873.18	*	12.08	7.43E-02	1.60E-03	miss
		996.29	*	10.48	7.51E-02	4.36E-03	miss
		1004.76	*	18.01	7.54E-02	2.88E-03	miss
		1246.12	*	0.86	5.57E-02	7.12E-03	miss
		1274.43	*	34.80	7.64E-02	1.83E-03	miss
		1494.05	*	0.70	7.56E-02	2.54E-02	miss
		1596.48	*	1.80	8.09E-02	1.07E-02	miss
EU-155	0.99	43.00	*	18.70	6.99E-02	3.42E-02	miss
		60.01	*	1.22	1.87E+01	7.87E-01	miss
		86.55	*	30.70	2.59E-02	8.56E-03	miss
		105.31	*	21.10	1.04E-02	1.32E-03	miss
AM-241	1.00	59.54	*	35.90	6.34E-01	1.99E-02	miss

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	K-40	0.894	3.14E-03	4.55E-04	
X	CO-57	0.705			
	CO-60	0.911	1.00E-02	2.94E-04	
	SB-126	0.475	1.52E-03	7.37E-05	
	Sn-126	0.721	1.04E-02	5.77E-03	
	CS-137	0.979	5.13E-02	8.55E-04	
	EU-154	0.970	7.56E-02	7.46E-04	
	EU-155	0.994	1.04E-02	1.29E-03	
	AM-241	1.000	6.34E-01	1.68E-02	

Analysis Report for 24-2292 8.0M-AN-107-A Z5

ASR 2094 Branch

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

Errors quoted at 1.000sigma

Analysis Report for 24-2292 8.0M-AN-107-A Z5

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 10:19:09AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	75.00	7.45534E-01	10.56	Tol.	RA-226 TH-232
F	8	344.14	8.87923E-02	21.64		
F	10	510.66	6.98038E-01	2.67		
F	11	581.57	9.91870E-02	57.97		
	13	608.73	3.07211E-03	737.31	Tol.	RA-226
F	20	844.72	4.98061E-02	54.66		
F	22	892.51	5.17341E-02	13.89		
F	23	903.63	4.56912E-02	15.56		
F	24	963.83	3.23255E-02	67.02		
F	27	1127.99	1.68810E-02	27.02	Sum	
F	32	1407.26	3.04949E-02	11.39		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	8.77E-03	8.77E-03	2.38E-05	4.36E-03
+	K-40	1460.83	*	10.67	2.48E-03	2.48E-03	3.14E-03	1.19E-03
	MN-54	834.84		99.98	6.29E-04	6.29E-04	-2.55E-04	3.11E-04

Analysis Report for 24-2292 8.0M-AN-107-A Z5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CO-58	810.78		99.45	6.77E-04	6.77E-04	1.00E-03	3.35E-04
		863.96		0.68	9.15E-02		-2.81E-02	4.52E-02
		1674.73		0.52	3.31E-02		4.31E-02	1.54E-02
	FE-59	142.65		1.00	1.91E-01	7.70E-04	4.57E-02	9.54E-02
		192.35		3.01	5.32E-02		6.40E-02	2.65E-02
		334.80		0.27	4.12E-01		9.10E-03	2.05E-01
		1099.25		56.30	9.05E-04		3.95E-05	4.45E-04
		1291.60		43.70	7.70E-04		3.43E-04	3.74E-04
+	CO-60	1173.24	*	99.97	6.58E-04	5.23E-04	9.86E-03	3.25E-04
		1332.50	*	99.99	5.23E-04		1.02E-02	2.57E-04
		2505.74		1.00	1.20E-02		-1.31E-03	5.20E-03
	SR-85	514.00		96.00	1.05E-03	1.05E-03	-1.75E-04	5.21E-04
		868.60		0.01	8.02E+00		-3.35E-01	3.98E+00
	NB-94	702.62		97.90	7.03E-04	7.03E-04	4.50E-04	3.48E-04
		871.09		99.98	9.55E-04		-1.43E-05	4.74E-04
	NB-95	765.81		99.81	6.87E-04	6.87E-04	9.91E-05	3.40E-04
	RU-103	497.05		91.00	9.63E-04	9.63E-04	-1.44E-03	4.79E-04
		610.30		5.76	1.37E-02		-7.07E-03	6.78E-03
	RH-106	511.86		20.70	4.82E-03	4.82E-03	2.69E-02	2.40E-03
		621.92		9.93	7.77E-03		4.09E-03	3.85E-03
		1050.36		1.56	3.65E-02		2.06E-02	1.80E-02
	AG-108M	79.13		6.60	4.33E-02	8.55E-04	-1.54E-02	2.16E-02
		433.90		90.50	1.05E-03		-1.10E-03	5.21E-04
		614.30		89.80	8.55E-04		5.40E-04	4.24E-04
		722.90		90.80	1.23E-03		1.59E-02	6.09E-04
	CD-109	88.03		3.61	6.90E-02	6.90E-02	2.12E-02	3.45E-02
	SB-125	176.31		6.82	2.37E-02	3.24E-03	-4.51E-03	1.18E-02
		380.45		1.52	6.54E-02		-1.17E-02	3.25E-02
		427.87		29.55	3.24E-03		-1.05E-04	1.61E-03
		463.36		10.48	8.85E-03		-1.43E-03	4.40E-03
		600.60		17.76	4.36E-03		4.53E-03	2.17E-03
		606.71		5.02	1.55E-02		2.05E-02	7.71E-03
		635.95		11.32	6.72E-03		7.36E-03	3.33E-03
		671.44		1.78	4.44E-02		1.03E-02	2.20E-02
+	SB-126	223.90		1.39	1.00E-01	5.08E-04	-8.30E-02	5.00E-02
		278.20		2.40	4.88E-02		-5.42E-02	2.43E-02
		296.50		4.50	2.68E-02		-1.52E-03	1.33E-02
		414.70	*	83.30	1.48E-03		1.66E-03	7.36E-04
		556.30		1.69	4.79E-02		5.13E-02	2.38E-02
		573.90		6.70	1.20E-02		4.37E-03	5.94E-03
		593.20		7.50	1.19E-02		5.40E-02	5.90E-03
		656.30		2.19	7.38E-02		-2.77E-04	3.67E-02
		666.50	*	99.60	5.10E-04		1.47E-03	2.52E-04
		674.80		3.10	2.34E-02		1.61E-02	1.16E-02
		695.00	*	99.60	5.08E-04		1.56E-03	2.51E-04
		697.00		29.00	2.75E-03		2.37E-04	1.37E-03
		720.70		53.80	2.08E-03		2.51E-04	1.03E-03
		856.80		17.60	3.56E-03		-2.75E-04	1.76E-03
		989.60		6.80	1.30E-02		-1.38E-03	6.44E-03
		1213.30		2.39	1.63E-02		-8.95E-03	7.96E-03
+	Sn-126	64.28		9.60	4.25E-02	7.91E-03	6.59E-03	2.12E-02
		87.30	*	45.90	7.91E-03		1.73E-02	3.95E-03
	I-129	29.70		56.60	3.48E-02	3.48E-02	-5.99E-02	1.74E-02

Analysis Report for 24-2292 8.0M-AN-107-A Z5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-129	33.60		10.04	1.52E-01	3.48E-02	-3.00E-01	7.59E-02
		34.40		2.01	7.17E-01		-4.35E-01	3.58E-01
		39.60		7.51	1.40E-01		-9.07E-02	7.00E-02
	CS-134	563.25		8.34	9.82E-03	7.62E-04	6.71E-03	4.88E-03
		569.33		15.37	5.24E-03		1.44E-03	2.60E-03
		604.72		97.62	7.96E-04		-2.55E-04	3.95E-04
		795.86		85.46	7.62E-04		7.71E-04	3.77E-04
		801.95		8.69	7.60E-03		-5.20E-03	3.76E-03
+	CS-137	661.66	*	85.20	6.13E-04	6.13E-04	5.13E-02	3.03E-04
	CE-139	165.85		79.89	2.12E-03	2.12E-03	1.20E-03	1.06E-03
	CE-141	40.70		3.35	3.03E-01	3.92E-03	-1.46E-01	1.51E-01
		145.44		48.29	3.92E-03		2.04E-03	1.96E-03
	CE-144	80.12		1.36	2.06E-01	1.78E-02	-9.93E-02	1.03E-01
		133.51		11.09	1.78E-02		5.85E-03	8.89E-03
	EU-152	121.78		28.58	7.60E-03	1.57E-03	7.57E-04	3.79E-03
		344.28		26.50	4.10E-03		3.24E-03	2.04E-03
		778.90		12.94	5.15E-03		-4.42E-03	2.55E-03
		964.08		14.73	4.18E-03		3.60E-03	2.07E-03
		1085.87		10.24	5.20E-03		-2.01E-03	2.56E-03
		1112.07		13.69	3.91E-03		2.05E-03	1.92E-03
		1408.01		21.07	1.57E-03		1.28E-03	7.63E-04
	GD-153	97.43		29.00	7.59E-03	7.59E-03	6.46E-03	3.79E-03
		103.18		21.10	1.05E-02		5.62E-04	5.22E-03
+	EU-154	42.70	*	20.45	5.19E-02	1.60E-03	6.39E-02	2.59E-02
		123.07	*	40.40	7.20E-03		7.39E-02	3.59E-03
		247.93	*	6.89	2.23E-02		7.97E-02	1.11E-02
		591.76	*	4.95	1.75E-02		8.11E-02	8.67E-03
		692.42	*	1.78	2.68E-02		6.14E-02	1.32E-02
		723.30	*	20.06	5.72E-03		7.37E-02	2.84E-03
		756.80	*	4.52	1.57E-02		7.71E-02	7.80E-03
		873.18	*	12.08	8.79E-03		7.43E-02	4.36E-03
		996.29	*	10.48	7.02E-03		7.51E-02	3.47E-03
		1004.76	*	18.01	5.08E-03		7.54E-02	2.52E-03
		1246.12	*	0.86	4.63E-02		5.57E-02	2.26E-02
		1274.43	*	34.80	1.60E-03		7.64E-02	7.88E-04
		1494.05	*	0.70	3.26E-02		7.56E-02	1.55E-02
		1596.48	*	1.80	1.25E-02		8.09E-02	5.96E-03
+	EU-155	43.00	*	18.70	5.67E-02	1.17E-02	6.99E-02	2.83E-02
		60.01	*	1.22	5.18E-01		1.87E+01	2.59E-01
		86.55	*	30.70	1.18E-02		2.59E-02	5.91E-03
		105.31	*	21.10	1.17E-02		1.04E-02	5.82E-03
	HG-203	72.87		6.30	5.28E-02	1.46E-03	4.80E-03	2.64E-02
		279.20		81.46	1.46E-03		4.19E-04	7.27E-04
	BI-207	569.15		97.80	8.22E-04	7.19E-04	2.26E-04	4.08E-04
		1063.10		74.90	7.19E-04		2.27E-04	3.54E-04
	PB-210	46.54		4.25	1.90E-01	1.90E-01	-1.79E-01	9.47E-02
	RA-226	74.81		6.44	4.88E-02	1.17E-03	8.64E-02	2.44E-02
		77.11		10.80	2.77E-02		-4.44E-03	1.38E-02
		87.30		4.84	5.20E-02		-2.52E-03	2.60E-02
		186.21		3.59	4.50E-02		1.49E-02	2.24E-02
		242.00		7.43	1.77E-02		1.36E-02	8.82E-03
		295.22		19.30	6.26E-03		7.97E-03	3.12E-03
		351.93		37.60	2.81E-03		4.19E-03	1.40E-03

Analysis Report for 24-2292 8.0M-AN-107-A Z5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	609.31		46.10	1.68E-03	1.17E-03	6.82E-04	8.34E-04
		768.36		4.94	1.37E-02		4.82E-03	6.77E-03
		1120.29		15.10	3.30E-03		1.64E-03	1.62E-03
		1238.11		5.79	7.22E-03		3.06E-03	3.53E-03
		1764.49		15.40	1.17E-03		1.96E-03	5.46E-04
	PA-231	283.70		1.59	7.27E-02	5.02E-02	-6.63E-03	3.62E-02
		300.07		2.38	5.02E-02		3.01E-03	2.50E-02
		302.67		1.71	6.92E-02		-5.55E-03	3.45E-02
		330.07		1.32	8.39E-02		-3.89E-02	4.18E-02
	TH-232	74.81		11.62	2.71E-02	6.38E-04	4.79E-02	1.35E-02
		77.11		17.50	1.71E-02		-2.74E-03	8.52E-03
		87.30		7.80	3.22E-02		-1.57E-03	1.61E-02
		238.63		43.30	3.07E-03		-9.58E-04	1.53E-03
		338.32		11.30	9.68E-03		2.97E-03	4.82E-03
		583.19		30.37	2.68E-03		2.85E-03	1.33E-03
		727.33		6.58	1.68E-02		-3.03E-04	8.36E-03
		911.21		26.60	2.21E-03		9.03E-04	1.09E-03
		968.97		16.20	3.80E-03		4.93E-03	1.88E-03
		2614.53		35.64	6.38E-04		9.62E-04	2.96E-04
	U-235	143.76		10.96	1.71E-02	2.83E-03	1.46E-02	8.54E-03
		185.71		57.20	2.83E-03		-6.74E-04	1.41E-03
		205.31		5.01	3.00E-02		1.20E-02	1.50E-02
	U-238	63.29		3.70	1.20E-01	5.47E-02	4.13E-03	5.98E-02
		92.51		4.23	5.47E-02		2.07E-02	2.73E-02
		112.81		0.21	9.81E-01		1.61E-01	4.90E-01
		742.81		0.11	6.33E-01		-5.83E-01	3.13E-01
		766.28		0.32	2.12E-01		-2.52E-02	1.05E-01
		1001.03		0.84	1.56E-01		2.48E+00	7.76E-02
	NP-239	99.60		12.80	2.16E-02	1.04E-02	-5.98E-03	1.08E-02
		103.80		20.40	1.38E-02		-1.35E-03	6.91E-03
		106.10		26.40	1.05E-02		1.72E-02	5.25E-03
		116.90		7.61	3.44E-02		1.94E-02	1.72E-02
		228.20		11.20	1.58E-02		-7.93E-04	7.90E-03
		277.60		14.50	1.04E-02		-1.16E-03	5.20E-03
		315.90		1.60	9.22E-02		-3.44E-02	4.59E-02
		334.30		2.06	6.89E-02		-3.76E-02	3.43E-02
+	AM-241	59.54	*	35.90	1.76E-02	1.76E-02	6.34E-01	8.79E-03

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

Apex-Gamma

Analysis Report for 24-2293 8.0M-AN107-d-A Z5

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2293 8.0M-AN107-d-A Z5
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 10:31:28AM
Procedure	: P5_GSV02mlw
Operator	: Administrator
Detector Name	: Z
Geometry	: P5_GSV2MLW
Live Time	: 2566.1 seconds
Real Time	: 2625.9 seconds
Dead Time	: 2.28 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 7/18/2024
Efficiency Calibration Used Done On	: 3/13/2019
Efficiency Calibration Description	: Z5_gsv2mlw_R717P
Sample Number	: 567796
Certificate Name	: R735-A4 2ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 11:15:16AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2293 8.0M-AN107-d-A Z5

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.74	121.29	0.3369	4.36
2	59.56	168.67	0.0637	102.73
3	74.97	211.81	0.3216	4.84
4	86.83	245.05	0.3503	3.17
5	123.00	347.19	0.0926	47.08
6	247.82	698.47	0.1542	14.59
7	344.36	969.20	0.3210	3.61
8	414.74	1168.33	0.1968	8.04
9	453.28	1276.86	0.3564	3.18
10	510.84	1438.63	0.1779	6.44
11	560.23	1577.68	0.3364	3.09
12	581.63	1638.21	0.2665	3.77
13	591.40	1665.61	0.1369	15.15
14	661.32	1862.45	0.0642	60.54
15	665.93	1875.57	0.1826	9.28
16	692.07	1948.38	0.2799	4.00
17	694.77	1956.44	0.2198	6.75
18	715.89	2016.00	0.3008	3.25
19	722.98	2035.94	0.0876	33.88
20	756.46	2130.21	0.1380	13.47
21	845.07	2379.49	0.2769	3.47
22	872.78	2457.57	0.1006	23.18
23	892.34	2512.50	0.2431	3.71
24	903.58	2544.19	0.2345	4.51
25	995.81	2803.78	0.1040	19.91
26	1004.23	2827.58	0.0901	26.77
27	1172.56	3301.26	0.0966	21.64
28	1245.54	3506.56	0.1907	6.15
29	1273.68	3585.90	0.0765	34.12
30	1331.74	3749.28	0.0975	20.36
31	1407.90	3963.33	0.2167	4.20
32	1459.57	4108.96	0.2402	3.73
33	1493.24	4203.73	0.2284	3.17
34	1595.42	4491.30	0.1652	6.62

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2293 8.0M-AN107-d-A Z5

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 11:15:17AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	1	42.74	114	124	121.29	4.46E+02	578.66	8.86E+04	0.83
F	2	59.56	161	175	168.63	7.76E+04	1212.11	1.51E+05	1.13
F	3	74.97	208	219	212.02	1.10E+03	283.23	1.10E+05	0.56
F	4	86.83	242	252	245.40	1.27E+03	238.29	9.10E+04	1.23
F	5	123.00	341	355	347.22	1.81E+04	760.57	7.71E+04	1.20
F	6	247.82	693	708	698.55	2.51E+03	371.70	1.77E+04	1.22
F	7	344.36	962	974	970.28	2.70E+02	12.59	6.31E+03	0.42
F	8	414.74	1162	1174	1168.38	6.19E+02	56.10	4.03E+03	1.36
	9	453.28	1273	1280	1276.86	4.04E+01	76.28	1.91E+03	0.50
F	10	510.84	1426	1450	1438.88	2.20E+03	298.45	4.13E+03	3.50
F	11	560.23	1574	1582	1577.88	1.08E+02	136.67	1.14E+03	1.15
F	12	581.63	1630	1644	1638.13	1.53E+02	35.97	1.84E+03	1.43
F	13	591.40	1660	1673	1665.61	9.62E+02	44.71	1.64E+03	1.47
M	14	661.32	1853	1885	1862.41	1.24E+04	225.46	1.40E+03	1.76
m	15	665.93	1853	1885	1875.37	4.91E+02	37.33	1.31E+03	1.77
M	16	692.07	1940	1965	1948.96	2.52E+02	21.84	1.22E+03	1.36
m	17	694.77	1940	1965	1956.54	4.76E+02	30.66	1.83E+03	1.36
M	18	715.89	2010	2047	2016.00	8.40E+01	27.16	9.50E+02	1.80
m	19	722.98	2010	2047	2035.96	4.00E+03	170.47	1.18E+03	1.81
F	20	756.46	2120	2140	2130.19	8.74E+02	119.13	1.11E+03	1.77
F	21	845.07	2372	2387	2379.56	8.02E+01	21.86	6.76E+02	1.26
F	22	872.78	2446	2467	2457.56	2.10E+03	135.47	8.08E+02	1.98
F	23	892.34	2507	2519	2512.61	1.03E+02	21.35	4.06E+02	1.85
F	24	903.58	2539	2555	2544.23	1.41E+02	22.73	5.76E+02	1.82
F	25	995.81	2793	2814	2803.80	1.69E+03	42.91	5.65E+02	2.13
F	26	1004.23	2816	2841	2827.51	2.97E+03	138.27	5.85E+02	2.16
F	27	1172.56	3288	3316	3301.22	2.01E+03	95.02	2.91E+02	2.35
F	28	1245.54	3501	3514	3506.63	1.12E+02	15.42	1.38E+02	1.67
F	29	1273.68	3570	3599	3585.80	4.81E+03	128.75	2.57E+02	2.41
F	30	1331.74	3735	3761	3749.21	1.86E+03	88.52	1.01E+02	2.51
F	31	1407.90	3954	3971	3963.54	7.81E+01	10.49	4.50E+01	2.26
F	32	1459.57	4101	4118	4108.94	4.24E+01	9.60	6.30E+01	1.82
F	33	1493.24	4193	4213	4203.68	8.69E+01	18.90	3.65E+01	2.98
F	34	1595.42	4481	4501	4491.25	2.36E+02	36.36	5.41E+00	2.85

Analysis Report for 24-2293 8.0M-AN107-d-A Z5

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 11:15:16AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567388.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	42.74	4.46E+02	578.66			4.46E+02	5.79E+02
F	2	59.56	7.76E+04	1212.11			7.76E+04	1.21E+03
F	3	74.97	1.10E+03	283.23	1.01E+02	4.80E+00	1.00E+03	2.83E+02
F	4	86.83	1.27E+03	238.29	2.16E+01	1.30E+00	1.25E+03	2.38E+02
F	5	123.00	1.81E+04	760.57			1.81E+04	7.61E+02
F	6	247.82	2.51E+03	371.70			2.51E+03	3.72E+02
F	7	344.36	2.70E+02	12.59			2.70E+02	1.26E+01
F	8	414.74	6.19E+02	56.10			6.19E+02	5.61E+01
	9	453.28	4.04E+01	76.28			4.04E+01	7.63E+01
F	10	510.84	2.20E+03	298.45	1.02E+02	3.95E+00	2.10E+03	2.98E+02
F	11	560.23	1.08E+02	136.67			1.08E+02	1.37E+02
F	12	581.63	1.53E+02	35.97			1.53E+02	3.60E+01
F	13	591.40	9.62E+02	44.71			9.62E+02	4.47E+01
M	14	661.32	1.24E+04	225.46			1.24E+04	2.25E+02
m	15	665.93	4.91E+02	37.33			4.91E+02	3.73E+01
M	16	692.07	2.52E+02	21.84			2.52E+02	2.18E+01
m	17	694.77	4.76E+02	30.66			4.76E+02	3.07E+01
M	18	715.89	8.40E+01	27.16			8.40E+01	2.72E+01
m	19	722.98	4.00E+03	170.47			4.00E+03	1.70E+02
F	20	756.46	8.74E+02	119.13			8.74E+02	1.19E+02
F	21	845.07	8.02E+01	21.86			8.02E+01	2.19E+01
F	22	872.78	2.10E+03	135.47			2.10E+03	1.35E+02
F	23	892.34	1.03E+02	21.35			1.03E+02	2.13E+01
F	24	903.58	1.41E+02	22.73			1.41E+02	2.27E+01
F	25	995.81	1.69E+03	42.91			1.69E+03	4.29E+01
F	26	1004.23	2.97E+03	138.27			2.97E+03	1.38E+02
F	27	1172.56	2.01E+03	95.02			2.01E+03	9.50E+01
F	28	1245.54	1.12E+02	15.42			1.12E+02	1.54E+01
F	29	1273.68	4.81E+03	128.75			4.81E+03	1.29E+02
F	30	1331.74	1.86E+03	88.52			1.86E+03	8.85E+01
F	31	1407.90	7.81E+01	10.49			7.81E+01	1.05E+01
F	32	1459.57	4.24E+01	9.60			4.24E+01	9.60E+00
F	33	1493.24	8.69E+01	18.90			8.69E+01	1.89E+01

Analysis Report for 24-2293 8.0M-AN107-d-A Z5

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 34	1595.42	2.36E+02	36.36			2.36E+02	3.64E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-57	0.70	122.06	*	85.60	3.42E-02	1.49E-03	miss
		136.47		10.68			
CO-60	0.91	1173.24	*	99.97	1.02E-02	4.84E-04	miss
		1332.50	*	99.99	1.02E-02	4.90E-04	miss
		2505.74		1.00			
SB-126	0.47	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.99E-03	1.88E-04	miss
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.76E-03	1.34E-04	miss
		674.80		3.10			
		695.00	*	99.60	1.75E-03	1.13E-04	miss
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.73	64.28		9.60			
		87.30	*	45.90	4.57E-03	8.98E-04	miss
CS-137	0.98	661.66	*	85.20	5.19E-02	9.86E-04	miss
EU-154	0.95	42.70	*	20.45	1.41E-02	1.82E-02	miss
		123.07	*	40.40	7.23E-02	3.22E-03	miss
		247.93	*	6.89	7.43E-02	1.10E-02	miss
		591.76	*	4.95	6.45E-02	3.09E-03	miss

Analysis Report for 24-2293 8.0M-AN107-d-A Z5

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.95	692.42	*	1.78	5.18E-02	4.54E-03	miss
		723.30	*	20.06	7.49E-02	3.30E-03	miss
		756.80	*	4.52	7.47E-02	1.02E-02	miss
		873.18	*	12.08	7.34E-02	4.80E-03	miss
		996.29	*	10.48	7.38E-02	2.03E-03	miss
		1004.76	*	18.01	7.59E-02	3.63E-03	miss
		1246.12	*	0.86	6.90E-02	9.52E-03	miss
		1274.43	*	34.80	7.38E-02	2.12E-03	miss
		1494.05	*	0.70	7.36E-02	1.61E-02	miss
		1596.48		1.80			
AM-241	1.00	59.54	*	35.90	6.40E-01	2.07E-02	miss

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-57	0.706	3.37E-04	1.56E-03	
	CO-60	0.914	1.02E-02	3.44E-04	
	SB-126	0.475	1.80E-03	7.86E-05	
	Sn-126	0.739	4.57E-03	8.98E-04	
	CS-137	0.982	5.19E-02	9.86E-04	
	EU-154	0.958	7.16E-02	1.03E-03	
X	EU-155	0.433			
	AM-241	1.000	6.40E-01	2.07E-02	

Analysis Report for 24-2293 8.0M-AN107-d-A Z5

ASR 2094 Branch

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

Errors quoted at 1.000sigma

Analysis Report for 24-2293 8.0M-AN107-d-A Z5

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 11:15:16AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	74.97	3.90099E-01	28.30	Tol.	RA-226 TH-232
F	7	344.36	1.05252E-01	4.66		
	9	453.28	1.57342E-02	188.91		
F	10	510.84	8.18966E-01	14.20		
F	11	560.23	4.19268E-02	127.03		
F	12	581.63	5.95006E-02	23.56		
M	18	715.89	3.27164E-02	32.35		
F	21	845.07	3.12681E-02	27.25	Sum	
F	23	892.34	4.01358E-02	20.73		
F	24	903.58	5.50276E-02	16.10		
F	31	1407.90	3.04282E-02	13.43		
F	32	1459.57	1.65372E-02	22.62		
F	34	1595.42	9.19242E-02	15.41	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)

Analysis Report for 24-2293 8.0M-AN107-d-A Z5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	1.08E-02	1.08E-02	2.71E-03	5.35E-03
	K-40	1460.83		10.67	3.41E-03	3.41E-03	1.57E-03	1.63E-03
	MN-54	834.84		99.98	7.85E-04	7.85E-04	-5.44E-04	3.87E-04
	CO-58	810.78		99.45	8.30E-04	8.30E-04	2.69E-04	4.09E-04
		863.96		0.68	1.15E-01		-8.17E-02	5.67E-02
		1674.73		0.52	4.09E-02		2.06E-02	1.88E-02
	FE-59	142.65		1.00	2.37E-01	9.86E-04	-1.53E-01	1.18E-01
		192.35		3.01	6.58E-02		9.83E-03	3.28E-02
		334.80		0.27	5.13E-01		-9.05E-02	2.55E-01
		1099.25		56.30	1.14E-03		-2.05E-03	5.58E-04
		1291.60		43.70	9.86E-04		2.64E-04	4.76E-04
+	CO-60	1173.24	*	99.97	8.27E-04	5.20E-04	1.02E-02	4.07E-04
		1332.50	*	99.99	5.20E-04		1.02E-02	2.53E-04
		2505.74		1.00	1.78E-02		-8.68E-03	7.72E-03
	SR-85	514.00		96.00	1.30E-03	1.30E-03	-3.81E-04	6.47E-04
		868.60		0.01	9.95E+00		-6.48E+00	4.93E+00
	NB-94	702.62		97.90	8.80E-04	8.80E-04	5.55E-04	4.35E-04
		871.09		99.98	1.18E-03		8.17E-03	5.85E-04
	NB-95	765.81		99.81	8.37E-04	8.37E-04	1.17E-05	4.13E-04
	RU-103	497.05		91.00	1.21E-03	1.21E-03	-1.35E-03	6.00E-04
		610.30		5.76	1.73E-02		1.15E-02	8.56E-03
	RH-106	511.86		20.70	6.03E-03	6.03E-03	2.34E-02	2.99E-03
		621.92		9.93	9.72E-03		9.29E-03	4.81E-03
		1050.36		1.56	4.56E-02		-2.59E-02	2.24E-02
	AG-108M	79.13		6.60	5.38E-02	1.09E-03	2.27E-02	2.69E-02
		433.90		90.50	1.31E-03		2.67E-04	6.51E-04
		614.30		89.80	1.09E-03		8.96E-04	5.40E-04
		722.90		90.80	1.53E-03		-9.45E-05	7.59E-04
	CD-109	88.03		3.61	8.55E-02	8.55E-02	7.73E-02	4.27E-02
	SB-125	176.31		6.82	2.93E-02	4.03E-03	-1.71E-02	1.46E-02
		380.45		1.52	8.12E-02		-1.88E-03	4.04E-02
		427.87		29.55	4.03E-03		2.41E-03	2.00E-03
		463.36		10.48	1.10E-02		1.17E-03	5.46E-03
		600.60		17.76	5.46E-03		-7.49E-03	2.71E-03
		606.71		5.02	1.95E-02		2.46E-02	9.66E-03
		635.95		11.32	8.05E-03		2.52E-04	3.99E-03
		671.44		1.78	5.36E-02		8.15E-04	2.65E-02
+	SB-126	223.90		1.39	1.26E-01	6.14E-04	-2.77E-04	6.27E-02
		278.20		2.40	6.10E-02		-1.56E-03	3.04E-02
		296.50		4.50	3.33E-02		-1.72E-02	1.66E-02
		414.70	*	83.30	1.40E-03		1.99E-03	6.94E-04
		556.30		1.69	5.95E-02		-1.80E-02	2.95E-02
		573.90		6.70	1.49E-02		-1.30E-02	7.40E-03
		593.20		7.50	1.47E-02		5.24E-02	7.29E-03
		656.30		2.19	9.16E-02		-2.91E-02	4.56E-02
		666.50	*	99.60	6.14E-04		1.76E-03	3.02E-04
		674.80		3.10	2.87E-02		1.20E-02	1.42E-02
		695.00	*	99.60	7.43E-04		1.75E-03	3.67E-04
		697.00		29.00	3.42E-03		2.87E-04	1.69E-03
		720.70		53.80	2.59E-03		2.77E-02	1.29E-03
		856.80		17.60	4.34E-03		-9.59E-03	2.14E-03
		989.60		6.80	1.60E-02		6.50E-03	7.90E-03
		1213.30		2.39	2.01E-02		1.14E-02	9.78E-03

Analysis Report for 24-2293 8.0M-AN107-d-A Z5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	Sn-126	64.28		9.60	5.29E-02	7.07E-03	2.46E-03	2.64E-02
		87.30	*	45.90	7.07E-03		4.57E-03	3.53E-03
	I-129	29.70		56.60	4.32E-02	4.32E-02	-5.52E-02	2.16E-02
		33.60		10.04	1.88E-01		-1.75E-01	9.41E-02
		34.40		2.01	8.89E-01		-1.03E+00	4.44E-01
		39.60		7.51	1.74E-01		1.71E-02	8.69E-02
	CS-134	563.25		8.34	1.25E-02	9.41E-04	2.68E-03	6.18E-03
		569.33		15.37	6.68E-03		4.36E-03	3.31E-03
		604.72		97.62	1.00E-03		2.86E-04	4.97E-04
		795.86		85.46	9.41E-04		-7.88E-04	4.64E-04
		801.95		8.69	9.25E-03		-4.42E-03	4.56E-03
+	CS-137	661.66	*	85.20	7.38E-04	7.38E-04	5.19E-02	3.64E-04
	CE-139	165.85		79.89	2.63E-03	2.63E-03	-9.07E-04	1.31E-03
	CE-141	40.70		3.35	3.77E-01	4.87E-03	1.42E-01	1.88E-01
		145.44		48.29	4.87E-03		1.29E-03	2.43E-03
	CE-144	80.12		1.36	2.56E-01	2.21E-02	-1.68E-01	1.28E-01
		133.51		11.09	2.21E-02		-1.72E-02	1.10E-02
	EU-152	121.78		28.58	9.43E-03	1.92E-03	1.25E-03	4.71E-03
		344.28		26.50	5.08E-03		1.22E-03	2.53E-03
		778.90		12.94	6.63E-03		1.09E-02	3.27E-03
		964.08		14.73	5.01E-03		-1.30E-03	2.46E-03
		1085.87		10.24	6.54E-03		1.19E-02	3.21E-03
		1112.07		13.69	4.85E-03		-1.27E-03	2.38E-03
		1408.01		21.07	1.92E-03		2.65E-03	9.24E-04
	GD-153	97.43		29.00	9.43E-03	9.43E-03	6.35E-03	4.71E-03
		103.18		21.10	1.30E-02		1.69E-02	6.49E-03
+	EU-154	42.70	*	20.45	6.00E-02	2.41E-03	1.41E-02	3.00E-02
		123.07	*	40.40	7.97E-03		7.23E-02	3.98E-03
		247.93	*	6.89	2.91E-02		7.43E-02	1.45E-02
		591.76	*	4.95	1.92E-02		6.45E-02	9.53E-03
		692.42	*	1.78	3.40E-02		5.18E-02	1.67E-02
		723.30	*	20.06	3.04E-03		7.49E-02	1.49E-03
		756.80	*	4.52	2.37E-02		7.47E-02	1.17E-02
		873.18	*	12.08	8.43E-03		7.34E-02	4.17E-03
		996.29	*	10.48	8.82E-03		7.38E-02	4.35E-03
		1004.76	*	18.01	5.64E-03		7.59E-02	2.79E-03
		1246.12	*	0.86	5.23E-02		6.90E-02	2.53E-02
		1274.43	*	34.80	2.41E-03		7.38E-02	1.18E-03
		1494.05	*	0.70	4.44E-02		7.36E-02	2.10E-02
		1596.48		1.80	2.73E-02		5.37E-02	1.32E-02
	EU-155	43.00	*	18.70	6.56E-02	1.06E-02	1.54E-02	3.28E-02
		60.01	*	1.22	6.78E-01		1.88E+01	3.39E-01
		86.55	*	30.70	1.06E-02		6.84E-03	5.28E-03
		105.31		21.10	1.27E-02		2.40E-02	6.36E-03
	HG-203	72.87		6.30	6.56E-02	1.82E-03	1.25E-02	3.28E-02
		279.20		81.46	1.82E-03		-3.82E-04	9.05E-04
	BI-207	569.15		97.80	1.05E-03	9.16E-04	6.84E-04	5.20E-04
		1063.10		74.90	9.16E-04		-1.18E-04	4.49E-04
	PB-210	46.54		4.25	2.36E-01	2.36E-01	-3.10E-01	1.18E-01
	RA-226	74.81		6.44	6.06E-02	1.52E-03	7.98E-02	3.03E-02
		77.11		10.80	3.44E-02		5.90E-05	1.72E-02
		87.30		4.84	6.44E-02		1.39E-01	3.22E-02
		186.21		3.59	5.58E-02		1.18E-03	2.78E-02

Analysis Report for 24-2293 8.0M-AN107-d-A Z5

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	242.00		7.43	2.21E-02	1.52E-03	1.08E-02	1.10E-02
		295.22		19.30	7.77E-03		-9.61E-04	3.87E-03
		351.93		37.60	3.51E-03		-1.26E-03	1.75E-03
		609.31		46.10	2.13E-03		8.84E-04	1.06E-03
		768.36		4.94	1.67E-02		-8.83E-03	8.26E-03
		1120.29		15.10	4.10E-03		-3.51E-03	2.01E-03
		1238.11		5.79	9.01E-03		2.88E-03	4.38E-03
		1764.49		15.40	1.52E-03		1.12E-03	7.02E-04
	PA-231	283.70		1.59	9.03E-02	6.27E-02	1.18E-02	4.50E-02
		300.07		2.38	6.27E-02		-1.37E-02	3.12E-02
		302.67		1.71	8.70E-02		1.35E-01	4.33E-02
		330.07		1.32	1.05E-01		-7.45E-02	5.21E-02
	TH-232	74.81		11.62	3.36E-02	8.04E-04	4.42E-02	1.68E-02
		77.11		17.50	2.12E-02		3.64E-05	1.06E-02
		87.30		7.80	4.00E-02		8.62E-02	2.00E-02
		238.63		43.30	3.81E-03		-6.17E-05	1.90E-03
		338.32		11.30	1.20E-02		7.23E-03	5.99E-03
		583.19		30.37	3.35E-03		1.92E-03	1.66E-03
		727.33		6.58	2.10E-02		9.42E-04	1.04E-02
		911.21		26.60	2.82E-03		1.76E-03	1.39E-03
		968.97		16.20	4.58E-03		3.94E-03	2.25E-03
		2614.53		35.64	8.04E-04		9.59E-04	3.67E-04
	U-235	143.76		10.96	2.12E-02	3.52E-03	5.03E-03	1.06E-02
		185.71		57.20	3.52E-03		2.95E-04	1.75E-03
		205.31		5.01	3.70E-02		-3.55E-02	1.85E-02
	U-238	63.29		3.70	1.49E-01	6.81E-02	-2.38E-02	7.42E-02
		92.51		4.23	6.81E-02		2.99E-03	3.40E-02
		112.81		0.21	1.22E+00		-7.28E-02	6.09E-01
		742.81		0.11	7.99E-01		-1.32E-01	3.95E-01
		766.28		0.32	2.60E-01		1.04E-01	1.28E-01
		1001.03		0.84	1.92E-01		2.41E+00	9.53E-02
	NP-239	99.60		12.80	2.73E-02	1.32E-02	1.18E-02	1.36E-02
		103.80		20.40	1.74E-02		1.10E-02	8.69E-03
		106.10		26.40	1.32E-02		2.31E-02	6.61E-03
		116.90		7.61	4.34E-02		1.39E-02	2.16E-02
		228.20		11.20	2.01E-02		1.79E-02	1.00E-02
		277.60		14.50	1.32E-02		-9.03E-03	6.58E-03
		315.90		1.60	1.17E-01		3.48E-02	5.81E-02
		334.30		2.06	8.71E-02		-2.77E-02	4.33E-02
+	AM-241	59.54	*	35.90	2.30E-02	2.30E-02	6.40E-01	1.15E-02

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

Apex-Gamma

Analysis Report for 24-2294 VSM-3.5M-S1-CST-A W3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2294 VSM-3.5M-S1-CST-A W3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 11:32:27AM
Procedure	: W3_gsv02mlw
Operator	: Administrator
Detector Name	: W
Geometry	: W3_gsv02mlw
Live Time	: 12886.7 seconds
Real Time	: 13102.3 seconds
Dead Time	: 1.65 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 8/11/2023
Efficiency Calibration Used Done On	: 3/18/2019
Efficiency Calibration Description	: W3_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567803
Certificate Name	: R735-A10 20ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 3:10:53PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2294 VSM-3.5M-S1-CST-A W3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.79	116.92	0.2253	8.62
2	48.67	132.56	0.3157	4.86
3	59.54	162.04	0.0474	190.88
4	74.82	203.24	0.3245	3.20
5	86.74	235.51	0.1855	9.38
6	105.42	285.79	0.2072	9.70
7	123.06	333.50	0.0592	101.45
8	247.89	670.39	0.1055	31.11
9	344.17	930.22	0.2497	5.34
10	414.75	1120.77	0.1175	23.13
11	444.23	1200.40	0.2651	4.82
12	448.57	1212.04	0.3801	3.04
13	478.20	1291.92	0.3237	3.39
14	511.04	1380.63	0.1340	11.91
15	582.07	1572.37	0.1925	6.93
16	591.77	1598.68	0.1010	28.74
17	609.56	1646.10	0.3023	3.94
18	661.67	1787.21	0.0810	43.99
19	666.35	1799.97	0.1080	24.88
20	692.54	1869.68	0.2595	5.91
21	695.05	1877.64	0.1213	21.13
22	710.84	1919.94	0.3658	3.17
23	715.16	1931.85	0.3146	3.07
24	723.33	1953.78	0.0644	65.19
25	756.87	2044.22	0.1036	25.38
26	815.44	2202.42	0.2333	5.63
27	845.69	2284.01	0.2019	7.15
28	873.27	2358.51	0.0746	44.37
29	892.82	2411.25	0.2572	4.61
30	904.32	2442.02	0.1825	7.74
31	964.45	2604.70	0.1984	6.79
32	969.72	2618.67	0.2942	3.10
33	996.34	2690.78	0.0777	41.09
34	1004.84	2713.71	0.0669	54.42
35	1085.89	2932.73	0.2601	4.27
36	1112.00	3003.18	0.2303	4.41
37	1128.44	3047.43	0.2321	5.04
38	1140.88	3081.11	0.2621	3.56
39	1173.31	3168.61	0.0602	63.22
40	1246.19	3365.54	0.1621	8.18
41	1274.52	3441.93	0.0565	69.44
42	1332.59	3598.70	0.0606	59.90
43	1397.60	3773.93	0.1547	7.91
44	1408.07	3802.35	0.1624	8.08
45	1460.93	3945.25	0.1827	7.36
46	1494.11	4034.47	0.1628	6.69
47	1596.48	4311.27	0.1193	13.49
48	1719.51	4643.53	0.2051	5.29
49	2505.07	6765.22	0.1704	6.38
50	2614.25	7059.78	0.2126	3.65

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2294 VSM-3.5M-S1-CST-A W3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 3:10:53PM

Peak Analysis From Channel : 105

Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.79	109 -	120	116.84	5.51E+03	794.66	3.11E+05	1.14
F	2	48.67	125 -	139	132.72	4.48E+03	1797.41	4.78E+05	1.22
F	3	59.54	154 -	169	162.06	3.17E+05	2474.60	5.90E+05	1.30
F	4	74.82	200 -	210	203.29	3.19E+03	497.39	3.89E+05	1.31
F	5	86.74	227 -	243	235.47	1.78E+04	2385.36	5.52E+05	1.84
F	6	105.42	280 -	293	285.87	1.32E+04	2478.16	3.60E+05	1.80
F	7	123.06	326 -	341	333.49	1.08E+05	1804.18	3.27E+05	1.37
F	8	247.89	664 -	679	670.38	1.26E+04	220.41	7.42E+04	1.43
F	9	344.17	923 -	936	930.25	1.50E+03	553.14	2.82E+04	1.74
F	10	414.75	1114 -	1130	1120.78	5.20E+03	460.07	2.14E+04	1.60
M	11	444.23	1194 -	1217	1200.33	6.43E+02	99.93	1.30E+04	1.33
m	12	448.57	1194 -	1217	1212.04	2.44E+02	89.08	1.37E+04	1.33
F	13	478.20	1286 -	1296	1292.04	2.79E+02	83.47	9.94E+03	0.96
F	14	511.04	1370 -	1391	1380.67	8.30E+03	634.85	1.71E+04	3.13
F	15	582.07	1566 -	1579	1572.41	1.06E+03	81.44	7.49E+03	1.80
F	16	591.77	1591 -	1606	1598.59	5.42E+03	381.45	8.41E+03	1.71
F	17	609.56	1638 -	1656	1646.62	5.53E+02	527.83	8.89E+03	0.94
M	18	661.67	1777 -	1807	1787.27	9.75E+03	335.64	7.19E+03	1.77
m	19	666.35	1777 -	1807	1799.92	3.92E+03	152.31	6.92E+03	1.77
M	20	692.54	1864 -	1886	1870.61	1.66E+03	74.23	5.41E+03	1.82
m	21	695.05	1864 -	1886	1877.40	3.83E+03	89.14	6.03E+03	1.83
M	22	710.84	1916 -	1936	1920.03	1.54E+02	130.21	3.14E+03	1.42
m	23	715.16	1916 -	1936	1931.67	2.53E+02	186.86	4.82E+03	1.42
F	24	723.33	1942 -	1962	1953.73	1.96E+04	387.57	6.95E+03	1.85
F	25	756.87	2036 -	2055	2044.28	3.99E+03	84.67	5.78E+03	1.88
F	26	815.44	2192 -	2214	2202.40	5.28E+02	197.43	5.22E+03	1.72
F	27	845.69	2272 -	2291	2284.05	7.00E+02	204.13	4.34E+03	1.93
F	28	873.27	2348 -	2366	2358.53	1.04E+04	305.23	3.75E+03	1.99
F	29	892.82	2403 -	2421	2411.29	4.43E+02	201.46	3.54E+03	1.75
F	30	904.32	2435 -	2448	2442.34	9.32E+02	293.13	2.42E+03	1.71
M	31	964.45	2599 -	2625	2604.67	5.65E+02	51.70	2.31E+03	1.91
m	32	969.72	2599 -	2625	2618.91	1.39E+02	42.39	2.58E+03	1.91
F	33	996.34	2678 -	2700	2690.78	8.78E+03	277.22	3.52E+03	2.10
F	34	1004.84	2701 -	2726	2713.71	1.47E+04	126.62	3.82E+03	2.11
F	35	1085.89	2927 -	2937	2932.55	1.66E+02	39.94	1.34E+03	1.50
F	36	1112.00	2991 -	3012	3003.04	4.60E+02	165.56	2.42E+03	2.46
F	37	1128.44	3038 -	3059	3047.43	4.45E+02	179.57	1.86E+03	2.25
F	38	1140.88	3075 -	3088	3081.00	1.30E+02	34.08	1.17E+03	1.60
F	39	1173.31	3156 -	3181	3168.58	2.02E+04	288.47	1.71E+03	2.24
F	40	1246.19	3357 -	3373	3365.35	5.38E+02	33.90	6.73E+02	2.26

Analysis Report for 24-2294 VSM-3.5M-S1-CST-A W3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1274.52	3430 -	3455	3441.86	2.46E+04	250.50	8.05E+02	2.35
F	42	1332.59	3585 -	3612	3598.64	1.84E+04	221.94	6.64E+02	2.37
F	43	1397.60	3766 -	3783	3774.19	4.97E+02	27.95	3.09E+02	2.35
F	44	1408.07	3794 -	3810	3802.44	4.40E+02	26.93	3.02E+02	2.34
F	45	1460.93	3932 -	3955	3945.18	2.84E+02	64.67	3.05E+02	2.00
F	46	1494.11	4025 -	4048	4034.79	3.81E+02	24.42	2.99E+02	2.44
F	47	1596.48	4298 -	4322	4311.22	1.26E+03	86.90	1.69E+02	2.68
F	48	1719.51	4634 -	4651	4643.46	1.33E+02	43.20	8.54E+01	2.12
F	49	2505.07	6753 -	6777	6765.27	2.26E+02	15.68	1.88E+01	3.03
F	50	2614.25	7051 -	7072	7060.22	1.12E+02	11.55	1.56E+01	3.38

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 3:10:53PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567383.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.79	5.51E+03	794.66			5.51E+03	7.95E+02
F	2	48.67	4.48E+03	1797.41			4.48E+03	1.80E+03
F	3	59.54	3.17E+05	2474.60			3.17E+05	2.47E+03
F	4	74.82	3.19E+03	497.39	3.20E+02	3.13E+01	2.87E+03	4.98E+02
F	5	86.74	1.78E+04	2385.36	7.04E+01	5.25E+00	1.78E+04	2.39E+03
F	6	105.42	1.32E+04	2478.16			1.32E+04	2.48E+03
F	7	123.06	1.08E+05	1804.18			1.08E+05	1.80E+03
F	8	247.89	1.26E+04	220.41			1.26E+04	2.20E+02
F	9	344.17	1.50E+03	553.14			1.50E+03	5.53E+02
F	10	414.75	5.20E+03	460.07			5.20E+03	4.60E+02
M	11	444.23	6.43E+02	99.93			6.43E+02	9.99E+01
m	12	448.57	2.44E+02	89.08			2.44E+02	8.91E+01
F	13	478.20	2.79E+02	83.47			2.79E+02	8.35E+01
F	14	511.04	8.30E+03	634.85	4.71E+02	1.91E+01	7.83E+03	6.35E+02
F	15	582.07	1.06E+03	81.44			1.06E+03	8.14E+01
F	16	591.77	5.42E+03	381.45			5.42E+03	3.81E+02
F	17	609.56	5.53E+02	527.83	2.94E+02	4.25E+00	2.59E+02	5.28E+02
M	18	661.67	9.75E+03	335.64			9.75E+03	3.36E+02
m	19	666.35	3.92E+03	152.31			3.92E+03	1.52E+02

Analysis Report for 24-2294 VSM-3.5M-S1-CST-A W3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	20	692.54	1.66E+03	74.23			1.66E+03	7.42E+01
m	21	695.05	3.83E+03	89.14			3.83E+03	8.91E+01
M	22	710.84	1.54E+02	130.21			1.54E+02	1.30E+02
m	23	715.16	2.53E+02	186.86			2.53E+02	1.87E+02
F	24	723.33	1.96E+04	387.57			1.96E+04	3.88E+02
F	25	756.87	3.99E+03	84.67			3.99E+03	8.47E+01
F	26	815.44	5.28E+02	197.43			5.28E+02	1.97E+02
F	27	845.69	7.00E+02	204.13			7.00E+02	2.04E+02
F	28	873.27	1.04E+04	305.23			1.04E+04	3.05E+02
F	29	892.82	4.43E+02	201.46			4.43E+02	2.01E+02
F	30	904.32	9.32E+02	293.13			9.32E+02	2.93E+02
M	31	964.45	5.65E+02	51.70	4.47E+00	1.45E+00	5.61E+02	5.17E+01
m	32	969.72	1.39E+02	42.39	2.68E+01	1.92E+00	1.12E+02	4.24E+01
F	33	996.34	8.78E+03	277.22			8.78E+03	2.77E+02
F	34	1004.84	1.47E+04	126.62			1.47E+04	1.27E+02
F	35	1085.89	1.66E+02	39.94			1.66E+02	3.99E+01
F	36	1112.00	4.60E+02	165.56			4.60E+02	1.66E+02
F	37	1128.44	4.45E+02	179.57			4.45E+02	1.80E+02
F	38	1140.88	1.30E+02	34.08			1.30E+02	3.41E+01
F	39	1173.31	2.02E+04	288.47			2.02E+04	2.88E+02
F	40	1246.19	5.38E+02	33.90			5.38E+02	3.39E+01
F	41	1274.52	2.46E+04	250.50			2.46E+04	2.50E+02
F	42	1332.59	1.84E+04	221.94			1.84E+04	2.22E+02
F	43	1397.60	4.97E+02	27.95			4.97E+02	2.79E+01
F	44	1408.07	4.40E+02	26.93	1.31E+01	1.39E+00	4.27E+02	2.70E+01
F	45	1460.93	2.84E+02	64.67	2.77E+02	3.83E+00	7.07E+00	6.48E+01
F	46	1494.11	3.81E+02	24.42			3.81E+02	2.44E+01
F	47	1596.48	1.26E+03	86.90			1.26E+03	8.69E+01
F	48	1719.51	1.33E+02	43.20			1.33E+02	4.32E+01
F	49	2505.07	2.26E+02	15.68			2.26E+02	1.57E+01
F	50	2614.25	1.12E+02	11.55	1.02E+02	2.37E+00	9.58E+00	1.18E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Analysis Report for 24-2294 VSM-3.5M-S1-CST-A W3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
BE-7	0.94	477.61	*	10.44	3.24E-04	9.73E-05	miss
K-40	0.99	1460.83	*	10.67	1.62E-05	1.49E-04	miss
CO-60	0.99	1173.24	*	99.97	4.46E-03	6.62E-05	0.962
		1332.50	*	99.99	4.41E-03	5.72E-05	0.961
		2505.74	*	1.00	8.35E-03	6.71E-04	miss
RH-106	0.39	511.86	*	20.70	4.86E-03	4.21E-04	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	7.85E-04	7.32E-05	0.870
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	6.73E-04	2.63E-05	0.867
		674.80		3.10			
		695.00	*	99.60	6.76E-04	1.60E-05	0.867
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.72	64.28		9.60			
		87.30	*	45.90	2.40E-03	3.39E-04	miss
CS-137	1.00	661.66	*	85.20	1.69E-03	5.86E-05	miss
EU-152	0.34	121.78		28.58			
		344.28	*	26.50	5.68E-04	2.10E-04	0.969
		778.90		12.94			
		964.08	*	14.73	7.41E-04	6.84E-05	0.962
		1085.87	*	10.24	3.25E-04	7.84E-05	1.004
		1112.07	*	13.69	7.05E-04	2.54E-04	0.977
		1408.01	*	21.07	4.99E-04	3.17E-05	0.969
EU-154	0.99	42.70	*	20.45	9.44E-03	1.41E-03	miss
		123.07	*	40.40	1.66E-02	3.53E-04	0.955
		247.93	*	6.89	1.56E-02	3.35E-04	0.941
		591.76	*	4.95	1.62E-02	1.15E-03	0.930
		692.42	*	1.78	1.50E-02	6.94E-04	0.945
		723.30	*	20.06	1.61E-02	3.64E-04	0.948
		756.80	*	4.52	1.53E-02	3.63E-04	0.927
		873.18	*	12.08	1.60E-02	5.06E-04	0.941
		996.29	*	10.48	1.62E-02	5.40E-04	0.986
		1004.76	*	18.01	1.61E-02	2.24E-04	0.976
		1246.12	*	0.86	1.48E-02	9.54E-04	0.936
		1274.43	*	34.80	1.62E-02	2.30E-04	0.978
		1494.05	*	0.70	1.34E-02	8.72E-04	1.016
		1596.48	*	1.80	1.56E-02	1.09E-03	1.169
EU-155	0.99	43.00	*	18.70	1.03E-02	1.53E-03	1.000
		60.01	*	1.22	2.88E+00	1.05E-01	0.998
		86.55	*	30.70	3.58E-03	4.89E-04	free
		105.31	*	21.10	3.60E-03	6.83E-04	1.000
AM-241	1.00	59.54	*	35.90	9.77E-02	2.26E-03	free

Analysis Report for 24-2294 VSM-3.5M-S1-CST-A W3

ASR 2094 Branch

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	*Nuclide Id Confidence*	*Wt mean Activity (µCi/sample)*	*Wt mean Activity Uncertainty*	*Comments*
BE-7	0.944	3.24E-04	9.73E-05	
K-40	0.999	1.62E-05	1.49E-04	
CO-60	0.999	4.45E-03	4.32E-05	
RH-106	0.392	4.86E-03	4.21E-04	
SB-126	0.489	6.79E-04	1.35E-05	
Sn-126	0.727	1.20E-03	5.24E-04	
CS-137	1.000	1.69E-03	5.86E-05	
EU-152	0.340	5.19E-04	2.66E-05	
EU-154	0.999	1.59E-02	8.77E-05	
EU-155	0.994	1.80E-03	6.18E-04	
AM-241	1.000	9.77E-02	1.57E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2294 VSM-3.5M-S1-CST-A W3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 3:10:53PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	48.67	3.47264E-01	40.16		
F	4	74.82	2.22391E-01	17.39	Tol.	RA-226
M	11	444.23	4.99046E-02	15.54		
m	12	448.57	1.89704E-02	36.44		
F	15	582.07	8.19525E-02	7.71		
F	17	609.56	2.00890E-02	203.90	Tol.	RA-226
M	22	710.84	1.19269E-02	84.72		
m	23	715.16	1.95994E-02	73.98	Sum	
F	26	815.44	4.09423E-02	37.42	Sum	
F	27	845.69	5.42935E-02	29.17	Sum	
F	29	892.82	3.44020E-02	45.44	Sum	
F	30	904.32	7.23079E-02	31.46		
m	32	969.72	8.70358E-03	37.83		
F	37	1128.44	3.45510E-02	40.33	Sum	
F	38	1140.88	1.00878E-02	26.21		
F	43	1397.60	3.85712E-02	5.62	Sum	
F	48	1719.51	1.03497E-02	32.39	Sum	
F	50	2614.25	7.43431E-04	123.07		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Analysis Report for 24-2294 VSM-3.5M-S1-CST-A W3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	BE-7	477.61	*	10.44	7.44E-04	7.44E-04	3.24E-04	3.70E-04
+	K-40	1460.83	*	10.67	3.78E-04	3.78E-04	1.62E-05	1.86E-04
	MN-54	834.84		99.98	6.89E-05	6.89E-05	7.83E-05	3.42E-05
	CO-58	810.78		99.45	7.09E-05	7.09E-05	3.11E-05	3.52E-05
		863.96		0.68	1.05E-02		-8.68E-03	5.21E-03
		1674.73		0.52	3.30E-03		-4.87E-03	1.58E-03
	FE-59	142.65		1.00	1.68E-02	8.43E-05	1.88E-02	8.38E-03
		192.35		3.01	5.04E-03		-2.38E-03	2.52E-03
		334.80		0.27	3.92E-02		4.73E-02	1.95E-02
		1099.25		56.30	1.10E-04		5.04E-05	5.45E-05
		1291.60		43.70	8.43E-05		-6.17E-05	4.15E-05
+	CO-60	1173.24	*	99.97	8.27E-05	5.81E-05	4.46E-03	4.10E-05
		1332.50	*	99.99	5.81E-05		4.41E-03	2.87E-05
		2505.74	*	1.00	1.52E-03		8.35E-03	7.09E-04
	SR-85	514.00		96.00	1.07E-04	1.07E-04	-5.57E-05	5.36E-05
		868.60		0.01	8.76E-01		-1.34E-02	4.36E-01
	NB-94	702.62		97.90	7.87E-05	7.87E-05	7.79E-06	3.91E-05
		871.09		99.98	1.12E-04		1.85E-03	5.57E-05
	NB-95	765.81		99.81	7.27E-05	7.27E-05	-1.64E-05	3.61E-05
	RU-103	497.05		91.00	1.00E-04	1.00E-04	5.30E-05	4.98E-05
		610.30		5.76	1.39E-03		2.62E-04	6.90E-04
+	RH-106	511.86	*	20.70	6.87E-04	6.87E-04	4.86E-03	3.43E-04
		621.92		9.93	8.15E-04		3.06E-04	4.05E-04
		1050.36		1.56	4.44E-03		3.94E-03	2.20E-03
	AG-108M	79.13		6.60	3.84E-03	9.51E-05	-3.12E-04	1.92E-03
		433.90		90.50	1.15E-04		-1.14E-04	5.71E-05
		614.30		89.80	9.51E-05		-4.96E-05	4.73E-05
		722.90		90.80	1.52E-04		3.75E-03	7.56E-05
	CD-109	88.03		3.61	6.25E-03	6.25E-03	2.25E-04	3.12E-03
	SB-125	176.31		6.82	2.22E-03	3.25E-04	-5.84E-04	1.11E-03
		380.45		1.52	6.30E-03		-6.09E-04	3.14E-03
		427.87		29.55	3.25E-04		3.64E-05	1.62E-04
		463.36		10.48	8.85E-04		4.41E-04	4.41E-04
		600.60		17.76	4.43E-04		4.10E-04	2.21E-04
		606.71		5.02	1.57E-03		-1.57E-05	7.81E-04
		635.95		11.32	6.62E-04		-3.62E-04	3.29E-04
		671.44		1.78	4.84E-03		2.40E-03	2.41E-03
+	SB-126	223.90		1.39	9.37E-03	6.42E-05	-5.51E-03	4.68E-03
		278.20		2.40	5.73E-03		-8.72E-04	2.86E-03
		296.50		4.50	2.96E-03		1.27E-03	1.48E-03
		414.70	*	83.30	1.67E-04		7.85E-04	8.34E-05
		556.30		1.69	5.87E-03		5.48E-03	2.92E-03
		573.90		6.70	1.44E-03		2.63E-03	7.19E-04
		593.20		7.50	1.39E-03		1.08E-02	6.95E-04
		656.30		2.19	5.03E-03		-5.00E-04	2.50E-03
		666.50	*	99.60	6.69E-05		6.73E-04	3.32E-05
		674.80		3.10	2.94E-03		2.83E-03	1.46E-03
		695.00	*	99.60	6.42E-05		6.76E-04	3.19E-05
		697.00		29.00	3.73E-04		-1.19E-04	1.86E-04
		720.70		53.80	2.76E-04		-4.09E-06	1.38E-04
		856.80		17.60	4.51E-04		6.50E-05	2.24E-04
		989.60		6.80	1.33E-03		-9.95E-04	6.60E-04
		1213.30		2.39	2.01E-03		-2.44E-04	9.90E-04

Analysis Report for 24-2294 VSM-3.5M-S1-CST-A W3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	Sn-126	64.28		9.60	3.77E-03	7.56E-04	4.79E-03	1.89E-03
		87.30	*	45.90	7.56E-04		2.40E-03	3.78E-04
	I-129	29.70		56.60	1.51E-02	1.51E-02	-2.73E-02	7.54E-03
		33.60		10.04	3.62E-02		-1.41E-01	1.81E-02
		34.40		2.01	1.56E-01		-4.18E-01	7.81E-02
		39.60		7.51	2.01E-02		-2.14E-02	1.00E-02
	CS-134	563.25		8.34	1.06E-03	8.50E-05	-1.61E-03	5.30E-04
		569.33		15.37	5.75E-04		-5.51E-04	2.86E-04
		604.72		97.62	8.50E-05		-1.79E-05	4.23E-05
		795.86		85.46	8.65E-05		3.02E-05	4.30E-05
		801.95		8.69	8.62E-04		1.13E-03	4.28E-04
+	CS-137	661.66	*	85.20	6.88E-05	6.88E-05	1.69E-03	3.41E-05
	CE-139	165.85		79.89	1.99E-04	1.99E-04	7.75E-05	9.92E-05
	CE-141	40.70		3.35	4.11E-02	3.46E-04	-2.42E-02	2.05E-02
		145.44		48.29	3.46E-04		1.93E-04	1.73E-04
	CE-144	80.12		1.36	1.84E-02	1.55E-03	-2.13E-03	9.18E-03
		133.51		11.09	1.55E-03		-9.43E-04	7.75E-04
+	EU-152	121.78		28.58	7.20E-04	1.57E-04	-1.80E-04	3.60E-04
		344.28	*	26.50	4.46E-04		5.68E-04	2.22E-04
		778.90		12.94	5.86E-04		3.09E-04	2.91E-04
		964.08	*	14.73	2.99E-04		7.41E-04	1.48E-04
		1085.87	*	10.24	4.65E-04		3.25E-04	2.30E-04
		1112.07	*	13.69	6.36E-04		7.05E-04	3.16E-04
		1408.01	*	21.07	1.57E-04		4.99E-04	7.70E-05
	GD-153	97.43		29.00	7.04E-04	7.04E-04	5.31E-04	3.52E-04
		103.18		21.10	9.36E-04		-6.27E-04	4.67E-04
+	EU-154	42.70	*	20.45	6.31E-03	1.70E-04	9.44E-03	3.15E-03
		123.07	*	40.40	6.46E-04		1.66E-02	3.23E-04
		247.93	*	6.89	2.48E-03		1.56E-02	1.24E-03
		591.76	*	4.95	2.03E-03		1.62E-02	1.01E-03
		692.42	*	1.78	3.12E-03		1.50E-02	1.55E-03
		723.30	*	20.06	5.66E-04		1.61E-02	2.82E-04
		756.80	*	4.52	2.37E-03		1.53E-02	1.18E-03
		873.18	*	12.08	7.53E-04		1.60E-02	3.74E-04
		996.29	*	10.48	9.44E-04		1.62E-02	4.69E-04
		1004.76	*	18.01	6.12E-04		1.61E-02	3.04E-04
		1246.12	*	0.86	5.47E-03		1.48E-02	2.70E-03
		1274.43	*	34.80	1.70E-04		1.62E-02	8.40E-05
		1494.05	*	0.70	5.39E-03		1.34E-02	2.65E-03
		1596.48	*	1.80	1.46E-03		1.56E-02	7.13E-04
+	EU-155	43.00	*	18.70	6.90E-03	1.13E-03	1.03E-02	3.45E-03
		60.01	*	1.22	5.14E-02		2.88E+00	2.57E-02
		86.55	*	30.70	1.13E-03		3.58E-03	5.65E-04
		105.31	*	21.10	1.15E-03		3.60E-03	5.73E-04
	HG-203	72.87		6.30	4.63E-03	1.46E-04	-9.24E-06	2.31E-03
		279.20		81.46	1.46E-04		3.62E-05	7.28E-05
	BI-207	569.15		97.80	8.85E-05	8.85E-05	-8.66E-05	4.41E-05
		1063.10		74.90	9.04E-05		-9.92E-05	4.48E-05
	PB-210	46.54		4.25	2.03E-02	2.03E-02	-1.01E-02	1.01E-02
	RA-226	74.81		6.44	4.28E-03	1.33E-04	9.04E-03	2.14E-03
		77.11		10.80	2.44E-03		1.05E-03	1.22E-03
		87.30		4.84	4.70E-03		1.36E-03	2.35E-03
		186.21		3.59	4.09E-03		9.20E-04	2.04E-03

Analysis Report for 24-2294 VSM-3.5M-S1-CST-A W3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	242.00		7.43	1.66E-03	1.33E-04	3.90E-04	8.30E-04
		295.22		19.30	5.82E-04		-2.18E-04	2.90E-04
		351.93		37.60	2.69E-04		2.16E-04	1.34E-04
		609.31		46.10	1.70E-04		3.26E-06	8.46E-05
		768.36		4.94	1.44E-03		5.36E-04	7.18E-04
		1120.29		15.10	3.85E-04		2.44E-04	1.91E-04
		1238.11		5.79	7.17E-04		4.78E-04	3.53E-04
		1764.49		15.40	1.33E-04		2.13E-04	6.39E-05
	PA-231	283.70		1.59	7.24E-03	4.68E-03	-5.51E-03	3.61E-03
		300.07		2.38	4.68E-03		-1.24E-03	2.33E-03
		302.67		1.71	6.44E-03		-4.59E-03	3.21E-03
		330.07		1.32	7.92E-03		-6.65E-03	3.95E-03
	TH-232	74.81		11.62	2.37E-03	6.40E-05	5.01E-03	1.19E-03
		77.11		17.50	1.51E-03		6.46E-04	7.52E-04
		87.30		7.80	2.92E-03		8.42E-04	1.46E-03
		238.63		43.30	2.88E-04		2.90E-04	1.44E-04
		338.32		11.30	9.19E-04		8.62E-04	4.58E-04
		583.19		30.37	2.69E-04		4.15E-04	1.34E-04
		727.33		6.58	1.90E-03		1.53E-04	9.48E-04
		911.21		26.60	2.60E-04		-2.56E-04	1.29E-04
		968.97		16.20	4.34E-04		1.06E-05	2.16E-04
		2614.53		35.64	6.40E-05		1.20E-04	3.06E-05
	U-235	143.76		10.96	1.50E-03	2.57E-04	1.10E-03	7.49E-04
		185.71		57.20	2.57E-04		-1.16E-04	1.28E-04
		205.31		5.01	2.74E-03		-4.33E-05	1.37E-03
	U-238	63.29		3.70	1.08E-02	4.99E-03	9.84E-03	5.42E-03
		92.51		4.23	4.99E-03		5.91E-03	2.49E-03
		112.81		0.21	8.59E-02		6.58E-02	4.29E-02
		742.81		0.11	6.71E-02		-8.00E-02	3.33E-02
		766.28		0.32	2.25E-02		2.66E-03	1.12E-02
		1001.03		0.84	1.79E-02		4.97E-01	8.94E-03
	NP-239	99.60		12.80	2.08E-03	9.86E-04	-7.52E-04	1.04E-03
		103.80		20.40	1.28E-03		-5.67E-04	6.38E-04
		106.10		26.40	9.86E-04		3.35E-03	4.93E-04
		116.90		7.61	3.14E-03		1.20E-03	1.57E-03
		228.20		11.20	1.56E-03		1.42E-04	7.81E-04
		277.60		14.50	1.11E-03		1.00E-03	5.54E-04
		315.90		1.60	8.87E-03		3.08E-03	4.43E-03
		334.30		2.06	6.39E-03		7.63E-03	3.19E-03
+	AM-241	59.54	*	35.90	1.74E-03	1.74E-03	9.77E-02	8.71E-04

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

Apex-Gamma

Analysis Report for 24-2295 VSM-3.5M-S1-CST-d-A W3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2295 VSM-3.5M-S1-CST-d-A W3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 3:33:23PM
Procedure	: W3_gsv02mlw
Operator	: Administrator
Detector Name	: W
Geometry	: W3_gsv02mlw
Live Time	: 14400.0 seconds
Real Time	: 14634.3 seconds
Dead Time	: 1.60 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 8/11/2023
Efficiency Calibration Used Done On	: 3/18/2019
Efficiency Calibration Description	: W3_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567836
Certificate Name	: R735-A10 20ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 7:37:27PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2295 VSM-3.5M-S1-CST-d-A W3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.74	116.88	0.2223	6.80
2	59.54	162.03	0.0454	207.81
3	74.81	203.13	0.2902	4.96
4	86.79	235.54	0.1752	11.77
5	105.32	285.37	0.2047	9.47
6	123.06	333.48	0.0571	108.12
7	155.42	420.82	0.3963	3.29
8	247.88	670.38	0.1027	32.58
9	277.95	751.25	0.2874	5.23
10	344.20	930.15	0.2217	6.61
11	414.75	1120.68	0.1166	23.86
12	444.26	1200.47	0.2456	5.25
13	510.97	1380.55	0.1278	12.50
14	582.05	1572.21	0.1867	8.82
15	591.80	1598.64	0.0997	28.40
16	609.63	1645.62	0.2692	3.56
17	625.40	1689.40	0.2832	3.99
18	661.67	1787.20	0.0785	46.24
19	666.38	1800.04	0.1055	26.25
20	692.37	1869.57	0.2381	6.69
21	695.04	1877.58	0.1183	21.43
22	723.33	1953.78	0.0621	70.84
23	756.85	2044.13	0.0984	28.67
24	815.68	2202.95	0.2208	5.47
25	845.62	2283.90	0.2090	5.76
26	873.27	2358.53	0.0716	48.94
27	892.79	2411.03	0.2446	5.59
28	904.16	2441.96	0.1806	8.48
29	964.31	2604.05	0.2135	6.03
30	968.60	2615.78	0.3177	3.35
31	996.38	2690.80	0.0751	44.93
32	1004.83	2713.67	0.0637	60.36
33	1086.05	2932.46	0.2018	5.92
34	1112.07	3003.49	0.2574	3.45
35	1128.40	3047.07	0.1914	6.41
36	1173.32	3168.61	0.0589	66.42
37	1246.22	3365.44	0.1519	9.72
38	1274.51	3441.85	0.0547	73.77
39	1332.58	3598.75	0.0592	62.44
40	1397.56	3774.18	0.1547	9.40
41	1408.19	3802.66	0.1513	10.31
42	1460.92	3945.12	0.1692	8.46
43	1494.22	4035.27	0.1488	9.48
44	1537.92	4153.65	0.2887	3.11
45	1596.52	4311.44	0.1137	15.61
46	1764.74	4765.18	0.2275	3.56
47	2269.43	6128.66	0.2967	3.04
48	2504.87	6765.01	0.1705	5.66

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2295 VSM-3.5M-S1-CST-d-A W3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 7:37:28PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.74	109	120	116.72	6.97E+03	452.23	3.36E+05	1.31
F	2	59.54	154	168	162.05	3.67E+05	2604.72	6.01E+05	1.30
F	3	74.81	199	210	203.27	4.80E+03	509.92	4.59E+05	1.26
F	4	86.79	227	243	235.61	2.07E+04	2458.62	5.96E+05	1.77
F	5	105.32	282	293	285.61	8.91E+03	462.08	3.37E+05	1.42
F	6	123.06	325	341	333.48	1.22E+05	1901.03	3.78E+05	1.37
	7	155.42	412	429	420.82	2.68E+02	1192.52	2.58E+05	0.69
F	8	247.88	664	679	670.36	1.45E+04	230.58	7.95E+04	1.47
F	9	277.95	748	754	751.53	8.46E+02	158.37	2.60E+04	0.84
F	10	344.20	925	939	930.34	1.44E+03	142.13	3.29E+04	1.44
F	11	414.75	1116	1130	1120.76	5.28E+03	132.55	2.05E+04	1.54
F	12	444.26	1196	1207	1200.43	8.63E+02	108.19	1.39E+04	1.55
F	13	510.97	1370	1390	1380.49	8.75E+03	632.89	1.77E+04	3.02
F	14	582.05	1565	1582	1572.35	1.26E+03	85.26	1.05E+04	1.73
F	15	591.80	1591	1609	1598.66	6.23E+03	108.58	1.07E+04	1.82
F	16	609.63	1640	1652	1646.79	5.88E+02	781.68	6.55E+03	0.85
F	17	625.40	1681	1695	1689.37	4.50E+02	264.95	7.44E+03	1.49
M	18	661.67	1776	1809	1787.28	1.08E+04	403.94	7.61E+03	1.77
m	19	666.38	1776	1809	1800.00	4.36E+03	179.84	7.43E+03	1.78
M	20	692.37	1858	1886	1870.17	1.92E+03	246.92	7.68E+03	1.88
m	21	695.04	1858	1886	1877.36	4.49E+03	421.97	7.71E+03	1.88
F	22	723.33	1942	1965	1953.74	2.26E+04	410.53	8.49E+03	1.85
F	23	756.85	2036	2055	2044.23	4.76E+03	91.06	6.40E+03	1.85
F	24	815.68	2197	2214	2203.04	5.42E+02	60.38	4.65E+03	1.92
F	25	845.62	2272	2290	2283.87	9.13E+02	258.55	4.29E+03	2.12
F	26	873.27	2349	2369	2358.51	1.17E+04	409.46	4.56E+03	1.96
F	27	892.79	2402	2422	2411.21	6.87E+02	280.58	4.14E+03	2.59
F	28	904.16	2435	2451	2441.92	8.70E+02	58.40	3.42E+03	2.07
M	29	964.31	2593	2619	2604.31	5.58E+02	169.67	3.22E+03	1.57
m	30	968.60	2593	2619	2615.89	2.33E+02	69.42	4.02E+03	1.57
F	31	996.38	2681	2700	2690.88	9.85E+03	307.80	3.33E+03	2.07
F	32	1004.83	2701	2726	2713.68	1.70E+04	319.46	4.24E+03	2.07
F	33	1086.05	2927	2940	2932.97	4.35E+02	46.30	1.69E+03	2.08
F	34	1112.07	2993	3012	3003.23	4.74E+02	214.33	2.36E+03	2.63
F	35	1128.40	3039	3055	3047.31	4.99E+02	43.70	1.69E+03	2.18
F	36	1173.32	3159	3178	3168.59	2.25E+04	150.42	1.50E+03	2.25
F	37	1246.22	3358	3374	3365.44	7.17E+02	36.65	7.05E+02	2.29
F	38	1274.51	3428	3455	3441.82	2.82E+04	165.94	1.06E+03	2.35
F	39	1332.58	3585	3610	3598.62	2.04E+04	141.87	8.50E+02	2.36
F	40	1397.56	3762	3780	3774.06	4.52E+02	83.37	4.23E+02	2.03

Analysis Report for 24-2295 VSM-3.5M-S1-CST-d-A W3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1408.19	3794	3812	3802.79	4.73E+02	28.17	3.91E+02	2.04
F	42	1460.92	3935	3955	3945.17	3.58E+02	23.97	2.88E+02	2.25
F	43	1494.22	4024	4043	4035.08	5.54E+02	73.62	1.84E+02	2.19
F	44	1537.92	4146	4159	4153.08	3.27E+01	13.12	1.48E+02	1.61
F	45	1596.52	4299	4325	4311.32	1.49E+03	93.76	1.58E+02	2.57
F	46	1764.74	4754	4776	4765.61	1.64E+02	13.92	4.60E+01	3.38
F	47	2269.43	6123	6134	6128.74	1.61E+01	4.90	1.14E+01	0.99
F	48	2504.87	6752	6776	6764.71	2.38E+02	16.19	2.47E+01	3.20

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 7:37:27PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567383.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.74	6.97E+03	452.23			6.97E+03	4.52E+02
F	2	59.54	3.67E+05	2604.72			3.67E+05	2.60E+03
F	3	74.81	4.80E+03	509.92	3.57E+02	3.49E+01	4.44E+03	5.11E+02
F	4	86.79	2.07E+04	2458.62	7.86E+01	5.87E+00	2.06E+04	2.46E+03
F	5	105.32	8.91E+03	462.08			8.91E+03	4.62E+02
F	6	123.06	1.22E+05	1901.03			1.22E+05	1.90E+03
	7	155.42	2.68E+02	1192.52			2.68E+02	1.19E+03
F	8	247.88	1.45E+04	230.58			1.45E+04	2.31E+02
F	9	277.95	8.46E+02	158.37			8.46E+02	1.58E+02
F	10	344.20	1.44E+03	142.13			1.44E+03	1.42E+02
F	11	414.75	5.28E+03	132.55			5.28E+03	1.33E+02
F	12	444.26	8.63E+02	108.19			8.63E+02	1.08E+02
F	13	510.97	8.75E+03	632.89	5.26E+02	2.14E+01	8.22E+03	6.33E+02
F	14	582.05	1.26E+03	85.26			1.26E+03	8.53E+01
F	15	591.80	6.23E+03	108.58			6.23E+03	1.09E+02
F	16	609.63	5.88E+02	781.68	3.29E+02	4.75E+00	2.59E+02	7.82E+02
F	17	625.40	4.50E+02	264.95			4.50E+02	2.65E+02
M	18	661.67	1.08E+04	403.94			1.08E+04	4.04E+02
m	19	666.38	4.36E+03	179.84			4.36E+03	1.80E+02
M	20	692.37	1.92E+03	246.92			1.92E+03	2.47E+02
m	21	695.04	4.49E+03	421.97			4.49E+03	4.22E+02

Analysis Report for 24-2295 VSM-3.5M-S1-CST-d-A W3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	22	723.33	2.26E+04	410.53			2.26E+04	4.11E+02
F	23	756.85	4.76E+03	91.06			4.76E+03	9.11E+01
F	24	815.68	5.42E+02	60.38			5.42E+02	6.04E+01
F	25	845.62	9.13E+02	258.55			9.13E+02	2.59E+02
F	26	873.27	1.17E+04	409.46			1.17E+04	4.09E+02
F	27	892.79	6.87E+02	280.58			6.87E+02	2.81E+02
F	28	904.16	8.70E+02	58.40			8.70E+02	5.84E+01
M	29	964.31	5.58E+02	169.67	4.99E+00	1.62E+00	5.53E+02	1.70E+02
m	30	968.60	2.33E+02	69.42	3.00E+01	2.15E+00	2.03E+02	6.95E+01
F	31	996.38	9.85E+03	307.80			9.85E+03	3.08E+02
F	32	1004.83	1.70E+04	319.46			1.70E+04	3.19E+02
F	33	1086.05	4.35E+02	46.30			4.35E+02	4.63E+01
F	34	1112.07	4.74E+02	214.33			4.74E+02	2.14E+02
F	35	1128.40	4.99E+02	43.70			4.99E+02	4.37E+01
F	36	1173.32	2.25E+04	150.42			2.25E+04	1.50E+02
F	37	1246.22	7.17E+02	36.65			7.17E+02	3.67E+01
F	38	1274.51	2.82E+04	165.94			2.82E+04	1.66E+02
F	39	1332.58	2.04E+04	141.87			2.04E+04	1.42E+02
F	40	1397.56	4.52E+02	83.37			4.52E+02	8.34E+01
F	41	1408.19	4.73E+02	28.17	1.46E+01	1.55E+00	4.59E+02	2.82E+01
F	42	1460.92	3.58E+02	23.97	3.09E+02	4.28E+00	4.85E+01	2.44E+01
F	43	1494.22	5.54E+02	73.62			5.54E+02	7.36E+01
F	44	1537.92	3.27E+01	13.12			3.27E+01	1.31E+01
F	45	1596.52	1.49E+03	93.76			1.49E+03	9.38E+01
F	46	1764.74	1.64E+02	13.92	9.45E+01	2.53E+00	6.90E+01	1.41E+01
F	47	2269.43	1.61E+01	4.90			1.61E+01	4.90E+00
F	48	2504.87	2.38E+02	16.19			2.38E+02	1.62E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.99	1460.83	*	10.67	9.95E-05	5.00E-05	miss
CO-57	0.69	122.06	*	85.60	7.53E-03	1.34E-04	1.000

Analysis Report for 24-2295 VSM-3.5M-S1-CST-d-A W3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-57	0.69	136.47		10.68			
CO-60	0.99	1173.24	*	99.97	4.44E-03	3.49E-05	0.962
		1332.50	*	99.99	4.38E-03	3.69E-05	0.961
		2505.74	*	1.00	7.86E-03	6.23E-04	miss
RH-106	0.38	511.86	*	20.70	4.57E-03	3.78E-04	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.50	223.90		1.39			
		278.20	*	2.40	3.16E-03	1.10E-03	0.852
		296.50		4.50			
		414.70	*	83.30	7.13E-04	2.75E-05	0.870
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	6.69E-04	2.78E-05	0.867
		674.80		3.10			
		695.00	*	99.60	7.09E-04	6.67E-05	0.867
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.73	64.28		9.60			
		87.30	*	45.90	2.49E-03	3.17E-04	miss
CS-137	1.00	661.66	*	85.20	1.67E-03	6.31E-05	miss
EU-152	0.34	121.78		28.58			
		344.28	*	26.50	4.87E-04	4.96E-05	0.969
		778.90		12.94			
		964.08	*	14.73	6.54E-04	2.01E-04	0.962
		1085.87	*	10.24	7.64E-04	8.15E-05	1.004
		1112.07	*	13.69	6.51E-04	2.94E-04	0.977
		1408.01	*	21.07	4.80E-04	2.96E-05	0.969
EU-154	0.99	42.70	*	20.45	1.07E-02	8.07E-04	miss
		123.07	*	40.40	1.67E-02	3.42E-04	0.955
		247.93	*	6.89	1.60E-02	3.24E-04	0.941
		591.76	*	4.95	1.66E-02	3.49E-04	0.930
		692.42	*	1.78	1.56E-02	2.01E-03	0.945
		723.30	*	20.06	1.66E-02	3.52E-04	0.948
		756.80	*	4.52	1.63E-02	3.57E-04	0.927
		873.18	*	12.08	1.62E-02	5.96E-04	0.941
		996.29	*	10.48	1.63E-02	5.37E-04	0.986
		1004.76	*	18.01	1.66E-02	3.62E-04	0.976
		1246.12	*	0.86	1.77E-02	9.33E-04	0.936
		1274.43	*	34.80	1.66E-02	1.92E-04	0.978
		1494.05	*	0.70	1.74E-02	2.32E-03	1.016
		1596.48	*	1.80	1.65E-02	1.06E-03	1.169
EU-155	0.99	43.00	*	18.70	1.17E-02	8.63E-04	1.000
		60.01	*	1.22	2.98E+00	1.09E-01	0.998
		86.55	*	30.70	3.72E-03	4.53E-04	free
		105.31	*	21.10	2.18E-03	1.26E-04	1.000
AM-241	1.00	59.54	*	35.90	1.01E-01	2.32E-03	free

Analysis Report for 24-2295 VSM-3.5M-S1-CST-d-A W3

ASR 2094 Branch

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	*Nuclide Id Confidence*	*Wt mean Activity (µCi/sample)*	*Wt mean Activity Uncertainty*	*Comments*
K-40	0.999	9.95E-05	5.00E-05	
CO-57	0.694	1.14E-04	1.39E-04	
CO-60	0.998	4.42E-03	2.54E-05	
RH-106	0.381	4.57E-03	3.78E-04	
SB-126	0.501	6.93E-04	1.88E-05	
Sn-126	0.734	1.14E-03	3.07E-04	
CS-137	1.000	1.67E-03	6.31E-05	
EU-152	0.341	5.10E-04	2.40E-05	
EU-154	0.999	1.64E-02	8.74E-05	
EU-155	0.993	2.01E-03	1.14E-04	
AM-241	1.000	1.01E-01	1.59E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2295 VSM-3.5M-S1-CST-d-A W3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 7:37:27PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	74.81	3.08587E-01	11.50		
	7	155.42	1.86447E-02	444.17		
F	12	444.26	5.99500E-02	12.53		
F	14	582.05	8.78212E-02	6.74		
F	16	609.63	1.79896E-02	301.76	Tol.	RU-103
F	17	625.40	3.12688E-02	58.84		
F	24	815.68	3.76227E-02	11.15	Sum	
F	25	845.62	6.34322E-02	28.31	Sum	
F	27	892.79	4.77143E-02	40.84		
F	28	904.16	6.04374E-02	6.71		
m	30	968.60	1.40702E-02	34.28		
F	35	1128.40	3.46409E-02	8.76	Sum	
F	40	1397.56	3.13720E-02	18.45	Sum	
F	44	1537.92	2.27076E-03	40.12	Sum	
F	46	1764.74	4.79200E-03	20.50	Sum	
F	47	2269.43	1.11565E-03	30.49		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Analysis Report for 24-2295 VSM-3.5M-S1-CST-d-A W3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	8.32E-04	8.32E-04	5.24E-04	4.15E-04
+	K-40	1460.83	*	10.67	3.17E-04	3.17E-04	9.95E-05	1.56E-04
	MN-54	834.84		99.98	6.43E-05	6.43E-05	-2.84E-05	3.19E-05
	CO-58	810.78		99.45	6.74E-05	6.74E-05	1.88E-05	3.35E-05
		863.96		0.68	1.00E-02		-3.86E-03	4.98E-03
		1674.73		0.52	3.26E-03		-1.79E-03	1.57E-03
	FE-59	142.65		1.00	1.56E-02	7.81E-05	-3.00E-03	7.81E-03
		192.35		3.01	4.72E-03		-3.39E-04	2.36E-03
		334.80		0.27	3.64E-02		1.00E-02	1.81E-02
		1099.25		56.30	1.03E-04		1.44E-04	5.11E-05
		1291.60		43.70	7.81E-05		-6.40E-06	3.84E-05
+	CO-60	1173.24	*	99.97	6.22E-05	5.69E-05	4.44E-03	3.08E-05
		1332.50	*	99.99	5.69E-05		4.38E-03	2.82E-05
		2505.74	*	1.00	1.54E-03		7.86E-03	7.25E-04
	SR-85	514.00		96.00	9.99E-05	9.99E-05	-6.05E-05	4.98E-05
		868.60		0.01	8.39E-01		3.45E-02	4.18E-01
	NB-94	702.62		97.90	7.41E-05	7.41E-05	-3.95E-06	3.69E-05
		871.09		99.98	1.07E-04		2.14E-05	5.30E-05
	NB-95	765.81		99.81	6.88E-05	6.88E-05	-1.43E-05	3.42E-05
	RU-103	497.05		91.00	9.29E-05	9.29E-05	2.48E-05	4.63E-05
		610.30		5.76	1.29E-03		1.15E-03	6.44E-04
+	RH-106	511.86	*	20.70	6.12E-04	6.12E-04	4.57E-03	3.05E-04
		621.92		9.93	7.72E-04		5.27E-04	3.84E-04
		1050.36		1.56	4.20E-03		4.66E-03	2.08E-03
	AG-108M	79.13		6.60	3.58E-03	8.85E-05	1.17E-03	1.79E-03
		433.90		90.50	1.08E-04		5.47E-05	5.37E-05
		614.30		89.80	8.85E-05		-1.85E-05	4.40E-05
		722.90		90.80	1.44E-04		3.82E-03	7.19E-05
	CD-109	88.03		3.61	5.83E-03	5.83E-03	1.06E-03	2.91E-03
	SB-125	176.31		6.82	2.07E-03	3.05E-04	1.80E-03	1.04E-03
		380.45		1.52	5.89E-03		9.04E-04	2.94E-03
		427.87		29.55	3.05E-04		2.78E-04	1.52E-04
		463.36		10.48	8.23E-04		8.49E-04	4.10E-04
		600.60		17.76	4.12E-04		6.05E-05	2.05E-04
		606.71		5.02	1.46E-03		3.31E-04	7.25E-04
		635.95		11.32	6.27E-04		1.31E-04	3.12E-04
		671.44		1.78	4.57E-03		6.42E-04	2.27E-03
+	SB-126	223.90		1.39	8.74E-03	6.20E-05	-2.58E-03	4.36E-03
		278.20	*	2.40	3.32E-03		3.16E-03	1.66E-03
		296.50		4.50	2.76E-03		-7.14E-04	1.38E-03
		414.70	*	83.30	1.40E-04		7.13E-04	6.98E-05
		556.30		1.69	5.46E-03		-3.15E-05	2.72E-03
		573.90		6.70	1.34E-03		2.93E-04	6.67E-04
		593.20		7.50	1.32E-03		1.16E-02	6.57E-04
		656.30		2.19	4.72E-03		-1.90E-03	2.35E-03
		666.50	*	99.60	6.20E-05		6.69E-04	3.08E-05
		674.80		3.10	2.74E-03		8.38E-04	1.36E-03
		695.00	*	99.60	6.49E-05		7.09E-04	3.22E-05
		697.00		29.00	3.54E-04		-4.50E-05	1.76E-04
		720.70		53.80	2.62E-04		-1.74E-05	1.31E-04
		856.80		17.60	4.21E-04		-2.90E-04	2.09E-04
		989.60		6.80	1.26E-03		1.26E-04	6.26E-04
		1213.30		2.39	1.92E-03		1.20E-03	9.49E-04

Analysis Report for 24-2295 VSM-3.5M-S1-CST-d-A W3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	Sn-126	64.28		9.60	3.52E-03	7.03E-04	1.26E-03	1.76E-03
		87.30	*	45.90	7.03E-04		2.49E-03	3.51E-04
	I-129	29.70		56.60	1.41E-02	1.41E-02	-3.45E-02	7.03E-03
		33.60		10.04	3.38E-02		-1.12E-01	1.69E-02
		34.40		2.01	1.46E-01		-4.74E-01	7.30E-02
		39.60		7.51	1.88E-02		-1.37E-02	9.39E-03
	CS-134	563.25		8.34	1.00E-03	7.90E-05	1.10E-03	5.00E-04
		569.33		15.37	5.37E-04		3.99E-04	2.67E-04
		604.72		97.62	7.90E-05		-4.08E-05	3.93E-05
		795.86		85.46	8.19E-05		6.83E-05	4.07E-05
		801.95		8.69	8.13E-04		-5.54E-04	4.04E-04
+	CS-137	661.66	*	85.20	6.33E-05	6.33E-05	1.67E-03	3.14E-05
	CE-139	165.85		79.89	1.85E-04	1.85E-04	8.33E-05	9.24E-05
	CE-141	40.70		3.35	3.85E-02	3.23E-04	-2.82E-02	1.92E-02
		145.44		48.29	3.23E-04		2.25E-04	1.61E-04
	CE-144	80.12		1.36	1.71E-02	1.45E-03	-1.20E-02	8.55E-03
		133.51		11.09	1.45E-03		6.61E-04	7.24E-04
+	EU-152	121.78		28.58	6.73E-04	1.66E-04	-6.97E-05	3.36E-04
		344.28	*	26.50	4.43E-04		4.87E-04	2.21E-04
		778.90		12.94	5.55E-04		2.13E-04	2.76E-04
		964.08	*	14.73	3.15E-04		6.54E-04	1.56E-04
		1085.87	*	10.24	5.09E-04		7.64E-04	2.52E-04
		1112.07	*	13.69	5.41E-04		6.51E-04	2.69E-04
		1408.01	*	21.07	1.66E-04		4.80E-04	8.18E-05
	GD-153	97.43		29.00	6.56E-04	6.56E-04	5.71E-04	3.28E-04
		103.18		21.10	8.71E-04		-1.40E-03	4.35E-04
+	EU-154	42.70	*	20.45	5.90E-03	1.80E-04	1.07E-02	2.95E-03
		123.07	*	40.40	6.36E-04		1.67E-02	3.18E-04
		247.93	*	6.89	2.30E-03		1.60E-02	1.15E-03
		591.76	*	4.95	2.20E-03		1.66E-02	1.10E-03
		692.42	*	1.78	3.32E-03		1.56E-02	1.65E-03
		723.30	*	20.06	5.91E-04		1.66E-02	2.94E-04
		756.80	*	4.52	2.23E-03		1.63E-02	1.11E-03
		873.18	*	12.08	7.74E-04		1.62E-02	3.85E-04
		996.29	*	10.48	7.75E-04		1.63E-02	3.85E-04
		1004.76	*	18.01	5.76E-04		1.66E-02	2.87E-04
		1246.12	*	0.86	5.01E-03		1.77E-02	2.47E-03
		1274.43	*	34.80	1.80E-04		1.66E-02	8.93E-05
		1494.05	*	0.70	3.51E-03		1.74E-02	1.71E-03
		1596.48	*	1.80	1.30E-03		1.65E-02	6.33E-04
+	EU-155	43.00	*	18.70	6.45E-03	9.37E-04	1.17E-02	3.22E-03
		60.01	*	1.22	4.52E-02		2.98E+00	2.26E-02
		86.55	*	30.70	1.05E-03		3.72E-03	5.25E-04
		105.31	*	21.10	9.37E-04		2.18E-03	4.68E-04
	HG-203	72.87		6.30	4.32E-03	1.37E-04	1.14E-03	2.16E-03
		279.20		81.46	1.37E-04		1.27E-04	6.82E-05
	BI-207	569.15		97.80	8.26E-05	8.26E-05	-3.51E-05	4.11E-05
		1063.10		74.90	8.48E-05		-1.09E-05	4.20E-05
	PB-210	46.54		4.25	1.90E-02	1.90E-02	-4.86E-02	9.48E-03
	RA-226	74.81		6.44	3.99E-03	1.30E-04	9.11E-03	1.99E-03
		77.11		10.80	2.27E-03		8.52E-04	1.14E-03
		87.30		4.84	4.38E-03		3.35E-04	2.19E-03
		186.21		3.59	3.81E-03		2.01E-03	1.90E-03

Analysis Report for 24-2295 VSM-3.5M-S1-CST-d-A W3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	242.00		7.43	1.55E-03	1.30E-04	1.18E-03	7.73E-04
		295.22		19.30	5.44E-04		6.84E-04	2.71E-04
		351.93		37.60	2.50E-04		-2.17E-05	1.25E-04
		609.31		46.10	1.58E-04		1.26E-04	7.88E-05
		768.36		4.94	1.36E-03		1.77E-03	6.77E-04
		1120.29		15.10	3.63E-04		3.83E-04	1.80E-04
		1238.11		5.79	6.85E-04		7.12E-04	3.38E-04
		1764.49		15.40	1.30E-04		9.82E-05	6.26E-05
	PA-231	283.70		1.59	6.77E-03	4.35E-03	4.69E-03	3.38E-03
		300.07		2.38	4.35E-03		-7.45E-03	2.17E-03
		302.67		1.71	6.03E-03		4.08E-04	3.01E-03
		330.07		1.32	7.36E-03		-1.23E-03	3.67E-03
	TH-232	74.81		11.62	2.21E-03	6.16E-05	5.05E-03	1.10E-03
		77.11		17.50	1.40E-03		5.26E-04	7.01E-04
		87.30		7.80	2.72E-03		2.08E-04	1.36E-03
		238.63		43.30	2.68E-04		3.25E-04	1.34E-04
		338.32		11.30	8.53E-04		5.28E-04	4.25E-04
		583.19		30.37	2.54E-04		5.08E-04	1.26E-04
		727.33		6.58	1.81E-03		-7.94E-04	9.01E-04
		911.21		26.60	2.45E-04		-7.23E-05	1.22E-04
		968.97		16.20	4.01E-04		-4.61E-05	1.99E-04
		2614.53		35.64	6.16E-05		1.32E-04	2.95E-05
	U-235	143.76		10.96	1.39E-03	2.39E-04	-4.53E-04	6.96E-04
		185.71		57.20	2.39E-04		-2.59E-05	1.19E-04
		205.31		5.01	2.56E-03		1.17E-04	1.28E-03
	U-238	63.29		3.70	1.01E-02	4.64E-03	2.51E-03	5.07E-03
		92.51		4.23	4.64E-03		2.41E-03	2.32E-03
		112.81		0.21	8.00E-02		-2.62E-02	4.00E-02
		742.81		0.11	6.33E-02		-7.30E-03	3.15E-02
		766.28		0.32	2.11E-02		-1.38E-02	1.05E-02
		1001.03		0.84	1.71E-02		4.99E-01	8.53E-03
	NP-239	99.60		12.80	2.04E-03	9.68E-04	-8.54E-04	1.02E-03
		103.80		20.40	1.25E-03		-1.32E-03	6.25E-04
		106.10		26.40	9.68E-04		3.62E-03	4.84E-04
		116.90		7.61	3.07E-03		2.15E-04	1.53E-03
		228.20		11.20	1.54E-03		4.78E-04	7.67E-04
		277.60		14.50	1.09E-03		2.22E-04	5.44E-04
		315.90		1.60	8.69E-03		-1.67E-02	4.33E-03
		334.30		2.06	6.23E-03		-3.02E-03	3.11E-03
+	AM-241	59.54	*	35.90	1.53E-03	1.53E-03	1.01E-01	7.66E-04

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

Apex-Gamma

Analysis Report for 24-2296 VSM-3.5M-S2-CST-A X3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2296 VSM-3.5M-S2-CST-A X3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 11:35:59AM
Procedure	: X3_gsv02mlw
Operator	: Administrator
Detector Name	: X
Geometry	: X3_gsv02mlw
Live Time	: 12985.3 seconds
Real Time	: 13201.6 seconds
Dead Time	: 1.64 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 7/9/2024
Efficiency Calibration Used Done On	: 3/13/2019
Efficiency Calibration Description	: X3_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567804
Certificate Name	: QA_Q
Certificate Date	: 3/23/1994 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 3:16:06PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2296 VSM-3.5M-S2-CST-A X3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.52	184.15	0.0398	189.80
2	74.74	230.96	0.2212	5.75
3	86.79	268.15	0.1494	12.34
4	105.30	325.34	0.1596	12.00
5	123.03	380.09	0.0498	116.82
6	247.87	765.23	0.0873	34.98
7	277.73	856.26	0.2587	3.65
8	344.41	1063.15	0.1961	7.02
9	414.77	1280.16	0.0964	26.69
10	444.41	1371.62	0.1951	7.05
11	510.98	1576.85	0.1013	16.70
12	557.62	1720.75	0.2460	4.80
13	582.00	1796.22	0.1635	9.34
14	591.74	1826.21	0.0818	33.42
15	609.16	1880.13	0.2464	3.84
16	625.27	1929.61	0.2472	3.53
17	661.67	2041.97	0.0665	49.77
18	666.39	2056.65	0.0924	26.86
19	692.43	2135.87	0.2246	6.89
20	695.11	2145.40	0.1030	22.43
21	715.51	2208.45	0.2557	3.92
22	723.33	2232.19	0.0529	74.84
23	756.87	2335.71	0.0834	30.18
24	779.00	2403.96	0.1942	5.63
25	815.32	2516.02	0.1757	6.45
26	845.75	2609.88	0.1664	7.65
27	850.72	2625.43	0.2739	3.33
28	873.25	2694.76	0.0611	53.48
29	880.27	2716.17	0.2533	4.40
30	892.76	2754.93	0.2080	4.79
31	904.22	2790.44	0.1475	8.91
32	964.14	2975.42	0.1934	5.48
33	996.32	3074.51	0.0626	47.95
34	1004.77	3100.65	0.0543	64.97
35	1085.84	3350.42	0.2167	4.20
36	1112.30	3432.40	0.2120	4.59
37	1128.06	3481.22	0.1720	6.47
38	1141.00	3520.91	0.2511	3.43
39	1173.30	3620.64	0.0487	76.80
40	1246.22	3845.51	0.1313	11.13
41	1274.51	3932.96	0.0459	84.29
42	1332.55	4112.10	0.0493	70.78
43	1397.61	4312.76	0.1333	10.31
44	1408.21	4345.54	0.1334	10.20
45	1460.85	4507.78	0.1481	7.74
46	1494.20	4610.37	0.1272	11.05
47	1596.53	4926.66	0.0957	18.11
48	1719.49	5306.03	0.1523	6.94
49	1764.48	5444.83	0.1942	4.67
50	2505.45	7731.27	0.1394	7.90
51	2614.54	8067.50	0.1811	3.51

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2296 VSM-3.5M-S2-CST-A X3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 3:16:06PM

Peak Analysis From Channel : 105

Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.52	173	192	184.14	2.80E+05	2643.47	6.01E+05	1.50
F	2	74.74	225	241	231.11	7.17E+03	529.52	5.09E+05	1.79
F	3	86.79	263	279	268.30	1.34E+04	516.86	4.77E+05	1.66
F	4	105.30	317	336	325.39	1.19E+04	2160.57	4.56E+05	1.58
F	5	123.03	371	391	380.10	1.11E+05	1920.62	3.82E+05	1.56
F	6	247.87	757	777	765.25	1.27E+04	227.05	8.77E+04	1.57
F	7	277.73	849	864	857.37	1.91E+03	186.60	4.92E+04	2.36
F	8	344.41	1054	1070	1063.10	1.35E+03	222.94	3.12E+04	1.46
F	9	414.77	1274	1293	1280.20	5.55E+03	130.08	2.24E+04	1.72
F	10	444.41	1367	1377	1371.63	7.50E+02	102.06	1.07E+04	1.33
F	11	510.98	1562	1591	1577.04	8.42E+03	573.29	2.11E+04	3.13
F	12	557.62	1714	1726	1720.93	3.99E+02	277.08	7.07E+03	0.95
F	13	582.00	1785	1804	1796.14	9.64E+02	274.81	9.98E+03	1.41
F	14	591.74	1817	1834	1826.19	5.66E+03	397.14	8.58E+03	1.87
F	15	609.16	1874	1887	1879.95	3.51E+02	72.76	6.18E+03	1.65
F	16	625.27	1923	1937	1929.64	3.40E+02	71.78	6.26E+03	1.81
M	17	661.67	2026	2068	2041.97	9.96E+03	343.76	7.74E+03	1.93
m	18	666.39	2026	2068	2056.54	4.11E+03	158.97	7.70E+03	1.93
M	19	692.43	2126	2156	2136.88	1.84E+03	272.25	6.46E+03	1.94
m	20	695.11	2126	2156	2145.15	3.87E+03	417.79	7.08E+03	1.94
M	21	715.51	2202	2243	2208.08	9.31E+01	63.12	5.02E+03	2.03
m	22	723.33	2202	2243	2232.21	2.06E+04	400.74	6.64E+03	2.03
F	23	756.87	2327	2346	2335.68	4.56E+03	320.60	5.12E+03	2.05
F	24	779.00	2395	2411	2403.98	4.69E+02	59.11	4.22E+03	1.89
	25	815.32	2507	2524	2516.02	2.37E+02	152.72	4.19E+03	1.33
M	26	845.75	2599	2633	2609.92	8.04E+02	234.53	4.08E+03	2.03
m	27	850.72	2599	2633	2625.28	2.66E+02	80.09	5.60E+03	2.03
M	28	873.25	2683	2723	2694.78	1.07E+04	109.53	4.30E+03	2.05
m	29	880.27	2683	2723	2716.42	1.21E+02	48.52	3.87E+03	2.06
F	30	892.76	2748	2761	2754.97	2.29E+02	43.69	2.55E+03	1.68
F	31	904.22	2783	2801	2790.33	7.57E+02	230.60	3.19E+03	2.02
F	32	964.14	2970	2985	2975.22	2.94E+02	49.36	2.56E+03	1.78
M	33	996.32	3057	3114	3074.50	9.16E+03	163.34	3.35E+03	2.21
m	34	1004.77	3057	3114	3100.59	1.53E+04	245.27	3.26E+03	2.21
F	35	1085.84	3342	3358	3350.74	2.42E+02	42.03	1.92E+03	1.93
F	36	1112.30	3421	3445	3432.38	3.84E+02	189.83	2.53E+03	2.49
F	37	1128.06	3473	3489	3480.98	3.16E+02	39.53	1.51E+03	1.94
	38	1141.00	3512	3531	3520.91	1.14E+01	98.87	1.62E+03	0.76
F	39	1173.30	3603	3638	3620.59	2.11E+04	303.61	2.08E+03	2.33
F	40	1246.22	3836	3859	3845.60	5.34E+02	32.92	9.12E+02	2.05

Analysis Report for 24-2296 VSM-3.5M-S2-CST-A X3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1274.51	3915	3947	3932.87	2.57E+04	293.94	1.28E+03	2.41
F	42	1332.55	4094	4127	4111.99	1.92E+04	256.47	8.43E+02	2.49
F	43	1397.61	4300	4322	4312.71	4.78E+02	85.01	3.69E+02	2.33
F	44	1408.21	4331	4356	4345.45	4.72E+02	80.82	3.89E+02	2.27
F	45	1460.85	4498	4518	4507.87	3.02E+02	79.00	2.32E+02	2.51
F	46	1494.20	4598	4621	4610.78	5.08E+02	24.52	2.05E+02	2.57
F	47	1596.53	4913	4939	4926.53	1.26E+03	88.82	1.75E+02	2.58
F	48	1719.49	5296	5315	5305.97	1.76E+02	14.78	5.49E+01	2.40
F	49	1764.48	5438	5455	5444.77	6.28E+01	12.17	8.63E+01	1.94
F	50	2505.45	7719	7743	7731.37	2.09E+02	42.25	3.01E+01	2.64
F	51	2614.54	8057	8078	8068.02	7.64E+01	9.88	2.20E+01	3.15

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 3:16:06PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567386.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.52	2.80E+05	2643.47			2.80E+05	2.64E+03
F	2	74.74	7.17E+03	529.52	4.12E+02	2.87E+01	6.76E+03	5.30E+02
F	3	86.79	1.34E+04	516.86	9.41E+01	9.47E-01	1.33E+04	5.17E+02
F	4	105.30	1.19E+04	2160.57			1.19E+04	2.16E+03
F	5	123.03	1.11E+05	1920.62			1.11E+05	1.92E+03
F	6	247.87	1.27E+04	227.05			1.27E+04	2.27E+02
F	7	277.73	1.91E+03	186.60			1.91E+03	1.87E+02
F	8	344.41	1.35E+03	222.94			1.35E+03	2.23E+02
F	9	414.77	5.55E+03	130.08			5.55E+03	1.30E+02
F	10	444.41	7.50E+02	102.06			7.50E+02	1.02E+02
F	11	510.98	8.42E+03	573.29			8.42E+03	5.73E+02
F	12	557.62	3.99E+02	277.08			3.99E+02	2.77E+02
F	13	582.00	9.64E+02	274.81	3.94E+01	2.52E+00	9.24E+02	2.75E+02
F	14	591.74	5.66E+03	397.14			5.66E+03	3.97E+02
F	15	609.16	3.51E+02	72.76			3.51E+02	7.28E+01
F	16	625.27	3.40E+02	71.78			3.40E+02	7.18E+01
M	17	661.67	9.96E+03	343.76			9.96E+03	3.44E+02
m	18	666.39	4.11E+03	158.97			4.11E+03	1.59E+02

Analysis Report for 24-2296 VSM-3.5M-S2-CST-A X3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	19	692.43	1.84E+03	272.25			1.84E+03	2.72E+02
m	20	695.11	3.87E+03	417.79			3.87E+03	4.18E+02
M	21	715.51	9.31E+01	63.12			9.31E+01	6.31E+01
m	22	723.33	2.06E+04	400.74			2.06E+04	4.01E+02
F	23	756.87	4.56E+03	320.60			4.56E+03	3.21E+02
F	24	779.00	4.69E+02	59.11			4.69E+02	5.91E+01
	25	815.32	2.37E+02	152.72			2.37E+02	1.53E+02
M	26	845.75	8.04E+02	234.53			8.04E+02	2.35E+02
m	27	850.72	2.66E+02	80.09			2.66E+02	8.01E+01
M	28	873.25	1.07E+04	109.53			1.07E+04	1.10E+02
m	29	880.27	1.21E+02	48.52			1.21E+02	4.85E+01
F	30	892.76	2.29E+02	43.69			2.29E+02	4.37E+01
F	31	904.22	7.57E+02	230.60			7.57E+02	2.31E+02
F	32	964.14	2.94E+02	49.36			2.94E+02	4.94E+01
M	33	996.32	9.16E+03	163.34			9.16E+03	1.63E+02
m	34	1004.77	1.53E+04	245.27			1.53E+04	2.45E+02
F	35	1085.84	2.42E+02	42.03			2.42E+02	4.20E+01
F	36	1112.30	3.84E+02	189.83			3.84E+02	1.90E+02
F	37	1128.06	3.16E+02	39.53			3.16E+02	3.95E+01
	38	1141.00	1.14E+01	98.87			1.14E+01	9.89E+01
F	39	1173.30	2.11E+04	303.61			2.11E+04	3.04E+02
F	40	1246.22	5.34E+02	32.92			5.34E+02	3.29E+01
F	41	1274.51	2.57E+04	293.94			2.57E+04	2.94E+02
F	42	1332.55	1.92E+04	256.47			1.92E+04	2.56E+02
F	43	1397.61	4.78E+02	85.01			4.78E+02	8.50E+01
F	44	1408.21	4.72E+02	80.82			4.72E+02	8.08E+01
F	45	1460.85	3.02E+02	79.00			3.02E+02	7.90E+01
F	46	1494.20	5.08E+02	24.52			5.08E+02	2.45E+01
F	47	1596.53	1.26E+03	88.82			1.26E+03	8.88E+01
F	48	1719.49	1.76E+02	14.78			1.76E+02	1.48E+01
F	49	1764.48	6.28E+01	12.17			6.28E+01	1.22E+01
F	50	2505.45	2.09E+02	42.25			2.09E+02	4.22E+01
F	51	2614.54	7.64E+01	9.88			7.64E+01	9.88E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Analysis Report for 24-2296 VSM-3.5M-S2-CST-A X3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	1.00	1460.83	*	10.67	7.08E-04	1.85E-04	miss
CO-57	0.69	122.06	*	85.60	8.05E-03	1.55E-04	1.000
		136.47		10.68			
CO-60	0.99	1173.24	*	99.97	4.75E-03	7.29E-05	0.960
		1332.50	*	99.99	4.71E-03	6.91E-05	0.959
		2505.74	*	1.00	7.91E-03	1.67E-03	miss
RH-106	0.38	511.86	*	20.70	5.39E-03	4.01E-04	0.973
		621.92		9.93			
		1050.36		1.56			
SB-126	0.49	223.90		1.39			
		278.20	*	2.40	8.31E-03	2.58E-03	0.847
		296.50		4.50			
		414.70	*	83.30	8.69E-04	3.28E-05	0.865
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	7.25E-04	2.84E-05	0.863
		674.80		3.10			
		695.00	*	99.60	7.01E-04	7.58E-05	0.862
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
CS-137	1.00	661.66	*	85.20	1.77E-03	6.18E-05	miss
EU-152	0.48	121.78		28.58			
		344.28	*	26.50	5.31E-04	8.84E-05	0.968
		778.90	*	12.94	6.33E-04	7.99E-05	0.957
		964.08	*	14.73	3.95E-04	6.64E-05	0.963
		1085.87	*	10.24	4.82E-04	8.39E-05	1.007
		1112.07	*	13.69	6.00E-04	2.96E-04	0.978
		1408.01	*	21.07	5.63E-04	9.65E-05	0.971
EU-154	0.90	42.70		20.45			
		123.07	*	40.40	1.78E-02	3.89E-04	0.953
		247.93	*	6.89	1.62E-02	3.59E-04	0.939
		591.76	*	4.95	1.74E-02	1.24E-03	0.927
		692.42	*	1.78	1.71E-02	2.53E-03	0.943
		723.30	*	20.06	1.73E-02	3.91E-04	0.947
		756.80	*	4.52	1.79E-02	1.27E-03	0.925
		873.18	*	12.08	1.69E-02	2.64E-04	0.940
		996.29	*	10.48	1.73E-02	3.61E-04	0.984
		1004.76	*	18.01	1.71E-02	3.35E-04	0.976
		1246.12	*	0.86	1.50E-02	9.49E-04	0.934
		1274.43	*	34.80	1.73E-02	2.69E-04	0.978
		1494.05	*	0.70	1.82E-02	9.10E-04	1.016
		1596.48	*	1.80	1.59E-02	1.14E-03	1.172
EU-155	0.82	43.00		18.70			
		60.01	*	1.22	3.10E+00	1.12E-01	0.998
		86.55	*	30.70	2.92E-03	1.34E-04	free
		105.31	*	21.10	3.47E-03	6.36E-04	1.000
AM-241	1.00	59.54	*	35.90	1.05E-01	2.37E-03	free

Analysis Report for 24-2296 VSM-3.5M-S2-CST-A X3

ASR 2094 Branch

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	K-40	1.000	7.08E-04	1.85E-04	
	CO-57	0.699	3.84E-04	1.61E-04	
	CO-60	0.999	4.73E-03	5.01E-05	
	RH-106	0.382	5.39E-03	4.01E-04	
	SB-126	0.499	7.81E-04	2.06E-05	
X	Sn-126	0.741			
	CS-137	1.000	1.77E-03	6.18E-05	
	EU-152	0.485	5.08E-04	3.60E-05	
	EU-154	0.907	1.70E-02	1.04E-04	
	EU-155	0.822	2.94E-03	1.14E-04	
	AM-241	1.000	1.05E-01	1.58E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2296 VSM-3.5M-S2-CST-A X3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 3:16:06PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	74.74	5.20211E-01	7.85	Tol.	RA-226
F	10	444.41	5.77822E-02	13.60		
F	12	557.62	3.07610E-02	69.37		
F	13	582.00	7.11907E-02	29.73		
F	15	609.16	2.69934E-02	20.76	Tol.	RA-226
F	16	625.27	2.61503E-02	21.14		
M	21	715.51	7.16665E-03	67.82	Sum	
	25	815.32	1.82887E-02	64.31	Sum	
M	26	845.75	6.19289E-02	29.16	Sum	
m	27	850.72	2.04708E-02	30.13		
m	29	880.27	9.34538E-03	39.98	Sum	
F	30	892.76	1.76600E-02	19.05		
F	31	904.22	5.82974E-02	30.46		
F	37	1128.06	2.43209E-02	12.52	Sum	
	38	1141.00	8.79090E-04	866.10		
F	43	1397.61	3.67800E-02	17.80	Sum	
F	48	1719.49	1.35811E-02	8.38	Sum	
F	49	1764.48	4.83702E-03	19.38	Sum	
F	51	2614.54	5.87986E-03	12.95		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Analysis Report for 24-2296 VSM-3.5M-S2-CST-A X3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	1.04E-03	1.04E-03	1.28E-03	5.16E-04
+	K-40	1460.83	*	10.67	3.00E-04	3.00E-04	7.08E-04	1.47E-04
	MN-54	834.84		99.98	8.02E-05	8.02E-05	-3.60E-05	3.99E-05
	CO-58	810.78		99.45	8.52E-05	8.52E-05	9.26E-05	4.23E-05
		863.96		0.68	1.23E-02		-3.31E-03	6.12E-03
		1674.73		0.52	3.70E-03		7.92E-04	1.78E-03
	FE-59	142.65		1.00	2.00E-02	9.67E-05	-1.19E-02	9.99E-03
		192.35		3.01	6.12E-03		4.35E-03	3.06E-03
		334.80		0.27	4.66E-02		-1.57E-02	2.32E-02
		1099.25		56.30	1.29E-04		-1.31E-04	6.38E-05
		1291.60		43.70	9.67E-05		-3.08E-05	4.76E-05
+	CO-60	1173.24	*	99.97	1.07E-04	7.30E-05	4.75E-03	5.34E-05
		1332.50	*	99.99	7.30E-05		4.71E-03	3.62E-05
		2505.74	*	1.00	1.93E-03		7.91E-03	9.11E-04
	SR-85	514.00		96.00	1.22E-04	1.22E-04	-2.51E-05	6.09E-05
		868.60		0.01	9.86E-01		2.49E-01	4.91E-01
	NB-94	702.62		97.90	1.00E-04	1.00E-04	-2.27E-05	4.99E-05
		871.09		99.98	1.22E-04		1.20E-05	6.10E-05
	NB-95	765.81		99.81	8.66E-05	8.66E-05	1.84E-05	4.31E-05
	RU-103	497.05		91.00	1.16E-04	1.16E-04	8.30E-05	5.79E-05
		610.30		5.76	1.61E-03		5.54E-04	8.01E-04
+	RH-106	511.86	*	20.70	8.92E-04	8.92E-04	5.39E-03	4.45E-04
		621.92		9.93	9.50E-04		1.19E-04	4.73E-04
		1050.36		1.56	5.12E-03		4.91E-03	2.54E-03
	AG-108M	79.13		6.60	4.85E-03	1.11E-04	1.57E-03	2.42E-03
		433.90		90.50	1.31E-04		-2.13E-05	6.54E-05
		614.30		89.80	1.11E-04		-3.14E-05	5.50E-05
		722.90		90.80	1.66E-04		1.72E-05	8.29E-05
	CD-109	88.03		3.61	7.80E-03	7.80E-03	4.23E-02	3.90E-03
	SB-125	176.31		6.82	2.61E-03	3.69E-04	-7.21E-04	1.30E-03
		380.45		1.52	7.74E-03		7.17E-03	3.86E-03
		427.87		29.55	3.69E-04		-7.84E-04	1.84E-04
		463.36		10.48	1.03E-03		1.05E-03	5.14E-04
		600.60		17.76	5.12E-04		1.35E-04	2.55E-04
		606.71		5.02	1.82E-03		-1.13E-03	9.06E-04
		635.95		11.32	8.13E-04		-2.42E-04	4.05E-04
		671.44		1.78	5.64E-03		5.37E-03	2.81E-03
+	SB-126	223.90		1.39	1.14E-02	7.14E-05	-1.71E-03	5.67E-03
		278.20	*	2.40	7.10E-03		8.31E-03	3.55E-03
		296.50		4.50	3.47E-03		-1.06E-03	1.73E-03
		414.70	*	83.30	1.90E-04		8.69E-04	9.49E-05
		556.30		1.69	6.84E-03		-7.70E-03	3.41E-03
		573.90		6.70	1.68E-03		-1.06E-03	8.37E-04
		593.20		7.50	1.59E-03		1.22E-02	7.91E-04
		656.30		2.19	6.22E-03		-6.06E-04	3.10E-03
		666.50	*	99.60	7.25E-05		7.25E-04	3.60E-05
		674.80		3.10	3.52E-03		4.94E-03	1.75E-03
		695.00	*	99.60	7.14E-05		7.01E-04	3.55E-05
		697.00		29.00	4.27E-04		-2.21E-04	2.13E-04
		720.70		53.80	3.03E-04		7.33E-03	1.51E-04
		856.80		17.60	5.24E-04		-1.71E-04	2.61E-04
		989.60		6.80	1.87E-03		8.24E-04	9.29E-04
		1213.30		2.39	2.33E-03		9.52E-05	1.15E-03

Analysis Report for 24-2296 VSM-3.5M-S2-CST-A X3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Sn-126	64.28		9.60	5.39E-03	7.64E-04	3.81E-03	2.69E-03
		87.30	*	45.90	7.64E-04		1.96E-03	3.82E-04
	I-129	29.70		56.60	5.92E-02	4.46E-02	-1.46E-01	2.96E-02
		33.60		10.04	1.05E-01		-3.21E-01	5.22E-02
		34.40		2.01	4.28E-01		-2.01E+00	2.14E-01
		39.60		7.51	4.46E-02		-1.33E-01	2.23E-02
	CS-134	563.25		8.34	1.25E-03	9.91E-05	6.10E-04	6.22E-04
		569.33		15.37	6.72E-04		-9.64E-05	3.35E-04
		604.72		97.62	9.91E-05		1.86E-05	4.93E-05
		795.86		85.46	1.03E-04		7.38E-05	5.13E-05
		801.95		8.69	1.03E-03		2.90E-04	5.13E-04
+	CS-137	661.66	*	85.20	7.30E-05	7.30E-05	1.77E-03	3.63E-05
	CE-139	165.85		79.89	2.33E-04	2.33E-04	4.68E-05	1.17E-04
	CE-141	40.70		3.35	8.62E-02	4.12E-04	-1.50E-01	4.30E-02
		145.44		48.29	4.12E-04		1.97E-04	2.06E-04
	CE-144	80.12		1.36	2.31E-02	1.85E-03	7.66E-03	1.16E-02
		133.51		11.09	1.85E-03		3.52E-04	9.27E-04
+	EU-152	121.78		28.58	8.87E-04	2.15E-04	1.58E-04	4.43E-04
		344.28	*	26.50	5.24E-04		5.31E-04	2.61E-04
		778.90	*	12.94	6.65E-04		6.33E-04	3.31E-04
		964.08	*	14.73	5.06E-04		3.95E-04	2.51E-04
		1085.87	*	10.24	6.65E-04		4.82E-04	3.30E-04
		1112.07	*	13.69	7.00E-04		6.00E-04	3.48E-04
		1408.01	*	21.07	2.15E-04		5.63E-04	1.06E-04
	GD-153	97.43		29.00	9.05E-04	9.05E-04	8.12E-04	4.52E-04
		103.18		21.10	1.19E-03		5.75E-04	5.96E-04
+	EU-154	42.70		20.45	1.05E-02	2.42E-04	-1.47E-02	5.25E-03
		123.07	*	40.40	8.18E-04		1.78E-02	4.09E-04
		247.93	*	6.89	3.12E-03		1.62E-02	1.56E-03
		591.76	*	4.95	2.20E-03		1.74E-02	1.10E-03
		692.42	*	1.78	3.49E-03		1.71E-02	1.73E-03
		723.30	*	20.06	3.21E-04		1.73E-02	1.59E-04
		756.80	*	4.52	2.28E-03		1.79E-02	1.14E-03
		873.18	*	12.08	4.86E-04		1.69E-02	2.41E-04
		996.29	*	10.48	5.13E-04		1.73E-02	2.54E-04
		1004.76	*	18.01	2.99E-04		1.71E-02	1.48E-04
		1246.12	*	0.86	7.49E-03		1.50E-02	3.71E-03
		1274.43	*	34.80	2.42E-04		1.73E-02	1.20E-04
		1494.05	*	0.70	4.58E-03		1.82E-02	2.24E-03
		1596.48	*	1.80	1.56E-03		1.59E-02	7.65E-04
+	EU-155	43.00		18.70	1.11E-02	1.14E-03	-2.35E-02	5.53E-03
		60.01	*	1.22	6.92E-02		3.10E+00	3.46E-02
		86.55	*	30.70	1.14E-03		2.92E-03	5.71E-04
		105.31	*	21.10	1.59E-03		3.47E-03	7.94E-04
	HG-203	72.87		6.30	5.91E-03	1.70E-04	1.23E-03	2.95E-03
		279.20		81.46	1.70E-04		1.36E-04	8.49E-05
	BI-207	569.15		97.80	1.03E-04	1.03E-04	-1.48E-05	5.14E-05
		1063.10		74.90	1.06E-04		6.57E-05	5.27E-05
	PB-210	46.54		4.25	3.33E-02	3.33E-02	-5.28E-02	1.66E-02
	RA-226	74.81		6.44	5.44E-03	1.51E-04	1.29E-02	2.72E-03
		77.11		10.80	3.08E-03		3.44E-03	1.54E-03
		87.30		4.84	5.86E-03		2.70E-02	2.93E-03
		186.21		3.59	4.95E-03		8.51E-03	2.47E-03

Analysis Report for 24-2296 VSM-3.5M-S2-CST-A X3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	242.00		7.43	2.03E-03	1.51E-04	-1.12E-03	1.01E-03
		295.22		19.30	6.78E-04		4.70E-04	3.38E-04
		351.93		37.60	3.29E-04		1.71E-04	1.64E-04
		609.31		46.10	1.98E-04		3.89E-04	9.87E-05
		768.36		4.94	1.70E-03		1.91E-03	8.46E-04
		1120.29		15.10	4.74E-04		8.71E-05	2.35E-04
		1238.11		5.79	8.71E-04		5.00E-04	4.30E-04
		1764.49		15.40	1.51E-04		2.41E-04	7.30E-05
	PA-231	283.70		1.59	8.48E-03	5.44E-03	6.11E-03	4.23E-03
		300.07		2.38	5.44E-03		4.22E-03	2.71E-03
		302.67		1.71	7.73E-03		-6.00E-03	3.86E-03
		330.07		1.32	9.49E-03		1.69E-03	4.73E-03
	TH-232	74.81		11.62	3.01E-03	5.93E-05	7.13E-03	1.51E-03
		77.11		17.50	1.90E-03		2.12E-03	9.51E-04
		87.30		7.80	3.64E-03		1.68E-02	1.82E-03
		238.63		43.30	3.48E-04		-3.09E-04	1.74E-04
		338.32		11.30	1.10E-03		6.85E-04	5.46E-04
		583.19		30.37	3.13E-04		6.85E-04	1.56E-04
		727.33		6.58	2.09E-03		1.95E-04	1.04E-03
		911.21		26.60	2.99E-04		2.40E-04	1.49E-04
		968.97		16.20	4.77E-04		-1.32E-04	2.37E-04
		2614.53		35.64	5.93E-05		4.36E-05	2.81E-05
	U-235	143.76		10.96	1.79E-03	3.11E-04	1.07E-03	8.94E-04
		185.71		57.20	3.11E-04		2.57E-04	1.55E-04
		205.31		5.01	3.32E-03		-9.25E-05	1.66E-03
	U-238	63.29		3.70	1.52E-02	6.24E-03	1.29E-02	7.59E-03
		92.51		4.23	6.24E-03		7.14E-03	3.12E-03
		112.81		0.21	1.10E-01		1.65E-02	5.48E-02
		742.81		0.11	7.86E-02		-5.35E-02	3.91E-02
		766.28		0.32	2.65E-02		-9.56E-03	1.32E-02
		1001.03		0.84	1.92E-02		5.62E-01	9.57E-03
	NP-239	99.60		12.80	2.68E-03	1.26E-03	1.37E-03	1.34E-03
		103.80		20.40	1.63E-03		-2.45E-04	8.15E-04
		106.10		26.40	1.26E-03		4.39E-03	6.30E-04
		116.90		7.61	4.01E-03		1.81E-03	2.00E-03
		228.20		11.20	1.89E-03		-2.16E-03	9.46E-04
		277.60		14.50	1.29E-03		7.90E-04	6.46E-04
		315.90		1.60	1.06E-02		-1.42E-02	5.28E-03
		334.30		2.06	7.62E-03		3.80E-03	3.80E-03
+	AM-241	59.54	*	35.90	2.35E-03	2.35E-03	1.05E-01	1.17E-03

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

Apex-Gamma

Analysis Report for 24-2297 VSM-3.5M-S2-CST-d-A X3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2297 VSM-3.5M-S2-CST-d-A X3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 3:35:44PM
Procedure	: X3_gsv02mlw
Operator	: Administrator
Detector Name	: X
Geometry	: X3_gsv02mlw
Live Time	: 14400.0 seconds
Real Time	: 14630.4 seconds
Dead Time	: 1.57 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 7/9/2024
Efficiency Calibration Used Done On	: 3/13/2019
Efficiency Calibration Description	: X3_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567837
Certificate Name	: QA_Q
Certificate Date	: 3/23/1994 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 7:39:40PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2297 VSM-3.5M-S2-CST-d-A X3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.70	132.38	0.2098	7.53
2	48.99	151.57	0.2655	3.31
3	59.51	184.14	0.0393	195.35
4	74.87	231.36	0.2277	6.11
5	86.81	268.45	0.1439	12.92
6	105.54	326.10	0.1659	10.99
7	123.03	380.08	0.0495	117.99
8	247.85	765.14	0.0850	37.23
9	277.66	855.88	0.3044	3.03
10	295.10	911.01	0.3084	3.20
11	344.18	1062.28	0.1735	9.06
12	351.73	1085.08	0.2712	4.04
13	371.74	1146.40	0.2667	3.99
14	414.80	1280.30	0.0983	25.92
15	444.27	1371.16	0.1898	7.29
16	460.22	1420.34	0.3338	3.19
17	511.06	1577.09	0.1023	16.31
18	531.17	1639.32	0.2957	3.55
19	557.69	1721.14	0.2512	4.62
20	581.98	1796.13	0.1695	8.04
21	591.76	1826.25	0.0826	33.05
22	609.48	1880.73	0.2350	5.00
23	661.70	2041.97	0.0660	50.30
24	666.40	2056.59	0.0906	27.55
25	692.43	2135.74	0.2191	7.53
26	695.11	2145.35	0.1019	22.29
27	723.33	2232.20	0.0520	77.26
28	756.79	2335.48	0.0835	29.76
29	778.91	2403.80	0.1945	5.60
30	815.70	2517.08	0.1782	6.99
31	845.58	2609.26	0.1618	8.77
32	873.23	2694.71	0.0600	55.99
33	893.18	2756.44	0.2011	4.72
34	904.17	2789.90	0.1528	8.43
35	964.15	2975.21	0.1893	5.39
36	996.33	3074.54	0.0621	50.12
37	1004.80	3100.69	0.0534	66.91
38	1085.89	3350.93	0.1965	5.42
39	1111.95	3431.60	0.1896	5.15
40	1119.02	3451.55	0.2504	3.10
41	1128.32	3480.94	0.1860	5.30
42	1140.90	3520.36	0.1932	5.16
43	1173.31	3620.66	0.0483	77.85
44	1187.83	3665.44	0.2876	3.17
45	1246.31	3845.82	0.1309	10.48
46	1274.51	3933.01	0.0454	85.61
47	1332.56	4112.09	0.0484	74.42
48	1397.65	4312.40	0.1316	9.82
49	1408.14	4345.27	0.1251	12.36
50	1461.01	4508.52	0.1564	6.96
51	1494.17	4610.72	0.1293	10.53
52	1596.51	4926.58	0.0964	17.65
53	1616.58	4988.67	0.2525	3.20
54	1719.55	5306.10	0.1550	6.67
55	1764.52	5445.00	0.1749	5.27

Analysis Report for 24-2297 VSM-3.5M-S2-CST-d-A X3

ASR 2094 Branch

Peak No.	*Energy (keV)*	*Centroid Channel*	*Centroid Uncertainty*	*Peak Significance*
56	2505.73	7732.45	0.1438	6.75
57	2614.90	8068.72	0.1715	5.10

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2297 VSM-3.5M-S2-CST-d-A X3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 7:39:40PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.70	122	136	132.26	3.76E+03	435.52	3.40E+05	1.08
F	2	48.99	141	161	151.68	4.15E+03	504.07	5.81E+05	1.58
F	3	59.51	173	193	184.13	2.97E+05	2724.57	6.72E+05	1.51
F	4	74.87	227	242	231.50	5.32E+03	3038.56	5.11E+05	1.18
F	5	86.81	261	279	268.35	1.68E+04	2679.67	5.68E+05	1.79
F	6	105.54	322	337	326.12	6.67E+03	468.55	3.88E+05	1.30
F	7	123.03	372	391	380.09	1.14E+05	1999.61	3.86E+05	1.56
F	8	247.85	759	777	765.19	1.42E+04	233.87	8.28E+04	1.60
F	9	277.66	851	864	857.17	6.39E+02	207.33	4.65E+04	0.43
F	10	295.10	905	923	910.97	6.29E+02	244.77	5.35E+04	1.15
F	11	344.18	1056	1072	1062.39	1.65E+03	142.25	3.29E+04	1.42
F	12	351.73	1079	1090	1085.68	7.80E+02	1416.02	2.19E+04	0.77
F	13	371.74	1139	1153	1147.42	7.42E+02	31.04	2.37E+04	0.46
F	14	414.80	1273	1288	1280.29	5.08E+03	133.00	2.01E+04	1.62
F	15	444.27	1367	1378	1371.22	1.00E+03	111.29	1.23E+04	1.62
F	16	460.22	1416	1425	1420.40	2.25E+02	82.98	9.50E+03	0.80
F	17	511.06	1565	1591	1577.28	8.47E+03	128.85	2.03E+04	2.88
	18	531.17	1634	1644	1639.32	1.09E+01	168.76	7.56E+03	0.43
	19	557.69	1717	1726	1721.14	1.44E+02	145.55	5.96E+03	0.45
F	20	581.98	1786	1802	1796.08	9.90E+02	346.52	8.85E+03	1.82
F	21	591.76	1817	1841	1826.26	5.98E+03	378.15	1.25E+04	1.92
F	22	609.48	1875	1889	1880.94	4.47E+02	112.81	6.79E+03	1.29
M	23	661.70	2033	2070	2042.07	1.01E+04	117.25	7.18E+03	1.90
m	24	666.40	2033	2070	2056.56	4.50E+03	90.67	8.22E+03	1.90
M	25	692.43	2122	2156	2136.86	2.04E+03	357.13	7.77E+03	2.02
m	26	695.11	2122	2156	2145.13	4.27E+03	580.52	7.42E+03	2.02
F	27	723.33	2216	2245	2232.20	2.20E+04	382.13	9.25E+03	2.03
F	28	756.79	2322	2361	2335.44	4.59E+03	306.14	1.13E+04	2.02
F	29	778.91	2393	2411	2403.69	5.05E+02	62.17	5.20E+03	1.93
F	30	815.70	2508	2527	2517.19	6.17E+02	244.26	4.39E+03	1.67
F	31	845.58	2602	2616	2609.39	5.92E+02	56.17	3.17E+03	1.66
F	32	873.23	2684	2707	2694.71	1.17E+04	305.98	4.34E+03	2.13
F	33	893.18	2745	2766	2756.27	6.24E+02	261.48	3.83E+03	2.56
F	34	904.17	2779	2806	2790.19	7.87E+02	56.21	5.11E+03	2.12
F	35	964.15	2967	2986	2975.23	3.78E+02	51.84	3.48E+03	1.97
M	36	996.33	3059	3117	3074.55	9.83E+03	168.15	3.25E+03	2.25
m	37	1004.80	3059	3117	3100.68	1.68E+04	258.80	3.14E+03	2.26
F	38	1085.89	3345	3359	3350.87	2.65E+02	43.70	1.78E+03	1.83
M	39	1111.95	3418	3461	3431.28	4.38E+02	174.89	2.58E+03	2.27
m	40	1119.02	3418	3461	3453.10	5.98E+01	40.01	3.26E+03	2.27

Analysis Report for 24-2297 VSM-3.5M-S2-CST-d-A X3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1128.32	3471	3498	3481.81	5.47E+02	41.79	2.23E+03	3.20
F	42	1140.90	3512	3532	3520.60	1.98E+02	36.27	1.70E+03	1.77
F	43	1173.31	3603	3633	3620.61	2.22E+04	304.96	2.01E+03	2.35
	44	1187.83	3660	3671	3665.44	3.35E+01	53.17	6.94E+02	0.96
F	45	1246.31	3836	3857	3845.86	5.52E+02	34.53	9.43E+02	2.17
F	46	1274.51	3915	3948	3932.89	2.68E+04	307.97	1.15E+03	2.41
F	47	1332.56	4096	4129	4112.00	2.04E+04	269.64	7.31E+02	2.45
F	48	1397.65	4304	4323	4312.85	5.00E+02	26.99	3.22E+02	2.52
F	49	1408.14	4332	4357	4345.21	5.22E+02	83.28	4.23E+02	2.06
F	50	1461.01	4497	4520	4508.34	3.49E+02	87.95	2.69E+02	2.64
F	51	1494.17	4600	4624	4610.69	4.74E+02	79.23	2.69E+02	2.49
F	52	1596.51	4911	4943	4926.47	1.41E+03	90.60	1.91E+02	2.71
F	53	1616.58	4982	4995	4988.40	3.44E+01	9.73	5.26E+01	1.84
F	54	1719.55	5295	5317	5306.15	1.98E+02	15.91	8.60E+01	2.61
F	55	1764.52	5434	5456	5444.91	1.27E+02	13.38	7.44E+01	2.59
F	56	2505.73	7721	7743	7732.22	1.84E+02	42.36	2.84E+01	2.77
F	57	2614.90	8059	8080	8069.15	9.29E+01	30.75	3.00E+01	2.75

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 7:39:40PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567386.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.70	3.76E+03	435.52			3.76E+03	4.36E+02
F	2	48.99	4.15E+03	504.07			4.15E+03	5.04E+02
F	3	59.51	2.97E+05	2724.57			2.97E+05	2.72E+03
F	4	74.87	5.32E+03	3038.56	4.57E+02	3.18E+01	4.86E+03	3.04E+03
F	5	86.81	1.68E+04	2679.67	1.04E+02	1.05E+00	1.67E+04	2.68E+03
F	6	105.54	6.67E+03	468.55			6.67E+03	4.69E+02
F	7	123.03	1.14E+05	1999.61			1.14E+05	2.00E+03
F	8	247.85	1.42E+04	233.87			1.42E+04	2.34E+02
F	9	277.66	6.39E+02	207.33			6.39E+02	2.07E+02
F	10	295.10	6.29E+02	244.77	2.31E+02	1.86E+01	3.98E+02	2.45E+02
F	11	344.18	1.65E+03	142.25			1.65E+03	1.42E+02
F	12	351.73	7.80E+02	1416.02	4.24E+02	1.83E+01	3.56E+02	1.42E+03

Analysis Report for 24-2297 VSM-3.5M-S2-CST-d-A X3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	13	371.74	7.42E+02	31.04			7.42E+02	3.10E+01
F	14	414.80	5.08E+03	133.00			5.08E+03	1.33E+02
F	15	444.27	1.00E+03	111.29			1.00E+03	1.11E+02
F	16	460.22	2.25E+02	82.98			2.25E+02	8.30E+01
F	17	511.06	8.47E+03	128.85			8.47E+03	1.29E+02
	18	531.17	1.09E+01	168.76			1.09E+01	1.69E+02
	19	557.69	1.44E+02	145.55			1.44E+02	1.46E+02
F	20	581.98	9.90E+02	346.52	4.37E+01	2.79E+00	9.47E+02	3.47E+02
F	21	591.76	5.98E+03	378.15			5.98E+03	3.78E+02
F	22	609.48	4.47E+02	112.81			4.47E+02	1.13E+02
M	23	661.70	1.01E+04	117.25			1.01E+04	1.17E+02
m	24	666.40	4.50E+03	90.67			4.50E+03	9.07E+01
M	25	692.43	2.04E+03	357.13			2.04E+03	3.57E+02
m	26	695.11	4.27E+03	580.52			4.27E+03	5.81E+02
F	27	723.33	2.20E+04	382.13			2.20E+04	3.82E+02
F	28	756.79	4.59E+03	306.14			4.59E+03	3.06E+02
F	29	778.91	5.05E+02	62.17			5.05E+02	6.22E+01
F	30	815.70	6.17E+02	244.26			6.17E+02	2.44E+02
F	31	845.58	5.92E+02	56.17			5.92E+02	5.62E+01
F	32	873.23	1.17E+04	305.98			1.17E+04	3.06E+02
F	33	893.18	6.24E+02	261.48			6.24E+02	2.61E+02
F	34	904.17	7.87E+02	56.21			7.87E+02	5.62E+01
F	35	964.15	3.78E+02	51.84			3.78E+02	5.18E+01
M	36	996.33	9.83E+03	168.15			9.83E+03	1.68E+02
m	37	1004.80	1.68E+04	258.80			1.68E+04	2.59E+02
F	38	1085.89	2.65E+02	43.70			2.65E+02	4.37E+01
M	39	1111.95	4.38E+02	174.89			4.38E+02	1.75E+02
m	40	1119.02	5.98E+01	40.01			5.98E+01	4.00E+01
F	41	1128.32	5.47E+02	41.79			5.47E+02	4.18E+01
F	42	1140.90	1.98E+02	36.27			1.98E+02	3.63E+01
F	43	1173.31	2.22E+04	304.96			2.22E+04	3.05E+02
	44	1187.83	3.35E+01	53.17			3.35E+01	5.32E+01
F	45	1246.31	5.52E+02	34.53			5.52E+02	3.45E+01
F	46	1274.51	2.68E+04	307.97			2.68E+04	3.08E+02
F	47	1332.56	2.04E+04	269.64			2.04E+04	2.70E+02
F	48	1397.65	5.00E+02	26.99			5.00E+02	2.70E+01
F	49	1408.14	5.22E+02	83.28			5.22E+02	8.33E+01
F	50	1461.01	3.49E+02	87.95			3.49E+02	8.79E+01
F	51	1494.17	4.74E+02	79.23			4.74E+02	7.92E+01
F	52	1596.51	1.41E+03	90.60			1.41E+03	9.06E+01
F	53	1616.58	3.44E+01	9.73			3.44E+01	9.73E+00
F	54	1719.55	1.98E+02	15.91			1.98E+02	1.59E+01
F	55	1764.52	1.27E+02	13.38			1.27E+02	1.34E+01
F	56	2505.73	1.84E+02	42.36			1.84E+02	4.24E+01
F	57	2614.90	9.29E+01	30.75			9.29E+01	3.08E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2297 VSM-3.5M-S2-CST-d-A X3

ASR 2094 Branch

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.99	1460.83	*	10.67	7.38E-04	1.86E-04	miss
CO-57	0.69	122.06	*	85.60	7.48E-03	1.45E-04	1.000
		136.47		10.68			
CO-60	0.99	1173.24	*	99.97	4.50E-03	6.64E-05	0.960
		1332.50	*	99.99	4.50E-03	6.56E-05	0.959
		2505.74	*	1.00	6.29E-03	1.49E-03	miss
RH-106	0.39	511.86	*	20.70	4.89E-03	1.65E-04	0.973
		621.92		9.93			
		1050.36		1.56			
SB-126	0.49	223.90		1.39			
		278.20	*	2.40	2.50E-03	1.10E-03	0.847
		296.50		4.50			
		414.70	*	83.30	7.18E-04	2.83E-05	0.865
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	7.17E-04	1.50E-05	0.863
		674.80		3.10			
		695.00	*	99.60	6.98E-04	9.50E-05	0.862
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.74	64.28		9.60			
		87.30	*	45.90	2.21E-03	3.67E-04	miss
CS-137	1.00	661.66	*	85.20	1.61E-03	2.09E-05	miss
EU-152	0.48	121.78		28.58			
		344.28	*	26.50	5.85E-04	5.22E-05	0.968
		778.90	*	12.94	6.15E-04	7.58E-05	0.957
		964.08	*	14.73	4.59E-04	6.29E-05	0.963
		1085.87	*	10.24	4.77E-04	7.87E-05	1.007
		1112.07	*	13.69	6.15E-04	2.46E-04	0.978
		1408.01	*	21.07	5.61E-04	8.97E-05	0.971
EU-154	1.00	42.70	*	20.45	9.64E-03	1.17E-03	miss
		123.07	*	40.40	1.66E-02	3.63E-04	0.953
		247.93	*	6.89	1.64E-02	3.44E-04	0.939
		591.76	*	4.95	1.66E-02	1.07E-03	0.927
		692.42	*	1.78	1.70E-02	2.99E-03	0.943

Analysis Report for 24-2297 VSM-3.5M-S2-CST-d-A X3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	1.00	723.30	*	20.06	1.67E-02	3.47E-04	0.947
		756.80	*	4.52	1.63E-02	1.10E-03	0.925
		873.18	*	12.08	1.67E-02	4.79E-04	0.940
		996.29	*	10.48	1.67E-02	3.39E-04	0.984
		1004.76	*	18.01	1.69E-02	3.23E-04	0.976
		1246.12	*	0.86	1.40E-02	8.97E-04	0.934
		1274.43	*	34.80	1.62E-02	2.53E-04	0.978
		1494.05	*	0.70	1.53E-02	2.57E-03	1.016
		1596.48	*	1.80	1.60E-02	1.05E-03	1.172
EU-155	0.98	43.00	*	18.70	1.05E-02	1.27E-03	1.000
		60.01	*	1.22	2.97E+00	1.07E-01	0.998
		86.55	*	30.70	3.30E-03	5.35E-04	free
		105.31	*	21.10	1.75E-03	1.31E-04	1.000
RA-226	0.56	74.81	*	6.44	5.45E-03	3.41E-03	miss
		77.11		10.80			
		87.30	*	4.84	2.09E-02	3.46E-03	miss
		186.21		3.59			
		242.00		7.43			
		295.22	*	19.30	1.70E-04	1.05E-04	miss
		351.93	*	37.60	8.71E-05	3.46E-04	miss
		609.31	*	46.10	1.26E-04	3.17E-05	miss
		768.36		4.94			
		1120.29		15.10			
		1238.11		5.79			
		1764.49	*	15.40	2.13E-04	2.27E-05	miss
AM-241	1.00	59.54	*	35.90	1.01E-01	2.25E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2297 VSM-3.5M-S2-CST-d-A X3

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.995	7.38E-04	1.86E-04	
CO-57	0.699	7.70E-05	1.53E-04	
CO-60	0.999	4.50E-03	4.66E-05	
RH-106	0.395	4.89E-03	1.65E-04	
SB-126	0.499	7.17E-04	1.31E-05	
Sn-126	0.744	1.08E-03	3.64E-04	
CS-137	1.000	1.61E-03	2.09E-05	
EU-152	0.487	5.42E-04	3.02E-05	
EU-154	1.000	1.64E-02	1.12E-04	
EU-155	0.988	1.66E-03	1.23E-04	
RA-226	0.569	1.83E-04	1.80E-05	
AM-241	1.000	1.01E-01	1.50E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2297 VSM-3.5M-S2-CST-d-A X3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 7:39:40PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	48.99	2.88334E-01	12.14		
F	13	371.74	5.15542E-02	4.18	Sum	
F	15	444.27	6.94343E-02	11.13		
F	16	460.22	1.56337E-02	36.86		
	18	531.17	7.59006E-04	1544.09		
	19	557.69	1.00272E-02	100.80		
F	20	581.98	6.57393E-02	36.61		
F	30	815.70	4.28816E-02	39.56	Sum	
F	31	845.58	4.11279E-02	9.49	Sum	
F	33	893.18	4.33591E-02	41.88		
F	34	904.17	5.46584E-02	7.14	Sum	
m	40	1119.02	4.15623E-03	66.85	Sum	
F	41	1128.32	3.80166E-02	7.63	Sum	
F	42	1140.90	1.37613E-02	18.30		
	44	1187.83	2.32739E-03	158.65		
F	48	1397.65	3.47202E-02	5.40	Sum	
F	53	1616.58	2.39229E-03	28.25	Sum	
F	54	1719.55	1.37318E-02	8.05	Sum	
F	57	2614.90	6.45040E-03	33.11		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Analysis Report for 24-2297 VSM-3.5M-S2-CST-d-A X3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	9.62E-04	9.62E-04	4.97E-04	4.80E-04
+	K-40	1460.83	*	10.67	3.07E-04	3.07E-04	7.38E-04	1.51E-04
	MN-54	834.84		99.98	7.45E-05	7.45E-05	8.75E-06	3.70E-05
	CO-58	810.78		99.45	7.77E-05	7.77E-05	-3.86E-07	3.86E-05
		863.96		0.68	1.14E-02		-3.49E-03	5.67E-03
		1674.73		0.52	3.51E-03		-2.70E-03	1.69E-03
	FE-59	142.65		1.00	1.87E-02	9.01E-05	-9.49E-03	9.33E-03
		192.35		3.01	5.71E-03		-3.32E-03	2.85E-03
		334.80		0.27	4.34E-02		5.53E-02	2.17E-02
		1099.25		56.30	1.19E-04		-1.32E-04	5.90E-05
		1291.60		43.70	9.01E-05		1.54E-05	4.44E-05
+	CO-60	1173.24	*	99.97	8.99E-05	6.10E-05	4.50E-03	4.47E-05
		1332.50	*	99.99	6.10E-05		4.50E-03	3.02E-05
		2505.74	*	1.00	1.64E-03		6.29E-03	7.76E-04
	SR-85	514.00		96.00	1.13E-04	1.13E-04	-2.13E-05	5.65E-05
		868.60		0.01	9.17E-01		-3.46E-01	4.57E-01
	NB-94	702.62		97.90	9.29E-05	9.29E-05	-4.67E-05	4.62E-05
		871.09		99.98	1.14E-04		1.89E-03	5.66E-05
	NB-95	765.81		99.81	8.12E-05	8.12E-05	2.89E-05	4.04E-05
	RU-103	497.05		91.00	1.08E-04	1.08E-04	-7.79E-05	5.38E-05
		610.30		5.76	1.49E-03		-1.45E-03	7.43E-04
+	RH-106	511.86	*	20.70	7.56E-04	7.56E-04	4.89E-03	3.77E-04
		621.92		9.93	8.82E-04		5.51E-04	4.39E-04
		1050.36		1.56	4.69E-03		1.34E-05	2.33E-03
	AG-108M	79.13		6.60	4.51E-03	1.03E-04	-3.29E-03	2.26E-03
		433.90		90.50	1.22E-04		7.93E-05	6.08E-05
		614.30		89.80	1.03E-04		6.17E-05	5.12E-05
		722.90		90.80	1.54E-04		3.65E-03	7.69E-05
	CD-109	88.03		3.61	7.27E-03	7.27E-03	4.32E-02	3.63E-03
	SB-125	176.31		6.82	2.43E-03	3.44E-04	-2.33E-03	1.21E-03
		380.45		1.52	7.21E-03		6.93E-03	3.60E-03
		427.87		29.55	3.44E-04		-3.55E-04	1.72E-04
		463.36		10.48	9.58E-04		-7.64E-04	4.78E-04
		600.60		17.76	4.76E-04		2.99E-04	2.37E-04
		606.71		5.02	1.69E-03		5.68E-04	8.40E-04
		635.95		11.32	7.57E-04		-1.64E-04	3.77E-04
		671.44		1.78	5.26E-03		3.75E-03	2.62E-03
+	SB-126	223.90		1.39	1.06E-02	6.59E-05	1.08E-02	5.28E-03
		278.20	*	2.40	5.91E-03		2.50E-03	2.95E-03
		296.50		4.50	3.23E-03		1.96E-03	1.61E-03
		414.70	*	83.30	1.48E-04		7.18E-04	7.38E-05
		556.30		1.69	6.33E-03		-1.11E-03	3.15E-03
		573.90		6.70	1.56E-03		1.16E-03	7.79E-04
		593.20		7.50	1.48E-03		1.16E-02	7.36E-04
		656.30		2.19	5.74E-03		3.01E-03	2.86E-03
		666.50	*	99.60	6.76E-05		7.17E-04	3.36E-05
		674.80		3.10	3.28E-03		2.85E-03	1.63E-03
		695.00	*	99.60	6.59E-05		6.98E-04	3.28E-05
		697.00		29.00	3.99E-04		9.32E-05	1.99E-04
		720.70		53.80	2.82E-04		4.84E-05	1.41E-04
		856.80		17.60	4.84E-04		-3.92E-04	2.41E-04
		989.60		6.80	1.72E-03		9.15E-04	8.58E-04
		1213.30		2.39	2.14E-03		1.29E-03	1.06E-03

Analysis Report for 24-2297 VSM-3.5M-S2-CST-d-A X3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	Sn-126	64.28		9.60	5.01E-03	7.87E-04	-4.03E-04	2.50E-03
		87.30	*	45.90	7.87E-04		2.21E-03	3.93E-04
	I-129	29.70		56.60	5.50E-02	4.15E-02	-1.42E-01	2.75E-02
		33.60		10.04	9.72E-02		-3.47E-01	4.86E-02
		34.40		2.01	3.99E-01		-1.33E+00	1.99E-01
		39.60		7.51	4.15E-02		-1.84E-02	2.07E-02
	CS-134	563.25		8.34	1.16E-03	9.17E-05	2.76E-04	5.78E-04
		569.33		15.37	6.27E-04		-5.33E-04	3.12E-04
		604.72		97.62	9.17E-05		5.44E-05	4.57E-05
		795.86		85.46	9.47E-05		-7.01E-05	4.71E-05
		801.95		8.69	9.41E-04		-6.59E-04	4.68E-04
+	CS-137	661.66	*	85.20	6.35E-05	6.35E-05	1.61E-03	3.15E-05
	CE-139	165.85		79.89	2.18E-04	2.18E-04	8.09E-05	1.09E-04
	CE-141	40.70		3.35	8.05E-02	3.86E-04	-2.37E-01	4.02E-02
		145.44		48.29	3.86E-04		3.54E-04	1.93E-04
	CE-144	80.12		1.36	2.16E-02	1.73E-03	-1.17E-02	1.08E-02
		133.51		11.09	1.73E-03		1.20E-03	8.64E-04
+	EU-152	121.78		28.58	8.22E-04	2.02E-04	8.98E-05	4.11E-04
		344.28	*	26.50	4.85E-04		5.85E-04	2.42E-04
		778.90	*	12.94	6.96E-04		6.15E-04	3.46E-04
		964.08	*	14.73	5.81E-04		4.59E-04	2.89E-04
		1085.87	*	10.24	5.51E-04		4.77E-04	2.73E-04
		1112.07	*	13.69	3.36E-04		6.15E-04	1.66E-04
		1408.01	*	21.07	2.02E-04		5.61E-04	9.98E-05
	GD-153	97.43		29.00	8.42E-04	8.42E-04	3.96E-04	4.21E-04
		103.18		21.10	1.11E-03		-7.85E-04	5.55E-04
+	EU-154	42.70	*	20.45	1.07E-02	2.10E-04	9.64E-03	5.36E-03
		123.07	*	40.40	7.27E-04		1.66E-02	3.63E-04
		247.93	*	6.89	2.63E-03		1.64E-02	1.31E-03
		591.76	*	4.95	2.76E-03		1.66E-02	1.37E-03
		692.42	*	1.78	3.45E-03		1.70E-02	1.71E-03
		723.30	*	20.06	7.02E-04		1.67E-02	3.50E-04
		756.80	*	4.52	4.14E-03		1.63E-02	2.07E-03
		873.18	*	12.08	8.23E-04		1.67E-02	4.09E-04
		996.29	*	10.48	4.56E-04		1.67E-02	2.26E-04
		1004.76	*	18.01	2.65E-04		1.69E-02	1.31E-04
		1246.12	*	0.86	6.60E-03		1.40E-02	3.27E-03
		1274.43	*	34.80	2.10E-04		1.62E-02	1.04E-04
		1494.05	*	0.70	4.81E-03		1.53E-02	2.36E-03
		1596.48	*	1.80	1.62E-03		1.60E-02	7.94E-04
+	EU-155	43.00	*	18.70	1.17E-02	1.18E-03	1.05E-02	5.86E-03
		60.01	*	1.22	6.73E-02		2.97E+00	3.37E-02
		86.55	*	30.70	1.18E-03		3.30E-03	5.88E-04
		105.31	*	21.10	1.21E-03		1.75E-03	6.03E-04
	HG-203	72.87		6.30	5.51E-03	1.58E-04	4.96E-05	2.75E-03
		279.20		81.46	1.58E-04		1.35E-04	7.91E-05
	BI-207	569.15		97.80	9.62E-05	9.62E-05	-8.18E-05	4.79E-05
		1063.10		74.90	9.74E-05		-1.23E-04	4.83E-05
	PB-210	46.54		4.25	3.10E-02	3.10E-02	-7.42E-03	1.55E-02
+	RA-226	74.81	*	6.44	5.91E-03	1.28E-04	5.45E-03	2.95E-03
		77.11		10.80	2.87E-03		5.50E-03	1.43E-03
		87.30	*	4.84	7.46E-03		2.09E-02	3.73E-03
		186.21		3.59	4.60E-03		1.74E-03	2.30E-03

Analysis Report for 24-2297 VSM-3.5M-S2-CST-d-A X3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	242.00		7.43	1.89E-03	1.28E-04	7.41E-04	9.44E-04
		295.22	*	19.30	7.83E-04		1.70E-04	3.91E-04
		351.93	*	37.60	2.40E-04		8.71E-05	1.20E-04
		609.31	*	46.10	1.67E-04		1.26E-04	8.30E-05
		768.36		4.94	1.58E-03		1.22E-04	7.86E-04
		1120.29		15.10	4.35E-04		4.47E-05	2.16E-04
		1238.11		5.79	8.10E-04		-4.40E-04	4.00E-04
		1764.49	*	15.40	1.28E-04		2.13E-04	6.17E-05
	PA-231	283.70		1.59	7.88E-03	5.09E-03	7.54E-03	3.94E-03
		300.07		2.38	5.09E-03		8.19E-04	2.54E-03
		302.67		1.71	7.22E-03		7.65E-04	3.60E-03
		330.07		1.32	8.81E-03		-2.82E-03	4.39E-03
	TH-232	74.81		11.62	2.80E-03	6.18E-05	7.86E-03	1.40E-03
		77.11		17.50	1.77E-03		3.39E-03	8.85E-04
		87.30		7.80	3.39E-03		1.95E-02	1.69E-03
		238.63		43.30	3.24E-04		-2.14E-04	1.62E-04
		338.32		11.30	1.02E-03		-5.72E-05	5.09E-04
		583.19		30.37	2.89E-04		1.03E-04	1.44E-04
		727.33		6.58	1.93E-03		-8.65E-05	9.64E-04
		911.21		26.60	2.80E-04		-8.06E-05	1.39E-04
		968.97		16.20	4.49E-04		-3.68E-04	2.23E-04
		2614.53		35.64	6.18E-05		6.44E-05	2.96E-05
	U-235	143.76		10.96	1.67E-03	2.89E-04	3.57E-04	8.33E-04
		185.71		57.20	2.89E-04		-4.89E-05	1.44E-04
		205.31		5.01	3.09E-03		2.44E-03	1.54E-03
	U-238	63.29		3.70	1.41E-02	5.81E-03	5.55E-03	7.05E-03
		92.51		4.23	5.81E-03		-4.90E-05	2.90E-03
		112.81		0.21	1.02E-01		9.85E-03	5.10E-02
		742.81		0.11	7.36E-02		1.60E-02	3.66E-02
		766.28		0.32	2.47E-02		-3.20E-03	1.23E-02
		1001.03		0.84	1.78E-02		5.28E-01	8.87E-03
	NP-239	99.60		12.80	2.62E-03	1.23E-03	-4.14E-03	1.31E-03
		103.80		20.40	1.60E-03		-7.01E-04	7.98E-04
		106.10		26.40	1.23E-03		4.31E-03	6.17E-04
		116.90		7.61	3.92E-03		1.55E-03	1.96E-03
		228.20		11.20	1.86E-03		2.59E-03	9.28E-04
		277.60		14.50	1.27E-03		5.16E-04	6.32E-04
		315.90		1.60	1.04E-02		-1.74E-04	5.18E-03
		334.30		2.06	7.44E-03		-2.16E-03	3.71E-03
+	AM-241	59.54	*	35.90	2.28E-03	2.28E-03	1.01E-01	1.14E-03

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

Apex-Gamma

Analysis Report for 24-2298 VSM-3.5M-S3-CST-A Z3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2298 VSM-3.5M-S3-CST-A Z3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 11:40:22AM
Procedure	: Z3_gsv02mlw
Operator	: Administrator
Detector Name	: Z
Geometry	: Z3_gsv02mlw
Live Time	: 12696.5 seconds
Real Time	: 12954.5 seconds
Dead Time	: 1.99 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 7/18/2024
Efficiency Calibration Used Done On	: 3/13/2019
Efficiency Calibration Description	: Z3_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567806
Certificate Name	: R735-A4 2ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 3:16:20PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2298 VSM-3.5M-S3-CST-A Z3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.88	121.78	0.1845	12.67
2	48.92	138.42	0.2711	4.14
3	59.56	168.70	0.0420	235.58
4	74.78	211.44	0.2737	6.07
5	86.82	245.02	0.1745	12.79
6	105.33	297.49	0.1945	10.29
7	123.01	347.25	0.0536	136.38
8	125.68	355.00	0.0000	0.00
9	188.12	530.31	0.3832	3.00
10	228.07	642.93	0.3231	3.12
11	247.73	698.37	0.0910	42.04
12	343.98	969.23	0.1906	8.51
13	351.80	990.88	0.3420	3.36
14	414.56	1167.86	0.1023	29.59
15	444.19	1251.23	0.2153	6.30
16	510.74	1438.30	0.1166	14.83
17	581.84	1638.69	0.1693	9.98
18	591.43	1665.72	0.0893	33.23
19	608.99	1715.16	0.2634	4.65
20	625.27	1760.77	0.2682	3.17
21	649.62	1828.57	0.3076	3.67
22	661.30	1862.36	0.0751	45.14
23	666.00	1875.60	0.0972	26.65
24	675.06	1900.86	0.3281	3.03
25	692.07	1948.23	0.2074	8.99
26	694.73	1956.67	0.1050	25.10
27	722.97	2035.93	0.0566	78.70
28	756.42	2130.04	0.0895	31.37
29	778.26	2191.68	0.2120	5.29
30	815.11	2295.45	0.2020	5.90
31	845.06	2379.55	0.1675	7.68
32	850.23	2394.18	0.2417	3.54
33	872.73	2457.46	0.0655	53.65
34	879.46	2476.12	0.3166	3.32
35	892.59	2512.20	0.2088	5.91
36	903.60	2544.09	0.1577	9.06
37	963.75	2713.07	0.2178	4.73
38	995.75	2803.75	0.0677	48.21
39	1004.20	2827.48	0.0585	63.77
40	1080.27	3041.72	0.2932	3.15
41	1085.20	3055.48	0.2123	4.65
42	1111.68	3130.16	0.2079	5.76
43	1127.54	3174.59	0.1803	6.96
44	1172.56	3301.33	0.0522	75.34
45	1187.39	3342.91	0.3019	3.13
46	1245.41	3506.41	0.1479	7.88
47	1273.72	3586.06	0.0500	80.15
48	1331.73	3749.34	0.0526	69.02
49	1396.65	3931.58	0.1439	8.73
50	1407.15	3961.49	0.1403	9.55
51	1460.20	4110.74	0.1550	8.34
52	1493.24	4203.68	0.1386	9.72
53	1501.97	4228.41	0.2818	3.28
54	1595.57	4491.76	0.1032	17.60
55	1718.75	4838.43	0.1817	5.71

Analysis Report for 24-2298 VSM-3.5M-S3-CST-A Z3

ASR 2094 Branch

Peak No.	*Energy (keV)*	*Centroid Channel*	*Centroid Uncertainty*	*Peak Significance*
56	1763.75	4965.12	0.2161	4.24
57	2504.37	7048.87	0.1516	6.70
58	2613.13	7355.44	0.1703	4.86

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2298 VSM-3.5M-S3-CST-A Z3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 3:16:20PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.88	114	125	121.69	1.16E+04	1541.83	4.27E+05	0.94
F	2	48.92	131	145	138.70	8.65E+03	568.15	6.24E+05	1.56
F	3	59.56	161	175	168.65	3.93E+05	2593.56	6.58E+05	1.14
F	4	74.78	207	219	211.48	5.30E+03	1103.51	5.03E+05	1.19
F	5	86.82	239	252	245.39	2.04E+04	3039.30	4.84E+05	1.84
F	6	105.33	290	305	297.48	1.29E+04	2406.22	4.35E+05	1.26
M	7	123.01	340	363	347.24	1.21E+05	1909.75	2.78E+05	1.19
m	8	125.68	340	363	354.75	6.93E+02	341.65	2.66E+05	1.20
F	9	188.12	521	539	530.51	7.08E+02	239.63	1.71E+05	0.85
F	10	228.07	639	652	642.96	1.05E+03	210.67	8.02E+04	1.38
F	11	247.73	692	708	698.31	1.50E+04	219.91	7.90E+04	1.31
F	12	343.98	965	979	969.21	1.61E+03	134.42	3.09E+04	1.38
F	13	351.80	987	996	991.23	5.55E+02	124.75	1.91E+04	1.28
F	14	414.56	1161	1173	1167.88	5.57E+03	127.18	1.70E+04	1.42
F	15	444.19	1243	1262	1251.27	1.14E+03	411.23	2.17E+04	1.61
F	16	510.74	1426	1449	1438.60	8.22E+03	127.70	2.01E+04	2.63
F	17	581.84	1632	1648	1638.70	1.04E+03	77.98	9.45E+03	1.49
F	18	591.43	1659	1672	1665.68	6.03E+03	379.10	7.36E+03	1.76
F	19	608.99	1711	1723	1715.12	3.12E+02	67.73	6.53E+03	1.18
F	20	625.27	1755	1766	1760.93	3.70E+02	70.11	5.60E+03	1.88
F	21	649.62	1821	1833	1829.46	2.44E+02	79.45	5.47E+03	0.45
M	22	661.30	1853	1888	1862.36	9.12E+03	111.26	7.19E+03	1.78
m	23	666.00	1853	1888	1875.59	4.50E+03	89.12	7.76E+03	1.79
F	24	675.06	1892	1907	1901.07	2.35E+02	184.84	6.27E+03	1.22
M	25	692.07	1940	1969	1948.96	2.12E+03	553.18	6.20E+03	1.83
m	26	694.73	1940	1969	1956.43	4.54E+03	1050.41	7.26E+03	1.83
F	27	722.97	2022	2048	2035.92	2.25E+04	411.09	8.80E+03	1.85
F	28	756.42	2122	2141	2130.07	4.84E+03	86.91	6.02E+03	1.89
F	29	778.26	2186	2200	2191.52	6.48E+02	333.69	4.15E+03	2.15
F	30	815.11	2289	2301	2295.24	5.52E+02	239.04	3.20E+03	1.88
M	31	845.06	2373	2401	2379.54	8.64E+02	57.47	3.58E+03	2.08
m	32	850.23	2373	2401	2394.08	2.96E+02	51.42	4.74E+03	2.09
M	33	872.73	2446	2481	2457.40	1.19E+04	90.56	4.24E+03	2.00
m	34	879.46	2446	2481	2476.37	1.12E+01	16.68	3.70E+03	2.00
F	35	892.59	2505	2523	2513.30	6.99E+02	54.52	3.60E+03	2.78
F	36	903.60	2537	2557	2544.30	8.33E+02	54.94	4.07E+03	2.00
F	37	963.75	2707	2723	2713.57	4.77E+02	51.74	3.03E+03	2.41
F	38	995.75	2789	2812	2803.65	9.63E+03	290.87	4.11E+03	2.12
F	39	1004.20	2813	2840	2827.42	1.68E+04	308.71	4.62E+03	2.16
M	40	1080.27	3033	3063	3041.50	1.45E+02	38.41	2.18E+03	1.92

Analysis Report for 24-2298 VSM-3.5M-S3-CST-A Z3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
m	41	1085.20	3033	3063	3055.37	2.90E+02	42.89	2.47E+03	1.92
F	42	1111.68	3115	3136	3129.92	4.36E+02	158.72	2.56E+03	1.91
F	43	1127.54	3166	3182	3174.53	4.14E+02	171.51	1.60E+03	2.04
F	44	1172.56	3286	3313	3301.23	2.30E+04	319.05	2.05E+03	2.29
F	45	1187.39	3338	3348	3342.97	9.67E+01	25.07	5.73E+02	1.26
F	46	1245.41	3498	3515	3506.27	6.33E+02	33.89	7.36E+02	2.62
F	47	1273.72	3570	3598	3585.91	2.76E+04	323.23	1.18E+03	2.39
F	48	1331.73	3733	3764	3749.19	2.14E+04	284.76	8.56E+02	2.47
F	49	1396.65	3923	3944	3931.89	4.58E+02	27.43	4.72E+02	2.39
F	50	1407.15	3949	3974	3961.43	5.98E+02	99.38	4.00E+02	2.69
F	51	1460.20	4095	4121	4110.72	3.88E+02	69.50	3.10E+02	2.19
M	52	1493.24	4189	4235	4203.69	5.12E+02	76.38	2.52E+02	2.65
m	53	1501.97	4189	4235	4228.26	3.51E+01	13.17	1.81E+02	2.65
F	54	1595.57	4476	4506	4491.64	1.44E+03	92.09	2.08E+02	2.70
F	55	1718.75	4825	4847	4838.30	1.77E+02	48.69	9.84E+01	2.42
F	56	1763.75	4952	4974	4964.93	7.93E+01	18.99	1.15E+02	1.84
F	57	2504.37	7037	7060	7048.86	2.01E+02	15.48	5.21E+01	2.91
F	58	2613.13	7343	7365	7354.88	1.26E+02	35.28	2.29E+01	3.06

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 3:16:20PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567388.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.88	1.16E+04	1541.83			1.16E+04	1.54E+03
F	2	48.92	8.65E+03	568.15			8.65E+03	5.68E+02
F	3	59.56	3.93E+05	2593.56			3.93E+05	2.59E+03
F	4	74.78	5.30E+03	1103.51	5.00E+02	2.38E+01	4.80E+03	1.10E+03
F	5	86.82	2.04E+04	3039.30	1.07E+02	6.43E+00	2.03E+04	3.04E+03
F	6	105.33	1.29E+04	2406.22			1.29E+04	2.41E+03
M	7	123.01	1.21E+05	1909.75			1.21E+05	1.91E+03
m	8	125.68	6.93E+02	341.65			6.93E+02	3.42E+02
F	9	188.12	7.08E+02	239.63			7.08E+02	2.40E+02
F	10	228.07	1.05E+03	210.67			1.05E+03	2.11E+02
F	11	247.73	1.50E+04	219.91			1.50E+04	2.20E+02

Analysis Report for 24-2298 VSM-3.5M-S3-CST-A Z3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	12	343.98	1.61E+03	134.42			1.61E+03	1.34E+02
F	13	351.80	5.55E+02	124.75	4.94E+02	1.83E+01	6.16E+01	1.26E+02
F	14	414.56	5.57E+03	127.18			5.57E+03	1.27E+02
F	15	444.19	1.14E+03	411.23			1.14E+03	4.11E+02
F	16	510.74	8.22E+03	127.70	5.05E+02	1.96E+01	7.71E+03	1.29E+02
F	17	581.84	1.04E+03	77.98			1.04E+03	7.80E+01
F	18	591.43	6.03E+03	379.10			6.03E+03	3.79E+02
F	19	608.99	3.12E+02	67.73			3.12E+02	6.77E+01
F	20	625.27	3.70E+02	70.11			3.70E+02	7.01E+01
F	21	649.62	2.44E+02	79.45			2.44E+02	7.95E+01
M	22	661.30	9.12E+03	111.26			9.12E+03	1.11E+02
m	23	666.00	4.50E+03	89.12			4.50E+03	8.91E+01
F	24	675.06	2.35E+02	184.84			2.35E+02	1.85E+02
M	25	692.07	2.12E+03	553.18			2.12E+03	5.53E+02
m	26	694.73	4.54E+03	1050.41			4.54E+03	1.05E+03
F	27	722.97	2.25E+04	411.09			2.25E+04	4.11E+02
F	28	756.42	4.84E+03	86.91			4.84E+03	8.69E+01
F	29	778.26	6.48E+02	333.69			6.48E+02	3.34E+02
F	30	815.11	5.52E+02	239.04			5.52E+02	2.39E+02
M	31	845.06	8.64E+02	57.47			8.64E+02	5.75E+01
m	32	850.23	2.96E+02	51.42	4.94E+00	1.60E+00	2.91E+02	5.14E+01
M	33	872.73	1.19E+04	90.56			1.19E+04	9.06E+01
m	34	879.46	1.12E+01	16.68			1.12E+01	1.67E+01
F	35	892.59	6.99E+02	54.52			6.99E+02	5.45E+01
F	36	903.60	8.33E+02	54.94			8.33E+02	5.49E+01
F	37	963.75	4.77E+02	51.74			4.77E+02	5.17E+01
F	38	995.75	9.63E+03	290.87			9.63E+03	2.91E+02
F	39	1004.20	1.68E+04	308.71			1.68E+04	3.09E+02
M	40	1080.27	1.45E+02	38.41			1.45E+02	3.84E+01
m	41	1085.20	2.90E+02	42.89			2.90E+02	4.29E+01
F	42	1111.68	4.36E+02	158.72			4.36E+02	1.59E+02
F	43	1127.54	4.14E+02	171.51			4.14E+02	1.72E+02
F	44	1172.56	2.30E+04	319.05			2.30E+04	3.19E+02
F	45	1187.39	9.67E+01	25.07			9.67E+01	2.51E+01
F	46	1245.41	6.33E+02	33.89			6.33E+02	3.39E+01
F	47	1273.72	2.76E+04	323.23			2.76E+04	3.23E+02
F	48	1331.73	2.14E+04	284.76			2.14E+04	2.85E+02
F	49	1396.65	4.58E+02	27.43			4.58E+02	2.74E+01
F	50	1407.15	5.98E+02	99.38			5.98E+02	9.94E+01
F	51	1460.20	3.88E+02	69.50			3.88E+02	6.95E+01
M	52	1493.24	5.12E+02	76.38			5.12E+02	7.64E+01
m	53	1501.97	3.51E+01	13.17			3.51E+01	1.32E+01
F	54	1595.57	1.44E+03	92.09			1.44E+03	9.21E+01
F	55	1718.75	1.77E+02	48.69			1.77E+02	4.87E+01
F	56	1763.75	7.93E+01	18.99			7.93E+01	1.90E+01
F	57	2504.37	2.01E+02	15.48			2.01E+02	1.55E+01
F	58	2613.13	1.26E+02	35.28			1.26E+02	3.53E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2298 VSM-3.5M-S3-CST-A Z3

ASR 2094 Branch

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.93	1460.83	*	10.67	9.12E-04	1.64E-04	miss
CO-57	0.70	122.06	*	85.60	8.64E-03	1.57E-04	1.000
		136.47		10.68			
CO-60	0.91	1173.24	*	99.97	5.20E-03	7.74E-05	0.963
		1332.50	*	99.99	5.25E-03	7.70E-05	0.961
		2505.74		1.00			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	8.66E-04	3.23E-05	0.870
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	7.98E-04	1.65E-05	0.867
		674.80	*	3.10	1.40E-03	1.22E-03	0.838
		695.00	*	99.60	8.28E-04	1.91E-04	0.866
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.73	64.28		9.60			
		87.30	*	45.90	2.77E-03	4.33E-04	miss
CS-137	0.98	661.66	*	85.20	1.63E-03	2.20E-05	miss
EU-152	0.44	121.78		28.58			
		344.28	*	26.50	6.27E-04	5.45E-05	0.969
		778.90	*	12.94	8.83E-04	4.55E-04	0.958
		964.08	*	14.73	6.49E-04	7.04E-05	0.963
		1085.87	*	10.24	5.84E-04	8.64E-05	1.006
		1112.07	*	13.69	6.85E-04	2.50E-04	0.978
		1408.01	*	21.07	7.16E-04	1.19E-04	0.971
EU-154	0.96	42.70	*	20.45	1.54E-02	2.12E-03	miss
		123.07	*	40.40	1.91E-02	3.98E-04	0.955
		247.93	*	6.89	1.91E-02	3.77E-04	0.941
		591.76	*	4.95	1.86E-02	1.19E-03	0.930
		692.42	*	1.78	1.98E-02	5.18E-03	0.945
		723.30	*	20.06	1.91E-02	4.12E-04	0.948
		756.80	*	4.52	1.92E-02	4.05E-04	0.926
		873.18	*	12.08	1.89E-02	2.66E-04	0.941

Analysis Report for 24-2298 VSM-3.5M-S3-CST-A Z3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.96	996.29	*	10.48	1.84E-02	5.89E-04	0.985
		1004.76	*	18.01	1.89E-02	4.08E-04	0.976
		1246.12	*	0.86	1.79E-02	9.88E-04	0.935
		1274.43	*	34.80	1.86E-02	2.94E-04	0.978
		1494.05	*	0.70	1.84E-02	2.76E-03	1.015
		1596.48	*	1.80	1.83E-02	1.20E-03	1.168
EU-155	0.99	43.00	*	18.70	1.68E-02	2.30E-03	1.000
		60.01	*	1.22	3.39E+00	1.21E-01	0.998
		86.55	*	30.70	4.14E-03	6.29E-04	free
		105.31	*	21.10	3.61E-03	6.79E-04	1.000
RA-226	0.35	74.81	*	6.44	5.36E-03	1.25E-03	miss
		77.11		10.80			
		87.30	*	4.84	2.62E-02	4.07E-03	miss
		186.21		3.59			
		242.00		7.43			
		295.22		19.30			
		351.93	*	37.60	1.66E-05	3.40E-05	miss
		609.31	*	46.10	9.77E-05	2.13E-05	miss
		768.36		4.94			
		1120.29		15.10			
		1238.11		5.79			
		1764.49	*	15.40	1.48E-04	3.55E-05	miss
AM-241	1.00	59.54	*	35.90	1.15E-01	2.48E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.939	9.12E-04	1.64E-04	

Analysis Report for 24-2298 VSM-3.5M-S3-CST-A Z3

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-57	0.706	1.18E-04	1.63E-04	
CO-60	0.914	5.22E-03	5.46E-05	
SB-126	0.488	8.12E-04	1.46E-05	
Sn-126	0.734	7.43E-04	5.99E-04	
CS-137	0.980	1.63E-03	2.20E-05	
EU-152	0.446	6.36E-04	3.62E-05	
EU-154	0.968	1.89E-02	1.07E-04	
EU-155	0.994	3.01E-03	6.45E-04	
RA-226	0.358	9.09E-05	1.61E-05	
AM-241	1.000	1.15E-01	1.57E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2298 VSM-3.5M-S3-CST-A Z3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 3:16:20PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	48.92	6.81135E-01	6.57		
m	8	125.68	5.45947E-02	49.29		
F	9	188.12	5.57455E-02	33.86		
F	10	228.07	8.30136E-02	19.99	Sum	
F	15	444.19	8.94590E-02	36.21		
F	16	510.74	6.07247E-01	1.68		
F	17	581.84	8.15679E-02	7.53		
F	20	625.27	2.91596E-02	18.94		
F	21	649.62	1.92392E-02	32.53		
F	30	815.11	4.35017E-02	43.28	Sum	
M	31	845.06	6.80783E-02	6.65	Sum	
m	32	850.23	2.29167E-02	17.68		
m	34	879.46	8.85065E-04	148.41	Sum	
F	35	892.59	5.50887E-02	7.80		
F	36	903.60	6.55794E-02	6.60		
M	40	1080.27	1.14451E-02	26.43	Sum	
F	43	1127.54	3.25790E-02	41.46	Sum	
F	45	1187.39	7.61676E-03	25.92	Sum	
F	49	1396.65	3.60603E-02	5.99	Sum	
m	53	1501.97	2.76285E-03	37.54	Sum	
F	55	1718.75	1.39452E-02	27.50	Sum	
F	57	2504.37	1.58558E-02	7.69	Sum	
F	58	2613.13	9.88605E-03	28.11		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2298 VSM-3.5M-S3-CST-A Z3

ASR 2094 Branch

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	9.60E-04	9.60E-04	5.51E-04	4.78E-04
+	K-40	1460.83	*	10.67	3.85E-04	3.85E-04	9.12E-04	1.89E-04
	MN-54	834.84		99.98	7.91E-05	7.91E-05	3.34E-06	3.93E-05
	CO-58	810.78		99.45	8.55E-05	8.55E-05	1.55E-04	4.25E-05
		863.96		0.68	1.22E-02		-7.51E-03	6.08E-03
		1674.73		0.52	3.86E-03		-1.15E-03	1.86E-03
	FE-59	142.65		1.00	1.85E-02	9.77E-05	-7.36E-03	9.23E-03
		192.35		3.01	5.50E-03		2.14E-04	2.74E-03
		334.80		0.27	4.36E-02		4.36E-02	2.18E-02
		1099.25		56.30	1.23E-04		6.81E-05	6.11E-05
		1291.60		43.70	9.77E-05		-4.39E-06	4.81E-05
+	CO-60	1173.24	*	99.97	9.62E-05	7.16E-05	5.20E-03	4.78E-05
		1332.50	*	99.99	7.16E-05		5.25E-03	3.55E-05
		2505.74		1.00	3.31E-03		9.92E-03	1.60E-03
	SR-85	514.00		96.00	1.19E-04	1.19E-04	-3.58E-05	5.93E-05
		868.60		0.01	1.01E+00		-1.63E-01	5.05E-01
	NB-94	702.62		97.90	8.92E-05	8.92E-05	7.01E-05	4.44E-05
		871.09		99.98	1.26E-04		1.99E-05	6.26E-05
	NB-95	765.81		99.81	8.42E-05	8.42E-05	6.94E-05	4.19E-05
	RU-103	497.05		91.00	1.08E-04	1.08E-04	6.03E-05	5.38E-05
		610.30		5.76	1.60E-03		7.97E-04	7.96E-04
	RH-106	511.86		20.70	5.63E-04	5.63E-04	5.25E-03	2.81E-04
		621.92		9.93	9.42E-04		5.47E-04	4.69E-04
		1050.36		1.56	5.10E-03		5.18E-03	2.53E-03
	AG-108M	79.13		6.60	4.03E-03	1.10E-04	-5.58E-04	2.01E-03
		433.90		90.50	1.25E-04		2.19E-05	6.22E-05
		614.30		89.80	1.10E-04		-1.09E-05	5.46E-05
		722.90		90.80	1.68E-04		4.26E-03	8.36E-05
	CD-109	88.03		3.61	6.57E-03	6.57E-03	-2.96E-04	3.28E-03
	SB-125	176.31		6.82	2.33E-03	3.53E-04	7.40E-04	1.16E-03
		380.45		1.52	7.08E-03		3.80E-03	3.53E-03
		427.87		29.55	3.53E-04		-1.67E-04	1.76E-04
		463.36		10.48	9.55E-04		6.13E-04	4.76E-04
		600.60		17.76	5.09E-04		5.28E-04	2.54E-04
		606.71		5.02	1.81E-03		1.63E-04	8.99E-04
		635.95		11.32	7.68E-04		1.74E-04	3.82E-04
		671.44		1.78	5.46E-03		6.77E-04	2.72E-03
+	SB-126	223.90		1.39	1.02E-02	7.27E-05	4.96E-03	5.10E-03
		278.20		2.40	5.97E-03		-9.54E-04	2.98E-03
		296.50		4.50	3.32E-03		2.20E-03	1.66E-03
		414.70	*	83.30	1.38E-04		8.66E-04	6.88E-05
		556.30		1.69	6.57E-03		2.89E-03	3.27E-03
		573.90		6.70	1.66E-03		2.64E-03	8.28E-04
		593.20		7.50	1.58E-03		1.23E-02	7.85E-04
		656.30		2.19	5.87E-03		1.58E-03	2.92E-03

Analysis Report for 24-2298 VSM-3.5M-S3-CST-A Z3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-126	666.50	*	99.60	7.32E-05	7.27E-05	7.98E-04	3.63E-05
		674.80	*	3.10	3.48E-03		1.40E-03	1.73E-03
		695.00	*	99.60	7.27E-05		8.28E-04	3.61E-05
		697.00		29.00	4.20E-04		-8.27E-05	2.09E-04
		720.70		53.80	3.06E-04		6.30E-05	1.52E-04
		856.80		17.60	5.21E-04		8.13E-04	2.59E-04
		989.60		6.80	1.90E-03		-1.04E-03	9.46E-04
		1213.30		2.39	2.35E-03		1.67E-03	1.16E-03
+	Sn-126	64.28		9.60	3.89E-03	6.64E-04	3.08E-03	1.94E-03
		87.30	*	45.90	6.64E-04		2.77E-03	3.32E-04
	I-129	29.70		56.60	7.84E-03	7.84E-03	-1.87E-02	3.92E-03
		33.60		10.04	2.49E-02		-8.58E-02	1.24E-02
		34.40		2.01	1.12E-01		-4.10E-01	5.58E-02
		39.60		7.51	1.71E-02		-8.87E-03	8.57E-03
	CS-134	563.25		8.34	1.23E-03	9.79E-05	-5.15E-04	6.14E-04
		569.33		15.37	6.66E-04		3.12E-04	3.32E-04
		604.72		97.62	9.79E-05		5.64E-05	4.88E-05
		795.86		85.46	9.90E-05		-7.13E-05	4.92E-05
		801.95		8.69	1.03E-03		1.62E-03	5.10E-04
+	CS-137	661.66	*	85.20	7.11E-05	7.11E-05	1.63E-03	3.53E-05
	CE-139	165.85		79.89	2.08E-04	2.08E-04	-6.51E-05	1.04E-04
	CE-141	40.70		3.35	3.60E-02	3.81E-04	-6.00E-03	1.80E-02
		145.44		48.29	3.81E-04		3.23E-04	1.90E-04
	CE-144	80.12		1.36	1.93E-02	1.71E-03	-1.69E-04	9.62E-03
		133.51		11.09	1.71E-03		-4.29E-04	8.55E-04
+	EU-152	121.78		28.58	7.97E-04	2.18E-04	-1.67E-05	3.98E-04
		344.28	*	26.50	4.93E-04		6.27E-04	2.46E-04
		778.90	*	12.94	6.36E-04		8.83E-04	3.16E-04
		964.08	*	14.73	5.68E-04		6.49E-04	2.82E-04
		1085.87	*	10.24	4.71E-04		5.84E-04	2.33E-04
		1112.07	*	13.69	6.71E-04		6.85E-04	3.33E-04
		1408.01	*	21.07	2.18E-04		7.16E-04	1.08E-04
	GD-153	97.43		29.00	7.36E-04	7.36E-04	3.78E-04	3.68E-04
		103.18		21.10	1.03E-03		-5.02E-04	5.13E-04
+	EU-154	42.70	*	20.45	5.71E-03	2.21E-04	1.54E-02	2.85E-03
		123.07	*	40.40	3.90E-04		1.91E-02	1.95E-04
		247.93	*	6.89	2.70E-03		1.91E-02	1.35E-03
		591.76	*	4.95	1.86E-03		1.86E-02	9.25E-04
		692.42	*	1.78	3.45E-03		1.98E-02	1.71E-03
		723.30	*	20.06	7.31E-04		1.91E-02	3.64E-04
		756.80	*	4.52	2.50E-03		1.92E-02	1.25E-03
		873.18	*	12.08	4.88E-04		1.89E-02	2.42E-04
		996.29	*	10.48	1.08E-03		1.84E-02	5.36E-04
		1004.76	*	18.01	7.15E-04		1.89E-02	3.56E-04
		1246.12	*	0.86	5.99E-03		1.79E-02	2.96E-03
		1274.43	*	34.80	2.21E-04		1.86E-02	1.10E-04
		1494.05	*	0.70	2.75E-03		1.84E-02	1.33E-03
		1596.48	*	1.80	1.82E-03		1.83E-02	8.92E-04
+	EU-155	43.00	*	18.70	6.24E-03	9.93E-04	1.68E-02	3.12E-03
		60.01	*	1.22	5.02E-02		3.39E+00	2.51E-02
		86.55	*	30.70	9.93E-04		4.14E-03	4.96E-04
		105.31	*	21.10	1.36E-03		3.61E-03	6.79E-04
	HG-203	72.87		6.30	4.85E-03	1.52E-04	-8.16E-04	2.42E-03

Analysis Report for 24-2298 VSM-3.5M-S3-CST-A Z3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	HG-203	279.20		81.46	1.52E-04	1.52E-04	1.88E-04	7.59E-05
	BI-207	569.15		97.80	1.02E-04	1.02E-04	4.79E-05	5.10E-05
		1063.10		74.90	1.05E-04		-7.67E-06	5.22E-05
	PB-210	46.54		4.25	1.95E-02	1.95E-02	-7.93E-03	9.72E-03
+	RA-226	74.81	*	6.44	5.39E-03	1.73E-04	5.36E-03	2.69E-03
		77.11		10.80	2.56E-03		-1.70E-04	1.28E-03
		87.30	*	4.84	6.30E-03		2.62E-02	3.15E-03
		186.21		3.59	4.46E-03		2.18E-03	2.23E-03
		242.00		7.43	1.81E-03		9.46E-04	9.03E-04
		295.22		19.30	6.53E-04		1.41E-04	3.26E-04
		351.93	*	37.60	2.32E-04		1.66E-05	1.16E-04
		609.31	*	46.10	1.73E-04		9.77E-05	8.62E-05
		768.36		4.94	1.67E-03		5.68E-04	8.29E-04
		1120.29		15.10	4.54E-04		1.49E-04	2.25E-04
		1238.11		5.79	9.04E-04		5.91E-04	4.47E-04
		1764.49	*	15.40	1.76E-04		1.48E-04	8.55E-05
	PA-231	283.70		1.59	7.57E-03	5.24E-03	-4.21E-06	3.78E-03
		300.07		2.38	5.24E-03		-9.05E-04	2.61E-03
		302.67		1.71	7.23E-03		-3.33E-03	3.61E-03
		330.07		1.32	8.87E-03		-6.64E-03	4.42E-03
	TH-232	74.81		11.62	2.49E-03	7.79E-05	6.61E-03	1.24E-03
		77.11		17.50	1.58E-03		-1.05E-04	7.88E-04
		87.30		7.80	3.07E-03		1.78E-02	1.53E-03
		238.63		43.30	3.13E-04		2.91E-06	1.56E-04
		338.32		11.30	1.02E-03		-2.91E-04	5.10E-04
		583.19		30.37	3.08E-04		6.63E-04	1.53E-04
		727.33		6.58	2.10E-03		-3.15E-04	1.05E-03
		911.21		26.60	2.89E-04		1.08E-04	1.43E-04
		968.97		16.20	4.88E-04		-1.12E-04	2.43E-04
		2614.53		35.64	7.79E-05		1.85E-04	3.74E-05
	U-235	143.76		10.96	1.65E-03	2.80E-04	2.29E-04	8.25E-04
		185.71		57.20	2.80E-04		3.09E-05	1.40E-04
		205.31		5.01	2.98E-03		-9.11E-04	1.49E-03
	U-238	63.29		3.70	1.10E-02	5.23E-03	1.08E-02	5.52E-03
		92.51		4.23	5.23E-03		1.12E-03	2.61E-03
		112.81		0.21	9.47E-02		-9.56E-02	4.73E-02
		742.81		0.11	7.75E-02		1.60E-03	3.85E-02
		766.28		0.32	2.60E-02		2.46E-02	1.29E-02
		1001.03		0.84	1.99E-02		5.90E-01	9.92E-03
	NP-239	99.60		12.80	2.18E-03	1.09E-03	8.42E-04	1.09E-03
		103.80		20.40	1.40E-03		-7.69E-04	7.01E-04
		106.10		26.40	1.09E-03		4.01E-03	5.43E-04
		116.90		7.61	3.46E-03		-1.33E-03	1.73E-03
		228.20		11.20	1.71E-03		1.59E-03	8.53E-04
		277.60		14.50	1.16E-03		2.66E-05	5.77E-04
		315.90		1.60	9.93E-03		-2.48E-03	4.95E-03
		334.30		2.06	7.13E-03		5.09E-03	3.56E-03
+	AM-241	59.54	*	35.90	1.70E-03	1.70E-03	1.15E-01	8.51E-04

Analysis Report for 24-2298 VSM-3.5M-S3-CST-A Z3

ASR 2094 Branch

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

Apex-Gamma

Analysis Report for 24-2299 VSM-3.5M-S3-CST-d-A Z3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2299 VSM-3.5M-S3-CST-d-A Z3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 3:40:12PM
Procedure	: Z3_gsv02mlw
Operator	: Administrator
Detector Name	: Z
Geometry	: Z3_gsv02mlw
Live Time	: 14400.0 seconds
Real Time	: 14676.2 seconds
Dead Time	: 1.88 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 7/18/2024
Efficiency Calibration Used Done On	: 3/13/2019
Efficiency Calibration Description	: Z3_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567839
Certificate Name	: R735-A4 2ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 7:44:56PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2299 VSM-3.5M-S3-CST-d-A Z3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.87	121.64	0.1835	11.13
2	48.81	138.47	0.2623	5.08
3	59.56	168.69	0.0411	245.13
4	74.84	211.59	0.2435	6.35
5	86.77	244.88	0.1604	14.60
6	99.44	280.93	0.3881	3.08
7	105.26	297.32	0.1939	10.10
8	123.01	347.24	0.0524	143.22
9	247.75	698.38	0.0897	42.76
10	277.74	782.21	0.3031	3.04
11	343.97	969.08	0.1913	9.10
12	414.57	1167.93	0.1011	30.18
13	444.15	1251.09	0.2279	5.94
14	510.68	1438.36	0.1115	15.69
15	581.81	1638.66	0.1703	9.57
16	591.45	1665.80	0.0862	37.67
17	608.88	1714.72	0.2483	4.71
18	661.31	1862.39	0.0729	48.36
19	665.97	1875.57	0.0942	29.14
20	692.08	1948.12	0.2214	8.38
21	694.72	1956.59	0.1027	25.82
22	722.96	2035.92	0.0556	81.75
23	756.44	2130.20	0.0885	32.26
24	778.55	2192.33	0.2378	3.98
25	814.97	2294.62	0.1835	7.38
26	845.23	2379.77	0.1826	7.28
27	872.74	2457.48	0.0641	55.99
28	892.31	2512.56	0.1941	6.88
29	903.66	2544.50	0.1647	8.92
30	963.59	2713.30	0.2185	5.11
31	995.76	2803.74	0.0655	52.21
32	1004.21	2827.50	0.0572	67.36
33	1084.91	3054.33	0.2296	4.23
34	1111.51	3129.43	0.2015	5.48
35	1119.10	3150.03	0.2609	3.31
36	1127.56	3174.52	0.1719	7.24
37	1140.54	3210.86	0.2443	3.87
38	1172.53	3301.25	0.0514	77.61
39	1245.48	3506.28	0.1337	10.94
40	1273.70	3586.01	0.0493	81.36
41	1331.74	3749.34	0.0514	72.88
42	1396.43	3931.06	0.1393	10.81
43	1407.27	3961.98	0.1373	9.09
44	1459.89	4109.88	0.1517	7.70
45	1493.31	4203.97	0.1376	9.94
46	1595.58	4491.71	0.1021	17.68
47	1718.42	4837.26	0.1655	6.96
48	1745.13	4912.11	0.2605	3.43
49	1762.86	4961.75	0.2068	4.62
50	2504.05	7048.60	0.1484	7.30
51	2613.12	7354.82	0.1782	4.51

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2299 VSM-3.5M-S3-CST-d-A Z3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 7:44:56PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.87	114	126	121.67	1.43E+04	1954.75	4.94E+05	1.13
F	2	48.81	131	145	138.39	8.96E+03	2849.09	6.67E+05	1.60
F	3	59.56	161	176	168.65	4.23E+05	2668.01	7.49E+05	1.13
F	4	74.84	206	219	211.65	8.83E+03	2630.05	5.78E+05	1.47
F	5	86.77	241	252	245.24	1.90E+04	528.86	4.45E+05	1.53
F	6	99.44	272	288	280.90	1.73E+03	444.99	5.38E+05	0.98
F	7	105.26	294	315	297.28	7.70E+03	462.77	6.24E+05	1.18
F	8	123.01	342	355	347.24	1.29E+05	1950.49	3.16E+05	1.19
F	9	247.75	693	708	698.35	1.53E+04	226.54	8.00E+04	1.28
F	10	277.74	777	788	782.79	1.48E+03	179.96	4.47E+04	1.90
F	11	343.97	965	975	969.18	1.55E+03	137.65	2.44E+04	1.28
F	12	414.57	1161	1177	1167.91	6.10E+03	131.68	2.37E+04	1.46
F	13	444.15	1245	1261	1251.16	9.80E+02	447.49	2.05E+04	1.56
F	14	510.68	1426	1450	1438.43	9.44E+03	622.24	2.12E+04	2.99
F	15	581.81	1630	1647	1638.63	1.43E+03	340.65	1.05E+04	1.73
F	16	591.45	1653	1674	1665.75	6.59E+03	372.16	1.25E+04	1.64
F	17	608.88	1709	1720	1714.80	3.44E+02	72.57	6.61E+03	1.29
M	18	661.31	1854	1883	1862.38	9.94E+03	344.46	6.98E+03	1.76
m	19	665.97	1854	1883	1875.49	4.86E+03	180.92	7.79E+03	1.76
M	20	692.08	1941	1969	1948.97	2.22E+03	272.72	6.04E+03	1.89
m	21	694.72	1941	1969	1956.41	5.11E+03	447.30	7.39E+03	1.89
F	22	722.96	2022	2048	2035.90	2.45E+04	422.70	9.40E+03	1.84
F	23	756.44	2120	2138	2130.11	4.74E+03	89.30	6.47E+03	1.80
F	24	778.55	2187	2202	2192.35	5.15E+02	63.89	4.98E+03	2.21
F	25	814.97	2286	2303	2294.84	8.67E+02	53.70	4.65E+03	1.80
F	26	845.23	2370	2387	2380.02	8.55E+02	190.88	4.24E+03	2.32
F	27	872.74	2448	2468	2457.44	1.26E+04	332.56	4.91E+03	1.99
F	28	892.31	2507	2517	2512.52	3.78E+02	51.97	2.46E+03	1.43
F	29	903.66	2539	2552	2544.46	6.39E+02	55.55	3.12E+03	1.67
F	30	963.59	2700	2720	2713.13	6.79E+02	275.29	3.93E+03	2.19
F	31	995.76	2794	2816	2803.66	1.07E+04	312.03	4.20E+03	2.09
F	32	1004.21	2816	2841	2827.45	1.81E+04	323.92	4.59E+03	2.15
F	33	1084.91	3048	3065	3054.58	2.48E+02	44.22	2.52E+03	1.96
M	34	1111.51	3116	3156	3129.42	4.98E+02	151.92	2.79E+03	2.12
m	35	1119.10	3116	3156	3150.77	2.78E+02	80.51	3.27E+03	2.12
F	36	1127.56	3165	3185	3174.60	5.32E+02	877.88	2.08E+03	2.21
F	37	1140.54	3206	3220	3211.12	1.97E+02	37.18	1.31E+03	2.03
F	38	1172.53	3286	3314	3301.15	2.49E+04	335.06	2.28E+03	2.31
F	39	1245.48	3497	3519	3506.44	6.69E+02	35.74	1.07E+03	2.16
F	40	1273.70	3570	3600	3585.87	2.96E+04	320.34	1.47E+03	2.45

Analysis Report for 24-2299 VSM-3.5M-S3-CST-d-A Z3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1331.74	3733	3765	3749.22	2.31E+04	293.27	1.03E+03	2.47
F	42	1396.43	3920	3945	3931.25	5.41E+02	29.74	5.32E+02	2.37
F	43	1407.27	3952	3971	3961.76	5.24E+02	28.10	4.16E+02	2.48
F	44	1459.89	4097	4120	4109.85	4.42E+02	80.99	3.24E+02	2.73
F	45	1493.31	4190	4217	4203.90	5.90E+02	76.04	2.67E+02	2.58
F	46	1595.58	4476	4505	4491.68	1.50E+03	93.90	2.40E+02	2.61
F	47	1718.42	4828	4847	4837.37	1.83E+02	15.87	9.40E+01	2.37
F	48	1745.13	4906	4918	4912.52	2.58E+01	7.24	3.60E+01	1.08
F	49	1762.86	4952	4973	4962.41	1.15E+02	13.04	8.27E+01	2.84
F	50	2504.05	7035	7058	7047.97	2.07E+02	15.65	5.42E+01	2.86
F	51	2613.12	7344	7366	7354.83	1.06E+02	11.96	4.00E+01	3.13

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 7:44:56PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567388.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.87	1.43E+04	1954.75			1.43E+04	1.95E+03
F	2	48.81	8.96E+03	2849.09			8.96E+03	2.85E+03
F	3	59.56	4.23E+05	2668.01			4.23E+05	2.67E+03
F	4	74.84	8.83E+03	2630.05	5.67E+02	2.70E+01	8.27E+03	2.63E+03
F	5	86.77	1.90E+04	528.86	1.21E+02	7.29E+00	1.89E+04	5.29E+02
F	6	99.44	1.73E+03	444.99	2.45E+01	4.73E+00	1.70E+03	4.45E+02
F	7	105.26	7.70E+03	462.77			7.70E+03	4.63E+02
F	8	123.01	1.29E+05	1950.49			1.29E+05	1.95E+03
F	9	247.75	1.53E+04	226.54			1.53E+04	2.27E+02
F	10	277.74	1.48E+03	179.96			1.48E+03	1.80E+02
F	11	343.97	1.55E+03	137.65			1.55E+03	1.38E+02
F	12	414.57	6.10E+03	131.68			6.10E+03	1.32E+02
F	13	444.15	9.80E+02	447.49			9.80E+02	4.47E+02
F	14	510.68	9.44E+03	622.24	5.73E+02	2.22E+01	8.86E+03	6.23E+02
F	15	581.81	1.43E+03	340.65			1.43E+03	3.41E+02
F	16	591.45	6.59E+03	372.16			6.59E+03	3.72E+02
F	17	608.88	3.44E+02	72.57			3.44E+02	7.26E+01
M	18	661.31	9.94E+03	344.46			9.94E+03	3.44E+02

Analysis Report for 24-2299 VSM-3.5M-S3-CST-d-A Z3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
m	19	665.97	4.86E+03	180.92			4.86E+03	1.81E+02
M	20	692.08	2.22E+03	272.72			2.22E+03	2.73E+02
m	21	694.72	5.11E+03	447.30			5.11E+03	4.47E+02
F	22	722.96	2.45E+04	422.70			2.45E+04	4.23E+02
F	23	756.44	4.74E+03	89.30			4.74E+03	8.93E+01
F	24	778.55	5.15E+02	63.89			5.15E+02	6.39E+01
F	25	814.97	8.67E+02	53.70			8.67E+02	5.37E+01
F	26	845.23	8.55E+02	190.88			8.55E+02	1.91E+02
F	27	872.74	1.26E+04	332.56			1.26E+04	3.33E+02
F	28	892.31	3.78E+02	51.97			3.78E+02	5.20E+01
F	29	903.66	6.39E+02	55.55			6.39E+02	5.56E+01
F	30	963.59	6.79E+02	275.29			6.79E+02	2.75E+02
F	31	995.76	1.07E+04	312.03			1.07E+04	3.12E+02
F	32	1004.21	1.81E+04	323.92			1.81E+04	3.24E+02
F	33	1084.91	2.48E+02	44.22			2.48E+02	4.42E+01
M	34	1111.51	4.98E+02	151.92			4.98E+02	1.52E+02
m	35	1119.10	2.78E+02	80.51			2.78E+02	8.05E+01
F	36	1127.56	5.32E+02	877.88			5.32E+02	8.78E+02
F	37	1140.54	1.97E+02	37.18			1.97E+02	3.72E+01
F	38	1172.53	2.49E+04	335.06			2.49E+04	3.35E+02
F	39	1245.48	6.69E+02	35.74			6.69E+02	3.57E+01
F	40	1273.70	2.96E+04	320.34			2.96E+04	3.20E+02
F	41	1331.74	2.31E+04	293.27			2.31E+04	2.93E+02
F	42	1396.43	5.41E+02	29.74			5.41E+02	2.97E+01
F	43	1407.27	5.24E+02	28.10			5.24E+02	2.81E+01
F	44	1459.89	4.42E+02	80.99			4.42E+02	8.10E+01
F	45	1493.31	5.90E+02	76.04			5.90E+02	7.60E+01
F	46	1595.58	1.50E+03	93.90			1.50E+03	9.39E+01
F	47	1718.42	1.83E+02	15.87			1.83E+02	1.59E+01
F	48	1745.13	2.58E+01	7.24			2.58E+01	7.24E+00
F	49	1762.86	1.15E+02	13.04			1.15E+02	1.30E+01
F	50	2504.05	2.07E+02	15.65			2.07E+02	1.56E+01
F	51	2613.12	1.06E+02	11.96			1.06E+02	1.20E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Analysis Report for 24-2299 VSM-3.5M-S3-CST-d-A Z3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.86	1460.83	*	10.67	9.16E-04	1.68E-04	miss
CO-57	0.70	122.06	*	85.60	8.16E-03	1.43E-04	1.000
		136.47		10.68			
CO-60	0.91	1173.24	*	99.97	4.97E-03	7.19E-05	0.963
		1332.50	*	99.99	5.01E-03	7.06E-05	0.961
		2505.74		1.00			
SB-126	0.48	223.90		1.39			
		278.20	*	2.40	5.61E-03	1.78E-03	0.852
		296.50		4.50			
		414.70	*	83.30	8.37E-04	3.06E-05	0.870
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	7.60E-04	2.86E-05	0.867
		674.80		3.10			
		695.00	*	99.60	8.21E-04	7.20E-05	0.866
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.72	64.28		9.60			
		87.30	*	45.90	2.27E-03	1.19E-04	miss
CS-137	0.98	661.66	*	85.20	1.57E-03	5.51E-05	miss
EU-152	0.44	121.78		28.58			
		344.28	*	26.50	5.32E-04	4.90E-05	0.969
		778.90	*	12.94	6.18E-04	7.69E-05	0.958
		964.08	*	14.73	8.14E-04	3.30E-04	0.963
		1085.87	*	10.24	4.39E-04	7.85E-05	1.006
		1112.07	*	13.69	6.90E-04	2.11E-04	0.978
		1408.01	*	21.07	5.53E-04	2.99E-05	0.971
EU-154	0.96	42.70	*	20.45	1.66E-02	2.37E-03	miss
		123.07	*	40.40	1.80E-02	3.66E-04	0.955
		247.93	*	6.89	1.71E-02	3.41E-04	0.941
		591.76	*	4.95	1.79E-02	1.04E-03	0.930
		692.42	*	1.78	1.83E-02	2.26E-03	0.945
		723.30	*	20.06	1.83E-02	3.80E-04	0.948
		756.80	*	4.52	1.66E-02	3.63E-04	0.926
		873.18	*	12.08	1.78E-02	5.13E-04	0.941
		996.29	*	10.48	1.79E-02	5.59E-04	0.985
		1004.76	*	18.01	1.80E-02	3.81E-04	0.976
		1246.12	*	0.86	1.67E-02	9.19E-04	0.935
		1274.43	*	34.80	1.76E-02	2.67E-04	0.978
		1494.05	*	0.70	1.87E-02	2.42E-03	1.015
		1596.48	*	1.80	1.68E-02	1.08E-03	1.168
EU-155	0.99	43.00	*	18.70	1.82E-02	2.57E-03	1.000
		60.01	*	1.22	3.22E+00	1.14E-01	0.998
		86.55	*	30.70	3.40E-03	1.26E-04	free
		105.31	*	21.10	1.90E-03	1.24E-04	1.000
NP-239	0.26	99.60	*	12.80	9.87E-04	2.58E-04	1.000
		103.80		20.40			
		106.10	*	26.40	2.19E-03	1.33E-04	0.984

Analysis Report for 24-2299 VSM-3.5M-S3-CST-d-A Z3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
NP-239	0.26	116.90		7.61			
		228.20		11.20			
		277.60	*	14.50	1.14E-03	1.39E-04	0.983
		315.90		1.60			
		334.30		2.06			
AM-241	1.00	59.54	*	35.90	1.09E-01	2.34E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.869	9.16E-04	1.68E-04	
CO-57	0.706	2.30E-04	1.52E-04	
CO-60	0.912	4.99E-03	5.04E-05	
SB-126	0.487	8.14E-04	1.52E-05	
Sn-126	0.727	1.57E-03	1.24E-04	
CS-137	0.981	1.57E-03	5.51E-05	
EU-152	0.444	5.47E-04	2.30E-05	
EU-154	0.968	1.75E-02	1.17E-04	
EU-155	0.995	1.04E-03	1.56E-04	
NP-239	0.261	9.84E-04	1.22E-04	
AM-241	1.000	1.09E-01	1.47E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2299 VSM-3.5M-S3-CST-d-A Z3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 7:44:56PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	48.81	6.22542E-01	31.78		
F	4	74.84	5.74090E-01	31.82	Tol.	RA-226
F	13	444.15	6.80609E-02	45.66	Sum	
F	14	510.68	6.15587E-01	7.02		
F	15	581.81	9.89761E-02	23.90		
F	17	608.88	2.38974E-02	21.09	Tol.	RA-226
F	25	814.97	6.02068E-02	6.19	Sum	
F	26	845.23	5.93702E-02	22.33	Sum	
F	28	892.31	2.62590E-02	13.74		
F	29	903.66	4.43568E-02	8.70		
m	35	1119.10	1.93234E-02	28.93	Sum	
F	36	1127.56	3.69753E-02	164.88	Sum	
F	37	1140.54	1.36902E-02	18.86		
F	42	1396.43	3.75671E-02	5.50	Sum	
F	47	1718.42	1.26774E-02	8.69	Sum	
F	48	1745.13	1.79257E-03	28.06	Sum	
F	49	1762.86	7.98957E-03	11.33		
F	50	2504.05	1.43680E-02	7.56	Sum	
F	51	2613.12	7.38493E-03	11.25		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Analysis Report for 24-2299 VSM-3.5M-S3-CST-d-A Z3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	8.78E-04	8.78E-04	6.60E-04	4.37E-04
+	K-40	1460.83	*	10.67	3.30E-04	3.30E-04	9.16E-04	1.62E-04
	MN-54	834.84		99.98	7.24E-05	7.24E-05	4.14E-05	3.60E-05
	CO-58	810.78		99.45	7.77E-05	7.77E-05	-1.53E-05	3.86E-05
		863.96		0.68	1.12E-02		2.48E-03	5.55E-03
		1674.73		0.52	3.64E-03		-1.93E-03	1.76E-03
	FE-59	142.65		1.00	1.69E-02	9.19E-05	-6.17E-03	8.44E-03
		192.35		3.01	5.03E-03		6.18E-04	2.51E-03
		334.80		0.27	3.98E-02		-1.72E-02	1.98E-02
		1099.25		56.30	1.13E-04		2.16E-05	5.62E-05
		1291.60		43.70	9.19E-05		1.19E-04	4.53E-05
+	CO-60	1173.24	*	99.97	9.07E-05	7.01E-05	4.97E-03	4.51E-05
		1332.50	*	99.99	7.01E-05		5.01E-03	3.48E-05
		2505.74		1.00	3.01E-03		9.45E-03	1.46E-03
	SR-85	514.00		96.00	1.08E-04	1.08E-04	2.20E-05	5.41E-05
		868.60		0.01	9.31E-01		3.10E-01	4.64E-01
	NB-94	702.62		97.90	8.10E-05	8.10E-05	9.82E-05	4.03E-05
		871.09		99.98	1.15E-04		2.13E-03	5.74E-05
	NB-95	765.81		99.81	7.75E-05	7.75E-05	1.38E-04	3.85E-05
	RU-103	497.05		91.00	9.83E-05	9.83E-05	-1.93E-05	4.90E-05
		610.30		5.76	1.47E-03		2.18E-03	7.33E-04
	RH-106	511.86		20.70	5.12E-04	5.12E-04	5.30E-03	2.55E-04
		621.92		9.93	8.60E-04		6.90E-04	4.28E-04
		1050.36		1.56	4.62E-03		2.15E-03	2.29E-03
	AG-108M	79.13		6.60	3.67E-03	1.00E-04	1.47E-03	1.84E-03
		433.90		90.50	1.14E-04		-2.35E-05	5.67E-05
		614.30		89.80	1.00E-04		-2.48E-06	4.99E-05
		722.90		90.80	1.54E-04		4.11E-03	7.66E-05
	CD-109	88.03		3.61	6.00E-03	6.00E-03	3.67E-02	3.00E-03
	SB-125	176.31		6.82	2.13E-03	3.21E-04	1.88E-03	1.06E-03
		380.45		1.52	6.46E-03		9.96E-03	3.22E-03
		427.87		29.55	3.21E-04		9.97E-05	1.60E-04
		463.36		10.48	8.66E-04		-1.24E-03	4.32E-04
		600.60		17.76	4.64E-04		2.37E-04	2.31E-04
		606.71		5.02	1.66E-03		8.73E-04	8.26E-04
		635.95		11.32	7.06E-04		1.28E-04	3.52E-04
		671.44		1.78	4.97E-03		1.71E-03	2.48E-03
+	SB-126	223.90		1.39	9.29E-03	6.46E-05	-9.17E-03	4.64E-03
		278.20	*	2.40	5.29E-03		5.61E-03	2.64E-03
		296.50		4.50	3.03E-03		1.22E-03	1.51E-03
		414.70	*	83.30	1.60E-04		8.37E-04	7.98E-05
		556.30		1.69	5.98E-03		2.16E-03	2.98E-03
		573.90		6.70	1.51E-03		1.52E-03	7.51E-04
		593.20		7.50	1.45E-03		2.51E-04	7.21E-04
		656.30		2.19	5.37E-03		-1.07E-03	2.67E-03
		666.50	*	99.60	6.46E-05		7.60E-04	3.21E-05
		674.80		3.10	3.00E-03		8.12E-04	1.49E-03
		695.00	*	99.60	6.47E-05		8.21E-04	3.21E-05
		697.00		29.00	3.82E-04		4.12E-05	1.90E-04
		720.70		53.80	2.80E-04		3.76E-05	1.40E-04
		856.80		17.60	4.68E-04		-4.19E-05	2.32E-04
		989.60		6.80	1.76E-03		-1.03E-03	8.76E-04
		1213.30		2.39	2.14E-03		-6.38E-04	1.06E-03

Analysis Report for 24-2299 VSM-3.5M-S3-CST-d-A Z3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	Sn-126	64.28		9.60	3.54E-03	5.30E-04	5.51E-04	1.77E-03
		87.30	*	45.90	5.30E-04		2.27E-03	2.65E-04
	I-129	29.70		56.60	7.15E-03	7.15E-03	-1.61E-02	3.57E-03
		33.60		10.04	2.27E-02		-9.21E-02	1.13E-02
		34.40		2.01	1.02E-01		-2.51E-01	5.09E-02
		39.60		7.51	1.56E-02		-1.32E-02	7.81E-03
	CS-134	563.25		8.34	1.12E-03	8.97E-05	-1.13E-03	5.58E-04
		569.33		15.37	6.03E-04		-5.49E-05	3.00E-04
		604.72		97.62	8.97E-05		2.43E-05	4.47E-05
		795.86		85.46	9.03E-05		1.98E-06	4.49E-05
		801.95		8.69	9.24E-04		-4.98E-05	4.59E-04
+	CS-137	661.66	*	85.20	6.17E-05	6.17E-05	1.57E-03	3.07E-05
	CE-139	165.85		79.89	1.90E-04	1.90E-04	9.36E-05	9.50E-05
	CE-141	40.70		3.35	3.29E-02	3.48E-04	-3.45E-02	1.64E-02
		145.44		48.29	3.48E-04		6.93E-05	1.74E-04
	CE-144	80.12		1.36	1.76E-02	1.56E-03	-1.64E-03	8.78E-03
		133.51		11.09	1.56E-03		8.54E-04	7.81E-04
+	EU-152	121.78		28.58	7.28E-04	1.77E-04	-4.89E-04	3.64E-04
		344.28	*	26.50	3.44E-04		5.32E-04	1.72E-04
		778.90	*	12.94	6.29E-04		6.18E-04	3.13E-04
		964.08	*	14.73	6.21E-04		8.14E-04	3.09E-04
		1085.87	*	10.24	6.93E-04		4.39E-04	3.44E-04
		1112.07	*	13.69	3.44E-04		6.90E-04	1.70E-04
		1408.01	*	21.07	1.77E-04		5.53E-04	8.69E-05
	GD-153	97.43		29.00	6.70E-04	6.70E-04	1.13E-04	3.35E-04
		103.18		21.10	9.36E-04		-1.73E-04	4.68E-04
+	EU-154	42.70	*	20.45	5.58E-03	2.24E-04	1.66E-02	2.79E-03
		123.07	*	40.40	5.51E-04		1.80E-02	2.76E-04
		247.93	*	6.89	2.34E-03		1.71E-02	1.17E-03
		591.76	*	4.95	2.55E-03		1.79E-02	1.27E-03
		692.42	*	1.78	3.00E-03		1.83E-02	1.49E-03
		723.30	*	20.06	6.66E-04		1.83E-02	3.32E-04
		756.80	*	4.52	2.23E-03		1.66E-02	1.11E-03
		873.18	*	12.08	8.16E-04		1.78E-02	4.06E-04
		996.29	*	10.48	9.40E-04		1.79E-02	4.68E-04
		1004.76	*	18.01	6.10E-04		1.80E-02	3.03E-04
		1246.12	*	0.86	7.03E-03		1.67E-02	3.48E-03
		1274.43	*	34.80	2.24E-04		1.76E-02	1.11E-04
		1494.05	*	0.70	4.91E-03		1.87E-02	2.41E-03
		1596.48	*	1.80	1.70E-03		1.68E-02	8.33E-04
+	EU-155	43.00	*	18.70	6.10E-03	7.93E-04	1.82E-02	3.05E-03
		60.01	*	1.22	4.85E-02		3.22E+00	2.42E-02
		86.55	*	30.70	7.93E-04		3.40E-03	3.96E-04
		105.31	*	21.10	1.63E-03		1.90E-03	8.17E-04
	HG-203	72.87		6.30	4.44E-03	1.39E-04	-4.14E-04	2.22E-03
		279.20		81.46	1.39E-04		1.17E-04	6.93E-05
	BI-207	569.15		97.80	9.27E-05	9.27E-05	-8.44E-06	4.62E-05
		1063.10		74.90	9.47E-05		-1.28E-05	4.70E-05
	PB-210	46.54		4.25	1.77E-02	1.77E-02	-9.95E-03	8.86E-03
	RA-226	74.81		6.44	4.10E-03	1.39E-04	1.31E-02	2.05E-03
		77.11		10.80	2.33E-03		6.25E-05	1.17E-03
		87.30		4.84	4.51E-03		2.87E-02	2.25E-03
		186.21		3.59	4.06E-03		-7.86E-04	2.03E-03

Analysis Report for 24-2299 VSM-3.5M-S3-CST-d-A Z3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	242.00		7.43	1.65E-03	1.39E-04	4.98E-04	8.22E-04
		295.22		19.30	5.95E-04		-1.37E-04	2.97E-04
		351.93		37.60	2.74E-04		3.31E-04	1.37E-04
		609.31		46.10	1.80E-04		1.97E-04	8.97E-05
		768.36		4.94	1.53E-03		7.30E-04	7.59E-04
		1120.29		15.10	4.10E-04		-1.88E-05	2.04E-04
		1238.11		5.79	8.33E-04		4.31E-04	4.12E-04
		1764.49		15.40	1.39E-04		2.14E-04	6.71E-05
	PA-231	283.70		1.59	6.90E-03	4.78E-03	-1.82E-03	3.44E-03
		300.07		2.38	4.78E-03		-1.34E-03	2.38E-03
		302.67		1.71	6.59E-03		7.52E-03	3.29E-03
		330.07		1.32	8.08E-03		-3.48E-03	4.03E-03
	TH-232	74.81		11.62	2.27E-03	6.84E-05	7.25E-03	1.13E-03
		77.11		17.50	1.44E-03		3.86E-05	7.19E-04
		87.30		7.80	2.80E-03		1.78E-02	1.40E-03
		238.63		43.30	2.85E-04		-1.78E-05	1.42E-04
		338.32		11.30	9.34E-04		1.00E-03	4.66E-04
		583.19		30.37	2.83E-04		3.77E-04	1.41E-04
		727.33		6.58	1.93E-03		-3.80E-05	9.61E-04
		911.21		26.60	2.64E-04		2.53E-04	1.31E-04
		968.97		16.20	4.46E-04		-9.80E-05	2.22E-04
		2614.53		35.64	6.84E-05		1.11E-04	3.28E-05
	U-235	143.76		10.96	1.51E-03	2.56E-04	-3.12E-04	7.52E-04
		185.71		57.20	2.56E-04		3.06E-04	1.28E-04
		205.31		5.01	2.73E-03		-1.17E-03	1.37E-03
	U-238	63.29		3.70	1.01E-02	4.76E-03	-1.27E-03	5.02E-03
		92.51		4.23	4.76E-03		3.16E-03	2.38E-03
		112.81		0.21	8.64E-02		-1.37E-02	4.32E-02
		742.81		0.11	7.06E-02		-4.07E-02	3.51E-02
		766.28		0.32	2.38E-02		2.90E-02	1.18E-02
		1001.03		0.84	1.83E-02		5.64E-01	9.12E-03
+	NP-239	99.60	*	12.80	3.21E-03	1.08E-03	9.87E-04	1.60E-03
		103.80		20.40	1.35E-03		-2.51E-04	6.73E-04
		106.10	*	26.40	1.89E-03		2.19E-03	9.43E-04
		116.90		7.61	3.33E-03		-2.58E-03	1.66E-03
		228.20		11.20	1.64E-03		1.14E-03	8.17E-04
		277.60	*	14.50	1.08E-03		1.14E-03	5.38E-04
		315.90		1.60	9.56E-03		6.84E-03	4.77E-03
		334.30		2.06	6.83E-03		-1.05E-03	3.41E-03
+	AM-241	59.54	*	35.90	1.64E-03	1.64E-03	1.09E-01	8.22E-04

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

Apex-Gamma

Analysis Report for 24-2300 VSM-3.5M-S4-CST-A R3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2300 VSM-3.5M-S4-CST-A R3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 11:42:56AM
Procedure	: R3_gsv02mlw
Operator	: Administrator
Detector Name	: R
Geometry	: R3_gsv02mlw
Live Time	: 3879.7 seconds
Real Time	: 3933.5 seconds
Dead Time	: 1.37 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/5/2019
Efficiency Calibration Description	: R3_gsv2ml_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567807
Certificate Name	: R735-b8 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 12:48:34PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2300 VSM-3.5M-S4-CST-A R3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.92	120.41	0.2603	4.56
2	49.00	137.12	0.3232	4.73
3	59.57	166.66	0.0537	123.30
4	86.77	242.32	0.1961	8.26
5	105.58	294.58	0.2634	5.06
6	123.10	343.35	0.0710	65.21
7	148.57	414.15	0.3326	4.03
8	247.88	690.28	0.1258	19.44
9	351.94	979.80	0.3066	3.19
10	391.61	1089.99	0.3432	3.03
11	414.97	1154.90	0.1456	13.06
12	511.10	1422.31	0.1528	7.65
13	581.85	1619.00	0.2664	3.19
14	591.83	1646.83	0.1206	17.66
15	608.89	1694.13	0.2544	4.50
16	625.65	1741.13	0.3184	3.23
17	661.72	1841.35	0.0528	85.07
18	666.40	1854.75	0.1456	13.90
19	695.30	1934.45	0.1432	12.27
20	723.43	2012.93	0.0773	38.78
21	757.00	2106.28	0.1313	13.00
22	845.55	2352.82	0.2496	3.41
23	873.39	2430.13	0.0891	27.71
24	996.45	2772.52	0.0949	22.39
25	1004.93	2796.07	0.0816	31.45
26	1128.22	3138.47	0.2441	3.50
27	1173.38	3264.77	0.0728	37.18
28	1189.34	3309.08	0.3087	3.02
29	1222.53	3401.45	0.2887	3.28
30	1246.29	3467.43	0.2030	4.66
31	1274.60	3546.49	0.0696	38.17
32	1332.69	3708.12	0.0737	34.57
33	1397.47	3888.35	0.1993	4.60
34	1408.36	3917.54	0.2062	4.64
35	1461.27	4065.31	0.2430	3.92
36	1494.19	4157.29	0.1849	5.07
37	1596.74	4442.69	0.1460	7.17
38	2505.20	6971.84	0.2254	3.19

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2300 VSM-3.5M-S4-CST-A R3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 12:48:34PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.92	111	125	120.38	2.35E+03	978.90	1.08E+05	1.20
F	2	49.00	128	145	137.28	2.46E+03	1226.38	1.61E+05	1.00
F	3	59.57	157	173	166.69	9.38E+04	1485.64	1.72E+05	1.36
F	4	86.77	232	251	242.30	6.08E+03	1236.94	1.75E+05	1.77
F	5	105.58	291	304	294.60	1.37E+03	239.82	9.77E+04	1.12
F	6	123.10	336	353	343.31	3.08E+04	1259.57	9.80E+04	1.44
	7	148.57	411	423	414.15	1.76E+02	461.16	4.98E+04	0.76
F	8	247.88	685	698	690.28	3.22E+03	121.03	1.82E+04	1.40
F	9	351.94	976	985	979.67	2.03E+02	72.34	5.37E+03	1.33
	10	391.61	1086	1096	1089.99	4.30E+01	132.34	4.63E+03	0.45
F	11	414.97	1142	1162	1154.96	1.77E+03	244.97	7.57E+03	1.78
F	12	511.10	1409	1435	1422.31	1.85E+03	67.74	6.63E+03	2.64
F	13	581.85	1614	1632	1619.08	2.84E+02	48.21	2.90E+03	2.58
F	14	591.83	1638	1657	1646.86	1.70E+03	197.49	2.89E+03	1.82
F	15	608.89	1688	1699	1694.31	1.65E+02	40.73	1.80E+03	1.33
F	16	625.65	1737	1746	1740.91	1.07E+02	36.83	1.34E+03	1.21
M	17	661.72	1830	1868	1841.25	2.46E+04	285.18	2.05E+03	1.98
m	18	666.40	1830	1868	1854.27	1.22E+03	51.60	1.81E+03	1.98
F	19	695.30	1920	1940	1934.66	1.45E+03	223.11	2.17E+03	1.52
F	20	723.43	2005	2026	2012.90	5.66E+03	217.72	1.96E+03	2.05
F	21	757.00	2098	2117	2106.27	1.15E+03	173.96	1.67E+03	2.21
F	22	845.55	2343	2359	2352.61	2.09E+02	76.85	9.96E+02	2.43
F	23	873.39	2418	2439	2430.04	3.04E+03	163.55	1.21E+03	2.09
M	24	996.45	2757	2805	2772.42	2.60E+03	95.20	1.01E+03	2.36
m	25	1004.93	2757	2805	2795.99	4.32E+03	145.90	1.04E+03	2.36
F	26	1128.22	3129	3153	3139.02	1.52E+02	21.62	5.98E+02	2.65
F	27	1173.38	3249	3276	3264.69	5.96E+03	168.70	5.59E+02	2.46
	28	1189.34	3304	3315	3309.08	7.63E+00	26.89	1.78E+02	0.77
	29	1222.53	3395	3408	3401.45	1.90E+01	26.71	1.54E+02	0.80
F	30	1246.29	3457	3477	3467.55	1.39E+02	17.52	2.70E+02	2.26
F	31	1274.60	3530	3562	3546.34	6.97E+03	161.61	2.64E+02	2.61
F	32	1332.69	3691	3722	3707.98	5.59E+03	147.92	1.88E+02	2.59
F	33	1397.47	3878	3897	3888.24	1.45E+02	14.36	1.05E+02	2.76
F	34	1408.36	3911	3927	3918.56	1.14E+02	13.50	8.45E+01	2.71
F	35	1461.27	4059	4078	4065.79	5.68E+01	11.32	9.13E+01	2.01
F	36	1494.19	4148	4168	4157.42	1.50E+02	12.63	3.49E+01	2.80
F	37	1596.74	4431	4456	4442.82	3.52E+02	18.76	6.76E+01	2.96
F	38	2505.20	6965	6981	6972.05	3.13E+01	7.41	1.87E+01	2.49

Analysis Report for 24-2300 VSM-3.5M-S4-CST-A R3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 12:48:34PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567380.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.92	2.35E+03	978.90			2.35E+03	9.79E+02
F	2	49.00	2.46E+03	1226.38			2.46E+03	1.23E+03
F	3	59.57	9.38E+04	1485.64			9.38E+04	1.49E+03
F	4	86.77	6.08E+03	1236.94	3.07E+01	2.11E+00	6.05E+03	1.24E+03
F	5	105.58	1.37E+03	239.82			1.37E+03	2.40E+02
F	6	123.10	3.08E+04	1259.57			3.08E+04	1.26E+03
	7	148.57	1.76E+02	461.16			1.76E+02	4.61E+02
F	8	247.88	3.22E+03	121.03			3.22E+03	1.21E+02
F	9	351.94	2.03E+02	72.34	1.32E+02	4.68E+00	7.15E+01	7.25E+01
	10	391.61	4.30E+01	132.34			4.30E+01	1.32E+02
F	11	414.97	1.77E+03	244.97			1.77E+03	2.45E+02
F	12	511.10	1.85E+03	67.74	1.59E+02	5.72E+00	1.69E+03	6.80E+01
F	13	581.85	2.84E+02	48.21			2.84E+02	4.82E+01
F	14	591.83	1.70E+03	197.49			1.70E+03	1.97E+02
F	15	608.89	1.65E+02	40.73	1.25E+02	3.99E+00	4.07E+01	4.09E+01
F	16	625.65	1.07E+02	36.83			1.07E+02	3.68E+01
M	17	661.72	2.46E+04	285.18			2.46E+04	2.85E+02
m	18	666.40	1.22E+03	51.60	3.51E+00	6.37E-01	1.22E+03	5.16E+01
F	19	695.30	1.45E+03	223.11			1.45E+03	2.23E+02
F	20	723.43	5.66E+03	217.72			5.66E+03	2.18E+02
F	21	757.00	1.15E+03	173.96			1.15E+03	1.74E+02
F	22	845.55	2.09E+02	76.85			2.09E+02	7.69E+01
F	23	873.39	3.04E+03	163.55			3.04E+03	1.64E+02
M	24	996.45	2.60E+03	95.20			2.60E+03	9.52E+01
m	25	1004.93	4.32E+03	145.90			4.32E+03	1.46E+02
F	26	1128.22	1.52E+02	21.62			1.52E+02	2.16E+01
F	27	1173.38	5.96E+03	168.70			5.96E+03	1.69E+02
	28	1189.34	7.63E+00	26.89			7.63E+00	2.69E+01
	29	1222.53	1.90E+01	26.71			1.90E+01	2.67E+01
F	30	1246.29	1.39E+02	17.52			1.39E+02	1.75E+01
F	31	1274.60	6.97E+03	161.61			6.97E+03	1.62E+02
F	32	1332.69	5.59E+03	147.92			5.59E+03	1.48E+02
F	33	1397.47	1.45E+02	14.36			1.45E+02	1.44E+01

Analysis Report for 24-2300 VSM-3.5M-S4-CST-A R3

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 34	1408.36	1.14E+02	13.50	5.52E+00	4.56E-01	1.08E+02	1.35E+01
F 35	1461.27	5.68E+01	11.32	1.02E+02	2.91E+00	-4.53E+01	1.17E+01
F 36	1494.19	1.50E+02	12.63			1.50E+02	1.26E+01
F 37	1596.74	3.52E+02	18.76			3.52E+02	1.88E+01
F 38	2505.20	3.13E+01	7.41			3.13E+01	7.41E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.97	1460.83	*	10.67	-3.37E-04	8.71E-05	miss
CO-60	0.99	1173.24	*	99.97	4.27E-03	1.23E-04	0.963
		1332.50	*	99.99	4.35E-03	1.18E-04	0.961
		2505.74	*	1.00	3.91E-03	9.46E-04	miss
RH-106	0.40	511.86	*	20.70	3.46E-03	1.74E-04	0.974
		621.92		9.93			
		1050.36		1.56			
SN-113	0.99	391.69	*	64.97	2.32E-05	7.13E-05	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	8.82E-04	1.25E-04	0.871
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	6.86E-04	2.93E-05	0.868
		674.80		3.10			
		695.00	*	99.60	8.41E-04	1.29E-04	0.868
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			

Analysis Report for 24-2300 VSM-3.5M-S4-CST-A R3
ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
Sn-126	0.72	64.28		9.60			
		87.30	*	45.90	2.69E-03	5.63E-04	miss
CS-137	0.99	661.66	*	85.20	1.40E-02	1.82E-04	miss
EU-154	0.98	42.70	*	20.45	1.16E-02	4.84E-03	miss
		123.07	*	40.40	1.58E-02	6.79E-04	0.955
		247.93	*	6.89	1.32E-02	5.25E-04	0.942
		591.76	*	4.95	1.67E-02	1.95E-03	0.931
		692.42		1.78			
		723.30	*	20.06	1.52E-02	6.13E-04	0.949
		756.80	*	4.52	1.45E-02	2.19E-03	0.928
		873.18	*	12.08	1.54E-02	8.47E-04	0.942
		996.29	*	10.48	1.57E-02	6.00E-04	0.986
		1004.76	*	18.01	1.54E-02	5.49E-04	0.977
		1246.12	*	0.86	1.25E-02	1.58E-03	0.937
		1274.43	*	34.80	1.49E-02	3.79E-04	0.979
		1494.05	*	0.70	1.71E-02	1.45E-03	1.016
		1596.48	*	1.80	1.42E-02	7.76E-04	1.169
EU-155	0.99	43.00	*	18.70	1.26E-02	5.29E-03	1.000
		60.01	*	1.22	2.75E+00	1.07E-01	0.999
		86.55	*	30.70	4.03E-03	8.29E-04	free
		105.31	*	21.10	1.24E-03	2.19E-04	1.000
AM-241	1.00	59.54	*	35.90	9.33E-02	2.47E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.970	-3.37E-04	8.71E-05	
CO-60	0.995	4.31E-03	8.49E-05	

Analysis Report for 24-2300 VSM-3.5M-S4-CST-A R3

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
RH-106	0.401	3.46E-03	1.74E-04	
SN-113	0.999	2.32E-05	7.13E-05	
SB-126	0.483	7.03E-04	2.79E-05	
Sn-126	0.729	1.87E-03	5.70E-04	
CS-137	0.999	1.40E-02	1.82E-04	
EU-154	0.981	1.49E-02	1.89E-04	
EU-155	0.993	1.23E-03	2.17E-04	
AM-241	1.000	9.33E-02	1.92E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2300 VSM-3.5M-S4-CST-A R3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 12:48:34PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	49.00	6.33200E-01	49.92		
	7	148.57	4.54058E-02	261.79	Sum	
F	9	351.94	1.84326E-02	101.37		
F	13	581.85	7.32195E-02	16.97		
F	15	608.89	1.04910E-02	100.55		
F	16	625.65	2.76789E-02	34.30		
F	22	845.55	5.39385E-02	36.73	Sum	
F	26	1128.22	3.92522E-02	14.20	Sum	
	28	1189.34	1.96641E-03	352.46		
	29	1222.53	4.89731E-03	140.56		
F	33	1397.47	3.74392E-02	9.89	Sum	
F	34	1408.36	2.78430E-02	12.51		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	1.80E-03	1.80E-03	1.71E-03	8.97E-04
+	K-40	1460.83	*	10.67	6.47E-04	6.47E-04	-3.37E-04	3.14E-04
	MN-54	834.84		99.98	1.35E-04	1.35E-04	3.19E-05	6.66E-05
	CO-58	810.78		99.45	1.43E-04	1.43E-04	1.37E-04	7.09E-05

Analysis Report for 24-2300 VSM-3.5M-S4-CST-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CO-58	863.96		0.68	2.04E-02	1.43E-04	-3.49E-03	1.01E-02
		1674.73		0.52	6.84E-03		-5.46E-03	3.19E-03
	FE-59	142.65		1.00	3.43E-02	1.67E-04	1.50E-02	1.71E-02
		192.35		3.01	9.82E-03		-2.72E-04	4.90E-03
		334.80		0.27	7.54E-02		-6.00E-02	3.75E-02
		1099.25		56.30	2.17E-04		3.12E-04	1.07E-04
		1291.60		43.70	1.67E-04		-5.62E-05	8.14E-05
+	CO-60	1173.24	*	99.97	1.61E-04	1.07E-04	4.27E-03	7.95E-05
		1332.50	*	99.99	1.07E-04		4.35E-03	5.23E-05
		2505.74	*	1.00	4.35E-03		3.91E-03	2.01E-03
	SR-85	514.00		96.00	2.05E-04	2.05E-04	5.34E-05	1.02E-04
		868.60		0.01	1.65E+00		-4.66E-01	8.21E-01
	NB-94	702.62		97.90	1.62E-04	1.62E-04	-4.37E-05	8.03E-05
		871.09		99.98	2.06E-04		1.98E-03	1.02E-04
	NB-95	765.81		99.81	1.47E-04	1.47E-04	1.22E-04	7.28E-05
	RU-103	497.05		91.00	1.97E-04	1.97E-04	-2.19E-04	9.79E-05
		610.30		5.76	2.83E-03		3.72E-03	1.41E-03
+	RH-106	511.86	*	20.70	1.54E-03	1.54E-03	3.46E-03	7.65E-04
		621.92		9.93	1.69E-03		-5.32E-04	8.37E-04
		1050.36		1.56	8.66E-03		3.46E-04	4.27E-03
	AG-108M	79.13		6.60	7.59E-03	1.93E-04	-9.21E-04	3.79E-03
		433.90		90.50	2.30E-04		4.07E-05	1.14E-04
		614.30		89.80	1.93E-04		-5.64E-05	9.56E-05
		722.90		90.80	2.78E-04		3.56E-03	1.38E-04
	CD-109	88.03		3.61	1.23E-02	1.23E-02	-2.56E-03	6.16E-03
	SB-125	176.31		6.82	4.33E-03	6.50E-04	2.74E-03	2.16E-03
		380.45		1.52	1.28E-02		6.61E-03	6.37E-03
		427.87		29.55	6.50E-04		-5.26E-06	3.23E-04
		463.36		10.48	1.81E-03		-6.60E-04	8.98E-04
		600.60		17.76	8.87E-04		1.99E-04	4.40E-04
		606.71		5.02	3.21E-03		2.86E-03	1.59E-03
		635.95		11.32	1.36E-03		-3.69E-04	6.73E-04
		671.44		1.78	9.39E-03		7.24E-03	4.66E-03
+	SB-126	223.90		1.39	1.83E-02	1.13E-04	1.62E-02	9.14E-03
		278.20		2.40	1.11E-02		2.50E-03	5.54E-03
		296.50		4.50	5.78E-03		1.97E-03	2.88E-03
		414.70	*	83.30	3.57E-04		8.82E-04	1.78E-04
		556.30		1.69	1.16E-02		-1.54E-03	5.78E-03
		573.90		6.70	2.84E-03		1.00E-03	1.41E-03
		593.20		7.50	2.72E-03		1.28E-02	1.35E-03
		656.30		2.19	2.07E-02		-4.97E-04	1.03E-02
		666.50	*	99.60	1.13E-04		6.86E-04	5.58E-05
		674.80		3.10	5.71E-03		3.80E-03	2.83E-03
		695.00	*	99.60	2.24E-04		8.41E-04	1.11E-04
		697.00		29.00	7.02E-04		-4.19E-04	3.48E-04
		720.70		53.80	5.04E-04		-9.49E-05	2.51E-04
		856.80		17.60	8.67E-04		1.69E-04	4.29E-04
		989.60		6.80	2.88E-03		9.98E-05	1.42E-03
		1213.30		2.39	3.91E-03		3.39E-03	1.91E-03
+	Sn-126	64.28		9.60	8.04E-03	1.50E-03	-1.73E-03	4.01E-03
		87.30	*	45.90	1.50E-03		2.69E-03	7.51E-04
	I-129	29.70		56.60	3.19E-05	3.19E-05	0.00E+00	0.00E+00
		33.60		10.04	3.06E-02		5.46E-01	1.52E-02

Analysis Report for 24-2300 VSM-3.5M-S4-CST-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-129	34.40		2.01	1.53E-01	3.19E-05	3.22E+00	7.64E-02
		39.60		7.51	3.47E-02		2.63E-01	1.73E-02
	CS-134	563.25		8.34	2.14E-03	1.70E-04	2.74E-03	1.06E-03
		569.33		15.37	1.15E-03		4.42E-05	5.69E-04
		604.72		97.62	1.73E-04		1.04E-04	8.59E-05
		795.86		85.46	1.70E-04		-1.81E-04	8.43E-05
		801.95		8.69	1.72E-03		-8.13E-05	8.52E-04
+	CS-137	661.66	*	85.20	1.22E-04	1.22E-04	1.40E-02	6.00E-05
	CE-139	165.85		79.89	3.87E-04	3.87E-04	-2.03E-04	1.93E-04
	CE-141	40.70		3.35	7.15E-02	7.05E-04	-1.78E-02	3.57E-02
		145.44		48.29	7.05E-04		4.22E-04	3.52E-04
	CE-144	80.12		1.36	3.63E-02	2.94E-03	-2.55E-02	1.81E-02
		133.51		11.09	2.94E-03		1.49E-03	1.47E-03
	EU-152	121.78		28.58	1.40E-03	3.45E-04	2.64E-04	6.99E-04
		344.28		26.50	8.11E-04		1.92E-03	4.04E-04
		778.90		12.94	1.17E-03		4.90E-04	5.80E-04
		964.08		14.73	9.02E-04		1.57E-04	4.45E-04
		1085.87		10.24	1.18E-03		7.76E-04	5.84E-04
		1112.07		13.69	8.83E-04		-8.36E-04	4.35E-04
		1408.01		21.07	3.45E-04		3.83E-04	1.68E-04
	GD-153	97.43		29.00	1.38E-03	1.38E-03	2.65E-04	6.91E-04
		103.18		21.10	1.83E-03		-5.98E-04	9.15E-04
+	EU-154	42.70	*	20.45	1.17E-02	3.53E-04	1.16E-02	5.82E-03
		123.07	*	40.40	1.24E-03		1.58E-02	6.21E-04
		247.93	*	6.89	3.87E-03		1.32E-02	1.93E-03
		591.76	*	4.95	4.29E-03		1.67E-02	2.13E-03
		692.42		1.78	1.02E-02		4.02E-02	5.07E-03
		723.30	*	20.06	1.02E-03		1.52E-02	5.08E-04
		756.80	*	4.52	4.19E-03		1.45E-02	2.08E-03
		873.18	*	12.08	1.49E-03		1.54E-02	7.37E-04
		996.29	*	10.48	9.08E-04		1.57E-02	4.46E-04
		1004.76	*	18.01	5.45E-04		1.54E-02	2.68E-04
		1246.12	*	0.86	1.23E-02		1.25E-02	6.04E-03
		1274.43	*	34.80	3.53E-04		1.49E-02	1.74E-04
		1494.05	*	0.70	5.77E-03		1.71E-02	2.73E-03
		1596.48	*	1.80	3.04E-03		1.42E-02	1.47E-03
+	EU-155	43.00	*	18.70	1.28E-02	1.98E-03	1.26E-02	6.37E-03
		60.01	*	1.22	9.17E-02		2.75E+00	4.58E-02
		86.55	*	30.70	2.25E-03		4.03E-03	1.12E-03
		105.31	*	21.10	1.98E-03		1.24E-03	9.89E-04
	HG-203	72.87		6.30	9.12E-03	2.83E-04	1.32E-02	4.56E-03
		279.20		81.46	2.83E-04		1.19E-04	1.41E-04
	BI-207	569.15		97.80	1.76E-04	1.76E-04	-3.77E-05	8.74E-05
		1063.10		74.90	1.80E-04		1.47E-04	8.89E-05
	PB-210	46.54		4.25	3.58E-02	3.58E-02	-4.21E-03	1.79E-02
	RA-226	74.81		6.44	8.45E-03	3.11E-04	1.22E-02	4.22E-03
		77.11		10.80	4.80E-03		3.97E-04	2.40E-03
		87.30		4.84	9.28E-03		3.69E-02	4.63E-03
		186.21		3.59	7.96E-03		-3.78E-03	3.97E-03
		242.00		7.43	3.27E-03		8.06E-04	1.63E-03
		295.22		19.30	1.14E-03		1.61E-04	5.69E-04
		351.93		37.60	5.44E-04		1.89E-04	2.71E-04
		609.31		46.10	3.49E-04		2.25E-04	1.73E-04

Analysis Report for 24-2300 VSM-3.5M-S4-CST-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	768.36		4.94	2.87E-03	3.11E-04	3.53E-03	1.42E-03
		1120.29		15.10	7.79E-04		9.49E-05	3.84E-04
		1238.11		5.79	1.50E-03		4.76E-07	7.32E-04
		1764.49		15.40	3.11E-04		5.40E-04	1.48E-04
	PA-231	283.70		1.59	1.41E-02	9.16E-03	-1.64E-02	7.03E-03
		300.07		2.38	9.16E-03		8.01E-03	4.56E-03
		302.67		1.71	1.26E-02		-5.86E-03	6.28E-03
		330.07		1.32	1.54E-02		-3.11E-03	7.68E-03
	TH-232	74.81		11.62	4.68E-03	1.40E-04	6.74E-03	2.34E-03
		77.11		17.50	2.96E-03		2.45E-04	1.48E-03
		87.30		7.80	5.76E-03		2.29E-02	2.87E-03
		238.63		43.30	5.61E-04		-6.09E-04	2.80E-04
		338.32		11.30	1.84E-03		-4.13E-03	9.15E-04
		583.19		30.37	5.34E-04		4.66E-04	2.65E-04
		727.33		6.58	3.49E-03		4.51E-02	1.74E-03
		911.21		26.60	4.93E-04		-7.33E-04	2.43E-04
		968.97		16.20	7.88E-04		9.97E-04	3.89E-04
		2614.53		35.64	1.40E-04		1.55E-04	6.51E-05
	U-235	143.76		10.96	3.07E-03	5.00E-04	2.52E-03	1.53E-03
		185.71		57.20	5.00E-04		-2.72E-04	2.49E-04
		205.31		5.01	5.40E-03		3.81E-03	2.69E-03
	U-238	63.29		3.70	2.29E-02	9.84E-03	1.46E-02	1.15E-02
		92.51		4.23	9.84E-03		-8.02E-03	4.91E-03
		112.81		0.21	1.70E-01		8.56E-03	8.49E-02
		742.81		0.11	1.28E-01		-1.52E-01	6.33E-02
		766.28		0.32	4.50E-02		4.48E-02	2.23E-02
		1001.03		0.84	3.27E-02		4.99E-04	1.63E-02
	NP-239	99.60		12.80	4.06E-03	1.92E-03	4.72E-04	2.03E-03
		103.80		20.40	2.48E-03		-7.11E-04	1.24E-03
		106.10		26.40	1.92E-03		4.31E-03	9.58E-04
		116.90		7.61	6.13E-03		6.58E-03	3.06E-03
		228.20		11.20	3.01E-03		8.44E-04	1.50E-03
		277.60		14.50	2.13E-03		-3.16E-04	1.06E-03
		315.90		1.60	1.71E-02		-3.16E-04	8.52E-03
		334.30		2.06	1.22E-02		-1.84E-02	6.05E-03
+	AM-241	59.54	*	35.90	3.11E-03	3.11E-03	9.33E-02	1.55E-03

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

Apex-Gamma

Analysis Report for 24-2301 VSM-3.5M-S4-CST-d-A R3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2301 VSM-3.5M-S4-CST-d-A R3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 1:07:25PM
Procedure	: R3_gsv02mlw
Operator	: Administrator
Detector Name	: R
Geometry	: R3_gsv02mlw
Live Time	: 1818.9 seconds
Real Time	: 1844.3 seconds
Dead Time	: 1.38 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/5/2019
Efficiency Calibration Description	: R3_gsv2ml_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567812
Certificate Name	: R735-b8 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 1:38:14PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2301 VSM-3.5M-S4-CST-d-A R3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.97	119.68	0.3020	4.13
2	59.57	166.66	0.0654	82.91
3	86.82	242.32	0.2229	7.14
4	105.67	294.76	0.2754	4.33
5	123.10	343.34	0.0861	44.68
6	125.89	352.00	0.0000	0.00
7	247.92	690.33	0.1545	13.06
8	344.07	958.31	0.3194	3.32
9	414.70	1154.14	0.1682	9.73
10	511.05	1422.15	0.1791	6.45
11	591.83	1646.81	0.1429	12.64
12	625.57	1740.80	0.2924	3.16
13	661.72	1841.32	0.0638	58.33
14	666.46	1855.01	0.1746	9.52
15	695.29	1934.30	0.1902	6.53
16	723.50	2013.16	0.0935	26.39
17	756.92	2106.16	0.1451	10.92
18	845.28	2351.84	0.2438	3.71
19	873.35	2430.10	0.1081	18.96
20	892.73	2483.82	0.2656	3.71
21	996.40	2772.31	0.1146	15.93
22	1004.91	2796.02	0.0978	21.86
23	1036.19	2882.80	0.3101	3.01
24	1173.42	3264.96	0.0873	25.82
25	1246.83	3468.36	0.2303	4.63
26	1274.61	3546.49	0.0839	26.00
27	1332.69	3708.16	0.0869	24.68
28	1397.34	3887.88	0.2272	3.77
29	1407.90	3916.79	0.2192	3.76
30	1460.79	4064.38	0.2195	3.45
31	1493.73	4156.28	0.2197	4.82
32	1596.69	4442.18	0.1860	4.88

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2301 VSM-3.5M-S4-CST-d-A R3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 1:38:14PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.97	110	122	120.54	8.01E+02	31.51	4.34E+04	0.36
F	2	59.57	157	175	166.68	4.42E+04	969.52	9.02E+04	1.36
F	3	86.82	238	251	242.45	2.05E+03	190.53	5.74E+04	1.37
F	4	105.67	291	304	294.85	1.47E+03	552.58	4.57E+04	1.62
M	5	123.10	338	356	343.33	1.40E+04	929.29	3.14E+04	1.43
m	6	125.89	338	356	351.09	1.70E+02	138.50	3.50E+04	1.44
F	7	247.92	686	695	690.40	1.59E+03	83.59	6.02E+03	1.49
F	8	344.07	952	963	957.77	1.23E+02	41.11	3.31E+03	0.72
F	9	414.70	1141	1164	1154.21	8.45E+02	169.80	4.09E+03	1.84
F	10	511.05	1412	1434	1422.17	1.18E+03	236.20	2.29E+03	3.19
F	11	591.83	1641	1656	1646.85	7.45E+02	162.65	1.07E+03	1.80
F	12	625.57	1736	1747	1740.69	9.94E+01	25.91	6.48E+02	1.58
M	13	661.72	1829	1866	1841.25	1.17E+04	208.66	9.91E+02	1.99
m	14	666.46	1829	1866	1854.43	5.87E+02	36.00	8.95E+02	2.00
F	15	695.29	1922	1941	1934.62	5.78E+02	177.78	1.05E+03	1.59
F	16	723.50	2002	2026	2013.08	2.67E+03	153.86	1.05E+03	2.03
F	17	756.92	2097	2111	2106.05	5.59E+02	108.84	5.66E+02	2.01
	18	845.28	2342	2357	2351.84	5.83E+01	49.58	4.80E+02	1.61
F	19	873.35	2418	2443	2429.95	1.44E+03	115.76	7.00E+02	2.17
F	20	892.73	2477	2490	2483.85	6.71E+01	18.33	3.51E+02	1.43
M	21	996.40	2761	2807	2772.26	1.18E+03	65.70	4.58E+02	2.28
m	22	1004.91	2761	2807	2795.93	1.94E+03	99.02	4.63E+02	2.28
F	23	1036.19	2876	2889	2882.96	3.39E+01	14.64	2.55E+02	1.21
F	24	1173.42	3250	3277	3264.80	2.92E+03	115.88	1.96E+02	2.47
F	25	1246.83	3461	3476	3469.05	7.63E+01	66.73	9.05E+01	0.82
F	26	1274.61	3530	3561	3546.37	3.36E+03	109.15	1.45E+02	2.71
F	27	1332.69	3693	3721	3707.98	2.68E+03	108.78	1.24E+02	2.56
F	28	1397.34	3880	3898	3887.88	7.03E+01	9.70	3.90E+01	2.54
F	29	1407.90	3908	3927	3917.29	7.55E+01	9.59	3.02E+01	2.54
F	30	1460.79	4056	4071	4064.46	5.88E+01	8.80	2.39E+01	2.34
F	31	1493.73	4151	4164	4156.13	4.36E+01	8.27	2.85E+01	1.42
F	32	1596.69	4432	4455	4442.69	1.64E+02	12.11	1.04E+01	3.30

Analysis Report for 24-2301 VSM-3.5M-S4-CST-d-A R3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 1:38:14PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567380.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.97	8.01E+02	31.51			8.01E+02	3.15E+01
F	2	59.57	4.42E+04	969.52			4.42E+04	9.70E+02
F	3	86.82	2.05E+03	190.53	1.44E+01	9.90E-01	2.04E+03	1.91E+02
F	4	105.67	1.47E+03	552.58			1.47E+03	5.53E+02
M	5	123.10	1.40E+04	929.29			1.40E+04	9.29E+02
m	6	125.89	1.70E+02	138.50			1.70E+02	1.39E+02
F	7	247.92	1.59E+03	83.59			1.59E+03	8.36E+01
F	8	344.07	1.23E+02	41.11			1.23E+02	4.11E+01
F	9	414.70	8.45E+02	169.80			8.45E+02	1.70E+02
F	10	511.05	1.18E+03	236.20	7.44E+01	2.68E+00	1.11E+03	2.36E+02
F	11	591.83	7.45E+02	162.65			7.45E+02	1.63E+02
F	12	625.57	9.94E+01	25.91			9.94E+01	2.59E+01
M	13	661.72	1.17E+04	208.66			1.17E+04	2.09E+02
m	14	666.46	5.87E+02	36.00	1.64E+00	2.99E-01	5.85E+02	3.60E+01
F	15	695.29	5.78E+02	177.78			5.78E+02	1.78E+02
F	16	723.50	2.67E+03	153.86			2.67E+03	1.54E+02
F	17	756.92	5.59E+02	108.84			5.59E+02	1.09E+02
	18	845.28	5.83E+01	49.58			5.83E+01	4.96E+01
F	19	873.35	1.44E+03	115.76			1.44E+03	1.16E+02
F	20	892.73	6.71E+01	18.33			6.71E+01	1.83E+01
M	21	996.40	1.18E+03	65.70			1.18E+03	6.57E+01
m	22	1004.91	1.94E+03	99.02			1.94E+03	9.90E+01
F	23	1036.19	3.39E+01	14.64			3.39E+01	1.46E+01
F	24	1173.42	2.92E+03	115.88			2.92E+03	1.16E+02
F	25	1246.83	7.63E+01	66.73			7.63E+01	6.67E+01
F	26	1274.61	3.36E+03	109.15			3.36E+03	1.09E+02
F	27	1332.69	2.68E+03	108.78			2.68E+03	1.09E+02
F	28	1397.34	7.03E+01	9.70			7.03E+01	9.70E+00
F	29	1407.90	7.55E+01	9.59	2.59E+00	2.14E-01	7.29E+01	9.60E+00
F	30	1460.79	5.88E+01	8.80	4.79E+01	1.37E+00	1.10E+01	8.90E+00
F	31	1493.73	4.36E+01	8.27			4.36E+01	8.27E+00
F	32	1596.69	1.64E+02	12.11			1.64E+02	1.21E+01

Analysis Report for 24-2301 VSM-3.5M-S4-CST-d-A R3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	1.00	1460.83	*	10.67	1.74E-04	1.41E-04	miss
CO-60	0.98	1173.24	*	99.97	4.46E-03	1.79E-04	0.963
		1332.50	*	99.99	4.46E-03	1.83E-04	0.961
		2505.74		1.00			
RH-106	0.39	511.86	*	20.70	4.84E-03	1.04E-03	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	8.96E-04	1.82E-04	0.871
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	7.03E-04	4.35E-05	0.868
		674.80		3.10			
		695.00	*	99.60	7.13E-04	2.19E-04	0.868
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.73	64.28		9.60			
		87.30	*	45.90	1.93E-03	2.00E-04	miss
CS-137	0.99	661.66	*	85.20	1.42E-02	2.67E-04	miss
EU-154	0.98	42.70	*	20.45	8.37E-03	4.54E-04	miss
		123.07	*	40.40	1.53E-02	1.04E-03	0.955
		247.93	*	6.89	1.38E-02	7.51E-04	0.942
		591.76	*	4.95	1.56E-02	3.41E-03	0.931
		692.42		1.78			
		723.30	*	20.06	1.53E-02	9.02E-04	0.949
		756.80	*	4.52	1.50E-02	2.92E-03	0.928

Analysis Report for 24-2301 VSM-3.5M-S4-CST-d-A R3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.98	873.18	*	12.08	1.55E-02	1.26E-03	0.942
		996.29	*	10.48	1.52E-02	8.63E-04	0.986
		1004.76	*	18.01	1.47E-02	7.72E-04	0.977
		1246.12	*	0.86	1.45E-02	1.27E-02	0.937
		1274.43	*	34.80	1.53E-02	5.23E-04	0.979
		1494.05	*	0.70	1.06E-02	2.01E-03	1.016
		1596.48	*	1.80	1.40E-02	1.05E-03	1.169
AM-241	1.00	59.54	*	35.90	9.39E-02	2.87E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	K-40	1.000	1.74E-04	1.41E-04	
	CO-60	0.988	4.46E-03	1.28E-04	
	RH-106	0.393	4.84E-03	1.04E-03	
	SB-126	0.486	7.13E-04	4.15E-05	
	Sn-126	0.736	1.93E-03	2.00E-04	
	CS-137	0.999	1.42E-02	2.67E-04	
	EU-154	0.980	1.30E-02	2.39E-04	
X	EU-155	0.988			
	AM-241	1.000	9.39E-02	2.87E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2301 VSM-3.5M-S4-CST-d-A R3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 1:38:14PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	4	105.67	8.09880E-01	37.51	Tol.	EU-155 NP-239
m	6	125.89	9.33303E-02	81.59		
F	8	344.07	6.74895E-02	33.49		
F	12	625.57	5.46694E-02	26.06		
	18	845.28	3.20273E-02	85.11		
F	20	892.73	3.68962E-02	27.32		
F	23	1036.19	1.86448E-02	43.18		
F	28	1397.34	3.86596E-02	13.79	Sum	
F	29	1407.90	4.00895E-02	13.16		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	2.63E-03	2.63E-03	-9.84E-04	1.31E-03
+	K-40	1460.83	*	10.67	7.24E-04	7.24E-04	1.74E-04	3.40E-04
	MN-54	834.84		99.98	1.96E-04	1.96E-04	2.03E-04	9.64E-05
	CO-58	810.78		99.45	2.06E-04	2.06E-04	2.28E-05	1.01E-04
		863.96		0.68	3.04E-02		3.23E-02	1.49E-02

Analysis Report for 24-2301 VSM-3.5M-S4-CST-d-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CO-58	1674.73		0.52	1.09E-02	2.06E-04	8.65E-03	4.99E-03
	FE-59	142.65		1.00	5.03E-02	2.39E-04	1.37E-02	2.51E-02
		192.35		3.01	1.45E-02		5.54E-03	7.21E-03
		334.80		0.27	1.12E-01		9.81E-02	5.56E-02
		1099.25		56.30	3.06E-04		-2.74E-04	1.50E-04
		1291.60		43.70	2.39E-04		-1.19E-05	1.15E-04
+	CO-60	1173.24	*	99.97	2.04E-04	1.79E-04	4.46E-03	9.99E-05
		1332.50	*	99.99	1.79E-04		4.46E-03	8.75E-05
		2505.74		1.00	7.50E-03		7.99E-03	3.39E-03
	SR-85	514.00		96.00	3.01E-04	3.01E-04	-8.14E-05	1.49E-04
		868.60		0.01	2.45E+00		1.40E+00	1.21E+00
	NB-94	702.62		97.90	2.39E-04	2.39E-04	-9.62E-05	1.18E-04
		871.09		99.98	3.04E-04		6.04E-05	1.50E-04
	NB-95	765.81		99.81	2.13E-04	2.13E-04	-4.90E-04	1.05E-04
	RU-103	497.05		91.00	2.85E-04	2.85E-04	-1.76E-04	1.41E-04
		610.30		5.76	4.07E-03		-3.40E-04	2.01E-03
+	RH-106	511.86	*	20.70	1.80E-03	1.80E-03	4.84E-03	8.95E-04
		621.92		9.93	2.42E-03		-9.63E-04	1.20E-03
		1050.36		1.56	1.25E-02		-7.72E-03	6.13E-03
	AG-108M	79.13		6.60	1.12E-02	2.79E-04	3.14E-03	5.57E-03
		433.90		90.50	3.39E-04		1.34E-04	1.68E-04
		614.30		89.80	2.79E-04		-1.73E-04	1.38E-04
		722.90		90.80	4.06E-04		3.58E-03	2.01E-04
	CD-109	88.03		3.61	1.81E-02	1.81E-02	2.67E-02	9.01E-03
	SB-125	176.31		6.82	6.37E-03	9.60E-04	-4.39E-04	3.17E-03
		380.45		1.52	1.91E-02		1.26E-02	9.47E-03
		427.87		29.55	9.60E-04		1.75E-04	4.76E-04
		463.36		10.48	2.63E-03		-1.36E-03	1.30E-03
		600.60		17.76	1.29E-03		7.59E-04	6.37E-04
		606.71		5.02	4.61E-03		-1.30E-03	2.28E-03
		635.95		11.32	2.05E-03		2.10E-03	1.01E-03
		671.44		1.78	1.38E-02		1.35E-03	6.83E-03
+	SB-126	223.90		1.39	2.68E-02	1.71E-04	1.40E-02	1.33E-02
		278.20		2.40	1.63E-02		5.03E-03	8.11E-03
		296.50		4.50	8.48E-03		3.55E-03	4.22E-03
		414.70	*	83.30	5.93E-04		8.96E-04	2.95E-04
		556.30		1.69	1.70E-02		-1.32E-02	8.40E-03
		573.90		6.70	4.19E-03		-6.22E-04	2.07E-03
		593.20		7.50	3.95E-03		7.91E-03	1.96E-03
		656.30		2.19	3.05E-02		8.36E-03	1.52E-02
		666.50	*	99.60	1.71E-04		7.03E-04	8.37E-05
		674.80		3.10	8.32E-03		4.22E-03	4.11E-03
		695.00	*	99.60	3.26E-04		7.13E-04	1.61E-04
		697.00		29.00	1.04E-03		3.77E-03	5.12E-04
		720.70		53.80	7.43E-04		1.65E-04	3.68E-04
		856.80		17.60	1.27E-03		-6.53E-04	6.25E-04
		989.60		6.80	4.31E-03		7.74E-06	2.12E-03
		1213.30		2.39	5.70E-03		-3.08E-03	2.75E-03
+	Sn-126	64.28		9.60	1.18E-02	1.59E-03	7.25E-03	5.89E-03
		87.30	*	45.90	1.59E-03		1.93E-03	7.95E-04
	I-129	29.70		56.60	6.80E-05	6.80E-05	0.00E+00	0.00E+00
		33.60		10.04	4.50E-02		5.62E-01	2.24E-02
		34.40		2.01	2.25E-01		3.31E+00	1.12E-01

Analysis Report for 24-2301 VSM-3.5M-S4-CST-d-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-129	39.60		7.51	5.09E-02	6.80E-05	2.52E-01	2.54E-02
	CS-134	563.25		8.34	3.12E-03	2.50E-04	-7.46E-04	1.54E-03
		569.33		15.37	1.68E-03		-1.71E-03	8.31E-04
		604.72		97.62	2.50E-04		-1.92E-04	1.23E-04
		795.86		85.46	2.57E-04		-2.52E-04	1.26E-04
		801.95		8.69	2.54E-03		1.64E-03	1.25E-03
+	CS-137	661.66	*	85.20	1.81E-04	1.81E-04	1.42E-02	8.90E-05
	CE-139	165.85		79.89	5.69E-04	5.69E-04	3.24E-04	2.83E-04
	CE-141	40.70		3.35	1.05E-01	1.03E-03	1.31E-01	5.24E-02
		145.44		48.29	1.03E-03		4.72E-04	5.16E-04
	CE-144	80.12		1.36	5.32E-02	4.32E-03	-8.60E-02	2.66E-02
		133.51		11.09	4.32E-03		1.74E-03	2.16E-03
	EU-152	121.78		28.58	2.05E-03	5.18E-04	-1.18E-03	1.02E-03
		344.28		26.50	1.20E-03		1.19E-03	5.96E-04
		778.90		12.94	1.72E-03		6.99E-04	8.46E-04
		964.08		14.73	1.39E-03		3.26E-03	6.81E-04
		1085.87		10.24	1.75E-03		2.68E-04	8.57E-04
		1112.07		13.69	1.37E-03		1.31E-03	6.71E-04
		1408.01		21.07	5.18E-04		7.89E-04	2.48E-04
	GD-153	97.43		29.00	2.03E-03	2.03E-03	1.12E-03	1.01E-03
		103.18		21.10	2.69E-03		-1.92E-03	1.34E-03
+	EU-154	42.70	*	20.45	1.48E-02	5.55E-04	8.37E-03	7.41E-03
		123.07	*	40.40	9.05E-04		1.53E-02	4.51E-04
		247.93	*	6.89	4.20E-03		1.38E-02	2.09E-03
		591.76	*	4.95	5.15E-03		1.56E-02	2.55E-03
		692.42		1.78	1.50E-02		4.15E-02	7.40E-03
		723.30	*	20.06	1.67E-03		1.53E-02	8.28E-04
		756.80	*	4.52	4.66E-03		1.50E-02	2.29E-03
		873.18	*	12.08	2.61E-03		1.55E-02	1.29E-03
		996.29	*	10.48	1.32E-03		1.52E-02	6.42E-04
		1004.76	*	18.01	7.82E-04		1.47E-02	3.81E-04
		1246.12	*	0.86	1.41E-02		1.45E-02	6.80E-03
		1274.43	*	34.80	5.55E-04		1.53E-02	2.71E-04
		1494.05	*	0.70	9.81E-03		1.06E-02	4.58E-03
		1596.48	*	1.80	2.52E-03		1.40E-02	1.14E-03
	EU-155	43.00	*	18.70	1.62E-02	2.38E-03	9.15E-03	8.10E-03
		60.01	*	1.22	1.49E-01		2.77E+00	7.42E-02
		86.55	*	30.70	2.38E-03		2.89E-03	1.19E-03
		105.31	*	21.10	2.89E-03		2.84E-03	1.44E-03
	HG-203	72.87		6.30	1.34E-02	4.15E-04	1.80E-04	6.70E-03
		279.20		81.46	4.15E-04		5.17E-04	2.06E-04
	BI-207	569.15		97.80	2.60E-04	2.57E-04	2.12E-04	1.29E-04
		1063.10		74.90	2.57E-04		2.28E-04	1.26E-04
	PB-210	46.54		4.25	5.26E-02	5.26E-02	-4.13E-02	2.62E-02
	RA-226	74.81		6.44	1.24E-02	4.13E-04	1.85E-02	6.20E-03
		77.11		10.80	7.06E-03		2.48E-03	3.53E-03
		87.30		4.84	1.36E-02		3.25E-02	6.78E-03
		186.21		3.59	1.18E-02		8.15E-04	5.86E-03
		242.00		7.43	4.78E-03		-7.75E-03	2.38E-03
		295.22		19.30	1.67E-03		-7.99E-04	8.31E-04
		351.93		37.60	7.96E-04		5.96E-04	3.95E-04
		609.31		46.10	5.02E-04		4.69E-04	2.48E-04
		768.36		4.94	4.19E-03		-2.04E-03	2.06E-03

Analysis Report for 24-2301 VSM-3.5M-S4-CST-d-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	1120.29		15.10	1.18E-03	4.13E-04	-1.43E-03	5.77E-04
		1238.11		5.79	2.11E-03		-1.50E-03	1.02E-03
		1764.49		15.40	4.13E-04		3.87E-04	1.90E-04
	PA-231	283.70		1.59	2.08E-02	1.34E-02	1.06E-02	1.04E-02
		300.07		2.38	1.34E-02		-9.07E-03	6.65E-03
		302.67		1.71	1.84E-02		-2.68E-02	9.16E-03
		330.07		1.32	2.26E-02		-2.06E-02	1.12E-02
	TH-232	74.81		11.62	6.89E-03	1.96E-04	1.02E-02	3.44E-03
		77.11		17.50	4.36E-03		1.53E-03	2.18E-03
		87.30		7.80	8.43E-03		2.02E-02	4.21E-03
		238.63		43.30	8.30E-04		2.43E-04	4.13E-04
		338.32		11.30	2.72E-03		2.21E-04	1.35E-03
		583.19		30.37	7.94E-04		7.34E-04	3.93E-04
		727.33		6.58	5.10E-03		8.55E-05	2.53E-03
		911.21		26.60	7.38E-04		7.37E-05	3.63E-04
		968.97		16.20	1.19E-03		4.60E-04	5.85E-04
		2614.53		35.64	1.96E-04		8.11E-05	8.74E-05
	U-235	143.76		10.96	4.49E-03	7.39E-04	-2.07E-03	2.24E-03
		185.71		57.20	7.39E-04		5.92E-04	3.68E-04
		205.31		5.01	7.90E-03		3.53E-03	3.94E-03
	U-238	63.29		3.70	3.36E-02	1.44E-02	-2.70E-04	1.68E-02
		92.51		4.23	1.44E-02		1.28E-05	7.19E-03
		112.81		0.21	2.50E-01		4.44E-02	1.25E-01
		742.81		0.11	1.92E-01		9.84E-03	9.47E-02
		766.28		0.32	6.51E-02		-1.10E-01	3.21E-02
		1001.03		0.84	4.75E-02		5.02E-01	2.35E-02
	NP-239	99.60		12.80	6.01E-03	2.86E-03	8.09E-04	3.00E-03
		103.80		20.40	3.69E-03		-1.38E-03	1.84E-03
		106.10		26.40	2.86E-03		6.91E-03	1.42E-03
		116.90		7.61	9.12E-03		-1.76E-02	4.55E-03
		228.20		11.20	4.48E-03		8.84E-04	2.23E-03
		277.60		14.50	3.16E-03		-4.74E-04	1.57E-03
		315.90		1.60	2.52E-02		-2.26E-02	1.25E-02
		334.30		2.06	1.83E-02		1.95E-02	9.08E-03
+	AM-241	59.54	*	35.90	5.04E-03	5.04E-03	9.39E-02	2.52E-03

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

Apex-Gamma

Analysis Report for 24-2302 VSM-4.5M-S1-CST-A U3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2302 VSM-4.5M-S1-CST-A U3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 11:45:23AM
Procedure	: U3_gsv02mlw
Operator	: Administrator
Detector Name	: U
Geometry	: U3_gsv02mlw
Live Time	: 11158.9 seconds
Real Time	: 11539.5 seconds
Dead Time	: 3.30 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 7/10/2024
Efficiency Calibration Used Done On	: 6/7/2021
Efficiency Calibration Description	: U3_gsv2mlw_R724p
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567808
Certificate Name	: R735-A6 5ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 2:57:48PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2302 VSM-4.5M-S1-CST-A U3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.77	123.02	0.1954	11.74
2	48.76	139.93	0.2917	6.43
3	57.09	165.00	0.0000	0.00
4	59.52	170.85	0.0422	255.68
5	74.80	214.45	0.2300	7.69
6	76.98	221.00	0.0000	0.00
7	86.72	248.23	0.1572	15.84
8	105.35	301.81	0.1710	13.65
9	123.04	352.49	0.0498	146.62
10	227.91	652.28	0.3375	3.45
11	247.85	709.48	0.0853	46.40
12	277.60	794.52	0.2769	4.77
13	344.22	985.12	0.1865	10.19
14	414.79	1187.03	0.1104	26.45
15	438.78	1255.81	0.3557	3.41
16	444.42	1271.86	0.2171	7.13
17	511.04	1462.27	0.1144	14.85
18	557.50	1595.30	0.2972	3.03
19	582.08	1665.22	0.1620	11.16
20	591.77	1693.29	0.0852	38.95
21	609.46	1743.94	0.2551	5.43
22	625.26	1789.06	0.2888	3.63
23	661.62	1893.18	0.0649	64.51
24	666.32	1906.67	0.0988	27.90
25	676.91	1936.84	0.3183	3.74
26	692.46	1980.65	0.1656	13.12
27	695.04	1988.96	0.1129	23.17
28	715.81	2048.20	0.2810	3.73
29	723.28	2069.59	0.0537	88.52
30	756.79	2165.47	0.0860	33.00
31	778.99	2228.87	0.2055	5.68
32	815.47	2333.26	0.1780	8.07
33	845.59	2419.36	0.1715	8.51
34	873.15	2498.34	0.0626	62.34
35	892.79	2554.40	0.1955	5.78
36	904.04	2586.65	0.1496	11.34
37	964.15	2758.45	0.1904	6.69
38	996.23	2850.49	0.0652	53.66
39	1004.72	2874.71	0.0563	73.73
40	1086.05	3106.92	0.2144	5.48
41	1111.38	3180.24	0.2050	3.48
42	1128.10	3227.59	0.1677	8.58
43	1141.19	3264.38	0.2307	4.18
44	1173.14	3356.63	0.0544	74.08
45	1214.21	3473.51	0.2914	3.74
46	1246.06	3565.00	0.1405	10.97
47	1274.35	3646.10	0.0480	90.17
48	1332.38	3812.16	0.0549	67.26
49	1397.28	3997.73	0.1377	10.13
50	1407.87	4028.02	0.1347	10.22
51	1460.73	4179.04	0.1843	6.39
52	1468.40	4199.51	0.3070	3.13
53	1493.95	4274.33	0.1349	10.04
54	1596.24	4567.14	0.1012	17.62
55	1719.12	4918.17	0.1678	6.91

Analysis Report for 24-2302 VSM-4.5M-S1-CST-A U3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
56	1764.11	5046.91	0.2023	4.29
57	2505.12	7167.15	0.1554	7.75
58	2613.74	7477.84	0.2133	3.80

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2302 VSM-4.5M-S1-CST-A U3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 2:57:48PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.77	116	126	122.86	1.58E+04	2138.05	5.38E+05	1.05
F	2	48.76	133	146	139.98	1.21E+04	2742.70	8.30E+05	1.45
M	3	57.09	157	177	163.82	1.21E+04	649.23	7.86E+05	1.14
m	4	59.52	157	177	170.76	6.95E+05	3522.03	8.27E+05	1.14
M	5	74.80	212	228	214.48	7.08E+03	563.31	4.08E+05	1.03
m	6	76.98	212	228	220.70	6.59E+02	447.67	6.30E+05	1.03
F	7	86.72	245	255	248.57	2.43E+04	655.70	5.71E+05	1.52
F	8	105.35	297	309	301.88	1.55E+04	2867.28	5.34E+05	1.38
F	9	123.04	345	360	352.48	1.85E+05	2318.81	5.15E+05	1.22
F	10	227.91	649	661	652.46	8.69E+02	256.90	1.13E+05	1.03
F	11	247.85	704	718	709.50	2.16E+04	276.37	1.06E+05	1.29
F	12	277.60	791	803	794.60	1.41E+03	210.00	6.89E+04	1.20
F	13	344.22	980	991	985.18	2.08E+03	166.77	3.76E+04	1.20
F	14	414.79	1178	1196	1187.06	6.81E+03	599.12	3.69E+04	1.51
M	15	438.78	1252	1276	1255.70	1.67E+02	107.86	1.53E+04	1.21
m	16	444.42	1252	1276	1271.83	1.05E+03	126.18	1.82E+04	1.21
F	17	511.04	1451	1473	1462.40	1.26E+04	155.95	2.74E+04	2.77
F	18	557.50	1590	1603	1595.32	4.51E+02	98.78	1.30E+04	1.57
F	19	582.08	1655	1671	1665.62	1.77E+03	125.42	1.40E+04	1.14
F	20	591.77	1686	1700	1693.34	8.97E+03	480.99	1.15E+04	1.68
F	21	609.46	1735	1748	1743.95	4.80E+02	276.63	1.01E+04	1.09
F	22	625.26	1781	1798	1789.14	5.97E+02	358.51	1.21E+04	1.77
M	23	661.62	1883	1916	1893.18	1.94E+04	464.50	1.08E+04	1.75
m	24	666.32	1883	1916	1906.60	5.31E+03	158.42	1.07E+04	1.75
F	25	676.91	1933	1941	1936.90	2.23E+02	71.24	5.15E+03	1.04
M	26	692.46	1974	1999	1981.38	2.77E+03	91.86	8.47E+03	1.76
m	27	695.04	1974	1999	1988.77	5.03E+03	104.06	9.97E+03	1.76
	28	715.81	2036	2053	2048.20	5.87E+01	225.94	9.25E+03	0.91
F	29	723.28	2057	2081	2069.57	3.29E+04	491.29	1.25E+04	1.77
F	30	756.79	2153	2175	2165.41	7.50E+03	336.65	9.64E+03	1.93
F	31	778.99	2221	2235	2228.93	6.85E+02	74.23	6.31E+03	1.81
F	32	815.47	2327	2341	2333.28	9.04E+02	69.11	4.94E+03	1.86
F	33	845.59	2409	2427	2419.45	1.20E+03	170.14	5.83E+03	2.20
F	34	873.15	2486	2510	2498.30	1.74E+04	370.51	7.29E+03	1.94
F	35	892.79	2541	2561	2554.47	7.95E+02	65.18	5.90E+03	2.20
F	36	904.04	2576	2593	2586.67	1.46E+03	243.17	4.50E+03	1.87
F	37	964.15	2752	2765	2758.62	5.57E+02	60.24	3.47E+03	1.77
F	38	996.23	2838	2859	2850.39	1.45E+04	345.99	5.06E+03	2.07
F	39	1004.72	2861	2884	2874.66	2.47E+04	395.60	5.21E+03	2.07
F	40	1086.05	3098	3112	3107.34	4.16E+02	176.50	2.50E+03	1.43

Analysis Report for 24-2302 VSM-4.5M-S1-CST-A U3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1111.38	3172	3189	3179.80	6.95E+02	354.21	2.68E+03	3.06
F	42	1128.10	3218	3241	3227.63	8.37E+02	189.56	2.81E+03	2.18
F	43	1141.19	3257	3275	3265.08	4.31E+02	44.74	2.03E+03	2.69
F	44	1173.14	3342	3368	3356.49	2.61E+04	351.13	2.51E+03	2.20
F	45	1214.21	3459	3478	3473.98	2.75E+02	409.19	1.10E+03	1.36
F	46	1246.06	3557	3574	3565.09	9.16E+02	41.63	1.02E+03	2.35
F	47	1274.35	3631	3660	3646.01	4.03E+04	379.51	1.66E+03	2.35
F	48	1332.38	3797	3825	3812.03	2.35E+04	310.43	1.32E+03	2.40
F	49	1397.28	3989	4007	3997.70	8.14E+02	33.92	4.51E+02	2.60
F	50	1407.87	4020	4037	4028.00	7.95E+02	33.94	4.10E+02	2.53
M	51	1460.73	4169	4204	4179.20	3.07E+02	20.92	3.95E+02	2.53
m	52	1468.40	4169	4204	4201.16	1.76E+01	12.25	2.83E+02	2.53
F	53	1493.95	4263	4284	4274.24	7.62E+02	95.46	3.30E+02	2.61
F	54	1596.24	4552	4580	4566.88	2.10E+03	103.60	2.61E+02	2.74
F	55	1719.12	4908	4929	4918.42	2.33E+02	17.54	9.75E+01	2.44
F	56	1764.11	5038	5058	5047.13	1.43E+02	14.35	7.97E+01	2.72
F	57	2505.12	7152	7177	7167.07	2.68E+02	43.81	3.36E+01	2.53
F	58	2613.74	7468	7489	7477.83	1.02E+02	38.11	6.01E+00	3.46

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 2:57:48PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567381.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.77	1.58E+04	2138.05			1.58E+04	2.14E+03
F	2	48.76	1.21E+04	2742.70			1.21E+04	2.74E+03
M	3	57.09	1.21E+04	649.23			1.21E+04	6.49E+02
m	4	59.52	6.95E+05	3522.03			6.95E+05	3.52E+03
M	5	74.80	7.08E+03	563.31	3.79E+02	2.12E+01	6.70E+03	5.64E+02
m	6	76.98	6.59E+02	447.67	1.15E+02	7.12E+00	5.45E+02	4.48E+02
F	7	86.72	2.43E+04	655.70	7.98E+01	8.28E+00	2.42E+04	6.56E+02
F	8	105.35	1.55E+04	2867.28			1.55E+04	2.87E+03
F	9	123.04	1.85E+05	2318.81			1.85E+05	2.32E+03
F	10	227.91	8.69E+02	256.90			8.69E+02	2.57E+02
F	11	247.85	2.16E+04	276.37			2.16E+04	2.76E+02

Analysis Report for 24-2302 VSM-4.5M-S1-CST-A U3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	12	277.60	1.41E+03	210.00			1.41E+03	2.10E+02
F	13	344.22	2.08E+03	166.77			2.08E+03	1.67E+02
F	14	414.79	6.81E+03	599.12			6.81E+03	5.99E+02
M	15	438.78	1.67E+02	107.86			1.67E+02	1.08E+02
m	16	444.42	1.05E+03	126.18			1.05E+03	1.26E+02
F	17	511.04	1.26E+04	155.95			1.26E+04	1.56E+02
F	18	557.50	4.51E+02	98.78			4.51E+02	9.88E+01
F	19	582.08	1.77E+03	125.42			1.77E+03	1.25E+02
F	20	591.77	8.97E+03	480.99			8.97E+03	4.81E+02
F	21	609.46	4.80E+02	276.63			4.80E+02	2.77E+02
F	22	625.26	5.97E+02	358.51			5.97E+02	3.59E+02
M	23	661.62	1.94E+04	464.50			1.94E+04	4.65E+02
m	24	666.32	5.31E+03	158.42			5.31E+03	1.58E+02
F	25	676.91	2.23E+02	71.24			2.23E+02	7.12E+01
M	26	692.46	2.77E+03	91.86			2.77E+03	9.19E+01
m	27	695.04	5.03E+03	104.06			5.03E+03	1.04E+02
	28	715.81	5.87E+01	225.94			5.87E+01	2.26E+02
F	29	723.28	3.29E+04	491.29	9.15E+00	1.65E+00	3.29E+04	4.91E+02
F	30	756.79	7.50E+03	336.65			7.50E+03	3.37E+02
F	31	778.99	6.85E+02	74.23			6.85E+02	7.42E+01
F	32	815.47	9.04E+02	69.11			9.04E+02	6.91E+01
F	33	845.59	1.20E+03	170.14			1.20E+03	1.70E+02
F	34	873.15	1.74E+04	370.51			1.74E+04	3.71E+02
F	35	892.79	7.95E+02	65.18			7.95E+02	6.52E+01
F	36	904.04	1.46E+03	243.17			1.46E+03	2.43E+02
F	37	964.15	5.57E+02	60.24	2.98E+01	1.74E+00	5.27E+02	6.03E+01
F	38	996.23	1.45E+04	345.99	2.63E+01	5.68E+00	1.45E+04	3.46E+02
F	39	1004.72	2.47E+04	395.60			2.47E+04	3.96E+02
F	40	1086.05	4.16E+02	176.50			4.16E+02	1.77E+02
F	41	1111.38	6.95E+02	354.21			6.95E+02	3.54E+02
F	42	1128.10	8.37E+02	189.56			8.37E+02	1.90E+02
F	43	1141.19	4.31E+02	44.74			4.31E+02	4.47E+01
F	44	1173.14	2.61E+04	351.13			2.61E+04	3.51E+02
F	45	1214.21	2.75E+02	409.19			2.75E+02	4.09E+02
F	46	1246.06	9.16E+02	41.63			9.16E+02	4.16E+01
F	47	1274.35	4.03E+04	379.51			4.03E+04	3.80E+02
F	48	1332.38	2.35E+04	310.43			2.35E+04	3.10E+02
F	49	1397.28	8.14E+02	33.92			8.14E+02	3.39E+01
F	50	1407.87	7.95E+02	33.94			7.95E+02	3.39E+01
M	51	1460.73	3.07E+02	20.92			3.07E+02	2.09E+01
m	52	1468.40	1.76E+01	12.25			1.76E+01	1.22E+01
F	53	1493.95	7.62E+02	95.46			7.62E+02	9.55E+01
F	54	1596.24	2.10E+03	103.60			2.10E+03	1.04E+02
F	55	1719.12	2.33E+02	17.54			2.33E+02	1.75E+01
F	56	1764.11	1.43E+02	14.35			1.43E+02	1.43E+01
F	57	2505.12	2.68E+02	43.81			2.68E+02	4.38E+01
F	58	2613.74	1.02E+02	38.11			1.02E+02	3.81E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2302 VSM-4.5M-S1-CST-A U3

ASR 2094 Branch

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.99	1460.83	*	10.67	8.23E-04	5.69E-05	miss
CO-57	0.69	122.06	*	85.60	1.40E-02	2.16E-04	1.000
		136.47		10.68			
CO-60	0.99	1173.24	*	99.97	6.60E-03	9.38E-05	0.961
		1332.50	*	99.99	6.54E-03	9.37E-05	0.960
		2505.74	*	1.00	1.19E-02	2.04E-03	miss
RH-106	0.39	511.86	*	20.70	8.57E-03	2.80E-04	0.972
		621.92		9.93			
		1050.36		1.56			
SB-126	0.50	223.90		1.39			
		278.20	*	2.40	6.46E-03	2.14E-03	0.846
		296.50		4.50			
		414.70	*	83.30	1.13E-03	1.05E-04	0.864
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.01E-03	3.06E-05	0.861
		674.80		3.10			
		695.00	*	99.60	9.87E-04	2.10E-05	0.861
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30	*	2.39	3.29E-03	4.91E-03	0.870
Sn-126	0.71	64.28		9.60			
		87.30	*	45.90	3.44E-03	1.80E-04	miss
CS-137	1.00	661.66	*	85.20	3.69E-03	9.07E-05	miss
EU-152	0.47	121.78		28.58			
		344.28	*	26.50	8.59E-04	7.20E-05	0.968
		778.90	*	12.94	1.01E-03	1.09E-04	0.956
		964.08	*	14.73	7.85E-04	8.98E-05	0.962
		1085.87	*	10.24	9.26E-04	3.93E-04	1.009
		1112.07	*	13.69	1.21E-03	6.18E-04	0.979
		1408.01	*	21.07	1.08E-03	4.67E-05	0.970
EU-154	0.99	42.70	*	20.45	2.24E-02	3.17E-03	miss
		123.07	*	40.40	3.10E-02	5.74E-04	0.953
		247.93	*	6.89	2.92E-02	5.55E-04	0.938
		591.76	*	4.95	2.95E-02	1.62E-03	0.927
		692.42	*	1.78	2.77E-02	9.77E-04	0.942

Analysis Report for 24-2302 VSM-4.5M-S1-CST-A U3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.99	723.30	*	20.06	3.00E-02	5.59E-04	0.946
		756.80	*	4.52	3.21E-02	1.48E-03	0.923
		873.18	*	12.08	3.02E-02	7.30E-04	0.939
		996.29	*	10.48	3.02E-02	7.90E-04	0.985
		1004.76	*	18.01	3.05E-02	5.93E-04	0.975
		1246.12	*	0.86	2.91E-02	1.38E-03	0.933
		1274.43	*	34.80	3.06E-02	4.26E-04	0.977
		1494.05	*	0.70	3.12E-02	3.93E-03	1.017
		1596.48	*	1.80	3.04E-02	1.55E-03	1.177
EU-155	0.99	43.00	*	18.70	2.45E-02	3.45E-03	1.000
		60.01	*	1.22	6.03E+00	2.13E-01	0.998
		86.55	*	30.70	5.15E-03	1.89E-04	free
		105.31	*	21.10	4.59E-03	8.55E-04	1.000
NP-239	0.21	99.60		12.80			
		103.80		20.40			
		106.10	*	26.40	5.03E-03	9.29E-04	0.983
		116.90		7.61			
		228.20	*	11.20	8.83E-04	2.61E-04	0.987
		277.60	*	14.50	1.24E-03	1.85E-04	0.982
		315.90		1.60			
		334.30		2.06			
AM-241	1.00	59.54	*	35.90	2.05E-01	4.32E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.998	8.23E-04	5.69E-05	
CO-57	0.697	4.32E-04	2.30E-04	

Analysis Report for 24-2302 VSM-4.5M-S1-CST-A U3

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.998	6.57E-03	6.62E-05	
RH-106	0.394	8.57E-03	2.80E-04	
SB-126	0.507	9.99E-04	1.71E-05	
Sn-126	0.716	1.46E-03	5.66E-04	
CS-137	1.000	3.69E-03	9.07E-05	
EU-152	0.470	9.82E-04	3.39E-05	
EU-154	0.999	3.00E-02	1.83E-04	
EU-155	0.995	2.96E-03	8.33E-04	
NP-239	0.212	1.01E-03	1.51E-04	
AM-241	1.000	2.04E-01	2.64E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2302 VSM-4.5M-S1-CST-A U3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 2:57:48PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	48.76	1.08015E+00	22.75		
M	3	57.09	1.08133E+00	5.38		
M	5	74.80	6.00324E-01	8.41		
m	6	76.98	4.87993E-02	82.22		
M	15	438.78	1.49259E-02	64.76	D-Esc	
m	16	444.42	9.45248E-02	11.96		
F	18	557.50	4.04310E-02	21.89		
F	19	582.08	1.58778E-01	7.08		
F	21	609.46	4.29847E-02	57.67		
F	22	625.26	5.34597E-02	60.10		
F	25	676.91	2.00122E-02	31.90	Tol.	AG-110M
	28	715.81	5.26055E-03	384.90		
F	32	815.47	8.10005E-02	7.65	Sum	
F	33	845.59	1.07152E-01	14.23	Sum	
F	35	892.79	7.12277E-02	8.20		
F	36	904.04	1.30523E-01	16.70		
F	42	1128.10	7.49694E-02	22.66	Sum	
F	43	1141.19	3.85790E-02	10.39		
F	49	1397.28	7.29027E-02	4.17	Sum	
m	52	1468.40	1.58113E-03	69.40		
F	55	1719.12	2.08994E-02	7.52	Sum	
F	56	1764.11	1.28467E-02	10.01	Sum	
F	58	2613.74	9.14452E-03	37.35		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2302 VSM-4.5M-S1-CST-A U3

ASR 2094 Branch

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	1.20E-03	1.20E-03	2.14E-03	5.98E-04
+	K-40	1460.83	*	10.67	2.55E-04	2.55E-04	8.23E-04	1.24E-04
	MN-54	834.84		99.98	9.61E-05	9.61E-05	3.40E-05	4.78E-05
	CO-58	810.78		99.45	1.03E-04	1.03E-04	1.31E-05	5.10E-05
		863.96		0.68	1.46E-02		-2.24E-02	7.24E-03
		1674.73		0.52	4.78E-03		-2.60E-03	2.31E-03
	FE-59	142.65		1.00	2.29E-02	1.24E-04	1.28E-02	1.14E-02
		192.35		3.01	6.88E-03		7.92E-04	3.44E-03
		334.80		0.27	5.26E-02		-3.67E-02	2.62E-02
		1099.25		56.30	1.54E-04		8.45E-05	7.66E-05
		1291.60		43.70	1.24E-04		-1.01E-04	6.09E-05
+	CO-60	1173.24	*	99.97	1.17E-04	9.63E-05	6.60E-03	5.82E-05
		1332.50	*	99.99	9.63E-05		6.54E-03	4.78E-05
		2505.74	*	1.00	2.49E-03		1.19E-02	1.18E-03
	SR-85	514.00		96.00	1.44E-04	1.44E-04	-3.24E-05	7.20E-05
		868.60		0.01	1.27E+00		-3.72E-01	6.35E-01
	NB-94	702.62		97.90	1.11E-04	1.11E-04	1.46E-04	5.50E-05
		871.09		99.98	1.60E-04		8.14E-06	7.99E-05
	NB-95	765.81		99.81	1.05E-04	1.05E-04	-3.83E-05	5.25E-05
	RU-103	497.05		91.00	1.34E-04	1.34E-04	8.18E-05	6.67E-05
		610.30		5.76	1.93E-03		2.74E-03	9.61E-04
+	RH-106	511.86	*	20.70	9.65E-04	9.65E-04	8.57E-03	4.82E-04
		621.92		9.93	1.14E-03		-1.57E-05	5.68E-04
		1050.36		1.56	6.43E-03		6.12E-03	3.20E-03
	AG-108M	79.13		6.60	5.05E-03	1.33E-04	-7.50E-04	2.53E-03
		433.90		90.50	1.56E-04		2.09E-04	7.78E-05
		614.30		89.80	1.33E-04		5.09E-05	6.63E-05
		722.90		90.80	2.19E-04		7.03E-03	1.09E-04
	CD-109	88.03		3.61	8.37E-03	8.37E-03	5.23E-02	4.18E-03
	SB-125	176.31		6.82	3.03E-03	4.39E-04	3.39E-03	1.51E-03
		380.45		1.52	9.14E-03		5.84E-03	4.56E-03
		427.87		29.55	4.39E-04		-2.85E-04	2.19E-04
		463.36		10.48	1.19E-03		-9.81E-04	5.94E-04
		600.60		17.76	6.13E-04		2.74E-04	3.05E-04
		606.71		5.02	2.17E-03		-9.92E-04	1.08E-03
		635.95		11.32	9.32E-04		9.43E-05	4.64E-04
		671.44		1.78	6.65E-03		1.42E-03	3.31E-03
+	SB-126	223.90		1.39	1.27E-02	9.16E-05	6.73E-05	6.36E-03
		278.20	*	2.40	8.20E-03		6.46E-03	4.09E-03
		296.50		4.50	4.03E-03		-1.51E-03	2.01E-03
		414.70	*	83.30	2.52E-04		1.13E-03	1.26E-04
		556.30		1.69	8.23E-03		1.11E-02	4.10E-03
		573.90		6.70	2.01E-03		2.47E-04	1.00E-03
		593.20		7.50	1.95E-03		2.07E-02	9.74E-04
		656.30		2.19	7.68E-03		-2.87E-03	3.83E-03

Analysis Report for 24-2302 VSM-4.5M-S1-CST-A U3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-126	666.50	*	99.60	9.20E-05	9.16E-05	1.01E-03	4.58E-05
		674.80		3.10	4.14E-03		3.14E-03	2.06E-03
		695.00	*	99.60	9.16E-05		9.87E-04	4.55E-05
		697.00		29.00	5.22E-04		2.68E-04	2.60E-04
		720.70		53.80	4.00E-04		1.90E-05	2.00E-04
		856.80		17.60	6.21E-04		-1.12E-03	3.09E-04
		989.60		6.80	1.99E-03		3.23E-04	9.89E-04
		1213.30	*	2.39	3.23E-03		3.29E-03	1.60E-03
+	Sn-126	64.28		9.60	4.76E-03	6.87E-04	2.58E-03	2.38E-03
		87.30	*	45.90	6.87E-04		3.44E-03	3.43E-04
	I-129	29.70		56.60	1.23E-02	1.23E-02	-4.72E-02	6.15E-03
		33.60		10.04	3.29E-02		-7.97E-02	1.64E-02
		34.40		2.01	1.45E-01		-4.08E-01	7.23E-02
		39.60		7.51	2.20E-02		-2.25E-02	1.10E-02
	CS-134	563.25		8.34	1.49E-03	1.18E-04	5.96E-04	7.42E-04
		569.33		15.37	8.03E-04		4.77E-04	4.00E-04
		604.72		97.62	1.18E-04		3.73E-05	5.88E-05
		795.86		85.46	1.24E-04		-2.49E-05	6.19E-05
		801.95		8.69	1.24E-03		4.39E-04	6.18E-04
+	CS-137	661.66	*	85.20	9.27E-05	9.27E-05	3.69E-03	4.61E-05
	CE-139	165.85		79.89	2.71E-04	2.71E-04	5.62E-05	1.35E-04
	CE-141	40.70		3.35	4.57E-02	4.71E-04	-1.83E-02	2.28E-02
		145.44		48.29	4.71E-04		2.82E-05	2.35E-04
	CE-144	80.12		1.36	2.42E-02	2.12E-03	-2.56E-02	1.21E-02
		133.51		11.09	2.12E-03		-2.96E-04	1.06E-03
+	EU-152	121.78		28.58	9.97E-04	2.16E-04	-4.46E-05	4.98E-04
		344.28	*	26.50	5.30E-04		8.59E-04	2.64E-04
		778.90	*	12.94	8.42E-04		1.01E-03	4.19E-04
		964.08	*	14.73	6.18E-04		7.85E-04	3.07E-04
		1085.87	*	10.24	8.04E-04		9.26E-04	3.99E-04
		1112.07	*	13.69	7.03E-04		1.21E-03	3.49E-04
		1408.01	*	21.07	2.16E-04		1.08E-03	1.06E-04
	GD-153	97.43		29.00	9.49E-04	9.49E-04	1.39E-03	4.74E-04
		103.18		21.10	1.26E-03		-1.25E-03	6.31E-04
+	EU-154	42.70	*	20.45	6.66E-03	2.99E-04	2.24E-02	3.33E-03
		123.07	*	40.40	8.86E-04		3.10E-02	4.43E-04
		247.93	*	6.89	3.17E-03		2.92E-02	1.58E-03
		591.76	*	4.95	2.53E-03		2.95E-02	1.26E-03
		692.42	*	1.78	4.32E-03		2.77E-02	2.14E-03
		723.30	*	20.06	9.06E-04		3.00E-02	4.52E-04
		756.80	*	4.52	3.60E-03		3.21E-02	1.79E-03
		873.18	*	12.08	1.32E-03		3.02E-02	6.57E-04
		996.29	*	10.48	1.26E-03		3.02E-02	6.28E-04
		1004.76	*	18.01	7.85E-04		3.05E-02	3.91E-04
		1246.12	*	0.86	7.93E-03		2.91E-02	3.92E-03
		1274.43	*	34.80	2.99E-04		3.06E-02	1.48E-04
		1494.05	*	0.70	6.36E-03		3.12E-02	3.12E-03
		1596.48	*	1.80	2.25E-03		3.04E-02	1.10E-03
+	EU-155	43.00	*	18.70	7.28E-03	1.03E-03	2.45E-02	3.64E-03
		60.01	*	1.22	3.68E-02		6.03E+00	1.84E-02
		86.55	*	30.70	1.03E-03		5.15E-03	5.13E-04
		105.31	*	21.10	1.47E-03		4.59E-03	7.34E-04
	HG-203	72.87		6.30	6.03E-03	1.98E-04	-5.14E-03	3.01E-03

Analysis Report for 24-2302 VSM-4.5M-S1-CST-A U3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	HG-203	279.20		81.46	1.98E-04	1.98E-04	2.00E-04	9.90E-05
	BI-207	569.15		97.80	1.23E-04	1.23E-04	7.32E-05	6.14E-05
		1063.10		74.90	1.29E-04		1.49E-04	6.42E-05
	PB-210	46.54		4.25	2.26E-02	2.26E-02	-2.53E-02	1.13E-02
	RA-226	74.81		6.44	5.61E-03	1.80E-04	-2.28E-03	2.80E-03
		77.11		10.80	3.21E-03		4.90E-04	1.60E-03
		87.30		4.84	6.29E-03		4.44E-02	3.14E-03
		186.21		3.59	5.57E-03		1.19E-03	2.78E-03
		242.00		7.43	2.35E-03		2.49E-04	1.17E-03
		295.22		19.30	7.89E-04		2.04E-04	3.94E-04
		351.93		37.60	3.62E-04		-2.18E-04	1.81E-04
		609.31		46.10	2.36E-04		1.57E-04	1.18E-04
		768.36		4.94	2.09E-03		1.98E-03	1.04E-03
		1120.29		15.10	5.61E-04		6.03E-04	2.78E-04
		1238.11		5.79	1.08E-03		-2.58E-04	5.35E-04
		1764.49		15.40	1.80E-04		4.57E-04	8.70E-05
	PA-231	283.70		1.59	9.84E-03	6.33E-03	-7.18E-03	4.91E-03
		300.07		2.38	6.33E-03		2.77E-03	3.16E-03
		302.67		1.71	8.77E-03		3.95E-03	4.38E-03
		330.07		1.32	1.07E-02		8.95E-03	5.36E-03
	TH-232	74.81		11.62	3.11E-03	7.14E-05	-1.27E-03	1.55E-03
		77.11		17.50	1.98E-03		3.03E-04	9.89E-04
		87.30		7.80	3.90E-03		2.76E-02	1.95E-03
		238.63		43.30	4.07E-04		1.07E-04	2.03E-04
		338.32		11.30	1.23E-03		1.67E-04	6.14E-04
		583.19		30.37	3.76E-04		7.96E-04	1.87E-04
		727.33		6.58	2.73E-03		-6.68E-05	1.36E-03
		911.21		26.60	3.48E-04		1.44E-04	1.73E-04
		968.97		16.20	5.87E-04		2.40E-04	2.92E-04
		2614.53		35.64	7.14E-05		1.26E-04	3.39E-05
	U-235	143.76		10.96	2.05E-03	3.50E-04	-1.02E-03	1.02E-03
		185.71		57.20	3.50E-04		1.07E-04	1.75E-04
		205.31		5.01	3.74E-03		-1.21E-03	1.87E-03
	U-238	63.29		3.70	1.31E-02	6.71E-03	6.70E-03	6.53E-03
		92.51		4.23	6.71E-03		-8.34E-04	3.35E-03
		112.81		0.21	1.17E-01		-8.39E-02	5.86E-02
		742.81		0.11	9.68E-02		-4.07E-02	4.82E-02
		766.28		0.32	3.26E-02		3.12E-02	1.62E-02
		1001.03		0.84	2.60E-02		8.68E-01	1.29E-02
+	NP-239	99.60		12.80	2.81E-03	1.57E-03	-1.02E-03	1.41E-03
		103.80		20.40	1.73E-03		-1.59E-03	8.66E-04
		106.10	*	26.40	1.61E-03		5.03E-03	8.04E-04
		116.90		7.61	4.28E-03		2.48E-04	2.14E-03
		228.20	*	11.20	2.33E-03		8.83E-04	1.16E-03
		277.60	*	14.50	1.57E-03		1.24E-03	7.85E-04
		315.90		1.60	1.20E-02		-4.01E-03	5.98E-03
		334.30		2.06	8.55E-03		-9.21E-03	4.27E-03
+	AM-241	59.54	*	35.90	1.25E-03	1.25E-03	2.05E-01	6.23E-04

Analysis Report for 24-2302 VSM-4.5M-S1-CST-A U3

ASR 2094 Branch

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

Apex-Gamma

Analysis Report for 24-2303 VSM-4.5M-S1-CST-d-A U3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2303 VSM-4.5M-S1-CST-d-A U3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 3:28:29PM
Procedure	: U3_gsv02mlw
Operator	: Administrator
Detector Name	: U
Geometry	: U3_gsv02mlw
Live Time	: 14400.0 seconds
Real Time	: 14894.1 seconds
Dead Time	: 3.32 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 7/10/2024
Efficiency Calibration Used Done On	: 6/7/2021
Efficiency Calibration Description	: U3_gsv2mlw_R724p
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567834
Certificate Name	: R735-A6 5ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 7:36:48PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2303 VSM-4.5M-S1-CST-d-A U3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.78	123.17	0.1848	11.59
2	48.77	139.71	0.2677	6.23
3	57.11	165.00	0.0000	0.00
4	59.52	170.85	0.0395	293.04
5	74.74	214.17	0.2190	9.14
6	86.72	248.32	0.1435	19.72
7	105.39	301.90	0.1611	16.16
8	123.04	352.48	0.0464	168.88
9	125.56	359.00	0.0000	0.00
10	247.86	709.49	0.0795	53.40
11	277.51	794.40	0.2852	4.16
12	295.63	846.15	0.3621	3.34
13	344.28	985.35	0.1825	10.81
14	401.13	1147.92	0.3362	3.63
15	414.73	1186.87	0.1006	32.12
16	444.30	1271.48	0.2169	6.08
17	511.03	1462.12	0.1076	14.02
18	582.00	1665.27	0.1581	11.15
19	591.74	1693.21	0.0791	45.63
20	609.82	1743.20	0.2991	3.96
21	625.03	1788.57	0.2589	3.85
22	661.61	1893.10	0.0608	74.30
23	666.29	1906.52	0.0911	33.19
24	692.38	1980.50	0.1570	14.01
25	695.02	1988.94	0.1025	28.05
26	715.48	2047.32	0.2955	3.62
27	723.28	2069.58	0.0503	101.11
28	756.79	2165.41	0.0801	39.75
29	778.83	2228.12	0.2251	5.00
30	815.33	2332.82	0.1738	8.66
31	845.61	2419.61	0.1583	8.85
32	850.72	2433.68	0.2510	4.25
33	873.16	2498.39	0.0588	69.64
34	880.28	2518.78	0.2552	3.38
35	892.92	2554.84	0.1799	6.55
36	904.14	2586.79	0.1471	11.16
37	964.12	2758.56	0.1888	6.64
38	996.24	2850.49	0.0607	61.80
39	1004.70	2874.66	0.0524	85.07
40	1080.78	3091.93	0.2923	3.11
41	1086.00	3106.98	0.2038	5.79
42	1111.83	3181.50	0.1770	6.62
43	1118.02	3198.02	0.3049	3.32
44	1128.08	3227.70	0.1647	7.78
45	1140.59	3263.28	0.2257	3.76
46	1173.14	3356.58	0.0510	81.31
47	1241.18	3551.18	0.3241	3.09
48	1246.05	3565.16	0.1263	13.71
49	1274.34	3646.10	0.0447	103.82
50	1332.39	3812.14	0.0507	80.33
51	1360.99	3892.67	0.2649	3.32
52	1397.26	3997.73	0.1251	13.81
53	1407.91	4028.15	0.1252	13.00
54	1460.61	4178.92	0.1714	7.59
55	1486.45	4253.91	0.3166	3.07

Analysis Report for 24-2303 VSM-4.5M-S1-CST-d-A U3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
56	1493.84	4274.27	0.1254	11.90
57	1596.32	4567.12	0.0934	23.28
58	1719.07	4918.55	0.1567	7.60
59	1764.18	5047.98	0.2194	3.48
60	2504.90	7167.18	0.1500	7.31
61	2614.13	7478.73	0.1848	5.13

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2303 VSM-4.5M-S1-CST-d-A U3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 7:36:48PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.78	116	126	122.87	2.23E+04	3145.96	6.96E+05	1.28
F	2	48.77	132	146	140.03	1.38E+04	754.23	1.15E+06	1.33
M	3	57.11	157	177	163.86	1.59E+04	739.71	1.02E+06	1.14
m	4	59.52	157	177	170.76	9.06E+05	4005.49	1.07E+06	1.14
F	5	74.74	211	221	214.31	1.12E+04	727.48	8.25E+05	1.17
F	6	86.72	243	255	248.57	3.62E+04	4090.67	8.77E+05	1.55
F	7	105.39	298	309	301.99	1.81E+04	631.65	6.39E+05	1.26
M	8	123.04	346	367	352.48	2.41E+05	2749.13	5.05E+05	1.21
m	9	125.56	346	367	359.69	2.01E+03	501.63	4.80E+05	1.21
F	10	247.86	703	718	709.53	2.90E+04	316.43	1.47E+05	1.30
F	11	277.51	790	798	794.36	1.29E+03	237.97	6.30E+04	1.19
F	12	295.63	843	855	846.19	8.18E+02	1091.86	7.56E+04	0.92
F	13	344.28	981	995	985.37	2.90E+03	191.16	5.96E+04	1.28
F	14	401.13	1144	1151	1147.98	4.13E+02	147.23	2.21E+04	0.96
F	15	414.73	1180	1197	1186.89	9.18E+03	785.07	4.51E+04	1.47
F	16	444.30	1264	1282	1271.48	2.61E+03	785.39	3.99E+04	2.12
F	17	511.03	1451	1473	1462.37	1.61E+04	177.55	3.58E+04	2.81
F	18	582.00	1659	1676	1665.41	2.02E+03	113.43	1.92E+04	1.61
F	19	591.74	1687	1702	1693.27	1.15E+04	146.50	1.64E+04	1.62
F	20	609.82	1739	1750	1744.99	8.10E+02	121.54	1.10E+04	3.41
F	21	625.03	1783	1794	1788.50	6.21E+02	99.77	1.07E+04	1.69
M	22	661.61	1883	1918	1893.14	2.49E+04	506.04	1.31E+04	1.75
m	23	666.29	1883	1918	1906.52	7.33E+03	185.21	1.26E+04	1.75
M	24	692.38	1968	2000	1981.16	3.81E+03	104.45	1.28E+04	1.80
m	25	695.02	1968	2000	1988.72	7.06E+03	120.28	1.33E+04	1.80
F	26	715.48	2040	2054	2047.25	3.42E+02	268.55	9.81E+03	1.16
F	27	723.28	2057	2081	2069.56	4.27E+04	560.12	1.58E+04	1.77
F	28	756.79	2154	2174	2165.41	9.12E+03	122.65	1.18E+04	1.83
F	29	778.83	2220	2236	2228.48	7.16E+02	84.30	9.39E+03	1.88
F	30	815.33	2325	2345	2332.90	1.21E+03	80.21	9.37E+03	1.96
M	31	845.61	2411	2441	2419.52	1.56E+03	80.00	7.32E+03	2.15
m	32	850.72	2411	2441	2434.13	5.28E+02	70.61	8.38E+03	2.15
M	33	873.16	2488	2526	2498.33	2.26E+04	446.66	7.20E+03	1.95
m	34	880.28	2488	2526	2518.69	3.93E+02	66.74	6.84E+03	1.95
F	35	892.92	2544	2563	2554.85	1.09E+03	120.49	6.97E+03	2.28
F	36	904.14	2581	2599	2586.94	1.47E+03	76.36	6.56E+03	1.98
F	37	964.12	2746	2769	2758.53	1.18E+03	297.00	7.34E+03	2.21
F	38	996.24	2839	2860	2850.42	1.92E+04	387.38	6.39E+03	2.08
F	39	1004.70	2863	2887	2874.62	3.21E+04	450.83	7.36E+03	2.05
M	40	1080.78	3084	3112	3092.28	2.50E+02	99.03	3.38E+03	1.63

Analysis Report for 24-2303 VSM-4.5M-S1-CST-d-A U3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
m	41	1086.00	3084	3112	3107.21	6.41E+02	170.98	5.94E+03	1.63
M	42	1111.83	3170	3211	3181.09	1.07E+03	259.64	4.26E+03	2.50
m	43	1118.02	3170	3211	3198.80	4.09E+02	95.78	6.14E+03	2.50
F	44	1128.08	3214	3238	3227.59	1.03E+03	211.42	4.07E+03	2.27
F	45	1140.59	3256	3275	3263.38	5.21E+02	51.37	2.78E+03	2.79
F	46	1173.14	3344	3368	3356.47	3.35E+04	392.58	2.91E+03	2.26
M	47	1241.18	3542	3574	3551.12	1.61E+02	41.42	1.47E+03	2.20
m	48	1246.05	3542	3574	3565.05	1.23E+03	168.39	1.73E+03	2.21
F	49	1274.34	3631	3660	3645.98	5.33E+04	442.10	2.26E+03	2.34
F	50	1332.39	3797	3825	3812.06	3.13E+04	345.94	1.47E+03	2.35
F	51	1360.99	3886	3904	3893.88	1.56E+02	28.26	7.51E+02	2.80
F	52	1397.26	3982	4005	3997.63	1.07E+03	113.73	7.81E+02	2.22
F	53	1407.91	4013	4040	4028.12	1.10E+03	111.38	8.27E+02	2.46
F	54	1460.61	4171	4188	4178.88	3.08E+02	26.39	4.51E+02	2.10
M	55	1486.45	4249	4284	4252.79	2.35E+01	15.84	2.61E+02	2.53
m	56	1493.84	4249	4284	4273.93	9.42E+02	35.35	4.86E+02	2.53
F	57	1596.32	4551	4581	4567.10	2.77E+03	121.45	2.87E+02	2.50
F	58	1719.07	4906	4930	4918.29	3.50E+02	55.78	1.43E+02	2.69
F	59	1764.18	5035	5057	5047.33	1.12E+02	48.89	1.15E+02	2.49
F	60	2504.90	7154	7180	7166.44	3.03E+02	18.28	3.92E+01	3.07
F	61	2614.13	7469	7490	7478.93	1.18E+02	55.36	2.70E+01	2.89

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 7:36:48PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567381.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.78	2.23E+04	3145.96			2.23E+04	3.15E+03
F	2	48.77	1.38E+04	754.23			1.38E+04	7.54E+02
M	3	57.11	1.59E+04	739.71			1.59E+04	7.40E+02
m	4	59.52	9.06E+05	4005.49			9.06E+05	4.01E+03
F	5	74.74	1.12E+04	727.48	4.89E+02	2.74E+01	1.07E+04	7.28E+02
F	6	86.72	3.62E+04	4090.67	1.03E+02	1.07E+01	3.61E+04	4.09E+03
F	7	105.39	1.81E+04	631.65			1.81E+04	6.32E+02
M	8	123.04	2.41E+05	2749.13			2.41E+05	2.75E+03

Analysis Report for 24-2303 VSM-4.5M-S1-CST-d-A U3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
m	9	125.56	2.01E+03	501.63			2.01E+03	5.02E+02
F	10	247.86	2.90E+04	316.43			2.90E+04	3.16E+02
F	11	277.51	1.29E+03	237.97			1.29E+03	2.38E+02
F	12	295.63	8.18E+02	1091.86			8.18E+02	1.09E+03
F	13	344.28	2.90E+03	191.16			2.90E+03	1.91E+02
F	14	401.13	4.13E+02	147.23			4.13E+02	1.47E+02
F	15	414.73	9.18E+03	785.07			9.18E+03	7.85E+02
F	16	444.30	2.61E+03	785.39			2.61E+03	7.85E+02
F	17	511.03	1.61E+04	177.55			1.61E+04	1.78E+02
F	18	582.00	2.02E+03	113.43			2.02E+03	1.13E+02
F	19	591.74	1.15E+04	146.50			1.15E+04	1.47E+02
F	20	609.82	8.10E+02	121.54			8.10E+02	1.22E+02
F	21	625.03	6.21E+02	99.77			6.21E+02	9.98E+01
M	22	661.61	2.49E+04	506.04			2.49E+04	5.06E+02
m	23	666.29	7.33E+03	185.21			7.33E+03	1.85E+02
M	24	692.38	3.81E+03	104.45			3.81E+03	1.04E+02
m	25	695.02	7.06E+03	120.28			7.06E+03	1.20E+02
F	26	715.48	3.42E+02	268.55			3.42E+02	2.69E+02
F	27	723.28	4.27E+04	560.12	1.18E+01	2.13E+00	4.27E+04	5.60E+02
F	28	756.79	9.12E+03	122.65			9.12E+03	1.23E+02
F	29	778.83	7.16E+02	84.30			7.16E+02	8.43E+01
F	30	815.33	1.21E+03	80.21			1.21E+03	8.02E+01
M	31	845.61	1.56E+03	80.00			1.56E+03	8.00E+01
m	32	850.72	5.28E+02	70.61			5.28E+02	7.06E+01
M	33	873.16	2.26E+04	446.66			2.26E+04	4.47E+02
m	34	880.28	3.93E+02	66.74			3.93E+02	6.67E+01
F	35	892.92	1.09E+03	120.49			1.09E+03	1.20E+02
F	36	904.14	1.47E+03	76.36			1.47E+03	7.64E+01
F	37	964.12	1.18E+03	297.00			1.18E+03	2.97E+02
F	38	996.24	1.92E+04	387.38	3.39E+01	7.33E+00	1.91E+04	3.87E+02
F	39	1004.70	3.21E+04	450.83			3.21E+04	4.51E+02
M	40	1080.78	2.50E+02	99.03			2.50E+02	9.90E+01
m	41	1086.00	6.41E+02	170.98			6.41E+02	1.71E+02
M	42	1111.83	1.07E+03	259.64			1.07E+03	2.60E+02
m	43	1118.02	4.09E+02	95.78			4.09E+02	9.58E+01
F	44	1128.08	1.03E+03	211.42			1.03E+03	2.11E+02
F	45	1140.59	5.21E+02	51.37			5.21E+02	5.14E+01
F	46	1173.14	3.35E+04	392.58			3.35E+04	3.93E+02
M	47	1241.18	1.61E+02	41.42			1.61E+02	4.14E+01
m	48	1246.05	1.23E+03	168.39			1.23E+03	1.68E+02
F	49	1274.34	5.33E+04	442.10			5.33E+04	4.42E+02
F	50	1332.39	3.13E+04	345.94			3.13E+04	3.46E+02
F	51	1360.99	1.56E+02	28.26			1.56E+02	2.83E+01
F	52	1397.26	1.07E+03	113.73			1.07E+03	1.14E+02
F	53	1407.91	1.10E+03	111.38			1.10E+03	1.11E+02
F	54	1460.61	3.08E+02	26.39			3.08E+02	2.64E+01
M	55	1486.45	2.35E+01	15.84			2.35E+01	1.58E+01
m	56	1493.84	9.42E+02	35.35			9.42E+02	3.53E+01
F	57	1596.32	2.77E+03	121.45			2.77E+03	1.21E+02
F	58	1719.07	3.50E+02	55.78			3.50E+02	5.58E+01
F	59	1764.18	1.12E+02	48.89			1.12E+02	4.89E+01
F	60	2504.90	3.03E+02	18.28			3.03E+02	1.83E+01
F	61	2614.13	1.18E+02	55.36			1.18E+02	5.54E+01

Analysis Report for 24-2303 VSM-4.5M-S1-CST-d-A U3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.99	1460.83	*	10.67	6.40E-04	5.53E-05	miss
CO-57	0.69	122.06	*	85.60	1.41E-02	2.05E-04	1.000
		136.47		10.68			
CO-60	0.99	1173.24	*	99.97	6.57E-03	8.26E-05	0.961
		1332.50	*	99.99	6.74E-03	8.35E-05	0.960
		2505.74	*	1.00	1.04E-02	8.21E-04	miss
RH-106	0.39	511.86	*	20.70	8.50E-03	2.73E-04	0.972
		621.92		9.93			
		1050.36		1.56			
SB-126	0.52	223.90		1.39			
		278.20	*	2.40	4.60E-03	1.60E-03	0.846
		296.50	*	4.50	1.63E-03	2.18E-03	0.836
		414.70	*	83.30	1.18E-03	1.07E-04	0.864
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.08E-03	2.79E-05	0.861
		674.80		3.10			
		695.00	*	99.60	1.07E-03	1.91E-05	0.861
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.71	64.28		9.60			
		87.30	*	45.90	3.97E-03	4.84E-04	miss
CS-137	1.00	661.66	*	85.20	3.68E-03	7.72E-05	miss
EU-152	0.47	121.78		28.58			
		344.28	*	26.50	9.28E-04	6.53E-05	0.968
		778.90	*	12.94	8.15E-04	9.62E-05	0.956
		964.08	*	14.73	1.36E-03	3.43E-04	0.962
		1085.87	*	10.24	1.10E-03	2.95E-04	1.009

Analysis Report for 24-2303 VSM-4.5M-S1-CST-d-A U3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-152	0.47	1112.07	*	13.69	1.44E-03	3.51E-04	0.979
		1408.01	*	21.07	1.16E-03	1.18E-04	0.970
EU-154	0.99	42.70	*	20.45	2.45E-02	3.60E-03	miss
		123.07	*	40.40	3.13E-02	5.56E-04	0.953
		247.93	*	6.89	3.04E-02	5.41E-04	0.938
		591.76	*	4.95	2.93E-02	5.12E-04	0.927
		692.42	*	1.78	2.95E-02	8.83E-04	0.942
		723.30	*	20.06	3.01E-02	5.19E-04	0.946
		756.80	*	4.52	3.02E-02	5.20E-04	0.923
		873.18	*	12.08	3.04E-02	6.94E-04	0.939
		996.29	*	10.48	3.10E-02	7.07E-04	0.985
		1004.76	*	18.01	3.08E-02	5.49E-04	0.975
		1246.12	*	0.86	3.04E-02	4.17E-03	0.933
		1274.43	*	34.80	3.14E-02	4.14E-04	0.977
		1494.05	*	0.70	2.99E-02	1.19E-03	1.017
		1596.48	*	1.80	3.11E-02	1.42E-03	1.177
EU-155	0.99	43.00	*	18.70	2.68E-02	3.92E-03	1.000
		60.01	*	1.22	6.10E+00	2.15E-01	0.998
		86.55	*	30.70	5.94E-03	6.89E-04	free
		105.31	*	21.10	4.16E-03	1.80E-04	1.000
AM-241	1.00	59.54	*	35.90	2.07E-01	4.34E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.992	6.40E-04	5.53E-05	
CO-57	0.697	3.71E-04	2.14E-04	
CO-60	0.998	6.67E-03	5.86E-05	

Analysis Report for 24-2303 VSM-4.5M-S1-CST-d-A U3

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
RH-106	0.392	8.50E-03	2.73E-04	
SB-126	0.521	1.08E-03	1.56E-05	
Sn-126	0.716	1.20E-03	4.63E-04	
CS-137	1.000	3.68E-03	7.72E-05	
EU-152	0.478	9.61E-04	4.75E-05	
EU-154	0.999	3.04E-02	1.47E-04	
EU-155	0.995	4.14E-03	1.50E-04	
AM-241	1.000	2.07E-01	2.62E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2303 VSM-4.5M-S1-CST-d-A U3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 7:36:48PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	48.77	9.55549E-01	5.48		
M	3	57.11	1.10256E+00	4.66		
F	5	74.74	7.45430E-01	6.78		
m	9	125.56	1.39699E-01	24.94		
F	14	401.13	2.86509E-02	35.69	Sum	
F	16	444.30	1.81582E-01	30.04		
F	18	582.00	1.40427E-01	5.61		
F	20	609.82	5.62299E-02	15.01	Tol.	RU-103
F	21	625.03	4.31122E-02	16.07		
F	26	715.48	2.37405E-02	78.56	Sum	
F	30	815.33	8.38458E-02	6.64	Sum	
M	31	845.61	1.08504E-01	5.12	Sum	
m	32	850.72	3.66365E-02	13.38		
m	34	880.28	2.72649E-02	17.00	Sum	
F	35	892.92	7.58175E-02	11.04		
F	36	904.14	1.01758E-01	5.21		
M	40	1080.78	1.73287E-02	39.68	Sum	
m	43	1118.02	2.84008E-02	23.42		
F	44	1128.08	7.15411E-02	20.52	Sum	
F	45	1140.59	3.61605E-02	9.87		
M	47	1241.18	1.11799E-02	25.73	Sum	
F	51	1360.99	1.08044E-02	18.16	Sum	
F	52	1397.26	7.40427E-02	10.67	Sum	
M	55	1486.45	1.62905E-03	67.51		
F	58	1719.07	2.42887E-02	15.95	Sum	
F	59	1764.18	7.76841E-03	43.70	Sum	
F	61	2614.13	8.22276E-03	46.75		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2303 VSM-4.5M-S1-CST-d-A U3

ASR 2094 Branch

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	1.06E-03	1.06E-03	1.21E-03	5.30E-04
+	K-40	1460.83	*	10.67	3.46E-04	3.46E-04	6.40E-04	1.70E-04
	MN-54	834.84		99.98	8.46E-05	8.46E-05	-4.10E-05	4.21E-05
	CO-58	810.78		99.45	9.16E-05	9.16E-05	2.07E-05	4.56E-05
		863.96		0.68	1.29E-02		3.73E-03	6.43E-03
		1674.73		0.52	4.03E-03		4.02E-03	1.95E-03
	FE-59	142.65		1.00	2.02E-02	1.07E-04	-1.02E-02	1.01E-02
		192.35		3.01	6.09E-03		-5.17E-03	3.04E-03
		334.80		0.27	4.67E-02		4.70E-02	2.33E-02
		1099.25		56.30	1.38E-04		-2.04E-06	6.85E-05
		1291.60		43.70	1.07E-04		-8.68E-05	5.27E-05
+	CO-60	1173.24	*	99.97	9.41E-05	7.88E-05	6.57E-03	4.68E-05
		1332.50	*	99.99	7.88E-05		6.74E-03	3.91E-05
		2505.74	*	1.00	2.05E-03		1.04E-02	9.80E-04
	SR-85	514.00		96.00	1.27E-04	1.27E-04	1.36E-05	6.36E-05
		868.60		0.01	1.13E+00		5.84E-01	5.62E-01
	NB-94	702.62		97.90	9.71E-05	9.71E-05	7.19E-06	4.83E-05
		871.09		99.98	1.41E-04		6.18E-05	7.05E-05
	NB-95	765.81		99.81	9.28E-05	9.28E-05	-7.71E-05	4.62E-05
	RU-103	497.05		91.00	1.19E-04	1.19E-04	-7.51E-05	5.93E-05
		610.30		5.76	1.71E-03		1.05E-03	8.51E-04
+	RH-106	511.86	*	20.70	8.54E-04	8.54E-04	8.50E-03	4.26E-04
		621.92		9.93	1.01E-03		1.63E-03	5.02E-04
		1050.36		1.56	5.66E-03		6.73E-03	2.82E-03
	AG-108M	79.13		6.60	4.46E-03	1.17E-04	4.50E-03	2.23E-03
		433.90		90.50	1.38E-04		-4.43E-05	6.88E-05
		614.30		89.80	1.17E-04		-7.36E-05	5.82E-05
		722.90		90.80	1.93E-04		7.02E-03	9.61E-05
	CD-109	88.03		3.61	7.39E-03	7.39E-03	9.84E-05	3.70E-03
	SB-125	176.31		6.82	2.67E-03	3.88E-04	2.74E-03	1.34E-03
		380.45		1.52	8.09E-03		6.00E-03	4.04E-03
		427.87		29.55	3.88E-04		1.91E-04	1.94E-04
		463.36		10.48	1.06E-03		1.12E-03	5.27E-04
		600.60		17.76	5.44E-04		4.15E-05	2.71E-04
		606.71		5.02	1.93E-03		1.21E-03	9.60E-04
		635.95		11.32	8.19E-04		-3.12E-04	4.08E-04
		671.44		1.78	5.90E-03		-3.56E-03	2.94E-03
+	SB-126	223.90		1.39	1.12E-02	7.76E-05	-1.29E-02	5.62E-03
		278.20	*	2.40	5.32E-03		4.60E-03	2.66E-03
		296.50	*	4.50	3.73E-03		1.63E-03	1.86E-03
		414.70	*	83.30	2.11E-04		1.18E-03	1.05E-04
		556.30		1.69	7.29E-03		1.14E-02	3.63E-03

Analysis Report for 24-2303 VSM-4.5M-S1-CST-d-A U3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-126	573.90		6.70	1.78E-03	7.76E-05	7.76E-04	8.90E-04
		593.20		7.50	1.73E-03		2.03E-02	8.63E-04
		656.30		2.19	6.78E-03		-6.87E-04	3.38E-03
		666.50	*	99.60	7.76E-05		1.08E-03	3.86E-05
		674.80		3.10	3.66E-03		-1.53E-04	1.82E-03
		695.00	*	99.60	8.20E-05		1.07E-03	4.08E-05
		697.00		29.00	4.61E-04		2.54E-05	2.30E-04
		720.70		53.80	3.52E-04		-7.52E-07	1.76E-04
		856.80		17.60	5.55E-04		4.61E-04	2.76E-04
		989.60		6.80	1.75E-03		4.09E-04	8.72E-04
		1213.30		2.39	2.57E-03		-1.93E-04	1.27E-03
+	Sn-126	64.28		9.60	4.21E-03	7.01E-04	1.79E-03	2.10E-03
		87.30	*	45.90	7.01E-04		3.97E-03	3.50E-04
	I-129	29.70		56.60	1.09E-02	1.09E-02	-2.26E-02	5.44E-03
		33.60		10.04	2.90E-02		-1.39E-01	1.45E-02
		34.40		2.01	1.28E-01		-5.23E-01	6.38E-02
		39.60		7.51	1.94E-02		-1.65E-02	9.70E-03
	CS-134	563.25		8.34	1.32E-03	1.05E-04	-1.88E-03	6.58E-04
		569.33		15.37	7.14E-04		-4.59E-04	3.56E-04
		604.72		97.62	1.05E-04		2.98E-05	5.23E-05
		795.86		85.46	1.11E-04		7.01E-05	5.53E-05
		801.95		8.69	1.10E-03		6.76E-05	5.47E-04
+	CS-137	661.66	*	85.20	7.93E-05	7.93E-05	3.68E-03	3.94E-05
	CE-139	165.85		79.89	2.39E-04	2.39E-04	9.97E-05	1.20E-04
	CE-141	40.70		3.35	4.04E-02	4.18E-04	-2.93E-02	2.02E-02
		145.44		48.29	4.18E-04		4.93E-04	2.09E-04
	CE-144	80.12		1.36	2.14E-02	1.88E-03	1.77E-02	1.07E-02
		133.51		11.09	1.88E-03		1.66E-03	9.37E-04
+	EU-152	121.78		28.58	8.80E-04	2.85E-04	-1.60E-04	4.40E-04
		344.28	*	26.50	5.63E-04		9.28E-04	2.81E-04
		778.90	*	12.94	8.35E-04		8.15E-04	4.16E-04
		964.08	*	14.73	8.64E-04		1.36E-03	4.30E-04
		1085.87	*	10.24	6.22E-04		1.10E-03	3.09E-04
		1112.07	*	13.69	4.14E-04		1.44E-03	2.05E-04
		1408.01	*	21.07	2.85E-04		1.16E-03	1.41E-04
	GD-153	97.43		29.00	8.38E-04	8.38E-04	1.97E-04	4.19E-04
		103.18		21.10	1.12E-03		-1.27E-03	5.59E-04
+	EU-154	42.70	*	20.45	5.86E-03	2.70E-04	2.45E-02	2.93E-03
		123.07	*	40.40	4.30E-04		3.13E-02	2.15E-04
		247.93	*	6.89	2.96E-03		3.04E-02	1.48E-03
		591.76	*	4.95	2.42E-03		2.93E-02	1.21E-03
		692.42	*	1.78	4.11E-03		2.95E-02	2.04E-03
		723.30	*	20.06	7.88E-04		3.01E-02	3.93E-04
		756.80	*	4.52	2.97E-03		3.02E-02	1.48E-03
		873.18	*	12.08	5.35E-04		3.04E-02	2.66E-04
		996.29	*	10.48	1.09E-03		3.10E-02	5.44E-04
		1004.76	*	18.01	7.33E-04		3.08E-02	3.65E-04
		1246.12	*	0.86	4.84E-03		3.04E-02	2.39E-03
		1274.43	*	34.80	2.70E-04		3.14E-02	1.34E-04
		1494.05	*	0.70	3.34E-03		2.99E-02	1.63E-03
		1596.48	*	1.80	1.88E-03		3.11E-02	9.24E-04
+	EU-155	43.00	*	18.70	6.41E-03	1.05E-03	2.68E-02	3.20E-03
		60.01	*	1.22	3.24E-02		6.10E+00	1.62E-02

Analysis Report for 24-2303 VSM-4.5M-S1-CST-d-A U3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	EU-155	86.55	*	30.70	1.05E-03	1.05E-03	5.94E-03	5.24E-04
		105.31	*	21.10	1.21E-03		4.16E-03	6.04E-04
	HG-203	72.87		6.30	5.34E-03	1.76E-04	1.19E-03	2.67E-03
		279.20		81.46	1.76E-04		1.84E-04	8.77E-05
	BI-207	569.15		97.80	1.10E-04	1.10E-04	-7.05E-05	5.46E-05
		1063.10		74.90	1.16E-04		5.35E-05	5.74E-05
	PB-210	46.54		4.25	1.99E-02	1.99E-02	-2.78E-02	9.97E-03
	RA-226	74.81		6.44	4.95E-03	1.44E-04	1.00E-02	2.47E-03
		77.11		10.80	2.83E-03		2.05E-03	1.41E-03
		87.30		4.84	5.55E-03		4.45E-02	2.77E-03
		186.21		3.59	4.92E-03		4.20E-03	2.46E-03
		242.00		7.43	2.08E-03		3.66E-04	1.04E-03
		295.22		19.30	6.95E-04		-3.36E-04	3.47E-04
		351.93		37.60	3.20E-04		8.63E-05	1.59E-04
		609.31		46.10	2.09E-04		7.50E-05	1.04E-04
		768.36		4.94	1.83E-03		1.99E-03	9.11E-04
		1120.29		15.10	4.88E-04		-2.42E-05	2.42E-04
		1238.11		5.79	9.40E-04		-3.10E-04	4.65E-04
		1764.49		15.40	1.44E-04		1.99E-04	6.98E-05
	PA-231	283.70		1.59	8.73E-03	5.60E-03	1.14E-02	4.36E-03
		300.07		2.38	5.60E-03		3.44E-04	2.79E-03
		302.67		1.71	7.75E-03		4.44E-03	3.87E-03
		330.07		1.32	9.46E-03		-3.22E-03	4.72E-03
	TH-232	74.81		11.62	2.74E-03	6.50E-05	5.56E-03	1.37E-03
		77.11		17.50	1.75E-03		1.27E-03	8.73E-04
		87.30		7.80	3.45E-03		2.76E-02	1.72E-03
		238.63		43.30	3.59E-04		-8.32E-05	1.79E-04
		338.32		11.30	1.09E-03		-8.44E-04	5.44E-04
		583.19		30.37	3.33E-04		9.26E-04	1.66E-04
		727.33		6.58	2.41E-03		4.21E-04	1.20E-03
		911.21		26.60	3.06E-04		-2.04E-05	1.52E-04
		968.97		16.20	5.25E-04		2.32E-04	2.61E-04
		2614.53		35.64	6.50E-05		1.64E-04	3.12E-05
	U-235	143.76		10.96	1.81E-03	3.09E-04	-7.01E-04	9.02E-04
		185.71		57.20	3.09E-04		3.07E-04	1.54E-04
		205.31		5.01	3.30E-03		-5.02E-03	1.65E-03
	U-238	63.29		3.70	1.15E-02	5.92E-03	8.26E-04	5.77E-03
		92.51		4.23	5.92E-03		4.13E-03	2.96E-03
		112.81		0.21	1.04E-01		-5.96E-02	5.17E-02
		742.81		0.11	8.55E-02		1.09E-01	4.26E-02
		766.28		0.32	2.85E-02		-6.38E-03	1.42E-02
		1001.03		0.84	2.31E-02		6.50E-05	1.15E-02
	NP-239	99.60		12.80	2.62E-03	1.25E-03	4.46E-04	1.31E-03
		103.80		20.40	1.61E-03		-1.42E-03	8.06E-04
		106.10		26.40	1.25E-03		4.92E-03	6.23E-04
		116.90		7.61	3.98E-03		1.56E-03	1.99E-03
		228.20		11.20	2.07E-03		1.62E-03	1.03E-03
		277.60		14.50	1.40E-03		1.55E-03	7.01E-04
		315.90		1.60	1.12E-02		4.30E-03	5.57E-03
		334.30		2.06	7.97E-03		4.46E-03	3.98E-03
+	AM-241	59.54	*	35.90	1.10E-03	1.10E-03	2.07E-01	5.50E-04

Analysis Report for 24-2303 VSM-4.5M-S1-CST-d-A U3

ASR 2094 Branch

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

Apex-Gamma

Analysis Report for 24-2304 VSM-4.5M-S2-CVST-A Y3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2304 VSM-4.5M-S2-CVST-A Y3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 11:50:16AM
Procedure	: Y3_gsv02mlw
Operator	: Administrator
Detector Name	: Y
Geometry	: Y3_gsv02mlw
Live Time	: 10958.4 seconds
Real Time	: 11371.4 seconds
Dead Time	: 3.63 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 6/27/2024
Efficiency Calibration Used Done On	: 3/18/2019
Efficiency Calibration Description	: Y3_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567809
Certificate Name	: R735-A10 20ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 2:59:51PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2304 VSM-4.5M-S2-CVST-A Y3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.76	121.23	0.1640	14.05
2	48.71	137.49	0.2227	6.75
3	59.51	168.26	0.0342	335.19
4	74.80	211.20	0.2199	8.79
5	86.71	244.60	0.1445	16.66
6	105.35	297.21	0.1665	14.12
7	123.00	346.93	0.0468	170.80
8	218.61	616.01	0.3858	3.16
9	228.30	642.28	0.3160	3.28
10	247.76	698.10	0.0793	51.87
11	277.68	781.28	0.2946	3.53
12	344.11	969.18	0.1780	8.88
13	414.61	1167.79	0.0966	31.28
14	444.19	1251.05	0.1972	8.15
15	510.72	1438.31	0.0976	18.60
16	534.82	1506.25	0.3456	3.10
17	581.68	1637.88	0.1684	10.07
18	591.45	1665.52	0.0763	44.35
19	609.06	1715.11	0.2775	4.09
20	638.73	1799.02	0.3104	3.12
21	661.31	1862.22	0.0582	73.73
22	666.02	1875.59	0.0892	31.28
23	692.00	1947.77	0.1814	11.14
24	694.70	1956.39	0.1012	26.09
25	715.19	2013.98	0.2505	3.85
26	722.96	2035.70	0.0484	103.10
27	756.47	2130.07	0.0762	41.78
28	778.65	2192.46	0.1883	7.07
29	815.12	2295.09	0.1696	8.79
30	845.27	2379.84	0.1609	8.58
31	872.78	2457.46	0.0562	71.10
32	892.52	2513.02	0.1673	8.77
33	903.75	2544.62	0.1408	11.13
34	963.81	2713.34	0.1820	7.23
35	995.77	2803.69	0.0575	63.76
36	1004.25	2827.52	0.0500	83.31
37	1085.25	3055.51	0.2032	4.85
38	1111.24	3128.92	0.1725	5.93
39	1127.72	3174.86	0.1597	7.43
40	1140.34	3210.53	0.2506	3.65
41	1172.63	3301.53	0.0475	86.18
42	1240.73	3492.61	0.2724	4.12
43	1245.52	3506.54	0.1227	13.10
44	1273.79	3586.26	0.0426	105.05
45	1331.81	3749.56	0.0480	79.68
46	1396.75	3932.23	0.1186	13.19
47	1407.36	3962.11	0.1249	12.19
48	1460.08	4110.55	0.1734	6.40
49	1493.22	4203.70	0.1178	12.00
50	1595.66	4492.19	0.0884	21.66
51	1718.42	4837.50	0.1558	7.34
52	1763.47	4964.30	0.1776	5.76
53	2504.13	7049.46	0.1371	7.97
54	2613.76	7356.44	0.1859	3.92

Analysis Report for 24-2304 VSM-4.5M-S2-CVST-A Y3

ASR 2094 Branch

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2304 VSM-4.5M-S2-CVST-A Y3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 2:59:51PM

Peak Analysis From Channel : 105

Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.76	113 -	126	121.09	1.70E+04	2129.33	7.01E+05	1.20
F	2	48.71	129 -	145	137.84	1.09E+04	662.94	1.02E+06	1.41
F	3	59.51	160 -	176	168.25	6.34E+05	3192.25	1.10E+06	1.19
F	4	74.80	208 -	219	211.27	6.35E+03	607.36	6.98E+05	0.99
F	5	86.71	238 -	253	244.80	2.75E+04	3233.59	8.34E+05	1.68
F	6	105.35	294 -	306	297.28	1.16E+04	545.18	5.33E+05	1.23
F	7	123.00	339 -	356	346.95	1.78E+05	2345.74	5.79E+05	1.28
F	8	218.61	605 -	626	616.07	6.12E+02	226.59	2.15E+05	0.66
F	9	228.30	636 -	652	643.35	1.70E+03	2133.08	1.49E+05	0.80
F	10	247.76	692 -	708	698.13	2.17E+04	276.56	1.20E+05	1.38
F	11	277.68	778 -	790	782.34	1.84E+03	286.89	6.88E+04	2.72
F	12	344.11	964 -	980	969.33	2.34E+03	174.05	5.31E+04	1.56
F	13	414.61	1161 -	1176	1167.77	6.94E+03	157.81	3.14E+04	1.51
F	14	444.19	1247 -	1259	1251.04	1.10E+03	127.29	2.17E+04	1.25
F	15	510.72	1425 -	1450	1438.30	1.28E+04	693.13	3.10E+04	3.08
F	16	534.82	1498 -	1511	1506.13	3.40E+02	94.27	1.45E+04	1.05
F	17	581.68	1632 -	1645	1638.04	1.31E+03	100.81	1.17E+04	1.60
F	18	591.45	1659 -	1676	1665.55	8.45E+03	495.19	1.45E+04	1.64
	19	609.06	1711 -	1720	1715.11	1.22E+02	164.20	7.61E+03	0.49
F	20	638.73	1793 -	1805	1798.64	2.11E+02	248.73	8.37E+03	0.92
M	21	661.31	1853 -	1883	1862.20	1.84E+04	157.14	1.08E+04	1.77
m	22	666.02	1853 -	1883	1875.45	5.13E+03	107.88	1.09E+04	1.78
M	23	692.00	1937 -	1969	1948.58	3.04E+03	367.43	1.05E+04	1.92
m	24	694.70	1937 -	1969	1956.17	5.61E+03	535.77	1.04E+04	1.93
M	25	715.19	2009 -	2047	2013.84	3.60E+02	73.26	6.48E+03	1.82
m	26	722.96	2009 -	2047	2035.73	3.23E+04	486.72	9.48E+03	1.83
F	27	756.47	2117 -	2139	2130.04	6.68E+03	375.79	1.03E+04	1.82
F	28	778.65	2186 -	2199	2192.48	6.13E+02	265.04	5.79E+03	1.33
F	29	815.12	2289 -	2302	2295.11	7.68E+02	71.34	4.88E+03	1.75
F	30	845.27	2372 -	2389	2379.98	9.96E+02	72.40	5.78E+03	2.15
F	31	872.78	2447 -	2469	2457.42	1.69E+04	436.87	6.88E+03	2.00
F	32	892.52	2502 -	2523	2512.99	7.18E+02	92.18	6.05E+03	1.87
F	33	903.75	2536 -	2555	2544.60	1.24E+03	298.77	5.19E+03	2.15
F	34	963.81	2703 -	2720	2713.64	6.19E+02	210.48	4.51E+03	1.40
M	35	995.77	2795 -	2842	2803.61	1.41E+04	129.55	4.05E+03	2.15
m	36	1004.25	2795 -	2842	2827.47	2.40E+04	161.80	4.69E+03	2.16
F	37	1085.25	3047 -	3063	3055.47	3.71E+02	215.07	2.90E+03	1.90
F	38	1111.24	3113 -	3141	3128.62	5.62E+02	207.22	4.57E+03	2.47
F	39	1127.72	3164 -	3185	3175.00	9.25E+02	227.47	2.59E+03	3.02
F	40	1140.34	3205 -	3220	3210.53	1.32E+02	41.51	1.92E+03	1.70

Analysis Report for 24-2304 VSM-4.5M-S2-CVST-A Y3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1172.63	3285	3317	3301.42	2.60E+04	330.89	2.98E+03	2.35
M	42	1240.73	3487	3521	3493.11	8.79E+01	25.70	1.09E+03	2.24
m	43	1245.52	3487	3521	3506.57	8.73E+02	37.36	1.35E+03	2.25
F	44	1273.79	3571	3602	3586.14	3.96E+04	319.41	1.84E+03	2.46
F	45	1331.81	3734	3766	3749.45	2.44E+04	289.88	1.16E+03	2.53
F	46	1396.75	3919	3946	3932.23	8.79E+02	108.40	6.97E+02	2.65
F	47	1407.36	3949	3975	3962.11	7.40E+02	101.86	6.07E+02	2.60
F	48	1460.08	4095	4121	4110.51	3.32E+02	85.79	4.31E+02	2.84
F	49	1493.22	4195	4214	4203.79	7.44E+02	31.70	2.63E+02	2.72
F	50	1595.66	4476	4504	4492.10	2.01E+03	103.55	2.62E+02	2.74
F	51	1718.42	4827	4850	4837.65	2.31E+02	18.22	1.19E+02	2.74
F	52	1763.47	4954	4973	4964.44	1.16E+02	14.18	8.51E+01	2.40
F	53	2504.13	7037	7061	7049.09	2.62E+02	16.81	1.90E+01	3.29
F	54	2613.76	7344	7367	7357.64	9.07E+01	50.77	2.47E+01	1.88

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 2:59:51PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567387.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.76	1.70E+04	2129.33			1.70E+04	2.13E+03
F	2	48.71	1.09E+04	662.94			1.09E+04	6.63E+02
F	3	59.51	6.34E+05	3192.25			6.34E+05	3.19E+03
F	4	74.80	6.35E+03	607.36	3.34E+02	2.14E+01	6.02E+03	6.08E+02
F	5	86.71	2.75E+04	3233.59	7.17E+01	4.73E+00	2.74E+04	3.23E+03
F	6	105.35	1.16E+04	545.18			1.16E+04	5.45E+02
F	7	123.00	1.78E+05	2345.74			1.78E+05	2.35E+03
F	8	218.61	6.12E+02	226.59			6.12E+02	2.27E+02
F	9	228.30	1.70E+03	2133.08			1.70E+03	2.13E+03
F	10	247.76	2.17E+04	276.56			2.17E+04	2.77E+02
F	11	277.68	1.84E+03	286.89			1.84E+03	2.87E+02
F	12	344.11	2.34E+03	174.05			2.34E+03	1.74E+02
F	13	414.61	6.94E+03	157.81			6.94E+03	1.58E+02
F	14	444.19	1.10E+03	127.29			1.10E+03	1.27E+02
F	15	510.72	1.28E+04	693.13	4.14E+02	1.50E+01	1.24E+04	6.93E+02

Analysis Report for 24-2304 VSM-4.5M-S2-CVST-A Y3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	16	534.82	3.40E+02	94.27			3.40E+02	9.43E+01
F	17	581.68	1.31E+03	100.81			1.31E+03	1.01E+02
F	18	591.45	8.45E+03	495.19			8.45E+03	4.95E+02
	19	609.06	1.22E+02	164.20	2.54E+02	3.69E+00	-1.32E+02	1.64E+02
F	20	638.73	2.11E+02	248.73			2.11E+02	2.49E+02
M	21	661.31	1.84E+04	157.14			1.84E+04	1.57E+02
m	22	666.02	5.13E+03	107.88			5.13E+03	1.08E+02
M	23	692.00	3.04E+03	367.43			3.04E+03	3.67E+02
m	24	694.70	5.61E+03	535.77			5.61E+03	5.36E+02
M	25	715.19	3.60E+02	73.26			3.60E+02	7.33E+01
m	26	722.96	3.23E+04	486.72			3.23E+04	4.87E+02
F	27	756.47	6.68E+03	375.79			6.68E+03	3.76E+02
F	28	778.65	6.13E+02	265.04			6.13E+02	2.65E+02
F	29	815.12	7.68E+02	71.34			7.68E+02	7.13E+01
F	30	845.27	9.96E+02	72.40			9.96E+02	7.24E+01
F	31	872.78	1.69E+04	436.87			1.69E+04	4.37E+02
F	32	892.52	7.18E+02	92.18			7.18E+02	9.22E+01
F	33	903.75	1.24E+03	298.77			1.24E+03	2.99E+02
F	34	963.81	6.19E+02	210.48			6.19E+02	2.10E+02
M	35	995.77	1.41E+04	129.55			1.41E+04	1.30E+02
m	36	1004.25	2.40E+04	161.80			2.40E+04	1.62E+02
F	37	1085.25	3.71E+02	215.07			3.71E+02	2.15E+02
F	38	1111.24	5.62E+02	207.22			5.62E+02	2.07E+02
F	39	1127.72	9.25E+02	227.47			9.25E+02	2.27E+02
F	40	1140.34	1.32E+02	41.51			1.32E+02	4.15E+01
F	41	1172.63	2.60E+04	330.89			2.60E+04	3.31E+02
M	42	1240.73	8.79E+01	25.70			8.79E+01	2.57E+01
m	43	1245.52	8.73E+02	37.36			8.73E+02	3.74E+01
F	44	1273.79	3.96E+04	319.41			3.96E+04	3.19E+02
F	45	1331.81	2.44E+04	289.88			2.44E+04	2.90E+02
F	46	1396.75	8.79E+02	108.40			8.79E+02	1.08E+02
F	47	1407.36	7.40E+02	101.86	1.11E+01	1.34E+00	7.28E+02	1.02E+02
F	48	1460.08	3.32E+02	85.79	2.63E+02	8.16E+00	6.90E+01	8.62E+01
F	49	1493.22	7.44E+02	31.70			7.44E+02	3.17E+01
F	50	1595.66	2.01E+03	103.55			2.01E+03	1.04E+02
F	51	1718.42	2.31E+02	18.22			2.31E+02	1.82E+01
F	52	1763.47	1.16E+02	14.18			1.16E+02	1.42E+01
F	53	2504.13	2.62E+02	16.81			2.62E+02	1.68E+01
F	54	2613.76	9.07E+01	50.77			9.07E+01	5.08E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2304 VSM-4.5M-S2-CVST-A Y3

ASR 2094 Branch

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.91	1460.83	*	10.67	1.81E-04	2.27E-04	miss
CO-57	0.70	122.06	*	85.60	1.37E-02	2.06E-04	1.000
		136.47		10.68			
CO-60	0.92	1173.24	*	99.97	6.55E-03	8.76E-05	0.960
		1332.50	*	99.99	6.69E-03	8.58E-05	0.959
		2505.74		1.00			
SB-126	0.48	223.90		1.39			
		278.20	*	2.40	8.63E-03	2.89E-03	0.844
		296.50		4.50			
		414.70	*	83.30	1.18E-03	4.41E-05	0.862
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.00E-03	2.15E-05	0.859
		674.80		3.10			
		695.00	*	99.60	1.12E-03	1.07E-04	0.859
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.72	64.28		9.60			
		87.30	*	45.90	4.04E-03	5.10E-04	miss
CS-137	0.98	661.66	*	85.20	3.58E-03	3.47E-05	miss
EU-152	0.45	121.78		28.58			
		344.28	*	26.50	9.91E-04	7.75E-05	0.967
		778.90	*	12.94	9.16E-04	3.96E-04	0.955
		964.08	*	14.73	9.30E-04	3.16E-04	0.957
		1085.87	*	10.24	8.29E-04	4.80E-04	1.002
		1112.07	*	13.69	9.82E-04	3.62E-04	0.974
		1408.01	*	21.07	9.79E-04	1.37E-04	0.966
EU-154	0.97	42.70	*	20.45	2.52E-02	3.27E-03	miss
		123.07	*	40.40	3.04E-02	5.52E-04	0.952
		247.93	*	6.89	2.99E-02	5.32E-04	0.937
		591.76	*	4.95	2.85E-02	1.70E-03	0.925
		692.42	*	1.78	3.11E-02	3.77E-03	0.941
		723.30	*	20.06	3.00E-02	5.59E-04	0.945
		756.80	*	4.52	2.91E-02	1.66E-03	0.921
		873.18	*	12.08	2.96E-02	8.38E-04	0.937
		996.29	*	10.48	2.97E-02	4.12E-04	0.985
		1004.76	*	18.01	2.98E-02	3.83E-04	0.974

Analysis Report for 24-2304 VSM-4.5M-S2-CVST-A Y3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.97	1246.12	*	0.86	2.76E-02	1.23E-03	0.931
		1274.43	*	34.80	2.97E-02	3.81E-04	0.976
		1494.05	*	0.70	2.99E-02	1.33E-03	1.017
		1596.48	*	1.80	2.83E-02	1.50E-03	1.181
EU-155	0.99	43.00	*	18.70	2.76E-02	3.55E-03	1.000
		60.01	*	1.22	6.15E+00	2.10E-01	0.998
		86.55	*	30.70	6.05E-03	7.29E-04	free
		105.31	*	21.10	3.47E-03	1.85E-04	1.000
NP-239	0.21	99.60		12.80			
		103.80		20.40			
		106.10	*	26.40	3.81E-03	1.81E-04	0.982
		116.90		7.61			
		228.20	*	11.20	1.76E-03	2.21E-03	0.987
		277.60	*	14.50	1.66E-03	2.59E-04	0.981
		315.90		1.60			
		334.30		2.06			
AM-241	1.00	59.54	*	35.90	2.08E-01	3.99E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.914	1.81E-04	2.27E-04	
CO-57	0.707	2.86E-04	2.13E-04	
CO-60	0.929	6.62E-03	6.13E-05	
SB-126	0.489	1.07E-03	1.67E-05	
Sn-126	0.721	2.64E-03	5.15E-04	
CS-137	0.981	3.58E-03	3.47E-05	
EU-152	0.450	9.81E-04	6.35E-05	

Analysis Report for 24-2304 VSM-4.5M-S2-CVST-A Y3

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
EU-154	0.973	2.97E-02	1.32E-04	
EU-155	0.995	2.10E-03	2.86E-04	
NP-239	0.213	1.49E-03	2.56E-04	
AM-241	1.000	2.08E-01	1.94E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2304 VSM-4.5M-S2-CVST-A Y3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 2:59:51PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	48.71	9.96905E-01	6.07		
F	4	74.80	5.49054E-01	10.10	Tol.	TH-232
F	8	218.61	5.58345E-02	37.03		
F	14	444.19	1.00591E-01	11.55		
F	15	510.72	1.12848E+00	5.61		
F	16	534.82	3.10225E-02	27.73		
F	17	581.68	1.19320E-01	7.71		
	19	609.06	-1.20579E-02	- 124.30		
F	20	638.73	1.92402E-02	117.97		
M	25	715.19	3.28372E-02	20.36	Sum	
F	29	815.12	7.01283E-02	9.28	Sum	
F	30	845.27	9.09163E-02	7.27	Sum	
F	32	892.52	6.55075E-02	12.84		
F	33	903.75	1.13190E-01	24.09		
F	39	1127.72	8.43919E-02	24.60	Sum	
F	40	1140.34	1.20600E-02	31.41		
M	42	1240.73	8.02190E-03	29.23	Sum	
F	46	1396.75	8.02282E-02	12.33	Sum	
F	51	1718.42	2.10516E-02	7.90	Sum	
F	52	1763.47	1.06159E-02	12.19	Sum	
F	53	2504.13	2.38895E-02	6.42	Sum	
F	54	2613.76	8.27419E-03	55.99	Tol.	TH-232

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2304 VSM-4.5M-S2-CVST-A Y3

ASR 2094 Branch

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	1.36E-03	1.36E-03	7.15E-04	6.76E-04
+	K-40	1460.83	*	10.67	5.31E-04	5.31E-04	1.81E-04	2.62E-04
	MN-54	834.84		99.98	1.06E-04	1.06E-04	7.64E-05	5.29E-05
	CO-58	810.78		99.45	1.14E-04	1.14E-04	-2.63E-05	5.65E-05
		863.96		0.68	1.61E-02		-3.49E-03	8.01E-03
		1674.73		0.52	4.88E-03		3.05E-03	2.36E-03
	FE-59	142.65		1.00	2.55E-02	1.34E-04	2.77E-02	1.27E-02
		192.35		3.01	7.89E-03		2.09E-04	3.94E-03
		334.80		0.27	6.03E-02		8.21E-03	3.01E-02
		1099.25		56.30	1.66E-04		5.78E-05	8.25E-05
		1291.60		43.70	1.34E-04		8.11E-05	6.64E-05
+	CO-60	1173.24	*	99.97	1.38E-04	9.42E-05	6.55E-03	6.87E-05
		1332.50	*	99.99	9.42E-05		6.69E-03	4.67E-05
		2505.74		1.00	3.65E-03		1.19E-02	1.77E-03
	SR-85	514.00		96.00	1.61E-04	1.61E-04	4.69E-05	8.03E-05
		868.60		0.01	1.33E+00		6.62E-02	6.64E-01
	NB-94	702.62		97.90	1.27E-04	1.27E-04	1.33E-04	6.33E-05
		871.09		99.98	1.66E-04		3.57E-03	8.27E-05
	NB-95	765.81		99.81	1.16E-04	1.16E-04	1.53E-04	5.77E-05
	RU-103	497.05		91.00	1.52E-04	1.52E-04	-1.21E-05	7.60E-05
		610.30		5.76	2.17E-03		1.52E-03	1.08E-03
	RH-106	511.86		20.70	7.60E-04	7.60E-04	9.24E-03	3.79E-04
		621.92		9.93	1.32E-03		1.98E-03	6.57E-04
		1050.36		1.56	6.87E-03		2.56E-03	3.41E-03
	AG-108M	79.13		6.60	5.94E-03	1.50E-04	-7.18E-04	2.97E-03
		433.90		90.50	1.77E-04		-3.64E-05	8.85E-05
		614.30		89.80	1.50E-04		-1.78E-05	7.47E-05
		722.90		90.80	2.26E-04		-5.62E-06	1.13E-04
	CD-109	88.03		3.61	9.56E-03	9.56E-03	5.38E-02	4.78E-03
	SB-125	176.31		6.82	3.22E-03	4.99E-04	6.78E-04	1.61E-03
		380.45		1.52	1.01E-02		5.04E-03	5.04E-03
		427.87		29.55	4.99E-04		-1.05E-04	2.49E-04
		463.36		10.48	1.35E-03		2.36E-04	6.74E-04
		600.60		17.76	6.94E-04		-5.20E-04	3.46E-04
		606.71		5.02	2.45E-03		-1.73E-03	1.22E-03
		635.95		11.32	1.08E-03		-3.65E-04	5.37E-04
		671.44		1.78	7.43E-03		7.11E-03	3.70E-03
+	SB-126	223.90		1.39	1.46E-02	9.51E-05	-9.62E-04	7.31E-03
		278.20	*	2.40	8.39E-03		8.63E-03	4.19E-03
		296.50		4.50	4.63E-03		5.01E-03	2.31E-03
		414.70	*	83.30	2.23E-04		1.18E-03	1.11E-04
		556.30		1.69	9.07E-03		6.40E-03	4.52E-03
		573.90		6.70	2.28E-03		-8.05E-05	1.14E-03
		593.20		7.50	2.16E-03		2.15E-02	1.08E-03
		656.30		2.19	8.68E-03		-2.95E-03	4.33E-03

Analysis Report for 24-2304 VSM-4.5M-S2-CVST-A Y3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-126	666.50	*	99.60	9.51E-05	9.51E-05	1.00E-03	4.73E-05
		674.80		3.10	4.66E-03		2.90E-03	2.32E-03
		695.00	*	99.60	9.55E-05		1.12E-03	4.75E-05
		697.00		29.00	5.68E-04		2.67E-04	2.83E-04
		720.70		53.80	4.13E-04		1.27E-02	2.06E-04
		856.80		17.60	6.93E-04		9.89E-04	3.45E-04
		989.60		6.80	2.62E-03		1.61E-03	1.30E-03
		1213.30		2.39	3.17E-03		-2.85E-03	1.57E-03
+	Sn-126	64.28		9.60	5.80E-03	9.93E-04	2.93E-03	2.90E-03
		87.30	*	45.90	9.93E-04		4.04E-03	4.96E-04
	I-129	29.70		56.60	9.95E-03	9.95E-03	-3.88E-02	4.97E-03
		33.60		10.04	3.17E-02		-1.44E-01	1.59E-02
		34.40		2.01	1.44E-01		-6.35E-01	7.18E-02
		39.60		7.51	2.31E-02		-3.95E-02	1.15E-02
	CS-134	563.25		8.34	1.65E-03	1.34E-04	1.48E-03	8.21E-04
		569.33		15.37	9.10E-04		1.45E-04	4.53E-04
		604.72		97.62	1.34E-04		6.49E-06	6.67E-05
		795.86		85.46	1.39E-04		1.00E-04	6.90E-05
		801.95		8.69	1.39E-03		1.17E-03	6.90E-04
+	CS-137	661.66	*	85.20	9.48E-05	9.48E-05	3.58E-03	4.71E-05
	CE-139	165.85		79.89	2.88E-04	2.88E-04	3.67E-04	1.44E-04
	CE-141	40.70		3.35	4.90E-02	5.24E-04	-4.82E-02	2.45E-02
		145.44		48.29	5.24E-04		6.35E-06	2.62E-04
	CE-144	80.12		1.36	2.83E-02	2.36E-03	-3.89E-03	1.42E-02
		133.51		11.09	2.36E-03		2.60E-03	1.18E-03
+	EU-152	121.78		28.58	1.14E-03	3.07E-04	2.99E-04	5.69E-04
		344.28	*	26.50	7.38E-04		9.91E-04	3.69E-04
		778.90	*	12.94	7.98E-04		9.16E-04	3.97E-04
		964.08	*	14.73	7.84E-04		9.30E-04	3.90E-04
		1085.87	*	10.24	9.16E-04		8.29E-04	4.55E-04
		1112.07	*	13.69	1.12E-03		9.82E-04	5.58E-04
		1408.01	*	21.07	3.07E-04		9.79E-04	1.52E-04
	GD-153	97.43		29.00	1.08E-03	1.08E-03	1.52E-03	5.37E-04
		103.18		21.10	1.42E-03		-1.40E-03	7.11E-04
+	EU-154	42.70	*	20.45	8.68E-03	3.19E-04	2.52E-02	4.34E-03
		123.07	*	40.40	1.00E-03		3.04E-02	5.02E-04
		247.93	*	6.89	3.61E-03		2.99E-02	1.81E-03
		591.76	*	4.95	3.16E-03		2.85E-02	1.58E-03
		692.42	*	1.78	4.89E-03		3.11E-02	2.43E-03
		723.30	*	20.06	4.23E-04		3.00E-02	2.10E-04
		756.80	*	4.52	3.78E-03		2.91E-02	1.88E-03
		873.18	*	12.08	1.25E-03		2.96E-02	6.24E-04
		996.29	*	10.48	6.27E-04		2.97E-02	3.10E-04
		1004.76	*	18.01	3.99E-04		2.98E-02	1.98E-04
		1246.12	*	0.86	5.49E-03		2.76E-02	2.70E-03
		1274.43	*	34.80	3.19E-04		2.97E-02	1.59E-04
		1494.05	*	0.70	5.34E-03		2.99E-02	2.61E-03
		1596.48	*	1.80	2.20E-03		2.83E-02	1.08E-03
+	EU-155	43.00	*	18.70	9.49E-03	1.48E-03	2.76E-02	4.74E-03
		60.01	*	1.22	7.68E-02		6.15E+00	3.84E-02
		86.55	*	30.70	1.49E-03		6.05E-03	7.42E-04
		105.31	*	21.10	1.48E-03		3.47E-03	7.40E-04
	HG-203	72.87		6.30	7.20E-03	2.19E-04	3.44E-03	3.60E-03

Analysis Report for 24-2304 VSM-4.5M-S2-CVST-A Y3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	HG-203	279.20		81.46	2.19E-04	2.19E-04	3.24E-04	1.09E-04
	BI-207	569.15		97.80	1.40E-04	1.40E-04	1.00E-04	6.98E-05
		1063.10		74.90	1.43E-04		1.49E-04	7.08E-05
	PB-210	46.54		4.25	2.59E-02	2.59E-02	-6.20E-03	1.29E-02
	RA-226	74.81		6.44	6.64E-03	1.88E-04	1.96E-02	3.32E-03
		77.11		10.80	3.78E-03		7.81E-03	1.89E-03
		87.30		4.84	7.19E-03		5.04E-02	3.59E-03
		186.21		3.59	5.91E-03		1.40E-03	2.95E-03
		242.00		7.43	2.59E-03		2.67E-03	1.29E-03
		295.22		19.30	9.02E-04		1.20E-03	4.51E-04
		351.93		37.60	4.15E-04		3.93E-04	2.07E-04
		609.31		46.10	2.67E-04		3.20E-04	1.33E-04
		768.36		4.94	2.28E-03		1.74E-04	1.14E-03
		1120.29		15.10	6.16E-04		-4.10E-05	3.06E-04
		1238.11		5.79	1.20E-03		-2.38E-04	5.96E-04
		1764.49		15.40	1.88E-04		3.61E-04	9.13E-05
	PA-231	283.70		1.59	1.09E-02	7.25E-03	8.95E-03	5.45E-03
		300.07		2.38	7.25E-03		2.18E-03	3.62E-03
		302.67		1.71	1.00E-02		-2.04E-03	5.01E-03
		330.07		1.32	1.23E-02		1.01E-03	6.13E-03
	TH-232	74.81		11.62	3.68E-03	7.25E-05	1.09E-02	1.84E-03
		77.11		17.50	2.33E-03		4.82E-03	1.17E-03
		87.30		7.80	4.46E-03		3.13E-02	2.23E-03
		238.63		43.30	4.48E-04		1.19E-05	2.24E-04
		338.32		11.30	1.42E-03		1.37E-03	7.07E-04
		583.19		30.37	4.22E-04		2.66E-04	2.10E-04
		727.33		6.58	2.83E-03		1.75E-04	1.41E-03
		911.21		26.60	3.89E-04		1.44E-04	1.93E-04
		968.97		16.20	6.53E-04		-1.67E-04	3.25E-04
		2614.53		35.64	7.25E-05		1.57E-04	3.45E-05
	U-235	143.76		10.96	2.27E-03	3.71E-04	4.90E-04	1.14E-03
		185.71		57.20	3.71E-04		8.65E-06	1.85E-04
		205.31		5.01	4.28E-03		-3.48E-03	2.14E-03
	U-238	63.29		3.70	1.78E-02	7.63E-03	-5.41E-03	8.91E-03
		92.51		4.23	7.63E-03		8.01E-03	3.82E-03
		112.81		0.21	1.36E-01		-1.27E-01	6.81E-02
		742.81		0.11	1.08E-01		1.76E-01	5.37E-02
		766.28		0.32	3.56E-02		3.93E-02	1.77E-02
		1001.03		0.84	2.64E-02		9.76E-01	1.32E-02
+	NP-239	99.60		12.80	3.17E-03	1.61E-03	-2.02E-03	1.58E-03
		103.80		20.40	1.94E-03		-2.29E-03	9.68E-04
		106.10	*	26.40	1.62E-03		3.81E-03	8.12E-04
		116.90		7.61	5.00E-03		1.71E-03	2.50E-03
		228.20	*	11.20	3.02E-03		1.76E-03	1.51E-03
		277.60	*	14.50	1.61E-03		1.66E-03	8.03E-04
		315.90		1.60	1.37E-02		1.80E-02	6.86E-03
		334.30		2.06	9.78E-03		-3.65E-03	4.88E-03
+	AM-241	59.54	*	35.90	2.60E-03	2.60E-03	2.08E-01	1.30E-03

Analysis Report for 24-2304 VSM-4.5M-S2-CVST-A Y3

ASR 2094 Branch

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

Apex-Gamma

Analysis Report for 24-2305 VSM-4.5M-S2-CST-d-A Y3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2305 VSM-4.5M-S2-CST-d-A Y3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 3:38:01PM
Procedure	: Y3_gsv02mlw
Operator	: Administrator
Detector Name	: Y
Geometry	: Y3_gsv02mlw
Live Time	: 14400.0 seconds
Real Time	: 14934.3 seconds
Dead Time	: 3.58 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 6/27/2024
Efficiency Calibration Used Done On	: 3/18/2019
Efficiency Calibration Description	: Y3_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567838
Certificate Name	: R735-A10 20ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 7:47:02PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2305 VSM-4.5M-S2-CST-d-A Y3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.73	121.30	0.1563	13.96
2	48.82	137.96	0.2276	6.66
3	59.52	168.27	0.0322	374.67
4	74.95	211.56	0.2191	7.52
5	86.72	244.60	0.1380	17.52
6	105.36	297.27	0.1584	15.16
7	123.01	346.95	0.0440	195.01
8	198.17	558.66	0.3218	3.58
9	247.79	698.21	0.0755	57.28
10	277.40	781.48	0.2598	4.78
11	321.96	906.82	0.3236	3.13
12	344.02	969.02	0.1764	10.05
13	414.61	1167.81	0.0910	35.56
14	444.17	1251.03	0.1672	10.53
15	477.98	1346.15	0.3328	3.03
16	510.83	1438.53	0.0931	22.21
17	557.14	1568.94	0.2042	7.87
18	581.73	1638.21	0.1534	10.80
19	591.52	1665.72	0.0719	50.10
20	608.91	1714.57	0.2553	4.04
21	625.12	1760.11	0.2475	4.01
22	644.53	1814.96	0.3323	3.06
23	661.38	1862.41	0.0542	82.56
24	666.06	1875.69	0.0850	36.06
25	692.13	1948.12	0.1843	11.05
26	694.75	1956.55	0.0953	29.16
27	723.00	2035.81	0.0455	116.38
28	756.51	2130.25	0.0726	44.79
29	778.57	2192.31	0.1757	8.28
30	815.20	2295.06	0.1644	8.34
31	845.22	2379.70	0.1498	9.84
32	850.24	2394.23	0.2561	3.83
33	867.35	2441.81	0.2880	3.44
34	872.87	2457.67	0.0524	82.67
35	892.41	2512.58	0.1734	7.69
36	903.83	2544.77	0.1330	12.29
37	963.51	2712.84	0.1630	7.69
38	995.85	2803.88	0.0538	74.12
39	1004.33	2827.77	0.0470	95.89
40	1080.69	3041.75	0.2913	3.37
41	1085.55	3056.19	0.2124	4.32
42	1111.44	3129.36	0.1691	6.57
43	1127.62	3174.42	0.1526	7.55
44	1140.10	3209.62	0.1891	6.55
45	1172.73	3301.78	0.0446	99.18
46	1245.62	3506.93	0.1165	14.99
47	1273.89	3586.51	0.0401	115.71
48	1331.92	3749.84	0.0455	91.20
49	1360.92	3831.22	0.2365	4.54
50	1396.79	3932.33	0.1130	13.99
51	1407.45	3962.45	0.1145	14.46
52	1460.16	4110.22	0.1626	6.88
53	1493.33	4203.89	0.1126	14.07
54	1536.71	4326.44	0.2527	3.20
55	1595.76	4492.58	0.0832	25.29

Analysis Report for 24-2305 VSM-4.5M-S2-CST-d-A Y3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
56	1718.71	4838.45	0.1380	8.86
57	1762.99	4963.67	0.1969	4.23
58	2504.29	7049.68	0.1273	9.10
59	2613.46	7356.63	0.1753	4.02

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2305 VSM-4.5M-S2-CST-d-A Y3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 7:47:02PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.73	113 -	125	121.01	1.80E+04	3237.71	8.39E+05	1.29
F	2	48.82	130 -	145	138.13	1.41E+04	4225.06	1.24E+06	1.64
F	3	59.52	160 -	176	168.26	8.14E+05	3581.44	1.42E+06	1.21
F	4	74.95	208 -	219	211.70	9.25E+03	709.24	9.02E+05	1.25
F	5	86.72	239 -	253	244.84	3.22E+04	1734.61	1.01E+06	1.66
F	6	105.36	293 -	306	297.29	1.60E+04	617.25	7.44E+05	1.28
F	7	123.01	340 -	356	346.97	2.26E+05	2694.59	7.07E+05	1.26
F	8	198.17	548 -	568	558.54	1.45E+03	1098.85	3.33E+05	1.04
F	9	247.79	693 -	708	698.20	2.70E+04	313.78	1.47E+05	1.37
F	10	277.40	777 -	792	781.56	1.22E+03	237.06	1.10E+05	1.19
F	11	321.96	902 -	912	906.98	7.36E+02	201.97	5.27E+04	1.32
F	12	344.02	963 -	980	969.08	3.24E+03	913.45	7.21E+04	1.63
F	13	414.61	1161 -	1175	1167.79	8.93E+03	178.83	3.79E+04	1.50
F	14	444.17	1243 -	1256	1250.99	2.01E+03	619.57	3.01E+04	1.49
	15	477.98	1342 -	1350	1346.15	1.53E+02	233.20	1.65E+04	1.39
F	16	510.83	1425 -	1451	1438.62	1.51E+04	180.91	4.31E+04	2.73
F	17	557.14	1564 -	1579	1568.97	6.57E+02	100.00	1.92E+04	0.95
F	18	581.73	1625 -	1650	1638.19	2.32E+03	458.25	2.72E+04	2.06
F	19	591.52	1657 -	1672	1665.73	1.10E+04	147.77	1.66E+04	1.70
F	20	608.91	1707 -	1720	1714.68	6.87E+02	445.31	1.31E+04	1.79
F	21	625.12	1754 -	1773	1760.32	7.13E+02	105.14	1.75E+04	2.07
	22	644.53	1810 -	1820	1814.96	3.25E+00	185.58	9.12E+03	0.89
M	23	661.38	1851 -	1885	1862.38	2.43E+04	540.02	1.34E+04	1.80
m	24	666.06	1851 -	1885	1875.57	6.63E+03	183.42	1.43E+04	1.81
M	25	692.13	1941 -	1967	1948.92	3.65E+03	442.62	1.10E+04	1.89
m	26	694.75	1941 -	1967	1956.32	6.89E+03	640.33	1.29E+04	1.89
F	27	723.00	2023 -	2049	2035.84	4.14E+04	560.00	1.69E+04	1.86
F	28	756.51	2119 -	2139	2130.16	8.48E+03	426.45	1.21E+04	1.90
F	29	778.57	2184 -	2201	2192.24	8.33E+02	84.84	9.73E+03	1.66
F	30	815.20	2288 -	2306	2295.34	1.11E+03	83.15	8.43E+03	2.15
M	31	845.22	2374 -	2401	2379.85	1.28E+03	81.69	6.05E+03	2.16
m	32	850.24	2374 -	2401	2393.97	4.68E+02	70.52	7.88E+03	2.16
M	33	867.35	2435 -	2472	2442.15	4.97E+02	66.65	5.67E+03	1.99
m	34	872.87	2435 -	2472	2457.68	2.23E+04	415.19	7.38E+03	1.99
F	35	892.41	2501 -	2521	2512.67	1.16E+03	321.36	7.02E+03	2.36
F	36	903.83	2536 -	2555	2544.81	1.55E+03	79.84	7.11E+03	2.15
F	37	963.51	2704 -	2723	2712.81	6.99E+02	72.36	6.59E+03	1.97
M	38	995.85	2792 -	2841	2803.83	1.86E+04	242.17	5.94E+03	2.14
m	39	1004.33	2792 -	2841	2827.69	3.08E+04	364.62	6.17E+03	2.15
M	40	1080.69	3035 -	3069	3042.62	3.30E+01	28.91	4.15E+03	2.30

Analysis Report for 24-2305 VSM-4.5M-S2-CST-d-A Y3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
m	41	1085.55	3035	3069	3056.31	4.35E+02	38.47	5.22E+03	2.30
F	42	1111.44	3115	3139	3129.18	8.86E+02	248.17	4.92E+03	2.73
F	43	1127.62	3163	3190	3174.73	1.05E+03	59.49	4.32E+03	2.95
F	44	1140.10	3203	3216	3209.86	2.89E+02	47.56	2.15E+03	1.58
F	45	1172.73	3288	3317	3301.69	3.33E+04	376.91	3.47E+03	2.34
F	46	1245.62	3495	3517	3506.86	1.15E+03	157.63	1.76E+03	2.26
F	47	1273.89	3569	3603	3586.42	5.06E+04	392.33	2.12E+03	2.48
F	48	1331.92	3733	3766	3749.78	3.03E+04	322.95	1.54E+03	2.51
F	49	1360.92	3824	3845	3831.40	1.08E+02	58.74	8.54E+02	1.22
F	50	1396.79	3922	3945	3932.35	9.83E+02	39.69	7.92E+02	2.55
F	51	1407.45	3951	3973	3962.36	9.25E+02	113.72	7.09E+02	2.35
F	52	1460.16	4101	4122	4110.71	2.93E+02	27.54	5.53E+02	2.53
F	53	1493.33	4193	4214	4204.08	8.53E+02	35.43	4.73E+02	2.55
F	54	1536.71	4317	4336	4326.18	4.30E+01	10.74	3.00E+02	0.63
F	55	1595.76	4479	4506	4492.39	2.61E+03	53.00	3.57E+02	2.74
F	56	1718.71	4828	4848	4838.45	3.24E+02	59.98	1.43E+02	2.36
F	57	1762.99	4954	4974	4963.07	9.17E+01	29.58	1.45E+02	2.49
F	58	2504.29	7036	7064	7049.54	3.45E+02	36.25	2.98E+01	3.26
F	59	2613.46	7344	7368	7356.80	1.20E+02	11.82	1.81E+01	3.78

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 7:47:02PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567387.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.73	1.80E+04	3237.71			1.80E+04	3.24E+03
F	2	48.82	1.41E+04	4225.06			1.41E+04	4.23E+03
F	3	59.52	8.14E+05	3581.44			8.14E+05	3.58E+03
F	4	74.95	9.25E+03	709.24	4.39E+02	2.81E+01	8.81E+03	7.10E+02
F	5	86.72	3.22E+04	1734.61	9.42E+01	6.21E+00	3.21E+04	1.73E+03
F	6	105.36	1.60E+04	617.25			1.60E+04	6.17E+02
F	7	123.01	2.26E+05	2694.59			2.26E+05	2.69E+03
F	8	198.17	1.45E+03	1098.85	4.20E+01	4.50E+00	1.40E+03	1.10E+03
F	9	247.79	2.70E+04	313.78			2.70E+04	3.14E+02
F	10	277.40	1.22E+03	237.06			1.22E+03	2.37E+02

Analysis Report for 24-2305 VSM-4.5M-S2-CST-d-A Y3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	11	321.96	7.36E+02	201.97			7.36E+02	2.02E+02
F	12	344.02	3.24E+03	913.45			3.24E+03	9.13E+02
F	13	414.61	8.93E+03	178.83			8.93E+03	1.79E+02
F	14	444.17	2.01E+03	619.57			2.01E+03	6.20E+02
	15	477.98	1.53E+02	233.20			1.53E+02	2.33E+02
F	16	510.83	1.51E+04	180.91	5.45E+02	1.97E+01	1.46E+04	1.82E+02
F	17	557.14	6.57E+02	100.00			6.57E+02	1.00E+02
F	18	581.73	2.32E+03	458.25			2.32E+03	4.58E+02
F	19	591.52	1.10E+04	147.77			1.10E+04	1.48E+02
F	20	608.91	6.87E+02	445.31	3.34E+02	4.85E+00	3.53E+02	4.45E+02
F	21	625.12	7.13E+02	105.14			7.13E+02	1.05E+02
	22	644.53	3.25E+00	185.58			3.25E+00	1.86E+02
M	23	661.38	2.43E+04	540.02			2.43E+04	5.40E+02
m	24	666.06	6.63E+03	183.42			6.63E+03	1.83E+02
M	25	692.13	3.65E+03	442.62			3.65E+03	4.43E+02
m	26	694.75	6.89E+03	640.33			6.89E+03	6.40E+02
F	27	723.00	4.14E+04	560.00			4.14E+04	5.60E+02
F	28	756.51	8.48E+03	426.45			8.48E+03	4.26E+02
F	29	778.57	8.33E+02	84.84			8.33E+02	8.48E+01
F	30	815.20	1.11E+03	83.15			1.11E+03	8.31E+01
M	31	845.22	1.28E+03	81.69			1.28E+03	8.17E+01
m	32	850.24	4.68E+02	70.52			4.68E+02	7.05E+01
M	33	867.35	4.97E+02	66.65			4.97E+02	6.66E+01
m	34	872.87	2.23E+04	415.19			2.23E+04	4.15E+02
F	35	892.41	1.16E+03	321.36			1.16E+03	3.21E+02
F	36	903.83	1.55E+03	79.84			1.55E+03	7.98E+01
F	37	963.51	6.99E+02	72.36			6.99E+02	7.24E+01
M	38	995.85	1.86E+04	242.17			1.86E+04	2.42E+02
m	39	1004.33	3.08E+04	364.62			3.08E+04	3.65E+02
M	40	1080.69	3.30E+01	28.91			3.30E+01	2.89E+01
m	41	1085.55	4.35E+02	38.47			4.35E+02	3.85E+01
F	42	1111.44	8.86E+02	248.17			8.86E+02	2.48E+02
F	43	1127.62	1.05E+03	59.49			1.05E+03	5.95E+01
F	44	1140.10	2.89E+02	47.56			2.89E+02	4.76E+01
F	45	1172.73	3.33E+04	376.91			3.33E+04	3.77E+02
F	46	1245.62	1.15E+03	157.63			1.15E+03	1.58E+02
F	47	1273.89	5.06E+04	392.33			5.06E+04	3.92E+02
F	48	1331.92	3.03E+04	322.95			3.03E+04	3.23E+02
F	49	1360.92	1.08E+02	58.74			1.08E+02	5.87E+01
F	50	1396.79	9.83E+02	39.69			9.83E+02	3.97E+01
F	51	1407.45	9.25E+02	113.72	1.46E+01	1.76E+00	9.10E+02	1.14E+02
F	52	1460.16	2.93E+02	27.54	3.46E+02	1.07E+01	-5.30E+01	2.96E+01
F	53	1493.33	8.53E+02	35.43			8.53E+02	3.54E+01
F	54	1536.71	4.30E+01	10.74			4.30E+01	1.07E+01
F	55	1595.76	2.61E+03	53.00			2.61E+03	5.30E+01
F	56	1718.71	3.24E+02	59.98			3.24E+02	6.00E+01
F	57	1762.99	9.17E+01	29.58			9.17E+01	2.96E+01
F	58	2504.29	3.45E+02	36.25			3.45E+02	3.63E+01
F	59	2613.46	1.20E+02	11.82			1.20E+02	1.18E+01

Analysis Report for 24-2305 VSM-4.5M-S2-CST-d-A Y3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
BE-7	0.97	477.61	*	10.44	1.52E-04	2.32E-04	miss
K-40	0.93	1460.83	*	10.67	-1.06E-04	5.91E-05	miss
CO-57	0.70	122.06	*	85.60	1.32E-02	1.85E-04	1.000
		136.47		10.68			
CO-60	0.94	1173.24	*	99.97	6.37E-03	7.69E-05	0.960
		1332.50	*	99.99	6.33E-03	7.39E-05	0.959
		2505.74		1.00			
SB-126	0.49	223.90		1.39			
		278.20	*	2.40	4.37E-03	1.55E-03	0.844
		296.50		4.50			
		414.70	*	83.30	1.16E-03	4.13E-05	0.862
		556.30	*	1.69	5.29E-03	1.10E-03	0.829
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	9.83E-04	2.76E-05	0.859
		674.80		3.10			
		695.00	*	99.60	1.05E-03	9.77E-05	0.859
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.72	64.28		9.60			
		87.30	*	45.90	3.60E-03	2.52E-04	miss
CS-137	0.98	661.66	*	85.20	3.60E-03	8.17E-05	miss
EU-152	0.45	121.78		28.58			
		344.28	*	26.50	1.04E-03	2.96E-04	0.967
		778.90	*	12.94	9.46E-04	9.66E-05	0.955
		964.08	*	14.73	8.00E-04	8.29E-05	0.957
		1085.87	*	10.24	7.40E-04	6.55E-05	1.002
		1112.07	*	13.69	1.18E-03	3.30E-04	0.974
		1408.01	*	21.07	9.31E-04	1.16E-04	0.966

Analysis Report for 24-2305 VSM-4.5M-S2-CST-d-A Y3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.98	42.70	*	20.45	2.04E-02	3.72E-03	miss
		123.07	*	40.40	2.94E-02	5.08E-04	0.952
		247.93	*	6.89	2.83E-02	4.82E-04	0.937
		591.76	*	4.95	2.82E-02	5.02E-04	0.925
		692.42	*	1.78	2.84E-02	3.46E-03	0.941
		723.30	*	20.06	2.92E-02	5.09E-04	0.945
		756.80	*	4.52	2.81E-02	1.44E-03	0.921
		873.18	*	12.08	2.98E-02	6.50E-04	0.937
		996.29	*	10.48	2.96E-02	4.95E-04	0.985
		1004.76	*	18.01	2.91E-02	4.69E-04	0.974
		1246.12	*	0.86	2.77E-02	3.80E-03	0.931
		1274.43	*	34.80	2.90E-02	3.65E-04	0.976
		1494.05	*	0.70	2.61E-02	1.13E-03	1.017
		1596.48	*	1.80	2.80E-02	6.65E-04	1.181
EU-155	0.99	43.00	*	18.70	2.23E-02	4.06E-03	1.000
		60.01	*	1.22	6.00E+00	2.05E-01	0.998
		86.55	*	30.70	5.38E-03	3.20E-04	free
		105.31	*	21.10	3.64E-03	1.67E-04	1.000
AM-241	1.00	59.54	*	35.90	2.03E-01	3.86E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
BE-7	0.978	1.52E-04	2.32E-04	
K-40	0.930	-1.06E-04	5.91E-05	
CO-57	0.706	2.53E-04	1.93E-04	
CO-60	0.948	6.35E-03	5.33E-05	
SB-126	0.498	1.04E-03	2.23E-05	

Analysis Report for 24-2305 VSM-4.5M-S2-CST-d-A Y3

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
Sn-126	0.723	1.18E-03	2.19E-04	
CS-137	0.987	3.60E-03	8.17E-05	
EU-152	0.455	8.30E-04	4.15E-05	
EU-154	0.981	2.88E-02	1.34E-04	
EU-155	0.994	3.62E-03	1.43E-04	
AM-241	1.000	2.03E-01	1.83E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2305 VSM-4.5M-S2-CST-d-A Y3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 7:47:02PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	48.82	9.79765E-01	29.95		
F	4	74.95	6.11825E-01	8.06		
F	8	198.17	9.74718E-02	78.29		
F	11	321.96	5.11372E-02	27.43		
F	14	444.17	1.39661E-01	30.81		
F	16	510.83	1.01238E+00	1.25		
F	18	581.73	1.60814E-01	19.79		
F	20	608.91	2.45058E-02	126.20		
F	21	625.12	4.95441E-02	14.74		
	22	644.53	2.25694E-04	5710.11	Sum	
F	30	815.20	7.69922E-02	7.50	Sum	
M	31	845.22	8.92092E-02	6.36	Sum	
m	32	850.24	3.25096E-02	15.06		
M	33	867.35	3.45064E-02	13.41		
F	35	892.41	8.07971E-02	27.62	Sum	
F	36	903.83	1.07474E-01	5.16		
M	40	1080.69	2.28990E-03	87.68	Sum	
F	43	1127.62	7.30041E-02	5.66	Sum	
F	44	1140.10	2.00583E-02	16.47	Sum	
F	49	1360.92	7.50019E-03	54.39	Sum	
F	50	1396.79	6.82925E-02	4.04	Sum	
F	54	1536.71	2.98720E-03	24.96	Sum	
F	56	1718.71	2.24760E-02	18.53	Sum	
F	57	1762.99	6.37088E-03	32.24		
F	58	2504.29	2.39705E-02	10.50	Sum	
F	59	2613.46	8.30033E-03	9.89		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2305 VSM-4.5M-S2-CST-d-A Y3

ASR 2094 Branch

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	BE-7	477.61	*	10.44	7.64E-04	7.64E-04	1.52E-04	3.81E-04
+	K-40	1460.83	*	10.67	4.24E-04	4.24E-04	-1.06E-04	2.09E-04
	MN-54	834.84		99.98	9.04E-05	9.04E-05	-1.51E-05	4.50E-05
	CO-58	810.78		99.45	9.77E-05	9.77E-05	2.75E-05	4.86E-05
		863.96		0.68	1.39E-02		5.37E-03	6.90E-03
		1674.73		0.52	4.11E-03		3.63E-03	1.99E-03
	FE-59	142.65		1.00	2.21E-02	1.16E-04	-8.92E-05	1.10E-02
		192.35		3.01	6.86E-03		-2.10E-03	3.43E-03
		334.80		0.27	5.24E-02		9.78E-03	2.62E-02
		1099.25		56.30	1.43E-04		-4.15E-05	7.09E-05
		1291.60		43.70	1.16E-04		-2.07E-05	5.76E-05
+	CO-60	1173.24	*	99.97	1.09E-04	8.38E-05	6.37E-03	5.41E-05
		1332.50	*	99.99	8.38E-05		6.33E-03	4.16E-05
		2505.74		1.00	3.20E-03		1.27E-02	1.56E-03
	SR-85	514.00		96.00	1.39E-04	1.39E-04	2.16E-06	6.93E-05
		868.60		0.01	1.15E+00		1.14E-01	5.74E-01
	NB-94	702.62		97.90	1.10E-04	1.10E-04	-1.80E-05	5.47E-05
		871.09		99.98	1.43E-04		-8.70E-06	7.13E-05
	NB-95	765.81		99.81	1.01E-04	1.01E-04	7.58E-05	5.03E-05
	RU-103	497.05		91.00	1.32E-04	1.32E-04	2.43E-05	6.60E-05
		610.30		5.76	1.87E-03		1.42E-03	9.33E-04
	RH-106	511.86		20.70	6.58E-04	6.58E-04	8.80E-03	3.28E-04
		621.92		9.93	1.14E-03		-2.50E-04	5.66E-04
		1050.36		1.56	5.96E-03		2.30E-03	2.96E-03
	AG-108M	79.13		6.60	5.14E-03	1.29E-04	-2.26E-03	2.57E-03
		433.90		90.50	1.53E-04		9.09E-05	7.65E-05
		614.30		89.80	1.29E-04		1.80E-05	6.42E-05
		722.90		90.80	1.95E-04		6.66E-03	9.71E-05
	CD-109	88.03		3.61	8.28E-03	8.28E-03	5.21E-02	4.14E-03
	SB-125	176.31		6.82	2.79E-03	4.31E-04	5.86E-04	1.39E-03
		380.45		1.52	8.75E-03		4.13E-03	4.37E-03
		427.87		29.55	4.31E-04		-1.42E-04	2.15E-04
		463.36		10.48	1.17E-03		-3.25E-04	5.84E-04
		600.60		17.76	5.97E-04		-1.71E-04	2.98E-04
		606.71		5.02	2.11E-03		1.60E-04	1.05E-03
		635.95		11.32	9.32E-04		4.69E-04	4.64E-04
		671.44		1.78	6.40E-03		7.95E-04	3.19E-03
+	SB-126	223.90		1.39	1.27E-02	8.11E-05	1.67E-03	6.34E-03
		278.20	*	2.40	8.75E-03		4.37E-03	4.37E-03
		296.50		4.50	4.01E-03		-2.05E-03	2.00E-03
		414.70	*	83.30	1.82E-04		1.16E-03	9.07E-05
		556.30	*	1.69	8.25E-03		5.29E-03	4.11E-03
		573.90		6.70	1.96E-03		5.96E-04	9.80E-04
		593.20		7.50	1.86E-03		2.14E-02	9.26E-04
		656.30		2.19	7.49E-03		3.19E-03	3.74E-03

Analysis Report for 24-2305 VSM-4.5M-S2-CST-d-A Y3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-126	666.50	*	99.60	8.28E-05	8.11E-05	9.83E-04	4.12E-05
		674.80		3.10	4.03E-03		3.29E-03	2.01E-03
		695.00	*	99.60	8.11E-05		1.05E-03	4.03E-05
		697.00		29.00	4.88E-04		6.59E-06	2.43E-04
		720.70		53.80	3.56E-04		1.09E-04	1.78E-04
		856.80		17.60	5.92E-04		2.43E-05	2.94E-04
		989.60		6.80	2.25E-03		6.82E-04	1.12E-03
		1213.30		2.39	2.72E-03		-1.69E-03	1.35E-03
+	Sn-126	64.28		9.60	5.02E-03	8.12E-04	5.90E-03	2.51E-03
		87.30	*	45.90	8.12E-04		3.60E-03	4.06E-04
	I-129	29.70		56.60	8.62E-03	8.62E-03	-3.77E-02	4.31E-03
		33.60		10.04	2.75E-02		-1.83E-01	1.37E-02
		34.40		2.01	1.24E-01		-7.01E-01	6.22E-02
		39.60		7.51	2.00E-02		-2.89E-02	9.98E-03
	CS-134	563.25		8.34	1.42E-03	1.15E-04	-3.93E-04	7.07E-04
		569.33		15.37	7.85E-04		8.70E-04	3.91E-04
		604.72		97.62	1.15E-04		4.81E-05	5.74E-05
		795.86		85.46	1.19E-04		2.02E-04	5.92E-05
		801.95		8.69	1.18E-03		-5.66E-04	5.88E-04
+	CS-137	661.66	*	85.20	8.02E-05	8.02E-05	3.60E-03	3.99E-05
	CE-139	165.85		79.89	2.49E-04	2.49E-04	9.48E-05	1.25E-04
	CE-141	40.70		3.35	4.26E-02	4.56E-04	-4.45E-02	2.13E-02
		145.44		48.29	4.56E-04		6.39E-05	2.28E-04
	CE-144	80.12		1.36	2.46E-02	2.04E-03	-1.22E-02	1.23E-02
		133.51		11.09	2.04E-03		-9.51E-04	1.02E-03
+	EU-152	121.78		28.58	9.85E-04	2.36E-04	1.39E-04	4.92E-04
		344.28	*	26.50	6.70E-04		1.04E-03	3.35E-04
		778.90	*	12.94	8.69E-04		9.46E-04	4.33E-04
		964.08	*	14.73	7.52E-04		8.00E-04	3.75E-04
		1085.87	*	10.24	5.76E-04		7.40E-04	2.86E-04
		1112.07	*	13.69	8.29E-04		1.18E-03	4.13E-04
		1408.01	*	21.07	2.36E-04		9.31E-04	1.17E-04
	GD-153	97.43		29.00	9.30E-04	9.30E-04	1.12E-03	4.65E-04
		103.18		21.10	1.23E-03		-6.12E-04	6.15E-04
+	EU-154	42.70	*	20.45	7.04E-03	2.72E-04	2.04E-02	3.52E-03
		123.07	*	40.40	8.26E-04		2.94E-02	4.13E-04
		247.93	*	6.89	2.98E-03		2.83E-02	1.49E-03
		591.76	*	4.95	2.44E-03		2.82E-02	1.22E-03
		692.42	*	1.78	3.81E-03		2.84E-02	1.90E-03
		723.30	*	20.06	8.43E-04		2.92E-02	4.21E-04
		756.80	*	4.52	3.00E-03		2.81E-02	1.50E-03
		873.18	*	12.08	5.38E-04		2.98E-02	2.67E-04
		996.29	*	10.48	5.77E-04		2.96E-02	2.86E-04
		1004.76	*	18.01	3.48E-04		2.91E-02	1.73E-04
		1246.12	*	0.86	8.69E-03		2.77E-02	4.31E-03
		1274.43	*	34.80	2.72E-04		2.90E-02	1.35E-04
		1494.05	*	0.70	5.66E-03		2.61E-02	2.79E-03
		1596.48	*	1.80	1.92E-03		2.80E-02	9.44E-04
+	EU-155	43.00	*	18.70	7.70E-03	1.21E-03	2.23E-02	3.85E-03
		60.01	*	1.22	6.64E-02		6.00E+00	3.32E-02
		86.55	*	30.70	1.21E-03		5.38E-03	6.07E-04
		105.31	*	21.10	1.37E-03		3.64E-03	6.85E-04
	HG-203	72.87		6.30	6.25E-03	1.89E-04	5.36E-04	3.12E-03

Analysis Report for 24-2305 VSM-4.5M-S2-CST-d-A Y3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	HG-203	279.20		81.46	1.89E-04	1.89E-04	2.40E-04	9.45E-05
	BI-207	569.15		97.80	1.21E-04	1.21E-04	5.41E-05	6.02E-05
		1063.10		74.90	1.22E-04		-1.76E-04	6.06E-05
	PB-210	46.54		4.25	2.24E-02	2.24E-02	-1.27E-02	1.12E-02
	RA-226	74.81		6.44	5.75E-03	1.50E-04	1.70E-02	2.87E-03
		77.11		10.80	3.27E-03		7.58E-03	1.64E-03
		87.30		4.84	6.23E-03		4.94E-02	3.11E-03
		186.21		3.59	5.13E-03		6.62E-04	2.56E-03
		242.00		7.43	2.25E-03		-1.11E-03	1.12E-03
		295.22		19.30	7.83E-04		-1.16E-04	3.91E-04
		351.93		37.60	3.60E-04		-1.63E-04	1.80E-04
		609.31		46.10	2.30E-04		3.99E-04	1.14E-04
		768.36		4.94	1.98E-03		-2.31E-04	9.89E-04
		1120.29		15.10	5.29E-04		2.70E-04	2.63E-04
		1238.11		5.79	1.03E-03		-1.81E-03	5.09E-04
		1764.49		15.40	1.50E-04		5.42E-05	7.29E-05
	PA-231	283.70		1.59	9.41E-03	6.27E-03	-5.95E-03	4.70E-03
		300.07		2.38	6.27E-03		-1.31E-03	3.13E-03
		302.67		1.71	8.67E-03		-9.74E-03	4.33E-03
		330.07		1.32	1.06E-02		5.71E-03	5.31E-03
	TH-232	74.81		11.62	3.19E-03	6.07E-05	9.41E-03	1.59E-03
		77.11		17.50	2.02E-03		4.68E-03	1.01E-03
		87.30		7.80	3.86E-03		3.06E-02	1.93E-03
		238.63		43.30	3.88E-04		-6.53E-04	1.94E-04
		338.32		11.30	1.23E-03		-5.80E-05	6.13E-04
		583.19		30.37	3.62E-04		9.52E-04	1.81E-04
		727.33		6.58	2.44E-03		-6.66E-05	1.22E-03
		911.21		26.60	3.40E-04		2.59E-05	1.69E-04
		968.97		16.20	5.68E-04		-2.45E-05	2.83E-04
		2614.53		35.64	6.07E-05		1.33E-04	2.91E-05
	U-235	143.76		10.96	1.97E-03	3.22E-04	4.78E-04	9.84E-04
		185.71		57.20	3.22E-04		2.79E-04	1.61E-04
		205.31		5.01	3.70E-03		9.84E-04	1.85E-03
	U-238	63.29		3.70	1.54E-02	6.61E-03	7.03E-03	7.70E-03
		92.51		4.23	6.61E-03		3.71E-03	3.30E-03
		112.81		0.21	1.18E-01		-9.72E-02	5.90E-02
		742.81		0.11	9.17E-02		-7.05E-02	4.57E-02
		766.28		0.32	3.10E-02		2.94E-02	1.54E-02
		1001.03		0.84	2.29E-02		9.70E-01	1.14E-02
	NP-239	99.60		12.80	2.89E-03	1.37E-03	-4.13E-03	1.44E-03
		103.80		20.40	1.77E-03		-2.21E-03	8.83E-04
		106.10		26.40	1.37E-03		8.07E-03	6.82E-04
		116.90		7.61	4.57E-03		1.88E-03	2.28E-03
		228.20		11.20	2.24E-03		3.68E-04	1.12E-03
		277.60		14.50	1.52E-03		2.08E-03	7.59E-04
		315.90		1.60	1.25E-02		1.27E-02	6.25E-03
		334.30		2.06	8.94E-03		4.43E-03	4.46E-03
+	AM-241	59.54	*	35.90	2.25E-03	2.25E-03	2.03E-01	1.12E-03

Analysis Report for 24-2305 VSM-4.5M-S2-CST-d-A Y3

ASR 2094 Branch

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

Apex-Gamma

Analysis Report for 24-2306 VSM-4.5M-S3-CST-A F3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2306 VSM-4.5M-S3-CST-A F3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 1:00:58PM
Procedure	: F3_gsv02mlw
Operator	: Administrator
Detector Name	: F
Geometry	: F3_gsv02mlw
Live Time	: 7456.9 seconds
Real Time	: 7702.9 seconds
Dead Time	: 3.19 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: F3_gsv2mlw_R717
Sample Number	: 567810
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 3:09:26PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2306 VSM-4.5M-S3-CST-A F3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	43.02	120.68	0.1972	10.82
2	49.01	137.22	0.2611	6.11
3	59.61	167.14	0.0410	244.25
4	74.96	209.78	0.2655	5.37
5	77.44	217.00	0.0000	0.00
6	86.86	243.02	0.1751	13.46
7	105.49	295.40	0.2006	8.60
8	123.12	344.62	0.0548	119.42
9	247.93	693.49	0.0981	34.11
10	344.31	962.81	0.2063	8.84
11	414.86	1159.93	0.1188	21.14
12	444.52	1242.91	0.2143	7.51
13	511.13	1428.78	0.1233	12.21
14	582.22	1627.55	0.1825	7.80
15	591.85	1654.69	0.0938	31.01
16	620.31	1734.01	0.3185	3.02
17	625.54	1748.24	0.2608	3.75
18	661.77	1850.10	0.0735	49.49
19	666.50	1863.35	0.1089	22.01
20	692.56	1935.43	0.2014	8.44
21	695.23	1943.74	0.1223	19.96
22	715.89	2001.00	0.2684	4.02
23	723.47	2022.46	0.0593	69.82
24	757.04	2116.29	0.0940	29.06
25	778.71	2176.62	0.2095	5.94
26	815.72	2280.35	0.2345	4.54
27	845.96	2364.41	0.1882	6.51
28	867.60	2425.66	0.2744	3.86
29	873.41	2441.48	0.0682	50.33
30	892.98	2495.54	0.2221	4.36
31	904.46	2528.32	0.1667	8.55
32	964.32	2695.71	0.2250	5.19
33	996.56	2785.67	0.0724	43.22
34	1005.01	2809.26	0.0614	59.45
35	1086.44	3036.02	0.2288	4.68
36	1128.55	3154.71	0.1995	5.64
37	1140.84	3188.49	0.2407	4.32
38	1173.52	3280.16	0.0591	59.88
39	1246.45	3483.65	0.1494	8.57
40	1274.77	3563.02	0.0529	72.54
41	1332.85	3725.28	0.0593	55.39
42	1397.79	3906.56	0.1486	9.61
43	1408.42	3936.52	0.1465	9.04
44	1461.28	4084.38	0.2017	4.81
45	1494.48	4177.09	0.1481	7.85
46	1596.84	4462.96	0.1097	14.42
47	1720.01	4806.81	0.1922	5.75
48	1765.21	4933.22	0.2465	3.30
49	2506.33	7004.44	0.1774	4.74
50	2615.28	7308.93	0.2125	3.47

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2306 VSM-4.5M-S3-CST-A F3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 3:09:26PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	43.02	113	124	120.76	1.06E+04	2059.39	3.60E+05	0.90
F	2	49.01	129	144	137.50	6.80E+03	574.49	5.81E+05	1.42
F	3	59.61	159	174	167.15	3.89E+05	2427.92	6.26E+05	1.24
M	4	74.96	206	225	210.02	4.06E+03	556.59	3.56E+05	1.20
m	5	77.44	206	225	216.98	3.20E+02	463.57	4.17E+05	1.20
F	6	86.86	239	251	243.30	1.31E+04	553.12	4.14E+05	1.50
F	7	105.49	292	303	295.38	6.79E+03	487.97	3.01E+05	1.33
F	8	123.12	339	353	344.65	1.07E+05	1781.22	2.92E+05	1.31
F	9	247.93	683	703	693.49	1.37E+04	829.60	9.02E+04	1.44
F	10	344.31	959	973	962.86	1.16E+03	129.10	2.83E+04	1.03
F	11	414.86	1153	1167	1160.04	4.04E+03	126.31	1.80E+04	1.55
F	12	444.52	1236	1254	1242.91	1.05E+03	367.77	1.87E+04	1.29
F	13	511.13	1417	1440	1429.08	7.66E+03	124.75	1.77E+04	2.89
F	14	582.22	1618	1637	1627.75	1.21E+03	149.16	1.02E+04	1.71
F	15	591.85	1645	1662	1654.65	5.45E+03	330.61	8.87E+03	1.72
M	16	620.31	1728	1756	1734.20	2.10E+02	132.62	4.65E+03	1.12
m	17	625.54	1728	1756	1748.80	4.12E+02	162.30	9.70E+03	1.12
M	18	661.77	1839	1874	1850.08	1.05E+04	118.22	6.95E+03	1.79
m	19	666.50	1839	1874	1863.28	3.25E+03	82.73	6.74E+03	1.80
M	20	692.56	1927	1955	1936.12	1.84E+03	72.92	5.77E+03	1.89
m	21	695.23	1927	1955	1943.56	3.40E+03	82.65	5.92E+03	1.90
F	22	715.89	1996	2008	2001.30	2.04E+02	45.68	4.04E+03	0.76
F	23	723.47	2009	2035	2022.49	2.02E+04	388.42	8.05E+03	1.90
F	24	757.04	2105	2127	2116.29	4.40E+03	250.91	6.15E+03	1.80
F	25	778.71	2170	2188	2176.86	6.80E+02	263.31	4.62E+03	2.22
F	26	815.72	2269	2286	2280.28	4.44E+02	197.96	4.02E+03	1.94
F	27	845.96	2357	2374	2364.79	7.43E+02	55.10	3.48E+03	2.23
M	28	867.60	2421	2451	2425.26	1.40E+02	47.82	2.47E+03	1.97
m	29	873.41	2421	2451	2441.51	1.08E+04	110.43	3.49E+03	1.97
F	30	892.98	2489	2508	2496.19	5.62E+02	51.55	3.31E+03	2.68
F	31	904.46	2520	2535	2528.28	8.18E+02	201.05	2.59E+03	1.98
F	32	964.32	2685	2700	2695.54	2.56E+02	45.94	2.55E+03	1.57
F	33	996.56	2775	2797	2785.64	8.86E+03	99.28	3.26E+03	2.15
F	34	1005.01	2797	2820	2809.25	1.51E+04	287.04	3.34E+03	2.17
F	35	1086.44	3030	3050	3036.80	3.51E+02	40.87	2.01E+03	2.60
F	36	1128.55	3140	3161	3154.47	5.30E+02	163.32	1.70E+03	2.25
F	37	1140.84	3183	3198	3188.81	2.54E+02	34.37	1.03E+03	2.51
F	38	1173.52	3268	3292	3280.13	1.68E+04	242.13	1.27E+03	2.38
F	39	1246.45	3477	3495	3483.90	6.54E+02	32.33	5.95E+02	2.60
F	40	1274.77	3551	3577	3563.03	2.50E+04	151.30	9.82E+02	2.38

Analysis Report for 24-2306 VSM-4.5M-S3-CST-A F3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1332.85	3712 -	3739	3725.32	1.54E+04	118.65	6.34E+02	2.44
F	42	1397.79	3894 -	3921	3906.77	5.22E+02	25.69	3.77E+02	2.55
F	43	1408.42	3925 -	3947	3936.48	5.06E+02	85.00	3.10E+02	2.50
F	44	1461.28	4075 -	4094	4084.18	1.69E+02	18.03	2.35E+02	2.47
F	45	1494.48	4167 -	4189	4176.95	4.63E+02	23.90	2.40E+02	2.59
F	46	1596.84	4448 -	4476	4462.92	1.33E+03	78.76	1.94E+02	2.78
F	47	1720.01	4799 -	4817	4807.07	1.28E+02	13.33	6.95E+01	2.28
F	48	1765.21	4925 -	4942	4933.36	8.60E+01	57.13	3.90E+01	3.25
F	49	2506.33	6994 -	7014	7003.77	1.36E+02	37.91	2.10E+01	3.05
F	50	2615.28	7300 -	7316	7308.11	4.69E+01	8.91	2.99E+01	2.55

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 3:09:26PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567378.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	43.02	1.06E+04	2059.39			1.06E+04	2.06E+03
F	2	49.01	6.80E+03	574.49			6.80E+03	5.74E+02
F	3	59.61	3.89E+05	2427.92			3.89E+05	2.43E+03
M	4	74.96	4.06E+03	556.59	2.52E+02	1.39E+01	3.81E+03	5.57E+02
m	5	77.44	3.20E+02	463.57	5.68E+01	3.82E+00	2.64E+02	4.64E+02
F	6	86.86	1.31E+04	553.12	5.54E+01	3.50E+00	1.31E+04	5.53E+02
F	7	105.49	6.79E+03	487.97			6.79E+03	4.88E+02
F	8	123.12	1.07E+05	1781.22			1.07E+05	1.78E+03
F	9	247.93	1.37E+04	829.60			1.37E+04	8.30E+02
F	10	344.31	1.16E+03	129.10			1.16E+03	1.29E+02
F	11	414.86	4.04E+03	126.31			4.04E+03	1.26E+02
F	12	444.52	1.05E+03	367.77			1.05E+03	3.68E+02
F	13	511.13	7.66E+03	124.75	2.92E+02	1.07E+01	7.37E+03	1.25E+02
F	14	582.22	1.21E+03	149.16	3.46E+01	5.51E+00	1.17E+03	1.49E+02
F	15	591.85	5.45E+03	330.61			5.45E+03	3.31E+02
M	16	620.31	2.10E+02	132.62			2.10E+02	1.33E+02
m	17	625.54	4.12E+02	162.30			4.12E+02	1.62E+02
M	18	661.77	1.05E+04	118.22			1.05E+04	1.18E+02
m	19	666.50	3.25E+03	82.73			3.25E+03	8.27E+01

Analysis Report for 24-2306 VSM-4.5M-S3-CST-A F3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	20	692.56	1.84E+03	72.92			1.84E+03	7.29E+01
m	21	695.23	3.40E+03	82.65			3.40E+03	8.26E+01
F	22	715.89	2.04E+02	45.68			2.04E+02	4.57E+01
F	23	723.47	2.02E+04	388.42			2.02E+04	3.88E+02
F	24	757.04	4.40E+03	250.91			4.40E+03	2.51E+02
F	25	778.71	6.80E+02	263.31			6.80E+02	2.63E+02
F	26	815.72	4.44E+02	197.96			4.44E+02	1.98E+02
F	27	845.96	7.43E+02	55.10			7.43E+02	5.51E+01
M	28	867.60	1.40E+02	47.82			1.40E+02	4.78E+01
m	29	873.41	1.08E+04	110.43			1.08E+04	1.10E+02
F	30	892.98	5.62E+02	51.55			5.62E+02	5.16E+01
F	31	904.46	8.18E+02	201.05			8.18E+02	2.01E+02
F	32	964.32	2.56E+02	45.94			2.56E+02	4.59E+01
F	33	996.56	8.86E+03	99.28			8.86E+03	9.93E+01
F	34	1005.01	1.51E+04	287.04			1.51E+04	2.87E+02
F	35	1086.44	3.51E+02	40.87			3.51E+02	4.09E+01
F	36	1128.55	5.30E+02	163.32			5.30E+02	1.63E+02
F	37	1140.84	2.54E+02	34.37			2.54E+02	3.44E+01
F	38	1173.52	1.68E+04	242.13			1.68E+04	2.42E+02
F	39	1246.45	6.54E+02	32.33			6.54E+02	3.23E+01
F	40	1274.77	2.50E+04	151.30			2.50E+04	1.51E+02
F	41	1332.85	1.54E+04	118.65			1.54E+04	1.19E+02
F	42	1397.79	5.22E+02	25.69			5.22E+02	2.57E+01
F	43	1408.42	5.06E+02	85.00	9.35E+00	8.57E-01	4.97E+02	8.50E+01
F	44	1461.28	1.69E+02	18.03	2.15E+02	2.44E+00	-4.67E+01	1.82E+01
F	45	1494.48	4.63E+02	23.90			4.63E+02	2.39E+01
F	46	1596.84	1.33E+03	78.76			1.33E+03	7.88E+01
F	47	1720.01	1.28E+02	13.33			1.28E+02	1.33E+01
F	48	1765.21	8.60E+01	57.13	6.00E+01	3.47E+00	2.60E+01	5.72E+01
F	49	2506.33	1.36E+02	37.91			1.36E+02	3.79E+01
F	50	2615.28	4.69E+01	8.91	7.43E+01	3.67E+00	-2.74E+01	9.64E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Analysis Report for 24-2306 VSM-4.5M-S3-CST-A F3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.96	1460.82	*	10.66	-1.87E-04	7.29E-05	miss
MN-56	0.35	846.76	*	98.85	1.94E-01	1.44E-02	0.988
		1810.73		26.90			
		2113.09		14.20			
CO-60	0.98	1173.23	*	99.85	6.50E-03	9.86E-05	0.965
		1332.49	*	99.98	6.45E-03	6.12E-05	0.963
ZR-95	0.95	724.19	*	44.27	1.27E-02	2.62E-04	free
		756.72	*	54.38	2.33E-03	1.34E-04	free
RU-106	0.91	511.86	*	20.40	8.09E-03	2.13E-04	miss
Te-129m	0.93	695.88	*	3.00	3.12E-02	6.30E-03	free
CS-137	0.99	661.66	*	85.10	3.22E-03	4.06E-05	miss
EU-152	0.35	121.78		28.53			
		344.28	*	26.59	7.85E-04	8.80E-05	0.971
		778.90	*	12.93	1.58E-03	6.13E-04	0.961
		867.37	*@	4.23	1.10E-03	3.74E-04	0.934
		964.08	*@	14.51	6.01E-04	1.08E-04	0.967
		1085.87	*	10.11	1.22E-03	1.42E-04	1.008
		1112.07		13.67			
		1408.01	*	20.87	1.02E-03	1.74E-04	0.975
EU-154	0.99	42.70	*	20.45	2.52E-02	4.96E-03	miss
		123.07	*	40.40	2.93E-02	6.14E-04	0.958
		247.93	*	6.89	3.04E-02	1.88E-03	0.945
		591.76	*	4.95	2.88E-02	1.78E-03	0.934
		692.42	*	1.78	2.94E-02	1.22E-03	0.949
		723.30	*	20.06	2.92E-02	6.51E-04	0.952
		756.80	*	4.52	2.97E-02	1.72E-03	0.932
		873.18	*	12.08	2.92E-02	4.51E-04	0.945
		996.29	*	10.48	2.88E-02	4.46E-04	0.986
		1004.76	*	18.01	2.90E-02	6.38E-04	0.978
		1246.12	*	0.86	3.14E-02	1.61E-03	0.941
		1274.43	*	34.80	2.87E-02	3.43E-04	0.980
		1494.05	*	0.70	2.84E-02	1.51E-03	1.014
		1596.48	*	1.80	2.89E-02	1.75E-03	1.158
EU-155	0.99	43.00	*	18.12	2.85E-02	5.59E-03	1.000
		60.01	*	1.17	6.12E+00	1.77E-01	0.999
		86.55	*	30.70	4.75E-03	2.09E-04	free
		105.31	*	21.10	3.36E-03	2.55E-04	1.000
TB-161	0.77	25.65		23.20			
		48.91	*	17.00	1.36E-02	1.37E-03	0.999
		52.00		3.43			
		57.19		1.79			
		74.57	*	10.20	5.27E-03	8.13E-04	0.999
Pt-197	0.71	77.35	*	17.00	4.56E-04	8.04E-04	0.998
		191.44		3.70			
NP-237	0.97	86.48	*	12.20	1.20E-02	5.92E-04	1.000
AM-241	0.99	59.54	*	35.90	1.99E-01	3.44E-03	free

Analysis Report for 24-2306 VSM-4.5M-S3-CST-A F3

ASR 2094 Branch

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name		Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
X	NA-22		0.995			
	K-40		0.967	-1.87E-04	7.29E-05	
	MN-56		0.351	1.94E-01	1.44E-02	
	CO-60		0.983	6.47E-03	5.20E-05	
X	CU-64		0.964			
X	GA-66		0.481			
	ZR-95		0.955	7.13E-05	1.20E-04	
	RU-106		0.918	8.09E-03	2.13E-04	
	Te-129m		0.934	3.12E-02	6.30E-03	
	CS-137		0.998	3.22E-03	4.06E-05	
	EU-152	@	0.358	9.32E-04	6.84E-05	
	EU-154		0.991	2.89E-02	1.46E-04	
	EU-155		0.991	3.34E-03	2.42E-04	
	TB-161		0.774	7.46E-03	6.99E-04	
	Pt-197		0.711	4.56E-04	8.04E-04	
	NP-237		0.978	3.55E-03	7.97E-04	
	AM-241		0.999	1.99E-01	2.63E-03	
X	AM-242m		0.649			
X	AM-243		0.984			

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

Errors quoted at 1.000sigma

Analysis Report for 24-2306 VSM-4.5M-S3-CST-A F3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 3:09:26PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	11	414.86	5.42229E-01	3.12	Tol.	RH-102M
F	12	444.52	1.40381E-01	35.13	Tol.	SB-127 ND-149
F	14	582.22	1.57486E-01	12.71		
M	16	620.31	2.82108E-02	63.04	Tol.	AG-110M I-132
m	17	625.54	5.52884E-02	39.37	Tol.	BA-141
m	19	666.50	4.35201E-01	2.55	Sum	
F	22	715.89	2.73922E-02	22.36	Sum	
F	26	815.72	5.94872E-02	44.63	Sum	
F	30	892.98	7.53089E-02	9.18		
F	31	904.46	1.09710E-01	24.58		
F	36	1128.55	7.10148E-02	30.84	Sum	
F	37	1140.84	3.40317E-02	13.54	Tol.	KR-88
F	42	1397.79	6.99427E-02	4.93	Sum	
F	47	1720.01	1.71644E-02	10.42	Sum	
F	48	1765.21	3.48420E-03	220.29	Sum	
F	49	2506.33	1.82921E-02	27.79	Sum	
F	50	2615.28	-3.68107E-03	- 35.11		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

Analysis Report for 24-2306 VSM-4.5M-S3-CST-A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.60		10.44	1.60E-03	1.60E-03	6.95E-04	7.98E-04
	NA-22	511.00	*	179.91	1.45E-04	1.23E-04	9.16E-04	7.21E-05
		1274.54	*	99.94	1.23E-04		1.06E-02	6.10E-05
	NA-24	1368.63		99.99	1.92E-04	3.99E-05	1.32E-05	9.41E-05
		2754.01		99.87	3.99E-05		2.29E-05	1.69E-05
	AL-26	1129.67		2.50	4.18E-03	2.38E-05	3.65E-03	2.07E-03
		1808.65		99.76	2.38E-05		1.09E-06	1.12E-05
+	K-40	1460.82	*	10.66	5.45E-04	5.45E-04	-1.87E-04	2.67E-04
	K-42	312.60		0.34	2.48E-01	9.44E-04	-2.78E-01	1.24E-01
		1524.60		18.08	9.44E-04		3.72E-06	4.59E-04
	Sc-44	1157.02		99.90	7.01E-03	7.01E-03	1.70E-03	3.47E-03
		1499.46		0.91	5.52E-01		1.85E-01	2.71E-01
	Sc-44m	271.24		86.74	3.48E-04	3.48E-04	2.06E-04	1.74E-04
		1001.83		1.20	3.25E-02		9.01E-01	1.62E-02
		1126.06		1.20	1.30E-02		1.95E-02	6.42E-03
		1157.00		1.20	1.07E-02		2.59E-03	5.28E-03
	TI-44	67.87		93.00	6.32E-04	5.16E-04	8.08E-04	3.16E-04
		78.32		96.40	5.16E-04		-2.24E-05	2.58E-04
	SC-46	889.28		99.98	1.27E-04	1.12E-04	5.08E-05	6.33E-05
		1120.55		99.99	1.12E-04		-1.55E-04	5.56E-05
	CA-47	489.23		5.90	3.33E-03	1.10E-04	-2.46E-03	1.66E-03
		807.86		5.90	2.56E-03		-1.20E-03	1.27E-03
		1297.09		67.00	1.10E-04		5.64E-07	5.43E-05
	SC-47	159.38		68.30	5.37E-04	5.37E-04	6.90E-05	2.68E-04
	SC-48	175.36		7.47	5.53E-03	8.96E-05	-9.64E-04	2.76E-03
		983.53		100.00	1.76E-04		-7.77E-06	8.73E-05
		1037.52		97.50	1.76E-04		3.60E-05	8.75E-05
		1312.12		100.00	8.96E-05		-1.62E-05	4.40E-05
	V-48	944.13		7.87	1.64E-03	6.68E-05	8.31E-04	8.15E-04
		983.53		99.98	1.28E-04		-5.67E-06	6.37E-05
		1312.11		98.20	6.68E-05		-1.21E-05	3.28E-05
		2240.40		2.33	9.59E-04		7.39E-04	4.43E-04
	CR-51	320.08		9.91	2.09E-03	2.09E-03	1.31E-03	1.04E-03
	Fe-52	168.69		99.20	2.35E-03	2.35E-03	2.10E-03	1.17E-03
		377.75		1.64	8.95E-02		1.28E-02	4.46E-02
	Mn-52	744.23		90.00	1.79E-04	5.81E-05	3.54E-06	8.88E-05
		848.18		3.32	4.73E-03		6.14E-03	2.35E-03
		935.54		94.50	1.56E-04		4.86E-05	7.75E-05
		1246.28		4.21	2.41E-03		4.56E-03	1.19E-03
		1333.65		5.07	5.76E-03		1.49E-01	2.86E-03
		1434.09		100.00	5.81E-05		-2.79E-05	2.83E-05
	MN-54	834.85		99.98	1.24E-04	1.24E-04	2.96E-05	6.14E-05
	Co-55	411.50		1.07	4.57E-02	4.36E-04	4.80E-03	2.28E-02
		477.20		20.20	2.20E-03		-5.66E-04	1.10E-03
		803.70		1.87	1.80E-02		-5.56E-03	8.93E-03
		931.10		75.00	4.36E-04		-3.48E-04	2.17E-04
		1316.60		7.10	2.28E-03		-6.09E-05	1.12E-03
		1370.00		2.90	5.30E-03		-9.89E-03	2.60E-03
		1408.50		16.90	1.06E-03		3.41E-03	5.20E-04
	Co-56	846.77		99.94	1.36E-04	8.87E-05	2.55E-04	6.75E-05
		977.37		1.42	9.04E-03		6.55E-03	4.49E-03

Analysis Report for 24-2306 VSM-4.5M-S3-CST-A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Co-56	1037.84		14.05	8.81E-04	8.87E-05	5.28E-04	4.37E-04
		1175.10		2.25	1.16E-02		3.03E-01	5.78E-03
		1238.29		66.46	1.19E-04		1.65E-04	5.89E-05
		1360.21		4.28	1.48E-03		-5.26E-04	7.25E-04
		1771.36		15.41	2.23E-04		-1.55E-04	1.07E-04
		2015.20		3.02	7.76E-04		-1.52E-04	3.63E-04
		2034.79		7.77	2.71E-04		2.91E-04	1.25E-04
		2598.50		16.97	8.87E-05		-4.25E-05	3.89E-05
+	MN-56	846.76	*	98.85	1.19E-01	7.76E-02	1.94E-01	5.93E-02
		1810.73		26.90	7.76E-02		6.22E-02	3.66E-02
		2113.09		14.20	1.26E-01		1.36E-02	5.85E-02
	Ni-56	158.38		98.80	3.38E-04	1.66E-04	-1.44E-04	1.69E-04
		269.50		36.50	6.46E-04		6.24E-04	3.22E-04
		480.44		36.50	5.07E-04		1.85E-05	2.52E-04
		749.50		49.50	3.02E-04		-2.48E-04	1.50E-04
		811.85		86.00	1.66E-04		-2.85E-05	8.23E-05
		1561.80		14.00	2.82E-04		7.76E-05	1.36E-04
	CO-57	122.06		85.60	4.34E-04	4.34E-04	-3.34E-04	2.17E-04
		136.47		10.68	2.93E-03		-3.04E-03	1.46E-03
	NI-57	127.16		16.70	3.46E-03	1.10E-04	-1.40E-03	1.73E-03
		1377.63		81.70	1.10E-04		-4.71E-05	5.41E-05
		1757.55		5.75	8.95E-04		-2.95E-04	4.29E-04
		1919.52		12.30	2.99E-04		3.31E-05	1.40E-04
	CO-58	810.76		99.45	1.30E-04	1.30E-04	4.52E-05	6.46E-05
		863.96		0.69	1.86E-02		2.76E-03	9.25E-03
		1674.73		0.52	5.53E-03		-1.11E-02	2.64E-03
	FE-59	142.65		1.02	3.02E-02	1.53E-04	8.90E-03	1.51E-02
		192.34		3.08	8.99E-03		-1.86E-03	4.49E-03
		1099.24		56.50	1.94E-04		-7.97E-05	9.61E-05
		1291.59		43.20	1.53E-04		1.76E-04	7.53E-05
+	CO-60	1173.23	*	99.85	1.23E-04	9.90E-05	6.50E-03	6.08E-05
		1332.49	*	99.98	9.90E-05		6.45E-03	4.89E-05
	CU-64	511.00	*	35.00	2.92E-03	2.92E-03	1.85E-02	1.46E-03
		1345.77		0.47	4.72E-02		3.49E-02	2.31E-02
	NI-65	366.27		4.81	3.93E+00	1.75E-01	-8.27E-01	1.96E+00
		1115.53		15.43	7.27E-01		2.02E+00	3.60E-01
		1481.84		23.59	1.75E-01		-1.17E-01	8.52E-02
	ZN-65	1115.54		50.04	2.25E-04	2.25E-04	6.25E-04	1.11E-04
	GA-66	511.00	*	114.00	1.42E-03	3.31E-04	9.02E-03	7.10E-04
		833.53		5.90	1.31E-02		6.19E-04	6.49E-03
		1039.22		37.00	1.95E-03		-2.28E-03	9.69E-04
		1333.11	*	1.17	5.09E-02		3.32E+00	2.51E-02
		1918.33		1.99	7.03E-03		3.16E-04	3.30E-03
		2189.62		5.30	2.49E-03		1.24E-04	1.16E-03
		2751.83		22.70	3.31E-04		-3.32E-04	1.40E-04
	CU-67	91.27		7.00	7.65E-03	7.34E-04	-2.95E-03	3.82E-03
		93.31		16.10	3.24E-03		6.95E-04	1.62E-03
		184.58		48.70	7.34E-04		-2.08E-04	3.66E-04
		300.22		0.80	3.50E-02		3.77E-02	1.74E-02
		393.53		0.22	1.06E-01		3.10E-02	5.29E-02
	GA-67	91.26		3.11	1.67E-02	1.28E-03	-6.43E-03	8.33E-03
		93.31		38.81	1.28E-03		2.75E-04	6.40E-04
		184.58		21.41	1.58E-03		-4.47E-04	7.87E-04

Analysis Report for 24-2306 VSM-4.5M-S3-CST-A F3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
GA-67	208.95	2.46	1.33E-02	1.28E-03	6.17E-03	6.62E-03
	300.22	16.64	1.61E-03		1.74E-03	8.06E-04
	393.53	4.56	4.36E-03		1.27E-03	2.17E-03
ZN-69m	438.63	94.85	6.40E-04	6.40E-04	2.80E-05	3.19E-04
GA-72	629.97	26.13	2.05E-03	3.50E-04	8.88E-04	1.02E-03
	834.13	95.45	4.60E-04		-6.98E-04	2.29E-04
	894.33	10.14	4.43E-03		7.95E-03	2.20E-03
	1050.79	6.99	6.25E-03		7.08E-04	3.10E-03
	2201.59	26.87	3.50E-04		1.71E-04	1.65E-04
	2491.03	7.73	7.56E-04		-1.43E-05	3.39E-04
	2507.72	13.33	1.11E-03		2.44E-03	5.33E-04
Zn-72	144.70	82.78	5.28E-04	5.28E-04	5.90E-04	2.64E-04
	191.50	9.35	4.10E-03		-1.11E-03	2.05E-03
SE-75	121.12	17.20	2.28E-03	3.77E-04	-1.58E-03	1.14E-03
	136.00	58.50	5.61E-04		-2.65E-04	2.80E-04
	264.66	58.90	3.77E-04		-3.35E-04	1.88E-04
	279.54	25.02	9.14E-04		7.29E-04	4.56E-04
	400.66	11.41	1.17E-03		2.63E-04	5.85E-04
BR-83	529.59	1.30	1.77E+01	1.77E+01	1.17E+00	8.82E+00
BR-84	604.80	1.70	1.17E+12	2.10E+10	-8.17E+11	5.84E+11
	736.50	1.29	1.38E+12		-1.02E+12	6.85E+11
	802.20	6.00	2.84E+11		-1.84E+10	1.41E+11
	881.60	42.00	3.99E+10		-1.60E+09	1.98E+10
	987.30	0.79	2.01E+12		8.10E+11	9.98E+11
	1015.90	6.20	2.55E+11		1.56E+11	1.27E+11
	1213.30	2.60	3.88E+11		2.07E+11	1.91E+11
	1463.80	2.00	3.58E+11		4.09E+11	1.75E+11
	1741.20	1.60	2.26E+11		9.18E+10	1.08E+11
	1877.50	1.12	2.40E+11		-2.03E+11	1.12E+11
	1897.60	14.60	2.10E+10		2.64E+10	9.88E+09
	2029.60	2.10	1.33E+11		6.67E+10	6.20E+10
	2200.70	1.16	3.08E+11		2.55E+11	1.45E+11
	2484.10	6.70	3.26E+10		-1.92E+09	1.46E+10
	2824.10	1.12	1.67E+11		1.45E+10	7.19E+10
KR-85m	151.20	75.20	1.88E-02	1.88E-02	1.68E-02	9.37E-03
	304.87	14.00	7.17E-02		5.38E-02	3.58E-02
Y-87	388.53	82.20	2.68E-04	2.25E-04	9.30E-05	1.34E-04
	484.80	89.80	2.25E-04		-1.55E-04	1.12E-04
KR-88	165.98	3.10	4.65E+00	2.32E-02	4.59E+00	2.32E+00
	196.30	26.00	4.79E-01		-2.01E-01	2.39E-01
	362.23	2.25	3.71E+00		-1.10E+00	1.85E+00
	471.80	0.73	1.09E+01		-7.01E-01	5.42E+00
	834.83	13.00	4.55E-01		1.09E-01	2.26E-01
	985.78	1.31	4.39E+00		-9.73E-01	2.18E+00
	1141.33	1.28	3.53E+00		1.06E+00	1.75E+00
	1179.51	1.00	1.14E+01		-8.16E-01	5.70E+00
	1250.67	1.12	3.55E+00		7.38E+00	1.75E+00
	1369.50	1.48	1.90E+00		-6.74E-01	9.32E-01
	1518.39	2.15	9.32E-01		4.56E-01	4.52E-01
	1529.77	10.90	1.87E-01		-1.26E-01	9.10E-02
	2029.84	4.53	2.27E-01		1.32E-01	1.05E-01
	2035.41	3.74	2.54E-01		-1.71E-01	1.17E-01
	2195.84	13.20	8.58E-02		-7.71E-02	4.01E-02

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
KR-88	2231.77	3.39	2.99E-01	2.32E-02	1.93E-01	1.39E-01
	2352.08	0.73	1.32E+00		1.15E+00	6.08E-01
	2392.11	34.60	2.32E-02		6.54E-03	1.05E-02
RB-88	898.03	14.40	4.30E-01	4.68E-02	2.66E-03	2.13E-01
	1382.45	0.78	3.29E+00		6.70E-01	1.61E+00
	1836.00	22.81	4.68E-02		-3.77E-02	2.20E-02
	2677.89	2.13	3.72E-01		9.61E-02	1.65E-01
Y-88	898.04	93.70	1.43E-04	2.34E-05	8.81E-07	7.08E-05
	1836.06	99.20	2.34E-05		-1.89E-05	1.10E-05
@ RB-89	272.42	1.53	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	657.77	10.80	1.00E+20		1.00E+20	1.00E+20
@	947.73	10.00	1.00E+20		1.00E+20	1.00E+20
@	1031.92	63.00	1.00E+20		1.00E+20	1.00E+20
@	1248.14	46.00	1.00E+20		1.00E+20	1.00E+20
@	1538.07	2.77	1.00E+20		1.00E+20	1.00E+20
@	2007.50	2.58	1.00E+20		1.00E+20	1.00E+20
@	2195.92	14.50	1.00E+20		1.00E+20	1.00E+20
@	2570.20	10.70	1.00E+20		1.00E+20	1.00E+20
@	2707.26	2.20	1.00E+20		1.00E+20	1.00E+20
SR-89	908.96	0.01	1.35E+00	1.35E+00	-7.24E-01	6.73E-01
Sr-91	652.90	11.35	7.61E-03	2.10E-03	1.44E-03	3.79E-03
	749.80	23.70	3.39E-03		-2.78E-03	1.68E-03
	925.80	3.85	1.92E-02		2.02E-02	9.54E-03
	1024.30	33.50	2.10E-03		-1.77E-03	1.04E-03
Y-91	1204.77	0.26	2.87E-02	2.87E-02	-1.85E-02	1.42E-02
NB-92M	912.60	1.78	7.69E-03	1.31E-04	1.64E-04	3.82E-03
	934.44	99.15	1.31E-04		2.84E-05	6.48E-05
	1847.50	0.85	3.13E-03		5.26E-03	1.48E-03
SR-92	241.56	2.93	5.95E+00	4.58E-02	-1.78E+00	2.97E+00
	430.49	3.28	4.03E+00		-4.99E+00	2.01E+00
	953.31	3.52	2.64E+00		3.03E+00	1.31E+00
	1142.35	2.79	2.62E+00		-1.16E+00	1.30E+00
	1383.93	90.00	4.58E-02		-5.43E-03	2.24E-02
MO-93M	114.04	0.68	6.49E-01	5.44E-04	-1.46E-01	3.24E-01
	263.05	57.40	4.68E-03		-8.50E-04	2.34E-03
	684.69	99.90	1.73E-03		-3.87E-05	8.59E-04
	1363.02	0.81	9.40E-02		1.14E-01	4.61E-02
	1477.14	99.10	5.44E-04		-2.74E-05	2.65E-04
@ SR-93	168.50	18.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	260.12	7.40	1.00E+20		1.00E+20	1.00E+20
@	346.49	3.28	1.00E+20		1.00E+20	1.00E+20
@	446.20	2.36	1.00E+20		1.00E+20	1.00E+20
@	590.24	68.00	1.00E+20		1.00E+20	1.00E+20
@	710.31	21.80	1.00E+20		1.00E+20	1.00E+20
@	875.73	24.50	1.00E+20		1.00E+20	1.00E+20
@	888.13	22.10	1.00E+20		1.00E+20	1.00E+20
@	1040.63	3.20	1.00E+20		1.00E+20	1.00E+20
@	1094.00	1.76	1.00E+20		1.00E+20	1.00E+20
@	1122.48	4.00	1.00E+20		1.00E+20	1.00E+20
@	1215.48	2.50	1.00E+20		1.00E+20	1.00E+20
@	1269.47	7.10	1.00E+20		1.00E+20	1.00E+20
@	1321.24	2.61	1.00E+20		1.00E+20	1.00E+20
@	1387.11	3.50	1.00E+20		1.00E+20	1.00E+20

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	SR-93	1694.07		2.58	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		1699.06		3.30	1.00E+20		1.00E+20	1.00E+20
@		2543.84		3.03	1.00E+20		1.00E+20	1.00E+20
@		2688.65		2.13	1.00E+20		1.00E+20	1.00E+20
	Y-93	266.90		7.40	1.57E-02	7.82E-03	1.17E-02	7.82E-03
		947.10		2.10	3.13E-02		-4.93E-02	1.56E-02
		1917.80		1.57	7.82E-03		2.64E-03	3.67E-03
	NB-94	702.65		99.81	1.42E-04	1.42E-04	1.90E-05	7.07E-05
		871.09		99.89	2.01E-04		3.62E-03	9.99E-05
@	Y-94	381.60		2.02	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		550.90		4.90	1.00E+20		1.00E+20	1.00E+20
@		752.60		1.40	1.00E+20		1.00E+20	1.00E+20
@		918.74		56.00	1.00E+20		1.00E+20	1.00E+20
@		1138.90		6.00	1.00E+20		1.00E+20	1.00E+20
@		1671.40		2.50	1.00E+20		1.00E+20	1.00E+20
@		2140.60		0.95	1.00E+20		1.00E+20	1.00E+20
	NB-95	765.80		99.81	1.34E-04	1.34E-04	1.85E-04	6.64E-05
+	ZR-95	724.19	*	44.27	5.21E-04	3.56E-04	1.27E-02	2.60E-04
		756.72	*	54.38	3.56E-04		2.33E-03	1.77E-04
	NB-96	219.08		2.97	1.71E-02	2.87E-04	1.22E-02	8.56E-03
		241.38		3.50	1.36E-02		-4.08E-03	6.80E-03
		350.05		1.54	2.62E-02		1.85E-02	1.31E-02
		352.56		0.83	4.80E-02		6.74E-03	2.40E-02
		371.81		2.62	1.47E-02		1.35E-02	7.34E-03
		460.04		26.62	1.33E-03		7.85E-04	6.60E-04
		480.71		5.84	5.92E-03		2.16E-04	2.95E-03
		568.87		58.00	5.41E-04		-5.18E-04	2.70E-04
		719.56		6.85	6.98E-03		3.11E-03	3.48E-03
		721.63		1.02	4.70E-02		1.13E+00	2.34E-02
		778.22		96.45	2.87E-04		3.30E-04	1.43E-04
		810.33		11.09	2.39E-03		9.13E-04	1.19E-03
		812.58		2.95	9.01E-03		5.19E-03	4.48E-03
		847.69		1.14	2.38E-02		3.82E-02	1.18E-02
		849.93		20.45	1.33E-03		8.63E-04	6.60E-04
		1091.35		48.50	4.82E-04		-3.67E-05	2.39E-04
		1200.23		19.97	7.97E-04		1.32E-04	3.93E-04
		1441.13		0.44	2.20E-02		2.05E-03	1.07E-02
		1497.81		3.28	4.00E-03		1.55E-02	1.96E-03
	Nb-97	657.94		98.23	5.43E-04	5.43E-04	1.13E-05	2.70E-04
		1024.40		1.09	3.00E-02		-2.54E-02	1.49E-02
	ZR-97	254.17		1.15	5.35E-02	4.00E-04	1.72E-02	2.67E-02
		355.40		2.09	2.69E-02		3.14E-03	1.34E-02
		507.64		5.03	1.06E-02		8.22E-04	5.29E-03
		743.36		93.09	4.00E-04		6.78E-04	1.99E-04
		1147.97		2.62	1.06E-02		7.93E-03	5.24E-03
	MO-99	181.07		6.14	6.15E-03	1.45E-03	-2.90E-03	3.07E-03
		366.42		1.20	2.00E-02		-4.20E-03	9.96E-03
		739.50		12.26	1.45E-03		-8.87E-04	7.21E-04
		777.92		4.30	3.98E-03		1.81E-03	1.98E-03
	TC-99M	140.51		90.80	4.39E-04	4.39E-04	5.50E-05	2.19E-04
	RH-101	127.23		68.00	5.30E-04	3.68E-04	-1.89E-04	2.65E-04
		198.01		73.00	3.68E-04		-1.39E-05	1.84E-04
		325.23		11.80	1.34E-03		-8.34E-04	6.68E-04

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RH-101M	306.86		81.00	3.02E-04	3.02E-04	8.62E-05	1.51E-04
		545.12		4.30	4.23E-03		1.80E-03	2.11E-03
	RH-102M	415.25		2.10	9.76E-03	1.90E-04	4.78E-02	4.86E-03
		418.52		9.40	2.13E-03		9.05E-04	1.06E-03
		420.40		3.20	6.33E-03		1.11E-03	3.15E-03
		475.06		95.00	1.90E-04		7.73E-05	9.48E-05
		628.05		8.30	1.97E-03		7.24E-04	9.79E-04
		631.29		56.00	2.82E-04		3.75E-04	1.40E-04
		692.40		1.60	1.13E-02		9.59E-04	5.65E-03
		695.60		2.90	6.15E-03		-8.99E-04	3.06E-03
		697.49		44.00	4.03E-04		-4.49E-06	2.01E-04
		766.84		34.00	4.18E-04		2.77E-04	2.08E-04
		1046.59		34.00	3.72E-04		4.15E-04	1.84E-04
		1103.16		4.60	2.44E-03		-4.87E-04	1.21E-03
		1112.84		19.00	6.40E-04		4.83E-04	3.17E-04
	RU-103	497.08		91.00	1.78E-04	1.78E-04	1.49E-06	8.88E-05
		610.33		5.76	2.61E-03		5.12E-04	1.30E-03
	RH-105	306.31		4.66	7.28E-03	1.95E-03	-2.21E-03	3.63E-03
		319.23		16.90	1.95E-03		-8.84E-05	9.74E-04
	AG-106M	221.70		6.60	3.96E-03	2.26E-04	-2.11E-03	1.98E-03
		228.63		2.10	1.22E-02		1.89E-02	6.10E-03
		328.46		1.14	1.90E-02		3.88E-03	9.46E-03
		391.04		3.68	5.24E-03		2.71E-03	2.61E-03
		406.18		13.40	1.42E-03		-9.46E-05	7.09E-04
		429.65		13.20	1.42E-03		2.02E-03	7.10E-04
		450.98		28.20	6.52E-04		3.83E-04	3.25E-04
		511.85		88.00	2.26E-04		2.09E-03	1.13E-04
		601.17		1.61	9.67E-03		3.87E-03	4.81E-03
		616.17		21.60	7.40E-04		-1.54E-04	3.68E-04
		646.03		1.46	1.06E-02		-2.09E-03	5.28E-03
		680.42		2.18	6.93E-03		3.09E-03	3.45E-03
		703.11		4.47	3.31E-03		-2.65E-04	1.65E-03
		717.34		28.90	7.11E-04		3.77E-04	3.54E-04
		748.36		20.60	6.94E-04		-8.69E-05	3.45E-04
		793.17		5.90	2.37E-03		-2.02E-03	1.18E-03
		804.28		12.40	1.10E-03		8.89E-04	5.46E-04
		808.36		4.00	3.37E-03		-9.38E-04	1.68E-03
		824.69		15.30	8.93E-04		3.03E-04	4.43E-04
		847.15		4.40	3.20E-03		7.04E-03	1.59E-03
		1019.72		1.04	1.21E-02		7.59E-03	6.02E-03
		1045.83		29.60	4.31E-04		-1.99E-04	2.14E-04
		1128.02		11.80	9.72E-04		3.84E-04	4.81E-04
		1199.39		11.20	7.36E-04		-5.12E-04	3.63E-04
		1222.88		7.00	1.13E-03		7.45E-04	5.58E-04
		1394.35		1.49	4.97E-03		-1.49E-03	2.45E-03
		1527.65		16.30	2.82E-04		-1.18E-05	1.37E-04
		1572.35		6.60	5.90E-04		6.88E-04	2.85E-04
		1722.76		1.40	3.18E-03		1.85E-03	1.54E-03
		1839.05		2.00	1.23E-03		-3.77E-04	5.78E-04
	RH-106	621.93		9.93	1.54E-03	1.54E-03	2.02E-04	7.68E-04
		873.49		0.44	4.70E-02		-1.92E-03	2.34E-02
		1050.41		1.56	7.86E-03		4.28E-03	3.90E-03
+	RU-106	511.86	*	20.40	1.28E-03	1.28E-03	8.09E-03	6.37E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-108M	79.13	6.60	7.19E-03	1.79E-04	2.12E-03	3.59E-03
	433.94	90.50	2.06E-04		-8.21E-05	1.03E-04
	614.28	89.80	1.79E-04		1.29E-04	8.90E-05
	722.91	90.80	2.72E-04		6.30E-03	1.35E-04
CD-109	88.03	3.64	1.17E-02	1.17E-02	6.09E-02	5.83E-03
AG-110M	446.81	3.70	5.22E-03	1.74E-04	1.92E-03	2.60E-03
	620.35	2.73	6.10E-03		7.84E-04	3.03E-03
	657.76	95.61	2.16E-04		-5.48E-06	1.08E-04
	677.62	10.70	1.47E-03		1.44E-04	7.31E-04
	687.01	6.53	2.45E-03		-6.99E-05	1.22E-03
	706.68	16.69	9.04E-04		6.22E-04	4.49E-04
	744.28	4.77	3.06E-03		6.07E-05	1.52E-03
	763.94	22.60	6.71E-04		2.49E-05	3.34E-04
	818.02	7.43	1.97E-03		3.78E-03	9.81E-04
	884.68	75.00	1.74E-04		1.01E-04	8.62E-05
	937.48	35.00	3.74E-04		2.16E-04	1.86E-04
	1384.29	25.10	2.27E-04		-2.35E-04	1.11E-04
	1475.78	4.08	1.11E-03		-6.81E-04	5.38E-04
	1505.03	13.33	3.52E-04		3.88E-04	1.71E-04
	1562.29	1.22	2.52E-03		-1.08E-03	1.21E-03
AG-111	245.40	1.11	2.34E-02	3.22E-03	-9.08E-03	1.17E-02
	342.13	6.68	3.22E-03		1.81E-04	1.61E-03
AG-112	606.82	3.10	1.08E-02	7.75E-04	-4.53E-03	5.39E-03
	617.52	43.00	7.75E-04		3.07E-04	3.86E-04
	692.82	1.19	3.12E-02		7.61E-03	1.55E-02
	694.87	2.90	1.28E-02		1.04E-01	6.35E-03
	851.28	1.02	2.89E-02		3.73E-02	1.44E-02
	1312.36	1.11	1.24E-02		-2.25E-03	6.09E-03
	1387.68	5.30	2.33E-03		-6.88E-04	1.14E-03
	1613.66	2.80	2.70E-03		3.05E-03	1.30E-03
	1798.50	0.89	6.24E-03		-6.51E-04	2.95E-03
	2106.31	2.40	1.92E-03		7.97E-04	8.90E-04
	2506.70	1.06	9.00E-03		2.33E-02	4.31E-03
CD-113M	263.70	0.03	7.94E-01	7.94E-01	5.71E-01	3.96E-01
SN-113	255.13	2.11	1.04E-02	2.73E-04	-5.29E-04	5.18E-03
	391.70	64.97	2.73E-04		-4.33E-05	1.36E-04
IN-114M	190.27	15.56	1.73E-03	1.73E-03	-5.71E-04	8.61E-04
	558.43	4.40	3.66E-03		4.59E-03	1.82E-03
	725.24	4.40	5.45E-03		-9.58E-04	2.71E-03
CD-115	260.90	1.94	1.53E-02	5.86E-04	5.08E-03	7.62E-03
	336.24	46.02	5.86E-04		-3.85E-04	2.93E-04
	527.90	27.45	7.79E-04		4.45E-05	3.88E-04
CD-115M	933.84	2.00	6.16E-03	6.16E-03	5.72E-03	3.06E-03
	1290.59	0.90	7.36E-03		1.49E-03	3.62E-03
IN-115M	336.24	45.90	2.04E-02	2.04E-02	-1.34E-02	1.02E-02
IN-116M	138.29	3.70	1.79E+06	1.58E+04	6.67E+05	8.94E+05
	416.90	27.20	1.38E+05		5.74E+05	6.89E+04
	818.68	12.13	2.30E+05		1.10E+05	1.14E+05
	1097.28	58.50	3.80E+04		-2.37E+04	1.88E+04
	1293.56	84.80	1.58E+04		1.72E+04	7.76E+03
	1507.59	9.92	8.89E+04		7.38E+04	4.32E+04
	2112.29	15.09	2.77E+04		-2.59E+04	1.28E+04
SB-125	176.31	6.84	4.05E-03	5.83E-04	1.60E-03	2.02E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SB-125	380.45	1.52	1.18E-02	5.83E-04	6.21E-03	5.89E-03
	427.87	29.60	5.83E-04		1.00E-04	2.91E-04
	463.36	10.49	1.59E-03		1.08E-03	7.95E-04
	600.60	17.65	8.09E-04		5.91E-05	4.03E-04
	606.71	4.98	2.95E-03		-1.23E-03	1.47E-03
	635.95	11.22	1.27E-03		-9.20E-04	6.32E-04
	671.44	1.79	8.75E-03		2.51E-03	4.35E-03
SN-125	332.10	1.40	1.63E-02	1.26E-03	1.65E-02	8.15E-03
	469.85	1.50	1.28E-02		-3.10E-03	6.36E-03
	800.28	1.10	1.29E-02		-4.52E-03	6.39E-03
	822.48	4.30	3.31E-03		-8.36E-04	1.65E-03
	915.55	4.10	3.30E-03		-4.60E-03	1.64E-03
	1067.10	10.00	1.26E-03		-3.03E-04	6.25E-04
	1087.70	1.20	1.09E-02		1.21E-02	5.42E-03
	1089.10	4.60	2.66E-03		8.61E-04	1.32E-03
	2002.10	1.90	1.27E-03		6.92E-04	5.94E-04
SB-127	61.10	1.43	7.55E-02	4.52E-04	-2.34E-02	3.78E-02
	252.40	8.50	3.35E-03		1.60E-03	1.67E-03
	290.80	2.02	1.34E-02		5.07E-03	6.68E-03
	412.10	3.80	5.85E-03		2.35E-03	2.92E-03
	445.10	4.30	5.02E-03		3.02E-03	2.50E-03
	473.00	25.80	7.81E-04		-3.81E-04	3.89E-04
	543.30	2.90	6.25E-03		-4.52E-03	3.11E-03
	603.50	4.50	4.11E-03		-4.91E-03	2.05E-03
	685.70	36.80	4.52E-04		1.19E-04	2.25E-04
	698.50	3.64	5.31E-03		-3.51E-04	2.64E-03
	722.20	1.88	1.47E-02		3.58E-01	7.33E-03
	783.70	15.10	1.06E-03		4.14E-04	5.27E-04
SN-127	119.70	2.20	6.41E+01	1.14E+00	-6.09E+01	3.20E+01
	262.50	2.30	3.57E+01		1.93E+00	1.78E+01
	266.20	2.10	3.87E+01		-1.73E+01	1.93E+01
	284.30	2.70	3.11E+01		-2.39E+01	1.55E+01
	438.20	6.10	1.09E+01		-1.13E+00	5.41E+00
	490.90	5.30	1.17E+01		4.23E+00	5.83E+00
	493.20	3.10	2.00E+01		-1.06E+01	9.94E+00
	545.40	2.30	2.58E+01		1.83E+00	1.29E+01
	583.30	3.20	1.83E+01		5.67E+01	9.11E+00
	805.90	8.20	5.86E+00		1.46E-01	2.91E+00
	823.10	11.00	4.44E+00		-7.83E-02	2.21E+00
	824.70	6.10	7.93E+00		2.69E+00	3.94E+00
	859.50	8.00	5.85E+00		-7.37E+00	2.91E+00
	979.20	7.20	6.34E+00		4.23E+00	3.15E+00
	1093.30	3.80	1.12E+01		-6.19E+00	5.56E+00
	1095.60	19.00	2.20E+00		-8.87E-01	1.09E+00
	1114.30	38.00	1.14E+00		1.56E+00	5.66E-01
	1160.40	2.40	1.40E+01		-1.34E+01	6.90E+00
	2003.40	5.30	1.62E+00		-6.01E-01	7.60E-01
SB-129	180.42	2.84	5.14E-01	1.40E-02	-1.55E-01	2.57E-01
	359.20	2.39	4.16E-01		-2.48E-01	2.07E-01
	404.64	1.17	7.97E-01		6.06E-01	3.97E-01
	523.13	1.55	5.37E-01		2.78E-01	2.67E-01
	544.56	15.42	5.34E-02		-1.34E-02	2.66E-02
	633.74	2.53	3.01E-01		4.01E-01	1.50E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	654.28		2.97	2.61E-01	1.40E-02	2.39E-02	1.30E-01
		682.77		5.76	1.28E-01		4.77E-02	6.35E-02
		761.12		4.32	1.93E-01		4.75E-02	9.62E-02
		773.37		2.82	2.49E-01		2.56E-01	1.24E-01
		786.36		1.07	6.48E-01		-7.32E-02	3.22E-01
		787.16		1.74	3.99E-01		6.58E-02	1.98E-01
		812.97		48.20	1.40E-02		1.77E-02	6.96E-03
		819.51		1.39	4.96E-01		-1.20E-01	2.47E-01
		876.65		2.75	3.73E-01		6.74E-02	1.86E-01
		914.96		23.30	2.77E-02		-1.58E-02	1.38E-02
		966.78		8.96	7.30E-02		3.18E-02	3.62E-02
		1030.65		15.13	4.08E-02		2.43E-02	2.03E-02
		1656.10		1.31	1.28E-01		7.52E-02	6.16E-02
		1738.16		7.45	2.04E-02		2.31E-02	9.74E-03
	TE-129	459.60		7.70	2.23E-03	2.23E-03	-1.23E-04	1.11E-03
		487.39		1.42	1.16E-02		2.35E-03	5.80E-03
+	Te-129m	695.88	*	3.00	3.32E-03	3.32E-03	3.12E-02	1.65E-03
	I-131	80.18		2.62	2.03E-02	2.48E-04	-7.56E-03	1.01E-02
		284.30		6.12	3.95E-03		-3.03E-03	1.97E-03
		364.49		81.50	2.48E-04		-2.00E-05	1.24E-04
		636.99		7.16	2.18E-03		1.37E-03	1.08E-03
		722.91		1.77	1.40E-02		3.25E-01	6.99E-03
	Te-131m	773.67		36.80	6.44E-04	6.44E-04	9.82E-05	3.20E-04
		793.75		13.40	1.78E-03		-1.00E-03	8.86E-04
		852.21		19.90	1.15E-03		7.00E-04	5.73E-04
		1125.46		11.00	1.73E-03		2.62E-03	8.56E-04
		1206.60		9.41	1.36E-03		-1.44E-03	6.72E-04
	I-132	262.90		1.28	2.08E-02	2.32E-04	-3.78E-03	1.04E-02
		284.90		0.71	3.83E-02		-4.76E-02	1.91E-02
		505.79		4.93	5.08E-03		-1.89E-04	2.53E-03
		522.65		16.00	1.33E-03		-2.69E-05	6.64E-04
		547.20		1.14	1.86E-02		1.92E-02	9.28E-03
		621.20		1.97	1.03E-02		-3.86E-04	5.13E-03
		630.19		13.30	1.51E-03		6.52E-04	7.51E-04
		650.50		2.57	7.85E-03		7.15E-03	3.90E-03
		667.71		98.70	2.62E-04		-3.18E-06	1.30E-04
		669.80		4.60	4.68E-03		-1.12E-03	2.33E-03
		671.40		3.50	6.32E-03		1.82E-03	3.15E-03
		727.10		5.40	5.94E-03		-1.90E-03	2.96E-03
		728.40		1.60	1.95E-02		-1.47E-03	9.74E-03
		772.60		75.60	2.32E-04		1.51E-04	1.15E-04
		809.50		2.60	6.62E-03		-2.78E-03	3.29E-03
		812.00		5.50	3.14E-03		-5.39E-04	1.56E-03
		910.10		0.93	1.87E-02		-1.11E-03	9.29E-03
		954.55		17.60	9.33E-04		1.17E-04	4.63E-04
		1136.00		3.01	4.31E-03		-6.36E-04	2.14E-03
		1172.90		1.09	2.84E-02		7.34E-01	1.41E-02
		1290.80		1.13	7.84E-03		1.58E-03	3.85E-03
		1295.10		1.88	3.69E-03		-9.95E-04	1.81E-03
		1297.90		0.89	6.92E-03		6.01E-03	3.40E-03
		1372.07		2.47	3.12E-03		3.61E-03	1.53E-03
		1398.57		7.01	1.31E-03		4.30E-03	6.46E-04
		1442.56		1.40	3.69E-03		5.40E-05	1.80E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TE-132	49.72	15.00	1.00E-02	3.36E-04	-1.67E-03	5.01E-03
	111.76	1.74	2.55E-02		1.78E-02	1.27E-02
	116.30	1.96	2.20E-02		-3.44E-03	1.10E-02
	228.16	88.00	3.36E-04		3.92E-04	1.68E-04
BA-133	81.00	32.90	1.46E-03	3.07E-04	-1.09E-03	7.30E-04
	276.40	7.16	3.18E-03		-1.53E-03	1.59E-03
	302.85	18.34	1.16E-03		1.06E-03	5.79E-04
	356.01	62.05	3.07E-04		9.30E-05	1.53E-04
	383.85	8.94	1.94E-03		6.13E-04	9.69E-04
I-133	529.87	87.00	4.08E-04	4.08E-04	-2.56E-04	2.03E-04
	706.58	1.51	2.13E-02		1.47E-02	1.06E-02
	856.28	1.24	2.38E-02		2.71E-02	1.18E-02
	875.33	4.51	9.81E-03		2.83E-03	4.89E-03
	1236.44	1.51	1.09E-02		1.27E-02	5.36E-03
	1298.22	2.35	6.18E-03		7.55E-03	3.04E-03
@ TE-133	312.08	62.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	407.63	27.10	1.00E+20		1.00E+20	1.00E+20
@	410.40	0.94	1.00E+20		1.00E+20	1.00E+20
@	474.85	0.88	1.00E+20		1.00E+20	1.00E+20
@	719.71	8.90	1.00E+20		1.00E+20	1.00E+20
@	786.93	5.40	1.00E+20		1.00E+20	1.00E+20
@	844.36	3.31	1.00E+20		1.00E+20	1.00E+20
@	884.30	0.72	1.00E+20		1.00E+20	1.00E+20
@	930.71	3.81	1.00E+20		1.00E+20	1.00E+20
@	997.70	1.04	1.00E+20		1.00E+20	1.00E+20
@	1000.72	3.62	1.00E+20		1.00E+20	1.00E+20
@	1021.13	2.81	1.00E+20		1.00E+20	1.00E+20
@	1061.61	1.19	1.00E+20		1.00E+20	1.00E+20
@	1252.08	1.44	1.00E+20		1.00E+20	1.00E+20
@	1312.80	0.85	1.00E+20		1.00E+20	1.00E+20
@	1333.21	10.67	1.00E+20		1.00E+20	1.00E+20
@	1717.61	3.18	1.00E+20		1.00E+20	1.00E+20
@	1881.52	1.22	1.00E+20		1.00E+20	1.00E+20
@	2136.51	1.25	1.00E+20		1.00E+20	1.00E+20
@	2229.64	0.87	1.00E+20		1.00E+20	1.00E+20
Xe-133	81.00	36.90	1.43E-03	1.43E-03	-1.07E-03	7.16E-04
CS-134	475.36	1.48	1.12E-02	1.57E-04	-3.03E-03	5.58E-03
	563.25	8.34	1.96E-03		-1.44E-03	9.75E-04
	569.33	15.37	1.05E-03		-1.32E-03	5.25E-04
	604.72	97.62	1.58E-04		-1.10E-04	7.88E-05
	795.86	85.46	1.57E-04		-5.21E-05	7.82E-05
	801.95	8.69	1.56E-03		-3.79E-04	7.76E-04
	1038.61	0.99	1.22E-02		-1.05E-02	6.06E-03
	1167.97	1.79	1.21E-02		-1.81E-03	6.01E-03
	1365.19	3.02	1.76E-03		2.28E-03	8.63E-04
I-135	220.50	1.75	2.00E-01	3.40E-03	1.06E-01	1.00E-01
	288.45	3.10	1.01E-01		3.32E-02	5.05E-02
	417.63	3.53	7.44E-02		2.00E-03	3.71E-02
	546.56	7.15	3.12E-02		-9.12E-03	1.56E-02
	836.80	6.69	2.67E-02		2.00E-02	1.33E-02
	971.96	0.89	1.99E-01		-3.45E-02	9.90E-02
	972.62	1.21	1.43E-01		-9.05E-02	7.11E-02
	1038.76	7.90	2.06E-02		-1.77E-02	1.02E-02

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1101.58		1.61	9.77E-02	3.40E-03	-5.59E-02	4.84E-02
		1124.00		3.62	4.36E-02		3.26E-02	2.16E-02
		1131.51		22.60	6.62E-03		-9.46E-04	3.28E-03
		1240.47		0.90	1.35E-01		5.95E-02	6.68E-02
		1260.41		28.70	3.40E-03		1.45E-05	1.67E-03
		1457.56		8.70	8.29E-03		5.08E-03	4.05E-03
		1502.79		1.08	7.15E-02		2.49E-02	3.50E-02
		1566.41		1.29	3.89E-02		-3.15E-03	1.88E-02
		1678.03		9.60	4.10E-03		-1.93E-04	1.96E-03
		1706.46		4.10	1.01E-02		4.45E-03	4.84E-03
		1791.20		7.72	4.32E-03		-1.73E-03	2.04E-03
		2408.65		0.96	2.45E-02		2.51E-02	1.11E-02
	XE-135	249.79		90.00	1.74E-03	1.74E-03	-1.60E-04	8.68E-04
	XE-135m	526.56		80.40	2.70E-03	2.70E-03	1.05E-03	1.34E-03
	CS-136	66.88		4.79	1.44E-02	1.48E-04	7.34E-03	7.17E-03
		86.36		5.90	8.44E-03		-2.28E-04	4.22E-03
		153.25		7.70	4.46E-03		3.15E-03	2.23E-03
		163.92		4.69	7.38E-03		4.02E-03	3.69E-03
		176.60		13.70	2.34E-03		1.46E-04	1.17E-03
		273.65		12.66	2.04E-03		6.44E-04	1.02E-03
		340.55		46.80	4.76E-04		-6.64E-05	2.37E-04
		818.51		99.70	1.48E-04		5.17E-05	7.35E-05
		1048.07		80.00	1.68E-04		-3.95E-05	8.31E-05
		1235.36		20.00	4.14E-04		-1.20E-04	2.04E-04
+	CS-137	661.66	*	85.10	1.20E-04	1.20E-04	3.22E-03	5.97E-05
	BA-139	33.44		3.84	3.57E+04	3.38E+02	-1.26E+05	1.78E+04
		165.86		23.70	3.38E+02		3.75E+02	1.69E+02
	BA-140	132.69		0.20	1.66E-01	6.78E-04	6.50E-02	8.29E-02
		162.66		6.22	5.07E-03		-4.36E-04	2.53E-03
		304.85		4.29	5.31E-03		3.98E-03	2.65E-03
		423.72		3.10	5.95E-03		4.48E-03	2.97E-03
		437.58		1.93	9.41E-03		1.16E-03	4.69E-03
		537.26		24.39	6.78E-04		-7.38E-04	3.38E-04
	LA-140	109.42		0.22	1.75E-01	1.00E-04	7.39E-02	8.72E-02
		131.12		0.47	7.24E-02		7.78E-02	3.62E-02
		173.54		0.13	2.33E-01		1.34E-01	1.16E-01
		241.93		0.41	5.79E-02		-2.07E-02	2.89E-02
		266.54		0.47	4.78E-02		3.47E-02	2.39E-02
		328.76		20.30	1.11E-03		-8.25E-04	5.54E-04
		432.49		2.90	6.76E-03		1.58E-03	3.37E-03
		487.02		45.50	3.98E-04		2.65E-04	1.98E-04
		618.10		0.04	4.18E-01		1.35E-01	2.08E-01
		751.64		4.33	3.87E-03		-2.79E-05	1.93E-03
		815.77		23.28	5.75E-04		6.17E-04	2.86E-04
		867.85		5.50	3.59E-03		3.31E-04	1.78E-03
		919.55		2.66	4.85E-03		-5.19E-03	2.41E-03
		925.19		6.90	1.94E-03		1.92E-03	9.61E-04
		950.99		0.52	2.53E-02		-7.25E-03	1.26E-02
		1596.21		95.40	1.00E-04		7.12E-04	4.94E-05
		2347.88		0.85	2.30E-03		1.27E-03	1.06E-03
		2521.40		3.46	4.54E-04		-4.52E-04	2.02E-04
		2547.34		0.10	1.76E-02		-2.28E-03	7.86E-03
@	BA-141	33.44		7.93	1.00E+20	1.00E+20	1.00E+20	1.00E+20

Analysis Report for 24-2306 VSM-4.5M-S3-CST-A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	BA-141	190.33	44.80	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		276.95	23.60	1.00E+20		1.00E+20	1.00E+20
@		304.19	26.10	1.00E+20		1.00E+20	1.00E+20
@		343.67	15.10	1.00E+20		1.00E+20	1.00E+20
@		389.74	1.37	1.00E+20		1.00E+20	1.00E+20
@		457.51	5.00	1.00E+20		1.00E+20	1.00E+20
@		462.06	5.10	1.00E+20		1.00E+20	1.00E+20
@		467.22	5.60	1.00E+20		1.00E+20	1.00E+20
@		625.08	3.45	1.00E+20		1.00E+20	1.00E+20
@		647.78	5.70	1.00E+20		1.00E+20	1.00E+20
@		738.95	4.39	1.00E+20		1.00E+20	1.00E+20
@		831.46	1.64	1.00E+20		1.00E+20	1.00E+20
@		876.09	3.45	1.00E+20		1.00E+20	1.00E+20
@		1160.72	1.12	1.00E+20		1.00E+20	1.00E+20
@		1197.28	4.35	1.00E+20		1.00E+20	1.00E+20
@		1323.92	0.92	1.00E+20		1.00E+20	1.00E+20
@		1654.00	0.65	1.00E+20		1.00E+20	1.00E+20
@		1682.19	1.19	1.00E+20		1.00E+20	1.00E+20
	CE-141	145.44	48.30	6.35E-04	6.35E-04	-8.66E-04	3.17E-04
@	BA-142	33.44	14.20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		77.59	7.00	1.00E+20		1.00E+20	1.00E+20
@		177.00	2.12	1.00E+20		1.00E+20	1.00E+20
@		231.61	12.20	1.00E+20		1.00E+20	1.00E+20
@		255.30	20.70	1.00E+20		1.00E+20	1.00E+20
@		286.30	1.11	1.00E+20		1.00E+20	1.00E+20
@		309.20	2.60	1.00E+20		1.00E+20	1.00E+20
@		335.00	1.53	1.00E+20		1.00E+20	1.00E+20
@		363.96	4.76	1.00E+20		1.00E+20	1.00E+20
@		425.04	5.75	1.00E+20		1.00E+20	1.00E+20
@		599.80	1.85	1.00E+20		1.00E+20	1.00E+20
@		840.40	3.63	1.00E+20		1.00E+20	1.00E+20
@		895.20	13.90	1.00E+20		1.00E+20	1.00E+20
@		949.10	10.70	1.00E+20		1.00E+20	1.00E+20
@		1001.20	9.80	1.00E+20		1.00E+20	1.00E+20
@		1078.70	11.50	1.00E+20		1.00E+20	1.00E+20
@		1094.10	2.82	1.00E+20		1.00E+20	1.00E+20
@		1126.80	1.50	1.00E+20		1.00E+20	1.00E+20
@		1202.40	5.60	1.00E+20		1.00E+20	1.00E+20
@		1204.30	14.30	1.00E+20		1.00E+20	1.00E+20
@		1380.20	3.42	1.00E+20		1.00E+20	1.00E+20
	CE-143	57.36	11.70	1.47E-02	8.47E-04	-1.31E-03	7.36E-03
		231.55	2.05	1.99E-02		1.81E-03	9.96E-03
		293.27	42.80	8.47E-04		3.33E-05	4.23E-04
		350.62	3.23	9.60E-03		4.85E-03	4.79E-03
		490.37	2.16	1.31E-02		3.81E-03	6.52E-03
		664.57	5.69	6.01E-03		1.07E-01	2.99E-03
		721.93	5.39	7.03E-03		1.71E-01	3.50E-03
		880.46	1.03	2.43E-02		3.59E-03	1.21E-02
	CE-144	80.12	1.36	3.44E-02	2.85E-03	-1.28E-02	1.72E-02
		133.51	11.09	2.85E-03		6.70E-04	1.43E-03
	ND-147	38.17	13.20	2.16E-02	1.25E-03	-3.64E-02	1.08E-02
		38.72	23.80	1.13E-02		-1.67E-02	5.63E-03
		91.11	28.90	1.50E-03		-5.77E-04	7.48E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ND-147	275.39	0.79	3.17E-02	1.25E-03	3.36E-02	1.58E-02
	319.41	1.97	1.13E-02		-1.95E-03	5.62E-03
	398.13	0.87	2.20E-02		-1.75E-02	1.09E-02
	439.88	1.20	1.56E-02		3.41E-03	7.77E-03
	531.01	13.11	1.25E-03		-1.11E-03	6.22E-04
	685.88	0.82	1.80E-02		7.16E-03	8.95E-03
@ PR-147	36.85	19.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	37.36	35.50	1.00E+20		1.00E+20	1.00E+20
@	49.88	4.00	1.00E+20		1.00E+20	1.00E+20
@	77.97	9.70	1.00E+20		1.00E+20	1.00E+20
@	86.69	5.40	1.00E+20		1.00E+20	1.00E+20
@	127.80	7.40	1.00E+20		1.00E+20	1.00E+20
@	249.20	1.32	1.00E+20		1.00E+20	1.00E+20
@	314.70	18.20	1.00E+20		1.00E+20	1.00E+20
@	328.80	4.00	1.00E+20		1.00E+20	1.00E+20
@	335.70	4.70	1.00E+20		1.00E+20	1.00E+20
@	388.80	1.41	1.00E+20		1.00E+20	1.00E+20
@	466.80	1.70	1.00E+20		1.00E+20	1.00E+20
@	477.90	4.60	1.00E+20		1.00E+20	1.00E+20
@	516.70	1.30	1.00E+20		1.00E+20	1.00E+20
@	554.70	5.90	1.00E+20		1.00E+20	1.00E+20
@	577.90	13.70	1.00E+20		1.00E+20	1.00E+20
@	641.40	16.10	1.00E+20		1.00E+20	1.00E+20
@	996.00	1.52	1.00E+20		1.00E+20	1.00E+20
@	1136.70	1.42	1.00E+20		1.00E+20	1.00E+20
@	1261.10	8.40	1.00E+20		1.00E+20	1.00E+20
@	1300.40	2.30	1.00E+20		1.00E+20	1.00E+20
ND-149	38.17	9.00	6.82E+02	2.21E+01	-1.15E+03	3.41E+02
	38.72	16.30	3.55E+02		-5.27E+02	1.77E+02
	58.88	1.30	1.75E+03		-2.37E+02	8.76E+02
	74.32	2.11	5.88E+02		1.81E+02	2.94E+02
	97.00	1.48	6.35E+02		8.72E+02	3.18E+02
	114.31	19.20	4.32E+01		-9.74E+00	2.16E+01
	155.87	5.95	1.20E+02		1.95E+02	6.00E+01
	188.64	1.79	3.69E+02		1.72E+02	1.84E+02
	198.93	1.39	4.48E+02		7.92E+01	2.24E+02
	208.15	2.55	2.33E+02		-1.73E+02	1.16E+02
	211.31	26.00	2.21E+01		6.07E+00	1.10E+01
	240.22	3.95	1.33E+02		-8.15E+01	6.63E+01
	245.72	0.81	7.03E+02		-1.80E+02	3.51E+02
	267.69	6.05	8.40E+01		-1.72E+01	4.19E+01
	270.17	10.80	4.79E+01		9.93E+00	2.39E+01
	326.55	4.57	1.04E+02		9.78E+01	5.19E+01
	349.23	1.38	3.33E+02		2.30E+02	1.66E+02
	423.55	7.50	5.40E+01		4.06E+01	2.69E+01
	443.55	1.15	3.58E+02		3.79E+02	1.78E+02
	540.51	6.60	5.52E+01		-1.34E+00	2.75E+01
	654.83	8.00	4.18E+01		-5.43E+00	2.08E+01
PM-149	285.95	3.10	9.69E-03	9.69E-03	1.34E-03	4.83E-03
PM-150	39.52	0.63	2.28E+02	1.79E-01	-1.95E+02	1.14E+02
	40.12	1.14	1.20E+02		-1.29E+02	6.02E+01
	333.92	68.00	1.79E-01		7.11E-02	8.95E-02
	406.51	5.60	1.94E+00		-1.98E+00	9.65E-01

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PM-150	565.70		1.31	7.11E+00	1.79E-01	2.87E+00	3.54E+00
		587.02		1.34	7.91E+00		1.78E+00	3.94E+00
		612.25		0.93	9.85E+00		1.05E+01	4.90E+00
		712.22		4.40	1.91E+00		-8.45E-01	9.52E-01
		737.50		2.25	3.63E+00		4.12E+00	1.81E+00
		831.85		11.90	6.44E-01		-2.34E-01	3.20E-01
		859.95		3.40	2.21E+00		-1.45E+00	1.10E+00
		876.41		7.30	1.63E+00		3.55E-02	8.13E-01
		1165.77		15.80	5.73E-01		-2.34E-01	2.85E-01
		1170.90		1.06	1.40E+01		4.52E-02	6.99E+00
		1193.87		4.80	1.04E+00		1.64E+00	5.13E-01
		1213.72		1.03	4.49E+00		2.54E-01	2.22E+00
		1223.28		2.80	1.61E+00		1.88E+00	7.91E-01
		1324.51		17.50	3.44E-01		-4.65E-02	1.70E-01
		1379.32		3.10	1.09E+00		6.98E-01	5.35E-01
		1736.40		6.90	2.58E-01		8.68E-02	1.23E-01
		1963.71		1.47	8.03E-01		5.88E-01	3.72E-01
		2033.46		0.97	1.26E+00		-8.10E-01	5.84E-01
@	ND-151	38.17		5.94	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		38.72		10.70	1.00E+20		1.00E+20	1.00E+20
@		68.98		1.26	1.00E+20		1.00E+20	1.00E+20
@		85.12		2.05	1.00E+20		1.00E+20	1.00E+20
@		89.96		1.53	1.00E+20		1.00E+20	1.00E+20
@		116.80		39.00	1.00E+20		1.00E+20	1.00E+20
@		138.89		7.00	1.00E+20		1.00E+20	1.00E+20
@		170.76		2.87	1.00E+20		1.00E+20	1.00E+20
@		175.07		6.30	1.00E+20		1.00E+20	1.00E+20
@		255.68		14.80	1.00E+20		1.00E+20	1.00E+20
@		300.58		1.82	1.00E+20		1.00E+20	1.00E+20
@		423.56		5.90	1.00E+20		1.00E+20	1.00E+20
@		460.59		0.96	1.00E+20		1.00E+20	1.00E+20
@		585.22		1.30	1.00E+20		1.00E+20	1.00E+20
@		677.88		2.38	1.00E+20		1.00E+20	1.00E+20
@		736.23		5.90	1.00E+20		1.00E+20	1.00E+20
@		739.20		1.52	1.00E+20		1.00E+20	1.00E+20
@		755.57		1.17	1.00E+20		1.00E+20	1.00E+20
@		797.53		4.70	1.00E+20		1.00E+20	1.00E+20
@		1016.40		2.50	1.00E+20		1.00E+20	1.00E+20
@		1122.63		4.10	1.00E+20		1.00E+20	1.00E+20
@		1180.89		13.30	1.00E+20		1.00E+20	1.00E+20
	Pm-151	167.75		8.30	6.44E-03	1.60E-03	8.24E-04	3.22E-03
		177.16		3.80	1.40E-02		-2.05E-03	6.97E-03
		240.09		3.80	1.12E-02		-6.87E-03	5.59E-03
		275.21		6.80	6.08E-03		5.78E-03	3.04E-03
		340.08		22.50	1.60E-03		2.11E-04	7.99E-04
+	EU-152	121.78		28.53	1.37E-03	3.15E-04	-8.55E-04	6.83E-04
		344.28	*	26.59	8.23E-04		7.85E-04	4.11E-04
		778.90	*	12.93	1.26E-03		1.58E-03	6.26E-04
		867.37	*	4.23	1.83E-03		1.10E-03	9.04E-04
		964.08	*	14.51	8.79E-04		6.01E-04	4.36E-04
		1085.87	*	10.11	1.29E-03		1.22E-03	6.41E-04
		1112.07		13.67	8.34E-04		-8.66E-05	4.13E-04
		1408.01	*	20.87	3.15E-04		1.02E-03	1.55E-04

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	ND-152	44.44		5.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		250.15		16.40	1.00E+20		1.00E+20	1.00E+20
@		278.56		26.00	1.00E+20		1.00E+20	1.00E+20
@		294.47		2.90	1.00E+20		1.00E+20	1.00E+20
@		545.70		0.83	1.00E+20		1.00E+20	1.00E+20
@		592.50		0.99	1.00E+20		1.00E+20	1.00E+20
	GD-153	69.67		2.45	2.39E-02	1.34E-03	1.91E-02	1.19E-02
		97.43		30.00	1.34E-03		1.74E-03	6.68E-04
		103.18		22.10	1.74E-03		-1.04E-03	8.72E-04
	SM-153	69.67		4.67	1.81E-02	1.91E-03	1.44E-02	9.02E-03
		103.18		29.14	1.91E-03		-1.14E-03	9.53E-04
+	EU-154	42.70	*	20.45	9.39E-03	3.34E-04	2.52E-02	4.69E-03
		123.07	*	40.40	1.07E-03		2.93E-02	5.33E-04
		247.93	*	6.89	5.50E-03		3.04E-02	2.75E-03
		591.76	*	4.95	3.86E-03		2.88E-02	1.92E-03
		692.42	*	1.78	5.69E-03		2.94E-02	2.82E-03
		723.30	*	20.06	1.19E-03		2.92E-02	5.95E-04
		756.80	*	4.52	4.55E-03		2.97E-02	2.27E-03
		873.18	*	12.08	7.54E-04		2.92E-02	3.73E-04
		996.29	*	10.48	1.60E-03		2.88E-02	7.95E-04
		1004.76	*	18.01	9.70E-04		2.90E-02	4.83E-04
		1246.12	*	0.86	9.44E-03		3.14E-02	4.66E-03
		1274.43	*	34.80	3.34E-04		2.87E-02	1.65E-04
		1494.05	*	0.70	8.30E-03		2.84E-02	4.07E-03
		1596.48	*	1.80	2.92E-03		2.89E-02	1.43E-03
+	EU-155	43.00	*	18.12	1.06E-02	1.59E-03	2.85E-02	5.30E-03
		60.01	*	1.17	9.16E-02		6.12E+00	4.58E-02
		86.55	*	30.70	1.59E-03		4.75E-03	7.94E-04
		105.31	*	21.10	1.79E-03		3.36E-03	8.95E-04
	EU-156	88.97		8.40	5.52E-03	4.98E-04	-7.33E-04	2.76E-03
		646.29		6.30	2.47E-03		2.08E-03	1.23E-03
		723.47		5.40	4.59E-03		1.12E-01	2.29E-03
		811.77		9.70	1.43E-03		-2.45E-04	7.09E-04
		1065.14		4.90	2.56E-03		2.37E-03	1.27E-03
		1079.16		4.60	2.57E-03		-3.57E-04	1.28E-03
		1153.80		11.50	8.41E-04		-7.04E-05	4.16E-04
		1230.71		8.00	9.76E-04		-2.19E-03	4.81E-04
		1242.42		6.60	1.37E-03		4.24E-04	6.77E-04
		1277.43		2.89	1.11E-02		3.68E-01	5.55E-03
		1366.41		1.57	4.00E-03		1.45E-03	1.96E-03
		1965.95		3.90	4.98E-04		6.75E-05	2.31E-04
		2097.70		3.80	5.69E-04		-3.68E-04	2.64E-04
		2186.71		3.50	6.42E-04		5.47E-04	2.98E-04
	Sm-156	87.60		24.00	1.13E-02	7.66E-03	7.30E-02	5.64E-03
		165.80		13.00	1.41E-02		1.57E-02	7.04E-03
		204.00		21.00	7.66E-03		1.42E-03	3.82E-03
	EU-158	42.31		5.80	2.02E+08	2.54E+06	6.71E+08	1.01E+08
		43.00		10.40	1.07E+08		2.64E+08	5.32E+07
		79.49		10.50	2.87E+07		1.51E+06	1.43E+07
		181.97		2.30	7.55E+07		3.69E+07	3.77E+07
		528.05		1.53	6.45E+07		4.41E+07	3.21E+07
		606.39		4.00	2.35E+07		2.38E+07	1.17E+07
		743.02		3.60	2.33E+07		3.95E+07	1.16E+07

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	EU-158	897.61		12.40	6.59E+06	2.54E+06	4.10E+04	3.27E+06
		906.50		1.83	4.44E+07		8.95E+07	2.21E+07
		922.51		1.62	4.82E+07		-1.25E+07	2.39E+07
		944.15		30.00	2.54E+06		1.28E+06	1.26E+06
		953.03		1.98	3.90E+07		4.02E+07	1.93E+07
		962.09		1.89	4.19E+07		-1.37E+07	2.08E+07
		977.14		16.30	4.62E+06		3.35E+06	2.29E+06
		986.96		1.35	5.54E+07		3.55E+07	2.75E+07
		1107.63		5.10	1.42E+07		1.91E+07	7.02E+06
		1184.10		3.00	1.77E+07		7.75E+06	8.76E+06
		1186.00		2.90	1.81E+07		-1.42E+04	8.95E+06
		1187.10		4.40	1.20E+07		3.71E+06	5.90E+06
		1263.61		2.20	2.03E+07		1.32E+07	9.98E+06
		1347.95		1.65	2.28E+07		1.71E+06	1.12E+07
		1944.47		1.62	7.76E+06		-3.87E+06	3.60E+06
	TB-160	86.79		13.20	3.48E-03	5.02E-04	1.96E-02	1.74E-03
		298.58		26.10	8.55E-04		4.62E-04	4.27E-04
		879.38		30.10	6.21E-04		-3.72E-05	3.09E-04
		962.32		9.81	1.30E-03		-4.26E-04	6.45E-04
		966.17		25.10	5.02E-04		6.18E-04	2.49E-04
		1177.96		14.90	1.58E-03		4.88E-05	7.86E-04
+	TB-161	25.65		23.20	1.24E-01	3.84E-03	7.92E+00	6.21E-02
		48.91	*	17.00	1.13E-02		1.36E-02	5.64E-03
		52.00		3.43	3.36E-02		4.10E-03	1.68E-02
		57.19		1.79	6.26E-02		-5.56E-03	3.13E-02
		74.57	*	10.20	3.84E-03		5.27E-03	1.92E-03
	YB-169	63.12		43.62	1.90E-03	7.46E-04	-2.92E-04	9.48E-04
		93.61		2.58	1.79E-02		1.53E-03	8.94E-03
		109.78		17.39	2.20E-03		6.66E-04	1.10E-03
		130.52		11.38	3.06E-03		2.87E-04	1.53E-03
		177.21		22.28	1.33E-03		-1.96E-04	6.66E-04
		197.96		35.93	7.46E-04		-2.82E-05	3.73E-04
		307.74		10.05	1.99E-03		-1.06E-03	9.94E-04
	HF-172	54.07		63.00	1.50E-03	1.50E-03	-2.58E-05	7.49E-04
		67.35		5.30	1.08E-02		6.94E-03	5.41E-03
		81.75		4.50	1.01E-02		-5.07E-03	5.07E-03
		114.06		2.60	1.34E-02		-3.03E-03	6.71E-03
		125.81		11.30	3.23E-03		7.92E-04	1.61E-03
		127.91		1.46	2.30E-02		-4.03E-03	1.15E-02
	LU-173	59.30		24.44	3.78E-03	1.08E-03	3.00E-01	1.89E-03
		78.63		11.90	4.24E-03		3.35E-05	2.12E-03
		100.72		5.24	7.59E-03		-1.15E-02	3.79E-03
		171.39		2.90	9.93E-03		-4.45E-03	4.96E-03
		272.11		21.20	1.08E-03		-1.69E-03	5.40E-04
	LU-177	112.95		6.23	6.28E-03	2.67E-03	-2.30E-03	3.14E-03
		208.37		10.41	2.67E-03		-1.98E-03	1.33E-03
		249.67		0.20	1.31E-01		-1.20E-02	6.52E-02
		321.32		0.22	1.03E-01		1.10E-01	5.13E-02
	HF-181	133.02		43.30	7.76E-04	2.10E-04	2.89E-04	3.87E-04
		345.93		15.12	1.35E-03		1.09E-05	6.74E-04
		482.18		80.50	2.10E-04		5.26E-05	1.05E-04
	W-181	56.28		18.70	4.98E-03	3.12E-03	-4.11E-04	2.49E-03
		57.53		32.00	3.12E-03		-6.29E-04	1.56E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
W-181	65.00	10.60	5.78E-03	3.12E-03	6.05E-04	2.89E-03
TA-182	57.98	10.01	9.80E-03	2.77E-04	-3.21E-03	4.90E-03
	59.32	17.20	5.39E-03		4.28E-01	2.69E-03
	65.72	3.01	2.20E-02		1.53E-02	1.10E-02
	67.75	46.67	1.29E-03		1.61E-03	6.43E-04
	84.68	2.65	1.77E-02		-5.88E-03	8.83E-03
	100.11	14.20	2.93E-03		-4.11E-03	1.46E-03
	113.67	1.87	2.08E-02		7.46E-03	1.04E-02
	116.42	0.44	7.81E-02		-1.22E-02	3.90E-02
	152.43	7.02	4.43E-03		5.11E-03	2.21E-03
	156.39	2.67	1.20E-02		1.04E-02	6.00E-03
	179.39	3.12	9.47E-03		6.25E-03	4.73E-03
	198.35	1.47	1.95E-02		-3.61E-03	9.72E-03
	222.11	7.57	3.33E-03		-1.00E-03	1.66E-03
	229.32	3.64	6.93E-03		6.17E-03	3.46E-03
	264.08	3.61	6.25E-03		-7.55E-04	3.12E-03
	928.00	0.61	2.10E-02		-9.01E-03	1.04E-02
	959.73	0.35	3.76E-02		1.30E-02	1.87E-02
	1001.70	2.09	1.41E-02		4.16E-01	7.05E-03
	1044.42	0.24	5.26E-02		5.52E-02	2.61E-02
	1113.41	0.44	2.67E-02		4.79E-02	1.32E-02
	1121.29	35.24	3.21E-04		-3.81E-05	1.59E-04
	1157.30	0.73	1.19E-02		-3.44E-03	5.87E-03
	1189.04	16.49	4.83E-04		-4.23E-04	2.39E-04
	1221.40	27.23	2.77E-04		1.46E-04	1.37E-04
	1223.60	0.24	2.64E-02		3.09E-02	1.30E-02
	1231.00	11.62	6.45E-04		-3.26E-04	3.18E-04
	1257.41	1.51	4.58E-03		2.00E-03	2.26E-03
	1273.72	0.66	3.65E-02		1.21E+00	1.82E-02
	1289.15	1.37	3.29E-03		-1.94E-03	1.62E-03
	1342.73	0.26	2.43E-02		1.65E-02	1.19E-02
	1373.82	0.22	1.64E-02		1.69E-02	8.04E-03
Ta-183	84.71	1.35	3.78E-02	1.00E-03	-1.26E-02	1.89E-02
	99.08	6.80	6.62E-03		-4.60E-03	3.31E-03
	107.93	11.20	3.77E-03		3.47E-03	1.88E-03
	161.35	9.10	3.71E-03		-2.43E-03	1.85E-03
	162.32	5.00	6.73E-03		2.00E-03	3.36E-03
	244.26	8.80	3.09E-03		-1.52E-03	1.54E-03
	246.06	27.20	1.00E-03		-2.06E-04	5.00E-04
	353.99	11.60	1.88E-03		1.29E-03	9.36E-04
Re-184	111.21	17.20	2.11E-03	3.40E-04	1.15E-03	1.05E-03
	252.85	3.00	7.56E-03		1.61E-03	3.77E-03
	792.01	37.70	3.49E-04		4.22E-04	1.73E-04
	894.76	15.70	7.89E-04		1.11E-03	3.92E-04
	903.28	38.10	3.40E-04		5.05E-04	1.69E-04
W-185	59.72	0.01	7.69E+00	1.93E+00	6.09E+02	3.84E+00
	61.14	0.02	4.24E+00		-1.32E+00	2.12E+00
	69.20	0.01	8.48E+00		-3.86E+00	4.24E+00
	125.36	0.02	1.93E+00		4.00E-01	9.62E-01
W-187	61.14	14.30	1.24E-02	8.60E-04	-3.84E-03	6.18E-03
	69.20	4.82	2.47E-02		-1.12E-02	1.23E-02
	72.00	13.55	8.76E-03		7.35E-03	4.38E-03
	134.25	10.36	6.62E-03		7.61E-03	3.30E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
W-187	479.53	26.60	1.32E-03	8.60E-04	8.42E-04	6.57E-04
	618.37	7.57	3.98E-03		8.95E-04	1.98E-03
	685.81	33.20	8.60E-04		3.42E-04	4.28E-04
Ir-188	155.05	29.60	1.54E-03	1.89E-04	4.68E-04	7.71E-04
	478.00	14.70	1.71E-03		2.12E-03	8.51E-04
	633.02	17.90	1.22E-03		2.07E-03	6.06E-04
	634.97	5.00	4.34E-03		4.00E-03	2.16E-03
	829.42	5.10	3.69E-03		-1.45E-03	1.83E-03
	1209.77	6.90	1.63E-03		3.74E-04	8.04E-04
	1715.67	6.20	1.01E-03		4.01E-04	4.88E-04
	2214.59	18.60	1.89E-04		-2.82E-04	8.80E-05
W-188	227.07	0.23	1.01E-01	5.22E-02	-3.73E-02	5.06E-02
	290.68	0.42	5.22E-02		2.49E-02	2.61E-02
Ir-189	245.08	6.00	4.17E-03	4.17E-03	-2.64E-03	2.08E-03
Ir-190	186.68	50.00	5.70E-04	4.13E-04	-1.37E-04	2.84E-04
	361.09	12.30	1.61E-03		1.13E-03	8.01E-04
	371.24	21.60	9.01E-04		4.01E-04	4.49E-04
	407.22	27.00	6.85E-04		-1.31E-05	3.42E-04
	518.55	32.20	5.26E-04		-2.98E-04	2.62E-04
	557.95	28.50	5.68E-04		3.85E-04	2.83E-04
	569.30	27.00	5.87E-04		-7.33E-04	2.92E-04
	605.14	37.80	4.13E-04		-3.45E-04	2.06E-04
OS-191	63.29	15.70	4.72E-03	1.27E-03	2.04E-04	2.36E-03
	64.99	26.70	2.39E-03		2.50E-04	1.19E-03
	73.45	9.21	6.00E-03		1.60E-03	3.00E-03
	129.43	26.50	1.27E-03		1.91E-04	6.35E-04
Pt-191	359.90	5.80	4.29E-03	1.43E-03	-2.73E-03	2.14E-03
	456.47	3.30	6.71E-03		2.55E-03	3.34E-03
	538.90	14.30	1.43E-03		-1.07E-03	7.11E-04
IR-192	205.79	3.31	8.02E-03	2.61E-04	1.08E-03	4.00E-03
	295.96	28.71	8.09E-04		-3.79E-05	4.04E-04
	308.45	29.70	7.57E-04		-2.38E-04	3.78E-04
	316.51	82.86	2.61E-04		-5.91E-05	1.30E-04
	468.07	47.84	3.66E-04		1.46E-04	1.82E-04
	588.58	4.52	4.08E-03		9.22E-04	2.03E-03
	604.41	8.22	1.70E-03		-6.05E-04	8.45E-04
	612.46	5.34	2.44E-03		1.82E-03	1.21E-03
IR-192m	155.16	0.09	3.26E-01	3.26E-01	1.77E-01	1.63E-01
IR-193m	80.22	0.00	1.07E+01	1.07E+01	-3.99E+00	5.34E+00
Pt-193m	135.50	0.11	3.23E-01	3.23E-01	2.93E-01	1.61E-01
Au-194	293.55	10.90	3.10E-03	4.99E-04	1.22E-04	1.54E-03
	328.47	62.80	4.99E-04		1.02E-04	2.49E-04
	364.84	1.60	1.83E-02		-2.75E-03	9.10E-03
	528.77	1.78	1.37E-02		4.70E-03	6.83E-03
	645.16	2.32	9.66E-03		4.72E-04	4.81E-03
	948.32	2.29	8.28E-03		3.83E-03	4.11E-03
	1104.06	2.15	8.02E-03		-1.26E-02	3.97E-03
	1175.36	2.14	1.77E-02		4.56E-01	8.81E-03
	1468.90	6.80	1.17E-03		-1.86E-04	5.69E-04
	1595.81	1.89	7.18E-03		4.76E-02	3.54E-03
	2043.72	3.74	8.70E-04		-3.44E-04	4.04E-04
Ir-194	293.54	2.50	2.12E-02	3.74E-03	8.32E-04	1.06E-02
	328.47	13.10	3.74E-03		7.65E-04	1.87E-03

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	AU-195	98.86		11.21	3.51E-03	3.51E-03	-6.83E-04	1.75E-03
		129.74		0.84	3.83E-02		-2.82E-03	1.91E-02
	Pt-195m	98.90		11.70	4.01E-03	4.01E-03	-7.81E-04	2.00E-03
		129.79		2.90	1.32E-02		-9.73E-04	6.62E-03
	Au-196	333.03		22.90	1.03E-03	2.53E-04	-2.02E-04	5.15E-04
		355.73		87.00	2.53E-04		1.44E-04	1.26E-04
		426.10		6.60	2.95E-03		-1.82E-03	1.47E-03
	Au-196m	147.81		43.50	4.17E-03	4.17E-03	1.22E-03	2.08E-03
		188.27		30.00	5.43E-03		1.20E-03	2.71E-03
+	Pt-197	77.35	*	17.00	5.19E-03	5.19E-03	4.56E-04	2.59E-03
		191.44		3.70	1.71E-02		-4.62E-03	8.52E-03
	AU-198	411.80		95.62	2.48E-04	2.48E-04	5.29E-05	1.24E-04
	AU-199	158.38		40.00	9.32E-04	9.32E-04	-3.98E-04	4.66E-04
		208.20		8.72	3.60E-03		-2.67E-03	1.80E-03
	TL-201	135.34		2.61	1.53E-02	3.63E-03	1.38E-02	7.63E-03
		167.43		10.00	3.63E-03		1.18E-03	1.81E-03
	TL-202	439.51		91.50	2.00E-04	2.00E-04	1.54E-04	9.99E-05
	PB-203	70.83		26.40	2.94E-03	3.93E-04	1.09E-03	1.47E-03
		72.87		44.20	1.69E-03		5.77E-04	8.43E-04
		82.40		15.56	4.06E-03		-2.03E-03	2.03E-03
		279.20		80.90	3.93E-04		2.83E-04	1.96E-04
		401.32		3.35	7.81E-03		6.30E-03	3.89E-03
	PB-210	46.54		4.25	3.22E-02	3.22E-02	-1.24E-02	1.61E-02
	Pa-233	86.60		2.01	2.20E-02	5.37E-04	1.24E-01	1.10E-02
		94.65		8.90	4.57E-03		-1.91E-03	2.28E-03
		98.43		14.20	2.77E-03		2.75E-03	1.38E-03
		300.13		6.54	3.22E-03		3.48E-03	1.61E-03
		311.90		38.20	5.37E-04		-1.73E-04	2.68E-04
		340.48		4.44	4.42E-03		-6.18E-04	2.21E-03
	U-235	89.96		2.90	1.43E-02	4.70E-04	3.09E-04	7.13E-03
		93.35		4.70	8.37E-03		1.80E-03	4.18E-03
		109.19		1.64	2.21E-02		2.11E-02	1.10E-02
		143.76		10.93	2.76E-03		1.77E-03	1.38E-03
		163.36		5.07	5.74E-03		-1.69E-03	2.87E-03
		185.71		57.20	4.70E-04		-2.32E-04	2.35E-04
		202.11		1.07	2.38E-02		1.33E-02	1.19E-02
		205.31		5.03	5.01E-03		5.87E-03	2.50E-03
+	NP-237	86.48	*	12.20	4.00E-03	4.00E-03	1.20E-02	2.00E-03
	U-237	59.54		34.50	2.99E-03	1.33E-03	2.37E-01	1.49E-03
		97.07		15.40	2.88E-03		3.95E-03	1.44E-03
		101.06		24.50	1.75E-03		-2.34E-03	8.75E-04
		113.30		3.07	1.27E-02		-1.06E-03	6.35E-03
		114.23		5.81	6.68E-03		-1.51E-03	3.34E-03
		117.46		2.27	1.68E-02		-3.72E-02	8.39E-03
		208.00		21.20	1.33E-03		-1.71E-04	6.64E-04
	NP-238	103.37		0.00	1.13E+01	6.61E-04	-8.98E+00	5.63E+00
		882.63		0.80	2.10E-02		1.31E-02	1.04E-02
		923.99		2.60	6.65E-03		8.97E-03	3.30E-03
		984.45		25.20	6.61E-04		2.45E-04	3.28E-04
		1025.87		8.75	1.87E-03		4.51E-04	9.28E-04
		1028.53		18.23	8.93E-04		-2.91E-04	4.43E-04
	U-238	63.29		3.70	1.91E-02	9.41E-03	8.26E-04	9.54E-03
		92.51		4.23	9.41E-03		-2.61E-03	4.70E-03

Analysis Report for 24-2306 VSM-4.5M-S3-CST-A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	U-238	112.81		0.21	1.68E-01	9.41E-03	7.80E-02	8.37E-02
		742.81		0.11	1.23E-01		1.87E-01	6.13E-02
		766.42		0.32	4.11E-02		4.87E-03	2.04E-02
		1001.03		0.84	3.20E-02		9.49E-01	1.60E-02
	Am-239	181.71		1.08	1.09E-01	6.36E-03	-5.89E-04	5.42E-02
		209.80		3.50	3.06E-02		-1.47E-02	1.53E-02
		226.40		3.30	3.09E-02		6.49E-03	1.54E-02
		228.10		11.30	8.98E-03		1.52E-03	4.48E-03
		277.60		15.00	6.36E-03		5.57E-03	3.17E-03
	NP-239	61.46		1.30	8.85E-02	2.02E-03	-1.78E-02	4.42E-02
		99.53		12.90	4.11E-03		-2.42E-03	2.05E-03
		103.37		20.50	2.52E-03		-2.01E-03	1.26E-03
		106.12		25.34	2.02E-03		7.89E-03	1.01E-03
		209.75		3.36	1.01E-02		-4.87E-03	5.06E-03
		228.18		11.24	2.88E-03		3.35E-03	1.44E-03
		277.60		14.51	2.11E-03		1.85E-03	1.05E-03
		285.46		0.79	3.83E-02		3.47E-02	1.91E-02
		315.88		1.60	1.69E-02		-2.33E-03	8.44E-03
		334.31		2.06	1.22E-02		4.91E-03	6.09E-03
	PU-239	38.66		0.01	2.42E+01	3.87E+00	-3.60E+01	1.21E+01
		51.62		0.03	3.87E+00		1.03E+00	1.94E+00
		98.50		0.01	5.40E+00		5.37E+00	2.70E+00
		111.03		0.00	2.68E+01		2.04E+01	1.34E+01
		129.30		0.01	5.10E+00		1.66E+00	2.55E+00
		171.39		0.00	2.56E+02		-1.15E+02	1.28E+02
		203.55		0.00	4.45E+01		-8.85E+00	2.22E+01
		332.85		0.00	3.98E+01		-7.05E-01	1.99E+01
		336.11		0.00	1.74E+02		-7.30E+01	8.70E+01
		345.01		0.00	3.50E+01		5.90E+01	1.74E+01
		375.05		0.00	1.17E+01		-3.73E+00	5.82E+00
		380.19		0.00	5.87E+01		3.09E+01	2.93E+01
		382.75		0.00	6.88E+01		-3.62E+01	3.43E+01
		413.71		0.00	1.23E+01		3.81E+01	6.16E+00
		422.60		0.00	1.43E+02		1.52E+01	7.14E+01
		451.48		0.00	8.87E+01		6.42E+01	4.42E+01
	Am-240	99.53		18.40	2.98E-03	2.32E-04	-1.76E-03	1.49E-03
		103.37		29.20	1.83E-03		-1.46E-03	9.15E-04
		117.23		6.93	6.96E-03		-1.54E-02	3.48E-03
		888.85		24.70	6.92E-04		-1.00E-04	3.44E-04
		987.79		72.20	2.32E-04		2.01E-04	1.15E-04
	Np-240m	554.60		20.90	2.51E-03	2.51E-03	2.74E-03	1.25E-03
		597.40		11.70	4.71E-03		-1.36E-03	2.34E-03
	U-240	44.10		1.05	5.22E-01	3.80E-01	-2.08E-01	2.61E-01
		66.50		0.15	1.30E+00		1.18E+00	6.51E-01
		169.20		0.12	8.49E-01		6.94E-01	4.24E-01
		189.70		0.24	3.80E-01		5.39E-01	1.90E-01
+	AM-241	59.54	*	35.90	2.98E-03	2.98E-03	1.99E-01	1.49E-03
	AM-242m	49.35	*	0.13	1.29E+00	1.29E+00	1.56E+00	6.44E-01
		66.89		0.01	3.89E+00		1.99E+00	1.94E+00
		86.65	*	0.02	2.14E+00		6.40E+00	1.07E+00
		163.25		0.02	1.90E+00		-5.59E-01	9.50E-01
	AM-243	43.53	*	5.90	3.26E-02	5.25E-04	8.74E-02	1.63E-02
		74.66	*	67.20	5.25E-04		7.19E-04	2.62E-04

Analysis Report for 24-2306 VSM-4.5M-S3-CST-A F3

ASR 2094 Branch

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

Apex-Gamma

Analysis Report for 24-2307 VSM-4.5M-S3-d- F3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2307 VSM-4.5M-S3-d- F3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 3:19:06PM
Procedure	: F3_gsv02mlw
Operator	: Administrator
Detector Name	: F
Geometry	: F3_gsv02mlw
Live Time	: 14400.0 seconds
Real Time	: 14875.6 seconds
Dead Time	: 3.20 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: F3_gsv2mlw_R717
Sample Number	: 567830
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 7:27:10PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2307 VSM-4.5M-S3-d- F3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.84	120.44	0.1654	12.84
2	48.92	136.81	0.2340	8.21
3	59.61	167.13	0.0346	344.38
4	86.86	243.22	0.1460	16.96
5	105.48	295.33	0.1669	12.34
6	123.12	344.63	0.0463	168.04
7	125.54	353.00	0.0000	0.00
8	201.41	563.26	0.3797	3.06
9	228.63	638.83	0.2970	4.79
10	247.93	693.46	0.0813	50.18
11	277.75	776.55	0.2750	4.44
12	344.37	962.98	0.1791	10.48
13	371.15	1037.68	0.3148	3.79
14	414.87	1160.01	0.1024	28.97
15	444.59	1242.90	0.2077	6.24
16	478.59	1337.83	0.3066	3.03
17	511.05	1428.62	0.1049	18.02
18	557.56	1558.86	0.2551	4.89
19	582.19	1627.76	0.1518	12.18
20	591.84	1654.67	0.0787	43.61
21	625.37	1748.37	0.2348	5.60
22	661.79	1850.13	0.0621	68.92
23	666.45	1863.19	0.0925	31.69
24	692.54	1935.27	0.1720	12.45
25	695.19	1943.70	0.1031	26.97
26	723.47	2022.51	0.0495	100.17
27	756.98	2116.17	0.0790	41.23
28	779.22	2178.36	0.2143	5.67
29	815.75	2280.21	0.1966	5.78
30	845.80	2364.18	0.1661	8.85
31	851.05	2379.36	0.2284	4.35
32	857.49	2396.69	0.3134	3.34
33	873.42	2441.54	0.0581	69.25
34	892.92	2496.28	0.1880	7.04
35	904.31	2527.70	0.1394	11.93
36	964.34	2695.58	0.1750	7.49
37	996.51	2785.54	0.0606	61.93
38	1005.00	2809.24	0.0519	82.19
39	1086.73	3036.27	0.2078	6.05
40	1112.47	3109.45	0.1911	7.04
41	1120.23	3128.98	0.2436	3.62
42	1128.52	3154.39	0.1712	7.59
43	1141.17	3190.08	0.2219	4.20
44	1173.50	3280.08	0.0498	84.83
45	1213.18	3390.72	0.2939	3.11
46	1246.48	3483.97	0.1264	12.15
47	1274.73	3563.01	0.0448	100.69
48	1332.81	3725.30	0.0504	76.46
49	1397.77	3906.62	0.1274	12.75
50	1408.38	3936.59	0.1273	11.93
51	1461.30	4084.20	0.1629	7.68
52	1494.50	4177.01	0.1249	12.20
53	1596.87	4463.06	0.0933	20.56
54	1719.72	4806.26	0.1515	8.30
55	1764.97	4932.57	0.1897	5.69

Analysis Report for 24-2307 VSM-4.5M-S3-d- F3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
56	2506.20	7003.74	0.1504	6.38
57	2615.27	7307.21	0.2054	3.13

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2307 VSM-4.5M-S3-d- F3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 7:27:10PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.84	112	125	120.25	2.08E+04	2471.03	8.12E+05	1.28
F	2	48.92	129	144	137.25	1.42E+04	813.67	1.12E+06	1.62
F	3	59.61	159	174	167.14	7.62E+05	3439.08	1.22E+06	1.23
F	4	86.86	237	251	243.29	3.22E+04	3750.66	9.20E+05	1.73
F	5	105.48	291	303	295.34	1.76E+04	684.14	6.29E+05	1.53
M	6	123.12	337	361	344.65	2.11E+05	2664.06	5.35E+05	1.31
m	7	125.54	337	361	351.41	1.77E+03	489.63	4.75E+05	1.31
F	8	201.41	553	572	563.47	8.90E+02	320.35	2.77E+05	0.94
F	9	228.63	635	648	639.55	1.77E+03	1760.66	1.40E+05	0.49
F	10	247.93	687	703	693.47	2.44E+04	317.52	1.42E+05	1.36
F	11	277.75	773	786	776.83	1.81E+03	259.01	8.67E+04	1.65
F	12	344.37	956	972	963.01	2.57E+03	191.40	6.23E+04	1.36
F	13	371.15	1034	1045	1037.86	5.87E+02	150.66	3.63E+04	0.91
F	14	414.87	1152	1168	1160.06	8.16E+03	794.22	3.96E+04	1.62
F	15	444.59	1236	1254	1243.11	1.73E+03	149.26	3.72E+04	1.85
F	16	478.59	1331	1345	1338.12	9.09E+02	137.21	2.45E+04	2.17
F	17	511.05	1417	1440	1428.85	1.41E+04	172.62	3.49E+04	2.80
F	18	557.56	1554	1569	1558.84	5.55E+02	106.40	1.78E+04	1.31
F	19	582.19	1621	1634	1627.67	1.96E+03	440.11	1.38E+04	1.61
F	20	591.84	1644	1666	1654.64	1.09E+04	495.67	2.08E+04	1.78
F	21	625.37	1743	1754	1748.35	5.61E+02	93.95	1.01E+04	1.33
M	22	661.79	1839	1873	1850.13	2.12E+04	509.06	1.29E+04	1.85
m	23	666.45	1839	1873	1863.15	6.88E+03	194.35	1.26E+04	1.85
M	24	692.54	1927	1956	1936.05	3.54E+03	466.43	1.09E+04	1.89
m	25	695.19	1927	1956	1943.45	6.49E+03	669.13	1.13E+04	1.89
F	26	723.47	2009	2031	2022.48	3.94E+04	506.11	1.41E+04	1.85
F	27	756.98	2105	2123	2116.14	8.47E+03	413.48	1.00E+04	1.88
F	28	779.22	2170	2187	2178.28	7.28E+02	331.54	9.01E+03	1.88
F	29	815.75	2274	2289	2280.36	7.88E+02	77.03	6.99E+03	2.03
M	30	845.80	2355	2402	2364.35	1.17E+03	75.28	6.92E+03	2.00
m	31	851.05	2355	2402	2379.01	4.83E+02	65.17	7.57E+03	2.00
m	32	857.49	2355	2402	2397.01	2.19E+02	65.19	6.32E+03	2.00
F	33	873.42	2430	2453	2441.54	2.09E+04	154.43	9.10E+03	1.99
F	34	892.92	2482	2501	2496.03	7.07E+02	246.32	6.75E+03	1.83
F	35	904.31	2521	2535	2527.85	1.52E+03	73.72	4.97E+03	2.03
F	36	964.34	2689	2702	2695.60	8.91E+02	66.34	4.07E+03	2.12
F	37	996.51	2774	2799	2785.51	1.75E+04	510.47	7.46E+03	2.14
F	38	1005.00	2799	2823	2809.22	2.99E+04	428.69	6.81E+03	2.19
F	39	1086.73	3029	3042	3037.61	4.56E+02	257.46	2.92E+03	0.66
M	40	1112.47	3095	3137	3109.52	9.48E+02	261.49	3.96E+03	1.58

Analysis Report for 24-2307 VSM-4.5M-S3-d- F3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
m	41	1120.23	3095	3137	3131.20	2.56E+02	59.35	7.57E+03	1.59
F	42	1128.52	3144	3164	3154.38	9.20E+02	227.54	3.17E+03	2.46
F	43	1141.17	3181	3201	3189.73	4.03E+02	47.24	2.92E+03	2.50
F	44	1173.50	3268	3291	3280.07	3.24E+04	341.34	2.80E+03	2.34
F	45	1213.18	3386	3396	3390.96	1.97E+02	344.44	7.58E+02	1.90
F	46	1246.48	3476	3492	3483.98	1.15E+03	45.32	1.22E+03	2.36
F	47	1274.73	3551	3574	3562.94	4.92E+04	372.02	1.86E+03	2.46
F	48	1332.81	3710	3738	3725.22	2.97E+04	287.06	1.38E+03	2.51
F	49	1397.77	3896	3918	3906.72	8.65E+02	124.40	6.79E+02	2.42
F	50	1408.38	3921	3949	3936.38	9.66E+02	113.98	8.20E+02	2.65
F	51	1461.30	4070	4095	4084.24	4.51E+02	90.85	5.27E+02	2.66
F	52	1494.50	4162	4192	4177.00	9.43E+02	32.65	4.80E+02	2.65
F	53	1596.87	4447	4476	4463.02	2.62E+03	113.11	3.14E+02	2.80
F	54	1719.72	4795	4817	4806.26	2.95E+02	19.16	1.38E+02	2.38
F	55	1764.97	4922	4943	4932.69	1.63E+02	49.46	8.85E+01	2.49
F	56	2506.20	6991	7016	7003.40	2.99E+02	40.98	1.98E+01	3.16
F	57	2615.27	7295	7322	7308.07	1.52E+02	11.72	1.40E+01	4.10

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 7:27:10PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567378.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.84	2.08E+04	2471.03			2.08E+04	2.47E+03
F	2	48.92	1.42E+04	813.67			1.42E+04	8.14E+02
F	3	59.61	7.62E+05	3439.08			7.62E+05	3.44E+03
F	4	86.86	3.22E+04	3750.66	1.07E+02	6.76E+00	3.21E+04	3.75E+03
F	5	105.48	1.76E+04	684.14			1.76E+04	6.84E+02
M	6	123.12	2.11E+05	2664.06			2.11E+05	2.66E+03
m	7	125.54	1.77E+03	489.63			1.77E+03	4.90E+02
F	8	201.41	8.90E+02	320.35			8.90E+02	3.20E+02
F	9	228.63	1.77E+03	1760.66			1.77E+03	1.76E+03
F	10	247.93	2.44E+04	317.52			2.44E+04	3.18E+02
F	11	277.75	1.81E+03	259.01			1.81E+03	2.59E+02
F	12	344.37	2.57E+03	191.40			2.57E+03	1.91E+02

Analysis Report for 24-2307 VSM-4.5M-S3-d- F3

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	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	13	371.15	5.87E+02	150.66			5.87E+02	1.51E+02
F	14	414.87	8.16E+03	794.22			8.16E+03	7.94E+02
F	15	444.59	1.73E+03	149.26			1.73E+03	1.49E+02
F	16	478.59	9.09E+02	137.21			9.09E+02	1.37E+02
F	17	511.05	1.41E+04	172.62	5.65E+02	2.06E+01	1.35E+04	1.74E+02
F	18	557.56	5.55E+02	106.40			5.55E+02	1.06E+02
F	19	582.19	1.96E+03	440.11	6.69E+01	1.06E+01	1.90E+03	4.40E+02
F	20	591.84	1.09E+04	495.67			1.09E+04	4.96E+02
F	21	625.37	5.61E+02	93.95			5.61E+02	9.39E+01
M	22	661.79	2.12E+04	509.06			2.12E+04	5.09E+02
m	23	666.45	6.88E+03	194.35			6.88E+03	1.94E+02
M	24	692.54	3.54E+03	466.43			3.54E+03	4.66E+02
m	25	695.19	6.49E+03	669.13			6.49E+03	6.69E+02
F	26	723.47	3.94E+04	506.11			3.94E+04	5.06E+02
F	27	756.98	8.47E+03	413.48			8.47E+03	4.13E+02
F	28	779.22	7.28E+02	331.54			7.28E+02	3.32E+02
F	29	815.75	7.88E+02	77.03			7.88E+02	7.70E+01
M	30	845.80	1.17E+03	75.28			1.17E+03	7.53E+01
m	31	851.05	4.83E+02	65.17			4.83E+02	6.52E+01
m	32	857.49	2.19E+02	65.19			2.19E+02	6.52E+01
F	33	873.42	2.09E+04	154.43			2.09E+04	1.54E+02
F	34	892.92	7.07E+02	246.32			7.07E+02	2.46E+02
F	35	904.31	1.52E+03	73.72			1.52E+03	7.37E+01
F	36	964.34	8.91E+02	66.34			8.91E+02	6.63E+01
F	37	996.51	1.75E+04	510.47			1.75E+04	5.10E+02
F	38	1005.00	2.99E+04	428.69			2.99E+04	4.29E+02
F	39	1086.73	4.56E+02	257.46			4.56E+02	2.57E+02
M	40	1112.47	9.48E+02	261.49			9.48E+02	2.61E+02
m	41	1120.23	2.56E+02	59.35	1.04E+02	8.69E+00	1.52E+02	6.00E+01
F	42	1128.52	9.20E+02	227.54			9.20E+02	2.28E+02
F	43	1141.17	4.03E+02	47.24			4.03E+02	4.72E+01
F	44	1173.50	3.24E+04	341.34			3.24E+04	3.41E+02
F	45	1213.18	1.97E+02	344.44			1.97E+02	3.44E+02
F	46	1246.48	1.15E+03	45.32			1.15E+03	4.53E+01
F	47	1274.73	4.92E+04	372.02			4.92E+04	3.72E+02
F	48	1332.81	2.97E+04	287.06			2.97E+04	2.87E+02
F	49	1397.77	8.65E+02	124.40			8.65E+02	1.24E+02
F	50	1408.38	9.66E+02	113.98	1.81E+01	1.65E+00	9.48E+02	1.14E+02
F	51	1461.30	4.51E+02	90.85	4.16E+02	4.71E+00	3.56E+01	9.10E+01
F	52	1494.50	9.43E+02	32.65			9.43E+02	3.27E+01
F	53	1596.87	2.62E+03	113.11			2.62E+03	1.13E+02
F	54	1719.72	2.95E+02	19.16			2.95E+02	1.92E+01
F	55	1764.97	1.63E+02	49.46	1.16E+02	6.70E+00	4.70E+01	4.99E+01
F	56	2506.20	2.99E+02	40.98			2.99E+02	4.10E+01
F	57	2615.27	1.52E+02	11.72	1.44E+02	7.08E+00	7.97E+00	1.37E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2307 VSM-4.5M-S3-d- F3
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NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
BE-7	0.85	477.60	*	10.44	9.83E-04	1.49E-04	miss
K-40	0.96	1460.82	*	10.66	7.38E-05	1.89E-04	miss
MN-56	0.30	846.76	*	98.85	3.69E-01	2.38E-02	0.988
		1810.73		26.90			
		2113.09		14.20			
CO-60	0.98	1173.23	*	99.85	6.48E-03	7.52E-05	0.965
		1332.49	*	99.98	6.43E-03	7.17E-05	0.963
ZR-95	0.95	724.19	*	44.27	1.29E-02	1.90E-04	free
		756.72	*	54.38	2.32E-03	1.14E-04	free
RU-106	0.90	511.86	*	20.40	7.71E-03	1.84E-04	miss
Te-129m	0.92	695.88	*	3.00	3.10E-02	6.98E-03	free
TE-132	0.89	49.72	*	15.00	2.03E-02	1.45E-03	0.961
		111.76		1.74			
		116.30		1.96			
		228.16	*	88.00	1.86E-04	1.86E-04	0.997
CS-137	0.99	661.66	*	85.10	3.38E-03	8.33E-05	miss
EU-152	0.43	121.78		28.53			
		344.28	*	26.59	9.04E-04	6.79E-05	0.971
		778.90	*	12.93	8.78E-04	4.00E-04	0.961
		867.37	@	4.23			
		964.08	*@	14.51	1.08E-03	8.10E-05	0.967
		1085.87	*	10.11	8.20E-04	4.63E-04	1.008
		1112.07	*	13.67	1.32E-03	3.63E-04	0.982
		1408.01	*	20.87	1.01E-03	1.21E-04	0.975
EU-154	0.99	42.70	*	20.45	2.59E-02	3.22E-03	miss
		123.07	*	40.40	2.99E-02	5.36E-04	0.958
		247.93	*	6.89	2.81E-02	5.06E-04	0.945
		591.76	*	4.95	3.00E-02	1.40E-03	0.934
		692.42	*	1.78	2.93E-02	3.88E-03	0.949
		723.30	*	20.06	2.95E-02	5.04E-04	0.952
		756.80	*	4.52	2.96E-02	1.48E-03	0.932
		873.18	*	12.08	2.94E-02	4.02E-04	0.945
		996.29	*	10.48	2.96E-02	9.16E-04	0.986
		1004.76	*	18.01	2.96E-02	5.39E-04	0.978
		1246.12	*	0.86	2.86E-02	1.19E-03	0.941
		1274.43	*	34.80	2.92E-02	3.74E-04	0.980
		1494.05	*	0.70	2.99E-02	1.10E-03	1.014
		1596.48	*	1.80	2.95E-02	1.33E-03	1.158
EU-155	0.99	43.00	*	18.12	2.93E-02	3.61E-03	1.000
		60.01	*	1.17	6.21E+00	1.77E-01	0.999

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Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-155	0.99	86.55	*	30.70	6.03E-03	7.09E-04	free
		105.31	*	21.10	4.50E-03	2.08E-04	1.000
W-185	0.29	59.72	*	0.01	6.16E+02	1.73E+01	miss
		61.14		0.02			
		69.20		0.01			
		125.36	*	0.02	5.15E-01	1.43E-01	miss
NP-237	0.97	86.48	*	12.20	1.52E-02	1.82E-03	1.000
NP-239	0.23	61.46		1.30			
		99.53		12.90			
		103.37		20.50			
		106.12	*	25.34	5.39E-03	2.17E-04	0.985
		209.75		3.36			
		228.18	*	11.24	1.61E-03	1.60E-03	0.989
		277.60	*	14.51	1.43E-03	2.05E-04	0.984
		285.46		0.79			
		315.88		1.60			
		334.31		2.06			
AM-241	0.99	59.54	*	35.90	2.02E-01	3.38E-03	free
AM-242m	0.64	49.35	*	0.13	1.69E+00	1.17E-01	miss
		66.89		0.01			
		86.65	*	0.02	8.12E+00	3.34E+00	miss
		163.25		0.02			

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	BE-7	0.856	9.83E-04	1.49E-04	
X	NA-22	0.998			

Analysis Report for 24-2307 VSM-4.5M-S3-d- F3

ASR 2094 Branch

	Nuclide Name		Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	K-40		0.964	7.38E-05	1.89E-04	
	MN-56		0.304	3.69E-01	2.38E-02	
	CO-60		0.986	6.45E-03	5.19E-05	
X	CU-64		0.963			
X	GA-66		0.479			
	ZR-95		0.957	5.26E-05	9.94E-05	
	RU-106		0.900	7.71E-03	1.84E-04	
	Te-129m		0.926	3.10E-02	6.98E-03	
	TE-132		0.890	1.87E-05	1.87E-04	
	CS-137		0.997	3.38E-03	8.33E-05	
	EU-152	@	0.437	9.35E-04	5.74E-05	
	EU-154		0.993	2.93E-02	1.39E-04	
	EU-155		0.991	3.27E-03	2.47E-04	
	W-185		0.299	5.15E-01	1.42E-01	
	NP-237		0.978	3.80E-03	1.89E-03	
X	Am-239		0.586			
	NP-239		0.234	1.45E-03	2.05E-04	
	AM-241		0.999	2.02E-01	2.52E-03	
	AM-242m		0.641	1.69E+00	9.93E-02	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2307 VSM-4.5M-S3-d- F3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 7:27:10PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	8	201.41	6.18300E-02	35.98	Tol.	U-235
F	13	371.15	4.07565E-02	25.67	Sum	
F	14	414.87	5.66708E-01	9.73	Tol.	RH-102M
F	15	444.59	1.20148E-01	8.63	Tol.	SB-127
F	18	557.56	3.85407E-02	19.17	Tol.	IN-114M Ir-190
F	19	582.19	1.31697E-01	23.21		
F	21	625.37	3.89527E-02	16.75	Tol.	BA-141
m	23	666.45	4.77878E-01	2.82		
F	29	815.75	5.46993E-02	9.78	Sum	
m	31	851.05	3.35481E-02	13.49	Tol.	AG-112
m	32	857.49	1.52050E-02	29.77		
F	34	892.92	4.90975E-02	34.84		
F	35	904.31	1.05372E-01	4.86	Sum	
m	41	1120.23	1.05315E-02	39.56	Sum	
F	42	1128.52	6.38729E-02	24.74	Sum	
F	43	1141.17	2.79913E-02	11.72	Sum	
F	45	1213.18	1.36502E-02	175.23	Sum	
F	49	1397.77	6.00919E-02	14.38	Sum	
F	54	1719.72	2.04748E-02	6.50	Sum	
F	55	1764.97	3.26476E-03	106.16	Sum	
F	56	2506.20	2.07372E-02	13.72	Sum	
F	57	2615.27	5.53283E-04	171.81		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2307 VSM-4.5M-S3-d- F3

ASR 2094 Branch

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	BE-7	477.60	*	10.44	1.22E-03	1.22E-03	9.83E-04	6.08E-04
	NA-22	511.00	*	179.91	1.05E-04	8.28E-05	8.73E-04	5.25E-05
		1274.54	*	99.94	8.28E-05		1.08E-02	4.11E-05
	NA-24	1368.63		99.99	1.59E-04	3.78E-05	-2.33E-04	7.85E-05
		2754.01		99.87	3.78E-05		1.88E-05	1.70E-05
	AL-26	1129.67		2.50	3.00E-03	1.69E-05	6.01E-03	1.49E-03
		1808.65		99.76	1.69E-05		-7.37E-06	8.09E-06
+	K-40	1460.82	*	10.66	4.58E-04	4.58E-04	7.38E-05	2.26E-04
	K-42	312.60		0.34	2.15E-01	7.70E-04	-3.16E-02	1.07E-01
		1524.60		18.08	7.70E-04		1.60E-04	3.77E-04
	Sc-44	1157.02		99.90	9.01E-03	9.01E-03	8.68E-03	4.47E-03
		1499.46		0.91	6.64E-01		1.62E-01	3.27E-01
	Sc-44m	271.24		86.74	2.61E-04	2.61E-04	-3.84E-04	1.30E-04
		1001.83		1.20	2.46E-02		9.48E-01	1.23E-02
		1126.06		1.20	9.62E-03		1.78E-02	4.78E-03
		1157.00		1.20	8.15E-03		7.85E-03	4.04E-03
	TI-44	67.87		93.00	4.54E-04	3.71E-04	3.20E-04	2.27E-04
		78.32		96.40	3.71E-04		1.58E-04	1.86E-04
	SC-46	889.28		99.98	9.19E-05	7.96E-05	2.04E-06	4.57E-05
		1120.55		99.99	7.96E-05		5.47E-06	3.95E-05
	CA-47	489.23		5.90	2.45E-03	8.19E-05	-3.49E-04	1.22E-03
		807.86		5.90	1.89E-03		1.06E-03	9.40E-04
		1297.09		67.00	8.19E-05		1.08E-04	4.05E-05
	SC-47	159.38		68.30	3.98E-04	3.98E-04	2.22E-04	1.99E-04
	SC-48	175.36		7.47	4.20E-03	6.90E-05	2.23E-03	2.10E-03
		983.53		100.00	1.33E-04		1.23E-04	6.63E-05
		1037.52		97.50	1.35E-04		-7.81E-05	6.69E-05
		1312.12		100.00	6.90E-05		6.52E-05	3.41E-05
	V-48	944.13		7.87	1.21E-03	4.91E-05	-6.81E-04	6.04E-04
		983.53		99.98	9.28E-05		8.59E-05	4.62E-05
		1312.11		98.20	4.91E-05		4.64E-05	2.42E-05
		2240.40		2.33	6.74E-04		-9.81E-04	3.18E-04
	CR-51	320.08		9.91	1.51E-03	1.51E-03	2.36E-03	7.52E-04
	Fe-52	168.69		99.20	2.22E-03	2.22E-03	1.00E-03	1.11E-03
		377.75		1.64	8.53E-02		3.38E-02	4.26E-02
	Mn-52	744.23		90.00	1.30E-04	4.26E-05	-4.71E-05	6.48E-05
		848.18		3.32	3.45E-03		1.30E-04	1.72E-03
		935.54		94.50	1.16E-04		-4.16E-05	5.75E-05
		1246.28		4.21	1.82E-03		8.28E-03	9.00E-04
		1333.65		5.07	4.21E-03		1.52E-01	2.10E-03
		1434.09		100.00	4.26E-05		4.09E-05	2.09E-05
	MN-54	834.85		99.98	9.01E-05	9.01E-05	3.52E-05	4.48E-05
	Co-55	411.50		1.07	3.77E-02	3.59E-04	4.44E-03	1.88E-02
		477.20		20.20	1.80E-03		-7.23E-04	8.99E-04
		803.70		1.87	1.48E-02		1.16E-02	7.36E-03

Analysis Report for 24-2307 VSM-4.5M-S3-d- F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Co-55	931.10		75.00	3.59E-04	3.59E-04	-2.62E-04	1.79E-04
		1316.60		7.10	1.90E-03		-1.68E-03	9.40E-04
		1370.00		2.90	4.39E-03		-4.52E-03	2.16E-03
		1408.50		16.90	8.73E-04		4.52E-03	4.31E-04
	Co-56	846.77		99.94	9.79E-05	6.35E-05	2.72E-05	4.87E-05
		977.37		1.42	6.53E-03		-2.07E-03	3.25E-03
		1037.84		14.05	6.38E-04		-2.13E-04	3.17E-04
		1175.10		2.25	8.38E-03		3.04E-01	4.18E-03
		1238.29		66.46	8.54E-05		8.49E-05	4.23E-05
		1360.21		4.28	1.04E-03		2.14E-04	5.11E-04
		1771.36		15.41	1.59E-04		3.85E-05	7.70E-05
		2015.20		3.02	4.95E-04		3.14E-04	2.35E-04
		2034.79		7.77	1.91E-04		-8.94E-05	9.03E-05
		2598.50		16.97	6.35E-05		1.58E-05	2.89E-05
+	MN-56	846.76	*	98.85	1.23E-01	1.23E-01	3.69E-01	6.10E-02
		1810.73		26.90	1.31E-01		-7.91E-03	6.27E-02
		2113.09		14.20	2.10E-01		-8.01E-02	9.93E-02
	Ni-56	158.38		98.80	2.47E-04	1.22E-04	1.08E-04	1.23E-04
		269.50		36.50	4.73E-04		1.77E-04	2.36E-04
		480.44		36.50	3.69E-04		-9.02E-05	1.84E-04
		749.50		49.50	2.20E-04		-1.25E-04	1.10E-04
		811.85		86.00	1.22E-04		8.22E-07	6.05E-05
		1561.80		14.00	2.20E-04		8.65E-05	1.07E-04
	CO-57	122.06		85.60	3.13E-04	3.13E-04	-7.99E-06	1.56E-04
		136.47		10.68	2.11E-03		9.32E-04	1.05E-03
	NI-57	127.16		16.70	2.66E-03	8.55E-05	4.01E-04	1.33E-03
		1377.63		81.70	8.55E-05		-1.91E-05	4.21E-05
		1757.55		5.75	6.67E-04		-4.84E-04	3.23E-04
		1919.52		12.30	2.13E-04		-3.29E-04	1.01E-04
	CO-58	810.76		99.45	9.40E-05	9.40E-05	1.51E-05	4.68E-05
		863.96		0.69	1.35E-02		9.22E-03	6.71E-03
		1674.73		0.52	3.82E-03		-3.04E-03	1.85E-03
	FE-59	142.65		1.02	2.18E-02	1.09E-04	2.50E-03	1.09E-02
		192.34		3.08	6.48E-03		1.51E-03	3.24E-03
		1099.24		56.50	1.40E-04		-4.67E-05	6.97E-05
		1291.59		43.20	1.09E-04		1.91E-05	5.37E-05
+	CO-60	1173.23	*	99.85	9.25E-05	7.64E-05	6.48E-03	4.60E-05
		1332.49	*	99.98	7.64E-05		6.43E-03	3.79E-05
	CU-64	511.00	*	35.00	2.54E-03	2.54E-03	2.11E-02	1.27E-03
		1345.77		0.47	4.12E-02		-1.66E-02	2.03E-02
	NI-65	366.27		4.81	6.77E+00	3.09E-01	1.60E+00	3.38E+00
		1115.53		15.43	1.23E+00		1.81E+00	6.12E-01
		1481.84		23.59	3.09E-01		-3.65E-01	1.52E-01
	ZN-65	1115.54		50.04	1.60E-04	1.60E-04	2.35E-04	7.94E-05
	GA-66	511.00	*	114.00	1.31E-03	3.30E-04	1.09E-02	6.56E-04
		833.53		5.90	1.20E-02		6.85E-03	5.99E-03
		1039.22		37.00	1.80E-03		-5.65E-04	8.94E-04
		1333.11	*	1.17	4.98E-02		4.19E+00	2.47E-02
		1918.33		1.99	6.00E-03		5.06E-03	2.86E-03
		2189.62		5.30	2.24E-03		-1.44E-03	1.06E-03
		2751.83		22.70	3.30E-04		-6.39E-05	1.48E-04
	CU-67	91.27		7.00	5.71E-03	5.47E-04	4.00E-03	2.85E-03
		93.31		16.10	2.42E-03		1.95E-03	1.21E-03

Analysis Report for 24-2307 VSM-4.5M-S3-d- F3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
CU-67	184.58	48.70	5.47E-04	5.47E-04	-3.94E-05	2.73E-04
	300.22	0.80	2.61E-02		2.10E-02	1.30E-02
	393.53	0.22	7.98E-02		-3.86E-02	3.98E-02
GA-67	91.26	3.11	1.24E-02	9.50E-04	8.66E-03	6.17E-03
	93.31	38.81	9.50E-04		7.66E-04	4.75E-04
	184.58	21.41	1.17E-03		-8.39E-05	5.82E-04
	208.95	2.46	9.82E-03		-3.04E-03	4.91E-03
	300.22	16.64	1.19E-03		9.62E-04	5.96E-04
	393.53	4.56	3.25E-03		-1.57E-03	1.62E-03
ZN-69m	438.63	94.85	5.44E-04	5.44E-04	2.92E-04	2.71E-04
GA-72	629.97	26.13	1.73E-03	2.74E-04	-2.22E-04	8.63E-04
	834.13	95.45	3.94E-04		-4.95E-05	1.96E-04
	894.33	10.14	3.74E-03		4.48E-03	1.86E-03
	1050.79	6.99	5.27E-03		2.05E-03	2.62E-03
	2201.59	26.87	2.74E-04		1.42E-04	1.31E-04
	2491.03	7.73	6.47E-04		3.48E-05	3.00E-04
	2507.72	13.33	9.20E-04		2.99E-03	4.46E-04
Zn-72	144.70	82.78	3.99E-04	3.99E-04	1.54E-04	1.99E-04
	191.50	9.35	3.09E-03		2.80E-03	1.55E-03
SE-75	121.12	17.20	1.64E-03	2.73E-04	-4.23E-04	8.21E-04
	136.00	58.50	4.04E-04		3.51E-04	2.02E-04
	264.66	58.90	2.73E-04		2.61E-04	1.36E-04
	279.54	25.02	6.60E-04		3.56E-04	3.30E-04
	400.66	11.41	8.44E-04		9.65E-05	4.21E-04
BR-83	529.59	1.30	3.20E+01	3.20E+01	2.12E+01	1.60E+01
BR-84	604.80	1.70	3.17E+13	5.98E+11	2.41E+13	1.58E+13
	736.50	1.29	3.68E+13		-5.10E+13	1.83E+13
	802.20	6.00	7.56E+12		1.71E+12	3.76E+12
	881.60	42.00	1.08E+12		1.12E+12	5.38E+11
	987.30	0.79	5.42E+13		1.63E+13	2.70E+13
	1015.90	6.20	6.84E+12		6.19E+11	3.40E+12
	1213.30	2.60	1.04E+13		-7.87E+12	5.15E+12
	1463.80	2.00	9.83E+12		2.43E+13	4.84E+12
	1741.20	1.60	6.05E+12		-9.54E+12	2.92E+12
	1877.50	1.12	6.63E+12		-3.90E+12	3.16E+12
	1897.60	14.60	5.98E+11		7.68E+11	2.87E+11
	2029.60	2.10	3.45E+12		-3.02E+11	1.64E+12
	2200.70	1.16	7.62E+12		4.80E+12	3.64E+12
	2484.10	6.70	9.22E+11		7.25E+11	4.28E+11
	2824.10	1.12	4.36E+12		1.83E+12	1.96E+12
KR-85m	151.20	75.20	2.22E-02	2.22E-02	1.43E-02	1.11E-02
	304.87	14.00	8.49E-02		-1.32E-02	4.24E-02
Y-87	388.53	82.20	2.00E-04	1.66E-04	-1.60E-04	9.98E-05
	484.80	89.80	1.66E-04		4.74E-05	8.28E-05
KR-88	165.98	3.10	7.28E+00	3.60E-02	3.44E+00	3.64E+00
	196.30	26.00	7.50E-01		9.82E-02	3.75E-01
	362.23	2.25	5.82E+00		-4.80E+00	2.91E+00
	471.80	0.73	1.71E+01		1.50E+01	8.52E+00
	834.83	13.00	7.22E-01		2.82E-01	3.59E-01
	985.78	1.31	6.92E+00		9.59E+00	3.44E+00
	1141.33	1.28	5.62E+00		8.86E+00	2.79E+00
	1179.51	1.00	1.79E+01		-2.13E+00	8.94E+00
	1250.67	1.12	5.64E+00		1.86E+01	2.79E+00

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
KR-88	1369.50	1.48	2.99E+00	3.60E-02	-1.06E+00	1.47E+00
	1518.39	2.15	1.37E+00		6.29E-01	6.70E-01
	1529.77	10.90	2.81E-01		-1.38E-01	1.37E-01
	2029.84	4.53	3.41E-01		4.32E-02	1.62E-01
	2035.41	3.74	3.83E-01		-1.34E+00	1.81E-01
	2195.84	13.20	1.34E-01		-4.36E-03	6.39E-02
	2231.77	3.39	4.49E-01		-2.03E-02	2.13E-01
	2352.08	0.73	2.05E+00		-7.64E-01	9.64E-01
	2392.11	34.60	3.60E-02		2.02E-02	1.67E-02
RB-88	898.03	14.40	6.80E-01	7.89E-02	5.69E-02	3.38E-01
	1382.45	0.78	5.27E+00		2.88E+00	2.60E+00
	1836.00	22.81	7.89E-02		1.52E-02	3.79E-02
	2677.89	2.13	4.67E-01		2.34E-01	2.10E-01
Y-88	898.04	93.70	1.04E-04	1.82E-05	8.67E-06	5.16E-05
	1836.06	99.20	1.82E-05		3.50E-06	8.71E-06
@ RB-89	272.42	1.53	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	657.77	10.80	1.00E+20		1.00E+20	1.00E+20
@	947.73	10.00	1.00E+20		1.00E+20	1.00E+20
@	1031.92	63.00	1.00E+20		1.00E+20	1.00E+20
@	1248.14	46.00	1.00E+20		1.00E+20	1.00E+20
@	1538.07	2.77	1.00E+20		1.00E+20	1.00E+20
@	2007.50	2.58	1.00E+20		1.00E+20	1.00E+20
@	2195.92	14.50	1.00E+20		1.00E+20	1.00E+20
@	2570.20	10.70	1.00E+20		1.00E+20	1.00E+20
@	2707.26	2.20	1.00E+20		1.00E+20	1.00E+20
SR-89	908.96	0.01	9.79E-01	9.79E-01	4.08E-01	4.87E-01
Sr-91	652.90	11.35	6.91E-03	1.91E-03	7.80E-03	3.44E-03
	749.80	23.70	3.07E-03		-1.74E-03	1.53E-03
	925.80	3.85	1.75E-02		2.06E-02	8.70E-03
	1024.30	33.50	1.91E-03		1.63E-03	9.51E-04
Y-91	1204.77	0.26	2.11E-02	2.11E-02	-2.06E-02	1.05E-02
NB-92M	912.60	1.78	5.54E-03	9.57E-05	-2.38E-03	2.76E-03
	934.44	99.15	9.57E-05		-3.74E-06	4.76E-05
	1847.50	0.85	2.14E-03		3.33E-03	1.03E-03
SR-92	241.56	2.93	9.90E+00	7.77E-02	3.02E-01	4.95E+00
	430.49	3.28	6.75E+00		-2.80E+00	3.37E+00
	953.31	3.52	4.46E+00		4.03E+00	2.22E+00
	1142.35	2.79	4.42E+00		5.80E+00	2.19E+00
	1383.93	90.00	7.77E-02		-7.60E-02	3.83E-02
MO-93M	114.04	0.68	6.49E-01	5.63E-04	-1.07E-01	3.24E-01
	263.05	57.40	4.68E-03		2.57E-04	2.34E-03
	684.69	99.90	1.73E-03		1.28E-04	8.62E-04
	1363.02	0.81	9.19E-02		1.01E-01	4.53E-02
	1477.14	99.10	5.63E-04		3.81E-05	2.76E-04
@ SR-93	168.50	18.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	260.12	7.40	1.00E+20		1.00E+20	1.00E+20
@	346.49	3.28	1.00E+20		1.00E+20	1.00E+20
@	446.20	2.36	1.00E+20		1.00E+20	1.00E+20
@	590.24	68.00	1.00E+20		1.00E+20	1.00E+20
@	710.31	21.80	1.00E+20		1.00E+20	1.00E+20
@	875.73	24.50	1.00E+20		1.00E+20	1.00E+20
@	888.13	22.10	1.00E+20		1.00E+20	1.00E+20
@	1040.63	3.20	1.00E+20		1.00E+20	1.00E+20

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	SR-93	1094.00		1.76	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		1122.48		4.00	1.00E+20		1.00E+20	1.00E+20
@		1215.48		2.50	1.00E+20		1.00E+20	1.00E+20
@		1269.47		7.10	1.00E+20		1.00E+20	1.00E+20
@		1321.24		2.61	1.00E+20		1.00E+20	1.00E+20
@		1387.11		3.50	1.00E+20		1.00E+20	1.00E+20
@		1694.07		2.58	1.00E+20		1.00E+20	1.00E+20
@		1699.06		3.30	1.00E+20		1.00E+20	1.00E+20
@		2543.84		3.03	1.00E+20		1.00E+20	1.00E+20
@		2688.65		2.13	1.00E+20		1.00E+20	1.00E+20
	Y-93	266.90		7.40	1.41E-02	6.52E-03	4.09E-03	7.05E-03
		947.10		2.10	2.88E-02		-2.30E-02	1.43E-02
		1917.80		1.57	6.52E-03		6.21E-04	3.10E-03
	NB-94	702.65		99.81	1.02E-04	1.02E-04	4.25E-06	5.09E-05
		871.09		99.89	1.45E-04		5.19E-05	7.23E-05
@	Y-94	381.60		2.02	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		550.90		4.90	1.00E+20		1.00E+20	1.00E+20
@		752.60		1.40	1.00E+20		1.00E+20	1.00E+20
@		918.74		56.00	1.00E+20		1.00E+20	1.00E+20
@		1138.90		6.00	1.00E+20		1.00E+20	1.00E+20
@		1671.40		2.50	1.00E+20		1.00E+20	1.00E+20
@		2140.60		0.95	1.00E+20		1.00E+20	1.00E+20
	NB-95	765.80		99.81	9.65E-05	9.65E-05	-6.65E-05	4.81E-05
+	ZR-95	724.19	*	44.27	3.35E-04	2.18E-04	1.29E-02	1.67E-04
		756.72	*	54.38	2.18E-04		2.32E-03	1.08E-04
	NB-96	219.08		2.97	1.36E-02	2.28E-04	6.46E-03	6.80E-03
		241.38		3.50	1.08E-02		3.30E-04	5.39E-03
		350.05		1.54	2.08E-02		2.53E-02	1.04E-02
		352.56		0.83	3.82E-02		2.59E-02	1.91E-02
		371.81		2.62	1.17E-02		8.72E-03	5.86E-03
		460.04		26.62	1.05E-03		5.83E-04	5.22E-04
		480.71		5.84	4.68E-03		-1.14E-03	2.34E-03
		568.87		58.00	4.28E-04		-1.69E-04	2.14E-04
		719.56		6.85	5.58E-03		2.25E-03	2.78E-03
		721.63		1.02	3.75E-02		1.27E+00	1.87E-02
		778.22		96.45	2.28E-04		6.14E-05	1.13E-04
		810.33		11.09	1.91E-03		1.18E-03	9.49E-04
		812.58		2.95	7.19E-03		2.45E-03	3.58E-03
		847.69		1.14	1.88E-02		2.16E-03	9.36E-03
		849.93		20.45	1.05E-03		2.79E-03	5.21E-04
		1091.35		48.50	3.90E-04		-6.37E-05	1.94E-04
		1200.23		19.97	6.32E-04		2.44E-04	3.13E-04
		1441.13		0.44	1.76E-02		-1.04E-02	8.63E-03
		1497.81		3.28	3.04E-03		8.60E-04	1.50E-03
	Nb-97	657.94		98.23	4.49E-04	4.49E-04	-6.26E-05	2.24E-04
		1024.40		1.09	2.48E-02		2.11E-02	1.23E-02
	ZR-97	254.17		1.15	4.41E-02	3.27E-04	7.10E-03	2.20E-02
		355.40		2.09	2.22E-02		-6.27E-03	1.11E-02
		507.64		5.03	8.75E-03		7.71E-04	4.36E-03
		743.36		93.09	3.27E-04		-1.78E-04	1.63E-04
		1147.97		2.62	8.82E-03		-1.53E-03	4.37E-03
	MO-99	181.07		6.14	4.58E-03	1.08E-03	-2.67E-03	2.29E-03
		366.42		1.20	1.49E-02		3.52E-03	7.45E-03

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MO-99	739.50	12.26	1.08E-03	1.08E-03	4.56E-04	5.37E-04
	777.92	4.30	2.97E-03		1.04E-03	1.48E-03
TC-99M	140.51	90.80	3.27E-04	3.27E-04	2.78E-04	1.63E-04
RH-101	127.23	68.00	3.82E-04	2.65E-04	7.09E-05	1.91E-04
	198.01	73.00	2.65E-04		9.01E-05	1.32E-04
	325.23	11.80	9.59E-04		-5.91E-04	4.79E-04
RH-101M	306.86	81.00	2.22E-04	2.22E-04	-6.21E-05	1.11E-04
	545.12	4.30	3.10E-03		-5.55E-05	1.55E-03
RH-102M	415.25	2.10	7.03E-03	1.37E-04	3.98E-02	3.51E-03
	418.52	9.40	1.53E-03		7.17E-04	7.66E-04
	420.40	3.20	4.56E-03		1.32E-03	2.27E-03
	475.06	95.00	1.37E-04		5.25E-05	6.84E-05
	628.05	8.30	1.42E-03		1.12E-03	7.10E-04
	631.29	56.00	2.03E-04		8.10E-05	1.01E-04
	692.40	1.60	8.20E-03		7.79E-04	4.08E-03
	695.60	2.90	4.44E-03		3.21E-05	2.21E-03
	697.49	44.00	2.91E-04		5.28E-05	1.45E-04
	766.84	34.00	3.01E-04		2.32E-04	1.50E-04
	1046.59	34.00	2.66E-04		-3.47E-05	1.32E-04
	1103.16	4.60	1.75E-03		-1.70E-03	8.69E-04
	1112.84	19.00	4.57E-04		-7.09E-05	2.27E-04
RU-103	497.08	91.00	1.29E-04	1.29E-04	-1.81E-04	6.41E-05
	610.33	5.76	1.89E-03		9.89E-04	9.40E-04
RH-105	306.31	4.66	5.59E-03	1.50E-03	-6.88E-04	2.79E-03
	319.23	16.90	1.50E-03		2.21E-04	7.49E-04
AG-106M	221.70	6.60	2.89E-03	1.64E-04	1.45E-03	1.44E-03
	228.63	2.10	8.89E-03		5.86E-03	4.44E-03
	328.46	1.14	1.38E-02		-8.46E-03	6.88E-03
	391.04	3.68	3.85E-03		5.68E-03	1.92E-03
	406.18	13.40	1.03E-03		-6.26E-04	5.15E-04
	429.65	13.20	1.04E-03		1.56E-04	5.19E-04
	450.98	28.20	4.77E-04		1.78E-04	2.38E-04
	511.85	88.00	1.64E-04		1.93E-03	8.19E-05
	601.17	1.61	7.09E-03		1.23E-04	3.54E-03
	616.17	21.60	5.38E-04		-1.32E-03	2.68E-04
	646.03	1.46	7.78E-03		4.43E-03	3.88E-03
	680.42	2.18	5.05E-03		2.67E-03	2.52E-03
	703.11	4.47	2.40E-03		9.92E-04	1.20E-03
	717.34	28.90	5.19E-04		1.05E-04	2.59E-04
	748.36	20.60	5.04E-04		-1.08E-04	2.51E-04
	793.17	5.90	1.72E-03		6.18E-04	8.58E-04
	804.28	12.40	8.00E-04		-2.67E-04	3.98E-04
	808.36	4.00	2.47E-03		2.19E-03	1.23E-03
	824.69	15.30	6.52E-04		-9.83E-05	3.25E-04
	847.15	4.40	2.32E-03		3.06E-04	1.16E-03
	1019.72	1.04	8.89E-03		2.24E-03	4.42E-03
	1045.83	29.60	3.13E-04		-4.31E-05	1.56E-04
	1128.02	11.80	7.05E-04		2.01E-03	3.50E-04
	1199.39	11.20	5.35E-04		-8.66E-04	2.65E-04
	1222.88	7.00	8.09E-04		3.01E-04	4.00E-04
	1394.35	1.49	3.54E-03		1.28E-02	1.75E-03
	1527.65	16.30	1.94E-04		8.38E-05	9.47E-05
	1572.35	6.60	4.47E-04		2.56E-04	2.18E-04

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	AG-106M	1722.76		1.40	2.26E-03	1.64E-04	5.44E-03	1.10E-03
		1839.05		2.00	9.50E-04		-3.36E-04	4.55E-04
	RH-106	621.93		9.93	1.11E-03	1.11E-03	1.01E-03	5.55E-04
		873.49		0.44	3.41E-02		8.05E-01	1.70E-02
		1050.41		1.56	5.64E-03		2.91E-03	2.80E-03
+	RU-106	511.86	*	20.40	9.29E-04	9.29E-04	7.71E-03	4.64E-04
	AG-108M	79.13		6.60	5.18E-03	1.28E-04	-1.83E-02	2.59E-03
		433.94		90.50	1.49E-04		1.33E-04	7.43E-05
		614.28		89.80	1.28E-04		-3.76E-05	6.39E-05
		722.91		90.80	1.97E-04		6.64E-03	9.84E-05
	CD-109	88.03		3.64	8.39E-03	8.39E-03	5.50E-02	4.19E-03
	AG-110M	446.81		3.70	3.78E-03	1.26E-04	3.75E-03	1.89E-03
		620.35		2.73	4.40E-03		-3.10E-03	2.19E-03
		657.76		95.61	1.56E-04		-3.27E-05	7.79E-05
		677.62		10.70	1.06E-03		8.78E-04	5.28E-04
		687.01		6.53	1.77E-03		6.59E-05	8.80E-04
		706.68		16.69	6.49E-04		-4.51E-04	3.23E-04
		744.28		4.77	2.19E-03		-7.94E-04	1.09E-03
		763.94		22.60	4.83E-04		-4.95E-04	2.41E-04
		818.02		7.43	1.42E-03		9.51E-04	7.08E-04
		884.68		75.00	1.26E-04		1.36E-04	6.29E-05
		937.48		35.00	2.74E-04		1.87E-04	1.36E-04
		1384.29		25.10	1.67E-04		-1.32E-04	8.21E-05
		1475.78		4.08	8.25E-04		2.07E-04	4.05E-04
		1505.03		13.33	2.32E-04		2.17E-04	1.14E-04
		1562.29		1.22	1.94E-03		9.15E-04	9.45E-04
	AG-111	245.40		1.11	1.71E-02	2.35E-03	8.08E-03	8.52E-03
		342.13		6.68	2.35E-03		1.92E-03	1.17E-03
	AG-112	606.82		3.10	8.75E-03	6.23E-04	6.71E-04	4.36E-03
		617.52		43.00	6.23E-04		-2.73E-04	3.10E-04
		692.82		1.19	2.51E-02		4.46E-03	1.25E-02
		694.87		2.90	1.03E-02		1.23E-01	5.12E-03
		851.28		1.02	2.31E-02		4.44E-02	1.15E-02
		1312.36		1.11	1.01E-02		9.54E-03	4.98E-03
		1387.68		5.30	1.85E-03		-1.53E-04	9.11E-04
		1613.66		2.80	2.13E-03		-2.07E-03	1.04E-03
		1798.50		0.89	4.73E-03		8.59E-04	2.27E-03
		2106.31		2.40	1.39E-03		-2.56E-04	6.54E-04
		2506.70		1.06	7.03E-03		2.30E-02	3.41E-03
	CD-113M	263.70		0.03	5.73E-01	5.73E-01	-4.84E-02	2.86E-01
	SN-113	255.13		2.11	7.46E-03	1.98E-04	1.66E-03	3.72E-03
		391.70		64.97	1.98E-04		-5.09E-06	9.90E-05
	IN-114M	190.27		15.56	1.24E-03	1.24E-03	-2.80E-04	6.20E-04
		558.43		4.40	2.65E-03		8.84E-04	1.32E-03
		725.24		4.40	3.96E-03		1.38E-03	1.98E-03
	CD-115	260.90		1.94	1.15E-02	4.41E-04	-3.22E-03	5.73E-03
		336.24		46.02	4.41E-04		4.07E-04	2.20E-04
		527.90		27.45	5.86E-04		-5.75E-06	2.92E-04
	CD-115M	933.84		2.00	4.49E-03	4.49E-03	-1.94E-03	2.23E-03
		1290.59		0.90	5.26E-03		3.59E-03	2.60E-03
	IN-115M	336.24		45.90	2.42E-02	2.42E-02	2.23E-02	1.21E-02
	IN-116M	138.29		3.70	1.22E+07	1.08E+05	9.51E+06	6.09E+06
		416.90		27.20	9.44E+05		5.40E+06	4.71E+05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
IN-116M	818.68	12.13	1.57E+06	1.08E+05	2.76E+06	7.82E+05
	1097.28	58.50	2.62E+05		-2.47E+05	1.30E+05
	1293.56	84.80	1.08E+05		1.11E+05	5.32E+04
	1507.59	9.92	5.59E+05		8.10E+05	2.73E+05
	2112.29	15.09	1.90E+05		7.92E+04	8.98E+04
SB-125	176.31	6.84	2.91E-03	4.22E-04	-9.12E-04	1.46E-03
	380.45	1.52	8.59E-03		4.71E-03	4.29E-03
	427.87	29.60	4.22E-04		-1.14E-04	2.11E-04
	463.36	10.49	1.14E-03		-3.60E-04	5.71E-04
	600.60	17.65	5.87E-04		-3.96E-04	2.92E-04
	606.71	4.98	2.14E-03		1.64E-04	1.07E-03
	635.95	11.22	9.19E-04		2.47E-04	4.58E-04
	671.44	1.79	6.33E-03		-1.49E-04	3.15E-03
SN-125	332.10	1.40	1.18E-02	8.28E-04	3.87E-04	5.91E-03
	469.85	1.50	9.30E-03		8.99E-03	4.64E-03
	800.28	1.10	9.28E-03		-7.83E-03	4.62E-03
	822.48	4.30	2.42E-03		2.15E-04	1.20E-03
	915.55	4.10	2.39E-03		-1.14E-03	1.19E-03
	1067.10	10.00	9.21E-04		4.59E-04	4.58E-04
	1087.70	1.20	8.08E-03		1.09E-02	4.02E-03
	1089.10	4.60	1.96E-03		-2.17E-04	9.73E-04
	2002.10	1.90	8.28E-04		-8.52E-04	3.93E-04
SB-127	61.10	1.43	5.59E-02	3.34E-04	6.23E-03	2.80E-02
	252.40	8.50	2.47E-03		-5.11E-05	1.23E-03
	290.80	2.02	9.86E-03		-3.62E-03	4.92E-03
	412.10	3.80	4.34E-03		1.55E-03	2.17E-03
	445.10	4.30	3.72E-03		5.34E-03	1.86E-03
	473.00	25.80	5.77E-04		4.78E-04	2.88E-04
	543.30	2.90	4.60E-03		8.04E-04	2.29E-03
	603.50	4.50	3.07E-03		9.68E-04	1.53E-03
	685.70	36.80	3.34E-04		3.12E-05	1.66E-04
	698.50	3.64	3.92E-03		1.00E-03	1.96E-03
	722.20	1.88	1.09E-02		3.73E-01	5.45E-03
	783.70	15.10	7.78E-04		5.53E-04	3.87E-04
SN-127	119.70	2.20	1.30E+02	2.29E+00	-5.03E-01	6.49E+01
	262.50	2.30	7.23E+01		-2.92E+01	3.61E+01
	266.20	2.10	7.86E+01		-4.29E+01	3.92E+01
	284.30	2.70	6.29E+01		2.36E+01	3.14E+01
	438.20	6.10	2.20E+01		1.52E+01	1.10E+01
	490.90	5.30	2.37E+01		1.37E+01	1.18E+01
	493.20	3.10	4.04E+01		3.20E+01	2.01E+01
	545.40	2.30	5.21E+01		-2.07E+01	2.60E+01
	583.30	3.20	3.68E+01		6.66E+01	1.84E+01
	805.90	8.20	1.19E+01		-6.41E-01	5.90E+00
	823.10	11.00	9.01E+00		-6.19E+00	4.48E+00
	824.70	6.10	1.61E+01		-2.42E+00	8.01E+00
	859.50	8.00	1.19E+01		-6.27E-01	5.90E+00
	979.20	7.20	1.28E+01		9.60E+00	6.38E+00
	1093.30	3.80	2.31E+01		-7.02E+00	1.15E+01
	1095.60	19.00	4.51E+00		-8.61E-02	2.24E+00
	1114.30	38.00	2.29E+00		5.82E+00	1.14E+00
	1160.40	2.40	2.89E+01		-1.56E+01	1.43E+01
	2003.40	5.30	2.94E+00		3.15E-01	1.39E+00

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	180.42		2.84	6.16E-01	1.68E-02	2.49E-02	3.08E-01
		359.20		2.39	5.01E-01		1.54E-01	2.50E-01
		404.64		1.17	9.52E-01		-5.86E-01	4.75E-01
		523.13		1.55	6.43E-01		4.89E-01	3.21E-01
		544.56		15.42	6.38E-02		-1.86E-02	3.18E-02
		633.74		2.53	3.63E-01		-9.02E-02	1.81E-01
		654.28		2.97	3.13E-01		1.62E-01	1.56E-01
		682.77		5.76	1.53E-01		-1.18E-01	7.63E-02
		761.12		4.32	2.33E-01		-6.08E-04	1.16E-01
		773.37		2.82	2.98E-01		-6.27E-02	1.48E-01
		786.36		1.07	7.78E-01		9.61E-01	3.87E-01
		787.16		1.74	4.78E-01		5.18E-01	2.38E-01
		812.97		48.20	1.68E-02		1.03E-03	8.38E-03
		819.51		1.39	5.98E-01		1.68E+00	2.98E-01
		876.65		2.75	4.52E-01		1.65E-01	2.25E-01
		914.96		23.30	3.32E-02		1.01E-02	1.65E-02
		966.78		8.96	8.79E-02		7.24E-02	4.37E-02
		1030.65		15.13	4.92E-02		1.09E-02	2.45E-02
		1656.10		1.31	1.44E-01		-1.11E-01	6.97E-02
		1738.16		7.45	2.44E-02		-5.28E-03	1.18E-02
	TE-129	459.60		7.70	1.60E-03	1.60E-03	-5.52E-05	7.97E-04
		487.39		1.42	8.38E-03		1.23E-02	4.18E-03
+	Te-129m	695.88	*	3.00	2.37E-03	2.37E-03	3.10E-02	1.18E-03
	I-131	80.18		2.62	1.48E-02	1.81E-04	-2.65E-02	7.38E-03
		284.30		6.12	2.87E-03		1.08E-03	1.44E-03
		364.49		81.50	1.81E-04		-3.96E-05	9.03E-05
		636.99		7.16	1.59E-03		-5.14E-04	7.92E-04
		722.91		1.77	1.03E-02		3.47E-01	5.14E-03
	Te-131m	773.67		36.80	4.96E-04	4.96E-04	-1.68E-04	2.47E-04
		793.75		13.40	1.37E-03		-8.28E-04	6.84E-04
		852.21		19.90	8.89E-04		-1.61E-03	4.42E-04
		1125.46		11.00	1.32E-03		2.67E-03	6.57E-04
		1206.60		9.41	1.08E-03		-9.67E-04	5.34E-04
	I-132	262.90		1.28	1.54E-02	1.72E-04	8.48E-04	7.71E-03
		284.90		0.71	2.84E-02		4.70E-03	1.42E-02
		505.79		4.93	3.77E-03		2.54E-03	1.88E-03
		522.65		16.00	9.88E-04		8.30E-04	4.93E-04
		547.20		1.14	1.38E-02		4.88E-04	6.88E-03
		621.20		1.97	7.67E-03		-3.32E-03	3.82E-03
		630.19		13.30	1.12E-03		-1.43E-04	5.56E-04
		650.50		2.57	5.81E-03		-1.19E-03	2.89E-03
		667.71		98.70	1.96E-04		1.66E-05	9.77E-05
		669.80		4.60	3.49E-03		-1.81E-03	1.74E-03
		671.40		3.50	4.71E-03		-1.11E-04	2.35E-03
		727.10		5.40	4.44E-03		1.49E-03	2.22E-03
		728.40		1.60	1.46E-02		-8.11E-04	7.29E-03
		772.60		75.60	1.72E-04		-3.42E-05	8.58E-05
		809.50		2.60	4.93E-03		-1.06E-04	2.45E-03
		812.00		5.50	2.34E-03		1.58E-05	1.16E-03
		910.10		0.93	1.39E-02		1.58E-03	6.90E-03
		954.55		17.60	7.00E-04		3.85E-04	3.48E-04
		1136.00		3.01	3.22E-03		8.32E-04	1.60E-03
		1172.90		1.09	2.11E-02		7.67E-01	1.05E-02

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-132	1290.80		1.13	5.76E-03	1.72E-04	3.93E-03	2.84E-03
		1295.10		1.88	2.77E-03		5.84E-04	1.37E-03
		1297.90		0.89	5.13E-03		-1.20E-03	2.54E-03
		1372.07		2.47	2.32E-03		1.16E-03	1.14E-03
		1398.57		7.01	9.43E-04		3.66E-03	4.66E-04
		1442.56		1.40	2.76E-03		-6.29E-03	1.36E-03
+	TE-132	49.72	*	15.00	1.12E-02	2.76E-04	2.03E-02	5.59E-03
		111.76		1.74	1.89E-02		1.00E-02	9.46E-03
		116.30		1.96	1.64E-02		-1.10E-02	8.17E-03
		228.16	*	88.00	2.76E-04		1.86E-04	1.38E-04
	BA-133	81.00		32.90	1.05E-03	2.22E-04	-1.19E-03	5.26E-04
		276.40		7.16	2.30E-03		-1.39E-03	1.15E-03
		302.85		18.34	8.34E-04		-2.29E-04	4.16E-04
		356.01		62.05	2.22E-04		1.21E-04	1.11E-04
		383.85		8.94	1.41E-03		1.17E-04	7.03E-04
	I-133	529.87		87.00	3.29E-04	3.29E-04	2.13E-04	1.64E-04
		706.58		1.51	1.71E-02		-1.19E-02	8.52E-03
		856.28		1.24	1.93E-02		4.63E-04	9.58E-03
		875.33		4.51	7.95E-03		1.89E-01	3.96E-03
		1236.44		1.51	8.65E-03		1.27E-02	4.28E-03
		1298.22		2.35	4.99E-03		2.31E-03	2.46E-03
@	TE-133	312.08		62.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		407.63		27.10	1.00E+20		1.00E+20	1.00E+20
@		410.40		0.94	1.00E+20		1.00E+20	1.00E+20
@		474.85		0.88	1.00E+20		1.00E+20	1.00E+20
@		719.71		8.90	1.00E+20		1.00E+20	1.00E+20
@		786.93		5.40	1.00E+20		1.00E+20	1.00E+20
@		844.36		3.31	1.00E+20		1.00E+20	1.00E+20
@		884.30		0.72	1.00E+20		1.00E+20	1.00E+20
@		930.71		3.81	1.00E+20		1.00E+20	1.00E+20
@		997.70		1.04	1.00E+20		1.00E+20	1.00E+20
@		1000.72		3.62	1.00E+20		1.00E+20	1.00E+20
@		1021.13		2.81	1.00E+20		1.00E+20	1.00E+20
@		1061.61		1.19	1.00E+20		1.00E+20	1.00E+20
@		1252.08		1.44	1.00E+20		1.00E+20	1.00E+20
@		1312.80		0.85	1.00E+20		1.00E+20	1.00E+20
@		1333.21		10.67	1.00E+20		1.00E+20	1.00E+20
@		1717.61		3.18	1.00E+20		1.00E+20	1.00E+20
@		1881.52		1.22	1.00E+20		1.00E+20	1.00E+20
@		2136.51		1.25	1.00E+20		1.00E+20	1.00E+20
@		2229.64		0.87	1.00E+20		1.00E+20	1.00E+20
	Xe-133	81.00		36.90	1.05E-03	1.05E-03	-1.18E-03	5.25E-04
	CS-134	475.36		1.48	8.07E-03	1.12E-04	4.38E-03	4.03E-03
		563.25		8.34	1.41E-03		5.28E-04	7.03E-04
		569.33		15.37	7.56E-04		-1.22E-03	3.77E-04
		604.72		97.62	1.15E-04		8.76E-05	5.74E-05
		795.86		85.46	1.12E-04		-1.25E-04	5.60E-05
		801.95		8.69	1.12E-03		1.12E-03	5.57E-04
		1038.61		0.99	8.84E-03		-6.30E-03	4.39E-03
		1167.97		1.79	8.75E-03		-1.79E-03	4.36E-03
		1365.19		3.02	1.24E-03		1.04E-03	6.09E-04
	I-135	220.50		1.75	2.03E-01	3.46E-03	1.68E-01	1.01E-01
		288.45		3.10	1.03E-01		6.23E-02	5.12E-02

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	417.63		3.53	7.55E-02	3.46E-03	9.78E-03	3.76E-02
		546.56		7.15	3.16E-02		-1.67E-03	1.58E-02
		836.80		6.69	2.73E-02		1.41E-03	1.36E-02
		971.96		0.89	2.01E-01		4.34E-02	9.98E-02
		972.62		1.21	1.44E-01		-1.57E-02	7.18E-02
		1038.76		7.90	2.09E-02		-1.49E-02	1.04E-02
		1101.58		1.61	9.88E-02		-6.89E-02	4.91E-02
		1124.00		3.62	4.37E-02		2.95E-03	2.17E-02
		1131.51		22.60	6.70E-03		1.07E-02	3.32E-03
		1240.47		0.90	1.37E-01		2.72E-02	6.79E-02
		1260.41		28.70	3.46E-03		-2.31E-03	1.71E-03
		1457.56		8.70	8.89E-03		-6.35E-04	4.38E-03
		1502.79		1.08	6.79E-02		6.15E-02	3.33E-02
		1566.41		1.29	4.01E-02		-6.91E-03	1.96E-02
		1678.03		9.60	4.09E-03		1.66E-04	1.98E-03
		1706.46		4.10	9.74E-03		-1.21E-03	4.71E-03
		1791.20		7.72	4.29E-03		-2.37E-03	2.06E-03
		2408.65		0.96	2.31E-02		-2.00E-02	1.07E-02
	XE-135	249.79		90.00	1.60E-03	1.60E-03	1.64E-02	7.99E-04
	XE-135m	526.56		80.40	2.74E-03	2.74E-03	2.91E-03	1.37E-03
	CS-136	66.88		4.79	1.04E-02	1.07E-04	9.47E-03	5.20E-03
		86.36		5.90	6.12E-03		1.25E-03	3.06E-03
		153.25		7.70	3.23E-03		1.16E-03	1.62E-03
		163.92		4.69	5.35E-03		1.57E-04	2.67E-03
		176.60		13.70	1.70E-03		4.75E-05	8.48E-04
		273.65		12.66	1.48E-03		-9.24E-04	7.40E-04
		340.55		46.80	3.44E-04		1.43E-04	1.72E-04
		818.51		99.70	1.07E-04		1.10E-04	5.34E-05
		1048.07		80.00	1.21E-04		1.57E-05	6.01E-05
		1235.36		20.00	2.96E-04		1.79E-05	1.46E-04
+	CS-137	661.66	*	85.10	8.47E-05	8.47E-05	3.38E-03	4.21E-05
	BA-139	33.44		3.84	1.18E+05	1.12E+03	-6.86E+05	5.91E+04
		165.86		23.70	1.12E+03		6.65E+02	5.59E+02
	BA-140	132.69		0.20	1.20E-01	4.92E-04	-5.37E-02	6.01E-02
		162.66		6.22	3.68E-03		2.25E-03	1.84E-03
		304.85		4.29	3.85E-03		-5.99E-04	1.92E-03
		423.72		3.10	4.31E-03		-9.18E-04	2.15E-03
		437.58		1.93	6.83E-03		3.34E-03	3.41E-03
		537.26		24.39	4.92E-04		6.51E-05	2.46E-04
	LA-140	109.42		0.22	1.27E-01	7.20E-05	1.09E-01	6.33E-02
		131.12		0.47	5.25E-02		3.82E-02	2.62E-02
		173.54		0.13	1.69E-01		1.62E-01	8.45E-02
		241.93		0.41	4.19E-02		6.80E-03	2.09E-02
		266.54		0.47	3.48E-02		-1.62E-02	1.74E-02
		328.76		20.30	8.04E-04		-3.93E-04	4.02E-04
		432.49		2.90	4.92E-03		1.88E-03	2.45E-03
		487.02		45.50	2.87E-04		2.44E-04	1.43E-04
		618.10		0.04	3.03E-01		-4.70E-02	1.51E-01
		751.64		4.33	2.81E-03		-1.50E-03	1.40E-03
		815.77		23.28	4.19E-04		1.08E-03	2.09E-04
		867.85		5.50	2.60E-03		5.27E-04	1.30E-03
		919.55		2.66	3.49E-03		-3.83E-03	1.74E-03
		925.19		6.90	1.40E-03		1.36E-03	6.98E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
LA-140	950.99	0.52	1.87E-02	7.20E-05	-8.05E-03	9.30E-03
	1596.21	95.40	7.20E-05		6.76E-04	3.56E-05
	2347.88	0.85	1.72E-03		-7.59E-05	8.14E-04
	2521.40	3.46	2.70E-04		4.93E-06	1.21E-04
	2547.34	0.10	1.15E-02		4.21E-04	5.25E-03
@ BA-141	33.44	7.93	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	190.33	44.80	1.00E+20		1.00E+20	1.00E+20
@	276.95	23.60	1.00E+20		1.00E+20	1.00E+20
@	304.19	26.10	1.00E+20		1.00E+20	1.00E+20
@	343.67	15.10	1.00E+20		1.00E+20	1.00E+20
@	389.74	1.37	1.00E+20		1.00E+20	1.00E+20
@	457.51	5.00	1.00E+20		1.00E+20	1.00E+20
@	462.06	5.10	1.00E+20		1.00E+20	1.00E+20
@	467.22	5.60	1.00E+20		1.00E+20	1.00E+20
@	625.08	3.45	1.00E+20		1.00E+20	1.00E+20
@	647.78	5.70	1.00E+20		1.00E+20	1.00E+20
@	738.95	4.39	1.00E+20		1.00E+20	1.00E+20
@	831.46	1.64	1.00E+20		1.00E+20	1.00E+20
@	876.09	3.45	1.00E+20		1.00E+20	1.00E+20
@	1160.72	1.12	1.00E+20		1.00E+20	1.00E+20
@	1197.28	4.35	1.00E+20		1.00E+20	1.00E+20
@	1323.92	0.92	1.00E+20		1.00E+20	1.00E+20
@	1654.00	0.65	1.00E+20		1.00E+20	1.00E+20
@	1682.19	1.19	1.00E+20		1.00E+20	1.00E+20
CE-141	145.44	48.30	4.58E-04	4.58E-04	2.71E-05	2.29E-04
@ BA-142	33.44	14.20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	77.59	7.00	1.00E+20		1.00E+20	1.00E+20
@	177.00	2.12	1.00E+20		1.00E+20	1.00E+20
@	231.61	12.20	1.00E+20		1.00E+20	1.00E+20
@	255.30	20.70	1.00E+20		1.00E+20	1.00E+20
@	286.30	1.11	1.00E+20		1.00E+20	1.00E+20
@	309.20	2.60	1.00E+20		1.00E+20	1.00E+20
@	335.00	1.53	1.00E+20		1.00E+20	1.00E+20
@	363.96	4.76	1.00E+20		1.00E+20	1.00E+20
@	425.04	5.75	1.00E+20		1.00E+20	1.00E+20
@	599.80	1.85	1.00E+20		1.00E+20	1.00E+20
@	840.40	3.63	1.00E+20		1.00E+20	1.00E+20
@	895.20	13.90	1.00E+20		1.00E+20	1.00E+20
@	949.10	10.70	1.00E+20		1.00E+20	1.00E+20
@	1001.20	9.80	1.00E+20		1.00E+20	1.00E+20
@	1078.70	11.50	1.00E+20		1.00E+20	1.00E+20
@	1094.10	2.82	1.00E+20		1.00E+20	1.00E+20
@	1126.80	1.50	1.00E+20		1.00E+20	1.00E+20
@	1202.40	5.60	1.00E+20		1.00E+20	1.00E+20
@	1204.30	14.30	1.00E+20		1.00E+20	1.00E+20
@	1380.20	3.42	1.00E+20		1.00E+20	1.00E+20
CE-143	57.36	11.70	1.14E-02	6.52E-04	-5.98E-03	5.70E-03
	231.55	2.05	1.54E-02		-5.11E-03	7.68E-03
	293.27	42.80	6.52E-04		4.81E-04	3.26E-04
	350.62	3.23	7.40E-03		1.29E-03	3.70E-03
	490.37	2.16	1.01E-02		-3.82E-03	5.03E-03
	664.57	5.69	4.67E-03		1.23E-01	2.33E-03
	721.93	5.39	5.46E-03		1.87E-01	2.72E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
CE-143	880.46	1.03	1.91E-02	6.52E-04	2.07E-02	9.51E-03
CE-144	80.12	1.36	2.48E-02	2.05E-03	-4.44E-02	1.24E-02
	133.51	11.09	2.05E-03		1.86E-04	1.03E-03
ND-147	38.17	13.20	1.57E-02	9.11E-04	-2.98E-02	7.83E-03
	38.72	23.80	8.18E-03		-1.39E-02	4.09E-03
	91.11	28.90	1.09E-03		7.62E-04	5.43E-04
	275.39	0.79	2.30E-02		-9.08E-03	1.15E-02
	319.41	1.97	8.19E-03		2.23E-03	4.09E-03
	398.13	0.87	1.60E-02		1.20E-02	7.99E-03
	439.88	1.20	1.13E-02		4.66E-03	5.63E-03
	531.01	13.11	9.11E-04		1.23E-03	4.54E-04
	685.88	0.82	1.31E-02		-2.27E-04	6.52E-03
@ PR-147	36.85	19.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	37.36	35.50	1.00E+20		1.00E+20	1.00E+20
@	49.88	4.00	1.00E+20		1.00E+20	1.00E+20
@	77.97	9.70	1.00E+20		1.00E+20	1.00E+20
@	86.69	5.40	1.00E+20		1.00E+20	1.00E+20
@	127.80	7.40	1.00E+20		1.00E+20	1.00E+20
@	249.20	1.32	1.00E+20		1.00E+20	1.00E+20
@	314.70	18.20	1.00E+20		1.00E+20	1.00E+20
@	328.80	4.00	1.00E+20		1.00E+20	1.00E+20
@	335.70	4.70	1.00E+20		1.00E+20	1.00E+20
@	388.80	1.41	1.00E+20		1.00E+20	1.00E+20
@	466.80	1.70	1.00E+20		1.00E+20	1.00E+20
@	477.90	4.60	1.00E+20		1.00E+20	1.00E+20
@	516.70	1.30	1.00E+20		1.00E+20	1.00E+20
@	554.70	5.90	1.00E+20		1.00E+20	1.00E+20
@	577.90	13.70	1.00E+20		1.00E+20	1.00E+20
@	641.40	16.10	1.00E+20		1.00E+20	1.00E+20
@	996.00	1.52	1.00E+20		1.00E+20	1.00E+20
@	1136.70	1.42	1.00E+20		1.00E+20	1.00E+20
@	1261.10	8.40	1.00E+20		1.00E+20	1.00E+20
@	1300.40	2.30	1.00E+20		1.00E+20	1.00E+20
ND-149	38.17	9.00	1.70E+03	5.50E+01	-3.23E+03	8.50E+02
	38.72	16.30	8.84E+02		-1.51E+03	4.42E+02
	58.88	1.30	4.39E+03		-1.40E+03	2.19E+03
	74.32	2.11	1.47E+03		5.17E+03	7.33E+02
	97.00	1.48	1.58E+03		2.03E+03	7.92E+02
	114.31	19.20	1.08E+02		-1.78E+01	5.39E+01
	155.87	5.95	2.99E+02		3.13E+02	1.50E+02
	188.64	1.79	9.17E+02		1.76E+01	4.58E+02
	198.93	1.39	1.12E+03		1.27E+02	5.59E+02
	208.15	2.55	5.81E+02		-3.78E+02	2.90E+02
	211.31	26.00	5.50E+01		8.09E+00	2.75E+01
	240.22	3.95	3.31E+02		-2.46E+02	1.65E+02
	245.72	0.81	1.75E+03		3.53E+02	8.74E+02
	267.69	6.05	2.10E+02		-2.21E+01	1.05E+02
	270.17	10.80	1.20E+02		3.66E+01	5.98E+01
	326.55	4.57	2.59E+02		-9.79E+01	1.29E+02
	349.23	1.38	8.30E+02		6.08E+02	4.14E+02
	423.55	7.50	1.34E+02		-2.86E+01	6.70E+01
	443.55	1.15	8.95E+02		1.20E+03	4.46E+02
	540.51	6.60	1.37E+02		-2.87E+02	6.84E+01

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	ND-149	654.83		8.00	1.04E+02	5.50E+01	3.37E+01	5.18E+01
	PM-149	285.95		3.10	7.29E-03	7.29E-03	1.32E-03	3.64E-03
	PM-150	39.52		0.63	3.70E+02	2.91E-01	-4.19E+02	1.85E+02
		40.12		1.14	1.96E+02		-1.61E+02	9.78E+01
		333.92		68.00	2.91E-01		5.96E-02	1.45E-01
		406.51		5.60	3.13E+00		-6.44E-01	1.56E+00
		565.70		1.31	1.15E+01		1.10E+01	5.74E+00
		587.02		1.34	1.28E+01		1.15E+00	6.39E+00
		612.25		0.93	1.60E+01		2.39E+01	7.99E+00
		712.22		4.40	3.12E+00		5.14E+00	1.55E+00
		737.50		2.25	5.87E+00		1.38E+00	2.92E+00
		831.85		11.90	1.06E+00		-9.19E-01	5.26E-01
		859.95		3.40	3.61E+00		2.73E-02	1.80E+00
		876.41		7.30	2.68E+00		5.93E-01	1.34E+00
		1165.77		15.80	9.49E-01		6.35E-02	4.72E-01
		1170.90		1.06	2.29E+01		8.22E+02	1.14E+01
		1193.87		4.80	1.64E+00		1.55E+00	8.11E-01
		1213.72		1.03	7.28E+00		-7.34E+00	3.61E+00
		1223.28		2.80	2.57E+00		3.46E+00	1.27E+00
		1324.51		17.50	5.65E-01		9.25E-02	2.80E-01
		1379.32		3.10	1.80E+00		2.20E+00	8.86E-01
		1736.40		6.90	4.26E-01		2.09E-01	2.06E-01
		1963.71		1.47	1.38E+00		-7.25E-01	6.57E-01
		2033.46		0.97	2.05E+00		1.27E+00	9.73E-01
@	ND-151	38.17		5.94	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		38.72		10.70	1.00E+20		1.00E+20	1.00E+20
@		68.98		1.26	1.00E+20		1.00E+20	1.00E+20
@		85.12		2.05	1.00E+20		1.00E+20	1.00E+20
@		89.96		1.53	1.00E+20		1.00E+20	1.00E+20
@		116.80		39.00	1.00E+20		1.00E+20	1.00E+20
@		138.89		7.00	1.00E+20		1.00E+20	1.00E+20
@		170.76		2.87	1.00E+20		1.00E+20	1.00E+20
@		175.07		6.30	1.00E+20		1.00E+20	1.00E+20
@		255.68		14.80	1.00E+20		1.00E+20	1.00E+20
@		300.58		1.82	1.00E+20		1.00E+20	1.00E+20
@		423.56		5.90	1.00E+20		1.00E+20	1.00E+20
@		460.59		0.96	1.00E+20		1.00E+20	1.00E+20
@		585.22		1.30	1.00E+20		1.00E+20	1.00E+20
@		677.88		2.38	1.00E+20		1.00E+20	1.00E+20
@		736.23		5.90	1.00E+20		1.00E+20	1.00E+20
@		739.20		1.52	1.00E+20		1.00E+20	1.00E+20
@		755.57		1.17	1.00E+20		1.00E+20	1.00E+20
@		797.53		4.70	1.00E+20		1.00E+20	1.00E+20
@		1016.40		2.50	1.00E+20		1.00E+20	1.00E+20
@		1122.63		4.10	1.00E+20		1.00E+20	1.00E+20
@		1180.89		13.30	1.00E+20		1.00E+20	1.00E+20
	Pm-151	167.75		8.30	5.02E-03	1.25E-03	-2.05E-03	2.51E-03
		177.16		3.80	1.09E-02		1.75E-03	5.44E-03
		240.09		3.80	8.74E-03		-6.48E-03	4.36E-03
		275.21		6.80	4.75E-03		-1.23E-03	2.37E-03
		340.08		22.50	1.25E-03		5.76E-04	6.22E-04
+	EU-152	121.78		28.53	9.85E-04	2.91E-04	5.23E-05	4.92E-04
		344.28	*	26.59	6.64E-04		9.04E-04	3.32E-04

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	EU-152	778.90	*	12.93	8.88E-04	2.91E-04	8.78E-04	4.42E-04
		867.37		4.23	3.13E-03		1.28E-03	1.56E-03
		964.08	*	14.51	5.45E-04		1.08E-03	2.71E-04
		1085.87	*	10.11	6.85E-04		8.20E-04	3.40E-04
		1112.07	*	13.67	4.10E-04		1.32E-03	2.03E-04
		1408.01	*	20.87	2.91E-04		1.01E-03	1.44E-04
@	ND-152	44.44		5.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		250.15		16.40	1.00E+20		1.00E+20	1.00E+20
@		278.56		26.00	1.00E+20		1.00E+20	1.00E+20
@		294.47		2.90	1.00E+20		1.00E+20	1.00E+20
@		545.70		0.83	1.00E+20		1.00E+20	1.00E+20
@		592.50		0.99	1.00E+20		1.00E+20	1.00E+20
	GD-153	69.67		2.45	1.72E-02	9.62E-04	2.42E-03	8.59E-03
		97.43		30.00	9.62E-04		1.47E-03	4.81E-04
		103.18		22.10	1.26E-03		-1.19E-03	6.28E-04
	SM-153	69.67		4.67	1.36E-02	1.44E-03	1.92E-03	6.82E-03
		103.18		29.14	1.44E-03		-1.37E-03	7.21E-04
+	EU-154	42.70	*	20.45	7.88E-03	2.25E-04	2.59E-02	3.94E-03
		123.07	*	40.40	4.83E-04		2.99E-02	2.41E-04
		247.93	*	6.89	3.28E-03		2.81E-02	1.64E-03
		591.76	*	4.95	3.39E-03		3.00E-02	1.69E-03
		692.42	*	1.78	4.04E-03		2.93E-02	2.01E-03
		723.30	*	20.06	7.67E-04		2.95E-02	3.83E-04
		756.80	*	4.52	2.77E-03		2.96E-02	1.38E-03
		873.18	*	12.08	1.17E-03		2.94E-02	5.85E-04
		996.29	*	10.48	1.32E-03		2.96E-02	6.58E-04
		1004.76	*	18.01	7.35E-04		2.96E-02	3.66E-04
		1246.12	*	0.86	6.62E-03		2.86E-02	3.28E-03
		1274.43	*	34.80	2.25E-04		2.92E-02	1.11E-04
		1494.05	*	0.70	6.82E-03		2.99E-02	3.37E-03
		1596.48	*	1.80	1.94E-03		2.95E-02	9.57E-04
+	EU-155	43.00	*	18.12	8.89E-03	1.30E-03	2.93E-02	4.44E-03
		60.01	*	1.17	6.62E-02		6.21E+00	3.31E-02
		86.55	*	30.70	1.30E-03		6.03E-03	6.48E-04
		105.31	*	21.10	1.38E-03		4.50E-03	6.90E-04
	EU-156	88.97		8.40	4.00E-03	3.75E-04	8.55E-04	2.00E-03
		646.29		6.30	1.80E-03		9.13E-04	8.99E-04
		723.47		5.40	3.35E-03		1.14E-01	1.67E-03
		811.77		9.70	1.04E-03		7.01E-06	5.17E-04
		1065.14		4.90	1.86E-03		7.98E-04	9.23E-04
		1079.16		4.60	1.87E-03		4.80E-04	9.31E-04
		1153.80		11.50	6.17E-04		-1.28E-04	3.06E-04
		1230.71		8.00	6.98E-04		-4.16E-04	3.45E-04
		1242.42		6.60	9.90E-04		5.66E-04	4.90E-04
		1277.43		2.89	8.13E-03		3.78E-01	4.05E-03
		1366.41		1.57	2.84E-03		2.59E-03	1.40E-03
		1965.95		3.90	3.75E-04		5.71E-05	1.78E-04
		2097.70		3.80	3.93E-04		-4.18E-04	1.86E-04
		2186.71		3.50	4.40E-04		1.29E-04	2.08E-04
	Sm-156	87.60		24.00	1.03E-02	7.00E-03	7.19E-02	5.16E-03
		165.80		13.00	1.29E-02		7.66E-03	6.44E-03
		204.00		21.00	7.00E-03		1.08E-03	3.50E-03
	EU-158	42.31		5.80	1.98E+09	2.54E+07	7.75E+09	9.89E+08

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	43.00	10.40	1.05E+09	2.54E+07	3.96E+09	5.23E+08
	79.49	10.50	2.82E+08		-1.21E+09	1.41E+08
	181.97	2.30	7.40E+08		2.22E+08	3.70E+08
	528.05	1.53	6.34E+08		-3.63E+08	3.16E+08
	606.39	4.00	2.32E+08		5.24E+07	1.16E+08
	743.02	3.60	2.27E+08		-1.23E+08	1.13E+08
	897.61	12.40	6.52E+07		5.50E+06	3.25E+07
	906.50	1.83	4.39E+08		1.53E+09	2.19E+08
	922.51	1.62	4.71E+08		2.55E+08	2.34E+08
	944.15	30.00	2.54E+07		-1.43E+07	1.27E+07
	953.03	1.98	3.88E+08		3.65E+08	1.93E+08
	962.09	1.89	4.12E+08		3.62E+08	2.05E+08
	977.14	16.30	4.55E+07		-1.44E+07	2.26E+07
	986.96	1.35	5.48E+08		2.90E+08	2.72E+08
	1107.63	5.10	1.38E+08		-1.06E+08	6.85E+07
	1184.10	3.00	1.70E+08		-4.54E+07	8.43E+07
	1186.00	2.90	1.73E+08		-9.26E+07	8.58E+07
	1187.10	4.40	1.14E+08		1.95E+07	5.66E+07
	1263.61	2.20	1.98E+08		5.87E+07	9.80E+07
	1347.95	1.65	2.26E+08		-1.51E+08	1.11E+08
	1944.47	1.62	7.96E+07		-7.84E+07	3.78E+07
TB-160	86.79	13.20	2.51E-03	3.62E-04	1.87E-02	1.25E-03
	298.58	26.10	6.14E-04		5.34E-05	3.07E-04
	879.38	30.10	4.52E-04		1.56E-04	2.25E-04
	962.32	9.81	9.40E-04		8.25E-04	4.68E-04
	966.17	25.10	3.62E-04		2.28E-04	1.80E-04
	1177.96	14.90	1.14E-03		1.80E-04	5.68E-04
TB-161	25.65	23.20	9.06E-02	4.11E-03	7.96E+00	4.53E-02
	48.91	17.00	5.74E-03		2.05E-02	2.87E-03
	52.00	3.43	2.45E-02		1.98E-02	1.23E-02
	57.19	1.79	4.59E-02		-2.40E-02	2.29E-02
	74.57	10.20	4.11E-03		1.45E-02	2.05E-03
YB-169	63.12	43.62	1.37E-03	5.39E-04	2.88E-04	6.86E-04
	93.61	2.58	1.29E-02		6.02E-03	6.46E-03
	109.78	17.39	1.59E-03		1.25E-03	7.93E-04
	130.52	11.38	2.21E-03		1.36E-03	1.10E-03
	177.21	22.28	9.64E-04		1.55E-04	4.81E-04
	197.96	35.93	5.39E-04		1.83E-04	2.69E-04
	307.74	10.05	1.44E-03		3.67E-04	7.18E-04
HF-172	54.07	63.00	1.08E-03	1.08E-03	3.22E-04	5.41E-04
	67.35	5.30	7.78E-03		1.01E-02	3.89E-03
	81.75	4.50	7.30E-03		-5.26E-03	3.65E-03
	114.06	2.60	9.67E-03		-1.59E-03	4.83E-03
	125.81	11.30	2.33E-03		1.72E-04	1.16E-03
	127.91	1.46	1.66E-02		-6.93E-04	8.27E-03
LU-173	59.30	24.44	2.73E-03	7.80E-04	3.06E-01	1.36E-03
	78.63	11.90	3.05E-03		-5.46E-03	1.53E-03
	100.72	5.24	5.46E-03		-9.38E-03	2.73E-03
	171.39	2.90	7.15E-03		3.96E-03	3.57E-03
	272.11	21.20	7.80E-04		-3.95E-04	3.89E-04
LU-177	112.95	6.23	4.59E-03	1.95E-03	2.26E-03	2.29E-03
	208.37	10.41	1.95E-03		-1.27E-03	9.75E-04
	249.67	0.20	9.52E-02		9.77E-01	4.75E-02

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	LU-177	321.32		0.22	7.49E-02	1.95E-03	5.90E-02	3.74E-02
	HF-181	133.02		43.30	5.59E-04	1.51E-04	-1.03E-04	2.79E-04
		345.93		15.12	9.76E-04		5.39E-04	4.87E-04
		482.18		80.50	1.51E-04		5.61E-05	7.55E-05
	W-181	56.28		18.70	3.60E-03	2.26E-03	-1.48E-04	1.80E-03
		57.53		32.00	2.26E-03		-1.04E-03	1.13E-03
		65.00		10.60	4.16E-03		2.64E-03	2.08E-03
	TA-182	57.98		10.01	7.09E-03	1.95E-04	-2.00E-03	3.54E-03
		59.32		17.20	3.90E-03		4.37E-01	1.95E-03
		65.72		3.01	1.58E-02		1.10E-02	7.90E-03
		67.75		46.67	9.26E-04		9.68E-04	4.63E-04
		84.68		2.65	1.27E-02		-5.85E-03	6.36E-03
		100.11		14.20	2.11E-03		-3.00E-03	1.06E-03
		113.67		1.87	1.50E-02		3.21E-03	7.51E-03
		116.42		0.44	5.63E-02		-3.79E-02	2.81E-02
		152.43		7.02	3.19E-03		1.97E-03	1.60E-03
		156.39		2.67	8.65E-03		4.24E-03	4.32E-03
		179.39		3.12	6.83E-03		4.21E-03	3.41E-03
		198.35		1.47	1.40E-02		-1.23E-05	7.01E-03
		222.11		7.57	2.40E-03		5.17E-04	1.20E-03
		229.32		3.64	4.99E-03		3.78E-03	2.49E-03
		264.08		3.61	4.51E-03		-1.31E-03	2.25E-03
		928.00		0.61	1.51E-02		-1.08E-02	7.50E-03
		959.73		0.35	2.74E-02		-5.42E-04	1.36E-02
		1001.70		2.09	1.03E-02		4.22E-01	5.14E-03
		1044.42		0.24	3.79E-02		6.62E-03	1.88E-02
		1113.41		0.44	1.90E-02		-1.30E-03	9.45E-03
		1121.29		35.24	2.27E-04		1.56E-05	1.13E-04
		1157.30		0.73	8.76E-03		1.12E-02	4.34E-03
		1189.04		16.49	3.39E-04		4.79E-05	1.68E-04
		1221.40		27.23	1.95E-04		-2.59E-05	9.65E-05
		1223.60		0.24	1.87E-02		2.52E-02	9.26E-03
		1231.00		11.62	4.54E-04		-4.02E-04	2.25E-04
		1257.41		1.51	3.33E-03		-2.33E-03	1.65E-03
		1273.72		0.66	2.65E-02		1.23E+00	1.32E-02
		1289.15		1.37	2.36E-03		2.08E-03	1.16E-03
		1342.73		0.26	1.76E-02		3.39E-03	8.67E-03
		1373.82		0.22	1.20E-02		1.18E-02	5.89E-03
	Ta-183	84.71		1.35	2.77E-02	7.32E-04	-1.27E-02	1.38E-02
		99.08		6.80	4.85E-03		-1.80E-04	2.43E-03
		107.93		11.20	2.77E-03		2.84E-03	1.38E-03
		161.35		9.10	2.72E-03		1.18E-03	1.36E-03
		162.32		5.00	4.93E-03		7.48E-03	2.46E-03
		244.26		8.80	2.26E-03		-8.40E-04	1.13E-03
		246.06		27.20	7.32E-04		-6.20E-05	3.66E-04
		353.99		11.60	1.38E-03		6.91E-04	6.89E-04
	Re-184	111.21		17.20	1.52E-03	2.48E-04	6.59E-04	7.60E-04
		252.85		3.00	5.44E-03		-1.84E-03	2.72E-03
		792.01		37.70	2.51E-04		-1.44E-05	1.25E-04
		894.76		15.70	5.73E-04		5.83E-05	2.85E-04
		903.28		38.10	2.48E-04		5.91E-04	1.23E-04
+	W-185	59.72	*	0.01	6.56E+00	9.32E-01	6.16E+02	3.28E+00
		61.14		0.02	3.07E+00		3.42E-01	1.53E+00

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Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
W-185	69.20		0.01	6.11E+00	9.32E-01	7.48E+00	3.05E+00
	125.36	*	0.02	9.32E-01		5.15E-01	4.66E-01
W-187	61.14		14.30	9.82E-03	6.82E-04	1.09E-03	4.91E-03
	69.20		4.82	1.95E-02		2.39E-02	9.75E-03
	72.00		13.55	6.93E-03		8.81E-03	3.46E-03
	134.25		10.36	5.23E-03		-3.88E-04	2.61E-03
	479.53		26.60	1.04E-03		-2.96E-04	5.19E-04
	618.37		7.57	3.15E-03		5.39E-04	1.57E-03
	685.81		33.20	6.82E-04		-1.18E-05	3.40E-04
Ir-188	155.05		29.60	1.17E-03	1.39E-04	7.47E-04	5.87E-04
	478.00		14.70	1.30E-03		1.88E-04	6.46E-04
	633.02		17.90	9.26E-04		-4.30E-04	4.61E-04
	634.97		5.00	3.31E-03		-1.07E-03	1.65E-03
	829.42		5.10	2.83E-03		2.40E-03	1.41E-03
	1209.77		6.90	1.26E-03		1.17E-03	6.23E-04
	1715.67		6.20	7.27E-04		1.21E-04	3.55E-04
	2214.59		18.60	1.39E-04		-3.95E-04	6.63E-05
W-188	227.07		0.23	7.32E-02	3.76E-02	-8.08E-03	3.66E-02
	290.68		0.42	3.76E-02		-1.51E-02	1.88E-02
Ir-189	245.08		6.00	3.02E-03	3.02E-03	1.07E-03	1.51E-03
Ir-190	186.68		50.00	4.13E-04	3.03E-04	2.62E-04	2.06E-04
	361.09		12.30	1.17E-03		5.05E-04	5.83E-04
	371.24		21.60	6.57E-04		6.21E-04	3.28E-04
	407.22		27.00	4.96E-04		-5.45E-04	2.47E-04
	518.55		32.20	3.80E-04		2.14E-05	1.90E-04
	557.95		28.50	4.14E-04		1.95E-04	2.06E-04
	569.30		27.00	4.25E-04		-6.84E-04	2.12E-04
	605.14		37.80	3.03E-04		1.68E-04	1.51E-04
OS-191	63.29		15.70	3.42E-03	9.20E-04	1.62E-04	1.71E-03
	64.99		26.70	1.73E-03		1.10E-03	8.65E-04
	73.45		9.21	4.35E-03		1.61E-02	2.17E-03
	129.43		26.50	9.20E-04		4.49E-04	4.60E-04
Pt-191	359.90		5.80	3.21E-03	1.06E-03	1.55E-04	1.60E-03
	456.47		3.30	4.98E-03		1.17E-04	2.48E-03
	538.90		14.30	1.06E-03		8.81E-04	5.29E-04
IR-192	205.79		3.31	5.77E-03	1.89E-04	-1.78E-03	2.88E-03
	295.96		28.71	5.82E-04		3.05E-04	2.91E-04
	308.45		29.70	5.46E-04		1.09E-04	2.72E-04
	316.51		82.86	1.89E-04		3.97E-05	9.41E-05
	468.07		47.84	2.63E-04		-1.95E-04	1.31E-04
	588.58		4.52	2.93E-03		2.65E-04	1.46E-03
	604.41		8.22	1.24E-03		1.31E-03	6.16E-04
	612.46		5.34	1.76E-03		2.13E-03	8.77E-04
IR-192m	155.16		0.09	2.35E-01	2.35E-01	3.06E-01	1.17E-01
IR-193m	80.22		0.00	7.76E+00	7.76E+00	-1.39E+01	3.88E+00
Pt-193m	135.50		0.11	2.37E-01	2.37E-01	1.00E-02	1.18E-01
Au-194	293.55		10.90	2.36E-03	3.80E-04	1.74E-03	1.18E-03
	328.47		62.80	3.80E-04		-2.33E-04	1.90E-04
	364.84		1.60	1.40E-02		-2.53E-03	6.97E-03
	528.77		1.78	1.05E-02		-3.66E-03	5.23E-03
	645.16		2.32	7.45E-03		-2.82E-04	3.71E-03
	948.32		2.29	6.46E-03		-1.45E-03	3.21E-03
	1104.06		2.15	6.13E-03		-2.62E-03	3.05E-03

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Au-194	1175.36		2.14	1.36E-02	3.80E-04	4.92E-01	6.76E-03
		1468.90		6.80	9.22E-04		3.50E-04	4.53E-04
		1595.81		1.89	5.45E-03		5.31E-02	2.70E-03
		2043.72		3.74	6.57E-04		-1.18E-03	3.11E-04
	Ir-194	293.54		2.50	1.71E-02	3.03E-03	1.26E-02	8.54E-03
		328.47		13.10	3.03E-03		-1.86E-03	1.51E-03
	AU-195	98.86		11.21	2.52E-03	2.52E-03	-1.73E-03	1.26E-03
		129.74		0.84	2.76E-02		9.31E-03	1.38E-02
	Pt-195m	98.90		11.70	2.95E-03	2.95E-03	-2.03E-03	1.48E-03
		129.79		2.90	9.77E-03		3.30E-03	4.88E-03
	Au-196	333.03		22.90	7.54E-04	1.85E-04	-1.96E-05	3.76E-04
		355.73		87.00	1.85E-04		1.99E-04	9.23E-05
		426.10		6.60	2.16E-03		-2.30E-04	1.08E-03
	Au-196m	147.81		43.50	3.80E-03	3.80E-03	7.39E-04	1.90E-03
		188.27		30.00	4.94E-03		9.74E-04	2.47E-03
	Pt-197	77.35		17.00	5.58E-03	5.58E-03	1.75E-02	2.79E-03
		191.44		3.70	1.38E-02		1.24E-02	6.87E-03
	AU-198	411.80		95.62	1.86E-04	1.86E-04	4.17E-05	9.30E-05
	AU-199	158.38		40.00	6.92E-04	6.92E-04	3.02E-04	3.46E-04
		208.20		8.72	2.67E-03		-1.74E-03	1.33E-03
	TL-201	135.34		2.61	1.13E-02	2.70E-03	4.45E-03	5.66E-03
		167.43		10.00	2.70E-03		1.84E-04	1.35E-03
	TL-202	439.51		91.50	1.45E-04	1.45E-04	6.09E-05	7.24E-05
	PB-203	70.83		26.40	2.21E-03	2.96E-04	-6.38E-03	1.11E-03
		72.87		44.20	1.27E-03		4.17E-03	6.34E-04
		82.40		15.56	3.05E-03		-2.91E-03	1.53E-03
		279.20		80.90	2.96E-04		3.41E-04	1.48E-04
		401.32		3.35	5.85E-03		7.42E-03	2.92E-03
	PB-210	46.54		4.25	2.31E-02	2.31E-02	-6.99E-03	1.16E-02
	Pa-233	86.60		2.01	1.58E-02	3.87E-04	1.18E-01	7.91E-03
		94.65		8.90	3.29E-03		-6.94E-04	1.65E-03
		98.43		14.20	1.99E-03		-6.61E-04	9.95E-04
		300.13		6.54	2.32E-03		1.87E-03	1.16E-03
		311.90		38.20	3.87E-04		-4.57E-05	1.93E-04
		340.48		4.44	3.18E-03		1.32E-03	1.59E-03
	U-235	89.96		2.90	1.03E-02	3.38E-04	1.30E-03	5.13E-03
		93.35		4.70	6.03E-03		4.86E-03	3.01E-03
		109.19		1.64	1.59E-02		8.70E-03	7.96E-03
		143.76		10.93	1.98E-03		6.94E-04	9.92E-04
		163.36		5.07	4.13E-03		1.84E-03	2.06E-03
		185.71		57.20	3.38E-04		2.21E-04	1.69E-04
		202.11		1.07	1.71E-02		-1.26E-03	8.55E-03
		205.31		5.03	3.60E-03		-5.20E-04	1.80E-03
+	NP-237	86.48	*	12.20	3.26E-03	3.26E-03	1.52E-02	1.63E-03
	U-237	59.54		34.50	2.19E-03	9.70E-04	2.45E-01	1.09E-03
		97.07		15.40	2.10E-03		2.69E-03	1.05E-03
		101.06		24.50	1.28E-03		-1.68E-03	6.39E-04
		113.30		3.07	9.28E-03		5.81E-03	4.64E-03
		114.23		5.81	4.88E-03		-8.05E-04	2.44E-03
		117.46		2.27	1.23E-02		9.93E-03	6.14E-03
		208.00		21.20	9.70E-04		2.14E-04	4.85E-04
	NP-238	103.37		0.00	8.49E+00	4.97E-04	-8.97E+00	4.24E+00
		882.63		0.80	1.60E-02		1.72E-02	7.97E-03

Analysis Report for 24-2307 VSM-4.5M-S3-d- F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	NP-238	923.99		2.60	4.98E-03	4.97E-04	-2.48E-03	2.48E-03
		984.45		25.20	4.97E-04		-7.63E-05	2.47E-04
		1025.87		8.75	1.41E-03		-5.92E-05	7.01E-04
		1028.53		18.23	6.75E-04		-4.89E-05	3.36E-04
	U-238	63.29		3.70	1.38E-02	6.77E-03	6.50E-04	6.87E-03
		92.51		4.23	6.77E-03		8.10E-04	3.38E-03
		112.81		0.21	1.21E-01		1.20E-01	6.03E-02
		742.81		0.11	8.83E-02		4.06E-02	4.40E-02
		766.42		0.32	2.97E-02		3.74E-02	1.48E-02
		1001.03		0.84	2.33E-02		9.67E-01	1.16E-02
	Am-239	181.71		1.08	9.44E-02	5.72E-03	8.97E-02	4.72E-02
		209.80		3.50	2.66E-02		1.17E-02	1.33E-02
		226.40		3.30	2.69E-02		7.45E-03	1.34E-02
		228.10	*	11.30	8.66E-03		5.84E-03	4.32E-03
		277.60	*	15.00	5.72E-03		5.02E-03	2.86E-03
+	NP-239	61.46		1.30	6.66E-02	1.63E-03	-6.50E-03	3.33E-02
		99.53		12.90	3.08E-03		1.95E-03	1.54E-03
		103.37		20.50	1.89E-03		-2.00E-03	9.44E-04
		106.12	*	25.34	1.65E-03		5.39E-03	8.26E-04
		209.75		3.36	7.60E-03		3.35E-03	3.80E-03
		228.18	*	11.24	2.39E-03		1.61E-03	1.19E-03
		277.60	*	14.51	1.63E-03		1.43E-03	8.15E-04
		285.46		0.79	2.87E-02		-9.01E-03	1.43E-02
		315.88		1.60	1.27E-02		-6.91E-03	6.33E-03
		334.31		2.06	9.14E-03		-7.76E-04	4.56E-03
	PU-239	38.66		0.01	1.74E+01	2.79E+00	-2.97E+01	8.72E+00
		51.62		0.03	2.79E+00		6.51E-01	1.40E+00
		98.50		0.01	3.89E+00		-1.29E+00	1.94E+00
		111.03		0.00	1.93E+01		4.83E+00	9.62E+00
		129.30		0.01	3.67E+00		1.43E+00	1.84E+00
		171.39		0.00	1.84E+02		1.02E+02	9.22E+01
		203.55		0.00	3.20E+01		3.12E+00	1.60E+01
		332.85		0.00	2.86E+01		3.88E+00	1.43E+01
		336.11		0.00	1.26E+02		6.24E+01	6.27E+01
		345.01		0.00	2.52E+01		5.31E+01	1.26E+01
		375.05		0.00	8.47E+00		2.63E+00	4.23E+00
		380.19		0.00	4.27E+01		2.34E+01	2.13E+01
		382.75		0.00	5.00E+01		-3.73E+01	2.49E+01
		413.71		0.00	8.94E+00		6.12E+01	4.46E+00
		422.60		0.00	1.03E+02		1.56E+02	5.13E+01
		451.48		0.00	6.41E+01		-1.80E+01	3.20E+01
	Am-240	99.53		18.40	2.24E-03	1.77E-04	1.42E-03	1.12E-03
		103.37		29.20	1.38E-03		-1.46E-03	6.89E-04
		117.23		6.93	5.25E-03		4.24E-03	2.62E-03
		888.85		24.70	5.22E-04		-1.28E-04	2.60E-04
		987.79		72.20	1.77E-04		1.15E-04	8.78E-05
	Np-240m	554.60		20.90	2.13E-03	2.13E-03	1.07E-04	1.06E-03
		597.40		11.70	3.98E-03		-1.46E-04	1.99E-03
	U-240	44.10		1.05	4.42E-01	3.20E-01	-1.38E-01	2.21E-01
		66.50		0.15	1.10E+00		1.06E+00	5.50E-01
		169.20		0.12	7.17E-01		2.06E-01	3.58E-01
		189.70		0.24	3.20E-01		2.25E-01	1.60E-01
+	AM-241	59.54	*	35.90	2.15E-03	2.15E-03	2.02E-01	1.08E-03

Analysis Report for 24-2307 VSM-4.5M-S3-d- F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	AM-242m	49.35	*	0.13	9.32E-01	9.32E-01	1.69E+00	4.66E-01
		66.89		0.01	2.80E+00		2.55E+00	1.40E+00
		86.65	*	0.02	1.74E+00		8.12E+00	8.72E-01
		163.25		0.02	1.37E+00		6.08E-01	6.84E-01
	AM-243	43.53		5.90	2.04E-02	5.52E-04	-6.42E-03	1.02E-02
		74.66		67.20	5.52E-04		1.70E-03	2.76E-04

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

Apex-Gamma

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2308 VSM-4.5M-S4-CST-A Q3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 1:03:54PM
Procedure	: Q3_gsv02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: Q3_gsv02mlw
Live Time	: 1947.5 seconds
Real Time	: 2013.1 seconds
Dead Time	: 3.26 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: Q3_gsv2ml_R717
Sample Number	: 567811
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 1:37:30PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.78	136.96	0.3218	4.08
2	59.59	190.38	0.0576	108.71
3	86.99	277.26	0.2320	5.66
4	105.48	336.29	0.2768	4.57
5	123.13	392.87	0.0770	60.15
6	247.92	790.68	0.1324	18.50
7	414.79	1322.53	0.1596	10.71
8	511.15	1629.74	0.1703	6.51
9	582.57	1856.48	0.2551	4.36
10	591.91	1887.23	0.1281	15.72
11	661.80	2110.15	0.0584	71.42
12	666.47	2125.27	0.1465	11.80
13	692.66	2207.54	0.2508	5.12
14	695.25	2216.83	0.1657	10.28
15	723.44	2306.61	0.0807	36.04
16	756.97	2413.37	0.1318	13.79
17	778.92	2483.39	0.3262	3.16
18	816.12	2602.10	0.2747	3.13
19	873.38	2784.59	0.0935	26.42
20	892.82	2846.42	0.2666	3.46
21	904.00	2882.22	0.2129	3.31
22	996.49	3177.01	0.0957	23.51
23	1004.95	3203.95	0.0833	29.90
24	1128.64	3597.92	0.2536	3.70
25	1173.50	3741.24	0.0807	30.94
26	1246.66	3974.10	0.2004	5.49
27	1274.72	4063.83	0.0703	40.13
28	1332.81	4248.99	0.0805	30.26
29	1397.55	4454.12	0.2137	4.08
30	1408.76	4491.01	0.1963	5.63
31	1461.59	4658.80	0.2454	4.13
32	1494.15	4762.73	0.1944	5.35
33	1597.04	5091.13	0.1432	9.37
34	1719.99	5482.01	0.2560	3.00

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 1:37:30PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.78	129 -	140	136.76	8.26E+02	556.19	8.49E+04	0.53
F	2	59.59	182 -	198	190.34	9.58E+04	1278.16	1.54E+05	1.19
F	3	86.99	272 -	285	277.69	3.75E+03	281.35	1.06E+05	1.50
F	4	105.48	332 -	345	336.64	1.91E+03	247.97	8.48E+04	1.34
F	5	123.13	385 -	402	392.90	2.86E+04	1067.23	8.58E+04	1.25
F	6	247.92	784 -	799	790.71	3.55E+03	435.21	1.69E+04	1.33
F	7	414.79	1317 -	1329	1322.65	1.07E+03	65.97	4.06E+03	1.41
F	8	511.15	1619 -	1641	1629.84	2.02E+03	63.09	4.19E+03	2.73
F	9	582.57	1849 -	1865	1857.52	2.41E+02	41.63	2.18E+03	0.40
F	10	591.91	1878 -	1895	1887.27	1.53E+03	52.22	2.09E+03	1.70
M	11	661.80	2097 -	2130	2110.07	1.90E+04	268.87	1.85E+03	1.72
m	12	666.47	2097 -	2130	2124.94	9.34E+02	46.49	1.63E+03	1.73
M	13	692.66	2202 -	2227	2208.45	4.75E+02	37.48	1.23E+03	1.78
m	14	695.25	2202 -	2227	2216.71	9.14E+02	42.36	1.65E+03	1.78
F	15	723.44	2298 -	2317	2306.55	5.43E+03	205.81	1.58E+03	1.79
F	16	756.97	2400 -	2425	2413.43	1.18E+03	159.88	1.64E+03	1.92
	17	778.92	2479 -	2488	2483.39	3.35E+01	49.11	6.77E+02	0.78
F	18	816.12	2597 -	2608	2601.97	1.11E+02	27.11	6.16E+02	1.64
F	19	873.38	2775 -	2794	2784.50	2.82E+03	162.16	1.01E+03	1.79
F	20	892.82	2839 -	2852	2846.46	1.40E+02	114.19	5.68E+02	1.71
F	21	904.00	2874 -	2891	2882.10	3.01E+02	27.48	6.70E+02	2.47
F	22	996.49	3166 -	3186	3176.93	2.52E+03	138.88	6.92E+02	2.00
F	23	1004.95	3192 -	3215	3203.89	4.11E+03	144.63	7.98E+02	2.04
F	24	1128.64	3586 -	3611	3598.14	1.69E+02	94.58	4.46E+02	1.71
F	25	1173.50	3726 -	3752	3741.12	4.27E+03	142.99	4.33E+02	2.10
F	26	1246.66	3964 -	3983	3974.30	1.11E+02	46.98	2.21E+02	1.24
F	27	1274.72	4048 -	4078	4063.74	6.88E+03	161.08	3.34E+02	2.20
F	28	1332.81	4233 -	4263	4248.90	4.06E+03	130.40	2.17E+02	2.17
F	29	1397.55	4445 -	4466	4455.24	1.52E+02	12.24	3.73E+01	3.16
F	30	1408.76	4479 -	4500	4490.99	1.23E+02	40.01	8.25E+01	1.85
F	31	1461.59	4653 -	4665	4659.36	3.50E+01	8.79	4.53E+01	1.41
F	32	1494.15	4754 -	4772	4763.14	1.12E+02	11.35	3.31E+01	2.10
F	33	1597.04	5079 -	5100	5091.07	3.43E+02	46.11	3.30E+01	2.10
F	34	1719.99	5475 -	5490	5482.94	3.26E+01	6.46	1.06E+01	2.18

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 1:37:30PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567379.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.78	8.26E+02	556.19			8.26E+02	5.56E+02
F	2	59.59	9.58E+04	1278.16			9.58E+04	1.28E+03
F	3	86.99	3.75E+03	281.35	1.41E+01	9.49E-01	3.73E+03	2.81E+02
F	4	105.48	1.91E+03	247.97			1.91E+03	2.48E+02
F	5	123.13	2.86E+04	1067.23			2.86E+04	1.07E+03
F	6	247.92	3.55E+03	435.21			3.55E+03	4.35E+02
F	7	414.79	1.07E+03	65.97			1.07E+03	6.60E+01
F	8	511.15	2.02E+03	63.09	7.65E+01	3.21E+00	1.94E+03	6.32E+01
F	9	582.57	2.41E+02	41.63	7.42E+00	3.97E-01	2.33E+02	4.16E+01
F	10	591.91	1.53E+03	52.22			1.53E+03	5.22E+01
M	11	661.80	1.90E+04	268.87			1.90E+04	2.69E+02
m	12	666.47	9.34E+02	46.49			9.34E+02	4.65E+01
M	13	692.66	4.75E+02	37.48			4.75E+02	3.75E+01
m	14	695.25	9.14E+02	42.36			9.14E+02	4.24E+01
F	15	723.44	5.43E+03	205.81			5.43E+03	2.06E+02
F	16	756.97	1.18E+03	159.88			1.18E+03	1.60E+02
	17	778.92	3.35E+01	49.11			3.35E+01	4.91E+01
F	18	816.12	1.11E+02	27.11			1.11E+02	2.71E+01
F	19	873.38	2.82E+03	162.16			2.82E+03	1.62E+02
F	20	892.82	1.40E+02	114.19			1.40E+02	1.14E+02
F	21	904.00	3.01E+02	27.48			3.01E+02	2.75E+01
F	22	996.49	2.52E+03	138.88			2.52E+03	1.39E+02
F	23	1004.95	4.11E+03	144.63			4.11E+03	1.45E+02
F	24	1128.64	1.69E+02	94.58			1.69E+02	9.46E+01
F	25	1173.50	4.27E+03	142.99			4.27E+03	1.43E+02
F	26	1246.66	1.11E+02	46.98			1.11E+02	4.70E+01
F	27	1274.72	6.88E+03	161.08			6.88E+03	1.61E+02
F	28	1332.81	4.06E+03	130.40			4.06E+03	1.30E+02
F	29	1397.55	1.52E+02	12.24			1.52E+02	1.22E+01
F	30	1408.76	1.23E+02	40.01	2.11E+00	7.67E-01	1.21E+02	4.00E+01
F	31	1461.59	3.50E+01	8.79	5.88E+01	1.51E+00	-2.38E+01	8.92E+00
F	32	1494.15	1.12E+02	11.35			1.12E+02	1.14E+01
F	33	1597.04	3.43E+02	46.11			3.43E+02	4.61E+01

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	34	1719.99	3.26E+01	6.46			3.26E+01	6.46E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
NA-22	0.99	511.00	*	179.91	9.44E-04	3.10E-05	1.000
		1274.54	*	99.94	1.15E-02	2.75E-04	0.924
K-40	0.91	1460.82	*	10.66	-3.75E-04	1.41E-04	miss
CO-60	0.98	1173.23	*	99.85	6.48E-03	2.20E-04	0.962
		1332.49	*	99.98	6.69E-03	2.18E-04	0.962
GA-66	0.60	511.00	*	114.00	8.81E-03	6.84E-04	miss
		833.53		5.90			
		1039.22		37.00			
		1333.11	*	1.17	3.25E+00	1.98E-01	miss
		1918.33		1.99			
		2189.62		5.30			
		2751.83		22.70			
ZR-95	0.95	724.19	*	44.27	1.34E-02	5.17E-04	free
		756.72	*	54.38	2.44E-03	3.31E-04	free
Te-129m	0.93	695.88	*	3.00	3.28E-02	6.74E-03	free
CS-137	0.99	661.66	*	85.10	2.29E-02	3.48E-04	miss
EU-154	0.99	42.70	*	20.45	9.75E-03	6.57E-03	miss
		123.07	*	40.40	3.12E-02	1.23E-03	0.956
		247.93	*	6.89	3.09E-02	3.81E-03	0.943
		591.76	*	4.95	3.17E-02	1.14E-03	0.932
		692.42	*	1.78	2.97E-02	2.37E-03	0.948
		723.30	*	20.06	3.08E-02	1.22E-03	0.951
		756.80	*	4.52	3.13E-02	4.26E-03	0.928
		873.18	*	12.08	3.01E-02	1.76E-03	0.944
		996.29	*	10.48	3.22E-02	1.80E-03	0.986
		1004.76	*	18.01	3.10E-02	1.14E-03	0.977
		1246.12	*	0.86	2.11E-02	8.90E-03	0.936
		1274.43	*	34.80	3.11E-02	7.95E-04	0.979

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.99	1494.05	*	0.70	2.70E-02	2.76E-03	1.013
		1596.48	*	1.80	2.95E-02	3.98E-03	1.155
EU-155	0.98	43.00	*	18.12	1.10E-02	7.42E-03	1.000
		60.01	*	1.17	6.88E+00	2.16E-01	0.999
		86.55	*	30.70	5.52E-03	4.21E-04	free
		105.31	*	21.10	3.72E-03	4.93E-04	1.000
NP-237	0.96	86.48	*	12.20	1.39E-02	1.11E-03	1.000
AM-241	1.00	59.54	*	35.90	2.24E-01	4.74E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	NA-22	0.996	1.12E-04	3.33E-04	
	K-40	0.910	-3.75E-04	1.41E-04	
	CO-60	0.986	6.58E-03	1.55E-04	
X	CU-64	0.963			
	GA-66	0.601	7.77E-03	3.12E-03	
	ZR-95	0.955	3.87E-05	2.93E-04	
X	RU-106	0.923			
	Te-129m	0.939	3.28E-02	6.74E-03	
	CS-137	0.997	2.29E-02	3.48E-04	
	EU-154	0.994	3.08E-02	5.09E-04	
	EU-155	0.983	3.60E-03	4.84E-04	
	NP-237	0.960	4.81E-03	1.61E-03	
	AM-241	1.000	2.24E-01	4.03E-03	

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

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

Errors quoted at 1.000sigma

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 1:37:30PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	7	414.79	5.47870E-01	6.18	Tol.	RH-102M
F	9	582.57	1.19682E-01	17.86	Tol.	SN-127
m	12	666.47	4.79519E-01	4.98		
	17	778.92	1.71760E-02	146.81	Sum	
F	18	816.12	5.69593E-02	24.44	Sum	
F	20	892.82	7.18494E-02	81.60		
F	21	904.00	1.54444E-01	9.13	Tol.	Re-184
F	24	1128.64	8.66363E-02	56.06	Sum	
F	29	1397.55	7.82104E-02	8.03	Sum	
F	30	1408.76	6.21703E-02	33.05	Tol.	EU-152
F	34	1719.99	1.67346E-02	19.81	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.60		10.44	3.34E-03	3.34E-03	-8.06E-04	1.66E-03
+	NA-22	511.00	*	179.91	2.70E-04	2.70E-04	9.44E-04	1.34E-04
		1274.54	*	99.94	3.01E-04		1.15E-02	1.48E-04
	NA-24	1368.63		99.99	3.64E-04	3.64E-04	1.20E-04	1.75E-04
>		2754.01		99.87	0.00E+00		0.00E+00	0.00E+00

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	AL-26	1129.67		2.50	8.56E-03	5.15E-05	1.25E-02	4.20E-03
		1808.65		99.76	5.15E-05		5.07E-05	2.31E-05
+	K-40	1460.82	*	10.66	8.79E-04	8.79E-04	-3.75E-04	4.18E-04
	K-42	312.60		0.34	4.65E-01	1.77E-03	2.63E-01	2.31E-01
		1524.60		18.08	1.77E-03		2.52E-03	8.36E-04
	Sc-44	1157.02		99.90	1.33E-02	1.33E-02	2.02E-02	6.53E-03
		1499.46		0.91	9.12E-01		-3.28E-01	4.38E-01
	Sc-44m	271.24		86.74	6.73E-04	6.73E-04	1.49E-04	3.35E-04
		1001.83		1.20	6.52E-02		3.75E-03	3.24E-02
		1126.06		1.20	2.56E-02		1.03E-02	1.26E-02
		1157.00		1.20	2.28E-02		3.47E-02	1.12E-02
	TI-44	67.87		93.00	1.47E-03	1.10E-03	1.66E-03	7.36E-04
		78.32		96.40	1.10E-03		-8.59E-04	5.49E-04
	SC-46	889.28		99.98	2.66E-04	2.25E-04	-1.10E-04	1.31E-04
		1120.55		99.99	2.25E-04		-5.72E-05	1.10E-04
	CA-47	489.23		5.90	7.10E-03	2.32E-04	5.00E-03	3.53E-03
		807.86		5.90	5.30E-03		4.70E-03	2.62E-03
		1297.09		67.00	2.32E-04		1.28E-04	1.12E-04
	SC-47	159.38		68.30	1.04E-03	1.04E-03	-5.47E-05	5.20E-04
	SC-48	175.36		7.47	1.07E-02	1.87E-04	4.32E-03	5.34E-03
		983.53		100.00	3.41E-04		-2.28E-04	1.68E-04
		1037.52		97.50	3.58E-04		6.34E-04	1.76E-04
		1312.12		100.00	1.87E-04		-9.25E-05	9.02E-05
	V-48	944.13		7.87	3.32E-03	1.41E-04	-3.67E-04	1.64E-03
		983.53		99.98	2.52E-04		-1.68E-04	1.24E-04
		1312.11		98.20	1.41E-04		-6.96E-05	6.79E-05
		2240.40		2.33	2.38E-03		3.09E-04	1.05E-03
	CR-51	320.08		9.91	4.06E-03	4.06E-03	8.81E-04	2.02E-03
	Fe-52	168.69		99.20	4.28E-03	4.28E-03	-1.73E-03	2.14E-03
		377.75		1.64	1.73E-01		6.87E-02	8.60E-02
	Mn-52	744.23		90.00	3.65E-04	1.13E-04	-1.81E-04	1.80E-04
		848.18		3.32	9.36E-03		-3.07E-03	4.62E-03
		935.54		94.50	3.09E-04		-2.16E-04	1.52E-04
		1246.28		4.21	4.81E-03		6.33E-03	2.34E-03
		1333.65		5.07	1.17E-02		1.54E-01	5.81E-03
		1434.09		100.00	1.13E-04		-7.43E-05	5.36E-05
	MN-54	834.85		99.98	2.42E-04	2.42E-04	-1.45E-04	1.20E-04
	Co-55	411.50		1.07	9.13E-02	8.38E-04	1.34E-02	4.54E-02
		477.20		20.20	4.46E-03		7.12E-04	2.22E-03
		803.70		1.87	3.60E-02		2.24E-02	1.78E-02
		931.10		75.00	8.38E-04		3.66E-07	4.13E-04
		1316.60		7.10	4.55E-03		5.96E-03	2.20E-03
		1370.00		2.90	1.01E-02		-7.46E-03	4.86E-03
		1408.50		16.90	2.07E-03		1.90E-03	1.00E-03
	Co-56	846.77		99.94	2.72E-04	2.53E-04	1.32E-04	1.34E-04
		977.37		1.42	1.81E-02		1.67E-02	8.91E-03
		1037.84		14.05	1.80E-03		2.38E-03	8.85E-04
		1175.10		2.25	2.34E-02		3.12E-01	1.16E-02
		1238.29		66.46	2.53E-04		2.15E-04	1.23E-04
		1360.21		4.28	2.71E-03		-1.09E-03	1.30E-03
		1771.36		15.41	4.74E-04		3.36E-04	2.19E-04
		2015.20		3.02	1.61E-03		1.25E-03	7.04E-04
		2034.79		7.77	6.00E-04		-4.42E-04	2.61E-04

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
>	Co-56	2598.50		16.97	0.00E+00	2.53E-04	0.00E+00	0.00E+00
	MN-56	846.76		98.85	1.83E-01	1.28E-01	8.89E-02	9.01E-02
		1810.73		26.90	1.28E-01		5.32E-02	5.70E-02
		2113.09		14.20	1.85E-01		-1.94E-01	7.74E-02
	Ni-56	158.38		98.80	6.58E-04	3.36E-04	5.57E-04	3.29E-04
		269.50		36.50	1.35E-03		4.34E-05	6.73E-04
		480.44		36.50	1.05E-03		-9.40E-04	5.21E-04
		749.50		49.50	6.09E-04		-2.43E-04	3.01E-04
		811.85		86.00	3.36E-04		4.30E-05	1.66E-04
		1561.80		14.00	5.70E-04		-5.64E-04	2.66E-04
	CO-57	122.06		85.60	8.86E-04	8.86E-04	-6.88E-05	4.42E-04
		136.47		10.68	5.95E-03		-5.41E-04	2.97E-03
	NI-57	127.16		16.70	6.63E-03	2.19E-04	3.90E-03	3.31E-03
		1377.63		81.70	2.19E-04		-1.10E-04	1.05E-04
		1757.55		5.75	1.75E-03		-1.37E-03	8.02E-04
		1919.52		12.30	5.65E-04		4.24E-04	2.47E-04
	CO-58	810.76		99.45	2.66E-04	2.66E-04	1.13E-04	1.31E-04
		863.96		0.69	3.65E-02		-6.63E-04	1.80E-02
		1674.73		0.52	9.87E-03		-2.33E-03	4.46E-03
	FE-59	142.65		1.02	6.15E-02	3.25E-04	-1.60E-02	3.07E-02
		192.34		3.08	1.76E-02		3.52E-03	8.79E-03
		1099.24		56.50	3.84E-04		-2.91E-04	1.88E-04
		1291.59		43.20	3.25E-04		-1.15E-04	1.57E-04
+	CO-60	1173.23	*	99.85	2.93E-04	2.40E-04	6.48E-03	1.45E-04
		1332.49	*	99.98	2.40E-04		6.69E-03	1.18E-04
	CU-64	511.00	*	35.00	5.24E-03	5.24E-03	1.83E-02	2.61E-03
		1345.77		0.47	9.47E-02		-1.58E-02	4.56E-02
	NI-65	366.27		4.81	6.63E+00	2.95E-01	3.38E+00	3.30E+00
		1115.53		15.43	1.16E+00		1.76E+00	5.70E-01
		1481.84		23.59	2.95E-01		1.97E-01	1.39E-01
	ZN-65	1115.54		50.04	4.34E-04	4.34E-04	6.58E-04	2.13E-04
+	GA-66	511.00	*	114.00	2.52E-03	2.52E-03	8.81E-03	1.26E-03
		833.53		5.90	2.42E-02		-1.03E-02	1.19E-02
		1039.22		37.00	3.76E-03		-7.35E-04	1.85E-03
		1333.11	*	1.17	1.17E-01		3.25E+00	5.73E-02
		1918.33		1.99	1.29E-02		3.15E-03	5.61E-03
		2189.62		5.30	5.33E-03		-5.38E-03	2.33E-03
>		2751.83		22.70	0.00E+00		0.00E+00	0.00E+00
	CU-67	91.27		7.00	1.55E-02	1.42E-03	-4.55E-03	7.76E-03
		93.31		16.10	6.57E-03		6.00E-03	3.28E-03
		184.58		48.70	1.42E-03		4.04E-04	7.07E-04
		300.22		0.80	6.74E-02		-3.86E-02	3.35E-02
		393.53		0.22	2.15E-01		7.92E-02	1.07E-01
	GA-67	91.26		3.11	3.40E-02	2.61E-03	-9.96E-03	1.70E-02
		93.31		38.81	2.61E-03		2.38E-03	1.30E-03
		184.58		21.41	3.05E-03		8.70E-04	1.52E-03
		208.95		2.46	2.78E-02		8.74E-03	1.39E-02
		300.22		16.64	3.12E-03		-1.79E-03	1.55E-03
		393.53		4.56	8.87E-03		3.27E-03	4.41E-03
	ZN-69m	438.63		94.85	1.29E-03	1.29E-03	-1.88E-03	6.39E-04
	GA-72	629.97		26.13	3.89E-03	6.31E-04	2.30E-03	1.93E-03
		834.13		95.45	8.78E-04		-2.88E-04	4.33E-04
		894.33		10.14	8.95E-03		1.23E-02	4.42E-03

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	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	GA-72	1050.79	6.99	1.19E-02	6.31E-04	1.38E-02	5.87E-03
		2201.59	26.87	6.31E-04		4.90E-04	2.77E-04
		2491.03	7.73	1.30E-03		-1.46E-03	5.05E-04
		2507.72	13.33	2.22E-03		2.97E-03	1.02E-03
	Zn-72	144.70	82.78	1.06E-03	1.06E-03	-7.84E-04	5.30E-04
		191.50	9.35	7.91E-03		1.20E-04	3.94E-03
	SE-75	121.12	17.20	4.66E-03	7.99E-04	1.97E-03	2.33E-03
		136.00	58.50	1.14E-03		-1.14E-03	5.70E-04
		264.66	58.90	7.99E-04		1.28E-04	3.98E-04
		279.54	25.02	1.79E-03		-5.84E-05	8.91E-04
		400.66	11.41	2.40E-03		-4.88E-05	1.20E-03
	BR-83	529.59	1.30	3.02E+01	3.02E+01	-2.01E+01	1.50E+01
	BR-84	604.80	1.70	1.17E+12	2.17E+10	-2.19E+12	5.80E+11
		736.50	1.29	1.41E+12		1.49E+10	6.99E+11
		802.20	6.00	2.92E+11		-8.58E+10	1.44E+11
		881.60	42.00	4.16E+10		-5.23E+10	2.05E+10
		987.30	0.79	2.02E+12		-1.46E+11	9.95E+11
		1015.90	6.20	2.61E+11		4.15E+11	1.29E+11
		1213.30	2.60	4.01E+11		7.01E+10	1.95E+11
		1463.80	2.00	3.70E+11		4.11E+11	1.77E+11
		1741.20	1.60	2.38E+11		-4.64E+10	1.08E+11
		1877.50	1.12	2.93E+11		8.62E+10	1.30E+11
		1897.60	14.60	2.17E+10		4.27E+09	9.56E+09
		2029.60	2.10	1.43E+11		8.49E+09	6.20E+10
		2200.70	1.16	2.98E+11		2.39E+11	1.31E+11
		2484.10	6.70	3.04E+10		1.01E+10	1.18E+10
>		2824.10	1.12	0.00E+00		0.00E+00	0.00E+00
	KR-85m	151.20	75.20	3.42E-02	3.42E-02	5.10E-03	1.71E-02
		304.87	14.00	1.25E-01		4.29E-02	6.24E-02
	Y-87	388.53	82.20	5.46E-04	4.79E-04	3.56E-05	2.71E-04
		484.80	89.80	4.79E-04		-3.20E-04	2.38E-04
	KR-88	165.98	3.10	7.72E+00	4.48E-02	-7.27E+00	3.85E+00
		196.30	26.00	7.96E-01		-1.38E-01	3.97E-01
		362.23	2.25	6.40E+00		8.21E-01	3.18E+00
		471.80	0.73	1.93E+01		7.54E+00	9.61E+00
		834.83	13.00	7.55E-01		-4.51E-01	3.73E-01
		985.78	1.31	7.40E+00		4.39E+00	3.65E+00
		1141.33	1.28	6.26E+00		6.78E+00	3.07E+00
		1179.51	1.00	1.88E+01		8.41E+00	9.31E+00
		1250.67	1.12	5.99E+00		-2.27E-01	2.92E+00
		1369.50	1.48	3.11E+00		3.93E-01	1.49E+00
		1518.39	2.15	1.46E+00		-1.24E+00	6.87E-01
		1529.77	10.90	3.15E-01		1.59E-01	1.49E-01
		2029.84	4.53	4.08E-01		1.97E-02	1.77E-01
		2035.41	3.74	5.10E-01		3.96E-01	2.24E-01
		2195.84	13.20	1.44E-01		-1.88E-01	6.27E-02
		2231.77	3.39	5.70E-01		-2.44E-01	2.51E-01
		2352.08	0.73	2.21E+00		1.19E+00	9.26E-01
		2392.11	34.60	4.48E-02		-1.37E-02	1.88E-02
	RB-88	898.03	14.40	7.41E-01	8.02E-02	1.50E-01	3.66E-01
		1382.45	0.78	5.71E+00		2.03E+00	2.74E+00
		1836.00	22.81	8.02E-02		-1.50E-01	3.54E-02
>		2677.89	2.13	0.00E+00		0.00E+00	0.00E+00

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Y-88	898.04	93.70	2.91E-04	4.76E-05	5.91E-05	1.44E-04
		1836.06	99.20	4.76E-05		-6.07E-05	2.10E-05
@	RB-89	272.42	1.53	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		657.77	10.80	1.00E+20		1.00E+20	1.00E+20
@		947.73	10.00	1.00E+20		1.00E+20	1.00E+20
@		1031.92	63.00	1.00E+20		1.00E+20	1.00E+20
@		1248.14	46.00	1.00E+20		1.00E+20	1.00E+20
@		1538.07	2.77	1.00E+20		1.00E+20	1.00E+20
@		2007.50	2.58	1.00E+20		1.00E+20	1.00E+20
@		2195.92	14.50	1.00E+20		1.00E+20	1.00E+20
>@		2570.20	10.70	0.00E+00		0.00E+00	0.00E+00
>@		2707.26	2.20	0.00E+00		0.00E+00	0.00E+00
	SR-89	908.96	0.01	2.70E+00	2.70E+00	2.11E+00	1.33E+00
	Sr-91	652.90	11.35	1.42E-02	3.97E-03	-4.42E-03	7.04E-03
		749.80	23.70	6.54E-03		-5.40E-04	3.24E-03
		925.80	3.85	3.59E-02		9.50E-03	1.77E-02
		1024.30	33.50	3.97E-03		1.90E-03	1.95E-03
	Y-91	1204.77	0.26	6.04E-02	6.04E-02	-2.65E-02	2.94E-02
	NB-92M	912.60	1.78	1.47E-02	2.58E-04	-1.29E-03	7.27E-03
		934.44	99.15	2.58E-04		-1.38E-04	1.27E-04
		1847.50	0.85	7.23E-03		5.40E-03	3.29E-03
	SR-92	241.56	2.93	1.04E+01	7.81E-02	4.49E+00	5.17E+00
		430.49	3.28	7.03E+00		-8.07E-02	3.49E+00
		953.31	3.52	4.32E+00		4.08E-01	2.13E+00
		1142.35	2.79	4.50E+00		-3.29E+00	2.20E+00
		1383.93	90.00	7.81E-02		5.74E-02	3.75E-02
	MO-93M	114.04	0.68	1.22E+00	9.78E-04	-9.41E-01	6.07E-01
		263.05	57.40	9.17E-03		8.33E-03	4.57E-03
		684.69	99.90	3.25E-03		-7.58E-04	1.61E-03
		1363.02	0.81	1.64E-01		-5.97E-02	7.87E-02
		1477.14	99.10	9.78E-04		-1.47E-04	4.62E-04
@	SR-93	168.50	18.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		260.12	7.40	1.00E+20		1.00E+20	1.00E+20
@		346.49	3.28	1.00E+20		1.00E+20	1.00E+20
@		446.20	2.36	1.00E+20		1.00E+20	1.00E+20
@		590.24	68.00	1.00E+20		1.00E+20	1.00E+20
@		710.31	21.80	1.00E+20		1.00E+20	1.00E+20
@		875.73	24.50	1.00E+20		1.00E+20	1.00E+20
@		888.13	22.10	1.00E+20		1.00E+20	1.00E+20
@		1040.63	3.20	1.00E+20		1.00E+20	1.00E+20
@		1094.00	1.76	1.00E+20		1.00E+20	1.00E+20
@		1122.48	4.00	1.00E+20		1.00E+20	1.00E+20
@		1215.48	2.50	1.00E+20		1.00E+20	1.00E+20
@		1269.47	7.10	1.00E+20		1.00E+20	1.00E+20
@		1321.24	2.61	1.00E+20		1.00E+20	1.00E+20
@		1387.11	3.50	1.00E+20		1.00E+20	1.00E+20
@		1694.07	2.58	1.00E+20		1.00E+20	1.00E+20
@		1699.06	3.30	1.00E+20		1.00E+20	1.00E+20
@		2543.84	3.03	1.00E+20		1.00E+20	1.00E+20
>@		2688.65	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-93	266.90	7.40	3.14E-02	1.48E-02	2.50E-02	1.56E-02
		947.10	2.10	6.02E-02		-6.60E-02	2.97E-02
		1917.80	1.57	1.48E-02		1.15E-02	6.50E-03

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	NB-94	702.65		99.81	2.81E-04	2.81E-04	7.79E-06	1.39E-04
		871.09		99.89	4.06E-04		3.53E-03	2.01E-04
@	Y-94	381.60		2.02	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		550.90		4.90	1.00E+20		1.00E+20	1.00E+20
@		752.60		1.40	1.00E+20		1.00E+20	1.00E+20
@		918.74		56.00	1.00E+20		1.00E+20	1.00E+20
@		1138.90		6.00	1.00E+20		1.00E+20	1.00E+20
@		1671.40		2.50	1.00E+20		1.00E+20	1.00E+20
@		2140.60		0.95	1.00E+20		1.00E+20	1.00E+20
	NB-95	765.80		99.81	2.74E-04	2.74E-04	8.89E-05	1.35E-04
+	ZR-95	724.19	*	44.27	8.03E-04	7.61E-04	1.34E-02	3.98E-04
		756.72	*	54.38	7.61E-04		2.44E-03	3.78E-04
	NB-96	219.08		2.97	3.51E-02	5.74E-04	1.42E-02	1.75E-02
		241.38		3.50	2.79E-02		1.21E-02	1.39E-02
		350.05		1.54	5.19E-02		-1.67E-02	2.58E-02
		352.56		0.83	9.54E-02		1.16E-01	4.75E-02
		371.81		2.62	2.94E-02		2.24E-02	1.46E-02
		460.04		26.62	2.71E-03		-6.35E-06	1.35E-03
		480.71		5.84	1.20E-02		-4.25E-03	5.97E-03
		568.87		58.00	1.07E-03		3.80E-04	5.30E-04
		719.56		6.85	1.39E-02		-2.49E-03	6.89E-03
		721.63		1.02	9.30E-02		1.14E+00	4.62E-02
		778.22		96.45	5.74E-04		-2.76E-05	2.84E-04
		810.33		11.09	4.78E-03		1.26E-03	2.36E-03
		812.58		2.95	1.79E-02		-1.54E-02	8.83E-03
		847.69		1.14	4.62E-02		7.00E-02	2.28E-02
		849.93		20.45	2.59E-03		2.06E-03	1.28E-03
		1091.35		48.50	9.50E-04		3.98E-04	4.67E-04
		1200.23		19.97	1.64E-03		1.53E-03	8.00E-04
		1441.13		0.44	4.23E-02		-3.04E-02	2.01E-02
		1497.81		3.28	7.38E-03		1.49E-02	3.55E-03
	Nb-97	657.94		98.23	1.98E-03	1.98E-03	-2.73E-05	9.86E-04
		1024.40		1.09	5.83E-02		3.79E-02	2.87E-02
	ZR-97	254.17		1.15	1.09E-01	7.96E-04	3.30E-02	5.44E-02
		355.40		2.09	5.30E-02		-7.02E-03	2.64E-02
		507.64		5.03	2.14E-02		6.23E-04	1.06E-02
		743.36		93.09	7.96E-04		7.32E-04	3.94E-04
		1147.97		2.62	2.17E-02		1.02E-02	1.06E-02
	MO-99	181.07		6.14	1.19E-02	2.93E-03	2.23E-03	5.95E-03
		366.42		1.20	4.04E-02		2.06E-02	2.01E-02
		739.50		12.26	2.93E-03		-1.51E-03	1.45E-03
		777.92		4.30	8.08E-03		3.35E-03	4.00E-03
	TC-99M	140.51		90.80	8.85E-04	8.85E-04	5.03E-05	4.42E-04
	RH-101	127.23		68.00	1.06E-03	7.21E-04	6.25E-04	5.31E-04
		198.01		73.00	7.21E-04		-7.24E-05	3.59E-04
		325.23		11.80	2.60E-03		5.97E-05	1.30E-03
	RH-101M	306.86		81.00	5.88E-04	5.88E-04	-1.56E-05	2.93E-04
		545.12		4.30	8.50E-03		4.03E-04	4.21E-03
	RH-102M	415.25		2.10	2.00E-02	3.97E-04	4.26E-02	9.95E-03
		418.52		9.40	4.37E-03		-1.70E-03	2.17E-03
		420.40		3.20	1.23E-02		1.64E-03	6.12E-03
		475.06		95.00	3.97E-04		3.41E-04	1.97E-04
		628.05		8.30	3.87E-03		3.77E-04	1.92E-03

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
RH-102M	631.29		56.00	5.49E-04	3.97E-04	-6.73E-04	2.72E-04
	692.40		1.60	2.31E-02		3.68E-03	1.14E-02
	695.60		2.90	1.23E-02		5.19E-02	6.11E-03
	697.49		44.00	8.03E-04		7.32E-06	3.98E-04
	766.84		34.00	8.58E-04		7.88E-04	4.24E-04
	1046.59		34.00	7.34E-04		-8.86E-04	3.61E-04
	1103.16		4.60	4.77E-03		-3.40E-03	2.34E-03
	1112.84		19.00	1.24E-03		1.38E-04	6.10E-04
RU-103	497.08		91.00	3.77E-04	3.77E-04	-3.57E-04	1.87E-04
	610.33		5.76	5.16E-03		8.43E-03	2.55E-03
RH-105	306.31		4.66	1.40E-02	3.75E-03	3.90E-03	6.99E-03
	319.23		16.90	3.75E-03		1.23E-03	1.87E-03
AG-106M	221.70		6.60	8.29E-03	4.66E-04	-7.89E-05	4.13E-03
	228.63		2.10	2.56E-02		1.71E-02	1.28E-02
	328.46		1.14	3.67E-02		-2.26E-02	1.83E-02
	391.04		3.68	1.07E-02		-3.59E-03	5.33E-03
	406.18		13.40	2.91E-03		2.71E-04	1.44E-03
	429.65		13.20	2.97E-03		3.09E-03	1.48E-03
	450.98		28.20	1.36E-03		-1.30E-03	6.78E-04
	511.85		88.00	4.66E-04		1.80E-03	2.32E-04
	601.17		1.61	1.95E-02		-6.38E-03	9.68E-03
	616.17		21.60	1.44E-03		-1.00E-03	7.12E-04
	646.03		1.46	2.13E-02		4.74E-02	1.05E-02
	680.42		2.18	1.38E-02		-1.54E-02	6.81E-03
	703.11		4.47	6.54E-03		3.72E-03	3.23E-03
	717.34		28.90	1.31E-03		-2.65E-04	6.49E-04
	748.36		20.60	1.41E-03		3.32E-04	6.98E-04
	793.17		5.90	4.88E-03		1.63E-03	2.41E-03
	804.28		12.40	2.25E-03		1.13E-03	1.11E-03
	808.36		4.00	6.95E-03		2.02E-03	3.43E-03
	824.69		15.30	1.76E-03		1.60E-03	8.69E-04
	847.15		4.40	6.32E-03		2.72E-03	3.12E-03
	1019.72		1.04	2.45E-02		2.19E-02	1.20E-02
	1045.83		29.60	8.48E-04		-5.35E-04	4.17E-04
	1128.02		11.80	1.94E-03		-6.48E-04	9.52E-04
	1199.39		11.20	1.54E-03		-1.49E-03	7.50E-04
	1222.88		7.00	2.25E-03		-2.55E-03	1.09E-03
	1394.35		1.49	9.92E-03		1.77E-02	4.80E-03
	1527.65		16.30	5.47E-04		1.08E-04	2.58E-04
	1572.35		6.60	1.21E-03		-9.60E-04	5.66E-04
	1722.76		1.40	6.55E-03		8.25E-03	3.08E-03
	1839.05		2.00	2.57E-03		1.05E-03	1.14E-03
RH-106	621.93		9.93	3.02E-03	3.02E-03	3.93E-03	1.50E-03
	873.49		0.44	9.53E-02		7.89E-01	4.73E-02
	1050.41		1.56	1.55E-02		1.21E-02	7.63E-03
RU-106	511.86	*	20.40	2.39E-03	2.39E-03	8.33E-03	1.19E-03
AG-108M	79.13		6.60	1.53E-02	3.50E-04	-2.20E-02	7.63E-03
	433.94		90.50	4.31E-04		3.29E-04	2.14E-04
	614.28		89.80	3.50E-04		6.94E-05	1.73E-04
	722.91		90.80	5.53E-04		7.14E-03	2.75E-04
CD-109	88.03		3.64	2.41E-02	2.41E-02	3.23E-02	1.20E-02
AG-110M	446.81		3.70	1.09E-02	3.65E-04	9.35E-03	5.42E-03
	620.35		2.73	1.18E-02		-2.09E-02	5.85E-03

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-110M	657.76	95.61	8.08E-04	3.65E-04	1.03E-04	4.03E-04
	677.62	10.70	2.93E-03		1.57E-03	1.45E-03
	687.01	6.53	4.90E-03		3.52E-03	2.43E-03
	706.68	16.69	1.81E-03		1.46E-03	8.93E-04
	744.28	4.77	6.26E-03		-3.11E-03	3.10E-03
	763.94	22.60	1.36E-03		8.95E-04	6.71E-04
	818.02	7.43	3.89E-03		1.32E-04	1.92E-03
	884.68	75.00	3.65E-04		1.12E-04	1.80E-04
	937.48	35.00	7.37E-04		-2.16E-04	3.63E-04
	1384.29	25.10	4.69E-04		9.57E-06	2.25E-04
	1475.78	4.08	2.11E-03		-3.25E-04	9.97E-04
	1505.03	13.33	6.45E-04		2.56E-04	3.04E-04
	1562.29	1.22	5.14E-03		-2.27E-03	2.40E-03
AG-111	245.40	1.11	4.87E-02	6.51E-03	-1.58E-02	2.43E-02
	342.13	6.68	6.51E-03		8.69E-03	3.24E-03
AG-112	606.82	3.10	2.10E-02	1.47E-03	6.97E-03	1.04E-02
	617.52	43.00	1.47E-03		-6.20E-04	7.29E-04
	692.82	1.19	6.16E-02		1.28E-03	3.05E-02
	694.87	2.90	2.51E-02		1.22E-01	1.24E-02
	851.28	1.02	5.60E-02		-4.52E-03	2.77E-02
	1312.36	1.11	2.56E-02		9.02E-03	1.24E-02
	1387.68	5.30	4.54E-03		2.67E-03	2.18E-03
	1613.66	2.80	5.18E-03		-1.36E-03	2.40E-03
	1798.50	0.89	1.30E-02		6.99E-03	5.86E-03
	2106.31	2.40	3.52E-03		2.02E-03	1.49E-03
	2506.70	1.06	1.80E-02		2.42E-02	8.31E-03
CD-113M	263.70	0.03	1.68E+00	1.68E+00	5.51E-01	8.36E-01
SN-113	255.13	2.11	2.18E-02	5.60E-04	1.07E-02	1.09E-02
	391.70	64.97	5.60E-04		3.16E-05	2.78E-04
IN-114M	190.27	15.56	3.37E-03	3.37E-03	4.71E-03	1.68E-03
	558.43	4.40	7.36E-03		3.58E-03	3.65E-03
	725.24	4.40	1.11E-02		1.49E-01	5.52E-03
CD-115	260.90	1.94	3.17E-02	1.18E-03	1.04E-02	1.58E-02
	336.24	46.02	1.18E-03		8.71E-05	5.86E-04
	527.90	27.45	1.62E-03		8.75E-04	8.05E-04
CD-115M	933.84	2.00	1.21E-02	1.21E-02	-2.21E-02	5.97E-03
	1290.59	0.90	1.58E-02		1.60E-02	7.66E-03
IN-115M	336.24	45.90	3.70E-02	3.70E-02	2.74E-03	1.84E-02
IN-116M	138.29	3.70	2.29E+06	2.10E+04	1.88E+06	1.14E+06
	416.90	27.20	1.79E+05		4.80E+05	8.88E+04
	818.68	12.13	2.85E+05		3.85E+03	1.41E+05
	1097.28	58.50	4.75E+04		3.16E+04	2.34E+04
	1293.56	84.80	2.10E+04		-6.76E+03	1.02E+04
	1507.59	9.92	1.01E+05		3.28E+03	4.75E+04
	2112.29	15.09	3.09E+04		1.67E+04	1.30E+04
SB-125	176.31	6.84	7.93E-03	1.18E-03	1.22E-03	3.96E-03
	380.45	1.52	2.42E-02		-9.57E-03	1.20E-02
	427.87	29.60	1.18E-03		-5.85E-05	5.86E-04
	463.36	10.49	3.34E-03		9.41E-04	1.66E-03
	600.60	17.65	1.64E-03		1.64E-03	8.13E-04
	606.71	4.98	5.87E-03		2.88E-03	2.91E-03
	635.95	11.22	2.50E-03		-1.91E-03	1.24E-03
	671.44	1.79	1.75E-02		-1.76E-02	8.67E-03

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SN-125	332.10	1.40	3.27E-02	2.43E-03	-1.07E-02	1.63E-02
	469.85	1.50	2.68E-02		-8.01E-03	1.33E-02
	800.28	1.10	2.64E-02		-3.86E-03	1.31E-02
	822.48	4.30	6.51E-03		-1.04E-03	3.22E-03
	915.55	4.10	6.41E-03		-1.26E-03	3.16E-03
	1067.10	10.00	2.43E-03		-3.81E-04	1.19E-03
	1087.70	1.20	2.20E-02		4.45E-03	1.08E-02
	1089.10	4.60	5.30E-03		5.43E-03	2.61E-03
	2002.10	1.90	2.65E-03		6.11E-04	1.17E-03
SB-127	61.10	1.43	1.71E-01	9.02E-04	4.51E-02	8.55E-02
	252.40	8.50	6.92E-03		2.55E-03	3.45E-03
	290.80	2.02	2.62E-02		-5.52E-03	1.30E-02
	412.10	3.80	1.20E-02		4.67E-03	5.95E-03
	445.10	4.30	1.05E-02		1.26E-02	5.20E-03
	473.00	25.80	1.62E-03		-6.92E-04	8.05E-04
	543.30	2.90	1.26E-02		-5.36E-03	6.23E-03
	603.50	4.50	8.11E-03		-3.38E-03	4.02E-03
	685.70	36.80	9.02E-04		3.40E-04	4.46E-04
	698.50	3.64	1.04E-02		3.57E-04	5.14E-03
	722.20	1.88	2.96E-02		3.63E-01	1.47E-02
	783.70	15.10	2.15E-03		-1.09E-03	1.06E-03
SN-127	119.70	2.20	1.05E+02	1.77E+00	2.69E+00	5.25E+01
	262.50	2.30	6.01E+01		-4.26E+01	2.99E+01
	266.20	2.10	6.51E+01		-1.37E+01	3.24E+01
	284.30	2.70	4.84E+01		7.96E+00	2.41E+01
	438.20	6.10	1.80E+01		-2.69E+01	8.97E+00
	490.90	5.30	2.00E+01		1.71E+01	9.92E+00
	493.20	3.10	3.39E+01		6.91E+00	1.68E+01
	545.40	2.30	4.17E+01		3.16E+01	2.07E+01
	583.30	3.20	2.95E+01		2.43E+01	1.46E+01
	805.90	8.20	9.59E+00		9.28E-02	4.74E+00
	823.10	11.00	6.97E+00		5.25E+00	3.44E+00
	824.70	6.10	1.25E+01		1.13E+01	6.17E+00
	859.50	8.00	9.30E+00		-3.12E+00	4.59E+00
	979.20	7.20	1.00E+01		1.52E+00	4.94E+00
	1093.30	3.80	1.77E+01		-5.37E+01	8.69E+00
	1095.60	19.00	3.47E+00		-2.23E+00	1.70E+00
	1114.30	38.00	1.77E+00		2.32E+00	8.70E-01
	1160.40	2.40	2.39E+01		2.21E-02	1.17E+01
	2003.40	5.30	2.67E+00		2.07E+00	1.17E+00
SB-129	180.42	2.84	8.98E-01	2.54E-02	1.56E+00	4.48E-01
	359.20	2.39	7.53E-01		-7.37E-01	3.75E-01
	404.64	1.17	1.46E+00		9.19E-01	7.24E-01
	523.13	1.55	1.00E+00		-1.45E+00	4.99E-01
	544.56	15.42	9.59E-02		-9.15E-02	4.75E-02
	633.74	2.53	5.31E-01		1.49E-01	2.63E-01
	654.28	2.97	4.57E-01		5.46E-02	2.27E-01
	682.77	5.76	2.29E-01		-4.95E-02	1.13E-01
	761.12	4.32	3.54E-01		1.86E-01	1.75E-01
	773.37	2.82	4.53E-01		-1.54E-01	2.24E-01
	786.36	1.07	1.19E+00		3.52E-02	5.86E-01
	787.16	1.74	7.28E-01		-3.01E-01	3.60E-01
	812.97	48.20	2.54E-02		2.21E-02	1.25E-02

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	819.51		1.39	8.70E-01	2.54E-02	-3.47E-01	4.30E-01
		876.65		2.75	6.82E-01		-5.74E-02	3.38E-01
		914.96		23.30	4.83E-02		7.57E-04	2.38E-02
		966.78		8.96	1.30E-01		-7.23E-02	6.43E-02
		1030.65		15.13	7.41E-02		1.92E-02	3.65E-02
		1656.10		1.31	2.56E-01		1.49E-01	1.19E-01
		1738.16		7.45	3.51E-02		-6.81E-02	1.59E-02
	TE-129	459.60		7.70	4.65E-03	4.65E-03	-2.29E-03	2.31E-03
		487.39		1.42	2.50E-02		2.47E-03	1.24E-02
+	Te-129m	695.88	*	3.00	6.89E-03	6.89E-03	3.28E-02	3.40E-03
	I-131	80.18		2.62	4.30E-02	5.03E-04	2.58E-03	2.15E-02
		284.30		6.12	7.68E-03		1.02E-03	3.82E-03
		364.49		81.50	5.03E-04		-2.30E-04	2.50E-04
		636.99		7.16	4.25E-03		-3.15E-03	2.11E-03
		722.91		1.77	2.84E-02		3.67E-01	1.41E-02
	Te-131m	773.67		36.80	1.30E-03	1.30E-03	-4.40E-04	6.40E-04
		793.75		13.40	3.64E-03		3.11E-03	1.80E-03
		852.21		19.90	2.25E-03		-3.54E-03	1.11E-03
		1125.46		11.00	3.42E-03		-1.41E-03	1.68E-03
		1206.60		9.41	2.87E-03		3.94E-04	1.40E-03
	I-132	262.90		1.28	4.36E-02	4.71E-04	4.04E-02	2.17E-02
		284.90		0.71	7.44E-02		4.48E-02	3.70E-02
		505.79		4.93	1.06E-02		2.94E-03	5.28E-03
		522.65		16.00	2.79E-03		1.08E-03	1.39E-03
		547.20		1.14	3.74E-02		1.02E-02	1.86E-02
		621.20		1.97	2.00E-02		1.42E-02	9.90E-03
		630.19		13.30	2.94E-03		9.63E-04	1.45E-03
		650.50		2.57	1.55E-02		7.31E-03	7.68E-03
		667.71		98.70	7.30E-04		-3.58E-04	3.63E-04
		669.80		4.60	9.51E-03		-6.42E-03	4.72E-03
		671.40		3.50	1.27E-02		-8.08E-03	6.29E-03
		727.10		5.40	1.20E-02		2.20E-03	5.95E-03
		728.40		1.60	3.84E-02		1.00E-02	1.91E-02
		772.60		75.60	4.71E-04		1.61E-05	2.33E-04
		809.50		2.60	1.36E-02		1.87E-02	6.70E-03
		812.00		5.50	6.32E-03		-2.88E-03	3.12E-03
		910.10		0.93	3.62E-02		3.09E-03	1.78E-02
		954.55		17.60	1.82E-03		-9.44E-04	8.94E-04
		1136.00		3.01	8.72E-03		1.08E-02	4.28E-03
		1172.90		1.09	5.67E-02		7.28E-01	2.81E-02
		1290.80		1.13	1.68E-02		2.25E-02	8.13E-03
		1295.10		1.88	7.81E-03		3.76E-03	3.79E-03
		1297.90		0.89	1.43E-02		-1.74E-02	6.94E-03
		1372.07		2.47	6.33E-03		4.47E-03	3.05E-03
		1398.57		7.01	2.57E-03		6.96E-03	1.24E-03
		1442.56		1.40	7.60E-03		6.47E-03	3.62E-03
	TE-132	49.72		15.00	2.41E-02	7.03E-04	4.08E-02	1.20E-02
		111.76		1.74	5.11E-02		-6.78E-03	2.55E-02
		116.30		1.96	4.43E-02		-1.21E-02	2.21E-02
		228.16		88.00	7.03E-04		9.21E-05	3.50E-04
	BA-133	81.00		32.90	3.10E-03	6.22E-04	-1.29E-03	1.55E-03
		276.40		7.16	6.22E-03		6.44E-03	3.10E-03
		302.85		18.34	2.26E-03		4.68E-05	1.13E-03

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-133	356.01	62.05	6.22E-04	6.22E-04	4.31E-04	3.10E-04
	383.85	8.94	3.99E-03		3.96E-03	1.99E-03
I-133	529.87	87.00	8.33E-04	8.33E-04	-1.09E-04	4.13E-04
	706.58	1.51	4.16E-02		3.37E-02	2.06E-02
	856.28	1.24	4.65E-02		1.58E-03	2.29E-02
	875.33	4.51	1.95E-02		1.70E-01	9.68E-03
	1236.44	1.51	2.27E-02		1.70E-02	1.10E-02
	1298.22	2.35	1.27E-02		-4.95E-03	6.13E-03
@ TE-133	312.08	62.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	407.63	27.10	1.00E+20		1.00E+20	1.00E+20
@	410.40	0.94	1.00E+20		1.00E+20	1.00E+20
@	474.85	0.88	1.00E+20		1.00E+20	1.00E+20
@	719.71	8.90	1.00E+20		1.00E+20	1.00E+20
@	786.93	5.40	1.00E+20		1.00E+20	1.00E+20
@	844.36	3.31	1.00E+20		1.00E+20	1.00E+20
@	884.30	0.72	1.00E+20		1.00E+20	1.00E+20
@	930.71	3.81	1.00E+20		1.00E+20	1.00E+20
@	997.70	1.04	1.00E+20		1.00E+20	1.00E+20
@	1000.72	3.62	1.00E+20		1.00E+20	1.00E+20
@	1021.13	2.81	1.00E+20		1.00E+20	1.00E+20
@	1061.61	1.19	1.00E+20		1.00E+20	1.00E+20
@	1252.08	1.44	1.00E+20		1.00E+20	1.00E+20
@	1312.80	0.85	1.00E+20		1.00E+20	1.00E+20
@	1333.21	10.67	1.00E+20		1.00E+20	1.00E+20
@	1717.61	3.18	1.00E+20		1.00E+20	1.00E+20
@	1881.52	1.22	1.00E+20		1.00E+20	1.00E+20
@	2136.51	1.25	1.00E+20		1.00E+20	1.00E+20
@	2229.64	0.87	1.00E+20		1.00E+20	1.00E+20
Xe-133	81.00	36.90	3.02E-03	3.02E-03	-1.26E-03	1.51E-03
CS-134	475.36	1.48	2.33E-02	3.14E-04	1.81E-03	1.16E-02
	563.25	8.34	3.91E-03		-5.82E-06	1.94E-03
	569.33	15.37	2.13E-03		5.76E-04	1.05E-03
	604.72	97.62	3.14E-04		-5.87E-04	1.55E-04
	795.86	85.46	3.22E-04		-8.89E-05	1.59E-04
	801.95	8.69	3.19E-03		-9.35E-04	1.57E-03
	1038.61	0.99	2.47E-02		-3.77E-03	1.22E-02
	1167.97	1.79	2.42E-02		2.93E-03	1.20E-02
	1365.19	3.02	3.41E-03		2.54E-03	1.64E-03
I-135	220.50	1.75	3.91E-01	6.39E-03	2.88E-02	1.95E-01
	288.45	3.10	1.84E-01		-5.34E-02	9.17E-02
	417.63	3.53	1.41E-01		-5.51E-02	7.02E-02
	546.56	7.15	5.87E-02		3.89E-02	2.91E-02
	836.80	6.69	4.89E-02		3.67E-02	2.41E-02
	971.96	0.89	3.65E-01		-2.13E-01	1.80E-01
	972.62	1.21	2.62E-01		-5.59E-01	1.29E-01
	1038.76	7.90	3.85E-02		-5.88E-03	1.90E-02
	1101.58	1.61	1.78E-01		3.30E-03	8.73E-02
	1124.00	3.62	8.19E-02		-1.71E-02	4.02E-02
	1131.51	22.60	1.26E-02		1.40E-02	6.17E-03
	1240.47	0.90	2.57E-01		-1.44E-01	1.26E-01
	1260.41	28.70	6.39E-03		1.11E-03	3.10E-03
	1457.56	8.70	1.71E-02		2.93E-02	8.21E-03
	1502.79	1.08	1.09E-01		-1.19E-02	5.16E-02

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1566.41		1.29	7.57E-02	6.39E-03	3.16E-03	3.55E-02
		1678.03		9.60	7.87E-03		1.10E-03	3.61E-03
		1706.46		4.10	1.69E-02		1.35E-03	7.66E-03
		1791.20		7.72	8.70E-03		-2.91E-03	3.91E-03
		2408.65		0.96	4.92E-02		2.29E-02	2.02E-02
	XE-135	249.79		90.00	3.45E-03	3.45E-03	1.35E-02	1.72E-03
	XE-135m	526.56		80.40	5.25E-03	5.25E-03	2.76E-03	2.60E-03
	CS-136	66.88		4.79	3.37E-02	2.92E-04	9.26E-03	1.68E-02
		86.36		5.90	1.76E-02		5.96E-02	8.78E-03
		153.25		7.70	8.70E-03		-2.29E-04	4.34E-03
		163.92		4.69	1.44E-02		8.43E-03	7.21E-03
		176.60		13.70	4.59E-03		5.11E-03	2.29E-03
		273.65		12.66	3.98E-03		1.72E-04	1.98E-03
		340.55		46.80	9.59E-04		-1.40E-04	4.77E-04
		818.51		99.70	2.92E-04		1.28E-04	1.44E-04
		1048.07		80.00	3.32E-04		-1.50E-04	1.64E-04
		1235.36		20.00	8.79E-04		-3.59E-04	4.28E-04
+	CS-137	661.66	*	85.10	2.44E-04	2.44E-04	2.29E-02	1.20E-04
	BA-139	33.44		3.84	6.13E+04	4.72E+02	-1.14E+05	3.06E+04
		165.86		23.70	4.72E+02		-4.45E+02	2.36E+02
	BA-140	132.69		0.20	3.37E-01	1.37E-03	1.64E-01	1.68E-01
		162.66		6.22	9.91E-03		1.15E-02	4.94E-03
		304.85		4.29	1.04E-02		3.56E-03	5.17E-03
		423.72		3.10	1.19E-02		-1.19E-03	5.90E-03
		437.58		1.93	1.96E-02		2.40E-02	9.74E-03
		537.26		24.39	1.37E-03		-4.25E-04	6.80E-04
	LA-140	109.42		0.22	3.36E-01	2.06E-04	2.34E-01	1.68E-01
		131.12		0.47	1.47E-01		-1.13E-02	7.33E-02
		173.54		0.13	4.55E-01		8.09E-02	2.27E-01
		241.93		0.41	1.21E-01		3.43E-02	6.04E-02
		266.54		0.47	1.00E-01		3.40E-02	5.00E-02
		328.76		20.30	2.16E-03		-3.95E-03	1.08E-03
		432.49		2.90	1.42E-02		-7.63E-03	7.07E-03
		487.02		45.50	8.57E-04		-4.92E-04	4.25E-04
		618.10		0.04	8.12E-01		-1.10E-01	4.02E-01
		751.64		4.33	7.87E-03		5.13E-03	3.90E-03
		815.77		23.28	1.18E-03		1.35E-04	5.80E-04
		867.85		5.50	7.21E-03		1.41E-03	3.57E-03
		919.55		2.66	9.24E-03		-7.86E-03	4.55E-03
		925.19		6.90	3.83E-03		2.59E-03	1.89E-03
		950.99		0.52	5.08E-02		1.84E-02	2.50E-02
		1596.21		95.40	2.06E-04		7.34E-04	1.00E-04
		2347.88		0.85	4.48E-03		2.42E-03	1.88E-03
		2521.40		3.46	7.99E-04		2.23E-04	2.99E-04
		2547.34		0.10	3.48E-02		1.33E-02	1.38E-02
@	BA-141	33.44		7.93	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		190.33		44.80	1.00E+20		1.00E+20	1.00E+20
@		276.95		23.60	1.00E+20		1.00E+20	1.00E+20
@		304.19		26.10	1.00E+20		1.00E+20	1.00E+20
@		343.67		15.10	1.00E+20		1.00E+20	1.00E+20
@		389.74		1.37	1.00E+20		1.00E+20	1.00E+20
@		457.51		5.00	1.00E+20		1.00E+20	1.00E+20
@		462.06		5.10	1.00E+20		1.00E+20	1.00E+20

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	BA-141	467.22	5.60	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		625.08	3.45	1.00E+20		1.00E+20	1.00E+20
@		647.78	5.70	1.00E+20		1.00E+20	1.00E+20
@		738.95	4.39	1.00E+20		1.00E+20	1.00E+20
@		831.46	1.64	1.00E+20		1.00E+20	1.00E+20
@		876.09	3.45	1.00E+20		1.00E+20	1.00E+20
@		1160.72	1.12	1.00E+20		1.00E+20	1.00E+20
@		1197.28	4.35	1.00E+20		1.00E+20	1.00E+20
@		1323.92	0.92	1.00E+20		1.00E+20	1.00E+20
@		1654.00	0.65	1.00E+20		1.00E+20	1.00E+20
@		1682.19	1.19	1.00E+20		1.00E+20	1.00E+20
	CE-141	145.44	48.30	1.29E-03	1.29E-03	-6.51E-05	6.43E-04
@	BA-142	33.44	14.20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		77.59	7.00	1.00E+20		1.00E+20	1.00E+20
@		177.00	2.12	1.00E+20		1.00E+20	1.00E+20
@		231.61	12.20	1.00E+20		1.00E+20	1.00E+20
@		255.30	20.70	1.00E+20		1.00E+20	1.00E+20
@		286.30	1.11	1.00E+20		1.00E+20	1.00E+20
@		309.20	2.60	1.00E+20		1.00E+20	1.00E+20
@		335.00	1.53	1.00E+20		1.00E+20	1.00E+20
@		363.96	4.76	1.00E+20		1.00E+20	1.00E+20
@		425.04	5.75	1.00E+20		1.00E+20	1.00E+20
@		599.80	1.85	1.00E+20		1.00E+20	1.00E+20
@		840.40	3.63	1.00E+20		1.00E+20	1.00E+20
@		895.20	13.90	1.00E+20		1.00E+20	1.00E+20
@		949.10	10.70	1.00E+20		1.00E+20	1.00E+20
@		1001.20	9.80	1.00E+20		1.00E+20	1.00E+20
@		1078.70	11.50	1.00E+20		1.00E+20	1.00E+20
@		1094.10	2.82	1.00E+20		1.00E+20	1.00E+20
@		1126.80	1.50	1.00E+20		1.00E+20	1.00E+20
@		1202.40	5.60	1.00E+20		1.00E+20	1.00E+20
@		1204.30	14.30	1.00E+20		1.00E+20	1.00E+20
@		1380.20	3.42	1.00E+20		1.00E+20	1.00E+20
	CE-143	57.36	11.70	3.38E-02	1.64E-03	-9.17E-03	1.69E-02
		231.55	2.05	4.14E-02		2.75E-02	2.06E-02
		293.27	42.80	1.64E-03		1.98E-03	8.14E-04
		350.62	3.23	1.92E-02		-6.10E-04	9.58E-03
		490.37	2.16	2.76E-02		2.22E-02	1.37E-02
		664.57	5.69	2.15E-02		-1.55E-03	1.07E-02
		721.93	5.39	1.40E-02		1.72E-01	6.97E-03
		880.46	1.03	4.67E-02		-2.83E-03	2.31E-02
	CE-144	80.12	1.36	7.29E-02	5.79E-03	4.37E-03	3.64E-02
		133.51	11.09	5.79E-03		-1.09E-03	2.89E-03
	ND-147	38.17	13.20	5.15E-02	2.61E-03	-5.92E-02	2.57E-02
		38.72	23.80	2.69E-02		-3.05E-02	1.34E-02
		91.11	28.90	3.07E-03		-8.98E-04	1.53E-03
		275.39	0.79	6.19E-02		4.46E-02	3.09E-02
		319.41	1.97	2.20E-02		7.19E-03	1.09E-02
		398.13	0.87	4.48E-02		-2.68E-02	2.23E-02
		439.88	1.20	3.23E-02		-3.04E-02	1.61E-02
		531.01	13.11	2.61E-03		1.06E-03	1.30E-03
		685.88	0.82	3.59E-02		1.59E-02	1.78E-02
@	PR-147	36.85	19.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@ PR-147	37.36	35.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	49.88	4.00	1.00E+20		1.00E+20	1.00E+20
@	77.97	9.70	1.00E+20		1.00E+20	1.00E+20
@	86.69	5.40	1.00E+20		1.00E+20	1.00E+20
@	127.80	7.40	1.00E+20		1.00E+20	1.00E+20
@	249.20	1.32	1.00E+20		1.00E+20	1.00E+20
@	314.70	18.20	1.00E+20		1.00E+20	1.00E+20
@	328.80	4.00	1.00E+20		1.00E+20	1.00E+20
@	335.70	4.70	1.00E+20		1.00E+20	1.00E+20
@	388.80	1.41	1.00E+20		1.00E+20	1.00E+20
@	466.80	1.70	1.00E+20		1.00E+20	1.00E+20
@	477.90	4.60	1.00E+20		1.00E+20	1.00E+20
@	516.70	1.30	1.00E+20		1.00E+20	1.00E+20
@	554.70	5.90	1.00E+20		1.00E+20	1.00E+20
@	577.90	13.70	1.00E+20		1.00E+20	1.00E+20
@	641.40	16.10	1.00E+20		1.00E+20	1.00E+20
@	996.00	1.52	1.00E+20		1.00E+20	1.00E+20
@	1136.70	1.42	1.00E+20		1.00E+20	1.00E+20
@	1261.10	8.40	1.00E+20		1.00E+20	1.00E+20
@	1300.40	2.30	1.00E+20		1.00E+20	1.00E+20
ND-149	38.17	9.00	1.25E+03	3.54E+01	-1.43E+03	6.22E+02
	38.72	16.30	6.49E+02		-7.35E+02	3.24E+02
	58.88	1.30	3.09E+03		-5.21E+02	1.55E+03
	74.32	2.11	9.72E+02		6.36E+02	4.85E+02
	97.00	1.48	9.48E+02		7.16E+02	4.73E+02
	114.31	19.20	6.65E+01		-1.33E+01	3.32E+01
	155.87	5.95	1.79E+02		-1.28E+02	8.95E+01
	188.64	1.79	5.52E+02		2.39E+02	2.75E+02
	198.93	1.39	6.73E+02		-7.97E+01	3.36E+02
	208.15	2.55	3.76E+02		2.52E+02	1.87E+02
	211.31	26.00	3.54E+01		1.71E+01	1.77E+01
	240.22	3.95	2.13E+02		1.47E+02	1.06E+02
	245.72	0.81	1.12E+03		-1.90E+02	5.60E+02
	267.69	6.05	1.36E+02		3.61E+01	6.75E+01
	270.17	10.80	7.15E+01		-5.48E+01	3.56E+01
	326.55	4.57	1.55E+02		2.22E+02	7.73E+01
	349.23	1.38	5.16E+02		-3.16E+02	2.57E+02
	423.55	7.50	8.26E+01		3.93E+00	4.11E+01
	443.55	1.15	5.71E+02		-2.46E+02	2.84E+02
	540.51	6.60	8.55E+01		-3.37E+01	4.24E+01
	654.83	8.00	6.51E+01		-1.51E+01	3.23E+01
PM-149	285.95	3.10	1.88E-02	1.88E-02	1.01E-02	9.36E-03
PM-150	39.52	0.63	4.55E+02	3.01E-01	-4.25E+02	2.27E+02
	40.12	1.14	2.39E+02		-2.76E+02	1.19E+02
	333.92	68.00	3.01E-01		-3.15E-01	1.50E-01
	406.51	5.60	3.32E+00		-3.10E+00	1.65E+00
	565.70	1.31	1.19E+01		4.37E+00	5.91E+00
	587.02	1.34	1.31E+01		3.37E+00	6.52E+00
	612.25	0.93	1.62E+01		1.19E+01	8.02E+00
	712.22	4.40	3.18E+00		-1.40E+00	1.57E+00
	737.50	2.25	6.15E+00		-2.83E-01	3.04E+00
	831.85	11.90	1.05E+00		7.33E-01	5.20E-01
	859.95	3.40	3.69E+00		1.45E+00	1.82E+00

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	876.41	7.30	2.80E+00	3.01E-01	9.38E-02	1.39E+00
	1165.77	15.80	8.88E-01		1.79E-01	4.38E-01
	1170.90	1.06	2.36E+01		3.02E+02	1.17E+01
	1193.87	4.80	1.74E+00		-5.41E-01	8.47E-01
	1213.72	1.03	7.70E+00		6.10E-01	3.75E+00
	1223.28	2.80	2.69E+00		-8.14E-01	1.31E+00
	1324.51	17.50	5.74E-01		-4.34E-01	2.81E-01
	1379.32	3.10	1.85E+00		-9.45E-02	8.88E-01
	1736.40	6.90	4.52E-01		-2.83E-01	2.07E-01
	1963.71	1.47	1.51E+00		2.09E-01	6.57E-01
	2033.46	0.97	2.35E+00		7.56E-03	1.02E+00
@ ND-151	38.17	5.94	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	38.72	10.70	1.00E+20		1.00E+20	1.00E+20
@	68.98	1.26	1.00E+20		1.00E+20	1.00E+20
@	85.12	2.05	1.00E+20		1.00E+20	1.00E+20
@	89.96	1.53	1.00E+20		1.00E+20	1.00E+20
@	116.80	39.00	1.00E+20		1.00E+20	1.00E+20
@	138.89	7.00	1.00E+20		1.00E+20	1.00E+20
@	170.76	2.87	1.00E+20		1.00E+20	1.00E+20
@	175.07	6.30	1.00E+20		1.00E+20	1.00E+20
@	255.68	14.80	1.00E+20		1.00E+20	1.00E+20
@	300.58	1.82	1.00E+20		1.00E+20	1.00E+20
@	423.56	5.90	1.00E+20		1.00E+20	1.00E+20
@	460.59	0.96	1.00E+20		1.00E+20	1.00E+20
@	585.22	1.30	1.00E+20		1.00E+20	1.00E+20
@	677.88	2.38	1.00E+20		1.00E+20	1.00E+20
@	736.23	5.90	1.00E+20		1.00E+20	1.00E+20
@	739.20	1.52	1.00E+20		1.00E+20	1.00E+20
@	755.57	1.17	1.00E+20		1.00E+20	1.00E+20
@	797.53	4.70	1.00E+20		1.00E+20	1.00E+20
@	1016.40	2.50	1.00E+20		1.00E+20	1.00E+20
@	1122.63	4.10	1.00E+20		1.00E+20	1.00E+20
@	1180.89	13.30	1.00E+20		1.00E+20	1.00E+20
Pm-151	167.75	8.30	1.23E-02	3.17E-03	-1.46E-02	6.14E-03
	177.16	3.80	2.69E-02		-8.35E-04	1.34E-02
	240.09	3.80	2.31E-02		1.60E-02	1.15E-02
	275.21	6.80	1.16E-02		8.40E-03	5.80E-03
	340.08	22.50	3.17E-03		-3.34E-03	1.58E-03
EU-152	121.78	28.53	2.80E-03	6.63E-04	-4.27E-04	1.40E-03
	344.28	26.59	1.53E-03		1.12E-03	7.60E-04
	778.90	12.93	2.17E-03		-1.41E-03	1.07E-03
	867.37	4.23	8.16E-03		-7.42E-04	4.04E-03
	964.08	14.51	1.75E-03		1.13E-03	8.62E-04
	1085.87	10.11	2.22E-03		2.23E-03	1.09E-03
	1112.07	13.67	1.62E-03		3.30E-04	7.97E-04
	1408.01	20.87	6.63E-04		1.29E-03	3.21E-04
@ ND-152	44.44	5.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	250.15	16.40	1.00E+20		1.00E+20	1.00E+20
@	278.56	26.00	1.00E+20		1.00E+20	1.00E+20
@	294.47	2.90	1.00E+20		1.00E+20	1.00E+20
@	545.70	0.83	1.00E+20		1.00E+20	1.00E+20
@	592.50	0.99	1.00E+20		1.00E+20	1.00E+20
GD-153	69.67	2.45	5.26E-02	2.60E-03	4.23E-02	2.63E-02

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	GD-153	97.43		30.00	2.60E-03	2.60E-03	2.27E-03	1.30E-03
		103.18		22.10	3.38E-03		-9.95E-04	1.69E-03
	SM-153	69.67		4.67	3.93E-02	3.66E-03	3.16E-02	1.96E-02
		103.18		29.14	3.66E-03		-1.08E-03	1.82E-03
+	EU-154	42.70	*	20.45	2.27E-02	8.15E-04	9.75E-03	1.14E-02
		123.07	*	40.40	2.46E-03		3.12E-02	1.23E-03
		247.93	*	6.89	8.37E-03		3.09E-02	4.17E-03
		591.76	*	4.95	7.36E-03		3.17E-02	3.65E-03
		692.42	*	1.78	1.04E-02		2.97E-02	5.09E-03
		723.30	*	20.06	1.84E-03		3.08E-02	9.14E-04
		756.80	*	4.52	9.76E-03		3.13E-02	4.85E-03
		873.18	*	12.08	2.76E-03		3.01E-02	1.37E-03
		996.29	*	10.48	2.79E-03		3.22E-02	1.38E-03
		1004.76	*	18.01	1.87E-03		3.10E-02	9.26E-04
		1246.12	*	0.86	2.32E-02		2.11E-02	1.14E-02
		1274.43	*	34.80	8.15E-04		3.11E-02	4.02E-04
		1494.05	*	0.70	1.16E-02		2.70E-02	5.47E-03
		1596.48	*	1.80	4.38E-03		2.95E-02	2.07E-03
+	EU-155	43.00	*	18.12	2.57E-02	3.37E-03	1.10E-02	1.28E-02
		60.01	*	1.17	2.13E-01		6.88E+00	1.06E-01
		86.55	*	30.70	3.37E-03		5.52E-03	1.68E-03
		105.31	*	21.10	3.98E-03		3.72E-03	1.99E-03
	EU-156	88.97		8.40	1.14E-02	1.10E-03	-1.63E-04	5.70E-03
		646.29		6.30	4.98E-03		1.11E-02	2.46E-03
		723.47		5.40	9.34E-03		1.24E-01	4.64E-03
		811.77		9.70	2.91E-03		3.72E-04	1.44E-03
		1065.14		4.90	4.94E-03		2.18E-03	2.43E-03
		1079.16		4.60	5.09E-03		-4.08E-03	2.50E-03
		1153.80		11.50	1.80E-03		-1.01E-03	8.83E-04
		1230.71		8.00	2.07E-03		5.34E-04	1.01E-03
		1242.42		6.60	2.78E-03		2.99E-04	1.36E-03
		1277.43		2.89	2.30E-02		1.22E-03	1.14E-02
		1366.41		1.57	7.79E-03		-2.76E-03	3.75E-03
		1965.95		3.90	1.10E-03		-5.58E-04	4.78E-04
		2097.70		3.80	1.24E-03		8.94E-04	5.37E-04
		2186.71		3.50	1.52E-03		1.26E-03	6.71E-04
	Sm-156	87.60		24.00	2.22E-02	1.42E-02	7.48E-02	1.11E-02
		165.80		13.00	2.59E-02		-2.44E-02	1.29E-02
		204.00		21.00	1.42E-02		4.26E-03	7.06E-03
	EU-158	42.31		5.80	2.80E+08	3.02E+06	2.37E+08	1.40E+08
		43.00		10.40	1.48E+08		1.32E+08	7.37E+07
		79.49		10.50	3.58E+07		-1.10E+07	1.79E+07
		181.97		2.30	8.68E+07		7.71E+07	4.33E+07
		528.05		1.53	7.97E+07		7.08E+07	3.95E+07
		606.39		4.00	2.75E+07		1.30E+07	1.36E+07
		743.02		3.60	2.81E+07		-5.72E+06	1.39E+07
		897.61		12.40	7.87E+06		1.61E+06	3.88E+06
		906.50		1.83	5.29E+07		5.06E+07	2.61E+07
		922.51		1.62	5.50E+07		1.18E+07	2.71E+07
		944.15		30.00	3.02E+06		-3.34E+05	1.49E+06
		953.03		1.98	4.51E+07		-1.22E+07	2.22E+07
		962.09		1.89	4.87E+07		1.81E+07	2.40E+07
		977.14		16.30	5.43E+06		4.74E+06	2.68E+06

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	986.96	1.35	6.46E+07	3.02E+06	-3.15E+07	3.18E+07
	1107.63	5.10	1.59E+07		9.94E+06	7.81E+06
	1184.10	3.00	2.16E+07		2.05E+07	1.05E+07
	1186.00	2.90	2.20E+07		2.10E+06	1.07E+07
	1187.10	4.40	1.43E+07		-7.55E+06	7.00E+06
	1263.61	2.20	2.47E+07		1.05E+06	1.20E+07
	1347.95	1.65	2.68E+07		9.07E+06	1.29E+07
	1944.47	1.62	8.94E+06		5.70E+06	3.83E+06
TB-160	86.79	13.20	7.23E-03	1.00E-03	2.27E-02	3.61E-03
	298.58	26.10	1.66E-03		3.27E-04	8.26E-04
	879.38	30.10	1.28E-03		-2.97E-04	6.33E-04
	962.32	9.81	2.57E-03		-3.61E-04	1.27E-03
	966.17	25.10	1.00E-03		1.83E-04	4.93E-04
	1177.96	14.90	3.17E-03		-7.61E-05	1.57E-03
TB-161	25.65	23.20	2.82E-01	1.21E-02	4.96E-02	1.41E-01
	48.91	17.00	1.89E-02		8.91E-03	9.44E-03
	52.00	3.43	7.98E-02		1.12E-01	3.99E-02
	57.19	1.79	1.44E-01		-3.29E-02	7.20E-02
	74.57	10.20	1.21E-02		4.42E-03	6.03E-03
YB-169	63.12	43.62	4.12E-03	1.46E-03	1.55E-03	2.06E-03
	93.61	2.58	3.52E-02		-4.14E-03	1.76E-02
	109.78	17.39	4.25E-03		2.57E-03	2.12E-03
	130.52	11.38	6.25E-03		2.35E-03	3.12E-03
	177.21	22.28	2.62E-03		-8.12E-05	1.31E-03
	197.96	35.93	1.46E-03		-1.47E-04	7.27E-04
	307.74	10.05	3.91E-03		1.64E-03	1.94E-03
HF-172	54.07	63.00	3.55E-03	3.55E-03	-1.05E-04	1.77E-03
	67.35	5.30	2.53E-02		2.13E-03	1.26E-02
	81.75	4.50	2.14E-02		6.90E-03	1.07E-02
	114.06	2.60	2.71E-02		-2.10E-02	1.35E-02
	125.81	11.30	6.60E-03		1.92E-03	3.29E-03
	127.91	1.46	4.55E-02		3.12E-02	2.27E-02
LU-173	59.30	24.44	8.68E-03	2.11E-03	3.36E-01	4.33E-03
	78.63	11.90	9.04E-03		-9.34E-03	4.52E-03
	100.72	5.24	1.47E-02		-5.22E-03	7.36E-03
	171.39	2.90	1.94E-02		1.72E-02	9.67E-03
	272.11	21.20	2.11E-03		-9.54E-04	1.05E-03
LU-177	112.95	6.23	1.26E-02	5.61E-03	-4.49E-03	6.31E-03
	208.37	10.41	5.61E-03		3.77E-03	2.80E-03
	249.67	0.20	2.73E-01		1.06E+00	1.36E-01
	321.32	0.22	2.00E-01		4.85E-03	9.93E-02
HF-181	133.02	43.30	1.58E-03	4.37E-04	1.43E-04	7.87E-04
	345.93	15.12	2.75E-03		1.20E-03	1.37E-03
	482.18	80.50	4.37E-04		-5.66E-05	2.17E-04
W-181	56.28	18.70	1.22E-02	7.23E-03	-3.16E-03	6.07E-03
	57.53	32.00	7.23E-03		-3.14E-03	3.61E-03
	65.00	10.60	1.36E-02		1.21E-02	6.80E-03
TA-182	57.98	10.01	2.26E-02	5.54E-04	-7.95E-03	1.13E-02
	59.32	17.20	1.24E-02		4.79E-01	6.18E-03
	65.72	3.01	5.20E-02		2.09E-02	2.60E-02
	67.75	46.67	3.01E-03		1.89E-03	1.50E-03
	84.68	2.65	3.71E-02		3.64E-03	1.85E-02
	100.11	14.20	5.73E-03		1.78E-03	2.86E-03

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	113.67	1.87	4.23E-02	5.54E-04	-1.80E-02	2.11E-02
	116.42	0.44	1.58E-01		-4.32E-02	7.88E-02
	152.43	7.02	9.06E-03		7.23E-03	4.52E-03
	156.39	2.67	2.35E-02		-1.79E-02	1.17E-02
	179.39	3.12	1.86E-02		-9.63E-04	9.28E-03
	198.35	1.47	3.83E-02		2.85E-02	1.91E-02
	222.11	7.57	7.02E-03		4.81E-04	3.50E-03
	229.32	3.64	1.46E-02		7.86E-03	7.30E-03
	264.08	3.61	1.32E-02		1.00E-02	6.60E-03
	928.00	0.61	4.16E-02		2.35E-02	2.05E-02
	959.73	0.35	7.48E-02		6.30E-02	3.69E-02
	1001.70	2.09	2.89E-02		1.65E-03	1.44E-02
	1044.42	0.24	1.05E-01		1.10E-03	5.17E-02
	1113.41	0.44	5.19E-02		6.06E-02	2.55E-02
	1121.29	35.24	6.44E-04		-2.43E-04	3.16E-04
	1157.30	0.73	2.55E-02		-8.38E-03	1.25E-02
	1189.04	16.49	9.87E-04		-4.13E-05	4.82E-04
	1221.40	27.23	5.54E-04		-1.84E-04	2.69E-04
	1223.60	0.24	5.32E-02		1.47E-02	2.59E-02
	1231.00	11.62	1.37E-03		-6.63E-04	6.67E-04
	1257.41	1.51	9.02E-03		-6.28E-03	4.37E-03
	1273.72	0.66	7.61E-02		1.34E+00	3.78E-02
	1289.15	1.37	7.10E-03		1.74E-03	3.44E-03
	1342.73	0.26	4.60E-02		2.81E-02	2.22E-02
	1373.82	0.22	3.37E-02		-2.21E-02	1.62E-02
Ta-183	84.71	1.35	7.87E-02	2.08E-03	7.73E-03	3.93E-02
	99.08	6.80	1.28E-02		5.64E-03	6.41E-03
	107.93	11.20	7.27E-03		3.27E-03	3.63E-03
	161.35	9.10	7.22E-03		3.19E-03	3.60E-03
	162.32	5.00	1.31E-02		5.70E-03	6.53E-03
	244.26	8.80	6.43E-03		-1.99E-03	3.21E-03
	246.06	27.20	2.08E-03		-8.37E-05	1.04E-03
	353.99	11.60	3.78E-03		-1.66E-03	1.88E-03
Re-184	111.21	17.20	4.24E-03	6.86E-04	7.60E-05	2.12E-03
	252.85	3.00	1.59E-02		-9.65E-04	7.94E-03
	792.01	37.70	7.19E-04		6.05E-04	3.55E-04
	894.76	15.70	1.65E-03		1.26E-03	8.12E-04
	903.28	38.10	6.86E-04		2.16E-04	3.39E-04
W-185	59.72	0.01	1.76E+01	3.92E+00	6.66E+02	8.80E+00
	61.14	0.02	9.65E+00		2.54E+00	4.82E+00
	69.20	0.01	1.87E+01		-1.29E+00	9.33E+00
	125.36	0.02	3.92E+00		1.68E+00	1.96E+00
W-187	61.14	14.30	2.76E-02	1.68E-03	7.26E-03	1.38E-02
	69.20	4.82	5.32E-02		-3.66E-03	2.66E-02
	72.00	13.55	1.87E-02		1.29E-03	9.34E-03
	134.25	10.36	1.32E-02		-5.15E-03	6.57E-03
	479.53	26.60	2.70E-03		2.99E-03	1.34E-03
	618.37	7.57	7.58E-03		-1.03E-03	3.76E-03
	685.81	33.20	1.68E-03		6.32E-04	8.29E-04
Ir-188	155.05	29.60	2.98E-03	4.20E-04	1.44E-03	1.48E-03
	478.00	14.70	3.51E-03		1.11E-03	1.75E-03
	633.02	17.90	2.37E-03		1.01E-03	1.17E-03
	634.97	5.00	8.48E-03		1.40E-02	4.20E-03

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Ir-188	829.42	5.10	7.13E-03	4.20E-04	3.13E-03	3.52E-03
	1209.77	6.90	3.42E-03		1.91E-03	1.66E-03
	1715.67	6.20	1.88E-03		6.99E-04	8.76E-04
	2214.59	18.60	4.20E-04		-1.55E-04	1.85E-04
W-188	227.07	0.23	2.14E-01	1.02E-01	5.42E-02	1.07E-01
	290.68	0.42	1.02E-01		-2.15E-02	5.08E-02
Ir-189	245.08	6.00	8.69E-03	8.69E-03	-7.30E-04	4.33E-03
Ir-190	186.68	50.00	1.11E-03	8.19E-04	7.24E-04	5.54E-04
	361.09	12.30	3.27E-03		3.40E-03	1.63E-03
	371.24	21.60	1.83E-03		1.57E-03	9.12E-04
	407.22	27.00	1.41E-03		3.19E-04	6.99E-04
	518.55	32.20	1.09E-03		-9.82E-04	5.43E-04
	557.95	28.50	1.14E-03		7.70E-04	5.66E-04
	569.30	27.00	1.18E-03		3.21E-04	5.87E-04
	605.14	37.80	8.19E-04		-5.15E-04	4.06E-04
OS-191	63.29	15.70	1.12E-02	2.58E-03	5.37E-03	5.58E-03
	64.99	26.70	5.63E-03		5.01E-03	2.81E-03
	73.45	9.21	1.30E-02		1.21E-02	6.48E-03
	129.43	26.50	2.58E-03		1.69E-03	1.29E-03
Pt-191	359.90	5.80	8.67E-03	2.86E-03	-2.52E-03	4.31E-03
	456.47	3.30	1.40E-02		2.60E-03	6.93E-03
	538.90	14.30	2.86E-03		-8.65E-04	1.42E-03
IR-192	205.79	3.31	1.69E-02	5.10E-04	-1.29E-02	8.41E-03
	295.96	28.71	1.59E-03		1.29E-03	7.91E-04
	308.45	29.70	1.49E-03		1.23E-03	7.42E-04
	316.51	82.86	5.10E-04		5.61E-05	2.54E-04
	468.07	47.84	7.67E-04		4.02E-04	3.81E-04
	588.58	4.52	8.28E-03		2.10E-03	4.11E-03
	604.41	8.22	3.38E-03		-3.83E-03	1.67E-03
	612.46	5.34	4.79E-03		6.71E-04	2.38E-03
IR-192m	155.16	0.09	6.36E-01	6.36E-01	3.31E-01	3.17E-01
IR-193m	80.22	0.00	2.26E+01	2.26E+01	1.35E+00	1.13E+01
Pt-193m	135.50	0.11	6.52E-01	6.52E-01	2.56E-02	3.26E-01
Au-194	293.55	10.90	5.98E-03	9.55E-04	3.14E-03	2.98E-03
	328.47	62.80	9.55E-04		-5.88E-04	4.75E-04
	364.84	1.60	3.67E-02		1.67E-02	1.82E-02
	528.77	1.78	2.82E-02		-3.12E-02	1.40E-02
	645.16	2.32	1.90E-02		-1.65E-02	9.41E-03
	948.32	2.29	1.64E-02		-1.27E-03	8.08E-03
	1104.06	2.15	1.54E-02		-4.43E-03	7.59E-03
	1175.36	2.14	3.51E-02		4.63E-01	1.74E-02
	1468.90	6.80	2.08E-03		-1.77E-04	9.89E-04
	1595.81	1.89	1.46E-02		5.22E-02	7.10E-03
	2043.72	3.74	1.84E-03		1.62E-04	7.98E-04
Ir-194	293.54	2.50	4.03E-02	7.08E-03	2.12E-02	2.01E-02
	328.47	13.10	7.08E-03		-4.36E-03	3.52E-03
AU-195	98.86	11.21	6.83E-03	6.83E-03	2.30E-03	3.41E-03
	129.74	0.84	7.80E-02		7.02E-02	3.89E-02
Pt-195m	98.90	11.70	7.77E-03	7.77E-03	2.62E-03	3.88E-03
	129.79	2.90	2.68E-02		2.42E-02	1.34E-02
Au-196	333.03	22.90	2.08E-03	5.10E-04	6.07E-04	1.03E-03
	355.73	87.00	5.10E-04		1.73E-04	2.54E-04
	426.10	6.60	5.93E-03		3.05E-03	2.95E-03

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Au-196m	147.81		43.50	8.06E-03	8.06E-03	1.53E-03	4.02E-03
		188.27		30.00	1.01E-02		8.66E-03	5.01E-03
	Pt-197	77.35		17.00	1.44E-02	1.44E-02	2.15E-02	7.19E-03
		191.44		3.70	3.25E-02		-1.38E-02	1.62E-02
	AU-198	411.80		95.62	5.07E-04	5.07E-04	2.33E-04	2.52E-04
	AU-199	158.38		40.00	1.81E-03	1.81E-03	1.53E-03	9.04E-04
		208.20		8.72	7.54E-03		5.06E-03	3.76E-03
	TL-201	135.34		2.61	3.07E-02	7.00E-03	1.21E-03	1.53E-02
		167.43		10.00	7.00E-03		-1.20E-02	3.49E-03
	TL-202	439.51		91.50	4.17E-04	4.17E-04	1.46E-04	2.07E-04
	PB-203	70.83		26.40	6.38E-03	7.60E-04	-3.83E-03	3.19E-03
		72.87		44.20	3.63E-03		5.03E-03	1.81E-03
		82.40		15.56	8.46E-03		-3.38E-03	4.23E-03
		279.20		80.90	7.60E-04		2.46E-04	3.79E-04
		401.32		3.35	1.59E-02		9.62E-03	7.88E-03
	PB-210	46.54		4.25	7.86E-02	7.86E-02	-7.26E-02	3.93E-02
	Pa-233	86.60		2.01	4.59E-02	1.05E-03	1.59E-01	2.29E-02
		94.65		8.90	8.93E-03		2.62E-03	4.46E-03
		98.43		14.20	5.39E-03		3.46E-03	2.69E-03
		300.13		6.54	6.26E-03		-3.59E-03	3.12E-03
		311.90		38.20	1.05E-03		-9.07E-05	5.22E-04
		340.48		4.44	8.92E-03		-1.30E-03	4.44E-03
	U-235	89.96		2.90	2.93E-02	9.16E-04	3.88E-03	1.46E-02
		93.35		4.70	1.71E-02		1.56E-02	8.55E-03
		109.19		1.64	4.27E-02		1.23E-02	2.13E-02
		143.76		10.93	5.63E-03		5.06E-03	2.81E-03
		163.36		5.07	1.12E-02		1.14E-02	5.59E-03
		185.71		57.20	9.16E-04		-8.70E-04	4.57E-04
		202.11		1.07	4.66E-02		4.63E-02	2.32E-02
		205.31		5.03	1.05E-02		3.87E-03	5.25E-03
+	NP-237	86.48	*	12.20	8.47E-03	8.47E-03	1.39E-02	4.23E-03
	U-237	59.54		34.50	6.83E-03	2.79E-03	2.59E-01	3.41E-03
		97.07		15.40	5.58E-03		7.13E-03	2.79E-03
		101.06		24.50	3.39E-03		4.58E-04	1.69E-03
		113.30		3.07	2.56E-02		-2.30E-02	1.28E-02
		114.23		5.81	1.34E-02		-1.04E-02	6.71E-03
		117.46		2.27	3.39E-02		1.92E-02	1.69E-02
		208.00		21.20	2.79E-03		6.44E-04	1.39E-03
	NP-238	103.37		0.00	2.16E+01	1.29E-03	-2.53E+00	1.08E+01
		882.63		0.80	4.39E-02		-3.85E-02	2.16E-02
		923.99		2.60	1.29E-02		7.84E-04	6.34E-03
		984.45		25.20	1.29E-03		-6.94E-04	6.36E-04
		1025.87		8.75	3.71E-03		6.74E-04	1.83E-03
		1028.53		18.23	1.77E-03		-1.87E-03	8.69E-04
	U-238	63.29		3.70	4.53E-02	1.92E-02	2.18E-02	2.26E-02
		92.51		4.23	1.92E-02		-3.31E-03	9.60E-03
		112.81		0.21	3.37E-01		-1.20E-01	1.68E-01
		742.81		0.11	2.52E-01		-2.66E-01	1.24E-01
		766.42		0.32	8.43E-02		3.65E-02	4.17E-02
		1001.03		0.84	6.55E-02		3.70E-03	3.25E-02
	Am-239	181.71		1.08	2.03E-01	1.19E-02	-5.01E-02	1.01E-01
		209.80		3.50	6.15E-02		4.12E-02	3.07E-02
		226.40		3.30	6.23E-02		-6.94E-02	3.10E-02

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Am-239	228.10		11.30	1.81E-02	1.19E-02	1.19E-03	9.03E-03
		277.60		15.00	1.19E-02		1.44E-02	5.94E-03
	NP-239	61.46		1.30	1.99E-01	3.90E-03	6.72E-02	9.96E-02
		99.53		12.90	7.92E-03		3.95E-03	3.95E-03
		103.37		20.50	4.84E-03		-5.66E-04	2.42E-03
		106.12		25.34	3.90E-03		5.44E-03	1.95E-03
		209.75		3.36	2.11E-02		1.41E-02	1.05E-02
		228.18		11.24	6.01E-03		7.87E-04	2.99E-03
		277.60		14.51	4.09E-03		4.95E-03	2.04E-03
		285.46		0.79	7.44E-02		2.17E-02	3.71E-02
		315.88		1.60	3.27E-02		4.16E-04	1.63E-02
		334.31		2.06	2.44E-02		-1.27E-02	1.21E-02
	PU-239	38.66		0.01	5.79E+01	9.27E+00	-6.71E+01	2.89E+01
		51.62		0.03	9.27E+00		1.06E+01	4.63E+00
		98.50		0.01	1.05E+01		6.75E+00	5.25E+00
		111.03		0.00	5.38E+01		-1.12E+01	2.69E+01
		129.30		0.01	1.04E+01		2.39E-01	5.17E+00
		171.39		0.00	4.99E+02		4.44E+02	2.49E+02
		203.55		0.00	8.69E+01		-7.77E+01	4.33E+01
		332.85		0.00	8.00E+01		2.05E+01	3.98E+01
		336.11		0.00	3.53E+02		2.61E+01	1.75E+02
		345.01		0.00	7.07E+01		-6.94E+00	3.52E+01
		375.05		0.00	2.39E+01		8.63E+00	1.19E+01
		380.19		0.00	1.20E+02		8.53E+00	5.99E+01
		382.75		0.00	1.42E+02		-1.05E+02	7.04E+01
		413.71		0.00	2.54E+01		5.66E+01	1.26E+01
		422.60		0.00	2.85E+02		-1.52E+02	1.42E+02
		451.48		0.00	1.86E+02		-2.44E+02	9.26E+01
	Am-240	99.53		18.40	5.74E-03	4.50E-04	2.86E-03	2.87E-03
		103.37		29.20	3.52E-03		-4.11E-04	1.76E-03
		117.23		6.93	1.40E-02		1.52E-04	6.97E-03
		888.85		24.70	1.43E-03		-1.44E-03	7.05E-04
		987.79		72.20	4.50E-04		-5.69E-04	2.22E-04
	Np-240m	554.60		20.90	4.88E-03	4.88E-03	-1.48E-03	2.42E-03
		597.40		11.70	8.72E-03		-4.11E-03	4.32E-03
	U-240	44.10		1.05	1.18E+00	7.13E-01	-8.25E-01	5.91E-01
		66.50		0.15	2.95E+00		2.83E+00	1.47E+00
		169.20		0.12	1.59E+00		-1.54E+00	7.92E-01
		189.70		0.24	7.13E-01		1.31E-01	3.56E-01
+	AM-241	59.54	*	35.90	6.93E-03	6.93E-03	2.24E-01	3.46E-03
	AM-242m	49.35		0.13	2.11E+00	2.11E+00	2.03E+00	1.05E+00
		66.89		0.01	9.11E+00		2.50E+00	4.55E+00
		86.65		0.02	3.94E+00		1.37E+01	1.97E+00
		163.25		0.02	3.71E+00		3.76E+00	1.85E+00
	AM-243	43.53		5.90	6.65E-02	1.65E-03	-1.45E-02	3.32E-02
		74.66		67.20	1.65E-03		6.04E-04	8.25E-04

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

Analysis Report for 24-2308 VSM-4.5M-S4-CST-A Q3

ASR 2094 Branch

Apex-Gamma

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2309 VSM-4.5M-S4-CST-d-A Q3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 1:53:49PM
Procedure	: Q3_gsv02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: Q3_gsv02mlw
Live Time	: 1201.6 seconds
Real Time	: 1239.7 seconds
Dead Time	: 3.07 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: Q3_gsv2ml_R717
Sample Number	: 567816
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 2:14:33PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.59	190.37	0.0668	80.58
2	86.64	276.60	0.2844	4.50
3	105.48	336.72	0.2697	3.78
4	123.12	392.84	0.0901	44.14
5	247.96	790.84	0.1574	13.32
6	290.96	927.81	0.3591	3.10
7	414.93	1322.99	0.1860	8.73
8	510.97	1628.51	0.1865	3.96
9	582.22	1856.31	0.2408	5.19
10	591.95	1887.24	0.1428	13.64
11	661.82	2110.16	0.0671	54.13
12	666.47	2125.13	0.1692	9.04
13	686.92	2189.93	0.3351	3.13
14	692.35	2206.77	0.2598	4.61
15	695.23	2216.89	0.1695	9.29
16	723.46	2306.59	0.0936	26.52
17	756.99	2413.61	0.1503	10.59
18	873.39	2784.53	0.1089	18.96
19	904.43	2883.15	0.2487	4.04
20	996.54	3177.15	0.1123	17.78
21	1004.98	3204.10	0.0954	23.84
22	1039.13	3312.84	0.3096	3.16
23	1173.51	3741.24	0.0927	24.20
24	1224.14	3902.55	0.2779	3.48
25	1246.63	3974.13	0.2137	5.08
26	1274.75	4064.02	0.0822	30.06
27	1332.85	4249.10	0.0919	24.05
28	1397.33	4454.66	0.2166	4.95
29	1408.26	4488.86	0.2267	3.61
30	1494.75	4764.96	0.2275	3.77
31	1597.06	5091.31	0.1771	5.66

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 2:14:33PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.59	182	198	190.33	5.43E+04	983.81	8.90E+04	1.21
F	2	86.64	270	285	276.57	2.07E+03	214.06	7.15E+04	1.45
F	3	105.48	330	345	336.63	1.49E+03	189.70	5.65E+04	1.41
F	4	123.12	384	401	392.87	1.62E+04	693.45	5.00E+04	1.28
F	5	247.96	783	798	790.84	2.05E+03	305.01	1.00E+04	1.32
F	6	290.96	924	931	927.91	1.33E+02	51.12	3.28E+03	0.67
F	7	414.93	1317	1333	1323.11	6.64E+02	49.98	2.99E+03	1.45
F	8	510.97	1618	1640	1629.25	1.24E+03	48.93	2.47E+03	2.78
F	9	582.22	1851	1861	1856.38	1.42E+02	29.89	8.18E+02	1.13
F	10	591.95	1880	1896	1887.41	8.25E+02	39.36	1.17E+03	1.49
M	11	661.82	2098	2132	2110.13	1.07E+04	102.55	1.15E+03	1.69
m	12	666.47	2098	2132	2124.94	4.97E+02	33.17	1.05E+03	1.70
M	13	686.92	2179	2224	2190.15	1.12E+01	8.64	1.02E+03	1.70
m	14	692.35	2179	2224	2207.46	2.73E+02	10.55	9.23E+02	1.71
m	15	695.23	2179	2224	2216.63	5.60E+02	13.66	8.88E+02	1.71
F	16	723.46	2296	2319	2306.61	3.15E+03	58.27	1.04E+03	1.80
F	17	756.99	2405	2422	2413.50	5.76E+02	105.54	7.38E+02	1.64
F	18	873.39	2775	2797	2784.54	1.60E+03	42.89	6.65E+02	1.83
F	19	904.43	2875	2889	2883.46	9.18E+01	57.93	3.52E+02	1.03
F	20	996.54	3164	3187	3177.08	1.33E+03	106.69	4.96E+02	1.77
F	21	1004.98	3192	3217	3203.99	2.32E+03	126.32	5.30E+02	1.93
	22	1039.13	3308	3317	3312.84	1.83E+01	25.72	1.83E+02	0.61
F	23	1173.51	3726	3753	3741.17	2.48E+03	113.74	2.27E+02	2.11
	24	1224.14	3897	3908	3902.55	8.82E+00	16.07	6.22E+01	0.56
F	25	1246.63	3965	3982	3974.22	1.06E+02	43.48	7.55E+01	1.83
F	26	1274.75	4049	4077	4063.85	3.83E+03	125.87	1.95E+02	2.12
F	27	1332.85	4234	4264	4249.03	2.32E+03	101.24	9.88E+01	2.13
F	28	1397.33	4448	4461	4454.57	5.38E+01	9.33	3.51E+01	1.40
F	29	1408.26	4481	4497	4489.37	6.97E+01	9.44	2.97E+01	2.20
F	30	1494.75	4756	4774	4765.05	7.08E+01	61.62	1.90E+01	2.14
F	31	1597.06	5080	5100	5091.13	1.87E+02	37.45	1.04E+01	2.40

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 2:14:33PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567379.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.59	5.43E+04	983.81			5.43E+04	9.84E+02
F	2	86.64	2.07E+03	214.06	8.73E+00	5.86E-01	2.06E+03	2.14E+02
F	3	105.48	1.49E+03	189.70			1.49E+03	1.90E+02
F	4	123.12	1.62E+04	693.45			1.62E+04	6.93E+02
F	5	247.96	2.05E+03	305.01			2.05E+03	3.05E+02
F	6	290.96	1.33E+02	51.12			1.33E+02	5.11E+01
F	7	414.93	6.64E+02	49.98			6.64E+02	5.00E+01
F	8	510.97	1.24E+03	48.93	4.72E+01	1.98E+00	1.20E+03	4.90E+01
F	9	582.22	1.42E+02	29.89			1.42E+02	2.99E+01
F	10	591.95	8.25E+02	39.36			8.25E+02	3.94E+01
M	11	661.82	1.07E+04	102.55			1.07E+04	1.03E+02
m	12	666.47	4.97E+02	33.17			4.97E+02	3.32E+01
M	13	686.92	1.12E+01	8.64			1.12E+01	8.64E+00
m	14	692.35	2.73E+02	10.55			2.73E+02	1.06E+01
m	15	695.23	5.60E+02	13.66			5.60E+02	1.37E+01
F	16	723.46	3.15E+03	58.27			3.15E+03	5.83E+01
F	17	756.99	5.76E+02	105.54			5.76E+02	1.06E+02
F	18	873.39	1.60E+03	42.89			1.60E+03	4.29E+01
F	19	904.43	9.18E+01	57.93			9.18E+01	5.79E+01
F	20	996.54	1.33E+03	106.69			1.33E+03	1.07E+02
F	21	1004.98	2.32E+03	126.32			2.32E+03	1.26E+02
	22	1039.13	1.83E+01	25.72			1.83E+01	2.57E+01
F	23	1173.51	2.48E+03	113.74			2.48E+03	1.14E+02
	24	1224.14	8.82E+00	16.07			8.82E+00	1.61E+01
F	25	1246.63	1.06E+02	43.48			1.06E+02	4.35E+01
F	26	1274.75	3.83E+03	125.87			3.83E+03	1.26E+02
F	27	1332.85	2.32E+03	101.24			2.32E+03	1.01E+02
F	28	1397.33	5.38E+01	9.33			5.38E+01	9.33E+00
F	29	1408.26	6.97E+01	9.44	1.30E+00	4.73E-01	6.84E+01	9.45E+00
F	30	1494.75	7.08E+01	61.62			7.08E+01	6.16E+01
F	31	1597.06	1.87E+02	37.45			1.87E+02	3.74E+01

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.98	1173.23	*	99.85	6.10E-03	2.82E-04	0.962
		1332.49	*	99.98	6.19E-03	2.72E-04	0.962
GA-66	0.87	511.00	*	114.00	9.25E-03	7.55E-04	miss
		833.53		5.90			
		1039.22	*	37.00	6.76E-04	9.52E-04	miss
		1333.11	*	1.17	3.18E+00	2.15E-01	miss
		1918.33		1.99			
		2189.62		5.30			
		2751.83		22.70			
ZR-95	0.95	724.19	*	44.27	1.26E-02	2.50E-04	free
		756.72	*	54.38	1.93E-03	3.54E-04	free
RU-106	0.88	511.86	*	20.40	8.30E-03	3.79E-04	miss
Te-129m	0.93	695.88	*	3.00	3.26E-02	6.58E-03	free
CS-137	0.99	661.66	*	85.10	2.09E-02	2.32E-04	miss
EU-154	0.87	42.70		20.45			
		123.07	*	40.40	2.86E-02	1.28E-03	0.956
		247.93	*	6.89	2.90E-02	4.32E-03	0.943
		591.76	*	4.95	2.77E-02	1.36E-03	0.932
		692.42	*	1.78	2.77E-02	1.12E-03	0.948
		723.30	*	20.06	2.90E-02	6.27E-04	0.951
		756.80	*	4.52	2.48E-02	4.55E-03	0.928
		873.18	*	12.08	2.75E-02	8.06E-04	0.944
		996.29	*	10.48	2.76E-02	2.23E-03	0.986
		1004.76	*	18.01	2.84E-02	1.57E-03	0.977
		1246.12	*	0.86	3.26E-02	1.33E-02	0.936
		1274.43	*	34.80	2.80E-02	9.66E-04	0.979
		1494.05	*	0.70	2.77E-02	2.41E-02	1.013
		1596.48	*	1.80	2.61E-02	5.22E-03	1.155
EU-155	0.79	43.00		18.12			
		60.01	*	1.17	6.32E+00	2.13E-01	0.999
		86.55	*	30.70	4.95E-03	5.18E-04	free
		105.31	*	21.10	4.70E-03	6.12E-04	1.000
W-188	0.38	227.07		0.23			

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
W-188	0.38	290.68	*	0.42	3.26E-02	1.25E-02	miss
NP-237	0.99	86.48	*	12.20	1.24E-02	1.33E-03	1.000
AM-241	1.00	59.54	*	35.90	2.06E-01	5.03E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
X	NA-22	0.997			
	CO-60	0.983	6.15E-03	1.96E-04	
X	CU-64	0.965			
	GA-66	0.876	6.77E-04	9.51E-04	
	ZR-95	0.956	1.81E-04	2.37E-04	
	RU-106	0.880	7.69E-03	9.19E-04	
	Te-129m	0.935	3.26E-02	6.58E-03	
	CS-137	0.996	2.09E-02	2.32E-04	
	EU-154	0.877	2.81E-02	3.95E-04	
	EU-155	0.791	4.70E-03	6.01E-04	
	W-188	0.389	3.26E-02	1.25E-02	
	NP-237	0.996	6.31E-04	1.99E-03	
	AM-241	1.000	2.06E-01	4.48E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3
ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 2:14:33PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	7	414.93	5.52329E-01	7.53	Sum	
F	9	582.22	1.18257E-01	21.03	Sum	
m	12	666.47	4.13226E-01	6.68		
M	13	686.92	9.30970E-03	77.21	Tol.	AG-110M
F	19	904.43	7.63963E-02	63.10		
	24	1224.14	7.34325E-03	182.10	Tol.	PM-150 TA-182
F	28	1397.33	4.47373E-02	17.36	Sum	
F	29	1408.26	5.69623E-02	13.81	Tol.	Co-55 EU-152

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.60		10.44	4.17E-03	4.17E-03	1.39E-03	2.07E-03
NA-22	511.00	*	179.91	3.37E-04	3.37E-04	9.40E-04	1.68E-04
	1274.54	*	99.94	3.64E-04		1.03E-02	1.78E-04
NA-24	1368.63		99.99	4.90E-04	4.90E-04	-3.59E-04	2.33E-04

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
>	NA-24	2754.01	99.87	0.00E+00	4.90E-04	0.00E+00	0.00E+00
	AL-26	1129.67	2.50	1.05E-02	5.73E-05	1.43E-02	5.10E-03
		1808.65	99.76	5.73E-05		0.00E+00	2.44E-05
	K-40	1460.82	10.66	1.39E-03	1.39E-03	1.06E-03	6.62E-04
	K-42	312.60	0.34	6.01E-01	2.52E-03	-1.69E-01	2.99E-01
		1524.60	18.08	2.52E-03		3.54E-04	1.18E-03
	Sc-44	1157.02	99.90	1.82E-02	1.82E-02	1.70E-02	8.86E-03
		1499.46	0.91	1.36E+00		-5.04E-01	6.48E-01
	Sc-44m	271.24	86.74	8.41E-04	8.41E-04	8.68E-05	4.18E-04
		1001.83	1.20	8.02E-02		0.00E+00	3.98E-02
		1126.06	1.20	3.19E-02		3.65E-02	1.56E-02
		1157.00	1.20	2.77E-02		2.59E-02	1.35E-02
	TI-44	67.87	93.00	1.83E-03	1.36E-03	5.12E-04	9.12E-04
		78.32	96.40	1.36E-03		-7.79E-04	6.79E-04
	SC-46	889.28	99.98	3.24E-04	2.83E-04	3.07E-04	1.59E-04
		1120.55	99.99	2.83E-04		-3.12E-04	1.38E-04
	CA-47	489.23	5.90	8.78E-03	2.94E-04	-7.86E-04	4.35E-03
		807.86	5.90	6.58E-03		4.60E-03	3.24E-03
		1297.09	67.00	2.94E-04		3.66E-05	1.41E-04
	SC-47	159.38	68.30	1.29E-03	1.29E-03	1.47E-03	6.45E-04
	SC-48	175.36	7.47	1.34E-02	2.28E-04	5.49E-03	6.68E-03
		983.53	100.00	4.25E-04		2.06E-04	2.08E-04
		1037.52	97.50	4.36E-04		-7.83E-05	2.14E-04
		1312.12	100.00	2.28E-04		-4.73E-05	1.09E-04
	V-48	944.13	7.87	4.04E-03	1.70E-04	-3.22E-03	1.98E-03
		983.53	99.98	3.11E-04		1.51E-04	1.53E-04
		1312.11	98.20	1.70E-04		-3.52E-05	8.13E-05
		2240.40	2.33	2.86E-03		-1.26E-03	1.20E-03
	CR-51	320.08	9.91	5.08E-03	5.08E-03	1.22E-03	2.52E-03
	Fe-52	168.69	99.20	5.67E-03	5.67E-03	-1.14E-03	2.83E-03
		377.75	1.64	2.27E-01		-1.66E-01	1.13E-01
	Mn-52	744.23	90.00	4.37E-04	1.48E-04	-8.09E-06	2.15E-04
		848.18	3.32	1.19E-02		9.56E-03	5.83E-03
		935.54	94.50	3.83E-04		4.38E-04	1.88E-04
		1246.28	4.21	6.34E-03		8.14E-03	3.07E-03
		1333.65	5.07	1.44E-02		1.43E-01	7.12E-03
		1434.09	100.00	1.48E-04		1.17E-06	6.94E-05
	MN-54	834.85	99.98	2.96E-04	2.96E-04	-4.70E-04	1.45E-04
	Co-55	411.50	1.07	1.16E-01	1.07E-03	-1.83E-02	5.76E-02
		477.20	20.20	5.75E-03		5.56E-03	2.85E-03
		803.70	1.87	4.57E-02		-3.08E-02	2.25E-02
		931.10	75.00	1.07E-03		-6.28E-05	5.27E-04
		1316.60	7.10	6.02E-03		2.80E-03	2.88E-03
		1370.00	2.90	1.32E-02		-1.01E-02	6.26E-03
		1408.50	16.90	2.66E-03		2.59E-03	1.27E-03
	Co-56	846.77	99.94	3.47E-04	3.03E-04	5.05E-04	1.71E-04
		977.37	1.42	2.21E-02		-1.81E-02	1.09E-02
		1037.84	14.05	2.19E-03		1.06E-03	1.07E-03
		1175.10	2.25	2.88E-02		2.81E-01	1.43E-02
		1238.29	66.46	3.03E-04		-1.24E-04	1.46E-04
		1360.21	4.28	3.80E-03		-1.48E-03	1.81E-03
		1771.36	15.41	6.29E-04		7.06E-04	2.86E-04
		2015.20	3.02	1.68E-03		7.14E-04	6.78E-04

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Co-56	2034.79		7.77	7.04E-04	3.03E-04	3.28E-04	2.89E-04
>		2598.50		16.97	0.00E+00		0.00E+00	0.00E+00
	MN-56	846.76		98.85	2.84E-01	1.87E-01	4.12E-01	1.40E-01
		1810.73		26.90	1.87E-01		1.13E-01	7.94E-02
		2113.09		14.20	4.66E-01		9.90E-02	2.03E-01
	Ni-56	158.38		98.80	8.14E-04	4.24E-04	-1.40E-05	4.06E-04
		269.50		36.50	1.69E-03		4.69E-04	8.41E-04
		480.44		36.50	1.31E-03		1.02E-03	6.48E-04
		749.50		49.50	7.37E-04		7.66E-04	3.63E-04
		811.85		86.00	4.24E-04		5.17E-04	2.08E-04
		1561.80		14.00	7.93E-04		1.53E-04	3.65E-04
	CO-57	122.06		85.60	1.09E-03	1.09E-03	2.48E-05	5.45E-04
		136.47		10.68	7.36E-03		-2.63E-03	3.67E-03
	NI-57	127.16		16.70	8.30E-03	2.85E-04	2.69E-04	4.14E-03
		1377.63		81.70	2.85E-04		-1.23E-05	1.35E-04
		1757.55		5.75	2.19E-03		-7.15E-04	9.76E-04
		1919.52		12.30	9.28E-04		6.97E-04	4.05E-04
	CO-58	810.76		99.45	3.32E-04	3.32E-04	1.55E-04	1.63E-04
		863.96		0.69	4.61E-02		2.89E-03	2.26E-02
		1674.73		0.52	1.67E-02		4.51E-03	7.59E-03
	FE-59	142.65		1.02	7.62E-02	3.84E-04	-3.56E-03	3.80E-02
		192.34		3.08	2.17E-02		-1.27E-02	1.08E-02
		1099.24		56.50	4.62E-04		-6.14E-05	2.25E-04
		1291.59		43.20	3.84E-04		-3.34E-04	1.84E-04
+	CO-60	1173.23	*	99.85	3.54E-04	2.63E-04	6.10E-03	1.74E-04
		1332.49	*	99.98	2.63E-04		6.19E-03	1.28E-04
	CU-64	511.00	*	35.00	6.80E-03	6.80E-03	1.90E-02	3.38E-03
		1345.77		0.47	1.27E-01		-1.83E-02	6.04E-02
	NI-65	366.27		4.81	1.00E+01	4.80E-01	2.47E+00	4.99E+00
		1115.53		15.43	1.85E+00		3.98E+00	9.06E-01
		1481.84		23.59	4.80E-01		-1.56E-01	2.24E-01
	ZN-65	1115.54		50.04	5.67E-04	5.67E-04	1.22E-03	2.77E-04
+	GA-66	511.00	*	114.00	3.32E-03	3.19E-03	9.25E-03	1.65E-03
		833.53		5.90	3.14E-02		-1.37E-03	1.54E-02
		1039.22	*	37.00	3.19E-03		6.76E-04	1.54E-03
		1333.11	*	1.17	1.35E-01		3.18E+00	6.57E-02
		1918.33		1.99	2.14E-02		-3.71E-02	9.28E-03
		2189.62		5.30	8.05E-03		-5.17E-04	3.45E-03
>		2751.83		22.70	0.00E+00		0.00E+00	0.00E+00
	CU-67	91.27		7.00	1.95E-02	1.76E-03	7.82E-03	9.72E-03
		93.31		16.10	8.23E-03		-3.65E-03	4.11E-03
		184.58		48.70	1.76E-03		-5.83E-04	8.79E-04
		300.22		0.80	8.50E-02		7.33E-02	4.22E-02
		393.53		0.22	2.70E-01		-1.23E-01	1.34E-01
	GA-67	91.26		3.11	4.25E-02	3.26E-03	1.71E-02	2.12E-02
		93.31		38.81	3.26E-03		-1.45E-03	1.63E-03
		184.58		21.41	3.79E-03		-1.25E-03	1.89E-03
		208.95		2.46	3.47E-02		1.32E-04	1.73E-02
		300.22		16.64	3.93E-03		3.39E-03	1.95E-03
		393.53		4.56	1.11E-02		-5.05E-03	5.52E-03
	ZN-69m	438.63		94.85	1.66E-03	1.66E-03	-1.31E-03	8.21E-04
	GA-72	629.97		26.13	4.91E-03	9.43E-04	-6.84E-03	2.42E-03
		834.13		95.45	1.11E-03		-9.15E-04	5.45E-04

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	GA-72	894.33	10.14	1.13E-02	9.43E-04	-3.23E-03	5.54E-03
		1050.79	6.99	1.51E-02		-5.59E-03	7.40E-03
		2201.59	26.87	9.43E-04		-1.66E-04	4.06E-04
		2491.03	7.73	1.69E-03		3.65E-04	6.00E-04
		2507.72	13.33	3.45E-03		4.23E-03	1.58E-03
	Zn-72	144.70	82.78	1.33E-03	1.33E-03	-1.25E-03	6.63E-04
		191.50	9.35	9.82E-03		-3.20E-03	4.89E-03
	SE-75	121.12	17.20	5.75E-03	9.91E-04	1.67E-03	2.87E-03
		136.00	58.50	1.41E-03		-1.66E-03	7.05E-04
		264.66	58.90	9.91E-04		-3.49E-04	4.93E-04
		279.54	25.02	2.22E-03		2.18E-03	1.10E-03
		400.66	11.41	2.96E-03		1.03E-03	1.47E-03
	BR-83	529.59	1.30	4.64E+01	4.64E+01	2.42E+01	2.30E+01
	BR-84	604.80	1.70	3.78E+12	2.91E+10	-2.71E+12	1.87E+12
		736.50	1.29	4.53E+12		3.08E+12	2.23E+12
		802.20	6.00	9.52E+11		1.84E+10	4.68E+11
		881.60	42.00	1.32E+11		1.08E+11	6.49E+10
		987.30	0.79	6.45E+12		-5.66E+11	3.16E+12
		1015.90	6.20	8.23E+11		-1.91E+11	4.03E+11
		1213.30	2.60	1.23E+12		2.17E+11	5.93E+11
		1463.80	2.00	1.35E+12		1.80E+12	6.40E+11
		1741.20	1.60	7.32E+11		8.04E+10	3.19E+11
		1877.50	1.12	1.04E+12		7.24E+11	4.50E+11
		1897.60	14.60	8.04E+10		5.60E+10	3.48E+10
		2029.60	2.10	3.83E+11		1.46E+11	1.52E+11
		2200.70	1.16	1.06E+12		-8.72E+11	4.54E+11
		2484.10	6.70	2.91E+10		0.00E+00	0.00E+00
>		2824.10	1.12	0.00E+00		0.00E+00	0.00E+00
	KR-85m	151.20	75.20	4.73E-02	4.73E-02	-6.90E-03	2.36E-02
		304.87	14.00	1.74E-01		4.12E-03	8.67E-02
	Y-87	388.53	82.20	6.80E-04	5.93E-04	-1.76E-04	3.38E-04
		484.80	89.80	5.93E-04		-3.20E-04	2.94E-04
	KR-88	165.98	3.10	1.14E+01	4.84E-02	-1.43E+00	5.70E+00
		196.30	26.00	1.18E+00		2.59E-01	5.86E-01
		362.23	2.25	9.50E+00		8.09E+00	4.72E+00
		471.80	0.73	2.88E+01		3.75E+01	1.43E+01
		834.83	13.00	1.10E+00		-1.75E+00	5.41E-01
		985.78	1.31	1.08E+01		3.41E+00	5.29E+00
		1141.33	1.28	9.29E+00		9.23E+00	4.53E+00
		1179.51	1.00	2.75E+01		-2.21E+00	1.36E+01
		1250.67	1.12	9.33E+00		6.22E+00	4.52E+00
		1369.50	1.48	4.76E+00		-9.90E-01	2.27E+00
		1518.39	2.15	2.42E+00		-3.16E+00	1.12E+00
		1529.77	10.90	5.05E-01		-5.49E-02	2.36E-01
		2029.84	4.53	5.00E-01		1.91E-01	1.98E-01
		2035.41	3.74	6.78E-01		-2.42E-01	2.78E-01
		2195.84	13.20	2.63E-01		1.75E-01	1.13E-01
		2231.77	3.39	1.10E+00		3.73E-01	4.86E-01
		2352.08	0.73	4.08E+00		-2.80E+00	1.69E+00
		2392.11	34.60	4.84E-02		1.04E-02	1.71E-02
	RB-88	898.03	14.40	1.07E+00	1.32E-01	2.73E-01	5.25E-01
		1382.45	0.78	8.71E+00		7.76E-01	4.14E+00
		1836.00	22.81	1.32E-01		4.94E-03	5.67E-02

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ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
>	RB-88	2677.89	2.13	0.00E+00	1.32E-01	0.00E+00	0.00E+00
	Y-88	898.04	93.70	3.52E-04	6.54E-05	9.00E-05	1.73E-04
		1836.06	99.20	6.54E-05		4.36E-05	2.81E-05
@	RB-89	272.42	1.53	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		657.77	10.80	1.00E+20		1.00E+20	1.00E+20
@		947.73	10.00	1.00E+20		1.00E+20	1.00E+20
@		1031.92	63.00	1.00E+20		1.00E+20	1.00E+20
@		1248.14	46.00	1.00E+20		1.00E+20	1.00E+20
@		1538.07	2.77	1.00E+20		1.00E+20	1.00E+20
@		2007.50	2.58	1.00E+20		1.00E+20	1.00E+20
@		2195.92	14.50	1.00E+20		1.00E+20	1.00E+20
>@		2570.20	10.70	0.00E+00		0.00E+00	0.00E+00
>@		2707.26	2.20	0.00E+00		0.00E+00	0.00E+00
	SR-89	908.96	0.01	3.23E+00	3.23E+00	2.42E+00	1.59E+00
	Sr-91	652.90	11.35	1.85E-02	5.13E-03	-1.63E-03	9.13E-03
		749.80	23.70	8.30E-03		-1.05E-03	4.09E-03
		925.80	3.85	4.76E-02		-2.66E-02	2.34E-02
		1024.30	33.50	5.13E-03		6.14E-04	2.51E-03
	Y-91	1204.77	0.26	7.46E-02	7.46E-02	-2.88E-02	3.61E-02
	NB-92M	912.60	1.78	1.83E-02	3.17E-04	1.94E-02	8.99E-03
		934.44	99.15	3.17E-04		-2.83E-04	1.56E-04
		1847.50	0.85	7.31E-03		4.66E-03	3.13E-03
	SR-92	241.56	2.93	1.56E+01	1.21E-01	-3.94E+00	7.75E+00
		430.49	3.28	1.05E+01		1.34E+00	5.19E+00
		953.31	3.52	6.49E+00		-2.62E+00	3.18E+00
		1142.35	2.79	6.87E+00		9.70E-01	3.35E+00
		1383.93	90.00	1.21E-01		7.07E-03	5.73E-02
	MO-93M	114.04	0.68	1.62E+00	1.44E-03	-9.86E-01	8.09E-01
		263.05	57.40	1.22E-02		4.55E-03	6.07E-03
		684.69	99.90	4.24E-03		3.33E-03	2.09E-03
		1363.02	0.81	2.39E-01		1.82E-01	1.14E-01
		1477.14	99.10	1.44E-03		3.01E-04	6.71E-04
@	SR-93	168.50	18.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		260.12	7.40	1.00E+20		1.00E+20	1.00E+20
@		346.49	3.28	1.00E+20		1.00E+20	1.00E+20
@		446.20	2.36	1.00E+20		1.00E+20	1.00E+20
@		590.24	68.00	1.00E+20		1.00E+20	1.00E+20
@		710.31	21.80	1.00E+20		1.00E+20	1.00E+20
@		875.73	24.50	1.00E+20		1.00E+20	1.00E+20
@		888.13	22.10	1.00E+20		1.00E+20	1.00E+20
@		1040.63	3.20	1.00E+20		1.00E+20	1.00E+20
@		1094.00	1.76	1.00E+20		1.00E+20	1.00E+20
@		1122.48	4.00	1.00E+20		1.00E+20	1.00E+20
@		1215.48	2.50	1.00E+20		1.00E+20	1.00E+20
@		1269.47	7.10	1.00E+20		1.00E+20	1.00E+20
@		1321.24	2.61	1.00E+20		1.00E+20	1.00E+20
@		1387.11	3.50	1.00E+20		1.00E+20	1.00E+20
@		1694.07	2.58	1.00E+20		1.00E+20	1.00E+20
@		1699.06	3.30	1.00E+20		1.00E+20	1.00E+20
@		2543.84	3.03	1.00E+20		1.00E+20	1.00E+20
>@		2688.65	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-93	266.90	7.40	4.10E-02	2.52E-02	4.05E-02	2.04E-02
		947.10	2.10	7.71E-02		-3.23E-02	3.78E-02

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Y-93	1917.80		1.57	2.52E-02	2.52E-02	1.96E-02	1.11E-02
	NB-94	702.65		99.81	3.47E-04	3.47E-04	8.54E-05	1.71E-04
		871.09		99.89	5.01E-04		1.16E-05	2.48E-04
@	Y-94	381.60		2.02	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		550.90		4.90	1.00E+20		1.00E+20	1.00E+20
@		752.60		1.40	1.00E+20		1.00E+20	1.00E+20
@		918.74		56.00	1.00E+20		1.00E+20	1.00E+20
@		1138.90		6.00	1.00E+20		1.00E+20	1.00E+20
@		1671.40		2.50	1.00E+20		1.00E+20	1.00E+20
@		2140.60		0.95	1.00E+20		1.00E+20	1.00E+20
	NB-95	765.80		99.81	3.38E-04	3.38E-04	2.20E-04	1.66E-04
+	ZR-95	724.19	*	44.27	1.14E-03	7.15E-04	1.26E-02	5.62E-04
		756.72	*	54.38	7.15E-04		1.93E-03	3.53E-04
	NB-96	219.08		2.97	4.42E-02	7.34E-04	-2.48E-02	2.20E-02
		241.38		3.50	3.53E-02		-8.93E-03	1.76E-02
		350.05		1.54	6.57E-02		-1.73E-02	3.26E-02
		352.56		0.83	1.21E-01		-3.05E-02	6.02E-02
		371.81		2.62	3.70E-02		5.00E-03	1.84E-02
		460.04		26.62	3.42E-03		-3.25E-03	1.70E-03
		480.71		5.84	1.52E-02		6.00E-03	7.56E-03
		568.87		58.00	1.34E-03		1.11E-03	6.62E-04
		719.56		6.85	1.74E-02		5.39E-03	8.63E-03
		721.63		1.02	1.17E-01		2.93E-02	5.82E-02
		778.22		96.45	7.34E-04		4.67E-04	3.61E-04
		810.33		11.09	6.05E-03		-9.75E-03	2.98E-03
		812.58		2.95	2.30E-02		2.64E-02	1.13E-02
		847.69		1.14	5.97E-02		2.31E-02	2.93E-02
		849.93		20.45	3.27E-03		1.77E-03	1.61E-03
		1091.35		48.50	1.16E-03		2.40E-04	5.68E-04
		1200.23		19.97	2.08E-03		3.75E-04	1.01E-03
		1441.13		0.44	5.47E-02		7.76E-03	2.56E-02
		1497.81		3.28	9.76E-03		1.02E-02	4.64E-03
	Nb-97	657.94		98.23	2.50E-03	2.50E-03	3.68E-05	1.24E-03
		1024.40		1.09	7.37E-02		4.66E-02	3.61E-02
	ZR-97	254.17		1.15	1.39E-01	9.67E-04	5.07E-02	6.93E-02
		355.40		2.09	6.80E-02		1.43E-02	3.38E-02
		507.64		5.03	2.74E-02		2.44E-03	1.36E-02
		743.36		93.09	9.67E-04		-4.59E-04	4.76E-04
		1147.97		2.62	2.70E-02		9.77E-03	1.31E-02
	MO-99	181.07		6.14	1.48E-02	3.58E-03	-1.97E-02	7.37E-03
		366.42		1.20	5.05E-02		1.24E-02	2.51E-02
		739.50		12.26	3.58E-03		-3.74E-04	1.76E-03
		777.92		4.30	1.01E-02		2.05E-03	5.00E-03
	TC-99M	140.51		90.80	1.11E-03	1.11E-03	1.29E-03	5.52E-04
	RH-101	127.23		68.00	1.31E-03	8.90E-04	4.25E-05	6.55E-04
		198.01		73.00	8.90E-04		9.31E-04	4.43E-04
		325.23		11.80	3.25E-03		2.81E-03	1.62E-03
	RH-101M	306.86		81.00	7.32E-04	7.32E-04	-1.66E-04	3.64E-04
		545.12		4.30	1.06E-02		-6.09E-03	5.26E-03
	RH-102M	415.25		2.10	2.50E-02	4.98E-04	5.54E-02	1.24E-02
		418.52		9.40	5.45E-03		2.49E-03	2.71E-03
		420.40		3.20	1.54E-02		4.77E-03	7.63E-03
		475.06		95.00	4.98E-04		4.61E-04	2.47E-04

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RH-102M	628.05		8.30	4.76E-03	4.98E-04	1.41E-03	2.35E-03
		631.29		56.00	6.74E-04		-6.95E-04	3.33E-04
		692.40		1.60	2.86E-02		1.12E-01	1.42E-02
		695.60		2.90	1.55E-02		2.00E-03	7.66E-03
		697.49		44.00	1.00E-03		-4.58E-05	4.95E-04
		766.84		34.00	1.05E-03		-2.29E-03	5.16E-04
		1046.59		34.00	8.92E-04		1.02E-03	4.37E-04
		1103.16		4.60	5.68E-03		6.59E-04	2.77E-03
		1112.84		19.00	1.60E-03		7.80E-04	7.84E-04
	RU-103	497.08		91.00	4.68E-04	4.68E-04	1.12E-04	2.32E-04
		610.33		5.76	6.36E-03		1.13E-04	3.14E-03
	RH-105	306.31		4.66	1.76E-02	4.74E-03	6.06E-03	8.76E-03
		319.23		16.90	4.74E-03		-3.92E-03	2.35E-03
	AG-106M	221.70		6.60	1.02E-02	5.86E-04	-8.68E-04	5.10E-03
		228.63		2.10	3.18E-02		2.53E-02	1.59E-02
		328.46		1.14	4.57E-02		1.77E-02	2.27E-02
		391.04		3.68	1.34E-02		-1.09E-03	6.63E-03
		406.18		13.40	3.57E-03		6.57E-04	1.77E-03
		429.65		13.20	3.65E-03		-2.16E-03	1.81E-03
		450.98		28.20	1.70E-03		-4.68E-04	8.41E-04
		511.85		88.00	5.86E-04		1.73E-03	2.91E-04
		601.17		1.61	2.43E-02		1.13E-02	1.20E-02
		616.17		21.60	1.80E-03		-3.19E-04	8.90E-04
		646.03		1.46	2.57E-02		-6.85E-04	1.27E-02
		680.42		2.18	1.69E-02		2.15E-02	8.31E-03
		703.11		4.47	8.10E-03		2.45E-03	3.99E-03
		717.34		28.90	1.61E-03		2.03E-04	7.95E-04
		748.36		20.60	1.70E-03		1.52E-03	8.37E-04
		793.17		5.90	5.92E-03		-4.30E-03	2.91E-03
		804.28		12.40	2.79E-03		-7.61E-04	1.37E-03
		808.36		4.00	8.64E-03		-6.28E-04	4.25E-03
		824.69		15.30	2.15E-03		1.53E-04	1.06E-03
		847.15		4.40	8.08E-03		1.50E-02	3.97E-03
		1019.72		1.04	2.93E-02		-1.63E-02	1.43E-02
		1045.83		29.60	1.04E-03		9.35E-06	5.09E-04
		1128.02		11.80	2.36E-03		3.03E-05	1.15E-03
		1199.39		11.20	1.95E-03		2.02E-03	9.43E-04
		1222.88		7.00	2.80E-03		-2.18E-03	1.35E-03
		1394.35		1.49	1.23E-02		5.12E-03	5.88E-03
		1527.65		16.30	7.44E-04		7.08E-04	3.47E-04
		1572.35		6.60	1.45E-03		-2.53E-03	6.60E-04
		1722.76		1.40	7.88E-03		2.25E-03	3.62E-03
		1839.05		2.00	3.15E-03		-2.52E-03	1.34E-03
	RH-106	621.93		9.93	3.78E-03	3.78E-03	3.88E-03	1.87E-03
		873.49		0.44	1.18E-01		7.30E-01	5.82E-02
		1050.41		1.56	1.90E-02		-8.93E-03	9.30E-03
+	RU-106	511.86	*	20.40	2.98E-03	2.98E-03	8.30E-03	1.48E-03
	AG-108M	79.13		6.60	1.89E-02	4.34E-04	-2.10E-02	9.43E-03
		433.94		90.50	5.29E-04		-1.18E-04	2.62E-04
		614.28		89.80	4.34E-04		-2.67E-05	2.14E-04
		722.91		90.80	6.81E-04		6.68E-03	3.38E-04
	CD-109	88.03		3.64	2.99E-02	2.99E-02	6.09E-03	1.49E-02
	AG-110M	446.81		3.70	1.35E-02	4.46E-04	-1.73E-02	6.71E-03

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-110M	620.35	2.73	1.49E-02	4.46E-04	4.89E-03	7.37E-03
	657.76	95.61	9.89E-04		4.18E-05	4.92E-04
	677.62	10.70	3.61E-03		8.97E-03	1.78E-03
	687.01	6.53	6.02E-03		1.83E-03	2.97E-03
	706.68	16.69	2.24E-03		2.03E-03	1.10E-03
	744.28	4.77	7.46E-03		-1.38E-04	3.68E-03
	763.94	22.60	1.69E-03		1.33E-03	8.31E-04
	818.02	7.43	4.79E-03		-4.10E-04	2.36E-03
	884.68	75.00	4.46E-04		-2.07E-04	2.19E-04
	937.48	35.00	9.03E-04		-1.53E-03	4.43E-04
	1384.29	25.10	6.02E-04		7.03E-04	2.86E-04
	1475.78	4.08	2.94E-03		1.29E-05	1.38E-03
	1505.03	13.33	8.82E-04		6.65E-05	4.11E-04
	1562.29	1.22	7.25E-03		4.57E-03	3.35E-03
AG-111	245.40	1.11	6.07E-02	8.08E-03	4.19E-03	3.02E-02
	342.13	6.68	8.08E-03		1.46E-03	4.02E-03
AG-112	606.82	3.10	2.66E-02	1.89E-03	3.13E-02	1.31E-02
	617.52	43.00	1.89E-03		-4.02E-04	9.34E-04
	692.82	1.19	7.80E-02		-3.00E-03	3.85E-02
	694.87	2.90	3.21E-02		6.78E-03	1.59E-02
	851.28	1.02	7.06E-02		1.37E-02	3.47E-02
	1312.36	1.11	3.15E-02		-1.33E-02	1.50E-02
	1387.68	5.30	5.79E-03		5.59E-03	2.74E-03
	1613.66	2.80	7.54E-03		9.26E-03	3.45E-03
	1798.50	0.89	1.89E-02		-2.29E-02	8.38E-03
	2106.31	2.40	5.59E-03		-5.22E-03	2.34E-03
	2506.70	1.06	2.78E-02		2.33E-02	1.27E-02
CD-113M	263.70	0.03	2.08E+00	2.08E+00	4.36E-01	1.03E+00
SN-113	255.13	2.11	2.70E-02	6.96E-04	-8.65E-03	1.34E-02
	391.70	64.97	6.96E-04		5.29E-05	3.46E-04
IN-114M	190.27	15.56	4.14E-03	4.14E-03	-1.84E-03	2.06E-03
	558.43	4.40	9.13E-03		-1.75E-03	4.52E-03
	725.24	4.40	1.36E-02		1.32E-01	6.75E-03
CD-115	260.90	1.94	3.97E-02	1.47E-03	-1.60E-02	1.97E-02
	336.24	46.02	1.47E-03		3.97E-04	7.31E-04
	527.90	27.45	2.02E-03		-5.87E-04	1.00E-03
CD-115M	933.84	2.00	1.51E-02	1.51E-02	7.40E-04	7.39E-03
	1290.59	0.90	1.85E-02		5.96E-03	8.85E-03
IN-115M	336.24	45.90	5.12E-02	5.12E-02	1.39E-02	2.55E-02
IN-116M	138.29	3.70	4.96E+06	4.43E+04	-4.02E+05	2.47E+06
	416.90	27.20	3.89E+05		8.70E+05	1.93E+05
	818.68	12.13	6.15E+05		2.34E+05	3.03E+05
	1097.28	58.50	1.00E+05		4.41E+03	4.89E+04
	1293.56	84.80	4.43E+04		-1.04E+05	2.12E+04
	1507.59	9.92	2.54E+05		1.88E+04	1.18E+05
	2112.29	15.09	1.12E+05		-2.80E+03	4.90E+04
SB-125	176.31	6.84	9.82E-03	1.45E-03	-5.36E-03	4.89E-03
	380.45	1.52	3.00E-02		1.03E-02	1.49E-02
	427.87	29.60	1.45E-03		-6.74E-04	7.19E-04
	463.36	10.49	4.13E-03		2.27E-03	2.05E-03
	600.60	17.65	2.04E-03		1.93E-03	1.01E-03
	606.71	4.98	7.23E-03		7.54E-04	3.57E-03
	635.95	11.22	3.06E-03		-2.62E-03	1.51E-03

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SB-125	671.44	1.79	2.12E-02	1.45E-03	-5.28E-03	1.05E-02
SN-125	332.10	1.40	4.08E-02	3.05E-03	-1.93E-02	2.03E-02
	469.85	1.50	3.34E-02		6.47E-03	1.66E-02
	800.28	1.10	3.26E-02		9.11E-03	1.60E-02
	822.48	4.30	8.01E-03		-1.26E-02	3.94E-03
	915.55	4.10	8.05E-03		-4.15E-03	3.95E-03
	1067.10	10.00	3.06E-03		-3.63E-04	1.50E-03
	1087.70	1.20	2.62E-02		-8.87E-03	1.28E-02
	1089.10	4.60	6.37E-03		-6.92E-03	3.11E-03
	2002.10	1.90	3.05E-03		-6.48E-04	1.26E-03
SB-127	61.10	1.43	2.12E-01	1.11E-03	-1.75E-03	1.06E-01
	252.40	8.50	8.62E-03		-2.52E-03	4.29E-03
	290.80	2.02	3.26E-02		1.32E-02	1.62E-02
	412.10	3.80	1.49E-02		6.43E-03	7.39E-03
	445.10	4.30	1.31E-02		5.12E-03	6.48E-03
	473.00	25.80	2.04E-03		-5.56E-04	1.01E-03
	543.30	2.90	1.57E-02		1.39E-02	7.78E-03
	603.50	4.50	1.01E-02		-1.31E-03	4.99E-03
	685.70	36.80	1.11E-03		4.85E-04	5.47E-04
	698.50	3.64	1.30E-02		4.27E-03	6.41E-03
	722.20	1.88	3.68E-02		3.82E-01	1.82E-02
	783.70	15.10	2.65E-03		8.03E-04	1.31E-03
SN-127	119.70	2.20	1.65E+02	2.91E+00	1.10E+02	8.23E+01
	262.50	2.30	9.44E+01		-7.99E+01	4.70E+01
	266.20	2.10	1.03E+02		7.92E+00	5.12E+01
	284.30	2.70	7.68E+01		3.13E+01	3.82E+01
	438.20	6.10	2.85E+01		-4.29E+00	1.42E+01
	490.90	5.30	3.12E+01		3.08E+00	1.55E+01
	493.20	3.10	5.34E+01		-8.96E+00	2.65E+01
	545.40	2.30	6.60E+01		3.38E+00	3.27E+01
	583.30	3.20	4.62E+01		2.11E+01	2.29E+01
	805.90	8.20	1.51E+01		-3.97E+00	7.43E+00
	823.10	11.00	1.08E+01		-1.81E+01	5.32E+00
	824.70	6.10	1.94E+01		1.38E+00	9.51E+00
	859.50	8.00	1.43E+01		1.78E+01	7.01E+00
	979.20	7.20	1.55E+01		6.44E+00	7.59E+00
	1093.30	3.80	2.69E+01		-2.08E+01	1.31E+01
	1095.60	19.00	5.39E+00		7.39E+00	2.63E+00
	1114.30	38.00	2.91E+00		4.29E+00	1.42E+00
	1160.40	2.40	3.63E+01		2.97E+00	1.76E+01
	2003.40	5.30	3.77E+00		1.76E+00	1.54E+00
SB-129	180.42	2.84	1.24E+00	3.57E-02	-5.76E-01	6.18E-01
	359.20	2.39	1.05E+00		-5.08E-02	5.21E-01
	404.64	1.17	2.01E+00		1.90E+00	9.96E-01
	523.13	1.55	1.40E+00		6.99E-01	6.92E-01
	544.56	15.42	1.34E-01		2.29E-03	6.64E-02
	633.74	2.53	7.31E-01		3.17E-01	3.61E-01
	654.28	2.97	6.28E-01		-5.52E-02	3.10E-01
	682.77	5.76	3.12E-01		1.27E-01	1.54E-01
	761.12	4.32	4.85E-01		8.90E-03	2.40E-01
	773.37	2.82	6.34E-01		-4.16E-01	3.12E-01
	786.36	1.07	1.60E+00		-9.13E-01	7.88E-01
	787.16	1.74	9.86E-01		4.91E-01	4.85E-01

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	812.97		48.20	3.57E-02	3.57E-02	3.07E-02	1.76E-02
		819.51		1.39	1.21E+00		3.57E-02	5.93E-01
		876.65		2.75	9.36E-01		1.38E-01	4.63E-01
		914.96		23.30	6.77E-02		-4.68E-03	3.32E-02
		966.78		8.96	1.86E-01		3.72E-01	9.11E-02
		1030.65		15.13	1.01E-01		8.76E-02	4.94E-02
		1656.10		1.31	3.36E-01		2.23E-01	1.51E-01
		1738.16		7.45	4.42E-02		-3.22E-02	1.91E-02
	TE-129	459.60		7.70	5.76E-03	5.76E-03	-2.13E-03	2.85E-03
		487.39		1.42	3.06E-02		-2.16E-02	1.51E-02
+	Te-129m	695.88	*	3.00	8.24E-03	8.24E-03	3.26E-02	4.04E-03
	I-131	80.18		2.62	5.33E-02	6.26E-04	-3.72E-02	2.66E-02
		284.30		6.12	9.61E-03		1.56E-03	4.78E-03
		364.49		81.50	6.26E-04		4.82E-04	3.11E-04
		636.99		7.16	5.24E-03		2.06E-03	2.59E-03
		722.91		1.77	3.51E-02		3.44E-01	1.74E-02
	Te-131m	773.67		36.80	1.64E-03	1.64E-03	-1.08E-03	8.07E-04
		793.75		13.40	4.48E-03		5.96E-04	2.21E-03
		852.21		19.90	2.81E-03		-4.53E-03	1.38E-03
		1125.46		11.00	4.26E-03		-1.68E-03	2.08E-03
		1206.60		9.41	3.52E-03		1.17E-03	1.70E-03
	I-132	262.90		1.28	5.43E-02	5.94E-04	-1.64E-02	2.70E-02
		284.90		0.71	9.33E-02		6.91E-02	4.64E-02
		505.79		4.93	1.32E-02		3.70E-03	6.55E-03
		522.65		16.00	3.46E-03		-2.36E-03	1.71E-03
		547.20		1.14	4.68E-02		-1.23E-03	2.32E-02
		621.20		1.97	2.52E-02		4.31E-03	1.24E-02
		630.19		13.30	3.62E-03		-7.97E-04	1.79E-03
		650.50		2.57	1.90E-02		-1.22E-02	9.37E-03
		667.71		98.70	8.99E-04		2.11E-05	4.46E-04
		669.80		4.60	1.15E-02		-1.34E-03	5.69E-03
		671.40		3.50	1.54E-02		-1.53E-03	7.63E-03
		727.10		5.40	1.48E-02		-2.37E-03	7.36E-03
		728.40		1.60	4.76E-02		-1.44E-02	2.36E-02
		772.60		75.60	5.94E-04		-5.62E-04	2.93E-04
		809.50		2.60	1.69E-02		-4.15E-02	8.30E-03
		812.00		5.50	8.04E-03		9.01E-03	3.96E-03
		910.10		0.93	4.39E-02		1.74E-02	2.15E-02
		954.55		17.60	2.25E-03		-2.84E-03	1.10E-03
		1136.00		3.01	1.10E-02		-1.29E-02	5.36E-03
		1172.90		1.09	7.05E-02		7.12E-01	3.49E-02
		1290.80		1.13	1.96E-02		-1.11E-02	9.40E-03
		1295.10		1.88	9.69E-03		-5.32E-03	4.65E-03
		1297.90		0.89	1.87E-02		1.60E-02	8.96E-03
		1372.07		2.47	7.83E-03		-1.58E-03	3.72E-03
		1398.57		7.01	3.15E-03		3.50E-03	1.51E-03
		1442.56		1.40	9.12E-03		-5.02E-03	4.26E-03
	TE-132	49.72		15.00	3.00E-02	8.75E-04	1.80E-02	1.50E-02
		111.76		1.74	6.38E-02		4.94E-02	3.18E-02
		116.30		1.96	5.51E-02		-2.30E-03	2.75E-02
		228.16		88.00	8.75E-04		4.56E-04	4.36E-04
	BA-133	81.00		32.90	3.83E-03	7.75E-04	4.94E-04	1.91E-03
		276.40		7.16	7.67E-03		2.27E-03	3.82E-03

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-133	302.85	18.34	2.81E-03	7.75E-04	-2.91E-04	1.40E-03
	356.01	62.05	7.75E-04		3.54E-04	3.85E-04
	383.85	8.94	4.92E-03		-5.17E-03	2.44E-03
I-133	529.87	87.00	1.06E-03	1.06E-03	7.70E-04	5.24E-04
	706.58	1.51	5.28E-02		4.80E-02	2.60E-02
	856.28	1.24	5.72E-02		-1.56E-03	2.81E-02
	875.33	4.51	2.46E-02		1.54E-01	1.22E-02
	1236.44	1.51	2.74E-02		-2.18E-02	1.32E-02
	1298.22	2.35	1.67E-02		1.75E-02	8.03E-03
@ TE-133	312.08	62.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	407.63	27.10	1.00E+20		1.00E+20	1.00E+20
@	410.40	0.94	1.00E+20		1.00E+20	1.00E+20
@	474.85	0.88	1.00E+20		1.00E+20	1.00E+20
@	719.71	8.90	1.00E+20		1.00E+20	1.00E+20
@	786.93	5.40	1.00E+20		1.00E+20	1.00E+20
@	844.36	3.31	1.00E+20		1.00E+20	1.00E+20
@	884.30	0.72	1.00E+20		1.00E+20	1.00E+20
@	930.71	3.81	1.00E+20		1.00E+20	1.00E+20
@	997.70	1.04	1.00E+20		1.00E+20	1.00E+20
@	1000.72	3.62	1.00E+20		0.00E+00	1.00E+20
@	1021.13	2.81	1.00E+20		1.00E+20	1.00E+20
@	1061.61	1.19	1.00E+20		1.00E+20	1.00E+20
@	1252.08	1.44	1.00E+20		1.00E+20	1.00E+20
@	1312.80	0.85	1.00E+20		1.00E+20	1.00E+20
@	1333.21	10.67	1.00E+20		1.00E+20	1.00E+20
@	1717.61	3.18	1.00E+20		1.00E+20	1.00E+20
@	1881.52	1.22	1.00E+20		1.00E+20	1.00E+20
@	2136.51	1.25	1.00E+20		1.00E+20	1.00E+20
@	2229.64	0.87	1.00E+20		1.00E+20	1.00E+20
Xe-133	81.00	36.90	3.75E-03	3.75E-03	4.83E-04	1.87E-03
CS-134	475.36	1.48	2.94E-02	3.86E-04	2.83E-02	1.46E-02
	563.25	8.34	4.83E-03		-1.94E-03	2.39E-03
	569.33	15.37	2.61E-03		5.37E-05	1.29E-03
	604.72	97.62	3.86E-04		-2.77E-04	1.91E-04
	795.86	85.46	3.90E-04		-1.29E-04	1.92E-04
	801.95	8.69	3.96E-03		7.65E-05	1.95E-03
	1038.61	0.99	3.00E-02		-1.38E-02	1.47E-02
	1167.97	1.79	3.00E-02		-3.44E-04	1.49E-02
	1365.19	3.02	4.52E-03		3.67E-03	2.16E-03
I-135	220.50	1.75	5.19E-01	8.40E-03	-3.25E-01	2.59E-01
	288.45	3.10	2.45E-01		-1.87E-01	1.22E-01
	417.63	3.53	1.90E-01		1.87E-02	9.43E-02
	546.56	7.15	7.83E-02		-5.28E-02	3.88E-02
	836.80	6.69	6.52E-02		-3.61E-02	3.20E-02
	971.96	0.89	4.86E-01		-1.34E-01	2.38E-01
	972.62	1.21	3.52E-01		1.72E-01	1.72E-01
	1038.76	7.90	5.05E-02		-2.33E-02	2.47E-02
	1101.58	1.61	2.31E-01		9.13E-02	1.13E-01
	1124.00	3.62	1.08E-01		4.33E-02	5.27E-02
	1131.51	22.60	1.65E-02		1.18E-02	8.05E-03
	1240.47	0.90	3.44E-01		-7.45E-02	1.67E-01
	1260.41	28.70	8.40E-03		-1.61E-02	4.04E-03
	1457.56	8.70	2.41E-02		1.58E-02	1.15E-02

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1502.79		1.08	1.64E-01	8.40E-03	-1.10E-01	7.70E-02
		1566.41		1.29	9.96E-02		-5.20E-02	4.56E-02
		1678.03		9.60	1.21E-02		8.84E-03	5.48E-03
		1706.46		4.10	2.38E-02		-2.17E-02	1.05E-02
		1791.20		7.72	1.36E-02		5.73E-03	6.03E-03
		2408.65		0.96	6.17E-02		1.72E-02	2.31E-02
	XE-135	249.79		90.00	4.51E-03	4.51E-03	1.33E-02	2.25E-03
	XE-135m	526.56		80.40	7.01E-03	7.01E-03	-2.62E-03	3.47E-03
	CS-136	66.88		4.79	4.18E-02	3.61E-04	2.94E-02	2.09E-02
		86.36		5.90	2.18E-02		4.56E-02	1.09E-02
		153.25		7.70	1.08E-02		-7.84E-04	5.36E-03
		163.92		4.69	1.79E-02		-6.10E-03	8.90E-03
		176.60		13.70	5.68E-03		-2.35E-03	2.83E-03
		273.65		12.66	4.92E-03		-1.10E-04	2.45E-03
		340.55		46.80	1.19E-03		-3.74E-04	5.93E-04
		818.51		99.70	3.61E-04		9.19E-05	1.77E-04
		1048.07		80.00	4.01E-04		-4.26E-04	1.96E-04
		1235.36		20.00	1.04E-03		4.32E-04	5.03E-04
+	CS-137	661.66	*	85.10	3.13E-04	3.13E-04	2.09E-02	1.54E-04
	BA-139	33.44		3.84	1.09E+05	8.44E+02	-8.65E+04	5.45E+04
		165.86		23.70	8.44E+02		-1.06E+02	4.21E+02
	BA-140	132.69		0.20	4.18E-01	1.69E-03	4.09E-01	2.08E-01
		162.66		6.22	1.23E-02		1.08E-02	6.11E-03
		304.85		4.29	1.29E-02		3.06E-04	6.44E-03
		423.72		3.10	1.47E-02		1.99E-03	7.31E-03
		437.58		1.93	2.43E-02		-9.31E-03	1.21E-02
		537.26		24.39	1.69E-03		-6.24E-05	8.35E-04
	LA-140	109.42		0.22	4.18E-01	2.42E-04	7.85E-02	2.09E-01
		131.12		0.47	1.82E-01		1.42E-01	9.08E-02
		173.54		0.13	5.66E-01		-1.54E-01	2.82E-01
		241.93		0.41	1.50E-01		-9.97E-02	7.48E-02
		266.54		0.47	1.25E-01		1.00E-01	6.22E-02
		328.76		20.30	2.70E-03		2.00E-03	1.34E-03
		432.49		2.90	1.74E-02		-7.49E-03	8.62E-03
		487.02		45.50	1.05E-03		1.64E-04	5.21E-04
		618.10		0.04	1.02E+00		-7.61E-01	5.02E-01
		751.64		4.33	9.46E-03		5.81E-03	4.67E-03
		815.77		23.28	1.46E-03		1.66E-03	7.21E-04
		867.85		5.50	8.90E-03		1.20E-03	4.39E-03
		919.55		2.66	1.19E-02		-9.69E-03	5.85E-03
		925.19		6.90	4.86E-03		6.01E-04	2.39E-03
		950.99		0.52	6.29E-02		6.69E-03	3.09E-02
		1596.21		95.40	2.42E-04		7.06E-04	1.16E-04
		2347.88		0.85	6.56E-03		-6.55E-04	2.69E-03
		2521.40		3.46	8.87E-04		-1.09E-03	2.80E-04
		2547.34		0.10	1.17E-02		0.00E+00	0.00E+00
@	BA-141	33.44		7.93	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		190.33		44.80	1.00E+20		1.00E+20	1.00E+20
@		276.95		23.60	1.00E+20		1.00E+20	1.00E+20
@		304.19		26.10	1.00E+20		1.00E+20	1.00E+20
@		343.67		15.10	1.00E+20		1.00E+20	1.00E+20
@		389.74		1.37	1.00E+20		1.00E+20	1.00E+20
@		457.51		5.00	1.00E+20		1.00E+20	1.00E+20

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@ BA-141	462.06	5.10	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	467.22	5.60	1.00E+20		1.00E+20	1.00E+20
@	625.08	3.45	1.00E+20		1.00E+20	1.00E+20
@	647.78	5.70	1.00E+20		1.00E+20	1.00E+20
@	738.95	4.39	1.00E+20		1.00E+20	1.00E+20
@	831.46	1.64	1.00E+20		1.00E+20	1.00E+20
@	876.09	3.45	1.00E+20		1.00E+20	1.00E+20
@	1160.72	1.12	1.00E+20		1.00E+20	1.00E+20
@	1197.28	4.35	1.00E+20		1.00E+20	1.00E+20
@	1323.92	0.92	1.00E+20		1.00E+20	1.00E+20
@	1654.00	0.65	1.00E+20		1.00E+20	1.00E+20
@	1682.19	1.19	1.00E+20		1.00E+20	1.00E+20
CE-141	145.44	48.30	1.60E-03	1.60E-03	1.21E-03	7.97E-04
@ BA-142	33.44	14.20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	77.59	7.00	1.00E+20		1.00E+20	1.00E+20
@	177.00	2.12	1.00E+20		1.00E+20	1.00E+20
@	231.61	12.20	1.00E+20		1.00E+20	1.00E+20
@	255.30	20.70	1.00E+20		1.00E+20	1.00E+20
@	286.30	1.11	1.00E+20		1.00E+20	1.00E+20
@	309.20	2.60	1.00E+20		1.00E+20	1.00E+20
@	335.00	1.53	1.00E+20		1.00E+20	1.00E+20
@	363.96	4.76	1.00E+20		1.00E+20	1.00E+20
@	425.04	5.75	1.00E+20		1.00E+20	1.00E+20
@	599.80	1.85	1.00E+20		1.00E+20	1.00E+20
@	840.40	3.63	1.00E+20		1.00E+20	1.00E+20
@	895.20	13.90	1.00E+20		1.00E+20	1.00E+20
@	949.10	10.70	1.00E+20		1.00E+20	1.00E+20
@	1001.20	9.80	1.00E+20		0.00E+00	1.00E+20
@	1078.70	11.50	1.00E+20		1.00E+20	1.00E+20
@	1094.10	2.82	1.00E+20		1.00E+20	1.00E+20
@	1126.80	1.50	1.00E+20		1.00E+20	1.00E+20
@	1202.40	5.60	1.00E+20		1.00E+20	1.00E+20
@	1204.30	14.30	1.00E+20		1.00E+20	1.00E+20
@	1380.20	3.42	1.00E+20		1.00E+20	1.00E+20
CE-143	57.36	11.70	4.22E-02	2.05E-03	-1.85E-02	2.11E-02
	231.55	2.05	5.20E-02		2.21E-03	2.59E-02
	293.27	42.80	2.05E-03		-4.24E-04	1.02E-03
	350.62	3.23	2.43E-02		3.71E-03	1.21E-02
	490.37	2.16	3.46E-02		2.27E-02	1.72E-02
	664.57	5.69	2.66E-02		-5.88E-04	1.32E-02
	721.93	5.39	1.76E-02		1.83E-01	8.73E-03
	880.46	1.03	5.79E-02		2.93E-02	2.85E-02
CE-144	80.12	1.36	9.00E-02	7.19E-03	-6.30E-02	4.49E-02
	133.51	11.09	7.19E-03		1.09E-02	3.58E-03
ND-147	38.17	13.20	6.37E-02	3.22E-03	-7.67E-02	3.18E-02
	38.72	23.80	3.34E-02		-3.18E-02	1.67E-02
	91.11	28.90	3.82E-03		1.53E-03	1.91E-03
	275.39	0.79	7.63E-02		-1.06E-01	3.80E-02
	319.41	1.97	2.74E-02		-2.27E-02	1.36E-02
	398.13	0.87	5.57E-02		4.86E-02	2.77E-02
	439.88	1.20	4.02E-02		-4.66E-03	1.99E-02
	531.01	13.11	3.22E-03		5.68E-04	1.59E-03
	685.88	0.82	4.41E-02		2.00E-02	2.18E-02

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@ PR-147	36.85	19.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	37.36	35.50	1.00E+20		1.00E+20	1.00E+20
@	49.88	4.00	1.00E+20		1.00E+20	1.00E+20
@	77.97	9.70	1.00E+20		1.00E+20	1.00E+20
@	86.69	5.40	1.00E+20		1.00E+20	1.00E+20
@	127.80	7.40	1.00E+20		1.00E+20	1.00E+20
@	249.20	1.32	1.00E+20		1.00E+20	1.00E+20
@	314.70	18.20	1.00E+20		1.00E+20	1.00E+20
@	328.80	4.00	1.00E+20		1.00E+20	1.00E+20
@	335.70	4.70	1.00E+20		1.00E+20	1.00E+20
@	388.80	1.41	1.00E+20		1.00E+20	1.00E+20
@	466.80	1.70	1.00E+20		1.00E+20	1.00E+20
@	477.90	4.60	1.00E+20		1.00E+20	1.00E+20
@	516.70	1.30	1.00E+20		1.00E+20	1.00E+20
@	554.70	5.90	1.00E+20		1.00E+20	1.00E+20
@	577.90	13.70	1.00E+20		1.00E+20	1.00E+20
@	641.40	16.10	1.00E+20		1.00E+20	1.00E+20
@	996.00	1.52	1.00E+20		1.00E+20	1.00E+20
@	1136.70	1.42	1.00E+20		1.00E+20	1.00E+20
@	1261.10	8.40	1.00E+20		1.00E+20	1.00E+20
@	1300.40	2.30	1.00E+20		1.00E+20	1.00E+20
ND-149	38.17	9.00	2.06E+03	5.90E+01	-2.48E+03	1.03E+03
	38.72	16.30	1.08E+03		-1.02E+03	5.36E+02
	58.88	1.30	5.10E+03		-1.01E+03	2.55E+03
	74.32	2.11	1.62E+03		9.74E+02	8.07E+02
	97.00	1.48	1.57E+03		1.22E+03	7.85E+02
	114.31	19.20	1.10E+02		-5.03E+01	5.50E+01
	155.87	5.95	2.97E+02		-2.59E+02	1.48E+02
	188.64	1.79	9.12E+02		-8.03E+02	4.55E+02
	198.93	1.39	1.11E+03		-9.83E+02	5.54E+02
	208.15	2.55	6.23E+02		-2.78E+02	3.10E+02
	211.31	26.00	5.90E+01		3.13E+01	2.94E+01
	240.22	3.95	3.53E+02		4.43E+01	1.76E+02
	245.72	0.81	1.87E+03		3.51E+02	9.33E+02
	267.69	6.05	2.26E+02		-1.19E+02	1.12E+02
	270.17	10.80	1.19E+02		1.16E+02	5.94E+01
	326.55	4.57	2.58E+02		1.52E+02	1.28E+02
	349.23	1.38	8.57E+02		-1.81E+02	4.26E+02
	423.55	7.50	1.37E+02		9.11E+01	6.81E+01
	443.55	1.15	9.55E+02		6.70E+02	4.74E+02
	540.51	6.60	1.40E+02		-4.76E+01	6.95E+01
	654.83	8.00	1.07E+02		6.63E+01	5.26E+01
PM-149	285.95	3.10	2.35E-02	2.35E-02	1.57E-02	1.17E-02
PM-150	39.52	0.63	6.79E+02	4.51E-01	-1.39E+03	3.39E+02
	40.12	1.14	3.58E+02		-2.58E+02	1.78E+02
	333.92	68.00	4.51E-01		-4.32E-02	2.24E-01
	406.51	5.60	4.91E+00		4.37E-01	2.44E+00
	565.70	1.31	1.77E+01		-9.07E+00	8.75E+00
	587.02	1.34	1.95E+01		8.53E+00	9.65E+00
	612.25	0.93	2.42E+01		1.21E+01	1.20E+01
	712.22	4.40	4.72E+00		2.28E+00	2.33E+00
	737.50	2.25	9.13E+00		1.05E+01	4.50E+00
	831.85	11.90	1.57E+00		-8.62E-01	7.71E-01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	859.95	3.40	5.36E+00	4.51E-01	3.66E+00	2.63E+00
	876.41	7.30	4.13E+00		9.88E-01	2.04E+00
	1165.77	15.80	1.33E+00		-2.92E-01	6.55E-01
	1170.90	1.06	3.51E+01		3.35E+02	1.74E+01
	1193.87	4.80	2.63E+00		-8.46E-01	1.27E+00
	1213.72	1.03	1.09E+01		-8.33E+00	5.24E+00
	1223.28	2.80	4.03E+00		1.19E+00	1.94E+00
	1324.51	17.50	8.83E-01		2.51E-01	4.29E-01
	1379.32	3.10	2.83E+00		-2.04E+00	1.34E+00
	1736.40	6.90	5.92E-01		4.45E-01	2.59E-01
	1963.71	1.47	2.37E+00		1.28E+00	9.94E-01
	2033.46	0.97	3.13E+00		1.33E+00	1.26E+00
@ ND-151	38.17	5.94	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	38.72	10.70	1.00E+20		1.00E+20	1.00E+20
@	68.98	1.26	1.00E+20		1.00E+20	1.00E+20
@	85.12	2.05	1.00E+20		1.00E+20	1.00E+20
@	89.96	1.53	1.00E+20		1.00E+20	1.00E+20
@	116.80	39.00	1.00E+20		1.00E+20	1.00E+20
@	138.89	7.00	1.00E+20		1.00E+20	1.00E+20
@	170.76	2.87	1.00E+20		1.00E+20	1.00E+20
@	175.07	6.30	1.00E+20		1.00E+20	1.00E+20
@	255.68	14.80	1.00E+20		1.00E+20	1.00E+20
@	300.58	1.82	1.00E+20		1.00E+20	1.00E+20
@	423.56	5.90	1.00E+20		1.00E+20	1.00E+20
@	460.59	0.96	1.00E+20		1.00E+20	1.00E+20
@	585.22	1.30	1.00E+20		1.00E+20	1.00E+20
@	677.88	2.38	1.00E+20		1.00E+20	1.00E+20
@	736.23	5.90	1.00E+20		1.00E+20	1.00E+20
@	739.20	1.52	1.00E+20		1.00E+20	1.00E+20
@	755.57	1.17	1.00E+20		1.00E+20	1.00E+20
@	797.53	4.70	1.00E+20		1.00E+20	1.00E+20
@	1016.40	2.50	1.00E+20		1.00E+20	1.00E+20
@	1122.63	4.10	1.00E+20		1.00E+20	1.00E+20
@	1180.89	13.30	1.00E+20		1.00E+20	1.00E+20
Pm-151	167.75	8.30	1.56E-02	4.01E-03	2.45E-03	7.77E-03
	177.16	3.80	3.39E-02		9.40E-03	1.69E-02
	240.09	3.80	2.91E-02		3.65E-03	1.45E-02
	275.21	6.80	1.46E-02		-2.02E-02	7.25E-03
	340.08	22.50	4.01E-03		-3.20E-04	1.99E-03
EU-152	121.78	28.53	3.45E-03	8.17E-04	7.31E-05	1.72E-03
	344.28	26.59	1.89E-03		1.71E-03	9.37E-04
	778.90	12.93	2.71E-03		3.53E-03	1.33E-03
	867.37	4.23	1.02E-02		-7.58E-04	5.02E-03
	964.08	14.51	2.16E-03		-1.65E-03	1.06E-03
	1085.87	10.11	2.60E-03		1.41E-04	1.27E-03
	1112.07	13.67	2.09E-03		2.01E-03	1.02E-03
	1408.01	20.87	8.17E-04		6.40E-04	3.91E-04
@ ND-152	44.44	5.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	250.15	16.40	1.00E+20		1.00E+20	1.00E+20
@	278.56	26.00	1.00E+20		1.00E+20	1.00E+20
@	294.47	2.90	1.00E+20		1.00E+20	1.00E+20
@	545.70	0.83	1.00E+20		1.00E+20	1.00E+20
@	592.50	0.99	1.00E+20		1.00E+20	1.00E+20

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	GD-153	69.67		2.45	6.53E-02	3.22E-03	2.54E-02	3.26E-02
		97.43		30.00	3.22E-03		3.67E-04	1.60E-03
		103.18		22.10	4.19E-03		-6.08E-04	2.09E-03
	SM-153	69.67		4.67	4.93E-02	4.58E-03	1.92E-02	2.46E-02
		103.18		29.14	4.58E-03		-6.65E-04	2.28E-03
+	EU-154	42.70		20.45	2.53E-02	9.87E-04	1.37E-02	1.26E-02
		123.07	*	40.40	3.05E-03		2.86E-02	1.52E-03
		247.93	*	6.89	1.04E-02		2.90E-02	5.20E-03
		591.76	*	4.95	8.73E-03		2.77E-02	4.32E-03
		692.42	*	1.78	1.46E-02		2.77E-02	7.16E-03
		723.30	*	20.06	2.61E-03		2.90E-02	1.29E-03
		756.80	*	4.52	9.18E-03		2.48E-02	4.53E-03
		873.18	*	12.08	3.88E-03		2.75E-02	1.92E-03
		996.29	*	10.48	4.06E-03		2.76E-02	2.00E-03
		1004.76	*	18.01	2.58E-03		2.84E-02	1.27E-03
		1246.12	*	0.86	2.14E-02		3.26E-02	1.03E-02
		1274.43	*	34.80	9.87E-04		2.80E-02	4.83E-04
		1494.05	*	0.70	1.45E-02		2.77E-02	6.74E-03
		1596.48	*	1.80	4.08E-03		2.61E-02	1.85E-03
+	EU-155	43.00		18.12	2.79E-02	4.74E-03	1.22E-03	1.39E-02
		60.01	*	1.17	2.62E-01		6.32E+00	1.31E-01
		86.55	*	30.70	4.74E-03		4.95E-03	2.37E-03
		105.31	*	21.10	5.55E-03		4.70E-03	2.77E-03
	EU-156	88.97		8.40	1.42E-02	1.29E-03	1.71E-03	7.09E-03
		646.29		6.30	6.01E-03		-1.60E-04	2.97E-03
		723.47		5.40	1.15E-02		1.17E-01	5.71E-03
		811.77		9.70	3.65E-03		4.46E-03	1.80E-03
		1065.14		4.90	6.20E-03		5.86E-03	3.03E-03
		1079.16		4.60	6.10E-03		4.02E-03	2.98E-03
		1153.80		11.50	2.12E-03		-1.04E-03	1.03E-03
		1230.71		8.00	2.52E-03		6.89E-04	1.21E-03
		1242.42		6.60	3.49E-03		5.43E-03	1.69E-03
		1277.43		2.89	2.80E-02		-1.33E-03	1.39E-02
		1366.41		1.57	1.03E-02		-1.42E-03	4.92E-03
		1965.95		3.90	1.29E-03		-2.46E-03	5.30E-04
		2097.70		3.80	1.54E-03		7.74E-04	6.37E-04
		2186.71		3.50	2.02E-03		1.29E-03	8.66E-04
	Sm-156	87.60		24.00	2.90E-02	1.84E-02	4.82E-02	1.45E-02
		165.80		13.00	3.39E-02		-4.25E-03	1.69E-02
		204.00		21.00	1.84E-02		-1.90E-02	9.19E-03
	EU-158	42.31		5.80	6.73E+08	7.11E+06	4.99E+08	3.36E+08
		43.00		10.40	3.55E+08		1.54E+07	1.77E+08
		79.49		10.50	8.59E+07		-4.10E+07	4.29E+07
		181.97		2.30	2.08E+08		-1.29E+08	1.04E+08
		528.05		1.53	1.91E+08		-3.20E+07	9.47E+07
		606.39		4.00	6.55E+07		-3.80E+07	3.23E+07
		743.02		3.60	6.43E+07		-3.94E+07	3.17E+07
		897.61		12.40	1.84E+07		7.76E+06	9.05E+06
		906.50		1.83	1.24E+08		2.38E+08	6.08E+07
		922.51		1.62	1.37E+08		1.28E+08	6.75E+07
		944.15		30.00	7.11E+06		-5.67E+06	3.49E+06
		953.03		1.98	1.09E+08		1.65E+07	5.35E+07
		962.09		1.89	1.17E+08		1.83E+08	5.77E+07

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	977.14	16.30	1.29E+07	7.11E+06	-8.95E+06	6.33E+06
	986.96	1.35	1.54E+08		-8.19E+06	7.53E+07
	1107.63	5.10	3.90E+07		-1.49E+07	1.90E+07
	1184.10	3.00	5.00E+07		1.83E+07	2.42E+07
	1186.00	2.90	5.15E+07		1.69E+07	2.49E+07
	1187.10	4.40	3.40E+07		3.50E+07	1.65E+07
	1263.61	2.20	5.86E+07		-5.92E+07	2.82E+07
	1347.95	1.65	6.82E+07		3.06E+07	3.25E+07
	1944.47	1.62	2.60E+07		-1.94E+06	1.10E+07
TB-160	86.79	13.20	8.97E-03	1.27E-03	2.30E-02	4.48E-03
	298.58	26.10	2.07E-03		3.90E-04	1.03E-03
	879.38	30.10	1.56E-03		5.85E-04	7.71E-04
	962.32	9.81	3.19E-03		3.09E-03	1.57E-03
	966.17	25.10	1.27E-03		1.35E-03	6.23E-04
	1177.96	14.90	3.89E-03		-3.65E-04	1.93E-03
TB-161	25.65	23.20	3.50E-01	1.51E-02	-1.28E-01	1.74E-01
	48.91	17.00	2.34E-02		4.43E-03	1.17E-02
	52.00	3.43	9.90E-02		1.01E-01	4.94E-02
	57.19	1.79	1.78E-01		-7.10E-02	8.86E-02
	74.57	10.20	1.51E-02		1.25E-02	7.52E-03
YB-169	63.12	43.62	5.10E-03	1.80E-03	1.15E-03	2.54E-03
	93.61	2.58	4.38E-02		-1.82E-02	2.19E-02
	109.78	17.39	5.28E-03		1.67E-03	2.63E-03
	130.52	11.38	7.74E-03		-2.95E-04	3.86E-03
	177.21	22.28	3.24E-03		8.98E-04	1.61E-03
	197.96	35.93	1.80E-03		1.88E-03	8.98E-04
	307.74	10.05	4.84E-03		-2.93E-04	2.40E-03
HF-172	54.07	63.00	4.38E-03	4.38E-03	-3.66E-03	2.19E-03
	67.35	5.30	3.13E-02		1.91E-02	1.56E-02
	81.75	4.50	2.64E-02		-2.20E-02	1.32E-02
	114.06	2.60	3.35E-02		-2.04E-02	1.67E-02
	125.81	11.30	8.12E-03		-7.39E-04	4.05E-03
	127.91	1.46	5.63E-02		9.69E-03	2.81E-02
LU-173	59.30	24.44	1.07E-02	2.61E-03	3.16E-01	5.33E-03
	78.63	11.90	1.12E-02		-1.86E-02	5.58E-03
	100.72	5.24	1.82E-02		-8.75E-03	9.10E-03
	171.39	2.90	2.41E-02		3.58E-03	1.20E-02
	272.11	21.20	2.61E-03		-2.41E-03	1.30E-03
LU-177	112.95	6.23	1.57E-02	6.97E-03	-3.20E-03	7.84E-03
	208.37	10.41	6.97E-03		-3.12E-03	3.47E-03
	249.67	0.20	3.39E-01		1.00E+00	1.69E-01
	321.32	0.22	2.50E-01		2.43E-01	1.24E-01
HF-181	133.02	43.30	1.96E-03	5.41E-04	4.61E-04	9.76E-04
	345.93	15.12	3.40E-03		2.22E-03	1.69E-03
	482.18	80.50	5.41E-04		-9.98E-05	2.68E-04
W-181	56.28	18.70	1.50E-02	8.88E-03	-7.65E-03	7.47E-03
	57.53	32.00	8.88E-03		-3.73E-03	4.44E-03
	65.00	10.60	1.69E-02		-7.32E-03	8.42E-03
TA-182	57.98	10.01	2.78E-02	6.85E-04	-7.73E-03	1.39E-02
	59.32	17.20	1.52E-02		4.51E-01	7.61E-03
	65.72	3.01	6.44E-02		1.32E-02	3.21E-02
	67.75	46.67	3.73E-03		3.38E-03	1.86E-03
	84.68	2.65	4.59E-02		1.90E-02	2.29E-02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	100.11	14.20	7.08E-03	6.85E-04	3.20E-03	3.54E-03
	113.67	1.87	5.23E-02		-1.40E-02	2.61E-02
	116.42	0.44	1.95E-01		-8.14E-03	9.75E-02
	152.43	7.02	1.12E-02		-2.20E-03	5.58E-03
	156.39	2.67	2.90E-02		-2.30E-02	1.45E-02
	179.39	3.12	2.30E-02		5.93E-04	1.14E-02
	198.35	1.47	4.72E-02		2.67E-02	2.35E-02
	222.11	7.57	8.67E-03		2.80E-03	4.32E-03
	229.32	3.64	1.81E-02		1.48E-02	9.04E-03
	264.08	3.61	1.64E-02		6.54E-03	8.16E-03
	928.00	0.61	5.25E-02		2.46E-02	2.58E-02
	959.73	0.35	9.28E-02		3.67E-02	4.56E-02
	1001.70	2.09	3.52E-02		0.00E+00	1.74E-02
	1044.42	0.24	1.30E-01		9.26E-02	6.38E-02
	1113.41	0.44	6.72E-02		6.08E-02	3.29E-02
	1121.29	35.24	8.02E-04		-1.12E-03	3.91E-04
	1157.30	0.73	3.06E-02		8.49E-03	1.49E-02
	1189.04	16.49	1.21E-03		-9.20E-04	5.85E-04
	1221.40	27.23	6.85E-04		2.68E-04	3.30E-04
	1223.60	0.24	6.62E-02		8.12E-02	3.19E-02
	1231.00	11.62	1.65E-03		4.94E-04	7.96E-04
	1257.41	1.51	1.19E-02		5.69E-03	5.73E-03
	1273.72	0.66	9.23E-02		1.21E+00	4.57E-02
	1289.15	1.37	8.35E-03		2.86E-03	4.00E-03
	1342.73	0.26	5.77E-02		-1.56E-02	2.75E-02
	1373.82	0.22	4.21E-02		5.60E-05	2.00E-02
Ta-183	84.71	1.35	9.78E-02	2.59E-03	4.06E-02	4.88E-02
	99.08	6.80	1.60E-02		2.86E-03	7.96E-03
	107.93	11.20	9.05E-03		2.38E-03	4.52E-03
	161.35	9.10	8.94E-03		-8.06E-04	4.46E-03
	162.32	5.00	1.62E-02		1.17E-02	8.09E-03
	244.26	8.80	8.02E-03		-2.59E-03	3.99E-03
	246.06	27.20	2.59E-03		9.76E-03	1.29E-03
	353.99	11.60	4.74E-03		2.87E-03	2.36E-03
Re-184	111.21	17.20	5.27E-03	8.29E-04	5.16E-03	2.63E-03
	252.85	3.00	1.97E-02		-4.31E-03	9.83E-03
	792.01	37.70	8.69E-04		-5.57E-04	4.28E-04
	894.76	15.70	2.01E-03		-7.30E-04	9.89E-04
	903.28	38.10	8.29E-04		2.21E-04	4.07E-04
W-185	59.72	0.01	2.17E+01	4.83E+00	6.17E+02	1.08E+01
	61.14	0.02	1.19E+01		-9.84E-02	5.93E+00
	69.20	0.01	2.32E+01		-1.70E+00	1.16E+01
	125.36	0.02	4.83E+00		9.00E-01	2.41E+00
W-187	61.14	14.30	3.46E-02	2.09E-03	-2.87E-04	1.73E-02
	69.20	4.82	6.74E-02		-4.94E-03	3.36E-02
	72.00	13.55	2.37E-02		2.86E-02	1.19E-02
	134.25	10.36	1.67E-02		8.70E-03	8.31E-03
	479.53	26.60	3.41E-03		8.43E-04	1.69E-03
	618.37	7.57	9.69E-03		-7.25E-03	4.78E-03
	685.81	33.20	2.09E-03		9.16E-04	1.03E-03
Ir-188	155.05	29.60	3.72E-03	5.83E-04	2.10E-03	1.85E-03
	478.00	14.70	4.42E-03		-3.44E-04	2.19E-03
	633.02	17.90	2.93E-03		-2.63E-03	1.45E-03

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Ir-188	634.97		5.00	1.05E-02	5.83E-04	1.32E-02	5.17E-03
		829.42		5.10	8.88E-03		-1.30E-02	4.36E-03
		1209.77		6.90	4.06E-03		-8.41E-04	1.96E-03
		1715.67		6.20	2.60E-03		3.57E-03	1.20E-03
		2214.59		18.60	5.83E-04		-1.69E-03	2.51E-04
+	W-188	227.07		0.23	2.64E-01	8.05E-02	2.27E-02	1.31E-01
		290.68	*	0.42	8.05E-02		3.26E-02	3.99E-02
	Ir-189	245.08		6.00	1.08E-02	1.08E-02	2.71E-03	5.38E-03
	Ir-190	186.68		50.00	1.37E-03	1.01E-03	-2.29E-04	6.84E-04
		361.09		12.30	4.05E-03		-1.21E-03	2.01E-03
		371.24		21.60	2.27E-03		3.00E-04	1.13E-03
		407.22		27.00	1.73E-03		-2.12E-06	8.58E-04
		518.55		32.20	1.37E-03		-7.85E-04	6.80E-04
		557.95		28.50	1.42E-03		2.09E-03	7.05E-04
		569.30		27.00	1.45E-03		2.99E-05	7.18E-04
		605.14		37.80	1.01E-03		2.25E-04	5.01E-04
	OS-191	63.29		15.70	1.38E-02	3.20E-03	7.87E-04	6.90E-03
		64.99		26.70	6.98E-03		-3.03E-03	3.48E-03
		73.45		9.21	1.61E-02		1.72E-02	8.06E-03
		129.43		26.50	3.20E-03		5.78E-04	1.59E-03
	Pt-191	359.90		5.80	1.08E-02	3.55E-03	-7.37E-03	5.38E-03
		456.47		3.30	1.74E-02		-6.96E-03	8.64E-03
		538.90		14.30	3.55E-03		-1.74E-03	1.76E-03
	IR-192	205.79		3.31	2.09E-02	6.36E-04	1.37E-02	1.04E-02
		295.96		28.71	1.96E-03		-6.24E-04	9.75E-04
		308.45		29.70	1.84E-03		-3.32E-04	9.16E-04
		316.51		82.86	6.36E-04		-3.17E-04	3.16E-04
		468.07		47.84	9.53E-04		-3.45E-04	4.73E-04
		588.58		4.52	1.02E-02		4.42E-03	5.05E-03
		604.41		8.22	4.17E-03		-4.39E-04	2.06E-03
		612.46		5.34	5.99E-03		7.04E-03	2.96E-03
	IR-192m	155.16		0.09	7.86E-01	7.86E-01	8.37E-01	3.92E-01
	IR-193m	80.22		0.00	2.80E+01	2.80E+01	-1.96E+01	1.40E+01
	Pt-193m	135.50		0.11	8.11E-01	8.11E-01	-4.83E-01	4.04E-01
	Au-194	293.55		10.90	7.48E-03	1.20E-03	5.40E-03	3.72E-03
		328.47		62.80	1.20E-03		4.65E-04	5.97E-04
		364.84		1.60	4.60E-02		1.80E-02	2.28E-02
		528.77		1.78	3.56E-02		-1.03E-02	1.76E-02
		645.16		2.32	2.34E-02		6.91E-03	1.16E-02
		948.32		2.29	2.03E-02		-8.34E-03	9.95E-03
		1104.06		2.15	1.90E-02		-6.14E-03	9.26E-03
		1175.36		2.14	4.38E-02		4.07E-01	2.17E-02
		1468.90		6.80	3.08E-03		-6.07E-03	1.45E-03
		1595.81		1.89	1.73E-02		4.78E-02	8.33E-03
		2043.72		3.74	2.05E-03		8.73E-04	8.29E-04
	Ir-194	293.54		2.50	5.11E-02	9.02E-03	3.69E-02	2.54E-02
		328.47		13.10	9.02E-03		3.49E-03	4.48E-03
	AU-195	98.86		11.21	8.45E-03	8.45E-03	3.15E-03	4.22E-03
		129.74		0.84	9.65E-02		2.03E-02	4.81E-02
	Pt-195m	98.90		11.70	9.66E-03	9.66E-03	3.61E-03	4.82E-03
		129.79		2.90	3.33E-02		7.02E-03	1.66E-02
	Au-196	333.03		22.90	2.58E-03	6.38E-04	-1.13E-03	1.28E-03
		355.73		87.00	6.38E-04		2.18E-04	3.17E-04

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Au-196	426.10		6.60	7.31E-03	6.38E-04	6.64E-03	3.63E-03
	Au-196m	147.81		43.50	1.05E-02	1.05E-02	-5.60E-03	5.23E-03
		188.27		30.00	1.31E-02		1.13E-02	6.51E-03
	Pt-197	77.35		17.00	1.83E-02	1.83E-02	-5.56E-03	9.11E-03
		191.44		3.70	4.10E-02		-8.32E-03	2.04E-02
	AU-198	411.80		95.62	6.31E-04	6.31E-04	2.80E-04	3.13E-04
	AU-199	158.38		40.00	2.25E-03	2.25E-03	-3.86E-05	1.12E-03
		208.20		8.72	9.39E-03		-4.20E-03	4.68E-03
	TL-201	135.34		2.61	3.83E-02	8.78E-03	-2.28E-02	1.91E-02
		167.43		10.00	8.78E-03		8.80E-03	4.37E-03
	TL-202	439.51		91.50	5.16E-04	5.16E-04	-2.05E-04	2.56E-04
	PB-203	70.83		26.40	8.00E-03	9.49E-04	-1.80E-03	3.99E-03
		72.87		44.20	4.55E-03		2.09E-03	2.27E-03
		82.40		15.56	1.06E-02		-2.63E-03	5.27E-03
		279.20		80.90	9.49E-04		5.68E-04	4.72E-04
		401.32		3.35	1.97E-02		1.47E-02	9.80E-03
	PB-210	46.54		4.25	9.73E-02	9.73E-02	-1.87E-01	4.85E-02
	Pa-233	86.60		2.01	5.68E-02	1.30E-03	1.19E-01	2.84E-02
		94.65		8.90	1.11E-02		1.18E-02	5.53E-03
		98.43		14.20	6.66E-03		-3.32E-03	3.33E-03
		300.13		6.54	7.83E-03		6.76E-03	3.90E-03
		311.90		38.20	1.30E-03		9.56E-04	6.47E-04
		340.48		4.44	1.11E-02		-3.47E-03	5.51E-03
	U-235	89.96		2.90	3.64E-02	1.13E-03	1.83E-02	1.82E-02
		93.35		4.70	2.13E-02		-9.45E-03	1.06E-02
		109.19		1.64	5.29E-02		1.71E-03	2.64E-02
		143.76		10.93	6.97E-03		-4.24E-04	3.48E-03
		163.36		5.07	1.38E-02		1.44E-02	6.90E-03
		185.71		57.20	1.13E-03		5.62E-04	5.64E-04
		202.11		1.07	5.75E-02		6.92E-03	2.87E-02
		205.31		5.03	1.30E-02		-1.02E-03	6.49E-03
+	NP-237	86.48	*	12.20	1.19E-02	1.19E-02	1.24E-02	5.95E-03
	U-237	59.54		34.50	8.43E-03	3.46E-03	2.46E-01	4.21E-03
		97.07		15.40	6.94E-03		7.39E-03	3.46E-03
		101.06		24.50	4.20E-03		-1.61E-03	2.09E-03
		113.30		3.07	3.17E-02		-4.01E-02	1.58E-02
		114.23		5.81	1.67E-02		-1.02E-02	8.33E-03
		117.46		2.27	4.20E-02		-2.15E-04	2.10E-02
		208.00		21.20	3.46E-03		-4.91E-03	1.73E-03
	NP-238	103.37		0.00	2.70E+01	1.60E-03	-7.56E+00	1.35E+01
		882.63		0.80	5.34E-02		5.76E-03	2.62E-02
		923.99		2.60	1.66E-02		-3.45E-03	8.14E-03
		984.45		25.20	1.60E-03		8.08E-04	7.85E-04
		1025.87		8.75	4.57E-03		-1.35E-03	2.24E-03
		1028.53		18.23	2.20E-03		-4.83E-05	1.08E-03
	U-238	63.29		3.70	5.60E-02	2.39E-02	3.18E-03	2.79E-02
		92.51		4.23	2.39E-02		-2.51E-04	1.19E-02
		112.81		0.21	4.18E-01		-8.51E-02	2.09E-01
		742.81		0.11	2.98E-01		-4.10E-01	1.47E-01
		766.42		0.32	1.04E-01		3.99E-02	5.12E-02
		1001.03		0.84	7.99E-02		0.00E+00	3.96E-02
	Am-239	181.71		1.08	2.62E-01	1.53E-02	1.11E-01	1.30E-01
		209.80		3.50	7.97E-02		-3.68E-02	3.97E-02

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Am-239	226.40		3.30	8.00E-02	1.53E-02	-6.36E-02	3.99E-02
		228.10		11.30	2.34E-02		2.18E-02	1.16E-02
		277.60		15.00	1.53E-02		-9.62E-03	7.62E-03
	NP-239	61.46		1.30	2.47E-01	4.87E-03	-6.20E-02	1.24E-01
		99.53		12.90	9.88E-03		-3.66E-03	4.93E-03
		103.37		20.50	6.04E-03		-1.69E-03	3.01E-03
		106.12		25.34	4.87E-03		-8.39E-04	2.43E-03
		209.75		3.36	2.64E-02		-1.22E-02	1.32E-02
		228.18		11.24	7.49E-03		3.90E-03	3.73E-03
		277.60		14.51	5.08E-03		-3.19E-03	2.53E-03
		285.46		0.79	9.32E-02		5.60E-04	4.64E-02
		315.88		1.60	4.11E-02		-5.84E-03	2.04E-02
		334.31		2.06	3.05E-02		6.04E-03	1.51E-02
	PU-239	38.66		0.01	7.16E+01	1.15E+01	-2.58E+01	3.57E+01
		51.62		0.03	1.15E+01		1.57E+01	5.72E+00
		98.50		0.01	1.30E+01		-6.48E+00	6.49E+00
		111.03		0.00	6.69E+01		6.57E+01	3.34E+01
		129.30		0.01	1.28E+01		3.02E+00	6.40E+00
		171.39		0.00	6.21E+02		9.22E+01	3.09E+02
		203.55		0.00	1.08E+02		1.30E+02	5.37E+01
		332.85		0.00	9.93E+01		-4.97E+01	4.94E+01
		336.11		0.00	4.36E+02		1.18E+02	2.17E+02
		345.01		0.00	8.75E+01		1.50E+01	4.35E+01
		375.05		0.00	2.96E+01		-1.12E+01	1.47E+01
		380.19		0.00	1.49E+02		2.61E+02	7.41E+01
		382.75		0.00	1.75E+02		1.72E+01	8.71E+01
		413.71		0.00	3.14E+01		5.35E+01	1.56E+01
		422.60		0.00	3.54E+02		1.83E+02	1.76E+02
		451.48		0.00	2.32E+02		1.47E+02	1.15E+02
	Am-240	99.53		18.40	7.17E-03	5.60E-04	-2.66E-03	3.58E-03
		103.37		29.20	4.39E-03		-1.23E-03	2.19E-03
		117.23		6.93	1.74E-02		-3.08E-03	8.70E-03
		888.85		24.70	1.76E-03		9.74E-04	8.64E-04
		987.79		72.20	5.60E-04		3.60E-04	2.74E-04
	Np-240m	554.60		20.90	6.26E-03	6.26E-03	3.78E-04	3.10E-03
		597.40		11.70	1.14E-02		6.29E-03	5.62E-03
	U-240	44.10		1.05	1.52E+00	9.11E-01	7.34E-01	7.58E-01
		66.50		0.15	3.78E+00		1.82E+00	1.89E+00
		169.20		0.12	2.05E+00		-3.45E-01	1.02E+00
		189.70		0.24	9.11E-01		1.42E-01	4.54E-01
+	AM-241	59.54	*	35.90	8.53E-03	8.53E-03	2.06E-01	4.26E-03
	AM-242m	49.35		0.13	2.61E+00	2.61E+00	6.07E-01	1.30E+00
		66.89		0.01	1.13E+01		7.92E+00	5.63E+00
		86.65		0.02	4.88E+00		1.02E+01	2.44E+00
		163.25		0.02	4.58E+00		4.78E+00	2.28E+00
	AM-243	43.53		5.90	8.23E-02	2.05E-03	3.98E-02	4.11E-02
		74.66		67.20	2.05E-03		1.71E-03	1.02E-03

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

Analysis Report for 24-2309 VSM-4.5M-S4-CST-d-A Q3

ASR 2094 Branch

Apex-Gamma

Analysis Report for 24-2310 VSM-5.5M-S1-CST-A S3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2310 VSM-5.5M-S1-CST-A S3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 1:10:25PM
Procedure	: S3_gsv02mlw
Operator	: Administrator
Detector Name	: S
Geometry	: S3_gsv02mlw
Live Time	: 6892.6 seconds
Real Time	: 7164.6 seconds
Dead Time	: 3.80 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 6/27/2024
Efficiency Calibration Used Done On	: 3/5/2019
Efficiency Calibration Description	: S3_gsv2ml_R717
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567813
Certificate Name	: R735-b9 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 3:09:54PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2310 VSM-5.5M-S1-CST-A S3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.77	132.23	0.1838	11.75
2	48.82	150.38	0.2453	5.18
3	59.57	183.46	0.0354	287.76
4	74.82	230.02	0.2206	8.90
5	86.77	266.44	0.1548	15.43
6	105.39	323.67	0.1774	11.11
7	123.12	377.98	0.0502	151.08
8	244.49	749.51	0.3068	3.61
9	248.01	760.33	0.0849	46.52
10	277.76	851.65	0.2822	3.28
11	344.45	1055.46	0.1983	7.83
12	414.94	1271.28	0.1162	22.43
13	444.77	1362.71	0.2124	6.42
14	478.59	1466.28	0.3125	3.32
15	511.35	1566.11	0.1170	12.17
16	518.16	1587.44	0.3090	3.74
17	535.48	1640.23	0.2884	3.86
18	557.57	1708.12	0.2924	4.03
19	582.27	1783.65	0.1662	9.94
20	592.04	1813.71	0.0832	40.48
21	625.42	1915.74	0.2613	4.83
22	661.99	2027.80	0.0624	69.65
23	666.64	2042.02	0.1038	26.07
24	677.27	2074.77	0.3376	3.28
25	692.79	2121.63	0.1491	15.42
26	695.35	2130.13	0.1176	22.35
27	715.93	2192.97	0.2860	3.51
28	723.68	2216.72	0.0539	90.05
29	757.18	2319.31	0.0848	36.39
30	779.33	2387.00	0.2297	5.77
31	815.81	2498.81	0.1915	7.03
32	846.05	2591.35	0.1695	8.94
33	851.24	2607.20	0.2388	4.71
34	873.66	2675.85	0.0626	64.72
35	893.03	2735.34	0.1738	8.32
36	904.47	2770.25	0.1505	11.69
37	964.52	2954.24	0.1870	7.49
38	996.76	3052.87	0.0645	58.25
39	1000.01	3064.00	0.0000	0.00
40	1005.24	3078.82	0.0562	77.02
41	1008.32	3090.00	0.0000	0.00
42	1035.08	3170.53	0.3036	3.55
43	1085.93	3325.75	0.2339	3.75
44	1112.41	3407.03	0.1886	6.63
45	1128.75	3456.92	0.1739	7.76
46	1141.48	3495.85	0.2185	5.59
47	1173.80	3595.01	0.0566	71.93
48	1234.84	3782.17	0.2950	3.28
49	1241.88	3803.50	0.2547	4.28
50	1246.75	3818.27	0.1287	13.63
51	1275.07	3905.09	0.0470	100.75
52	1333.17	4083.02	0.0569	67.19
53	1361.92	4170.91	0.2751	4.13
54	1398.20	4281.96	0.1312	12.79
55	1408.77	4314.43	0.1316	12.26

Analysis Report for 24-2310 VSM-5.5M-S1-CST-A S3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
56	1461.65	4476.34	0.2165	4.60
57	1494.72	4577.72	0.1262	14.31
58	1538.80	4712.21	0.2789	3.09
59	1583.31	4849.35	0.2890	3.59
60	1597.29	4891.93	0.0987	21.30
61	1720.24	5268.14	0.1602	8.33
62	2506.57	7676.63	0.1597	5.95
63	2615.95	8011.37	0.2170	3.92

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2310 VSM-5.5M-S1-CST-A S3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 3:09:54PM

Peak Analysis From Channel : 105

Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.77	124	136	132.02	7.02E+03	1717.88	3.24E+05	1.00
F	2	48.82	142	158	150.53	7.20E+03	497.92	5.67E+05	1.31
F	3	59.57	175	191	183.45	5.42E+05	2703.88	6.88E+05	1.15
F	4	74.82	226	238	230.13	7.69E+03	2457.42	5.19E+05	1.14
F	5	86.77	261	274	266.71	1.88E+04	529.98	5.22E+05	1.37
F	6	105.39	315	332	323.73	1.77E+04	2475.40	5.41E+05	1.68
F	7	123.12	370	386	377.98	1.52E+05	2001.41	4.03E+05	1.20
M	8	244.49	746	770	749.57	8.79E+02	194.79	5.51E+04	1.24
m	9	248.01	746	770	760.34	1.88E+04	235.59	8.02E+04	1.25
F	10	277.76	847	857	851.42	9.59E+02	175.60	4.45E+04	1.35
F	11	344.45	1049	1062	1055.59	1.80E+03	139.72	3.32E+04	1.29
F	12	414.94	1267	1282	1271.41	4.89E+03	126.09	2.35E+04	1.41
F	13	444.77	1356	1371	1362.76	1.54E+03	549.89	1.96E+04	1.75
	14	478.59	1462	1474	1466.28	2.07E+02	243.10	1.38E+04	0.94
F	15	511.35	1554	1577	1566.61	9.54E+03	134.36	2.27E+04	2.40
	16	518.16	1584	1592	1587.44	1.07E+02	160.59	7.84E+03	0.55
F	17	535.48	1635	1647	1640.46	3.61E+02	78.83	1.00E+04	1.11
	18	557.57	1703	1712	1708.12	1.13E+02	159.50	7.19E+03	0.60
F	19	582.27	1777	1791	1783.75	1.40E+03	81.41	9.56E+03	1.48
F	20	592.04	1804	1820	1813.66	7.89E+03	360.13	1.01E+04	1.51
F	21	625.42	1912	1922	1915.86	3.51E+02	66.63	5.65E+03	1.15
M	22	661.99	2015	2054	2027.81	1.81E+04	140.31	8.50E+03	1.52
m	23	666.64	2015	2054	2042.06	3.88E+03	84.99	8.61E+03	1.52
F	24	677.27	2071	2078	2074.59	1.34E+02	67.93	3.49E+03	0.45
M	25	692.79	2114	2140	2122.12	2.42E+03	75.80	6.72E+03	1.54
m	26	695.35	2114	2140	2129.94	3.70E+03	82.88	7.88E+03	1.54
F	27	715.93	2184	2198	2192.96	3.66E+02	248.79	5.70E+03	1.39
F	28	723.68	2204	2229	2216.70	2.86E+04	419.61	9.56E+03	1.59
F	29	757.18	2309	2328	2319.28	5.96E+03	306.58	6.65E+03	1.60
F	30	779.33	2379	2396	2387.08	3.89E+02	202.99	5.87E+03	1.16
F	31	815.81	2490	2508	2498.78	7.75E+02	225.36	4.96E+03	1.78
M	32	846.05	2578	2618	2591.37	1.29E+03	233.88	5.25E+03	2.02
m	33	851.24	2578	2618	2607.26	6.18E+02	110.68	6.93E+03	2.03
F	34	873.66	2667	2686	2675.93	1.49E+04	122.95	4.63E+03	1.62
F	35	893.03	2727	2744	2735.24	8.43E+02	223.92	3.46E+03	1.87
F	36	904.47	2760	2777	2770.24	9.83E+02	186.59	3.59E+03	1.50
F	37	964.52	2943	2961	2954.14	5.58E+02	177.39	3.46E+03	1.58
M	38	996.76	3039	3095	3052.85	1.26E+04	139.91	3.33E+03	1.78
m	39	1000.01	3039	3095	3062.80	3.69E+01	32.02	3.16E+03	1.78
m	40	1005.24	3039	3095	3078.82	2.14E+04	211.46	3.29E+03	1.78

Analysis Report for 24-2310 VSM-5.5M-S1-CST-A S3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
m	41	1008.32	3039	3095	3088.24	9.99E+01	35.34	2.96E+03	1.78
F	42	1035.08	3166	3175	3170.18	8.92E+01	31.34	1.58E+03	0.65
F	43	1085.93	3318	3336	3325.87	2.77E+02	40.30	2.55E+03	1.83
F	44	1112.41	3395	3417	3406.96	5.27E+02	160.48	2.52E+03	1.94
F	45	1128.75	3444	3469	3457.01	7.33E+02	168.16	2.33E+03	1.88
F	46	1141.48	3483	3508	3495.98	3.97E+02	142.08	1.95E+03	1.68
F	47	1173.80	3581	3608	3594.96	1.85E+04	285.56	1.87E+03	1.87
M	48	1234.84	3777	3828	3781.85	8.92E+01	26.14	5.44E+02	1.98
m	49	1241.88	3777	3828	3803.42	1.67E+02	31.79	7.82E+02	1.98
m	50	1246.75	3777	3828	3818.34	9.32E+02	115.59	7.39E+02	1.98
F	51	1275.07	3890	3919	3905.06	3.51E+04	342.81	1.39E+03	1.93
F	52	1333.17	4068	4094	4082.98	1.68E+04	249.84	7.14E+02	1.97
F	53	1361.92	4166	4175	4171.00	5.78E+01	16.78	2.56E+02	1.01
F	54	1398.20	4273	4295	4282.11	6.76E+02	28.94	4.59E+02	1.88
F	55	1408.77	4302	4329	4314.48	7.59E+02	77.73	3.43E+02	2.16
F	56	1461.65	4471	4484	4476.42	1.12E+02	15.28	1.57E+02	1.81
F	57	1494.72	4565	4585	4577.69	6.20E+02	71.90	2.48E+02	1.68
F	58	1538.80	4706	4722	4712.65	5.36E+01	12.50	1.57E+02	1.75
F	59	1583.31	4845	4854	4848.97	2.50E+01	2.54	6.08E+01	0.50
F	60	1597.29	4876	4903	4891.77	1.78E+03	93.58	2.04E+02	2.05
F	61	1720.24	5259	5279	5268.30	2.44E+02	46.01	5.72E+01	2.04
F	62	2506.57	7666	7687	7676.56	2.06E+02	13.68	1.10E+01	2.50
F	63	2615.95	8004	8019	8011.59	5.00E+01	26.58	3.44E+00	2.04

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 3:09:54PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567335.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.77	7.02E+03	1717.88			7.02E+03	1.72E+03
F	2	48.82	7.20E+03	497.92			7.20E+03	4.98E+02
F	3	59.57	5.42E+05	2703.88			5.42E+05	2.70E+03
F	4	74.82	7.69E+03	2457.42	1.92E+02	1.21E+01	7.50E+03	2.46E+03
F	5	86.77	1.88E+04	529.98	5.90E+01	4.28E+00	1.87E+04	5.30E+02
F	6	105.39	1.77E+04	2475.40			1.77E+04	2.48E+03

Analysis Report for 24-2310 VSM-5.5M-S1-CST-A S3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	7	123.12	1.52E+05	2001.41			1.52E+05	2.00E+03
M	8	244.49	8.79E+02	194.79			8.79E+02	1.95E+02
m	9	248.01	1.88E+04	235.59			1.88E+04	2.36E+02
F	10	277.76	9.59E+02	175.60			9.59E+02	1.76E+02
F	11	344.45	1.80E+03	139.72			1.80E+03	1.40E+02
F	12	414.94	4.89E+03	126.09			4.89E+03	1.26E+02
F	13	444.77	1.54E+03	549.89			1.54E+03	5.50E+02
	14	478.59	2.07E+02	243.10			2.07E+02	2.43E+02
F	15	511.35	9.54E+03	134.36	2.39E+02	1.01E+01	9.30E+03	1.35E+02
	16	518.16	1.07E+02	160.59			1.07E+02	1.61E+02
F	17	535.48	3.61E+02	78.83			3.61E+02	7.88E+01
	18	557.57	1.13E+02	159.50			1.13E+02	1.59E+02
F	19	582.27	1.40E+03	81.41			1.40E+03	8.14E+01
F	20	592.04	7.89E+03	360.13			7.89E+03	3.60E+02
F	21	625.42	3.51E+02	66.63			3.51E+02	6.66E+01
M	22	661.99	1.81E+04	140.31			1.81E+04	1.40E+02
m	23	666.64	3.88E+03	84.99	8.36E+00	9.80E-01	3.87E+03	8.50E+01
F	24	677.27	1.34E+02	67.93			1.34E+02	6.79E+01
M	25	692.79	2.42E+03	75.80			2.42E+03	7.58E+01
m	26	695.35	3.70E+03	82.88			3.70E+03	8.29E+01
F	27	715.93	3.66E+02	248.79			3.66E+02	2.49E+02
F	28	723.68	2.86E+04	419.61			2.86E+04	4.20E+02
F	29	757.18	5.96E+03	306.58			5.96E+03	3.07E+02
F	30	779.33	3.89E+02	202.99			3.89E+02	2.03E+02
F	31	815.81	7.75E+02	225.36			7.75E+02	2.25E+02
M	32	846.05	1.29E+03	233.88			1.29E+03	2.34E+02
m	33	851.24	6.18E+02	110.68			6.18E+02	1.11E+02
F	34	873.66	1.49E+04	122.95	3.63E-01	1.42E+00	1.49E+04	1.23E+02
F	35	893.03	8.43E+02	223.92			8.43E+02	2.24E+02
F	36	904.47	9.83E+02	186.59			9.83E+02	1.87E+02
F	37	964.52	5.58E+02	177.39			5.58E+02	1.77E+02
M	38	996.76	1.26E+04	139.91			1.26E+04	1.40E+02
m	39	1000.01	3.69E+01	32.02			3.69E+01	3.20E+01
m	40	1005.24	2.14E+04	211.46			2.14E+04	2.11E+02
m	41	1008.32	9.99E+01	35.34			9.99E+01	3.53E+01
F	42	1035.08	8.92E+01	31.34			8.92E+01	3.13E+01
F	43	1085.93	2.77E+02	40.30			2.77E+02	4.03E+01
F	44	1112.41	5.27E+02	160.48			5.27E+02	1.60E+02
F	45	1128.75	7.33E+02	168.16			7.33E+02	1.68E+02
F	46	1141.48	3.97E+02	142.08			3.97E+02	1.42E+02
F	47	1173.80	1.85E+04	285.56			1.85E+04	2.86E+02
M	48	1234.84	8.92E+01	26.14			8.92E+01	2.61E+01
m	49	1241.88	1.67E+02	31.79			1.67E+02	3.18E+01
m	50	1246.75	9.32E+02	115.59			9.32E+02	1.16E+02
F	51	1275.07	3.51E+04	342.81			3.51E+04	3.43E+02
F	52	1333.17	1.68E+04	249.84			1.68E+04	2.50E+02
F	53	1361.92	5.78E+01	16.78			5.78E+01	1.68E+01
F	54	1398.20	6.76E+02	28.94			6.76E+02	2.89E+01
F	55	1408.77	7.59E+02	77.73	1.36E+01	2.08E+00	7.45E+02	7.78E+01
F	56	1461.65	1.12E+02	15.28	1.16E+02	4.05E+00	-3.73E+00	1.58E+01
F	57	1494.72	6.20E+02	71.90			6.20E+02	7.19E+01
F	58	1538.80	5.36E+01	12.50			5.36E+01	1.25E+01
F	59	1583.31	2.50E+01	2.54			2.50E+01	2.54E+00
F	60	1597.29	1.78E+03	93.58			1.78E+03	9.36E+01

Analysis Report for 24-2310 VSM-5.5M-S1-CST-A S3

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 61	1720.24	2.44E+02	46.01			2.44E+02	4.60E+01
F 62	2506.57	2.06E+02	13.68			2.06E+02	1.37E+01
F 63	2615.95	5.00E+01	26.58			5.00E+01	2.66E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
BE-7	0.85	477.61	*	10.44	4.49E-04	5.27E-04	miss
K-40	0.89	1460.83	*	10.67	-1.59E-05	6.75E-05	miss
CO-60	0.94	1173.24	*	99.97	7.58E-03	1.24E-04	0.961
		1332.50	*	99.99	7.48E-03	1.20E-04	0.960
		2505.74	*	1.00	1.49E-02	1.24E-03	miss
RH-106	0.43	511.86	*	20.70	1.08E-02	3.60E-04	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.49	223.90		1.39			
		278.20	*	2.40	7.43E-03	2.57E-03	0.853
		296.50		4.50			
		414.70	*	83.30	1.37E-03	5.37E-05	0.871
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.24E-03	2.81E-05	0.868
		674.80		3.10			
		695.00	*	99.60	1.21E-03	2.81E-05	0.868
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
CS-137	0.98	661.66	*	85.20	5.84E-03	5.63E-05	miss
EU-152	0.46	121.78		28.58			

Analysis Report for 24-2310 VSM-5.5M-S1-CST-A S3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-152	0.46	344.28	*	26.50	1.27E-03	1.03E-04	0.969
		778.90	*	12.94	9.57E-04	5.00E-04	0.959
		964.08	*	14.73	1.37E-03	4.36E-04	0.964
		1085.87	*	10.24	1.01E-03	1.47E-04	1.008
		1112.07	*	13.69	1.50E-03	4.57E-04	0.979
		1408.01	*	21.07	1.62E-03	1.69E-04	0.972
EU-154	0.97	42.70	*	20.45	2.19E-02	5.41E-03	miss
		123.07	*	40.40	4.40E-02	8.19E-04	0.954
		247.93	*	6.89	4.32E-02	7.85E-04	0.941
		591.76	*	4.95	4.40E-02	2.08E-03	0.929
		692.42	*	1.78	4.08E-02	1.37E-03	0.945
		723.30	*	20.06	4.39E-02	8.17E-04	0.948
		756.80	*	4.52	4.26E-02	2.24E-03	0.927
		873.18	*	12.08	4.30E-02	6.18E-04	0.942
		996.29	*	10.48	4.36E-02	6.75E-04	0.986
		1004.76	*	18.01	4.35E-02	6.54E-04	0.977
		1246.12	*	0.86	4.77E-02	5.95E-03	0.936
		1274.43	*	34.80	4.29E-02	6.16E-04	0.978
		1494.05	*	0.70	4.05E-02	4.72E-03	1.016
		1596.48	*	1.80	4.10E-02	2.23E-03	1.169
EU-155	0.99	43.00	*	18.70	2.39E-02	5.91E-03	1.000
		60.01	*	1.22	9.55E+00	3.37E-01	0.998
		86.55	*	30.70	7.04E-03	2.62E-04	free
		105.31	*	21.10	8.93E-03	1.27E-03	1.000
AM-241	1.00	59.54	*	35.90	3.24E-01	6.85E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2310 VSM-5.5M-S1-CST-A S3

ASR 2094 Branch

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	BE-7	0.858	4.49E-04	5.27E-04	
	K-40	0.897	-1.59E-05	6.75E-05	
	CO-60	0.940	7.57E-03	8.62E-05	
	RH-106	0.433	1.08E-02	3.60E-04	
	SB-126	0.494	1.24E-03	1.86E-05	
X	Sn-126	0.734			
	CS-137	0.983	5.84E-03	5.63E-05	
	EU-152	0.462	1.27E-03	7.27E-05	
	EU-154	0.973	4.32E-02	1.96E-04	
	EU-155	0.994	7.05E-03	2.05E-04	
	AM-241	1.000	3.24E-01	4.21E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2310 VSM-5.5M-S1-CST-A S3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 3:09:54PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	48.82	1.04510E+00	6.91		
F	4	74.82	1.08840E+00	32.76	Tol.	TH-232
M	8	244.49	1.27554E-01	22.16		
F	13	444.77	2.22952E-01	35.78		
	16	518.16	1.54517E-02	150.78		
F	17	535.48	5.23079E-02	21.86		
	18	557.57	1.63456E-02	141.57		
F	19	582.27	2.02593E-01	5.83	Tol.	TH-232
F	21	625.42	5.08967E-02	18.99		
F	24	677.27	1.95119E-02	50.51	Tol.	AG-110M
F	27	715.93	5.31686E-02	67.89	Sum	
F	31	815.81	1.12453E-01	29.07	Sum	
M	32	846.05	1.87586E-01	18.09	Sum	
m	33	851.24	8.96193E-02	17.92		
F	35	893.03	1.22270E-01	26.57	Sum	
F	36	904.47	1.42667E-01	18.98		
m	39	1000.01	5.35379E-03	86.77		
m	41	1008.32	1.44889E-02	35.39		
F	42	1035.08	1.29433E-02	35.13	Sum	
F	45	1128.75	1.06385E-01	22.93	Sum	
F	46	1141.48	5.75743E-02	35.80	Sum	
M	48	1234.84	1.29482E-02	29.29	Sum	
m	49	1241.88	2.41908E-02	19.07	Sum	
F	53	1361.92	8.38343E-03	29.04	Sum	
F	54	1398.20	9.80601E-02	4.28	Sum	
F	58	1538.80	7.77200E-03	23.33		
F	59	1583.31	3.63014E-03	10.15		
F	61	1720.24	3.53342E-02	18.89	Sum	
F	63	2615.95	7.25836E-03	53.12		

Analysis Report for 24-2310 VSM-5.5M-S1-CST-A S3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	BE-7	477.61	*	10.44	1.74E-03	1.74E-03	4.49E-04	8.66E-04
+	K-40	1460.83	*	10.67	4.21E-04	4.21E-04	-1.59E-05	2.05E-04
	MN-54	834.84		99.98	1.41E-04	1.41E-04	4.05E-05	6.99E-05
	CO-58	810.78		99.45	1.50E-04	1.50E-04	1.76E-05	7.47E-05
		863.96		0.68	2.10E-02		-2.64E-02	1.04E-02
		1674.73		0.52	6.39E-03		1.18E-03	3.07E-03
	FE-59	142.65		1.00	3.56E-02	1.69E-04	1.11E-02	1.78E-02
		192.35		3.01	1.06E-02		-4.13E-04	5.31E-03
		334.80		0.27	8.43E-02		1.12E-01	4.21E-02
		1099.25		56.30	2.17E-04		8.66E-05	1.08E-04
		1291.60		43.70	1.69E-04		-1.62E-04	8.33E-05
+	CO-60	1173.24	*	99.97	1.66E-04	1.11E-04	7.58E-03	8.26E-05
		1332.50	*	99.99	1.11E-04		7.48E-03	5.48E-05
		2505.74	*	1.00	2.21E-03		1.49E-02	1.01E-03
	SR-85	514.00		96.00	2.24E-04	2.24E-04	4.86E-05	1.12E-04
		868.60		0.01	1.80E+00		1.08E+00	8.95E-01
	NB-94	702.62		97.90	1.67E-04	1.67E-04	2.91E-05	8.33E-05
		871.09		99.98	2.42E-04		1.34E-04	1.21E-04
	NB-95	765.81		99.81	1.55E-04	1.55E-04	8.07E-06	7.70E-05
	RU-103	497.05		91.00	2.07E-04	2.07E-04	2.05E-04	1.03E-04
		610.30		5.76	2.94E-03		1.56E-03	1.47E-03
+	RH-106	511.86	*	20.70	1.52E-03	1.52E-03	1.08E-02	7.60E-04
		621.92		9.93	1.74E-03		1.60E-04	8.65E-04
		1050.36		1.56	9.05E-03		1.63E-02	4.49E-03
	AG-108M	79.13		6.60	8.12E-03	2.02E-04	-3.60E-03	4.06E-03
		433.90		90.50	2.31E-04		-1.20E-04	1.15E-04
		614.30		89.80	2.02E-04		3.23E-05	1.00E-04
		722.90		90.80	3.34E-04		1.02E-02	1.67E-04
	CD-109	88.03		3.61	1.37E-02	1.37E-02	5.76E-02	6.86E-03
	SB-125	176.31		6.82	4.67E-03	6.55E-04	1.48E-03	2.33E-03
		380.45		1.52	1.36E-02		5.70E-03	6.80E-03
		427.87		29.55	6.55E-04		4.66E-04	3.26E-04
		463.36		10.48	1.84E-03		-2.39E-03	9.15E-04
		600.60		17.76	9.42E-04		-1.16E-04	4.69E-04

Analysis Report for 24-2310 VSM-5.5M-S1-CST-A S3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-125	606.71		5.02	3.32E-03	6.55E-04	1.60E-03	1.65E-03
		635.95		11.32	1.43E-03		1.96E-04	7.10E-04
		671.44		1.78	1.01E-02		-1.17E-03	5.05E-03
+	SB-126	223.90		1.39	1.96E-02	1.37E-04	-2.33E-02	9.81E-03
		278.20	*	2.40	1.05E-02		7.43E-03	5.23E-03
		296.50		4.50	6.39E-03		-2.20E-03	3.19E-03
		414.70	*	83.30	3.19E-04		1.37E-03	1.59E-04
		556.30		1.69	1.21E-02		2.18E-03	6.04E-03
		573.90		6.70	2.97E-03		-2.82E-04	1.48E-03
		593.20		7.50	3.02E-03		3.16E-02	1.50E-03
		656.30		2.19	9.93E-03		-3.69E-03	4.95E-03
		666.50	*	99.60	1.39E-04		1.24E-03	6.91E-05
		674.80		3.10	6.26E-03		3.55E-03	3.11E-03
		695.00	*	99.60	1.37E-04		1.21E-03	6.79E-05
		697.00		29.00	7.80E-04		1.31E-04	3.88E-04
		720.70		53.80	6.09E-04		-5.69E-05	3.04E-04
		856.80		17.60	9.01E-04		5.35E-04	4.48E-04
		989.60		6.80	2.39E-03		-9.60E-04	1.19E-03
		1213.30		2.39	4.17E-03		7.14E-03	2.06E-03
	Sn-126	64.28		9.60	8.00E-03	1.27E-03	2.09E-03	4.00E-03
		87.30	*	45.90	1.27E-03		4.71E-03	6.35E-04
	I-129	29.70		56.60	1.93E-02	1.93E-02	-4.82E-02	9.62E-03
		33.60		10.04	5.43E-02		-2.36E-01	2.71E-02
		34.40		2.01	2.41E-01		-1.11E+00	1.20E-01
		39.60		7.51	3.57E-02		-1.91E-02	1.78E-02
	CS-134	563.25		8.34	2.20E-03	1.80E-04	2.98E-04	1.10E-03
		569.33		15.37	1.19E-03		1.51E-04	5.94E-04
		604.72		97.62	1.80E-04		-1.84E-05	8.98E-05
		795.86		85.46	1.83E-04		1.79E-04	9.08E-05
		801.95		8.69	1.81E-03		2.16E-03	8.97E-04
+	CS-137	661.66	*	85.20	1.40E-04	1.40E-04	5.84E-03	6.93E-05
	CE-139	165.85		79.89	4.18E-04	4.18E-04	-3.98E-04	2.09E-04
	CE-141	40.70		3.35	7.45E-02	7.65E-04	-4.26E-02	3.72E-02
		145.44		48.29	7.65E-04		-1.52E-04	3.82E-04
	CE-144	80.12		1.36	3.88E-02	3.30E-03	-5.29E-02	1.94E-02
		133.51		11.09	3.30E-03		7.21E-04	1.65E-03
+	EU-152	121.78		28.58	1.61E-03	3.80E-04	1.41E-04	8.05E-04
		344.28	*	26.50	9.00E-04		1.27E-03	4.49E-04
		778.90	*	12.94	1.46E-03		9.57E-04	7.29E-04
		964.08	*	14.73	1.15E-03		1.37E-03	5.70E-04
		1085.87	*	10.24	1.46E-03		1.01E-03	7.27E-04
		1112.07	*	13.69	1.23E-03		1.50E-03	6.11E-04
		1408.01	*	21.07	3.80E-04		1.62E-03	1.87E-04
	GD-153	97.43		29.00	1.54E-03	1.54E-03	2.55E-03	7.69E-04
		103.18		21.10	2.04E-03		-2.91E-04	1.02E-03
+	EU-154	42.70	*	20.45	1.21E-02	4.40E-04	2.19E-02	6.03E-03
		123.07	*	40.40	1.39E-03		4.40E-02	6.93E-04
		247.93	*	6.89	3.03E-03		4.32E-02	1.51E-03
		591.76	*	4.95	4.24E-03		4.40E-02	2.11E-03
		692.42	*	1.78	6.48E-03		4.08E-02	3.22E-03
		723.30	*	20.06	1.35E-03		4.39E-02	6.75E-04
		756.80	*	4.52	4.72E-03		4.26E-02	2.35E-03
		873.18	*	12.08	1.59E-03		4.30E-02	7.92E-04

Analysis Report for 24-2310 VSM-5.5M-S1-CST-A S3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	EU-154	996.29	*	10.48	9.34E-04	4.40E-04	4.36E-02	4.62E-04
		1004.76	*	18.01	5.49E-04		4.35E-02	2.72E-04
		1246.12	*	0.86	6.61E-03		4.77E-02	3.24E-03
		1274.43	*	34.80	4.40E-04		4.29E-02	2.18E-04
		1494.05	*	0.70	8.64E-03		4.05E-02	4.23E-03
		1596.48	*	1.80	3.15E-03		4.10E-02	1.54E-03
+	EU-155	43.00	*	18.70	1.32E-02	1.90E-03	2.39E-02	6.60E-03
		60.01	*	1.22	1.10E-01		9.55E+00	5.51E-02
		86.55	*	30.70	1.90E-03		7.04E-03	9.50E-04
		105.31	*	21.10	2.87E-03		8.93E-03	1.44E-03
	HG-203	72.87		6.30	9.88E-03	3.16E-04	-1.55E-03	4.94E-03
		279.20		81.46	3.16E-04		5.09E-04	1.58E-04
	BI-207	569.15		97.80	1.84E-04	1.84E-04	6.04E-05	9.14E-05
		1063.10		74.90	1.86E-04		1.73E-04	9.24E-05
	PB-210	46.54		4.25	3.81E-02	3.81E-02	-1.99E-02	1.90E-02
	RA-226	74.81		6.44	9.12E-03	2.08E-04	2.20E-02	4.56E-03
		77.11		10.80	5.18E-03		-4.50E-04	2.59E-03
		87.30		4.84	1.03E-02		7.11E-02	5.16E-03
		186.21		3.59	8.58E-03		-7.88E-04	4.28E-03
		242.00		7.43	3.48E-03		2.82E-04	1.74E-03
		295.22		19.30	1.26E-03		-6.24E-04	6.29E-04
		351.93		37.60	5.78E-04		6.83E-04	2.88E-04
		609.31		46.10	3.61E-04		3.52E-04	1.80E-04
		768.36		4.94	3.07E-03		-4.09E-04	1.53E-03
		1120.29		15.10	7.67E-04		5.17E-04	3.80E-04
		1238.11		5.79	1.44E-03		-1.23E-04	7.12E-04
		1764.49		15.40	2.08E-04		2.34E-04	9.95E-05
	PA-231	283.70		1.59	1.57E-02	1.01E-02	6.88E-03	7.85E-03
		300.07		2.38	1.01E-02		-1.68E-04	5.05E-03
		302.67		1.71	1.40E-02		4.43E-03	6.98E-03
		330.07		1.32	1.72E-02		9.23E-03	8.56E-03
	TH-232	74.81		11.62	5.05E-03	8.56E-05	1.22E-02	2.52E-03
		77.11		17.50	3.20E-03		-2.78E-04	1.60E-03
		87.30		7.80	6.41E-03		4.41E-02	3.20E-03
		238.63		43.30	6.02E-04		2.64E-04	3.01E-04
		338.32		11.30	1.97E-03		1.00E-03	9.85E-04
		583.19		30.37	5.82E-04		1.28E-03	2.90E-04
		727.33		6.58	4.20E-03		-5.47E-04	2.09E-03
		911.21		26.60	5.19E-04		4.77E-04	2.58E-04
		968.97		16.20	8.50E-04		2.94E-04	4.22E-04
		2614.53		35.64	8.56E-05		8.40E-05	3.99E-05
	U-235	143.76		10.96	3.18E-03	5.40E-04	9.16E-04	1.59E-03
		185.71		57.20	5.40E-04		5.24E-04	2.70E-04
		205.31		5.01	5.78E-03		-5.44E-03	2.88E-03
	U-238	63.29		3.70	2.30E-02	1.09E-02	1.46E-02	1.15E-02
		92.51		4.23	1.09E-02		1.38E-02	5.46E-03
		112.81		0.21	1.90E-01		2.25E-02	9.47E-02
		742.81		0.11	1.43E-01		1.28E-01	7.12E-02
		766.28		0.32	4.78E-02		4.36E-03	2.38E-02
		1001.03		0.84	3.93E-02		1.30E+00	1.96E-02
	NP-239	99.60		12.80	4.60E-03	2.18E-03	3.43E-03	2.30E-03
		103.80		20.40	2.82E-03		-6.71E-04	1.41E-03
		106.10		26.40	2.18E-03		1.35E-04	1.09E-03

Analysis Report for 24-2310 VSM-5.5M-S1-CST-A S3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	NP-239	116.90		7.61	7.03E-03	2.18E-03	1.07E-02	3.51E-03
		228.20		11.20	3.32E-03		4.36E-04	1.66E-03
		277.60		14.50	2.42E-03		2.11E-03	1.21E-03
		315.90		1.60	1.94E-02		1.16E-02	9.67E-03
		334.30		2.06	1.39E-02		-4.71E-03	6.93E-03
+	AM-241	59.54	*	35.90	3.74E-03	3.74E-03	3.24E-01	1.87E-03

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

Apex-Gamma

Analysis Report for 24-2311 VSM-5.5M-S1-CST-d-A S3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2311 VSM-5.5M-S1-CST-d-A S3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 3:26:14PM
Procedure	: S3_gsv02mlw
Operator	: Administrator
Detector Name	: S
Geometry	: S3_gsv02mlw
Live Time	: 14400.0 seconds
Real Time	: 14953.5 seconds
Dead Time	: 3.70 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 6/27/2024
Efficiency Calibration Used Done On	: 3/5/2019
Efficiency Calibration Description	: S3_gsv2ml_R717
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567833
Certificate Name	: R735-b9 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 7:35:32PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2311 VSM-5.5M-S1-CST-d-A S3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.75	132.23	0.1502	15.08
2	48.90	150.69	0.2213	6.10
3	59.57	183.44	0.0297	412.80
4	74.80	230.07	0.1780	12.54
5	86.73	266.38	0.1299	21.41
6	99.82	306.13	0.3326	3.43
7	105.48	323.80	0.1435	17.76
8	123.11	377.94	0.0421	215.24
9	178.82	548.13	0.3404	3.93
10	228.32	699.92	0.3107	4.09
11	244.74	750.17	0.3787	3.13
12	247.98	760.28	0.0714	67.00
13	277.77	851.51	0.2251	6.43
14	344.39	1055.28	0.1596	12.32
15	414.92	1271.34	0.0975	33.02
16	419.68	1285.87	0.3400	3.36
17	444.57	1362.19	0.1708	9.81
18	478.47	1465.91	0.2319	6.04
19	511.11	1565.99	0.1003	17.58
20	558.07	1709.38	0.2613	4.65
21	582.26	1783.76	0.1364	16.05
22	591.99	1813.51	0.0700	55.05
23	609.63	1867.03	0.3107	3.38
24	625.48	1915.90	0.2121	7.17
25	638.68	1956.54	0.3049	3.68
26	661.91	2027.58	0.0524	95.62
27	666.61	2041.98	0.0875	37.40
28	676.84	2073.27	0.2851	4.64
29	692.69	2121.39	0.1238	21.02
30	695.34	2130.13	0.0957	32.97
31	715.53	2191.98	0.2361	3.74
32	723.60	2216.47	0.0452	125.15
33	757.14	2319.07	0.0715	52.76
34	779.22	2386.78	0.1842	7.91
35	815.76	2498.70	0.1617	9.96
36	821.63	2516.49	0.3289	3.17
37	828.89	2539.28	0.3329	3.18
38	846.02	2591.31	0.1430	12.13
39	851.10	2607.09	0.2122	7.04
40	873.55	2675.59	0.0523	90.00
41	880.89	2698.07	0.2852	3.70
42	893.26	2735.64	0.1579	11.15
43	904.44	2770.10	0.1291	15.80
44	909.40	2785.05	0.2959	3.64
45	924.85	2832.57	0.2913	3.63
46	964.46	2954.03	0.1508	10.31
47	996.65	3052.53	0.0543	80.60
48	1005.14	3078.54	0.0468	108.30
49	1086.38	3327.20	0.1695	9.08
50	1112.38	3406.96	0.1720	8.37
51	1128.73	3456.84	0.1441	11.79
52	1140.91	3494.43	0.1845	6.23
53	1173.71	3594.66	0.0475	102.00
54	1188.45	3639.81	0.2657	3.15
55	1246.64	3817.85	0.1116	18.36

Analysis Report for 24-2311 VSM-5.5M-S1-CST-d-A S3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
56	1274.95	3904.72	0.0396	142.15
57	1299.53	3980.12	0.2536	4.31
58	1333.03	4082.59	0.0478	96.24
59	1361.90	4170.77	0.2811	3.45
60	1398.08	4281.71	0.1147	16.92
61	1408.59	4313.93	0.1130	16.97
62	1461.65	4476.41	0.1931	6.25
63	1494.61	4577.14	0.1107	17.20
64	1538.53	4711.65	0.2147	4.29
65	1597.11	4891.23	0.0819	31.59
66	1720.11	5267.94	0.1363	11.31
67	1765.32	5405.96	0.1953	5.30
68	2224.10	6811.48	0.2454	3.72
69	2506.34	7675.61	0.1369	10.01
70	2615.53	8009.98	0.1779	5.42

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2311 VSM-5.5M-S1-CST-d-A S3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 7:35:33PM

Peak Analysis From Channel : 105

Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.75	124	136	131.96	2.08E+04	2404.41	6.53E+05	1.26
F	2	48.90	142	158	150.78	1.52E+04	739.08	1.15E+06	1.47
F	3	59.57	175	189	183.43	1.09E+06	3877.31	1.24E+06	1.14
F	4	74.80	226	238	230.06	1.37E+04	734.72	1.06E+06	1.05
F	5	86.73	258	274	266.60	5.17E+04	3944.49	1.28E+06	1.71
F	6	99.82	297	314	306.67	6.35E+03	5163.20	1.19E+06	0.93
F	7	105.48	320	332	323.98	2.22E+04	667.97	7.99E+05	1.27
F	8	123.11	370	386	377.96	3.10E+05	2899.52	8.24E+05	1.20
F	9	178.82	538	557	548.51	1.31E+03	62.22	4.69E+05	0.31
F	10	228.32	696	709	700.06	1.41E+03	302.61	1.87E+05	0.98
M	11	244.74	746	770	750.35	1.43E+03	302.54	1.23E+05	1.29
m	12	247.98	746	770	760.26	3.86E+04	1408.77	1.52E+05	1.29
F	13	277.77	848	861	851.47	2.00E+03	247.07	1.15E+05	1.12
F	14	344.39	1051	1065	1055.41	4.28E+03	201.20	7.12E+04	1.39
M	15	414.92	1264	1289	1271.35	9.86E+03	739.53	4.23E+04	1.35
m	16	419.68	1264	1289	1285.92	4.95E+02	153.71	3.79E+04	1.35
F	17	444.57	1356	1369	1362.14	2.84E+03	830.73	3.51E+04	1.53
F	18	478.47	1462	1472	1465.92	1.02E+03	132.00	2.34E+04	1.21
F	19	511.11	1554	1577	1565.87	2.07E+04	920.56	4.42E+04	2.95
F	20	558.07	1702	1720	1709.63	7.63E+02	335.30	2.72E+04	0.91
F	21	582.26	1774	1792	1783.70	3.06E+03	459.91	2.41E+04	1.42
F	22	591.99	1804	1824	1813.50	1.57E+04	539.28	2.61E+04	1.53
F	23	609.63	1863	1871	1867.49	3.89E+02	97.36	1.03E+04	1.26
F	24	625.48	1911	1920	1916.03	6.19E+02	93.73	1.09E+04	0.97
F	25	638.68	1953	1960	1956.46	2.82E+02	84.53	7.89E+03	0.83
M	26	661.91	2016	2054	2027.57	3.57E+04	503.63	1.59E+04	1.57
m	27	666.61	2016	2054	2041.97	7.93E+03	164.99	1.57E+04	1.57
F	28	676.84	2070	2082	2073.28	2.78E+02	100.76	1.16E+04	0.41
M	29	692.69	2114	2142	2121.82	5.35E+03	251.70	1.33E+04	1.64
m	30	695.34	2114	2142	2129.93	7.99E+03	280.58	1.47E+04	1.64
F	31	715.53	2186	2197	2191.76	6.82E+02	86.53	9.16E+03	1.78
F	32	723.60	2204	2228	2216.45	5.77E+04	601.49	1.87E+04	1.61
F	33	757.14	2310	2331	2319.14	1.21E+04	128.85	1.47E+04	1.57
F	34	779.22	2380	2392	2386.76	1.17E+03	400.11	8.17E+03	1.68
M	35	815.76	2487	2521	2498.63	1.34E+03	54.45	1.05E+04	1.56
m	36	821.63	2487	2521	2516.60	6.11E+01	16.32	9.71E+03	1.57
F	37	828.89	2535	2545	2538.85	1.54E+02	60.67	5.61E+03	0.82
M	38	846.02	2583	2612	2591.30	1.94E+03	340.71	8.10E+03	1.79
m	39	851.10	2583	2612	2606.86	6.23E+02	122.74	9.01E+03	1.79
F	40	873.55	2664	2688	2675.58	3.04E+04	459.98	1.13E+04	1.69

Analysis Report for 24-2311 VSM-5.5M-S1-CST-d-A S3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	880.89	2689	2703	2698.05	2.67E+02	208.82	6.59E+03	0.71
F	42	893.26	2729	2748	2735.95	1.10E+03	242.84	8.24E+03	1.11
M	43	904.44	2761	2790	2770.16	2.04E+03	371.75	7.35E+03	1.71
m	44	909.40	2761	2790	2785.35	1.83E+02	72.82	5.82E+03	1.72
F	45	924.85	2828	2839	2832.67	2.11E+02	58.76	4.69E+03	1.06
F	46	964.46	2947	2961	2953.96	1.30E+03	307.68	5.41E+03	1.79
F	47	996.65	3043	3063	3052.52	2.49E+04	425.76	7.41E+03	1.78
F	48	1005.14	3065	3089	3078.51	4.30E+04	467.24	8.66E+03	1.76
F	49	1086.38	3322	3334	3327.28	7.26E+02	56.06	3.25E+03	1.57
F	50	1112.38	3393	3415	3406.87	1.14E+03	293.35	5.29E+03	1.79
F	51	1128.73	3446	3469	3456.93	1.18E+03	197.08	4.52E+03	1.70
F	52	1140.91	3486	3500	3494.23	5.51E+02	225.41	2.48E+03	1.92
F	53	1173.71	3580	3608	3594.66	3.79E+04	405.46	3.84E+03	1.88
	54	1188.45	3631	3647	3639.81	2.25E+01	106.16	2.13E+03	1.22
F	55	1246.64	3811	3827	3818.00	1.66E+03	48.41	1.41E+03	1.89
F	56	1274.95	3890	3915	3904.70	7.16E+04	487.15	2.41E+03	1.92
F	57	1299.53	3975	3985	3979.97	1.00E+02	26.30	6.75E+02	1.22
F	58	1333.03	4068	4096	4082.55	3.46E+04	360.58	1.52E+03	1.97
F	59	1361.90	4163	4180	4170.94	9.97E+01	72.39	9.08E+02	1.25
F	60	1398.08	4273	4289	4281.74	1.15E+03	39.44	7.97E+02	1.81
F	61	1408.59	4304	4322	4313.93	1.34E+03	133.99	6.93E+02	2.02
F	62	1461.65	4469	4483	4476.40	2.29E+02	94.38	4.14E+02	1.79
F	63	1494.61	4562	4589	4577.32	1.37E+03	110.02	5.46E+02	2.15
F	64	1538.53	4705	4719	4711.83	1.08E+02	17.20	2.56E+02	1.75
F	65	1597.11	4876	4904	4891.23	3.65E+03	137.36	4.47E+02	2.04
F	66	1720.11	5257	5278	5267.91	4.38E+02	58.68	1.32E+02	1.95
F	67	1765.32	5399	5415	5406.36	1.23E+02	13.55	9.66E+01	1.96
F	68	2224.10	6806	6819	6811.40	3.84E+01	8.46	3.88E+01	1.42
F	69	2506.34	7664	7687	7675.86	3.51E+02	47.05	4.18E+01	2.35
F	70	2615.53	8000	8020	8010.31	1.23E+02	11.05	1.51E+01	2.40

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 7:35:32PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567335.CNF

Analysis Report for 24-2311 VSM-5.5M-S1-CST-d-A S3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.75	2.08E+04	2404.41			2.08E+04	2.40E+03
F	2	48.90	1.52E+04	739.08			1.52E+04	7.39E+02
F	3	59.57	1.09E+06	3877.31			1.09E+06	3.88E+03
F	4	74.80	1.37E+04	734.72	4.02E+02	2.52E+01	1.33E+04	7.35E+02
F	5	86.73	5.17E+04	3944.49	1.23E+02	8.95E+00	5.16E+04	3.94E+03
F	6	99.82	6.35E+03	5163.20			6.35E+03	5.16E+03
F	7	105.48	2.22E+04	667.97			2.22E+04	6.68E+02
F	8	123.11	3.10E+05	2899.52			3.10E+05	2.90E+03
F	9	178.82	1.31E+03	62.22			1.31E+03	6.22E+01
F	10	228.32	1.41E+03	302.61			1.41E+03	3.03E+02
M	11	244.74	1.43E+03	302.54			1.43E+03	3.03E+02
m	12	247.98	3.86E+04	1408.77			3.86E+04	1.41E+03
F	13	277.77	2.00E+03	247.07			2.00E+03	2.47E+02
F	14	344.39	4.28E+03	201.20			4.28E+03	2.01E+02
M	15	414.92	9.86E+03	739.53			9.86E+03	7.40E+02
m	16	419.68	4.95E+02	153.71			4.95E+02	1.54E+02
F	17	444.57	2.84E+03	830.73			2.84E+03	8.31E+02
F	18	478.47	1.02E+03	132.00			1.02E+03	1.32E+02
F	19	511.11	2.07E+04	920.56	5.00E+02	2.11E+01	2.02E+04	9.21E+02
F	20	558.07	7.63E+02	335.30			7.63E+02	3.35E+02
F	21	582.26	3.06E+03	459.91			3.06E+03	4.60E+02
F	22	591.99	1.57E+04	539.28			1.57E+04	5.39E+02
F	23	609.63	3.89E+02	97.36	5.58E+02	5.54E+00	-1.69E+02	9.75E+01
F	24	625.48	6.19E+02	93.73			6.19E+02	9.37E+01
F	25	638.68	2.82E+02	84.53			2.82E+02	8.45E+01
M	26	661.91	3.57E+04	503.63			3.57E+04	5.04E+02
m	27	666.61	7.93E+03	164.99	1.75E+01	2.05E+00	7.91E+03	1.65E+02
F	28	676.84	2.78E+02	100.76			2.78E+02	1.01E+02
M	29	692.69	5.35E+03	251.70			5.35E+03	2.52E+02
m	30	695.34	7.99E+03	280.58			7.99E+03	2.81E+02
F	31	715.53	6.82E+02	86.53			6.82E+02	8.65E+01
F	32	723.60	5.77E+04	601.49			5.77E+04	6.01E+02
F	33	757.14	1.21E+04	128.85			1.21E+04	1.29E+02
F	34	779.22	1.17E+03	400.11			1.17E+03	4.00E+02
M	35	815.76	1.34E+03	54.45			1.34E+03	5.45E+01
m	36	821.63	6.11E+01	16.32			6.11E+01	1.63E+01
F	37	828.89	1.54E+02	60.67			1.54E+02	6.07E+01
M	38	846.02	1.94E+03	340.71			1.94E+03	3.41E+02
m	39	851.10	6.23E+02	122.74			6.23E+02	1.23E+02
F	40	873.55	3.04E+04	459.98	7.58E-01	2.97E+00	3.04E+04	4.60E+02
F	41	880.89	2.67E+02	208.82			2.67E+02	2.09E+02
F	42	893.26	1.10E+03	242.84			1.10E+03	2.43E+02
M	43	904.44	2.04E+03	371.75			2.04E+03	3.72E+02
m	44	909.40	1.83E+02	72.82			1.83E+02	7.28E+01
F	45	924.85	2.11E+02	58.76			2.11E+02	5.88E+01
F	46	964.46	1.30E+03	307.68			1.30E+03	3.08E+02
F	47	996.65	2.49E+04	425.76			2.49E+04	4.26E+02
F	48	1005.14	4.30E+04	467.24			4.30E+04	4.67E+02
F	49	1086.38	7.26E+02	56.06			7.26E+02	5.61E+01
F	50	1112.38	1.14E+03	293.35			1.14E+03	2.93E+02
F	51	1128.73	1.18E+03	197.08			1.18E+03	1.97E+02
F	52	1140.91	5.51E+02	225.41			5.51E+02	2.25E+02
F	53	1173.71	3.79E+04	405.46			3.79E+04	4.05E+02
	54	1188.45	2.25E+01	106.16			2.25E+01	1.06E+02

Analysis Report for 24-2311 VSM-5.5M-S1-CST-d-A S3

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 55	1246.64	1.66E+03	48.41			1.66E+03	4.84E+01
F 56	1274.95	7.16E+04	487.15			7.16E+04	4.87E+02
F 57	1299.53	1.00E+02	26.30			1.00E+02	2.63E+01
F 58	1333.03	3.46E+04	360.58			3.46E+04	3.61E+02
F 59	1361.90	9.97E+01	72.39			9.97E+01	7.24E+01
F 60	1398.08	1.15E+03	39.44			1.15E+03	3.94E+01
F 61	1408.59	1.34E+03	133.99	2.85E+01	4.34E+00	1.31E+03	1.34E+02
F 62	1461.65	2.29E+02	94.38	2.42E+02	8.47E+00	-1.36E+01	9.48E+01
F 63	1494.61	1.37E+03	110.02			1.37E+03	1.10E+02
F 64	1538.53	1.08E+02	17.20			1.08E+02	1.72E+01
F 65	1597.11	3.65E+03	137.36			3.65E+03	1.37E+02
F 66	1720.11	4.38E+02	58.68			4.38E+02	5.87E+01
F 67	1765.32	1.23E+02	13.55	1.50E+02	2.83E+00	-2.68E+01	1.38E+01
F 68	2224.10	3.84E+01	8.46	9.37E+00	1.03E+00	2.90E+01	8.53E+00
F 69	2506.34	3.51E+02	47.05			3.51E+02	4.70E+01
F 70	2615.53	1.23E+02	11.05	1.04E+02	5.56E+00	1.96E+01	1.24E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
BE-7	0.88	477.61	*	10.44	1.06E-03	1.39E-04	miss
K-40	0.89	1460.83	*	10.67	-2.78E-05	1.94E-04	miss
CO-60	0.96	1173.24	*	99.97	7.46E-03	8.90E-05	0.961
		1332.50	*	99.99	7.40E-03	8.91E-05	0.960
		2505.74	*	1.00	1.21E-02	1.74E-03	miss
RH-106	0.40	511.86	*	20.70	1.12E-02	6.12E-04	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.49	223.90		1.39			
		278.20	*	2.40	7.43E-03	2.37E-03	0.853
		296.50		4.50			
		414.70	*	83.30	1.33E-03	1.07E-04	0.871
		556.30		1.69			

Analysis Report for 24-2311 VSM-5.5M-S1-CST-d-A S3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.49	573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.21E-03	2.62E-05	0.868
		674.80		3.10			
		695.00	*	99.60	1.26E-03	4.47E-05	0.868
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.72	64.28		9.60			
		87.30	*	45.90	6.21E-03	5.49E-04	miss
CS-137	0.99	661.66	*	85.20	5.53E-03	8.41E-05	miss
EU-152	0.46	121.78		28.58			
		344.28	*	26.50	1.44E-03	7.63E-05	0.969
		778.90	*	12.94	1.38E-03	4.72E-04	0.959
		964.08	*	14.73	1.53E-03	3.62E-04	0.964
		1085.87	*	10.24	1.26E-03	9.81E-05	1.008
		1112.07	*	13.69	1.55E-03	4.00E-04	0.979
		1408.01	*	21.07	1.36E-03	1.40E-04	0.972
EU-154	0.98	42.70	*	20.45	3.11E-02	3.77E-03	miss
		123.07	*	40.40	4.29E-02	6.93E-04	0.954
		247.93	*	6.89	4.24E-02	1.65E-03	0.941
		591.76	*	4.95	4.17E-02	1.52E-03	0.929
		692.42	*	1.78	4.32E-02	2.10E-03	0.945
		723.30	*	20.06	4.24E-02	6.57E-04	0.948
		756.80	*	4.52	4.14E-02	6.37E-04	0.927
		873.18	*	12.08	4.19E-02	8.04E-04	0.942
		996.29	*	10.48	4.11E-02	8.31E-04	0.986
		1004.76	*	18.01	4.19E-02	6.58E-04	0.977
		1246.12	*	0.86	4.06E-02	1.31E-03	0.936
		1274.43	*	34.80	4.19E-02	5.26E-04	0.978
		1494.05	*	0.70	4.27E-02	3.48E-03	1.016
		1596.48	*	1.80	4.04E-02	1.61E-03	1.169
EU-155	0.99	43.00	*	18.70	3.40E-02	4.09E-03	1.000
		60.01	*	1.22	9.21E+00	3.24E-01	0.998
		86.55	*	30.70	9.28E-03	7.45E-04	free
		105.31	*	21.10	5.37E-03	2.11E-04	1.000
NP-239	0.44	99.60	*	12.80	3.61E-03	2.94E-03	1.000
		103.80		20.40			
		106.10	*	26.40	6.18E-03	1.93E-04	0.984
		116.90		7.61			
		228.20	*	11.20	1.23E-03	2.64E-04	0.988
		277.60	*	14.50	1.51E-03	1.87E-04	0.983
		315.90		1.60			
		334.30		2.06			
AM-241	1.00	59.54	*	35.90	3.12E-01	6.52E-03	free

Analysis Report for 24-2311 VSM-5.5M-S1-CST-d-A S3

ASR 2094 Branch

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	*Nuclide Id Confidence*	*Wt mean Activity (µCi/sample)*	*Wt mean Activity Uncertainty*	*Comments*
BE-7	0.888	1.06E-03	1.39E-04	
K-40	0.899	-2.78E-05	1.94E-04	
CO-60	0.960	7.44E-03	6.29E-05	
RH-106	0.403	1.12E-02	6.12E-04	
SB-126	0.495	1.23E-03	2.20E-05	
Sn-126	0.729	3.38E-03	4.98E-04	
CS-137	0.990	5.53E-03	8.41E-05	
EU-152	0.468	1.38E-03	5.38E-05	
EU-154	0.983	4.19E-02	1.85E-04	
EU-155	0.993	4.23E-03	2.14E-04	
NP-239	0.443	1.28E-03	1.52E-04	
AM-241	1.000	3.12E-01	3.91E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2311 VSM-5.5M-S1-CST-d-A S3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 7:35:32PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	48.90	1.05527E+00	4.86		
F	4	74.80	9.24581E-01	5.52	Tol.	RA-226 TH-232
F	9	178.82	9.11625E-02	4.74		
M	11	244.74	9.90109E-02	21.22		
m	16	419.68	3.43824E-02	31.05		
F	17	444.57	1.97305E-01	29.24	Sum	
F	20	558.07	5.29997E-02	43.93		
F	21	582.26	2.12763E-01	15.01	Tol.	TH-232
F	23	609.63	-1.17645E-02	- 57.56	Tol.	RA-226
F	24	625.48	4.29595E-02	15.15		
F	25	638.68	1.95749E-02	29.99		
F	28	676.84	1.93339E-02	36.19		
F	31	715.53	4.73311E-02	12.70	Sum	
M	35	815.76	9.29693E-02	4.07	Sum	
m	36	821.63	4.24086E-03	26.73	S-Esc	
F	37	828.89	1.07080E-02	39.35	Sum	
M	38	846.02	1.34812E-01	17.55	Sum	
m	39	851.10	4.32341E-02	19.72		
F	41	880.89	1.85085E-02	78.35	Sum	
F	42	893.26	7.61464E-02	22.15	Sum	
M	43	904.44	1.41801E-01	18.21		
m	44	909.40	1.27245E-02	39.74	Sum	
F	45	924.85	1.46552E-02	27.84		
F	51	1128.73	8.22132E-02	16.65	Sum	
F	52	1140.91	3.82958E-02	40.88	Sum	
	54	1188.45	1.56250E-03	471.82		
F	57	1299.53	6.95495E-03	26.26		
F	59	1361.90	6.92293E-03	72.61	Sum	
F	60	1398.08	7.99597E-02	3.43	Sum	
F	64	1538.53	7.49033E-03	15.94		
F	66	1720.11	3.04021E-02	13.40	Sum	
F	67	1765.32	-1.85940E-03	- 51.68	Sum	
F	68	2224.10	2.01583E-03	29.37	Sum	

Analysis Report for 24-2311 VSM-5.5M-S1-CST-d-A S3

ASR 2094 Branch

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	70	2615.53	1.36214E-03	63.08		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	BE-7	477.61	*	10.44	1.02E-03	1.02E-03	1.06E-03	5.08E-04
+	K-40	1460.83	*	10.67	3.27E-04	3.27E-04	-2.78E-05	1.61E-04
	MN-54	834.84		99.98	9.51E-05	9.51E-05	3.20E-05	4.73E-05
	CO-58	810.78		99.45	1.03E-04	1.03E-04	-1.72E-05	5.14E-05
		863.96		0.68	1.45E-02		2.14E-02	7.19E-03
		1674.73		0.52	4.06E-03		1.64E-03	1.97E-03
	FE-59	142.65		1.00	2.44E-02	1.15E-04	3.59E-02	1.22E-02
		192.35		3.01	7.27E-03		2.70E-04	3.63E-03
		334.80		0.27	5.75E-02		-1.18E-02	2.87E-02
		1099.25		56.30	1.48E-04		-1.23E-04	7.37E-05
		1291.60		43.70	1.15E-04		-1.83E-05	5.68E-05
+	CO-60	1173.24	*	99.97	1.16E-04	7.93E-05	7.46E-03	5.76E-05
		1332.50	*	99.99	7.93E-05		7.40E-03	3.94E-05
		2505.74	*	1.00	2.04E-03		1.21E-02	9.72E-04
	SR-85	514.00		96.00	1.52E-04	1.52E-04	-6.94E-05	7.61E-05
		868.60		0.01	1.25E+00		9.91E-01	6.22E-01
	NB-94	702.62		97.90	1.14E-04	1.14E-04	2.26E-05	5.68E-05
		871.09		99.98	1.65E-04		7.50E-05	8.21E-05
	NB-95	765.81		99.81	1.06E-04	1.06E-04	4.43E-05	5.27E-05
	RU-103	497.05		91.00	1.41E-04	1.41E-04	5.72E-05	7.05E-05
		610.30		5.76	2.02E-03		2.52E-03	1.01E-03
+	RH-106	511.86	*	20.70	1.02E-03	1.02E-03	1.12E-02	5.09E-04
		621.92		9.93	1.19E-03		7.37E-04	5.94E-04
		1050.36		1.56	6.19E-03		6.35E-04	3.08E-03
	AG-108M	79.13		6.60	5.55E-03	1.37E-04	-1.17E-03	2.77E-03
		433.90		90.50	1.58E-04		9.44E-10	7.86E-05
		614.30		89.80	1.37E-04		-1.61E-04	6.85E-05
		722.90		90.80	2.27E-04		9.82E-03	1.13E-04
	CD-109	88.03		3.61	9.39E-03	9.39E-03	4.20E-03	4.69E-03

Analysis Report for 24-2311 VSM-5.5M-S1-CST-d-A S3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-125	176.31		6.82	3.20E-03	4.46E-04	4.83E-04	1.60E-03
		380.45		1.52	9.31E-03		9.84E-03	4.65E-03
		427.87		29.55	4.46E-04		-5.32E-05	2.23E-04
		463.36		10.48	1.25E-03		-1.51E-03	6.26E-04
		600.60		17.76	6.40E-04		2.76E-04	3.19E-04
		606.71		5.02	2.27E-03		-6.79E-04	1.13E-03
		635.95		11.32	9.71E-04		1.85E-04	4.84E-04
		671.44		1.78	6.93E-03		1.82E-03	3.45E-03
+	SB-126	223.90		1.39	1.34E-02	8.91E-05	-3.00E-03	6.70E-03
		278.20	*	2.40	8.80E-03		7.43E-03	4.40E-03
		296.50		4.50	4.35E-03		1.06E-03	2.17E-03
		414.70	*	83.30	1.29E-04		1.33E-03	6.43E-05
		556.30		1.69	8.27E-03		-3.91E-03	4.12E-03
		573.90		6.70	2.02E-03		1.80E-03	1.01E-03
		593.20		7.50	2.06E-03		3.22E-02	1.03E-03
		656.30		2.19	6.85E-03		-1.12E-03	3.41E-03
		666.50	*	99.60	8.96E-05		1.21E-03	4.46E-05
		674.80		3.10	4.26E-03		4.99E-03	2.12E-03
		695.00	*	99.60	8.91E-05		1.26E-03	4.43E-05
		697.00		29.00	5.33E-04		-3.12E-05	2.66E-04
		720.70		53.80	4.14E-04		-3.52E-05	2.06E-04
		856.80		17.60	6.16E-04		1.30E-04	3.06E-04
		989.60		6.80	1.65E-03		-1.18E-04	8.20E-04
		1213.30		2.39	2.75E-03		-6.00E-04	1.36E-03
+	Sn-126	64.28		9.60	5.46E-03	1.03E-03	-4.32E-03	2.73E-03
		87.30	*	45.90	1.03E-03		6.21E-03	5.15E-04
	I-129	29.70		56.60	1.31E-02	1.31E-02	-4.67E-02	6.56E-03
		33.60		10.04	3.71E-02		-2.34E-01	1.85E-02
		34.40		2.01	1.64E-01		-1.10E+00	8.22E-02
		39.60		7.51	2.44E-02		-3.49E-02	1.22E-02
	CS-134	563.25		8.34	1.51E-03	1.23E-04	8.04E-05	7.53E-04
		569.33		15.37	8.13E-04		-5.70E-04	4.05E-04
		604.72		97.62	1.23E-04		6.78E-05	6.13E-05
		795.86		85.46	1.25E-04		6.87E-05	6.21E-05
		801.95		8.69	1.23E-03		-6.57E-04	6.14E-04
+	CS-137	661.66	*	85.20	9.12E-05	9.12E-05	5.53E-03	4.54E-05
	CE-139	165.85		79.89	2.86E-04	2.86E-04	3.72E-05	1.43E-04
	CE-141	40.70		3.35	5.10E-02	5.24E-04	-6.20E-02	2.55E-02
		145.44		48.29	5.24E-04		2.79E-04	2.62E-04
	CE-144	80.12		1.36	2.65E-02	2.26E-03	9.44E-03	1.33E-02
		133.51		11.09	2.26E-03		3.46E-03	1.13E-03
+	EU-152	121.78		28.58	1.10E-03	2.20E-04	-9.82E-06	5.51E-04
		344.28	*	26.50	6.47E-04		1.44E-03	3.23E-04
		778.90	*	12.94	7.27E-04		1.38E-03	3.62E-04
		964.08	*	14.73	6.24E-04		1.53E-03	3.11E-04
		1085.87	*	10.24	6.80E-04		1.26E-03	3.38E-04
		1112.07	*	13.69	8.51E-04		1.55E-03	4.24E-04
		1408.01	*	21.07	2.20E-04		1.36E-03	1.09E-04
	GD-153	97.43		29.00	1.05E-03	1.05E-03	-2.57E-04	5.25E-04
		103.18		21.10	1.40E-03		3.12E-05	6.98E-04
+	EU-154	42.70	*	20.45	8.22E-03	2.63E-04	3.11E-02	4.11E-03
		123.07	*	40.40	9.48E-04		4.29E-02	4.74E-04
		247.93	*	6.89	2.00E-03		4.24E-02	9.97E-04

Analysis Report for 24-2311 VSM-5.5M-S1-CST-d-A S3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	EU-154	591.76	*	4.95	3.56E-03	2.63E-04	4.17E-02	1.78E-03
		692.42	*	1.78	4.35E-03		4.32E-02	2.17E-03
		723.30	*	20.06	8.90E-04		4.24E-02	4.44E-04
		756.80	*	4.52	3.50E-03		4.14E-02	1.75E-03
		873.18	*	12.08	1.31E-03		4.19E-02	6.52E-04
		996.29	*	10.48	1.18E-03		4.11E-02	5.86E-04
		1004.76	*	18.01	8.07E-04		4.19E-02	4.02E-04
		1246.12	*	0.86	7.04E-03		4.06E-02	3.48E-03
		1274.43	*	34.80	2.63E-04		4.19E-02	1.31E-04
		1494.05	*	0.70	6.88E-03		4.27E-02	3.40E-03
		1596.48	*	1.80	2.23E-03		4.04E-02	1.10E-03
+	EU-155	43.00	*	18.70	8.99E-03	1.47E-03	3.40E-02	4.49E-03
		60.01	*	1.22	6.73E-02		9.21E+00	3.36E-02
		86.55	*	30.70	1.54E-03		9.28E-03	7.70E-04
		105.31	*	21.10	1.47E-03		5.37E-03	7.35E-04
	HG-203	72.87		6.30	6.77E-03	2.16E-04	3.04E-03	3.38E-03
		279.20		81.46	2.16E-04		1.07E-05	1.08E-04
	BI-207	569.15		97.80	1.25E-04	1.25E-04	-4.27E-05	6.23E-05
		1063.10		74.90	1.27E-04		1.24E-04	6.30E-05
	PB-210	46.54		4.25	2.60E-02	2.60E-02	-2.64E-02	1.30E-02
	RA-226	74.81		6.44	6.23E-03	1.53E-04	2.94E-02	3.11E-03
		77.11		10.80	3.54E-03		3.36E-05	1.77E-03
		87.30		4.84	7.06E-03		6.47E-02	3.53E-03
		186.21		3.59	5.87E-03		3.34E-03	2.93E-03
		242.00		7.43	2.38E-03		-4.30E-04	1.19E-03
		295.22		19.30	8.59E-04		4.03E-04	4.29E-04
		351.93		37.60	3.96E-04		2.76E-04	1.97E-04
		609.31		46.10	2.47E-04		1.14E-04	1.23E-04
		768.36		4.94	2.08E-03		3.31E-04	1.04E-03
		1120.29		15.10	5.24E-04		5.03E-04	2.60E-04
		1238.11		5.79	9.83E-04		7.71E-04	4.87E-04
		1764.49		15.40	1.53E-04		2.23E-04	7.41E-05
	PA-231	283.70		1.59	1.07E-02	6.90E-03	1.49E-04	5.36E-03
		300.07		2.38	6.90E-03		-4.41E-03	3.44E-03
		302.67		1.71	9.55E-03		2.01E-03	4.77E-03
		330.07		1.32	1.17E-02		-1.34E-02	5.84E-03
	TH-232	74.81		11.62	3.45E-03	6.42E-05	1.63E-02	1.73E-03
		77.11		17.50	2.18E-03		2.08E-05	1.09E-03
		87.30		7.80	4.38E-03		4.01E-02	2.19E-03
		238.63		43.30	4.11E-04		1.24E-04	2.05E-04
		338.32		11.30	1.34E-03		-1.21E-03	6.71E-04
		583.19		30.37	3.94E-04		1.50E-03	1.97E-04
		727.33		6.58	2.85E-03		1.95E-04	1.42E-03
		911.21		26.60	3.48E-04		2.96E-04	1.73E-04
		968.97		16.20	5.78E-04		1.83E-04	2.88E-04
		2614.53		35.64	6.42E-05		1.17E-04	3.07E-05
	U-235	143.76		10.96	2.17E-03	3.69E-04	4.91E-04	1.09E-03
		185.71		57.20	3.69E-04		6.62E-05	1.84E-04
		205.31		5.01	3.94E-03		-2.52E-03	1.97E-03
	U-238	63.29		3.70	1.57E-02	7.47E-03	-1.22E-02	7.82E-03
		92.51		4.23	7.47E-03		7.58E-03	3.73E-03
		112.81		0.21	1.30E-01		-5.99E-02	6.47E-02
		742.81		0.11	9.70E-02		-2.62E-02	4.83E-02

Analysis Report for 24-2311 VSM-5.5M-S1-CST-d-A S3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	U-238	766.28		0.32	3.25E-02	7.47E-03	-3.22E-02	1.62E-02
		1001.03		0.84	2.68E-02		1.24E+00	1.34E-02
+	NP-239	99.60	*	12.80	4.79E-03	1.69E-03	3.61E-03	2.40E-03
		103.80		20.40	2.01E-03		4.51E-05	1.00E-03
		106.10	*	26.40	1.69E-03		6.18E-03	8.46E-04
		116.90		7.61	5.00E-03		-1.30E-04	2.50E-03
		228.20	*	11.20	2.64E-03		1.23E-03	1.32E-03
		277.60	*	14.50	1.79E-03		1.51E-03	8.94E-04
		315.90		1.60	1.38E-02		1.36E-02	6.88E-03
		334.30		2.06	9.85E-03		1.24E-03	4.92E-03
+	AM-241	59.54	*	35.90	2.28E-03	2.28E-03	3.12E-01	1.14E-03

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

Apex-Gamma

Analysis Report for 24-2312 VSM-5.5M-S2-CST-A R3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2312 VSM-5.5M-S2-CST-A R3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 1:56:16PM
Procedure	: R3_gsv02mlw
Operator	: Administrator
Detector Name	: R
Geometry	: R3_gsv02mlw
Live Time	: 4240.3 seconds
Real Time	: 4392.8 seconds
Dead Time	: 3.47 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/5/2019
Efficiency Calibration Description	: R3_gsv2ml_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567817
Certificate Name	: R735-b8 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 3:09:32PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2312 VSM-5.5M-S2-CST-A R3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.96	120.32	0.1928	9.01
2	49.13	137.41	0.2590	5.44
3	59.56	166.64	0.0383	240.50
4	74.83	209.04	0.2530	6.28
5	86.72	242.13	0.1576	13.18
6	105.40	294.21	0.2040	7.14
7	123.10	343.36	0.0540	115.31
8	131.65	367.09	0.3698	3.02
9	247.92	690.36	0.0955	34.14
10	278.05	772.72	0.3087	3.07
11	344.28	958.01	0.2420	4.09
12	414.81	1154.48	0.1247	17.15
13	444.43	1236.97	0.2479	5.09
14	511.13	1422.27	0.1203	13.62
15	582.06	1619.53	0.1732	8.21
16	591.79	1646.71	0.0939	27.94
17	661.74	1841.33	0.0683	51.95
18	666.41	1854.50	0.1217	17.09
19	692.47	1926.24	0.2182	7.55
20	695.20	1934.61	0.1327	14.93
21	723.42	2012.89	0.0589	67.10
22	756.95	2106.23	0.0938	25.53
23	778.74	2166.51	0.2083	5.99
24	816.10	2270.27	0.2087	5.66
25	845.64	2352.57	0.1853	6.85
26	850.57	2366.90	0.2444	3.91
27	873.37	2430.03	0.0683	47.28
28	893.02	2484.40	0.2172	5.17
29	904.27	2515.98	0.1652	7.92
30	964.50	2683.40	0.2292	4.50
31	996.45	2772.55	0.0721	38.76
32	1004.94	2796.10	0.0628	52.39
33	1112.10	3094.48	0.2131	4.05
34	1128.17	3139.14	0.1840	6.15
35	1141.45	3175.47	0.2715	3.15
36	1173.40	3264.83	0.0627	49.33
37	1246.29	3467.72	0.1473	9.53
38	1265.70	3521.28	0.2944	3.55
39	1274.62	3546.52	0.0530	66.06
40	1332.64	3707.98	0.0630	45.20
41	1397.53	3888.46	0.1455	8.77
42	1408.30	3918.46	0.1561	7.00
43	1461.07	4064.92	0.2225	4.35
44	1494.35	4157.65	0.1554	7.14
45	1530.85	4259.45	0.2842	3.11
46	1596.49	4442.08	0.1134	12.36
47	1719.97	4784.89	0.2007	4.62
48	2505.09	6971.92	0.1886	3.90

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2312 VSM-5.5M-S2-CST-A R3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 3:09:32PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.96	111	124	120.50	6.27E+03	1168.73	2.91E+05	0.87
F	2	49.13	128	146	137.66	6.31E+03	494.20	5.02E+05	1.74
F	3	59.56	157	175	166.66	3.31E+05	2504.38	5.61E+05	1.35
F	4	74.83	206	218	209.12	3.40E+03	476.44	3.55E+05	1.18
F	5	86.72	235	251	242.17	1.51E+04	2299.92	4.21E+05	1.84
F	6	105.40	287	303	294.11	9.78E+03	2623.84	3.36E+05	1.94
F	7	123.10	337	353	343.32	8.66E+04	1860.97	2.63E+05	1.40
	8	131.65	364	377	367.09	2.27E+03	923.97	1.89E+05	0.68
F	9	247.92	680	699	690.40	1.11E+04	679.82	6.93E+04	1.41
F	10	278.05	768	778	774.18	5.78E+02	38.30	2.89E+04	0.47
F	11	344.28	950	968	958.38	1.74E+03	134.41	2.85E+04	2.55
F	12	414.81	1142	1164	1154.51	3.52E+03	416.14	2.18E+04	1.76
F	13	444.43	1228	1244	1236.88	8.79E+02	450.75	1.36E+04	1.65
F	14	511.13	1410	1435	1422.40	6.01E+03	110.92	1.54E+04	2.91
F	15	582.06	1612	1625	1619.67	7.67E+02	71.68	5.94E+03	1.62
F	16	591.79	1639	1658	1646.73	4.48E+03	392.80	7.84E+03	1.95
M	17	661.74	1832	1864	1841.31	1.05E+04	113.65	5.51E+03	1.92
m	18	666.41	1832	1864	1854.29	2.32E+03	71.54	5.80E+03	1.92
M	19	692.47	1917	1948	1926.79	1.55E+03	235.95	4.75E+03	2.11
m	20	695.20	1917	1948	1934.37	2.67E+03	313.01	6.06E+03	2.11
F	21	723.42	1999	2023	2012.86	1.69E+04	349.82	5.72E+03	2.05
F	22	756.95	2094	2116	2106.15	3.56E+03	242.66	5.00E+03	2.11
F	23	778.74	2159	2177	2166.75	4.88E+02	514.28	3.71E+03	1.88
F	24	816.10	2260	2282	2270.69	4.29E+02	64.19	3.92E+03	1.62
M	25	845.64	2345	2373	2352.85	6.44E+02	101.78	2.71E+03	2.40
m	26	850.57	2345	2373	2366.58	3.59E+02	64.82	2.74E+03	2.41
F	27	873.37	2418	2439	2430.00	8.62E+03	263.08	3.43E+03	2.14
F	28	893.02	2480	2494	2484.65	3.26E+02	94.69	1.98E+03	1.81
F	29	904.27	2508	2523	2515.96	5.58E+02	46.55	2.15E+03	2.05
F	30	964.50	2676	2692	2683.52	3.45E+02	198.35	1.93E+03	2.40
M	31	996.45	2759	2809	2772.41	7.42E+03	157.35	2.60E+03	2.36
m	32	1004.94	2759	2809	2796.02	1.25E+04	241.99	2.73E+03	2.37
F	33	1112.10	3083	3103	3094.17	2.52E+02	90.50	1.60E+03	2.36
F	34	1128.17	3127	3149	3138.89	3.08E+02	120.84	1.44E+03	2.06
F	35	1141.45	3170	3184	3175.82	1.16E+02	28.79	8.08E+02	2.03
F	36	1173.40	3249	3280	3264.72	1.14E+04	239.60	1.25E+03	2.52
F	37	1246.29	3459	3476	3467.56	4.03E+02	101.96	5.75E+02	2.10
M	38	1265.70	3516	3562	3521.58	3.67E+01	18.69	3.82E+02	2.60
m	39	1274.62	3516	3562	3546.37	2.07E+04	254.29	6.00E+02	2.61
F	40	1332.64	3691	3723	3707.84	1.04E+04	199.01	6.94E+02	2.76

Analysis Report for 24-2312 VSM-5.5M-S2-CST-A R3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1397.53	3877 -	3899	3888.42	4.20E+02	74.95	2.37E+02	2.37
F	42	1408.30	3907 -	3929	3918.39	3.34E+02	22.39	3.04E+02	2.67
F	43	1461.07	4057 -	4074	4065.25	8.88E+01	14.69	1.63E+02	2.14
F	44	1494.35	4145 -	4170	4157.87	3.47E+02	21.17	2.35E+02	2.79
	45	1530.85	4254 -	4266	4259.45	3.66E+00	17.43	7.03E+01	0.70
F	46	1596.49	4428 -	4457	4442.13	9.90E+02	85.66	1.32E+02	3.06
F	47	1719.97	4774 -	4792	4785.81	9.52E+01	40.88	5.22E+01	1.57
F	48	2505.09	6959 -	6982	6971.76	1.11E+02	10.49	1.18E+01	3.49

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 3:09:32PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567380.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.96	6.27E+03	1168.73			6.27E+03	1.17E+03
F	2	49.13	6.31E+03	494.20			6.31E+03	4.94E+02
F	3	59.56	3.31E+05	2504.38			3.31E+05	2.50E+03
F	4	74.83	3.40E+03	476.44	1.54E+02	9.11E+00	3.25E+03	4.77E+02
F	5	86.72	1.51E+04	2299.92	3.36E+01	2.31E+00	1.50E+04	2.30E+03
F	6	105.40	9.78E+03	2623.84			9.78E+03	2.62E+03
F	7	123.10	8.66E+04	1860.97			8.66E+04	1.86E+03
	8	131.65	2.27E+03	923.97			2.27E+03	9.24E+02
F	9	247.92	1.11E+04	679.82			1.11E+04	6.80E+02
F	10	278.05	5.78E+02	38.30			5.78E+02	3.83E+01
F	11	344.28	1.74E+03	134.41			1.74E+03	1.34E+02
F	12	414.81	3.52E+03	416.14			3.52E+03	4.16E+02
F	13	444.43	8.79E+02	450.75			8.79E+02	4.51E+02
F	14	511.13	6.01E+03	110.92	1.73E+02	6.25E+00	5.83E+03	1.11E+02
F	15	582.06	7.67E+02	71.68			7.67E+02	7.17E+01
F	16	591.79	4.48E+03	392.80			4.48E+03	3.93E+02
M	17	661.74	1.05E+04	113.65			1.05E+04	1.14E+02
m	18	666.41	2.32E+03	71.54	3.83E+00	6.97E-01	2.31E+03	7.15E+01
M	19	692.47	1.55E+03	235.95			1.55E+03	2.36E+02
m	20	695.20	2.67E+03	313.01			2.67E+03	3.13E+02
F	21	723.42	1.69E+04	349.82			1.69E+04	3.50E+02

Analysis Report for 24-2312 VSM-5.5M-S2-CST-A R3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	22	756.95	3.56E+03	242.66			3.56E+03	2.43E+02
F	23	778.74	4.88E+02	514.28			4.88E+02	5.14E+02
F	24	816.10	4.29E+02	64.19			4.29E+02	6.42E+01
M	25	845.64	6.44E+02	101.78			6.44E+02	1.02E+02
m	26	850.57	3.59E+02	64.82			3.59E+02	6.48E+01
F	27	873.37	8.62E+03	263.08			8.62E+03	2.63E+02
F	28	893.02	3.26E+02	94.69			3.26E+02	9.47E+01
F	29	904.27	5.58E+02	46.55			5.58E+02	4.66E+01
F	30	964.50	3.45E+02	198.35	4.32E+00	1.10E+00	3.41E+02	1.98E+02
M	31	996.45	7.42E+03	157.35			7.42E+03	1.57E+02
m	32	1004.94	1.25E+04	241.99			1.25E+04	2.42E+02
F	33	1112.10	2.52E+02	90.50			2.52E+02	9.05E+01
F	34	1128.17	3.08E+02	120.84			3.08E+02	1.21E+02
F	35	1141.45	1.16E+02	28.79			1.16E+02	2.88E+01
F	36	1173.40	1.14E+04	239.60			1.14E+04	2.40E+02
F	37	1246.29	4.03E+02	101.96			4.03E+02	1.02E+02
M	38	1265.70	3.67E+01	18.69			3.67E+01	1.87E+01
m	39	1274.62	2.07E+04	254.29			2.07E+04	2.54E+02
F	40	1332.64	1.04E+04	199.01			1.04E+04	1.99E+02
F	41	1397.53	4.20E+02	74.95			4.20E+02	7.49E+01
F	42	1408.30	3.34E+02	22.39	6.04E+00	4.98E-01	3.28E+02	2.24E+01
F	43	1461.07	8.88E+01	14.69	1.12E+02	3.19E+00	-2.28E+01	1.50E+01
F	44	1494.35	3.47E+02	21.17			3.47E+02	2.12E+01
	45	1530.85	3.66E+00	17.43			3.66E+00	1.74E+01
F	46	1596.49	9.90E+02	85.66			9.90E+02	8.57E+01
F	47	1719.97	9.52E+01	40.88			9.52E+01	4.09E+01
F	48	2505.09	1.11E+02	10.49			1.11E+02	1.05E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.99	1460.83	*	10.67	-1.55E-04	1.02E-04	miss
CO-60	0.99	1173.24	*	99.97	7.46E-03	1.62E-04	0.963

Analysis Report for 24-2312 VSM-5.5M-S2-CST-A R3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1332.50	*	99.99	7.39E-03	1.49E-04	0.961
		2505.74	*	1.00	1.27E-02	1.36E-03	miss
RH-106	0.40	511.86	*	20.70	1.09E-02	3.90E-04	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.49	223.90		1.39			
		278.20	*	2.40	7.29E-03	2.19E-03	0.853
		296.50		4.50			
		414.70	*	83.30	1.60E-03	1.95E-04	0.871
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.19E-03	3.75E-05	0.868
		674.80		3.10			
		695.00	*	99.60	1.41E-03	1.66E-04	0.868
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.72	64.28		9.60			
		87.30	*	45.90	6.13E-03	9.76E-04	miss
CS-137	0.99	661.66	*	85.20	5.46E-03	6.72E-05	miss
EU-152	0.38	121.78		28.58			
		344.28	*	26.50	1.99E-03	1.61E-04	0.969
		778.90	*	12.94	1.93E-03	2.04E-03	0.959
		964.08	*	14.73	1.34E-03	7.80E-04	0.966
		1085.87		10.24			
		1112.07	*	13.69	1.15E-03	4.11E-04	0.981
		1408.01	*	21.07	1.13E-03	7.78E-05	0.974
EU-154	0.99	42.70	*	20.45	2.82E-02	5.35E-03	miss
		123.07	*	40.40	4.06E-02	1.03E-03	0.955
		247.93	*	6.89	4.14E-02	2.60E-03	0.942
		591.76	*	4.95	4.02E-02	3.56E-03	0.931
		692.42	*	1.78	4.22E-02	6.43E-03	0.946
		723.30	*	20.06	4.17E-02	9.88E-04	0.949
		756.80	*	4.52	4.10E-02	2.83E-03	0.928
		873.18	*	12.08	3.99E-02	1.31E-03	0.942
		996.29	*	10.48	4.10E-02	9.77E-04	0.986
		1004.76	*	18.01	4.06E-02	9.14E-04	0.977
		1246.12	*	0.86	3.30E-02	8.35E-03	0.937
		1274.43	*	34.80	4.05E-02	6.55E-04	0.979
		1494.05	*	0.70	3.61E-02	2.25E-03	1.016
		1596.48	*	1.80	3.64E-02	3.18E-03	1.169
EU-155	0.99	43.00	*	18.70	3.08E-02	5.83E-03	1.000
		60.01	*	1.22	8.88E+00	3.21E-01	0.999
		86.55	*	30.70	9.17E-03	1.42E-03	free
		105.31	*	21.10	8.10E-03	2.18E-03	1.000
AM-241	1.00	59.54	*	35.90	3.01E-01	6.79E-03	free

Analysis Report for 24-2312 VSM-5.5M-S2-CST-A R3

ASR 2094 Branch

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.991	-1.55E-04	1.02E-04	
CO-60	0.996	7.46E-03	1.09E-04	
RH-106	0.406	1.09E-02	3.90E-04	
SB-126	0.499	1.22E-03	3.60E-05	
Sn-126	0.723	2.51E-03	1.65E-03	
CS-137	0.999	5.46E-03	6.72E-05	
EU-152	0.381	1.29E-03	6.88E-05	
EU-154	0.996	4.05E-02	3.19E-04	
EU-155	0.997	5.41E-03	2.03E-03	
AM-241	1.000	3.01E-01	4.56E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2312 VSM-5.5M-S2-CST-A R3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 3:09:32PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	49.13	1.48748E+00	7.84		
F	4	74.83	7.66639E-01	14.66		
	8	131.65	5.34698E-01	40.75		
F	13	444.43	2.07401E-01	51.25		
F	15	582.06	1.80939E-01	9.34		
F	24	816.10	1.01168E-01	14.96	Sum	
M	25	845.64	1.51957E-01	15.80	Sum	
m	26	850.57	8.47469E-02	18.04		
F	28	893.02	7.68197E-02	29.07		
F	29	904.27	1.31666E-01	8.34		
F	34	1128.17	7.25408E-02	39.29	Sum	
F	35	1141.45	2.73375E-02	24.84		
M	38	1265.70	8.66138E-03	50.89		
F	41	1397.53	9.90680E-02	17.84	Sum	
	45	1530.85	8.63650E-04	475.92	Sum	
F	47	1719.97	2.24403E-02	42.96	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Analysis Report for 24-2312 VSM-5.5M-S2-CST-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	2.56E-03	2.56E-03	6.18E-03	1.28E-03
+	K-40	1460.83	*	10.67	7.32E-04	7.32E-04	-1.55E-04	3.57E-04
	MN-54	834.84		99.98	1.96E-04	1.96E-04	1.38E-04	9.71E-05
	CO-58	810.78		99.45	2.13E-04	2.13E-04	1.05E-04	1.06E-04
		863.96		0.68	3.02E-02		9.09E-03	1.50E-02
		1674.73		0.52	8.95E-03		2.76E-03	4.27E-03
	FE-59	142.65		1.00	5.27E-02	2.38E-04	4.22E-02	2.63E-02
		192.35		3.01	1.51E-02		1.30E-03	7.53E-03
		334.80		0.27	1.14E-01		1.82E-01	5.69E-02
		1099.25		56.30	3.08E-04		-1.54E-05	1.52E-04
		1291.60		43.70	2.38E-04		-2.50E-04	1.17E-04
+	CO-60	1173.24	*	99.97	2.30E-04	1.90E-04	7.46E-03	1.14E-04
		1332.50	*	99.99	1.90E-04		7.39E-03	9.40E-05
		2505.74	*	1.00	3.73E-03		1.27E-02	1.71E-03
	SR-85	514.00		96.00	3.03E-04	3.03E-04	6.04E-06	1.51E-04
		868.60		0.01	2.52E+00		1.71E-01	1.26E+00
	NB-94	702.62		97.90	2.43E-04	2.43E-04	1.98E-04	1.21E-04
		871.09		99.98	3.14E-04		5.03E-03	1.56E-04
	NB-95	765.81		99.81	2.24E-04	2.24E-04	1.53E-04	1.11E-04
	RU-103	497.05		91.00	2.88E-04	2.88E-04	-8.06E-05	1.43E-04
		610.30		5.76	4.07E-03		-2.79E-03	2.02E-03
+	RH-106	511.86	*	20.70	2.10E-03	2.10E-03	1.09E-02	1.05E-03
		621.92		9.93	2.47E-03		-3.79E-04	1.23E-03
		1050.36		1.56	1.28E-02		1.10E-02	6.35E-03
	AG-108M	79.13		6.60	1.17E-02	2.81E-04	2.38E-03	5.86E-03
		433.90		90.50	3.33E-04		2.03E-04	1.66E-04
		614.30		89.80	2.81E-04		3.58E-04	1.40E-04
		722.90		90.80	4.26E-04		9.06E-03	2.12E-04
	CD-109	88.03		3.61	1.90E-02	1.90E-02	8.82E-02	9.49E-03
	SB-125	176.31		6.82	6.65E-03	9.40E-04	1.15E-02	3.32E-03
		380.45		1.52	1.91E-02		5.53E-03	9.50E-03
		427.87		29.55	9.40E-04		4.32E-04	4.69E-04
		463.36		10.48	2.54E-03		1.26E-03	1.27E-03
		600.60		17.76	1.30E-03		6.24E-04	6.49E-04
		606.71		5.02	4.61E-03		-1.48E-04	2.29E-03
		635.95		11.32	2.02E-03		-9.57E-04	1.01E-03
		671.44		1.78	1.37E-02		5.29E-03	6.82E-03
+	SB-126	223.90		1.39	2.78E-02	1.84E-04	-5.73E-03	1.39E-02
		278.20	*	2.40	1.37E-02		7.29E-03	6.85E-03
		296.50		4.50	8.63E-03		-1.00E-02	4.31E-03
		414.70	*	83.30	5.75E-04		1.60E-03	2.87E-04
		556.30		1.69	1.72E-02		1.04E-02	8.58E-03
		573.90		6.70	4.24E-03		8.02E-03	2.11E-03
		593.20		7.50	4.06E-03		2.91E-02	2.02E-03
		656.30		2.19	1.67E-02		-1.05E-03	8.33E-03
		666.50	*	99.60	1.84E-04		1.19E-03	9.13E-05
		674.80		3.10	8.61E-03		-8.54E-04	4.28E-03
		695.00	*	99.60	1.93E-04		1.41E-03	9.59E-05
		697.00		29.00	1.05E-03		3.68E-04	5.22E-04
		720.70		53.80	7.77E-04		1.76E-02	3.87E-04
		856.80		17.60	1.28E-03		3.38E-04	6.33E-04
		989.60		6.80	4.33E-03		-2.21E-03	2.15E-03
		1213.30		2.39	5.60E-03		4.68E-03	2.76E-03

Analysis Report for 24-2312 VSM-5.5M-S2-CST-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	Sn-126	64.28		9.60	1.27E-02	2.00E-03	-5.15E-04	6.34E-03
		87.30	*	45.90	2.00E-03		6.13E-03	9.97E-04
	I-129	29.70		56.60	2.92E-05	2.92E-05	0.00E+00	0.00E+00
		33.60		10.04	4.74E-02		1.42E+00	2.36E-02
		34.40		2.01	2.38E-01		8.36E+00	1.19E-01
		39.60		7.51	5.38E-02		7.02E-01	2.69E-02
	CS-134	563.25		8.34	3.16E-03	2.50E-04	2.95E-03	1.57E-03
		569.33		15.37	1.70E-03		-1.67E-03	8.44E-04
		604.72		97.62	2.50E-04		2.94E-06	1.25E-04
		795.86		85.46	2.57E-04		1.36E-04	1.28E-04
		801.95		8.69	2.55E-03		-1.46E-03	1.27E-03
+	CS-137	661.66	*	85.20	1.81E-04	1.81E-04	5.46E-03	8.99E-05
	CE-139	165.85		79.89	5.93E-04	5.93E-04	-4.60E-05	2.96E-04
	CE-141	40.70		3.35	1.11E-01	1.08E-03	9.55E-02	5.56E-02
		145.44		48.29	1.08E-03		-6.77E-05	5.42E-04
	CE-144	80.12		1.36	5.59E-02	4.53E-03	-1.09E-02	2.80E-02
		133.51		11.09	4.53E-03		-7.35E-05	2.26E-03
+	EU-152	121.78		28.58	2.16E-03	5.25E-04	-8.98E-04	1.08E-03
		344.28	*	26.50	1.53E-03		1.99E-03	7.61E-04
		778.90	*	12.94	1.92E-03		1.93E-03	9.52E-04
		964.08	*	14.73	1.31E-03		1.34E-03	6.52E-04
		1085.87		10.24	1.73E-03		3.88E-03	8.58E-04
		1112.07	*	13.69	1.51E-03		1.15E-03	7.49E-04
		1408.01	*	21.07	5.25E-04		1.13E-03	2.58E-04
	GD-153	97.43		29.00	2.14E-03	2.14E-03	1.92E-03	1.07E-03
		103.18		21.10	2.83E-03		-5.13E-04	1.41E-03
+	EU-154	42.70	*	20.45	1.70E-02	2.28E-04	2.82E-02	8.48E-03
		123.07	*	40.40	1.82E-03		4.06E-02	9.10E-04
		247.93	*	6.89	7.94E-03		4.14E-02	3.96E-03
		591.76	*	4.95	6.46E-03		4.02E-02	3.22E-03
		692.42	*	1.78	8.78E-03		4.22E-02	4.36E-03
		723.30	*	20.06	1.66E-03		4.17E-02	8.27E-04
		756.80	*	4.52	6.98E-03		4.10E-02	3.48E-03
		873.18	*	12.08	2.29E-03		3.99E-02	1.14E-03
		996.29	*	10.48	1.33E-03		4.10E-02	6.56E-04
		1004.76	*	18.01	8.02E-04		4.06E-02	3.96E-04
		1246.12	*	0.86	1.54E-02		3.30E-02	7.58E-03
		1274.43	*	34.80	2.28E-04		4.05E-02	1.11E-04
		1494.05	*	0.70	1.46E-02		3.61E-02	7.16E-03
		1596.48	*	1.80	4.12E-03		3.64E-02	2.01E-03
+	EU-155	43.00	*	18.70	1.86E-02	2.99E-03	3.08E-02	9.27E-03
		60.01	*	1.22	1.59E-01		8.88E+00	7.93E-02
		86.55	*	30.70	2.99E-03		9.17E-03	1.49E-03
		105.31	*	21.10	3.62E-03		8.10E-03	1.81E-03
	HG-203	72.87		6.30	1.41E-02	4.28E-04	5.84E-03	7.06E-03
		279.20		81.46	4.28E-04		4.67E-04	2.14E-04
	BI-207	569.15		97.80	2.61E-04	2.58E-04	-1.89E-05	1.30E-04
		1063.10		74.90	2.58E-04		-4.05E-05	1.28E-04
	PB-210	46.54		4.25	5.59E-02	5.59E-02	-5.40E-03	2.79E-02
	RA-226	74.81		6.44	1.31E-02	2.80E-04	3.85E-02	6.52E-03
		77.11		10.80	7.43E-03		1.22E-02	3.71E-03
		87.30		4.84	1.43E-02		7.42E-02	7.13E-03
		186.21		3.59	1.22E-02		5.58E-03	6.09E-03

Analysis Report for 24-2312 VSM-5.5M-S2-CST-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	242.00		7.43	4.94E-03	2.80E-04	3.50E-04	2.46E-03
		295.22		19.30	1.71E-03		3.40E-04	8.51E-04
		351.93		37.60	8.09E-04		4.95E-04	4.03E-04
		609.31		46.10	5.00E-04		-1.86E-04	2.49E-04
		768.36		4.94	4.36E-03		3.15E-03	2.17E-03
		1120.29		15.10	1.12E-03		3.84E-04	5.54E-04
		1238.11		5.79	2.06E-03		-1.84E-03	1.02E-03
		1764.49		15.40	2.80E-04		-4.29E-04	1.33E-04
	PA-231	283.70		1.59	2.13E-02	1.37E-02	1.59E-02	1.06E-02
		300.07		2.38	1.37E-02		-5.15E-03	6.83E-03
		302.67		1.71	1.90E-02		-3.44E-02	9.46E-03
		330.07		1.32	2.32E-02		1.85E-02	1.16E-02
	TH-232	74.81		11.62	7.23E-03	1.32E-04	2.14E-02	3.61E-03
		77.11		17.50	4.58E-03		7.52E-03	2.29E-03
		87.30		7.80	8.86E-03		4.60E-02	4.43E-03
		238.63		43.30	8.50E-04		1.22E-04	4.24E-04
		338.32		11.30	2.77E-03		5.13E-04	1.38E-03
		583.19		30.37	8.03E-04		1.88E-03	4.00E-04
		727.33		6.58	5.38E-03		-5.05E-05	2.68E-03
		911.21		26.60	7.21E-04		-6.13E-05	3.58E-04
		968.97		16.20	1.16E-03		1.45E-03	5.73E-04
		2614.53		35.64	1.32E-04		1.65E-04	6.15E-05
	U-235	143.76		10.96	4.71E-03	7.66E-04	4.61E-03	2.35E-03
		185.71		57.20	7.66E-04		6.61E-04	3.82E-04
		205.31		5.01	8.18E-03		-2.95E-03	4.09E-03
	U-238	63.29		3.70	3.67E-02	1.52E-02	3.93E-03	1.83E-02
		92.51		4.23	1.52E-02		1.21E-02	7.58E-03
		112.81		0.21	2.63E-01		1.78E-01	1.31E-01
		742.81		0.11	1.97E-01		-7.36E-02	9.77E-02
		766.28		0.32	6.83E-02		1.65E-02	3.40E-02
		1001.03		0.84	5.01E-02		1.38E+00	2.50E-02
	NP-239	99.60		12.80	6.43E-03	3.04E-03	-4.70E-03	3.21E-03
		103.80		20.40	3.94E-03		-1.11E-03	1.97E-03
		106.10		26.40	3.04E-03		9.03E-03	1.52E-03
		116.90		7.61	9.75E-03		-8.10E-03	4.87E-03
		228.20		11.20	4.71E-03		-2.27E-03	2.35E-03
		277.60		14.50	3.30E-03		2.60E-03	1.65E-03
		315.90		1.60	2.63E-02		8.20E-03	1.31E-02
		334.30		2.06	1.89E-02		1.14E-02	9.43E-03
+	AM-241	59.54	*	35.90	5.39E-03	5.39E-03	3.01E-01	2.69E-03

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

Apex-Gamma

Analysis Report for 24-2313 VSM-5.5M-S2-CST-d-A R3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2313 VSM-5.5M-S2-CST-d-A R3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 3:23:58PM
Procedure	: R3_gsv02mlw
Operator	: Administrator
Detector Name	: R
Geometry	: R3_gsv02mlw
Live Time	: 14400.0 seconds
Real Time	: 14894.3 seconds
Dead Time	: 3.32 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/5/2019
Efficiency Calibration Description	: R3_gsv2ml_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567832
Certificate Name	: R735-b8 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 7:32:19PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2313 VSM-5.5M-S2-CST-d-A R3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.75	120.12	0.1391	17.08
2	48.96	137.13	0.1915	8.96
3	59.56	166.64	0.0284	436.31
4	74.83	208.95	0.1894	10.12
5	86.77	242.22	0.1223	22.61
6	105.46	294.23	0.1434	16.09
7	123.09	343.33	0.0402	206.10
8	228.29	635.49	0.3078	3.10
9	247.91	690.33	0.0709	60.86
10	277.55	772.84	0.2050	7.59
11	344.26	958.27	0.1553	12.63
12	370.93	1032.47	0.3002	3.38
13	414.84	1154.59	0.0924	32.53
14	444.47	1236.86	0.1977	7.03
15	478.19	1330.77	0.2548	4.28
16	511.03	1422.07	0.0868	25.03
17	557.91	1552.55	0.2389	4.64
18	582.11	1619.92	0.1381	13.06
19	591.82	1646.74	0.0690	52.58
20	609.57	1695.28	0.2877	3.71
21	625.44	1740.01	0.2112	6.57
22	661.72	1841.29	0.0518	90.22
23	666.42	1854.52	0.0887	31.78
24	692.59	1926.41	0.1556	13.25
25	695.25	1934.73	0.1033	25.83
26	715.44	1991.22	0.2422	3.31
27	723.43	2012.92	0.0439	119.95
28	756.95	2106.16	0.0695	47.93
29	779.13	2167.91	0.1828	6.47
30	805.02	2239.74	0.3389	3.13
31	815.81	2269.72	0.1582	8.56
32	845.72	2353.14	0.1451	10.52
33	850.77	2367.02	0.2095	6.20
34	873.34	2429.94	0.0507	85.11
35	893.01	2484.50	0.1609	9.39
36	904.17	2515.91	0.1279	13.02
37	964.31	2683.15	0.1618	7.76
38	996.43	2772.42	0.0534	71.67
39	1004.92	2796.07	0.0463	96.88
40	1085.99	3021.56	0.1742	6.60
41	1112.14	3094.46	0.1595	6.32
42	1128.31	3139.20	0.1411	8.94
43	1141.07	3174.24	0.2030	4.32
44	1173.38	3264.80	0.0463	90.96
45	1178.56	3279.00	0.0000	0.00
46	1246.31	3467.67	0.1140	15.52
47	1274.60	3546.47	0.0395	118.46
48	1290.72	3589.10	0.2863	3.09
49	1332.67	3708.08	0.0469	82.82
50	1361.89	3788.98	0.2518	3.52
51	1397.31	3887.82	0.1114	15.13
52	1408.19	3918.33	0.1125	14.56
53	1461.38	4065.51	0.1688	6.14
54	1494.13	4157.35	0.1080	15.12
55	1538.16	4279.90	0.2158	3.70

Analysis Report for 24-2313 VSM-5.5M-S2-CST-d-A R3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
56	1582.62	4403.68	0.2889	3.01
57	1596.54	4442.42	0.0836	24.95
58	1719.40	4784.49	0.1381	9.61
59	1765.16	4910.99	0.2237	3.21
60	2204.53	6134.55	0.2291	3.64
61	2504.96	6971.46	0.1298	8.76
62	2614.84	7276.95	0.1846	4.39

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2313 VSM-5.5M-S2-CST-d-A R3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 7:32:19PM

Peak Analysis From Channel : 105

Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.75	111	124	119.90	2.20E+04	2996.18	9.44E+05	1.38
F	2	48.96	128	145	137.17	1.96E+04	2565.03	1.53E+06	1.79
F	3	59.56	157	173	166.66	1.08E+06	4605.09	1.63E+06	1.35
F	4	74.83	206	218	209.10	1.15E+04	879.51	1.15E+06	1.30
F	5	86.77	236	251	242.31	3.99E+04	4567.80	1.29E+06	1.70
F	6	105.46	289	303	294.27	2.41E+04	3986.86	9.63E+05	1.64
F	7	123.09	336	353	343.30	2.87E+05	3370.31	9.06E+05	1.43
F	8	228.29	624	646	635.81	3.14E+03	6550.97	3.19E+05	2.27
F	9	247.91	684	701	690.38	3.40E+04	365.69	2.02E+05	1.49
F	10	277.55	768	778	772.81	2.66E+03	1143.45	9.31E+04	1.31
F	11	344.26	954	969	958.31	3.59E+03	223.25	7.79E+04	1.46
	12	370.93	1029	1044	1032.47	2.08E+02	573.58	6.55E+04	0.76
F	13	414.84	1148	1166	1154.60	9.25E+03	197.51	5.89E+04	1.58
F	14	444.47	1229	1249	1237.01	1.98E+03	170.09	5.55E+04	1.86
F	15	478.19	1325	1343	1330.78	8.21E+02	748.32	4.23E+04	1.56
F	16	511.03	1409	1434	1422.11	2.04E+04	966.68	4.90E+04	3.15
F	17	557.91	1542	1559	1552.51	8.17E+02	427.25	2.69E+04	1.50
F	18	582.11	1612	1627	1619.82	2.86E+03	553.20	2.11E+04	1.92
F	19	591.82	1640	1658	1646.82	1.49E+04	164.72	2.36E+04	1.90
F	20	609.57	1688	1705	1696.18	6.61E+02	23.31	2.10E+04	0.55
F	21	625.44	1735	1751	1740.32	8.36E+02	424.62	1.86E+04	1.17
M	22	661.72	1830	1866	1841.25	3.31E+04	573.40	1.83E+04	1.99
m	23	666.42	1830	1866	1854.30	8.17E+03	188.87	1.75E+04	2.00
M	24	692.59	1920	1948	1927.10	4.95E+03	124.44	1.37E+04	2.05
m	25	695.25	1920	1948	1934.50	7.65E+03	133.16	1.86E+04	2.05
M	26	715.44	1982	2025	1990.66	7.68E+02	96.74	1.42E+04	2.04
m	27	723.43	1982	2025	2012.89	5.45E+04	615.49	1.62E+04	2.05
F	28	756.95	2093	2116	2106.12	1.18E+04	473.13	1.64E+04	2.09
F	29	779.13	2160	2175	2167.84	1.13E+03	447.46	1.06E+04	2.23
F	30	805.02	2235	2249	2239.85	1.64E+02	66.65	8.72E+03	0.92
F	31	815.81	2264	2279	2269.87	1.39E+03	90.00	8.65E+03	2.28
M	32	845.72	2340	2376	2353.09	2.00E+03	350.17	1.13E+04	2.27
m	33	850.77	2340	2376	2367.13	9.07E+02	159.81	1.46E+04	2.28
F	34	873.34	2420	2441	2429.91	2.85E+04	178.38	1.08E+04	2.14
F	35	893.01	2469	2491	2484.65	1.29E+03	289.47	9.93E+03	1.70
F	36	904.17	2503	2524	2515.68	1.94E+03	319.53	9.49E+03	2.23
F	37	964.31	2672	2689	2682.98	1.24E+03	321.20	6.77E+03	2.40
M	38	996.43	2757	2807	2772.34	2.39E+04	277.51	8.63E+03	2.32
m	39	1004.92	2757	2807	2795.97	4.04E+04	430.44	8.90E+03	2.33
F	40	1085.99	3015	3031	3021.54	6.75E+02	64.66	4.56E+03	2.24

Analysis Report for 24-2313 VSM-5.5M-S2-CST-d-A R3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1112.14	3080	3102	3094.28	1.13E+03	65.54	5.38E+03	2.91
F	42	1128.31	3130	3154	3139.29	1.29E+03	61.98	4.83E+03	2.75
F	43	1141.07	3158	3184	3174.77	8.52E+02	247.61	4.48E+03	3.87
M	44	1173.38	3249	3285	3264.68	3.71E+04	231.64	3.66E+03	2.52
m	45	1178.56	3249	3285	3279.09	2.11E+01	28.48	2.90E+03	2.52
F	46	1246.31	3459	3480	3467.62	1.44E+03	198.73	2.09E+03	2.34
F	47	1274.60	3530	3562	3546.32	6.76E+04	503.29	2.68E+03	2.63
F	48	1290.72	3579	3602	3591.19	2.38E+02	35.27	1.53E+03	4.38
F	49	1332.67	3691	3724	3707.93	3.44E+04	374.29	1.74E+03	2.72
F	50	1361.89	3778	3794	3789.24	1.91E+02	155.86	7.91E+02	2.72
F	51	1397.31	3877	3898	3887.80	1.21E+03	42.48	1.02E+03	2.49
F	52	1408.19	3906	3929	3918.07	1.18E+03	141.06	1.01E+03	2.64
F	53	1461.38	4054	4073	4066.09	3.51E+02	116.57	5.80E+02	1.90
F	54	1494.13	4145	4168	4157.25	1.27E+03	117.02	5.34E+02	2.74
F	55	1538.16	4270	4288	4279.80	1.11E+02	19.30	3.35E+02	2.51
F	56	1582.62	4398	4410	4403.53	3.30E+01	14.57	1.66E+02	1.75
F	57	1596.54	4425	4459	4442.27	3.51E+03	141.23	3.96E+02	2.85
F	58	1719.40	4770	4796	4784.24	4.45E+02	75.45	1.83E+02	2.88
F	59	1765.16	4898	4921	4911.61	9.15E+01	53.40	2.03E+02	2.24
F	60	2204.53	6126	6142	6134.81	3.84E+01	21.16	2.78E+01	2.12
F	61	2504.96	6956	6982	6971.40	4.30E+02	52.87	4.26E+01	3.17
F	62	2614.84	7262	7286	7277.41	1.38E+02	47.62	1.87E+01	2.45

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 7:32:19PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567380.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.75	2.20E+04	2996.18			2.20E+04	3.00E+03
F	2	48.96	1.96E+04	2565.03			1.96E+04	2.57E+03
F	3	59.56	1.08E+06	4605.09			1.08E+06	4.61E+03
F	4	74.83	1.15E+04	879.51	5.24E+02	3.09E+01	1.10E+04	8.80E+02
F	5	86.77	3.99E+04	4567.80	1.14E+02	7.84E+00	3.98E+04	4.57E+03
F	6	105.46	2.41E+04	3986.86			2.41E+04	3.99E+03
F	7	123.09	2.87E+05	3370.31			2.87E+05	3.37E+03

Analysis Report for 24-2313 VSM-5.5M-S2-CST-d-A R3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	8	228.29	3.14E+03	6550.97			3.14E+03	6.55E+03
F	9	247.91	3.40E+04	365.69			3.40E+04	3.66E+02
F	10	277.55	2.66E+03	1143.45			2.66E+03	1.14E+03
F	11	344.26	3.59E+03	223.25			3.59E+03	2.23E+02
	12	370.93	2.08E+02	573.58			2.08E+02	5.74E+02
F	13	414.84	9.25E+03	197.51			9.25E+03	1.98E+02
F	14	444.47	1.98E+03	170.09			1.98E+03	1.70E+02
F	15	478.19	8.21E+02	748.32			8.21E+02	7.48E+02
F	16	511.03	2.04E+04	966.68	5.89E+02	2.12E+01	1.98E+04	9.67E+02
F	17	557.91	8.17E+02	427.25			8.17E+02	4.27E+02
F	18	582.11	2.86E+03	553.20			2.86E+03	5.53E+02
F	19	591.82	1.49E+04	164.72			1.49E+04	1.65E+02
F	20	609.57	6.61E+02	23.31	4.63E+02	1.48E+01	1.98E+02	2.76E+01
F	21	625.44	8.36E+02	424.62			8.36E+02	4.25E+02
M	22	661.72	3.31E+04	573.40			3.31E+04	5.73E+02
m	23	666.42	8.17E+03	188.87	1.30E+01	2.37E+00	8.16E+03	1.89E+02
M	24	692.59	4.95E+03	124.44			4.95E+03	1.24E+02
m	25	695.25	7.65E+03	133.16			7.65E+03	1.33E+02
M	26	715.44	7.68E+02	96.74			7.68E+02	9.67E+01
m	27	723.43	5.45E+04	615.49			5.45E+04	6.15E+02
F	28	756.95	1.18E+04	473.13			1.18E+04	4.73E+02
F	29	779.13	1.13E+03	447.46			1.13E+03	4.47E+02
F	30	805.02	1.64E+02	66.65			1.64E+02	6.67E+01
F	31	815.81	1.39E+03	90.00			1.39E+03	9.00E+01
M	32	845.72	2.00E+03	350.17			2.00E+03	3.50E+02
m	33	850.77	9.07E+02	159.81			9.07E+02	1.60E+02
F	34	873.34	2.85E+04	178.38			2.85E+04	1.78E+02
F	35	893.01	1.29E+03	289.47			1.29E+03	2.89E+02
F	36	904.17	1.94E+03	319.53			1.94E+03	3.20E+02
F	37	964.31	1.24E+03	321.20	1.47E+01	3.75E+00	1.23E+03	3.21E+02
M	38	996.43	2.39E+04	277.51			2.39E+04	2.78E+02
m	39	1004.92	4.04E+04	430.44			4.04E+04	4.30E+02
F	40	1085.99	6.75E+02	64.66			6.75E+02	6.47E+01
F	41	1112.14	1.13E+03	65.54			1.13E+03	6.55E+01
F	42	1128.31	1.29E+03	61.98			1.29E+03	6.20E+01
F	43	1141.07	8.52E+02	247.61			8.52E+02	2.48E+02
M	44	1173.38	3.71E+04	231.64			3.71E+04	2.32E+02
m	45	1178.56	2.11E+01	28.48			2.11E+01	2.85E+01
F	46	1246.31	1.44E+03	198.73			1.44E+03	1.99E+02
F	47	1274.60	6.76E+04	503.29			6.76E+04	5.03E+02
F	48	1290.72	2.38E+02	35.27			2.38E+02	3.53E+01
F	49	1332.67	3.44E+04	374.29			3.44E+04	3.74E+02
F	50	1361.89	1.91E+02	155.86			1.91E+02	1.56E+02
F	51	1397.31	1.21E+03	42.48			1.21E+03	4.25E+01
F	52	1408.19	1.18E+03	141.06	2.05E+01	1.69E+00	1.16E+03	1.41E+02
F	53	1461.38	3.51E+02	116.57	3.79E+02	1.08E+01	-2.74E+01	1.17E+02
F	54	1494.13	1.27E+03	117.02			1.27E+03	1.17E+02
F	55	1538.16	1.11E+02	19.30			1.11E+02	1.93E+01
F	56	1582.62	3.30E+01	14.57			3.30E+01	1.46E+01
F	57	1596.54	3.51E+03	141.23			3.51E+03	1.41E+02
F	58	1719.40	4.45E+02	75.45			4.45E+02	7.55E+01
F	59	1765.16	9.15E+01	53.40	1.28E+02	7.74E+00	-3.65E+01	5.40E+01
F	60	2204.53	3.84E+01	21.16	4.03E+01	1.69E+00	-1.87E+00	2.12E+01
F	61	2504.96	4.30E+02	52.87			4.30E+02	5.29E+01

Analysis Report for 24-2313 VSM-5.5M-S2-CST-d-A R3

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 62	2614.84	1.38E+02	47.62			1.38E+02	4.76E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
BE-7	0.94	477.61	*	10.44	8.50E-04	7.74E-04	miss
K-40	0.95	1460.83	*	10.67	-5.50E-05	2.35E-04	miss
CO-60	0.99	1173.24	*	99.97	7.17E-03	5.87E-05	0.963
		1332.50	*	99.99	7.21E-03	8.99E-05	0.961
		2505.74	*	1.00	1.45E-02	1.93E-03	miss
RH-106	0.39	511.86	*	20.70	1.09E-02	6.27E-04	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.49	223.90		1.39			
		278.20	*	2.40	9.88E-03	5.14E-03	0.853
		296.50		4.50			
		414.70	*	83.30	1.24E-03	4.51E-05	0.871
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.24E-03	2.96E-05	0.868
		674.80		3.10			
		695.00	*	99.60	1.19E-03	2.19E-05	0.868
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.73	64.28		9.60			
		87.30	*	45.90	4.77E-03	5.87E-04	miss
CS-137	0.99	661.66	*	85.20	5.07E-03	9.28E-05	miss
EU-152	0.48	121.78		28.58			

Analysis Report for 24-2313 VSM-5.5M-S2-CST-d-A R3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-152	0.48	344.28	*	26.50	1.21E-03	8.07E-05	0.969
		778.90	*	12.94	1.32E-03	5.22E-04	0.959
		964.08	*	14.73	1.42E-03	3.72E-04	0.966
		1085.87	*	10.24	1.16E-03	1.11E-04	1.011
		1112.07	*	13.69	1.51E-03	8.82E-05	0.981
		1408.01	*	21.07	1.18E-03	1.44E-04	0.974
EU-154	0.99	42.70	*	20.45	2.96E-02	4.19E-03	miss
		123.07	*	40.40	3.97E-02	7.03E-04	0.955
		247.93	*	6.89	3.74E-02	6.44E-04	0.942
		591.76	*	4.95	3.94E-02	6.46E-04	0.931
		692.42	*	1.78	3.96E-02	1.11E-03	0.946
		723.30	*	20.06	3.96E-02	6.39E-04	0.949
		756.80	*	4.52	4.00E-02	1.66E-03	0.928
		873.18	*	12.08	3.89E-02	5.19E-04	0.942
		996.29	*	10.48	3.89E-02	6.18E-04	0.986
		1004.76	*	18.01	3.88E-02	6.04E-04	0.977
		1246.12	*	0.86	3.47E-02	4.81E-03	0.937
		1274.43	*	34.80	3.89E-02	5.02E-04	0.979
		1494.05	*	0.70	3.88E-02	3.62E-03	1.016
		1596.48	*	1.80	3.80E-02	1.61E-03	1.169
EU-155	0.99	43.00	*	18.70	3.24E-02	4.56E-03	1.000
		60.01	*	1.22	8.58E+00	3.05E-01	0.999
		86.55	*	30.70	7.13E-03	8.37E-04	free
		105.31	*	21.10	5.87E-03	9.83E-04	1.000
NP-239	0.22	99.60		12.80			
		103.80		20.40			
		106.10	*	26.40	6.76E-03	1.12E-03	0.984
		116.90		7.61			
		228.20	*	11.20	2.75E-03	5.72E-03	0.988
		277.60	*	14.50	2.01E-03	8.64E-04	0.984
		315.90		1.60			
		334.30		2.06			
AM-241	1.00	59.54	*	35.90	2.91E-01	6.30E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

Analysis Report for 24-2313 VSM-5.5M-S2-CST-d-A R3

ASR 2094 Branch

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
BE-7	0.947	8.50E-04	7.74E-04	
K-40	0.954	-5.50E-05	2.35E-04	
CO-60	0.996	7.19E-03	4.92E-05	
RH-106	0.390	1.09E-02	6.27E-04	
SB-126	0.497	1.22E-03	1.48E-05	
Sn-126	0.730	2.55E-03	9.62E-04	
CS-137	0.999	5.07E-03	9.28E-05	
EU-152	0.485	1.29E-03	4.87E-05	
EU-154	0.998	3.89E-02	1.52E-04	
EU-155	0.992	3.32E-03	1.18E-03	
NP-239	0.221	2.21E-03	8.43E-04	
AM-241	1.000	2.91E-01	4.01E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2313 VSM-5.5M-S2-CST-d-A R3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 7:32:19PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	48.96	1.36423E+00	13.06		
F	4	74.83	7.60899E-01	8.03		
	12	370.93	1.44100E-02	276.42	Sum	
F	14	444.47	1.37787E-01	8.57		
F	17	557.91	5.67169E-02	52.31		
F	18	582.11	1.98638E-01	19.34		
F	20	609.57	1.37556E-02	13.94	Tol.	RU-103
F	21	625.44	5.80837E-02	50.77		
M	26	715.44	5.33342E-02	12.60	Sum	
F	30	805.02	1.13782E-02	40.68		
F	31	815.81	9.66974E-02	6.46	Sum	
M	32	845.72	1.39146E-01	17.48	Sum	
m	33	850.77	6.30134E-02	17.61		
F	35	893.01	8.96481E-02	22.42	Sum	
F	36	904.17	1.34478E-01	16.50		
F	42	1128.31	8.96387E-02	4.80	Sum	
F	43	1141.07	5.91435E-02	29.07		
m	45	1178.56	1.46813E-03	134.73		
F	48	1290.72	1.65618E-02	14.79	Sum	
F	50	1361.89	1.32737E-02	81.54	Sum	
F	51	1397.31	8.38171E-02	3.52	Sum	
F	55	1538.16	7.71822E-03	17.36		
F	56	1582.62	2.29065E-03	44.17		
F	58	1719.40	3.09290E-02	16.94	Sum	
F	59	1765.16	-2.53510E-03	- 147.81	Sum	
F	60	2204.53	-1.30052E-04	-1133.50		
F	62	2614.84	9.59782E-03	34.46		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2313 VSM-5.5M-S2-CST-d-A R3

ASR 2094 Branch

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	BE-7	477.61	*	10.44	1.68E-03	1.68E-03	8.50E-04	8.41E-04
+	K-40	1460.83	*	10.67	4.22E-04	4.22E-04	-5.50E-05	2.08E-04
	MN-54	834.84		99.98	1.04E-04	1.04E-04	1.16E-04	5.18E-05
	CO-58	810.78		99.45	1.12E-04	1.12E-04	-4.83E-06	5.60E-05
		863.96		0.68	1.59E-02		-3.60E-03	7.91E-03
		1674.73		0.52	4.59E-03		-1.51E-03	2.24E-03
	FE-59	142.65		1.00	2.80E-02	1.26E-04	2.07E-03	1.40E-02
		192.35		3.01	7.99E-03		-4.57E-04	3.99E-03
		334.80		0.27	6.06E-02		1.23E-02	3.02E-02
		1099.25		56.30	1.61E-04		-4.24E-05	8.00E-05
		1291.60		43.70	1.26E-04		-1.46E-04	6.22E-05
+	CO-60	1173.24	*	99.97	5.49E-05	5.49E-05	7.17E-03	2.72E-05
		1332.50	*	99.99	8.92E-05		7.21E-03	4.43E-05
		2505.74	*	1.00	2.15E-03		1.45E-02	1.03E-03
	SR-85	514.00		96.00	1.60E-04	1.60E-04	7.70E-06	8.00E-05
		868.60		0.01	1.34E+00		1.80E-02	6.67E-01
	NB-94	702.62		97.90	1.28E-04	1.28E-04	1.16E-05	6.39E-05
		871.09		99.98	1.66E-04		4.57E-03	8.28E-05
	NB-95	765.81		99.81	1.18E-04	1.18E-04	2.14E-04	5.87E-05
	RU-103	497.05		91.00	1.52E-04	1.52E-04	-2.30E-05	7.58E-05
		610.30		5.76	2.15E-03		3.11E-04	1.07E-03
+	RH-106	511.86	*	20.70	1.10E-03	1.10E-03	1.09E-02	5.51E-04
		621.92		9.93	1.30E-03		-2.50E-04	6.51E-04
		1050.36		1.56	6.68E-03		8.02E-04	3.33E-03
	AG-108M	79.13		6.60	6.21E-03	1.47E-04	-2.55E-03	3.11E-03
		433.90		90.50	1.75E-04		1.77E-04	8.74E-05
		614.30		89.80	1.47E-04		-4.67E-05	7.34E-05
		722.90		90.80	2.26E-04		1.88E-05	1.13E-04
	CD-109	88.03		3.61	1.01E-02	1.01E-02	8.53E-02	5.03E-03
	SB-125	176.31		6.82	3.51E-03	4.98E-04	1.03E-03	1.76E-03
		380.45		1.52	1.01E-02		1.43E-04	5.03E-03
		427.87		29.55	4.98E-04		1.67E-04	2.48E-04
		463.36		10.48	1.35E-03		1.69E-03	6.75E-04
		600.60		17.76	6.88E-04		7.85E-04	3.43E-04
		606.71		5.02	2.43E-03		8.28E-04	1.21E-03
		635.95		11.32	1.07E-03		3.56E-04	5.33E-04
		671.44		1.78	7.31E-03		4.69E-04	3.65E-03
+	SB-126	223.90		1.39	1.47E-02	9.40E-05	3.53E-04	7.36E-03
		278.20	*	2.40	7.25E-03		9.88E-03	3.62E-03
		296.50		4.50	4.58E-03		2.70E-03	2.29E-03
		414.70	*	83.30	2.58E-04		1.24E-03	1.29E-04
		556.30		1.69	9.15E-03		5.02E-03	4.56E-03

Analysis Report for 24-2313 VSM-5.5M-S2-CST-d-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-126	573.90		6.70	2.24E-03	9.40E-05	-1.63E-03	1.12E-03
		593.20		7.50	2.14E-03		2.54E-02	1.07E-03
		656.30		2.19	8.76E-03		4.77E-03	4.37E-03
		666.50	*	99.60	9.40E-05		1.24E-03	4.68E-05
		674.80		3.10	4.57E-03		2.56E-03	2.28E-03
		695.00	*	99.60	9.94E-05		1.19E-03	4.95E-05
		697.00		29.00	5.52E-04		7.77E-05	2.75E-04
		720.70		53.80	4.11E-04		1.65E-02	2.05E-04
		856.80		17.60	6.75E-04		7.35E-05	3.36E-04
		989.60		6.80	2.30E-03		-7.86E-04	1.14E-03
		1213.30		2.39	2.93E-03		2.56E-03	1.45E-03
+	Sn-126	64.28		9.60	6.73E-03	1.00E-03	2.77E-03	3.36E-03
		87.30	*	45.90	1.00E-03		4.77E-03	5.02E-04
	I-129	29.70		56.60	8.58E-06	8.58E-06	0.00E+00	0.00E+00
		33.60		10.04	2.51E-02		1.36E+00	1.26E-02
		34.40		2.01	1.26E-01		8.08E+00	6.30E-02
		39.60		7.51	2.86E-02		6.56E-01	1.43E-02
	CS-134	563.25		8.34	1.67E-03	1.32E-04	-1.56E-04	8.35E-04
		569.33		15.37	9.01E-04		-5.28E-04	4.49E-04
		604.72		97.62	1.32E-04		8.61E-05	6.59E-05
		795.86		85.46	1.35E-04		4.81E-05	6.74E-05
		801.95		8.69	1.35E-03		-6.00E-05	6.74E-04
+	CS-137	661.66	*	85.20	9.70E-05	9.70E-05	5.07E-03	4.83E-05
	CE-139	165.85		79.89	3.14E-04	3.14E-04	1.53E-04	1.57E-04
	CE-141	40.70		3.35	5.93E-02	5.76E-04	1.78E-01	2.96E-02
		145.44		48.29	5.76E-04		6.08E-04	2.88E-04
	CE-144	80.12		1.36	2.97E-02	2.40E-03	-2.53E-02	1.48E-02
		133.51		11.09	2.40E-03		3.91E-03	1.20E-03
+	EU-152	121.78		28.58	1.15E-03	2.84E-04	2.46E-04	5.73E-04
		344.28	*	26.50	6.94E-04		1.21E-03	3.46E-04
		778.90	*	12.94	8.88E-04		1.32E-03	4.43E-04
		964.08	*	14.73	7.39E-04		1.42E-03	3.68E-04
		1085.87	*	10.24	8.79E-04		1.16E-03	4.37E-04
		1112.07	*	13.69	8.43E-04		1.51E-03	4.20E-04
		1408.01	*	21.07	2.84E-04		1.18E-03	1.41E-04
	GD-153	97.43		29.00	1.13E-03	1.13E-03	8.50E-04	5.66E-04
		103.18		21.10	1.50E-03		-4.95E-04	7.50E-04
+	EU-154	42.70	*	20.45	9.17E-03	2.99E-04	2.96E-02	4.58E-03
		123.07	*	40.40	1.02E-03		3.97E-02	5.08E-04
		247.93	*	6.89	3.83E-03		3.74E-02	1.91E-03
		591.76	*	4.95	3.24E-03		3.94E-02	1.62E-03
		692.42	*	1.78	4.38E-03		3.96E-02	2.18E-03
		723.30	*	20.06	4.32E-04		3.96E-02	2.15E-04
		756.80	*	4.52	3.79E-03		4.00E-02	1.89E-03
		873.18	*	12.08	1.19E-03		3.89E-02	5.94E-04
		996.29	*	10.48	7.08E-04		3.89E-02	3.52E-04
		1004.76	*	18.01	4.24E-04		3.88E-02	2.11E-04
		1246.12	*	0.86	9.37E-03		3.47E-02	4.65E-03
		1274.43	*	34.80	2.99E-04		3.89E-02	1.49E-04
		1494.05	*	0.70	6.25E-03		3.88E-02	3.08E-03
		1596.48	*	1.80	2.25E-03		3.80E-02	1.11E-03
+	EU-155	43.00	*	18.70	1.00E-02	1.50E-03	3.24E-02	5.01E-03
		60.01	*	1.22	7.60E-02		8.58E+00	3.80E-02

Analysis Report for 24-2313 VSM-5.5M-S2-CST-d-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	EU-155	86.55	*	30.70	1.50E-03	1.50E-03	7.13E-03	7.51E-04
		105.31	*	21.10	1.72E-03		5.87E-03	8.59E-04
	HG-203	72.87		6.30	7.49E-03	2.27E-04	-7.17E-03	3.74E-03
		279.20		81.46	2.27E-04		2.67E-04	1.14E-04
	BI-207	569.15		97.80	1.38E-04	1.36E-04	-1.93E-04	6.89E-05
		1063.10		74.90	1.36E-04		-4.78E-05	6.76E-05
	PB-210	46.54		4.25	2.96E-02	2.96E-02	-1.52E-02	1.48E-02
	RA-226	74.81		6.44	6.91E-03	1.60E-04	2.88E-02	3.46E-03
		77.11		10.80	3.94E-03		1.61E-02	1.97E-03
		87.30		4.84	7.57E-03		6.58E-02	3.78E-03
		186.21		3.59	6.45E-03		7.93E-03	3.23E-03
		242.00		7.43	2.62E-03		6.29E-04	1.31E-03
		295.22		19.30	9.04E-04		-1.47E-04	4.51E-04
		351.93		37.60	4.27E-04		1.25E-04	2.13E-04
		609.31		46.10	2.64E-04		2.07E-06	1.32E-04
		768.36		4.94	2.29E-03		3.74E-03	1.14E-03
		1120.29		15.10	5.96E-04		6.36E-04	2.96E-04
		1238.11		5.79	1.10E-03		4.23E-04	5.46E-04
		1764.49		15.40	1.60E-04		1.18E-04	7.79E-05
	PA-231	283.70		1.59	1.13E-02	7.26E-03	5.76E-03	5.66E-03
		300.07		2.38	7.26E-03		-4.85E-03	3.62E-03
		302.67		1.71	1.00E-02		1.65E-03	5.01E-03
		330.07		1.32	1.23E-02		1.72E-02	6.13E-03
	TH-232	74.81		11.62	3.83E-03	6.55E-05	1.60E-02	1.91E-03
		77.11		17.50	2.43E-03		9.91E-03	1.22E-03
		87.30		7.80	4.70E-03		4.08E-02	2.35E-03
		238.63		43.30	4.51E-04		-3.31E-04	2.25E-04
		338.32		11.30	1.46E-03		-1.14E-04	7.31E-04
		583.19		30.37	4.21E-04		4.57E-04	2.10E-04
		727.33		6.58	2.85E-03		3.19E-04	1.42E-03
		911.21		26.60	3.84E-04		3.80E-04	1.91E-04
		968.97		16.20	6.10E-04		-8.15E-05	3.04E-04
		2614.53		35.64	6.55E-05		1.56E-04	3.14E-05
	U-235	143.76		10.96	2.49E-03	4.05E-04	-9.77E-04	1.25E-03
		185.71		57.20	4.05E-04		3.08E-04	2.03E-04
		205.31		5.01	4.34E-03		2.33E-03	2.17E-03
	U-238	63.29		3.70	1.95E-02	8.05E-03	-3.50E-03	9.73E-03
		92.51		4.23	8.05E-03		7.64E-03	4.02E-03
		112.81		0.21	1.39E-01		-5.73E-02	6.95E-02
		742.81		0.11	1.04E-01		5.10E-03	5.16E-02
		766.28		0.32	3.59E-02		4.70E-02	1.79E-02
		1001.03		0.84	2.65E-02		1.26E+00	1.32E-02
+	NP-239	99.60		12.80	3.53E-03	1.47E-03	-4.41E-03	1.77E-03
		103.80		20.40	2.16E-03		-9.26E-04	1.08E-03
		106.10	*	26.40	1.98E-03		6.76E-03	9.88E-04
		116.90		7.61	5.35E-03		6.23E-04	2.67E-03
		228.20	*	11.20	4.22E-03		2.75E-03	2.11E-03
		277.60	*	14.50	1.47E-03		2.01E-03	7.36E-04
		315.90		1.60	1.45E-02		1.81E-02	7.22E-03
		334.30		2.06	1.04E-02		-3.04E-03	5.18E-03
+	AM-241	59.54	*	35.90	2.58E-03	2.58E-03	2.91E-01	1.29E-03

Analysis Report for 24-2313 VSM-5.5M-S2-CST-d-A R3

ASR 2094 Branch

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

Apex-Gamma

Analysis Report for 24-2314 VSM-5.5M-S3-CST-A V3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2314 VSM-5.5M-S3-CST-A V3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 2:13:46PM
Procedure	: V3_gsv02mlw
Operator	: Administrator
Detector Name	: V
Geometry	: V3_gsv02mlw
Live Time	: 3272.6 seconds
Real Time	: 3416.2 seconds
Dead Time	: 4.20 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/8/2023
Efficiency Calibration Used Done On	: 3/28/2019
Efficiency Calibration Description	: V3_gsv2ml_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567819
Certificate Name	: R735-A5 5ml PSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 3:10:46PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2314 VSM-5.5M-S3-CST-A V3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.97	126.45	0.2967	5.26
2	48.99	143.46	0.3951	3.30
3	59.55	175.37	0.0574	134.02
4	74.73	219.85	0.2923	5.51
5	86.65	254.96	0.2079	9.94
6	105.40	310.10	0.2153	9.74
7	123.05	362.23	0.0655	92.86
8	247.88	729.45	0.1061	30.90
9	277.57	816.36	0.3312	3.74
10	344.37	1012.79	0.2778	3.95
11	414.80	1220.48	0.1430	14.74
12	444.40	1307.68	0.2528	4.79
13	458.95	1349.56	0.3567	3.06
14	478.40	1407.66	0.3269	3.00
15	510.99	1503.59	0.1393	9.25
16	574.25	1689.60	0.3167	3.75
17	582.04	1712.48	0.2058	6.63
18	591.76	1741.07	0.1025	26.48
19	605.43	1781.33	0.3402	3.10
20	661.67	1946.76	0.0768	43.75
21	666.34	1960.55	0.1215	17.71
22	692.46	2036.76	0.1911	9.54
23	695.09	2045.42	0.1460	13.48
24	723.33	2128.22	0.0654	59.98
25	756.83	2226.73	0.1033	23.66
26	778.82	2291.36	0.2519	3.80
27	815.72	2399.66	0.2405	4.83
28	845.86	2488.76	0.2114	4.75
29	850.54	2502.58	0.2489	4.24
30	873.20	2569.05	0.0762	41.01
31	892.88	2627.17	0.2184	5.39
32	904.04	2659.55	0.1783	7.06
33	925.11	2721.34	0.3041	3.19
34	963.77	2835.72	0.2302	4.54
35	996.27	2931.17	0.0773	37.65
36	1004.76	2956.06	0.0667	49.68
37	1008.81	2968.00	0.0000	0.00
38	1085.83	3194.43	0.2647	3.40
39	1112.07	3271.85	0.2097	5.56
40	1128.08	3318.90	0.2071	4.73
41	1141.06	3356.83	0.2590	3.85
42	1173.27	3451.91	0.0680	45.45
43	1246.29	3666.34	0.1635	8.15
44	1274.48	3749.60	0.0571	60.69
45	1332.56	3920.39	0.0684	40.47
46	1360.99	4004.37	0.2466	3.85
47	1397.47	4111.52	0.1517	8.19
48	1408.38	4143.68	0.1697	7.58
49	1494.24	4395.57	0.1603	6.41
50	1538.13	4524.92	0.2590	3.30
51	1596.68	4697.42	0.1195	11.92
52	1719.43	5058.83	0.2130	3.66

Analysis Report for 24-2314 VSM-5.5M-S3-CST-A V3

ASR 2094 Branch

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2314 VSM-5.5M-S3-CST-A V3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 3:10:46PM

Peak Analysis From Channel : 105

Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.97	120 -	130	126.62	6.36E+03	1803.51	1.96E+05	0.81
F	2	48.99	136 -	150	144.33	4.74E+03	398.01	3.21E+05	1.36
F	3	59.55	168 -	182	175.40	2.72E+05	2109.79	3.49E+05	1.11
F	4	74.73	217 -	226	220.06	2.66E+03	334.57	2.07E+05	0.91
F	5	86.65	250 -	262	255.14	9.82E+03	2058.02	2.43E+05	1.48
F	6	105.40	307 -	317	310.29	5.13E+03	298.97	1.61E+05	1.14
F	7	123.05	355 -	370	362.23	6.95E+04	1277.99	1.84E+05	1.19
F	8	247.88	724 -	738	729.46	8.39E+03	668.22	3.78E+04	1.22
F	9	277.57	813 -	825	816.80	6.07E+02	119.41	2.47E+04	1.27
F	10	344.37	1009 -	1022	1013.32	8.94E+02	104.24	1.53E+04	1.86
F	11	414.80	1214 -	1228	1220.54	2.37E+03	89.54	1.05E+04	1.47
F	12	444.40	1300 -	1316	1307.60	6.17E+02	318.41	9.83E+03	1.52
F	13	458.95	1342 -	1353	1350.41	2.63E+02	13.73	6.39E+03	0.42
F	14	478.40	1402 -	1412	1407.64	2.37E+02	65.77	5.35E+03	1.24
F	15	510.99	1492 -	1514	1503.51	4.42E+03	427.15	1.01E+04	2.84
	16	574.25	1686 -	1693	1689.60	8.35E+01	84.69	2.35E+03	0.92
F	17	582.04	1704 -	1720	1712.52	5.81E+02	199.60	5.07E+03	1.31
F	18	591.76	1731 -	1751	1741.12	3.58E+03	305.66	5.86E+03	1.65
	19	605.43	1777 -	1785	1781.33	5.43E+00	89.51	2.45E+03	0.65
M	20	661.67	1939 -	1966	1946.78	7.90E+03	97.82	3.56E+03	1.68
m	21	666.34	1939 -	1966	1960.51	1.82E+03	62.32	3.70E+03	1.68
M	22	692.46	2029 -	2054	2037.37	1.20E+03	95.30	3.23E+03	1.77
m	23	695.09	2029 -	2054	2045.11	1.66E+03	76.51	3.29E+03	1.77
F	24	723.33	2115 -	2137	2128.19	1.31E+04	290.63	3.64E+03	1.74
F	25	756.83	2216 -	2236	2226.73	2.71E+03	249.33	3.35E+03	1.79
F	26	778.82	2286 -	2297	2291.42	2.59E+02	44.08	1.79E+03	1.72
F	27	815.72	2391 -	2412	2399.96	3.58E+02	178.96	2.59E+03	2.07
M	28	845.86	2480 -	2510	2488.64	4.14E+02	99.67	2.05E+03	1.99
m	29	850.54	2480 -	2510	2502.41	1.61E+02	51.99	2.20E+03	1.99
F	30	873.20	2560 -	2582	2569.06	6.67E+03	86.83	2.45E+03	1.90
F	31	892.88	2620 -	2634	2626.95	2.19E+02	36.40	1.48E+03	1.46
F	32	904.04	2651 -	2670	2659.77	5.21E+02	40.55	1.81E+03	2.01
F	33	925.11	2716 -	2734	2721.77	8.07E+01	23.11	1.62E+03	0.62
F	34	963.77	2825 -	2843	2835.50	2.61E+02	132.32	1.57E+03	1.78
F	35	996.27	2918 -	2945	2931.09	5.64E+03	213.04	2.33E+03	1.97
M	36	1004.76	2945 -	2980	2956.08	9.60E+03	100.55	1.56E+03	2.01
m	37	1008.81	2945 -	2980	2968.00	6.62E+01	31.28	1.47E+03	2.01
F	38	1085.83	3188 -	3205	3194.57	1.86E+02	30.21	9.91E+02	2.13
F	39	1112.07	3261 -	3277	3271.76	2.38E+02	99.50	9.14E+02	1.71
F	40	1128.08	3311 -	3331	3318.83	2.65E+02	29.81	8.88E+02	2.32

Analysis Report for 24-2314 VSM-5.5M-S3-CST-A V3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1141.06	3349	3366	3357.02	9.75E+01	23.28	7.41E+02	1.28
F	42	1173.27	3437	3463	3451.77	8.23E+03	175.43	9.12E+02	2.20
F	43	1246.29	3658	3677	3666.57	3.47E+02	25.79	4.20E+02	2.13
F	44	1274.48	3734	3764	3749.50	1.57E+04	195.80	6.82E+02	2.32
F	45	1332.56	3906	3934	3920.34	7.48E+03	85.27	3.68E+02	2.37
F	46	1360.99	3997	4011	4003.98	5.07E+01	18.88	1.62E+02	1.29
F	47	1397.47	4101	4122	4111.28	3.00E+02	21.95	2.43E+02	2.15
F	48	1408.38	4129	4159	4143.37	2.99E+02	20.85	2.74E+02	2.52
F	49	1494.24	4385	4406	4395.95	3.01E+02	19.07	9.59E+01	2.66
F	50	1538.13	4517	4533	4525.05	3.87E+01	29.52	6.70E+01	1.56
F	51	1596.68	4685	4709	4697.27	7.60E+02	28.31	9.39E+01	2.56
F	52	1719.43	5048	5067	5058.33	6.47E+01	10.56	4.50E+01	2.40

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 3:10:46PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567382.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.97	6.36E+03	1803.51			6.36E+03	1.80E+03
F	2	48.99	4.74E+03	398.01			4.74E+03	3.98E+02
F	3	59.55	2.72E+05	2109.79			2.72E+05	2.11E+03
F	4	74.73	2.66E+03	334.57	9.93E+01	5.71E+00	2.56E+03	3.35E+02
F	5	86.65	9.82E+03	2058.02	2.56E+01	1.06E+00	9.80E+03	2.06E+03
F	6	105.40	5.13E+03	298.97			5.13E+03	2.99E+02
F	7	123.05	6.95E+04	1277.99			6.95E+04	1.28E+03
F	8	247.88	8.39E+03	668.22			8.39E+03	6.68E+02
F	9	277.57	6.07E+02	119.41			6.07E+02	1.19E+02
F	10	344.37	8.94E+02	104.24			8.94E+02	1.04E+02
F	11	414.80	2.37E+03	89.54			2.37E+03	8.95E+01
F	12	444.40	6.17E+02	318.41			6.17E+02	3.18E+02
F	13	458.95	2.63E+02	13.73			2.63E+02	1.37E+01
F	14	478.40	2.37E+02	65.77			2.37E+02	6.58E+01
F	15	510.99	4.42E+03	427.15	1.18E+02	5.49E+00	4.30E+03	4.27E+02
	16	574.25	8.35E+01	84.69			8.35E+01	8.47E+01
F	17	582.04	5.81E+02	199.60			5.81E+02	2.00E+02

Analysis Report for 24-2314 VSM-5.5M-S3-CST-A V3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	18	591.76	3.58E+03	305.66			3.58E+03	3.06E+02
	19	605.43	5.43E+00	89.51			5.43E+00	8.95E+01
M	20	661.67	7.90E+03	97.82			7.90E+03	9.78E+01
m	21	666.34	1.82E+03	62.32	3.41E+00	1.78E+00	1.82E+03	6.23E+01
M	22	692.46	1.20E+03	95.30			1.20E+03	9.53E+01
m	23	695.09	1.66E+03	76.51			1.66E+03	7.65E+01
F	24	723.33	1.31E+04	290.63			1.31E+04	2.91E+02
F	25	756.83	2.71E+03	249.33			2.71E+03	2.49E+02
F	26	778.82	2.59E+02	44.08			2.59E+02	4.41E+01
F	27	815.72	3.58E+02	178.96			3.58E+02	1.79E+02
M	28	845.86	4.14E+02	99.67			4.14E+02	9.97E+01
m	29	850.54	1.61E+02	51.99			1.61E+02	5.20E+01
F	30	873.20	6.67E+03	86.83			6.67E+03	8.68E+01
F	31	892.88	2.19E+02	36.40			2.19E+02	3.64E+01
F	32	904.04	5.21E+02	40.55			5.21E+02	4.05E+01
F	33	925.11	8.07E+01	23.11			8.07E+01	2.31E+01
F	34	963.77	2.61E+02	132.32	1.50E+00	3.98E-01	2.60E+02	1.32E+02
F	35	996.27	5.64E+03	213.04			5.64E+03	2.13E+02
M	36	1004.76	9.60E+03	100.55			9.60E+03	1.01E+02
m	37	1008.81	6.62E+01	31.28			6.62E+01	3.13E+01
F	38	1085.83	1.86E+02	30.21			1.86E+02	3.02E+01
F	39	1112.07	2.38E+02	99.50			2.38E+02	9.95E+01
F	40	1128.08	2.65E+02	29.81			2.65E+02	2.98E+01
F	41	1141.06	9.75E+01	23.28			9.75E+01	2.33E+01
F	42	1173.27	8.23E+03	175.43			8.23E+03	1.75E+02
F	43	1246.29	3.47E+02	25.79			3.47E+02	2.58E+01
F	44	1274.48	1.57E+04	195.80			1.57E+04	1.96E+02
F	45	1332.56	7.48E+03	85.27			7.48E+03	8.53E+01
F	46	1360.99	5.07E+01	18.88			5.07E+01	1.89E+01
F	47	1397.47	3.00E+02	21.95			3.00E+02	2.20E+01
F	48	1408.38	2.99E+02	20.85	5.83E+00	1.21E+00	2.94E+02	2.09E+01
F	49	1494.24	3.01E+02	19.07			3.01E+02	1.91E+01
F	50	1538.13	3.87E+01	29.52			3.87E+01	2.95E+01
F	51	1596.68	7.60E+02	28.31			7.60E+02	2.83E+01
F	52	1719.43	6.47E+01	10.56			6.47E+01	1.06E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Analysis Report for 24-2314 VSM-5.5M-S3-CST-A V3
ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
BE-7	0.90	477.61	*	10.44	1.13E-03	3.13E-04	miss
CO-57	0.69	122.06	*	85.60	1.95E-02	3.93E-04	1.000
		136.47		10.68			
CO-60	0.99	1173.24	*	99.97	7.39E-03	1.62E-04	0.963
		1332.50	*	99.99	7.31E-03	9.43E-05	0.962
		2505.74		1.00			
RH-106	0.38	511.86	*	20.70	1.09E-02	1.13E-03	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.52	223.90		1.39			
		278.20	*	2.40	1.03E-02	3.64E-03	0.856
		296.50		4.50			
		414.70	*	83.30	1.46E-03	6.97E-05	0.873
		556.30		1.69			
		573.90	*	6.70	8.13E-04	8.26E-04	0.842
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.27E-03	4.40E-05	0.870
		674.80		3.10			
		695.00	*	99.60	1.19E-03	5.52E-05	0.870
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.71	64.28		9.60			
		87.30	*	45.90	5.28E-03	1.13E-03	miss
CS-137	1.00	661.66	*	85.20	5.57E-03	7.60E-05	miss
EU-152	0.47	121.78		28.58			
		344.28	*	26.50	1.39E-03	1.65E-04	0.970
		778.90	*	12.94	1.39E-03	2.37E-04	0.959
		964.08	*	14.73	1.39E-03	7.07E-04	0.968
		1085.87	*	10.24	1.47E-03	2.40E-04	1.014
		1112.07	*	13.69	1.47E-03	6.17E-04	0.984
		1408.01	*	21.07	1.39E-03	9.95E-05	0.976
EU-154	0.99	42.70	*	20.45	3.45E-02	9.86E-03	miss
		123.07	*	40.40	4.31E-02	9.73E-04	0.956
		247.93	*	6.89	4.23E-02	3.41E-03	0.943
		591.76	*	4.95	4.35E-02	3.75E-03	0.932
		692.42	*	1.78	4.40E-02	3.54E-03	0.947
		723.30	*	20.06	4.39E-02	1.09E-03	0.950
		756.80	*	4.52	4.22E-02	3.91E-03	0.929
		873.18	*	12.08	4.19E-02	7.36E-04	0.943
		996.29	*	10.48	4.25E-02	1.67E-03	0.985
		1004.76	*	18.01	4.27E-02	6.59E-04	0.977
		1246.12	*	0.86	3.88E-02	2.94E-03	0.938
		1274.43	*	34.80	4.20E-02	6.86E-04	0.979
		1494.05	*	0.70	4.31E-02	2.79E-03	1.016
		1596.48	*	1.80	3.86E-02	1.53E-03	1.164
EU-155	0.99	43.00	*	18.70	3.77E-02	1.08E-02	1.000
		60.01	*	1.22	9.46E+00	3.39E-01	0.999

Analysis Report for 24-2314 VSM-5.5M-S3-CST-A V3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-155	0.99	86.55	*	30.70	7.89E-03	1.67E-03	free
		105.31	*	21.10	5.62E-03	3.59E-04	1.000
AM-241	1.00	59.54	*	35.90	3.21E-01	7.06E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
BE-7	0.904	1.13E-03	3.13E-04	
CO-57	0.694	3.69E-04	4.12E-04	
CO-60	0.994	7.33E-03	8.15E-05	
RH-106	0.384	1.09E-02	1.13E-03	
SB-126	0.525	1.28E-03	3.08E-05	
Sn-126	0.711	1.53E-03	1.13E-03	
CS-137	1.000	5.57E-03	7.60E-05	
EU-152	0.477	1.40E-03	7.50E-05	
EU-154	0.998	4.22E-02	2.84E-04	
EU-155	0.998	5.60E-03	3.33E-04	
AM-241	1.000	3.21E-01	4.60E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2314 VSM-5.5M-S3-CST-A V3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 3:10:46PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	48.99	1.44841E+00	8.40		
F	4	74.73	7.83091E-01	13.06	Tol.	RA-226
F	12	444.40	1.88415E-01	51.64		
F	13	458.95	8.03852E-02	5.22		
F	17	582.04	1.77578E-01	34.35		
	19	605.43	1.65785E-03	1649.81		
F	27	815.72	1.09519E-01	49.93	Sum	
M	28	845.86	1.26651E-01	24.05	Sum	
m	29	850.54	4.91853E-02	32.30		
F	31	892.88	6.70007E-02	16.60	Sum	
F	32	904.04	1.59230E-01	7.78		
F	33	925.11	2.46634E-02	28.64	Sum	
m	37	1008.81	2.02357E-02	47.23		
F	40	1128.08	8.10536E-02	11.24	Sum	
F	41	1141.06	2.97881E-02	23.88	Sum	
F	46	1360.99	1.55068E-02	37.19	Sum	
F	47	1397.47	9.15720E-02	7.33	Sum	
F	50	1538.13	1.18160E-02	76.35	Sum	
F	52	1719.43	1.97686E-02	16.32	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Analysis Report for 24-2314 VSM-5.5M-S3-CST-A V3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	BE-7	477.61	*	10.44	2.23E-03	2.23E-03	1.13E-03	1.11E-03
	K-40	1460.83		10.67	8.31E-04	8.31E-04	-1.19E-03	4.03E-04
	MN-54	834.84		99.98	2.14E-04	2.14E-04	-2.10E-05	1.06E-04
	CO-58	810.78		99.45	2.32E-04	2.32E-04	1.81E-04	1.15E-04
		863.96		0.68	3.40E-02		7.37E-03	1.68E-02
		1674.73		0.52	1.04E-02		-9.07E-03	4.92E-03
	FE-59	142.65		1.00	5.11E-02	2.74E-04	1.89E-02	2.55E-02
		192.35		3.01	1.54E-02		5.71E-03	7.69E-03
		334.80		0.27	1.27E-01		6.24E-03	6.35E-02
		1099.25		56.30	3.43E-04		7.76E-05	1.70E-04
		1291.60		43.70	2.74E-04		-3.82E-04	1.34E-04
+	CO-60	1173.24	*	99.97	2.51E-04	1.79E-04	7.39E-03	1.24E-04
		1332.50	*	99.99	1.79E-04		7.31E-03	8.83E-05
		2505.74		1.00	7.44E-03		1.50E-02	3.51E-03
	SR-85	514.00		96.00	3.33E-04	3.33E-04	-5.95E-05	1.66E-04
		868.60		0.01	2.94E+00		8.92E-01	1.46E+00
	NB-94	702.62		97.90	2.53E-04	2.53E-04	5.81E-05	1.26E-04
		871.09		99.98	3.65E-04		1.50E-04	1.81E-04
	NB-95	765.81		99.81	2.32E-04	2.32E-04	-1.01E-05	1.15E-04
	RU-103	497.05		91.00	3.11E-04	3.11E-04	3.80E-04	1.55E-04
		610.30		5.76	4.48E-03		3.49E-03	2.23E-03
+	RH-106	511.86	*	20.70	2.18E-03	2.18E-03	1.09E-02	1.09E-03
		621.92		9.93	2.71E-03		7.85E-04	1.35E-03
		1050.36		1.56	1.41E-02		-4.99E-03	6.98E-03
	AG-108M	79.13		6.60	1.16E-02	3.04E-04	-2.42E-03	5.82E-03
		433.90		90.50	3.50E-04		2.48E-04	1.74E-04
		614.30		89.80	3.04E-04		9.36E-05	1.51E-04
		722.90		90.80	4.91E-04		9.36E-03	2.44E-04
	CD-109	88.03		3.61	1.90E-02	1.90E-02	8.99E-03	9.48E-03
	SB-125	176.31		6.82	6.76E-03	9.98E-04	5.61E-04	3.38E-03
		380.45		1.52	2.08E-02		-3.47E-03	1.04E-02
		427.87		29.55	9.98E-04		6.79E-04	4.97E-04
		463.36		10.48	2.68E-03		2.25E-03	1.33E-03
		600.60		17.76	1.43E-03		1.67E-03	7.13E-04
		606.71		5.02	5.09E-03		9.12E-03	2.53E-03
		635.95		11.32	2.24E-03		1.88E-04	1.11E-03
		671.44		1.78	1.52E-02		-3.67E-03	7.53E-03
+	SB-126	223.90		1.39	2.86E-02	1.93E-04	-2.11E-02	1.43E-02
		278.20	*	2.40	1.82E-02		1.03E-02	9.08E-03
		296.50		4.50	8.95E-03		4.66E-03	4.46E-03
		414.70	*	83.30	4.55E-04		1.46E-03	2.27E-04
		556.30		1.69	1.83E-02		1.23E-02	9.08E-03
		573.90	*	6.70	2.72E-03		8.13E-04	1.35E-03
		593.20		7.50	4.51E-03		2.97E-02	2.25E-03
		656.30		2.19	1.71E-02		2.02E-03	8.53E-03
		666.50	*	99.60	1.99E-04		1.27E-03	9.86E-05
		674.80		3.10	9.33E-03		3.13E-03	4.63E-03
		695.00	*	99.60	1.93E-04		1.19E-03	9.54E-05
		697.00		29.00	1.16E-03		4.54E-05	5.79E-04
		720.70		53.80	8.94E-04		-2.55E-05	4.45E-04
		856.80		17.60	1.44E-03		-4.19E-05	7.13E-04
		989.60		6.80	4.90E-03		7.56E-04	2.43E-03
		1213.30		2.39	6.47E-03		-2.25E-03	3.18E-03

Analysis Report for 24-2314 VSM-5.5M-S3-CST-A V3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	Sn-126	64.28		9.60	1.07E-02	1.81E-03	-8.26E-03	5.34E-03
		87.30	*	45.90	1.81E-03		5.28E-03	9.02E-04
	I-129	29.70		56.60	2.31E-02	2.31E-02	-2.29E-02	1.16E-02
		33.60		10.04	6.85E-02		-7.73E-02	3.42E-02
		34.40		2.01	3.07E-01		-7.58E-01	1.53E-01
		39.60		7.51	4.68E-02		-4.07E-02	2.34E-02
	CS-134	563.25		8.34	3.30E-03	2.75E-04	-4.74E-03	1.64E-03
		569.33		15.37	1.83E-03		1.84E-03	9.12E-04
		604.72		97.62	2.75E-04		4.18E-05	1.36E-04
		795.86		85.46	2.83E-04		2.47E-04	1.40E-04
		801.95		8.69	2.82E-03		-7.93E-04	1.40E-03
+	CS-137	661.66	*	85.20	1.98E-04	1.98E-04	5.57E-03	9.79E-05
	CE-139	165.85		79.89	6.04E-04	6.04E-04	3.60E-04	3.01E-04
	CE-141	40.70		3.35	9.82E-02	1.05E-03	-6.17E-02	4.90E-02
		145.44		48.29	1.05E-03		2.08E-04	5.26E-04
	CE-144	80.12		1.36	5.57E-02	4.50E-03	-3.46E-02	2.78E-02
		133.51		11.09	4.50E-03		1.32E-03	2.24E-03
+	EU-152	121.78		28.58	2.21E-03	7.75E-04	-1.63E-04	1.11E-03
		344.28	*	26.50	1.34E-03		1.39E-03	6.70E-04
		778.90	*	12.94	1.51E-03		1.39E-03	7.49E-04
		964.08	*	14.73	1.69E-03		1.39E-03	8.35E-04
		1085.87	*	10.24	1.95E-03		1.47E-03	9.66E-04
		1112.07	*	13.69	1.43E-03		1.47E-03	7.07E-04
		1408.01	*	21.07	7.75E-04		1.39E-03	3.81E-04
	GD-153	97.43		29.00	2.12E-03	2.12E-03	3.32E-03	1.06E-03
		103.18		21.10	2.81E-03		-3.24E-03	1.40E-03
+	EU-154	42.70	*	20.45	1.54E-02	6.88E-04	3.45E-02	7.69E-03
		123.07	*	40.40	1.96E-03		4.31E-02	9.80E-04
		247.93	*	6.89	7.07E-03		4.23E-02	3.53E-03
		591.76	*	4.95	7.69E-03		4.35E-02	3.83E-03
		692.42	*	1.78	9.82E-03		4.40E-02	4.86E-03
		723.30	*	20.06	1.74E-03		4.39E-02	8.65E-04
		756.80	*	4.52	7.46E-03		4.22E-02	3.71E-03
		873.18	*	12.08	2.70E-03		4.19E-02	1.34E-03
		996.29	*	10.48	3.42E-03		4.25E-02	1.70E-03
		1004.76	*	18.01	8.30E-04		4.27E-02	4.09E-04
		1246.12	*	0.86	1.88E-02		3.88E-02	9.24E-03
		1274.43	*	34.80	6.88E-04		4.20E-02	3.40E-04
		1494.05	*	0.70	1.21E-02		4.31E-02	5.85E-03
		1596.48	*	1.80	4.50E-03		3.86E-02	2.18E-03
+	EU-155	43.00	*	18.70	1.68E-02	2.70E-03	3.77E-02	8.41E-03
		60.01	*	1.22	1.47E-01		9.46E+00	7.36E-02
		86.55	*	30.70	2.70E-03		7.89E-03	1.35E-03
		105.31	*	21.10	2.81E-03		5.62E-03	1.41E-03
	HG-203	72.87		6.30	1.41E-02	4.47E-04	6.63E-04	7.05E-03
		279.20		81.46	4.47E-04		7.39E-04	2.23E-04
	BI-207	569.15		97.80	2.81E-04	2.81E-04	1.87E-04	1.40E-04
		1063.10		74.90	2.83E-04		-2.13E-04	1.40E-04
	PB-210	46.54		4.25	5.02E-02	5.02E-02	-1.23E-02	2.51E-02
	RA-226	74.81		6.44	1.30E-02	3.92E-04	2.95E-02	6.51E-03
		77.11		10.80	7.42E-03		7.69E-04	3.71E-03
		87.30		4.84	1.43E-02		5.83E-02	7.14E-03
		186.21		3.59	1.25E-02		-2.59E-03	6.22E-03

Analysis Report for 24-2314 VSM-5.5M-S3-CST-A V3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	242.00		7.43	5.29E-03	3.92E-04	-2.33E-03	2.64E-03
		295.22		19.30	1.78E-03		1.59E-03	8.85E-04
		351.93		37.60	8.78E-04		-9.41E-04	4.38E-04
		609.31		46.10	5.49E-04		-4.24E-04	2.73E-04
		768.36		4.94	4.57E-03		1.98E-03	2.27E-03
		1120.29		15.10	1.21E-03		2.88E-04	5.99E-04
		1238.11		5.79	2.43E-03		2.11E-03	1.19E-03
		1764.49		15.40	3.92E-04		4.78E-04	1.86E-04
	PA-231	283.70		1.59	2.22E-02	1.42E-02	1.96E-03	1.11E-02
		300.07		2.38	1.42E-02		5.26E-03	7.08E-03
		302.67		1.71	1.96E-02		-1.08E-02	9.79E-03
		330.07		1.32	2.41E-02		1.53E-02	1.20E-02
	TH-232	74.81		11.62	7.22E-03	1.32E-04	1.64E-02	3.61E-03
		77.11		17.50	4.58E-03		4.74E-04	2.29E-03
		87.30		7.80	8.88E-03		3.62E-02	4.43E-03
		238.63		43.30	9.15E-04		3.69E-04	4.57E-04
		338.32		11.30	2.99E-03		-3.93E-04	1.49E-03
		583.19		30.37	8.65E-04		1.15E-03	4.30E-04
		727.33		6.58	6.21E-03		2.63E-03	3.09E-03
		911.21		26.60	8.04E-04		2.50E-04	3.98E-04
		968.97		16.20	1.30E-03		1.70E-05	6.45E-04
		2614.53		35.64	1.32E-04		1.51E-04	6.00E-05
	U-235	143.76		10.96	4.56E-03	7.83E-04	3.83E-03	2.28E-03
		185.71		57.20	7.83E-04		-4.66E-04	3.91E-04
		205.31		5.01	8.36E-03		3.60E-03	4.17E-03
	U-238	63.29		3.70	2.92E-02	1.51E-02	-2.40E-02	1.46E-02
		92.51		4.23	1.51E-02		9.70E-04	7.53E-03
		112.81		0.21	2.60E-01		1.04E-01	1.30E-01
		742.81		0.11	2.16E-01		3.98E-02	1.07E-01
		766.28		0.32	7.16E-02		8.67E-02	3.55E-02
		1001.03		0.84	5.89E-02		1.41E+00	2.93E-02
	NP-239	99.60		12.80	6.39E-03	3.03E-03	-1.25E-03	3.19E-03
		103.80		20.40	3.92E-03		-2.54E-03	1.96E-03
		106.10		26.40	3.03E-03		7.63E-03	1.51E-03
		116.90		7.61	9.67E-03		4.31E-03	4.83E-03
		228.20		11.20	5.06E-03		1.20E-03	2.53E-03
		277.60		14.50	3.45E-03		3.58E-03	1.72E-03
		315.90		1.60	2.74E-02		3.04E-03	1.36E-02
		334.30		2.06	2.12E-02		-3.02E-03	1.06E-02
+	AM-241	59.54	*	35.90	5.00E-03	5.00E-03	3.21E-01	2.50E-03

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

Apex-Gamma

Analysis Report for 24-2315 VSM-5.5M-S3-CST-d-A V3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2315 VSM-5.5M-S3-CST-d-A V3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 3:30:47PM
Procedure	: V3_gsv02mlw
Operator	: Administrator
Detector Name	: V
Geometry	: V3_gsv02mlw
Live Time	: 14400.0 seconds
Real Time	: 15017.1 seconds
Dead Time	: 4.11 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/8/2023
Efficiency Calibration Used Done On	: 3/28/2019
Efficiency Calibration Description	: V3_gsv2ml_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567835
Certificate Name	: R735-A5 5ml PSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 7:41:12PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2315 VSM-5.5M-S3-CST-d-A V3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.73	126.23	0.1997	9.60
2	48.73	143.29	0.2799	5.75
3	59.55	175.36	0.0401	275.41
4	74.82	220.08	0.2070	10.06
5	86.70	255.03	0.1425	21.00
6	99.57	292.49	0.3449	3.27
7	105.43	310.35	0.1569	16.33
8	107.79	317.00	0.0000	0.00
9	123.06	362.24	0.0454	193.33
10	228.26	671.61	0.3135	3.96
11	247.89	729.46	0.0745	61.82
12	277.72	817.12	0.2640	4.93
13	318.50	937.24	0.3893	3.10
14	344.20	1012.77	0.1633	12.72
15	370.77	1090.99	0.3445	3.62
16	414.78	1220.45	0.0988	31.48
17	444.41	1307.64	0.1846	8.99
18	478.16	1406.96	0.2660	4.28
19	511.07	1503.47	0.0994	19.35
20	557.46	1640.29	0.2501	4.55
21	582.05	1712.51	0.1437	13.71
22	591.76	1741.09	0.0720	53.34
23	625.17	1839.12	0.2403	4.94
24	661.66	1946.76	0.0535	92.07
25	666.36	1960.61	0.0878	34.01
26	676.78	1991.33	0.2652	3.82
27	692.44	2036.71	0.1367	18.67
28	695.05	2045.21	0.0999	30.01
29	723.32	2128.19	0.0457	122.32
30	748.90	2203.26	0.2910	3.67
31	756.81	2226.67	0.0725	46.92
32	778.94	2291.65	0.1778	8.61
33	815.53	2399.37	0.1578	9.95
34	845.68	2487.81	0.1470	10.56
35	850.48	2502.25	0.2289	4.26
36	873.22	2569.15	0.0527	85.76
37	880.21	2589.23	0.3030	3.17
38	892.61	2626.00	0.1560	9.91
39	904.13	2660.02	0.1364	13.80
40	964.12	2836.46	0.1653	8.44
41	996.29	2931.19	0.0538	78.13
42	1004.77	2956.16	0.0464	104.19
43	1086.04	3195.08	0.1722	7.52
44	1112.12	3272.03	0.1620	7.29
45	1128.16	3319.07	0.1433	10.39
46	1140.66	3355.69	0.1891	6.87
47	1159.65	3411.45	0.3168	3.01
48	1173.26	3451.84	0.0471	95.01
49	1187.88	3494.25	0.2541	3.84
50	1246.22	3666.30	0.1148	16.09
51	1274.48	3749.61	0.0396	126.15
52	1332.55	3920.44	0.0469	86.94
53	1348.50	3966.93	0.2745	3.33
54	1361.29	4005.08	0.2494	3.58
55	1397.41	4111.13	0.1095	16.72

Analysis Report for 24-2315 VSM-5.5M-S3-CST-d-A V3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
56	1408.08	4142.61	0.1115	15.02
57	1460.91	4297.08	0.1822	6.28
58	1494.24	4395.84	0.1096	15.58
59	1538.54	4525.80	0.2427	4.10
60	1596.59	4697.00	0.0816	26.86
61	1719.53	5058.87	0.1389	9.04
62	1764.58	5191.19	0.1939	4.75
63	2505.68	7371.18	0.1361	7.98

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2315 VSM-5.5M-S3-CST-d-A V3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 7:41:13PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.73	119 -	129	125.92	2.38E+04	3099.67	8.38E+05	1.18
F	2	48.73	136 -	149	143.57	1.68E+04	789.80	1.29E+06	1.25
F	3	59.55	168 -	182	175.39	1.16E+06	4405.49	1.50E+06	1.11
F	4	74.82	217 -	227	220.33	1.50E+04	711.37	9.77E+05	1.15
F	5	86.70	249 -	262	255.27	4.37E+04	4158.63	1.12E+06	1.51
F	6	99.57	290 -	299	293.13	7.60E+03	1649.66	6.80E+05	3.01
M	7	105.43	302 -	324	310.37	3.43E+04	3586.24	9.57E+05	1.41
m	8	107.79	302 -	324	317.33	3.33E+03	699.80	1.38E+06	1.41
F	9	123.06	355 -	370	362.24	2.96E+05	2733.93	7.96E+05	1.18
F	10	228.26	668 -	680	671.75	2.53E+03	1500.52	1.72E+05	1.47
F	11	247.89	724 -	738	729.49	3.60E+04	3254.45	1.62E+05	1.27
F	12	277.72	814 -	826	817.26	1.92E+03	257.50	1.06E+05	1.40
	13	318.50	927 -	941	937.24	1.17E+03	644.89	8.70E+04	0.76
F	14	344.20	1006 -	1019	1012.83	4.09E+03	821.40	6.70E+04	1.25
	15	370.77	1087 -	1096	1090.99	1.64E+02	374.47	3.98E+04	1.08
F	16	414.78	1215 -	1231	1220.48	9.53E+03	183.08	5.11E+04	1.39
F	17	444.41	1299 -	1316	1307.64	2.97E+03	656.86	4.54E+04	1.57
F	18	478.16	1400 -	1418	1406.93	1.34E+03	716.30	4.01E+04	1.81
F	19	511.07	1492 -	1514	1503.74	1.90E+04	191.09	4.28E+04	2.65
F	20	557.46	1631 -	1646	1640.21	6.50E+02	118.35	2.32E+04	1.37
F	21	582.05	1704 -	1719	1712.56	2.57E+03	273.74	2.05E+04	1.54
F	22	591.76	1734 -	1752	1741.11	1.52E+04	160.31	2.28E+04	1.65
F	23	625.17	1831 -	1849	1839.41	1.10E+03	109.90	1.95E+04	2.02
M	24	661.66	1939 -	1970	1946.74	3.34E+04	578.38	1.51E+04	1.69
m	25	666.36	1939 -	1970	1960.58	7.67E+03	179.91	1.58E+04	1.70
F	26	676.78	1985 -	2000	1991.24	6.53E+02	438.86	1.38E+04	1.73
M	27	692.44	2028 -	2057	2037.32	5.19E+03	435.21	1.46E+04	1.75
m	28	695.05	2028 -	2057	2044.98	7.76E+03	537.21	1.53E+04	1.76
F	29	723.32	2115 -	2140	2128.16	5.43E+04	595.85	1.97E+04	1.75
F	30	748.90	2199 -	2208	2203.40	3.46E+02	83.90	6.48E+03	1.36
F	31	756.81	2216 -	2237	2226.67	1.17E+04	446.26	1.45E+04	1.84
F	32	778.94	2278 -	2304	2291.76	1.39E+03	308.00	1.69E+04	1.73
F	33	815.53	2391 -	2408	2399.40	1.51E+03	87.41	9.48E+03	1.92
M	34	845.68	2482 -	2509	2488.11	1.91E+03	88.26	7.66E+03	2.23
m	35	850.48	2482 -	2509	2502.23	8.45E+02	77.81	1.01E+04	2.24
M	36	873.22	2560 -	2599	2569.11	2.84E+04	179.65	8.41E+03	1.87
m	37	880.21	2560 -	2599	2589.69	2.71E+02	71.80	8.51E+03	1.87
F	38	892.61	2617 -	2639	2626.17	1.18E+03	79.60	9.76E+03	1.84
F	39	904.13	2650 -	2673	2660.05	1.92E+03	304.11	9.75E+03	1.85
F	40	964.12	2825 -	2843	2836.52	1.16E+03	274.82	6.92E+03	1.78

Analysis Report for 24-2315 VSM-5.5M-S3-CST-d-A V3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	996.29	2919	2944	2931.17	2.41E+04	437.48	8.81E+03	2.00
F	42	1004.77	2945	2966	2956.09	4.03E+04	438.25	8.08E+03	1.99
F	43	1086.04	3189	3201	3195.18	7.73E+02	65.02	3.25E+03	2.08
F	44	1112.12	3263	3283	3271.89	1.14E+03	295.05	4.66E+03	2.48
F	45	1128.16	3310	3330	3319.09	1.20E+03	279.20	3.84E+03	2.30
F	46	1140.66	3349	3369	3355.85	4.17E+02	51.34	3.60E+03	1.62
F	47	1159.65	3406	3417	3411.70	9.54E+01	36.77	1.73E+03	1.03
F	48	1173.26	3439	3465	3451.76	3.61E+04	404.17	3.57E+03	2.20
F	49	1187.88	3488	3509	3494.75	1.98E+02	43.96	2.56E+03	1.94
F	50	1246.22	3657	3681	3666.36	1.41E+03	52.82	2.25E+03	2.09
F	51	1274.48	3735	3764	3749.51	6.72E+04	411.95	2.59E+03	2.30
F	52	1332.55	3905	3935	3920.31	3.37E+04	337.29	1.36E+03	2.37
F	53	1348.50	3960	3972	3967.25	9.67E+01	27.44	6.30E+02	1.68
F	54	1361.29	3999	4013	4004.86	1.46E+02	69.65	7.37E+02	1.90
F	55	1397.41	4099	4123	4111.12	1.21E+03	142.98	9.57E+02	2.22
F	56	1408.08	4131	4153	4142.51	1.30E+03	128.76	7.13E+02	2.41
F	57	1460.91	4285	4313	4297.89	3.88E+02	62.67	6.68E+02	3.06
F	58	1494.24	4382	4412	4395.95	1.27E+03	40.65	7.14E+02	2.46
F	59	1538.54	4513	4532	4526.24	1.24E+02	61.96	2.93E+02	1.44
F	60	1596.59	4682	4712	4697.00	3.42E+03	41.49	4.08E+02	2.56
F	61	1719.53	5046	5070	5058.64	4.28E+02	61.14	1.50E+02	2.50
F	62	1764.58	5182	5201	5191.15	1.21E+02	15.72	1.29E+02	2.37
F	63	2505.68	7359	7382	7370.96	3.31E+02	20.07	6.55E+01	3.02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 7:41:12PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567382.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.73	2.38E+04	3099.67			2.38E+04	3.10E+03
F	2	48.73	1.68E+04	789.80			1.68E+04	7.90E+02
F	3	59.55	1.16E+06	4405.49			1.16E+06	4.41E+03
F	4	74.82	1.50E+04	711.37	4.37E+02	2.51E+01	1.46E+04	7.12E+02
F	5	86.70	4.37E+04	4158.63	1.13E+02	4.65E+00	4.36E+04	4.16E+03
F	6	99.57	7.60E+03	1649.66			7.60E+03	1.65E+03

Analysis Report for 24-2315 VSM-5.5M-S3-CST-d-A V3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	7	105.43	3.43E+04	3586.24			3.43E+04	3.59E+03
m	8	107.79	3.33E+03	699.80			3.33E+03	7.00E+02
F	9	123.06	2.96E+05	2733.93			2.96E+05	2.73E+03
F	10	228.26	2.53E+03	1500.52			2.53E+03	1.50E+03
F	11	247.89	3.60E+04	3254.45			3.60E+04	3.25E+03
F	12	277.72	1.92E+03	257.50			1.92E+03	2.57E+02
	13	318.50	1.17E+03	644.89			1.17E+03	6.45E+02
F	14	344.20	4.09E+03	821.40			4.09E+03	8.21E+02
	15	370.77	1.64E+02	374.47			1.64E+02	3.74E+02
F	16	414.78	9.53E+03	183.08			9.53E+03	1.83E+02
F	17	444.41	2.97E+03	656.86			2.97E+03	6.57E+02
F	18	478.16	1.34E+03	716.30			1.34E+03	7.16E+02
F	19	511.07	1.90E+04	191.09	5.20E+02	2.42E+01	1.85E+04	1.93E+02
F	20	557.46	6.50E+02	118.35			6.50E+02	1.18E+02
F	21	582.05	2.57E+03	273.74			2.57E+03	2.74E+02
F	22	591.76	1.52E+04	160.31			1.52E+04	1.60E+02
F	23	625.17	1.10E+03	109.90			1.10E+03	1.10E+02
M	24	661.66	3.34E+04	578.38			3.34E+04	5.78E+02
m	25	666.36	7.67E+03	179.91	1.50E+01	7.82E+00	7.66E+03	1.80E+02
F	26	676.78	6.53E+02	438.86			6.53E+02	4.39E+02
M	27	692.44	5.19E+03	435.21			5.19E+03	4.35E+02
m	28	695.05	7.76E+03	537.21			7.76E+03	5.37E+02
F	29	723.32	5.43E+04	595.85			5.43E+04	5.96E+02
F	30	748.90	3.46E+02	83.90			3.46E+02	8.39E+01
F	31	756.81	1.17E+04	446.26			1.17E+04	4.46E+02
F	32	778.94	1.39E+03	308.00			1.39E+03	3.08E+02
F	33	815.53	1.51E+03	87.41			1.51E+03	8.74E+01
M	34	845.68	1.91E+03	88.26			1.91E+03	8.83E+01
m	35	850.48	8.45E+02	77.81			8.45E+02	7.78E+01
M	36	873.22	2.84E+04	179.65			2.84E+04	1.80E+02
m	37	880.21	2.71E+02	71.80			2.71E+02	7.18E+01
F	38	892.61	1.18E+03	79.60			1.18E+03	7.96E+01
F	39	904.13	1.92E+03	304.11			1.92E+03	3.04E+02
F	40	964.12	1.16E+03	274.82	6.61E+00	1.75E+00	1.16E+03	2.75E+02
F	41	996.29	2.41E+04	437.48			2.41E+04	4.37E+02
F	42	1004.77	4.03E+04	438.25			4.03E+04	4.38E+02
F	43	1086.04	7.73E+02	65.02			7.73E+02	6.50E+01
F	44	1112.12	1.14E+03	295.05			1.14E+03	2.95E+02
F	45	1128.16	1.20E+03	279.20			1.20E+03	2.79E+02
F	46	1140.66	4.17E+02	51.34			4.17E+02	5.13E+01
F	47	1159.65	9.54E+01	36.77			9.54E+01	3.68E+01
F	48	1173.26	3.61E+04	404.17			3.61E+04	4.04E+02
F	49	1187.88	1.98E+02	43.96			1.98E+02	4.40E+01
F	50	1246.22	1.41E+03	52.82			1.41E+03	5.28E+01
F	51	1274.48	6.72E+04	411.95			6.72E+04	4.12E+02
F	52	1332.55	3.37E+04	337.29			3.37E+04	3.37E+02
F	53	1348.50	9.67E+01	27.44			9.67E+01	2.74E+01
F	54	1361.29	1.46E+02	69.65			1.46E+02	6.97E+01
F	55	1397.41	1.21E+03	142.98			1.21E+03	1.43E+02
F	56	1408.08	1.30E+03	128.76	2.57E+01	5.33E+00	1.28E+03	1.29E+02
F	57	1460.91	3.88E+02	62.67	3.09E+02	4.24E+00	7.86E+01	6.28E+01
F	58	1494.24	1.27E+03	40.65			1.27E+03	4.07E+01
F	59	1538.54	1.24E+02	61.96			1.24E+02	6.20E+01
F	60	1596.59	3.42E+03	41.49			3.42E+03	4.15E+01

Analysis Report for 24-2315 VSM-5.5M-S3-CST-d-A V3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	61	1719.53	4.28E+02	61.14			4.28E+02	6.11E+01
F	62	1764.58	1.21E+02	15.72	1.33E+02	7.08E+00	-1.17E+01	1.72E+01
F	63	2505.68	3.31E+02	20.07			3.31E+02	2.01E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
BE-7	0.95	477.61	*	10.44	1.45E-03	7.75E-04	miss
K-40	0.99	1460.83	*	10.67	1.67E-04	1.34E-04	miss
CO-57	0.69	122.06	*	85.60	1.89E-02	2.35E-04	1.000
		136.47		10.68			
CO-60	1.00	1173.24	*	99.97	7.37E-03	9.12E-05	0.963
		1332.50	*	99.99	7.49E-03	8.76E-05	0.962
		2505.74	*	1.00	1.14E-02	9.66E-04	miss
RH-106	0.39	511.86	*	20.70	1.07E-02	3.40E-04	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.50	223.90		1.39			
		278.20	*	2.40	7.43E-03	2.39E-03	0.856
		296.50		4.50			
		414.70	*	83.30	1.33E-03	4.67E-05	0.873
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.21E-03	2.93E-05	0.870
		674.80		3.10			
		695.00	*	99.60	1.26E-03	8.77E-05	0.870
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			

Analysis Report for 24-2315 VSM-5.5M-S3-CST-d-A V3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
Sn-126	0.71	64.28		9.60			
		87.30	*	45.90	5.33E-03	5.63E-04	miss
CS-137	1.00	661.66	*	85.20	5.35E-03	9.77E-05	miss
EU-152	0.48	121.78		28.58			
		344.28	*	26.50	1.44E-03	2.91E-04	0.970
		778.90	*	12.94	1.69E-03	3.76E-04	0.959
		964.08	*	14.73	1.40E-03	3.34E-04	0.968
		1085.87	*	10.24	1.39E-03	1.17E-04	1.014
		1112.07	*	13.69	1.60E-03	4.16E-04	0.984
		1408.01	*	21.07	1.38E-03	1.39E-04	0.976
EU-154	1.00	42.70	*	20.45	3.00E-02	4.06E-03	miss
		123.07	*	40.40	4.17E-02	6.69E-04	0.956
		247.93	*	6.89	4.13E-02	3.77E-03	0.943
		591.76	*	4.95	4.19E-02	6.71E-04	0.932
		692.42	*	1.78	4.33E-02	3.67E-03	0.947
		723.30	*	20.06	4.12E-02	6.54E-04	0.950
		756.80	*	4.52	4.14E-02	1.65E-03	0.929
		873.18	*	12.08	4.06E-02	5.42E-04	0.943
		996.29	*	10.48	4.12E-02	8.73E-04	0.985
		1004.76	*	18.01	4.07E-02	6.40E-04	0.977
		1246.12	*	0.86	3.59E-02	1.43E-03	0.938
		1274.43	*	34.80	4.09E-02	4.99E-04	0.979
		1494.05	*	0.70	4.12E-02	1.43E-03	1.016
		1596.48	*	1.80	3.95E-02	7.17E-04	1.164
EU-155	0.99	43.00	*	18.70	3.28E-02	4.41E-03	1.000
		60.01	*	1.22	9.14E+00	3.21E-01	0.999
		86.55	*	30.70	7.98E-03	7.88E-04	free
		105.31	*	21.10	8.53E-03	9.20E-04	1.000
NP-239	0.44	99.60	*	12.80	4.45E-03	9.67E-04	1.000
		103.80		20.40			
		106.10	*	26.40	9.82E-03	1.03E-03	0.984
		116.90		7.61			
		228.20	*	11.20	2.31E-03	1.37E-03	0.989
		277.60	*	14.50	1.52E-03	2.04E-04	0.984
		315.90		1.60			
		334.30		2.06			
AM-241	1.00	59.54	*	35.90	3.10E-01	6.50E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

Analysis Report for 24-2315 VSM-5.5M-S3-CST-d-A V3

ASR 2094 Branch

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
BE-7	0.952	1.45E-03	7.75E-04	
K-40	0.999	1.67E-04	1.34E-04	
CO-57	0.694	4.23E-04	2.43E-04	
CO-60	1.000	7.45E-03	6.30E-05	
RH-106	0.396	1.07E-02	3.40E-04	
SB-126	0.500	1.28E-03	1.92E-05	
Sn-126	0.718	9.96E-04	7.87E-04	
CS-137	1.000	5.35E-03	9.77E-05	
EU-152	0.482	1.41E-03	7.96E-05	
EU-154	1.000	4.08E-02	1.66E-04	
EU-155	0.994	6.49E-03	8.94E-04	
NP-239	0.440	1.45E-03	1.97E-04	
AM-241	1.000	3.10E-01	3.92E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2315 VSM-5.5M-S3-CST-d-A V3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 7:41:12PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	48.73	1.16639E+00	4.70		
F	4	74.82	1.01090E+00	4.89	Tol.	RA-226 TH-232
m	8	107.79	2.31261E-01	21.01		
	13	318.50	8.15137E-02	54.94		
	15	370.77	1.14128E-02	227.86	Sum	
F	17	444.41	2.06009E-01	22.14	Sum	
F	20	557.46	4.51199E-02	18.22		
F	21	582.05	1.78365E-01	10.66		
F	23	625.17	7.66315E-02	9.96		
F	26	676.78	4.53546E-02	67.20		
F	30	748.90	2.39954E-02	24.28	Sum	
F	33	815.53	1.04990E-01	5.78	Sum	
M	34	845.68	1.32873E-01	4.61	Sum	
m	35	850.48	5.87121E-02	9.20		
m	37	880.21	1.88512E-02	26.45	Sum	
F	38	892.61	8.20099E-02	6.74	Sum	
F	39	904.13	1.33046E-01	15.87		
F	45	1128.16	8.33969E-02	23.25	Sum	
F	46	1140.66	2.89415E-02	12.32	Sum	
F	47	1159.65	6.62375E-03	38.56		
F	49	1187.88	1.37402E-02	22.22		
F	53	1348.50	6.71446E-03	28.38	Sum	
F	54	1361.29	1.01081E-02	47.85	Sum	
F	55	1397.41	8.42441E-02	11.79	Sum	
F	59	1538.54	8.59389E-03	50.07		
F	61	1719.53	2.97230E-02	14.28	Sum	
F	62	1764.58	-8.13181E-04	- 147.23	Sum	

Analysis Report for 24-2315 VSM-5.5M-S3-CST-d-A V3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	BE-7	477.61	*	10.44	1.71E-03	1.71E-03	1.45E-03	8.56E-04
+	K-40	1460.83	*	10.67	5.41E-04	5.41E-04	1.67E-04	2.67E-04
	MN-54	834.84		99.98	1.02E-04	1.02E-04	3.69E-05	5.07E-05
	CO-58	810.78		99.45	1.10E-04	1.10E-04	4.86E-07	5.49E-05
		863.96		0.68	1.59E-02		3.08E-03	7.91E-03
		1674.73		0.52	4.63E-03		-5.82E-03	2.25E-03
	FE-59	142.65		1.00	2.42E-02	1.28E-04	8.34E-03	1.21E-02
		192.35		3.01	7.26E-03		3.05E-03	3.63E-03
		334.80		0.27	6.02E-02		-1.16E-02	3.01E-02
		1099.25		56.30	1.60E-04		2.45E-05	7.93E-05
		1291.60		43.70	1.28E-04		-1.92E-04	6.34E-05
+	CO-60	1173.24	*	99.97	1.12E-04	8.01E-05	7.37E-03	5.58E-05
		1332.50	*	99.99	8.01E-05		7.49E-03	3.98E-05
		2505.74	*	1.00	2.52E-03		1.14E-02	1.21E-03
	SR-85	514.00		96.00	1.57E-04	1.57E-04	-8.93E-05	7.83E-05
		868.60		0.01	1.38E+00		5.46E-01	6.87E-01
	NB-94	702.62		97.90	1.18E-04	1.18E-04	-3.97E-05	5.87E-05
		871.09		99.98	1.71E-04		6.04E-05	8.51E-05
	NB-95	765.81		99.81	1.10E-04	1.10E-04	2.24E-04	5.47E-05
	RU-103	497.05		91.00	1.47E-04	1.47E-04	6.26E-05	7.34E-05
		610.30		5.76	2.09E-03		1.21E-03	1.04E-03
+	RH-106	511.86	*	20.70	1.02E-03	1.02E-03	1.07E-02	5.11E-04
		621.92		9.93	1.26E-03		8.62E-04	6.30E-04
		1050.36		1.56	6.58E-03		7.69E-03	3.27E-03
	AG-108M	79.13		6.60	5.49E-03	1.42E-04	-5.44E-04	2.75E-03
		433.90		90.50	1.65E-04		8.59E-05	8.21E-05
		614.30		89.80	1.42E-04		-7.07E-05	7.09E-05
		722.90		90.80	2.31E-04		9.28E-03	1.15E-04
	CD-109	88.03		3.61	8.93E-03	8.93E-03	-9.63E-04	4.46E-03
	SB-125	176.31		6.82	3.19E-03	4.65E-04	1.27E-04	1.60E-03
		380.45		1.52	9.69E-03		-1.37E-02	4.84E-03
		427.87		29.55	4.65E-04		1.26E-04	2.32E-04
		463.36		10.48	1.26E-03		-2.20E-04	6.30E-04
		600.60		17.76	6.67E-04		8.65E-05	3.32E-04

Analysis Report for 24-2315 VSM-5.5M-S3-CST-d-A V3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-125	606.71		5.02	2.35E-03	4.65E-04	1.62E-03	1.17E-03
		635.95		11.32	1.04E-03		1.02E-03	5.20E-04
		671.44		1.78	7.13E-03		9.42E-05	3.56E-03
+	SB-126	223.90		1.39	1.35E-02	9.30E-05	-1.20E-03	6.72E-03
		278.20	*	2.40	8.56E-03		7.43E-03	4.28E-03
		296.50		4.50	4.23E-03		5.55E-03	2.11E-03
		414.70	*	83.30	2.39E-04		1.33E-03	1.20E-04
		556.30		1.69	8.54E-03		9.47E-03	4.26E-03
		573.90		6.70	2.16E-03		-1.34E-04	1.08E-03
		593.20		7.50	2.10E-03		2.68E-02	1.05E-03
		656.30		2.19	8.05E-03		-1.66E-03	4.02E-03
		666.50	*	99.60	9.30E-05		1.21E-03	4.63E-05
		674.80		3.10	4.39E-03		2.90E-03	2.19E-03
		695.00	*	99.60	9.41E-05		1.26E-03	4.68E-05
		697.00		29.00	5.45E-04		-1.14E-04	2.72E-04
		720.70		53.80	4.19E-04		3.44E-05	2.09E-04
		856.80		17.60	6.72E-04		-1.02E-04	3.35E-04
		989.60		6.80	2.29E-03		2.66E-04	1.14E-03
		1213.30		2.39	3.00E-03		2.47E-03	1.49E-03
+	Sn-126	64.28		9.60	5.04E-03	9.07E-04	4.77E-04	2.52E-03
		87.30	*	45.90	9.07E-04		5.33E-03	4.53E-04
	I-129	29.70		56.60	1.09E-02	1.09E-02	-2.55E-02	5.45E-03
		33.60		10.04	3.22E-02		-1.35E-01	1.61E-02
		34.40		2.01	1.44E-01		-5.77E-01	7.22E-02
		39.60		7.51	2.20E-02		-2.38E-02	1.10E-02
	CS-134	563.25		8.34	1.55E-03	1.28E-04	-3.09E-05	7.75E-04
		569.33		15.37	8.66E-04		-3.58E-04	4.32E-04
		604.72		97.62	1.28E-04		-6.69E-05	6.36E-05
		795.86		85.46	1.33E-04		1.44E-04	6.62E-05
		801.95		8.69	1.31E-03		-9.16E-04	6.54E-04
+	CS-137	661.66	*	85.20	9.20E-05	9.20E-05	5.35E-03	4.58E-05
	CE-139	165.85		79.89	2.85E-04	2.85E-04	-9.15E-05	1.42E-04
	CE-141	40.70		3.35	4.64E-02	4.98E-04	-4.94E-02	2.32E-02
		145.44		48.29	4.98E-04		5.58E-04	2.49E-04
	CE-144	80.12		1.36	2.63E-02	2.12E-03	2.25E-03	1.31E-02
		133.51		11.09	2.12E-03		3.20E-03	1.06E-03
+	EU-152	121.78		28.58	1.04E-03	2.50E-04	-2.39E-04	5.21E-04
		344.28	*	26.50	6.38E-04		1.44E-03	3.19E-04
		778.90	*	12.94	1.46E-03		1.69E-03	7.26E-04
		964.08	*	14.73	8.01E-04		1.40E-03	3.99E-04
		1085.87	*	10.24	7.03E-04		1.39E-03	3.49E-04
		1112.07	*	13.69	7.97E-04		1.60E-03	3.97E-04
		1408.01	*	21.07	2.50E-04		1.38E-03	1.24E-04
	GD-153	97.43		29.00	9.98E-04	9.98E-04	-2.37E-04	4.99E-04
		103.18		21.10	1.33E-03		-1.16E-04	6.62E-04
+	EU-154	42.70	*	20.45	7.37E-03	2.99E-04	3.00E-02	3.68E-03
		123.07	*	40.40	9.26E-04		4.17E-02	4.63E-04
		247.93	*	6.89	3.32E-03		4.13E-02	1.66E-03
		591.76	*	4.95	3.32E-03		4.19E-02	1.66E-03
		692.42	*	1.78	4.72E-03		4.33E-02	2.35E-03
		723.30	*	20.06	9.62E-04		4.12E-02	4.80E-04
		756.80	*	4.52	3.60E-03		4.14E-02	1.79E-03
		873.18	*	12.08	6.13E-04		4.06E-02	3.05E-04

Analysis Report for 24-2315 VSM-5.5M-S3-CST-d-A V3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	EU-154	996.29	*	10.48	1.46E-03	2.99E-04	4.12E-02	7.26E-04
		1004.76	*	18.01	7.65E-04		4.07E-02	3.81E-04
		1246.12	*	0.86	1.08E-02		3.59E-02	5.35E-03
		1274.43	*	34.80	2.99E-04		4.09E-02	1.49E-04
		1494.05	*	0.70	8.50E-03		4.12E-02	4.21E-03
		1596.48	*	1.80	2.30E-03		3.95E-02	1.13E-03
+	EU-155	43.00	*	18.70	8.06E-03	1.13E-03	3.28E-02	4.03E-03
		60.01	*	1.22	6.95E-02		9.14E+00	3.47E-02
		86.55	*	30.70	1.36E-03		7.98E-03	6.78E-04
		105.31	*	21.10	1.13E-03		8.53E-03	5.66E-04
	HG-203	72.87		6.30	6.66E-03	2.10E-04	-3.25E-03	3.33E-03
		279.20		81.46	2.10E-04		1.54E-04	1.05E-04
	BI-207	569.15		97.80	1.33E-04	1.33E-04	-1.53E-04	6.62E-05
		1063.10		74.90	1.34E-04		-1.78E-05	6.68E-05
	PB-210	46.54		4.25	2.36E-02	2.36E-02	-3.53E-02	1.18E-02
	RA-226	74.81		6.44	6.14E-03	1.67E-04	2.31E-02	3.07E-03
		77.11		10.80	3.50E-03		9.87E-04	1.75E-03
		87.30		4.84	6.73E-03		5.75E-02	3.36E-03
		186.21		3.59	5.87E-03		1.25E-02	2.93E-03
		242.00		7.43	2.49E-03		-1.24E-03	1.24E-03
		295.22		19.30	8.37E-04		1.27E-04	4.18E-04
		351.93		37.60	4.13E-04		3.39E-04	2.06E-04
		609.31		46.10	2.55E-04		1.26E-04	1.27E-04
		768.36		4.94	2.16E-03		4.11E-04	1.08E-03
		1120.29		15.10	5.62E-04		6.28E-04	2.79E-04
		1238.11		5.79	1.12E-03		-7.54E-04	5.54E-04
		1764.49		15.40	1.67E-04		1.37E-04	8.10E-05
	PA-231	283.70		1.59	1.04E-02	6.72E-03	1.46E-03	5.21E-03
		300.07		2.38	6.72E-03		3.34E-03	3.35E-03
		302.67		1.71	9.29E-03		5.49E-03	4.64E-03
		330.07		1.32	1.13E-02		-5.37E-03	5.66E-03
	TH-232	74.81		11.62	3.40E-03	5.89E-05	1.28E-02	1.70E-03
		77.11		17.50	2.16E-03		6.09E-04	1.08E-03
		87.30		7.80	4.18E-03		3.57E-02	2.09E-03
		238.63		43.30	4.30E-04		1.14E-04	2.15E-04
		338.32		11.30	1.41E-03		4.36E-04	7.04E-04
		583.19		30.37	4.09E-04		1.50E-03	2.04E-04
		727.33		6.58	2.91E-03		7.09E-04	1.45E-03
		911.21		26.60	3.79E-04		1.63E-04	1.89E-04
		968.97		16.20	6.16E-04		1.07E-04	3.06E-04
		2614.53		35.64	5.89E-05		8.88E-05	2.81E-05
	U-235	143.76		10.96	2.15E-03	3.69E-04	1.67E-03	1.07E-03
		185.71		57.20	3.69E-04		6.17E-04	1.84E-04
		205.31		5.01	3.94E-03		-6.74E-04	1.97E-03
	U-238	63.29		3.70	1.38E-02	7.11E-03	9.40E-03	6.88E-03
		92.51		4.23	7.11E-03		7.56E-03	3.56E-03
		112.81		0.21	1.23E-01		7.34E-02	6.13E-02
		742.81		0.11	1.00E-01		6.08E-02	4.99E-02
		766.28		0.32	3.37E-02		4.41E-02	1.68E-02
		1001.03		0.84	2.76E-02		1.35E+00	1.38E-02
+	NP-239	99.60	*	12.80	2.98E-03	1.31E-03	4.45E-03	1.49E-03
		103.80		20.40	1.92E-03		-1.68E-04	9.58E-04
		106.10	*	26.40	1.31E-03		9.82E-03	6.52E-04

Analysis Report for 24-2315 VSM-5.5M-S3-CST-d-A V3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	NP-239	116.90		7.61	4.72E-03	1.31E-03	-2.38E-03	2.36E-03
		228.20	*	11.20	2.57E-03		2.31E-03	1.28E-03
		277.60	*	14.50	1.75E-03		1.52E-03	8.73E-04
		315.90		1.60	1.34E-02		2.20E-03	6.69E-03
		334.30		2.06	1.04E-02		6.63E-03	5.18E-03
+	AM-241	59.54	*	35.90	2.36E-03	2.36E-03	3.10E-01	1.18E-03

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

Apex-Gamma

Analysis Report for 24-2316 VSM-5.5M-S4-CST-A Q3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2316 VSM-5.5M-S4-CST-A Q3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 2:16:54PM
Procedure	: Q3_gsv02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: Q3_gsv02mlw
Live Time	: 2295.5 seconds
Real Time	: 2385.4 seconds
Dead Time	: 3.77 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: Q3_gsv2ml_R717
Sample Number	: 567820
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 2:56:45PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2316 VSM-5.5M-S4-CST-A Q3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	43.16	137.71	0.2465	6.54
2	59.58	190.36	0.0510	138.98
3	74.90	239.15	0.2873	4.14
4	86.75	276.85	0.2444	5.71
5	105.42	336.34	0.2306	6.61
6	123.12	392.84	0.0709	71.62
7	175.37	559.43	0.4144	3.11
8	228.05	727.12	0.3549	3.23
9	247.95	790.80	0.1205	22.13
10	344.74	1098.25	0.2693	4.02
11	391.71	1248.73	0.3368	3.19
12	414.83	1322.86	0.1567	11.72
13	444.82	1418.20	0.2611	4.18
14	511.05	1629.55	0.1539	6.88
15	582.20	1855.84	0.2358	3.99
16	591.85	1887.02	0.1163	18.85
17	661.81	2110.15	0.0559	79.07
18	666.56	2125.47	0.1415	12.31
19	677.19	2159.24	0.2976	3.52
20	692.56	2207.58	0.2013	7.22
21	695.19	2216.83	0.1667	10.43
22	720.13	2294.00	0.0000	0.00
23	723.48	2306.70	0.0739	43.75
24	756.97	2413.43	0.1163	16.63
25	845.83	2696.65	0.2466	4.31
26	867.33	2764.84	0.3092	3.01
27	873.39	2784.53	0.0860	30.86
28	904.37	2883.25	0.2332	4.76
29	996.50	3177.02	0.0876	27.89
30	1004.97	3204.01	0.0764	35.92
31	1058.53	3374.67	0.2766	4.06
32	1173.52	3741.17	0.0772	34.59
33	1246.54	3974.32	0.2081	4.11
34	1274.74	4063.92	0.0644	48.41
35	1332.80	4248.93	0.0768	32.91
36	1397.68	4455.73	0.1946	4.86
37	1408.26	4489.46	0.1852	6.26
38	1461.53	4658.61	0.2402	3.20
39	1494.33	4763.83	0.1914	5.22
40	1596.84	5090.52	0.1326	10.50
41	1719.66	5481.70	0.2324	3.89

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2316 VSM-5.5M-S4-CST-A Q3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 2:56:45PM

Peak Analysis From Channel : 105

Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	43.16	129	141	137.97	3.11E+03	1202.27	1.26E+05	0.69
F	2	59.58	182	198	190.31	1.49E+05	1518.02	2.14E+05	1.20
F	3	74.90	234	247	239.15	1.88E+03	323.39	1.60E+05	1.12
F	4	86.75	269	285	276.92	6.75E+03	1781.35	1.76E+05	1.94
F	5	105.42	332	345	336.44	2.91E+03	285.69	1.16E+05	1.22
F	6	123.12	385	401	392.88	4.13E+04	1107.38	1.10E+05	1.25
	7	175.37	556	569	559.43	9.40E+01	451.58	4.51E+04	0.53
F	8	228.05	723	731	727.37	2.77E+02	109.55	1.61E+04	0.71
F	9	247.95	784	801	790.83	4.59E+03	138.15	2.67E+04	1.28
F	10	344.74	1090	1103	1099.37	4.84E+02	16.35	9.24E+03	0.43
F	11	391.71	1237	1253	1249.09	1.38E+02	55.26	7.98E+03	0.66
F	12	414.83	1315	1330	1322.79	1.40E+03	183.03	6.86E+03	1.43
F	13	444.82	1413	1424	1418.41	2.78E+02	64.19	4.46E+03	1.24
F	14	511.05	1617	1641	1629.51	2.79E+03	429.00	6.45E+03	2.96
F	15	582.20	1849	1866	1856.32	4.41E+02	49.63	3.11E+03	2.01
F	16	591.85	1879	1897	1887.08	2.05E+03	61.72	3.15E+03	1.64
M	17	661.81	2097	2138	2110.09	2.28E+04	335.79	2.51E+03	1.72
m	18	666.56	2097	2138	2125.25	1.13E+03	51.52	2.40E+03	1.72
F	19	677.19	2155	2166	2159.12	1.79E+02	183.20	1.28E+03	1.35
M	20	692.56	2201	2229	2208.12	7.22E+02	42.80	1.73E+03	1.69
m	21	695.19	2201	2229	2216.51	9.33E+02	45.59	2.08E+03	1.69
M	22	720.13	2288	2319	2296.01	1.07E+02	41.01	1.67E+03	1.77
m	23	723.48	2288	2319	2306.69	7.80E+03	279.58	2.02E+03	1.77
F	24	756.97	2404	2423	2413.43	1.67E+03	51.67	1.86E+03	1.81
F	25	845.83	2688	2702	2696.69	1.80E+02	101.23	9.80E+02	1.39
M	26	867.33	2759	2794	2765.20	1.08E+02	28.10	9.41E+02	1.86
m	27	873.39	2759	2794	2784.54	4.13E+03	176.29	1.27E+03	1.86
F	28	904.37	2873	2891	2883.29	2.29E+02	107.01	1.07E+03	1.53
F	29	996.50	3166	3187	3176.95	3.57E+03	172.91	1.06E+03	1.97
F	30	1004.97	3193	3213	3203.93	5.81E+03	179.73	9.98E+02	2.05
	31	1058.53	3370	3380	3374.67	2.87E+01	41.55	4.52E+02	0.70
F	32	1173.52	3727	3756	3741.18	5.20E+03	160.97	5.20E+02	2.14
F	33	1246.54	3964	3984	3973.92	2.21E+02	85.59	2.44E+02	2.46
F	34	1274.74	4048	4079	4063.82	9.80E+03	196.28	5.03E+02	2.14
F	35	1332.80	4233	4262	4248.87	4.74E+03	142.22	2.48E+02	2.19
F	36	1397.68	4445	4466	4455.67	1.90E+02	15.03	9.27E+01	2.65
F	37	1408.26	4477	4499	4489.37	1.77E+02	45.79	8.64E+01	2.17
F	38	1461.53	4650	4667	4659.17	7.60E+01	10.86	6.49E+01	2.36
F	39	1494.33	4751	4774	4763.72	1.91E+02	45.04	4.21E+01	2.90
F	40	1596.84	5076	5101	5090.43	5.09E+02	49.99	3.20E+01	2.24

Analysis Report for 24-2316 VSM-5.5M-S4-CST-A Q3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1719.66	5475 -	5490	5481.88	4.70E+01	14.33	2.40E+01	1.84

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 2:56:45PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567379.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	43.16	3.11E+03	1202.27			3.11E+03	1.20E+03
F	2	59.58	1.49E+05	1518.02			1.49E+05	1.52E+03
F	3	74.90	1.88E+03	323.39	8.84E+01	4.67E+00	1.79E+03	3.23E+02
F	4	86.75	6.75E+03	1781.35	1.67E+01	1.12E+00	6.73E+03	1.78E+03
F	5	105.42	2.91E+03	285.69			2.91E+03	2.86E+02
F	6	123.12	4.13E+04	1107.38			4.13E+04	1.11E+03
	7	175.37	9.40E+01	451.58			9.40E+01	4.52E+02
F	8	228.05	2.77E+02	109.55			2.77E+02	1.10E+02
F	9	247.95	4.59E+03	138.15			4.59E+03	1.38E+02
F	10	344.74	4.84E+02	16.35			4.84E+02	1.63E+01
F	11	391.71	1.38E+02	55.26			1.38E+02	5.53E+01
F	12	414.83	1.40E+03	183.03			1.40E+03	1.83E+02
F	13	444.82	2.78E+02	64.19			2.78E+02	6.42E+01
F	14	511.05	2.79E+03	429.00	9.02E+01	3.78E+00	2.70E+03	4.29E+02
F	15	582.20	4.41E+02	49.63			4.41E+02	4.96E+01
F	16	591.85	2.05E+03	61.72			2.05E+03	6.17E+01
M	17	661.81	2.28E+04	335.79			2.28E+04	3.36E+02
m	18	666.56	1.13E+03	51.52			1.13E+03	5.15E+01
F	19	677.19	1.79E+02	183.20			1.79E+02	1.83E+02
M	20	692.56	7.22E+02	42.80			7.22E+02	4.28E+01
m	21	695.19	9.33E+02	45.59			9.33E+02	4.56E+01
M	22	720.13	1.07E+02	41.01			1.07E+02	4.10E+01
m	23	723.48	7.80E+03	279.58			7.80E+03	2.80E+02
F	24	756.97	1.67E+03	51.67			1.67E+03	5.17E+01
F	25	845.83	1.80E+02	101.23			1.80E+02	1.01E+02
M	26	867.33	1.08E+02	28.10			1.08E+02	2.81E+01
m	27	873.39	4.13E+03	176.29			4.13E+03	1.76E+02
F	28	904.37	2.29E+02	107.01			2.29E+02	1.07E+02

Analysis Report for 24-2316 VSM-5.5M-S4-CST-A Q3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	29	996.50	3.57E+03	172.91			3.57E+03	1.73E+02
F	30	1004.97	5.81E+03	179.73			5.81E+03	1.80E+02
	31	1058.53	2.87E+01	41.55			2.87E+01	4.15E+01
F	32	1173.52	5.20E+03	160.97			5.20E+03	1.61E+02
F	33	1246.54	2.21E+02	85.59			2.21E+02	8.56E+01
F	34	1274.74	9.80E+03	196.28			9.80E+03	1.96E+02
F	35	1332.80	4.74E+03	142.22			4.74E+03	1.42E+02
F	36	1397.68	1.90E+02	15.03			1.90E+02	1.50E+01
F	37	1408.26	1.77E+02	45.79	2.49E+00	9.04E-01	1.75E+02	4.58E+01
F	38	1461.53	7.60E+01	10.86	6.93E+01	1.79E+00	6.78E+00	1.10E+01
F	39	1494.33	1.91E+02	45.04			1.91E+02	4.50E+01
F	40	1596.84	5.09E+02	49.99			5.09E+02	5.00E+01
F	41	1719.66	4.70E+01	14.33			4.70E+01	1.43E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
NA-22	0.99	511.00	*	179.91	1.11E-03	1.77E-04	1.000
		1274.54	*	99.94	1.39E-02	2.87E-04	0.924
K-40	0.92	1460.82	*	10.66	9.07E-05	1.47E-04	miss
MN-56	0.32	846.76	*	98.85	1.83E-01	1.03E-01	0.985
		1810.73		26.90			
		2113.09		14.20			
CO-60	0.98	1173.23	*	99.85	6.71E-03	2.10E-04	0.962
		1332.49	*	99.98	6.62E-03	2.02E-04	0.962
CU-64	0.96	511.00	*	35.00	2.31E-02	3.68E-03	1.000
		1345.77		0.47			
ZR-95	0.96	724.19	*	44.27	1.64E-02	5.98E-04	free
		756.72	*	54.38	2.93E-03	9.27E-05	free
SN-113	0.94	255.13		2.11			
		391.70	*	64.97	1.34E-04	5.38E-05	free
Te-129m	0.92	695.88	*	3.00	2.85E-02	5.86E-03	free
TE-132	0.78	49.72		15.00			

Analysis Report for 24-2316 VSM-5.5M-S4-CST-A Q3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
TE-132	0.78	111.76		1.74			
		116.30		1.96			
		228.16	*	88.00	1.82E-04	7.25E-05	0.997
CS-137	0.99	661.66	*	85.10	2.33E-02	3.67E-04	miss
EU-154	0.99	42.70	*	20.45	3.01E-02	1.17E-02	miss
		123.07	*	40.40	3.81E-02	1.13E-03	0.956
		247.93	*	6.89	3.39E-02	1.11E-03	0.943
		591.76	*	4.95	3.59E-02	1.17E-03	0.932
		692.42	*	1.78	3.83E-02	2.32E-03	0.948
		723.30	*	20.06	3.75E-02	1.41E-03	0.951
		756.80	*	4.52	3.75E-02	1.23E-03	0.928
		873.18	*	12.08	3.73E-02	1.65E-03	0.944
		996.29	*	10.48	3.87E-02	1.92E-03	0.986
		1004.76	*	18.01	3.71E-02	1.22E-03	0.977
		1246.12	*	0.86	3.56E-02	1.38E-02	0.936
		1274.43	*	34.80	3.76E-02	8.46E-04	0.979
		1494.05	*	0.70	3.90E-02	9.23E-03	1.013
		1596.48	*	1.80	3.71E-02	3.67E-03	1.155
EU-155	0.99	43.00	*	18.12	3.40E-02	1.32E-02	1.000
		60.01	*	1.17	9.08E+00	2.74E-01	0.999
		86.55	*	30.70	8.46E-03	2.24E-03	free
		105.31	*	21.10	4.82E-03	4.88E-04	1.000
NP-237	0.98	86.48	*	12.20	2.13E-02	5.66E-03	1.000
AM-241	1.00	59.54	*	35.90	2.95E-01	5.71E-03	free
AM-243	0.99	43.53	*	5.90	1.04E-01	4.04E-02	free
		74.66	*	67.20	1.22E-03	2.21E-04	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2316 VSM-5.5M-S4-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	NA-22	0.997	3.31E-04	3.34E-04	
	K-40	0.923	9.07E-05	1.47E-04	
	MN-56	0.321	1.83E-01	1.03E-01	
	CO-60	0.986	6.66E-03	1.46E-04	
	CU-64	0.965	1.62E-02	7.85E-03	
X	GA-66	0.601			
	ZR-95	0.960	7.53E-05	9.92E-05	
X	RU-106	0.899			
	SN-113	0.943	1.34E-04	5.38E-05	
	Te-129m	0.927	2.85E-02	5.86E-03	
	TE-132	0.784	1.82E-04	7.25E-05	
	CS-137	0.996	2.33E-02	3.67E-04	
	EU-154	0.990	3.67E-02	4.62E-04	
	EU-155	0.995	4.81E-03	4.75E-04	
	NP-237	0.989	9.18E-03	5.76E-03	
	AM-241	1.000	2.95E-01	4.67E-03	
	AM-243	0.990	1.22E-03	2.20E-04	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2316 VSM-5.5M-S4-CST-A Q3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 2:56:45PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	7	175.37	4.09684E-02	480.19	Tol.	SC-48 SB-125 ND-151
F	10	344.74	2.10787E-01	3.38	Tol.	EU-152 PU-239
F	12	414.83	6.10503E-01	13.06	Tol.	RH-102M
F	13	444.82	1.20951E-01	23.12	Tol.	SB-127
F	15	582.20	1.91930E-01	11.26		
m	18	666.56	4.94288E-01	4.54	Sum	
F	19	677.19	7.79438E-02	102.39	Tol.	AG-110M ND-151
M	22	720.13	4.67389E-02	38.22	Tol.	NB-96 TE-133
M	26	867.33	4.70234E-02	26.03	Tol.	LA-140 EU-152
F	28	904.37	9.99224E-02	46.65		
	31	1058.53	1.25111E-02	144.66		
F	36	1397.68	8.26812E-02	7.92	Sum	
F	37	1408.26	7.60795E-02	26.22	Sum	
F	41	1719.66	2.04761E-02	30.49	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2316 VSM-5.5M-S4-CST-A Q3

ASR 2094 Branch

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.60		10.44	3.27E-03	3.27E-03	6.44E-03	1.63E-03
+	NA-22	511.00	*	179.91	2.94E-04	2.94E-04	1.11E-03	1.47E-04
		1274.54	*	99.94	3.17E-04		1.39E-02	1.57E-04
	NA-24	1368.63		99.99	3.93E-04	3.93E-04	-2.17E-04	1.90E-04
>		2754.01		99.87	0.00E+00		0.00E+00	0.00E+00
	AL-26	1129.67		2.50	8.35E-03	4.52E-05	4.80E-03	4.11E-03
		1808.65		99.76	4.52E-05		-2.92E-05	2.04E-05
+	K-40	1460.82	*	10.66	9.47E-04	9.47E-04	9.07E-05	4.55E-04
	K-42	312.60		0.34	4.95E-01	1.72E-03	-4.29E-02	2.47E-01
		1524.60		18.08	1.72E-03		1.01E-04	8.13E-04
	Sc-44	1157.02		99.90	1.53E-02	1.53E-02	-1.11E-02	7.50E-03
		1499.46		0.91	1.21E+00		3.51E-01	5.88E-01
	Sc-44m	271.24		86.74	6.77E-04	6.77E-04	-6.26E-04	3.37E-04
		1001.83		1.20	6.69E-02		8.12E-01	3.32E-02
		1126.06		1.20	2.53E-02		-1.91E-02	1.25E-02
		1157.00		1.20	2.13E-02		-1.54E-02	1.05E-02
	TI-44	67.87		93.00	1.46E-03	1.09E-03	-1.02E-03	7.30E-04
		78.32		96.40	1.09E-03		3.40E-04	5.46E-04
	SC-46	889.28		99.98	2.56E-04	2.16E-04	1.36E-04	1.27E-04
		1120.55		99.99	2.16E-04		-9.09E-04	1.06E-04
	CA-47	489.23		5.90	7.02E-03	2.27E-04	1.02E-02	3.49E-03
		807.86		5.90	5.14E-03		-5.18E-03	2.54E-03
		1297.09		67.00	2.27E-04		8.66E-05	1.10E-04
	SC-47	159.38		68.30	1.04E-03	1.04E-03	5.00E-04	5.21E-04
	SC-48	175.36		7.47	1.08E-02	1.79E-04	1.26E-02	5.40E-03
		983.53		100.00	3.44E-04		8.66E-05	1.70E-04
		1037.52		97.50	3.53E-04		3.73E-04	1.74E-04
		1312.12		100.00	1.79E-04		2.77E-05	8.70E-05
	V-48	944.13		7.87	3.25E-03	1.33E-04	3.07E-03	1.60E-03
		983.53		99.98	2.50E-04		6.29E-05	1.23E-04
		1312.11		98.20	1.33E-04		2.05E-05	6.43E-05
		2240.40		2.33	2.25E-03		9.67E-04	1.01E-03
	CR-51	320.08		9.91	4.03E-03	4.03E-03	1.37E-03	2.01E-03
	Fe-52	168.69		99.20	4.74E-03	4.74E-03	-3.86E-04	2.36E-03
		377.75		1.64	1.89E-01		1.48E-01	9.41E-02
	Mn-52	744.23		90.00	3.58E-04	1.08E-04	1.10E-04	1.77E-04
		848.18		3.32	9.16E-03		8.42E-03	4.53E-03
		935.54		94.50	3.04E-04		-1.60E-04	1.50E-04
		1246.28		4.21	4.93E-03		6.71E-03	2.41E-03
		1333.65		5.07	1.08E-02		1.57E-01	5.37E-03
		1434.09		100.00	1.08E-04		8.11E-05	5.18E-05
	MN-54	834.85		99.98	2.45E-04	2.45E-04	-7.98E-05	1.21E-04
	Co-55	411.50		1.07	9.42E-02	8.67E-04	-2.54E-02	4.69E-02
		477.20		20.20	4.58E-03		-3.16E-03	2.28E-03
		803.70		1.87	3.67E-02		-3.07E-03	1.81E-02

Analysis Report for 24-2316 VSM-5.5M-S4-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Co-55	931.10		75.00	8.67E-04	8.67E-04	-4.12E-05	4.28E-04
		1316.60		7.10	4.58E-03		-2.07E-03	2.22E-03
		1370.00		2.90	1.09E-02		-1.28E-02	5.28E-03
		1408.50		16.90	2.14E-03		3.32E-03	1.04E-03
	Co-56	846.77		99.94	2.65E-04	2.38E-04	2.58E-04	1.31E-04
		977.37		1.42	1.76E-02		1.89E-02	8.68E-03
		1037.84		14.05	1.75E-03		2.14E-03	8.63E-04
		1175.10		2.25	2.18E-02		3.12E-01	1.08E-02
		1238.29		66.46	2.38E-04		1.46E-04	1.16E-04
		1360.21		4.28	2.89E-03		1.62E-03	1.40E-03
		1771.36		15.41	4.37E-04		1.89E-04	2.03E-04
		2015.20		3.02	1.50E-03		7.21E-04	6.64E-04
		2034.79		7.77	4.78E-04		3.19E-04	2.06E-04
>		2598.50		16.97	0.00E+00		0.00E+00	0.00E+00
+	MN-56	846.76	*	98.85	2.30E-01	1.65E-01	1.83E-01	1.14E-01
		1810.73		26.90	1.65E-01		9.82E-02	7.39E-02
		2113.09		14.20	3.31E-01		-6.21E-02	1.48E-01
	Ni-56	158.38		98.80	6.55E-04	3.35E-04	1.64E-04	3.27E-04
		269.50		36.50	1.35E-03		1.47E-03	6.74E-04
		480.44		36.50	1.03E-03		-8.15E-04	5.12E-04
		749.50		49.50	6.06E-04		1.07E-05	3.00E-04
		811.85		86.00	3.35E-04		1.90E-04	1.66E-04
		1561.80		14.00	5.89E-04		-2.38E-04	2.78E-04
	CO-57	122.06		85.60	8.81E-04	8.81E-04	-1.21E-04	4.40E-04
		136.47		10.68	5.89E-03		-2.32E-03	2.94E-03
	NI-57	127.16		16.70	6.75E-03	2.28E-04	1.24E-03	3.37E-03
		1377.63		81.70	2.28E-04		2.99E-04	1.10E-04
		1757.55		5.75	1.66E-03		-1.61E-03	7.69E-04
		1919.52		12.30	5.76E-04		-6.18E-04	2.57E-04
	CO-58	810.76		99.45	2.63E-04	2.63E-04	3.09E-04	1.30E-04
		863.96		0.69	3.67E-02		-1.24E-02	1.81E-02
		1674.73		0.52	1.15E-02		6.88E-03	5.36E-03
	FE-59	142.65		1.02	6.08E-02	3.13E-04	2.91E-02	3.04E-02
		192.34		3.08	1.75E-02		3.57E-03	8.72E-03
		1099.24		56.50	3.65E-04		-2.21E-04	1.80E-04
		1291.59		43.20	3.13E-04		-7.54E-05	1.52E-04
+	CO-60	1173.23	*	99.85	2.85E-04	2.15E-04	6.71E-03	1.41E-04
		1332.49	*	99.98	2.15E-04		6.62E-03	1.06E-04
+	CU-64	511.00	*	35.00	6.12E-03	6.12E-03	2.31E-02	3.05E-03
		1345.77		0.47	1.00E-01		3.51E-02	4.86E-02
	NI-65	366.27		4.81	9.25E+00	3.79E-01	4.99E+00	4.60E+00
		1115.53		15.43	1.60E+00		5.50E-01	7.88E-01
		1481.84		23.59	3.79E-01		-1.75E-01	1.80E-01
	ZN-65	1115.54		50.04	4.22E-04	4.22E-04	1.45E-04	2.08E-04
	GA-66	511.00	*	114.00	3.01E-03	3.01E-03	1.14E-02	1.50E-03
		833.53		5.90	2.68E-02		-2.13E-02	1.33E-02
		1039.22		37.00	4.01E-03		1.66E-05	1.98E-03
		1333.11	*	1.17	1.15E-01		3.53E+00	5.63E-02
		1918.33		1.99	1.46E-02		1.40E-02	6.53E-03
		2189.62		5.30	5.23E-03		7.50E-04	2.30E-03
>		2751.83		22.70	0.00E+00		0.00E+00	0.00E+00
	CU-67	91.27		7.00	1.57E-02	1.43E-03	4.19E-04	7.84E-03
		93.31		16.10	6.63E-03		1.52E-03	3.31E-03

Analysis Report for 24-2316 VSM-5.5M-S4-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CU-67	184.58	48.70	1.43E-03	1.43E-03	-9.85E-04	7.12E-04
		300.22	0.80	6.81E-02		4.80E-02	3.39E-02
		393.53	0.22	2.16E-01		1.37E-01	1.07E-01
	GA-67	91.26	3.11	3.42E-02	2.62E-03	9.14E-04	1.71E-02
		93.31	38.81	2.62E-03		6.03E-04	1.31E-03
		184.58	21.41	3.06E-03		-2.11E-03	1.53E-03
		208.95	2.46	2.79E-02		1.84E-02	1.39E-02
		300.22	16.64	3.14E-03		2.21E-03	1.56E-03
		393.53	4.56	8.88E-03		5.64E-03	4.42E-03
	ZN-69m	438.63	94.85	1.34E-03	1.34E-03	1.29E-03	6.67E-04
	GA-72	629.97	26.13	4.03E-03	6.25E-04	-2.64E-05	2.00E-03
		834.13	95.45	9.43E-04		4.45E-05	4.66E-04
		894.33	10.14	9.15E-03		1.20E-02	4.52E-03
		1050.79	6.99	1.24E-02		1.92E-02	6.13E-03
		2201.59	26.87	6.25E-04		1.74E-04	2.78E-04
		2491.03	7.73	1.71E-03		-2.16E-04	7.21E-04
		2507.72	13.33	2.06E-03		2.86E-03	9.51E-04
	Zn-72	144.70	82.78	1.07E-03	1.07E-03	5.44E-04	5.35E-04
		191.50	9.35	8.00E-03		5.04E-03	3.99E-03
	SE-75	121.12	17.20	4.63E-03	7.89E-04	-2.11E-03	2.31E-03
		136.00	58.50	1.13E-03		7.07E-04	5.65E-04
		264.66	58.90	7.89E-04		1.76E-04	3.93E-04
		279.54	25.02	1.77E-03		2.29E-04	8.84E-04
		400.66	11.41	2.37E-03		-5.01E-04	1.18E-03
	BR-83	529.59	1.30	4.34E+01	4.34E+01	1.13E+01	2.16E+01
	BR-84	604.80	1.70	6.10E+12	9.81E+10	3.79E+12	3.03E+12
		736.50	1.29	7.25E+12		-1.24E+13	3.59E+12
		802.20	6.00	1.50E+12		-4.70E+11	7.42E+11
		881.60	42.00	2.10E+11		1.67E+11	1.04E+11
		987.30	0.79	1.04E+13		8.45E+12	5.13E+12
		1015.90	6.20	1.30E+12		-1.85E+12	6.40E+11
		1213.30	2.60	2.02E+12		-1.67E+09	9.87E+11
		1463.80	2.00	1.98E+12		4.00E+12	9.57E+11
		1741.20	1.60	1.31E+12		9.84E+11	6.06E+11
		1877.50	1.12	1.47E+12		9.86E+11	6.64E+11
		1897.60	14.60	9.81E+10		-2.29E+10	4.34E+10
		2029.60	2.10	6.50E+11		1.27E+11	2.84E+11
		2200.70	1.16	1.47E+12		4.99E+11	6.55E+11
		2484.10	6.70	1.68E+11		7.85E+10	6.91E+10
>		2824.10	1.12	0.00E+00		0.00E+00	0.00E+00
	KR-85m	151.20	75.20	4.12E-02	4.12E-02	-5.73E-03	2.06E-02
		304.87	14.00	1.51E-01		1.53E-01	7.51E-02
	Y-87	388.53	82.20	5.44E-04	4.73E-04	5.37E-05	2.70E-04
		484.80	89.80	4.73E-04		1.94E-04	2.35E-04
	KR-88	165.98	3.10	1.05E+01	5.86E-02	-2.93E+00	5.22E+00
		196.30	26.00	1.07E+00		4.35E-01	5.36E-01
		362.23	2.25	8.59E+00		-4.95E+00	4.27E+00
		471.80	0.73	2.60E+01		2.79E+00	1.29E+01
		834.83	13.00	1.04E+00		-3.39E-01	5.15E-01
		985.78	1.31	9.96E+00		9.56E+00	4.92E+00
		1141.33	1.28	8.32E+00		-3.93E+00	4.09E+00
		1179.51	1.00	2.39E+01		8.81E+00	1.19E+01
		1250.67	1.12	8.22E+00		1.41E+00	4.02E+00

Analysis Report for 24-2316 VSM-5.5M-S4-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	KR-88	1369.50	1.48	4.34E+00	5.86E-02	-1.53E+00	2.10E+00
		1518.39	2.15	1.90E+00		-1.57E-01	8.98E-01
		1529.77	10.90	3.87E-01		-5.63E-02	1.83E-01
		2029.84	4.53	4.86E-01		1.06E-01	2.12E-01
		2035.41	3.74	5.08E-01		-3.37E-03	2.18E-01
		2195.84	13.20	1.85E-01		-6.85E-02	8.17E-02
		2231.77	3.39	6.76E-01		5.59E-01	2.98E-01
		2352.08	0.73	2.01E+00		-3.47E+00	7.99E-01
		2392.11	34.60	5.86E-02		-5.14E-02	2.51E-02
	RB-88	898.03	14.40	9.70E-01	1.14E-01	1.70E-01	4.79E-01
		1382.45	0.78	7.46E+00		4.23E+00	3.60E+00
		1836.00	22.81	1.14E-01		-3.61E-02	5.15E-02
>		2677.89	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-88	898.04	93.70	2.80E-04	5.10E-05	4.91E-05	1.38E-04
		1836.06	99.20	5.10E-05		-3.46E-05	2.31E-05
@	RB-89	272.42	1.53	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		657.77	10.80	1.00E+20		1.00E+20	1.00E+20
@		947.73	10.00	1.00E+20		1.00E+20	1.00E+20
@		1031.92	63.00	1.00E+20		1.00E+20	1.00E+20
@		1248.14	46.00	1.00E+20		1.00E+20	1.00E+20
@		1538.07	2.77	1.00E+20		1.00E+20	1.00E+20
@		2007.50	2.58	1.00E+20		1.00E+20	1.00E+20
@		2195.92	14.50	1.00E+20		1.00E+20	1.00E+20
>@		2570.20	10.70	0.00E+00		0.00E+00	0.00E+00
>@		2707.26	2.20	0.00E+00		0.00E+00	0.00E+00
	SR-89	908.96	0.01	2.60E+00	2.60E+00	-2.17E-01	1.29E+00
	Sr-91	652.90	11.35	1.54E-02	4.31E-03	4.50E-03	7.61E-03
		749.80	23.70	7.11E-03		1.83E-03	3.52E-03
		925.80	3.85	3.86E-02		2.45E-02	1.91E-02
		1024.30	33.50	4.31E-03		3.29E-03	2.13E-03
	Y-91	1204.77	0.26	5.82E-02	5.82E-02	-7.78E-02	2.84E-02
	NB-92M	912.60	1.78	1.47E-02	2.51E-04	-7.62E-04	7.24E-03
		934.44	99.15	2.51E-04		-3.54E-04	1.24E-04
		1847.50	0.85	6.07E-03		-4.97E-04	2.76E-03
	SR-92	241.56	2.93	1.44E+01	1.02E-01	-1.53E-01	7.18E+00
		430.49	3.28	9.62E+00		-1.79E+00	4.78E+00
		953.31	3.52	5.90E+00		-3.09E+00	2.91E+00
		1142.35	2.79	6.32E+00		6.81E+00	3.11E+00
		1383.93	90.00	1.02E-01		-1.05E-01	4.94E-02
	MO-93M	114.04	0.68	1.37E+00	1.11E-03	4.62E-01	6.85E-01
		263.05	57.40	1.03E-02		1.07E-03	5.12E-03
		684.69	99.90	3.56E-03		2.84E-03	1.77E-03
		1363.02	0.81	1.93E-01		1.11E-01	9.34E-02
		1477.14	99.10	1.11E-03		1.09E-03	5.30E-04
@	SR-93	168.50	18.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		260.12	7.40	1.00E+20		1.00E+20	1.00E+20
@		346.49	3.28	1.00E+20		1.00E+20	1.00E+20
@		446.20	2.36	1.00E+20		1.00E+20	1.00E+20
@		590.24	68.00	1.00E+20		1.00E+20	1.00E+20
@		710.31	21.80	1.00E+20		1.00E+20	1.00E+20
@		875.73	24.50	1.00E+20		1.00E+20	1.00E+20
@		888.13	22.10	1.00E+20		1.00E+20	1.00E+20
@		1040.63	3.20	1.00E+20		1.00E+20	1.00E+20

Analysis Report for 24-2316 VSM-5.5M-S4-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	SR-93	1094.00		1.76	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		1122.48		4.00	1.00E+20		1.00E+20	1.00E+20
@		1215.48		2.50	1.00E+20		1.00E+20	1.00E+20
@		1269.47		7.10	1.00E+20		1.00E+20	1.00E+20
@		1321.24		2.61	1.00E+20		1.00E+20	1.00E+20
@		1387.11		3.50	1.00E+20		1.00E+20	1.00E+20
@		1694.07		2.58	1.00E+20		1.00E+20	1.00E+20
@		1699.06		3.30	1.00E+20		1.00E+20	1.00E+20
@		2543.84		3.03	1.00E+20		1.00E+20	1.00E+20
>@		2688.65		2.13	0.00E+00		0.00E+00	0.00E+00
	Y-93	266.90		7.40	3.38E-02	1.63E-02	-1.18E-02	1.68E-02
		947.10		2.10	6.41E-02		1.11E-01	3.17E-02
		1917.80		1.57	1.63E-02		1.83E-03	7.29E-03
	NB-94	702.65		99.81	2.77E-04	2.77E-04	-4.00E-05	1.37E-04
		871.09		99.89	4.06E-04		4.54E-03	2.02E-04
@	Y-94	381.60		2.02	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		550.90		4.90	1.00E+20		1.00E+20	1.00E+20
@		752.60		1.40	1.00E+20		1.00E+20	1.00E+20
@		918.74		56.00	1.00E+20		1.00E+20	1.00E+20
@		1138.90		6.00	1.00E+20		1.00E+20	1.00E+20
@		1671.40		2.50	1.00E+20		1.00E+20	1.00E+20
@		2140.60		0.95	1.00E+20		1.00E+20	1.00E+20
	NB-95	765.80		99.81	2.67E-04	2.67E-04	4.21E-04	1.32E-04
+	ZR-95	724.19	*	44.27	4.44E-04	4.44E-04	1.64E-02	2.19E-04
		756.72	*	54.38	6.16E-04		2.93E-03	3.05E-04
	NB-96	219.08		2.97	3.62E-02	5.82E-04	9.90E-03	1.81E-02
		241.38		3.50	2.87E-02		-3.05E-04	1.43E-02
		350.05		1.54	5.32E-02		1.69E-02	2.65E-02
		352.56		0.83	9.80E-02		3.20E-02	4.88E-02
		371.81		2.62	3.00E-02		3.30E-02	1.49E-02
		460.04		26.62	2.75E-03		9.62E-04	1.37E-03
		480.71		5.84	1.22E-02		1.89E-03	6.05E-03
		568.87		58.00	1.08E-03		3.26E-05	5.38E-04
		719.56		6.85	1.44E-02		1.65E-05	7.15E-03
		721.63		1.02	9.64E-02		-3.63E-03	4.80E-02
		778.22		96.45	5.82E-04		3.23E-04	2.88E-04
		810.33		11.09	4.89E-03		-3.92E-03	2.42E-03
		812.58		2.95	1.85E-02		2.80E-02	9.13E-03
		847.69		1.14	4.66E-02		4.76E-02	2.30E-02
		849.93		20.45	2.56E-03		-7.76E-04	1.26E-03
		1091.35		48.50	9.51E-04		1.30E-03	4.68E-04
		1200.23		19.97	1.60E-03		-1.31E-03	7.82E-04
		1441.13		0.44	4.67E-02		4.08E-02	2.24E-02
		1497.81		3.28	8.19E-03		1.13E-03	3.97E-03
	Nb-97	657.94		98.23	1.96E-03	1.96E-03	-6.49E-05	9.75E-04
		1024.40		1.09	6.08E-02		5.46E-02	3.00E-02
	ZR-97	254.17		1.15	1.14E-01	8.12E-04	3.21E-02	5.67E-02
		355.40		2.09	5.53E-02		-7.19E-03	2.75E-02
		507.64		5.03	2.25E-02		-7.57E-03	1.12E-02
		743.36		93.09	8.12E-04		-4.07E-04	4.02E-04
		1147.97		2.62	2.21E-02		-2.02E-02	1.09E-02
	MO-99	181.07		6.14	1.20E-02	2.93E-03	2.29E-03	5.98E-03
		366.42		1.20	4.03E-02		2.17E-02	2.01E-02

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
MO-99	739.50	12.26	2.93E-03	2.93E-03	1.16E-03	1.45E-03
	777.92	4.30	7.95E-03		-1.39E-03	3.94E-03
TC-99M	140.51	90.80	8.88E-04	8.88E-04	3.31E-04	4.43E-04
RH-101	127.23	68.00	1.06E-03	7.14E-04	1.93E-04	5.27E-04
	198.01	73.00	7.14E-04		-9.08E-05	3.56E-04
	325.23	11.80	2.59E-03		1.22E-03	1.29E-03
RH-101M	306.86	81.00	5.85E-04	5.85E-04	2.17E-04	2.91E-04
	545.12	4.30	8.52E-03		-9.37E-03	4.23E-03
RH-102M	415.25	2.10	1.98E-02	3.91E-04	5.47E-02	9.85E-03
	418.52	9.40	4.32E-03		2.17E-03	2.15E-03
	420.40	3.20	1.22E-02		8.60E-03	6.07E-03
	475.06	95.00	3.91E-04		1.05E-04	1.94E-04
	628.05	8.30	3.79E-03		7.97E-04	1.88E-03
	631.29	56.00	5.36E-04		-3.84E-04	2.66E-04
	692.40	1.60	2.22E-02		-1.06E-03	1.10E-02
	695.60	2.90	1.20E-02		5.72E-02	5.95E-03
	697.49	44.00	7.82E-04		6.07E-06	3.88E-04
	766.84	34.00	8.32E-04		5.01E-04	4.12E-04
	1046.59	34.00	7.27E-04		4.37E-04	3.59E-04
	1103.16	4.60	4.52E-03		-3.05E-03	2.23E-03
	1112.84	19.00	1.22E-03		6.90E-04	6.01E-04
RU-103	497.08	91.00	3.68E-04	3.68E-04	-4.59E-04	1.83E-04
	610.33	5.76	5.09E-03		-1.21E-03	2.52E-03
RH-105	306.31	4.66	1.42E-02	3.81E-03	-3.63E-03	7.06E-03
	319.23	16.90	3.81E-03		1.96E-03	1.90E-03
AG-106M	221.70	6.60	8.26E-03	4.67E-04	2.31E-03	4.12E-03
	228.63	2.10	2.54E-02		-1.94E-02	1.27E-02
	328.46	1.14	3.67E-02		-5.08E-03	1.83E-02
	391.04	3.68	1.06E-02		5.55E-03	5.28E-03
	406.18	13.40	2.86E-03		-1.13E-03	1.42E-03
	429.65	13.20	2.92E-03		1.54E-03	1.45E-03
	450.98	28.20	1.34E-03		-1.00E-03	6.64E-04
	511.85	88.00	4.67E-04		2.55E-03	2.32E-04
	601.17	1.61	1.95E-02		1.38E-04	9.68E-03
	616.17	21.60	1.43E-03		-1.60E-03	7.11E-04
	646.03	1.46	2.08E-02		-2.75E-03	1.03E-02
	680.42	2.18	1.36E-02		-9.72E-03	6.74E-03
	703.11	4.47	6.49E-03		4.37E-03	3.21E-03
	717.34	28.90	1.29E-03		4.12E-04	6.43E-04
	748.36	20.60	1.40E-03		1.62E-03	6.94E-04
	793.17	5.90	4.82E-03		6.12E-04	2.39E-03
	804.28	12.40	2.19E-03		-2.95E-03	1.08E-03
	808.36	4.00	6.77E-03		-9.09E-03	3.35E-03
	824.69	15.30	1.72E-03		-7.59E-04	8.52E-04
	847.15	4.40	6.17E-03		7.72E-03	3.05E-03
	1019.72	1.04	2.42E-02		6.99E-03	1.19E-02
	1045.83	29.60	8.48E-04		7.80E-04	4.18E-04
	1128.02	11.80	1.91E-03		1.36E-03	9.40E-04
	1199.39	11.20	1.46E-03		2.76E-04	7.14E-04
	1222.88	7.00	2.18E-03		-6.05E-04	1.07E-03
	1394.35	1.49	9.95E-03		1.68E-02	4.84E-03
	1527.65	16.30	5.07E-04		1.58E-04	2.40E-04
	1572.35	6.60	1.12E-03		-3.93E-03	5.29E-04

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	AG-106M	1722.76		1.40	6.21E-03	4.67E-04	3.71E-03	2.94E-03
		1839.05		2.00	2.72E-03		-1.58E-03	1.24E-03
	RH-106	621.93		9.93	2.99E-03	2.99E-03	-2.67E-03	1.48E-03
		873.49		0.44	9.54E-02		1.66E-02	4.74E-02
		1050.41		1.56	1.53E-02		2.43E-02	7.55E-03
	RU-106	511.86	*	20.40	2.60E-03	2.60E-03	9.82E-03	1.29E-03
	AG-108M	79.13		6.60	1.52E-02	3.47E-04	-3.35E-03	7.58E-03
		433.94		90.50	4.21E-04		4.24E-04	2.09E-04
		614.28		89.80	3.47E-04		-2.11E-04	1.72E-04
		722.91		90.80	5.52E-04		8.66E-03	2.74E-04
	CD-109	88.03		3.64	2.40E-02	2.40E-02	-6.76E-04	1.20E-02
	AG-110M	446.81		3.70	1.08E-02	3.52E-04	6.22E-03	5.35E-03
		620.35		2.73	1.18E-02		-2.17E-02	5.83E-03
		657.76		95.61	7.58E-04		1.13E-04	3.78E-04
		677.62		10.70	2.90E-03		9.51E-04	1.44E-03
		687.01		6.53	4.76E-03		-3.84E-04	2.36E-03
		706.68		16.69	1.78E-03		1.74E-03	8.81E-04
		744.28		4.77	6.11E-03		1.87E-03	3.02E-03
		763.94		22.60	1.34E-03		1.06E-03	6.61E-04
		818.02		7.43	3.85E-03		5.25E-03	1.91E-03
		884.68		75.00	3.52E-04		-5.49E-04	1.74E-04
		937.48		35.00	7.33E-04		8.92E-04	3.62E-04
		1384.29		25.10	4.36E-04		-5.68E-04	2.10E-04
		1475.78		4.08	2.14E-03		-4.72E-04	1.02E-03
		1505.03		13.33	6.76E-04		4.37E-04	3.22E-04
		1562.29		1.22	5.22E-03		-5.00E-03	2.46E-03
	AG-111	245.40		1.11	4.88E-02	6.49E-03	-1.90E-02	2.43E-02
		342.13		6.68	6.49E-03		7.75E-03	3.23E-03
	AG-112	606.82		3.10	2.18E-02	1.53E-03	-1.06E-02	1.08E-02
		617.52		43.00	1.53E-03		-3.53E-04	7.58E-04
		692.82		1.19	6.18E-02		6.26E-03	3.07E-02
		694.87		2.90	2.54E-02		1.45E-01	1.26E-02
		851.28		1.02	5.56E-02		2.61E-04	2.75E-02
		1312.36		1.11	2.51E-02		1.09E-02	1.22E-02
		1387.68		5.30	4.38E-03		2.46E-03	2.11E-03
		1613.66		2.80	5.27E-03		-4.06E-03	2.46E-03
		1798.50		0.89	1.17E-02		-8.35E-03	5.28E-03
		2106.31		2.40	4.11E-03		-9.22E-04	1.81E-03
		2506.70		1.06	1.64E-02		1.67E-02	7.58E-03
	CD-113M	263.70		0.03	1.65E+00	1.65E+00	-5.51E-01	8.23E-01
+	SN-113	255.13		2.11	2.16E-02	6.59E-04	8.00E-03	1.07E-02
		391.70	*	64.97	6.59E-04		1.34E-04	3.28E-04
	IN-114M	190.27		15.56	3.35E-03	3.35E-03	2.64E-03	1.67E-03
		558.43		4.40	7.25E-03		2.49E-03	3.60E-03
		725.24		4.40	1.11E-02		-1.03E-03	5.51E-03
	CD-115	260.90		1.94	3.19E-02	1.18E-03	-4.35E-02	1.59E-02
		336.24		46.02	1.18E-03		-2.38E-04	5.90E-04
		527.90		27.45	1.63E-03		-7.40E-04	8.09E-04
	CD-115M	933.84		2.00	1.19E-02	1.19E-02	4.60E-03	5.88E-03
		1290.59		0.90	1.48E-02		-1.24E-02	7.21E-03
	IN-115M	336.24		45.90	4.46E-02	4.46E-02	-8.96E-03	2.22E-02
	IN-116M	138.29		3.70	5.97E+06	5.44E+04	2.90E+06	2.98E+06
		416.90		27.20	4.65E+05		1.15E+06	2.32E+05

Analysis Report for 24-2316 VSM-5.5M-S4-CST-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
IN-116M	818.68	12.13	7.43E+05	5.44E+04	9.46E+05	3.68E+05
	1097.28	58.50	1.19E+05		-9.42E+04	5.87E+04
	1293.56	84.80	5.44E+04		2.71E+04	2.65E+04
	1507.59	9.92	2.80E+05		-6.39E+04	1.33E+05
	2112.29	15.09	1.08E+05		1.04E+05	4.83E+04
SB-125	176.31	6.84	7.85E-03	1.16E-03	9.13E-03	3.92E-03
	380.45	1.52	2.38E-02		-7.21E-04	1.19E-02
	427.87	29.60	1.16E-03		-1.70E-04	5.75E-04
	463.36	10.49	3.27E-03		4.29E-04	1.63E-03
	600.60	17.65	1.63E-03		-1.19E-04	8.09E-04
	606.71	4.98	5.86E-03		6.31E-03	2.91E-03
	635.95	11.22	2.47E-03		-1.80E-04	1.22E-03
	671.44	1.79	1.70E-02		3.84E-03	8.44E-03
SN-125	332.10	1.40	3.28E-02	1.68E-03	2.80E-02	1.64E-02
	469.85	1.50	2.66E-02		1.27E-02	1.32E-02
	800.28	1.10	2.60E-02		7.02E-03	1.29E-02
	822.48	4.30	6.34E-03		-1.46E-02	3.14E-03
	915.55	4.10	6.34E-03		1.05E-03	3.13E-03
	1067.10	10.00	2.34E-03		-1.82E-03	1.15E-03
	1087.70	1.20	2.14E-02		2.90E-02	1.05E-02
	1089.10	4.60	5.15E-03		-2.87E-03	2.54E-03
	2002.10	1.90	1.68E-03		-6.26E-04	7.03E-04
SB-127	61.10	1.43	1.76E-01	8.85E-04	-3.67E-02	8.79E-02
	252.40	8.50	6.92E-03		2.54E-03	3.45E-03
	290.80	2.02	2.61E-02		-1.95E-02	1.30E-02
	412.10	3.80	1.19E-02		-5.13E-03	5.90E-03
	445.10	4.30	1.04E-02		1.60E-02	5.18E-03
	473.00	25.80	1.62E-03		-1.59E-04	8.04E-04
	543.30	2.90	1.26E-02		-6.88E-03	6.26E-03
	603.50	4.50	8.13E-03		3.77E-03	4.03E-03
	685.70	36.80	8.85E-04		6.34E-04	4.39E-04
	698.50	3.64	1.02E-02		-3.74E-03	5.04E-03
	722.20	1.88	2.99E-02		4.61E-01	1.49E-02
	783.70	15.10	2.13E-03		-1.07E-03	1.05E-03
SN-127	119.70	2.20	1.59E+02	2.63E+00	-4.26E+01	7.93E+01
	262.50	2.30	9.01E+01		-2.95E+01	4.49E+01
	266.20	2.10	9.78E+01		9.27E+00	4.87E+01
	284.30	2.70	7.30E+01		-5.17E+01	3.64E+01
	438.20	6.10	2.69E+01		2.67E+01	1.34E+01
	490.90	5.30	2.98E+01		2.62E+01	1.48E+01
	493.20	3.10	5.04E+01		-4.38E+00	2.50E+01
	545.40	2.30	6.29E+01		-1.49E+01	3.13E+01
	583.30	3.20	4.41E+01		4.23E+01	2.19E+01
	805.90	8.20	1.41E+01		-9.46E+00	6.99E+00
	823.10	11.00	1.03E+01		-8.74E+00	5.08E+00
	824.70	6.10	1.85E+01		-8.16E+00	9.16E+00
	859.50	8.00	1.37E+01		8.75E+00	6.79E+00
	979.20	7.20	1.48E+01		3.10E+00	7.31E+00
	1093.30	3.80	2.59E+01		-3.24E+01	1.27E+01
	1095.60	19.00	5.09E+00		-2.45E+00	2.51E+00
	1114.30	38.00	2.63E+00		4.66E+00	1.30E+00
	1160.40	2.40	3.38E+01		-1.64E+01	1.66E+01
	2003.40	5.30	2.85E+00		1.73E+00	1.21E+00

Analysis Report for 24-2316 VSM-5.5M-S4-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	180.42		2.84	1.09E+00	3.07E-02	1.10E+00	5.43E-01
		359.20		2.39	9.11E-01		8.10E-02	4.54E-01
		404.64		1.17	1.75E+00		1.10E+00	8.72E-01
		523.13		1.55	1.21E+00		-5.69E-01	6.03E-01
		544.56		15.42	1.17E-01		-9.90E-02	5.81E-02
		633.74		2.53	6.33E-01		-4.36E-01	3.14E-01
		654.28		2.97	5.53E-01		2.42E-01	2.74E-01
		682.77		5.76	2.73E-01		7.50E-02	1.35E-01
		761.12		4.32	4.29E-01		4.91E-02	2.13E-01
		773.37		2.82	5.42E-01		-4.25E-01	2.68E-01
		786.36		1.07	1.43E+00		-6.16E-01	7.06E-01
		787.16		1.74	8.76E-01		-5.49E-01	4.33E-01
		812.97		48.20	3.07E-02		2.55E-02	1.52E-02
		819.51		1.39	1.06E+00		1.43E+00	5.23E-01
		876.65		2.75	8.26E-01		4.08E-01	4.10E-01
		914.96		23.30	5.78E-02		-4.50E-02	2.85E-02
		966.78		8.96	1.55E-01		2.27E-01	7.65E-02
		1030.65		15.13	8.70E-02		-1.54E-01	4.29E-02
		1656.10		1.31	2.75E-01		1.64E-02	1.28E-01
		1738.16		7.45	4.51E-02		3.20E-02	2.08E-02
	TE-129	459.60		7.70	4.55E-03	4.55E-03	3.42E-03	2.26E-03
		487.39		1.42	2.44E-02		1.38E-02	1.21E-02
+	Te-129m	695.88	*	3.00	6.55E-03	6.55E-03	2.85E-02	3.23E-03
	I-131	80.18		2.62	4.29E-02	4.98E-04	-8.04E-03	2.14E-02
		284.30		6.12	7.66E-03		2.25E-03	3.82E-03
		364.49		81.50	4.98E-04		4.41E-04	2.48E-04
		636.99		7.16	4.24E-03		3.68E-03	2.10E-03
		722.91		1.77	2.85E-02		4.47E-01	1.42E-02
	Te-131m	773.67		36.80	1.30E-03	1.30E-03	-1.02E-03	6.44E-04
		793.75		13.40	3.68E-03		2.44E-03	1.82E-03
		852.21		19.90	2.20E-03		5.84E-04	1.09E-03
		1125.46		11.00	3.41E-03		2.20E-03	1.68E-03
		1206.60		9.41	2.80E-03		-1.80E-03	1.37E-03
	I-132	262.90		1.28	4.35E-02	4.67E-04	-1.54E-02	2.17E-02
		284.90		0.71	7.46E-02		6.44E-02	3.72E-02
		505.79		4.93	1.06E-02		-2.92E-04	5.29E-03
		522.65		16.00	2.78E-03		2.45E-03	1.38E-03
		547.20		1.14	3.75E-02		-1.57E-02	1.86E-02
		621.20		1.97	2.02E-02		3.35E-02	1.00E-02
		630.19		13.30	2.88E-03		-2.87E-03	1.43E-03
		650.50		2.57	1.54E-02		-1.19E-02	7.62E-03
		667.71		98.70	6.97E-04		9.73E-05	3.47E-04
		669.80		4.60	9.26E-03		3.58E-03	4.60E-03
		671.40		3.50	1.24E-02		2.79E-03	6.16E-03
		727.10		5.40	1.21E-02		1.90E-03	6.01E-03
		728.40		1.60	3.90E-02		1.15E-02	1.94E-02
		772.60		75.60	4.67E-04		-9.13E-04	2.31E-04
		809.50		2.60	1.35E-02		-1.51E-02	6.67E-03
		812.00		5.50	6.35E-03		6.59E-03	3.14E-03
		910.10		0.93	3.57E-02		5.05E-04	1.76E-02
		954.55		17.60	1.79E-03		8.34E-04	8.84E-04
		1136.00		3.01	8.67E-03		-6.77E-03	4.26E-03
		1172.90		1.09	5.37E-02		7.91E-01	2.66E-02

Analysis Report for 24-2316 VSM-5.5M-S4-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-132	1290.80		1.13	1.59E-02	4.67E-04	-1.84E-02	7.72E-03
		1295.10		1.88	7.73E-03		-4.35E-04	3.76E-03
		1297.90		0.89	1.43E-02		1.38E-02	6.95E-03
		1372.07		2.47	6.46E-03		5.26E-03	3.13E-03
		1398.57		7.01	2.63E-03		4.65E-03	1.28E-03
		1442.56		1.40	7.57E-03		-1.88E-03	3.63E-03
+	TE-132	49.72		15.00	2.44E-02	4.99E-04	3.16E-02	1.22E-02
		111.76		1.74	5.13E-02		1.91E-02	2.56E-02
		116.30		1.96	4.43E-02		-5.15E-02	2.21E-02
		228.16	*	88.00	4.99E-04		1.82E-04	2.49E-04
	BA-133	81.00		32.90	3.08E-03	6.17E-04	-9.21E-04	1.54E-03
		276.40		7.16	6.18E-03		5.97E-03	3.08E-03
		302.85		18.34	2.23E-03		7.32E-04	1.11E-03
		356.01		62.05	6.17E-04		6.52E-04	3.07E-04
		383.85		8.94	3.93E-03		3.12E-03	1.95E-03
	I-133	529.87		87.00	8.63E-04	8.63E-04	1.28E-03	4.29E-04
		706.58		1.51	4.28E-02		4.19E-02	2.12E-02
		856.28		1.24	4.69E-02		1.53E-02	2.32E-02
		875.33		4.51	2.03E-02		6.45E-03	1.01E-02
		1236.44		1.51	2.18E-02		1.40E-02	1.06E-02
		1298.22		2.35	1.29E-02		1.60E-02	6.29E-03
@	TE-133	312.08		62.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		407.63		27.10	1.00E+20		1.00E+20	1.00E+20
@		410.40		0.94	1.00E+20		1.00E+20	1.00E+20
@		474.85		0.88	1.00E+20		1.00E+20	1.00E+20
@		719.71		8.90	1.00E+20		1.00E+20	1.00E+20
@		786.93		5.40	1.00E+20		1.00E+20	1.00E+20
@		844.36		3.31	1.00E+20		1.00E+20	1.00E+20
@		884.30		0.72	1.00E+20		1.00E+20	1.00E+20
@		930.71		3.81	1.00E+20		1.00E+20	1.00E+20
@		997.70		1.04	1.00E+20		1.00E+20	1.00E+20
@		1000.72		3.62	1.00E+20		1.00E+20	1.00E+20
@		1021.13		2.81	1.00E+20		1.00E+20	1.00E+20
@		1061.61		1.19	1.00E+20		1.00E+20	1.00E+20
@		1252.08		1.44	1.00E+20		1.00E+20	1.00E+20
@		1312.80		0.85	1.00E+20		1.00E+20	1.00E+20
@		1333.21		10.67	1.00E+20		1.00E+20	1.00E+20
@		1717.61		3.18	1.00E+20		1.00E+20	1.00E+20
@		1881.52		1.22	1.00E+20		1.00E+20	1.00E+20
@		2136.51		1.25	1.00E+20		1.00E+20	1.00E+20
@		2229.64		0.87	1.00E+20		1.00E+20	1.00E+20
	Xe-133	81.00		36.90	3.02E-03	3.02E-03	-9.03E-04	1.51E-03
	CS-134	475.36		1.48	2.30E-02	3.13E-04	3.05E-02	1.15E-02
		563.25		8.34	3.85E-03		-2.16E-03	1.91E-03
		569.33		15.37	2.08E-03		1.21E-03	1.03E-03
		604.72		97.62	3.13E-04		1.94E-04	1.55E-04
		795.86		85.46	3.20E-04		4.39E-04	1.58E-04
		801.95		8.69	3.13E-03		-9.81E-04	1.55E-03
		1038.61		0.99	2.41E-02		2.23E-02	1.19E-02
		1167.97		1.79	2.26E-02		-5.70E-03	1.12E-02
		1365.19		3.02	3.45E-03		2.05E-03	1.67E-03
	I-135	220.50		1.75	4.43E-01	7.08E-03	-6.49E-02	2.21E-01
		288.45		3.10	2.08E-01		-2.04E-01	1.03E-01

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	417.63		3.53	1.60E-01	7.08E-03	6.97E-02	7.95E-02
		546.56		7.15	6.65E-02		1.55E-02	3.30E-02
		836.80		6.69	5.65E-02		-1.73E-02	2.79E-02
		971.96		0.89	4.05E-01		-1.49E-02	2.00E-01
		972.62		1.21	2.91E-01		-1.37E-01	1.44E-01
		1038.76		7.90	4.31E-02		3.97E-02	2.12E-02
		1101.58		1.61	1.95E-01		1.28E-01	9.61E-02
		1124.00		3.62	8.99E-02		8.98E-02	4.43E-02
		1131.51		22.60	1.40E-02		2.25E-02	6.90E-03
		1240.47		0.90	2.81E-01		1.06E-01	1.37E-01
		1260.41		28.70	7.08E-03		1.95E-03	3.45E-03
		1457.56		8.70	1.86E-02		2.49E-02	8.99E-03
		1502.79		1.08	1.36E-01		7.41E-02	6.52E-02
		1566.41		1.29	8.50E-02		7.34E-02	4.02E-02
		1678.03		9.60	8.58E-03		-7.42E-03	3.97E-03
		1706.46		4.10	2.06E-02		-5.41E-03	9.52E-03
		1791.20		7.72	8.71E-03		-1.14E-02	3.93E-03
		2408.65		0.96	5.29E-02		-3.05E-02	2.22E-02
	XE-135	249.79		90.00	3.77E-03	3.77E-03	2.06E-02	1.88E-03
	XE-135m	526.56		80.40	5.93E-03	5.93E-03	1.62E-04	2.95E-03
	CS-136	66.88		4.79	3.35E-02	2.91E-04	2.98E-02	1.67E-02
		86.36		5.90	1.75E-02		7.09E-02	8.75E-03
		153.25		7.70	8.63E-03		-6.35E-04	4.31E-03
		163.92		4.69	1.43E-02		6.72E-03	7.16E-03
		176.60		13.70	4.55E-03		-1.65E-03	2.27E-03
		273.65		12.66	3.96E-03		-8.47E-04	1.97E-03
		340.55		46.80	9.57E-04		-3.92E-04	4.76E-04
		818.51		99.70	2.91E-04		5.87E-04	1.44E-04
		1048.07		80.00	3.25E-04		-6.04E-04	1.60E-04
		1235.36		20.00	8.14E-04		1.20E-04	3.97E-04
+	CS-137	661.66	*	85.10	2.41E-04	2.41E-04	2.33E-02	1.19E-04
	BA-139	33.44		3.84	1.15E+05	8.85E+02	-1.07E+05	5.76E+04
		165.86		23.70	8.85E+02		-2.48E+02	4.42E+02
	BA-140	132.69		0.20	3.35E-01	1.37E-03	1.52E-01	1.67E-01
		162.66		6.22	9.83E-03		-3.00E-04	4.91E-03
		304.85		4.29	1.03E-02		1.04E-02	5.13E-03
		423.72		3.10	1.17E-02		-6.71E-03	5.84E-03
		437.58		1.93	1.92E-02		1.34E-02	9.57E-03
		537.26		24.39	1.37E-03		-7.17E-04	6.78E-04
	LA-140	109.42		0.22	3.35E-01	2.03E-04	2.75E-01	1.67E-01
		131.12		0.47	1.46E-01		1.46E-02	7.29E-02
		173.54		0.13	4.52E-01		1.49E-01	2.26E-01
		241.93		0.41	1.21E-01		6.21E-02	6.01E-02
		266.54		0.47	9.96E-02		1.18E-02	4.96E-02
		328.76		20.30	2.16E-03		-8.89E-04	1.08E-03
		432.49		2.90	1.39E-02		-4.74E-03	6.91E-03
		487.02		45.50	8.39E-04		9.62E-04	4.17E-04
		618.10		0.04	8.10E-01		2.86E-01	4.02E-01
		751.64		4.33	7.84E-03		2.03E-03	3.89E-03
		815.77		23.28	1.17E-03		1.85E-03	5.77E-04
		867.85		5.50	7.26E-03		6.67E-04	3.60E-03
		919.55		2.66	9.41E-03		3.13E-03	4.65E-03
		925.19		6.90	3.78E-03		4.77E-03	1.87E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
LA-140	950.99	0.52	4.95E-02	2.03E-04	2.58E-02	2.44E-02
	1596.21	95.40	2.03E-04		8.11E-04	9.91E-05
	2347.88	0.85	3.82E-03		2.06E-03	1.60E-03
	2521.40	3.46	8.28E-04		3.16E-04	3.29E-04
	2547.34	0.10	2.10E-02		-3.50E-02	7.43E-03
@ BA-141	33.44	7.93	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	190.33	44.80	1.00E+20		1.00E+20	1.00E+20
@	276.95	23.60	1.00E+20		1.00E+20	1.00E+20
@	304.19	26.10	1.00E+20		1.00E+20	1.00E+20
@	343.67	15.10	1.00E+20		1.00E+20	1.00E+20
@	389.74	1.37	1.00E+20		1.00E+20	1.00E+20
@	457.51	5.00	1.00E+20		1.00E+20	1.00E+20
@	462.06	5.10	1.00E+20		1.00E+20	1.00E+20
@	467.22	5.60	1.00E+20		1.00E+20	1.00E+20
@	625.08	3.45	1.00E+20		1.00E+20	1.00E+20
@	647.78	5.70	1.00E+20		1.00E+20	1.00E+20
@	738.95	4.39	1.00E+20		1.00E+20	1.00E+20
@	831.46	1.64	1.00E+20		1.00E+20	1.00E+20
@	876.09	3.45	1.00E+20		1.00E+20	1.00E+20
@	1160.72	1.12	1.00E+20		1.00E+20	1.00E+20
@	1197.28	4.35	1.00E+20		1.00E+20	1.00E+20
@	1323.92	0.92	1.00E+20		1.00E+20	1.00E+20
@	1654.00	0.65	1.00E+20		1.00E+20	1.00E+20
@	1682.19	1.19	1.00E+20		1.00E+20	1.00E+20
CE-141	145.44	48.30	1.28E-03	1.28E-03	-1.57E-04	6.38E-04
@ BA-142	33.44	14.20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	77.59	7.00	1.00E+20		1.00E+20	1.00E+20
@	177.00	2.12	1.00E+20		1.00E+20	1.00E+20
@	231.61	12.20	1.00E+20		1.00E+20	1.00E+20
@	255.30	20.70	1.00E+20		1.00E+20	1.00E+20
@	286.30	1.11	1.00E+20		1.00E+20	1.00E+20
@	309.20	2.60	1.00E+20		1.00E+20	1.00E+20
@	335.00	1.53	1.00E+20		1.00E+20	1.00E+20
@	363.96	4.76	1.00E+20		1.00E+20	1.00E+20
@	425.04	5.75	1.00E+20		1.00E+20	1.00E+20
@	599.80	1.85	1.00E+20		1.00E+20	1.00E+20
@	840.40	3.63	1.00E+20		1.00E+20	1.00E+20
@	895.20	13.90	1.00E+20		1.00E+20	1.00E+20
@	949.10	10.70	1.00E+20		1.00E+20	1.00E+20
@	1001.20	9.80	1.00E+20		1.00E+20	1.00E+20
@	1078.70	11.50	1.00E+20		1.00E+20	1.00E+20
@	1094.10	2.82	1.00E+20		1.00E+20	1.00E+20
@	1126.80	1.50	1.00E+20		1.00E+20	1.00E+20
@	1202.40	5.60	1.00E+20		1.00E+20	1.00E+20
@	1204.30	14.30	1.00E+20		1.00E+20	1.00E+20
@	1380.20	3.42	1.00E+20		1.00E+20	1.00E+20
CE-143	57.36	11.70	3.55E-02	1.66E-03	-2.11E-02	1.77E-02
	231.55	2.05	4.20E-02		4.90E-03	2.09E-02
	293.27	42.80	1.66E-03		9.72E-04	8.26E-04
	350.62	3.23	1.96E-02		1.69E-02	9.74E-03
	490.37	2.16	2.78E-02		-2.40E-02	1.38E-02
	664.57	5.69	2.06E-02		6.29E-01	1.03E-02
	721.93	5.39	1.44E-02		2.22E-01	7.15E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
CE-143	880.46	1.03	4.67E-02	1.66E-03	2.45E-02	2.31E-02
CE-144	80.12	1.36	7.24E-02	5.75E-03	-1.36E-02	3.61E-02
	133.51	11.09	5.75E-03		2.84E-03	2.87E-03
ND-147	38.17	13.20	5.14E-02	2.59E-03	-1.92E-02	2.57E-02
	38.72	23.80	2.69E-02		-2.78E-02	1.34E-02
	91.11	28.90	3.06E-03		8.18E-05	1.53E-03
	275.39	0.79	6.17E-02		1.73E-03	3.08E-02
	319.41	1.97	2.19E-02		1.12E-02	1.09E-02
	398.13	0.87	4.46E-02		6.40E-02	2.22E-02
	439.88	1.20	3.17E-02		5.52E-03	1.58E-02
	531.01	13.11	2.59E-03		1.50E-03	1.29E-03
	685.88	0.82	3.51E-02		2.58E-02	1.74E-02
@ PR-147	36.85	19.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	37.36	35.50	1.00E+20		1.00E+20	1.00E+20
@	49.88	4.00	1.00E+20		1.00E+20	1.00E+20
@	77.97	9.70	1.00E+20		1.00E+20	1.00E+20
@	86.69	5.40	1.00E+20		1.00E+20	1.00E+20
@	127.80	7.40	1.00E+20		1.00E+20	1.00E+20
@	249.20	1.32	1.00E+20		1.00E+20	1.00E+20
@	314.70	18.20	1.00E+20		1.00E+20	1.00E+20
@	328.80	4.00	1.00E+20		1.00E+20	1.00E+20
@	335.70	4.70	1.00E+20		1.00E+20	1.00E+20
@	388.80	1.41	1.00E+20		1.00E+20	1.00E+20
@	466.80	1.70	1.00E+20		1.00E+20	1.00E+20
@	477.90	4.60	1.00E+20		1.00E+20	1.00E+20
@	516.70	1.30	1.00E+20		1.00E+20	1.00E+20
@	554.70	5.90	1.00E+20		1.00E+20	1.00E+20
@	577.90	13.70	1.00E+20		1.00E+20	1.00E+20
@	641.40	16.10	1.00E+20		1.00E+20	1.00E+20
@	996.00	1.52	1.00E+20		1.00E+20	1.00E+20
@	1136.70	1.42	1.00E+20		1.00E+20	1.00E+20
@	1261.10	8.40	1.00E+20		1.00E+20	1.00E+20
@	1300.40	2.30	1.00E+20		1.00E+20	1.00E+20
ND-149	38.17	9.00	2.06E+03	5.85E+01	-7.70E+02	1.03E+03
	38.72	16.30	1.07E+03		-1.11E+03	5.36E+02
	58.88	1.30	5.25E+03		-1.60E+03	2.62E+03
	74.32	2.11	1.60E+03		2.25E+03	8.02E+02
	97.00	1.48	1.56E+03		1.14E+03	7.80E+02
	114.31	19.20	1.10E+02		-5.35E+00	5.48E+01
	155.87	5.95	2.96E+02		-7.39E+01	1.48E+02
	188.64	1.79	9.12E+02		1.16E+03	4.55E+02
	198.93	1.39	1.11E+03		6.48E+02	5.52E+02
	208.15	2.55	6.19E+02		-2.30E+02	3.09E+02
	211.31	26.00	5.85E+01		-8.08E+00	2.92E+01
	240.22	3.95	3.50E+02		-1.92E+02	1.75E+02
	245.72	0.81	1.86E+03		-6.03E+02	9.28E+02
	267.69	6.05	2.23E+02		1.57E+02	1.11E+02
	270.17	10.80	1.18E+02		5.66E+01	5.90E+01
	326.55	4.57	2.56E+02		-1.42E+02	1.27E+02
	349.23	1.38	8.49E+02		1.27E+02	4.23E+02
	423.55	7.50	1.36E+02		-2.28E+01	6.74E+01
	443.55	1.15	9.36E+02		1.48E+03	4.66E+02
	540.51	6.60	1.41E+02		5.50E+01	7.01E+01

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ND-149	654.83	8.00	1.06E+02	5.85E+01	1.23E+01	5.27E+01
PM-149	285.95	3.10	1.89E-02	1.89E-02	-9.56E-03	9.40E-03
PM-150	39.52	0.63	6.27E+02	4.16E-01	-4.62E+01	3.13E+02
	40.12	1.14	3.30E+02		-9.20E+01	1.65E+02
	333.92	68.00	4.16E-01		2.15E-01	2.07E-01
	406.51	5.60	4.50E+00		-6.39E+00	2.24E+00
	565.70	1.31	1.62E+01		2.98E+00	8.05E+00
	587.02	1.34	1.79E+01		2.43E+00	8.88E+00
	612.25	0.93	2.22E+01		-1.12E+01	1.10E+01
	712.22	4.40	4.31E+00		-1.77E+00	2.14E+00
	737.50	2.25	8.38E+00		-1.38E+01	4.15E+00
	831.85	11.90	1.48E+00		5.04E-01	7.31E-01
	859.95	3.40	4.97E+00		4.19E+00	2.46E+00
	876.41	7.30	3.85E+00		2.18E+00	1.91E+00
	1165.77	15.80	1.14E+00		-5.43E-01	5.63E-01
	1170.90	1.06	3.06E+01		-3.57E+00	1.52E+01
	1193.87	4.80	2.30E+00		1.33E+00	1.13E+00
	1213.72	1.03	1.03E+01		3.62E+00	5.04E+00
	1223.28	2.80	3.61E+00		2.07E+00	1.76E+00
	1324.51	17.50	7.18E-01		-1.18E-01	3.51E-01
	1379.32	3.10	2.55E+00		3.35E-01	1.23E+00
	1736.40	6.90	5.73E-01		-2.89E-01	2.64E-01
	1963.71	1.47	2.10E+00		1.89E+00	9.35E-01
	2033.46	0.97	2.60E+00		-1.90E-01	1.12E+00
@ ND-151	38.17	5.94	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	38.72	10.70	1.00E+20		1.00E+20	1.00E+20
@	68.98	1.26	1.00E+20		1.00E+20	1.00E+20
@	85.12	2.05	1.00E+20		1.00E+20	1.00E+20
@	89.96	1.53	1.00E+20		1.00E+20	1.00E+20
@	116.80	39.00	1.00E+20		1.00E+20	1.00E+20
@	138.89	7.00	1.00E+20		1.00E+20	1.00E+20
@	170.76	2.87	1.00E+20		1.00E+20	1.00E+20
@	175.07	6.30	1.00E+20		1.00E+20	1.00E+20
@	255.68	14.80	1.00E+20		1.00E+20	1.00E+20
@	300.58	1.82	1.00E+20		1.00E+20	1.00E+20
@	423.56	5.90	1.00E+20		1.00E+20	1.00E+20
@	460.59	0.96	1.00E+20		1.00E+20	1.00E+20
@	585.22	1.30	1.00E+20		1.00E+20	1.00E+20
@	677.88	2.38	1.00E+20		1.00E+20	1.00E+20
@	736.23	5.90	1.00E+20		1.00E+20	1.00E+20
@	739.20	1.52	1.00E+20		1.00E+20	1.00E+20
@	755.57	1.17	1.00E+20		1.00E+20	1.00E+20
@	797.53	4.70	1.00E+20		1.00E+20	1.00E+20
@	1016.40	2.50	1.00E+20		1.00E+20	1.00E+20
@	1122.63	4.10	1.00E+20		1.00E+20	1.00E+20
@	1180.89	13.30	1.00E+20		1.00E+20	1.00E+20
Pm-151	167.75	8.30	1.26E-02	3.25E-03	1.23E-02	6.30E-03
	177.16	3.80	2.75E-02		-1.32E-02	1.37E-02
	240.09	3.80	2.36E-02		-1.29E-02	1.17E-02
	275.21	6.80	1.19E-02		3.35E-04	5.95E-03
	340.08	22.50	3.25E-03		-1.99E-04	1.62E-03
EU-152	121.78	28.53	2.78E-03	6.49E-04	-6.46E-04	1.39E-03
	344.28	26.59	1.52E-03		1.79E-03	7.55E-04

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	EU-152	778.90		12.93	2.12E-03	6.49E-04	1.81E-03	1.05E-03
		867.37		4.23	8.22E-03		-7.12E-04	4.07E-03
		964.08		14.51	1.69E-03		6.42E-04	8.35E-04
		1085.87		10.11	2.15E-03		2.47E-03	1.06E-03
		1112.07		13.67	1.59E-03		-2.30E-05	7.85E-04
		1408.01		20.87	6.49E-04		5.90E-04	3.15E-04
@	ND-152	44.44		5.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		250.15		16.40	1.00E+20		1.00E+20	1.00E+20
@		278.56		26.00	1.00E+20		1.00E+20	1.00E+20
@		294.47		2.90	1.00E+20		1.00E+20	1.00E+20
@		545.70		0.83	1.00E+20		1.00E+20	1.00E+20
@		592.50		0.99	1.00E+20		1.00E+20	1.00E+20
	GD-153	69.67		2.45	5.22E-02	2.58E-03	5.48E-02	2.61E-02
		97.43		30.00	2.58E-03		1.46E-03	1.29E-03
		103.18		22.10	3.35E-03		-1.31E-03	1.67E-03
	SM-153	69.67		4.67	3.98E-02	3.70E-03	4.18E-02	1.99E-02
		103.18		29.14	3.70E-03		-1.44E-03	1.85E-03
+	EU-154	42.70	*	20.45	2.34E-02	8.59E-04	3.01E-02	1.17E-02
		123.07	*	40.40	2.31E-03		3.81E-02	1.15E-03
		247.93	*	6.89	9.35E-03		3.39E-02	4.67E-03
		591.76	*	4.95	7.85E-03		3.59E-02	3.90E-03
		692.42	*	1.78	1.04E-02		3.83E-02	5.13E-03
		723.30	*	20.06	1.02E-03		3.75E-02	5.04E-04
		756.80	*	4.52	7.90E-03		3.75E-02	3.92E-03
		873.18	*	12.08	1.53E-03		3.73E-02	7.51E-04
		996.29	*	10.48	2.98E-03		3.87E-02	1.48E-03
		1004.76	*	18.01	1.68E-03		3.71E-02	8.30E-04
		1246.12	*	0.86	2.12E-02		3.56E-02	1.04E-02
		1274.43	*	34.80	8.59E-04		3.76E-02	4.24E-04
		1494.05	*	0.70	1.21E-02		3.90E-02	5.79E-03
		1596.48	*	1.80	3.90E-03		3.71E-02	1.85E-03
+	EU-155	43.00	*	18.12	2.64E-02	3.95E-03	3.40E-02	1.32E-02
		60.01	*	1.17	2.13E-01		9.08E+00	1.06E-01
		86.55	*	30.70	3.98E-03		8.46E-03	1.99E-03
		105.31	*	21.10	3.95E-03		4.82E-03	1.97E-03
	EU-156	88.97		8.40	1.14E-02	1.11E-03	1.03E-03	5.69E-03
		646.29		6.30	4.85E-03		-6.41E-04	2.40E-03
		723.47		5.40	9.35E-03		4.58E-04	4.65E-03
		811.77		9.70	2.88E-03		1.63E-03	1.43E-03
		1065.14		4.90	4.78E-03		-5.30E-03	2.36E-03
		1079.16		4.60	4.84E-03		-5.60E-03	2.38E-03
		1153.80		11.50	1.71E-03		-4.47E-04	8.41E-04
		1230.71		8.00	1.93E-03		4.29E-04	9.44E-04
		1242.42		6.60	2.74E-03		-2.25E-04	1.34E-03
		1277.43		2.89	2.34E-02		3.66E-04	1.16E-02
		1366.41		1.57	7.87E-03		-3.14E-03	3.81E-03
		1965.95		3.90	1.11E-03		5.01E-04	4.93E-04
		2097.70		3.80	1.11E-03		6.41E-05	4.86E-04
		2186.71		3.50	1.32E-03		2.38E-04	5.86E-04
	Sm-156	87.60		24.00	2.42E-02	1.54E-02	7.60E-02	1.21E-02
		165.80		13.00	2.83E-02		-7.93E-03	1.41E-02
		204.00		21.00	1.54E-02		8.99E-03	7.69E-03
	EU-158	42.31		5.80	8.78E+08	9.26E+06	8.42E+08	4.38E+08

Analysis Report for 24-2316 VSM-5.5M-S4-CST-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	43.00	10.40	4.63E+08	9.26E+06	3.29E+08	2.31E+08
	79.49	10.50	1.12E+08		-2.89E+07	5.58E+07
	181.97	2.30	2.70E+08		1.74E+08	1.35E+08
	528.05	1.53	2.47E+08		7.22E+07	1.23E+08
	606.39	4.00	8.60E+07		7.13E+07	4.26E+07
	743.02	3.60	8.55E+07		-2.86E+07	4.24E+07
	897.61	12.40	2.36E+07		5.43E+06	1.17E+07
	906.50	1.83	1.60E+08		2.37E+08	7.90E+07
	922.51	1.62	1.73E+08		5.72E+06	8.56E+07
	944.15	30.00	9.26E+06		8.75E+06	4.57E+06
	953.03	1.98	1.38E+08		-1.06E+08	6.82E+07
	962.09	1.89	1.50E+08		7.79E+07	7.38E+07
	977.14	16.30	1.66E+07		1.21E+07	8.17E+06
	986.96	1.35	2.01E+08		8.15E+07	9.93E+07
	1107.63	5.10	4.94E+07		-3.00E+07	2.43E+07
	1184.10	3.00	6.18E+07		-4.52E+07	3.03E+07
	1186.00	2.90	6.43E+07		1.83E+07	3.15E+07
	1187.10	4.40	4.21E+07		-6.41E+06	2.06E+07
	1263.61	2.20	7.56E+07		-1.34E+08	3.68E+07
	1347.95	1.65	8.37E+07		-6.78E+07	4.05E+07
	1944.47	1.62	3.29E+07		-3.04E+06	1.47E+07
TB-160	86.79	13.20	7.19E-03	9.70E-04	2.00E-02	3.59E-03
	298.58	26.10	1.65E-03		-1.19E-03	8.23E-04
	879.38	30.10	1.26E-03		2.91E-04	6.26E-04
	962.32	9.81	2.51E-03		2.04E-03	1.24E-03
	966.17	25.10	9.70E-04		1.33E-04	4.79E-04
	1177.96	14.90	2.96E-03		3.76E-04	1.47E-03
TB-161	25.65	23.20	2.82E-01	1.21E-02	-2.64E-01	1.41E-01
	48.91	17.00	1.90E-02		2.46E-02	9.48E-03
	52.00	3.43	8.03E-02		1.01E-01	4.01E-02
	57.19	1.79	1.48E-01		-9.79E-02	7.38E-02
	74.57	10.20	1.21E-02		1.98E-02	6.03E-03
YB-169	63.12	43.62	4.16E-03	1.45E-03	-8.92E-04	2.08E-03
	93.61	2.58	3.50E-02		1.78E-02	1.75E-02
	109.78	17.39	4.22E-03		4.30E-03	2.11E-03
	130.52	11.38	6.21E-03		1.47E-03	3.10E-03
	177.21	22.28	2.59E-03		-1.25E-03	1.29E-03
	197.96	35.93	1.45E-03		-1.84E-04	7.21E-04
	307.74	10.05	3.85E-03		6.38E-04	1.92E-03
HF-172	54.07	63.00	3.56E-03	3.56E-03	-2.18E-03	1.78E-03
	67.35	5.30	2.51E-02		5.52E-03	1.25E-02
	81.75	4.50	2.13E-02		4.54E-03	1.06E-02
	114.06	2.60	2.69E-02		9.04E-03	1.34E-02
	125.81	11.30	6.56E-03		-3.12E-03	3.28E-03
	127.91	1.46	4.51E-02		-9.76E-03	2.25E-02
LU-173	59.30	24.44	8.86E-03	2.09E-03	4.53E-01	4.43E-03
	78.63	11.90	8.98E-03		1.26E-03	4.48E-03
	100.72	5.24	1.46E-02		3.28E-03	7.30E-03
	171.39	2.90	1.92E-02		1.80E-02	9.59E-03
	272.11	21.20	2.09E-03		-1.33E-03	1.04E-03
LU-177	112.95	6.23	1.26E-02	5.59E-03	-1.06E-03	6.30E-03
	208.37	10.41	5.59E-03		-2.08E-03	2.79E-03
	249.67	0.20	2.72E-01		1.49E+00	1.36E-01

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
LU-177	321.32	0.22	1.99E-01	5.59E-03	1.15E-01	9.89E-02
HF-181	133.02	43.30	1.57E-03	4.26E-04	8.61E-04	7.83E-04
	345.93	15.12	2.73E-03		2.00E-03	1.36E-03
	482.18	80.50	4.26E-04		-5.23E-04	2.12E-04
W-181	56.28	18.70	1.23E-02	7.38E-03	-7.57E-03	6.17E-03
	57.53	32.00	7.38E-03		-2.33E-03	3.69E-03
	65.00	10.60	1.35E-02		-4.45E-03	6.77E-03
TA-182	57.98	10.01	2.31E-02	5.36E-04	-6.13E-03	1.16E-02
	59.32	17.20	1.26E-02		6.46E-01	6.32E-03
	65.72	3.01	5.16E-02		5.59E-03	2.58E-02
	67.75	46.67	2.98E-03		-2.94E-04	1.49E-03
	84.68	2.65	3.69E-02		9.20E-03	1.84E-02
	100.11	14.20	5.67E-03		2.62E-03	2.83E-03
	113.67	1.87	4.20E-02		3.87E-02	2.10E-02
	116.42	0.44	1.56E-01		-1.82E-01	7.81E-02
	152.43	7.02	8.97E-03		2.07E-03	4.48E-03
	156.39	2.67	2.33E-02		-4.38E-03	1.16E-02
	179.39	3.12	1.84E-02		4.61E-03	9.20E-03
	198.35	1.47	3.79E-02		-3.25E-02	1.89E-02
	222.11	7.57	6.97E-03		8.13E-03	3.47E-03
	229.32	3.64	1.44E-02		-1.00E-03	7.20E-03
	264.08	3.61	1.30E-02		-8.22E-03	6.50E-03
	928.00	0.61	4.07E-02		-3.56E-03	2.01E-02
	959.73	0.35	7.29E-02		-2.00E-02	3.60E-02
	1001.70	2.09	2.92E-02		9.11E-04	1.45E-02
	1044.42	0.24	1.04E-01		-1.59E-01	5.10E-02
	1113.41	0.44	5.09E-02		3.95E-02	2.50E-02
	1121.29	35.24	6.21E-04		-1.19E-03	3.06E-04
	1157.30	0.73	2.35E-02		-5.89E-03	1.15E-02
	1189.04	16.49	9.35E-04		2.29E-04	4.57E-04
	1221.40	27.23	5.36E-04		-3.56E-04	2.61E-04
	1223.60	0.24	5.18E-02		3.69E-02	2.53E-02
	1231.00	11.62	1.28E-03		1.56E-03	6.25E-04
	1257.41	1.51	9.05E-03		1.00E-02	4.41E-03
	1273.72	0.66	7.69E-02		1.59E+00	3.82E-02
	1289.15	1.37	6.74E-03		-5.07E-03	3.28E-03
	1342.73	0.26	4.37E-02		1.06E-03	2.12E-02
	1373.82	0.22	3.40E-02		2.87E-02	1.65E-02
Ta-183	84.71	1.35	7.88E-02	2.09E-03	1.97E-02	3.94E-02
	99.08	6.80	1.28E-02		-6.88E-03	6.39E-03
	107.93	11.20	7.27E-03		1.59E-03	3.63E-03
	161.35	9.10	7.20E-03		5.61E-03	3.59E-03
	162.32	5.00	1.30E-02		-1.41E-03	6.51E-03
	244.26	8.80	6.45E-03		4.92E-04	3.22E-03
	246.06	27.20	2.09E-03		7.06E-04	1.04E-03
	353.99	11.60	3.77E-03		1.81E-03	1.88E-03
Re-184	111.21	17.20	4.21E-03	6.69E-04	2.19E-03	2.10E-03
	252.85	3.00	1.58E-02		1.34E-03	7.87E-03
	792.01	37.70	7.07E-04		1.84E-04	3.50E-04
	894.76	15.70	1.59E-03		1.84E-03	7.88E-04
	903.28	38.10	6.69E-04		1.64E-03	3.31E-04
W-185	59.72	0.01	1.80E+01	3.91E+00	9.05E+02	8.98E+00
	61.14	0.02	9.84E+00		-2.05E+00	4.91E+00

Analysis Report for 24-2316 VSM-5.5M-S4-CST-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
W-185	69.20	0.01	1.85E+01	3.91E+00	1.91E+01	9.26E+00
	125.36	0.02	3.91E+00		-9.52E-01	1.95E+00
W-187	61.14	14.30	2.91E-02	1.69E-03	-6.06E-03	1.45E-02
	69.20	4.82	5.47E-02		5.65E-02	2.73E-02
	72.00	13.55	1.93E-02		8.36E-03	9.62E-03
	134.25	10.36	1.35E-02		-7.34E-03	6.76E-03
	479.53	26.60	2.73E-03		-2.87E-04	1.36E-03
	618.37	7.57	7.83E-03		2.76E-03	3.88E-03
	685.81	33.20	1.69E-03		1.21E-03	8.38E-04
Ir-188	155.05	29.60	3.01E-03	3.46E-04	-1.74E-03	1.50E-03
	478.00	14.70	3.51E-03		6.01E-03	1.74E-03
	633.02	17.90	2.35E-03		6.83E-04	1.17E-03
	634.97	5.00	8.45E-03		4.24E-04	4.19E-03
	829.42	5.10	7.36E-03		8.91E-03	3.64E-03
	1209.77	6.90	3.32E-03		-3.10E-03	1.62E-03
	1715.67	6.20	1.99E-03		2.53E-03	9.41E-04
	2214.59	18.60	3.46E-04		-6.22E-04	1.52E-04
W-188	227.07	0.23	2.11E-01	1.01E-01	7.94E-02	1.05E-01
	290.68	0.42	1.01E-01		-7.52E-02	5.02E-02
Ir-189	245.08	6.00	8.68E-03	8.68E-03	1.65E-03	4.33E-03
Ir-190	186.68	50.00	1.10E-03	8.20E-04	-4.79E-04	5.51E-04
	361.09	12.30	3.22E-03		2.40E-03	1.60E-03
	371.24	21.60	1.81E-03		1.41E-03	9.03E-04
	407.22	27.00	1.38E-03		-7.25E-04	6.85E-04
	518.55	32.20	1.09E-03		4.16E-04	5.39E-04
	557.95	28.50	1.13E-03		4.83E-04	5.60E-04
	569.30	27.00	1.16E-03		6.76E-04	5.75E-04
	605.14	37.80	8.20E-04		5.71E-04	4.07E-04
OS-191	63.29	15.70	1.13E-02	2.57E-03	-3.22E-03	5.63E-03
	64.99	26.70	5.61E-03		-1.84E-03	2.80E-03
	73.45	9.21	1.29E-02		4.12E-03	6.45E-03
	129.43	26.50	2.57E-03		-2.44E-04	1.28E-03
Pt-191	359.90	5.80	8.67E-03	2.89E-03	-7.98E-03	4.32E-03
	456.47	3.30	1.38E-02		-4.29E-03	6.84E-03
	538.90	14.30	2.89E-03		1.52E-03	1.43E-03
IR-192	205.79	3.31	1.68E-02	5.07E-04	-9.82E-03	8.36E-03
	295.96	28.71	1.57E-03		1.86E-04	7.83E-04
	308.45	29.70	1.47E-03		-7.21E-04	7.30E-04
	316.51	82.86	5.07E-04		-3.39E-05	2.52E-04
	468.07	47.84	7.57E-04		1.21E-04	3.77E-04
	588.58	4.52	8.17E-03		1.10E-03	4.06E-03
	604.41	8.22	3.36E-03		-6.69E-04	1.67E-03
	612.46	5.34	4.77E-03		2.49E-03	2.37E-03
IR-192m	155.16	0.09	6.30E-01	6.30E-01	2.54E-01	3.15E-01
IR-193m	80.22	0.00	2.25E+01	2.25E+01	-4.22E+00	1.12E+01
Pt-193m	135.50	0.11	6.52E-01	6.52E-01	4.10E-01	3.26E-01
Au-194	293.55	10.90	6.03E-03	9.73E-04	1.38E-03	3.01E-03
	328.47	62.80	9.73E-04		-1.34E-04	4.84E-04
	364.84	1.60	3.70E-02		2.00E-02	1.84E-02
	528.77	1.78	2.86E-02		-4.43E-03	1.42E-02
	645.16	2.32	1.91E-02		-1.30E-02	9.45E-03
	948.32	2.29	1.63E-02		-3.80E-02	8.02E-03
	1104.06	2.15	1.52E-02		-2.77E-03	7.49E-03

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Au-194	1175.36		2.14	3.36E-02	9.73E-04	4.88E-01	1.67E-02
		1468.90		6.80	2.24E-03		-5.42E-04	1.08E-03
		1595.81		1.89	1.47E-02		6.73E-02	7.18E-03
		2043.72		3.74	1.28E-03		-3.80E-04	5.37E-04
	Ir-194	293.54		2.50	4.16E-02	7.38E-03	9.55E-03	2.07E-02
		328.47		13.10	7.38E-03		-1.02E-03	3.67E-03
	AU-195	98.86		11.21	6.75E-03	6.75E-03	-5.47E-03	3.37E-03
		129.74		0.84	7.73E-02		2.69E-02	3.86E-02
	Pt-195m	98.90		11.70	7.75E-03	7.75E-03	-6.27E-03	3.87E-03
		129.79		2.90	2.68E-02		9.35E-03	1.34E-02
	Au-196	333.03		22.90	2.08E-03	5.08E-04	7.30E-05	1.04E-03
		355.73		87.00	5.08E-04		5.79E-04	2.53E-04
		426.10		6.60	5.87E-03		2.84E-03	2.92E-03
	Au-196m	147.81		43.50	8.73E-03	8.73E-03	-7.02E-03	4.36E-03
		188.27		30.00	1.09E-02		-2.62E-03	5.45E-03
	Pt-197	77.35		17.00	1.49E-02	1.49E-02	-7.44E-03	7.45E-03
		191.44		3.70	3.37E-02		-1.44E-03	1.68E-02
	AU-198	411.80		95.62	5.04E-04	5.04E-04	-1.96E-04	2.51E-04
	AU-199	158.38		40.00	1.81E-03	1.81E-03	4.55E-04	9.06E-04
		208.20		8.72	7.55E-03		-2.81E-03	3.77E-03
	TL-201	135.34		2.61	3.08E-02	7.05E-03	1.94E-02	1.54E-02
		167.43		10.00	7.05E-03		5.26E-03	3.52E-03
	TL-202	439.51		91.50	4.08E-04	4.08E-04	8.98E-05	2.03E-04
	PB-203	70.83		26.40	6.43E-03	7.66E-04	2.15E-03	3.21E-03
		72.87		44.20	3.66E-03		1.07E-03	1.83E-03
		82.40		15.56	8.56E-03		1.27E-03	4.28E-03
		279.20		80.90	7.66E-04		-1.25E-04	3.82E-04
		401.32		3.35	1.59E-02		8.81E-03	7.92E-03
	PB-210	46.54		4.25	7.84E-02	7.84E-02	-7.36E-02	3.92E-02
	Pa-233	86.60		2.01	4.56E-02	1.04E-03	1.60E-01	2.28E-02
		94.65		8.90	8.86E-03		-7.92E-03	4.43E-03
		98.43		14.20	5.33E-03		-1.83E-03	2.66E-03
		300.13		6.54	6.24E-03		4.40E-03	3.11E-03
		311.90		38.20	1.04E-03		3.29E-04	5.17E-04
		340.48		4.44	8.87E-03		-3.64E-03	4.42E-03
	U-235	89.96		2.90	2.92E-02	9.10E-04	6.14E-03	1.46E-02
		93.35		4.70	1.70E-02		3.92E-03	8.51E-03
		109.19		1.64	4.23E-02		1.88E-02	2.11E-02
		143.76		10.93	5.56E-03		-1.89E-04	2.78E-03
		163.36		5.07	1.11E-02		-2.25E-03	5.53E-03
		185.71		57.20	9.10E-04		6.82E-04	4.54E-04
		202.11		1.07	4.61E-02		1.33E-02	2.30E-02
		205.31		5.03	1.05E-02		4.74E-03	5.22E-03
+	NP-237	86.48	*	12.20	1.00E-02	1.00E-02	2.13E-02	5.01E-03
	U-237	59.54		34.50	7.01E-03	2.78E-03	3.59E-01	3.50E-03
		97.07		15.40	5.56E-03		3.83E-03	2.78E-03
		101.06		24.50	3.38E-03		-7.92E-04	1.69E-03
		113.30		3.07	2.55E-02		-1.00E-02	1.27E-02
		114.23		5.81	1.34E-02		4.51E-03	6.70E-03
		117.46		2.27	3.38E-02		-1.20E-02	1.69E-02
		208.00		21.20	2.78E-03		2.14E-03	1.39E-03
	NP-238	103.37		0.00	2.18E+01	1.29E-03	-5.49E+00	1.09E+01
		882.63		0.80	4.27E-02		1.81E-02	2.11E-02

Analysis Report for 24-2316 VSM-5.5M-S4-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	NP-238	923.99		2.60	1.30E-02	1.29E-03	9.95E-03	6.44E-03
		984.45		25.20	1.29E-03		-6.34E-04	6.38E-04
		1025.87		8.75	3.71E-03		1.05E-03	1.83E-03
		1028.53		18.23	1.77E-03		-5.81E-04	8.75E-04
	U-238	63.29		3.70	4.56E-02	1.91E-02	-1.30E-02	2.28E-02
		92.51		4.23	1.91E-02		6.14E-03	9.56E-03
		112.81		0.21	3.35E-01		-2.82E-02	1.67E-01
		742.81		0.11	2.45E-01		-2.50E-01	1.21E-01
		766.42		0.32	8.21E-02		4.91E-02	4.07E-02
		1001.03		0.84	6.61E-02		2.05E-03	3.29E-02
	Am-239	181.71		1.08	2.17E-01	1.27E-02	1.19E-01	1.08E-01
		209.80		3.50	6.58E-02		-1.85E-02	3.28E-02
		226.40		3.30	6.63E-02		2.37E-02	3.31E-02
		228.10		11.30	1.93E-02		1.12E-02	9.61E-03
		277.60		15.00	1.27E-02		1.17E-02	6.34E-03
	NP-239	61.46		1.30	2.06E-01	3.93E-03	-1.59E-02	1.03E-01
		99.53		12.90	7.96E-03		-1.49E-03	3.97E-03
		103.37		20.50	4.88E-03		-1.23E-03	2.44E-03
		106.12		25.34	3.93E-03		1.13E-02	1.96E-03
		209.75		3.36	2.13E-02		-5.97E-03	1.06E-02
		228.18		11.24	6.02E-03		7.55E-04	3.00E-03
		277.60		14.51	4.12E-03		3.78E-03	2.05E-03
		285.46		0.79	7.47E-02		3.57E-02	3.72E-02
		315.88		1.60	3.29E-02		1.14E-02	1.64E-02
		334.31		2.06	2.46E-02		-1.24E-02	1.23E-02
	PU-239	38.66		0.01	5.76E+01	9.27E+00	-3.18E+01	2.88E+01
		51.62		0.03	9.27E+00		8.22E+00	4.63E+00
		98.50		0.01	1.04E+01		-3.57E+00	5.20E+00
		111.03		0.00	5.35E+01		3.24E+01	2.67E+01
		129.30		0.01	1.03E+01		4.11E-01	5.14E+00
		171.39		0.00	4.95E+02		4.63E+02	2.47E+02
		203.55		0.00	8.62E+01		-1.84E+01	4.30E+01
		332.85		0.00	7.97E+01		-3.28E+01	3.97E+01
		336.11		0.00	3.49E+02		-7.02E+01	1.74E+02
		345.01		0.00	7.03E+01		7.22E+01	3.50E+01
		375.05		0.00	2.35E+01		1.45E+01	1.17E+01
		380.19		0.00	1.18E+02		-8.15E+01	5.89E+01
		382.75		0.00	1.39E+02		5.85E+01	6.94E+01
		413.71		0.00	2.50E+01		6.59E+01	1.24E+01
		422.60		0.00	2.83E+02		1.32E+02	1.41E+02
		451.48		0.00	1.82E+02		-1.20E+02	9.05E+01
	Am-240	99.53		18.40	5.78E-03	4.54E-04	-1.08E-03	2.89E-03
		103.37		29.20	3.55E-03		-8.92E-04	1.77E-03
		117.23		6.93	1.41E-02		-1.14E-02	7.03E-03
		888.85		24.70	1.40E-03		-6.51E-04	6.93E-04
		987.79		72.20	4.54E-04		-7.54E-05	2.24E-04
	Np-240m	554.60		20.90	5.13E-03	5.13E-03	2.75E-04	2.55E-03
		597.40		11.70	9.32E-03		-5.22E-03	4.63E-03
	U-240	44.10		1.05	1.26E+00	7.53E-01	-6.79E-01	6.28E-01
		66.50		0.15	3.11E+00		-5.14E-01	1.55E+00
		169.20		0.12	1.68E+00		-4.41E-01	8.38E-01
		189.70		0.24	7.53E-01		-5.65E-01	3.76E-01
+	AM-241	59.54	*	35.90	6.93E-03	6.93E-03	2.95E-01	3.46E-03

Analysis Report for 24-2316 VSM-5.5M-S4-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	AM-242m	49.35		0.13	2.11E+00	2.11E+00	2.18E+00	1.05E+00
		66.89		0.01	9.03E+00		8.02E+00	4.51E+00
		86.65		0.02	3.92E+00		1.37E+01	1.96E+00
		163.25		0.02	3.67E+00		-7.45E-01	1.83E+00
+	AM-243	43.53	*	5.90	8.09E-02	1.90E-03	1.04E-01	4.04E-02
		74.66	*	67.20	1.90E-03		1.22E-03	9.50E-04

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

Apex-Gamma

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2317 VSM-5.5M-S4-CST-d-A Q3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/23/2024 3:21:26PM
Procedure	: Q3_gsv02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: Q3_gsv02mlw
Live Time	: 14400.0 seconds
Real Time	: 14992.7 seconds
Dead Time	: 3.95 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: Q3_gsv2ml_R717
Sample Number	: 567831
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/23/2024 7:31:26PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.80	137.06	0.1730	12.40
2	48.98	156.17	0.2524	5.11
3	59.59	190.36	0.0321	349.13
4	74.90	239.15	0.1976	9.67
5	86.76	276.70	0.1396	16.75
6	99.44	317.13	0.3096	3.37
7	105.45	336.53	0.1569	14.37
8	123.12	392.85	0.0442	179.89
9	244.71	780.28	0.3591	3.31
10	247.93	790.75	0.0751	56.49
11	277.46	884.78	0.2565	4.99
12	344.35	1098.13	0.1724	9.87
13	371.12	1182.45	0.3107	3.35
14	414.90	1322.99	0.0982	30.09
15	429.78	1370.46	0.3219	3.59
16	444.51	1417.48	0.1957	6.83
17	511.06	1629.76	0.0990	18.55
18	557.59	1777.61	0.2606	3.49
19	582.13	1856.06	0.1397	14.71
20	591.90	1887.27	0.0730	47.56
21	609.74	1943.61	0.2756	3.66
22	613.45	1955.66	0.3155	3.75
23	625.48	1993.95	0.2276	4.81
24	661.81	2110.16	0.0346	204.26
25	666.50	2125.27	0.0901	31.66
26	692.56	2207.56	0.1353	17.60
27	695.20	2216.83	0.1002	27.57
28	723.47	2306.66	0.0460	112.82
29	757.01	2413.50	0.0727	44.16
30	779.04	2483.61	0.2055	6.26
31	815.71	2600.61	0.1736	7.58
32	845.77	2696.47	0.1430	11.03
33	873.41	2784.65	0.0538	78.01
34	880.64	2807.42	0.2911	3.04
35	893.00	2847.05	0.1597	9.08
36	904.32	2883.19	0.1302	13.34
37	929.03	2961.43	0.2905	3.23
38	964.25	3074.19	0.1721	7.68
39	989.56	3154.85	0.2937	3.36
40	996.50	3177.00	0.0551	71.25
41	1004.97	3204.01	0.0471	97.25
42	1086.14	3462.71	0.1768	7.24
43	1112.34	3546.36	0.1610	8.77
44	1128.70	3598.34	0.1609	7.50
45	1141.20	3637.70	0.1770	7.54
46	1159.99	3698.33	0.2946	3.24
47	1173.50	3741.22	0.0477	89.33
48	1246.50	3973.89	0.1122	16.99
49	1274.74	4063.93	0.0404	121.71
50	1332.81	4249.00	0.0479	85.57
51	1360.74	4337.83	0.2507	3.53
52	1397.64	4455.55	0.1195	13.29
53	1408.47	4490.08	0.1181	14.61
54	1461.21	4658.32	0.1589	7.64
55	1494.44	4764.06	0.1151	14.96

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
56	1596.89	5090.59	0.0843	25.92
57	1719.85	5482.48	0.1400	8.74
58	1765.17	5626.08	0.1866	4.70
59	2224.54	7089.78	0.2418	3.19
60	2506.17	7988.49	0.1435	8.13

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/23/2024 7:31:26PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.80	129	140	136.82	1.36E+04	2562.12	7.71E+05	1.06
F	2	48.98	148	164	156.50	1.22E+04	880.41	1.30E+06	1.52
F	3	59.59	182	198	190.32	9.58E+05	3619.94	1.41E+06	1.20
F	4	74.90	234	247	239.14	1.46E+04	3450.00	1.06E+06	1.26
F	5	86.76	271	285	276.96	3.77E+04	856.28	1.03E+06	1.64
F	6	99.44	308	325	317.38	9.25E+03	817.37	1.06E+06	2.07
F	7	105.45	327	345	336.55	3.07E+04	3688.84	1.04E+06	1.56
F	8	123.12	384	402	392.87	2.69E+05	2852.71	8.17E+05	1.27
M	9	244.71	777	801	780.49	1.35E+03	291.38	9.88E+04	1.36
m	10	247.93	777	801	790.76	3.30E+04	356.47	1.54E+05	1.36
F	11	277.46	880	895	884.88	2.01E+03	274.42	1.15E+05	1.36
F	12	344.35	1091	1109	1098.11	4.25E+03	913.27	8.00E+04	1.58
F	13	371.12	1178	1186	1183.47	7.24E+02	250.38	3.22E+04	0.50
F	14	414.90	1315	1334	1323.01	9.29E+03	1235.79	5.53E+04	1.50
	15	429.78	1366	1374	1370.46	1.07E+02	273.80	2.29E+04	0.89
F	16	444.51	1410	1424	1417.39	1.68E+03	167.39	3.70E+04	1.49
F	17	511.06	1617	1641	1629.54	1.85E+04	849.17	4.25E+04	2.96
F	18	557.59	1769	1786	1777.89	8.05E+02	124.43	2.31E+04	1.76
F	19	582.13	1848	1866	1856.11	2.60E+03	427.65	2.15E+04	1.37
F	20	591.90	1878	1899	1887.25	1.37E+04	159.64	2.46E+04	1.66
M	21	609.74	1939	1960	1944.11	4.67E+02	105.63	7.99E+03	0.52
m	22	613.45	1939	1960	1955.94	3.28E+02	73.48	1.61E+04	0.52
F	23	625.48	1988	2000	1994.29	8.04E+02	107.99	1.25E+04	1.67
M	24	661.81	2097	2137	2110.10	1.53E+05	810.32	1.67E+04	1.72
m	25	666.50	2097	2137	2125.04	7.69E+03	132.71	1.57E+04	1.72
M	26	692.56	2198	2229	2208.12	4.69E+03	425.59	1.39E+04	1.76
m	27	695.20	2198	2229	2216.55	7.09E+03	528.86	1.38E+04	1.76
F	28	723.47	2293	2318	2306.66	5.11E+04	584.78	1.74E+04	1.75
F	29	757.01	2404	2424	2413.57	1.06E+04	130.53	1.25E+04	1.76
F	30	779.04	2474	2496	2483.78	8.20E+02	421.34	1.30E+04	1.65
F	31	815.71	2589	2613	2600.68	1.33E+03	452.91	1.17E+04	2.13
F	32	845.77	2685	2704	2696.48	1.79E+03	153.94	8.51E+03	2.03
F	33	873.41	2774	2796	2784.61	2.73E+04	483.61	9.30E+03	1.90
F	34	880.64	2801	2814	2807.64	2.17E+02	66.99	5.51E+03	1.29
F	35	893.00	2833	2855	2847.05	1.19E+03	295.22	8.35E+03	1.94
F	36	904.32	2874	2893	2883.13	1.90E+03	341.18	7.23E+03	1.93
F	37	929.03	2955	2966	2961.88	2.86E+02	64.05	4.05E+03	1.56
F	38	964.25	3066	3084	3074.16	1.03E+03	355.50	6.23E+03	1.73
M	39	989.56	3150	3188	3154.84	2.56E+02	63.06	4.43E+03	1.97
m	40	996.50	3150	3188	3176.95	2.23E+04	413.56	6.96E+03	1.97

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1004.97	3189	3216	3203.94	3.82E+04	481.40	8.71E+03	1.94
F	42	1086.14	3454	3468	3462.68	5.17E+02	58.21	3.47E+03	1.64
F	43	1112.34	3533	3555	3546.17	1.02E+03	243.91	4.69E+03	1.85
F	44	1128.70	3588	3612	3598.33	9.54E+02	56.03	4.12E+03	2.34
F	45	1141.20	3623	3646	3638.16	6.23E+02	183.56	3.52E+03	1.24
F	46	1159.99	3693	3704	3698.07	8.80E+01	30.93	1.58E+03	0.72
F	47	1173.50	3726	3755	3741.13	3.51E+04	414.06	3.83E+03	2.09
F	48	1246.50	3964	3986	3973.82	1.47E+03	171.03	1.87E+03	1.95
F	49	1274.74	4048	4079	4063.80	6.38E+04	495.39	2.58E+03	2.18
F	50	1332.81	4233	4263	4248.90	3.20E+04	358.19	1.68E+03	2.21
F	51	1360.74	4331	4350	4337.92	1.25E+02	26.10	8.50E+02	1.84
F	52	1397.64	4442	4467	4455.53	1.10E+03	131.02	8.51E+02	2.33
F	53	1408.47	4474	4506	4490.06	1.19E+03	118.29	9.76E+02	2.09
F	54	1461.21	4642	4667	4658.16	4.42E+02	89.59	6.10E+02	2.14
F	55	1494.44	4749	4778	4764.06	1.08E+03	104.01	5.70E+02	2.31
F	56	1596.89	5076	5106	5090.59	3.30E+03	137.82	3.89E+02	2.45
F	57	1719.85	5470	5494	5482.49	4.18E+02	21.80	1.63E+02	2.39
F	58	1765.17	5617	5638	5626.92	1.58E+02	14.53	9.70E+01	2.61
F	59	2224.54	7082	7096	7090.94	3.48E+01	36.67	2.25E+01	1.25
F	60	2506.17	7974	8002	7988.44	3.33E+02	51.35	2.80E+01	2.80

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/23/2024 7:31:26PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567379.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.80	1.36E+04	2562.12			1.36E+04	2.56E+03
F	2	48.98	1.22E+04	880.41			1.22E+04	8.80E+02
F	3	59.59	9.58E+05	3619.94			9.58E+05	3.62E+03
F	4	74.90	1.46E+04	3450.00	5.54E+02	2.93E+01	1.40E+04	3.45E+03
F	5	86.76	3.77E+04	856.28	1.05E+02	7.02E+00	3.76E+04	8.56E+02
F	6	99.44	9.25E+03	817.37	2.44E+01	5.29E+00	9.22E+03	8.17E+02
F	7	105.45	3.07E+04	3688.84			3.07E+04	3.69E+03
F	8	123.12	2.69E+05	2852.71			2.69E+05	2.85E+03
M	9	244.71	1.35E+03	291.38			1.35E+03	2.91E+02

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
m	10	247.93	3.30E+04	356.47			3.30E+04	3.56E+02
F	11	277.46	2.01E+03	274.42			2.01E+03	2.74E+02
F	12	344.35	4.25E+03	913.27			4.25E+03	9.13E+02
F	13	371.12	7.24E+02	250.38			7.24E+02	2.50E+02
F	14	414.90	9.29E+03	1235.79			9.29E+03	1.24E+03
	15	429.78	1.07E+02	273.80			1.07E+02	2.74E+02
F	16	444.51	1.68E+03	167.39			1.68E+03	1.67E+02
F	17	511.06	1.85E+04	849.17	5.66E+02	2.37E+01	1.80E+04	8.50E+02
F	18	557.59	8.05E+02	124.43			8.05E+02	1.24E+02
F	19	582.13	2.60E+03	427.65			2.60E+03	4.28E+02
F	20	591.90	1.37E+04	159.64			1.37E+04	1.60E+02
M	21	609.74	4.67E+02	105.63	3.92E+02	5.05E+00	7.49E+01	1.06E+02
m	22	613.45	3.28E+02	73.48			3.28E+02	7.35E+01
F	23	625.48	8.04E+02	107.99			8.04E+02	1.08E+02
M	24	661.81	1.53E+05	810.32			1.53E+05	8.10E+02
m	25	666.50	7.69E+03	132.71			7.69E+03	1.33E+02
M	26	692.56	4.69E+03	425.59			4.69E+03	4.26E+02
m	27	695.20	7.09E+03	528.86			7.09E+03	5.29E+02
F	28	723.47	5.11E+04	584.78			5.11E+04	5.85E+02
F	29	757.01	1.06E+04	130.53			1.06E+04	1.31E+02
F	30	779.04	8.20E+02	421.34			8.20E+02	4.21E+02
F	31	815.71	1.33E+03	452.91			1.33E+03	4.53E+02
F	32	845.77	1.79E+03	153.94			1.79E+03	1.54E+02
F	33	873.41	2.73E+04	483.61			2.73E+04	4.84E+02
F	34	880.64	2.17E+02	66.99			2.17E+02	6.70E+01
F	35	893.00	1.19E+03	295.22			1.19E+03	2.95E+02
F	36	904.32	1.90E+03	341.18			1.90E+03	3.41E+02
F	37	929.03	2.86E+02	64.05			2.86E+02	6.40E+01
F	38	964.25	1.03E+03	355.50	3.86E+00	1.70E+00	1.03E+03	3.56E+02
M	39	989.56	2.56E+02	63.06			2.56E+02	6.31E+01
m	40	996.50	2.23E+04	413.56			2.23E+04	4.14E+02
F	41	1004.97	3.82E+04	481.40			3.82E+04	4.81E+02
F	42	1086.14	5.17E+02	58.21			5.17E+02	5.82E+01
F	43	1112.34	1.02E+03	243.91			1.02E+03	2.44E+02
F	44	1128.70	9.54E+02	56.03			9.54E+02	5.60E+01
F	45	1141.20	6.23E+02	183.56			6.23E+02	1.84E+02
F	46	1159.99	8.80E+01	30.93			8.80E+01	3.09E+01
F	47	1173.50	3.51E+04	414.06			3.51E+04	4.14E+02
F	48	1246.50	1.47E+03	171.03			1.47E+03	1.71E+02
F	49	1274.74	6.38E+04	495.39			6.38E+04	4.95E+02
F	50	1332.81	3.20E+04	358.19			3.20E+04	3.58E+02
F	51	1360.74	1.25E+02	26.10	8.01E-01	2.00E+00	1.25E+02	2.62E+01
F	52	1397.64	1.10E+03	131.02			1.10E+03	1.31E+02
F	53	1408.47	1.19E+03	118.29	1.56E+01	5.67E+00	1.18E+03	1.18E+02
F	54	1461.21	4.42E+02	89.59	4.35E+02	1.12E+01	7.85E+00	9.03E+01
F	55	1494.44	1.08E+03	104.01			1.08E+03	1.04E+02
F	56	1596.89	3.30E+03	137.82			3.30E+03	1.38E+02
F	57	1719.85	4.18E+02	21.80			4.18E+02	2.18E+01
F	58	1765.17	1.58E+02	14.53	1.14E+02	6.22E+00	4.46E+01	1.58E+01
F	59	2224.54	3.48E+01	36.67	1.01E+01	3.96E+00	2.47E+01	3.69E+01
F	60	2506.17	3.33E+02	51.35			3.33E+02	5.14E+01

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
NA-22	0.99	511.00	*	179.91	1.18E-03	5.60E-05	1.000
		1274.54	*	99.94	1.44E-02	1.36E-04	0.924
K-40	0.97	1460.82	*	10.66	1.67E-05	1.92E-04	miss
MN-56	0.30	846.76	*	98.85	5.89E-01	5.06E-02	0.985
		1810.73		26.90			
		2113.09		14.20			
CO-60	0.98	1173.23	*	99.85	7.21E-03	9.22E-05	0.962
		1332.49	*	99.98	7.13E-03	8.92E-05	0.962
RU-106	0.90	511.86	*	20.40	1.04E-02	5.35E-04	miss
AG-108M	0.33	79.13		6.60			
		433.94		90.50			
		614.28	*	89.80	5.25E-05	1.18E-05	0.919
		722.91	*	90.80	8.96E-03	2.33E-04	0.918
Te-129m	0.93	695.88	*	3.00	3.46E-02	7.38E-03	free
CS-137	0.99	661.66	*	85.10	2.50E-02	1.93E-04	miss
EU-152	0.44	121.78		28.53			
		344.28	*	26.59	1.52E-03	3.28E-04	0.971
		778.90	*	12.93	1.01E-03	5.21E-04	0.959
		867.37	@	4.23			
		964.08	*@	14.51	1.28E-03	4.43E-04	0.966
		1085.87	*	10.11	9.54E-04	1.08E-04	1.009
		1112.07	*	13.67	1.45E-03	3.47E-04	0.981
		1408.01	*	20.87	1.29E-03	1.30E-04	0.974
EU-154	0.99	42.70	*	20.45	2.16E-02	4.16E-03	miss
		123.07	*	40.40	3.95E-02	6.59E-04	0.956
		247.93	*	6.89	3.89E-02	6.45E-04	0.943
		591.76	*	4.95	3.83E-02	6.38E-04	0.932
		692.42	*	1.78	3.97E-02	3.63E-03	0.948
		723.30	*	20.06	3.92E-02	6.29E-04	0.951
		756.80	*	4.52	3.82E-02	6.25E-04	0.928
		873.18	*	12.08	3.93E-02	8.32E-04	0.944
		996.29	*	10.48	3.84E-02	8.23E-04	0.986
		1004.76	*	18.01	3.89E-02	6.55E-04	0.977

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.99	1246.12	*	0.86	3.77E-02	4.41E-03	0.936
		1274.43	*	34.80	3.90E-02	5.03E-04	0.979
		1494.05	*	0.70	3.51E-02	3.42E-03	1.013
		1596.48	*	1.80	3.83E-02	1.68E-03	1.155
EU-155	0.99	43.00	*	18.12	2.44E-02	4.69E-03	1.000
		60.01	*	1.17	9.31E+00	2.67E-01	0.999
		86.55	*	30.70	7.53E-03	1.96E-04	free
		105.31	*	21.10	8.11E-03	9.95E-04	1.000
TB-161	0.78	25.65		23.20			
		48.91	*	17.00	1.61E-02	1.45E-03	0.999
		52.00		3.43			
		57.19		1.79			
		74.57	*	10.20	1.13E-02	2.84E-03	0.999
Ir-189	0.97	245.08	*	6.00	1.82E-03	3.94E-04	miss
AU-195	0.84	98.86	*	11.21	4.73E-03	4.94E-04	0.986
		129.74		0.84			
NP-237	0.98	86.48	*	12.20	1.89E-02	6.53E-04	1.000
NP-239	0.29	61.46		1.30			
		99.53	*	12.90	5.72E-03	5.56E-04	1.000
		103.37		20.50			
		106.12	*	25.34	9.72E-03	1.17E-03	0.983
		209.75		3.36			
		228.18		11.24			
		277.60	*	14.51	1.63E-03	2.23E-04	0.984
		285.46		0.79			
		315.88		1.60			
		334.31		2.06			
AM-241	1.00	59.54	*	35.90	3.03E-01	5.11E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name		Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	NA-22		0.997	1.02E-04	1.53E-04	
	K-40		0.976	1.67E-05	1.92E-04	
	MN-56		0.300	5.89E-01	5.06E-02	
	CO-60		0.986	7.17E-03	6.41E-05	
X	CU-64		0.963			
X	GA-66		0.599			
X	ZR-95		0.956			
	RU-106		0.902	9.52E-03	1.43E-03	
	AG-108M		0.334	5.30E-05	1.17E-05	
	Te-129m		0.930	3.46E-02	7.38E-03	
	CS-137		0.996	2.50E-02	1.93E-04	
	EU-152	@	0.449	1.13E-03	7.73E-05	
	EU-154		0.994	3.87E-02	1.88E-04	
	EU-155		0.994	5.61E-03	9.72E-04	
	TB-161		0.780	1.51E-02	1.29E-03	
	Ir-189		0.978	1.82E-03	3.94E-04	
	AU-195		0.840	3.35E-03	4.60E-04	
X	Pt-195m		0.647			
	NP-237		0.988	4.82E-03	2.49E-03	
	NP-239		0.293	1.67E-03	2.22E-04	
	AM-241		1.000	3.03E-01	3.84E-03	
X	AM-242m		0.633			
X	AM-243		0.985			

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

Errors quoted at 1.000sigma

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/23/2024 7:31:26PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	13	371.12	5.02561E-02	34.60	Sum	
F	14	414.90	6.45413E-01	13.30	Tol.	RH-102M
	15	429.78	7.43924E-03	255.59	Tol.	AG-106M
F	16	444.51	1.16494E-01	9.98	Sum	
F	18	557.59	5.59111E-02	15.45	Tol.	IN-114M Ir-190
F	19	582.13	1.80760E-01	16.43		
M	21	609.74	5.20374E-03	141.13	Sum	
F	23	625.48	5.58497E-02	13.43	Tol.	BA-141
m	25	666.50	5.33765E-01	1.73	Sum	
F	31	815.71	9.23150E-02	34.07	Sum	
F	34	880.64	1.50404E-02	30.93	Sum	
F	35	893.00	8.27865E-02	24.76		
F	36	904.32	1.32137E-01	17.93		
F	37	929.03	1.98440E-02	22.41		
M	39	989.56	1.77867E-02	24.62		
F	44	1128.70	6.62847E-02	5.87	Sum	
F	45	1141.20	4.32985E-02	29.44		
F	46	1159.99	6.11219E-03	35.14	Tol.	SN-127 BA-141
F	51	1360.74	8.65212E-03	21.01	Sum	
F	52	1397.64	7.65194E-02	11.89	Sum	
F	57	1719.85	2.90581E-02	5.21	Sum	
F	58	1765.17	3.09663E-03	35.45	Sum	
F	59	2224.54	1.71617E-03	149.25	Sum	
F	60	2506.17	2.31243E-02	15.42	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.60		10.44	1.34E-03	1.34E-03	1.35E-03	6.70E-04
+	NA-22	511.00	*	179.91	1.20E-04	1.14E-04	1.18E-03	6.00E-05
		1274.54	*	99.94	1.14E-04		1.44E-02	5.65E-05
	NA-24	1368.63		99.99	1.72E-04	1.72E-04	-9.95E-05	8.47E-05
>		2754.01		99.87	0.00E+00		0.00E+00	0.00E+00
	AL-26	1129.67		2.50	3.36E-03	1.81E-05	6.07E-03	1.67E-03
		1808.65		99.76	1.81E-05		2.50E-06	8.69E-06
+	K-40	1460.82	*	10.66	5.07E-04	5.07E-04	1.67E-05	2.51E-04
	K-42	312.60		0.34	2.37E-01	8.53E-04	5.61E-03	1.18E-01
		1524.60		18.08	8.53E-04		1.35E-03	4.18E-04
	Sc-44	1157.02		99.90	1.01E-02	1.01E-02	-3.17E-03	5.02E-03
		1499.46		0.91	7.54E-01		-1.45E-01	3.72E-01
	Sc-44m	271.24		86.74	2.86E-04	2.86E-04	-3.05E-05	1.43E-04
		1001.83		1.20	2.79E-02		9.09E-01	1.39E-02
		1126.06		1.20	1.07E-02		-2.49E-03	5.32E-03
		1157.00		1.20	9.09E-03		-2.85E-03	4.51E-03
	TI-44	67.87		93.00	6.00E-04	4.48E-04	2.89E-04	3.00E-04
		78.32		96.40	4.48E-04		6.41E-05	2.24E-04
	SC-46	889.28		99.98	1.04E-04	8.86E-05	1.37E-05	5.19E-05
		1120.55		99.99	8.86E-05		7.52E-05	4.40E-05
	CA-47	489.23		5.90	2.91E-03	9.42E-05	-1.34E-03	1.45E-03
		807.86		5.90	2.15E-03		1.59E-03	1.07E-03
		1297.09		67.00	9.42E-05		-2.15E-05	4.66E-05
	SC-47	159.38		68.30	4.37E-04	4.37E-04	1.47E-04	2.19E-04
	SC-48	175.36		7.47	4.62E-03	7.76E-05	-2.95E-04	2.31E-03
		983.53		100.00	1.46E-04		-4.87E-05	7.27E-05
		1037.52		97.50	1.48E-04		-3.53E-06	7.35E-05
		1312.12		100.00	7.76E-05		8.01E-05	3.83E-05
	V-48	944.13		7.87	1.32E-03	5.52E-05	-1.42E-03	6.58E-04
		983.53		99.98	1.02E-04		-3.40E-05	5.07E-05
		1312.11		98.20	5.52E-05		5.70E-05	2.73E-05
		2240.40		2.33	7.21E-04		6.93E-04	3.41E-04
	CR-51	320.08		9.91	1.66E-03	1.66E-03	1.04E-03	8.29E-04
	Fe-52	168.69		99.20	2.45E-03	2.45E-03	-4.89E-04	1.22E-03
		377.75		1.64	9.77E-02		1.34E-01	4.87E-02
	Mn-52	744.23		90.00	1.49E-04	4.63E-05	-7.42E-05	7.40E-05
		848.18		3.32	3.89E-03		1.41E-03	1.94E-03
		935.54		94.50	1.26E-04		-4.13E-05	6.28E-05
		1246.28		4.21	2.07E-03		1.03E-02	1.03E-03
		1333.65		5.07	4.53E-03		1.70E-01	2.26E-03
		1434.09		100.00	4.63E-05		3.21E-06	2.27E-05
	MN-54	834.85		99.98	9.86E-05	9.86E-05	6.55E-05	4.91E-05

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Co-55	411.50		1.07	4.32E-02	3.94E-04	5.08E-03	2.15E-02
		477.20		20.20	2.11E-03		1.62E-03	1.05E-03
		803.70		1.87	1.68E-02		-2.02E-02	8.35E-03
		931.10		75.00	3.94E-04		-1.71E-04	1.96E-04
		1316.60		7.10	2.13E-03		-7.05E-04	1.05E-03
		1370.00		2.90	4.68E-03		-7.34E-04	2.31E-03
		1408.50		16.90	9.65E-04		4.79E-03	4.77E-04
	Co-56	846.77		99.94	1.10E-04	9.74E-05	5.37E-04	5.47E-05
		977.37		1.42	7.14E-03		5.62E-03	3.55E-03
		1037.84		14.05	7.01E-04		-4.68E-04	3.49E-04
		1175.10		2.25	9.02E-03		3.39E-01	4.50E-03
		1238.29		66.46	9.74E-05		5.13E-05	4.82E-05
		1360.21		4.28	1.14E-03		4.26E-04	5.63E-04
		1771.36		15.41	1.74E-04		9.67E-05	8.47E-05
		2015.20		3.02	4.94E-04		5.07E-04	2.34E-04
		2034.79		7.77	2.22E-04		5.92E-05	1.06E-04
>		2598.50		16.97	0.00E+00		0.00E+00	0.00E+00
+	MN-56	846.76	*	98.85	2.45E-01	1.36E-01	5.89E-01	1.22E-01
		1810.73		26.90	1.36E-01		-1.50E-01	6.52E-02
		2113.09		14.20	2.27E-01		1.07E-01	1.08E-01
	Ni-56	158.38		98.80	2.72E-04	1.39E-04	1.30E-04	1.36E-04
		269.50		36.50	5.58E-04		4.37E-04	2.79E-04
		480.44		36.50	4.28E-04		3.30E-04	2.14E-04
		749.50		49.50	2.49E-04		-9.59E-05	1.24E-04
		811.85		86.00	1.39E-04		1.01E-04	6.90E-05
		1561.80		14.00	2.31E-04		8.44E-05	1.13E-04
	CO-57	122.06		85.60	3.61E-04	3.61E-04	1.39E-05	1.80E-04
		136.47		10.68	2.42E-03		2.61E-03	1.21E-03
	NI-57	127.16		16.70	2.92E-03	9.35E-05	1.77E-03	1.46E-03
		1377.63		81.70	9.35E-05		1.28E-04	4.61E-05
		1757.55		5.75	6.68E-04		9.71E-05	3.24E-04
		1919.52		12.30	2.15E-04		-7.90E-05	1.02E-04
	CO-58	810.76		99.45	1.07E-04	1.07E-04	9.83E-05	5.33E-05
		863.96		0.69	1.49E-02		-5.94E-03	7.44E-03
		1674.73		0.52	4.43E-03		1.05E-02	2.15E-03
	FE-59	142.65		1.02	2.50E-02	1.25E-04	-1.63E-02	1.25E-02
		192.34		3.08	7.16E-03		-5.47E-03	3.58E-03
		1099.24		56.50	1.49E-04		-3.51E-05	7.42E-05
		1291.59		43.20	1.25E-04		-1.60E-04	6.18E-05
+	CO-60	1173.23	*	99.85	1.23E-04	8.95E-05	7.21E-03	6.10E-05
		1332.49	*	99.98	8.95E-05		7.13E-03	4.44E-05
	CU-64	511.00	*	35.00	2.91E-03	2.91E-03	2.85E-02	1.45E-03
		1345.77		0.47	4.62E-02		3.79E-02	2.28E-02
	NI-65	366.27		4.81	7.84E+00	3.40E-01	3.50E+00	3.91E+00
		1115.53		15.43	1.35E+00		1.25E+00	6.72E-01
		1481.84		23.59	3.40E-01		4.57E-01	1.67E-01
	ZN-65	1115.54		50.04	1.73E-04	1.73E-04	1.59E-04	8.58E-05
	GA-66	511.00	*	114.00	1.51E-03	1.51E-03	1.48E-02	7.53E-04
		833.53		5.90	1.33E-02		-8.10E-03	6.60E-03
		1039.22		37.00	1.97E-03		-2.67E-03	9.81E-04
		1333.11	*	1.17	5.84E-02		4.66E+00	2.90E-02
		1918.33		1.99	6.26E-03		4.09E-03	2.98E-03
		2189.62		5.30	2.31E-03		1.11E-03	1.09E-03

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
>	GA-66	2751.83	22.70	0.00E+00	1.51E-03	0.00E+00	0.00E+00
	CU-67	91.27	7.00	6.64E-03	6.02E-04	1.54E-03	3.32E-03
		93.31	16.10	2.81E-03		2.76E-03	1.40E-03
		184.58	48.70	6.02E-04		-4.36E-04	3.01E-04
		300.22	0.80	2.86E-02		-3.14E-02	1.43E-02
		393.53	0.22	9.09E-02		-1.10E-01	4.54E-02
	GA-67	91.26	3.11	1.44E-02	1.10E-03	3.34E-03	7.19E-03
		93.31	38.81	1.10E-03		1.08E-03	5.51E-04
		184.58	21.41	1.28E-03		-9.28E-04	6.41E-04
		208.95	2.46	1.17E-02		1.87E-02	5.85E-03
		300.22	16.64	1.31E-03		-1.44E-03	6.56E-04
		393.53	4.56	3.72E-03		-4.50E-03	1.85E-03
	ZN-69m	438.63	94.85	6.34E-04	6.34E-04	8.20E-04	3.17E-04
	GA-72	629.97	26.13	1.91E-03	2.69E-04	9.41E-04	9.53E-04
		834.13	95.45	4.36E-04		3.51E-04	2.17E-04
		894.33	10.14	4.26E-03		6.85E-03	2.12E-03
		1050.79	6.99	5.78E-03		2.34E-03	2.88E-03
		2201.59	26.87	2.69E-04		7.23E-05	1.28E-04
		2491.03	7.73	7.15E-04		6.30E-04	3.33E-04
		2507.72	13.33	1.01E-03		3.69E-03	4.91E-04
	Zn-72	144.70	82.78	4.58E-04	4.58E-04	-5.29E-04	2.29E-04
		191.50	9.35	3.41E-03		-2.90E-04	1.70E-03
	SE-75	121.12	17.20	1.90E-03	3.23E-04	-9.74E-05	9.48E-04
		136.00	58.50	4.65E-04		-1.72E-04	2.32E-04
		264.66	58.90	3.23E-04		8.67E-06	1.61E-04
		279.54	25.02	7.26E-04		7.96E-04	3.62E-04
		400.66	11.41	9.71E-04		3.40E-04	4.85E-04
	BR-83	529.59	1.30	3.81E+01	3.81E+01	1.02E+01	1.90E+01
	BR-84	604.80	1.70	3.67E+13	5.81E+11	2.62E+13	1.83E+13
		736.50	1.29	4.45E+13		-2.38E+13	2.22E+13
		802.20	6.00	9.15E+12		2.65E+12	4.56E+12
		881.60	42.00	1.28E+12		4.87E+11	6.35E+11
		987.30	0.79	6.34E+13		6.59E+12	3.15E+13
		1015.90	6.20	7.98E+12		1.82E+12	3.97E+12
		1213.30	2.60	1.22E+13		-1.73E+12	6.05E+12
		1463.80	2.00	1.13E+13		-1.81E+11	5.55E+12
		1741.20	1.60	6.59E+12		-1.01E+12	3.18E+12
		1877.50	1.12	8.09E+12		-6.36E+11	3.87E+12
		1897.60	14.60	5.81E+11		1.54E+11	2.77E+11
		2029.60	2.10	3.94E+12		1.03E+12	1.87E+12
		2200.70	1.16	7.87E+12		-3.50E+11	3.75E+12
		2484.10	6.70	9.45E+11		-2.14E+11	4.36E+11
>		2824.10	1.12	0.00E+00		0.00E+00	0.00E+00
	KR-85m	151.20	75.20	2.57E-02	2.57E-02	2.91E-02	1.29E-02
		304.87	14.00	9.37E-02		-8.69E-02	4.68E-02
	Y-87	388.53	82.20	2.28E-04	1.98E-04	7.39E-05	1.14E-04
		484.80	89.80	1.98E-04		-1.64E-04	9.86E-05
	KR-88	165.98	3.10	8.23E+00	3.69E-02	-3.18E-01	4.11E+00
		196.30	26.00	8.44E-01		8.22E-01	4.22E-01
		362.23	2.25	6.79E+00		2.74E-01	3.39E+00
		471.80	0.73	2.03E+01		8.53E+00	1.01E+01
		834.83	13.00	8.04E-01		5.34E-01	4.00E-01
		985.78	1.31	7.76E+00		4.37E+00	3.86E+00

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	KR-88	1141.33	1.28	6.35E+00	3.69E-02	8.01E+00	3.16E+00
		1179.51	1.00	1.89E+01		-7.56E+00	9.43E+00
		1250.67	1.12	6.48E+00		3.09E+00	3.21E+00
		1369.50	1.48	3.20E+00		2.13E+00	1.58E+00
		1518.39	2.15	1.51E+00		-3.24E+00	7.41E-01
		1529.77	10.90	3.06E-01		-1.48E-01	1.50E-01
		2029.84	4.53	3.74E-01		4.15E-03	1.78E-01
		2035.41	3.74	4.72E-01		5.86E-01	2.25E-01
		2195.84	13.20	1.32E-01		-1.43E-01	6.25E-02
		2231.77	3.39	4.79E-01		6.69E-02	2.27E-01
		2352.08	0.73	1.97E+00		6.23E-01	9.21E-01
		2392.11	34.60	3.69E-02		5.71E-02	1.72E-02
	RB-88	898.03	14.40	7.58E-01	8.09E-02	4.77E-01	3.77E-01
		1382.45	0.78	5.86E+00		2.54E+00	2.89E+00
		1836.00	22.81	8.09E-02		9.92E-02	3.88E-02
>		2677.89	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-88	898.04	93.70	1.14E-04	1.82E-05	7.17E-05	5.67E-05
		1836.06	99.20	1.82E-05		1.81E-05	8.72E-06
@	RB-89	272.42	1.53	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		657.77	10.80	1.00E+20		1.00E+20	1.00E+20
@		947.73	10.00	1.00E+20		1.00E+20	1.00E+20
@		1031.92	63.00	1.00E+20		1.00E+20	1.00E+20
@		1248.14	46.00	1.00E+20		1.00E+20	1.00E+20
@		1538.07	2.77	1.00E+20		1.00E+20	1.00E+20
@		2007.50	2.58	1.00E+20		1.00E+20	1.00E+20
@		2195.92	14.50	1.00E+20		1.00E+20	1.00E+20
>@		2570.20	10.70	0.00E+00		0.00E+00	0.00E+00
>@		2707.26	2.20	0.00E+00		0.00E+00	0.00E+00
	SR-89	908.96	0.01	1.07E+00	1.07E+00	3.76E-01	5.34E-01
	Sr-91	652.90	11.35	7.66E-03	2.11E-03	1.66E-03	3.82E-03
		749.80	23.70	3.50E-03		-1.76E-03	1.74E-03
		925.80	3.85	1.93E-02		2.07E-02	9.62E-03
		1024.30	33.50	2.11E-03		-2.08E-03	1.05E-03
	Y-91	1204.77	0.26	2.37E-02	2.37E-02	-2.79E-02	1.17E-02
	NB-92M	912.60	1.78	6.03E-03	1.05E-04	3.43E-03	3.00E-03
		934.44	99.15	1.05E-04		-4.68E-05	5.20E-05
		1847.50	0.85	2.30E-03		4.01E-03	1.11E-03
	SR-92	241.56	2.93	1.19E+01	8.63E-02	7.98E+00	5.94E+00
		430.49	3.28	7.91E+00		-4.99E+00	3.95E+00
		953.31	3.52	4.89E+00		-5.63E-01	2.43E+00
		1142.35	2.79	4.99E+00		7.80E-01	2.48E+00
		1383.93	90.00	8.63E-02		1.62E-01	4.25E-02
	MO-93M	114.04	0.68	7.44E-01	6.09E-04	-8.54E-02	3.72E-01
		263.05	57.40	5.56E-03		-8.63E-04	2.78E-03
		684.69	99.90	1.94E-03		-1.41E-03	9.68E-04
		1363.02	0.81	1.01E-01		1.05E-01	4.97E-02
		1477.14	99.10	6.09E-04		-7.74E-04	2.99E-04
@	SR-93	168.50	18.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		260.12	7.40	1.00E+20		1.00E+20	1.00E+20
@		346.49	3.28	1.00E+20		1.00E+20	1.00E+20
@		446.20	2.36	1.00E+20		1.00E+20	1.00E+20
@		590.24	68.00	1.00E+20		1.00E+20	1.00E+20
@		710.31	21.80	1.00E+20		1.00E+20	1.00E+20

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@ SR-93	875.73		24.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	888.13		22.10	1.00E+20		1.00E+20	1.00E+20
@	1040.63		3.20	1.00E+20		1.00E+20	1.00E+20
@	1094.00		1.76	1.00E+20		1.00E+20	1.00E+20
@	1122.48		4.00	1.00E+20		1.00E+20	1.00E+20
@	1215.48		2.50	1.00E+20		1.00E+20	1.00E+20
@	1269.47		7.10	1.00E+20		1.00E+20	1.00E+20
@	1321.24		2.61	1.00E+20		1.00E+20	1.00E+20
@	1387.11		3.50	1.00E+20		1.00E+20	1.00E+20
@	1694.07		2.58	1.00E+20		1.00E+20	1.00E+20
@	1699.06		3.30	1.00E+20		1.00E+20	1.00E+20
@	2543.84		3.03	1.00E+20		1.00E+20	1.00E+20
>@	2688.65		2.13	0.00E+00		0.00E+00	0.00E+00
Y-93	266.90		7.40	1.67E-02	6.90E-03	1.60E-04	8.36E-03
	947.10		2.10	3.14E-02		-1.42E-02	1.56E-02
	1917.80		1.57	6.90E-03		-3.08E-03	3.29E-03
NB-94	702.65		99.81	1.13E-04	1.13E-04	-8.99E-05	5.64E-05
	871.09		99.89	1.66E-04		5.67E-05	8.26E-05
@ Y-94	381.60		2.02	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	550.90		4.90	1.00E+20		1.00E+20	1.00E+20
@	752.60		1.40	1.00E+20		1.00E+20	1.00E+20
@	918.74		56.00	1.00E+20		1.00E+20	1.00E+20
@	1138.90		6.00	1.00E+20		1.00E+20	1.00E+20
@	1671.40		2.50	1.00E+20		1.00E+20	1.00E+20
@	2140.60		0.95	1.00E+20		1.00E+20	1.00E+20
NB-95	765.80		99.81	1.10E-04	1.10E-04	1.24E-04	5.47E-05
ZR-95	724.19	*	44.27	3.99E-04	2.59E-04	1.71E-02	1.99E-04
	756.72	*	54.38	2.59E-04		2.98E-03	1.29E-04
NB-96	219.08		2.97	1.61E-02	2.61E-04	-7.88E-03	8.03E-03
	241.38		3.50	1.28E-02		8.59E-03	6.39E-03
	350.05		1.54	2.36E-02		1.79E-02	1.18E-02
	352.56		0.83	4.35E-02		3.35E-02	2.17E-02
	371.81		2.62	1.34E-02		2.52E-02	6.69E-03
	460.04		26.62	1.24E-03		1.14E-03	6.16E-04
	480.71		5.84	5.43E-03		4.07E-03	2.71E-03
	568.87		58.00	4.87E-04		-4.78E-04	2.43E-04
	719.56		6.85	6.37E-03		2.00E-03	3.18E-03
	721.63		1.02	4.29E-02		1.65E+00	2.14E-02
	778.22		96.45	2.61E-04		1.42E-04	1.30E-04
	810.33		11.09	2.17E-03		4.77E-04	1.08E-03
	812.58		2.95	8.19E-03		4.22E-03	4.08E-03
	847.69		1.14	2.11E-02		7.08E-02	1.05E-02
	849.93		20.45	1.17E-03		8.91E-04	5.85E-04
	1091.35		48.50	4.16E-04		2.81E-04	2.07E-04
	1200.23		19.97	7.23E-04		1.32E-03	3.58E-04
	1441.13		0.44	1.92E-02		4.40E-03	9.44E-03
	1497.81		3.28	3.45E-03		-7.31E-04	1.70E-03
Nb-97	657.94		98.23	9.05E-04	9.05E-04	-1.57E-05	4.52E-04
	1024.40		1.09	2.73E-02		-2.71E-02	1.36E-02
ZR-97	254.17		1.15	5.23E-02	3.74E-04	-2.10E-02	2.61E-02
	355.40		2.09	2.54E-02		-2.39E-03	1.27E-02
	507.64		5.03	1.03E-02		-1.99E-03	5.13E-03
	743.36		93.09	3.74E-04		2.83E-04	1.86E-04

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ZR-97	1147.97	2.62	9.78E-03	3.74E-04	-5.81E-04	4.85E-03
MO-99	181.07	6.14	5.04E-03	1.23E-03	-5.75E-05	2.52E-03
	366.42	1.20	1.70E-02		7.61E-03	8.50E-03
	739.50	12.26	1.23E-03		-9.01E-04	6.14E-04
	777.92	4.30	3.39E-03		1.92E-03	1.69E-03
TC-99M	140.51	90.80	3.76E-04	3.76E-04	4.25E-04	1.88E-04
RH-101	127.23	68.00	4.32E-04	2.92E-04	2.62E-04	2.16E-04
	198.01	73.00	2.92E-04		-2.24E-04	1.46E-04
	325.23	11.80	1.06E-03		1.41E-03	5.31E-04
RH-101M	306.86	81.00	2.44E-04	2.44E-04	-1.35E-04	1.22E-04
	545.12	4.30	3.53E-03		4.68E-04	1.76E-03
RH-102M	415.25	2.10	8.06E-03	1.60E-04	5.05E-02	4.02E-03
	418.52	9.40	1.76E-03		3.50E-04	8.78E-04
	420.40	3.20	4.98E-03		2.29E-03	2.49E-03
	475.06	95.00	1.60E-04		2.03E-04	7.97E-05
	628.05	8.30	1.57E-03		1.02E-03	7.80E-04
	631.29	56.00	2.21E-04		-5.67E-05	1.10E-04
	692.40	1.60	9.18E-03		-9.47E-04	4.58E-03
	695.60	2.90	4.97E-03		2.27E-04	2.48E-03
	697.49	44.00	3.23E-04		-9.60E-06	1.61E-04
	766.84	34.00	3.43E-04		6.07E-04	1.71E-04
	1046.59	34.00	2.93E-04		-1.29E-06	1.46E-04
	1103.16	4.60	1.85E-03		-3.32E-04	9.20E-04
	1112.84	19.00	4.94E-04		1.42E-03	2.45E-04
RU-103	497.08	91.00	1.53E-04	1.53E-04	-2.61E-05	7.61E-05
	610.33	5.76	2.07E-03		3.20E-04	1.03E-03
RH-105	306.31	4.66	6.12E-03	1.65E-03	-7.64E-04	3.06E-03
	319.23	16.90	1.65E-03		9.38E-04	8.26E-04
AG-106M	221.70	6.60	3.41E-03	1.92E-04	6.82E-04	1.71E-03
	228.63	2.10	1.05E-02		8.47E-05	5.26E-03
	328.46	1.14	1.52E-02		-7.78E-03	7.60E-03
	391.04	3.68	4.39E-03		2.36E-03	2.19E-03
	406.18	13.40	1.18E-03		-2.10E-03	5.91E-04
	429.65	13.20	1.20E-03		-2.36E-04	6.00E-04
	450.98	28.20	5.57E-04		-3.45E-04	2.78E-04
	511.85	88.00	1.92E-04		2.68E-03	9.60E-05
	601.17	1.61	8.02E-03		7.02E-03	4.00E-03
	616.17	21.60	5.93E-04		3.04E-06	2.95E-04
	646.03	1.46	8.58E-03		9.02E-03	4.27E-03
	680.42	2.18	5.64E-03		4.02E-03	2.81E-03
	703.11	4.47	2.68E-03		3.76E-04	1.33E-03
	717.34	28.90	5.32E-04		8.40E-05	2.65E-04
	748.36	20.60	5.74E-04		-2.31E-05	2.86E-04
	793.17	5.90	1.96E-03		7.53E-04	9.78E-04
	804.28	12.40	9.09E-04		-6.03E-04	4.52E-04
	808.36	4.00	2.81E-03		3.41E-03	1.40E-03
	824.69	15.30	7.17E-04		4.23E-04	3.57E-04
	847.15	4.40	2.59E-03		6.55E-03	1.29E-03
	1019.72	1.04	9.80E-03		-4.34E-03	4.87E-03
	1045.83	29.60	3.45E-04		3.92E-04	1.72E-04
	1128.02	11.80	7.82E-04		6.33E-04	3.88E-04
	1199.39	11.20	6.11E-04		-3.87E-04	3.03E-04
	1222.88	7.00	9.23E-04		1.00E-04	4.57E-04

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	AG-106M	1394.35		1.49	3.99E-03	1.92E-04	1.77E-02	1.97E-03
		1527.65		16.30	2.10E-04		3.93E-04	1.03E-04
		1572.35		6.60	4.62E-04		2.04E-04	2.26E-04
		1722.76		1.40	2.63E-03		8.11E-03	1.29E-03
		1839.05		2.00	9.72E-04		-8.52E-04	4.66E-04
	RH-106	621.93		9.93	1.22E-03	1.22E-03	1.01E-04	6.09E-04
		873.49		0.44	3.89E-02		1.08E+00	1.94E-02
		1050.41		1.56	6.18E-03		3.88E-03	3.07E-03
+	RU-106	511.86	*	20.40	1.06E-03	1.06E-03	1.04E-02	5.30E-04
+	AG-108M	79.13		6.60	6.21E-03	9.49E-05	-1.98E-03	3.11E-03
		433.94		90.50	1.73E-04		1.15E-04	8.61E-05
		614.28	*	89.80	9.49E-05		5.25E-05	4.72E-05
		722.91	*	90.80	2.09E-04		8.96E-03	1.04E-04
	CD-109	88.03		3.64	9.82E-03	9.82E-03	6.37E-02	4.91E-03
	AG-110M	446.81		3.70	4.42E-03	1.43E-04	1.20E-02	2.21E-03
		620.35		2.73	4.81E-03		1.75E-03	2.40E-03
		657.76		95.61	3.12E-04		3.66E-05	1.56E-04
		677.62		10.70	1.19E-03		-2.74E-04	5.91E-04
		687.01		6.53	1.97E-03		1.21E-03	9.79E-04
		706.68		16.69	7.28E-04		1.01E-04	3.63E-04
		744.28		4.77	2.50E-03		-1.25E-03	1.24E-03
		763.94		22.60	5.45E-04		6.25E-04	2.71E-04
		818.02		7.43	1.57E-03		1.44E-04	7.81E-04
		884.68		75.00	1.43E-04		1.63E-04	7.12E-05
		937.48		35.00	2.97E-04		3.18E-04	1.48E-04
		1384.29		25.10	1.82E-04		1.27E-04	9.00E-05
		1475.78		4.08	8.76E-04		-3.28E-04	4.30E-04
		1505.03		13.33	2.68E-04		-2.43E-04	1.32E-04
		1562.29		1.22	2.04E-03		-3.80E-04	9.95E-04
	AG-111	245.40		1.11	2.02E-02	2.68E-03	6.71E-04	1.01E-02
		342.13		6.68	2.68E-03		-2.83E-04	1.34E-03
	AG-112	606.82		3.10	9.60E-03	6.86E-04	2.21E-03	4.79E-03
		617.52		43.00	6.86E-04		2.42E-04	3.42E-04
		692.82		1.19	2.81E-02		1.32E-03	1.40E-02
		694.87		2.90	1.15E-02		1.56E-01	5.75E-03
		851.28		1.02	2.56E-02		1.91E-03	1.27E-02
		1312.36		1.11	1.13E-02		1.21E-02	5.60E-03
		1387.68		5.30	2.04E-03		3.29E-03	1.01E-03
		1613.66		2.80	2.41E-03		2.12E-04	1.17E-03
		1798.50		0.89	5.14E-03		-6.34E-03	2.47E-03
		2106.31		2.40	1.64E-03		1.11E-03	7.79E-04
		2506.70		1.06	7.74E-03		3.00E-02	3.76E-03
	CD-113M	263.70		0.03	6.76E-01	6.76E-01	1.38E-01	3.38E-01
	SN-113	255.13		2.11	8.84E-03	2.26E-04	7.32E-03	4.41E-03
		391.70		64.97	2.26E-04		-2.30E-04	1.13E-04
	IN-114M	190.27		15.56	1.37E-03	1.37E-03	2.14E-03	6.84E-04
		558.43		4.40	2.99E-03		5.17E-04	1.49E-03
		725.24		4.40	4.53E-03		1.15E-03	2.26E-03
	CD-115	260.90		1.94	1.36E-02	5.02E-04	1.61E-02	6.77E-03
		336.24		46.02	5.02E-04		2.56E-04	2.51E-04
		527.90		27.45	6.87E-04		-4.45E-05	3.43E-04
	CD-115M	933.84		2.00	4.91E-03	4.91E-03	2.08E-03	2.44E-03
		1290.59		0.90	6.06E-03		4.17E-03	3.00E-03

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
IN-115M	336.24	45.90	2.77E-02	2.77E-02	1.42E-02	1.38E-02
IN-116M	138.29	3.70	1.46E+07	1.30E+05	-2.00E+06	7.28E+06
	416.90	27.20	1.13E+06		7.27E+06	5.63E+05
	818.68	12.13	1.81E+06		4.96E+05	8.99E+05
	1097.28	58.50	2.87E+05		-6.96E+05	1.43E+05
	1293.56	84.80	1.30E+05		3.60E+05	6.45E+04
	1507.59	9.92	6.75E+05		3.08E+05	3.31E+05
	2112.29	15.09	2.10E+05		-4.11E+04	9.98E+04
SB-125	176.31	6.84	3.21E-03	4.72E-04	2.21E-03	1.60E-03
	380.45	1.52	9.77E-03		7.02E-03	4.88E-03
	427.87	29.60	4.72E-04		-2.16E-04	2.35E-04
	463.36	10.49	1.35E-03		-2.20E-03	6.71E-04
	600.60	17.65	6.62E-04		6.24E-04	3.30E-04
	606.71	4.98	2.35E-03		7.39E-04	1.17E-03
	635.95	11.22	1.01E-03		4.54E-04	5.05E-04
	671.44	1.79	6.93E-03		-1.42E-03	3.45E-03
SN-125	332.10	1.40	1.35E-02	8.58E-04	-1.22E-03	6.75E-03
	469.85	1.50	1.09E-02		6.59E-03	5.46E-03
	800.28	1.10	1.07E-02		7.12E-03	5.31E-03
	822.48	4.30	2.64E-03		4.23E-04	1.32E-03
	915.55	4.10	2.64E-03		-1.36E-04	1.31E-03
	1067.10	10.00	9.86E-04		3.18E-05	4.90E-04
	1087.70	1.20	8.65E-03		1.51E-02	4.30E-03
	1089.10	4.60	2.09E-03		5.39E-03	1.04E-03
	2002.10	1.90	8.58E-04		-7.68E-04	4.07E-04
SB-127	61.10	1.43	7.32E-02	3.72E-04	9.16E-03	3.66E-02
	252.40	8.50	2.89E-03		4.86E-04	1.44E-03
	290.80	2.02	1.09E-02		-1.57E-02	5.42E-03
	412.10	3.80	4.97E-03		9.88E-04	2.48E-03
	445.10	4.30	4.37E-03		9.56E-03	2.18E-03
	473.00	25.80	6.74E-04		-1.21E-03	3.36E-04
	543.30	2.90	5.24E-03		6.65E-04	2.61E-03
	603.50	4.50	3.34E-03		4.58E-04	1.67E-03
	685.70	36.80	3.72E-04		-1.98E-05	1.86E-04
	698.50	3.64	4.29E-03		7.23E-04	2.14E-03
	722.20	1.88	1.25E-02		4.83E-01	6.22E-03
	783.70	15.10	8.83E-04		2.08E-04	4.40E-04
SN-127	119.70	2.20	1.53E+02	2.51E+00	2.11E+01	7.66E+01
	262.50	2.30	8.70E+01		5.61E+01	4.35E+01
	266.20	2.10	9.44E+01		2.32E+01	4.71E+01
	284.30	2.70	7.04E+01		5.05E+01	3.52E+01
	438.20	6.10	2.60E+01		3.21E+01	1.30E+01
	490.90	5.30	2.87E+01		4.15E+01	1.43E+01
	493.20	3.10	4.88E+01		-4.82E+01	2.43E+01
	545.40	2.30	6.03E+01		-1.75E+00	3.01E+01
	583.30	3.20	4.24E+01		6.45E+01	2.11E+01
	805.90	8.20	1.37E+01		1.58E+01	6.83E+00
	823.10	11.00	1.00E+01		7.49E+00	4.98E+00
	824.70	6.10	1.80E+01		1.06E+01	8.95E+00
	859.50	8.00	1.34E+01		7.14E+00	6.68E+00
	979.20	7.20	1.42E+01		-9.99E-01	7.07E+00
	1093.30	3.80	2.46E+01		1.36E+01	1.22E+01
	1095.60	19.00	4.84E+00		-4.70E+00	2.40E+00

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SN-127	1114.30		38.00	2.51E+00	2.51E+00	3.75E+00	1.25E+00
		1160.40		2.40	3.30E+01		1.17E+01	1.64E+01
		2003.40		5.30	3.10E+00		3.70E+00	1.47E+00
	SB-129	180.42		2.84	6.83E-01	1.93E-02	1.21E-02	3.41E-01
		359.20		2.39	5.76E-01		3.26E-01	2.88E-01
		404.64		1.17	1.10E+00		1.29E+00	5.51E-01
		523.13		1.55	7.62E-01		-6.02E-01	3.80E-01
		544.56		15.42	7.32E-02		1.73E-02	3.65E-02
		633.74		2.53	4.02E-01		2.59E-01	2.00E-01
		654.28		2.97	3.46E-01		-2.77E-02	1.73E-01
		682.77		5.76	1.72E-01		-1.13E-01	8.58E-02
		761.12		4.32	2.69E-01		2.36E-01	1.34E-01
		773.37		2.82	3.44E-01		-1.47E-01	1.71E-01
		786.36		1.07	8.86E-01		6.65E-01	4.41E-01
		787.16		1.74	5.44E-01		6.36E-01	2.71E-01
		812.97		48.20	1.93E-02		1.32E-02	9.63E-03
		819.51		1.39	6.64E-01		1.43E-01	3.31E-01
		876.65		2.75	5.19E-01		1.57E-03	2.59E-01
		914.96		23.30	3.68E-02		-3.69E-02	1.83E-02
		966.78		8.96	9.78E-02		1.44E-01	4.87E-02
		1030.65		15.13	5.44E-02		-6.65E-03	2.70E-02
		1656.10		1.31	1.58E-01		-2.45E-01	7.69E-02
		1738.16		7.45	2.45E-02		-3.07E-02	1.18E-02
	TE-129	459.60		7.70	1.88E-03	1.88E-03	3.80E-05	9.39E-04
		487.39		1.42	9.97E-03		-1.07E-03	4.97E-03
+	Te-129m	695.88	*	3.00	2.68E-03	2.68E-03	3.46E-02	1.33E-03
	I-131	80.18		2.62	1.77E-02	2.07E-04	-1.28E-02	8.86E-03
		284.30		6.12	3.16E-03		9.62E-04	1.58E-03
		364.49		81.50	2.07E-04		-3.09E-06	1.03E-04
		636.99		7.16	1.76E-03		7.76E-04	8.75E-04
		722.91		1.77	1.18E-02		4.69E-01	5.87E-03
	Te-131m	773.67		36.80	5.68E-04	5.68E-04	-2.43E-04	2.83E-04
		793.75		13.40	1.57E-03		1.72E-03	7.83E-04
		852.21		19.90	9.78E-04		1.25E-03	4.87E-04
		1125.46		11.00	1.47E-03		-5.27E-04	7.31E-04
		1206.60		9.41	1.20E-03		-2.70E-03	5.97E-04
	I-132	262.90		1.28	1.83E-02	1.97E-04	-5.08E-03	9.13E-03
		284.90		0.71	3.13E-02		3.98E-03	1.56E-02
		505.79		4.93	4.44E-03		-2.53E-04	2.21E-03
		522.65		16.00	1.16E-03		1.84E-03	5.80E-04
		547.20		1.14	1.57E-02		4.98E-03	7.81E-03
		621.20		1.97	8.42E-03		-2.91E-04	4.20E-03
		630.19		13.30	1.23E-03		1.07E-04	6.11E-04
		650.50		2.57	6.42E-03		1.56E-03	3.20E-03
		667.71		98.70	2.94E-04		1.90E-05	1.47E-04
		669.80		4.60	3.88E-03		-7.81E-04	1.94E-03
		671.40		3.50	5.20E-03		-2.99E-03	2.59E-03
		727.10		5.40	5.07E-03		-1.28E-04	2.53E-03
		728.40		1.60	1.63E-02		-2.15E-03	8.15E-03
		772.60		75.60	1.97E-04		-5.28E-05	9.82E-05
		809.50		2.60	5.64E-03		4.05E-03	2.81E-03
		812.00		5.50	2.66E-03		1.54E-03	1.32E-03
		910.10		0.93	1.51E-02		-1.13E-03	7.52E-03

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
I-132	954.55	17.60	7.61E-04	1.97E-04	2.49E-04	3.78E-04
	1136.00	3.01	3.60E-03		-7.02E-04	1.79E-03
	1172.90	1.09	2.27E-02		8.54E-01	1.13E-02
	1290.80	1.13	6.61E-03		-2.93E-03	3.27E-03
	1295.10	1.88	3.20E-03		7.71E-04	1.58E-03
	1297.90	0.89	5.94E-03		4.71E-03	2.94E-03
	1372.07	2.47	2.50E-03		-7.46E-05	1.23E-03
	1398.57	7.01	1.05E-03		4.58E-03	5.20E-04
	1442.56	1.40	3.04E-03		-2.11E-03	1.50E-03
TE-132	49.72	15.00	1.02E-02	2.95E-04	-2.88E-03	5.12E-03
	111.76	1.74	2.16E-02		1.13E-02	1.08E-02
	116.30	1.96	1.87E-02		2.95E-04	9.33E-03
	228.16	88.00	2.95E-04		9.07E-05	1.47E-04
BA-133	81.00	32.90	1.26E-03	2.53E-04	-9.78E-04	6.29E-04
	276.40	7.16	2.52E-03		-2.71E-04	1.26E-03
	302.85	18.34	9.14E-04		-1.18E-03	4.56E-04
	356.01	62.05	2.53E-04		4.76E-05	1.26E-04
	383.85	8.94	1.61E-03		1.35E-03	8.04E-04
I-133	529.87	87.00	3.85E-04	3.85E-04	2.92E-04	1.92E-04
	706.58	1.51	1.92E-02		2.66E-03	9.57E-03
	856.28	1.24	2.13E-02		-1.07E-02	1.06E-02
	875.33	4.51	9.09E-03		2.56E-01	4.53E-03
	1236.44	1.51	9.89E-03		-9.47E-04	4.90E-03
	1298.22	2.35	5.71E-03		-2.16E-04	2.82E-03
@ TE-133	312.08	62.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	407.63	27.10	1.00E+20		1.00E+20	1.00E+20
@	410.40	0.94	1.00E+20		1.00E+20	1.00E+20
@	474.85	0.88	1.00E+20		1.00E+20	1.00E+20
@	719.71	8.90	1.00E+20		1.00E+20	1.00E+20
@	786.93	5.40	1.00E+20		1.00E+20	1.00E+20
@	844.36	3.31	1.00E+20		1.00E+20	1.00E+20
@	884.30	0.72	1.00E+20		1.00E+20	1.00E+20
@	930.71	3.81	1.00E+20		1.00E+20	1.00E+20
@	997.70	1.04	1.00E+20		1.00E+20	1.00E+20
@	1000.72	3.62	1.00E+20		1.00E+20	1.00E+20
@	1021.13	2.81	1.00E+20		1.00E+20	1.00E+20
@	1061.61	1.19	1.00E+20		1.00E+20	1.00E+20
@	1252.08	1.44	1.00E+20		1.00E+20	1.00E+20
@	1312.80	0.85	1.00E+20		1.00E+20	1.00E+20
@	1333.21	10.67	1.00E+20		1.00E+20	1.00E+20
@	1717.61	3.18	1.00E+20		1.00E+20	1.00E+20
@	1881.52	1.22	1.00E+20		1.00E+20	1.00E+20
@	2136.51	1.25	1.00E+20		1.00E+20	1.00E+20
@	2229.64	0.87	1.00E+20		1.00E+20	1.00E+20
Xe-133	81.00	36.90	1.25E-03	1.25E-03	-9.74E-04	6.27E-04
CS-134	475.36	1.48	9.41E-03	1.26E-04	6.43E-03	4.69E-03
	563.25	8.34	1.60E-03		7.80E-04	7.96E-04
	569.33	15.37	8.58E-04		-5.43E-04	4.28E-04
	604.72	97.62	1.26E-04		8.98E-05	6.27E-05
	795.86	85.46	1.29E-04		-1.22E-05	6.40E-05
	801.95	8.69	1.28E-03		3.69E-04	6.36E-04
	1038.61	0.99	9.69E-03		6.22E-03	4.82E-03
	1167.97	1.79	9.39E-03		-1.15E-03	4.68E-03

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-134	1365.19		3.02	1.35E-03	1.26E-04	3.76E-04	6.66E-04
	I-135	220.50		1.75	2.42E-01	3.84E-03	1.84E-01	1.21E-01
		288.45		3.10	1.13E-01		1.04E-01	5.66E-02
		417.63		3.53	8.70E-02		4.29E-02	4.34E-02
		546.56		7.15	3.61E-02		1.16E-02	1.80E-02
		836.80		6.69	3.02E-02		-1.89E-02	1.50E-02
		971.96		0.89	2.20E-01		2.36E-02	1.10E-01
		972.62		1.21	1.59E-01		2.41E-01	7.93E-02
		1038.76		7.90	2.31E-02		1.48E-02	1.15E-02
		1101.58		1.61	1.06E-01		-3.05E-02	5.25E-02
		1124.00		3.62	4.92E-02		2.94E-03	2.44E-02
		1131.51		22.60	7.50E-03		1.00E-02	3.73E-03
		1240.47		0.90	1.58E-01		6.25E-02	7.82E-02
		1260.41		28.70	3.84E-03		-3.87E-03	1.90E-03
		1457.56		8.70	9.65E-03		2.18E-02	4.76E-03
		1502.79		1.08	7.04E-02		-6.56E-02	3.46E-02
		1566.41		1.29	4.27E-02		-3.78E-02	2.09E-02
		1678.03		9.60	4.54E-03		-2.73E-03	2.20E-03
		1706.46		4.10	1.09E-02		2.75E-04	5.31E-03
		1791.20		7.72	4.90E-03		-1.51E-03	2.36E-03
		2408.65		0.96	2.41E-02		6.10E-03	1.11E-02
	XE-135	249.79		90.00	1.90E-03	1.90E-03	6.37E-04	9.50E-04
	XE-135m	526.56		80.40	3.22E-03	3.22E-03	-1.44E-03	1.61E-03
	CS-136	66.88		4.79	1.38E-02	1.19E-04	2.87E-02	6.91E-03
		86.36		5.90	7.21E-03		6.41E-02	3.61E-03
		153.25		7.70	3.56E-03		-6.09E-04	1.78E-03
		163.92		4.69	5.91E-03		7.19E-04	2.95E-03
		176.60		13.70	1.87E-03		1.87E-03	9.35E-04
		273.65		12.66	1.63E-03		1.09E-03	8.12E-04
		340.55		46.80	3.93E-04		-2.18E-04	1.96E-04
		818.51		99.70	1.19E-04		4.48E-05	5.93E-05
		1048.07		80.00	1.33E-04		4.13E-05	6.62E-05
		1235.36		20.00	3.39E-04		-3.40E-05	1.68E-04
+	CS-137	661.66	*	85.10	9.83E-05	9.83E-05	2.50E-02	4.89E-05
	BA-139	33.44		3.84	1.64E+05	1.26E+03	-5.65E+05	8.21E+04
		165.86		23.70	1.26E+03		-4.88E+01	6.30E+02
	BA-140	132.69		0.20	1.38E-01	5.58E-04	-1.83E-02	6.90E-02
		162.66		6.22	4.05E-03		2.13E-03	2.03E-03
		304.85		4.29	4.23E-03		-3.93E-03	2.11E-03
		423.72		3.10	4.82E-03		8.38E-03	2.40E-03
		437.58		1.93	7.94E-03		4.97E-03	3.96E-03
		537.26		24.39	5.58E-04		1.22E-04	2.78E-04
	LA-140	109.42		0.22	1.38E-01	8.31E-05	1.67E-02	6.90E-02
		131.12		0.47	6.02E-02		1.20E-02	3.01E-02
		173.54		0.13	1.86E-01		-1.56E-01	9.29E-02
		241.93		0.41	4.96E-02		2.69E-02	2.48E-02
		266.54		0.47	4.10E-02		7.72E-03	2.05E-02
		328.76		20.30	8.94E-04		-5.14E-04	4.46E-04
		432.49		2.90	5.72E-03		9.97E-04	2.86E-03
		487.02		45.50	3.44E-04		-4.01E-04	1.72E-04
		618.10		0.04	3.33E-01		1.21E-01	1.66E-01
		751.64		4.33	3.19E-03		4.14E-04	1.59E-03
		815.77		23.28	4.80E-04		6.13E-04	2.39E-04

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
LA-140	867.85	5.50	2.97E-03	8.31E-05	6.14E-04	1.48E-03
	919.55	2.66	3.88E-03		3.78E-03	1.93E-03
	925.19	6.90	1.55E-03		1.27E-03	7.73E-04
	950.99	0.52	2.04E-02		1.31E-02	1.01E-02
	1596.21	95.40	8.31E-05		9.26E-04	4.12E-05
	2347.88	0.85	1.51E-03		-1.65E-03	7.05E-04
	2521.40	3.46	3.37E-04		4.36E-04	1.55E-04
	2547.34	0.10	1.16E-02		-6.16E-03	5.33E-03
@ BA-141	33.44	7.93	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	190.33	44.80	1.00E+20		1.00E+20	1.00E+20
@	276.95	23.60	1.00E+20		1.00E+20	1.00E+20
@	304.19	26.10	1.00E+20		1.00E+20	1.00E+20
@	343.67	15.10	1.00E+20		1.00E+20	1.00E+20
@	389.74	1.37	1.00E+20		1.00E+20	1.00E+20
@	457.51	5.00	1.00E+20		1.00E+20	1.00E+20
@	462.06	5.10	1.00E+20		1.00E+20	1.00E+20
@	467.22	5.60	1.00E+20		1.00E+20	1.00E+20
@	625.08	3.45	1.00E+20		1.00E+20	1.00E+20
@	647.78	5.70	1.00E+20		1.00E+20	1.00E+20
@	738.95	4.39	1.00E+20		1.00E+20	1.00E+20
@	831.46	1.64	1.00E+20		1.00E+20	1.00E+20
@	876.09	3.45	1.00E+20		1.00E+20	1.00E+20
@	1160.72	1.12	1.00E+20		1.00E+20	1.00E+20
@	1197.28	4.35	1.00E+20		1.00E+20	1.00E+20
@	1323.92	0.92	1.00E+20		1.00E+20	1.00E+20
@	1654.00	0.65	1.00E+20		1.00E+20	1.00E+20
@	1682.19	1.19	1.00E+20		1.00E+20	1.00E+20
CE-141	145.44	48.30	5.25E-04	5.25E-04	3.73E-04	2.63E-04
@ BA-142	33.44	14.20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	77.59	7.00	1.00E+20		1.00E+20	1.00E+20
@	177.00	2.12	1.00E+20		1.00E+20	1.00E+20
@	231.61	12.20	1.00E+20		1.00E+20	1.00E+20
@	255.30	20.70	1.00E+20		1.00E+20	1.00E+20
@	286.30	1.11	1.00E+20		1.00E+20	1.00E+20
@	309.20	2.60	1.00E+20		1.00E+20	1.00E+20
@	335.00	1.53	1.00E+20		1.00E+20	1.00E+20
@	363.96	4.76	1.00E+20		1.00E+20	1.00E+20
@	425.04	5.75	1.00E+20		1.00E+20	1.00E+20
@	599.80	1.85	1.00E+20		1.00E+20	1.00E+20
@	840.40	3.63	1.00E+20		1.00E+20	1.00E+20
@	895.20	13.90	1.00E+20		1.00E+20	1.00E+20
@	949.10	10.70	1.00E+20		1.00E+20	1.00E+20
@	1001.20	9.80	1.00E+20		1.00E+20	1.00E+20
@	1078.70	11.50	1.00E+20		1.00E+20	1.00E+20
@	1094.10	2.82	1.00E+20		1.00E+20	1.00E+20
@	1126.80	1.50	1.00E+20		1.00E+20	1.00E+20
@	1202.40	5.60	1.00E+20		1.00E+20	1.00E+20
@	1204.30	14.30	1.00E+20		1.00E+20	1.00E+20
@	1380.20	3.42	1.00E+20		1.00E+20	1.00E+20
CE-143	57.36	11.70	1.53E-02	7.17E-04	-1.10E-02	7.66E-03
	231.55	2.05	1.83E-02		2.29E-02	9.14E-03
	293.27	42.80	7.17E-04		-4.55E-04	3.58E-04
	350.62	3.23	8.47E-03		6.51E-03	4.23E-03

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
CE-143	490.37	2.16	1.21E-02	7.17E-04	6.46E-03	6.02E-03
	664.57	5.69	9.02E-03		7.12E-01	4.50E-03
	721.93	5.39	6.24E-03		2.42E-01	3.11E-03
	880.46	1.03	2.04E-02		7.29E-03	1.02E-02
CE-144	80.12	1.36	2.96E-02	2.36E-03	-2.14E-02	1.48E-02
	133.51	11.09	2.36E-03		5.47E-04	1.18E-03
ND-147	38.17	13.20	2.12E-02	1.06E-03	-4.06E-02	1.06E-02
	38.72	23.80	1.11E-02		-1.35E-02	5.55E-03
	91.11	28.90	1.26E-03		2.93E-04	6.32E-04
	275.39	0.79	2.53E-02		-7.42E-03	1.26E-02
	319.41	1.97	9.05E-03		5.13E-03	4.52E-03
	398.13	0.87	1.83E-02		2.11E-02	9.15E-03
	439.88	1.20	1.31E-02		6.07E-03	6.56E-03
	531.01	13.11	1.06E-03		-4.76E-04	5.30E-04
	685.88	0.82	1.45E-02		-1.45E-02	7.24E-03
@ PR-147	36.85	19.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	37.36	35.50	1.00E+20		1.00E+20	1.00E+20
@	49.88	4.00	1.00E+20		1.00E+20	1.00E+20
@	77.97	9.70	1.00E+20		1.00E+20	1.00E+20
@	86.69	5.40	1.00E+20		1.00E+20	1.00E+20
@	127.80	7.40	1.00E+20		1.00E+20	1.00E+20
@	249.20	1.32	1.00E+20		1.00E+20	1.00E+20
@	314.70	18.20	1.00E+20		1.00E+20	1.00E+20
@	328.80	4.00	1.00E+20		1.00E+20	1.00E+20
@	335.70	4.70	1.00E+20		1.00E+20	1.00E+20
@	388.80	1.41	1.00E+20		1.00E+20	1.00E+20
@	466.80	1.70	1.00E+20		1.00E+20	1.00E+20
@	477.90	4.60	1.00E+20		1.00E+20	1.00E+20
@	516.70	1.30	1.00E+20		1.00E+20	1.00E+20
@	554.70	5.90	1.00E+20		1.00E+20	1.00E+20
@	577.90	13.70	1.00E+20		1.00E+20	1.00E+20
@	641.40	16.10	1.00E+20		1.00E+20	1.00E+20
@	996.00	1.52	1.00E+20		1.00E+20	1.00E+20
@	1136.70	1.42	1.00E+20		1.00E+20	1.00E+20
@	1261.10	8.40	1.00E+20		1.00E+20	1.00E+20
@	1300.40	2.30	1.00E+20		1.00E+20	1.00E+20
ND-149	38.17	9.00	2.35E+03	6.66E+01	-4.49E+03	1.18E+03
	38.72	16.30	1.23E+03		-1.49E+03	6.12E+02
	58.88	1.30	5.96E+03		-2.09E+03	2.98E+03
	74.32	2.11	1.84E+03		8.26E+03	9.18E+02
	97.00	1.48	1.79E+03		5.68E+02	8.92E+02
	114.31	19.20	1.25E+02		-8.28E+01	6.26E+01
	155.87	5.95	3.37E+02		-1.74E+01	1.68E+02
	188.64	1.79	1.04E+03		1.66E+03	5.19E+02
	198.93	1.39	1.26E+03		1.16E+03	6.30E+02
	208.15	2.55	7.05E+02		7.17E+02	3.52E+02
	211.31	26.00	6.66E+01		4.62E+01	3.33E+01
	240.22	3.95	4.00E+02		4.01E+00	2.00E+02
	245.72	0.81	2.12E+03		3.64E+02	1.06E+03
	267.69	6.05	2.54E+02		1.10E+02	1.27E+02
	270.17	10.80	1.34E+02		-1.17E+02	6.70E+01
	326.55	4.57	2.93E+02		-1.55E+02	1.46E+02
	349.23	1.38	9.65E+02		6.24E+02	4.82E+02

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ND-149	423.55	7.50	1.54E+02	6.66E+01	2.51E+02	7.67E+01
	443.55	1.15	1.07E+03		2.28E+03	5.35E+02
	540.51	6.60	1.59E+02		-1.52E+02	7.95E+01
	654.83	8.00	1.21E+02		-6.80E+01	6.01E+01
PM-149	285.95	3.10	8.01E-03	8.01E-03	-9.84E-04	4.00E-03
PM-150	39.52	0.63	5.08E+02	3.35E-01	-5.24E+02	2.54E+02
	40.12	1.14	2.67E+02		-2.41E+02	1.34E+02
	333.92	68.00	3.35E-01		-1.00E-01	1.67E-01
	406.51	5.60	3.65E+00		-6.24E+00	1.82E+00
	565.70	1.31	1.33E+01		1.36E+01	6.62E+00
	587.02	1.34	1.44E+01		-1.24E+00	7.19E+00
	612.25	0.93	1.78E+01		1.36E+01	8.89E+00
	712.22	4.40	3.51E+00		5.84E+00	1.75E+00
	737.50	2.25	6.79E+00		6.44E+00	3.38E+00
	831.85	11.90	1.18E+00		-1.33E+00	5.86E-01
	859.95	3.40	4.06E+00		-2.13E+00	2.02E+00
	876.41	7.30	3.10E+00		9.35E-03	1.55E+00
	1165.77	15.80	9.43E-01		-2.00E-01	4.69E-01
	1170.90	1.06	2.49E+01		-1.03E+00	1.24E+01
	1193.87	4.80	1.90E+00		-1.12E+00	9.40E-01
	1213.72	1.03	8.19E+00		-4.12E+00	4.06E+00
	1223.28	2.80	2.97E+00		2.99E+00	1.47E+00
	1324.51	17.50	5.95E-01		-1.01E+00	2.95E-01
	1379.32	3.10	2.00E+00		-4.06E-01	9.84E-01
	1736.40	6.90	4.33E-01		-3.37E-01	2.09E-01
	1963.71	1.47	1.50E+00		-1.63E+00	7.15E-01
	2033.46	0.97	2.35E+00		-1.72E+00	1.12E+00
@ ND-151	38.17	5.94	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	38.72	10.70	1.00E+20		1.00E+20	1.00E+20
@	68.98	1.26	1.00E+20		1.00E+20	1.00E+20
@	85.12	2.05	1.00E+20		1.00E+20	1.00E+20
@	89.96	1.53	1.00E+20		1.00E+20	1.00E+20
@	116.80	39.00	1.00E+20		1.00E+20	1.00E+20
@	138.89	7.00	1.00E+20		1.00E+20	1.00E+20
@	170.76	2.87	1.00E+20		1.00E+20	1.00E+20
@	175.07	6.30	1.00E+20		1.00E+20	1.00E+20
@	255.68	14.80	1.00E+20		1.00E+20	1.00E+20
@	300.58	1.82	1.00E+20		1.00E+20	1.00E+20
@	423.56	5.90	1.00E+20		1.00E+20	1.00E+20
@	460.59	0.96	1.00E+20		1.00E+20	1.00E+20
@	585.22	1.30	1.00E+20		1.00E+20	1.00E+20
@	677.88	2.38	1.00E+20		1.00E+20	1.00E+20
@	736.23	5.90	1.00E+20		1.00E+20	1.00E+20
@	739.20	1.52	1.00E+20		1.00E+20	1.00E+20
@	755.57	1.17	1.00E+20		1.00E+20	1.00E+20
@	797.53	4.70	1.00E+20		1.00E+20	1.00E+20
@	1016.40	2.50	1.00E+20		1.00E+20	1.00E+20
@	1122.63	4.10	1.00E+20		1.00E+20	1.00E+20
@	1180.89	13.30	1.00E+20		1.00E+20	1.00E+20
Pm-151	167.75	8.30	5.54E-03	1.42E-03	4.32E-03	2.77E-03
	177.16	3.80	1.20E-02		4.64E-04	6.01E-03
	240.09	3.80	1.04E-02		1.04E-04	5.17E-03
	275.21	6.80	5.20E-03		-1.52E-03	2.60E-03

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Pm-151	340.08		22.50	1.42E-03	1.42E-03	-5.80E-04	7.09E-04
+	EU-152	121.78		28.53	1.14E-03	3.46E-04	-2.10E-04	5.68E-04
		344.28	*	26.59	8.03E-04		1.52E-03	4.01E-04
		778.90	*	12.93	1.21E-03		1.01E-03	6.01E-04
		867.37		4.23	3.34E-03		2.11E-03	1.66E-03
		964.08	*	14.51	7.82E-04		1.28E-03	3.89E-04
		1085.87	*	10.11	7.85E-04		9.54E-04	3.90E-04
		1112.07	*	13.67	8.37E-04		1.45E-03	4.17E-04
		1408.01	*	20.87	3.46E-04		1.29E-03	1.71E-04
	@ ND-152	44.44		5.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
	@	250.15		16.40	1.00E+20		1.00E+20	1.00E+20
	@	278.56		26.00	1.00E+20		1.00E+20	1.00E+20
	@	294.47		2.90	1.00E+20		1.00E+20	1.00E+20
	@	545.70		0.83	1.00E+20		1.00E+20	1.00E+20
	@	592.50		0.99	1.00E+20		1.00E+20	1.00E+20
	GD-153	69.67		2.45	2.14E-02	1.06E-03	-2.51E-03	1.07E-02
		97.43		30.00	1.06E-03		4.09E-04	5.29E-04
		103.18		22.10	1.38E-03		4.10E-03	6.87E-04
	SM-153	69.67		4.67	1.70E-02	1.58E-03	-1.99E-03	8.50E-03
		103.18		29.14	1.58E-03		4.71E-03	7.90E-04
+	EU-154	42.70	*	20.45	9.23E-03	3.08E-04	2.16E-02	4.61E-03
		123.07	*	40.40	1.05E-03		3.95E-02	5.25E-04
		247.93	*	6.89	2.15E-03		3.89E-02	1.08E-03
		591.76	*	4.95	3.70E-03		3.83E-02	1.85E-03
		692.42	*	1.78	4.67E-03		3.97E-02	2.32E-03
		723.30	*	20.06	9.15E-04		3.92E-02	4.57E-04
		756.80	*	4.52	3.32E-03		3.82E-02	1.65E-03
		873.18	*	12.08	1.19E-03		3.93E-02	5.94E-04
		996.29	*	10.48	6.74E-04		3.84E-02	3.35E-04
		1004.76	*	18.01	8.88E-04		3.89E-02	4.42E-04
		1246.12	*	0.86	9.55E-03		3.77E-02	4.74E-03
		1274.43	*	34.80	3.08E-04		3.90E-02	1.53E-04
		1494.05	*	0.70	7.55E-03		3.51E-02	3.73E-03
		1596.48	*	1.80	2.25E-03		3.83E-02	1.11E-03
+	EU-155	43.00	*	18.12	1.04E-02	1.46E-03	2.44E-02	5.21E-03
		60.01	*	1.17	8.71E-02		9.31E+00	4.35E-02
		86.55	*	30.70	1.46E-03		7.53E-03	7.29E-04
		105.31	*	21.10	2.13E-03		8.11E-03	1.06E-03
	EU-156	88.97		8.40	4.69E-03	4.05E-04	2.41E-03	2.34E-03
		646.29		6.30	1.99E-03		2.10E-03	9.93E-04
		723.47		5.40	3.84E-03		1.55E-01	1.92E-03
		811.77		9.70	1.18E-03		8.61E-04	5.89E-04
		1065.14		4.90	1.99E-03		1.02E-03	9.88E-04
		1079.16		4.60	1.98E-03		7.88E-04	9.84E-04
		1153.80		11.50	6.91E-04		7.00E-04	3.43E-04
		1230.71		8.00	8.06E-04		1.67E-04	3.99E-04
		1242.42		6.60	1.14E-03		2.88E-04	5.65E-04
		1277.43		2.89	9.51E-03		3.04E-04	4.74E-03
		1366.41		1.57	3.10E-03		4.02E-04	1.53E-03
		1965.95		3.90	4.05E-04		1.30E-05	1.93E-04
		2097.70		3.80	4.20E-04		1.96E-04	1.99E-04
		2186.71		3.50	4.51E-04		2.82E-04	2.13E-04
	Sm-156	87.60		24.00	1.22E-02	7.72E-03	9.43E-02	6.08E-03

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Sm-156	165.80		13.00	1.42E-02	7.72E-03	-5.50E-04	7.11E-03
		204.00		21.00	7.72E-03		4.52E-03	3.86E-03
	EU-158	42.31		5.80	2.77E+09	2.89E+07	6.55E+09	1.38E+09
		43.00		10.40	1.46E+09		3.68E+09	7.28E+08
		79.49		10.50	3.52E+08		-2.74E+08	1.76E+08
		181.97		2.30	8.49E+08		-2.95E+08	4.24E+08
		528.05		1.53	7.74E+08		3.31E+08	3.86E+08
		606.39		4.00	2.65E+08		3.40E+07	1.32E+08
		743.02		3.60	2.70E+08		4.34E+08	1.35E+08
		897.61		12.40	7.42E+07		4.71E+07	3.70E+07
		906.50		1.83	5.04E+08		1.80E+09	2.51E+08
		922.51		1.62	5.42E+08		5.29E+08	2.70E+08
		944.15		30.00	2.89E+07		-3.10E+07	1.44E+07
		953.03		1.98	4.37E+08		-1.37E+07	2.18E+08
		962.09		1.89	4.73E+08		7.73E+08	2.35E+08
		977.14		16.30	5.16E+07		-3.93E+07	2.57E+07
		986.96		1.35	6.31E+08		-4.21E+07	3.14E+08
		1107.63		5.10	1.55E+08		-2.02E+07	7.72E+07
		1184.10		3.00	2.02E+08		-8.93E+07	1.00E+08
		1186.00		2.90	2.06E+08		-2.00E+08	1.02E+08
		1187.10		4.40	1.35E+08		7.08E+07	6.71E+07
		1263.61		2.20	2.34E+08		-4.05E+08	1.16E+08
		1347.95		1.65	2.55E+08		3.21E+08	1.26E+08
		1944.47		1.62	8.91E+07		-4.27E+07	4.25E+07
	TB-160	86.79		13.20	2.95E-03	4.00E-04	2.23E-02	1.47E-03
		298.58		26.10	6.75E-04		1.11E-03	3.37E-04
		879.38		30.10	5.18E-04		1.94E-04	2.58E-04
		962.32		9.81	1.04E-03		1.68E-03	5.15E-04
		966.17		25.10	4.00E-04		8.08E-04	1.99E-04
		1177.96		14.90	1.22E-03		-1.72E-04	6.09E-04
+	TB-161	25.65		23.20	1.17E-01	5.80E-03	-1.38E-01	5.85E-02
		48.91	*	17.00	1.14E-02		1.61E-02	5.70E-03
		52.00		3.43	3.33E-02		1.55E-02	1.66E-02
		57.19		1.79	6.09E-02		-3.47E-02	3.05E-02
		74.57	*	10.20	5.80E-03		1.13E-02	2.90E-03
	YB-169	63.12		43.62	1.70E-03	5.93E-04	4.07E-04	8.51E-04
		93.61		2.58	1.44E-02		1.20E-02	7.20E-03
		109.78		17.39	1.74E-03		4.43E-05	8.68E-04
		130.52		11.38	2.55E-03		3.00E-03	1.27E-03
		177.21		22.28	1.06E-03		4.10E-05	5.30E-04
		197.96		35.93	5.93E-04		-4.55E-04	2.96E-04
		307.74		10.05	1.58E-03		-1.82E-04	7.88E-04
	HF-172	54.07		63.00	1.46E-03	1.46E-03	-4.15E-04	7.28E-04
		67.35		5.30	1.03E-02		1.15E-02	5.14E-03
		81.75		4.50	8.69E-03		-7.35E-03	4.34E-03
		114.06		2.60	1.10E-02		-1.26E-03	5.51E-03
		125.81		11.30	2.68E-03		1.64E-03	1.34E-03
		127.91		1.46	1.85E-02		1.80E-02	9.23E-03
	LU-173	59.30		24.44	3.61E-03	8.54E-04	4.60E-01	1.80E-03
		78.63		11.90	3.68E-03		8.01E-05	1.84E-03
		100.72		5.24	5.99E-03		-1.09E-02	3.00E-03
		171.39		2.90	7.87E-03		9.79E-03	3.93E-03
		272.11		21.20	8.54E-04		6.52E-07	4.26E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
LU-177	112.95	6.23	5.24E-03	2.32E-03	-2.11E-03	2.62E-03
	208.37	10.41	2.32E-03		2.36E-03	1.16E-03
	249.67	0.20	1.13E-01		3.78E-02	5.63E-02
	321.32	0.22	8.25E-02		-9.65E-02	4.12E-02
HF-181	133.02	43.30	6.43E-04	1.76E-04	1.64E-04	3.22E-04
	345.93	15.12	1.12E-03		1.37E-03	5.57E-04
	482.18	80.50	1.76E-04		1.26E-05	8.77E-05
W-181	56.28	18.70	5.04E-03	3.01E-03	-2.36E-03	2.52E-03
	57.53	32.00	3.01E-03		-2.14E-03	1.50E-03
	65.00	10.60	5.55E-03		8.59E-03	2.78E-03
TA-182	57.98	10.01	9.43E-03	2.23E-04	-4.76E-03	4.71E-03
	59.32	17.20	5.15E-03		6.57E-01	2.58E-03
	65.72	3.01	2.12E-02		2.31E-02	1.06E-02
	67.75	46.67	1.22E-03		8.67E-04	6.12E-04
	84.68	2.65	1.51E-02		-5.22E-03	7.54E-03
	100.11	14.20	2.33E-03		-2.96E-03	1.16E-03
	113.67	1.87	1.72E-02		1.20E-02	8.61E-03
	116.42	0.44	6.43E-02		1.02E-03	3.21E-02
	152.43	7.02	3.68E-03		-6.43E-04	1.84E-03
	156.39	2.67	9.54E-03		2.06E-02	4.77E-03
	179.39	3.12	7.53E-03		3.98E-03	3.76E-03
	198.35	1.47	1.55E-02		4.55E-03	7.75E-03
	222.11	7.57	2.85E-03		1.98E-03	1.43E-03
	229.32	3.64	5.94E-03		4.05E-03	2.97E-03
	264.08	3.61	5.34E-03		-5.67E-04	2.67E-03
	928.00	0.61	1.66E-02		-3.80E-03	8.28E-03
	959.73	0.35	3.00E-02		-1.96E-04	1.49E-02
	1001.70	2.09	1.18E-02		4.56E-01	5.89E-03
	1044.42	0.24	4.20E-02		3.60E-02	2.09E-02
	1113.41	0.44	2.06E-02		5.59E-02	1.02E-02
	1121.29	35.24	2.54E-04		2.14E-04	1.26E-04
	1157.30	0.73	9.74E-03		-2.70E-03	4.84E-03
	1189.04	16.49	3.89E-04		4.22E-04	1.93E-04
	1221.40	27.23	2.23E-04		-3.04E-04	1.10E-04
	1223.60	0.24	2.15E-02		4.07E-02	1.07E-02
	1231.00	11.62	5.29E-04		4.09E-04	2.62E-04
	1257.41	1.51	3.69E-03		3.88E-03	1.83E-03
	1273.72	0.66	3.11E-02		1.66E+00	1.55E-02
	1289.15	1.37	2.75E-03		6.73E-04	1.36E-03
	1342.73	0.26	1.77E-02		-2.29E-02	8.76E-03
	1373.82	0.22	1.30E-02		-1.22E-02	6.39E-03
Ta-183	84.71	1.35	3.27E-02	8.65E-04	-1.13E-02	1.64E-02
	99.08	6.80	5.33E-03		4.20E-03	2.67E-03
	107.93	11.20	3.03E-03		-1.89E-04	1.51E-03
	161.35	9.10	2.99E-03		-7.19E-04	1.50E-03
	162.32	5.00	5.43E-03		1.66E-03	2.71E-03
	244.26	8.80	2.68E-03		2.19E-04	1.34E-03
	246.06	27.20	8.65E-04		3.28E-05	4.32E-04
	353.99	11.60	1.57E-03		-1.66E-04	7.84E-04
Re-184	111.21	17.20	1.73E-03	2.73E-04	7.38E-05	8.65E-04
	252.85	3.00	6.48E-03		3.37E-03	3.24E-03
	792.01	37.70	2.86E-04		5.19E-05	1.42E-04
	894.76	15.70	6.46E-04		1.31E-03	3.22E-04

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Re-184	903.28		38.10	2.73E-04	2.73E-04	1.02E-03	1.36E-04
	W-185	59.72		0.01	7.33E+00	1.60E+00	9.18E+02	3.66E+00
		61.14		0.02	4.01E+00		5.02E-01	2.01E+00
		69.20		0.01	7.61E+00		-1.13E+00	3.80E+00
		125.36		0.02	1.60E+00		1.13E+00	7.99E-01
	W-187	61.14		14.30	1.29E-02	7.55E-04	1.61E-03	6.43E-03
		69.20		4.82	2.43E-02		-3.60E-03	1.22E-02
		72.00		13.55	8.58E-03		3.57E-04	4.29E-03
		134.25		10.36	6.02E-03		-1.53E-03	3.01E-03
		479.53		26.60	1.21E-03		8.53E-04	6.05E-04
		618.37		7.57	3.47E-03		1.26E-03	1.73E-03
		685.81		33.20	7.55E-04		-4.02E-05	3.76E-04
	Ir-188	155.05		29.60	1.29E-03	1.37E-04	4.92E-04	6.45E-04
		478.00		14.70	1.51E-03		2.46E-04	7.52E-04
		633.02		17.90	1.02E-03		-3.61E-04	5.07E-04
		634.97		5.00	3.65E-03		1.02E-03	1.82E-03
		829.42		5.10	3.12E-03		2.83E-03	1.56E-03
		1209.77		6.90	1.40E-03		3.46E-05	6.96E-04
		1715.67		6.20	8.69E-04		1.97E-04	4.26E-04
		2214.59		18.60	1.37E-04		-1.61E-04	6.51E-05
	W-188	227.07		0.23	8.67E-02	4.12E-02	5.77E-02	4.33E-02
		290.68		0.42	4.12E-02		-5.95E-02	2.05E-02
+	Ir-189	245.08	*	6.00	1.98E-03	1.98E-03	1.82E-03	9.86E-04
	Ir-190	186.68		50.00	4.55E-04	3.31E-04	1.67E-04	2.27E-04
		361.09		12.30	1.33E-03		7.00E-04	6.66E-04
		371.24		21.60	7.49E-04		3.92E-04	3.74E-04
		407.22		27.00	5.70E-04		-9.84E-04	2.84E-04
		518.55		32.20	4.45E-04		-4.71E-04	2.22E-04
		557.95		28.50	4.68E-04		1.22E-04	2.33E-04
		569.30		27.00	4.82E-04		-3.05E-04	2.40E-04
		605.14		37.80	3.31E-04		9.92E-05	1.65E-04
	OS-191	63.29		15.70	4.63E-03	1.06E-03	6.24E-03	2.32E-03
		64.99		26.70	2.31E-03		3.58E-03	1.15E-03
		73.45		9.21	5.34E-03		-1.01E-03	2.67E-03
		129.43		26.50	1.06E-03		1.15E-03	5.28E-04
	Pt-191	359.90		5.80	3.67E-03	1.21E-03	-1.11E-03	1.83E-03
		456.47		3.30	5.85E-03		1.38E-03	2.92E-03
		538.90		14.30	1.21E-03		-8.70E-04	6.02E-04
	IR-192	205.79		3.31	6.85E-03	2.08E-04	-2.71E-03	3.42E-03
		295.96		28.71	6.42E-04		3.76E-04	3.21E-04
		308.45		29.70	6.01E-04		3.63E-04	3.00E-04
		316.51		82.86	2.08E-04		3.32E-05	1.04E-04
		468.07		47.84	3.10E-04		-9.17E-06	1.55E-04
		588.58		4.52	3.35E-03		-2.84E-04	1.67E-03
		604.41		8.22	1.35E-03		2.50E-04	6.75E-04
		612.46		5.34	1.94E-03		3.01E-03	9.68E-04
	IR-192m	155.16		0.09	2.58E-01	2.58E-01	-1.10E-01	1.29E-01
	IR-193m	80.22		0.00	9.29E+00	9.29E+00	-6.71E+00	4.64E+00
	Pt-193m	135.50		0.11	2.73E-01	2.73E-01	2.46E-01	1.36E-01
	Au-194	293.55		10.90	2.59E-03	4.20E-04	-2.81E-04	1.29E-03
		328.47		62.80	4.20E-04		-2.15E-04	2.10E-04
		364.84		1.60	1.60E-02		2.01E-03	7.97E-03
		528.77		1.78	1.23E-02		8.58E-03	6.13E-03

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Au-194	645.16		2.32	8.21E-03	4.20E-04	-1.95E-03	4.09E-03
		948.32		2.29	7.00E-03		3.28E-03	3.48E-03
		1104.06		2.15	6.52E-03		4.80E-03	3.24E-03
		1175.36		2.14	1.46E-02		5.46E-01	7.26E-03
		1468.90		6.80	9.44E-04		-1.04E-04	4.64E-04
		1595.81		1.89	6.29E-03		7.12E-02	3.11E-03
		2043.72		3.74	7.01E-04		-7.32E-05	3.33E-04
	Ir-194	293.54		2.50	1.88E-02	3.35E-03	-2.04E-03	9.38E-03
		328.47		13.10	3.35E-03		-1.71E-03	1.67E-03
+	AU-195	98.86	*	11.21	4.04E-03	4.04E-03	4.73E-03	2.02E-03
		129.74		0.84	3.17E-02		2.41E-02	1.58E-02
	Pt-195m	98.90	*	11.70	4.72E-03	4.72E-03	5.47E-03	2.36E-03
		129.79		2.90	1.12E-02		8.54E-03	5.60E-03
	Au-196	333.03		22.90	8.62E-04	2.11E-04	4.68E-04	4.30E-04
		355.73		87.00	2.11E-04		1.50E-04	1.05E-04
		426.10		6.60	2.42E-03		1.29E-03	1.21E-03
	Au-196m	147.81		43.50	4.38E-03	4.38E-03	2.85E-03	2.19E-03
		188.27		30.00	5.47E-03		6.75E-03	2.73E-03
	Pt-197	77.35		17.00	6.75E-03	6.75E-03	-1.07E-03	3.37E-03
		191.44		3.70	1.52E-02		1.31E-02	7.60E-03
	AU-198	411.80		95.62	2.13E-04	2.13E-04	2.59E-05	1.06E-04
	AU-199	158.38		40.00	7.62E-04	7.62E-04	3.66E-04	3.81E-04
		208.20		8.72	3.17E-03		3.23E-03	1.58E-03
	TL-201	135.34		2.61	1.30E-02	2.97E-03	1.17E-02	6.49E-03
		167.43		10.00	2.97E-03		1.70E-03	1.48E-03
	TL-202	439.51		91.50	1.69E-04	1.69E-04	5.50E-05	8.42E-05
	PB-203	70.83		26.40	2.74E-03	3.25E-04	9.70E-04	1.37E-03
		72.87		44.20	1.56E-03		3.39E-04	7.81E-04
		82.40		15.56	3.63E-03		-6.06E-04	1.82E-03
		279.20		80.90	3.25E-04		7.00E-04	1.63E-04
		401.32		3.35	6.76E-03		7.36E-03	3.37E-03
	PB-210	46.54		4.25	3.21E-02	3.21E-02	-4.04E-02	1.61E-02
	Pa-233	86.60		2.01	1.87E-02	4.26E-04	1.64E-01	9.32E-03
		94.65		8.90	3.63E-03		5.09E-04	1.82E-03
		98.43		14.20	2.19E-03		4.63E-04	1.09E-03
		300.13		6.54	2.54E-03		-2.79E-03	1.27E-03
		311.90		38.20	4.26E-04		2.18E-04	2.12E-04
		340.48		4.44	3.62E-03		-2.01E-03	1.81E-03
	U-235	89.96		2.90	1.19E-02	3.72E-04	3.88E-03	5.97E-03
		93.35		4.70	6.99E-03		6.86E-03	3.49E-03
		109.19		1.64	1.74E-02		3.12E-03	8.68E-03
		143.76		10.93	2.28E-03		-1.10E-03	1.14E-03
		163.36		5.07	4.54E-03		4.77E-03	2.27E-03
		185.71		57.20	3.72E-04		1.22E-04	1.86E-04
		202.11		1.07	1.88E-02		-7.19E-03	9.41E-03
		205.31		5.03	4.27E-03		-1.11E-03	2.13E-03
+	NP-237	86.48	*	12.20	3.67E-03	3.67E-03	1.89E-02	1.83E-03
	U-237	59.54		34.50	2.89E-03	1.15E-03	3.65E-01	1.44E-03
		97.07		15.40	2.31E-03		6.62E-04	1.15E-03
		101.06		24.50	1.40E-03		-4.47E-03	7.00E-04
		113.30		3.07	1.06E-02		-9.69E-03	5.29E-03
		114.23		5.81	5.57E-03		-6.39E-04	2.78E-03
		117.46		2.27	1.40E-02		3.23E-04	7.01E-03

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	U-237	208.00		21.20	1.15E-03	1.15E-03	9.10E-04	5.75E-04
	NP-238	103.37		0.00	9.30E+00	5.47E-04	2.94E+01	4.65E+00
		882.63		0.80	1.81E-02		1.29E-02	8.99E-03
		923.99		2.60	5.51E-03		6.75E-03	2.74E-03
		984.45		25.20	5.47E-04		-1.03E-04	2.72E-04
		1025.87		8.75	1.55E-03		-2.42E-03	7.69E-04
		1028.53		18.23	7.43E-04		-3.72E-04	3.69E-04
	U-238	63.29		3.70	1.86E-02	7.85E-03	2.51E-02	9.31E-03
		92.51		4.23	7.85E-03		7.02E-03	3.92E-03
		112.81		0.21	1.37E-01		-5.53E-02	6.86E-02
		742.81		0.11	1.00E-01		5.54E-02	5.00E-02
		766.42		0.32	3.38E-02		6.32E-02	1.68E-02
		1001.03		0.84	2.67E-02		1.19E+00	1.33E-02
	Am-239	181.71		1.08	1.04E-01	6.10E-03	7.27E-02	5.20E-02
		209.80		3.50	3.16E-02		-1.42E-02	1.58E-02
		226.40		3.30	3.20E-02		3.72E-02	1.60E-02
		228.10		11.30	9.29E-03		-3.48E-03	4.64E-03
		277.60		15.00	6.10E-03		2.44E-03	3.05E-03
+	NP-239	61.46		1.30	8.69E-02	2.02E-03	-4.64E-03	4.35E-02
		99.53	*	12.90	4.95E-03		5.72E-03	2.47E-03
		103.37		20.50	2.07E-03		6.54E-03	1.03E-03
		106.12	*	25.34	2.55E-03		9.72E-03	1.27E-03
		209.75		3.36	9.01E-03		-4.06E-03	4.50E-03
		228.18		11.24	2.56E-03		7.86E-04	1.28E-03
		277.60	*	14.51	2.02E-03		1.63E-03	1.01E-03
		285.46		0.79	3.16E-02		4.88E-03	1.58E-02
		315.88		1.60	1.40E-02		3.55E-03	6.97E-03
		334.31		2.06	1.04E-02		3.17E-03	5.19E-03
	PU-239	38.66		0.01	2.36E+01	3.80E+00	-3.45E+01	1.18E+01
		51.62		0.03	3.80E+00		4.54E-01	1.90E+00
		98.50		0.01	4.27E+00		9.04E-01	2.14E+00
		111.03		0.00	2.19E+01		-6.89E+00	1.10E+01
		129.30		0.01	4.21E+00		2.44E+00	2.10E+00
		171.39		0.00	2.03E+02		2.52E+02	1.01E+02
		203.55		0.00	3.52E+01		-2.41E+01	1.76E+01
		332.85		0.00	3.26E+01		3.38E+01	1.63E+01
		336.11		0.00	1.43E+02		7.29E+01	7.12E+01
		345.01		0.00	2.87E+01		8.03E+01	1.43E+01
		375.05		0.00	9.64E+00		1.77E+00	4.81E+00
		380.19		0.00	4.86E+01		6.28E+01	2.43E+01
		382.75		0.00	5.71E+01		4.20E+01	2.85E+01
		413.71		0.00	1.02E+01		2.12E+00	5.10E+00
		422.60		0.00	1.15E+02		9.11E+01	5.74E+01
		451.48		0.00	7.51E+01		-1.27E+01	3.75E+01
	Am-240	99.53		18.40	2.46E-03	1.93E-04	1.86E-03	1.23E-03
		103.37		29.20	1.51E-03		4.78E-03	7.55E-04
		117.23		6.93	6.00E-03		1.40E-04	3.00E-03
		888.85		24.70	5.93E-04		7.78E-05	2.95E-04
		987.79		72.20	1.93E-04		2.80E-05	9.58E-05
	Np-240m	554.60		20.90	2.41E-03	2.41E-03	1.16E-03	1.20E-03
		597.40		11.70	4.38E-03		1.71E-03	2.19E-03
	U-240	44.10		1.05	5.91E-01	3.54E-01	-8.07E-01	2.95E-01
		66.50		0.15	1.46E+00		1.82E+00	7.32E-01

Analysis Report for 24-2317 VSM-5.5M-S4-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	U-240	169.20		0.12	7.90E-01	3.54E-01	-3.00E-02	3.95E-01
		189.70		0.24	3.54E-01		2.11E-01	1.77E-01
+	AM-241	59.54	*	35.90	2.83E-03	2.83E-03	3.03E-01	1.42E-03
	AM-242m	49.35	*	0.13	1.28E+00	1.28E+00	1.82E+00	6.42E-01
		66.89		0.01	3.70E+00		7.67E+00	1.85E+00
		86.65	*	0.02	1.96E+00		1.01E+01	9.81E-01
		163.25		0.02	1.50E+00		1.58E+00	7.52E-01
	AM-243	43.53	*	5.90	3.20E-02	7.81E-04	7.49E-02	1.60E-02
		74.66	*	67.20	7.81E-04		1.52E-03	3.90E-04

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

Apex-Gamma

Analysis Report for 24-2318 VSM-6.0M-S1-CST-A Q3r
Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2318 VSM-6.0M-S1-CST-A Q3r
Sample Description	: Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/29/2024 9:21:57AM
Procedure	: Q3_gsv02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: Q3_gsv02mlw
Live Time	: 1564.3 seconds
Real Time	: 1647.9 seconds
Dead Time	: 5.08 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: Q3_gsv2ml_R717
Sample Number	: 568000
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/29/2024 12:30:56PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2318 VSM-6.0M-S1-CST-A Q3r

Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.92	137.64	0.3110	3.14
2	59.58	190.34	0.0651	86.50
3	105.47	336.55	0.2972	4.31
4	123.11	392.76	0.0853	49.13
5	245.10	781.38	0.3854	3.17
6	247.96	790.88	0.1478	14.72
7	414.87	1323.01	0.1577	11.42
8	511.02	1629.80	0.1591	7.11
9	581.90	1855.53	0.2825	3.45
10	591.89	1887.23	0.1416	13.22
11	661.82	2110.17	0.0807	38.56
12	666.50	2125.21	0.1477	12.05
13	682.00	2174.47	0.3042	3.45
14	692.43	2207.18	0.2544	5.26
15	695.25	2216.88	0.1576	11.58
16	723.44	2306.53	0.0841	32.77
17	756.99	2413.43	0.1326	13.10
18	845.61	2695.73	0.2427	3.86
19	850.67	2711.98	0.3579	3.01
20	873.38	2784.52	0.0984	22.45
21	904.30	2882.96	0.2707	3.27
22	996.49	3176.92	0.1008	21.54
23	1004.91	3203.83	0.0863	28.74
24	1173.51	3741.21	0.0793	32.04
25	1246.06	3972.36	0.2246	4.59
26	1274.69	4063.82	0.0736	35.98
27	1332.73	4248.73	0.0792	30.31
28	1397.42	4455.27	0.2137	3.84
29	1408.28	4489.66	0.2101	3.22
30	1461.10	4658.22	0.2199	4.27
31	1494.20	4763.49	0.1923	5.11
32	1596.69	5090.15	0.1477	8.06
33	2506.00	7988.23	0.2063	4.44

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2318 VSM-6.0M-S1-CST-A Q3r

Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/29/2024 12:30:56PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.92	129	140	137.21	1.91E+03	1117.50	1.08E+05	1.39
F	2	59.58	182	196	190.30	7.45E+04	1324.84	1.77E+05	1.20
F	3	105.47	333	345	336.60	1.31E+03	258.85	1.04E+05	0.91
F	4	123.11	385	401	392.84	2.54E+04	1082.81	1.07E+05	1.28
M	5	245.10	778	800	781.73	4.12E+02	129.30	1.40E+04	1.31
m	6	247.96	778	800	790.83	3.12E+03	478.14	2.49E+04	1.31
F	7	414.87	1317	1327	1322.92	1.13E+03	71.06	4.19E+03	1.39
F	8	511.02	1617	1640	1629.41	2.56E+03	337.29	5.53E+03	2.87
F	9	581.90	1849	1864	1855.38	2.49E+02	188.79	2.45E+03	1.46
F	10	591.89	1878	1894	1887.22	1.27E+03	180.62	2.50E+03	1.58
M	11	661.82	2097	2137	2110.12	5.70E+03	220.10	2.17E+03	1.66
m	12	666.50	2097	2137	2125.05	8.95E+02	54.18	2.15E+03	1.66
	13	682.00	2169	2179	2174.47	9.93E+00	64.64	1.11E+03	0.67
M	14	692.43	2196	2226	2207.71	4.69E+02	92.88	1.86E+03	1.59
m	15	695.25	2196	2226	2216.68	1.05E+03	169.62	2.42E+03	1.59
F	16	723.44	2293	2319	2306.55	4.84E+03	206.95	2.31E+03	1.79
F	17	756.99	2406	2426	2413.51	1.00E+03	43.33	1.60E+03	1.72
M	18	845.61	2689	2722	2695.98	1.64E+02	53.78	8.10E+02	1.53
m	19	850.67	2689	2722	2712.12	9.28E+01	34.81	9.41E+02	1.53
F	20	873.38	2774	2798	2784.49	2.63E+03	191.14	1.23E+03	1.97
F	21	904.30	2872	2892	2883.07	1.85E+02	107.44	9.41E+02	2.17
F	22	996.49	3164	3191	3176.91	2.13E+03	142.36	1.07E+03	1.94
F	23	1004.91	3191	3216	3203.75	3.56E+03	157.39	9.90E+02	1.98
F	24	1173.51	3726	3753	3741.17	4.76E+03	154.29	4.11E+02	2.12
F	25	1246.06	3964	3981	3972.39	1.26E+02	62.87	1.72E+02	1.99
F	26	1274.69	4048	4079	4063.65	5.98E+03	172.42	2.54E+02	2.21
F	27	1332.73	4232	4262	4248.67	4.30E+03	129.83	2.72E+02	2.27
F	28	1397.42	4446	4463	4454.84	9.93E+01	47.47	7.69E+01	2.11
F	29	1408.28	4480	4498	4489.46	1.01E+02	12.83	9.51E+01	2.26
F	30	1461.10	4652	4667	4657.81	5.99E+01	36.22	4.34E+01	1.65
F	31	1494.20	4753	4773	4763.29	1.15E+02	36.42	5.80E+01	2.11
F	32	1596.69	5076	5100	5089.97	3.02E+02	43.77	4.42E+01	2.26
F	33	2506.00	7980	7995	7987.90	3.60E+01	15.05	8.08E+00	1.29

Analysis Report for 24-2318 VSM-6.0M-S1-CST-A Q3r

Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/29/2024 12:30:56PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567379.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.92	1.91E+03	1117.50			1.91E+03	1.12E+03
F	2	59.58	7.45E+04	1324.84			7.45E+04	1.32E+03
F	3	105.47	1.31E+03	258.85			1.31E+03	2.59E+02
F	4	123.11	2.54E+04	1082.81			2.54E+04	1.08E+03
M	5	245.10	4.12E+02	129.30			4.12E+02	1.29E+02
m	6	247.96	3.12E+03	478.14			3.12E+03	4.78E+02
F	7	414.87	1.13E+03	71.06			1.13E+03	7.11E+01
F	8	511.02	2.56E+03	337.29	6.14E+01	2.58E+00	2.50E+03	3.37E+02
F	9	581.90	2.49E+02	188.79			2.49E+02	1.89E+02
F	10	591.89	1.27E+03	180.62			1.27E+03	1.81E+02
M	11	661.82	5.70E+03	220.10			5.70E+03	2.20E+02
m	12	666.50	8.95E+02	54.18			8.95E+02	5.42E+01
	13	682.00	9.93E+00	64.64			9.93E+00	6.46E+01
M	14	692.43	4.69E+02	92.88			4.69E+02	9.29E+01
m	15	695.25	1.05E+03	169.62			1.05E+03	1.70E+02
F	16	723.44	4.84E+03	206.95			4.84E+03	2.07E+02
F	17	756.99	1.00E+03	43.33			1.00E+03	4.33E+01
M	18	845.61	1.64E+02	53.78			1.64E+02	5.38E+01
m	19	850.67	9.28E+01	34.81			9.28E+01	3.48E+01
F	20	873.38	2.63E+03	191.14			2.63E+03	1.91E+02
F	21	904.30	1.85E+02	107.44			1.85E+02	1.07E+02
F	22	996.49	2.13E+03	142.36			2.13E+03	1.42E+02
F	23	1004.91	3.56E+03	157.39			3.56E+03	1.57E+02
F	24	1173.51	4.76E+03	154.29			4.76E+03	1.54E+02
F	25	1246.06	1.26E+02	62.87			1.26E+02	6.29E+01
F	26	1274.69	5.98E+03	172.42			5.98E+03	1.72E+02
F	27	1332.73	4.30E+03	129.83			4.30E+03	1.30E+02
F	28	1397.42	9.93E+01	47.47			9.93E+01	4.75E+01
F	29	1408.28	1.01E+02	12.83	1.69E+00	6.16E-01	9.91E+01	1.28E+01
F	30	1461.10	5.99E+01	36.22	4.72E+01	1.22E+00	1.27E+01	3.62E+01
F	31	1494.20	1.15E+02	36.42			1.15E+02	3.64E+01
F	32	1596.69	3.02E+02	43.77			3.02E+02	4.38E+01
F	33	2506.00	3.60E+01	15.05			3.60E+01	1.51E+01

Analysis Report for 24-2318 VSM-6.0M-S1-CST-A Q3r
Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.98	1460.83	*	10.67	2.50E-04	7.10E-04	miss
CO-60	0.99	1173.24	*	99.97	9.02E-03	2.96E-04	0.962
		1332.50	*	99.99	8.84E-03	2.71E-04	0.962
		2505.74	*	1.00	1.12E-02	4.73E-03	miss
RH-106	0.38	511.86	*	20.70	1.36E-02	1.88E-03	0.975
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.48E-03	1.02E-04	0.877
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.32E-03	8.00E-05	0.874
		674.80		3.10			
		695.00	*	99.60	1.59E-03	2.56E-04	0.873
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
CS-137	0.99	661.66	*	85.20	8.54E-03	3.32E-04	miss
EU-154	0.99	42.70	*	20.45	2.78E-02	1.63E-02	miss
		123.07	*	40.40	3.45E-02	1.53E-03	0.956
		247.93	*	6.89	3.39E-02	5.21E-03	0.943
		591.76	*	4.95	3.27E-02	4.68E-03	0.932
		692.42	*	1.78	3.65E-02	7.25E-03	0.948
		723.30	*	20.06	3.42E-02	1.51E-03	0.951
		756.80	*	4.52	3.31E-02	1.48E-03	0.928
		873.18	*	12.08	3.49E-02	2.57E-03	0.944
		996.29	*	10.48	3.39E-02	2.29E-03	0.986

Analysis Report for 24-2318 VSM-6.0M-S1-CST-A Q3r
Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.99	1004.76	*	18.01	3.34E-02	1.52E-03	0.977
		1246.12	*	0.86	2.96E-02	1.48E-02	0.936
		1274.43	*	34.80	3.37E-02	1.03E-03	0.979
		1494.05	*	0.70	3.46E-02	1.10E-02	1.013
		1596.48	*	1.80	3.23E-02	4.71E-03	1.155
EU-155	0.20	43.00	*	18.70	3.04E-02	1.78E-02	1.000
		60.01	*	1.22	6.41E+00	2.52E-01	0.999
		86.55		30.70			
		105.31	*	21.10	3.19E-03	6.36E-04	1.000
AM-241	1.00	59.54	*	35.90	2.17E-01	5.91E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.988	2.50E-04	7.10E-04	
CO-60	0.990	8.92E-03	2.00E-04	
RH-106	0.387	1.36E-02	1.88E-03	
SB-126	0.486	1.39E-03	6.12E-05	
CS-137	0.996	8.54E-03	3.32E-04	
EU-154	0.995	3.38E-02	5.44E-04	
EU-155	0.206	3.18E-03	6.31E-04	
AM-241	1.000	2.17E-01	4.66E-03	

Analysis Report for 24-2318 VSM-6.0M-S1-CST-A Q3r

Branch

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

Errors quoted at 1.000sigma

Analysis Report for 24-2318 VSM-6.0M-S1-CST-A Q3r
Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/29/2024 12:30:56PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
M	5	245.10	2.63216E-01	31.40		
F	9	581.90	1.59418E-01	75.71		
	13	682.00	6.34906E-03	650.83		
M	18	845.61	1.04703E-01	32.84	Sum	
m	19	850.67	5.92978E-02	37.53		
F	21	904.30	1.18299E-01	58.06		
F	28	1397.42	6.34956E-02	47.79	Sum	
F	29	1408.28	6.33755E-02	12.95		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	4.79E-03	4.79E-03	1.32E-04	2.38E-03
+	K-40	1460.83	*	10.67	1.15E-03	1.15E-03	2.50E-04	5.50E-04
	MN-54	834.84		99.98	3.35E-04	3.35E-04	-1.92E-04	1.66E-04
	CO-58	810.78		99.45	3.74E-04	3.74E-04	1.71E-04	1.85E-04
		863.96		0.68	5.30E-02		-6.46E-06	2.61E-02
		1674.73		0.52	1.66E-02		-1.67E-02	7.65E-03
	FE-59	142.65		1.00	9.83E-02	4.70E-04	2.30E-02	4.91E-02
		192.35		3.01	2.80E-02		-9.23E-03	1.40E-02
		334.80		0.27	2.27E-01		-1.07E-01	1.13E-01

Analysis Report for 24-2318 VSM-6.0M-S1-CST-A Q3r

Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	FE-59	1099.25		56.30	5.46E-04	4.70E-04	8.42E-04	2.68E-04
		1291.60		43.70	4.70E-04		2.92E-05	2.28E-04
+	CO-60	1173.24	*	99.97	3.62E-04	3.36E-04	9.02E-03	1.79E-04
		1332.50	*	99.99	3.36E-04		8.84E-03	1.65E-04
		2505.74	*	1.00	7.51E-03		1.12E-02	3.33E-03
	SR-85	514.00		96.00	5.79E-04	5.79E-04	9.50E-05	2.88E-04
		868.60		0.01	4.29E+00		-6.96E-01	2.13E+00
	NB-94	702.62		97.90	3.94E-04	3.94E-04	3.44E-05	1.95E-04
		871.09		99.98	5.05E-04		3.04E-05	2.50E-04
	NB-95	765.81		99.81	4.15E-04	4.15E-04	4.44E-05	2.05E-04
	RU-103	497.05		91.00	5.66E-04	5.66E-04	-3.63E-04	2.81E-04
		610.30		5.76	7.70E-03		9.61E-04	3.82E-03
+	RH-106	511.86	*	20.70	3.54E-03	3.54E-03	1.36E-02	1.76E-03
		621.92		9.93	4.14E-03		-9.74E-04	2.05E-03
		1050.36		1.56	2.00E-02		2.07E-02	9.84E-03
	AG-108M	79.13		6.60	2.20E-02	4.77E-04	-1.81E-02	1.10E-02
		433.90		90.50	5.74E-04		-4.53E-04	2.86E-04
		614.30		89.80	4.77E-04		-3.40E-04	2.37E-04
		722.90		90.80	6.82E-04		7.68E-03	3.39E-04
	CD-109	88.03		3.61	3.51E-02	3.51E-02	3.26E-02	1.75E-02
	SB-125	176.31		6.82	1.13E-02	1.59E-03	-1.68E-03	5.65E-03
		380.45		1.52	3.37E-02		1.13E-02	1.67E-02
		427.87		29.55	1.59E-03		-1.76E-03	7.89E-04
		463.36		10.48	4.49E-03		1.13E-03	2.23E-03
		600.60		17.76	2.24E-03		1.73E-03	1.11E-03
		606.71		5.02	7.92E-03		8.13E-03	3.93E-03
		635.95		11.32	3.41E-03		6.20E-04	1.69E-03
		671.44		1.78	2.33E-02		1.21E-02	1.16E-02
+	SB-126	223.90		1.39	5.11E-02	3.21E-04	2.61E-02	2.55E-02
		278.20		2.40	2.95E-02		4.83E-02	1.47E-02
		296.50		4.50	1.52E-02		-3.51E-03	7.56E-03
		414.70	*	83.30	5.43E-04		1.48E-03	2.70E-04
		556.30		1.69	2.92E-02		-1.82E-02	1.45E-02
		573.90		6.70	7.22E-03		1.72E-03	3.58E-03
		593.20		7.50	6.70E-03		1.68E-02	3.33E-03
		656.30		2.19	2.54E-02		-1.71E-02	1.26E-02
		666.50	*	99.60	3.21E-04		1.32E-03	1.59E-04
		674.80		3.10	1.45E-02		2.78E-02	7.18E-03
		695.00	*	99.60	3.50E-04		1.59E-03	1.73E-04
		697.00		29.00	1.78E-03		-1.42E-04	8.81E-04
		720.70		53.80	1.24E-03		-2.81E-04	6.14E-04
		856.80		17.60	2.11E-03		-1.57E-03	1.04E-03
		989.60		6.80	6.16E-03		-1.74E-03	3.04E-03
		1213.30		2.39	9.69E-03		4.27E-03	4.73E-03
	Sn-126	64.28		9.60	2.21E-02	2.77E-03	-9.61E-03	1.10E-02
		87.30		45.90	2.77E-03		4.06E-03	1.38E-03
	I-129	29.70		56.60	5.67E-02	5.67E-02	-1.27E-02	2.83E-02
		33.60		10.04	1.61E-01		-2.77E-01	8.04E-02
		34.40		2.01	7.15E-01		-1.22E+00	3.57E-01
		39.60		7.51	1.03E-01		-5.22E-02	5.15E-02
	CS-134	563.25		8.34	5.34E-03	4.28E-04	-1.03E-03	2.65E-03
		569.33		15.37	2.94E-03		2.05E-03	1.46E-03
		604.72		97.62	4.28E-04		-3.92E-04	2.12E-04

Analysis Report for 24-2318 VSM-6.0M-S1-CST-A Q3r
Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-134	795.86		85.46	4.31E-04	4.28E-04	2.07E-04	2.13E-04
		801.95		8.69	4.26E-03		-2.61E-04	2.11E-03
+	CS-137	661.66	*	85.20	3.29E-04	3.29E-04	8.54E-03	1.62E-04
	CE-139	165.85		79.89	1.04E-03	1.04E-03	7.45E-04	5.19E-04
	CE-141	40.70		3.35	2.43E-01	2.09E-03	2.44E-02	1.21E-01
		145.44		48.29	2.09E-03		7.04E-04	1.04E-03
	CE-144	80.12		1.36	1.06E-01	8.44E-03	-2.84E-02	5.31E-02
		133.51		11.09	8.44E-03		1.48E-03	4.21E-03
	EU-152	121.78		28.58	3.86E-03	8.45E-04	1.31E-04	1.93E-03
		344.28		26.50	2.12E-03		2.33E-03	1.06E-03
		778.90		12.94	2.93E-03		1.19E-03	1.45E-03
		964.08		14.73	2.28E-03		-6.33E-04	1.12E-03
		1085.87		10.24	2.80E-03		9.05E-04	1.38E-03
		1112.07		13.69	2.14E-03		7.08E-04	1.05E-03
		1408.01		21.07	8.45E-04		7.62E-04	4.09E-04
	GD-153	97.43		29.00	3.92E-03	3.92E-03	6.13E-04	1.96E-03
		103.18		21.10	5.14E-03		-3.62E-03	2.57E-03
+	EU-154	42.70	*	20.45	3.16E-02	9.00E-04	2.78E-02	1.58E-02
		123.07	*	40.40	3.34E-03		3.45E-02	1.67E-03
		247.93	*	6.89	8.01E-03		3.39E-02	3.99E-03
		591.76	*	4.95	9.81E-03		3.27E-02	4.87E-03
		692.42	*	1.78	1.59E-02		3.65E-02	7.83E-03
		723.30	*	20.06	3.13E-03		3.42E-02	1.56E-03
		756.80	*	4.52	1.10E-02		3.31E-02	5.45E-03
		873.18	*	12.08	4.17E-03		3.49E-02	2.07E-03
		996.29	*	10.48	4.91E-03		3.39E-02	2.43E-03
		1004.76	*	18.01	2.69E-03		3.34E-02	1.33E-03
		1246.12	*	0.86	2.46E-02		2.96E-02	1.20E-02
		1274.43	*	34.80	9.00E-04		3.37E-02	4.42E-04
		1494.05	*	0.70	1.97E-02		3.46E-02	9.45E-03
		1596.48	*	1.80	6.63E-03		3.23E-02	3.17E-03
+	EU-155	43.00	*	18.70	3.46E-02	4.20E-03	3.04E-02	1.73E-02
		60.01	*	1.22	2.60E-01		6.41E+00	1.30E-01
		86.55		30.70	4.20E-03		8.14E-03	2.10E-03
		105.31	*	21.10	5.34E-03		3.19E-03	2.67E-03
	HG-203	72.87		6.30	2.93E-02	8.26E-04	4.09E-02	1.46E-02
		279.20		81.46	8.26E-04		-5.60E-04	4.12E-04
	BI-207	569.15		97.80	4.50E-04	4.09E-04	3.14E-04	2.23E-04
		1063.10		74.90	4.09E-04		-3.48E-04	2.01E-04
	PB-210	46.54		4.25	1.11E-01	1.11E-01	-1.41E-01	5.54E-02
	RA-226	74.81		6.44	2.47E-02	5.94E-04	2.70E-02	1.23E-02
		77.11		10.80	1.40E-02		-5.49E-03	6.99E-03
		87.30		4.84	2.63E-02		3.85E-02	1.31E-02
		186.21		3.59	2.07E-02		-8.90E-03	1.03E-02
		242.00		7.43	9.03E-03		1.18E-03	4.50E-03
		295.22		19.30	3.02E-03		-1.40E-03	1.51E-03
		351.93		37.60	1.42E-03		-8.32E-04	7.08E-04
		609.31		46.10	8.52E-04		2.82E-04	4.23E-04
		768.36		4.94	7.37E-03		9.41E-03	3.65E-03
		1120.29		15.10	1.88E-03		-3.54E-03	9.23E-04
		1238.11		5.79	3.49E-03		-2.47E-04	1.70E-03
		1764.49		15.40	5.94E-04		7.10E-04	2.76E-04
	PA-231	283.70		1.59	3.77E-02	2.43E-02	-1.02E-02	1.88E-02

Analysis Report for 24-2318 VSM-6.0M-S1-CST-A Q3r

Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PA-231	300.07		2.38	2.43E-02	2.43E-02	1.40E-03	1.21E-02
		302.67		1.71	3.37E-02		3.88E-02	1.68E-02
		330.07		1.32	4.25E-02		6.27E-02	2.12E-02
	TH-232	74.81		11.62	1.37E-02	1.22E-03	1.50E-02	6.84E-03
		77.11		17.50	8.64E-03		-3.39E-03	4.31E-03
		87.30		7.80	1.63E-02		2.39E-02	8.14E-03
		238.63		43.30	1.56E-03		7.57E-04	7.80E-04
		338.32		11.30	4.85E-03		-7.88E-03	2.42E-03
		583.19		30.37	1.35E-03		1.30E-03	6.69E-04
		727.33		6.58	8.59E-03		1.55E-03	4.26E-03
		911.21		26.60	1.22E-03		-1.29E-04	6.00E-04
		968.97		16.20	1.98E-03		4.32E-03	9.76E-04
>		2614.53		35.64	0.00E+00		0.00E+00	0.00E+00
	U-235	143.76		10.96	8.02E-03	1.30E-03	-2.49E-03	4.01E-03
		185.71		57.20	1.30E-03		6.66E-04	6.50E-04
		205.31		5.01	1.50E-02		1.78E-03	7.49E-03
	U-238	63.29		3.70	6.26E-02	2.77E-02	-1.20E-02	3.13E-02
		92.51		4.23	2.77E-02		-9.50E-03	1.38E-02
		112.81		0.21	4.83E-01		-1.64E-04	2.41E-01
		742.81		0.11	3.38E-01		1.57E-01	1.67E-01
		766.28		0.32	1.14E-01		-4.08E-02	5.65E-02
		1001.03		0.84	7.78E-02		1.02E+00	3.86E-02
	NP-239	99.60		12.80	6.34E-02	2.97E-02	4.32E-02	3.17E-02
		103.80		20.40	3.85E-02		-1.96E-02	1.92E-02
		106.10		26.40	2.97E-02		6.54E-02	1.48E-02
		116.90		7.61	9.78E-02		-7.57E-02	4.88E-02
		228.20		11.20	4.75E-02		-4.90E-02	2.37E-02
		277.60		14.50	3.21E-02		1.33E-02	1.60E-02
		315.90		1.60	2.56E-01		1.14E-01	1.27E-01
		334.30		2.06	1.90E-01		-3.85E-02	9.46E-02
+	AM-241	59.54	*	35.90	8.80E-03	8.80E-03	2.17E-01	4.40E-03

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

Apex-Gamma

Analysis Report for 24-2318 VSM-6.0-S1-CST A F3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2318 VSM-6.0-S1-CST A F3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 6:48:10AM
Procedure	: F3_gsv02mlw
Operator	: Administrator
Detector Name	: F
Geometry	: F3_gsv02mlw
Live Time	: 3210.1 seconds
Real Time	: 3397.1 seconds
Dead Time	: 5.50 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: F3_gsv2mlw_R717
Sample Number	: 567850
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 7:44:53AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2318 VSM-6.0-S1-CST A F3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	43.01	120.75	0.2923	4.52
2	48.96	137.44	0.3225	3.58
3	56.87	160.00	0.0000	0.00
4	59.60	167.13	0.0531	146.99
5	86.81	243.22	0.2206	7.86
6	105.49	295.22	0.2777	5.01
7	123.13	344.64	0.0697	74.31
8	247.94	693.49	0.1244	21.15
9	251.03	702.00	0.0000	0.00
10	414.84	1159.95	0.1353	17.08
11	427.50	1195.36	0.3373	3.34
12	444.68	1243.29	0.2919	3.19
13	511.20	1428.93	0.1305	10.90
14	582.07	1627.27	0.2326	5.52
15	591.86	1654.71	0.1166	20.76
16	661.80	1850.16	0.0692	55.19
17	666.44	1863.17	0.1229	18.62
18	692.59	1935.43	0.2586	5.36
19	695.23	1943.88	0.1379	15.21
20	723.47	2022.53	0.0711	47.73
21	757.05	2116.33	0.1138	19.11
22	778.96	2177.43	0.3121	3.30
23	815.75	2280.30	0.3024	3.05
24	846.48	2365.17	0.2693	3.85
25	873.40	2441.50	0.0826	34.43
26	893.16	2496.51	0.2581	3.37
27	904.40	2528.24	0.2080	5.24
28	964.76	2696.14	0.2709	3.97
29	996.52	2785.54	0.0868	29.55
30	1005.02	2809.27	0.0738	40.75
31	1086.41	3036.73	0.2868	3.22
32	1112.30	3109.29	0.2257	4.02
33	1128.69	3154.50	0.2452	3.89
34	1173.55	3280.15	0.0665	46.89
35	1246.56	3483.91	0.1790	6.37
36	1274.78	3563.07	0.0628	51.34
37	1332.83	3725.29	0.0671	43.58
38	1360.94	3803.66	0.2766	3.36
39	1397.69	3906.56	0.1852	5.92
40	1408.19	3936.18	0.1818	5.10
41	1461.72	4084.22	0.2289	3.77
42	1494.35	4176.74	0.1802	5.19
43	1597.01	4463.61	0.1288	11.61
44	1720.10	4807.42	0.2227	3.85
45	2505.91	7002.85	0.1826	4.87

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2318 VSM-6.0-S1-CST A F3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 7:44:53AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	1	43.01	113	128	120.75	3.46E+03	1370.47	3.73E+05	1.68
F	2	48.96	129	145	137.36	3.67E+03	1777.43	4.66E+05	1.27
M	3	56.87	152	174	159.47	5.45E+03	441.15	3.89E+05	1.23
m	4	59.60	152	174	167.12	1.77E+05	2225.63	4.16E+05	1.24
F	5	86.81	235	251	243.17	1.27E+04	2726.03	4.21E+05	1.91
F	6	105.49	292	303	295.38	3.06E+03	422.69	2.35E+05	1.27
F	7	123.13	337	353	344.67	5.51E+04	1479.71	2.60E+05	1.34
M	8	247.94	688	710	693.51	6.42E+03	192.75	3.98E+04	1.40
m	9	251.03	688	710	702.15	4.59E+02	153.16	4.48E+04	1.40
F	10	414.84	1155	1170	1159.97	2.49E+03	107.14	1.46E+04	1.45
	11	427.50	1186	1199	1195.36	2.18E+01	231.65	1.19E+04	0.79
F	12	444.68	1238	1251	1243.36	4.22E+02	89.99	1.06E+04	1.60
F	13	511.20	1417	1440	1429.26	5.96E+03	108.63	1.32E+04	2.89
F	14	582.07	1621	1639	1627.34	4.88E+02	243.41	7.09E+03	1.40
F	15	591.86	1645	1666	1654.69	2.84E+03	259.87	7.56E+03	1.68
M	16	661.80	1841	1870	1850.14	1.21E+04	383.30	4.36E+03	1.82
m	17	666.44	1841	1870	1863.12	2.09E+03	95.19	4.24E+03	1.83
M	18	692.59	1930	1954	1936.20	9.20E+02	57.76	3.32E+03	1.82
m	19	695.23	1930	1954	1943.57	1.93E+03	67.36	4.33E+03	1.82
F	20	723.47	2009	2032	2022.50	1.01E+04	289.42	5.24E+03	1.90
F	21	757.05	2103	2125	2116.33	2.29E+03	236.23	4.29E+03	1.97
F	22	778.96	2173	2184	2177.56	1.15E+02	39.96	2.16E+03	1.03
F	23	815.75	2270	2291	2280.37	3.37E+02	224.66	3.24E+03	2.48
F	24	846.48	2357	2371	2366.24	3.35E+02	423.06	2.02E+03	0.94
F	25	873.40	2432	2451	2441.47	5.45E+03	244.61	2.47E+03	2.04
F	26	893.16	2488	2508	2496.69	3.17E+02	211.49	2.42E+03	2.47
F	27	904.40	2521	2537	2528.11	3.95E+02	191.65	1.98E+03	2.10
F	28	964.76	2688	2707	2696.77	2.73E+02	159.52	1.93E+03	1.27
F	29	996.52	2776	2796	2785.53	4.42E+03	72.82	2.07E+03	2.12
F	30	1005.02	2799	2820	2809.28	7.40E+03	89.77	2.21E+03	2.11
F	31	1086.41	3028	3043	3036.70	2.03E+02	217.79	1.03E+03	1.76
F	32	1112.30	3098	3115	3109.06	2.74E+02	132.87	1.12E+03	2.27
F	33	1128.69	3146	3163	3154.86	2.30E+02	152.42	9.10E+02	1.67
F	34	1173.55	3268	3293	3280.22	1.03E+04	99.42	1.10E+03	2.28
F	35	1246.56	3477	3494	3484.21	3.47E+02	25.14	4.06E+02	2.52
F	36	1274.78	3548	3576	3563.07	1.29E+04	108.88	6.92E+02	2.40
F	37	1332.83	3711	3740	3725.26	9.44E+03	161.35	4.98E+02	2.51
F	38	1360.94	3796	3809	3803.81	4.90E+01	35.44	1.72E+02	0.82
F	39	1397.69	3896	3915	3906.50	1.87E+02	19.46	2.90E+02	2.12
F	40	1408.19	3927	3946	3935.84	2.17E+02	19.09	2.33E+02	2.48

Analysis Report for 24-2318 VSM-6.0-S1-CST A F3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1461.72	4077 -	4091	4085.40	8.47E+01	83.86	1.10E+02	1.21
F	42	1494.35	4164 -	4186	4176.59	2.42E+02	33.17	1.43E+02	2.77
F	43	1597.01	4451 -	4474	4463.41	6.68E+02	66.26	9.60E+01	2.58
F	44	1720.10	4798 -	4816	4807.32	7.13E+01	31.70	2.88E+01	2.34
F	45	2505.91	6994 -	7011	7002.58	8.10E+01	9.93	1.80E+01	2.40

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 7:44:53AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567378.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	43.01	3.46E+03	1370.47			3.46E+03	1.37E+03
F	2	48.96	3.67E+03	1777.43			3.67E+03	1.78E+03
M	3	56.87	5.45E+03	441.15			5.45E+03	4.41E+02
m	4	59.60	1.77E+05	2225.63			1.77E+05	2.23E+03
F	5	86.81	1.27E+04	2726.03	2.38E+01	1.51E+00	1.26E+04	2.73E+03
F	6	105.49	3.06E+03	422.69			3.06E+03	4.23E+02
F	7	123.13	5.51E+04	1479.71			5.51E+04	1.48E+03
M	8	247.94	6.42E+03	192.75			6.42E+03	1.93E+02
m	9	251.03	4.59E+02	153.16			4.59E+02	1.53E+02
F	10	414.84	2.49E+03	107.14			2.49E+03	1.07E+02
	11	427.50	2.18E+01	231.65			2.18E+01	2.32E+02
F	12	444.68	4.22E+02	89.99			4.22E+02	9.00E+01
F	13	511.20	5.96E+03	108.63	1.26E+02	4.60E+00	5.83E+03	1.09E+02
F	14	582.07	4.88E+02	243.41			4.88E+02	2.43E+02
F	15	591.86	2.84E+03	259.87			2.84E+03	2.60E+02
M	16	661.80	1.21E+04	383.30			1.21E+04	3.83E+02
m	17	666.44	2.09E+03	95.19			2.09E+03	9.52E+01
M	18	692.59	9.20E+02	57.76			9.20E+02	5.78E+01
m	19	695.23	1.93E+03	67.36			1.93E+03	6.74E+01
F	20	723.47	1.01E+04	289.42			1.01E+04	2.89E+02
F	21	757.05	2.29E+03	236.23			2.29E+03	2.36E+02
F	22	778.96	1.15E+02	39.96			1.15E+02	4.00E+01
F	23	815.75	3.37E+02	224.66			3.37E+02	2.25E+02
F	24	846.48	3.35E+02	423.06			3.35E+02	4.23E+02

Analysis Report for 24-2318 VSM-6.0-S1-CST A F3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	25	873.40	5.45E+03	244.61			5.45E+03	2.45E+02
F	26	893.16	3.17E+02	211.49			3.17E+02	2.11E+02
F	27	904.40	3.95E+02	191.65			3.95E+02	1.92E+02
F	28	964.76	2.73E+02	159.52			2.73E+02	1.60E+02
F	29	996.52	4.42E+03	72.82			4.42E+03	7.28E+01
F	30	1005.02	7.40E+03	89.77			7.40E+03	8.98E+01
F	31	1086.41	2.03E+02	217.79			2.03E+02	2.18E+02
F	32	1112.30	2.74E+02	132.87			2.74E+02	1.33E+02
F	33	1128.69	2.30E+02	152.42			2.30E+02	1.52E+02
F	34	1173.55	1.03E+04	99.42			1.03E+04	9.94E+01
F	35	1246.56	3.47E+02	25.14			3.47E+02	2.51E+01
F	36	1274.78	1.29E+04	108.88			1.29E+04	1.09E+02
F	37	1332.83	9.44E+03	161.35			9.44E+03	1.61E+02
F	38	1360.94	4.90E+01	35.44			4.90E+01	3.54E+01
F	39	1397.69	1.87E+02	19.46			1.87E+02	1.95E+01
F	40	1408.19	2.17E+02	19.09	4.02E+00	3.69E-01	2.13E+02	1.91E+01
F	41	1461.72	8.47E+01	83.86	9.27E+01	1.05E+00	-7.94E+00	8.39E+01
F	42	1494.35	2.42E+02	33.17			2.42E+02	3.32E+01
F	43	1597.01	6.68E+02	66.26			6.68E+02	6.63E+01
F	44	1720.10	7.13E+01	31.70			7.13E+01	3.17E+01
F	45	2505.91	8.10E+01	9.93			8.10E+01	9.93E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
NA-22	0.99	511.00	*	179.91	1.69E-03	3.24E-05	1.000
		1274.54	*	99.94	1.27E-02	1.27E-04	0.925
K-40	0.87	1460.82	*	10.66	-7.39E-05	7.81E-04	miss
CO-60	0.98	1173.23	*	99.85	9.26E-03	9.99E-05	0.965
		1332.49	*	99.98	9.17E-03	1.65E-04	0.963
ZR-95	0.95	724.19	*	44.27	1.50E-02	4.41E-04	free
		756.72	*	54.38	2.83E-03	2.93E-04	free
RU-106	0.93	511.86	*	20.40	1.49E-02	4.09E-04	miss

Analysis Report for 24-2318 VSM-6.0-S1-CST A F3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
Te-129m	0.93	695.88	*	3.00	4.18E-02	8.49E-03	free
CS-137	0.99	661.66	*	85.10	8.68E-03	2.78E-04	miss
EU-154	0.99	42.70	*	20.45	1.90E-02	7.58E-03	miss
		123.07	*	40.40	3.50E-02	1.04E-03	0.958
		247.93	*	6.89	3.31E-02	1.08E-03	0.945
		591.76	*	4.95	3.49E-02	3.22E-03	0.934
		692.42	*	1.78	3.41E-02	2.18E-03	0.949
		723.30	*	20.06	3.41E-02	1.05E-03	0.952
		756.80	*	4.52	3.59E-02	3.73E-03	0.932
		873.18	*	12.08	3.44E-02	1.59E-03	0.945
		996.29	*	10.48	3.34E-02	6.56E-04	0.986
		1004.76	*	18.01	3.30E-02	5.43E-04	0.978
		1246.12	*	0.86	3.86E-02	2.85E-03	0.941
		1274.43	*	34.80	3.44E-02	4.58E-04	0.980
		1494.05	*	0.70	3.45E-02	4.74E-03	1.014
		1596.48	*	1.80	3.38E-02	3.38E-03	1.158
EU-155	0.99	43.00	*	18.12	2.15E-02	8.55E-03	1.000
		60.01	*	1.17	6.46E+00	2.00E-01	0.999
		86.55	*	30.70	1.07E-02	2.30E-03	free
		105.31	*	21.10	3.51E-03	4.93E-04	1.000
TB-161	0.27	25.65		23.20			
		48.91	*	17.00	1.85E-02	8.98E-03	0.999
		52.00		3.43			
		57.19	*	1.79	1.74E-01	1.72E-02	0.992
		74.57		10.20			
NP-237	0.98	86.48	*	12.20	2.68E-02	5.83E-03	1.000
AM-241	0.99	59.54	*	35.90	2.10E-01	4.30E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2318 VSM-6.0-S1-CST A F3

ASR 2094 Branch

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	NA-22	0.993	3.68E-04	1.65E-04	
	K-40	0.879	-7.39E-05	7.81E-04	
	CO-60	0.983	9.23E-03	8.54E-05	
X	CU-64	0.927			
X	GA-66	0.449			
	ZR-95	0.955	2.28E-04	2.49E-04	
	RU-106	0.932	1.17E-02	1.49E-03	
	Te-129m	0.935	4.18E-02	8.49E-03	
	CS-137	0.997	8.68E-03	2.78E-04	
	EU-154	0.991	3.34E-02	2.88E-04	
	EU-155	0.993	3.45E-03	4.86E-04	
	TB-161	0.271	5.16E-02	7.97E-03	
	NP-237	0.983	1.82E-02	5.92E-03	
	AM-241	0.999	2.10E-01	3.60E-03	
X	AM-242m	0.645			

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

Errors quoted at 1.000sigma

Analysis Report for 24-2318 VSM-6.0-S1-CST A F3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 7:44:53AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m	9	251.03	1.42865E-01	33.40	Tol.	ND-152
F	10	414.84	7.76694E-01	4.30	Tol.	RH-102M
	11	427.50	6.80467E-03	1060.47	Tol.	SB-125
F	12	444.68	1.31533E-01	21.31	Tol.	SB-127
F	14	582.07	1.51903E-01	49.92		
m	17	666.44	6.49751E-01	4.56		
F	22	778.96	3.59249E-02	34.65	Sum	
F	23	815.75	1.05104E-01	66.59	Sum	
F	24	846.48	1.04324E-01	126.33	Sum	
F	26	893.16	9.87089E-02	66.74		
F	27	904.40	1.22971E-01	48.55		
F	28	964.76	8.49742E-02	58.48	Tol.	EU-152
F	31	1086.41	6.31315E-02	107.47	S-Esc	
F	32	1112.30	8.54866E-02	48.42	Tol.	RH-102M EU-152
F	33	1128.69	7.15112E-02	66.40	Sum	
F	38	1360.94	1.52576E-02	72.36	Sum	
F	39	1397.69	5.82140E-02	10.42	Sum	
F	40	1408.19	6.63298E-02	8.97	Tol.	EU-152
F	44	1720.10	2.21967E-02	44.49	Sum	
F	45	2505.91	2.52178E-02	12.27	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2318 VSM-6.0-S1-CST A F3

ASR 2094 Branch

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.60		10.44	3.24E-03	3.24E-03	4.86E-03	1.61E-03
+	NA-22	511.00	*	179.91	2.90E-04	2.47E-04	1.69E-03	1.44E-04
		1274.54	*	99.94	2.47E-04		1.27E-02	1.22E-04
	NA-24	1368.63		99.99	8.16E-04	1.55E-04	1.31E-04	3.99E-04
		2754.01		99.87	1.55E-04		-6.74E-05	6.15E-05
	AL-26	1129.67		2.50	7.74E-03	4.24E-05	6.19E-03	3.83E-03
		1808.65		99.76	4.24E-05		-1.04E-04	1.97E-05
+	K-40	1460.82	*	10.66	7.92E-04	7.92E-04	-7.39E-05	3.84E-04
	K-42	312.60		0.34	1.33E+00	4.66E-03	1.91E-01	6.62E-01
		1524.60		18.08	4.66E-03		2.17E-03	2.25E-03
	Sc-44	1157.02		99.90	2.76E-01	2.76E-01	4.94E-01	1.36E-01
		1499.46		0.91	1.96E+01		5.43E+00	9.55E+00
	Sc-44m	271.24		86.74	8.70E-04	8.70E-04	-2.43E-04	4.34E-04
		1001.83		1.20	6.75E-02		3.27E-03	3.36E-02
		1126.06		1.20	2.92E-02		1.86E-02	1.44E-02
		1157.00		1.20	2.55E-02		4.56E-02	1.26E-02
	TI-44	67.87		93.00	1.30E-03	1.06E-03	1.26E-04	6.50E-04
		78.32		96.40	1.06E-03		1.53E-03	5.30E-04
	SC-46	889.28		99.98	2.47E-04	2.10E-04	-3.18E-05	1.22E-04
		1120.55		99.99	2.10E-04		9.16E-05	1.04E-04
	CA-47	489.23		5.90	7.43E-03	2.38E-04	-2.29E-03	3.70E-03
		807.86		5.90	5.51E-03		-2.03E-03	2.73E-03
		1297.09		67.00	2.38E-04		-3.55E-04	1.16E-04
	SC-47	159.38		68.30	1.28E-03	1.28E-03	-8.53E-04	6.39E-04
	SC-48	175.36		7.47	1.49E-02	2.30E-04	-5.16E-03	7.46E-03
		983.53		100.00	4.36E-04		2.94E-05	2.16E-04
		1037.52		97.50	4.33E-04		-2.63E-04	2.14E-04
		1312.12		100.00	2.30E-04		-1.21E-04	1.12E-04
	V-48	944.13		7.87	3.28E-03	1.35E-04	1.56E-03	1.63E-03
		983.53		99.98	2.50E-04		1.69E-05	1.24E-04
		1312.11		98.20	1.35E-04		-7.10E-05	6.58E-05
		2240.40		2.33	2.07E-03		1.10E-03	9.50E-04
	CR-51	320.08		9.91	4.32E-03	4.32E-03	-1.28E-03	2.15E-03
	Fe-52	168.69		99.20	2.04E-02	2.04E-02	2.46E-02	1.02E-02
		377.75		1.64	7.68E-01		-6.48E-01	3.83E-01
	Mn-52	744.23		90.00	3.76E-04	1.26E-04	4.08E-04	1.87E-04
		848.18		3.32	9.76E-03		4.33E-03	4.84E-03
		935.54		94.50	3.29E-04		-2.82E-04	1.63E-04
		1246.28		4.21	4.89E-03		1.46E-02	2.41E-03
		1333.65		5.07	1.15E-02		2.34E-01	5.72E-03
		1434.09		100.00	1.26E-04		5.15E-06	6.11E-05
	MN-54	834.85		99.98	2.41E-04	2.41E-04	-1.79E-04	1.19E-04
	Co-55	411.50		1.07	1.82E-01	1.65E-03	-9.62E-02	9.07E-02
		477.20		20.20	8.72E-03		6.33E-03	4.34E-03
		803.70		1.87	6.82E-02		-4.29E-02	3.39E-02

Analysis Report for 24-2318 VSM-6.0-S1-CST A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Co-55	931.10		75.00	1.65E-03	1.65E-03	1.12E-03	8.16E-04
		1316.60		7.10	8.85E-03		6.46E-03	4.33E-03
		1370.00		2.90	2.01E-02		4.19E-03	9.83E-03
		1408.50		16.90	3.86E-03		6.15E-03	1.89E-03
	Co-56	846.77		99.94	2.59E-04	1.65E-04	1.96E-04	1.29E-04
		977.37		1.42	1.72E-02		-6.01E-03	8.50E-03
		1037.84		14.05	1.65E-03		-2.14E-04	8.19E-04
		1175.10		2.25	2.15E-02		4.38E-01	1.07E-02
		1238.29		66.46	2.25E-04		9.03E-05	1.11E-04
		1360.21		4.28	2.82E-03		7.27E-04	1.38E-03
		1771.36		15.41	4.06E-04		2.76E-04	1.93E-04
		2015.20		3.02	1.13E-03		-1.12E-03	5.07E-04
		2034.79		7.77	5.26E-04		6.18E-04	2.40E-04
		2598.50		16.97	1.65E-04		-5.35E-05	6.97E-05
	MN-56	846.76		98.85	2.15E+01	1.43E+01	1.63E+01	1.07E+01
		1810.73		26.90	1.43E+01		-3.06E+01	6.63E+00
		2113.09		14.20	2.38E+01		6.10E+00	1.08E+01
	Ni-56	158.38		98.80	7.53E-04	3.43E-04	-4.27E-05	3.76E-04
		269.50		36.50	1.43E-03		1.81E-03	7.15E-04
		480.44		36.50	1.10E-03		3.99E-04	5.47E-04
		749.50		49.50	6.25E-04		5.07E-04	3.10E-04
		811.85		86.00	3.43E-04		-5.16E-05	1.70E-04
		1561.80		14.00	6.05E-04		4.97E-04	2.90E-04
	CO-57	122.06		85.60	8.62E-04	8.62E-04	-2.83E-05	4.31E-04
		136.47		10.68	6.03E-03		-2.84E-03	3.01E-03
	NI-57	127.16		16.70	9.67E-03	3.06E-04	2.34E-04	4.83E-03
		1377.63		81.70	3.06E-04		5.86E-05	1.50E-04
		1757.55		5.75	2.16E-03		-2.41E-03	1.02E-03
		1919.52		12.30	7.59E-04		-6.97E-04	3.50E-04
	CO-58	810.76		99.45	2.50E-04	2.50E-04	1.18E-04	1.24E-04
		863.96		0.69	3.58E-02		-1.77E-02	1.78E-02
		1674.73		0.52	1.15E-02		7.13E-03	5.48E-03
	FE-59	142.65		1.02	6.28E-02	3.01E-04	4.58E-02	3.13E-02
		192.34		3.08	1.87E-02		-2.37E-03	9.32E-03
		1099.24		56.50	3.71E-04		-1.50E-04	1.84E-04
		1291.59		43.20	3.01E-04		1.23E-04	1.47E-04
+	CO-60	1173.23	*	99.85	2.70E-04	2.11E-04	9.26E-03	1.34E-04
		1332.49	*	99.98	2.11E-04		9.17E-03	1.04E-04
	CU-64	511.00	*	35.00	1.49E-02	1.49E-02	8.70E-02	7.45E-03
		1345.77		0.47	2.36E-01		1.74E-01	1.15E-01
	NI-65	366.27		4.81	9.17E+02	4.07E+01	-4.19E+02	4.57E+02
		1115.53		15.43	1.56E+02		2.52E+02	7.69E+01
		1481.84		23.59	4.07E+01		7.94E+01	1.97E+01
	ZN-65	1115.54		50.04	4.19E-04	4.19E-04	6.80E-04	2.07E-04
	GA-66	511.00	*	114.00	1.00E-02	1.86E-03	5.83E-02	4.99E-03
		833.53		5.90	8.88E-02		-1.33E-01	4.41E-02
		1039.22		37.00	1.28E-02		-1.21E-02	6.35E-03
		1333.11	*	1.17	3.81E-01		1.65E+01	1.88E-01
		1918.33		1.99	4.47E-02		8.45E-03	2.06E-02
		2189.62		5.30	1.49E-02		-3.91E-05	6.73E-03
		2751.83		22.70	1.86E-03		6.20E-04	7.21E-04
	CU-67	91.27		7.00	1.90E-02	1.82E-03	4.34E-04	9.51E-03
		93.31		16.10	8.07E-03		5.49E-03	4.03E-03

Analysis Report for 24-2318 VSM-6.0-S1-CST A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CU-67	184.58	48.70	1.82E-03	1.82E-03	-9.72E-04	9.10E-04
		300.22	0.80	8.61E-02		-9.24E-02	4.30E-02
		393.53	0.22	2.62E-01		1.41E-01	1.30E-01
	GA-67	91.26	3.11	3.99E-02	3.07E-03	9.09E-04	1.99E-02
		93.31	38.81	3.07E-03		2.09E-03	1.53E-03
		184.58	21.41	3.76E-03		-2.00E-03	1.88E-03
		208.95	2.46	3.16E-02		9.50E-03	1.58E-02
		300.22	16.64	3.82E-03		-4.10E-03	1.90E-03
		393.53	4.56	1.03E-02		5.58E-03	5.15E-03
	ZN-69m	438.63	94.85	3.08E-03	3.08E-03	8.80E-04	1.53E-03
	GA-72	629.97	26.13	9.35E-03	1.24E-03	4.16E-03	4.65E-03
		834.13	95.45	2.09E-03		-9.14E-04	1.03E-03
		894.33	10.14	1.98E-02		1.82E-02	9.82E-03
		1050.79	6.99	2.71E-02		-1.71E-03	1.34E-02
		2201.59	26.87	1.24E-03		9.36E-04	5.65E-04
		2491.03	7.73	2.58E-03		-2.71E-03	1.08E-03
		2507.72	13.33	4.85E-03		9.55E-03	2.30E-03
	Zn-72	144.70	82.78	1.40E-03	1.40E-03	2.72E-04	7.01E-04
		191.50	9.35	1.09E-02		-2.12E-03	5.42E-03
	SE-75	121.12	17.20	4.53E-03	7.74E-04	5.02E-04	2.26E-03
		136.00	58.50	1.16E-03		-4.64E-04	5.78E-04
		264.66	58.90	7.74E-04		-4.58E-04	3.86E-04
		279.54	25.02	1.87E-03		2.46E-03	9.34E-04
		400.66	11.41	2.39E-03		3.89E-04	1.19E-03
	BR-83	529.59	1.30	5.41E+03	5.41E+03	-9.94E+02	2.69E+03
@	BR-84	604.80	1.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		736.50	1.29	1.00E+20		1.00E+20	1.00E+20
@		802.20	6.00	1.00E+20		1.00E+20	1.00E+20
@		881.60	42.00	1.00E+20		1.00E+20	1.00E+20
@		987.30	0.79	1.00E+20		1.00E+20	1.00E+20
@		1015.90	6.20	1.00E+20		1.00E+20	1.00E+20
@		1213.30	2.60	1.00E+20		1.00E+20	1.00E+20
@		1463.80	2.00	1.00E+20		1.00E+20	1.00E+20
@		1741.20	1.60	1.00E+20		1.00E+20	1.00E+20
@		1877.50	1.12	1.00E+20		1.00E+20	1.00E+20
@		1897.60	14.60	1.00E+20		1.00E+20	1.00E+20
@		2029.60	2.10	1.00E+20		1.00E+20	1.00E+20
@		2200.70	1.16	1.00E+20		1.00E+20	1.00E+20
@		2484.10	6.70	1.00E+20		1.00E+20	1.00E+20
@		2824.10	1.12	1.00E+20		1.00E+20	1.00E+20
	KR-85m	151.20	75.20	5.54E-01	5.54E-01	6.11E-01	2.77E-01
		304.87	14.00	2.09E+00		1.63E+00	1.04E+00
	Y-87	388.53	82.20	6.31E-04	5.21E-04	-4.83E-04	3.15E-04
		484.80	89.80	5.21E-04		-4.78E-04	2.60E-04
	KR-88	165.98	3.10	6.55E+02	2.97E+00	2.30E+02	3.27E+02
		196.30	26.00	6.73E+01		2.42E+01	3.36E+01
		362.23	2.25	5.16E+02		-2.19E+02	2.57E+02
		471.80	0.73	1.50E+03		4.59E+02	7.46E+02
		834.83	13.00	6.06E+01		-4.51E+01	3.00E+01
		985.78	1.31	5.73E+02		4.90E+02	2.84E+02
		1141.33	1.28	4.57E+02		7.81E+02	2.26E+02
		1179.51	1.00	1.45E+03		6.21E+01	7.20E+02
		1250.67	1.12	4.48E+02		8.56E+02	2.20E+02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
KR-88	1369.50	1.48	2.47E+02	2.97E+00	-6.82E+01	1.21E+02
	1518.39	2.15	1.20E+02		-8.61E+01	5.77E+01
	1529.77	10.90	2.51E+01		3.81E+01	1.21E+01
	2029.84	4.53	2.95E+01		3.57E+01	1.35E+01
	2035.41	3.74	3.41E+01		-4.27E+00	1.55E+01
	2195.84	13.20	9.50E+00		-1.91E+00	4.30E+00
	2231.77	3.39	3.63E+01		1.04E+01	1.65E+01
	2352.08	0.73	1.49E+02		-1.74E+02	6.59E+01
	2392.11	34.60	2.97E+00		8.04E-01	1.31E+00
RB-88	898.03	14.40	5.62E+01	5.72E+00	3.37E+00	2.79E+01
	1382.45	0.78	4.55E+02		-6.67E+01	2.22E+02
	1836.00	22.81	5.72E+00		-4.65E+00	2.64E+00
	2677.89	2.13	4.54E+01		2.89E+01	1.94E+01
Y-88	898.04	93.70	2.73E-04	4.20E-05	1.64E-05	1.36E-04
	1836.06	99.20	4.20E-05		-3.42E-05	1.94E-05
@ RB-89	272.42	1.53	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	657.77	10.80	1.00E+20		1.00E+20	1.00E+20
@	947.73	10.00	1.00E+20		1.00E+20	1.00E+20
@	1031.92	63.00	1.00E+20		1.00E+20	1.00E+20
@	1248.14	46.00	1.00E+20		1.00E+20	1.00E+20
@	1538.07	2.77	1.00E+20		1.00E+20	1.00E+20
@	2007.50	2.58	1.00E+20		1.00E+20	1.00E+20
@	2195.92	14.50	1.00E+20		1.00E+20	1.00E+20
@	2570.20	10.70	1.00E+20		1.00E+20	1.00E+20
@	2707.26	2.20	1.00E+20		1.00E+20	1.00E+20
SR-89	908.96	0.01	2.59E+00	2.59E+00	9.12E-01	1.28E+00
Sr-91	652.90	11.35	5.16E-02	1.37E-02	3.05E-02	2.56E-02
	749.80	23.70	2.22E-02		1.81E-02	1.10E-02
	925.80	3.85	1.24E-01		-1.07E-01	6.17E-02
	1024.30	33.50	1.37E-02		1.58E-02	6.79E-03
Y-91	1204.77	0.26	5.65E-02	5.65E-02	-6.31E-02	2.78E-02
NB-92M	912.60	1.78	1.54E-02	2.65E-04	1.38E-02	7.61E-03
	934.44	99.15	2.65E-04		2.90E-04	1.31E-04
	1847.50	0.85	5.47E-03		4.52E-03	2.54E-03
SR-92	241.56	2.93	1.17E+03	8.94E+00	1.68E+02	5.86E+02
	430.49	3.28	7.97E+02		2.31E+02	3.97E+02
	953.31	3.52	4.88E+02		2.33E+02	2.42E+02
	1142.35	2.79	4.74E+02		-2.80E+02	2.34E+02
	1383.93	90.00	8.94E+00		5.12E+00	4.36E+00
MO-93M	114.04	0.68	7.60E+00	6.08E-03	1.23E+01	3.80E+00
	263.05	57.40	5.45E-02		5.02E-03	2.72E-02
	684.69	99.90	1.92E-02		1.73E-03	9.54E-03
	1363.02	0.81	1.00E+00		-1.11E-01	4.91E-01
	1477.14	99.10	6.08E-03		8.31E-04	2.94E-03
@ SR-93	168.50	18.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	260.12	7.40	1.00E+20		1.00E+20	1.00E+20
@	346.49	3.28	1.00E+20		1.00E+20	1.00E+20
@	446.20	2.36	1.00E+20		1.00E+20	1.00E+20
@	590.24	68.00	1.00E+20		1.00E+20	1.00E+20
@	710.31	21.80	1.00E+20		1.00E+20	1.00E+20
@	875.73	24.50	1.00E+20		1.00E+20	1.00E+20
@	888.13	22.10	1.00E+20		1.00E+20	1.00E+20
@	1040.63	3.20	1.00E+20		1.00E+20	1.00E+20

Analysis Report for 24-2318 VSM-6.0-S1-CST A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	SR-93	1094.00		1.76	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		1122.48		4.00	1.00E+20		1.00E+20	1.00E+20
@		1215.48		2.50	1.00E+20		1.00E+20	1.00E+20
@		1269.47		7.10	1.00E+20		1.00E+20	1.00E+20
@		1321.24		2.61	1.00E+20		1.00E+20	1.00E+20
@		1387.11		3.50	1.00E+20		1.00E+20	1.00E+20
@		1694.07		2.58	1.00E+20		1.00E+20	1.00E+20
@		1699.06		3.30	1.00E+20		1.00E+20	1.00E+20
@		2543.84		3.03	1.00E+20		1.00E+20	1.00E+20
@		2688.65		2.13	1.00E+20		1.00E+20	1.00E+20
	Y-93	266.90		7.40	1.03E-01	4.64E-02	-3.66E-02	5.15E-02
		947.10		2.10	1.95E-01		1.57E-01	9.68E-02
		1917.80		1.57	4.64E-02		1.69E-02	2.14E-02
	NB-94	702.65		99.81	2.77E-04	2.77E-04	-5.33E-05	1.37E-04
		871.09		99.89	3.54E-04		4.43E-03	1.76E-04
@	Y-94	381.60		2.02	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		550.90		4.90	1.00E+20		1.00E+20	1.00E+20
@		752.60		1.40	1.00E+20		1.00E+20	1.00E+20
@		918.74		56.00	1.00E+20		1.00E+20	1.00E+20
@		1138.90		6.00	1.00E+20		1.00E+20	1.00E+20
@		1671.40		2.50	1.00E+20		1.00E+20	1.00E+20
@		2140.60		0.95	1.00E+20		1.00E+20	1.00E+20
	NB-95	765.80		99.81	2.62E-04	2.62E-04	3.33E-04	1.30E-04
+	ZR-95	724.19	*	44.27	9.37E-04	6.96E-04	1.50E-02	4.66E-04
		756.72	*	54.38	6.96E-04		2.83E-03	3.46E-04
	NB-96	219.08		2.97	5.82E-02	9.15E-04	-1.55E-02	2.91E-02
		241.38		3.50	4.62E-02		6.63E-03	2.30E-02
		350.05		1.54	8.83E-02		-2.31E-01	4.40E-02
		352.56		0.83	1.63E-01		9.80E-02	8.12E-02
		371.81		2.62	4.98E-02		4.99E-02	2.48E-02
		460.04		26.62	4.45E-03		-7.82E-04	2.22E-03
		480.71		5.84	1.97E-02		7.16E-03	9.82E-03
		568.87		58.00	1.79E-03		4.32E-06	8.89E-04
		719.56		6.85	2.05E-02		6.65E-03	1.02E-02
		721.63		1.02	1.38E-01		2.16E+00	6.86E-02
		778.22		96.45	9.15E-04		1.11E-05	4.54E-04
		810.33		11.09	7.62E-03		3.70E-03	3.78E-03
		812.58		2.95	2.87E-02		-2.01E-03	1.42E-02
		847.69		1.14	7.49E-02		7.17E-02	3.72E-02
		849.93		20.45	4.16E-03		-2.85E-03	2.06E-03
		1091.35		48.50	1.52E-03		7.23E-04	7.52E-04
		1200.23		19.97	2.59E-03		2.26E-03	1.27E-03
		1441.13		0.44	7.10E-02		-5.62E-02	3.45E-02
		1497.81		3.28	1.17E-02		1.08E-03	5.70E-03
	Nb-97	657.94		98.23	2.44E-03	2.44E-03	-4.92E-04	1.22E-03
		1024.40		1.09	1.16E-01		1.34E-01	5.76E-02
	ZR-97	254.17		1.15	2.23E-01	1.56E-03	3.14E-02	1.11E-01
		355.40		2.09	1.11E-01		5.15E-02	5.55E-02
		507.64		5.03	4.35E-02		-6.73E-03	2.17E-02
		743.36		93.09	1.56E-03		-1.68E-03	7.75E-04
		1147.97		2.62	4.14E-02		-2.30E-03	2.04E-02
	MO-99	181.07		6.14	1.51E-02	3.39E-03	-5.31E-03	7.54E-03
		366.42		1.20	4.86E-02		-2.22E-02	2.42E-02

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
MO-99	739.50	12.26	3.39E-03	3.39E-03	-6.56E-04	1.68E-03
	777.92	4.30	9.11E-03		-6.84E-04	4.52E-03
TC-99M	140.51	90.80	1.08E-03	1.08E-03	3.19E-04	5.39E-04
RH-101	127.23	68.00	1.07E-03	7.56E-04	2.53E-05	5.34E-04
	198.01	73.00	7.56E-04		-6.98E-05	3.77E-04
	325.23	11.80	2.72E-03		1.76E-03	1.35E-03
RH-101M	306.86	81.00	6.88E-04	6.88E-04	-1.50E-04	3.43E-04
	545.12	4.30	9.45E-03		-1.53E-03	4.70E-03
RH-102M	415.25	2.10	1.96E-02	3.81E-04	6.03E-02	9.76E-03
	418.52	9.40	4.28E-03		1.69E-03	2.13E-03
	420.40	3.20	1.27E-02		6.98E-03	6.34E-03
	475.06	95.00	3.81E-04		-4.08E-04	1.90E-04
	628.05	8.30	3.88E-03		-7.08E-04	1.93E-03
	631.29	56.00	5.54E-04		2.55E-04	2.76E-04
	692.40	1.60	2.17E-02		6.40E-03	1.08E-02
	695.60	2.90	1.17E-02		7.66E-02	5.83E-03
	697.49	44.00	7.66E-04		2.57E-06	3.81E-04
	766.84	34.00	8.11E-04		1.03E-03	4.02E-04
	1046.59	34.00	6.92E-04		3.80E-04	3.42E-04
	1103.16	4.60	4.58E-03		-1.22E-03	2.27E-03
	1112.84	19.00	1.20E-03		1.36E-03	5.94E-04
RU-103	497.08	91.00	3.64E-04	3.64E-04	2.31E-04	1.81E-04
	610.33	5.76	5.22E-03		-1.90E-04	2.60E-03
RH-105	306.31	4.66	2.07E-02	5.57E-03	-9.62E-03	1.03E-02
	319.23	16.90	5.57E-03		9.20E-04	2.78E-03
AG-106M	221.70	6.60	8.59E-03	4.84E-04	3.37E-03	4.29E-03
	228.63	2.10	2.65E-02		7.61E-04	1.32E-02
	328.46	1.14	4.08E-02		-1.13E-02	2.04E-02
	391.04	3.68	1.13E-02		5.31E-03	5.63E-03
	406.18	13.40	3.05E-03		-4.93E-04	1.52E-03
	429.65	13.20	3.07E-03		1.13E-03	1.53E-03
	450.98	28.20	1.40E-03		3.36E-04	6.96E-04
	511.85	88.00	4.84E-04		4.07E-03	2.41E-04
	601.17	1.61	2.04E-02		9.84E-03	1.01E-02
	616.17	21.60	1.56E-03		-1.16E-03	7.75E-04
	646.03	1.46	2.25E-02		-1.05E-03	1.12E-02
	680.42	2.18	1.43E-02		6.52E-03	7.11E-03
	703.11	4.47	6.84E-03		7.58E-04	3.40E-03
	717.34	28.90	1.36E-03		6.50E-04	6.77E-04
	748.36	20.60	1.41E-03		1.17E-03	7.02E-04
	793.17	5.90	4.84E-03		4.13E-03	2.40E-03
	804.28	12.40	2.25E-03		1.71E-03	1.11E-03
	808.36	4.00	6.89E-03		-4.67E-03	3.42E-03
	824.69	15.30	1.83E-03		2.48E-03	9.09E-04
	847.15	4.40	6.43E-03		6.88E-03	3.19E-03
	1019.72	1.04	2.43E-02		-1.09E-02	1.20E-02
	1045.83	29.60	8.52E-04		-4.21E-04	4.22E-04
	1128.02	11.80	1.91E-03		8.93E-04	9.44E-04
	1199.39	11.20	1.52E-03		1.83E-03	7.50E-04
	1222.88	7.00	2.23E-03		-1.55E-03	1.09E-03
	1394.35	1.49	9.69E-03		1.74E-02	4.75E-03
	1527.65	16.30	5.72E-04		2.99E-04	2.76E-04
	1572.35	6.60	1.26E-03		-3.98E-04	6.04E-04

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	AG-106M	1722.76		1.40	5.54E-03	4.84E-04	-3.31E-03	2.65E-03
		1839.05		2.00	2.23E-03		-4.49E-03	1.03E-03
	RH-106	621.93		9.93	3.06E-03	3.06E-03	2.17E-03	1.52E-03
		873.49		0.44	8.29E-02		9.39E-01	4.12E-02
		1050.41		1.56	1.46E-02		-7.13E-03	7.24E-03
+	RU-106	511.86	*	20.40	2.56E-03	2.56E-03	1.49E-02	1.28E-03
	AG-108M	79.13		6.60	1.48E-02	3.53E-04	-1.67E-02	7.38E-03
		433.94		90.50	4.17E-04		2.81E-04	2.08E-04
		614.28		89.80	3.53E-04		2.35E-04	1.76E-04
		722.91		90.80	4.80E-04		7.72E-03	2.39E-04
	CD-109	88.03		3.64	2.39E-02	2.39E-02	5.78E-04	1.19E-02
	AG-110M	446.81		3.70	1.05E-02	3.36E-04	1.32E-03	5.24E-03
		620.35		2.73	1.21E-02		-6.54E-03	6.01E-03
		657.76		95.61	4.79E-04		-4.85E-05	2.38E-04
		677.62		10.70	2.86E-03		-1.16E-03	1.42E-03
		687.01		6.53	4.73E-03		-2.11E-03	2.35E-03
		706.68		16.69	1.75E-03		-1.39E-05	8.69E-04
		744.28		4.77	5.91E-03		6.42E-03	2.94E-03
		763.94		22.60	1.30E-03		1.93E-03	6.44E-04
		818.02		7.43	3.76E-03		1.20E-03	1.87E-03
		884.68		75.00	3.36E-04		-4.56E-05	1.66E-04
		937.48		35.00	7.26E-04		-7.86E-05	3.60E-04
		1384.29		25.10	4.57E-04		-2.38E-04	2.23E-04
		1475.78		4.08	2.14E-03		-2.11E-03	1.04E-03
		1505.03		13.33	6.40E-04		-4.77E-05	3.09E-04
		1562.29		1.22	4.98E-03		4.01E-03	2.39E-03
	AG-111	245.40		1.11	4.99E-02	6.99E-03	-4.45E-03	2.49E-02
		342.13		6.68	6.99E-03		3.69E-03	3.48E-03
	AG-112	606.82		3.10	3.78E-02	2.71E-03	-2.62E-02	1.88E-02
		617.52		43.00	2.71E-03		1.30E-03	1.35E-03
		692.82		1.19	1.05E-01		7.07E-03	5.21E-02
		694.87		2.90	4.30E-02		2.71E-01	2.14E-02
		851.28		1.02	9.54E-02		-4.80E-02	4.73E-02
		1312.36		1.11	4.26E-02		-2.25E-02	2.09E-02
		1387.68		5.30	8.00E-03		6.67E-04	3.90E-03
		1613.66		2.80	8.55E-03		6.55E-03	4.07E-03
		1798.50		0.89	2.15E-02		2.40E-02	1.01E-02
		2106.31		2.40	6.42E-03		4.93E-03	2.92E-03
		2506.70		1.06	2.94E-02		4.83E-02	1.39E-02
	CD-113M	263.70		0.03	1.62E+00	1.62E+00	1.00E+00	8.10E-01
	SN-113	255.13		2.11	2.12E-02	5.58E-04	-5.67E-03	1.06E-02
		391.70		64.97	5.58E-04		-1.42E-04	2.78E-04
	IN-114M	190.27		15.56	3.57E-03	3.57E-03	2.69E-03	1.78E-03
		558.43		4.40	7.33E-03		4.14E-03	3.65E-03
		725.24		4.40	9.73E-03		2.15E-03	4.84E-03
	CD-115	260.90		1.94	3.89E-02	1.49E-03	-1.48E-02	1.94E-02
		336.24		46.02	1.49E-03		-4.21E-05	7.43E-04
		527.90		27.45	1.94E-03		1.04E-03	9.66E-04
	CD-115M	933.84		2.00	1.20E-02	1.20E-02	7.25E-03	5.96E-03
		1290.59		0.90	1.45E-02		-2.90E-04	7.09E-03
	IN-115M	336.24		45.90	5.93E-01	5.93E-01	-1.67E-02	2.96E-01
	IN-116M	138.29		3.70	2.10E+12	1.75E+10	2.95E+12	1.05E+12
		416.90		27.20	1.58E+11		5.91E+11	7.89E+10

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
IN-116M	818.68	12.13	2.50E+11	1.75E+10	8.71E+10	1.24E+11
	1097.28	58.50	4.13E+10		3.50E+10	2.04E+10
	1293.56	84.80	1.75E+10		1.55E+08	8.57E+09
	1507.59	9.92	9.44E+10		-6.24E+09	4.56E+10
	2112.29	15.09	2.93E+10		1.86E+10	1.33E+10
SB-125	176.31	6.84	8.32E-03	1.19E-03	-5.48E-04	4.16E-03
	380.45	1.52	2.40E-02		-5.33E-03	1.20E-02
	427.87	29.60	1.19E-03		8.60E-04	5.93E-04
	463.36	10.49	3.21E-03		-2.29E-03	1.60E-03
	600.60	17.65	1.60E-03		-1.80E-03	7.97E-04
	606.71	4.98	5.85E-03		-4.05E-03	2.91E-03
	635.95	11.22	2.51E-03		2.03E-03	1.25E-03
	671.44	1.79	1.69E-02		-3.33E-03	8.43E-03
SN-125	332.10	1.40	3.49E-02	1.98E-03	-2.86E-02	1.74E-02
	469.85	1.50	2.70E-02		-1.62E-02	1.35E-02
	800.28	1.10	2.60E-02		1.21E-02	1.29E-02
	822.48	4.30	6.72E-03		5.72E-03	3.34E-03
	915.55	4.10	6.64E-03		-1.33E-03	3.29E-03
	1067.10	10.00	2.47E-03		8.10E-04	1.22E-03
	1087.70	1.20	2.16E-02		9.92E-03	1.07E-02
	1089.10	4.60	5.27E-03		3.67E-03	2.61E-03
	2002.10	1.90	1.98E-03		3.00E-05	8.90E-04
SB-127	61.10	1.43	1.62E-01	1.00E-03	9.16E-03	8.12E-02
	252.40	8.50	7.66E-03		1.45E-03	3.82E-03
	290.80	2.02	3.10E-02		-8.47E-03	1.54E-02
	412.10	3.80	1.34E-02		1.76E-04	6.68E-03
	445.10	4.30	1.15E-02		2.37E-03	5.72E-03
	473.00	25.80	1.78E-03		-9.73E-04	8.88E-04
	543.30	2.90	1.41E-02		-1.48E-03	7.04E-03
	603.50	4.50	9.32E-03		-5.49E-03	4.63E-03
	685.70	36.80	1.00E-03		2.08E-04	4.97E-04
	698.50	3.64	1.15E-02		2.10E-04	5.73E-03
	722.20	1.88	2.95E-02		4.64E-01	1.47E-02
	783.70	15.10	2.28E-03		5.56E-04	1.13E-03
SN-127	119.70	2.20	3.79E+04	6.33E+02	6.52E+03	1.89E+04
	262.50	2.30	2.16E+04		-2.42E+02	1.08E+04
	266.20	2.10	2.34E+04		-1.18E+04	1.17E+04
	284.30	2.70	1.87E+04		5.93E+03	9.35E+03
	438.20	6.10	6.50E+03		4.21E+03	3.24E+03
	490.90	5.30	6.97E+03		1.58E+03	3.47E+03
	493.20	3.10	1.19E+04		6.74E+03	5.92E+03
	545.40	2.30	1.53E+04		-4.48E+03	7.59E+03
	583.30	3.20	1.06E+04		1.97E+04	5.29E+03
	805.90	8.20	3.33E+03		2.57E+02	1.65E+03
	823.10	11.00	2.54E+03		2.09E+03	1.26E+03
	824.70	6.10	4.53E+03		6.14E+03	2.25E+03
	859.50	8.00	3.32E+03		-1.50E+03	1.64E+03
	979.20	7.20	3.52E+03		1.69E+03	1.74E+03
	1093.30	3.80	6.29E+03		3.91E+03	3.11E+03
	1095.60	19.00	1.24E+03		7.67E+02	6.12E+02
	1114.30	38.00	6.33E+02		7.44E+02	3.13E+02
	1160.40	2.40	8.09E+03		1.91E+03	3.99E+03
	2003.40	5.30	7.04E+02		4.00E+01	3.16E+02

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	180.42		2.84	1.62E+01	4.11E-01	4.50E+00	8.09E+00
		359.20		2.39	1.30E+01		2.54E-01	6.50E+00
		404.64		1.17	2.48E+01		1.52E+01	1.23E+01
		523.13		1.55	1.64E+01		-7.35E-01	8.16E+00
		544.56		15.42	1.63E+00		8.27E-01	8.13E-01
		633.74		2.53	9.14E+00		-8.82E+00	4.54E+00
		654.28		2.97	7.97E+00		-2.68E+00	3.96E+00
		682.77		5.76	3.81E+00		-1.85E+00	1.89E+00
		761.12		4.32	5.56E+00		3.17E+00	2.76E+00
		773.37		2.82	7.34E+00		4.65E-01	3.65E+00
		786.36		1.07	1.90E+01		-1.55E+01	9.45E+00
		787.16		1.74	1.17E+01		-7.36E+00	5.83E+00
		812.97		48.20	4.11E-01		-7.06E-02	2.04E-01
		819.51		1.39	1.46E+01		-2.17E-01	7.25E+00
		876.65		2.75	1.01E+01		2.16E+00	5.04E+00
		914.96		23.30	8.14E-01		2.57E-01	4.04E-01
		966.78		8.96	2.12E+00		1.26E+00	1.05E+00
		1030.65		15.13	1.18E+00		-1.69E+00	5.84E-01
		1656.10		1.31	3.68E+00		5.25E+00	1.75E+00
		1738.16		7.45	5.99E-01		2.09E-01	2.83E-01
	TE-129	459.60		7.70	4.55E-03	4.55E-03	1.36E-04	2.27E-03
		487.39		1.42	2.35E-02		-1.95E-02	1.17E-02
+	Te-129m	695.88	*	3.00	6.70E-03	6.70E-03	4.18E-02	3.32E-03
	I-131	80.18		2.62	4.43E-02	5.36E-04	-1.56E-02	2.22E-02
		284.30		6.12	8.55E-03		2.70E-03	4.27E-03
		364.49		81.50	5.36E-04		1.48E-04	2.67E-04
		636.99		7.16	4.56E-03		-3.03E-03	2.27E-03
		722.91		1.77	2.63E-02		4.24E-01	1.31E-02
	Te-131m	773.67		36.80	1.77E-03	1.77E-03	3.14E-04	8.77E-04
		793.75		13.40	4.90E-03		2.24E-03	2.43E-03
		852.21		19.90	3.12E-03		-2.74E-03	1.55E-03
		1125.46		11.00	4.54E-03		-7.62E-04	2.25E-03
		1206.60		9.41	3.81E-03		-5.76E-03	1.87E-03
	I-132	262.90		1.28	4.96E-02	5.24E-04	4.57E-03	2.48E-02
		284.90		0.71	9.13E-02		9.00E-02	4.55E-02
		505.79		4.93	1.19E-02		-4.42E-03	5.91E-03
		522.65		16.00	3.09E-03		-2.23E-03	1.54E-03
		547.20		1.14	4.35E-02		2.87E-02	2.16E-02
		621.20		1.97	2.38E-02		9.17E-03	1.19E-02
		630.19		13.30	3.45E-03		1.53E-03	1.71E-03
		650.50		2.57	1.81E-02		-9.20E-03	8.98E-03
		667.71		98.70	6.55E-04		3.63E-06	3.26E-04
		669.80		4.60	1.07E-02		1.61E-03	5.31E-03
		671.40		3.50	1.43E-02		-2.81E-03	7.11E-03
		727.10		5.40	1.23E-02		-9.52E-04	6.10E-03
		728.40		1.60	4.05E-02		-6.86E-03	2.01E-02
		772.60		75.60	5.24E-04		3.03E-04	2.60E-04
		809.50		2.60	1.48E-02		1.76E-03	7.36E-03
		812.00		5.50	7.00E-03		-1.05E-03	3.47E-03
		910.10		0.93	4.12E-02		2.95E-02	2.04E-02
		954.55		17.60	2.08E-03		8.55E-04	1.03E-03
		1136.00		3.01	9.43E-03		-1.96E-03	4.66E-03
		1172.90		1.09	6.12E-02		1.22E+00	3.04E-02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
I-132	1290.80	1.13	1.78E-02	5.24E-04	-3.56E-04	8.72E-03
	1295.10	1.88	8.37E-03		2.72E-03	4.10E-03
	1297.90	0.89	1.56E-02		9.81E-03	7.66E-03
	1372.07	2.47	7.06E-03		3.67E-03	3.45E-03
	1398.57	7.01	2.78E-03		5.30E-03	1.36E-03
	1442.56	1.40	8.55E-03		1.03E-02	4.15E-03
TE-132	49.72	15.00	2.35E-02	8.02E-04	-3.96E-04	1.17E-02
	111.76	1.74	6.12E-02		2.69E-02	3.06E-02
	116.30	1.96	5.28E-02		-1.38E-02	2.64E-02
	228.16	88.00	8.02E-04		4.46E-04	4.00E-04
BA-133	81.00	32.90	3.00E-03	6.25E-04	1.60E-06	1.50E-03
	276.40	7.16	6.48E-03		-5.93E-03	3.23E-03
	302.85	18.34	2.36E-03		2.44E-03	1.18E-03
	356.01	62.05	6.25E-04		1.01E-04	3.11E-04
	383.85	8.94	3.93E-03		-2.98E-03	1.96E-03
I-133	529.87	87.00	1.44E-03	1.44E-03	-7.68E-04	7.18E-04
	706.58	1.51	7.31E-02		-5.82E-04	3.63E-02
	856.28	1.24	8.02E-02		-5.56E-02	3.98E-02
	875.33	4.51	3.07E-02		3.52E-01	1.53E-02
	1236.44	1.51	3.63E-02		1.98E-02	1.78E-02
	1298.22	2.35	2.11E-02		-6.33E-03	1.03E-02
@ TE-133	312.08	62.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	407.63	27.10	1.00E+20		1.00E+20	1.00E+20
@	410.40	0.94	1.00E+20		1.00E+20	1.00E+20
@	474.85	0.88	1.00E+20		1.00E+20	1.00E+20
@	719.71	8.90	1.00E+20		1.00E+20	1.00E+20
@	786.93	5.40	1.00E+20		1.00E+20	1.00E+20
@	844.36	3.31	1.00E+20		1.00E+20	1.00E+20
@	884.30	0.72	1.00E+20		1.00E+20	1.00E+20
@	930.71	3.81	1.00E+20		1.00E+20	1.00E+20
@	997.70	1.04	1.00E+20		1.00E+20	1.00E+20
@	1000.72	3.62	1.00E+20		1.00E+20	1.00E+20
@	1021.13	2.81	1.00E+20		1.00E+20	1.00E+20
@	1061.61	1.19	1.00E+20		1.00E+20	1.00E+20
@	1252.08	1.44	1.00E+20		1.00E+20	1.00E+20
@	1312.80	0.85	1.00E+20		1.00E+20	1.00E+20
@	1333.21	10.67	1.00E+20		1.00E+20	1.00E+20
@	1717.61	3.18	1.00E+20		1.00E+20	1.00E+20
@	1881.52	1.22	1.00E+20		1.00E+20	1.00E+20
@	2136.51	1.25	1.00E+20		1.00E+20	1.00E+20
@	2229.64	0.87	1.00E+20		1.00E+20	1.00E+20
Xe-133	81.00	36.90	3.24E-03	3.24E-03	1.72E-06	1.62E-03
CS-134	475.36	1.48	2.25E-02	3.03E-04	4.01E-03	1.12E-02
	563.25	8.34	3.88E-03		-1.23E-04	1.93E-03
	569.33	15.37	2.09E-03		6.35E-04	1.04E-03
	604.72	97.62	3.16E-04		2.48E-04	1.57E-04
	795.86	85.46	3.03E-04		3.42E-05	1.50E-04
	801.95	8.69	2.99E-03		1.13E-03	1.49E-03
	1038.61	0.99	2.28E-02		-9.86E-03	1.13E-02
	1167.97	1.79	2.23E-02		8.64E-03	1.11E-02
	1365.19	3.02	3.31E-03		2.21E-03	1.62E-03
I-135	220.50	1.75	2.50E+00	3.85E-02	1.17E+00	1.25E+00
	288.45	3.10	1.26E+00		-2.06E-01	6.30E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	417.63		3.53	9.13E-01	3.85E-02	1.58E+00	4.55E-01
		546.56		7.15	3.83E-01		1.57E-01	1.91E-01
		836.80		6.69	3.18E-01		-5.14E-02	1.58E-01
		971.96		0.89	2.29E+00		2.59E-01	1.13E+00
		972.62		1.21	1.65E+00		4.79E-01	8.15E-01
		1038.76		7.90	2.35E-01		-1.02E-01	1.16E-01
		1101.58		1.61	1.13E+00		3.51E-01	5.60E-01
		1124.00		3.62	4.91E-01		2.45E-01	2.43E-01
		1131.51		22.60	7.55E-02		9.15E-02	3.73E-02
		1240.47		0.90	1.52E+00		-5.44E-01	7.50E-01
		1260.41		28.70	3.85E-02		-4.48E-02	1.89E-02
		1457.56		8.70	9.59E-02		1.02E-01	4.66E-02
		1502.79		1.08	7.75E-01		2.52E-01	3.76E-01
		1566.41		1.29	4.49E-01		-3.90E-01	2.15E-01
		1678.03		9.60	5.18E-02		3.02E-02	2.46E-02
		1706.46		4.10	1.26E-01		7.65E-02	6.00E-02
		1791.20		7.72	5.22E-02		-4.69E-02	2.44E-02
		2408.65		0.96	2.72E-01		-3.05E-01	1.19E-01
	XE-135	249.79		90.00	1.28E-02	1.28E-02	-3.01E-05	6.39E-03
	XE-135m	526.56		80.40	3.30E-02	3.30E-02	2.89E-02	1.64E-02
	CS-136	66.88		4.79	3.07E-02	2.93E-04	2.33E-02	1.54E-02
		86.36		5.90	1.79E-02		2.30E-03	8.97E-03
		153.25		7.70	9.54E-03		1.02E-02	4.76E-03
		163.92		4.69	1.58E-02		5.24E-03	7.87E-03
		176.60		13.70	4.99E-03		2.15E-03	2.49E-03
		273.65		12.66	4.32E-03		2.59E-03	2.16E-03
		340.55		46.80	1.00E-03		-6.35E-05	5.00E-04
		818.51		99.70	2.93E-04		2.25E-04	1.45E-04
		1048.07		80.00	3.22E-04		-2.74E-04	1.59E-04
		1235.36		20.00	8.07E-04		5.07E-04	3.96E-04
+	CS-137	661.66	*	85.10	2.22E-04	2.22E-04	8.68E-03	1.10E-04
	BA-139	33.44		3.84	4.14E+08	4.00E+06	-1.23E+09	2.07E+08
		165.86		23.70	4.00E+06		2.22E+06	2.00E+06
	BA-140	132.69		0.20	3.55E-01	1.41E-03	2.39E-01	1.77E-01
		162.66		6.22	1.08E-02		1.21E-03	5.41E-03
		304.85		4.29	1.12E-02		8.75E-03	5.60E-03
		423.72		3.10	1.25E-02		7.13E-03	6.24E-03
		437.58		1.93	1.98E-02		6.43E-03	9.85E-03
		537.26		24.39	1.41E-03		1.01E-04	7.00E-04
	LA-140	109.42		0.22	3.72E-01	1.78E-04	2.58E-01	1.86E-01
		131.12		0.47	1.55E-01		-4.46E-02	7.73E-02
		173.54		0.13	4.98E-01		-1.21E-01	2.49E-01
		241.93		0.41	1.22E-01		4.00E-02	6.11E-02
		266.54		0.47	1.02E-01		-2.43E-02	5.07E-02
		328.76		20.30	2.34E-03		-3.84E-04	1.17E-03
		432.49		2.90	1.43E-02		6.70E-03	7.12E-03
		487.02		45.50	8.24E-04		-1.14E-03	4.10E-04
		618.10		0.04	8.61E-01		8.52E-01	4.28E-01
		751.64		4.33	7.44E-03		1.54E-03	3.70E-03
		815.77		23.28	1.15E-03		1.29E-03	5.68E-04
		867.85		5.50	6.61E-03		-6.07E-04	3.29E-03
		919.55		2.66	9.54E-03		5.97E-03	4.73E-03
		925.19		6.90	3.79E-03		-1.62E-03	1.88E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
LA-140	950.99	0.52	5.05E-02	1.78E-04	-2.35E-02	2.50E-02
	1596.21	95.40	1.78E-04		9.27E-04	8.72E-05
	2347.88	0.85	3.80E-03		-1.39E-03	1.68E-03
	2521.40	3.46	7.95E-04		-1.53E-04	3.36E-04
	2547.34	0.10	2.45E-02		1.14E-02	1.00E-02
@ BA-141	33.44	7.93	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	190.33	44.80	1.00E+20		1.00E+20	1.00E+20
@	276.95	23.60	1.00E+20		1.00E+20	1.00E+20
@	304.19	26.10	1.00E+20		1.00E+20	1.00E+20
@	343.67	15.10	1.00E+20		1.00E+20	1.00E+20
@	389.74	1.37	1.00E+20		1.00E+20	1.00E+20
@	457.51	5.00	1.00E+20		1.00E+20	1.00E+20
@	462.06	5.10	1.00E+20		1.00E+20	1.00E+20
@	467.22	5.60	1.00E+20		1.00E+20	1.00E+20
@	625.08	3.45	1.00E+20		1.00E+20	1.00E+20
@	647.78	5.70	1.00E+20		1.00E+20	1.00E+20
@	738.95	4.39	1.00E+20		1.00E+20	1.00E+20
@	831.46	1.64	1.00E+20		1.00E+20	1.00E+20
@	876.09	3.45	1.00E+20		1.00E+20	1.00E+20
@	1160.72	1.12	1.00E+20		1.00E+20	1.00E+20
@	1197.28	4.35	1.00E+20		1.00E+20	1.00E+20
@	1323.92	0.92	1.00E+20		1.00E+20	1.00E+20
@	1654.00	0.65	1.00E+20		1.00E+20	1.00E+20
@	1682.19	1.19	1.00E+20		1.00E+20	1.00E+20
CE-141	145.44	48.30	1.33E-03	1.33E-03	-1.39E-03	6.62E-04
@ BA-142	33.44	14.20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	77.59	7.00	1.00E+20		1.00E+20	1.00E+20
@	177.00	2.12	1.00E+20		1.00E+20	1.00E+20
@	231.61	12.20	1.00E+20		1.00E+20	1.00E+20
@	255.30	20.70	1.00E+20		1.00E+20	1.00E+20
@	286.30	1.11	1.00E+20		1.00E+20	1.00E+20
@	309.20	2.60	1.00E+20		1.00E+20	1.00E+20
@	335.00	1.53	1.00E+20		1.00E+20	1.00E+20
@	363.96	4.76	1.00E+20		1.00E+20	1.00E+20
@	425.04	5.75	1.00E+20		1.00E+20	1.00E+20
@	599.80	1.85	1.00E+20		1.00E+20	1.00E+20
@	840.40	3.63	1.00E+20		1.00E+20	1.00E+20
@	895.20	13.90	1.00E+20		1.00E+20	1.00E+20
@	949.10	10.70	1.00E+20		1.00E+20	1.00E+20
@	1001.20	9.80	1.00E+20		1.00E+20	1.00E+20
@	1078.70	11.50	1.00E+20		1.00E+20	1.00E+20
@	1094.10	2.82	1.00E+20		1.00E+20	1.00E+20
@	1126.80	1.50	1.00E+20		1.00E+20	1.00E+20
@	1202.40	5.60	1.00E+20		1.00E+20	1.00E+20
@	1204.30	14.30	1.00E+20		1.00E+20	1.00E+20
@	1380.20	3.42	1.00E+20		1.00E+20	1.00E+20
CE-143	57.36	11.70	3.97E-02	2.47E-03	1.40E+00	1.98E-02
	231.55	2.05	5.85E-02		3.15E-02	2.92E-02
	293.27	42.80	2.47E-03		-9.05E-04	1.23E-03
	350.62	3.23	2.80E-02		-2.27E-02	1.39E-02
	490.37	2.16	3.76E-02		-3.71E-02	1.87E-02
	664.57	5.69	1.88E-02		3.75E-01	9.34E-03
	721.93	5.39	1.78E-02		2.80E-01	8.84E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
CE-143	880.46	1.03	6.43E-02	2.47E-03	-6.68E-03	3.19E-02
CE-144	80.12	1.36	7.08E-02	5.88E-03	-2.49E-02	3.54E-02
	133.51	11.09	5.88E-03		5.46E-03	2.94E-03
ND-147	38.17	13.20	4.56E-02	2.61E-03	-4.70E-02	2.28E-02
	38.72	23.80	2.38E-02		-2.53E-02	1.19E-02
	91.11	28.90	3.22E-03		7.33E-05	1.61E-03
	275.39	0.79	6.75E-02		5.96E-02	3.37E-02
	319.41	1.97	2.40E-02		-4.01E-03	1.20E-02
	398.13	0.87	4.66E-02		-3.57E-02	2.32E-02
	439.88	1.20	3.28E-02		1.53E-02	1.63E-02
	531.01	13.11	2.61E-03		2.28E-03	1.30E-03
	685.88	0.82	3.65E-02		-1.98E-02	1.81E-02
@ PR-147	36.85	19.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	37.36	35.50	1.00E+20		1.00E+20	1.00E+20
@	49.88	4.00	1.00E+20		1.00E+20	1.00E+20
@	77.97	9.70	1.00E+20		1.00E+20	1.00E+20
@	86.69	5.40	1.00E+20		1.00E+20	1.00E+20
@	127.80	7.40	1.00E+20		1.00E+20	1.00E+20
@	249.20	1.32	1.00E+20		1.00E+20	1.00E+20
@	314.70	18.20	1.00E+20		1.00E+20	1.00E+20
@	328.80	4.00	1.00E+20		1.00E+20	1.00E+20
@	335.70	4.70	1.00E+20		1.00E+20	1.00E+20
@	388.80	1.41	1.00E+20		1.00E+20	1.00E+20
@	466.80	1.70	1.00E+20		1.00E+20	1.00E+20
@	477.90	4.60	1.00E+20		1.00E+20	1.00E+20
@	516.70	1.30	1.00E+20		1.00E+20	1.00E+20
@	554.70	5.90	1.00E+20		1.00E+20	1.00E+20
@	577.90	13.70	1.00E+20		1.00E+20	1.00E+20
@	641.40	16.10	1.00E+20		1.00E+20	1.00E+20
@	996.00	1.52	1.00E+20		1.00E+20	1.00E+20
@	1136.70	1.42	1.00E+20		1.00E+20	1.00E+20
@	1261.10	8.40	1.00E+20		1.00E+20	1.00E+20
@	1300.40	2.30	1.00E+20		1.00E+20	1.00E+20
ND-149	38.17	9.00	1.41E+06	4.61E+04	-1.45E+06	7.02E+05
	38.72	16.30	7.31E+05		-7.76E+05	3.65E+05
	58.88	1.30	3.36E+06		1.52E+08	1.68E+06
	74.32	2.11	1.23E+06		1.60E+06	6.16E+05
	97.00	1.48	1.33E+06		6.94E+05	6.66E+05
	114.31	19.20	9.04E+04		1.47E+05	4.52E+04
	155.87	5.95	2.52E+05		6.95E+04	1.26E+05
	188.64	1.79	7.70E+05		-5.16E+05	3.84E+05
	198.93	1.39	9.39E+05		6.44E+05	4.69E+05
	208.15	2.55	4.87E+05		4.32E+05	2.43E+05
	211.31	26.00	4.61E+04		1.41E+04	2.30E+04
	240.22	3.95	2.76E+05		-1.41E+05	1.38E+05
	245.72	0.81	1.43E+06		1.14E+05	7.13E+05
	267.69	6.05	1.75E+05		-1.66E+05	8.74E+04
	270.17	10.80	9.98E+04		7.36E+04	4.98E+04
	326.55	4.57	2.15E+05		8.05E+04	1.07E+05
	349.23	1.38	6.87E+05		2.96E+05	3.42E+05
	423.55	7.50	1.11E+05		6.34E+04	5.55E+04
	443.55	1.15	7.32E+05		2.91E+05	3.65E+05
	540.51	6.60	1.12E+05		-1.33E+05	5.56E+04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ND-149	654.83	8.00	8.55E+04	4.61E+04	-1.48E+04	4.25E+04
PM-149	285.95	3.10	2.47E-02	2.47E-02	-1.49E-02	1.23E-02
PM-150	39.52	0.63	3.85E+04	3.04E+01	-1.84E+04	1.92E+04
	40.12	1.14	2.03E+04		-1.13E+04	1.01E+04
	333.92	68.00	3.04E+01		2.12E+01	1.52E+01
	406.51	5.60	3.27E+02		-2.59E+02	1.63E+02
	565.70	1.31	1.17E+03		3.82E+02	5.84E+02
	587.02	1.34	1.26E+03		-2.74E+01	6.25E+02
	612.25	0.93	1.63E+03		1.17E+03	8.12E+02
	712.22	4.40	3.11E+02		2.43E+02	1.54E+02
	737.50	2.25	5.92E+02		-4.58E+02	2.94E+02
	831.85	11.90	1.05E+02		1.26E+02	5.23E+01
	859.95	3.40	3.55E+02		-1.80E+02	1.76E+02
	876.41	7.30	2.41E+02		2.96E+03	1.20E+02
	1165.77	15.80	8.99E+01		1.78E+01	4.46E+01
	1170.90	1.06	2.17E+03		4.90E+02	1.08E+03
	1193.87	4.80	1.64E+02		2.57E+01	8.09E+01
	1213.72	1.03	7.23E+02		2.78E+02	3.55E+02
	1223.28	2.80	2.49E+02		3.66E+01	1.22E+02
	1324.51	17.50	5.34E+01		4.37E+00	2.63E+01
	1379.32	3.10	1.83E+02		6.31E+01	8.93E+01
	1736.40	6.90	3.99E+01		-2.36E+01	1.88E+01
	1963.71	1.47	1.23E+02		7.60E+01	5.57E+01
	2033.46	0.97	2.02E+02		-1.08E+02	9.21E+01
@ ND-151	38.17	5.94	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	38.72	10.70	1.00E+20		1.00E+20	1.00E+20
@	68.98	1.26	1.00E+20		1.00E+20	1.00E+20
@	85.12	2.05	1.00E+20		1.00E+20	1.00E+20
@	89.96	1.53	1.00E+20		1.00E+20	1.00E+20
@	116.80	39.00	1.00E+20		1.00E+20	1.00E+20
@	138.89	7.00	1.00E+20		1.00E+20	1.00E+20
@	170.76	2.87	1.00E+20		1.00E+20	1.00E+20
@	175.07	6.30	1.00E+20		1.00E+20	1.00E+20
@	255.68	14.80	1.00E+20		1.00E+20	1.00E+20
@	300.58	1.82	1.00E+20		1.00E+20	1.00E+20
@	423.56	5.90	1.00E+20		1.00E+20	1.00E+20
@	460.59	0.96	1.00E+20		1.00E+20	1.00E+20
@	585.22	1.30	1.00E+20		1.00E+20	1.00E+20
@	677.88	2.38	1.00E+20		1.00E+20	1.00E+20
@	736.23	5.90	1.00E+20		1.00E+20	1.00E+20
@	739.20	1.52	1.00E+20		1.00E+20	1.00E+20
@	755.57	1.17	1.00E+20		1.00E+20	1.00E+20
@	797.53	4.70	1.00E+20		1.00E+20	1.00E+20
@	1016.40	2.50	1.00E+20		1.00E+20	1.00E+20
@	1122.63	4.10	1.00E+20		1.00E+20	1.00E+20
@	1180.89	13.30	1.00E+20		1.00E+20	1.00E+20
Pm-151	167.75	8.30	2.02E-02	4.94E-03	9.19E-05	1.01E-02
	177.16	3.80	4.36E-02		1.92E-02	2.18E-02
	240.09	3.80	3.47E-02		-1.77E-02	1.73E-02
	275.21	6.80	1.89E-02		9.26E-03	9.41E-03
	340.08	22.50	4.94E-03		4.20E-03	2.47E-03
EU-152	121.78	28.53	2.71E-03	6.08E-04	5.65E-04	1.35E-03
	344.28	26.59	1.53E-03		2.26E-03	7.63E-04

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	EU-152	778.90		12.93	2.03E-03	6.08E-04	1.26E-03	1.01E-03
		867.37		4.23	7.76E-03		-1.78E-03	3.85E-03
		964.08		14.51	1.67E-03		1.94E-03	8.29E-04
		1085.87		10.11	2.07E-03		2.11E-03	1.02E-03
		1112.07		13.67	1.56E-03		1.55E-03	7.74E-04
		1408.01		20.87	6.08E-04		1.29E-03	2.97E-04
@	ND-152	44.44		5.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		250.15		16.40	1.00E+20		1.00E+20	1.00E+20
@		278.56		26.00	1.00E+20		1.00E+20	1.00E+20
@		294.47		2.90	1.00E+20		1.00E+20	1.00E+20
@		545.70		0.83	1.00E+20		1.00E+20	1.00E+20
@		592.50		0.99	1.00E+20		1.00E+20	1.00E+20
	GD-153	69.67		2.45	4.93E-02	2.75E-03	7.45E-02	2.46E-02
		97.43		30.00	2.75E-03		3.85E-03	1.38E-03
		103.18		22.10	3.58E-03		-2.96E-03	1.79E-03
	SM-153	69.67		4.67	4.81E-02	5.05E-03	7.27E-02	2.40E-02
		103.18		29.14	5.05E-03		-4.18E-03	2.52E-03
+	EU-154	42.70	*	20.45	2.48E-02	6.69E-04	1.90E-02	1.24E-02
		123.07	*	40.40	2.45E-03		3.50E-02	1.22E-03
		247.93	*	6.89	4.81E-03		3.31E-02	2.40E-03
		591.76	*	4.95	9.01E-03		3.49E-02	4.49E-03
		692.42	*	1.78	1.01E-02		3.41E-02	4.98E-03
		723.30	*	20.06	2.13E-03		3.41E-02	1.06E-03
		756.80	*	4.52	8.82E-03		3.59E-02	4.39E-03
		873.18	*	12.08	2.55E-03		3.44E-02	1.27E-03
		996.29	*	10.48	2.86E-03		3.34E-02	1.42E-03
		1004.76	*	18.01	1.77E-03		3.30E-02	8.81E-04
		1246.12	*	0.86	1.77E-02		3.86E-02	8.68E-03
		1274.43	*	34.80	6.69E-04		3.44E-02	3.31E-04
		1494.05	*	0.70	1.49E-02		3.45E-02	7.26E-03
		1596.48	*	1.80	4.45E-03		3.38E-02	2.16E-03
+	EU-155	43.00	*	18.12	2.80E-02	3.68E-03	2.15E-02	1.40E-02
		60.01	*	1.17	1.10E-01		6.46E+00	5.49E-02
		86.55	*	30.70	4.14E-03		1.07E-02	2.07E-03
		105.31	*	21.10	3.68E-03		3.51E-03	1.84E-03
	EU-156	88.97		8.40	1.17E-02	9.00E-04	9.91E-04	5.84E-03
		646.29		6.30	5.09E-03		1.12E-03	2.53E-03
		723.47		5.40	8.36E-03		1.33E-01	4.16E-03
		811.77		9.70	2.82E-03		-4.23E-04	1.40E-03
		1065.14		4.90	4.95E-03		-4.04E-03	2.45E-03
		1079.16		4.60	4.92E-03		1.39E-04	2.43E-03
		1153.80		11.50	1.67E-03		-9.39E-04	8.21E-04
		1230.71		8.00	1.91E-03		-1.30E-03	9.36E-04
		1242.42		6.60	2.59E-03		-6.64E-05	1.27E-03
		1277.43		2.89	1.94E-02		1.34E-03	9.64E-03
		1366.41		1.57	7.83E-03		-2.03E-03	3.83E-03
		1965.95		3.90	9.00E-04		-1.98E-04	4.06E-04
		2097.70		3.80	1.11E-03		-7.15E-04	5.08E-04
		2186.71		3.50	1.14E-03		1.82E-04	5.15E-04
	Sm-156	87.60		24.00	8.21E-02	5.58E-02	6.28E-03	4.10E-02
		165.80		13.00	1.03E-01		5.72E-02	5.15E-02
		204.00		21.00	5.58E-02		-4.13E-02	2.78E-02
	EU-158	42.31		5.80	2.66E+15	3.22E+13	-8.24E+14	1.33E+15

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	EU-158	43.00		10.40	1.41E+15	3.22E+13	9.95E+14	7.04E+14
		79.49		10.50	3.87E+14		-3.06E+14	1.93E+14
		181.97		2.30	1.01E+15		7.58E+14	5.07E+14
		528.05		1.53	8.43E+14		2.75E+14	4.20E+14
		606.39		4.00	3.05E+14		6.82E+12	1.52E+14
		743.02		3.60	2.93E+14		-3.15E+14	1.45E+14
		897.61		12.40	8.25E+13		4.98E+12	4.09E+13
		906.50		1.83	5.53E+14		1.95E+14	2.74E+14
		922.51		1.62	5.93E+14		-4.91E+13	2.94E+14
		944.15		30.00	3.22E+13		1.54E+13	1.60E+13
		953.03		1.98	4.88E+14		2.62E+14	2.42E+14
		962.09		1.89	5.21E+14		7.29E+14	2.58E+14
		977.14		16.30	5.71E+13		-2.00E+13	2.83E+13
		986.96		1.35	6.95E+14		6.82E+14	3.44E+14
		1107.63		5.10	1.73E+14		-5.93E+13	8.58E+13
		1184.10		3.00	2.22E+14		2.82E+14	1.09E+14
		1186.00		2.90	2.25E+14		-2.82E+13	1.11E+14
		1187.10		4.40	1.49E+14		1.32E+13	7.32E+13
		1263.61		2.20	2.46E+14		1.45E+14	1.20E+14
		1347.95		1.65	2.92E+14		1.64E+14	1.43E+14
		1944.47		1.62	1.05E+14		2.18E+13	4.82E+13
	TB-160	86.79		13.20	7.17E-03	9.53E-04	3.24E-02	3.58E-03
		298.58		26.10	1.75E-03		8.89E-04	8.73E-04
		879.38		30.10	1.11E-03		8.43E-05	5.53E-04
		962.32		9.81	2.48E-03		3.48E-03	1.23E-03
		966.17		25.10	9.53E-04		-4.89E-05	4.72E-04
		1177.96		14.90	2.93E-03		1.48E-04	1.46E-03
+	TB-161	25.65		23.20	2.69E-01	1.24E-02	1.48E+01	1.34E-01
		48.91	*	17.00	2.59E-02		1.85E-02	1.30E-02
		52.00		3.43	7.22E-02		5.06E-03	3.61E-02
		57.19	*	1.79	9.26E-02		1.74E-01	4.63E-02
		74.57		10.20	1.24E-02		1.62E-02	6.21E-03
	YB-169	63.12		43.62	3.73E-03	1.56E-03	3.44E-04	1.86E-03
		93.61		2.58	3.74E-02		8.23E-03	1.87E-02
		109.78		17.39	4.58E-03		3.53E-04	2.29E-03
		130.52		11.38	6.39E-03		-4.01E-03	3.19E-03
		177.21		22.28	2.78E-03		1.22E-03	1.39E-03
		197.96		35.93	1.56E-03		-1.44E-04	7.77E-04
		307.74		10.05	4.11E-03		-1.49E-03	2.05E-03
	HF-172	54.07		63.00	3.01E-03	3.01E-03	2.08E-04	1.50E-03
		67.35		5.30	2.23E-02		1.57E-02	1.11E-02
		81.75		4.50	2.09E-02		2.09E-03	1.04E-02
		114.06		2.60	2.76E-02		4.48E-02	1.38E-02
		125.81		11.30	6.41E-03		3.35E-04	3.20E-03
		127.91		1.46	4.68E-02		-9.45E-03	2.34E-02
	LU-173	59.30		24.44	7.12E-03	2.21E-03	3.14E-01	3.56E-03
		78.63		11.90	8.72E-03		-5.00E-03	4.36E-03
		100.72		5.24	1.56E-02		-6.48E-03	7.79E-03
		171.39		2.90	2.05E-02		1.78E-03	1.02E-02
		272.11		21.20	2.21E-03		3.66E-04	1.10E-03
	LU-177	112.95		6.23	1.39E-02	5.91E-03	1.53E-03	6.95E-03
		208.37		10.41	5.91E-03		5.24E-03	2.95E-03
		249.67		0.20	2.81E-01		-6.61E-04	1.40E-01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
LU-177	321.32	0.22	2.25E-01	5.91E-03	-7.84E-02	1.12E-01
HF-181	133.02	43.30	1.61E-03	4.25E-04	1.95E-03	8.07E-04
	345.93	15.12	2.78E-03		1.23E-03	1.38E-03
	482.18	80.50	4.25E-04		-2.23E-04	2.11E-04
W-181	56.28	18.70	9.77E-03	5.87E-03	-8.64E-04	4.88E-03
	57.53	32.00	5.87E-03		2.59E-01	2.93E-03
	65.00	10.60	1.20E-02		3.69E-03	5.97E-03
TA-182	57.98	10.01	1.85E-02	5.19E-04	8.44E-01	9.23E-03
	59.32	17.20	1.02E-02		4.49E-01	5.09E-03
	65.72	3.01	4.55E-02		3.68E-02	2.27E-02
	67.75	46.67	2.66E-03		-9.61E-04	1.33E-03
	84.68	2.65	3.63E-02		-7.85E-03	1.81E-02
	100.11	14.20	6.04E-03		-2.39E-03	3.02E-03
	113.67	1.87	4.30E-02		3.57E-02	2.15E-02
	116.42	0.44	1.61E-01		-4.20E-02	8.04E-02
	152.43	7.02	9.16E-03		7.02E-03	4.57E-03
	156.39	2.67	2.48E-02		3.39E-02	1.24E-02
	179.39	3.12	1.95E-02		4.23E-03	9.75E-03
	198.35	1.47	4.02E-02		2.17E-04	2.01E-02
	222.11	7.57	6.84E-03		2.49E-03	3.41E-03
	229.32	3.64	1.42E-02		9.20E-04	7.09E-03
	264.08	3.61	1.28E-02		1.88E-02	6.41E-03
	928.00	0.61	3.98E-02		8.25E-03	1.97E-02
	959.73	0.35	7.14E-02		-2.75E-02	3.54E-02
	1001.70	2.09	2.40E-02		1.16E-03	1.20E-02
	1044.42	0.24	9.86E-02		-3.59E-02	4.88E-02
	1113.41	0.44	5.02E-02		6.41E-02	2.48E-02
	1121.29	35.24	5.91E-04		2.60E-04	2.92E-04
	1157.30	0.73	2.33E-02		1.93E-02	1.15E-02
	1189.04	16.49	9.25E-04		-5.40E-04	4.55E-04
	1221.40	27.23	5.19E-04		-3.24E-04	2.55E-04
	1223.60	0.24	4.92E-02		7.21E-03	2.41E-02
	1231.00	11.62	1.22E-03		7.01E-04	6.01E-04
	1257.41	1.51	8.56E-03		6.23E-03	4.20E-03
	1273.72	0.66	6.16E-02		1.45E+00	3.06E-02
	1289.15	1.37	6.48E-03		3.03E-04	3.18E-03
	1342.73	0.26	4.76E-02		-9.55E-03	2.33E-02
	1373.82	0.22	3.23E-02		-3.49E-03	1.58E-02
Ta-183	84.71	1.35	8.52E-02	2.20E-03	-1.84E-02	4.26E-02
	99.08	6.80	1.50E-02		-7.41E-03	7.49E-03
	107.93	11.20	8.50E-03		2.66E-03	4.25E-03
	161.35	9.10	8.40E-03		-5.08E-03	4.20E-03
	162.32	5.00	1.52E-02		1.12E-03	7.61E-03
	244.26	8.80	6.81E-03		8.77E-04	3.40E-03
	246.06	27.20	2.20E-03		7.46E-04	1.10E-03
	353.99	11.60	4.20E-03		-1.40E-03	2.09E-03
Re-184	111.21	17.20	4.39E-03	6.56E-04	4.95E-05	2.19E-03
	252.85	3.00	1.56E-02		1.84E-03	7.76E-03
	792.01	37.70	6.77E-04		-1.59E-04	3.36E-04
	894.76	15.70	1.54E-03		9.68E-04	7.63E-04
	903.28	38.10	6.56E-04		7.96E-04	3.25E-04
W-185	59.72	0.01	1.46E+01	3.85E+00	7.18E-01	7.29E+00
	61.14	0.02	8.07E+00		4.55E-01	4.03E+00

Analysis Report for 24-2318 VSM-6.0-S1-CST A F3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
W-185	69.20	0.01	1.76E+01	3.85E+00	-2.17E+00	8.78E+00
	125.36	0.02	3.85E+00		3.90E-01	1.92E+00
W-187	61.14	14.30	3.84E-02	2.74E-03	2.17E-03	1.92E-02
	69.20	4.82	8.34E-02		-1.03E-02	4.17E-02
	72.00	13.55	2.96E-02		2.50E-02	1.48E-02
	134.25	10.36	2.23E-02		2.58E-02	1.12E-02
	479.53	26.60	4.33E-03		4.06E-03	2.16E-03
	618.37	7.57	1.30E-02		2.95E-03	6.44E-03
	685.81	33.20	2.74E-03		-1.49E-03	1.36E-03
Ir-188	155.05	29.60	4.23E-03	3.97E-04	-2.54E-03	2.11E-03
	478.00	14.70	4.56E-03		7.09E-03	2.27E-03
	633.02	17.90	3.19E-03		-4.35E-03	1.59E-03
	634.97	5.00	1.14E-02		-2.50E-03	5.66E-03
	829.42	5.10	9.59E-03		6.64E-03	4.76E-03
	1209.77	6.90	4.23E-03		-4.00E-03	2.08E-03
	1715.67	6.20	2.20E-03		1.22E-03	1.05E-03
	2214.59	18.60	3.97E-04		-5.38E-04	1.79E-04
W-188	227.07	0.23	2.09E-01	1.07E-01	6.58E-02	1.04E-01
	290.68	0.42	1.07E-01		2.73E-03	5.33E-02
Ir-189	245.08	6.00	8.63E-03	8.63E-03	1.36E-03	4.31E-03
Ir-190	186.68	50.00	1.22E-03	8.58E-04	1.24E-03	6.08E-04
	361.09	12.30	3.41E-03		-3.02E-03	1.70E-03
	371.24	21.60	1.91E-03		1.22E-03	9.52E-04
	407.22	27.00	1.45E-03		-2.36E-03	7.20E-04
	518.55	32.20	1.10E-03		-7.97E-04	5.47E-04
	557.95	28.50	1.18E-03		-2.62E-04	5.86E-04
	569.30	27.00	1.21E-03		3.69E-04	6.04E-04
	605.14	37.80	8.58E-04		2.50E-04	4.27E-04
OS-191	63.29	15.70	9.63E-03	2.70E-03	4.17E-03	4.81E-03
	64.99	26.70	5.09E-03		1.57E-03	2.54E-03
	73.45	9.21	1.27E-02		1.87E-02	6.37E-03
	129.43	26.50	2.70E-03		6.93E-05	1.35E-03
Pt-191	359.90	5.80	1.04E-02	3.38E-03	8.62E-03	5.20E-03
	456.47	3.30	1.61E-02		2.04E-03	8.02E-03
	538.90	14.30	3.38E-03		-1.16E-03	1.68E-03
IR-192	205.79	3.31	1.65E-02	5.36E-04	-1.24E-03	8.26E-03
	295.96	28.71	1.66E-03		9.66E-04	8.27E-04
	308.45	29.70	1.55E-03		2.53E-04	7.72E-04
	316.51	82.86	5.36E-04		-3.16E-04	2.67E-04
	468.07	47.84	7.41E-04		2.89E-04	3.69E-04
	588.58	4.52	7.80E-03		-1.71E-04	3.88E-03
	604.41	8.22	3.40E-03		-4.08E-04	1.69E-03
	612.46	5.34	4.87E-03		4.35E-03	2.42E-03
IR-192m	155.16	0.09	6.70E-01	6.70E-01	-4.65E-02	3.35E-01
IR-193m	80.22	0.00	2.30E+01	2.30E+01	-8.09E+00	1.15E+01
Pt-193m	135.50	0.11	7.43E-01	7.43E-01	7.75E-02	3.71E-01
Au-194	293.55	10.90	8.62E-03	1.38E-03	-3.15E-03	4.30E-03
	328.47	62.80	1.38E-03		-3.84E-04	6.90E-04
	364.84	1.60	5.07E-02		-2.98E-02	2.53E-02
	528.77	1.78	3.73E-02		-2.69E-02	1.86E-02
	645.16	2.32	2.64E-02		3.29E-02	1.31E-02
	948.32	2.29	2.17E-02		-1.88E-02	1.08E-02
	1104.06	2.15	2.06E-02		-4.38E-03	1.02E-02

Analysis Report for 24-2318 VSM-6.0-S1-CST A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Au-194	1175.36		2.14	4.47E-02	1.38E-03	9.07E-01	2.22E-02
		1468.90		6.80	2.87E-03		-2.38E-03	1.39E-03
		1595.81		1.89	1.68E-02		7.99E-02	8.21E-03
		2043.72		3.74	2.04E-03		3.26E-04	9.23E-04
	Ir-194	293.54		2.50	8.01E-02	1.41E-02	-2.93E-02	3.99E-02
		328.47		13.10	1.41E-02		-3.92E-03	7.05E-03
	AU-195	98.86		11.21	7.22E-03	7.22E-03	9.61E-04	3.61E-03
		129.74		0.84	7.91E-02		9.52E-03	3.95E-02
	Pt-195m	98.90		11.70	9.32E-03	9.32E-03	1.24E-03	4.66E-03
		129.79		2.90	3.09E-02		3.72E-03	1.54E-02
	Au-196	333.03		22.90	2.27E-03	5.56E-04	1.70E-04	1.13E-03
		355.73		87.00	5.56E-04		2.86E-04	2.77E-04
		426.10		6.60	6.51E-03		1.07E-02	3.25E-03
	Au-196m	147.81		43.50	2.97E-02	2.97E-02	-2.41E-02	1.48E-02
		188.27		30.00	3.85E-02		1.16E-02	1.92E-02
	Pt-197	77.35		17.00	2.58E-02	2.58E-02	6.20E-03	1.29E-02
		191.44		3.70	6.37E-02		-1.25E-02	3.18E-02
	AU-198	411.80		95.62	6.02E-04	6.02E-04	-1.04E-04	3.00E-04
	AU-199	158.38		40.00	2.24E-03	2.24E-03	-1.27E-04	1.12E-03
		208.20		8.72	8.66E-03		7.68E-03	4.32E-03
	TL-201	135.34		2.61	3.69E-02	8.81E-03	1.54E-02	1.84E-02
		167.43		10.00	8.81E-03		6.58E-03	4.40E-03
	TL-202	439.51		91.50	4.19E-04	4.19E-04	9.29E-05	2.09E-04
	PB-203	70.83		26.40	7.62E-03	1.01E-03	-6.69E-03	3.81E-03
		72.87		44.20	4.36E-03		6.90E-03	2.18E-03
		82.40		15.56	1.05E-02		-3.48E-03	5.24E-03
		279.20		80.90	1.01E-03		-8.79E-05	5.02E-04
		401.32		3.35	1.99E-02		-1.24E-02	9.90E-03
	PB-210	46.54		4.25	6.48E-02	6.48E-02	-1.28E-01	3.24E-02
	Pa-233	86.60		2.01	4.51E-02	1.09E-03	2.04E-01	2.25E-02
		94.65		8.90	9.40E-03		-3.03E-04	4.70E-03
		98.43		14.20	5.68E-03		4.90E-03	2.84E-03
		300.13		6.54	6.55E-03		-7.03E-03	3.27E-03
		311.90		38.20	1.09E-03		4.77E-04	5.45E-04
		340.48		4.44	8.97E-03		-5.68E-04	4.47E-03
	U-235	89.96		2.90	2.92E-02	9.63E-04	2.44E-03	1.46E-02
		93.35		4.70	1.72E-02		1.17E-02	8.60E-03
		109.19		1.64	4.53E-02		3.20E-02	2.26E-02
		143.76		10.93	5.68E-03		4.83E-03	2.83E-03
		163.36		5.07	1.18E-02		9.98E-03	5.90E-03
		185.71		57.20	9.63E-04		4.55E-04	4.81E-04
		202.11		1.07	4.88E-02		3.62E-02	2.43E-02
		205.31		5.03	1.03E-02		-1.79E-03	5.12E-03
+	NP-237	86.48	*	12.20	1.04E-02	1.04E-02	2.68E-02	5.20E-03
	U-237	59.54		34.50	6.05E-03	2.93E-03	2.67E-01	3.02E-03
		97.07		15.40	6.37E-03		3.32E-03	3.18E-03
		101.06		24.50	3.87E-03		-1.66E-03	1.93E-03
		113.30		3.07	2.81E-02		-1.33E-03	1.40E-02
		114.23		5.81	1.48E-02		2.40E-02	7.38E-03
		117.46		2.27	3.71E-02		-4.58E-03	1.85E-02
		208.00		21.20	2.93E-03		-4.58E-04	1.46E-03
	NP-238	103.37		0.00	2.92E+01	1.59E-03	-2.07E+01	1.46E+01
		882.63		0.80	5.15E-02		3.30E-02	2.55E-02

Analysis Report for 24-2318 VSM-6.0-S1-CST A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	NP-238	923.99		2.60	1.59E-02	1.59E-03	-2.58E-03	7.87E-03
		984.45		25.20	1.59E-03		2.04E-03	7.85E-04
		1025.87		8.75	4.49E-03		-5.48E-04	2.22E-03
		1028.53		18.23	2.14E-03		-3.73E-04	1.06E-03
	U-238	63.29		3.70	3.77E-02	1.93E-02	1.63E-02	1.89E-02
		92.51		4.23	1.93E-02		1.07E-02	9.66E-03
		112.81		0.21	3.44E-01		3.61E-01	1.72E-01
		742.81		0.11	2.36E-01		-8.29E-02	1.17E-01
		766.42		0.32	7.98E-02		1.30E-01	3.96E-02
		1001.03		0.84	5.42E-02		2.62E-03	2.70E-02
	Am-239	181.71		1.08	6.06E-01	3.52E-02	-9.97E-02	3.02E-01
		209.80		3.50	1.71E-01		-4.91E-02	8.52E-02
		226.40		3.30	1.72E-01		2.08E-01	8.58E-02
		228.10		11.30	5.00E-02		3.77E-02	2.50E-02
		277.60		15.00	3.52E-02		-1.30E-02	1.76E-02
	NP-239	61.46		1.30	2.07E-01	5.11E-03	6.05E-02	1.03E-01
		99.53		12.90	1.04E-02		-1.03E-02	5.20E-03
		103.37		20.50	6.37E-03		-4.52E-03	3.18E-03
		106.12		25.34	5.11E-03		1.28E-02	2.55E-03
		209.75		3.36	2.57E-02		-7.38E-03	1.28E-02
		228.18		11.24	7.26E-03		4.04E-03	3.62E-03
		277.60		14.51	5.30E-03		-1.95E-03	2.64E-03
		285.46		0.79	9.64E-02		2.03E-02	4.81E-02
		315.88		1.60	4.25E-02		6.07E-04	2.12E-02
		334.31		2.06	3.06E-02		2.46E-02	1.52E-02
	PU-239	38.66		0.01	4.90E+01	7.76E+00	-5.20E+01	2.45E+01
		51.62		0.03	7.76E+00		5.46E-01	3.88E+00
		98.50		0.01	1.11E+01		9.57E+00	5.55E+00
		111.03		0.00	5.50E+01		3.08E+01	2.75E+01
		129.30		0.01	1.05E+01		4.05E+00	5.24E+00
		171.39		0.00	5.27E+02		4.58E+01	2.63E+02
		203.55		0.00	9.13E+01		-4.27E+01	4.56E+01
		332.85		0.00	8.07E+01		-3.21E+00	4.02E+01
		336.11		0.00	3.54E+02		-2.04E+02	1.77E+02
		345.01		0.00	7.09E+01		8.45E+01	3.54E+01
		375.05		0.00	2.38E+01		3.97E+01	1.19E+01
		380.19		0.00	1.19E+02		-2.65E+01	5.94E+01
		382.75		0.00	1.40E+02		9.60E+01	6.97E+01
		413.71		0.00	2.49E+01		6.21E+00	1.24E+01
		422.60		0.00	2.90E+02		1.64E+02	1.44E+02
		451.48		0.00	1.79E+02		1.66E+02	8.93E+01
	Am-240	99.53		18.40	7.73E-03	5.55E-04	-7.65E-03	3.86E-03
		103.37		29.20	4.74E-03		-3.37E-03	2.37E-03
		117.23		6.93	1.81E-02		-2.23E-03	9.02E-03
		888.85		24.70	1.69E-03		5.86E-05	8.38E-04
		987.79		72.20	5.55E-04		-1.38E-04	2.75E-04
	Np-240m	554.60		20.90	1.16E-02	1.16E-02	7.28E-03	5.80E-03
		597.40		11.70	2.10E-02		7.46E-03	1.04E-02
	U-240	44.10		1.05	2.45E+00	1.81E+00	1.76E+00	1.23E+00
		66.50		0.15	6.25E+00		6.59E-01	3.12E+00
		169.20		0.12	4.07E+00		2.92E+00	2.03E+00
		189.70		0.24	1.81E+00		1.28E+00	9.04E-01
+	AM-241	59.54	*	35.90	3.57E-03	3.57E-03	2.10E-01	1.78E-03

Analysis Report for 24-2318 VSM-6.0-S1-CST A F3

ASR 2094 Branch

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AM-242m	49.35	*	0.13	2.75E+00	2.75E+00	1.96E+00	1.38E+00
	66.89		0.01	8.01E+00		6.07E+00	4.00E+00
	86.65	*	0.02	5.57E+00		1.44E+01	2.78E+00
	163.25		0.02	3.91E+00		3.31E+00	1.95E+00
AM-243	43.53		5.90	5.71E-02	1.57E-03	9.78E-02	2.85E-02
	74.66		67.20	1.57E-03		1.87E-03	7.86E-04

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

Apex-Gamma

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A F3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2319 VSM-6.0M-S1-CST-d-A F3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 8:03:14AM
Procedure	: F3_gsv02mlw
Operator	: Administrator
Detector Name	: F
Geometry	: F3_gsv02mlw
Live Time	: 2572.7 seconds
Real Time	: 2725.6 seconds
Dead Time	: 5.61 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: F3_gsv2mlw_R717
Sample Number	: 567859
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 8:48:42AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A F3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.81	120.39	0.2682	4.79
2	52.41	147.13	0.3254	4.58
3	59.61	167.13	0.0576	124.85
4	75.05	210.15	0.3365	3.94
5	87.13	243.53	0.2339	6.29
6	105.43	294.82	0.2703	6.20
7	123.12	344.64	0.0757	63.43
8	247.91	693.47	0.1384	17.08
9	344.56	963.12	0.3099	3.15
10	414.88	1160.05	0.1487	13.49
11	511.06	1428.76	0.1399	9.63
12	582.28	1627.69	0.2651	4.00
13	592.03	1654.75	0.1217	18.74
14	661.80	1850.12	0.0663	60.42
15	666.51	1863.43	0.1331	16.03
16	692.58	1935.44	0.2726	4.78
17	695.14	1943.45	0.1547	12.32
18	723.49	2022.57	0.0767	41.97
19	726.51	2034.00	0.0000	0.00
20	757.01	2116.21	0.1253	16.40
21	779.56	2178.87	0.3112	3.34
22	815.78	2280.59	0.2387	3.81
23	845.81	2364.36	0.2462	4.46
24	873.48	2441.66	0.0878	31.06
25	904.39	2527.96	0.2078	6.37
26	996.53	2785.60	0.0915	27.50
27	1005.05	2809.36	0.0776	36.64
28	1128.24	3153.90	0.2470	3.70
29	1173.53	3280.17	0.0721	39.88
30	1246.55	3483.96	0.1976	6.34
31	1274.77	3563.03	0.0664	46.75
32	1332.84	3725.31	0.0714	38.44
33	1398.36	3906.68	0.2125	3.70
34	1408.64	3937.23	0.2161	3.94
35	1494.92	4178.26	0.1845	5.70
36	1596.88	4463.36	0.1397	8.91
37	1719.91	4806.80	0.2295	3.54
38	2505.80	7002.64	0.1959	4.69

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A F3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 8:48:42AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.81	112 -	127	120.17	4.34E+03	412.22	3.00E+05	1.43
F	2	52.41	139 -	150	147.02	1.52E+03	398.67	2.85E+05	0.80
F	3	59.61	159 -	174	167.13	1.31E+05	1845.05	3.93E+05	1.24
F	4	75.05	206 -	218	210.29	1.77E+03	406.75	2.96E+05	0.92
F	5	87.13	239 -	251	244.04	6.48E+03	446.34	2.64E+05	1.76
F	6	105.43	291 -	303	295.19	4.23E+03	398.42	2.06E+05	1.66
F	7	123.12	337 -	353	344.66	4.14E+04	1477.23	2.15E+05	1.31
F	8	247.91	687 -	703	693.43	4.62E+03	593.96	4.66E+04	1.39
F	9	344.56	959 -	973	963.55	5.90E+02	113.67	1.77E+04	1.72
F	10	414.88	1153 -	1169	1160.08	2.19E+03	491.17	1.26E+04	1.67
F	11	511.06	1417 -	1440	1428.87	4.87E+03	472.14	1.06E+04	3.19
F	12	582.28	1618 -	1636	1627.91	4.61E+02	60.88	5.56E+03	2.03
F	13	592.03	1644 -	1664	1655.17	2.26E+03	59.90	6.22E+03	1.32
M	14	661.80	1842 -	1875	1850.16	1.37E+04	122.69	3.44E+03	1.80
m	15	666.51	1842 -	1875	1863.31	1.78E+03	60.50	3.52E+03	1.80
M	16	692.58	1928 -	1955	1936.17	7.29E+02	190.07	3.13E+03	1.80
m	17	695.14	1928 -	1955	1943.33	1.45E+03	285.08	3.45E+03	1.80
M	18	723.49	2009 -	2043	2022.56	7.73E+03	264.66	3.46E+03	1.89
m	19	726.51	2009 -	2043	2030.99	4.75E+01	43.28	3.23E+03	1.90
F	20	757.01	2110 -	2128	2116.21	1.54E+03	57.07	2.98E+03	1.84
F	21	779.56	2174 -	2183	2179.23	2.24E+02	295.05	1.29E+03	2.01
F	22	815.78	2276 -	2285	2280.45	2.17E+02	40.48	1.20E+03	1.88
F	23	845.81	2357 -	2372	2364.38	1.71E+02	36.94	1.87E+03	1.36
F	24	873.48	2429 -	2452	2441.69	4.20E+03	71.42	2.45E+03	1.99
F	25	904.39	2521 -	2538	2528.08	4.06E+02	897.62	1.57E+03	1.91
F	26	996.53	2773 -	2795	2785.55	3.58E+03	175.61	1.45E+03	2.14
F	27	1005.05	2796 -	2823	2809.36	5.93E+03	80.09	2.14E+03	2.09
F	28	1128.24	3143 -	3159	3153.60	1.81E+02	107.25	6.93E+02	2.19
F	29	1173.53	3265 -	3294	3280.15	7.84E+03	170.15	8.62E+02	2.41
F	30	1246.55	3476 -	3492	3484.17	2.55E+02	86.44	2.86E+02	2.30
F	31	1274.77	3551 -	3574	3563.04	9.77E+03	95.21	4.98E+02	2.35
F	32	1332.84	3714 -	3737	3725.29	7.32E+03	82.09	3.23E+02	2.42
F	33	1398.36	3900 -	3917	3908.37	2.05E+02	16.58	1.13E+02	3.50
F	34	1408.64	3926 -	3950	3937.09	1.57E+02	53.72	2.13E+02	2.65
F	35	1494.92	4168 -	4185	4178.17	1.73E+02	15.32	9.93E+01	2.31
F	36	1596.88	4449 -	4474	4463.04	5.52E+02	59.36	9.03E+01	2.80
F	37	1719.91	4799 -	4815	4806.78	4.93E+01	8.89	3.40E+01	2.18
F	38	2505.80	6993 -	7011	7002.27	6.84E+01	8.73	9.17E+00	2.52

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A F3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 8:48:42AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567378.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.81	4.34E+03	412.22			4.34E+03	4.12E+02
F	2	52.41	1.52E+03	398.67			1.52E+03	3.99E+02
F	3	59.61	1.31E+05	1845.05			1.31E+05	1.85E+03
F	4	75.05	1.77E+03	406.75	8.68E+01	4.78E+00	1.68E+03	4.07E+02
F	5	87.13	6.48E+03	446.34	1.91E+01	1.21E+00	6.46E+03	4.46E+02
F	6	105.43	4.23E+03	398.42			4.23E+03	3.98E+02
F	7	123.12	4.14E+04	1477.23			4.14E+04	1.48E+03
F	8	247.91	4.62E+03	593.96			4.62E+03	5.94E+02
F	9	344.56	5.90E+02	113.67			5.90E+02	1.14E+02
F	10	414.88	2.19E+03	491.17			2.19E+03	4.91E+02
F	11	511.06	4.87E+03	472.14	1.01E+02	3.69E+00	4.77E+03	4.72E+02
F	12	582.28	4.61E+02	60.88	1.20E+01	1.90E+00	4.49E+02	6.09E+01
F	13	592.03	2.26E+03	59.90			2.26E+03	5.99E+01
M	14	661.80	1.37E+04	122.69			1.37E+04	1.23E+02
m	15	666.51	1.78E+03	60.50			1.78E+03	6.05E+01
M	16	692.58	7.29E+02	190.07			7.29E+02	1.90E+02
m	17	695.14	1.45E+03	285.08			1.45E+03	2.85E+02
M	18	723.49	7.73E+03	264.66			7.73E+03	2.65E+02
m	19	726.51	4.75E+01	43.28			4.75E+01	4.33E+01
F	20	757.01	1.54E+03	57.07			1.54E+03	5.71E+01
F	21	779.56	2.24E+02	295.05			2.24E+02	2.95E+02
F	22	815.78	2.17E+02	40.48			2.17E+02	4.05E+01
F	23	845.81	1.71E+02	36.94			1.71E+02	3.69E+01
F	24	873.48	4.20E+03	71.42			4.20E+03	7.14E+01
F	25	904.39	4.06E+02	897.62			4.06E+02	8.98E+02
F	26	996.53	3.58E+03	175.61			3.58E+03	1.76E+02
F	27	1005.05	5.93E+03	80.09			5.93E+03	8.01E+01
F	28	1128.24	1.81E+02	107.25			1.81E+02	1.07E+02
F	29	1173.53	7.84E+03	170.15			7.84E+03	1.70E+02
F	30	1246.55	2.55E+02	86.44			2.55E+02	8.64E+01
F	31	1274.77	9.77E+03	95.21			9.77E+03	9.52E+01
F	32	1332.84	7.32E+03	82.09			7.32E+03	8.21E+01
F	33	1398.36	2.05E+02	16.58			2.05E+02	1.66E+01

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A F3

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 34	1408.64	1.57E+02	53.72	3.23E+00	2.96E-01	1.53E+02	5.37E+01
F 35	1494.92	1.73E+02	15.32			1.73E+02	1.53E+01
F 36	1596.88	5.52E+02	59.36			5.52E+02	5.94E+01
F 37	1719.91	4.93E+01	8.89			4.93E+01	8.89E+00
F 38	2505.80	6.84E+01	8.73			6.84E+01	8.73E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.98	1173.23	*	99.85	8.77E-03	1.95E-04	0.965
		1332.49	*	99.98	8.87E-03	1.11E-04	0.963
GA-66	0.44	511.00	*	114.00	6.47E-02	7.88E-03	miss
		833.53		5.90			
		1039.22		37.00			
		1333.11	*	1.17	1.74E+01	9.35E-01	miss
		1918.33		1.99			
		2189.62		5.30			
		2751.83		22.70			
Te-129m	0.91	695.88	*	3.00	3.91E-02	1.10E-02	free
CS-137	0.99	661.66	*	85.10	1.22E-02	1.29E-04	miss
EU-154	0.99	42.70	*	20.45	3.04E-02	3.09E-03	miss
		123.07	*	40.40	3.29E-02	1.24E-03	0.958
		247.93	*	6.89	2.98E-02	3.84E-03	0.945
		591.76	*	4.95	3.47E-02	1.01E-03	0.934
		692.42	*	1.78	3.38E-02	8.82E-03	0.949
		723.30	*	20.06	3.25E-02	1.17E-03	0.952
		756.80	*	4.52	3.02E-02	1.16E-03	0.932
		873.18	*	12.08	3.31E-02	6.80E-04	0.945
		996.29	*	10.48	3.38E-02	1.69E-03	0.986
		1004.76	*	18.01	3.30E-02	5.78E-04	0.978
		1246.12	*	0.86	3.55E-02	1.20E-02	0.941
		1274.43	*	34.80	3.25E-02	4.61E-04	0.980
		1494.05	*	0.70	3.07E-02	2.75E-03	1.014

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A F3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.99	1596.48	*	1.80	3.49E-02	3.77E-03	1.158
EU-155	0.97	43.00	*	18.12	3.43E-02	3.45E-03	1.000
		60.01	*	1.17	5.97E+00	1.88E-01	0.999
		86.55	*	30.70	6.79E-03	4.77E-04	free
		105.31	*	21.10	6.06E-03	5.91E-04	1.000
TB-161	0.27	25.65		23.20			
		48.91		17.00			
		52.00	*	3.43	3.88E-02	1.04E-02	1.000
		57.19		1.79			
		74.57	*	10.20	7.26E-03	1.79E-03	0.999
NP-237	0.93	86.48	*	12.20	1.71E-02	1.26E-03	1.000
AM-241	0.99	59.54	*	35.90	1.94E-01	4.15E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
X	NA-22	0.997			
	CO-60	0.983	8.82E-03	9.65E-05	
X	CU-64	0.929			
	GA-66	0.449	6.47E-02	6.44E-03	
X	ZR-95	0.959			
X	RU-106	0.902			
X	CD-109	0.877			
	Te-129m	0.916	3.91E-02	1.10E-02	
	CS-137	0.997	1.22E-02	1.29E-04	
	EU-154	0.991	3.27E-02	2.27E-04	
	EU-155	0.975	5.81E-03	5.65E-04	
	TB-161	0.279	8.18E-03	1.77E-03	

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A F3

ASR 2094 Branch

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	NP-237	0.936	2.48E-03	1.85E-03	
	AM-241	0.999	1.94E-01	3.55E-03	
X	AM-243	0.971			

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

Errors quoted at 1.000sigma

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A F3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 8:48:42AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	9	344.56	2.29351E-01	19.27	Tol.	BA-141 EU-152 PU-239
F	10	414.88	8.52410E-01	22.40	Tol.	RH-102M
F	12	582.28	1.74611E-01	13.56		
m	15	666.51	6.91878E-01	3.40	Sum	
m	19	726.51	1.84730E-02	91.07	Tol.	I-132
F	21	779.56	8.71327E-02	131.62	Sum	
F	22	815.78	8.43970E-02	18.64	Sum	
F	23	845.81	6.63988E-02	21.62	Sum	
F	25	904.39	1.57959E-01	220.88		
F	28	1128.24	7.04887E-02	59.14	Sum	
F	33	1398.36	7.95546E-02	8.10	Sum	
F	34	1408.64	5.96091E-02	35.03	Sum	
F	37	1719.91	1.91552E-02	18.05	Sum	
F	38	2505.80	2.65674E-02	12.77	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A F3

ASR 2094 Branch

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.60		10.44	3.67E-03	3.67E-03	-3.74E-04	1.83E-03
NA-22	511.00	*	179.91	3.24E-04	2.42E-04	1.72E-03	1.61E-04
	1274.54	*	99.94	2.42E-04		1.20E-02	1.19E-04
NA-24	1368.63		99.99	9.40E-04	2.47E-04	2.13E-04	4.58E-04
	2754.01		99.87	2.47E-04		1.24E-04	1.02E-04
AL-26	1129.67		2.50	8.69E-03	5.34E-05	7.65E-03	4.29E-03
	1808.65		99.76	5.34E-05		4.52E-05	2.48E-05
K-40	1460.82		10.66	1.06E-03	1.06E-03	6.95E-04	5.15E-04
K-42	312.60		0.34	1.60E+00	5.76E-03	2.02E-01	7.97E-01
	1524.60		18.08	5.76E-03		8.91E-03	2.77E-03
Sc-44	1157.02		99.90	3.69E-01	3.69E-01	8.44E-02	1.82E-01
	1499.46		0.91	2.61E+01		6.13E+00	1.27E+01
Sc-44m	271.24		86.74	9.98E-04	9.98E-04	2.18E-04	4.98E-04
	1001.83		1.20	7.58E-02		1.28E+00	3.77E-02
	1126.06		1.20	3.26E-02		3.54E-02	1.61E-02
	1157.00		1.20	2.82E-02		6.46E-03	1.39E-02
TI-44	67.87		93.00	1.47E-03	1.20E-03	1.11E-03	7.35E-04
	78.32		96.40	1.20E-03		2.14E-04	5.99E-04
SC-46	889.28		99.98	2.73E-04	2.29E-04	1.23E-04	1.35E-04
	1120.55		99.99	2.29E-04		-9.70E-05	1.13E-04
CA-47	489.23		5.90	8.44E-03	2.78E-04	-7.06E-03	4.20E-03
	807.86		5.90	6.18E-03		-1.74E-03	3.06E-03
	1297.09		67.00	2.78E-04		1.55E-04	1.36E-04
SC-47	159.38		68.30	1.46E-03	1.46E-03	-1.13E-03	7.29E-04
SC-48	175.36		7.47	1.72E-02	2.64E-04	1.41E-02	8.60E-03
	983.53		100.00	4.87E-04		1.17E-04	2.41E-04
	1037.52		97.50	4.96E-04		2.98E-04	2.45E-04
	1312.12		100.00	2.64E-04		-1.59E-04	1.29E-04
V-48	944.13		7.87	3.65E-03	1.52E-04	-5.93E-03	1.81E-03
	983.53		99.98	2.74E-04		6.60E-05	1.36E-04
	1312.11		98.20	1.52E-04		-9.14E-05	7.42E-05
	2240.40		2.33	2.24E-03		2.82E-04	1.01E-03
CR-51	320.08		9.91	4.89E-03	4.89E-03	-4.58E-03	2.44E-03
Fe-52	168.69		99.20	2.54E-02	2.54E-02	1.16E-02	1.27E-02
	377.75		1.64	9.61E-01		3.58E-01	4.79E-01
Mn-52	744.23		90.00	4.26E-04	1.39E-04	-6.28E-05	2.11E-04
	848.18		3.32	1.11E-02		1.07E-02	5.48E-03
	935.54		94.50	3.63E-04		-2.21E-04	1.80E-04
	1246.28		4.21	5.50E-03		1.34E-02	2.70E-03
	1333.65		5.07	1.27E-02		2.23E-01	6.33E-03
	1434.09		100.00	1.39E-04		4.19E-06	6.74E-05
MN-54	834.85		99.98	2.69E-04	2.69E-04	-2.14E-04	1.33E-04
Co-55	411.50		1.07	2.15E-01	1.90E-03	7.47E-02	1.07E-01
	477.20		20.20	1.03E-02		-2.27E-04	5.14E-03
	803.70		1.87	7.93E-02		-2.20E-02	3.93E-02
	931.10		75.00	1.90E-03		-5.16E-04	9.40E-04
	1316.60		7.10	1.03E-02		-7.83E-04	5.05E-03
	1370.00		2.90	2.39E-02		2.52E-02	1.17E-02
	1408.50		16.90	4.43E-03		4.14E-03	2.16E-03
Co-56	846.77		99.94	2.91E-04	1.78E-04	2.92E-04	1.44E-04
	977.37		1.42	1.89E-02		-3.17E-02	9.37E-03
	1037.84		14.05	1.86E-03		1.37E-03	9.17E-04
	1175.10		2.25	2.33E-02		4.14E-01	1.16E-02

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Co-56	1238.29		66.46	2.53E-04	1.78E-04	-2.25E-05	1.24E-04
		1360.21		4.28	3.08E-03		2.89E-03	1.50E-03
		1771.36		15.41	4.20E-04		-4.79E-05	1.97E-04
		2015.20		3.02	1.19E-03		9.24E-04	5.21E-04
		2034.79		7.77	5.85E-04		-2.09E-04	2.64E-04
		2598.50		16.97	1.78E-04		-8.62E-05	7.28E-05
	MN-56	846.76		98.85	3.29E+01	2.25E+01	3.31E+01	1.63E+01
		1810.73		26.90	2.25E+01		-2.94E+01	1.04E+01
		2113.09		14.20	3.58E+01		9.38E+00	1.60E+01
	Ni-56	158.38		98.80	8.55E-04	3.87E-04	1.05E-04	4.27E-04
		269.50		36.50	1.62E-03		5.54E-04	8.10E-04
		480.44		36.50	1.25E-03		6.60E-05	6.21E-04
		749.50		49.50	7.05E-04		2.51E-04	3.50E-04
		811.85		86.00	3.87E-04		3.35E-04	1.92E-04
		1561.80		14.00	7.32E-04		7.14E-05	3.50E-04
	CO-57	122.06		85.60	9.71E-04	9.71E-04	-9.42E-05	4.85E-04
		136.47		10.68	6.81E-03		-3.00E-03	3.40E-03
	NI-57	127.16		16.70	1.12E-02	3.44E-04	4.32E-03	5.57E-03
		1377.63		81.70	3.44E-04		-3.73E-05	1.67E-04
		1757.55		5.75	2.47E-03		-1.50E-03	1.16E-03
		1919.52		12.30	9.29E-04		-2.98E-04	4.26E-04
	CO-58	810.76		99.45	2.82E-04	2.82E-04	2.90E-05	1.40E-04
		863.96		0.69	4.04E-02		-2.06E-02	2.00E-02
		1674.73		0.52	1.26E-02		1.30E-02	5.95E-03
	FE-59	142.65		1.02	7.09E-02	3.40E-04	-2.96E-03	3.54E-02
		192.34		3.08	2.10E-02		-1.06E-02	1.05E-02
		1099.24		56.50	4.08E-04		1.09E-04	2.02E-04
		1291.59		43.20	3.40E-04		-1.18E-04	1.66E-04
+	CO-60	1173.23	*	99.85	3.18E-04	1.93E-04	8.77E-03	1.57E-04
		1332.49	*	99.98	1.93E-04		8.87E-03	9.49E-05
	CU-64	511.00	*	35.00	1.78E-02	1.78E-02	9.44E-02	8.87E-03
		1345.77		0.47	2.79E-01		4.84E-01	1.36E-01
	NI-65	366.27		4.81	1.43E+03	6.24E+01	-7.28E+02	7.11E+02
		1115.53		15.43	2.30E+02		-1.27E+00	1.13E+02
		1481.84		23.59	6.24E+01		4.11E-01	3.01E+01
	ZN-65	1115.54		50.04	4.50E-04	4.50E-04	-2.49E-06	2.22E-04
+	GA-66	511.00	*	114.00	1.22E-02	3.51E-03	6.47E-02	6.07E-03
		833.53		5.90	1.09E-01		8.04E-02	5.40E-02
		1039.22		37.00	1.55E-02		-7.55E-03	7.64E-03
		1333.11	*	1.17	3.79E-01		1.74E+01	1.86E-01
		1918.33		1.99	5.75E-02		-4.07E-02	2.63E-02
		2189.62		5.30	1.78E-02		5.84E-03	7.92E-03
		2751.83		22.70	3.51E-03		1.89E-03	1.47E-03
	CU-67	91.27		7.00	2.18E-02	2.09E-03	3.06E-03	1.09E-02
		93.31		16.10	9.23E-03		2.19E-03	4.61E-03
		184.58		48.70	2.09E-03		-1.04E-03	1.04E-03
		300.22		0.80	9.87E-02		-3.76E-02	4.92E-02
		393.53		0.22	3.01E-01		1.89E-01	1.50E-01
	GA-67	91.26		3.11	4.55E-02	3.50E-03	6.40E-03	2.27E-02
		93.31		38.81	3.50E-03		8.29E-04	1.75E-03
		184.58		21.41	4.30E-03		-2.13E-03	2.15E-03
		208.95		2.46	3.61E-02		3.61E-02	1.80E-02
		300.22		16.64	4.36E-03		-1.66E-03	2.18E-03

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
GA-67	393.53	4.56	1.18E-02	3.50E-03	7.45E-03	5.89E-03
ZN-69m	438.63	94.85	3.71E-03	3.71E-03	-1.86E-03	1.85E-03
GA-72	629.97	26.13	1.13E-02	1.51E-03	4.59E-03	5.60E-03
	834.13	95.45	2.48E-03		-1.12E-04	1.23E-03
	894.33	10.14	2.31E-02		1.63E-02	1.14E-02
	1050.79	6.99	3.13E-02		-1.73E-02	1.54E-02
	2201.59	26.87	1.51E-03		1.57E-03	6.80E-04
	2491.03	7.73	3.71E-03		2.25E-03	1.58E-03
	2507.72	13.33	5.85E-03		1.16E-02	2.76E-03
Zn-72	144.70	82.78	1.61E-03	1.61E-03	1.29E-03	8.05E-04
	191.50	9.35	1.24E-02		-1.05E-03	6.21E-03
SE-75	121.12	17.20	5.10E-03	8.74E-04	-2.25E-03	2.55E-03
	136.00	58.50	1.31E-03		-8.43E-04	6.53E-04
	264.66	58.90	8.74E-04		-6.76E-04	4.36E-04
	279.54	25.02	2.13E-03		9.20E-04	1.06E-03
	400.66	11.41	2.70E-03		1.20E-03	1.34E-03
BR-83	529.59	1.30	8.51E+03	8.51E+03	-2.80E+03	4.23E+03
@ BR-84	604.80	1.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	736.50	1.29	1.00E+20		1.00E+20	1.00E+20
@	802.20	6.00	1.00E+20		1.00E+20	1.00E+20
@	881.60	42.00	1.00E+20		1.00E+20	1.00E+20
@	987.30	0.79	1.00E+20		1.00E+20	1.00E+20
@	1015.90	6.20	1.00E+20		1.00E+20	1.00E+20
@	1213.30	2.60	1.00E+20		1.00E+20	1.00E+20
@	1463.80	2.00	1.00E+20		1.00E+20	1.00E+20
@	1741.20	1.60	1.00E+20		1.00E+20	1.00E+20
@	1877.50	1.12	1.00E+20		1.00E+20	1.00E+20
@	1897.60	14.60	1.00E+20		1.00E+20	1.00E+20
@	2029.60	2.10	1.00E+20		1.00E+20	1.00E+20
@	2200.70	1.16	1.00E+20		1.00E+20	1.00E+20
@	2484.10	6.70	1.00E+20		1.00E+20	1.00E+20
@	2824.10	1.12	1.00E+20		1.00E+20	1.00E+20
KR-85m	151.20	75.20	7.49E-01	7.49E-01	1.05E+00	3.74E-01
	304.87	14.00	2.83E+00		-3.10E+00	1.41E+00
Y-87	388.53	82.20	7.26E-04	5.95E-04	-5.53E-04	3.62E-04
	484.80	89.80	5.95E-04		3.63E-04	2.96E-04
KR-88	165.98	3.10	9.84E+02	3.88E+00	6.51E+02	4.91E+02
	196.30	26.00	1.01E+02		4.79E+01	5.03E+01
	362.23	2.25	7.73E+02		-8.75E+02	3.85E+02
	471.80	0.73	2.25E+03		-4.32E+03	1.12E+03
	834.83	13.00	9.01E+01		-7.16E+01	4.47E+01
	985.78	1.31	8.28E+02		4.02E+02	4.10E+02
	1141.33	1.28	6.88E+02		-8.26E+01	3.39E+02
	1179.51	1.00	2.09E+03		-3.16E+02	1.04E+03
	1250.67	1.12	6.65E+02		9.61E+02	3.27E+02
	1369.50	1.48	3.64E+02		-7.26E+02	1.77E+02
	1518.39	2.15	1.90E+02		2.02E+02	9.13E+01
	1529.77	10.90	3.48E+01		-1.15E+01	1.67E+01
	2029.84	4.53	4.19E+01		2.20E+01	1.88E+01
	2035.41	3.74	4.96E+01		-6.81E+01	2.23E+01
	2195.84	13.20	1.48E+01		8.27E-01	6.66E+00
	2231.77	3.39	5.78E+01		-5.41E+01	2.62E+01
	2352.08	0.73	2.42E+02		-2.08E+02	1.07E+02

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
KR-88	2392.11	34.60	3.88E+00	3.88E+00	2.35E+00	1.65E+00
RB-88	898.03	14.40	8.24E+01	9.10E+00	8.05E+01	4.08E+01
	1382.45	0.78	6.67E+02		1.49E+02	3.24E+02
	1836.00	22.81	9.10E+00		7.82E+00	4.18E+00
	2677.89	2.13	6.34E+01		-3.57E+01	2.63E+01
Y-88	898.04	93.70	3.02E-04	5.03E-05	2.95E-04	1.49E-04
	1836.06	99.20	5.03E-05		4.32E-05	2.31E-05
@ RB-89	272.42	1.53	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	657.77	10.80	1.00E+20		1.00E+20	1.00E+20
@	947.73	10.00	1.00E+20		1.00E+20	1.00E+20
@	1031.92	63.00	1.00E+20		1.00E+20	1.00E+20
@	1248.14	46.00	1.00E+20		1.00E+20	1.00E+20
@	1538.07	2.77	1.00E+20		1.00E+20	1.00E+20
@	2007.50	2.58	1.00E+20		1.00E+20	1.00E+20
@	2195.92	14.50	1.00E+20		1.00E+20	1.00E+20
@	2570.20	10.70	1.00E+20		1.00E+20	1.00E+20
@	2707.26	2.20	1.00E+20		1.00E+20	1.00E+20
SR-89	908.96	0.01	2.90E+00	2.90E+00	-3.66E-01	1.44E+00
Sr-91	652.90	11.35	6.29E-02	1.63E-02	2.42E-02	3.12E-02
	749.80	23.70	2.71E-02		9.65E-03	1.35E-02
	925.80	3.85	1.52E-01		-5.18E-03	7.51E-02
	1024.30	33.50	1.63E-02		-1.42E-02	8.05E-03
Y-91	1204.77	0.26	6.33E-02	6.33E-02	-1.12E-02	3.11E-02
NB-92M	912.60	1.78	1.73E-02	2.90E-04	6.71E-04	8.56E-03
	934.44	99.15	2.90E-04		6.36E-05	1.44E-04
	1847.50	0.85	6.30E-03		-3.71E-04	2.90E-03
SR-92	241.56	2.93	1.81E+03	1.36E+01	8.57E+02	9.03E+02
	430.49	3.28	1.23E+03		-8.25E+02	6.11E+02
	953.31	3.52	7.48E+02		-3.55E+01	3.70E+02
	1142.35	2.79	7.39E+02		-3.46E+02	3.64E+02
	1383.93	90.00	1.36E+01		1.11E+01	6.59E+00
MO-93M	114.04	0.68	9.66E+00	7.61E-03	4.98E+00	4.83E+00
	263.05	57.40	6.92E-02		8.37E-02	3.45E-02
	684.69	99.90	2.44E-02		-1.80E-02	1.21E-02
	1363.02	0.81	1.26E+00		5.01E-01	6.13E-01
	1477.14	99.10	7.61E-03		-5.58E-03	3.66E-03
@ SR-93	168.50	18.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	260.12	7.40	1.00E+20		1.00E+20	1.00E+20
@	346.49	3.28	1.00E+20		1.00E+20	1.00E+20
@	446.20	2.36	1.00E+20		1.00E+20	1.00E+20
@	590.24	68.00	1.00E+20		1.00E+20	1.00E+20
@	710.31	21.80	1.00E+20		1.00E+20	1.00E+20
@	875.73	24.50	1.00E+20		1.00E+20	1.00E+20
@	888.13	22.10	1.00E+20		1.00E+20	1.00E+20
@	1040.63	3.20	1.00E+20		1.00E+20	1.00E+20
@	1094.00	1.76	1.00E+20		1.00E+20	1.00E+20
@	1122.48	4.00	1.00E+20		1.00E+20	1.00E+20
@	1215.48	2.50	1.00E+20		1.00E+20	1.00E+20
@	1269.47	7.10	1.00E+20		1.00E+20	1.00E+20
@	1321.24	2.61	1.00E+20		1.00E+20	1.00E+20
@	1387.11	3.50	1.00E+20		1.00E+20	1.00E+20
@	1694.07	2.58	1.00E+20		1.00E+20	1.00E+20
@	1699.06	3.30	1.00E+20		1.00E+20	1.00E+20

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ASR 2094 Branch

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@ SR-93	2543.84		3.03	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	2688.65		2.13	1.00E+20		1.00E+20	1.00E+20
Y-93	266.90		7.40	1.26E-01	5.94E-02	3.83E-02	6.29E-02
	947.10		2.10	2.36E-01		1.12E-02	1.17E-01
	1917.80		1.57	5.94E-02		1.03E-02	2.72E-02
NB-94	702.65		99.81	3.13E-04	3.13E-04	-3.14E-05	1.55E-04
	871.09		99.89	3.92E-04		1.42E-04	1.94E-04
@ Y-94	381.60		2.02	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	550.90		4.90	1.00E+20		1.00E+20	1.00E+20
@	752.60		1.40	1.00E+20		1.00E+20	1.00E+20
@	918.74		56.00	1.00E+20		1.00E+20	1.00E+20
@	1138.90		6.00	1.00E+20		1.00E+20	1.00E+20
@	1671.40		2.50	1.00E+20		1.00E+20	1.00E+20
@	2140.60		0.95	1.00E+20		1.00E+20	1.00E+20
NB-95	765.80		99.81	2.94E-04	2.94E-04	2.80E-04	1.46E-04
ZR-95	724.19	*	44.27	5.10E-04	5.10E-04	1.43E-02	2.53E-04
	756.72	*	54.38	6.76E-04		2.39E-03	3.36E-04
NB-96	219.08		2.97	6.82E-02	1.06E-03	-5.18E-02	3.41E-02
	241.38		3.50	5.41E-02		2.56E-02	2.70E-02
	350.05		1.54	1.03E-01		-2.10E-02	5.14E-02
	352.56		0.83	1.89E-01		-1.23E-01	9.44E-02
	371.81		2.62	5.84E-02		-1.03E-02	2.91E-02
	460.04		26.62	5.24E-03		-4.21E-03	2.61E-03
	480.71		5.84	2.31E-02		1.22E-03	1.15E-02
	568.87		58.00	2.09E-03		-3.25E-04	1.04E-03
	719.56		6.85	2.33E-02		8.69E-03	1.16E-02
	721.63		1.02	1.57E-01		1.31E-02	7.81E-02
	778.22		96.45	1.06E-03		1.05E-03	5.27E-04
	810.33		11.09	8.86E-03		4.93E-03	4.39E-03
	812.58		2.95	3.31E-02		-1.16E-02	1.64E-02
	847.69		1.14	8.71E-02		6.32E-02	4.32E-02
	849.93		20.45	4.84E-03		-3.88E-03	2.40E-03
	1091.35		48.50	1.75E-03		3.15E-03	8.63E-04
	1200.23		19.97	3.00E-03		1.66E-03	1.47E-03
	1441.13		0.44	8.45E-02		-1.14E-01	4.09E-02
	1497.81		3.28	1.33E-02		2.17E-02	6.44E-03
Nb-97	657.94		98.23	3.18E-03	3.18E-03	4.90E-04	1.58E-03
	1024.40		1.09	1.33E-01		-1.16E-01	6.59E-02
ZR-97	254.17		1.15	2.63E-01	1.85E-03	-7.77E-03	1.31E-01
	355.40		2.09	1.32E-01		-1.18E-01	6.56E-02
	507.64		5.03	5.15E-02		8.32E-03	2.57E-02
	743.36		93.09	1.85E-03		-2.58E-04	9.18E-04
	1147.97		2.62	4.82E-02		2.36E-02	2.38E-02
MO-99	181.07		6.14	1.73E-02	3.84E-03	-7.81E-03	8.65E-03
	366.42		1.20	5.56E-02		-2.83E-02	2.77E-02
	739.50		12.26	3.84E-03		1.76E-03	1.90E-03
	777.92		4.30	1.04E-02		-3.65E-03	5.14E-03
TC-99M	140.51		90.80	1.23E-03	1.23E-03	-1.10E-04	6.16E-04
RH-101	127.23		68.00	1.21E-03	8.51E-04	7.38E-04	6.03E-04
	198.01		73.00	8.51E-04		-4.18E-05	4.25E-04
	325.23		11.80	3.08E-03		2.72E-03	1.54E-03
RH-101M	306.86		81.00	7.84E-04	7.84E-04	-5.55E-04	3.91E-04
	545.12		4.30	1.08E-02		4.80E-03	5.38E-03

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ASR 2094 Branch

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
RH-102M	415.25		2.10	2.22E-02	4.33E-04	7.22E-02	1.10E-02
	418.52		9.40	4.84E-03		1.80E-03	2.41E-03
	420.40		3.20	1.45E-02		5.50E-03	7.21E-03
	475.06		95.00	4.33E-04		6.60E-05	2.16E-04
	628.05		8.30	4.40E-03		4.16E-04	2.19E-03
	631.29		56.00	6.28E-04		-7.99E-05	3.12E-04
	692.40		1.60	2.43E-02		2.85E-03	1.21E-02
	695.60		2.90	1.31E-02		6.34E-02	6.53E-03
	697.49		44.00	8.60E-04		6.72E-05	4.27E-04
	766.84		34.00	9.01E-04		8.78E-04	4.47E-04
	1046.59		34.00	7.61E-04		-2.50E-04	3.76E-04
	1103.16		4.60	4.96E-03		-1.32E-04	2.45E-03
	1112.84		19.00	1.30E-03		6.99E-04	6.41E-04
RU-103	497.08		91.00	4.10E-04	4.10E-04	2.93E-04	2.04E-04
	610.33		5.76	5.88E-03		-3.61E-03	2.92E-03
RH-105	306.31		4.66	2.40E-02	6.44E-03	-1.20E-02	1.20E-02
	319.23		16.90	6.44E-03		5.51E-03	3.21E-03
AG-106M	221.70		6.60	9.74E-03	5.44E-04	-4.43E-03	4.86E-03
	228.63		2.10	3.00E-02		-2.25E-02	1.50E-02
	328.46		1.14	4.67E-02		1.66E-02	2.33E-02
	391.04		3.68	1.29E-02		4.56E-03	6.42E-03
	406.18		13.40	3.47E-03		-4.15E-03	1.73E-03
	429.65		13.20	3.50E-03		1.38E-03	1.74E-03
	450.98		28.20	1.60E-03		-1.77E-03	7.97E-04
	511.85		88.00	5.44E-04		4.12E-03	2.71E-04
	601.17		1.61	2.35E-02		-7.97E-04	1.17E-02
	616.17		21.60	1.75E-03		-6.49E-04	8.68E-04
	646.03		1.46	2.50E-02		-1.15E-02	1.24E-02
	680.42		2.18	1.62E-02		-2.40E-02	8.03E-03
	703.11		4.47	7.77E-03		1.51E-03	3.86E-03
	717.34		28.90	1.50E-03		8.74E-04	7.46E-04
	748.36		20.60	1.59E-03		-1.46E-03	7.90E-04
	793.17		5.90	5.42E-03		-1.82E-03	2.69E-03
	804.28		12.40	2.50E-03		1.06E-03	1.24E-03
	808.36		4.00	7.72E-03		2.06E-03	3.83E-03
	824.69		15.30	2.05E-03		-8.26E-05	1.02E-03
	847.15		4.40	7.25E-03		9.61E-03	3.59E-03
	1019.72		1.04	2.70E-02		-1.70E-02	1.34E-02
	1045.83		29.60	9.43E-04		-2.37E-04	4.66E-04
	1128.02		11.80	2.12E-03		3.03E-04	1.05E-03
	1199.39		11.20	1.72E-03		-5.53E-04	8.44E-04
	1222.88		7.00	2.61E-03		-1.74E-03	1.28E-03
	1394.35		1.49	1.08E-02		1.71E-02	5.25E-03
	1527.65		16.30	6.34E-04		-1.40E-04	3.04E-04
	1572.35		6.60	1.42E-03		8.88E-04	6.78E-04
	1722.76		1.40	6.52E-03		1.04E-02	3.11E-03
	1839.05		2.00	2.86E-03		2.81E-03	1.31E-03
RH-106	621.93		9.93	3.44E-03	3.44E-03	3.06E-03	1.71E-03
	873.49		0.44	9.19E-02		9.08E-01	4.57E-02
	1050.41		1.56	1.60E-02		-1.33E-03	7.91E-03
RU-106	511.86	*	20.40	2.86E-03	2.86E-03	1.52E-02	1.43E-03
AG-108M	79.13		6.60	1.67E-02	3.94E-04	1.51E-03	8.34E-03
	433.94		90.50	4.73E-04		-1.50E-05	2.36E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-108M	614.28		89.80	3.94E-04	3.94E-04	-2.23E-04	1.96E-04
	722.91		90.80	5.27E-04		-1.73E-05	2.62E-04
CD-109	88.03	*	3.64	3.10E-02	3.10E-02	5.73E-02	1.55E-02
AG-110M	446.81		3.70	1.20E-02	3.75E-04	-1.11E-04	5.97E-03
	620.35		2.73	1.36E-02		-4.43E-03	6.74E-03
	657.76		95.61	5.92E-04		1.57E-04	2.95E-04
	677.62		10.70	3.25E-03		2.12E-03	1.61E-03
	687.01		6.53	5.35E-03		-1.15E-03	2.66E-03
	706.68		16.69	1.97E-03		-1.06E-03	9.76E-04
	744.28		4.77	6.65E-03		-9.82E-04	3.30E-03
	763.94		22.60	1.43E-03		7.11E-04	7.12E-04
	818.02		7.43	4.23E-03		2.31E-03	2.10E-03
	884.68		75.00	3.75E-04		1.10E-04	1.85E-04
	937.48		35.00	7.94E-04		1.96E-04	3.93E-04
	1384.29		25.10	5.15E-04		4.29E-04	2.50E-04
	1475.78		4.08	2.43E-03		7.38E-04	1.17E-03
	1505.03		13.33	6.86E-04		5.02E-06	3.29E-04
	1562.29		1.22	6.02E-03		-1.51E-03	2.88E-03
AG-111	245.40		1.11	5.67E-02	7.94E-03	6.22E-03	2.83E-02
	342.13		6.68	7.94E-03		-9.68E-04	3.96E-03
AG-112	606.82		3.10	4.46E-02	3.14E-03	-5.21E-03	2.22E-02
	617.52		43.00	3.14E-03		-4.77E-03	1.56E-03
	692.82		1.19	1.22E-01		-1.01E-02	6.07E-02
	694.87		2.90	5.00E-02		2.73E-01	2.48E-02
	851.28		1.02	1.12E-01		-3.81E-02	5.56E-02
	1312.36		1.11	4.99E-02		-3.00E-02	2.44E-02
	1387.68		5.30	9.45E-03		6.72E-03	4.60E-03
	1613.66		2.80	1.10E-02		-1.77E-03	5.22E-03
	1798.50		0.89	2.18E-02		-4.37E-02	9.97E-03
	2106.31		2.40	6.41E-03		-5.80E-03	2.83E-03
	2506.70		1.06	3.50E-02		5.99E-02	1.65E-02
CD-113M	263.70		0.03	1.83E+00	1.83E+00	-3.27E-01	9.13E-01
SN-113	255.13		2.11	2.40E-02	6.34E-04	2.28E-03	1.20E-02
	391.70		64.97	6.34E-04		-2.37E-04	3.16E-04
IN-114M	190.27		15.56	4.03E-03	4.03E-03	1.33E-03	2.01E-03
	558.43		4.40	8.29E-03		3.08E-03	4.12E-03
	725.24		4.40	1.07E-02		1.57E-01	5.33E-03
CD-115	260.90		1.94	4.45E-02	1.72E-03	-1.31E-02	2.22E-02
	336.24		46.02	1.72E-03		2.02E-03	8.56E-04
	527.90		27.45	2.21E-03		-2.17E-03	1.10E-03
CD-115M	933.84		2.00	1.32E-02	1.32E-02	3.15E-03	6.52E-03
	1290.59		0.90	1.63E-02		-1.00E-03	7.98E-03
IN-115M	336.24		45.90	8.05E-01	8.05E-01	9.48E-01	4.01E-01
IN-116M	138.29		3.70	5.81E+12	4.82E+10	3.95E+12	2.90E+12
	416.90		27.20	4.38E+11		1.19E+12	2.18E+11
	818.68		12.13	6.85E+11		8.45E+10	3.40E+11
	1097.28		58.50	1.10E+11		-1.81E+11	5.43E+10
	1293.56		84.80	4.82E+10		-1.33E+10	2.36E+10
	1507.59		9.92	2.48E+11		-1.99E+11	1.19E+11
	2112.29		15.09	7.60E+10		-3.43E+10	3.39E+10
SB-125	176.31		6.84	9.41E-03	1.34E-03	-1.11E-02	4.70E-03
	380.45		1.52	2.74E-02		2.98E-02	1.36E-02
	427.87		29.60	1.34E-03		5.95E-05	6.69E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SB-125	463.36	10.49	3.63E-03	1.34E-03	-2.31E-03	1.81E-03
	600.60	17.65	1.84E-03		-1.91E-03	9.14E-04
	606.71	4.98	6.65E-03		-7.77E-04	3.31E-03
	635.95	11.22	2.84E-03		-2.49E-04	1.41E-03
	671.44	1.79	1.90E-02		8.01E-03	9.47E-03
SN-125	332.10	1.40	3.96E-02	2.17E-03	-3.98E-02	1.98E-02
	469.85	1.50	3.07E-02		-1.83E-02	1.53E-02
	800.28	1.10	2.89E-02		-3.98E-03	1.43E-02
	822.48	4.30	7.51E-03		2.37E-03	3.72E-03
	915.55	4.10	7.47E-03		-9.26E-03	3.70E-03
	1067.10	10.00	2.81E-03		2.62E-03	1.39E-03
	1087.70	1.20	2.42E-02		3.71E-02	1.20E-02
	1089.10	4.60	5.87E-03		1.93E-03	2.90E-03
	2002.10	1.90	2.17E-03		9.79E-04	9.59E-04
SB-127	61.10	1.43	1.83E-01	1.14E-03	-3.36E-02	9.16E-02
	252.40	8.50	8.69E-03		-9.57E-04	4.34E-03
	290.80	2.02	3.53E-02		-1.17E-02	1.76E-02
	412.10	3.80	1.53E-02		8.27E-03	7.62E-03
	445.10	4.30	1.32E-02		1.89E-02	6.57E-03
	473.00	25.80	2.04E-03		2.17E-03	1.02E-03
	543.30	2.90	1.62E-02		-1.04E-02	8.06E-03
	603.50	4.50	1.07E-02		-8.15E-03	5.31E-03
	685.70	36.80	1.14E-03		-5.39E-04	5.65E-04
	698.50	3.64	1.30E-02		-2.23E-03	6.47E-03
	722.20	1.88	3.27E-02		7.91E-04	1.63E-02
	783.70	15.10	2.59E-03		2.28E-03	1.29E-03
SN-127	119.70	2.20	6.28E+04	9.97E+02	-1.52E+04	3.14E+04
	262.50	2.30	3.58E+04		2.88E+04	1.78E+04
	266.20	2.10	3.88E+04		-4.17E+04	1.93E+04
	284.30	2.70	3.12E+04		-1.79E+03	1.56E+04
	438.20	6.10	1.08E+04		-1.77E+04	5.40E+03
	490.90	5.30	1.15E+04		-4.13E+03	5.71E+03
	493.20	3.10	1.96E+04		-7.11E+03	9.77E+03
	545.40	2.30	2.54E+04		1.08E+03	1.26E+04
	583.30	3.20	1.74E+04		1.46E+04	8.65E+03
	805.90	8.20	5.44E+03		-3.52E+03	2.70E+03
	823.10	11.00	4.15E+03		9.17E+02	2.06E+03
	824.70	6.10	7.42E+03		-2.99E+02	3.68E+03
	859.50	8.00	5.50E+03		3.35E+03	2.72E+03
	979.20	7.20	5.69E+03		-4.26E+03	2.82E+03
	1093.30	3.80	1.01E+04		-8.40E+03	4.99E+03
	1095.60	19.00	1.99E+03		5.31E+02	9.82E+02
	1114.30	38.00	9.97E+02		1.28E+03	4.92E+02
	1160.40	2.40	1.29E+04		3.17E+03	6.36E+03
	2003.40	5.30	1.12E+03		5.20E+02	4.95E+02
SB-129	180.42	2.84	2.21E+01	5.50E-01	2.34E+01	1.10E+01
	359.20	2.39	1.76E+01		-2.06E-01	8.78E+00
	404.64	1.17	3.38E+01		4.30E+01	1.68E+01
	523.13	1.55	2.23E+01		2.60E+00	1.11E+01
	544.56	15.42	2.23E+00		1.51E+00	1.11E+00
	633.74	2.53	1.25E+01		-4.94E+00	6.19E+00
	654.28	2.97	1.09E+01		5.46E+00	5.40E+00
	682.77	5.76	5.18E+00		-5.41E+00	2.57E+00

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	761.12		4.32	7.38E+00	5.50E-01	5.61E+00	3.67E+00
		773.37		2.82	9.83E+00		-1.43E+01	4.88E+00
		786.36		1.07	2.59E+01		8.01E+00	1.28E+01
		787.16		1.74	1.59E+01		4.41E+00	7.89E+00
		812.97		48.20	5.50E-01		-3.17E-01	2.73E-01
		819.51		1.39	1.96E+01		1.89E+01	9.74E+00
		876.65		2.75	1.35E+01		1.45E+00	6.70E+00
		914.96		23.30	1.10E+00		2.88E-01	5.45E-01
		966.78		8.96	2.86E+00		2.03E+00	1.41E+00
		1030.65		15.13	1.58E+00		1.08E+00	7.79E-01
		1656.10		1.31	4.72E+00		1.13E+00	2.22E+00
		1738.16		7.45	7.47E-01		5.96E-01	3.48E-01
	TE-129	459.60		7.70	5.19E-03	5.19E-03	6.46E-04	2.59E-03
		487.39		1.42	2.65E-02		-1.81E-02	1.32E-02
+	Te-129m	695.88	*	3.00	7.47E-03	7.47E-03	3.91E-02	3.70E-03
	I-131	80.18		2.62	5.03E-02	6.07E-04	3.68E-02	2.51E-02
		284.30		6.12	9.75E-03		-5.59E-04	4.86E-03
		364.49		81.50	6.07E-04		-1.13E-03	3.02E-04
		636.99		7.16	5.19E-03		1.21E-04	2.58E-03
		722.91		1.77	2.91E-02		-9.56E-04	1.45E-02
	Te-131m	773.67		36.80	2.02E-03	2.02E-03	-1.70E-03	1.00E-03
		793.75		13.40	5.59E-03		-1.49E-03	2.77E-03
		852.21		19.90	3.61E-03		-1.48E-03	1.79E-03
		1125.46		11.00	5.12E-03		3.23E-03	2.52E-03
		1206.60		9.41	4.40E-03		-2.46E-03	2.16E-03
	I-132	262.90		1.28	5.66E-02	5.92E-04	6.85E-02	2.82E-02
		284.90		0.71	1.05E-01		-3.30E-02	5.21E-02
		505.79		4.93	1.36E-02		1.68E-03	6.78E-03
		522.65		16.00	3.54E-03		-1.46E-04	1.76E-03
		547.20		1.14	4.96E-02		1.15E-02	2.47E-02
		621.20		1.97	2.70E-02		-9.69E-03	1.34E-02
		630.19		13.30	3.97E-03		1.61E-03	1.97E-03
		650.50		2.57	2.04E-02		7.02E-03	1.01E-02
		667.71		98.70	8.06E-04		-2.21E-05	4.01E-04
		669.80		4.60	1.21E-02		-2.63E-03	6.03E-03
		671.40		3.50	1.62E-02		6.83E-03	8.07E-03
		727.10		5.40	1.36E-02		1.54E-03	6.78E-03
		728.40		1.60	4.49E-02		9.20E-03	2.23E-02
		772.60		75.60	5.92E-04		-1.54E-04	2.94E-04
		809.50		2.60	1.68E-02		-4.92E-04	8.32E-03
		812.00		5.50	7.92E-03		6.86E-03	3.93E-03
		910.10		0.93	4.68E-02		-6.69E-03	2.32E-02
		954.55		17.60	2.36E-03		2.41E-03	1.17E-03
		1136.00		3.01	1.07E-02		7.20E-03	5.28E-03
		1172.90		1.09	6.70E-02		1.19E+00	3.33E-02
		1290.80		1.13	2.02E-02		-1.24E-03	9.90E-03
		1295.10		1.88	9.62E-03		-2.46E-03	4.70E-03
		1297.90		0.89	1.83E-02		-1.08E-02	8.93E-03
		1372.07		2.47	8.01E-03		6.90E-03	3.90E-03
		1398.57		7.01	3.12E-03		4.16E-03	1.52E-03
		1442.56		1.40	1.01E-02		9.55E-03	4.89E-03
	TE-132	49.72		15.00	2.68E-02	9.14E-04	2.20E-04	1.34E-02
		111.76		1.74	6.99E-02		-5.44E-02	3.49E-02

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TE-132	116.30	1.96	6.04E-02	9.14E-04	-3.14E-05	3.02E-02
	228.16	88.00	9.14E-04		8.26E-04	4.56E-04
BA-133	81.00	32.90	3.39E-03	7.05E-04	-1.44E-03	1.70E-03
	276.40	7.16	7.36E-03		2.52E-03	3.67E-03
	302.85	18.34	2.67E-03		1.54E-03	1.33E-03
	356.01	62.05	7.05E-04		4.03E-04	3.51E-04
	383.85	8.94	4.48E-03		-1.67E-03	2.23E-03
I-133	529.87	87.00	1.68E-03	1.68E-03	-7.15E-04	8.37E-04
	706.58	1.51	8.54E-02		-4.60E-02	4.24E-02
	856.28	1.24	9.47E-02		4.27E-02	4.69E-02
	875.33	4.51	3.53E-02		3.60E-01	1.75E-02
	1236.44	1.51	4.24E-02		2.76E-02	2.08E-02
	1298.22	2.35	2.54E-02		-1.21E-02	1.24E-02
@ TE-133	312.08	62.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	407.63	27.10	1.00E+20		1.00E+20	1.00E+20
@	410.40	0.94	1.00E+20		1.00E+20	1.00E+20
@	474.85	0.88	1.00E+20		1.00E+20	1.00E+20
@	719.71	8.90	1.00E+20		1.00E+20	1.00E+20
@	786.93	5.40	1.00E+20		1.00E+20	1.00E+20
@	844.36	3.31	1.00E+20		1.00E+20	1.00E+20
@	884.30	0.72	1.00E+20		1.00E+20	1.00E+20
@	930.71	3.81	1.00E+20		1.00E+20	1.00E+20
@	997.70	1.04	1.00E+20		1.00E+20	1.00E+20
@	1000.72	3.62	1.00E+20		1.00E+20	1.00E+20
@	1021.13	2.81	1.00E+20		1.00E+20	1.00E+20
@	1061.61	1.19	1.00E+20		1.00E+20	1.00E+20
@	1252.08	1.44	1.00E+20		1.00E+20	1.00E+20
@	1312.80	0.85	1.00E+20		1.00E+20	1.00E+20
@	1333.21	10.67	1.00E+20		1.00E+20	1.00E+20
@	1717.61	3.18	1.00E+20		1.00E+20	1.00E+20
@	1881.52	1.22	1.00E+20		1.00E+20	1.00E+20
@	2136.51	1.25	1.00E+20		1.00E+20	1.00E+20
@	2229.64	0.87	1.00E+20		1.00E+20	1.00E+20
Xe-133	81.00	36.90	3.68E-03	3.68E-03	-1.56E-03	1.84E-03
CS-134	475.36	1.48	2.55E-02	3.35E-04	5.26E-03	1.27E-02
	563.25	8.34	4.39E-03		-1.02E-03	2.18E-03
	569.33	15.37	2.36E-03		2.54E-03	1.17E-03
	604.72	97.62	3.59E-04		3.92E-04	1.78E-04
	795.86	85.46	3.35E-04		-1.84E-04	1.66E-04
	801.95	8.69	3.33E-03		-1.19E-04	1.65E-03
	1038.61	0.99	2.53E-02		4.29E-03	1.25E-02
	1167.97	1.79	2.42E-02		2.84E-03	1.20E-02
	1365.19	3.02	3.68E-03		1.49E-04	1.79E-03
I-135	220.50	1.75	3.20E+00	4.93E-02	2.82E+00	1.60E+00
	288.45	3.10	1.61E+00		-5.28E-01	8.05E-01
	417.63	3.53	1.17E+00		2.44E-01	5.82E-01
	546.56	7.15	4.88E-01		-1.90E-01	2.43E-01
	836.80	6.69	4.05E-01		2.24E-01	2.01E-01
	971.96	0.89	2.90E+00		-2.45E+00	1.44E+00
	972.62	1.21	2.09E+00		-1.94E+00	1.04E+00
	1038.76	7.90	2.95E-01		5.00E-02	1.46E-01
	1101.58	1.61	1.40E+00		1.51E+00	6.92E-01
	1124.00	3.62	6.08E-01		3.82E-01	3.00E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1131.51		22.60	9.53E-02	4.93E-02	1.23E-01	4.70E-02
		1240.47		0.90	1.91E+00		-1.37E-01	9.38E-01
		1260.41		28.70	4.93E-02		1.30E-02	2.41E-02
		1457.56		8.70	1.28E-01		9.72E-02	6.22E-02
		1502.79		1.08	9.71E-01		-2.88E-01	4.70E-01
		1566.41		1.29	6.19E-01		1.29E-01	2.97E-01
		1678.03		9.60	6.43E-02		-2.93E-02	3.03E-02
		1706.46		4.10	1.55E-01		5.19E-03	7.33E-02
		1791.20		7.72	5.84E-02		3.29E-02	2.68E-02
		2408.65		0.96	3.14E-01		-2.11E-01	1.33E-01
	XE-135	249.79		90.00	1.58E-02	1.58E-02	5.88E-02	7.87E-03
	XE-135m	526.56		80.40	4.19E-02	4.19E-02	-3.79E-02	2.08E-02
	CS-136	66.88		4.79	3.48E-02	3.29E-04	1.34E-02	1.74E-02
		86.36		5.90	2.03E-02		-3.20E-03	1.01E-02
		153.25		7.70	1.08E-02		5.07E-03	5.39E-03
		163.92		4.69	1.79E-02		-4.67E-03	8.91E-03
		176.60		13.70	5.66E-03		-5.26E-03	2.83E-03
		273.65		12.66	4.91E-03		1.58E-04	2.45E-03
		340.55		46.80	1.14E-03		-1.95E-04	5.67E-04
		818.51		99.70	3.29E-04		1.89E-05	1.63E-04
		1048.07		80.00	3.56E-04		-1.62E-04	1.76E-04
		1235.36		20.00	9.01E-04		-9.99E-04	4.42E-04
+	CS-137	661.66	*	85.10	2.46E-04	2.46E-04	1.22E-02	1.22E-04
	BA-139	33.44		3.84	8.36E+08	8.10E+06	-3.08E+09	4.18E+08
		165.86		23.70	8.10E+06		1.08E+07	4.04E+06
	BA-140	132.69		0.20	4.02E-01	1.59E-03	1.88E-01	2.01E-01
		162.66		6.22	1.23E-02		1.32E-02	6.13E-03
		304.85		4.29	1.27E-02		-1.40E-02	6.35E-03
		423.72		3.10	1.43E-02		1.40E-03	7.10E-03
		437.58		1.93	2.25E-02		5.20E-03	1.12E-02
		537.26		24.39	1.59E-03		-1.28E-03	7.93E-04
	LA-140	109.42		0.22	4.21E-01	2.00E-04	-1.43E-01	2.10E-01
		131.12		0.47	1.76E-01		6.03E-02	8.77E-02
		173.54		0.13	5.65E-01		-1.81E-01	2.82E-01
		241.93		0.41	1.39E-01		5.78E-02	6.94E-02
		266.54		0.47	1.15E-01		1.44E-02	5.73E-02
		328.76		20.30	2.67E-03		2.17E-03	1.33E-03
		432.49		2.90	1.62E-02		7.33E-03	8.07E-03
		487.02		45.50	9.31E-04		-6.23E-04	4.63E-04
		618.10		0.04	9.64E-01		-7.71E-01	4.79E-01
		751.64		4.33	8.31E-03		-1.06E-03	4.13E-03
		815.77		23.28	1.29E-03		1.21E-03	6.39E-04
		867.85		5.50	7.33E-03		3.50E-03	3.64E-03
		919.55		2.66	1.08E-02		3.74E-03	5.34E-03
		925.19		6.90	4.27E-03		5.19E-03	2.11E-03
		950.99		0.52	5.67E-02		-2.09E-02	2.81E-02
		1596.21		95.40	2.00E-04		9.24E-04	9.76E-05
		2347.88		0.85	4.97E-03		4.34E-03	2.21E-03
		2521.40		3.46	8.58E-04		-1.10E-03	3.52E-04
		2547.34		0.10	3.84E-02		2.45E-02	1.65E-02
@	BA-141	33.44		7.93	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		190.33		44.80	1.00E+20		1.00E+20	1.00E+20
@		276.95		23.60	1.00E+20		1.00E+20	1.00E+20

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@ BA-141	304.19	26.10	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	343.67	15.10	1.00E+20		1.00E+20	1.00E+20
@	389.74	1.37	1.00E+20		1.00E+20	1.00E+20
@	457.51	5.00	1.00E+20		1.00E+20	1.00E+20
@	462.06	5.10	1.00E+20		1.00E+20	1.00E+20
@	467.22	5.60	1.00E+20		1.00E+20	1.00E+20
@	625.08	3.45	1.00E+20		1.00E+20	1.00E+20
@	647.78	5.70	1.00E+20		1.00E+20	1.00E+20
@	738.95	4.39	1.00E+20		1.00E+20	1.00E+20
@	831.46	1.64	1.00E+20		1.00E+20	1.00E+20
@	876.09	3.45	1.00E+20		1.00E+20	1.00E+20
@	1160.72	1.12	1.00E+20		1.00E+20	1.00E+20
@	1197.28	4.35	1.00E+20		1.00E+20	1.00E+20
@	1323.92	0.92	1.00E+20		1.00E+20	1.00E+20
@	1654.00	0.65	1.00E+20		1.00E+20	1.00E+20
@	1682.19	1.19	1.00E+20		1.00E+20	1.00E+20
CE-141	145.44	48.30	1.50E-03	1.50E-03	-1.38E-03	7.48E-04
@ BA-142	33.44	14.20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	77.59	7.00	1.00E+20		1.00E+20	1.00E+20
@	177.00	2.12	1.00E+20		1.00E+20	1.00E+20
@	231.61	12.20	1.00E+20		1.00E+20	1.00E+20
@	255.30	20.70	1.00E+20		1.00E+20	1.00E+20
@	286.30	1.11	1.00E+20		1.00E+20	1.00E+20
@	309.20	2.60	1.00E+20		1.00E+20	1.00E+20
@	335.00	1.53	1.00E+20		1.00E+20	1.00E+20
@	363.96	4.76	1.00E+20		1.00E+20	1.00E+20
@	425.04	5.75	1.00E+20		1.00E+20	1.00E+20
@	599.80	1.85	1.00E+20		1.00E+20	1.00E+20
@	840.40	3.63	1.00E+20		1.00E+20	1.00E+20
@	895.20	13.90	1.00E+20		1.00E+20	1.00E+20
@	949.10	10.70	1.00E+20		1.00E+20	1.00E+20
@	1001.20	9.80	1.00E+20		1.00E+20	1.00E+20
@	1078.70	11.50	1.00E+20		1.00E+20	1.00E+20
@	1094.10	2.82	1.00E+20		1.00E+20	1.00E+20
@	1126.80	1.50	1.00E+20		1.00E+20	1.00E+20
@	1202.40	5.60	1.00E+20		1.00E+20	1.00E+20
@	1204.30	14.30	1.00E+20		1.00E+20	1.00E+20
@	1380.20	3.42	1.00E+20		1.00E+20	1.00E+20
CE-143	57.36	11.70	4.54E-02	2.86E-03	-8.68E-03	2.27E-02
	231.55	2.05	6.77E-02		4.72E-02	3.38E-02
	293.27	42.80	2.86E-03		-3.60E-04	1.43E-03
	350.62	3.23	3.22E-02		-1.52E-02	1.61E-02
	490.37	2.16	4.34E-02		1.27E-02	2.16E-02
	664.57	5.69	2.35E-02		6.23E-04	1.17E-02
	721.93	5.39	2.00E-02		4.85E-04	9.97E-03
	880.46	1.03	7.36E-02		2.36E-02	3.65E-02
CE-144	80.12	1.36	8.01E-02	6.64E-03	5.85E-02	4.00E-02
	133.51	11.09	6.64E-03		-4.43E-03	3.32E-03
ND-147	38.17	13.20	5.16E-02	2.93E-03	-4.76E-02	2.58E-02
	38.72	23.80	2.69E-02		-2.39E-02	1.35E-02
	91.11	28.90	3.65E-03		5.13E-04	1.82E-03
	275.39	0.79	7.67E-02		3.82E-02	3.83E-02
	319.41	1.97	2.72E-02		4.88E-03	1.36E-02

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ND-147	398.13	0.87	5.30E-02	2.93E-03	-9.07E-03	2.64E-02
	439.88	1.20	3.74E-02		-1.23E-02	1.86E-02
	531.01	13.11	2.93E-03		-4.00E-03	1.46E-03
	685.88	0.82	4.15E-02		1.67E-02	2.06E-02
@ PR-147	36.85	19.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	37.36	35.50	1.00E+20		1.00E+20	1.00E+20
@	49.88	4.00	1.00E+20		1.00E+20	1.00E+20
@	77.97	9.70	1.00E+20		1.00E+20	1.00E+20
@	86.69	5.40	1.00E+20		1.00E+20	1.00E+20
@	127.80	7.40	1.00E+20		1.00E+20	1.00E+20
@	249.20	1.32	1.00E+20		1.00E+20	1.00E+20
@	314.70	18.20	1.00E+20		1.00E+20	1.00E+20
@	328.80	4.00	1.00E+20		1.00E+20	1.00E+20
@	335.70	4.70	1.00E+20		1.00E+20	1.00E+20
@	388.80	1.41	1.00E+20		1.00E+20	1.00E+20
@	466.80	1.70	1.00E+20		1.00E+20	1.00E+20
@	477.90	4.60	1.00E+20		1.00E+20	1.00E+20
@	516.70	1.30	1.00E+20		1.00E+20	1.00E+20
@	554.70	5.90	1.00E+20		1.00E+20	1.00E+20
@	577.90	13.70	1.00E+20		1.00E+20	1.00E+20
@	641.40	16.10	1.00E+20		1.00E+20	1.00E+20
@	996.00	1.52	1.00E+20		1.00E+20	1.00E+20
@	1136.70	1.42	1.00E+20		1.00E+20	1.00E+20
@	1261.10	8.40	1.00E+20		1.00E+20	1.00E+20
@	1300.40	2.30	1.00E+20		1.00E+20	1.00E+20
ND-149	38.17	9.00	2.53E+06	8.31E+04	-2.33E+06	1.26E+06
	38.72	16.30	1.31E+06		-1.17E+06	6.56E+05
	58.88	1.30	5.99E+06		-1.54E+06	2.99E+06
	74.32	2.11	2.22E+06		1.06E+05	1.11E+06
	97.00	1.48	2.40E+06		8.26E+04	1.20E+06
	114.31	19.20	1.63E+05		8.40E+04	8.15E+04
	155.87	5.95	4.53E+05		3.50E+05	2.26E+05
	188.64	1.79	1.39E+06		1.17E+06	6.93E+05
	198.93	1.39	1.69E+06		-5.17E+05	8.42E+05
	208.15	2.55	8.78E+05		2.96E+04	4.38E+05
	211.31	26.00	8.31E+04		-1.26E+04	4.15E+04
	240.22	3.95	4.99E+05		2.43E+04	2.49E+05
	245.72	0.81	2.58E+06		6.00E+05	1.29E+06
	267.69	6.05	3.15E+05		-2.18E+05	1.57E+05
	270.17	10.80	1.80E+05		2.08E+04	8.97E+04
	326.55	4.57	3.90E+05		1.89E+05	1.95E+05
	349.23	1.38	1.23E+06		-5.66E+04	6.15E+05
	423.55	7.50	2.02E+05		1.97E+04	1.01E+05
	443.55	1.15	1.33E+06		8.56E+05	6.63E+05
	540.51	6.60	2.03E+05		1.61E+05	1.01E+05
	654.83	8.00	1.56E+05		7.31E+04	7.77E+04
PM-149	285.95	3.10	2.84E-02	2.84E-02	-9.20E-03	1.42E-02
PM-150	39.52	0.63	5.85E+04	4.65E+01	-3.02E+04	2.92E+04
	40.12	1.14	3.09E+04		-5.25E+03	1.54E+04
	333.92	68.00	4.65E+01		-3.99E+01	2.32E+01
	406.51	5.60	5.00E+02		-4.49E+00	2.49E+02
	565.70	1.31	1.80E+03		-4.17E+02	8.94E+02
	587.02	1.34	1.89E+03		1.11E+02	9.41E+02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	612.25	0.93	2.47E+03	4.65E+01	-7.59E+02	1.23E+03
	712.22	4.40	4.63E+02		4.75E+01	2.30E+02
	737.50	2.25	8.94E+02		9.99E+02	4.44E+02
	831.85	11.90	1.58E+02		-1.37E+01	7.84E+01
	859.95	3.40	5.39E+02		-7.08E+02	2.67E+02
	876.41	7.30	3.60E+02		5.67E+01	1.79E+02
	1165.77	15.80	1.32E+02		2.92E+01	6.52E+01
	1170.90	1.06	3.17E+03		-2.15E+02	1.57E+03
	1193.87	4.80	2.48E+02		-2.45E+02	1.22E+02
	1213.72	1.03	1.10E+03		8.61E+02	5.40E+02
	1223.28	2.80	3.92E+02		7.45E+01	1.92E+02
	1324.51	17.50	8.18E+01		3.44E+01	4.03E+01
	1379.32	3.10	2.72E+02		-1.31E+02	1.32E+02
	1736.40	6.90	6.03E+01		5.61E+01	2.82E+01
	1963.71	1.47	2.22E+02		1.83E+02	1.01E+02
	2033.46	0.97	2.97E+02		-2.47E+01	1.33E+02
@ ND-151	38.17	5.94	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	38.72	10.70	1.00E+20		1.00E+20	1.00E+20
@	68.98	1.26	1.00E+20		1.00E+20	1.00E+20
@	85.12	2.05	1.00E+20		1.00E+20	1.00E+20
@	89.96	1.53	1.00E+20		1.00E+20	1.00E+20
@	116.80	39.00	1.00E+20		1.00E+20	1.00E+20
@	138.89	7.00	1.00E+20		1.00E+20	1.00E+20
@	170.76	2.87	1.00E+20		1.00E+20	1.00E+20
@	175.07	6.30	1.00E+20		1.00E+20	1.00E+20
@	255.68	14.80	1.00E+20		1.00E+20	1.00E+20
@	300.58	1.82	1.00E+20		1.00E+20	1.00E+20
@	423.56	5.90	1.00E+20		1.00E+20	1.00E+20
@	460.59	0.96	1.00E+20		1.00E+20	1.00E+20
@	585.22	1.30	1.00E+20		1.00E+20	1.00E+20
@	677.88	2.38	1.00E+20		1.00E+20	1.00E+20
@	736.23	5.90	1.00E+20		1.00E+20	1.00E+20
@	739.20	1.52	1.00E+20		1.00E+20	1.00E+20
@	755.57	1.17	1.00E+20		1.00E+20	1.00E+20
@	797.53	4.70	1.00E+20		1.00E+20	1.00E+20
@	1016.40	2.50	1.00E+20		1.00E+20	1.00E+20
@	1122.63	4.10	1.00E+20		1.00E+20	1.00E+20
@	1180.89	13.30	1.00E+20		1.00E+20	1.00E+20
Pm-151	167.75	8.30	2.35E-02	5.75E-03	1.25E-02	1.17E-02
	177.16	3.80	5.07E-02		-2.65E-05	2.53E-02
	240.09	3.80	4.05E-02		1.97E-03	2.02E-02
	275.21	6.80	2.20E-02		-4.68E-03	1.10E-02
	340.08	22.50	5.75E-03		7.89E-04	2.86E-03
EU-152	121.78	28.53	3.05E-03	6.63E-04	-2.47E-04	1.52E-03
	344.28	26.59	1.73E-03		9.83E-04	8.61E-04
	778.90	12.93	2.27E-03		1.83E-03	1.13E-03
	867.37	4.23	8.59E-03		3.64E-03	4.26E-03
	964.08	14.51	1.86E-03		3.67E-04	9.22E-04
	1085.87	10.11	2.29E-03		9.94E-04	1.13E-03
	1112.07	13.67	1.69E-03		-1.31E-03	8.36E-04
	1408.01	20.87	6.63E-04		7.44E-04	3.24E-04
@ ND-152	44.44	5.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	250.15	16.40	1.00E+20		1.00E+20	1.00E+20

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	ND-152	278.56		26.00	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		294.47		2.90	1.00E+20		1.00E+20	1.00E+20
@		545.70		0.83	1.00E+20		1.00E+20	1.00E+20
@		592.50		0.99	1.00E+20		1.00E+20	1.00E+20
	GD-153	69.67		2.45	5.58E-02	3.10E-03	5.28E-02	2.79E-02
		97.43		30.00	3.10E-03		2.44E-03	1.55E-03
		103.18		22.10	4.04E-03		1.05E-03	2.02E-03
	SM-153	69.67		4.67	5.53E-02	5.80E-03	5.24E-02	2.77E-02
		103.18		29.14	5.80E-03		1.50E-03	2.90E-03
+	EU-154	42.70	*	20.45	2.83E-02	6.55E-04	3.04E-02	1.41E-02
		123.07	*	40.40	2.78E-03		3.29E-02	1.39E-03
		247.93	*	6.89	1.05E-02		2.98E-02	5.25E-03
		591.76	*	4.95	1.00E-02		3.47E-02	4.98E-03
		692.42	*	1.78	1.22E-02		3.38E-02	6.03E-03
		723.30	*	20.06	1.16E-03		3.25E-02	5.75E-04
		756.80	*	4.52	8.57E-03		3.02E-02	4.26E-03
		873.18	*	12.08	3.42E-03		3.31E-02	1.70E-03
		996.29	*	10.48	3.10E-03		3.38E-02	1.54E-03
		1004.76	*	18.01	2.41E-03		3.30E-02	1.20E-03
		1246.12	*	0.86	1.81E-02		3.55E-02	8.86E-03
		1274.43	*	34.80	6.55E-04		3.25E-02	3.23E-04
		1494.05	*	0.70	1.42E-02		3.07E-02	6.86E-03
		1596.48	*	1.80	5.56E-03		3.49E-02	2.70E-03
+	EU-155	43.00	*	18.12	3.19E-02	3.67E-03	3.43E-02	1.60E-02
		60.01	*	1.17	2.11E-01		5.97E+00	1.05E-01
		86.55	*	30.70	3.67E-03		6.79E-03	1.83E-03
		105.31	*	21.10	4.43E-03		6.06E-03	2.21E-03
	EU-156	88.97		8.40	1.32E-02	1.21E-03	-8.68E-04	6.60E-03
		646.29		6.30	5.66E-03		-2.87E-03	2.81E-03
		723.47		5.40	9.22E-03		2.01E-04	4.59E-03
		811.77		9.70	3.16E-03		2.74E-03	1.57E-03
		1065.14		4.90	5.58E-03		7.72E-03	2.76E-03
		1079.16		4.60	5.54E-03		-4.00E-03	2.74E-03
		1153.80		11.50	1.84E-03		-1.92E-03	9.08E-04
		1230.71		8.00	2.19E-03		1.23E-03	1.07E-03
		1242.42		6.60	2.88E-03		3.18E-04	1.42E-03
		1277.43		2.89	2.12E-02		4.33E-01	1.05E-02
		1366.41		1.57	8.72E-03		2.13E-03	4.25E-03
		1965.95		3.90	1.23E-03		4.25E-04	5.58E-04
		2097.70		3.80	1.36E-03		7.98E-04	6.17E-04
		2186.71		3.50	1.21E-03		-2.27E-04	5.39E-04
	Sm-156	87.60		24.00	1.01E-01	6.87E-02	2.83E-01	5.04E-02
		165.80		13.00	1.27E-01		1.69E-01	6.33E-02
		204.00		21.00	6.87E-02		7.08E-02	3.43E-02
	EU-158	42.31		5.80	8.67E+15	1.03E+14	-1.22E+15	4.33E+15
		43.00		10.40	4.58E+15		2.58E+15	2.29E+15
		79.49		10.50	1.26E+15		2.84E+12	6.30E+14
		181.97		2.30	3.32E+15		4.05E+15	1.66E+15
		528.05		1.53	2.73E+15		-1.92E+15	1.36E+15
		606.39		4.00	1.00E+15		7.42E+14	4.97E+14
		743.02		3.60	9.55E+14		-1.33E+14	4.74E+14
		897.61		12.40	2.62E+14		1.33E+14	1.30E+14
		906.50		1.83	1.79E+15		3.47E+15	8.89E+14

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	EU-158	922.51		1.62	1.94E+15	1.03E+14	8.03E+14	9.60E+14
		944.15		30.00	1.03E+14		-1.68E+14	5.12E+13
		953.03		1.98	1.58E+15		6.59E+14	7.85E+14
		962.09		1.89	1.67E+15		-1.47E+15	8.26E+14
		977.14		16.30	1.82E+14		-3.04E+14	9.00E+13
		986.96		1.35	2.17E+15		1.19E+15	1.08E+15
		1107.63		5.10	5.39E+14		7.33E+14	2.66E+14
		1184.10		3.00	7.11E+14		-9.23E+13	3.50E+14
		1186.00		2.90	7.29E+14		-6.50E+14	3.58E+14
		1187.10		4.40	4.79E+14		1.54E+14	2.36E+14
		1263.61		2.20	8.07E+14		2.42E+14	3.95E+14
		1347.95		1.65	9.20E+14		-1.01E+15	4.48E+14
		1944.47		1.62	3.17E+14		1.74E+14	1.43E+14
	TB-160	86.79		13.20	8.09E-03	1.07E-03	2.47E-02	4.04E-03
		298.58		26.10	1.98E-03		9.30E-04	9.86E-04
		879.38		30.10	1.24E-03		1.07E-04	6.15E-04
		962.32		9.81	2.76E-03		-2.43E-03	1.36E-03
		966.17		25.10	1.07E-03		8.58E-04	5.29E-04
		1177.96		14.90	3.18E-03		-5.36E-04	1.58E-03
+	TB-161	25.65		23.20	3.05E-01	1.60E-02	1.51E+01	1.52E-01
		48.91		17.00	1.92E-02		-1.16E-02	9.60E-03
		52.00	*	3.43	8.99E-02		3.88E-02	4.49E-02
		57.19		1.79	1.42E-01		-2.71E-02	7.09E-02
		74.57	*	10.20	1.60E-02		7.26E-03	7.99E-03
	YB-169	63.12		43.62	4.19E-03	1.76E-03	-1.50E-04	2.09E-03
		93.61		2.58	4.22E-02		1.41E-02	2.11E-02
		109.78		17.39	5.17E-03		2.97E-04	2.58E-03
		130.52		11.38	7.23E-03		7.87E-03	3.61E-03
		177.21		22.28	3.15E-03		-1.65E-06	1.57E-03
		197.96		35.93	1.76E-03		-8.61E-05	8.76E-04
		307.74		10.05	4.65E-03		5.37E-04	2.32E-03
	HF-172	54.07		63.00	3.39E-03	3.39E-03	-7.32E-04	1.69E-03
		67.35		5.30	2.52E-02		1.52E-02	1.26E-02
		81.75		4.50	2.36E-02		2.06E-04	1.18E-02
		114.06		2.60	3.12E-02		1.61E-02	1.56E-02
		125.81		11.30	7.23E-03		1.96E-03	3.61E-03
		127.91		1.46	5.29E-02		5.34E-02	2.64E-02
	LU-173	59.30		24.44	7.96E-03	2.50E-03	3.04E-01	3.98E-03
		78.63		11.90	9.86E-03		3.17E-03	4.93E-03
		100.72		5.24	1.76E-02		3.87E-03	8.79E-03
		171.39		2.90	2.31E-02		6.21E-03	1.16E-02
		272.11		21.20	2.50E-03		-2.06E-03	1.25E-03
	LU-177	112.95		6.23	1.58E-02	6.71E-03	2.01E-02	7.90E-03
		208.37		10.41	6.71E-03		2.27E-04	3.35E-03
		249.67		0.20	3.19E-01		1.19E+00	1.59E-01
		321.32		0.22	2.55E-01		-2.85E-02	1.27E-01
	HF-181	133.02		43.30	1.83E-03	4.80E-04	7.01E-04	9.12E-04
		345.93		15.12	3.13E-03		1.63E-03	1.56E-03
		482.18		80.50	4.80E-04		2.14E-05	2.39E-04
	W-181	56.28		18.70	1.10E-02	6.56E-03	-2.25E-03	5.48E-03
		57.53		32.00	6.56E-03		-1.46E-03	3.28E-03
		65.00		10.60	1.35E-02		4.51E-05	6.75E-03
	TA-182	57.98		10.01	2.06E-02	6.03E-04	-3.10E-03	1.03E-02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	59.32	17.20	1.14E-02	6.03E-04	4.35E-01	5.70E-03
	65.72	3.01	5.14E-02		-2.65E-02	2.57E-02
	67.75	46.67	3.01E-03		2.74E-03	1.50E-03
	84.68	2.65	4.10E-02		8.48E-03	2.05E-02
	100.11	14.20	6.82E-03		-2.38E-03	3.41E-03
	113.67	1.87	4.86E-02		3.35E-02	2.43E-02
	116.42	0.44	1.82E-01		-9.49E-05	9.10E-02
	152.43	7.02	1.03E-02		-4.34E-03	5.17E-03
	156.39	2.67	2.80E-02		2.26E-02	1.40E-02
	179.39	3.12	2.21E-02		-3.19E-02	1.10E-02
	198.35	1.47	4.53E-02		6.76E-02	2.26E-02
	222.11	7.57	7.72E-03		-5.56E-03	3.85E-03
	229.32	3.64	1.60E-02		3.00E-03	8.01E-03
	264.08	3.61	1.45E-02		-8.63E-03	7.22E-03
	928.00	0.61	4.45E-02		2.96E-02	2.20E-02
	959.73	0.35	7.99E-02		8.95E-02	3.96E-02
	1001.70	2.09	2.66E-02		4.70E-01	1.32E-02
	1044.42	0.24	1.09E-01		2.55E-02	5.37E-02
	1113.41	0.44	5.39E-02		5.35E-02	2.66E-02
	1121.29	35.24	6.50E-04		-3.85E-04	3.21E-04
	1157.30	0.73	2.54E-02		-4.99E-03	1.25E-02
	1189.04	16.49	1.05E-03		1.82E-03	5.15E-04
	1221.40	27.23	6.03E-04		-3.15E-04	2.96E-04
	1223.60	0.24	5.74E-02		1.09E-02	2.81E-02
	1231.00	11.62	1.39E-03		-4.63E-04	6.81E-04
	1257.41	1.51	9.72E-03		-5.97E-03	4.76E-03
	1273.72	0.66	6.72E-02		1.37E+00	3.34E-02
	1289.15	1.37	7.15E-03		-8.63E-03	3.50E-03
	1342.73	0.26	5.24E-02		5.11E-02	2.56E-02
	1373.82	0.22	3.65E-02		-1.60E-02	1.78E-02
Ta-183	84.71	1.35	9.68E-02	2.51E-03	2.00E-02	4.84E-02
	99.08	6.80	1.70E-02		-1.08E-03	8.50E-03
	107.93	11.20	9.66E-03		-8.58E-04	4.83E-03
	161.35	9.10	9.56E-03		-2.64E-03	4.77E-03
	162.32	5.00	1.73E-02		1.17E-02	8.65E-03
	244.26	8.80	7.75E-03		-1.43E-03	3.87E-03
	246.06	27.20	2.51E-03		1.24E-03	1.25E-03
	353.99	11.60	4.77E-03		7.48E-04	2.38E-03
Re-184	111.21	17.20	4.96E-03	7.36E-04	-1.94E-03	2.48E-03
	252.85	3.00	1.76E-02		1.35E-02	8.76E-03
	792.01	37.70	7.60E-04		1.78E-04	3.77E-04
	894.76	15.70	1.70E-03		1.98E-03	8.40E-04
	903.28	38.10	7.36E-04		6.01E-04	3.65E-04
W-185	59.72	0.01	1.63E+01	4.33E+00	6.11E+02	8.16E+00
	61.14	0.02	9.03E+00		-1.66E+00	4.51E+00
	69.20	0.01	1.99E+01		4.36E+00	9.93E+00
	125.36	0.02	4.33E+00		1.48E+00	2.16E+00
W-187	61.14	14.30	4.44E-02	3.21E-03	-8.14E-03	2.22E-02
	69.20	4.82	9.76E-02		2.14E-02	4.87E-02
	72.00	13.55	3.46E-02		2.46E-02	1.73E-02
	134.25	10.36	2.61E-02		-2.04E-03	1.30E-02
	479.53	26.60	5.07E-03		9.17E-04	2.52E-03
	618.37	7.57	1.50E-02		-1.13E-02	7.45E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
W-187	685.81	33.20	3.21E-03	3.21E-03	1.29E-03	1.59E-03
Ir-188	155.05	29.60	4.87E-03	4.35E-04	4.59E-04	2.43E-03
	478.00	14.70	5.25E-03		1.02E-03	2.62E-03
	633.02	17.90	3.69E-03		-1.55E-03	1.83E-03
	634.97	5.00	1.31E-02		-3.50E-03	6.53E-03
	829.42	5.10	1.09E-02		5.58E-03	5.39E-03
	1209.77	6.90	4.85E-03		5.85E-04	2.38E-03
	1715.67	6.20	2.59E-03		7.12E-04	1.23E-03
	2214.59	18.60	4.35E-04		-3.16E-04	1.92E-04
W-188	227.07	0.23	2.36E-01	1.21E-01	1.57E-01	1.18E-01
	290.68	0.42	1.21E-01		-1.71E-03	6.04E-02
Ir-189	245.08	6.00	9.79E-03	9.79E-03	1.88E-03	4.88E-03
Ir-190	186.68	50.00	1.38E-03	9.77E-04	1.31E-03	6.90E-04
	361.09	12.30	3.85E-03		-1.27E-03	1.92E-03
	371.24	21.60	2.17E-03		-1.42E-03	1.08E-03
	407.22	27.00	1.64E-03		5.71E-04	8.18E-04
	518.55	32.20	1.24E-03		5.24E-05	6.15E-04
	557.95	28.50	1.33E-03		1.27E-03	6.64E-04
	569.30	27.00	1.37E-03		1.48E-03	6.83E-04
	605.14	37.80	9.77E-04		3.14E-04	4.86E-04
OS-191	63.29	15.70	1.09E-02	3.06E-03	-1.16E-03	5.42E-03
	64.99	26.70	5.76E-03		1.92E-05	2.88E-03
	73.45	9.21	1.45E-02		7.14E-03	7.22E-03
	129.43	26.50	3.06E-03		2.09E-03	1.53E-03
Pt-191	359.90	5.80	1.19E-02	3.88E-03	5.47E-05	5.92E-03
	456.47	3.30	1.86E-02		6.14E-03	9.26E-03
	538.90	14.30	3.88E-03		-2.53E-03	1.93E-03
IR-192	205.79	3.31	1.87E-02	6.04E-04	1.41E-02	9.33E-03
	295.96	28.71	1.87E-03		-5.98E-04	9.34E-04
	308.45	29.70	1.75E-03		1.60E-03	8.73E-04
	316.51	82.86	6.04E-04		-2.95E-04	3.01E-04
	468.07	47.84	8.38E-04		2.92E-04	4.17E-04
	588.58	4.52	8.75E-03		5.15E-04	4.35E-03
	604.41	8.22	3.87E-03		9.01E-04	1.92E-03
	612.46	5.34	5.45E-03		3.65E-03	2.71E-03
IR-192m	155.16	0.09	7.57E-01	7.57E-01	6.28E-02	3.78E-01
IR-193m	80.22	0.00	2.61E+01	2.61E+01	1.91E+01	1.30E+01
Pt-193m	135.50	0.11	8.46E-01	8.46E-01	3.00E-01	4.23E-01
Au-194	293.55	10.90	9.93E-03	1.61E-03	-1.25E-03	4.95E-03
	328.47	62.80	1.61E-03		5.73E-04	8.01E-04
	364.84	1.60	5.84E-02		-7.25E-02	2.91E-02
	528.77	1.78	4.29E-02		2.57E-02	2.13E-02
	645.16	2.32	2.99E-02		-1.62E-03	1.48E-02
	948.32	2.29	2.49E-02		1.54E-02	1.23E-02
	1104.06	2.15	2.27E-02		-6.24E-02	1.12E-02
	1175.36	2.14	4.94E-02		-1.94E-03	2.46E-02
	1468.90	6.80	3.42E-03		-5.56E-03	1.65E-03
	1595.81	1.89	1.92E-02		8.86E-02	9.41E-03
	2043.72	3.74	2.68E-03		-6.69E-04	1.22E-03
Ir-194	293.54	2.50	9.42E-02	1.68E-02	-1.19E-02	4.70E-02
	328.47	13.10	1.68E-02		5.98E-03	8.36E-03
AU-195	98.86	11.21	8.15E-03	8.15E-03	2.49E-03	4.07E-03
	129.74	0.84	8.94E-02		2.02E-02	4.47E-02

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Pt-195m	98.90		11.70	1.06E-02	1.06E-02	3.24E-03	5.30E-03
		129.79		2.90	3.52E-02		7.96E-03	1.76E-02
	Au-196	333.03		22.90	2.59E-03	6.31E-04	2.03E-03	1.29E-03
		355.73		87.00	6.31E-04		-4.45E-05	3.14E-04
		426.10		6.60	7.40E-03		-3.72E-03	3.68E-03
	Au-196m	147.81		43.50	3.65E-02	3.65E-02	-1.81E-03	1.82E-02
		188.27		30.00	4.74E-02		-2.78E-02	2.36E-02
	Pt-197	77.35		17.00	3.04E-02	3.04E-02	-2.15E-03	1.52E-02
		191.44		3.70	7.48E-02		-6.29E-03	3.73E-02
	AU-198	411.80		95.62	6.89E-04	6.89E-04	2.00E-04	3.43E-04
	AU-199	158.38		40.00	2.56E-03	2.56E-03	3.14E-04	1.28E-03
		208.20		8.72	9.88E-03		3.34E-04	4.93E-03
	TL-201	135.34		2.61	4.22E-02	1.01E-02	1.52E-02	2.11E-02
		167.43		10.00	1.01E-02		3.04E-03	5.02E-03
	TL-202	439.51		91.50	4.79E-04	4.79E-04	-4.85E-05	2.39E-04
	PB-203	70.83		26.40	8.75E-03	1.16E-03	7.69E-03	4.37E-03
		72.87		44.20	5.01E-03		2.85E-03	2.50E-03
		82.40		15.56	1.20E-02		-3.53E-03	6.01E-03
		279.20		80.90	1.16E-03		1.01E-04	5.79E-04
		401.32		3.35	2.28E-02		1.98E-02	1.14E-02
	PB-210	46.54		4.25	7.30E-02	7.30E-02	-4.57E-02	3.65E-02
	Pa-233	86.60		2.01	5.08E-02	1.23E-03	1.55E-01	2.54E-02
		94.65		8.90	1.06E-02		5.20E-03	5.30E-03
		98.43		14.20	6.41E-03		-2.74E-04	3.20E-03
		300.13		6.54	7.40E-03		-2.82E-03	3.69E-03
		311.90		38.20	1.23E-03		-4.19E-04	6.15E-04
		340.48		4.44	1.01E-02		-1.74E-03	5.06E-03
	U-235	89.96		2.90	3.30E-02	1.09E-03	-3.20E-03	1.65E-02
		93.35		4.70	1.94E-02		4.61E-03	9.70E-03
		109.19		1.64	5.12E-02		-2.21E-02	2.56E-02
		143.76		10.93	6.40E-03		-2.62E-03	3.20E-03
		163.36		5.07	1.33E-02		4.57E-03	6.66E-03
		185.71		57.20	1.09E-03		-7.59E-04	5.44E-04
		202.11		1.07	5.50E-02		-2.45E-02	2.75E-02
		205.31		5.03	1.16E-02		-1.15E-02	5.78E-03
+	NP-237	86.48	*	12.20	9.23E-03	9.23E-03	1.71E-02	4.61E-03
	U-237	59.54		34.50	6.80E-03	3.33E-03	2.59E-01	3.40E-03
		97.07		15.40	7.21E-03		2.49E-04	3.60E-03
		101.06		24.50	4.38E-03		2.44E-03	2.19E-03
		113.30		3.07	3.19E-02		3.47E-02	1.59E-02
		114.23		5.81	1.68E-02		8.65E-03	8.39E-03
		117.46		2.27	4.22E-02		2.87E-03	2.11E-02
		208.00		21.20	3.33E-03		5.93E-04	1.66E-03
	NP-238	103.37		0.00	3.35E+01	1.77E-03	8.36E+00	1.67E+01
		882.63		0.80	5.81E-02		-8.74E-03	2.88E-02
		923.99		2.60	1.81E-02		3.01E-03	8.98E-03
		984.45		25.20	1.77E-03		1.57E-03	8.74E-04
		1025.87		8.75	5.03E-03		3.70E-03	2.49E-03
		1028.53		18.23	2.42E-03		1.12E-03	1.20E-03
	U-238	63.29		3.70	4.25E-02	2.18E-02	-4.52E-03	2.12E-02
		92.51		4.23	2.18E-02		1.61E-02	1.09E-02
		112.81		0.21	3.89E-01		1.05E-01	1.94E-01
		742.81		0.11	2.67E-01		-2.28E-02	1.32E-01

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	U-238	766.42		0.32	8.90E-02	2.18E-02	6.43E-02	4.41E-02
		1001.03		0.84	6.01E-02		1.07E+00	2.99E-02
	Am-239	181.71		1.08	7.34E-01	4.28E-02	4.15E-01	3.66E-01
		209.80		3.50	2.06E-01		-1.08E-01	1.03E-01
		226.40		3.30	2.07E-01		-1.71E-02	1.03E-01
		228.10		11.30	6.03E-02		4.73E-02	3.01E-02
		277.60		15.00	4.28E-02		-4.40E-03	2.13E-02
	NP-239	61.46		1.30	2.35E-01	5.86E-03	-1.44E-02	1.17E-01
		99.53		12.90	1.19E-02		2.35E-03	5.95E-03
		103.37		20.50	7.29E-03		1.82E-03	3.64E-03
		106.12		25.34	5.86E-03		9.76E-03	2.93E-03
		209.75		3.36	2.94E-02		-1.54E-02	1.47E-02
		228.18		11.24	8.31E-03		7.51E-03	4.15E-03
		277.60		14.51	6.10E-03		-6.27E-04	3.04E-03
		285.46		0.79	1.11E-01		9.04E-03	5.53E-02
		315.88		1.60	4.86E-02		-2.06E-02	2.42E-02
		334.31		2.06	3.52E-02		-6.33E-03	1.75E-02
	PU-239	38.66		0.01	5.52E+01	8.74E+00	-4.90E+01	2.76E+01
		51.62		0.03	8.74E+00		1.45E+01	4.37E+00
		98.50		0.01	1.25E+01		-5.36E-01	6.25E+00
		111.03		0.00	6.21E+01		-1.85E+01	3.10E+01
		129.30		0.01	1.19E+01		8.80E+00	5.93E+00
		171.39		0.00	5.96E+02		1.60E+02	2.98E+02
		203.55		0.00	1.03E+02		1.31E+02	5.15E+01
		332.85		0.00	9.16E+01		4.08E+01	4.57E+01
		336.11		0.00	4.02E+02		1.25E+02	2.00E+02
		345.01		0.00	8.00E+01		3.55E+01	3.99E+01
		375.05		0.00	2.70E+01		-5.23E+00	1.34E+01
		380.19		0.00	1.36E+02		1.48E+02	6.77E+01
		382.75		0.00	1.59E+02		-1.30E+01	7.93E+01
		413.71		0.00	2.81E+01		8.30E+01	1.40E+01
		422.60		0.00	3.29E+02		-6.05E+01	1.64E+02
		451.48		0.00	2.04E+02		-3.91E+02	1.02E+02
	Am-240	99.53		18.40	8.87E-03	6.18E-04	1.75E-03	4.43E-03
		103.37		29.20	5.44E-03		1.36E-03	2.72E-03
		117.23		6.93	2.08E-02		1.41E-03	1.04E-02
		888.85		24.70	1.89E-03		1.02E-03	9.38E-04
		987.79		72.20	6.18E-04		3.78E-04	3.06E-04
	Np-240m	554.60		20.90	1.39E-02	1.39E-02	5.53E-03	6.90E-03
		597.40		11.70	2.53E-02		-1.23E-02	1.26E-02
	U-240	44.10		1.05	2.92E+00	2.16E+00	-2.33E+00	1.46E+00
		66.50		0.15	7.48E+00		-1.43E+00	3.74E+00
		169.20		0.12	4.86E+00		-5.05E+00	2.43E+00
		189.70		0.24	2.16E+00		-2.01E-01	1.08E+00
+	AM-241	59.54	*	35.90	6.85E-03	6.85E-03	1.94E-01	3.42E-03
	AM-242m	49.35		0.13	1.98E+00	1.98E+00	-4.55E-01	9.92E-01
		66.89		0.01	9.05E+00		3.49E+00	4.52E+00
		86.65		0.02	4.37E+00		1.33E+01	2.18E+00
		163.25		0.02	4.42E+00		1.51E+00	2.20E+00
	AM-243	43.53	*	5.90	9.80E-02	2.02E-03	1.05E-01	4.90E-02
		74.66	*	67.20	2.02E-03		9.18E-04	1.01E-03

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A F3

ASR 2094 Branch

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

Apex-Gamma

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A R3

Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2319 VSM-6.0M-S1-CST-d-A R3
Sample Description	: Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/29/2024 9:22:08AM
Procedure	: R3_gsv02mlw
Operator	: Administrator
Detector Name	: R
Geometry	: R3_gsv02mlw
Live Time	: 1569.7 seconds
Real Time	: 1644.0 seconds
Dead Time	: 4.52 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/5/2019
Efficiency Calibration Description	: R3_gsv2ml_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567988
Certificate Name	: R735-b8 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/29/2024 9:49:35AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A R3

Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.99	120.13	0.2678	4.24
2	59.56	166.64	0.0588	102.75
3	74.93	209.34	0.3099	4.11
4	86.99	242.44	0.2162	7.28
5	94.62	264.08	0.3986	3.04
6	105.36	293.93	0.2763	4.05
7	123.07	343.29	0.0791	53.10
8	247.94	690.33	0.1426	14.85
9	315.96	879.74	0.3560	3.13
10	414.84	1154.54	0.1544	11.61
11	511.11	1421.93	0.1396	9.90
12	591.84	1646.89	0.1331	14.91
13	609.03	1695.01	0.3126	3.04
14	661.68	1841.19	0.0703	47.93
15	666.41	1854.55	0.1457	12.84
16	695.22	1934.57	0.1728	9.34
17	720.09	1998.00	0.0000	0.00
18	723.37	2012.73	0.0819	34.41
19	756.96	2106.15	0.1287	13.91
20	873.28	2429.75	0.0955	24.74
21	904.69	2516.51	0.1972	6.30
22	996.38	2772.28	0.0983	21.47
23	1004.84	2795.91	0.0864	27.52
24	1173.26	3264.45	0.0761	33.01
25	1246.47	3467.15	0.2113	3.94
26	1274.46	3546.01	0.0730	35.59
27	1332.51	3707.63	0.0776	29.66
28	1397.29	3887.77	0.1998	5.29
29	1408.43	3918.77	0.2053	4.51
30	1493.72	4155.87	0.2109	3.34
31	1596.20	4441.37	0.1448	8.90
32	1720.54	4784.83	0.2203	3.40
33	2504.70	6970.90	0.2036	3.24

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A R3

Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/29/2024 9:49:35AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.99	111 -	128	120.57	2.59E+03	1027.77	1.86E+05	0.95
F	2	59.56	157 -	175	166.66	8.25E+04	1585.43	2.76E+05	1.35
F	3	74.93	206 -	218	209.38	1.11E+03	323.46	1.80E+05	0.96
F	4	86.99	237 -	251	242.92	5.91E+03	344.14	1.87E+05	1.89
F	5	94.62	261 -	273	264.13	5.02E+02	164.50	1.47E+05	0.34
F	6	105.36	290 -	303	294.00	1.86E+03	296.49	1.39E+05	1.40
F	7	123.07	337 -	353	343.25	2.58E+04	1187.97	1.33E+05	1.42
F	8	247.94	683 -	701	690.46	3.42E+03	138.11	3.28E+04	1.60
F	9	315.96	876 -	883	879.60	2.30E+02	77.66	7.41E+03	0.77
F	10	414.84	1147 -	1163	1154.59	1.47E+03	304.48	7.93E+03	1.69
F	11	511.11	1412 -	1434	1422.35	2.97E+03	76.54	6.63E+03	2.87
F	12	591.84	1637 -	1655	1646.87	1.23E+03	187.67	3.57E+03	1.71
F	13	609.03	1690 -	1701	1694.70	1.27E+02	329.33	2.10E+03	1.18
M	14	661.68	1830 -	1865	1841.14	8.73E+03	244.47	2.71E+03	1.98
m	15	666.41	1830 -	1865	1854.30	1.18E+03	59.40	2.48E+03	1.99
F	16	695.22	1920 -	1948	1934.44	1.33E+03	269.93	3.57E+03	2.15
M	17	720.09	1988 -	2021	2003.61	3.25E+01	68.13	2.37E+03	2.08
m	18	723.37	1988 -	2021	2012.74	4.98E+03	399.69	2.30E+03	2.09
F	19	756.96	2097 -	2113	2106.16	1.13E+03	166.85	1.64E+03	2.06
F	20	873.28	2418 -	2442	2429.75	2.55E+03	168.59	1.59E+03	2.17
F	21	904.69	2507 -	2525	2517.13	3.26E+02	136.35	9.65E+02	1.23
M	22	996.38	2760 -	2808	2772.23	2.17E+03	93.93	1.10E+03	2.34
m	23	1004.84	2760 -	2808	2795.76	3.61E+03	143.62	1.15E+03	2.34
F	24	1173.26	3248 -	3278	3264.34	5.09E+03	164.17	6.12E+02	2.46
F	25	1246.47	3459 -	3477	3468.06	1.21E+02	17.36	2.54E+02	2.39
F	26	1274.46	3530 -	3560	3545.94	6.11E+03	161.34	3.41E+02	2.66
F	27	1332.51	3691 -	3721	3707.48	4.48E+03	126.21	3.57E+02	2.71
F	28	1397.29	3878 -	3896	3887.75	1.35E+02	49.96	9.47E+01	2.39
F	29	1408.43	3911 -	3926	3918.75	9.64E+01	22.60	8.65E+01	2.32
F	30	1493.72	4146 -	4167	4156.11	9.61E+01	12.04	8.21E+01	2.91
F	31	1596.20	4428 -	4453	4441.33	3.27E+02	48.96	3.90E+01	2.76
F	32	1720.54	4778 -	4792	4787.42	5.08E+01	2.12	1.06E+01	0.93
F	33	2504.70	6962 -	6979	6970.66	5.98E+01	43.70	4.17E+00	3.35

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A R3

Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/29/2024 9:49:35AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567967.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.99	2.59E+03	1027.77			2.59E+03	1.03E+03
F	2	59.56	8.25E+04	1585.43			8.25E+04	1.59E+03
F	3	74.93	1.11E+03	323.46	6.34E+01	3.65E+00	1.04E+03	3.23E+02
F	4	86.99	5.91E+03	344.14	1.78E+01	1.05E+00	5.89E+03	3.44E+02
F	5	94.62	5.02E+02	164.50			5.02E+02	1.65E+02
F	6	105.36	1.86E+03	296.49			1.86E+03	2.96E+02
F	7	123.07	2.58E+04	1187.97			2.58E+04	1.19E+03
F	8	247.94	3.42E+03	138.11			3.42E+03	1.38E+02
F	9	315.96	2.30E+02	77.66			2.30E+02	7.77E+01
F	10	414.84	1.47E+03	304.48			1.47E+03	3.04E+02
F	11	511.11	2.97E+03	76.54	7.23E+01	2.41E+00	2.89E+03	7.66E+01
F	12	591.84	1.23E+03	187.67			1.23E+03	1.88E+02
F	13	609.03	1.27E+02	329.33	7.24E+01	7.37E-01	5.48E+01	3.29E+02
M	14	661.68	8.73E+03	244.47			8.73E+03	2.44E+02
m	15	666.41	1.18E+03	59.40			1.18E+03	5.94E+01
F	16	695.22	1.33E+03	269.93			1.33E+03	2.70E+02
M	17	720.09	3.25E+01	68.13			3.25E+01	6.81E+01
m	18	723.37	4.98E+03	399.69			4.98E+03	4.00E+02
F	19	756.96	1.13E+03	166.85			1.13E+03	1.67E+02
F	20	873.28	2.55E+03	168.59			2.55E+03	1.69E+02
F	21	904.69	3.26E+02	136.35			3.26E+02	1.36E+02
M	22	996.38	2.17E+03	93.93			2.17E+03	9.39E+01
m	23	1004.84	3.61E+03	143.62			3.61E+03	1.44E+02
F	24	1173.26	5.09E+03	164.17			5.09E+03	1.64E+02
F	25	1246.47	1.21E+02	17.36			1.21E+02	1.74E+01
F	26	1274.46	6.11E+03	161.34			6.11E+03	1.61E+02
F	27	1332.51	4.48E+03	126.21			4.48E+03	1.26E+02
F	28	1397.29	1.35E+02	49.96			1.35E+02	5.00E+01
F	29	1408.43	9.64E+01	22.60	2.39E+00	6.49E-01	9.40E+01	2.26E+01
F	30	1493.72	9.61E+01	12.04			9.61E+01	1.20E+01
F	31	1596.20	3.27E+02	48.96			3.27E+02	4.90E+01
F	32	1720.54	5.08E+01	2.12			5.08E+01	2.12E+00
F	33	2504.70	5.98E+01	43.70			5.98E+01	4.37E+01

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A R3
Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	9.04E-03	2.96E-04	0.963
		1332.50	*	99.99	8.64E-03	2.49E-04	0.961
		2505.74		1.00			
RH-106	0.40	511.86	*	20.70	1.48E-02	5.94E-04	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.67	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.81E-03	3.78E-04	0.871
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.64E-03	8.33E-05	0.868
		674.80		3.10			
		695.00	*	99.60	1.91E-03	3.86E-04	0.868
		697.00		29.00			
		720.70	*	53.80	8.99E-05	1.88E-04	0.850
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.75	64.28		9.60			
		87.30	*	45.90	6.47E-03	4.75E-04	miss
CS-137	1.00	661.66	*	85.20	1.23E-02	3.52E-04	miss
EU-154	0.98	42.70	*	20.45	3.14E-02	1.25E-02	miss
		123.07	*	40.40	3.27E-02	1.57E-03	0.955
		247.93	*	6.89	3.45E-02	1.47E-03	0.942
		591.76	*	4.95	2.98E-02	4.57E-03	0.931
		692.42		1.78			
		723.30	*	20.06	3.32E-02	2.69E-03	0.949
		756.80	*	4.52	3.52E-02	5.21E-03	0.928
		873.18	*	12.08	3.19E-02	2.14E-03	0.942

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A R3

Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.98	996.29	*	10.48	3.25E-02	1.45E-03	0.986
		1004.76	*	18.01	3.19E-02	1.32E-03	0.977
		1246.12	*	0.86	2.67E-02	3.86E-03	0.937
		1274.43	*	34.80	3.23E-02	9.18E-04	0.979
		1494.05	*	0.70	2.70E-02	3.41E-03	1.016
		1596.48	*	1.80	3.25E-02	4.88E-03	1.169
EU-155	0.98	43.00	*	18.70	3.43E-02	1.37E-02	1.000
		60.01	*	1.22	6.00E+00	2.41E-01	0.999
		86.55	*	30.70	9.70E-03	6.14E-04	free
		105.31	*	21.10	4.16E-03	6.73E-04	1.000
AM-241	1.00	59.54	*	35.90	2.03E-01	5.81E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.994	8.81E-03	1.90E-04	
RH-106	0.403	1.48E-02	5.94E-04	
SB-126	0.673	1.42E-03	7.33E-05	
Sn-126	0.754	3.71E-03	5.85E-04	
CS-137	1.000	1.23E-02	3.52E-04	
EU-154	0.982	3.24E-02	5.00E-04	
EU-155	0.986	4.15E-03	6.65E-04	
AM-241	1.000	2.03E-01	4.72E-03	

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A R3

Branch

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

Errors quoted at 1.000sigma

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A R3
Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/29/2024 9:49:35AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	74.93	6.65126E-01	30.98	Tol.	RA-226 TH-232
F	5	94.62	3.20008E-01	32.75		
F	9	315.96	1.46395E-01	33.80	Tol.	NP-239
F	13	609.03	3.49413E-02	600.47	Tol.	RA-226
F	21	904.69	2.07820E-01	41.80		
F	28	1397.29	8.58241E-02	37.09	Sum	
F	29	1408.43	5.98723E-02	24.05		
F	32	1720.54	3.23713E-02	4.18	Sum	
F	33	2504.70	3.81138E-02	73.05		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.61	10.44	5.20E-03	5.20E-03	-1.94E-03	2.59E-03
K-40	1460.83	10.67	1.34E-03	1.34E-03	3.37E-04	6.46E-04
MN-54	834.84	99.98	3.60E-04	3.60E-04	9.34E-05	1.78E-04
CO-58	810.78	99.45	4.03E-04	4.03E-04	-1.56E-05	1.99E-04
	863.96	0.68	5.70E-02		5.66E-02	2.82E-02

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A R3

Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CO-58	1674.73		0.52	1.77E-02	4.03E-04	-1.51E-02	8.24E-03
	FE-59	142.65		1.00	1.11E-01	4.76E-04	1.11E-01	5.55E-02
		192.35		3.01	3.16E-02		-2.50E-02	1.57E-02
		334.80		0.27	2.38E-01		2.53E-01	1.19E-01
		1099.25		56.30	5.89E-04		-6.46E-04	2.90E-04
		1291.60		43.70	4.76E-04		-3.21E-04	2.32E-04
+	CO-60	1173.24	*	99.97	4.33E-04	3.60E-04	9.04E-03	2.14E-04
		1332.50	*	99.99	3.60E-04		8.64E-03	1.78E-04
		2505.74		1.00	1.30E-02		1.70E-02	6.06E-03
	SR-85	514.00		96.00	6.07E-04	6.07E-04	-5.14E-05	3.02E-04
		868.60		0.01	4.32E+00		4.18E-01	2.14E+00
	NB-94	702.62		97.90	4.46E-04	4.46E-04	1.85E-04	2.21E-04
		871.09		99.98	5.04E-04		3.76E-03	2.50E-04
	NB-95	765.81		99.81	4.46E-04	4.46E-04	-1.41E-04	2.21E-04
	RU-103	497.05		91.00	6.05E-04	6.05E-04	-2.02E-05	3.01E-04
		610.30		5.76	8.42E-03		-6.23E-03	4.18E-03
+	RH-106	511.86	*	20.70	3.58E-03	3.58E-03	1.48E-02	1.78E-03
		621.92		9.93	4.57E-03		3.20E-03	2.27E-03
		1050.36		1.56	2.15E-02		-1.28E-02	1.06E-02
	AG-108M	79.13		6.60	2.26E-02	5.21E-04	-4.94E-03	1.13E-02
		433.90		90.50	6.33E-04		2.18E-04	3.15E-04
		614.30		89.80	5.21E-04		7.07E-04	2.59E-04
		722.90		90.80	6.87E-04		8.47E-05	3.41E-04
	CD-109	88.03		3.61	3.67E-02	3.67E-02	1.13E-01	1.83E-02
	SB-125	176.31		6.82	1.28E-02	1.80E-03	-1.04E-02	6.37E-03
		380.45		1.52	3.65E-02		1.71E-03	1.82E-02
		427.87		29.55	1.80E-03		2.22E-03	8.95E-04
		463.36		10.48	4.86E-03		2.52E-03	2.42E-03
		600.60		17.76	2.45E-03		-1.76E-03	1.21E-03
		606.71		5.02	8.69E-03		1.30E-02	4.31E-03
		635.95		11.32	3.76E-03		8.43E-04	1.87E-03
		671.44		1.78	2.54E-02		-6.27E-05	1.26E-02
+	SB-126	223.90		1.39	5.34E-02	3.26E-04	4.49E-02	2.66E-02
		278.20		2.40	3.20E-02		-1.96E-02	1.60E-02
		296.50		4.50	1.65E-02		-4.76E-03	8.21E-03
		414.70	*	83.30	8.29E-04		1.81E-03	4.13E-04
		556.30		1.69	3.22E-02		3.52E-02	1.60E-02
		573.90		6.70	7.86E-03		5.39E-03	3.91E-03
		593.20		7.50	7.16E-03		2.20E-02	3.56E-03
		656.30		2.19	3.61E-02		1.37E-02	1.79E-02
		666.50	*	99.60	3.26E-04		1.64E-03	1.61E-04
		674.80		3.10	1.58E-02		1.71E-02	7.82E-03
		695.00	*	99.60	8.12E-04		1.91E-03	4.04E-04
		697.00		29.00	1.87E-03		3.11E-04	9.28E-04
		720.70	*	53.80	6.33E-04		8.99E-05	3.13E-04
		856.80		17.60	2.26E-03		1.94E-03	1.12E-03
		989.60		6.80	7.09E-03		-1.38E-03	3.51E-03
		1213.30		2.39	1.01E-02		-8.31E-03	4.92E-03
+	Sn-126	64.28		9.60	2.31E-02	3.41E-03	-3.69E-03	1.15E-02
		87.30	*	45.90	3.41E-03		6.47E-03	1.71E-03
	I-129	29.70		56.60	7.88E-05	7.88E-05	0.00E+00	0.00E+00
		33.60		10.04	8.89E-02		1.84E+00	4.44E-02
		34.40		2.01	4.46E-01		1.10E+01	2.23E-01

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A R3
Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-129	39.60		7.51	1.01E-01	7.88E-05	9.16E-01	5.05E-02
	CS-134	563.25		8.34	5.89E-03	4.66E-04	1.33E-03	2.93E-03
		569.33		15.37	3.19E-03		2.74E-03	1.58E-03
		604.72		97.62	4.72E-04		-4.05E-04	2.34E-04
		795.86		85.46	4.66E-04		1.74E-04	2.31E-04
		801.95		8.69	4.64E-03		4.21E-03	2.30E-03
+	CS-137	661.66	*	85.20	3.45E-04	3.45E-04	1.23E-02	1.71E-04
	CE-139	165.85		79.89	1.18E-03	1.18E-03	-2.62E-04	5.87E-04
	CE-141	40.70		3.35	2.37E-01	2.36E-03	-8.63E-02	1.18E-01
		145.44		48.29	2.36E-03		1.65E-03	1.18E-03
	CE-144	80.12		1.36	1.09E-01	8.85E-03	-1.21E-02	5.46E-02
		133.51		11.09	8.85E-03		2.68E-03	4.42E-03
	EU-152	121.78		28.58	4.00E-03	8.40E-04	8.97E-04	2.00E-03
		344.28		26.50	2.31E-03		9.47E-04	1.15E-03
		778.90		12.94	3.12E-03		-4.05E-04	1.54E-03
		964.08		14.73	2.38E-03		4.24E-03	1.18E-03
		1085.87		10.24	2.99E-03		6.30E-04	1.47E-03
		1112.07		13.69	2.25E-03		1.48E-03	1.11E-03
		1408.01		21.07	8.40E-04		8.27E-04	4.07E-04
	GD-153	97.43		29.00	4.17E-03	4.17E-03	1.49E-03	2.08E-03
		103.18		21.10	5.50E-03		3.41E-03	2.75E-03
+	EU-154	42.70	*	20.45	4.04E-02	9.63E-04	3.14E-02	2.02E-02
		123.07	*	40.40	3.51E-03		3.27E-02	1.75E-03
		247.93	*	6.89	1.45E-02		3.45E-02	7.23E-03
		591.76	*	4.95	1.15E-02		2.98E-02	5.73E-03
		692.42		1.78	2.73E-02		-8.64E-03	1.36E-02
		723.30	*	20.06	1.51E-03		3.32E-02	7.44E-04
		756.80	*	4.52	9.59E-03		3.52E-02	4.75E-03
		873.18	*	12.08	4.46E-03		3.19E-02	2.21E-03
		996.29	*	10.48	2.35E-03		3.25E-02	1.16E-03
		1004.76	*	18.01	1.42E-03		3.19E-02	6.97E-04
		1246.12	*	0.86	2.84E-02		2.67E-02	1.39E-02
		1274.43	*	34.80	9.63E-04		3.23E-02	4.74E-04
		1494.05	*	0.70	2.22E-02		2.70E-02	1.07E-02
		1596.48	*	1.80	5.86E-03		3.25E-02	2.80E-03
+	EU-155	43.00	*	18.70	4.43E-02	5.12E-03	3.43E-02	2.21E-02
		60.01	*	1.22	3.02E-01		6.00E+00	1.51E-01
		86.55	*	30.70	5.12E-03		9.70E-03	2.56E-03
		105.31	*	21.10	5.86E-03		4.16E-03	2.93E-03
	HG-203	72.87		6.30	2.96E-02	8.90E-04	3.04E-02	1.48E-02
		279.20		81.46	8.90E-04		-3.09E-04	4.44E-04
	BI-207	569.15		97.80	4.87E-04	4.53E-04	3.55E-04	2.42E-04
		1063.10		74.90	4.53E-04		5.28E-05	2.23E-04
	PB-210	46.54		4.25	1.05E-01	1.05E-01	5.51E-05	5.23E-02
	RA-226	74.81		6.44	2.51E-02	6.27E-04	4.57E-02	1.25E-02
		77.11		10.80	1.43E-02		8.94E-03	7.14E-03
		87.30		4.84	2.74E-02		6.78E-02	1.37E-02
		186.21		3.59	2.34E-02		2.26E-02	1.17E-02
		242.00		7.43	9.43E-03		2.27E-03	4.70E-03
		295.22		19.30	3.25E-03		-8.69E-04	1.62E-03
		351.93		37.60	1.55E-03		-7.47E-04	7.72E-04
		609.31		46.10	9.36E-04		1.26E-03	4.65E-04
		768.36		4.94	7.83E-03		3.06E-03	3.88E-03

Analysis Report for 24-2319 VSM-6.0M-S1-CST-d-A R3

Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	1120.29		15.10	1.97E-03	6.27E-04	-1.29E-03	9.70E-04
		1238.11		5.79	3.69E-03		3.00E-03	1.80E-03
		1764.49		15.40	6.27E-04		7.20E-04	2.94E-04
	PA-231	283.70		1.59	4.09E-02	2.61E-02	-7.03E-03	2.04E-02
		300.07		2.38	2.61E-02		-1.40E-02	1.30E-02
		302.67		1.71	3.61E-02		-2.62E-03	1.80E-02
		330.07		1.32	4.41E-02		-1.92E-02	2.20E-02
	TH-232	74.81		11.62	1.39E-02	2.13E-04	2.53E-02	6.95E-03
		77.11		17.50	8.83E-03		5.52E-03	4.41E-03
		87.30		7.80	1.70E-02		4.21E-02	8.48E-03
		238.63		43.30	1.63E-03		-5.30E-04	8.14E-04
		338.32		11.30	5.28E-03		9.85E-04	2.63E-03
		583.19		30.37	1.46E-03		1.03E-03	7.24E-04
		727.33		6.58	8.64E-03		2.75E-03	4.29E-03
		911.21		26.60	1.30E-03		-5.42E-04	6.42E-04
		968.97		16.20	2.00E-03		-1.03E-03	9.86E-04
		2614.53		35.64	2.13E-04		6.38E-05	9.44E-05
	U-235	143.76		10.96	9.07E-03	1.47E-03	-7.42E-03	4.53E-03
		185.71		57.20	1.47E-03		1.60E-03	7.34E-04
		205.31		5.01	1.57E-02		1.12E-02	7.82E-03
	U-238	63.29		3.70	6.46E-02	2.91E-02	1.06E-02	3.23E-02
		92.51		4.23	2.91E-02		1.07E-03	1.46E-02
		112.81		0.21	5.04E-01		1.56E-01	2.52E-01
		742.81		0.11	3.52E-01		-3.21E-01	1.74E-01
		766.28		0.32	1.22E-01		-8.98E-02	6.03E-02
		1001.03		0.84	7.66E-02		1.06E+00	3.80E-02
	NP-239	99.60		12.80	6.76E-02	3.19E-02	2.03E-02	3.38E-02
		103.80		20.40	4.13E-02		-3.91E-03	2.06E-02
		106.10		26.40	3.19E-02		6.53E-02	1.59E-02
		116.90		7.61	1.03E-01		4.49E-02	5.13E-02
		228.20		11.20	4.95E-02		-2.05E-02	2.47E-02
		277.60		14.50	3.45E-02		2.42E-02	1.72E-02
		315.90		1.60	2.76E-01		3.07E-01	1.37E-01
		334.30		2.06	1.98E-01		6.91E-02	9.86E-02
+	AM-241	59.54	*	35.90	1.02E-02	1.02E-02	2.03E-01	5.10E-03

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

Apex-Gamma

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2320 VSM-6.0M-S2-CST-A Q3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 6:48:18AM
Procedure	: Q3_gsv02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: Q3_gsv02mlw
Live Time	: 2934.7 seconds
Real Time	: 3107.0 seconds
Dead Time	: 5.54 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: Q3_gsv2ml_R717
Sample Number	: 567851
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 7:40:10AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.87	137.03	0.2990	3.53
2	59.59	190.37	0.0562	114.55
3	74.81	238.87	0.3487	3.47
4	86.83	276.78	0.2259	6.11
5	123.13	392.84	0.0734	64.76
6	247.93	790.77	0.1251	20.38
7	344.43	1098.28	0.2423	5.16
8	414.89	1323.01	0.1418	14.45
9	511.18	1629.28	0.1325	9.62
10	582.05	1855.54	0.2329	5.06
11	591.90	1887.17	0.1155	19.67
12	661.82	2110.17	0.0619	64.40
13	666.49	2125.23	0.1277	14.84
14	692.47	2207.19	0.2619	5.22
15	695.20	2216.71	0.1297	16.09
16	707.31	2255.13	0.3186	3.09
17	723.46	2306.61	0.0715	46.67
18	756.96	2413.45	0.1157	17.53
19	779.66	2485.49	0.2532	4.05
20	815.45	2600.25	0.2439	4.82
21	846.29	2696.42	0.2369	4.12
22	873.40	2784.61	0.0852	30.92
23	893.56	2848.27	0.2741	3.11
24	904.38	2883.27	0.1887	6.81
25	996.51	3177.01	0.0854	30.03
26	1004.98	3204.05	0.0720	41.44
27	1112.07	3544.71	0.2808	3.31
28	1141.40	3638.80	0.2667	3.72
29	1173.50	3741.19	0.0663	45.86
30	1246.42	3973.50	0.1896	5.33
31	1274.74	4063.86	0.0619	51.98
32	1332.83	4249.07	0.0668	44.08
33	1381.61	4404.38	0.2861	3.39
34	1397.65	4455.80	0.1793	6.07
35	1408.49	4490.08	0.1782	6.50
36	1461.54	4658.03	0.2648	3.35
37	1494.32	4763.23	0.1849	5.73
38	1596.88	5090.62	0.1298	11.04
39	1720.02	5482.91	0.2173	3.99
40	2506.10	7988.25	0.1981	4.28

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 7:40:10AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	1	42.87	129	144	137.03	1.73E+03	1238.66	3.05E+05	1.46
F	2	59.59	182	198	190.32	1.40E+05	1875.55	4.20E+05	1.20
	3	74.81	235	247	238.87	9.67E+02	1137.04	3.03E+05	0.82
F	4	86.83	271	285	277.17	6.93E+03	465.80	3.16E+05	1.53
F	5	123.13	386	401	392.88	4.81E+04	415.25	2.11E+05	1.29
F	6	247.93	783	799	790.75	6.43E+03	740.11	4.82E+04	1.38
F	7	344.43	1092	1104	1098.37	8.18E+02	115.34	1.62E+04	1.30
F	8	414.89	1315	1330	1323.00	2.10E+03	101.78	1.28E+04	1.40
F	9	511.18	1617	1641	1629.92	5.87E+03	104.35	1.15E+04	2.84
F	10	582.05	1846	1864	1855.85	6.32E+02	292.72	5.76E+03	2.00
F	11	591.90	1881	1896	1887.26	2.44E+03	76.32	4.93E+03	1.59
M	12	661.82	2097	2135	2110.12	1.60E+04	348.30	4.33E+03	1.72
m	13	666.49	2097	2135	2125.01	1.98E+03	77.78	4.13E+03	1.72
M	14	692.47	2199	2229	2207.84	7.50E+02	156.20	3.37E+03	1.70
m	15	695.20	2199	2229	2216.53	1.96E+03	306.34	4.33E+03	1.70
	16	707.31	2251	2260	2255.13	3.12E+01	82.67	1.92E+03	0.96
F	17	723.46	2296	2318	2306.62	9.10E+03	297.97	4.44E+03	1.74
F	18	756.96	2402	2424	2413.39	1.94E+03	234.60	3.79E+03	1.77
F	19	779.66	2481	2495	2485.76	2.50E+02	44.40	2.10E+03	1.62
F	20	815.45	2592	2609	2599.84	1.44E+02	31.87	2.44E+03	0.70
F	21	846.29	2685	2705	2698.15	2.94E+02	8.90	2.51E+03	0.57
F	22	873.40	2775	2798	2784.56	4.88E+03	234.60	2.43E+03	1.95
F	23	893.56	2841	2853	2848.81	1.83E+02	36.37	1.33E+03	1.72
F	24	904.38	2875	2891	2883.30	3.72E+02	91.45	1.68E+03	1.56
F	25	996.51	3162	3186	3176.99	4.23E+03	193.85	1.87E+03	1.97
F	26	1004.98	3189	3214	3203.96	7.03E+03	223.11	2.01E+03	1.91
F	27	1112.07	3540	3554	3545.33	1.69E+02	31.10	7.49E+02	2.31
	28	1141.40	3632	3647	3638.80	4.21E+01	57.16	6.45E+02	0.51
F	29	1173.50	3729	3754	3741.13	9.40E+03	207.34	9.33E+02	2.15
F	30	1246.42	3962	3982	3973.54	2.33E+02	23.00	4.83E+02	2.08
F	31	1274.74	4048	4079	4063.80	1.16E+04	219.55	6.15E+02	2.17
F	32	1332.83	4233	4264	4248.96	8.55E+03	181.18	5.11E+02	2.19
F	33	1381.61	4397	4410	4404.44	2.75E+01	10.70	1.34E+02	0.99
F	34	1397.65	4439	4463	4455.56	1.93E+02	54.19	2.01E+02	2.10
F	35	1408.49	4479	4498	4490.13	2.08E+02	58.83	1.85E+02	1.85
F	36	1461.54	4646	4664	4659.22	7.45E+01	2.63	1.33E+02	0.67
F	37	1494.32	4753	4774	4763.69	1.52E+02	15.83	1.65E+02	1.99
F	38	1596.88	5079	5102	5090.58	5.24E+02	23.44	1.24E+02	2.22
F	39	1720.02	5474	5492	5483.03	8.00E+01	31.97	1.39E+01	2.56
F	40	2506.10	7980	7997	7988.23	7.85E+01	20.81	8.21E+00	3.09

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 7:40:10AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567379.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	42.87	1.73E+03	1238.66			1.73E+03	1.24E+03
F	2	59.59	1.40E+05	1875.55			1.40E+05	1.88E+03
	3	74.81	9.67E+02	1137.04	1.13E+02	5.96E+00	8.54E+02	1.14E+03
F	4	86.83	6.93E+03	465.80	2.13E+01	1.43E+00	6.91E+03	4.66E+02
F	5	123.13	4.81E+04	415.25			4.81E+04	4.15E+02
F	6	247.93	6.43E+03	740.11			6.43E+03	7.40E+02
F	7	344.43	8.18E+02	115.34			8.18E+02	1.15E+02
F	8	414.89	2.10E+03	101.78			2.10E+03	1.02E+02
F	9	511.18	5.87E+03	104.35	1.15E+02	4.84E+00	5.76E+03	1.04E+02
F	10	582.05	6.32E+02	292.72			6.32E+02	2.93E+02
F	11	591.90	2.44E+03	76.32			2.44E+03	7.63E+01
M	12	661.82	1.60E+04	348.30			1.60E+04	3.48E+02
m	13	666.49	1.98E+03	77.78			1.98E+03	7.78E+01
M	14	692.47	7.50E+02	156.20			7.50E+02	1.56E+02
m	15	695.20	1.96E+03	306.34			1.96E+03	3.06E+02
	16	707.31	3.12E+01	82.67			3.12E+01	8.27E+01
F	17	723.46	9.10E+03	297.97			9.10E+03	2.98E+02
F	18	756.96	1.94E+03	234.60			1.94E+03	2.35E+02
F	19	779.66	2.50E+02	44.40			2.50E+02	4.44E+01
F	20	815.45	1.44E+02	31.87			1.44E+02	3.19E+01
F	21	846.29	2.94E+02	8.90			2.94E+02	8.90E+00
F	22	873.40	4.88E+03	234.60			4.88E+03	2.35E+02
F	23	893.56	1.83E+02	36.37			1.83E+02	3.64E+01
F	24	904.38	3.72E+02	91.45			3.72E+02	9.14E+01
F	25	996.51	4.23E+03	193.85			4.23E+03	1.94E+02
F	26	1004.98	7.03E+03	223.11			7.03E+03	2.23E+02
F	27	1112.07	1.69E+02	31.10			1.69E+02	3.11E+01
	28	1141.40	4.21E+01	57.16			4.21E+01	5.72E+01
F	29	1173.50	9.40E+03	207.34			9.40E+03	2.07E+02
F	30	1246.42	2.33E+02	23.00			2.33E+02	2.30E+01
F	31	1274.74	1.16E+04	219.55			1.16E+04	2.20E+02
F	32	1332.83	8.55E+03	181.18			8.55E+03	1.81E+02
F	33	1381.61	2.75E+01	10.70			2.75E+01	1.07E+01

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 34	1397.65	1.93E+02	54.19			1.93E+02	5.42E+01
F 35	1408.49	2.08E+02	58.83	3.18E+00	1.16E+00	2.05E+02	5.88E+01
F 36	1461.54	7.45E+01	2.63	8.86E+01	2.28E+00	-1.40E+01	3.48E+00
F 37	1494.32	1.52E+02	15.83			1.52E+02	1.58E+01
F 38	1596.88	5.24E+02	23.44			5.24E+02	2.34E+01
F 39	1720.02	8.00E+01	31.97			8.00E+01	3.20E+01
F 40	2506.10	7.85E+01	20.81			7.85E+01	2.08E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
NA-22	0.99	511.00	*	179.91	1.85E-03	3.47E-05	1.000
		1274.54	*	99.94	1.29E-02	2.53E-04	0.924
K-40	0.92	1460.82	*	10.66	-1.47E-04	3.65E-05	miss
Co-56	0.22	846.77	*	99.94	2.49E-04	8.05E-06	0.952
		977.37		1.42			
		1037.84		14.05			
		1175.10		2.25			
		1238.29		66.46			
		1360.21		4.28			
		1771.36		15.41			
		2015.20		3.02			
		2034.79		7.77			
		2598.50		16.97			
CO-60	0.98	1173.23	*	99.85	9.49E-03	2.14E-04	0.962
		1332.49	*	99.98	9.34E-03	2.05E-04	0.962
CU-64	0.92	511.00	*	35.00	9.54E-02	1.96E-03	1.000
		1345.77		0.47			
ZR-95	0.95	724.19	*	44.27	1.50E-02	5.04E-04	free
		756.72	*	54.38	2.68E-03	3.25E-04	free
Te-129m	0.92	695.88	*	3.00	4.73E-02	1.20E-02	free
CS-137	0.99	661.66	*	85.10	1.27E-02	2.87E-04	miss
EU-152	0.20	121.78		28.53			

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-152	0.20	344.28	*	26.59	1.44E-03	2.04E-04	0.971
		778.90	*	12.93	1.52E-03	2.70E-04	0.959
		867.37	@	4.23			
		964.08	@	14.51			
		1085.87		10.11			
		1112.07	*	13.67	1.18E-03	2.17E-04	0.981
		1408.01	*	20.87	1.10E-03	3.15E-04	0.974
EU-154	0.99	42.70	*	20.45	1.34E-02	9.64E-03	miss
		123.07	*	40.40	3.47E-02	5.37E-04	0.956
		247.93	*	6.89	3.72E-02	4.31E-03	0.943
		591.76	*	4.95	3.36E-02	1.12E-03	0.932
		692.42	*	1.78	3.11E-02	6.49E-03	0.948
		723.30	*	20.06	3.43E-02	1.19E-03	0.951
		756.80	*	4.52	3.41E-02	4.15E-03	0.928
		873.18	*	12.08	3.45E-02	1.71E-03	0.944
		996.29	*	10.48	3.58E-02	1.69E-03	0.986
		1004.76	*	18.01	3.51E-02	1.18E-03	0.977
		1246.12	*	0.86	2.93E-02	2.92E-03	0.936
		1274.43	*	34.80	3.49E-02	7.50E-04	0.979
		1494.05	*	0.70	2.44E-02	2.55E-03	1.013
		1596.48	*	1.80	2.99E-02	1.39E-03	1.155
NP-237	0.98	86.48	*	12.20	1.71E-02	1.23E-03	1.000
AM-241	1.00	59.54	*	35.90	2.17E-01	4.60E-03	free
AM-243	0.99	43.53	*	5.90	4.65E-02	3.34E-02	free
		74.66	*	67.20	4.55E-04	6.06E-04	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

	Nuclide Name		Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	NA-22		0.995	2.90E-04	2.78E-04	
	K-40		0.920	-1.47E-04	3.65E-05	
	Co-56		0.229	2.49E-04	8.05E-06	
	CO-60		0.985	9.41E-03	1.48E-04	
	CU-64		0.928	8.05E-02	1.44E-02	
X	GA-66		0.562			
	ZR-95		0.958	1.48E-05	2.78E-04	
X	RU-106		0.928			
	Te-129m		0.928	4.73E-02	1.20E-02	
	CS-137		0.996	1.27E-02	2.87E-04	
	EU-152	@	0.200	1.33E-03	1.20E-04	
	EU-154		0.994	3.41E-02	3.17E-04	
X	EU-155		0.418			
	NP-237		0.981	1.71E-02	1.23E-03	
	AM-241		1.000	2.17E-01	4.60E-03	
	AM-243		0.991	4.32E-04	6.06E-04	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 7:40:10AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	8	414.89	7.14662E-01	4.85	Tol.	RH-102M
F	10	582.05	2.15215E-01	46.35		
m	13	666.49	6.73555E-01	3.93	Sum	
	16	707.31	1.06192E-02	265.26	Tol.	AG-110M
						I-133
F	20	815.45	4.90183E-02	22.16	Sum	
F	23	893.56	6.24640E-02	19.84		
F	24	904.38	1.26928E-01	24.55		
	28	1141.40	1.43586E-02	135.66	Tol.	KR-88
						SR-92
F	33	1381.61	9.37826E-03	38.86	Tol.	RB-88
F	34	1397.65	6.59168E-02	28.01	Sum	
F	39	1720.02	2.72456E-02	39.98	Sum	
F	40	2506.10	2.67364E-02	26.53	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.60		10.44	3.47E-03	3.47E-03	3.40E-03	1.73E-03
+	NA-22	511.00	*	179.91	3.07E-04	2.74E-04	1.85E-03	1.53E-04
		1274.54	*	99.94	2.74E-04		1.29E-02	1.35E-04
	NA-24	1368.63		99.99	8.19E-04	8.19E-04	-9.98E-04	3.99E-04
>		2754.01		99.87	0.00E+00		0.00E+00	0.00E+00
	AL-26	1129.67		2.50	8.54E-03	4.11E-05	1.99E-02	4.22E-03
		1808.65		99.76	4.11E-05		-1.73E-05	1.88E-05
+	K-40	1460.82	*	10.66	1.04E-03	1.04E-03	-1.47E-04	5.07E-04
	K-42	312.60		0.34	1.38E+00	5.01E-03	1.00E+00	6.86E-01
		1524.60		18.08	5.01E-03		9.39E-04	2.41E-03
	Sc-44	1157.02		99.90	2.90E-01	2.90E-01	-9.21E-02	1.43E-01
		1499.46		0.91	2.05E+01		-2.25E+00	1.00E+01
	Sc-44m	271.24		86.74	9.05E-04	9.05E-04	7.59E-04	4.52E-04
		1001.83		1.20	7.15E-02		-1.47E-03	3.56E-02
		1126.06		1.20	3.17E-02		3.42E-02	1.57E-02
		1157.00		1.20	2.70E-02		-8.57E-03	1.33E-02
	TI-44	67.87		93.00	1.63E-03	1.22E-03	-5.89E-04	8.17E-04
		78.32		96.40	1.22E-03		-2.25E-05	6.08E-04
	SC-46	889.28		99.98	2.64E-04	2.25E-04	-2.74E-04	1.31E-04
		1120.55		99.99	2.25E-04		-4.54E-04	1.11E-04
	CA-47	489.23		5.90	8.22E-03	2.64E-04	2.40E-03	4.09E-03
		807.86		5.90	5.96E-03		-4.92E-03	2.96E-03
		1297.09		67.00	2.64E-04		9.01E-06	1.29E-04
	SC-47	159.38		68.30	1.34E-03	1.34E-03	-4.45E-04	6.67E-04
	SC-48	175.36		7.47	1.57E-02	2.47E-04	1.50E-02	7.81E-03
		983.53		100.00	4.48E-04		-8.44E-05	2.22E-04
		1037.52		97.50	4.56E-04		5.02E-04	2.26E-04
		1312.12		100.00	2.47E-04		-1.93E-04	1.21E-04
	V-48	944.13		7.87	3.44E-03	1.45E-04	1.07E-03	1.70E-03
		983.53		99.98	2.57E-04		-4.85E-05	1.27E-04
		1312.11		98.20	1.45E-04		-1.13E-04	7.08E-05
		2240.40		2.33	1.59E-03		-1.65E-03	6.96E-04
	CR-51	320.08		9.91	4.48E-03	4.48E-03	2.02E-04	2.24E-03
	Fe-52	168.69		99.20	2.11E-02	2.11E-02	-1.96E-02	1.06E-02
		377.75		1.64	8.20E-01		-4.92E-01	4.09E-01
	Mn-52	744.23		90.00	4.12E-04	1.30E-04	2.81E-04	2.04E-04
		848.18		3.32	1.05E-02		4.30E-03	5.23E-03
		935.54		94.50	3.46E-04		1.73E-04	1.71E-04
		1246.28		4.21	5.26E-03		8.72E-03	2.59E-03
		1333.65		5.07	1.24E-02		2.37E-01	6.16E-03
		1434.09		100.00	1.30E-04		-9.55E-05	6.30E-05
	MN-54	834.85		99.98	2.50E-04	2.50E-04	6.25E-05	1.24E-04
	Co-55	411.50		1.07	1.94E-01	1.72E-03	1.06E-01	9.65E-02
		477.20		20.20	9.32E-03		2.82E-03	4.64E-03
		803.70		1.87	7.36E-02		4.29E-02	3.65E-02
		931.10		75.00	1.72E-03		7.90E-04	8.52E-04
		1316.60		7.10	9.40E-03		-7.51E-03	4.59E-03
		1370.00		2.90	2.02E-02		-7.37E-03	9.85E-03
		1408.50		16.90	4.14E-03		8.47E-03	2.02E-03
+	Co-56	846.77	*	99.94	3.51E-04	2.49E-04	2.49E-04	1.74E-04
		977.37		1.42	1.77E-02		-1.49E-02	8.76E-03
		1037.84		14.05	1.75E-03		2.31E-03	8.64E-04
		1175.10		2.25	2.31E-02		4.46E-01	1.15E-02

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Co-56	1238.29		66.46	2.49E-04	2.49E-04	2.59E-04	1.22E-04
		1360.21		4.28	2.89E-03		1.61E-03	1.41E-03
		1771.36		15.41	4.65E-04		4.19E-04	2.21E-04
		2015.20		3.02	1.27E-03		6.46E-04	5.71E-04
		2034.79		7.77	4.64E-04		1.86E-04	2.06E-04
>		2598.50		16.97	0.00E+00		0.00E+00	0.00E+00
	MN-56	846.76		98.85	2.27E+01	1.38E+01	2.47E+01	1.13E+01
		1810.73		26.90	1.38E+01		1.74E+01	6.32E+00
		2113.09		14.20	2.21E+01		-3.06E+01	9.83E+00
	Ni-56	158.38		98.80	7.88E-04	3.73E-04	5.77E-04	3.93E-04
		269.50		36.50	1.60E-03		2.71E-04	8.00E-04
		480.44		36.50	1.18E-03		-5.30E-05	5.86E-04
		749.50		49.50	6.78E-04		6.64E-05	3.37E-04
		811.85		86.00	3.73E-04		-8.03E-05	1.85E-04
		1561.80		14.00	6.71E-04		8.37E-05	3.22E-04
	CO-57	122.06		85.60	9.40E-04	9.40E-04	-4.63E-05	4.70E-04
		136.47		10.68	6.59E-03		1.77E-03	3.29E-03
	NI-57	127.16		16.70	1.02E-02	3.05E-04	3.52E-03	5.10E-03
		1377.63		81.70	3.05E-04		1.96E-05	1.48E-04
		1757.55		5.75	2.49E-03		-3.21E-03	1.18E-03
		1919.52		12.30	8.18E-04		1.05E-03	3.76E-04
	CO-58	810.76		99.45	2.72E-04	2.72E-04	-4.36E-05	1.35E-04
		863.96		0.69	3.86E-02		3.26E-02	1.91E-02
		1674.73		0.52	1.21E-02		5.69E-03	5.74E-03
	FE-59	142.65		1.02	6.87E-02	3.22E-04	7.45E-02	3.43E-02
		192.34		3.08	1.95E-02		-1.99E-02	9.73E-03
		1099.24		56.50	3.81E-04		-2.09E-05	1.88E-04
		1291.59		43.20	3.22E-04		-1.01E-04	1.58E-04
+	CO-60	1173.23	*	99.85	2.80E-04	2.46E-04	9.49E-03	1.39E-04
		1332.49	*	99.98	2.46E-04		9.34E-03	1.22E-04
+	CU-64	511.00	*	35.00	1.58E-02	1.58E-02	9.54E-02	7.88E-03
		1345.77		0.47	2.57E-01		1.95E-03	1.25E-01
	NI-65	366.27		4.81	9.78E+02	4.26E+01	1.45E+03	4.88E+02
		1115.53		15.43	1.57E+02		2.67E+02	7.77E+01
		1481.84		23.59	4.26E+01		-6.06E+01	2.06E+01
	ZN-65	1115.54		50.04	4.28E-04	4.28E-04	7.26E-04	2.11E-04
	GA-66	511.00	*	114.00	1.06E-02	1.06E-02	6.39E-02	5.28E-03
		833.53		5.90	9.20E-02		-8.34E-02	4.56E-02
		1039.22		37.00	1.35E-02		1.90E-02	6.67E-03
		1333.11	*	1.17	4.43E-01		1.68E+01	2.19E-01
		1918.33		1.99	4.70E-02		-3.70E-02	2.15E-02
		2189.62		5.30	1.56E-02		5.64E-03	6.99E-03
>		2751.83		22.70	0.00E+00		0.00E+00	0.00E+00
	CU-67	91.27		7.00	2.11E-02	1.90E-03	1.80E-02	1.05E-02
		93.31		16.10	8.90E-03		-5.91E-03	4.45E-03
		184.58		48.70	1.90E-03		1.64E-03	9.49E-04
		300.22		0.80	8.93E-02		-2.64E-02	4.45E-02
		393.53		0.22	2.80E-01		2.03E-01	1.40E-01
	GA-67	91.26		3.11	4.41E-02	3.39E-03	3.78E-02	2.21E-02
		93.31		38.81	3.39E-03		-2.25E-03	1.69E-03
		184.58		21.41	3.92E-03		3.38E-03	1.96E-03
		208.95		2.46	3.56E-02		-3.05E-02	1.78E-02
		300.22		16.64	3.96E-03		-1.17E-03	1.98E-03

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	GA-67	393.53	4.56	1.11E-02	3.39E-03	8.03E-03	5.52E-03
	ZN-69m	438.63	94.85	3.29E-03	3.29E-03	-3.45E-03	1.64E-03
	GA-72	629.97	26.13	9.71E-03	1.28E-03	6.50E-03	4.83E-03
		834.13	95.45	2.17E-03		-5.69E-04	1.08E-03
		894.33	10.14	2.13E-02		1.38E-02	1.05E-02
		1050.79	6.99	2.78E-02		1.27E-02	1.38E-02
		2201.59	26.87	1.28E-03		6.91E-05	5.78E-04
		2491.03	7.73	3.27E-03		-7.74E-04	1.40E-03
		2507.72	13.33	5.21E-03		1.09E-02	2.46E-03
	Zn-72	144.70	82.78	1.53E-03	1.53E-03	-4.65E-05	7.64E-04
		191.50	9.35	1.13E-02		-6.13E-03	5.64E-03
	SE-75	121.12	17.20	4.95E-03	8.72E-04	1.35E-04	2.47E-03
		136.00	58.50	1.27E-03		1.22E-03	6.34E-04
		264.66	58.90	8.72E-04		7.34E-04	4.35E-04
		279.54	25.02	1.95E-03		9.79E-04	9.74E-04
		400.66	11.41	2.55E-03		-3.34E-03	1.27E-03
	BR-83	529.59	1.30	5.82E+03	5.82E+03	-1.38E+03	2.90E+03
@	BR-84	604.80	1.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		736.50	1.29	1.00E+20		1.00E+20	1.00E+20
@		802.20	6.00	1.00E+20		1.00E+20	1.00E+20
@		881.60	42.00	1.00E+20		1.00E+20	1.00E+20
@		987.30	0.79	1.00E+20		1.00E+20	1.00E+20
@		1015.90	6.20	1.00E+20		1.00E+20	1.00E+20
@		1213.30	2.60	1.00E+20		1.00E+20	1.00E+20
@		1463.80	2.00	1.00E+20		1.00E+20	1.00E+20
@		1741.20	1.60	1.00E+20		1.00E+20	1.00E+20
@		1877.50	1.12	1.00E+20		1.00E+20	1.00E+20
@		1897.60	14.60	1.00E+20		1.00E+20	1.00E+20
@		2029.60	2.10	1.00E+20		1.00E+20	1.00E+20
@		2200.70	1.16	1.00E+20		1.00E+20	1.00E+20
@		2484.10	6.70	1.00E+20		1.00E+20	1.00E+20
>@		2824.10	1.12	0.00E+00		0.00E+00	0.00E+00
	KR-85m	151.20	75.20	5.99E-01	5.99E-01	1.72E-01	2.99E-01
		304.87	14.00	2.15E+00		-6.21E-01	1.07E+00
	Y-87	388.53	82.20	6.79E-04	5.74E-04	-2.53E-04	3.38E-04
		484.80	89.80	5.74E-04		-3.32E-04	2.86E-04
	KR-88	165.98	3.10	6.85E+02	3.23E+00	-8.65E+00	3.42E+02
		196.30	26.00	7.01E+01		-1.91E+01	3.50E+01
		362.23	2.25	5.53E+02		2.96E+02	2.76E+02
		471.80	0.73	1.60E+03		-3.94E+02	7.97E+02
		834.83	13.00	6.25E+01		1.57E+01	3.10E+01
		985.78	1.31	5.87E+02		-8.32E+01	2.91E+02
		1141.33	1.28	4.83E+02		2.02E+02	2.38E+02
		1179.51	1.00	1.49E+03		3.01E+02	7.41E+02
		1250.67	1.12	4.79E+02		-1.11E+02	2.36E+02
		1369.50	1.48	2.46E+02		-1.56E+02	1.20E+02
		1518.39	2.15	1.21E+02		-8.50E+01	5.79E+01
		1529.77	10.90	2.58E+01		5.19E+00	1.24E+01
		2029.84	4.53	2.58E+01		2.32E+01	1.15E+01
		2035.41	3.74	3.00E+01		2.62E+01	1.33E+01
		2195.84	13.20	9.83E+00		-4.39E+01	4.41E+00
		2231.77	3.39	3.59E+01		-7.94E+00	1.61E+01
		2352.08	0.73	1.59E+02		3.21E+01	7.00E+01

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	KR-88	2392.11	34.60	3.23E+00	3.23E+00	1.08E-01	1.42E+00
	RB-88	898.03	14.40	5.87E+01	5.86E+00	6.73E+00	2.91E+01
		1382.45	0.78	4.67E+02		1.09E+02	2.28E+02
		1836.00	22.81	5.86E+00		4.91E+00	2.68E+00
>		2677.89	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-88	898.04	93.70	2.88E-04	4.33E-05	3.30E-05	1.43E-04
		1836.06	99.20	4.33E-05		1.73E-05	1.98E-05
@	RB-89	272.42	1.53	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		657.77	10.80	1.00E+20		1.00E+20	1.00E+20
@		947.73	10.00	1.00E+20		1.00E+20	1.00E+20
@		1031.92	63.00	1.00E+20		1.00E+20	1.00E+20
@		1248.14	46.00	1.00E+20		1.00E+20	1.00E+20
@		1538.07	2.77	1.00E+20		1.00E+20	1.00E+20
@		2007.50	2.58	1.00E+20		1.00E+20	1.00E+20
@		2195.92	14.50	1.00E+20		1.00E+20	1.00E+20
>@		2570.20	10.70	0.00E+00		0.00E+00	0.00E+00
>@		2707.26	2.20	0.00E+00		0.00E+00	0.00E+00
	SR-89	908.96	0.01	2.75E+00	2.75E+00	1.15E+00	1.36E+00
	Sr-91	652.90	11.35	5.33E-02	1.42E-02	1.82E-02	2.65E-02
		749.80	23.70	2.42E-02		1.10E-02	1.20E-02
		925.80	3.85	1.29E-01		6.66E-04	6.41E-02
		1024.30	33.50	1.42E-02		9.77E-04	7.01E-03
	Y-91	1204.77	0.26	6.12E-02	6.12E-02	-5.62E-02	3.01E-02
	NB-92M	912.60	1.78	1.61E-02	2.77E-04	-4.27E-03	7.95E-03
		934.44	99.15	2.77E-04		3.48E-05	1.37E-04
		1847.50	0.85	5.36E-03		2.42E-03	2.46E-03
	SR-92	241.56	2.93	1.30E+03	9.09E+00	2.74E+02	6.50E+02
		430.49	3.28	8.44E+02		5.06E+02	4.20E+02
		953.31	3.52	5.01E+02		4.17E+02	2.48E+02
		1142.35	2.79	5.04E+02		8.13E+01	2.48E+02
		1383.93	90.00	9.09E+00		8.38E+00	4.43E+00
	MO-93M	114.04	0.68	8.21E+00	6.50E-03	5.55E-01	4.10E+00
		263.05	57.40	6.07E-02		3.37E-03	3.03E-02
		684.69	99.90	2.05E-02		4.18E-05	1.02E-02
		1363.02	0.81	1.04E+00		1.17E+00	5.08E-01
		1477.14	99.10	6.50E-03		4.05E-04	3.14E-03
@	SR-93	168.50	18.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		260.12	7.40	1.00E+20		1.00E+20	1.00E+20
@		346.49	3.28	1.00E+20		1.00E+20	1.00E+20
@		446.20	2.36	1.00E+20		1.00E+20	1.00E+20
@		590.24	68.00	1.00E+20		1.00E+20	1.00E+20
@		710.31	21.80	1.00E+20		1.00E+20	1.00E+20
@		875.73	24.50	1.00E+20		1.00E+20	1.00E+20
@		888.13	22.10	1.00E+20		1.00E+20	1.00E+20
@		1040.63	3.20	1.00E+20		1.00E+20	1.00E+20
@		1094.00	1.76	1.00E+20		1.00E+20	1.00E+20
@		1122.48	4.00	1.00E+20		1.00E+20	1.00E+20
@		1215.48	2.50	1.00E+20		1.00E+20	1.00E+20
@		1269.47	7.10	1.00E+20		1.00E+20	1.00E+20
@		1321.24	2.61	1.00E+20		1.00E+20	1.00E+20
@		1387.11	3.50	1.00E+20		1.00E+20	1.00E+20
@		1694.07	2.58	1.00E+20		1.00E+20	1.00E+20
@		1699.06	3.30	1.00E+20		1.00E+20	1.00E+20

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	SR-93	2543.84		3.03	1.00E+20	1.00E+20	1.00E+20	1.00E+20
>@		2688.65		2.13	0.00E+00		0.00E+00	0.00E+00
	Y-93	266.90		7.40	1.15E-01	4.88E-02	-5.96E-02	5.75E-02
		947.10		2.10	2.03E-01		-2.68E-01	1.00E-01
		1917.80		1.57	4.88E-02		2.17E-03	2.24E-02
	NB-94	702.65		99.81	2.93E-04	2.93E-04	3.37E-05	1.46E-04
		871.09		99.89	3.74E-04		1.68E-05	1.86E-04
@	Y-94	381.60		2.02	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		550.90		4.90	1.00E+20		1.00E+20	1.00E+20
@		752.60		1.40	1.00E+20		1.00E+20	1.00E+20
@		918.74		56.00	1.00E+20		1.00E+20	1.00E+20
@		1138.90		6.00	1.00E+20		1.00E+20	1.00E+20
@		1671.40		2.50	1.00E+20		1.00E+20	1.00E+20
@		2140.60		0.95	1.00E+20		1.00E+20	1.00E+20
	NB-95	765.80		99.81	2.79E-04	2.79E-04	3.98E-05	1.39E-04
+	ZR-95	724.19	*	44.27	9.46E-04	7.32E-04	1.50E-02	4.71E-04
		756.72	*	54.38	7.32E-04		2.68E-03	3.64E-04
	NB-96	219.08		2.97	6.52E-02	9.83E-04	2.89E-02	3.25E-02
		241.38		3.50	5.17E-02		1.09E-02	2.58E-02
		350.05		1.54	9.42E-02		7.85E-02	4.70E-02
		352.56		0.83	1.74E-01		3.41E-02	8.65E-02
		371.81		2.62	5.32E-02		1.66E-02	2.65E-02
		460.04		26.62	4.76E-03		-1.26E-03	2.37E-03
		480.71		5.84	2.11E-02		-2.31E-03	1.05E-02
		568.87		58.00	1.91E-03		2.34E-03	9.52E-04
		719.56		6.85	2.18E-02		-6.14E-03	1.09E-02
		721.63		1.02	1.47E-01		2.24E+00	7.30E-02
		778.22		96.45	9.83E-04		4.55E-05	4.88E-04
		810.33		11.09	8.25E-03		-4.90E-03	4.09E-03
		812.58		2.95	3.13E-02		1.18E-02	1.55E-02
		847.69		1.14	8.01E-02		7.06E-02	3.97E-02
		849.93		20.45	4.43E-03		2.65E-04	2.20E-03
		1091.35		48.50	1.54E-03		1.26E-03	7.59E-04
		1200.23		19.97	2.80E-03		-2.47E-04	1.37E-03
		1441.13		0.44	7.53E-02		-7.63E-02	3.64E-02
		1497.81		3.28	1.24E-02		3.07E-02	6.03E-03
	Nb-97	657.94		98.23	2.87E-03	2.87E-03	2.90E-04	1.43E-03
		1024.40		1.09	1.20E-01		1.28E-01	5.96E-02
	ZR-97	254.17		1.15	2.48E-01	1.71E-03	8.30E-02	1.24E-01
		355.40		2.09	1.19E-01		7.83E-02	5.95E-02
		507.64		5.03	4.73E-02		-1.29E-02	2.36E-02
		743.36		93.09	1.71E-03		1.97E-03	8.47E-04
		1147.97		2.62	4.33E-02		-1.51E-02	2.14E-02
	MO-99	181.07		6.14	1.58E-02	3.70E-03	3.82E-03	7.89E-03
		366.42		1.20	5.22E-02		7.75E-02	2.60E-02
		739.50		12.26	3.70E-03		3.53E-03	1.83E-03
		777.92		4.30	9.80E-03		-1.02E-02	4.87E-03
	TC-99M	140.51		90.80	1.18E-03	1.18E-03	-2.06E-03	5.90E-04
	RH-101	127.23		68.00	1.16E-03	7.89E-04	3.98E-04	5.78E-04
		198.01		73.00	7.89E-04		-3.74E-04	3.94E-04
		325.23		11.80	2.82E-03		1.92E-03	1.41E-03
	RH-101M	306.86		81.00	7.15E-04	7.15E-04	1.21E-04	3.56E-04
		545.12		4.30	1.01E-02		-2.71E-03	5.01E-03

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
RH-102M	415.25		2.10	2.10E-02	4.10E-04	7.16E-02	1.04E-02
	418.52		9.40	4.56E-03		2.03E-03	2.27E-03
	420.40		3.20	1.29E-02		7.44E-03	6.45E-03
	475.06		95.00	4.10E-04		7.14E-04	2.04E-04
	628.05		8.30	4.02E-03		1.31E-03	2.00E-03
	631.29		56.00	5.72E-04		-6.29E-04	2.84E-04
	692.40		1.60	2.31E-02		-1.05E-03	1.15E-02
	695.60		2.90	1.25E-02		1.54E-03	6.21E-03
	697.49		44.00	8.11E-04		2.05E-04	4.03E-04
	766.84		34.00	8.61E-04		-5.70E-05	4.27E-04
	1046.59		34.00	7.28E-04		6.60E-04	3.60E-04
	1103.16		4.60	4.73E-03		-8.90E-04	2.34E-03
	1112.84		19.00	1.23E-03		5.74E-04	6.07E-04
RU-103	497.08		91.00	3.98E-04	3.98E-04	-1.75E-04	1.98E-04
	610.33		5.76	5.42E-03		6.57E-04	2.69E-03
RH-105	306.31		4.66	2.15E-02	5.78E-03	-8.15E-03	1.07E-02
	319.23		16.90	5.78E-03		3.15E-03	2.88E-03
AG-106M	221.70		6.60	9.65E-03	5.28E-04	1.95E-02	4.82E-03
	228.63		2.10	2.96E-02		2.25E-02	1.48E-02
	328.46		1.14	4.24E-02		-3.08E-02	2.11E-02
	391.04		3.68	1.21E-02		-1.49E-03	6.05E-03
	406.18		13.40	3.26E-03		3.27E-04	1.62E-03
	429.65		13.20	3.29E-03		4.60E-04	1.64E-03
	450.98		28.20	1.51E-03		-5.82E-04	7.50E-04
	511.85		88.00	5.28E-04		4.48E-03	2.63E-04
	601.17		1.61	2.19E-02		-1.12E-02	1.09E-02
	616.17		21.60	1.61E-03		-1.02E-03	7.99E-04
	646.03		1.46	2.31E-02		4.67E-03	1.15E-02
	680.42		2.18	1.52E-02		-1.43E-02	7.54E-03
	703.11		4.47	7.25E-03		8.39E-04	3.60E-03
	717.34		28.90	1.35E-03		-1.08E-03	6.73E-04
	748.36		20.60	1.54E-03		5.32E-04	7.64E-04
	793.17		5.90	5.25E-03		-4.63E-04	2.60E-03
	804.28		12.40	2.42E-03		-9.47E-04	1.20E-03
	808.36		4.00	7.47E-03		-3.11E-03	3.70E-03
	824.69		15.30	1.93E-03		-3.97E-04	9.56E-04
	847.15		4.40	6.86E-03		1.00E-02	3.40E-03
	1019.72		1.04	2.57E-02		3.26E-02	1.27E-02
	1045.83		29.60	8.97E-04		5.77E-04	4.44E-04
	1128.02		11.80	2.07E-03		8.91E-04	1.02E-03
	1199.39		11.20	1.65E-03		4.83E-04	8.10E-04
	1222.88		7.00	2.46E-03		-1.52E-03	1.21E-03
	1394.35		1.49	9.87E-03		1.88E-02	4.82E-03
	1527.65		16.30	5.98E-04		-3.39E-04	2.88E-04
	1572.35		6.60	1.34E-03		-4.43E-04	6.41E-04
	1722.76		1.40	6.08E-03		3.44E-03	2.90E-03
	1839.05		2.00	2.29E-03		-1.21E-03	1.04E-03
RH-106	621.93		9.93	3.15E-03	3.15E-03	-2.57E-03	1.56E-03
	873.49		0.44	8.77E-02		9.08E-01	4.36E-02
	1050.41		1.56	1.51E-02		7.64E-03	7.46E-03
RU-106	511.86	*	20.40	2.71E-03	2.71E-03	1.64E-02	1.35E-03
AG-108M	79.13		6.60	1.69E-02	3.64E-04	1.63E-02	8.44E-03
	433.94		90.50	4.47E-04		-3.34E-05	2.23E-04

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-108M	614.28	89.80	3.64E-04	3.64E-04	-1.63E-04	1.81E-04
	722.91	90.80	5.12E-04		8.34E-03	2.55E-04
CD-109	88.03	3.64	2.66E-02	2.66E-02	6.28E-02	1.33E-02
AG-110M	446.81	3.70	1.13E-02	3.64E-04	1.52E-02	5.64E-03
	620.35	2.73	1.24E-02		-7.94E-03	6.16E-03
	657.76	95.61	5.61E-04		6.97E-05	2.80E-04
	677.62	10.70	3.05E-03		6.53E-04	1.51E-03
	687.01	6.53	5.01E-03		2.06E-03	2.49E-03
	706.68	16.69	1.89E-03		3.43E-04	9.37E-04
	744.28	4.77	6.45E-03		4.40E-03	3.20E-03
	763.94	22.60	1.36E-03		1.85E-03	6.74E-04
	818.02	7.43	4.02E-03		-1.51E-03	1.99E-03
	884.68	75.00	3.64E-04		3.10E-05	1.80E-04
	937.48	35.00	7.62E-04		5.28E-04	3.77E-04
	1384.29	25.10	4.71E-04		2.63E-04	2.29E-04
	1475.78	4.08	2.32E-03		-1.34E-05	1.12E-03
	1505.03	13.33	6.80E-04		-4.12E-04	3.27E-04
	1562.29	1.22	5.55E-03		-3.42E-04	2.66E-03
AG-111	245.40	1.11	5.59E-02	7.45E-03	3.06E-03	2.79E-02
	342.13	6.68	7.45E-03		4.51E-03	3.71E-03
AG-112	606.82	3.10	3.94E-02	2.79E-03	1.78E-02	1.96E-02
	617.52	43.00	2.79E-03		-1.02E-03	1.38E-03
	692.82	1.19	1.11E-01		-1.36E-02	5.54E-02
	694.87	2.90	4.56E-02		2.29E-01	2.27E-02
	851.28	1.02	1.01E-01		8.97E-03	5.00E-02
	1312.36	1.11	4.60E-02		-1.27E-02	2.25E-02
	1387.68	5.30	8.20E-03		5.02E-03	3.99E-03
	1613.66	2.80	1.07E-02		2.91E-03	5.10E-03
	1798.50	0.89	2.07E-02		-8.37E-03	9.55E-03
	2106.31	2.40	5.93E-03		2.58E-03	2.64E-03
	2506.70	1.06	3.17E-02		6.61E-02	1.50E-02
CD-113M	263.70	0.03	1.82E+00	1.82E+00	-2.51E-01	9.06E-01
SN-113	255.13	2.11	2.38E-02	5.99E-04	6.41E-03	1.19E-02
	391.70	64.97	5.99E-04		-1.09E-04	2.98E-04
IN-114M	190.27	15.56	3.73E-03	3.73E-03	4.18E-03	1.86E-03
	558.43	4.40	7.74E-03		5.94E-03	3.85E-03
	725.24	4.40	1.03E-02		1.66E-01	5.15E-03
CD-115	260.90	1.94	4.35E-02	1.60E-03	-2.62E-02	2.17E-02
	336.24	46.02	1.60E-03		-5.74E-04	7.96E-04
	527.90	27.45	2.11E-03		-1.77E-03	1.05E-03
CD-115M	933.84	2.00	1.26E-02	1.26E-02	-2.70E-03	6.23E-03
	1290.59	0.90	1.54E-02		-6.76E-05	7.55E-03
IN-115M	336.24	45.90	6.31E-01	6.31E-01	-2.27E-01	3.15E-01
IN-116M	138.29	3.70	2.25E+12	1.85E+10	1.48E+12	1.12E+12
	416.90	27.20	1.65E+11		4.73E+11	8.24E+10
	818.68	12.13	2.61E+11		2.16E+11	1.29E+11
	1097.28	58.50	4.10E+10		-3.43E+10	2.03E+10
	1293.56	84.80	1.85E+10		-7.01E+09	9.07E+09
	1507.59	9.92	9.36E+10		-1.63E+11	4.50E+10
	2112.29	15.09	2.84E+10		2.73E+10	1.27E+10
SB-125	176.31	6.84	8.73E-03	1.23E-03	1.38E-02	4.36E-03
	380.45	1.52	2.58E-02		-5.57E-03	1.28E-02
	427.87	29.60	1.23E-03		-8.87E-04	6.12E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SB-125	463.36	10.49	3.44E-03	1.23E-03	1.29E-03	1.71E-03
	600.60	17.65	1.73E-03		4.34E-04	8.58E-04
	606.71	4.98	6.11E-03		5.91E-03	3.04E-03
	635.95	11.22	2.61E-03		1.85E-03	1.30E-03
	671.44	1.79	1.77E-02		-2.39E-04	8.80E-03
SN-125	332.10	1.40	3.75E-02	2.40E-03	6.07E-02	1.87E-02
	469.85	1.50	2.91E-02		7.81E-03	1.45E-02
	800.28	1.10	2.83E-02		3.60E-02	1.40E-02
	822.48	4.30	7.05E-03		-3.40E-03	3.49E-03
	915.55	4.10	6.99E-03		1.17E-03	3.46E-03
	1067.10	10.00	2.55E-03		3.24E-05	1.26E-03
	1087.70	1.20	2.20E-02		1.59E-02	1.09E-02
	1089.10	4.60	5.32E-03		-1.73E-03	2.63E-03
	2002.10	1.90	2.40E-03		-4.69E-03	1.09E-03
SB-127	61.10	1.43	1.98E-01	1.07E-03	4.50E-02	9.89E-02
	252.40	8.50	8.50E-03		5.02E-03	4.24E-03
	290.80	2.02	3.22E-02		7.98E-03	1.61E-02
	412.10	3.80	1.43E-02		7.24E-03	7.13E-03
	445.10	4.30	1.24E-02		-7.44E-03	6.17E-03
	473.00	25.80	1.91E-03		-2.13E-03	9.53E-04
	543.30	2.90	1.51E-02		-1.12E-02	7.51E-03
	603.50	4.50	9.67E-03		-2.61E-04	4.81E-03
	685.70	36.80	1.07E-03		-2.18E-04	5.30E-04
	698.50	3.64	1.20E-02		-2.55E-03	5.99E-03
	722.20	1.88	3.14E-02		4.71E-01	1.56E-02
	783.70	15.10	2.49E-03		2.57E-03	1.24E-03
SN-127	119.70	2.20	4.10E+04	6.40E+02	-2.63E+02	2.05E+04
	262.50	2.30	2.39E+04		3.66E+04	1.19E+04
	266.20	2.10	2.59E+04		1.37E+03	1.29E+04
	284.30	2.70	1.92E+04		-3.70E+04	9.57E+03
	438.20	6.10	6.87E+03		-4.03E+03	3.42E+03
	490.90	5.30	7.57E+03		2.12E+03	3.77E+03
	493.20	3.10	1.29E+04		-1.64E+02	6.42E+03
	545.40	2.30	1.60E+04		-3.76E+03	7.98E+03
	583.30	3.20	1.11E+04		-8.68E+02	5.53E+03
	805.90	8.20	3.56E+03		-6.46E+02	1.77E+03
	823.10	11.00	2.62E+03		1.13E+01	1.30E+03
	824.70	6.10	4.72E+03		-9.71E+02	2.34E+03
	859.50	8.00	3.49E+03		-1.19E+03	1.73E+03
	979.20	7.20	3.57E+03		6.25E+02	1.77E+03
	1093.30	3.80	6.17E+03		-1.43E+04	3.05E+03
	1095.60	19.00	1.22E+03		-1.83E+03	6.04E+02
	1114.30	38.00	6.40E+02		4.20E+02	3.16E+02
	1160.40	2.40	8.58E+03		2.49E+03	4.23E+03
	2003.40	5.30	8.95E+02		1.04E+03	4.08E+02
SB-129	180.42	2.84	1.69E+01	4.47E-01	-6.59E+00	8.42E+00
	359.20	2.39	1.39E+01		1.25E+01	6.91E+00
	404.64	1.17	2.62E+01		1.44E+01	1.31E+01
	523.13	1.55	1.78E+01		9.19E+00	8.88E+00
	544.56	15.42	1.73E+00		-1.32E+00	8.61E-01
	633.74	2.53	9.44E+00		-1.55E+01	4.69E+00
	654.28	2.97	8.06E+00		5.62E+00	4.00E+00
	682.77	5.76	4.04E+00		-1.83E+00	2.01E+00

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	761.12		4.32	5.88E+00	4.47E-01	1.71E+00	2.92E+00
		773.37		2.82	7.83E+00		-2.27E+00	3.89E+00
		786.36		1.07	2.06E+01		3.15E+01	1.02E+01
		787.16		1.74	1.26E+01		1.71E+01	6.26E+00
		812.97		48.20	4.47E-01		6.26E-01	2.22E-01
		819.51		1.39	1.54E+01		-3.64E+00	7.65E+00
		876.65		2.75	1.07E+01		4.80E-01	5.30E+00
		914.96		23.30	8.51E-01		-3.04E-01	4.22E-01
		966.78		8.96	2.21E+00		4.06E+00	1.10E+00
		1030.65		15.13	1.21E+00		-1.38E+00	5.97E-01
		1656.10		1.31	3.96E+00		3.98E+00	1.88E+00
		1738.16		7.45	6.37E-01		5.44E-01	3.00E-01
	TE-129	459.60		7.70	4.88E-03	4.88E-03	1.49E-03	2.43E-03
		487.39		1.42	2.60E-02		1.76E-02	1.30E-02
+	Te-129m	695.88	*	3.00	7.48E-03	7.48E-03	4.73E-02	3.71E-03
	I-131	80.18		2.62	5.07E-02	5.75E-04	4.83E-03	2.53E-02
		284.30		6.12	8.86E-03		-6.95E-03	4.42E-03
		364.49		81.50	5.75E-04		-7.60E-04	2.87E-04
		636.99		7.16	4.75E-03		2.74E-03	2.36E-03
		722.91		1.77	2.81E-02		4.58E-01	1.40E-02
	Te-131m	773.67		36.80	1.90E-03	1.90E-03	-5.49E-04	9.43E-04
		793.75		13.40	5.32E-03		-5.10E-03	2.64E-03
		852.21		19.90	3.28E-03		-1.76E-03	1.63E-03
		1125.46		11.00	4.95E-03		1.07E-03	2.45E-03
		1206.60		9.41	4.15E-03		-1.48E-03	2.04E-03
	I-132	262.90		1.28	5.56E-02	5.60E-04	2.10E-02	2.77E-02
		284.90		0.71	9.45E-02		3.60E-02	4.71E-02
		505.79		4.93	1.30E-02		-7.50E-03	6.49E-03
		522.65		16.00	3.39E-03		3.02E-03	1.69E-03
		547.20		1.14	4.62E-02		-6.62E-03	2.30E-02
		621.20		1.97	2.46E-02		3.80E-02	1.22E-02
		630.19		13.30	3.58E-03		2.74E-03	1.78E-03
		650.50		2.57	1.87E-02		1.62E-03	9.30E-03
		667.71		98.70	6.66E-04		7.60E-05	3.31E-04
		669.80		4.60	1.12E-02		3.14E-04	5.58E-03
		671.40		3.50	1.50E-02		-6.32E-03	7.47E-03
		727.10		5.40	1.30E-02		-5.52E-04	6.45E-03
		728.40		1.60	4.20E-02		1.54E-02	2.09E-02
		772.60		75.60	5.60E-04		-6.00E-04	2.78E-04
		809.50		2.60	1.62E-02		-7.89E-03	8.04E-03
		812.00		5.50	7.61E-03		-3.19E-04	3.77E-03
		910.10		0.93	4.34E-02		3.63E-03	2.15E-02
		954.55		17.60	2.15E-03		-1.91E-03	1.06E-03
		1136.00		3.01	1.01E-02		-6.24E-03	4.97E-03
		1172.90		1.09	6.56E-02		1.24E+00	3.26E-02
		1290.80		1.13	1.90E-02		-4.75E-03	9.29E-03
		1295.10		1.88	9.23E-03		2.02E-02	4.52E-03
		1297.90		0.89	1.73E-02		4.15E-03	8.47E-03
		1372.07		2.47	7.10E-03		-6.44E-03	3.46E-03
		1398.57		7.01	2.85E-03		2.28E-03	1.39E-03
		1442.56		1.40	9.04E-03		-1.11E-04	4.38E-03
	TE-132	49.72		15.00	3.05E-02	8.96E-04	4.33E-02	1.53E-02
		111.76		1.74	6.63E-02		1.22E-02	3.31E-02

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TE-132	116.30	1.96	5.74E-02	8.96E-04	2.62E-02	2.87E-02
		228.16	88.00	8.96E-04		7.88E-04	4.47E-04
	BA-133	81.00	32.90	3.43E-03	6.68E-04	1.02E-03	1.71E-03
		276.40	7.16	6.76E-03		-2.09E-03	3.37E-03
		302.85	18.34	2.44E-03		-7.07E-04	1.22E-03
		356.01	62.05	6.68E-04		1.40E-04	3.33E-04
		383.85	8.94	4.24E-03		1.41E-03	2.11E-03
	I-133	529.87	87.00	1.57E-03	1.57E-03	-1.45E-04	7.81E-04
		706.58	1.51	7.87E-02		1.43E-02	3.91E-02
		856.28	1.24	8.50E-02		-9.82E-02	4.21E-02
		875.33	4.51	3.24E-02		3.47E-01	1.61E-02
		1236.44	1.51	3.99E-02		2.35E-02	1.96E-02
		1298.22	2.35	2.35E-02		3.46E-02	1.15E-02
@	TE-133	312.08	62.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		407.63	27.10	1.00E+20		1.00E+20	1.00E+20
@		410.40	0.94	1.00E+20		1.00E+20	1.00E+20
@		474.85	0.88	1.00E+20		1.00E+20	1.00E+20
@		719.71	8.90	1.00E+20		1.00E+20	1.00E+20
@		786.93	5.40	1.00E+20		1.00E+20	1.00E+20
@		844.36	3.31	1.00E+20		1.00E+20	1.00E+20
@		884.30	0.72	1.00E+20		1.00E+20	1.00E+20
@		930.71	3.81	1.00E+20		1.00E+20	1.00E+20
@		997.70	1.04	1.00E+20		1.00E+20	1.00E+20
@		1000.72	3.62	1.00E+20		1.00E+20	1.00E+20
@		1021.13	2.81	1.00E+20		1.00E+20	1.00E+20
@		1061.61	1.19	1.00E+20		1.00E+20	1.00E+20
@		1252.08	1.44	1.00E+20		1.00E+20	1.00E+20
@		1312.80	0.85	1.00E+20		1.00E+20	1.00E+20
@		1333.21	10.67	1.00E+20		1.00E+20	1.00E+20
@		1717.61	3.18	1.00E+20		1.00E+20	1.00E+20
@		1881.52	1.22	1.00E+20		1.00E+20	1.00E+20
@		2136.51	1.25	1.00E+20		1.00E+20	1.00E+20
@		2229.64	0.87	1.00E+20		1.00E+20	1.00E+20
	Xe-133	81.00	36.90	3.68E-03	3.68E-03	1.09E-03	1.84E-03
	CS-134	475.36	1.48	2.41E-02	3.27E-04	2.43E-02	1.20E-02
		563.25	8.34	4.12E-03		-2.07E-03	2.05E-03
		569.33	15.37	2.24E-03		4.37E-03	1.11E-03
		604.72	97.62	3.29E-04		-2.54E-05	1.63E-04
		795.86	85.46	3.27E-04		-1.14E-04	1.62E-04
		801.95	8.69	3.25E-03		-7.18E-04	1.61E-03
		1038.61	0.99	2.40E-02		2.17E-02	1.19E-02
		1167.97	1.79	2.40E-02		-4.54E-04	1.19E-02
		1365.19	3.02	3.45E-03		2.96E-03	1.68E-03
	I-135	220.50	1.75	2.81E+00	4.28E-02	-1.98E+00	1.40E+00
		288.45	3.10	1.30E+00		-1.33E+00	6.50E-01
		417.63	3.53	9.72E-01		4.45E-01	4.84E-01
		546.56	7.15	4.06E-01		5.17E-01	2.02E-01
		836.80	6.69	3.28E-01		-3.39E-01	1.63E-01
		971.96	0.89	2.34E+00		-2.68E+00	1.16E+00
		972.62	1.21	1.69E+00		-1.86E+00	8.36E-01
		1038.76	7.90	2.47E-01		2.23E-01	1.22E-01
		1101.58	1.61	1.16E+00		9.71E-01	5.75E-01
		1124.00	3.62	5.32E-01		5.74E-01	2.63E-01

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1131.51		22.60	8.19E-02	4.28E-02	5.36E-02	4.04E-02
		1240.47		0.90	1.66E+00		8.53E-01	8.16E-01
		1260.41		28.70	4.28E-02		3.54E-02	2.10E-02
		1457.56		8.70	1.08E-01		1.10E-01	5.24E-02
		1502.79		1.08	7.70E-01		5.04E-02	3.72E-01
		1566.41		1.29	5.07E-01		4.09E-02	2.43E-01
		1678.03		9.60	5.54E-02		-8.99E-03	2.63E-02
		1706.46		4.10	1.12E-01		-3.64E-02	5.24E-02
		1791.20		7.72	5.26E-02		-1.12E-02	2.44E-02
		2408.65		0.96	2.79E-01		-2.22E-01	1.20E-01
	XE-135	249.79		90.00	1.42E-02	1.42E-02	6.18E-02	7.11E-03
	XE-135m	526.56		80.40	3.57E-02	3.57E-02	-6.02E-02	1.77E-02
	CS-136	66.88		4.79	3.89E-02	3.14E-04	4.39E-02	1.94E-02
		86.36		5.90	2.01E-02		6.56E-02	1.01E-02
		153.25		7.70	9.96E-03		-1.85E-03	4.97E-03
		163.92		4.69	1.65E-02		2.57E-03	8.24E-03
		176.60		13.70	5.25E-03		4.49E-03	2.62E-03
		273.65		12.66	4.50E-03		-1.12E-03	2.24E-03
		340.55		46.80	1.07E-03		-2.81E-04	5.33E-04
		818.51		99.70	3.14E-04		4.35E-04	1.56E-04
		1048.07		80.00	3.38E-04		-4.75E-05	1.67E-04
		1235.36		20.00	8.97E-04		3.49E-04	4.41E-04
+	CS-137	661.66	*	85.10	2.47E-04	2.47E-04	1.27E-02	1.22E-04
	BA-139	33.44		3.84	5.20E+08	4.08E+06	-1.40E+09	2.60E+08
		165.86		23.70	4.08E+06		-5.16E+04	2.04E+06
	BA-140	132.69		0.20	3.88E-01	1.50E-03	5.75E-02	1.94E-01
		162.66		6.22	1.13E-02		8.18E-03	5.65E-03
		304.85		4.29	1.17E-02		-3.37E-03	5.82E-03
		423.72		3.10	1.29E-02		3.95E-03	6.45E-03
		437.58		1.93	2.12E-02		1.23E-02	1.06E-02
		537.26		24.39	1.50E-03		-7.77E-04	7.45E-04
	LA-140	109.42		0.22	3.86E-01	1.85E-04	-8.99E-01	1.93E-01
		131.12		0.47	1.69E-01		4.65E-02	8.43E-02
		173.54		0.13	5.22E-01		-1.46E-01	2.60E-01
		241.93		0.41	1.37E-01		3.34E-02	6.84E-02
		266.54		0.47	1.14E-01		-9.85E-03	5.67E-02
		328.76		20.30	2.45E-03		-1.72E-03	1.22E-03
		432.49		2.90	1.54E-02		3.99E-03	7.65E-03
		487.02		45.50	9.17E-04		8.70E-04	4.57E-04
		618.10		0.04	8.88E-01		5.01E-01	4.41E-01
		751.64		4.33	8.07E-03		-1.55E-03	4.01E-03
		815.77		23.28	1.26E-03		2.08E-03	6.24E-04
		867.85		5.50	7.02E-03		1.45E-03	3.49E-03
		919.55		2.66	1.00E-02		-5.29E-03	4.97E-03
		925.19		6.90	3.97E-03		-3.07E-03	1.97E-03
		950.99		0.52	5.30E-02		4.20E-02	2.63E-02
		1596.21		95.40	1.85E-04		8.24E-04	9.05E-05
		2347.88		0.85	4.17E-03		1.19E-03	1.84E-03
		2521.40		3.46	8.14E-04		-5.81E-04	3.38E-04
		2547.34		0.10	2.91E-02		1.47E-02	1.21E-02
@	BA-141	33.44		7.93	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		190.33		44.80	1.00E+20		1.00E+20	1.00E+20
@		276.95		23.60	1.00E+20		1.00E+20	1.00E+20

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	BA-141	304.19	26.10	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		343.67	15.10	1.00E+20		1.00E+20	1.00E+20
@		389.74	1.37	1.00E+20		1.00E+20	1.00E+20
@		457.51	5.00	1.00E+20		1.00E+20	1.00E+20
@		462.06	5.10	1.00E+20		1.00E+20	1.00E+20
@		467.22	5.60	1.00E+20		1.00E+20	1.00E+20
@		625.08	3.45	1.00E+20		1.00E+20	1.00E+20
@		647.78	5.70	1.00E+20		1.00E+20	1.00E+20
@		738.95	4.39	1.00E+20		1.00E+20	1.00E+20
@		831.46	1.64	1.00E+20		1.00E+20	1.00E+20
@		876.09	3.45	1.00E+20		1.00E+20	1.00E+20
@		1160.72	1.12	1.00E+20		1.00E+20	1.00E+20
@		1197.28	4.35	1.00E+20		1.00E+20	1.00E+20
@		1323.92	0.92	1.00E+20		1.00E+20	1.00E+20
@		1654.00	0.65	1.00E+20		1.00E+20	1.00E+20
@		1682.19	1.19	1.00E+20		1.00E+20	1.00E+20
	CE-141	145.44	48.30	1.44E-03	1.44E-03	-4.13E-04	7.21E-04
@	BA-142	33.44	14.20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		77.59	7.00	1.00E+20		1.00E+20	1.00E+20
@		177.00	2.12	1.00E+20		1.00E+20	1.00E+20
@		231.61	12.20	1.00E+20		1.00E+20	1.00E+20
@		255.30	20.70	1.00E+20		1.00E+20	1.00E+20
@		286.30	1.11	1.00E+20		1.00E+20	1.00E+20
@		309.20	2.60	1.00E+20		1.00E+20	1.00E+20
@		335.00	1.53	1.00E+20		1.00E+20	1.00E+20
@		363.96	4.76	1.00E+20		1.00E+20	1.00E+20
@		425.04	5.75	1.00E+20		1.00E+20	1.00E+20
@		599.80	1.85	1.00E+20		1.00E+20	1.00E+20
@		840.40	3.63	1.00E+20		1.00E+20	1.00E+20
@		895.20	13.90	1.00E+20		1.00E+20	1.00E+20
@		949.10	10.70	1.00E+20		1.00E+20	1.00E+20
@		1001.20	9.80	1.00E+20		1.00E+20	1.00E+20
@		1078.70	11.50	1.00E+20		1.00E+20	1.00E+20
@		1094.10	2.82	1.00E+20		1.00E+20	1.00E+20
@		1126.80	1.50	1.00E+20		1.00E+20	1.00E+20
@		1202.40	5.60	1.00E+20		1.00E+20	1.00E+20
@		1204.30	14.30	1.00E+20		1.00E+20	1.00E+20
@		1380.20	3.42	1.00E+20		1.00E+20	1.00E+20
	CE-143	57.36	11.70	4.93E-02	2.57E-03	-1.17E-02	2.46E-02
		231.55	2.05	6.56E-02		6.68E-02	3.27E-02
		293.27	42.80	2.57E-03		1.40E-03	1.28E-03
		350.62	3.23	3.00E-02		9.24E-03	1.49E-02
		490.37	2.16	4.16E-02		5.26E-03	2.07E-02
		664.57	5.69	2.19E-02		5.15E-01	1.09E-02
		721.93	5.39	1.89E-02		2.84E-01	9.42E-03
		880.46	1.03	6.58E-02		5.37E-02	3.27E-02
	CE-144	80.12	1.36	8.07E-02	6.41E-03	7.70E-03	4.03E-02
		133.51	11.09	6.41E-03		-4.12E-03	3.20E-03
	ND-147	38.17	13.20	5.83E-02	2.84E-03	-4.15E-02	2.91E-02
		38.72	23.80	3.05E-02		-2.64E-02	1.52E-02
		91.11	28.90	3.56E-03		3.05E-03	1.78E-03
		275.39	0.79	7.05E-02		7.87E-02	3.52E-02
		319.41	1.97	2.50E-02		1.36E-02	1.25E-02

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ND-147	398.13	0.87	4.98E-02	2.84E-03	9.76E-03	2.48E-02
	439.88	1.20	3.50E-02		-3.75E-02	1.74E-02
	531.01	13.11	2.84E-03		-2.42E-04	1.41E-03
	685.88	0.82	3.88E-02		-2.61E-02	1.93E-02
@ PR-147	36.85	19.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	37.36	35.50	1.00E+20		1.00E+20	1.00E+20
@	49.88	4.00	1.00E+20		1.00E+20	1.00E+20
@	77.97	9.70	1.00E+20		1.00E+20	1.00E+20
@	86.69	5.40	1.00E+20		1.00E+20	1.00E+20
@	127.80	7.40	1.00E+20		1.00E+20	1.00E+20
@	249.20	1.32	1.00E+20		1.00E+20	1.00E+20
@	314.70	18.20	1.00E+20		1.00E+20	1.00E+20
@	328.80	4.00	1.00E+20		1.00E+20	1.00E+20
@	335.70	4.70	1.00E+20		1.00E+20	1.00E+20
@	388.80	1.41	1.00E+20		1.00E+20	1.00E+20
@	466.80	1.70	1.00E+20		1.00E+20	1.00E+20
@	477.90	4.60	1.00E+20		1.00E+20	1.00E+20
@	516.70	1.30	1.00E+20		1.00E+20	1.00E+20
@	554.70	5.90	1.00E+20		1.00E+20	1.00E+20
@	577.90	13.70	1.00E+20		1.00E+20	1.00E+20
@	641.40	16.10	1.00E+20		1.00E+20	1.00E+20
@	996.00	1.52	1.00E+20		1.00E+20	1.00E+20
@	1136.70	1.42	1.00E+20		1.00E+20	1.00E+20
@	1261.10	8.40	1.00E+20		1.00E+20	1.00E+20
@	1300.40	2.30	1.00E+20		1.00E+20	1.00E+20
ND-149	38.17	9.00	1.77E+06	5.09E+04	-1.26E+06	8.85E+05
	38.72	16.30	9.23E+05		-7.99E+05	4.61E+05
	58.88	1.30	4.09E+06		-3.57E+05	2.04E+06
	74.32	2.11	1.42E+06		8.72E+05	7.07E+05
	97.00	1.48	1.38E+06		8.09E+05	6.89E+05
	114.31	19.20	9.66E+04		-2.09E+04	4.83E+04
	155.87	5.95	2.60E+05		-7.83E+04	1.30E+05
	188.64	1.79	7.96E+05		-1.86E+04	3.97E+05
	198.93	1.39	9.69E+05		1.32E+06	4.83E+05
	208.15	2.55	5.39E+05		9.91E+04	2.69E+05
	211.31	26.00	5.09E+04		3.03E+04	2.54E+04
	240.22	3.95	3.05E+05		3.63E+05	1.52E+05
	245.72	0.81	1.58E+06		-1.15E+05	7.88E+05
	267.69	6.05	1.94E+05		-2.64E+04	9.68E+04
	270.17	10.80	1.02E+05		-1.78E+05	5.11E+04
	326.55	4.57	2.21E+05		-8.92E+04	1.10E+05
	349.23	1.38	7.26E+05		2.78E+05	3.62E+05
	423.55	7.50	1.14E+05		-1.05E+04	5.67E+04
	443.55	1.15	7.79E+05		2.85E+05	3.88E+05
	540.51	6.60	1.18E+05		9.68E+04	5.88E+04
	654.83	8.00	8.43E+04		2.49E+04	4.19E+04
PM-149	285.95	3.10	2.56E-02	2.56E-02	-2.07E-02	1.28E-02
PM-150	39.52	0.63	4.87E+04	3.23E+01	-2.23E+04	2.43E+04
	40.12	1.14	2.56E+04		-1.38E+04	1.28E+04
	333.92	68.00	3.23E+01		-1.13E+01	1.61E+01
	406.51	5.60	3.46E+02		9.17E+01	1.73E+02
	565.70	1.31	1.24E+03		-1.51E+03	6.17E+02
	587.02	1.34	1.30E+03		2.85E+02	6.46E+02

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PM-150	612.25		0.93	1.67E+03	3.23E+01	9.29E+02	8.30E+02
		712.22		4.40	3.31E+02		2.73E+02	1.64E+02
		737.50		2.25	6.34E+02		-1.12E+02	3.15E+02
		831.85		11.90	1.08E+02		1.40E+02	5.37E+01
		859.95		3.40	3.74E+02		-2.15E+02	1.85E+02
		876.41		7.30	2.53E+02		1.42E+01	1.26E+02
		1165.77		15.80	8.66E+01		-1.00E+01	4.29E+01
		1170.90		1.06	2.31E+03		4.41E+04	1.15E+03
		1193.87		4.80	1.74E+02		-1.78E+02	8.56E+01
		1213.72		1.03	7.61E+02		-3.57E+02	3.74E+02
		1223.28		2.80	2.74E+02		2.05E+02	1.34E+02
		1324.51		17.50	5.53E+01		-3.56E+01	2.72E+01
		1379.32		3.10	1.83E+02		1.23E+02	8.92E+01
		1736.40		6.90	4.22E+01		-6.84E+01	1.98E+01
		1963.71		1.47	1.35E+02		1.44E+02	6.11E+01
		2033.46		0.97	1.83E+02		5.29E+01	8.14E+01
@	ND-151	38.17		5.94	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		38.72		10.70	1.00E+20		1.00E+20	1.00E+20
@		68.98		1.26	1.00E+20		1.00E+20	1.00E+20
@		85.12		2.05	1.00E+20		1.00E+20	1.00E+20
@		89.96		1.53	1.00E+20		1.00E+20	1.00E+20
@		116.80		39.00	1.00E+20		1.00E+20	1.00E+20
@		138.89		7.00	1.00E+20		1.00E+20	1.00E+20
@		170.76		2.87	1.00E+20		1.00E+20	1.00E+20
@		175.07		6.30	1.00E+20		1.00E+20	1.00E+20
@		255.68		14.80	1.00E+20		1.00E+20	1.00E+20
@		300.58		1.82	1.00E+20		1.00E+20	1.00E+20
@		423.56		5.90	1.00E+20		1.00E+20	1.00E+20
@		460.59		0.96	1.00E+20		1.00E+20	1.00E+20
@		585.22		1.30	1.00E+20		1.00E+20	1.00E+20
@		677.88		2.38	1.00E+20		1.00E+20	1.00E+20
@		736.23		5.90	1.00E+20		1.00E+20	1.00E+20
@		739.20		1.52	1.00E+20		1.00E+20	1.00E+20
@		755.57		1.17	1.00E+20		1.00E+20	1.00E+20
@		797.53		4.70	1.00E+20		1.00E+20	1.00E+20
@		1016.40		2.50	1.00E+20		1.00E+20	1.00E+20
@		1122.63		4.10	1.00E+20		1.00E+20	1.00E+20
@		1180.89		13.30	1.00E+20		1.00E+20	1.00E+20
	Pm-151	167.75		8.30	2.10E-02	5.26E-03	1.30E-02	1.05E-02
		177.16		3.80	4.58E-02		-1.82E-02	2.28E-02
		240.09		3.80	3.89E-02		4.63E-02	1.94E-02
		275.21		6.80	1.96E-02		2.18E-02	9.77E-03
		340.08		22.50	5.26E-03		9.52E-04	2.62E-03
+	EU-152	121.78		28.53	2.96E-03	6.03E-04	-1.05E-04	1.48E-03
		344.28	*	26.59	1.53E-03		1.44E-03	7.62E-04
		778.90	*	12.93	2.01E-03		1.52E-03	9.98E-04
		867.37		4.23	7.88E-03		5.11E-03	3.91E-03
		964.08		14.51	1.73E-03		1.12E-03	8.55E-04
		1085.87		10.11	2.10E-03		1.22E-03	1.04E-03
		1112.07	*	13.67	1.39E-03		1.18E-03	6.87E-04
		1408.01	*	20.87	6.03E-04		1.10E-03	2.94E-04
@	ND-152	44.44		5.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		250.15		16.40	1.00E+20		1.00E+20	1.00E+20

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	ND-152	278.56		26.00	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		294.47		2.90	1.00E+20		1.00E+20	1.00E+20
@		545.70		0.83	1.00E+20		1.00E+20	1.00E+20
@		592.50		0.99	1.00E+20		1.00E+20	1.00E+20
	GD-153	69.67		2.45	5.84E-02	2.88E-03	2.09E-02	2.92E-02
		97.43		30.00	2.88E-03		7.27E-04	1.44E-03
		103.18		22.10	3.72E-03		6.82E-03	1.86E-03
	SM-153	69.67		4.67	5.70E-02	5.25E-03	2.04E-02	2.85E-02
		103.18		29.14	5.25E-03		9.61E-03	2.62E-03
+	EU-154	42.70	*	20.45	3.17E-02	7.41E-04	1.34E-02	1.58E-02
		123.07	*	40.40	2.44E-03		3.47E-02	1.22E-03
		247.93	*	6.89	9.60E-03		3.72E-02	4.79E-03
		591.76	*	4.95	7.17E-03		3.36E-02	3.56E-03
		692.42	*	1.78	1.13E-02		3.11E-02	5.60E-03
		723.30	*	20.06	2.16E-03		3.43E-02	1.07E-03
		756.80	*	4.52	9.32E-03		3.41E-02	4.64E-03
		873.18	*	12.08	3.08E-03		3.45E-02	1.53E-03
		996.29	*	10.48	3.29E-03		3.58E-02	1.63E-03
		1004.76	*	18.01	2.03E-03		3.51E-02	1.01E-03
		1246.12	*	0.86	2.30E-02		2.93E-02	1.14E-02
		1274.43	*	34.80	7.41E-04		3.49E-02	3.66E-04
		1494.05	*	0.70	1.77E-02		2.44E-02	8.62E-03
		1596.48	*	1.80	5.67E-03		2.99E-02	2.76E-03
	EU-155	43.00	*	18.12	3.57E-02	3.77E-03	1.51E-02	1.79E-02
		60.01	*	1.17	2.33E-01		6.66E+00	1.17E-01
		86.55	*	30.70	3.97E-03		6.78E-03	1.98E-03
		105.31		21.10	3.77E-03		5.32E-03	1.88E-03
	EU-156	88.97		8.40	1.30E-02	9.47E-04	5.07E-03	6.51E-03
		646.29		6.30	5.24E-03		1.06E-03	2.60E-03
		723.47		5.40	8.94E-03		1.45E-01	4.45E-03
		811.77		9.70	3.06E-03		-6.59E-04	1.52E-03
		1065.14		4.90	5.02E-03		4.11E-03	2.48E-03
		1079.16		4.60	5.11E-03		2.50E-03	2.52E-03
		1153.80		11.50	1.77E-03		-8.37E-05	8.70E-04
		1230.71		8.00	2.12E-03		-1.09E-03	1.04E-03
		1242.42		6.60	2.82E-03		2.69E-03	1.39E-03
		1277.43		2.89	2.07E-02		-1.49E-03	1.03E-02
		1366.41		1.57	7.99E-03		1.66E-03	3.89E-03
		1965.95		3.90	9.47E-04		1.52E-04	4.24E-04
		2097.70		3.80	1.17E-03		3.31E-04	5.30E-04
		2186.71		3.50	1.16E-03		6.20E-04	5.18E-04
	Sm-156	87.60		24.00	9.14E-02	5.78E-02	2.22E-01	4.57E-02
		165.80		13.00	1.07E-01		-1.35E-03	5.33E-02
		204.00		21.00	5.78E-02		4.93E-02	2.89E-02
	EU-158	42.31		5.80	3.28E+15	3.27E+13	-1.58E+14	1.64E+15
		43.00		10.40	1.73E+15		1.37E+15	8.63E+14
		79.49		10.50	4.28E+14		1.63E+14	2.14E+14
		181.97		2.30	1.03E+15		4.69E+14	5.14E+14
		528.05		1.53	8.89E+14		-1.88E+14	4.42E+14
		606.39		4.00	3.09E+14		-2.41E+13	1.53E+14
		743.02		3.60	3.11E+14		-1.00E+14	1.54E+14
		897.61		12.40	8.39E+13		9.67E+12	4.16E+13
		906.50		1.83	5.71E+14		1.04E+15	2.83E+14

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	922.51	1.62	6.04E+14	3.27E+13	5.05E+14	2.99E+14
	944.15	30.00	3.27E+13		1.02E+13	1.62E+13
	953.03	1.98	4.89E+14		-1.06E+14	2.42E+14
	962.09	1.89	5.25E+14		3.71E+14	2.60E+14
	977.14	16.30	5.72E+13		-4.49E+13	2.83E+13
	986.96	1.35	6.95E+14		-3.34E+11	3.44E+14
	1107.63	5.10	1.74E+14		1.00E+14	8.58E+13
	1184.10	3.00	2.32E+14		6.39E+13	1.14E+14
	1186.00	2.90	2.38E+14		5.28E+13	1.17E+14
	1187.10	4.40	1.56E+14		5.70E+13	7.68E+13
	1263.61	2.20	2.65E+14		-3.93E+14	1.30E+14
	1347.95	1.65	2.91E+14		6.44E+13	1.42E+14
	1944.47	1.62	1.08E+14		8.86E+13	4.96E+13
TB-160	86.79	13.20	8.02E-03	1.00E-03	3.27E-02	4.01E-03
	298.58	26.10	1.81E-03		-1.33E-03	9.04E-04
	879.38	30.10	1.19E-03		2.07E-04	5.89E-04
	962.32	9.81	2.57E-03		6.06E-05	1.28E-03
	966.17	25.10	1.00E-03		2.25E-03	4.96E-04
	1177.96	14.90	3.14E-03		2.62E-04	1.56E-03
TB-161	25.65	23.20	3.28E-01	1.44E-02	-1.54E-01	1.64E-01
	48.91	17.00	2.20E-02		7.73E-03	1.10E-02
	52.00	3.43	9.26E-02		1.11E-01	4.62E-02
	57.19	1.79	1.56E-01		-4.79E-02	7.79E-02
	74.57	10.20	1.44E-02		6.99E-03	7.20E-03
YB-169	63.12	43.62	4.43E-03	1.62E-03	1.88E-03	2.22E-03
	93.61	2.58	3.97E-02		1.58E-02	1.98E-02
	109.78	17.39	4.77E-03		-1.03E-02	2.38E-03
	130.52	11.38	7.01E-03		-3.33E-03	3.50E-03
	177.21	22.28	2.92E-03		-1.16E-03	1.46E-03
	197.96	35.93	1.62E-03		-7.69E-04	8.10E-04
	307.74	10.05	4.28E-03		-2.58E-03	2.13E-03
HF-172	54.07	63.00	3.83E-03	3.83E-03	2.63E-04	1.91E-03
	67.35	5.30	2.80E-02		1.55E-02	1.40E-02
	81.75	4.50	2.37E-02		-1.79E-02	1.18E-02
	114.06	2.60	2.99E-02		2.02E-03	1.50E-02
	125.81	11.30	7.00E-03		-5.83E-04	3.50E-03
	127.91	1.46	5.02E-02		-1.01E-02	2.51E-02
LU-173	59.30	24.44	8.74E-03	2.30E-03	3.34E-01	4.36E-03
	78.63	11.90	1.00E-02		5.46E-03	5.00E-03
	100.72	5.24	1.63E-02		-8.84E-03	8.13E-03
	171.39	2.90	2.14E-02		1.05E-02	1.07E-02
	272.11	21.20	2.30E-03		4.63E-04	1.15E-03
LU-177	112.95	6.23	1.51E-02	6.62E-03	1.15E-02	7.54E-03
	208.37	10.41	6.62E-03		1.22E-03	3.30E-03
	249.67	0.20	3.14E-01		1.36E+00	1.56E-01
	321.32	0.22	2.33E-01		2.73E-01	1.16E-01
HF-181	133.02	43.30	1.77E-03	4.56E-04	6.36E-04	8.82E-04
	345.93	15.12	2.97E-03		1.97E-04	1.48E-03
	482.18	80.50	4.56E-04		-1.89E-04	2.27E-04
W-181	56.28	18.70	1.25E-02	7.27E-03	-1.76E-03	6.27E-03
	57.53	32.00	7.27E-03		-1.84E-03	3.63E-03
	65.00	10.60	1.52E-02		1.79E-02	7.59E-03
TA-182	57.98	10.01	2.28E-02	5.67E-04	-5.75E-03	1.14E-02

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	59.32	17.20	1.25E-02	5.67E-04	4.78E-01	6.25E-03
	65.72	3.01	5.80E-02		3.23E-02	2.90E-02
	67.75	46.67	3.35E-03		-1.32E-03	1.67E-03
	84.68	2.65	4.10E-02		-7.43E-03	2.05E-02
	100.11	14.20	6.34E-03		-3.33E-03	3.17E-03
	113.67	1.87	4.69E-02		6.56E-02	2.34E-02
	116.42	0.44	1.75E-01		7.99E-02	8.74E-02
	152.43	7.02	1.00E-02		4.35E-03	5.00E-03
	156.39	2.67	2.60E-02		1.49E-02	1.30E-02
	179.39	3.12	2.05E-02		-1.09E-02	1.02E-02
	198.35	1.47	4.21E-02		2.71E-02	2.10E-02
	222.11	7.57	7.71E-03		1.26E-02	3.85E-03
	229.32	3.64	1.60E-02		-7.92E-03	7.97E-03
	264.08	3.61	1.44E-02		3.81E-03	7.19E-03
	928.00	0.61	4.18E-02		1.07E-02	2.07E-02
	959.73	0.35	7.51E-02		2.67E-03	3.72E-02
	1001.70	2.09	2.58E-02		-5.26E-04	1.28E-02
	1044.42	0.24	1.04E-01		-7.72E-03	5.15E-02
	1113.41	0.44	5.14E-02		4.72E-02	2.54E-02
	1121.29	35.24	6.48E-04		-8.81E-04	3.20E-04
	1157.30	0.73	2.46E-02		-1.53E-02	1.21E-02
	1189.04	16.49	1.00E-03		-3.89E-04	4.92E-04
	1221.40	27.23	5.67E-04		-5.49E-04	2.79E-04
	1223.60	0.24	5.49E-02		5.79E-02	2.70E-02
	1231.00	11.62	1.36E-03		-3.63E-04	6.66E-04
	1257.41	1.51	9.30E-03		-1.15E-02	4.56E-03
	1273.72	0.66	6.62E-02		1.46E+00	3.29E-02
	1289.15	1.37	6.91E-03		-8.77E-03	3.39E-03
	1342.73	0.26	4.68E-02		9.78E-03	2.29E-02
	1373.82	0.22	3.25E-02		-3.19E-03	1.58E-02
Ta-183	84.71	1.35	9.59E-02	2.45E-03	-1.74E-02	4.79E-02
	99.08	6.80	1.57E-02		2.66E-02	7.83E-03
	107.93	11.20	8.85E-03		1.15E-02	4.42E-03
	161.35	9.10	8.76E-03		-9.21E-04	4.37E-03
	162.32	5.00	1.59E-02		9.35E-03	7.92E-03
	244.26	8.80	7.63E-03		4.35E-03	3.81E-03
	246.06	27.20	2.45E-03		2.79E-04	1.23E-03
	353.99	11.60	4.49E-03		-1.72E-04	2.24E-03
Re-184	111.21	17.20	4.75E-03	6.93E-04	-5.42E-04	2.37E-03
	252.85	3.00	1.74E-02		2.02E-02	8.70E-03
	792.01	37.70	7.36E-04		2.78E-04	3.65E-04
	894.76	15.70	1.66E-03		3.54E-04	8.21E-04
	903.28	38.10	6.93E-04		1.27E-03	3.43E-04
W-185	59.72	0.01	1.79E+01	4.19E+00	6.46E+02	8.92E+00
	61.14	0.02	9.82E+00		2.23E+00	4.91E+00
	69.20	0.01	2.09E+01		1.36E+01	1.04E+01
	125.36	0.02	4.19E+00		-5.94E-01	2.09E+00
W-187	61.14	14.30	4.67E-02	2.91E-03	1.06E-02	2.33E-02
	69.20	4.82	9.89E-02		6.45E-02	4.94E-02
	72.00	13.55	3.47E-02		1.47E-02	1.74E-02
	134.25	10.36	2.44E-02		2.64E-04	1.22E-02
	479.53	26.60	4.64E-03		-5.49E-04	2.31E-03
	618.37	7.57	1.34E-02		7.54E-03	6.64E-03

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
W-187	685.81	33.20	2.91E-03	2.91E-03	-5.93E-04	1.44E-03
Ir-188	155.05	29.60	4.41E-03	4.53E-04	1.78E-03	2.20E-03
	478.00	14.70	4.87E-03		3.52E-03	2.42E-03
	633.02	17.90	3.31E-03		-2.68E-04	1.65E-03
	634.97	5.00	1.19E-02		9.31E-03	5.90E-03
	829.42	5.10	9.98E-03		-2.75E-03	4.95E-03
	1209.77	6.90	4.54E-03		3.27E-03	2.23E-03
	1715.67	6.20	2.37E-03		3.28E-03	1.13E-03
	2214.59	18.60	4.53E-04		-4.49E-04	2.05E-04
W-188	227.07	0.23	2.34E-01	1.11E-01	2.10E-03	1.17E-01
	290.68	0.42	1.11E-01		2.74E-02	5.52E-02
Ir-189	245.08	6.00	9.66E-03	9.66E-03	-2.13E-03	4.82E-03
Ir-190	186.68	50.00	1.27E-03	8.93E-04	4.29E-05	6.35E-04
	361.09	12.30	3.65E-03		1.08E-03	1.82E-03
	371.24	21.60	2.04E-03		6.72E-04	1.02E-03
	407.22	27.00	1.55E-03		-6.25E-04	7.70E-04
	518.55	32.20	1.19E-03		-1.06E-03	5.94E-04
	557.95	28.50	1.24E-03		1.05E-03	6.17E-04
	569.30	27.00	1.30E-03		2.54E-03	6.47E-04
	605.14	37.80	8.93E-04		-3.80E-04	4.44E-04
OS-191	63.29	15.70	1.23E-02	2.95E-03	1.12E-02	6.13E-03
	64.99	26.70	6.47E-03		7.62E-03	3.23E-03
	73.45	9.21	1.49E-02		-6.64E-05	7.43E-03
	129.43	26.50	2.95E-03		7.90E-04	1.47E-03
Pt-191	359.90	5.80	1.12E-02	3.62E-03	-2.00E-02	5.57E-03
	456.47	3.30	1.73E-02		3.69E-03	8.61E-03
	538.90	14.30	3.62E-03		1.89E-03	1.80E-03
IR-192	205.79	3.31	1.86E-02	5.57E-04	2.29E-04	9.27E-03
	295.96	28.71	1.73E-03		1.36E-03	8.63E-04
	308.45	29.70	1.62E-03		8.63E-04	8.06E-04
	316.51	82.86	5.57E-04		-1.49E-05	2.78E-04
	468.07	47.84	7.97E-04		3.61E-04	3.97E-04
	588.58	4.52	8.34E-03		1.81E-03	4.15E-03
	604.41	8.22	3.55E-03		-1.41E-04	1.77E-03
	612.46	5.34	5.04E-03		-1.36E-03	2.50E-03
IR-192m	155.16	0.09	7.00E-01	7.00E-01	2.07E-01	3.50E-01
IR-193m	80.22	0.00	2.62E+01	2.62E+01	2.50E+00	1.31E+01
Pt-193m	135.50	0.11	8.13E-01	8.13E-01	5.18E-01	4.06E-01
Au-194	293.55	10.90	8.93E-03	1.43E-03	-2.75E-03	4.45E-03
	328.47	62.80	1.43E-03		-1.04E-03	7.15E-04
	364.84	1.60	5.44E-02		-2.17E-02	2.71E-02
	528.77	1.78	4.06E-02		1.55E-02	2.02E-02
	645.16	2.32	2.70E-02		-2.46E-02	1.34E-02
	948.32	2.29	2.26E-02		6.98E-05	1.12E-02
	1104.06	2.15	2.12E-02		7.49E-03	1.05E-02
	1175.36	2.14	4.79E-02		9.09E-01	2.38E-02
	1468.90	6.80	3.11E-03		-8.78E-07	1.51E-03
	1595.81	1.89	1.75E-02		7.76E-02	8.55E-03
	2043.72	3.74	2.04E-03		-2.85E-04	9.09E-04
Ir-194	293.54	2.50	8.30E-02	1.47E-02	-2.55E-02	4.14E-02
	328.47	13.10	1.47E-02		-1.06E-02	7.31E-03
AU-195	98.86	11.21	7.56E-03	7.56E-03	7.87E-03	3.78E-03
	129.74	0.84	8.63E-02		-7.19E-02	4.31E-02

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Pt-195m	98.90		11.70	9.75E-03	9.75E-03	1.02E-02	4.87E-03
		129.79		2.90	3.37E-02		-2.80E-02	1.68E-02
	Au-196	333.03		22.90	2.45E-03	5.96E-04	-1.35E-03	1.22E-03
		355.73		87.00	5.96E-04		-1.19E-04	2.97E-04
		426.10		6.60	6.71E-03		-6.77E-04	3.34E-03
	Au-196m	147.81		43.50	3.23E-02	3.23E-02	-2.81E-02	1.61E-02
		188.27		30.00	4.01E-02		-9.87E-03	2.00E-02
	Pt-197	77.35		17.00	2.97E-02	2.97E-02	1.08E-02	1.48E-02
		191.44		3.70	6.64E-02		1.35E-02	3.32E-02
	AU-198	411.80		95.62	6.42E-04	6.42E-04	3.95E-04	3.20E-04
	AU-199	158.38		40.00	2.35E-03	2.35E-03	1.72E-03	1.17E-03
		208.20		8.72	9.70E-03		1.78E-03	4.84E-03
	TL-201	135.34		2.61	4.03E-02	9.15E-03	2.57E-02	2.01E-02
		167.43		10.00	9.15E-03		-3.27E-03	4.57E-03
	TL-202	439.51		91.50	4.48E-04	4.48E-04	-8.45E-04	2.23E-04
	PB-203	70.83		26.40	8.97E-03	1.05E-03	1.84E-03	4.48E-03
		72.87		44.20	5.10E-03		2.09E-03	2.55E-03
		82.40		15.56	1.19E-02		-1.15E-02	5.93E-03
		279.20		80.90	1.05E-03		4.61E-04	5.23E-04
		401.32		3.35	2.12E-02		1.81E-02	1.06E-02
	PB-210	46.54		4.25	8.50E-02	8.50E-02	5.40E-03	4.25E-02
	Pa-233	86.60		2.01	5.05E-02	1.14E-03	2.11E-01	2.52E-02
		94.65		8.90	9.88E-03		8.09E-03	4.94E-03
		98.43		14.20	5.95E-03		6.12E-03	2.97E-03
		300.13		6.54	6.79E-03		-2.01E-03	3.39E-03
		311.90		38.20	1.14E-03		-6.36E-04	5.67E-04
		340.48		4.44	9.56E-03		-2.51E-03	4.77E-03
	U-235	89.96		2.90	3.24E-02	1.00E-03	2.11E-03	1.62E-02
		93.35		4.70	1.90E-02		-1.26E-02	9.48E-03
		109.19		1.64	4.70E-02		-7.95E-02	2.35E-02
		143.76		10.93	6.21E-03		4.96E-03	3.10E-03
		163.36		5.07	1.23E-02		-6.50E-03	6.13E-03
		185.71		57.20	1.00E-03		-3.92E-04	5.02E-04
		202.11		1.07	5.08E-02		-2.07E-02	2.54E-02
		205.31		5.03	1.15E-02		-4.74E-03	5.74E-03
+	NP-237	86.48	*	12.20	9.98E-03	9.98E-03	1.71E-02	4.99E-03
	U-237	59.54		34.50	7.42E-03	3.29E-03	2.79E-01	3.71E-03
		97.07		15.40	6.66E-03		2.86E-03	3.33E-03
		101.06		24.50	4.03E-03		-6.96E-03	2.01E-03
		113.30		3.07	3.05E-02		-4.58E-03	1.52E-02
		114.23		5.81	1.60E-02		1.08E-03	8.01E-03
		117.46		2.27	4.03E-02		2.54E-02	2.02E-02
		208.00		21.20	3.29E-03		3.79E-03	1.64E-03
	NP-238	103.37		0.00	3.04E+01	1.63E-03	5.14E+01	1.52E+01
		882.63		0.80	5.53E-02		1.07E-02	2.74E-02
		923.99		2.60	1.66E-02		1.51E-02	8.21E-03
		984.45		25.20	1.63E-03		1.32E-03	8.08E-04
		1025.87		8.75	4.62E-03		-1.23E-03	2.29E-03
		1028.53		18.23	2.20E-03		-5.24E-04	1.09E-03
	U-238	63.29		3.70	4.81E-02	2.13E-02	4.38E-02	2.40E-02
		92.51		4.23	2.13E-02		2.70E-03	1.07E-02
		112.81		0.21	3.73E-01		2.85E-01	1.86E-01
		742.81		0.11	2.58E-01		-2.23E-01	1.28E-01

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	U-238	766.42		0.32	8.49E-02	2.13E-02	7.54E-02	4.21E-02
		1001.03		0.84	5.81E-02		-1.18E-03	2.89E-02
	Am-239	181.71		1.08	6.32E-01	3.67E-02	-1.01E-02	3.16E-01
		209.80		3.50	1.91E-01		1.57E-01	9.53E-02
		226.40		3.30	1.92E-01		-3.66E-02	9.58E-02
		228.10		11.30	5.58E-02		3.58E-02	2.78E-02
		277.60		15.00	3.67E-02		2.74E-02	1.83E-02
	NP-239	61.46		1.30	2.51E-01	5.33E-03	1.15E-01	1.26E-01
		99.53		12.90	1.09E-02		1.66E-02	5.44E-03
		103.37		20.50	6.62E-03		1.12E-02	3.31E-03
		106.12		25.34	5.33E-03		7.07E-03	2.66E-03
		209.75		3.36	2.88E-02		2.37E-02	1.44E-02
		228.18		11.24	8.12E-03		7.14E-03	4.05E-03
		277.60		14.51	5.53E-03		4.12E-03	2.76E-03
		285.46		0.79	1.00E-01		5.16E-02	4.99E-02
		315.88		1.60	4.41E-02		-1.43E-03	2.20E-02
		334.31		2.06	3.28E-02		1.32E-02	1.63E-02
	PU-239	38.66		0.01	6.25E+01	9.97E+00	-5.34E+01	3.12E+01
		51.62		0.03	9.97E+00		9.88E+00	4.98E+00
		98.50		0.01	1.16E+01		1.20E+01	5.80E+00
		111.03		0.00	5.95E+01		-1.73E+01	2.97E+01
		129.30		0.01	1.15E+01		2.72E+00	5.72E+00
		171.39		0.00	5.50E+02		2.71E+02	2.75E+02
		203.55		0.00	9.50E+01		-2.27E+01	4.74E+01
		332.85		0.00	8.67E+01		9.75E+00	4.32E+01
		336.11		0.00	3.79E+02		-1.36E+02	1.89E+02
		345.01		0.00	7.56E+01		1.53E+01	3.77E+01
		375.05		0.00	2.53E+01		-1.62E+01	1.26E+01
		380.19		0.00	1.28E+02		-2.17E+01	6.38E+01
		382.75		0.00	1.50E+02		1.88E+01	7.49E+01
		413.71		0.00	2.65E+01		6.98E+01	1.32E+01
		422.60		0.00	2.99E+02		-1.10E+02	1.49E+02
		451.48		0.00	1.94E+02		7.47E+01	9.64E+01
	Am-240	99.53		18.40	8.09E-03	5.74E-04	1.23E-02	4.04E-03
		103.37		29.20	4.93E-03		8.33E-03	2.46E-03
		117.23		6.93	1.97E-02		1.54E-02	9.82E-03
		888.85		24.70	1.80E-03		5.42E-04	8.94E-04
		987.79		72.20	5.74E-04		3.20E-04	2.84E-04
	Np-240m	554.60		20.90	1.22E-02	1.22E-02	-4.32E-03	6.09E-03
		597.40		11.70	2.19E-02		1.02E-02	1.09E-02
	U-240	44.10		1.05	3.09E+00	1.88E+00	-5.95E-01	1.54E+00
		66.50		0.15	7.88E+00		5.94E+00	3.94E+00
		169.20		0.12	4.22E+00		2.96E+00	2.11E+00
		189.70		0.24	1.88E+00		3.17E-01	9.40E-01
+	AM-241	59.54	*	35.90	7.59E-03	7.59E-03	2.17E-01	3.79E-03
	AM-242m	49.35		0.13	2.28E+00	2.28E+00	2.78E+00	1.14E+00
		66.89		0.01	1.01E+01		1.14E+01	5.05E+00
		86.65		0.02	4.34E+00		1.81E+01	2.17E+00
		163.25		0.02	4.07E+00		-2.15E+00	2.03E+00
+	AM-243	43.53	*	5.90	1.10E-01	2.00E-03	4.65E-02	5.48E-02
		74.66	*	67.20	2.00E-03		4.55E-04	9.97E-04

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A Q3

ASR 2094 Branch

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

Apex-Gamma

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A S3
Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2320 VSM-6.0M-S2-CST-A S3
Sample Description	: Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/29/2024 9:22:17AM
Procedure	: S3_gsv02mlw
Operator	: Administrator
Detector Name	: S
Geometry	: S3_gsv02mlw
Live Time	: 1569.0 seconds
Real Time	: 1651.8 seconds
Dead Time	: 5.02 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 6/27/2024
Efficiency Calibration Used Done On	: 3/5/2019
Efficiency Calibration Description	: S3_gsv2ml_R717
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567989
Certificate Name	: R735-b9 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/29/2024 9:49:54AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A S3

Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	48.75	149.62	0.3531	3.68
2	59.55	183.40	0.0613	99.01
3	74.97	230.24	0.3389	4.02
4	86.84	266.81	0.2369	5.22
5	105.58	323.98	0.2895	5.29
6	123.09	377.85	0.0828	55.29
7	141.82	434.96	0.3986	3.06
8	248.01	760.29	0.1478	15.11
9	344.10	1053.89	0.3224	3.46
10	349.06	1069.11	0.3472	3.18
11	414.89	1271.23	0.1583	11.91
12	511.27	1565.68	0.1737	7.12
13	591.92	1813.19	0.1291	17.66
14	661.84	2027.36	0.0718	51.38
15	666.48	2041.69	0.1417	14.18
16	692.58	2120.98	0.2516	5.79
17	695.28	2129.89	0.1522	12.90
18	723.53	2216.26	0.0840	37.45
19	757.02	2318.77	0.1337	14.63
20	779.31	2387.02	0.2712	3.57
21	815.61	2498.20	0.2867	3.40
22	832.88	2551.04	0.3756	3.01
23	873.47	2675.28	0.0974	25.96
24	893.04	2734.39	0.2639	3.55
25	904.50	2770.02	0.2360	4.73
26	964.44	2953.87	0.2581	3.37
27	996.57	3052.23	0.0985	24.72
28	1005.05	3078.28	0.0860	33.01
29	1085.99	3325.79	0.2542	3.96
30	1112.20	3406.59	0.2993	3.24
31	1173.57	3594.25	0.0766	39.58
32	1246.44	3817.40	0.2092	5.04
33	1274.84	3904.35	0.0729	41.47
34	1332.91	4082.22	0.0774	37.05
35	1348.78	4130.76	0.2918	3.60
36	1397.88	4280.62	0.2100	4.58
37	1408.52	4313.07	0.1993	4.89
38	1494.63	4577.52	0.1921	6.14
39	1596.98	4890.98	0.1511	9.11
40	2506.63	7675.37	0.2257	3.23

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A S3

Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/29/2024 9:49:54AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	48.75	141	157	150.33	1.80E+03	223.49	1.67E+05	0.40
F	2	59.55	175	189	183.39	7.95E+04	1330.75	1.87E+05	1.14
F	3	74.97	228	238	230.60	1.29E+03	1069.49	1.39E+05	0.47
F	4	86.84	261	275	266.94	4.35E+03	297.90	1.76E+05	1.43
F	5	105.58	319	332	324.31	1.86E+03	998.26	1.32E+05	0.63
F	6	123.09	370	386	377.89	2.84E+04	1141.04	1.28E+05	1.22
F	7	141.82	425	438	435.25	9.31E+02	940.14	8.23E+04	0.59
F	8	248.01	754	767	760.36	3.53E+03	124.00	2.32E+04	1.36
M	9	344.10	1049	1073	1054.54	4.34E+02	250.36	6.41E+03	0.57
m	10	349.06	1049	1073	1069.72	3.32E+02	111.58	1.24E+04	0.57
F	11	414.89	1265	1282	1271.27	1.69E+03	286.58	7.85E+03	1.50
F	12	511.27	1554	1577	1566.34	3.12E+03	73.94	6.58E+03	2.71
F	13	591.92	1806	1820	1813.27	1.46E+03	52.86	2.69E+03	1.37
M	14	661.84	2016	2047	2027.36	9.39E+03	224.57	2.09E+03	1.56
m	15	666.48	2016	2047	2041.56	1.07E+03	54.02	2.17E+03	1.57
M	16	692.58	2111	2141	2121.48	5.61E+02	114.18	2.09E+03	1.64
m	17	695.28	2111	2141	2129.76	1.18E+03	191.94	2.30E+03	1.64
F	18	723.53	2204	2228	2216.25	5.14E+03	214.11	2.77E+03	1.56
F	19	757.02	2309	2328	2318.77	1.28E+03	152.65	1.64E+03	1.75
F	20	779.31	2382	2393	2387.05	1.08E+02	28.89	1.01E+03	1.29
F	21	815.61	2490	2503	2498.17	1.16E+02	27.70	1.02E+03	1.37
	22	832.88	2547	2556	2551.04	8.02E+00	49.05	6.83E+02	0.38
F	23	873.47	2663	2688	2675.34	2.91E+03	202.51	1.46E+03	1.81
F	24	893.04	2729	2747	2735.26	1.60E+02	25.88	1.04E+03	1.71
F	25	904.50	2763	2776	2770.35	1.88E+02	97.12	7.57E+02	1.36
	26	964.44	2946	2963	2953.87	5.30E+01	69.86	8.75E+02	0.48
F	27	996.57	3044	3059	3052.26	2.38E+03	49.85	6.96E+02	1.73
F	28	1005.05	3065	3088	3078.22	3.92E+03	150.70	1.06E+03	1.76
F	29	1085.99	3320	3331	3326.06	1.21E+02	108.09	3.48E+02	1.13
F	30	1112.20	3402	3415	3406.34	5.10E+01	16.32	4.32E+02	0.76
F	31	1173.57	3580	3608	3594.24	5.42E+03	151.75	4.62E+02	1.86
F	32	1246.44	3807	3826	3817.39	1.74E+02	65.84	2.18E+02	2.00
F	33	1274.84	3890	3916	3904.34	6.44E+03	156.27	2.78E+02	1.97
F	34	1332.91	4067	4093	4082.17	4.86E+03	140.71	2.38E+02	1.93
	35	1348.78	4126	4136	4130.76	8.00E+00	14.66	5.50E+01	0.79
F	36	1397.88	4273	4290	4281.11	1.02E+02	12.58	1.11E+02	1.80
F	37	1408.52	4305	4323	4313.70	1.58E+02	13.03	6.17E+01	2.19
F	38	1494.63	4567	4584	4577.41	1.47E+02	41.35	5.83E+01	1.74
F	39	1596.98	4881	4899	4890.84	2.93E+02	17.22	5.69E+01	1.87
F	40	2506.63	7666	7683	7676.75	6.30E+01	46.78	0.00E+00	1.73

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A S3
Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/29/2024 9:49:54AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567968.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	48.75	1.80E+03	223.49			1.80E+03	2.23E+02
F	2	59.55	7.95E+04	1330.75			7.95E+04	1.33E+03
F	3	74.97	1.29E+03	1069.49	4.63E+01	3.02E+00	1.25E+03	1.07E+03
F	4	86.84	4.35E+03	297.90	1.17E+01	5.53E-01	4.34E+03	2.98E+02
F	5	105.58	1.86E+03	998.26			1.86E+03	9.98E+02
F	6	123.09	2.84E+04	1141.04			2.84E+04	1.14E+03
F	7	141.82	9.31E+02	940.14			9.31E+02	9.40E+02
F	8	248.01	3.53E+03	124.00			3.53E+03	1.24E+02
M	9	344.10	4.34E+02	250.36			4.34E+02	2.50E+02
m	10	349.06	3.32E+02	111.58			3.32E+02	1.12E+02
F	11	414.89	1.69E+03	286.58			1.69E+03	2.87E+02
F	12	511.27	3.12E+03	73.94	6.71E+01	2.40E+00	3.06E+03	7.40E+01
F	13	591.92	1.46E+03	52.86			1.46E+03	5.29E+01
M	14	661.84	9.39E+03	224.57			9.39E+03	2.25E+02
m	15	666.48	1.07E+03	54.02	1.62E+00	5.17E-01	1.06E+03	5.40E+01
M	16	692.58	5.61E+02	114.18			5.61E+02	1.14E+02
m	17	695.28	1.18E+03	191.94			1.18E+03	1.92E+02
F	18	723.53	5.14E+03	214.11			5.14E+03	2.14E+02
F	19	757.02	1.28E+03	152.65			1.28E+03	1.53E+02
F	20	779.31	1.08E+02	28.89			1.08E+02	2.89E+01
F	21	815.61	1.16E+02	27.70			1.16E+02	2.77E+01
	22	832.88	8.02E+00	49.05			8.02E+00	4.90E+01
F	23	873.47	2.91E+03	202.51			2.91E+03	2.03E+02
F	24	893.04	1.60E+02	25.88			1.60E+02	2.59E+01
F	25	904.50	1.88E+02	97.12			1.88E+02	9.71E+01
	26	964.44	5.30E+01	69.86			5.30E+01	6.99E+01
F	27	996.57	2.38E+03	49.85			2.38E+03	4.99E+01
F	28	1005.05	3.92E+03	150.70			3.92E+03	1.51E+02
F	29	1085.99	1.21E+02	108.09			1.21E+02	1.08E+02
F	30	1112.20	5.10E+01	16.32			5.10E+01	1.63E+01
F	31	1173.57	5.42E+03	151.75			5.42E+03	1.52E+02
F	32	1246.44	1.74E+02	65.84			1.74E+02	6.58E+01
F	33	1274.84	6.44E+03	156.27			6.44E+03	1.56E+02

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A S3
Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	34	1332.91	4.86E+03	140.71			4.86E+03	1.41E+02
	35	1348.78	8.00E+00	14.66			8.00E+00	1.47E+01
F	36	1397.88	1.02E+02	12.58			1.02E+02	1.26E+01
F	37	1408.52	1.58E+02	13.03	2.46E+00	1.79E-01	1.55E+02	1.30E+01
F	38	1494.63	1.47E+02	41.35			1.47E+02	4.14E+01
F	39	1596.98	2.93E+02	17.22			2.93E+02	1.72E+01
F	40	2506.63	6.30E+01	46.78			6.30E+01	4.68E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.97	1173.24	*	99.97	9.81E-03	2.79E-04	0.961
		1332.50	*	99.99	9.56E-03	2.82E-04	0.960
		2505.74	*	1.00	2.00E-02	1.49E-02	miss
RH-106	0.42	511.86	*	20.70	1.57E-02	6.08E-04	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	2.09E-03	3.59E-04	0.871
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.49E-03	7.64E-05	0.868
		674.80		3.10			
		695.00	*	99.60	1.71E-03	2.77E-04	0.868
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A S3

Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
Sn-126	0.74	64.28		9.60			
		87.30	*	45.90	4.79E-03	3.91E-04	miss
CS-137	0.99	661.66	*	85.20	1.33E-02	3.28E-04	miss
EU-152	0.47	121.78		28.58			
		344.28	*	26.50	1.34E-03	7.75E-04	0.969
		778.90	*	12.94	1.17E-03	3.13E-04	0.959
		964.08	*	14.73	5.72E-04	7.55E-04	0.964
		1085.87	*	10.24	1.94E-03	1.73E-03	1.008
		1112.07	*	13.69	6.38E-04	2.04E-04	0.979
		1408.01	*	21.07	1.48E-03	1.25E-04	0.972
EU-154	0.87	42.70		20.45			
		123.07	*	40.40	3.61E-02	1.53E-03	0.954
		247.93	*	6.89	3.56E-02	1.34E-03	0.941
		591.76	*	4.95	3.57E-02	1.37E-03	0.929
		692.42	*	1.78	4.17E-02	8.49E-03	0.945
		723.30	*	20.06	3.46E-02	1.50E-03	0.948
		756.80	*	4.52	4.02E-02	4.82E-03	0.927
		873.18	*	12.08	3.69E-02	2.61E-03	0.942
		996.29	*	10.48	3.61E-02	8.51E-04	0.986
		1004.76	*	18.01	3.51E-02	1.41E-03	0.977
		1246.12	*	0.86	3.91E-02	1.48E-02	0.936
		1274.43	*	34.80	3.46E-02	9.16E-04	0.978
		1494.05	*	0.70	4.23E-02	1.19E-02	1.016
		1596.48	*	1.80	2.98E-02	1.79E-03	1.169
EU-155	0.78	43.00		18.70			
		60.01	*	1.22	6.17E+00	2.39E-01	0.998
		86.55	*	30.70	7.19E-03	5.23E-04	free
		105.31	*	21.10	4.13E-03	2.22E-03	1.000
AM-241	1.00	59.54	*	35.90	2.09E-01	5.54E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A S3

Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.978	9.69E-03	1.99E-04	
RH-106	0.424	1.57E-02	6.08E-04	
SB-126	0.485	1.53E-03	7.21E-05	
Sn-126	0.744	2.04E-03	1.52E-03	
CS-137	0.995	1.33E-02	3.28E-04	
EU-152	0.473	1.24E-03	9.89E-05	
EU-154	0.873	3.52E-02	4.23E-04	
EU-155	0.781	4.13E-03	2.22E-03	
AM-241	1.000	2.09E-01	4.30E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A S3
Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/29/2024 9:49:54AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	1	48.75	1.14696E+00	12.42		
F	3	74.97	7.94219E-01	85.82		
F	7	141.82	5.93493E-01	100.96		
m	10	349.06	2.11715E-01	33.59		
F	21	815.61	7.41260E-02	23.82	Sum	
	22	832.88	5.11077E-03	611.68		
F	24	893.04	1.02073E-01	16.16		
F	25	904.50	1.19705E-01	51.71		
	35	1348.78	5.09879E-03	183.26	Sum	
F	36	1397.88	6.52401E-02	12.29	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.61	10.44	4.84E-03	4.84E-03	-2.89E-04	2.40E-03
K-40	1460.83	10.67	1.19E-03	1.19E-03	4.74E-05	5.69E-04
MN-54	834.84	99.98	3.30E-04	3.30E-04	3.31E-04	1.63E-04
CO-58	810.78	99.45	3.65E-04	3.65E-04	1.62E-04	1.81E-04
	863.96	0.68	5.24E-02		1.04E-02	2.59E-02
	1674.73	0.52	1.52E-02		-3.47E-02	6.98E-03

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A S3

Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	FE-59	142.65		1.00	9.65E-02	4.48E-04	4.96E-02	4.82E-02
		192.35		3.01	2.87E-02		1.11E-03	1.43E-02
		334.80		0.27	2.26E-01		-6.18E-03	1.13E-01
		1099.25		56.30	5.39E-04		-2.44E-05	2.65E-04
		1291.60		43.70	4.48E-04		7.53E-06	2.17E-04
+	CO-60	1173.24	*	99.97	3.72E-04	2.86E-04	9.81E-03	1.83E-04
		1332.50	*	99.99	2.86E-04		9.56E-03	1.40E-04
		2505.74	*	1.00	8.61E-04		2.00E-02	0.00E+00
	SR-85	514.00		96.00	5.77E-04	5.77E-04	-2.96E-04	2.87E-04
		868.60		0.01	4.09E+00		1.88E+00	2.03E+00
	NB-94	702.62		97.90	3.90E-04	3.90E-04	-1.75E-04	1.93E-04
		871.09		99.98	4.99E-04		-4.33E-05	2.47E-04
	NB-95	765.81		99.81	4.09E-04	4.09E-04	9.00E-05	2.02E-04
	RU-103	497.05		91.00	5.51E-04	5.51E-04	9.66E-05	2.74E-04
		610.30		5.76	7.75E-03		1.40E-03	3.84E-03
+	RH-106	511.86	*	20.70	3.65E-03	3.65E-03	1.57E-02	1.82E-03
		621.92		9.93	4.24E-03		5.55E-04	2.10E-03
		1050.36		1.56	2.04E-02		2.86E-03	1.01E-02
	AG-108M	79.13		6.60	2.01E-02	4.84E-04	-9.53E-05	1.00E-02
		433.90		90.50	5.61E-04		-4.41E-04	2.79E-04
		614.30		89.80	4.84E-04		1.97E-04	2.40E-04
		722.90		90.80	6.82E-04		8.63E-03	3.39E-04
	CD-109	88.03		3.61	3.41E-02	3.41E-02	3.63E-02	1.70E-02
	SB-125	176.31		6.82	1.16E-02	1.61E-03	-2.07E-03	5.79E-03
		380.45		1.52	3.35E-02		-6.64E-03	1.67E-02
		427.87		29.55	1.61E-03		2.91E-04	8.02E-04
		463.36		10.48	4.50E-03		3.77E-04	2.24E-03
		600.60		17.76	2.27E-03		7.49E-04	1.12E-03
		606.71		5.02	7.95E-03		8.46E-03	3.94E-03
		635.95		11.32	3.38E-03		4.07E-03	1.68E-03
		671.44		1.78	2.42E-02		-9.35E-03	1.20E-02
+	SB-126	223.90		1.39	4.84E-02	3.08E-04	-1.34E-02	2.41E-02
		278.20		2.40	3.03E-02		4.78E-03	1.51E-02
		296.50		4.50	1.56E-02		3.10E-03	7.78E-03
		414.70	*	83.30	8.49E-04		2.09E-03	4.23E-04
		556.30		1.69	2.94E-02		6.93E-03	1.46E-02
		573.90		6.70	7.09E-03		-2.40E-03	3.52E-03
		593.20		7.50	6.87E-03		2.22E-02	3.41E-03
		656.30		2.19	2.66E-02		1.47E-02	1.32E-02
		666.50	*	99.60	3.08E-04		1.49E-03	1.52E-04
		674.80		3.10	1.49E-02		-8.50E-03	7.37E-03
		695.00	*	99.60	3.26E-04		1.71E-03	1.61E-04
		697.00		29.00	1.80E-03		2.53E-04	8.95E-04
		720.70		53.80	1.24E-03		2.09E-04	6.19E-04
		856.80		17.60	2.13E-03		-2.83E-05	1.05E-03
		989.60		6.80	5.42E-03		4.60E-03	2.67E-03
		1213.30		2.39	9.65E-03		4.59E-03	4.71E-03
+	Sn-126	64.28		9.60	1.98E-02	3.33E-03	4.91E-03	9.89E-03
		87.30	*	45.90	3.33E-03		4.79E-03	1.66E-03
	I-129	29.70		56.60	4.64E-02	4.64E-02	-1.02E-01	2.31E-02
		33.60		10.04	1.31E-01		-3.20E-01	6.54E-02
		34.40		2.01	5.82E-01		-1.14E+00	2.91E-01
		39.60		7.51	8.62E-02		-3.06E-01	4.31E-02

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A S3
Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-134	563.25		8.34	5.37E-03	4.27E-04	-5.55E-03	2.67E-03
		569.33		15.37	2.89E-03		-2.30E-03	1.44E-03
		604.72		97.62	4.31E-04		-1.43E-04	2.14E-04
		795.86		85.46	4.27E-04		-1.37E-04	2.11E-04
		801.95		8.69	4.27E-03		-1.96E-03	2.11E-03
+	CS-137	661.66	*	85.20	3.06E-04	3.06E-04	1.33E-02	1.51E-04
	CE-139	165.85		79.89	1.07E-03	1.07E-03	2.01E-04	5.33E-04
	CE-141	40.70		3.35	2.03E-01	2.14E-03	-8.61E-02	1.02E-01
		145.44		48.29	2.14E-03		1.21E-03	1.07E-03
	CE-144	80.12		1.36	9.74E-02	8.27E-03	-1.10E-01	4.87E-02
		133.51		11.09	8.27E-03		9.96E-03	4.13E-03
+	EU-152	121.78		28.58	3.81E-03	6.12E-04	-5.41E-05	1.90E-03
		344.28	*	26.50	1.16E-03		1.34E-03	5.76E-04
		778.90	*	12.94	2.30E-03		1.17E-03	1.13E-03
		964.08	*	14.73	2.50E-03		5.72E-04	1.23E-03
		1085.87	*	10.24	2.02E-03		1.94E-03	9.90E-04
		1112.07	*	13.69	1.85E-03		6.38E-04	9.10E-04
		1408.01	*	21.07	6.12E-04		1.48E-03	2.93E-04
	GD-153	97.43		29.00	3.86E-03	3.86E-03	-1.31E-03	1.93E-03
		103.18		21.10	5.09E-03		-3.07E-04	2.54E-03
+	EU-154	42.70		20.45	2.48E-02	8.37E-04	-1.69E-02	1.24E-02
		123.07	*	40.40	3.43E-03		3.61E-02	1.71E-03
		247.93	*	6.89	1.08E-02		3.56E-02	5.37E-03
		591.76	*	4.95	9.18E-03		3.57E-02	4.56E-03
		692.42	*	1.78	1.60E-02		4.17E-02	7.90E-03
		723.30	*	20.06	3.17E-03		3.46E-02	1.57E-03
		756.80	*	4.52	1.04E-02		4.02E-02	5.14E-03
		873.18	*	12.08	4.39E-03		3.69E-02	2.18E-03
		996.29	*	10.48	2.98E-03		3.61E-02	1.47E-03
		1004.76	*	18.01	2.56E-03		3.51E-02	1.27E-03
		1246.12	*	0.86	2.74E-02		3.91E-02	1.34E-02
		1274.43	*	34.80	8.37E-04		3.46E-02	4.11E-04
		1494.05	*	0.70	1.77E-02		4.23E-02	8.45E-03
		1596.48	*	1.80	6.32E-03		2.98E-02	3.02E-03
+	EU-155	43.00		18.70	2.64E-02	4.99E-03	-1.80E-02	1.32E-02
		60.01	*	1.22	2.41E-01		6.17E+00	1.20E-01
		86.55	*	30.70	4.99E-03		7.19E-03	2.49E-03
		105.31	*	21.10	5.66E-03		4.13E-03	2.83E-03
	HG-203	72.87		6.30	2.66E-02	8.41E-04	-1.58E-03	1.33E-02
		279.20		81.46	8.41E-04		-4.45E-04	4.19E-04
	BI-207	569.15		97.80	4.44E-04	4.17E-04	1.10E-04	2.20E-04
		1063.10		74.90	4.17E-04		2.68E-04	2.05E-04
	PB-210	46.54		4.25	9.22E-02	9.22E-02	-1.20E-01	4.60E-02
	RA-226	74.81		6.44	2.26E-02	4.79E-04	3.24E-02	1.13E-02
		77.11		10.80	1.28E-02		1.36E-02	6.40E-03
		87.30		4.84	2.54E-02		5.71E-02	1.27E-02
		186.21		3.59	2.12E-02		1.41E-02	1.06E-02
		242.00		7.43	8.56E-03		2.50E-03	4.27E-03
		295.22		19.30	3.07E-03		2.13E-04	1.53E-03
		351.93		37.60	1.42E-03		5.97E-04	7.07E-04
		609.31		46.10	8.60E-04		-5.97E-04	4.26E-04
		768.36		4.94	7.22E-03		7.50E-03	3.57E-03
		1120.29		15.10	1.75E-03		5.78E-04	8.58E-04

Analysis Report for 24-2320 VSM-6.0M-S2-CST-A S3

Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	1238.11		5.79	3.40E-03	4.79E-04	2.20E-03	1.66E-03
		1764.49		15.40	4.79E-04		-4.09E-04	2.19E-04
	PA-231	283.70		1.59	3.86E-02	2.47E-02	-5.35E-03	1.92E-02
		300.07		2.38	2.47E-02		1.19E-02	1.23E-02
		302.67		1.71	3.42E-02		2.95E-03	1.70E-02
		330.07		1.32	4.21E-02		8.20E-04	2.10E-02
	TH-232	74.81		11.62	1.25E-02	1.76E-04	1.80E-02	6.24E-03
		77.11		17.50	7.90E-03		8.36E-03	3.95E-03
		87.30		7.80	1.58E-02		3.54E-02	7.88E-03
		238.63		43.30	1.48E-03		2.84E-04	7.39E-04
		338.32		11.30	4.83E-03		2.87E-03	2.41E-03
		583.19		30.37	1.37E-03		6.25E-04	6.80E-04
		727.33		6.58	8.53E-03		1.36E-03	4.24E-03
		911.21		26.60	1.19E-03		1.11E-04	5.86E-04
		968.97		16.20	1.93E-03		2.33E-03	9.54E-04
		2614.53		35.64	1.76E-04		1.12E-04	7.53E-05
	U-235	143.76		10.96	7.88E-03	1.33E-03	3.75E-03	3.93E-03
		185.71		57.20	1.33E-03		1.37E-04	6.65E-04
		205.31		5.01	1.43E-02		9.66E-03	7.11E-03
	U-238	63.29		3.70	5.47E-02	2.71E-02	-1.12E-02	2.73E-02
		92.51		4.23	2.71E-02		2.12E-02	1.35E-02
		112.81		0.21	4.69E-01		1.16E-02	2.34E-01
		742.81		0.11	3.33E-01		2.05E-01	1.65E-01
		766.28		0.32	1.13E-01		4.57E-02	5.58E-02
		1001.03		0.84	7.73E-02		-1.07E-03	3.84E-02
	NP-239	99.60		12.80	6.25E-02	2.95E-02	3.51E-02	3.12E-02
		103.80		20.40	3.81E-02		5.25E-03	1.90E-02
		106.10		26.40	2.95E-02		3.84E-02	1.47E-02
		116.90		7.61	9.54E-02		-3.23E-02	4.76E-02
		228.20		11.20	4.49E-02		-1.36E-02	2.24E-02
		277.60		14.50	3.27E-02		2.04E-02	1.63E-02
		315.90		1.60	2.63E-01		3.77E-01	1.31E-01
		334.30		2.06	1.88E-01		1.48E-01	9.36E-02
+	AM-241	59.54	*	35.90	8.15E-03	8.15E-03	2.09E-01	4.07E-03

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

Apex-Gamma

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2321 VSM-6.0M-S2-CST-d-A Q3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 8:03:22AM
Procedure	: Q3_gsv02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: Q3_gsv02mlw
Live Time	: 2684.1 seconds
Real Time	: 2827.7 seconds
Dead Time	: 5.08 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: Q3_gsv2ml_R717
Sample Number	: 567860
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 8:50:34AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.58	190.36	0.0573	110.77
2	86.96	277.46	0.2394	4.15
3	105.18	335.88	0.2755	3.65
4	123.12	392.83	0.0743	63.90
5	248.00	790.97	0.1278	18.59
6	278.12	886.92	0.3059	4.30
7	344.43	1098.17	0.2673	3.84
8	414.91	1323.06	0.1430	14.92
9	511.07	1629.61	0.1356	9.78
10	582.25	1856.59	0.2823	3.36
11	591.89	1887.25	0.1188	17.77
12	599.62	1912.28	0.3355	3.28
13	661.82	2110.14	0.0717	48.11
14	666.48	2125.19	0.1236	16.91
15	692.55	2207.54	0.2675	4.70
16	695.26	2216.81	0.1373	14.15
17	723.47	2306.65	0.0741	43.32
18	757.00	2413.46	0.1189	16.66
19	815.60	2600.23	0.2607	4.13
20	845.96	2696.08	0.2335	3.23
21	873.42	2784.62	0.0851	31.81
22	904.56	2883.62	0.2191	4.94
23	964.75	3074.74	0.2667	3.07
24	996.52	3177.04	0.0881	28.12
25	1004.98	3204.05	0.0749	38.03
26	1112.94	3547.13	0.2265	4.46
27	1173.53	3741.27	0.0679	43.53
28	1247.03	3974.01	0.1866	4.96
29	1274.73	4063.93	0.0641	47.56
30	1332.80	4248.94	0.0693	40.63
31	1397.90	4456.26	0.1814	6.51
32	1408.65	4490.47	0.1896	5.05
33	1461.35	4658.59	0.2213	4.21
34	1494.39	4764.00	0.1860	4.67
35	1596.85	5090.52	0.1333	10.82
36	1719.75	5482.30	0.2338	3.06
37	1764.94	5626.46	0.2508	3.02
38	2506.58	7989.39	0.1979	4.74

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 8:50:34AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.58	182	198	190.31	1.25E+05	1752.77	3.49E+05	1.20
F	2	86.96	274	286	277.58	4.55E+03	458.19	2.28E+05	1.58
F	3	105.18	329	344	335.67	4.06E+03	2018.50	2.23E+05	1.80
F	4	123.12	386	401	392.86	4.34E+04	1363.16	1.75E+05	1.28
F	5	248.00	785	798	790.96	5.19E+03	170.20	3.32E+04	1.39
F	6	278.12	882	892	887.00	5.79E+02	502.59	1.93E+04	1.01
F	7	344.43	1091	1107	1098.39	7.46E+02	107.51	1.74E+04	1.56
F	8	414.91	1316	1331	1323.06	1.86E+03	309.22	1.04E+04	1.32
F	9	511.07	1617	1641	1629.58	4.59E+03	480.62	9.84E+03	2.91
F	10	582.25	1847	1863	1856.50	3.57E+02	245.20	4.57E+03	1.43
F	11	591.89	1876	1898	1887.21	2.45E+03	250.23	5.43E+03	1.78
F	12	599.62	1908	1917	1911.87	1.14E+02	33.66	2.31E+03	0.49
M	13	661.82	2098	2133	2110.13	9.52E+03	294.38	3.78E+03	1.72
m	14	666.48	2098	2133	2124.99	1.69E+03	77.78	3.73E+03	1.72
M	15	692.55	2201	2227	2208.10	7.60E+02	143.10	2.69E+03	1.82
m	16	695.26	2201	2227	2216.72	1.78E+03	230.07	3.68E+03	1.82
F	17	723.47	2294	2316	2306.64	8.05E+03	268.58	3.62E+03	1.77
F	18	757.00	2405	2421	2413.52	1.71E+03	56.58	2.28E+03	1.78
F	19	815.60	2595	2605	2600.34	1.36E+02	36.00	1.21E+03	1.18
F	20	845.96	2690	2704	2697.11	2.51E+02	38.35	1.48E+03	2.10
F	21	873.42	2771	2795	2784.62	4.54E+03	202.66	2.17E+03	1.84
F	22	904.56	2872	2890	2883.90	4.50E+02	213.04	1.40E+03	1.59
F	23	964.75	3067	3088	3075.73	3.27E+02	36.49	1.46E+03	3.23
F	24	996.52	3166	3186	3177.01	3.57E+03	193.19	1.56E+03	1.92
F	25	1004.98	3190	3218	3203.98	6.09E+03	212.35	2.06E+03	1.95
F	26	1112.94	3535	3553	3548.11	2.50E+02	171.72	7.52E+02	0.92
F	27	1173.53	3726	3754	3741.21	8.54E+03	199.86	7.41E+02	2.12
F	28	1247.03	3965	3983	3975.49	2.19E+02	114.82	3.33E+02	1.06
F	29	1274.73	4048	4079	4063.79	1.02E+04	206.15	5.12E+02	2.17
F	30	1332.80	4233	4264	4248.87	7.48E+03	175.14	4.72E+02	2.24
F	31	1397.90	4446	4466	4456.37	1.87E+02	54.65	1.56E+02	1.87
F	32	1408.65	4480	4505	4490.62	2.15E+02	17.33	1.92E+02	2.50
F	33	1461.35	4649	4665	4658.59	8.00E+01	12.31	9.36E+01	1.91
F	34	1494.39	4750	4771	4763.90	2.13E+02	56.54	7.09E+01	2.41
F	35	1596.85	5076	5101	5090.48	5.03E+02	56.44	5.81E+01	2.17
F	36	1719.75	5474	5490	5482.17	5.80E+01	39.03	2.94E+01	2.46
F	37	1764.94	5621	5632	5626.21	2.70E+01	6.81	1.53E+01	1.79
F	38	2506.58	7982	7998	7989.76	5.26E+01	8.33	1.84E+01	1.78

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 8:50:34AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567379.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.58	1.25E+05	1752.77			1.25E+05	1.75E+03
F	2	86.96	4.55E+03	458.19	1.95E+01	1.31E+00	4.53E+03	4.58E+02
F	3	105.18	4.06E+03	2018.50			4.06E+03	2.02E+03
F	4	123.12	4.34E+04	1363.16			4.34E+04	1.36E+03
F	5	248.00	5.19E+03	170.20			5.19E+03	1.70E+02
F	6	278.12	5.79E+02	502.59			5.79E+02	5.03E+02
F	7	344.43	7.46E+02	107.51			7.46E+02	1.08E+02
F	8	414.91	1.86E+03	309.22			1.86E+03	3.09E+02
F	9	511.07	4.59E+03	480.62	1.05E+02	4.42E+00	4.49E+03	4.81E+02
F	10	582.25	3.57E+02	245.20			3.57E+02	2.45E+02
F	11	591.89	2.45E+03	250.23			2.45E+03	2.50E+02
F	12	599.62	1.14E+02	33.66			1.14E+02	3.37E+01
M	13	661.82	9.52E+03	294.38			9.52E+03	2.94E+02
m	14	666.48	1.69E+03	77.78			1.69E+03	7.78E+01
M	15	692.55	7.60E+02	143.10			7.60E+02	1.43E+02
m	16	695.26	1.78E+03	230.07			1.78E+03	2.30E+02
F	17	723.47	8.05E+03	268.58			8.05E+03	2.69E+02
F	18	757.00	1.71E+03	56.58			1.71E+03	5.66E+01
F	19	815.60	1.36E+02	36.00			1.36E+02	3.60E+01
F	20	845.96	2.51E+02	38.35			2.51E+02	3.83E+01
F	21	873.42	4.54E+03	202.66			4.54E+03	2.03E+02
F	22	904.56	4.50E+02	213.04			4.50E+02	2.13E+02
F	23	964.75	3.27E+02	36.49	7.19E-01	3.16E-01	3.27E+02	3.65E+01
F	24	996.52	3.57E+03	193.19			3.57E+03	1.93E+02
F	25	1004.98	6.09E+03	212.35			6.09E+03	2.12E+02
F	26	1112.94	2.50E+02	171.72			2.50E+02	1.72E+02
F	27	1173.53	8.54E+03	199.86			8.54E+03	2.00E+02
F	28	1247.03	2.19E+02	114.82			2.19E+02	1.15E+02
F	29	1274.73	1.02E+04	206.15			1.02E+04	2.06E+02
F	30	1332.80	7.48E+03	175.14			7.48E+03	1.75E+02
F	31	1397.90	1.87E+02	54.65			1.87E+02	5.47E+01
F	32	1408.65	2.15E+02	17.33	2.91E+00	1.06E+00	2.12E+02	1.74E+01
F	33	1461.35	8.00E+01	12.31	8.10E+01	2.09E+00	-1.02E+00	1.25E+01

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 34	1494.39	2.13E+02	56.54			2.13E+02	5.65E+01
F 35	1596.85	5.03E+02	56.44			5.03E+02	5.64E+01
F 36	1719.75	5.80E+01	39.03			5.80E+01	3.90E+01
F 37	1764.94	2.70E+01	6.81	2.12E+01	1.16E+00	5.78E+00	6.90E+00
F 38	2506.58	5.26E+01	8.33			5.26E+01	8.33E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.95	1460.82	*	10.66	-1.17E-05	1.43E-04	miss
Co-56	0.20	846.77	*	99.94	2.31E-04	3.55E-05	0.952
		977.37		1.42			
		1037.84		14.05			
		1175.10		2.25			
		1238.29		66.46			
		1360.21		4.28			
		1771.36		15.41			
		2015.20		3.02			
		2034.79		7.77			
		2598.50		16.97			
CO-60	0.98	1173.23	*	99.85	9.42E-03	2.25E-04	0.962
		1332.49	*	99.98	8.93E-03	2.15E-04	0.962
RU-106	0.90	511.86	*	20.40	1.40E-02	1.52E-03	miss
Te-129m	0.94	695.88	*	3.00	4.70E-02	1.12E-02	free
CS-137	0.99	661.66	*	85.10	8.31E-03	2.61E-04	miss
EU-154	0.87	42.70		20.45			
		123.07	*	40.40	3.43E-02	1.16E-03	0.956
		247.93	*	6.89	3.28E-02	1.15E-03	0.943
		591.76	*	4.95	3.69E-02	3.79E-03	0.932
		692.42	*	1.78	3.45E-02	6.51E-03	0.948
		723.30	*	20.06	3.31E-02	1.17E-03	0.951
		756.80	*	4.52	3.30E-02	1.15E-03	0.928
		873.18	*	12.08	3.51E-02	1.62E-03	0.944

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.87	996.29	*	10.48	3.31E-02	1.82E-03	0.986
		1004.76	*	18.01	3.33E-02	1.22E-03	0.977
		1246.12	*	0.86	3.02E-02	1.58E-02	0.936
		1274.43	*	34.80	3.34E-02	7.58E-04	0.979
		1494.05	*	0.70	3.73E-02	9.91E-03	1.013
		1596.48	*	1.80	3.14E-02	3.54E-03	1.155
EU-155	0.78	43.00		18.12			
		60.01	*	1.17	6.54E+00	2.07E-01	0.999
		86.55	*	30.70	4.86E-03	4.95E-04	free
		105.31	*	21.10	5.75E-03	2.86E-03	1.000
AM-241	1.00	59.54	*	35.90	2.13E-01	4.59E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
X	NA-22	0.997			
	K-40	0.957	-1.17E-05	1.43E-04	
	Co-56	0.201	2.31E-04	3.55E-05	
	CO-60	0.985	9.16E-03	1.56E-04	
X	CU-64	0.929			
X	GA-66	0.561			
X	ZR-95	0.957			
	RU-106	0.905	1.40E-02	1.52E-03	
	Te-129m	0.940	4.70E-02	1.12E-02	
	CS-137	0.996	8.31E-03	2.61E-04	
	EU-154	0.878	3.34E-02	3.99E-04	
	EU-155	0.781	4.89E-03	4.86E-04	
X	NP-237	0.965			

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
AM-241	1.000	2.13E-01	3.93E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3
ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 8:50:34AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	6	278.12	2.15627E-01	86.84	Tol.	ND-152 Am-239 NP-239
F	7	344.43	2.77997E-01	14.41	Tol.	BA-141 EU-152 PU-239
F	8	414.91	6.91373E-01	16.66	Tol.	RH-102M
F	10	582.25	1.33185E-01	68.59		
F	12	599.62	4.24340E-02	29.55	Tol.	SB-125 BA-142
m	14	666.48	6.29440E-01	4.60		
F	19	815.60	5.07932E-02	26.40	Sum	
F	22	904.56	1.67522E-01	47.38	Sum	
F	23	964.75	1.21717E-01	11.17	Tol.	EU-152
F	26	1112.94	9.32602E-02	68.60	Tol.	RH-102M EU-152 TA-182
F	31	1397.90	6.97922E-02	29.17	Sum	
F	32	1408.65	7.90226E-02	8.19	Tol.	Co-55 EU-152
F	36	1719.75	2.16163E-02	67.28	Sum	
F	37	1764.94	2.15303E-03	119.48	Sum	
F	38	2506.58	1.95852E-02	15.84	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.60		10.44	3.46E-03	3.46E-03	1.97E-03	1.72E-03
	NA-22	511.00	*	179.91	3.11E-04	2.73E-04	1.58E-03	1.55E-04
		1274.54	*	99.94	2.73E-04		1.23E-02	1.35E-04
	NA-24	1368.63		99.99	9.03E-04	9.03E-04	-1.82E-03	4.39E-04
>		2754.01		99.87	0.00E+00		0.00E+00	0.00E+00
	AL-26	1129.67		2.50	8.52E-03	5.17E-05	5.05E-03	4.20E-03
		1808.65		99.76	5.17E-05		-6.80E-07	2.39E-05
+	K-40	1460.82	*	10.66	9.35E-04	9.35E-04	-1.17E-05	4.52E-04
	K-42	312.60		0.34	1.47E+00	5.28E-03	8.40E-01	7.31E-01
		1524.60		18.08	5.28E-03		-2.41E-03	2.53E-03
	Sc-44	1157.02		99.90	3.70E-01	3.70E-01	-1.01E-01	1.82E-01
		1499.46		0.91	2.56E+01		-1.04E+01	1.25E+01
	Sc-44m	271.24		86.74	9.10E-04	9.10E-04	8.06E-04	4.54E-04
		1001.83		1.20	7.46E-02		5.04E-03	3.71E-02
		1126.06		1.20	3.25E-02		4.96E-02	1.60E-02
		1157.00		1.20	2.83E-02		-7.74E-03	1.39E-02
	TI-44	67.87		93.00	1.63E-03	1.21E-03	4.79E-04	8.12E-04
		78.32		96.40	1.21E-03		2.02E-04	6.05E-04
	SC-46	889.28		99.98	2.71E-04	2.23E-04	4.23E-04	1.34E-04
		1120.55		99.99	2.23E-04		-1.22E-04	1.10E-04
	CA-47	489.23		5.90	8.22E-03	2.57E-04	-3.20E-03	4.09E-03
		807.86		5.90	6.04E-03		-3.67E-03	2.99E-03
		1297.09		67.00	2.57E-04		2.21E-04	1.26E-04
	SC-47	159.38		68.30	1.34E-03	1.34E-03	-8.53E-05	6.71E-04
	SC-48	175.36		7.47	1.58E-02	2.61E-04	-6.94E-03	7.90E-03
		983.53		100.00	4.73E-04		6.44E-05	2.34E-04
		1037.52		97.50	4.67E-04		-3.75E-04	2.31E-04
		1312.12		100.00	2.61E-04		1.22E-04	1.27E-04
	V-48	944.13		7.87	3.54E-03	1.50E-04	-2.66E-04	1.75E-03
		983.53		99.98	2.68E-04		3.64E-05	1.32E-04
		1312.11		98.20	1.50E-04		7.01E-05	7.33E-05
		2240.40		2.33	1.95E-03		6.49E-04	8.68E-04
	CR-51	320.08		9.91	4.46E-03	4.46E-03	2.02E-03	2.22E-03
	Fe-52	168.69		99.20	2.34E-02	2.34E-02	-1.02E-03	1.17E-02
		377.75		1.64	9.03E-01		-2.66E-01	4.50E-01
	Mn-52	744.23		90.00	4.18E-04	1.34E-04	2.55E-04	2.07E-04
		848.18		3.32	1.06E-02		7.99E-03	5.26E-03
		935.54		94.50	3.52E-04		4.76E-04	1.74E-04
		1246.28		4.21	5.37E-03		8.19E-03	2.64E-03
		1333.65		5.07	1.27E-02		2.31E-01	6.32E-03
		1434.09		100.00	1.34E-04		-9.71E-05	6.50E-05
	MN-54	834.85		99.98	2.50E-04	2.50E-04	-2.16E-04	1.24E-04

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Co-55	411.50		1.07	2.02E-01	1.81E-03	-1.26E-02	1.01E-01
		477.20		20.20	9.71E-03		-1.02E-02	4.83E-03
		803.70		1.87	7.72E-02		-2.88E-02	3.83E-02
		931.10		75.00	1.81E-03		-1.57E-04	8.97E-04
		1316.60		7.10	1.03E-02		2.80E-03	5.01E-03
		1370.00		2.90	2.22E-02		-2.87E-02	1.08E-02
		1408.50		16.90	4.40E-03		9.27E-03	2.15E-03
+	Co-56	846.77	*	99.94	2.57E-04	2.44E-04	2.31E-04	1.27E-04
		977.37		1.42	1.81E-02		-2.22E-03	8.93E-03
		1037.84		14.05	1.76E-03		-6.19E-04	8.69E-04
		1175.10		2.25	2.39E-02		4.40E-01	1.19E-02
		1238.29		66.46	2.44E-04		8.00E-05	1.20E-04
		1360.21		4.28	2.95E-03		3.30E-03	1.43E-03
		1771.36		15.41	4.61E-04		-1.41E-04	2.17E-04
		2015.20		3.02	1.47E-03		4.41E-05	6.61E-04
		2034.79		7.77	4.63E-04		1.55E-05	2.03E-04
>		2598.50		16.97	0.00E+00		0.00E+00	0.00E+00
	MN-56	846.76		98.85	3.17E+01	2.37E+01	2.88E+01	1.57E+01
		1810.73		26.90	2.37E+01		-1.46E+01	1.10E+01
		2113.09		14.20	3.21E+01		-1.15E+01	1.42E+01
	Ni-56	158.38		98.80	7.88E-04	3.75E-04	-5.27E-05	3.93E-04
		269.50		36.50	1.60E-03		4.61E-04	7.97E-04
		480.44		36.50	1.18E-03		-3.50E-04	5.86E-04
		749.50		49.50	6.87E-04		-3.91E-04	3.41E-04
		811.85		86.00	3.75E-04		3.94E-04	1.86E-04
		1561.80		14.00	6.35E-04		-7.05E-04	3.02E-04
	CO-57	122.06		85.60	9.42E-04	9.42E-04	1.03E-04	4.71E-04
		136.47		10.68	6.56E-03		-5.16E-04	3.28E-03
	NI-57	127.16		16.70	1.04E-02	3.24E-04	7.09E-03	5.21E-03
		1377.63		81.70	3.24E-04		2.11E-04	1.58E-04
		1757.55		5.75	2.57E-03		-1.79E-03	1.21E-03
		1919.52		12.30	8.32E-04		-1.55E-04	3.78E-04
	CO-58	810.76		99.45	2.71E-04	2.71E-04	3.97E-05	1.34E-04
		863.96		0.69	3.83E-02		1.36E-02	1.89E-02
		1674.73		0.52	1.14E-02		-1.74E-02	5.36E-03
	FE-59	142.65		1.02	6.84E-02	3.14E-04	1.46E-02	3.41E-02
		192.34		3.08	1.94E-02		4.79E-03	9.68E-03
		1099.24		56.50	3.72E-04		1.36E-05	1.84E-04
		1291.59		43.20	3.14E-04		-1.15E-04	1.54E-04
+	CO-60	1173.23	*	99.85	2.87E-04	2.59E-04	9.42E-03	1.42E-04
		1332.49	*	99.98	2.59E-04		8.93E-03	1.28E-04
	CU-64	511.00	*	35.00	1.71E-02	1.71E-02	8.69E-02	8.52E-03
		1345.77		0.47	2.58E-01		1.39E-01	1.26E-01
	NI-65	366.27		4.81	1.36E+03	5.87E+01	-1.33E+03	6.75E+02
		1115.53		15.43	2.20E+02		1.75E+02	1.09E+02
		1481.84		23.59	5.87E+01		1.01E+02	2.82E+01
	ZN-65	1115.54		50.04	4.29E-04	4.29E-04	3.42E-04	2.12E-04
	GA-66	511.00	*	114.00	1.17E-02	1.17E-02	5.95E-02	5.83E-03
		833.53		5.90	1.00E-01		-8.49E-02	4.97E-02
		1039.22		37.00	1.48E-02		2.47E-03	7.34E-03
		1333.11	*	1.17	5.09E-01		1.75E+01	2.51E-01
		1918.33		1.99	5.05E-02		-1.52E-02	2.29E-02
		2189.62		5.30	1.80E-02		-4.03E-03	8.00E-03

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
>	GA-66	2751.83	22.70	0.00E+00	1.17E-02	0.00E+00	0.00E+00
	CU-67	91.27	7.00	2.13E-02	1.92E-03	1.25E-02	1.06E-02
		93.31	16.10	8.98E-03		3.67E-03	4.49E-03
		184.58	48.70	1.92E-03		3.91E-04	9.57E-04
		300.22	0.80	9.03E-02		3.31E-02	4.50E-02
		393.53	0.22	2.83E-01		-1.15E-02	1.41E-01
	GA-67	91.26	3.11	4.45E-02	3.41E-03	2.61E-02	2.22E-02
		93.31	38.81	3.41E-03		1.39E-03	1.70E-03
		184.58	21.41	3.94E-03		8.05E-04	1.97E-03
		208.95	2.46	3.58E-02		-3.13E-02	1.79E-02
		300.22	16.64	3.99E-03		1.46E-03	1.99E-03
		393.53	4.56	1.12E-02		-4.52E-04	5.56E-03
	ZN-69m	438.63	94.85	3.46E-03	3.46E-03	-3.33E-03	1.72E-03
	GA-72	629.97	26.13	1.04E-02	1.64E-03	-1.92E-03	5.15E-03
		834.13	95.45	2.31E-03		1.15E-03	1.15E-03
		894.33	10.14	2.28E-02		1.37E-02	1.13E-02
		1050.79	6.99	3.01E-02		-2.06E-02	1.49E-02
		2201.59	26.87	1.64E-03		4.53E-04	7.47E-04
		2491.03	7.73	3.92E-03		-5.89E-04	1.69E-03
		2507.72	13.33	5.74E-03		9.90E-03	2.71E-03
	Zn-72	144.70	82.78	1.55E-03	1.55E-03	8.79E-04	7.75E-04
		191.50	9.35	1.14E-02		5.87E-03	5.71E-03
	SE-75	121.12	17.20	4.96E-03	8.65E-04	-4.14E-04	2.48E-03
		136.00	58.50	1.26E-03		5.83E-05	6.31E-04
		264.66	58.90	8.65E-04		1.01E-04	4.32E-04
		279.54	25.02	1.94E-03		1.27E-04	9.67E-04
		400.66	11.41	2.53E-03		-2.88E-03	1.26E-03
	BR-83	529.59	1.30	8.33E+03	8.33E+03	1.45E+03	4.15E+03
@	BR-84	604.80	1.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		736.50	1.29	1.00E+20		1.00E+20	1.00E+20
@		802.20	6.00	1.00E+20		1.00E+20	1.00E+20
@		881.60	42.00	1.00E+20		1.00E+20	1.00E+20
@		987.30	0.79	1.00E+20		1.00E+20	1.00E+20
@		1015.90	6.20	1.00E+20		1.00E+20	1.00E+20
@		1213.30	2.60	1.00E+20		1.00E+20	1.00E+20
@		1463.80	2.00	1.00E+20		1.00E+20	1.00E+20
@		1741.20	1.60	1.00E+20		1.00E+20	1.00E+20
@		1877.50	1.12	1.00E+20		1.00E+20	1.00E+20
@		1897.60	14.60	1.00E+20		1.00E+20	1.00E+20
@		2029.60	2.10	1.00E+20		1.00E+20	1.00E+20
@		2200.70	1.16	1.00E+20		1.00E+20	1.00E+20
@		2484.10	6.70	1.00E+20		1.00E+20	1.00E+20
>@		2824.10	1.12	0.00E+00		0.00E+00	0.00E+00
	KR-85m	151.20	75.20	7.23E-01	7.23E-01	5.01E-01	3.61E-01
		304.87	14.00	2.60E+00		2.51E-02	1.29E+00
	Y-87	388.53	82.20	6.82E-04	5.77E-04	3.61E-04	3.40E-04
		484.80	89.80	5.77E-04		-6.04E-04	2.87E-04
	KR-88	165.98	3.10	9.20E+02	3.98E+00	8.21E+01	4.59E+02
		196.30	26.00	9.41E+01		3.61E+01	4.70E+01
		362.23	2.25	7.41E+02		-3.37E+02	3.69E+02
		471.80	0.73	2.13E+03		1.10E+03	1.06E+03
		834.83	13.00	8.44E+01		-7.29E+01	4.18E+01
		985.78	1.31	8.22E+02		-1.80E+02	4.06E+02

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	KR-88	1141.33	1.28	6.74E+02	3.98E+00	7.38E+02	3.32E+02
		1179.51	1.00	2.07E+03		5.24E+02	1.03E+03
		1250.67	1.12	6.46E+02		4.87E+02	3.17E+02
		1369.50	1.48	3.45E+02		-5.60E+02	1.68E+02
		1518.39	2.15	1.82E+02		1.69E+02	8.74E+01
		1529.77	10.90	3.32E+01		-2.72E+01	1.59E+01
		2029.84	4.53	3.88E+01		-1.35E+00	1.73E+01
		2035.41	3.74	4.02E+01		-1.74E+01	1.76E+01
		2195.84	13.20	1.59E+01		1.10E+01	7.21E+00
		2231.77	3.39	5.46E+01		2.33E+01	2.46E+01
		2352.08	0.73	2.04E+02		-1.29E+01	8.76E+01
		2392.11	34.60	3.98E+00		2.54E+00	1.71E+00
	RB-88	898.03	14.40	7.86E+01	9.60E+00	-3.85E+01	3.89E+01
		1382.45	0.78	6.19E+02		-8.07E+02	3.01E+02
		1836.00	22.81	9.60E+00		-1.37E-01	4.43E+00
>		2677.89	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-88	898.04	93.70	2.86E-04	5.22E-05	-1.40E-04	1.42E-04
		1836.06	99.20	5.22E-05		-6.15E-05	2.41E-05
@	RB-89	272.42	1.53	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		657.77	10.80	1.00E+20		1.00E+20	1.00E+20
@		947.73	10.00	1.00E+20		1.00E+20	1.00E+20
@		1031.92	63.00	1.00E+20		1.00E+20	1.00E+20
@		1248.14	46.00	1.00E+20		1.00E+20	1.00E+20
@		1538.07	2.77	1.00E+20		1.00E+20	1.00E+20
@		2007.50	2.58	1.00E+20		1.00E+20	1.00E+20
@		2195.92	14.50	1.00E+20		1.00E+20	1.00E+20
>@		2570.20	10.70	0.00E+00		0.00E+00	0.00E+00
>@		2707.26	2.20	0.00E+00		0.00E+00	0.00E+00
	SR-89	908.96	0.01	2.75E+00	2.75E+00	5.96E-01	1.36E+00
	Sr-91	652.90	11.35	5.78E-02	1.59E-02	5.87E-02	2.87E-02
		749.80	23.70	2.66E-02		-8.28E-04	1.32E-02
		925.80	3.85	1.44E-01		6.20E-02	7.13E-02
		1024.30	33.50	1.59E-02		1.01E-02	7.86E-03
	Y-91	1204.77	0.26	6.33E-02	6.33E-02	5.12E-02	3.11E-02
	NB-92M	912.60	1.78	1.62E-02	2.80E-04	-2.77E-03	8.01E-03
		934.44	99.15	2.80E-04		-1.42E-04	1.38E-04
		1847.50	0.85	5.88E-03		2.38E-04	2.69E-03
	SR-92	241.56	2.93	1.80E+03	1.23E+01	2.37E+03	8.97E+02
		430.49	3.28	1.15E+03		-9.11E+02	5.75E+02
		953.31	3.52	7.02E+02		-4.06E+01	3.47E+02
		1142.35	2.79	7.21E+02		1.26E+02	3.55E+02
		1383.93	90.00	1.23E+01		-1.03E+01	5.97E+00
	MO-93M	114.04	0.68	9.26E+00	7.49E-03	7.64E+00	4.63E+00
		263.05	57.40	6.82E-02		-3.83E-02	3.40E-02
		684.69	99.90	2.31E-02		-9.14E-03	1.14E-02
		1363.02	0.81	1.18E+00		-5.04E-01	5.75E-01
		1477.14	99.10	7.49E-03		-7.14E-04	3.61E-03
@	SR-93	168.50	18.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		260.12	7.40	1.00E+20		1.00E+20	1.00E+20
@		346.49	3.28	1.00E+20		1.00E+20	1.00E+20
@		446.20	2.36	1.00E+20		1.00E+20	1.00E+20
@		590.24	68.00	1.00E+20		1.00E+20	1.00E+20
@		710.31	21.80	1.00E+20		1.00E+20	1.00E+20

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@ SR-93	875.73		24.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	888.13		22.10	1.00E+20		1.00E+20	1.00E+20
@	1040.63		3.20	1.00E+20		1.00E+20	1.00E+20
@	1094.00		1.76	1.00E+20		1.00E+20	1.00E+20
@	1122.48		4.00	1.00E+20		1.00E+20	1.00E+20
@	1215.48		2.50	1.00E+20		1.00E+20	1.00E+20
@	1269.47		7.10	1.00E+20		1.00E+20	1.00E+20
@	1321.24		2.61	1.00E+20		1.00E+20	1.00E+20
@	1387.11		3.50	1.00E+20		1.00E+20	1.00E+20
@	1694.07		2.58	1.00E+20		1.00E+20	1.00E+20
@	1699.06		3.30	1.00E+20		1.00E+20	1.00E+20
@	2543.84		3.03	1.00E+20		1.00E+20	1.00E+20
>@	2688.65		2.13	0.00E+00		0.00E+00	0.00E+00
Y-93	266.90		7.40	1.24E-01	5.09E-02	-6.71E-02	6.20E-02
	947.10		2.10	2.26E-01		6.70E-02	1.12E-01
	1917.80		1.57	5.09E-02		2.11E-03	2.30E-02
NB-94	702.65		99.81	2.95E-04	2.95E-04	1.68E-04	1.47E-04
	871.09		99.89	3.84E-04		3.85E-03	1.91E-04
@ Y-94	381.60		2.02	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	550.90		4.90	1.00E+20		1.00E+20	1.00E+20
@	752.60		1.40	1.00E+20		1.00E+20	1.00E+20
@	918.74		56.00	1.00E+20		1.00E+20	1.00E+20
@	1138.90		6.00	1.00E+20		1.00E+20	1.00E+20
@	1671.40		2.50	1.00E+20		1.00E+20	1.00E+20
@	2140.60		0.95	1.00E+20		1.00E+20	1.00E+20
NB-95	765.80		99.81	2.84E-04	2.84E-04	3.12E-04	1.41E-04
ZR-95	724.19	*	44.27	9.35E-04	5.49E-04	1.45E-02	4.65E-04
	756.72	*	54.38	5.49E-04		2.59E-03	2.72E-04
NB-96	219.08		2.97	6.71E-02	1.03E-03	-1.12E-02	3.35E-02
	241.38		3.50	5.36E-02		7.05E-02	2.67E-02
	350.05		1.54	9.78E-02		-1.34E-02	4.87E-02
	352.56		0.83	1.80E-01		1.41E-01	8.98E-02
	371.81		2.62	5.50E-02		2.71E-02	2.74E-02
	460.04		26.62	4.90E-03		2.35E-03	2.44E-03
	480.71		5.84	2.18E-02		1.90E-02	1.08E-02
	568.87		58.00	1.97E-03		-2.14E-03	9.77E-04
	719.56		6.85	2.28E-02		1.53E-02	1.13E-02
	721.63		1.02	1.54E-01		2.31E+00	7.64E-02
	778.22		96.45	1.03E-03		5.84E-04	5.10E-04
	810.33		11.09	8.56E-03		-6.07E-03	4.24E-03
	812.58		2.95	3.23E-02		4.18E-02	1.60E-02
	847.69		1.14	8.33E-02		5.02E-02	4.13E-02
	849.93		20.45	4.62E-03		1.58E-03	2.29E-03
	1091.35		48.50	1.60E-03		1.95E-03	7.90E-04
	1200.23		19.97	2.94E-03		-2.48E-03	1.44E-03
	1441.13		0.44	8.00E-02		3.17E-02	3.87E-02
	1497.81		3.28	1.29E-02		-2.17E-03	6.27E-03
Nb-97	657.94		98.23	2.70E-03	2.70E-03	4.53E-04	1.35E-03
	1024.40		1.09	1.30E-01		-1.90E-02	6.42E-02
ZR-97	254.17		1.15	2.60E-01	1.81E-03	4.47E-03	1.30E-01
	355.40		2.09	1.25E-01		1.09E-01	6.25E-02
	507.64		5.03	4.99E-02		-5.28E-04	2.49E-02
	743.36		93.09	1.81E-03		-8.27E-04	8.96E-04

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ZR-97	1147.97	2.62	4.71E-02	1.81E-03	-3.65E-02	2.32E-02
MO-99	181.07	6.14	1.59E-02	3.74E-03	8.83E-03	7.96E-03
	366.42	1.20	5.25E-02		-5.15E-02	2.61E-02
	739.50	12.26	3.74E-03		-8.76E-05	1.86E-03
	777.92	4.30	1.00E-02		5.50E-03	4.96E-03
TC-99M	140.51	90.80	1.19E-03	1.19E-03	-1.88E-04	5.95E-04
RH-101	127.23	68.00	1.15E-03	7.86E-04	7.84E-04	5.76E-04
	198.01	73.00	7.86E-04		8.01E-04	3.92E-04
	325.23	11.80	2.80E-03		-2.82E-04	1.40E-03
RH-101M	306.86	81.00	7.21E-04	7.21E-04	-2.38E-04	3.59E-04
	545.12	4.30	1.01E-02		-1.64E-03	5.02E-03
RH-102M	415.25	2.10	2.09E-02	4.07E-04	5.50E-02	1.04E-02
	418.52	9.40	4.56E-03		1.19E-03	2.27E-03
	420.40	3.20	1.30E-02		1.03E-02	6.45E-03
	475.06	95.00	4.07E-04		2.03E-05	2.03E-04
	628.05	8.30	4.07E-03		5.51E-03	2.02E-03
	631.29	56.00	5.74E-04		-3.56E-04	2.85E-04
	692.40	1.60	2.35E-02		3.13E-03	1.17E-02
	695.60	2.90	1.28E-02		7.90E-02	6.35E-03
	697.49	44.00	8.30E-04		2.96E-04	4.12E-04
	766.84	34.00	8.71E-04		5.66E-04	4.32E-04
	1046.59	34.00	7.29E-04		-3.98E-04	3.60E-04
	1103.16	4.60	4.59E-03		-1.91E-04	2.27E-03
	1112.84	19.00	1.22E-03		5.85E-05	6.04E-04
RU-103	497.08	91.00	3.97E-04	3.97E-04	-6.91E-05	1.98E-04
	610.33	5.76	5.37E-03		5.54E-03	2.67E-03
RH-105	306.31	4.66	2.20E-02	5.87E-03	-3.82E-03	1.10E-02
	319.23	16.90	5.87E-03		3.35E-03	2.93E-03
AG-106M	221.70	6.60	9.60E-03	5.31E-04	-1.07E-02	4.79E-03
	228.63	2.10	2.97E-02		1.02E-02	1.48E-02
	328.46	1.14	4.22E-02		8.35E-03	2.10E-02
	391.04	3.68	1.21E-02		-9.17E-03	6.04E-03
	406.18	13.40	3.25E-03		-2.89E-04	1.62E-03
	429.65	13.20	3.28E-03		8.43E-04	1.63E-03
	450.98	28.20	1.48E-03		-2.24E-03	7.39E-04
	511.85	88.00	5.31E-04		4.37E-03	2.64E-04
	601.17	1.61	2.18E-02		1.21E-02	1.08E-02
	616.17	21.60	1.60E-03		1.23E-03	7.95E-04
	646.03	1.46	2.31E-02		-1.12E-02	1.15E-02
	680.42	2.18	1.53E-02		2.04E-02	7.60E-03
	703.11	4.47	7.33E-03		4.99E-03	3.64E-03
	717.34	28.90	1.35E-03		8.27E-04	6.68E-04
	748.36	20.60	1.56E-03		-1.37E-03	7.75E-04
	793.17	5.90	5.26E-03		3.83E-03	2.61E-03
	804.28	12.40	2.44E-03		3.15E-03	1.21E-03
	808.36	4.00	7.53E-03		6.39E-04	3.73E-03
	824.69	15.30	1.92E-03		-2.62E-03	9.53E-04
	847.15	4.40	6.92E-03		5.26E-03	3.43E-03
	1019.72	1.04	2.61E-02		-2.61E-02	1.29E-02
	1045.83	29.60	9.04E-04		1.07E-03	4.47E-04
	1128.02	11.80	2.08E-03		3.22E-03	1.03E-03
	1199.39	11.20	1.68E-03		-2.14E-03	8.26E-04
	1222.88	7.00	2.51E-03		-1.16E-03	1.23E-03

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	AG-106M	1394.35		1.49	1.07E-02	5.31E-04	2.00E-02	5.20E-03
		1527.65		16.30	6.01E-04		3.41E-04	2.88E-04
		1572.35		6.60	1.21E-03		-9.91E-04	5.75E-04
		1722.76		1.40	6.59E-03		1.08E-02	3.14E-03
		1839.05		2.00	2.98E-03		1.98E-04	1.38E-03
	RH-106	621.93		9.93	3.15E-03	3.15E-03	1.13E-03	1.57E-03
		873.49		0.44	9.05E-02		9.13E-01	4.50E-02
		1050.41		1.56	1.55E-02		9.55E-03	7.64E-03
+	RU-106	511.86	*	20.40	2.75E-03	2.75E-03	1.40E-02	1.37E-03
	AG-108M	79.13		6.60	1.68E-02	3.62E-04	-2.40E-02	8.41E-03
		433.94		90.50	4.42E-04		-4.48E-04	2.20E-04
		614.28		89.80	3.62E-04		-2.09E-04	1.80E-04
		722.91		90.80	5.16E-04		7.61E-03	2.57E-04
	CD-109	88.03		3.64	2.65E-02	2.65E-02	3.95E-02	1.33E-02
	AG-110M	446.81		3.70	1.12E-02	3.68E-04	1.33E-02	5.57E-03
		620.35		2.73	1.23E-02		-1.24E-02	6.13E-03
		657.76		95.61	5.03E-04		-1.24E-05	2.50E-04
		677.62		10.70	3.06E-03		2.72E-03	1.52E-03
		687.01		6.53	5.00E-03		-1.96E-03	2.48E-03
		706.68		16.69	1.89E-03		1.00E-03	9.38E-04
		744.28		4.77	6.51E-03		3.97E-03	3.23E-03
		763.94		22.60	1.38E-03		3.20E-04	6.87E-04
		818.02		7.43	3.99E-03		2.99E-03	1.98E-03
		884.68		75.00	3.68E-04		-7.48E-04	1.82E-04
		937.48		35.00	7.68E-04		7.21E-04	3.80E-04
		1384.29		25.10	4.61E-04		-5.85E-04	2.24E-04
		1475.78		4.08	2.41E-03		1.63E-03	1.16E-03
		1505.03		13.33	7.28E-04		6.03E-04	3.50E-04
		1562.29		1.22	5.21E-03		-2.81E-03	2.48E-03
	AG-111	245.40		1.11	5.61E-02	7.47E-03	9.25E-03	2.80E-02
		342.13		6.68	7.47E-03		-1.45E-03	3.72E-03
	AG-112	606.82		3.10	4.06E-02	2.87E-03	-3.84E-03	2.01E-02
		617.52		43.00	2.87E-03		-1.75E-03	1.43E-03
		692.82		1.19	1.18E-01		-3.76E-03	5.86E-02
		694.87		2.90	4.84E-02		2.55E-01	2.41E-02
		851.28		1.02	1.05E-01		8.30E-02	5.22E-02
		1312.36		1.11	4.93E-02		-1.05E-02	2.41E-02
		1387.68		5.30	8.88E-03		8.82E-03	4.31E-03
		1613.66		2.80	1.07E-02		1.04E-02	5.08E-03
		1798.50		0.89	2.44E-02		2.73E-02	1.13E-02
		2106.31		2.40	5.53E-03		-1.04E-02	2.39E-03
		2506.70		1.06	3.44E-02		6.81E-02	1.63E-02
	CD-113M	263.70		0.03	1.80E+00	1.80E+00	-1.33E+00	9.00E-01
	SN-113	255.13		2.11	2.37E-02	5.98E-04	8.09E-03	1.18E-02
		391.70		64.97	5.98E-04		5.01E-04	2.98E-04
	IN-114M	190.27		15.56	3.70E-03	3.70E-03	-9.46E-04	1.85E-03
		558.43		4.40	7.85E-03		1.28E-02	3.90E-03
		725.24		4.40	1.05E-02		2.34E-03	5.20E-03
	CD-115	260.90		1.94	4.40E-02	1.62E-03	3.22E-02	2.19E-02
		336.24		46.02	1.62E-03		1.96E-03	8.06E-04
		527.90		27.45	2.15E-03		-2.02E-03	1.07E-03
	CD-115M	933.84		2.00	1.27E-02	1.27E-02	-1.18E-02	6.26E-03
		1290.59		0.90	1.51E-02		-1.04E-03	7.40E-03

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
IN-115M	336.24	45.90	7.59E-01	7.59E-01	9.21E-01	3.78E-01
IN-116M	138.29	3.70	5.67E+12	4.62E+10	-2.68E+11	2.83E+12
	416.90	27.20	4.20E+11		9.75E+11	2.09E+11
	818.68	12.13	6.56E+11		1.60E+11	3.25E+11
	1097.28	58.50	1.02E+11		-1.04E+11	5.05E+10
	1293.56	84.80	4.62E+10		4.92E+09	2.26E+10
	1507.59	9.92	2.68E+11		1.61E+11	1.29E+11
	2112.29	15.09	6.97E+10		1.70E+10	3.08E+10
SB-125	176.31	6.84	8.66E-03	1.22E-03	-1.13E-03	4.32E-03
	380.45	1.52	2.57E-02		2.75E-02	1.28E-02
	427.87	29.60	1.22E-03		8.89E-04	6.10E-04
	463.36	10.49	3.41E-03		1.75E-03	1.70E-03
	600.60	17.65	1.71E-03		-8.49E-04	8.50E-04
	606.71	4.98	6.04E-03		-1.79E-03	3.00E-03
	635.95	11.22	2.61E-03		6.81E-04	1.30E-03
	671.44	1.79	1.78E-02		6.24E-03	8.84E-03
SN-125	332.10	1.40	3.73E-02	2.36E-03	-1.17E-02	1.86E-02
	469.85	1.50	2.89E-02		-6.43E-03	1.44E-02
	800.28	1.10	2.82E-02		1.04E-02	1.40E-02
	822.48	4.30	7.03E-03		7.15E-03	3.48E-03
	915.55	4.10	7.09E-03		7.55E-03	3.51E-03
	1067.10	10.00	2.58E-03		-6.88E-04	1.28E-03
	1087.70	1.20	2.27E-02		6.28E-03	1.12E-02
	1089.10	4.60	5.45E-03		1.03E-02	2.69E-03
	2002.10	1.90	2.36E-03		-4.54E-05	1.06E-03
SB-127	61.10	1.43	2.01E-01	1.07E-03	7.51E-02	1.00E-01
	252.40	8.50	8.55E-03		3.61E-03	4.26E-03
	290.80	2.02	3.25E-02		-2.93E-03	1.62E-02
	412.10	3.80	1.44E-02		-2.17E-03	7.15E-03
	445.10	4.30	1.24E-02		3.63E-03	6.16E-03
	473.00	25.80	1.91E-03		-1.58E-03	9.52E-04
	543.30	2.90	1.52E-02		-5.45E-03	7.55E-03
	603.50	4.50	9.67E-03		2.31E-03	4.81E-03
	685.70	36.80	1.07E-03		-5.19E-04	5.33E-04
	698.50	3.64	1.24E-02		-2.76E-03	6.17E-03
	722.20	1.88	3.20E-02		4.90E-01	1.59E-02
	783.70	15.10	2.53E-03		2.89E-03	1.25E-03
SN-127	119.70	2.20	6.14E+04	9.53E+02	2.51E+04	3.07E+04
	262.50	2.30	3.54E+04		1.75E+03	1.77E+04
	266.20	2.10	3.84E+04		3.50E+04	1.92E+04
	284.30	2.70	2.86E+04		-8.05E+03	1.42E+04
	438.20	6.10	1.02E+04		-3.34E+02	5.06E+03
	490.90	5.30	1.12E+04		-9.42E+02	5.58E+03
	493.20	3.10	1.91E+04		4.44E+03	9.51E+03
	545.40	2.30	2.38E+04		-1.32E+04	1.19E+04
	583.30	3.20	1.66E+04		2.07E+04	8.25E+03
	805.90	8.20	5.34E+03		2.28E+03	2.65E+03
	823.10	11.00	3.90E+03		2.96E+03	1.93E+03
	824.70	6.10	7.00E+03		-9.54E+03	3.47E+03
	859.50	8.00	5.26E+03		1.16E+03	2.61E+03
	979.20	7.20	5.51E+03		2.18E+03	2.72E+03
	1093.30	3.80	9.27E+03		-9.58E+03	4.57E+03
	1095.60	19.00	1.83E+03		-1.57E+03	9.02E+02

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SN-127	1114.30		38.00	9.53E+02	9.53E+02	1.13E+03	4.71E+02
		1160.40		2.40	1.32E+04		-3.94E+03	6.48E+03
		2003.40		5.30	1.23E+03		1.16E+03	5.51E+02
	SB-129	180.42		2.84	2.04E+01	5.38E-01	3.18E+01	1.02E+01
		359.20		2.39	1.67E+01		-1.16E+01	8.33E+00
		404.64		1.17	3.16E+01		1.25E+01	1.58E+01
		523.13		1.55	2.16E+01		1.37E+01	1.07E+01
		544.56		15.42	2.09E+00		-5.95E-01	1.04E+00
		633.74		2.53	1.14E+01		-2.48E-01	5.69E+00
		654.28		2.97	9.63E+00		3.69E+00	4.78E+00
		682.77		5.76	4.88E+00		-7.68E+00	2.42E+00
		761.12		4.32	7.25E+00		3.94E+00	3.60E+00
		773.37		2.82	9.48E+00		-2.27E+00	4.70E+00
		786.36		1.07	2.52E+01		-2.75E+01	1.25E+01
		787.16		1.74	1.55E+01		3.89E+00	7.69E+00
		812.97		48.20	5.38E-01		-2.94E-01	2.66E-01
		819.51		1.39	1.86E+01		1.65E+01	9.22E+00
		876.65		2.75	1.33E+01		3.29E+00	6.61E+00
		914.96		23.30	1.04E+00		1.36E+00	5.16E-01
		966.78		8.96	2.74E+00		4.02E+00	1.35E+00
		1030.65		15.13	1.53E+00		4.63E-01	7.57E-01
		1656.10		1.31	4.76E+00		4.40E+00	2.25E+00
		1738.16		7.45	7.58E-01		-5.83E-01	3.54E-01
	TE-129	459.60		7.70	4.84E-03	4.84E-03	-9.28E-04	2.41E-03
		487.39		1.42	2.59E-02		-9.10E-05	1.29E-02
+	Te-129m	695.88	*	3.00	7.55E-03	7.55E-03	4.70E-02	3.74E-03
	I-131	80.18		2.62	5.07E-02	5.75E-04	-4.96E-02	2.53E-02
		284.30		6.12	8.87E-03		-5.59E-03	4.42E-03
		364.49		81.50	5.75E-04		-3.80E-04	2.86E-04
		636.99		7.16	4.75E-03		-4.15E-03	2.36E-03
		722.91		1.77	2.84E-02		4.19E-01	1.41E-02
	Te-131m	773.67		36.80	1.95E-03	1.95E-03	-4.67E-04	9.65E-04
		793.75		13.40	5.46E-03		4.93E-03	2.70E-03
		852.21		19.90	3.38E-03		3.23E-03	1.67E-03
		1125.46		11.00	5.10E-03		5.46E-03	2.52E-03
		1206.60		9.41	4.35E-03		1.57E-03	2.14E-03
	I-132	262.90		1.28	5.58E-02	5.65E-04	-9.06E-03	2.78E-02
		284.90		0.71	9.51E-02		-5.37E-02	4.74E-02
		505.79		4.93	1.32E-02		4.23E-03	6.59E-03
		522.65		16.00	3.43E-03		1.12E-03	1.70E-03
		547.20		1.14	4.64E-02		-5.91E-03	2.31E-02
		621.20		1.97	2.47E-02		-5.25E-03	1.23E-02
		630.19		13.30	3.64E-03		1.38E-03	1.81E-03
		650.50		2.57	1.88E-02		2.21E-03	9.33E-03
		667.71		98.70	6.35E-04		1.05E-04	3.16E-04
		669.80		4.60	1.14E-02		-1.53E-03	5.64E-03
		671.40		3.50	1.53E-02		3.22E-03	7.59E-03
		727.10		5.40	1.33E-02		2.64E-03	6.61E-03
		728.40		1.60	4.30E-02		-6.22E-04	2.14E-02
		772.60		75.60	5.65E-04		-4.09E-04	2.80E-04
		809.50		2.60	1.64E-02		-1.16E-02	8.10E-03
		812.00		5.50	7.68E-03		8.29E-03	3.81E-03
		910.10		0.93	4.39E-02		2.46E-02	2.17E-02

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-132	954.55	17.60	2.21E-03	5.65E-04	-2.51E-04	1.09E-03
		1136.00	3.01	1.05E-02		-2.22E-02	5.16E-03
		1172.90	1.09	6.83E-02		1.23E+00	3.39E-02
		1290.80	1.13	1.88E-02		1.10E-02	9.17E-03
		1295.10	1.88	9.07E-03		-7.65E-04	4.43E-03
		1297.90	0.89	1.69E-02		-4.91E-03	8.25E-03
		1372.07	2.47	7.48E-03		5.74E-03	3.64E-03
		1398.57	7.01	3.07E-03		5.29E-03	1.50E-03
		1442.56	1.40	9.03E-03		4.37E-03	4.36E-03
	TE-132	49.72	15.00	3.08E-02	9.05E-04	5.58E-02	1.54E-02
		111.76	1.74	6.68E-02		-4.51E-02	3.34E-02
		116.30	1.96	5.79E-02		4.63E-02	2.89E-02
		228.16	88.00	9.05E-04		2.42E-04	4.52E-04
	BA-133	81.00	32.90	3.41E-03	6.68E-04	-1.27E-03	1.70E-03
		276.40	7.16	6.69E-03		1.69E-03	3.34E-03
		302.85	18.34	2.44E-03		2.07E-04	1.22E-03
		356.01	62.05	6.68E-04		3.83E-05	3.33E-04
		383.85	8.94	4.21E-03		3.66E-03	2.10E-03
	I-133	529.87	87.00	1.64E-03	1.64E-03	-2.18E-03	8.16E-04
		706.58	1.51	8.21E-02		4.36E-02	4.08E-02
		856.28	1.24	8.97E-02		-1.09E-02	4.44E-02
		875.33	4.51	3.48E-02		1.13E-02	1.73E-02
		1236.44	1.51	4.11E-02		1.68E-04	2.02E-02
		1298.22	2.35	2.36E-02		-9.03E-03	1.15E-02
@	TE-133	312.08	62.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		407.63	27.10	1.00E+20		1.00E+20	1.00E+20
@		410.40	0.94	1.00E+20		1.00E+20	1.00E+20
@		474.85	0.88	1.00E+20		1.00E+20	1.00E+20
@		719.71	8.90	1.00E+20		1.00E+20	1.00E+20
@		786.93	5.40	1.00E+20		1.00E+20	1.00E+20
@		844.36	3.31	1.00E+20		1.00E+20	1.00E+20
@		884.30	0.72	1.00E+20		1.00E+20	1.00E+20
@		930.71	3.81	1.00E+20		1.00E+20	1.00E+20
@		997.70	1.04	1.00E+20		1.00E+20	1.00E+20
@		1000.72	3.62	1.00E+20		1.00E+20	1.00E+20
@		1021.13	2.81	1.00E+20		1.00E+20	1.00E+20
@		1061.61	1.19	1.00E+20		1.00E+20	1.00E+20
@		1252.08	1.44	1.00E+20		1.00E+20	1.00E+20
@		1312.80	0.85	1.00E+20		1.00E+20	1.00E+20
@		1333.21	10.67	1.00E+20		1.00E+20	1.00E+20
@		1717.61	3.18	1.00E+20		1.00E+20	1.00E+20
@		1881.52	1.22	1.00E+20		1.00E+20	1.00E+20
@		2136.51	1.25	1.00E+20		1.00E+20	1.00E+20
@		2229.64	0.87	1.00E+20		1.00E+20	1.00E+20
	Xe-133	81.00	36.90	3.69E-03	3.69E-03	-1.38E-03	1.84E-03
	CS-134	475.36	1.48	2.40E-02	3.25E-04	2.27E-02	1.19E-02
		563.25	8.34	4.15E-03		8.97E-04	2.06E-03
		569.33	15.37	2.22E-03		-1.69E-03	1.10E-03
		604.72	97.62	3.25E-04		-2.07E-05	1.61E-04
		795.86	85.46	3.25E-04		-7.70E-05	1.61E-04
		801.95	8.69	3.23E-03		-3.30E-03	1.60E-03
		1038.61	0.99	2.42E-02		1.09E-02	1.20E-02
		1167.97	1.79	2.47E-02		5.96E-03	1.23E-02

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-134	1365.19		3.02	3.47E-03	3.25E-04	1.41E-03	1.69E-03
	I-135	220.50		1.75	3.17E+00	4.89E-02	-6.69E-01	1.58E+00
		288.45		3.10	1.48E+00		-1.62E+00	7.37E-01
		417.63		3.53	1.10E+00		6.71E-01	5.50E-01
		546.56		7.15	4.59E-01		-3.84E-02	2.28E-01
		836.80		6.69	3.78E-01		-4.23E-01	1.87E-01
		971.96		0.89	2.73E+00		1.29E-01	1.35E+00
		972.62		1.21	1.97E+00		-1.39E+00	9.74E-01
		1038.76		7.90	2.82E-01		1.27E-01	1.39E-01
		1101.58		1.61	1.28E+00		-1.09E-01	6.30E-01
		1124.00		3.62	6.07E-01		-3.10E-01	3.00E-01
		1131.51		22.60	9.29E-02		-7.60E-02	4.58E-02
		1240.47		0.90	1.84E+00		7.99E-01	9.03E-01
		1260.41		28.70	4.89E-02		-5.04E-02	2.40E-02
		1457.56		8.70	1.19E-01		4.68E-02	5.75E-02
		1502.79		1.08	8.99E-01		2.04E-01	4.34E-01
		1566.41		1.29	5.30E-01		4.30E-01	2.52E-01
		1678.03		9.60	5.86E-02		5.77E-02	2.75E-02
		1706.46		4.10	1.48E-01		-8.37E-02	6.96E-02
		1791.20		7.72	6.37E-02		6.86E-02	2.95E-02
		2408.65		0.96	2.82E-01		-3.64E-01	1.17E-01
	XE-135	249.79		90.00	1.56E-02	1.56E-02	5.38E-02	7.78E-03
	XE-135m	526.56		80.40	4.07E-02	4.07E-02	-2.47E-02	2.03E-02
	CS-136	66.88		4.79	3.88E-02	3.12E-04	-3.47E-03	1.94E-02
		86.36		5.90	2.01E-02		-1.65E-03	1.01E-02
		153.25		7.70	9.98E-03		1.31E-03	4.98E-03
		163.92		4.69	1.65E-02		9.99E-03	8.24E-03
		176.60		13.70	5.22E-03		-3.95E-03	2.61E-03
		273.65		12.66	4.47E-03		-2.30E-03	2.23E-03
		340.55		46.80	1.07E-03		2.43E-04	5.34E-04
		818.51		99.70	3.12E-04		2.98E-04	1.55E-04
		1048.07		80.00	3.44E-04		9.65E-05	1.70E-04
		1235.36		20.00	8.82E-04		-1.11E-03	4.32E-04
+	CS-137	661.66	*	85.10	2.52E-04	2.52E-04	8.31E-03	1.25E-04
	BA-139	33.44		3.84	9.56E+08	7.49E+06	-1.53E+09	4.77E+08
		165.86		23.70	7.49E+06		6.68E+05	3.74E+06
	BA-140	132.69		0.20	3.87E-01	1.51E-03	9.43E-02	1.93E-01
		162.66		6.22	1.13E-02		-4.75E-03	5.64E-03
		304.85		4.29	1.17E-02		1.13E-04	5.83E-03
		423.72		3.10	1.30E-02		-8.12E-03	6.47E-03
		437.58		1.93	2.10E-02		-1.04E-02	1.05E-02
		537.26		24.39	1.51E-03		4.90E-04	7.52E-04
	LA-140	109.42		0.22	3.86E-01	1.88E-04	-4.76E-02	1.93E-01
		131.12		0.47	1.68E-01		6.96E-04	8.41E-02
		173.54		0.13	5.19E-01		-1.17E-01	2.59E-01
		241.93		0.41	1.38E-01		8.11E-02	6.86E-02
		266.54		0.47	1.13E-01		5.28E-02	5.65E-02
		328.76		20.30	2.43E-03		-1.18E-03	1.21E-03
		432.49		2.90	1.53E-02		-1.17E-03	7.60E-03
		487.02		45.50	9.14E-04		5.73E-04	4.55E-04
		618.10		0.04	8.77E-01		-1.78E+00	4.36E-01
		751.64		4.33	8.16E-03		-1.94E-03	4.05E-03
		815.77		23.28	1.26E-03		2.56E-03	6.23E-04

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	LA-140	867.85	5.50	7.24E-03	1.88E-04	3.18E-03	3.59E-03
		919.55	2.66	1.02E-02		-1.06E-02	5.02E-03
		925.19	6.90	4.07E-03		1.69E-04	2.01E-03
		950.99	0.52	5.38E-02		-5.56E-03	2.66E-02
		1596.21	95.40	1.88E-04		6.62E-04	9.19E-05
		2347.88	0.85	3.84E-03		2.45E-03	1.64E-03
		2521.40	3.46	9.80E-04		5.63E-04	4.14E-04
		2547.34	0.10	3.35E-02		1.81E-02	1.40E-02
@	BA-141	33.44	7.93	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		190.33	44.80	1.00E+20		1.00E+20	1.00E+20
@		276.95	23.60	1.00E+20		1.00E+20	1.00E+20
@		304.19	26.10	1.00E+20		1.00E+20	1.00E+20
@		343.67	15.10	1.00E+20		1.00E+20	1.00E+20
@		389.74	1.37	1.00E+20		1.00E+20	1.00E+20
@		457.51	5.00	1.00E+20		1.00E+20	1.00E+20
@		462.06	5.10	1.00E+20		1.00E+20	1.00E+20
@		467.22	5.60	1.00E+20		1.00E+20	1.00E+20
@		625.08	3.45	1.00E+20		1.00E+20	1.00E+20
@		647.78	5.70	1.00E+20		1.00E+20	1.00E+20
@		738.95	4.39	1.00E+20		1.00E+20	1.00E+20
@		831.46	1.64	1.00E+20		1.00E+20	1.00E+20
@		876.09	3.45	1.00E+20		1.00E+20	1.00E+20
@		1160.72	1.12	1.00E+20		1.00E+20	1.00E+20
@		1197.28	4.35	1.00E+20		1.00E+20	1.00E+20
@		1323.92	0.92	1.00E+20		1.00E+20	1.00E+20
@		1654.00	0.65	1.00E+20		1.00E+20	1.00E+20
@		1682.19	1.19	1.00E+20		1.00E+20	1.00E+20
	CE-141	145.44	48.30	1.44E-03	1.44E-03	-7.90E-04	7.19E-04
@	BA-142	33.44	14.20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		77.59	7.00	1.00E+20		1.00E+20	1.00E+20
@		177.00	2.12	1.00E+20		1.00E+20	1.00E+20
@		231.61	12.20	1.00E+20		1.00E+20	1.00E+20
@		255.30	20.70	1.00E+20		1.00E+20	1.00E+20
@		286.30	1.11	1.00E+20		1.00E+20	1.00E+20
@		309.20	2.60	1.00E+20		1.00E+20	1.00E+20
@		335.00	1.53	1.00E+20		1.00E+20	1.00E+20
@		363.96	4.76	1.00E+20		1.00E+20	1.00E+20
@		425.04	5.75	1.00E+20		1.00E+20	1.00E+20
@		599.80	1.85	1.00E+20		1.00E+20	1.00E+20
@		840.40	3.63	1.00E+20		1.00E+20	1.00E+20
@		895.20	13.90	1.00E+20		1.00E+20	1.00E+20
@		949.10	10.70	1.00E+20		1.00E+20	1.00E+20
@		1001.20	9.80	1.00E+20		1.00E+20	1.00E+20
@		1078.70	11.50	1.00E+20		1.00E+20	1.00E+20
@		1094.10	2.82	1.00E+20		1.00E+20	1.00E+20
@		1126.80	1.50	1.00E+20		1.00E+20	1.00E+20
@		1202.40	5.60	1.00E+20		1.00E+20	1.00E+20
@		1204.30	14.30	1.00E+20		1.00E+20	1.00E+20
@		1380.20	3.42	1.00E+20		1.00E+20	1.00E+20
	CE-143	57.36	11.70	5.09E-02	2.63E-03	-1.60E-02	2.54E-02
		231.55	2.05	6.71E-02		3.25E-02	3.35E-02
		293.27	42.80	2.63E-03		1.28E-03	1.31E-03
		350.62	3.23	3.08E-02		-1.02E-03	1.53E-02

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
CE-143	490.37	2.16	4.24E-02	2.63E-03	1.06E-02	2.11E-02
	664.57	5.69	2.03E-02		1.14E-04	1.01E-02
	721.93	5.39	1.96E-02		3.00E-01	9.76E-03
	880.46	1.03	6.84E-02		2.46E-02	3.39E-02
CE-144	80.12	1.36	8.03E-02	6.38E-03	-7.87E-02	4.01E-02
	133.51	11.09	6.38E-03		-2.36E-03	3.19E-03
ND-147	38.17	13.20	5.85E-02	2.87E-03	-8.83E-02	2.92E-02
	38.72	23.80	3.06E-02		-1.01E-01	1.53E-02
	91.11	28.90	3.56E-03		2.09E-03	1.78E-03
	275.39	0.79	7.00E-02		-3.47E-02	3.49E-02
	319.41	1.97	2.49E-02		1.42E-02	1.24E-02
	398.13	0.87	4.97E-02		-6.29E-02	2.48E-02
	439.88	1.20	3.49E-02		3.31E-03	1.74E-02
	531.01	13.11	2.87E-03		-6.12E-04	1.43E-03
	685.88	0.82	3.90E-02		-1.37E-02	1.93E-02
@ PR-147	36.85	19.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	37.36	35.50	1.00E+20		1.00E+20	1.00E+20
@	49.88	4.00	1.00E+20		1.00E+20	1.00E+20
@	77.97	9.70	1.00E+20		1.00E+20	1.00E+20
@	86.69	5.40	1.00E+20		1.00E+20	1.00E+20
@	127.80	7.40	1.00E+20		1.00E+20	1.00E+20
@	249.20	1.32	1.00E+20		1.00E+20	1.00E+20
@	314.70	18.20	1.00E+20		1.00E+20	1.00E+20
@	328.80	4.00	1.00E+20		1.00E+20	1.00E+20
@	335.70	4.70	1.00E+20		1.00E+20	1.00E+20
@	388.80	1.41	1.00E+20		1.00E+20	1.00E+20
@	466.80	1.70	1.00E+20		1.00E+20	1.00E+20
@	477.90	4.60	1.00E+20		1.00E+20	1.00E+20
@	516.70	1.30	1.00E+20		1.00E+20	1.00E+20
@	554.70	5.90	1.00E+20		1.00E+20	1.00E+20
@	577.90	13.70	1.00E+20		1.00E+20	1.00E+20
@	641.40	16.10	1.00E+20		1.00E+20	1.00E+20
@	996.00	1.52	1.00E+20		1.00E+20	1.00E+20
@	1136.70	1.42	1.00E+20		1.00E+20	1.00E+20
@	1261.10	8.40	1.00E+20		1.00E+20	1.00E+20
@	1300.40	2.30	1.00E+20		1.00E+20	1.00E+20
ND-149	38.17	9.00	2.89E+06	8.25E+04	-4.36E+06	1.44E+06
	38.72	16.30	1.50E+06		-4.95E+06	7.50E+05
	58.88	1.30	6.70E+06		-5.69E+05	3.35E+06
	74.32	2.11	2.30E+06		4.43E+06	1.15E+06
	97.00	1.48	2.23E+06		4.99E+04	1.11E+06
	114.31	19.20	1.57E+05		7.23E+04	7.84E+04
	155.87	5.95	4.22E+05		1.69E+05	2.11E+05
	188.64	1.79	1.29E+06		-3.29E+05	6.43E+05
	198.93	1.39	1.57E+06		-4.34E+05	7.83E+05
	208.15	2.55	8.74E+05		-2.15E+05	4.36E+05
	211.31	26.00	8.25E+04		2.96E+04	4.12E+04
	240.22	3.95	4.96E+05		-3.36E+04	2.48E+05
	245.72	0.81	2.57E+06		9.85E+05	1.28E+06
	267.69	6.05	3.14E+05		4.93E+04	1.56E+05
	270.17	10.80	1.65E+05		-1.00E+05	8.25E+04
	326.55	4.57	3.56E+05		-3.11E+05	1.78E+05
	349.23	1.38	1.18E+06		-1.73E+05	5.90E+05

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ND-149	423.55	7.50	1.85E+05	8.25E+04	-4.70E+04	9.23E+04
	443.55	1.15	1.26E+06		9.48E+05	6.26E+05
	540.51	6.60	1.93E+05		-4.08E+04	9.59E+04
	654.83	8.00	1.35E+05		1.76E+04	6.70E+04
PM-149	285.95	3.10	2.59E-02	2.59E-02	-3.13E-02	1.29E-02
PM-150	39.52	0.63	6.66E+04	4.38E+01	-1.68E+05	3.32E+04
	40.12	1.14	3.50E+04		-4.85E+04	1.75E+04
	333.92	68.00	4.38E+01		1.90E+00	2.18E+01
	406.51	5.60	4.69E+02		-6.64E+02	2.33E+02
	565.70	1.31	1.71E+03		1.48E+03	8.50E+02
	587.02	1.34	1.77E+03		4.29E+02	8.80E+02
	612.25	0.93	2.26E+03		1.09E+02	1.12E+03
	712.22	4.40	4.42E+02		-5.32E+02	2.20E+02
	737.50	2.25	8.67E+02		1.18E+02	4.30E+02
	831.85	11.90	1.47E+02		-3.20E+01	7.27E+01
	859.95	3.40	5.16E+02		4.82E+02	2.55E+02
	876.41	7.30	3.56E+02		1.26E+02	1.77E+02
	1165.77	15.80	1.21E+02		7.27E+01	5.99E+01
	1170.90	1.06	3.24E+03		5.92E+04	1.61E+03
	1193.87	4.80	2.50E+02		-2.43E+01	1.23E+02
	1213.72	1.03	1.06E+03		-1.18E+03	5.18E+02
	1223.28	2.80	3.79E+02		-1.15E+02	1.86E+02
	1324.51	17.50	7.68E+01		-2.48E+01	3.78E+01
	1379.32	3.10	2.56E+02		-5.33E+00	1.24E+02
	1736.40	6.90	5.70E+01		-2.98E+01	2.66E+01
	1963.71	1.47	2.02E+02		3.22E+01	9.12E+01
	2033.46	0.97	2.37E+02		-4.48E+02	1.04E+02
@ ND-151	38.17	5.94	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	38.72	10.70	1.00E+20		1.00E+20	1.00E+20
@	68.98	1.26	1.00E+20		1.00E+20	1.00E+20
@	85.12	2.05	1.00E+20		1.00E+20	1.00E+20
@	89.96	1.53	1.00E+20		1.00E+20	1.00E+20
@	116.80	39.00	1.00E+20		1.00E+20	1.00E+20
@	138.89	7.00	1.00E+20		1.00E+20	1.00E+20
@	170.76	2.87	1.00E+20		1.00E+20	1.00E+20
@	175.07	6.30	1.00E+20		1.00E+20	1.00E+20
@	255.68	14.80	1.00E+20		1.00E+20	1.00E+20
@	300.58	1.82	1.00E+20		1.00E+20	1.00E+20
@	423.56	5.90	1.00E+20		1.00E+20	1.00E+20
@	460.59	0.96	1.00E+20		1.00E+20	1.00E+20
@	585.22	1.30	1.00E+20		1.00E+20	1.00E+20
@	677.88	2.38	1.00E+20		1.00E+20	1.00E+20
@	736.23	5.90	1.00E+20		1.00E+20	1.00E+20
@	739.20	1.52	1.00E+20		1.00E+20	1.00E+20
@	755.57	1.17	1.00E+20		1.00E+20	1.00E+20
@	797.53	4.70	1.00E+20		1.00E+20	1.00E+20
@	1016.40	2.50	1.00E+20		1.00E+20	1.00E+20
@	1122.63	4.10	1.00E+20		1.00E+20	1.00E+20
@	1180.89	13.30	1.00E+20		1.00E+20	1.00E+20
Pm-151	167.75	8.30	2.16E-02	5.41E-03	-4.60E-03	1.08E-02
	177.16	3.80	4.68E-02		2.01E-03	2.34E-02
	240.09	3.80	4.01E-02		-2.71E-03	2.00E-02
	275.21	6.80	2.00E-02		-9.90E-03	9.96E-03

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Pm-151	340.08		22.50	5.41E-03	5.41E-03	-9.75E-05	2.70E-03
	EU-152	121.78		28.53	2.96E-03	6.58E-04	7.83E-04	1.48E-03
		344.28		26.59	1.63E-03		2.20E-03	8.14E-04
		778.90		12.93	2.21E-03		2.30E-03	1.10E-03
		867.37		4.23	8.00E-03		2.75E-03	3.97E-03
		964.08		14.51	1.78E-03		2.78E-03	8.81E-04
		1085.87		10.11	2.16E-03		2.34E-03	1.07E-03
		1112.07		13.67	1.59E-03		1.53E-03	7.87E-04
		1408.01		20.87	6.58E-04		1.60E-03	3.21E-04
@	ND-152	44.44		5.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		250.15		16.40	1.00E+20		1.00E+20	1.00E+20
@		278.56		26.00	1.00E+20		1.00E+20	1.00E+20
@		294.47		2.90	1.00E+20		1.00E+20	1.00E+20
@		545.70		0.83	1.00E+20		1.00E+20	1.00E+20
@		592.50		0.99	1.00E+20		1.00E+20	1.00E+20
	GD-153	69.67		2.45	5.81E-02	2.86E-03	-3.84E-02	2.90E-02
		97.43		30.00	2.86E-03		9.01E-04	1.43E-03
		103.18		22.10	3.71E-03		-8.26E-04	1.85E-03
	SM-153	69.67		4.67	5.77E-02	5.33E-03	-3.81E-02	2.88E-02
		103.18		29.14	5.33E-03		-1.19E-03	2.66E-03
+	EU-154	42.70		20.45	2.21E-02	7.41E-04	1.68E-02	1.10E-02
		123.07	*	40.40	2.43E-03		3.43E-02	1.22E-03
		247.93	*	6.89	8.08E-03		3.28E-02	4.03E-03
		591.76	*	4.95	9.51E-03		3.69E-02	4.74E-03
		692.42	*	1.78	1.11E-02		3.45E-02	5.48E-03
		723.30	*	20.06	2.13E-03		3.31E-02	1.06E-03
		756.80	*	4.52	6.98E-03		3.30E-02	3.47E-03
		873.18	*	12.08	3.21E-03		3.51E-02	1.60E-03
		996.29	*	10.48	3.04E-03		3.31E-02	1.51E-03
		1004.76	*	18.01	2.36E-03		3.33E-02	1.17E-03
		1246.12	*	0.86	2.04E-02		3.02E-02	1.00E-02
		1274.43	*	34.80	7.41E-04		3.34E-02	3.66E-04
		1494.05	*	0.70	1.29E-02		3.73E-02	6.19E-03
		1596.48	*	1.80	4.44E-03		3.14E-02	2.14E-03
+	EU-155	43.00		18.12	2.44E-02	3.48E-03	1.50E-02	1.22E-02
		60.01	*	1.17	2.33E-01		6.54E+00	1.16E-01
		86.55	*	30.70	3.48E-03		4.86E-03	1.74E-03
		105.31	*	21.10	4.93E-03		5.75E-03	2.46E-03
	EU-156	88.97		8.40	1.30E-02	9.56E-04	2.67E-02	6.51E-03
		646.29		6.30	5.25E-03		-2.55E-03	2.61E-03
		723.47		5.40	9.04E-03		1.36E-01	4.50E-03
		811.77		9.70	3.07E-03		3.23E-03	1.52E-03
		1065.14		4.90	5.11E-03		2.25E-03	2.52E-03
		1079.16		4.60	5.20E-03		-3.87E-03	2.57E-03
		1153.80		11.50	1.80E-03		-7.50E-04	8.87E-04
		1230.71		8.00	2.14E-03		7.80E-05	1.05E-03
		1242.42		6.60	2.77E-03		-1.59E-04	1.36E-03
		1277.43		2.89	2.12E-02		9.21E-04	1.05E-02
		1366.41		1.57	8.23E-03		5.25E-03	4.00E-03
		1965.95		3.90	1.09E-03		-1.94E-03	4.92E-04
		2097.70		3.80	9.56E-04		9.81E-06	4.18E-04
		2186.71		3.50	1.20E-03		2.76E-04	5.31E-04
	Sm-156	87.60		24.00	9.97E-02	6.30E-02	2.92E-01	4.98E-02

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Sm-156	165.80	13.00	1.17E-01	6.30E-02	1.04E-02	5.82E-02
	204.00	21.00	6.30E-02		-2.34E-02	3.14E-02
EU-158	42.31	5.80	9.87E+15	1.01E+14	1.13E+16	4.93E+15
	43.00	10.40	5.20E+15		3.20E+15	2.60E+15
	79.49	10.50	1.28E+15		-2.18E+15	6.41E+14
	181.97	2.30	3.09E+15		-2.37E+12	1.54E+15
	528.05	1.53	2.69E+15		-2.59E+15	1.34E+15
	606.39	4.00	9.19E+14		4.89E+14	4.57E+14
	743.02	3.60	9.48E+14		9.29E+14	4.70E+14
	897.61	12.40	2.52E+14		1.72E+12	1.25E+14
	906.50	1.83	1.71E+15		1.67E+15	8.47E+14
	922.51	1.62	1.85E+15		5.27E+14	9.14E+14
	944.15	30.00	1.01E+14		-7.62E+12	5.01E+13
	953.03	1.98	1.50E+15		-1.13E+14	7.41E+14
	962.09	1.89	1.61E+15		-2.25E+14	7.97E+14
	977.14	16.30	1.75E+14		-1.29E+14	8.68E+13
	986.96	1.35	2.17E+15		1.80E+15	1.08E+15
	1107.63	5.10	5.18E+14		-1.23E+13	2.56E+14
	1184.10	3.00	7.16E+14		1.50E+14	3.52E+14
	1186.00	2.90	7.49E+14		6.18E+14	3.69E+14
	1187.10	4.40	4.93E+14		2.96E+14	2.42E+14
	1263.61	2.20	8.12E+14		-3.68E+14	3.98E+14
	1347.95	1.65	8.49E+14		-4.34E+14	4.13E+14
	1944.47	1.62	3.48E+14		-2.74E+14	1.59E+14
TB-160	86.79	13.20	8.01E-03	1.02E-03	3.06E-02	4.00E-03
	298.58	26.10	1.81E-03		2.60E-04	9.02E-04
	879.38	30.10	1.23E-03		1.54E-03	6.10E-04
	962.32	9.81	2.63E-03		-2.25E-04	1.30E-03
	966.17	25.10	1.02E-03		1.07E-03	5.05E-04
	1177.96	14.90	3.24E-03		8.67E-04	1.61E-03
TB-161	25.65	23.20	3.29E-01	1.44E-02	-5.95E-01	1.64E-01
	48.91	17.00	2.21E-02		2.39E-02	1.10E-02
	52.00	3.43	9.28E-02		1.32E-01	4.64E-02
	57.19	1.79	1.58E-01		-3.25E-02	7.87E-02
	74.57	10.20	1.44E-02		1.73E-02	7.21E-03
YB-169	63.12	43.62	4.43E-03	1.62E-03	-1.34E-03	2.22E-03
	93.61	2.58	3.95E-02		2.17E-02	1.97E-02
	109.78	17.39	4.75E-03		-3.40E-04	2.37E-03
	130.52	11.38	6.99E-03		3.19E-03	3.49E-03
	177.21	22.28	2.90E-03		1.25E-04	1.45E-03
	197.96	35.93	1.62E-03		1.65E-03	8.07E-04
	307.74	10.05	4.28E-03		-3.04E-04	2.13E-03
HF-172	54.07	63.00	3.82E-03	3.82E-03	-6.48E-04	1.91E-03
	67.35	5.30	2.79E-02		5.91E-03	1.39E-02
	81.75	4.50	2.35E-02		-1.63E-02	1.18E-02
	114.06	2.60	2.99E-02		2.46E-02	1.49E-02
	125.81	11.30	7.01E-03		2.09E-03	3.50E-03
	127.91	1.46	4.99E-02		-7.98E-03	2.49E-02
LU-173	59.30	24.44	8.79E-03	2.28E-03	3.27E-01	4.39E-03
	78.63	11.90	9.97E-03		-1.67E-03	4.98E-03
	100.72	5.24	1.62E-02		2.10E-03	8.09E-03
	171.39	2.90	2.13E-02		4.51E-03	1.06E-02
	272.11	21.20	2.28E-03		5.14E-05	1.14E-03

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
LU-177	112.95	6.23	1.51E-02	6.62E-03	-6.60E-03	7.56E-03
	208.37	10.41	6.62E-03		-1.63E-03	3.30E-03
	249.67	0.20	3.15E-01		1.09E+00	1.57E-01
	321.32	0.22	2.33E-01		-1.23E-01	1.16E-01
HF-181	133.02	43.30	1.76E-03	4.55E-04	-3.68E-04	8.78E-04
	345.93	15.12	2.97E-03		8.42E-04	1.48E-03
	482.18	80.50	4.55E-04		9.85E-05	2.26E-04
W-181	56.28	18.70	1.26E-02	7.31E-03	-1.55E-03	6.29E-03
	57.53	32.00	7.31E-03		-3.70E-03	3.65E-03
	65.00	10.60	1.51E-02		6.38E-03	7.56E-03
TA-182	57.98	10.01	2.29E-02	5.79E-04	-8.25E-03	1.15E-02
	59.32	17.20	1.26E-02		4.68E-01	6.29E-03
	65.72	3.01	5.77E-02		4.48E-02	2.88E-02
	67.75	46.67	3.33E-03		1.39E-03	1.66E-03
	84.68	2.65	4.08E-02		-4.10E-02	2.04E-02
	100.11	14.20	6.31E-03		3.73E-04	3.15E-03
	113.67	1.87	4.68E-02		1.17E-02	2.34E-02
	116.42	0.44	1.75E-01		1.40E-01	8.72E-02
	152.43	7.02	1.00E-02		5.43E-03	5.00E-03
	156.39	2.67	2.59E-02		-1.54E-03	1.29E-02
	179.39	3.12	2.04E-02		4.88E-03	1.02E-02
	198.35	1.47	4.18E-02		3.67E-03	2.09E-02
	222.11	7.57	7.64E-03		-3.40E-03	3.81E-03
	229.32	3.64	1.60E-02		8.87E-03	7.97E-03
	264.08	3.61	1.43E-02		-5.40E-03	7.14E-03
	928.00	0.61	4.20E-02		-9.82E-03	2.08E-02
	959.73	0.35	7.57E-02		-4.78E-02	3.75E-02
	1001.70	2.09	2.65E-02		1.78E-03	1.32E-02
	1044.42	0.24	1.04E-01		-5.03E-03	5.13E-02
	1113.41	0.44	5.14E-02		2.55E-02	2.54E-02
	1121.29	35.24	6.41E-04		-8.51E-04	3.16E-04
	1157.30	0.73	2.54E-02		-2.10E-02	1.25E-02
	1189.04	16.49	1.05E-03		4.11E-04	5.14E-04
	1221.40	27.23	5.79E-04		9.45E-05	2.84E-04
	1223.60	0.24	5.58E-02		-2.10E-03	2.74E-02
	1231.00	11.62	1.36E-03		-6.68E-04	6.68E-04
	1257.41	1.51	9.54E-03		-7.64E-03	4.67E-03
	1273.72	0.66	6.77E-02		1.42E+00	3.37E-02
	1289.15	1.37	6.84E-03		-5.02E-03	3.34E-03
	1342.73	0.26	4.52E-02		2.80E-02	2.20E-02
	1373.82	0.22	3.43E-02		1.96E-02	1.67E-02
Ta-183	84.71	1.35	9.61E-02	2.47E-03	-9.64E-02	4.80E-02
	99.08	6.80	1.57E-02		-6.98E-04	7.83E-03
	107.93	11.20	8.88E-03		1.30E-03	4.43E-03
	161.35	9.10	8.78E-03		1.08E-03	4.38E-03
	162.32	5.00	1.59E-02		-1.92E-02	7.95E-03
	244.26	8.80	7.68E-03		3.75E-03	3.83E-03
	246.06	27.20	2.47E-03		9.83E-03	1.23E-03
	353.99	11.60	4.51E-03		-5.77E-03	2.25E-03
Re-184	111.21	17.20	4.74E-03	6.88E-04	-5.30E-04	2.37E-03
	252.85	3.00	1.74E-02		4.81E-03	8.68E-03
	792.01	37.70	7.39E-04		8.67E-04	3.66E-04
	894.76	15.70	1.67E-03		1.37E-03	8.26E-04

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Re-184	903.28	38.10	6.88E-04	6.88E-04	4.02E-04	3.41E-04
W-185	59.72	0.01	1.80E+01	4.19E+00	6.46E+02	8.98E+00
	61.14	0.02	9.88E+00		3.70E+00	4.93E+00
	69.20	0.01	2.07E+01		-3.59E+00	1.04E+01
	125.36	0.02	4.19E+00		1.19E+00	2.09E+00
W-187	61.14	14.30	4.86E-02	3.00E-03	1.82E-02	2.43E-02
	69.20	4.82	1.02E-01		-1.76E-02	5.09E-02
	72.00	13.55	3.58E-02		1.55E-02	1.79E-02
	134.25	10.36	2.51E-02		3.94E-03	1.26E-02
	479.53	26.60	4.78E-03		8.79E-04	2.38E-03
	618.37	7.57	1.36E-02		-2.76E-02	6.77E-03
	685.81	33.20	3.00E-03		-1.45E-03	1.49E-03
Ir-188	155.05	29.60	4.50E-03	4.38E-04	5.11E-03	2.24E-03
	478.00	14.70	4.95E-03		1.49E-03	2.47E-03
	633.02	17.90	3.38E-03		-1.28E-03	1.68E-03
	634.97	5.00	1.21E-02		5.10E-03	6.02E-03
	829.42	5.10	1.01E-02		-6.57E-04	5.00E-03
	1209.77	6.90	4.74E-03		2.13E-03	2.32E-03
	1715.67	6.20	2.65E-03		3.06E-03	1.26E-03
	2214.59	18.60	4.38E-04		-1.17E-03	1.94E-04
W-188	227.07	0.23	2.33E-01	1.11E-01	1.20E-01	1.16E-01
	290.68	0.42	1.11E-01		-9.99E-03	5.51E-02
Ir-189	245.08	6.00	9.69E-03	9.69E-03	2.92E-03	4.83E-03
Ir-190	186.68	50.00	1.27E-03	8.85E-04	5.54E-04	6.32E-04
	361.09	12.30	3.65E-03		-2.74E-03	1.82E-03
	371.24	21.60	2.04E-03		4.30E-05	1.02E-03
	407.22	27.00	1.54E-03		-2.36E-04	7.66E-04
	518.55	32.20	1.20E-03		-7.88E-04	5.98E-04
	557.95	28.50	1.26E-03		1.37E-03	6.26E-04
	569.30	27.00	1.29E-03		-9.87E-04	6.43E-04
	605.14	37.80	8.85E-04		-8.59E-05	4.40E-04
OS-191	63.29	15.70	1.23E-02	2.94E-03	4.36E-03	6.14E-03
	64.99	26.70	6.45E-03		2.72E-03	3.22E-03
	73.45	9.21	1.48E-02		2.26E-02	7.41E-03
	129.43	26.50	2.94E-03		1.32E-03	1.47E-03
Pt-191	359.90	5.80	1.13E-02	3.68E-03	-1.99E-03	5.62E-03
	456.47	3.30	1.73E-02		5.47E-03	8.62E-03
	538.90	14.30	3.68E-03		1.95E-03	1.83E-03
IR-192	205.79	3.31	1.85E-02	5.53E-04	9.62E-03	9.23E-03
	295.96	28.71	1.72E-03		-2.23E-04	8.58E-04
	308.45	29.70	1.61E-03		4.31E-04	8.05E-04
	316.51	82.86	5.53E-04		-6.60E-04	2.75E-04
	468.07	47.84	7.88E-04		-4.60E-04	3.92E-04
	588.58	4.52	8.34E-03		1.99E-03	4.15E-03
	604.41	8.22	3.51E-03		2.15E-03	1.74E-03
	612.46	5.34	5.00E-03		1.47E-04	2.48E-03
IR-192m	155.16	0.09	6.98E-01	6.98E-01	2.42E-01	3.49E-01
IR-193m	80.22	0.00	2.62E+01	2.62E+01	-2.57E+01	1.31E+01
Pt-193m	135.50	0.11	8.16E-01	8.16E-01	5.58E-01	4.08E-01
Au-194	293.55	10.90	9.12E-03	1.45E-03	3.45E-03	4.55E-03
	328.47	62.80	1.45E-03		2.88E-04	7.24E-04
	364.84	1.60	5.54E-02		1.02E-02	2.76E-02
	528.77	1.78	4.16E-02		-5.12E-02	2.07E-02

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Au-194	645.16		2.32	2.76E-02	1.45E-03	2.73E-02	1.37E-02
	948.32		2.29	2.36E-02		1.07E-03	1.17E-02
	1104.06		2.15	2.12E-02		8.43E-03	1.05E-02
	1175.36		2.14	5.04E-02		9.28E-01	2.51E-02
	1468.90		6.80	3.30E-03		1.51E-03	1.60E-03
	1595.81		1.89	1.81E-02		7.64E-02	8.87E-03
	2043.72		3.74	1.83E-03		1.27E-03	7.92E-04
Ir-194	293.54		2.50	8.65E-02	1.52E-02	3.27E-02	4.31E-02
	328.47		13.10	1.52E-02		3.00E-03	7.56E-03
AU-195	98.86		11.21	7.51E-03	7.51E-03	1.36E-03	3.75E-03
	129.74		0.84	8.60E-02		-1.00E-02	4.29E-02
Pt-195m	98.90		11.70	9.77E-03	9.77E-03	1.77E-03	4.88E-03
	129.79		2.90	3.38E-02		-3.95E-03	1.69E-02
Au-196	333.03		22.90	2.44E-03	5.99E-04	1.42E-03	1.22E-03
	355.73		87.00	5.99E-04		3.56E-04	2.99E-04
	426.10		6.60	6.73E-03		-1.96E-03	3.35E-03
Au-196m	147.81		43.50	3.51E-02	3.51E-02	1.55E-02	1.75E-02
	188.27		30.00	4.34E-02		2.42E-02	2.17E-02
Pt-197	77.35		17.00	3.09E-02	3.09E-02	3.59E-02	1.54E-02
	191.44		3.70	6.88E-02		2.99E-02	3.44E-02
AU-198	411.80		95.62	6.46E-04	6.46E-04	-3.06E-04	3.22E-04
AU-199	158.38		40.00	2.36E-03	2.36E-03	-1.58E-04	1.18E-03
	208.20		8.72	9.75E-03		-2.40E-03	4.87E-03
TL-201	135.34		2.61	4.06E-02	9.24E-03	2.77E-02	2.03E-02
	167.43		10.00	9.24E-03		-4.91E-03	4.61E-03
TL-202	439.51		91.50	4.47E-04	4.47E-04	3.57E-05	2.22E-04
PB-203	70.83		26.40	9.07E-03	1.06E-03	-1.65E-02	4.53E-03
	72.87		44.20	5.16E-03		8.48E-03	2.58E-03
	82.40		15.56	1.20E-02		-1.90E-02	6.00E-03
	279.20		80.90	1.06E-03		8.01E-04	5.28E-04
	401.32		3.35	2.14E-02		-4.11E-02	1.07E-02
PB-210	46.54		4.25	8.50E-02	8.50E-02	-1.77E-01	4.24E-02
Pa-233	86.60		2.01	5.04E-02	1.13E-03	2.22E-01	2.52E-02
	94.65		8.90	9.82E-03		4.61E-03	4.91E-03
	98.43		14.20	5.91E-03		3.37E-03	2.95E-03
	300.13		6.54	6.77E-03		2.48E-03	3.38E-03
	311.90		38.20	1.13E-03		3.60E-04	5.64E-04
	340.48		4.44	9.56E-03		2.17E-03	4.77E-03
U-235	89.96		2.90	3.23E-02	1.00E-03	6.25E-03	1.61E-02
	93.35		4.70	1.89E-02		7.71E-03	9.44E-03
	109.19		1.64	4.68E-02		-1.31E-02	2.34E-02
	143.76		10.93	6.18E-03		-8.47E-04	3.08E-03
	163.36		5.07	1.23E-02		1.43E-02	6.12E-03
	185.71		57.20	1.00E-03		4.34E-04	4.99E-04
	202.11		1.07	5.07E-02		8.06E-03	2.53E-02
	205.31		5.03	1.14E-02		-1.15E-02	5.71E-03
NP-237	86.48	*	12.20	8.76E-03	8.76E-03	1.22E-02	4.37E-03
U-237	59.54		34.50	7.50E-03	3.29E-03	2.72E-01	3.75E-03
	97.07		15.40	6.65E-03		2.42E-03	3.32E-03
	101.06		24.50	4.03E-03		-1.17E-04	2.01E-03
	113.30		3.07	3.06E-02		1.80E-02	1.53E-02
	114.23		5.81	1.61E-02		1.32E-02	8.03E-03
	117.46		2.27	4.04E-02		1.67E-02	2.02E-02

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
U-237	208.00	21.20	3.29E-03	3.29E-03	-7.76E-04	1.64E-03
NP-238	103.37	0.00	3.08E+01	1.72E-03	-6.62E+00	1.54E+01
	882.63	0.80	5.70E-02		5.19E-02	2.82E-02
	923.99	2.60	1.72E-02		5.09E-03	8.50E-03
	984.45	25.20	1.72E-03		-4.01E-04	8.49E-04
	1025.87	8.75	4.87E-03		4.23E-03	2.41E-03
	1028.53	18.23	2.34E-03		-1.34E-03	1.16E-03
U-238	63.29	3.70	4.81E-02	2.12E-02	1.70E-02	2.40E-02
	92.51	4.23	2.12E-02		1.39E-02	1.06E-02
	112.81	0.21	3.72E-01		-1.62E-01	1.86E-01
	742.81	0.11	2.61E-01		3.75E-01	1.30E-01
	766.42	0.32	8.59E-02		5.44E-02	4.26E-02
	1001.03	0.84	5.96E-02		3.98E-03	2.96E-02
Am-239	181.71	1.08	6.76E-01	3.90E-02	-3.69E-01	3.38E-01
	209.80	3.50	2.04E-01		-4.84E-02	1.02E-01
	226.40	3.30	2.05E-01		6.59E-04	1.02E-01
	228.10	11.30	5.98E-02		4.35E-02	2.98E-02
	277.60	15.00	3.90E-02		2.01E-02	1.95E-02
NP-239	61.46	1.30	2.56E-01	5.39E-03	4.20E-02	1.28E-01
	99.53	12.90	1.10E-02		5.53E-04	5.48E-03
	103.37	20.50	6.70E-03		-1.44E-03	3.35E-03
	106.12	25.34	5.39E-03		1.20E-02	2.69E-03
	209.75	3.36	2.90E-02		-6.89E-03	1.45E-02
	228.18	11.24	8.23E-03		2.20E-03	4.11E-03
	277.60	14.51	5.56E-03		2.86E-03	2.77E-03
	285.46	0.79	1.01E-01		3.25E-02	5.05E-02
	315.88	1.60	4.44E-02		-2.92E-02	2.21E-02
	334.31	2.06	3.30E-02		1.59E-02	1.65E-02
PU-239	38.66	0.01	6.25E+01	9.95E+00	-1.25E+02	3.12E+01
	51.62	0.03	9.95E+00		1.38E+01	4.97E+00
	98.50	0.01	1.15E+01		6.57E+00	5.76E+00
	111.03	0.00	5.93E+01		-6.53E+00	2.96E+01
	129.30	0.01	1.14E+01		9.91E+00	5.70E+00
	171.39	0.00	5.47E+02		1.16E+02	2.73E+02
	203.55	0.00	9.47E+01		4.86E+01	4.73E+01
	332.85	0.00	8.60E+01		5.63E+01	4.29E+01
	336.11	0.00	3.78E+02		4.58E+02	1.88E+02
	345.01	0.00	7.57E+01		1.33E+02	3.77E+01
	375.05	0.00	2.53E+01		-2.94E+00	1.26E+01
	380.19	0.00	1.28E+02		1.67E+02	6.35E+01
	382.75	0.00	1.49E+02		8.58E+00	7.45E+01
	413.71	0.00	2.64E+01		6.12E+01	1.31E+01
	422.60	0.00	3.00E+02		1.69E+02	1.49E+02
	451.48	0.00	1.90E+02		-2.46E+02	9.44E+01
Am-240	99.53	18.40	8.17E-03	6.09E-04	4.12E-04	4.08E-03
	103.37	29.20	4.99E-03		-1.07E-03	2.49E-03
	117.23	6.93	1.99E-02		4.46E-03	9.95E-03
	888.85	24.70	1.88E-03		2.91E-03	9.30E-04
	987.79	72.20	6.09E-04		4.85E-04	3.01E-04
Np-240m	554.60	20.90	1.31E-02	1.31E-02	1.44E-03	6.51E-03
	597.40	11.70	2.32E-02		4.51E-03	1.15E-02
U-240	44.10	1.05	3.27E+00	1.98E+00	-3.75E-01	1.64E+00
	66.50	0.15	8.32E+00		9.24E+00	4.16E+00

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	U-240	169.20		0.12	4.47E+00	1.98E+00	1.00E+00	2.23E+00
		189.70		0.24	1.98E+00		-3.73E-01	9.90E-01
+	AM-241	59.54	*	35.90	7.57E-03	7.57E-03	2.13E-01	3.78E-03
	AM-242m	49.35		0.13	2.27E+00	2.27E+00	4.53E+00	1.14E+00
		66.89		0.01	1.00E+01		-8.99E-01	5.02E+00
		86.65		0.02	4.33E+00		1.91E+01	2.16E+00
		163.25		0.02	4.06E+00		4.74E+00	2.03E+00
	AM-243	43.53		5.90	7.18E-02	1.82E-03	2.08E-02	3.59E-02
		74.66		67.20	1.82E-03		2.18E-03	9.10E-04

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

Apex-Gamma

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A S3
Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2321 VSM-6.0M-S2-CST-d-A S3
Sample Description	: Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/29/2024 9:57:00AM
Procedure	: S3_gsv02mlw
Operator	: Administrator
Detector Name	: S
Geometry	: S3_gsv02mlw
Live Time	: 3339.1 seconds
Real Time	: 3494.2 seconds
Dead Time	: 4.44 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 6/27/2024
Efficiency Calibration Used Done On	: 3/5/2019
Efficiency Calibration Description	: S3_gsv2ml_R717
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567991
Certificate Name	: R735-b9 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/29/2024 10:55:18AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A S3

Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	43.06	132.90	0.2944	4.94
2	59.56	183.42	0.0512	140.77
3	74.60	229.43	0.2982	4.55
4	86.81	266.39	0.2112	7.49
5	105.41	323.81	0.2295	6.75
6	123.10	377.87	0.0689	80.72
7	247.94	760.09	0.1184	24.56
8	277.58	850.87	0.3414	3.54
9	344.32	1055.26	0.2601	5.74
10	414.85	1270.99	0.1325	17.61
11	444.51	1361.59	0.3320	3.31
12	511.26	1565.83	0.1415	6.80
13	575.22	1762.16	0.3556	3.19
14	582.13	1783.30	0.2218	5.87
15	591.91	1813.17	0.1127	22.36
16	625.56	1916.27	0.3138	3.27
17	661.85	2027.37	0.0687	56.59
18	666.52	2041.70	0.1207	18.75
19	692.57	2120.75	0.2163	7.80
20	695.26	2129.80	0.1307	17.20
21	723.53	2216.23	0.0704	53.39
22	757.06	2318.93	0.1130	21.53
23	815.61	2498.12	0.2463	4.62
24	845.78	2590.20	0.2322	3.51
25	873.49	2675.41	0.0824	36.09
26	893.05	2735.16	0.2348	5.97
27	904.24	2769.55	0.1946	6.46
28	928.36	2843.57	0.3011	3.52
29	964.38	2953.62	0.2267	5.22
30	996.57	3052.34	0.0838	34.60
31	1005.05	3078.29	0.0721	46.77
32	1112.56	3407.55	0.2466	4.05
33	1128.87	3457.17	0.2225	4.92
34	1173.57	3594.35	0.0657	52.94
35	1246.55	3817.59	0.1762	7.41
36	1274.82	3904.27	0.0604	61.06
37	1332.93	4082.24	0.0651	51.95
38	1398.09	4281.67	0.1927	6.48
39	1408.45	4313.53	0.1617	8.63
40	1461.42	4475.06	0.2407	3.36
41	1494.53	4577.06	0.1601	8.17
42	1596.95	4890.83	0.1236	13.83
43	1719.98	5267.69	0.2168	4.61
44	2506.14	7674.92	0.1959	3.70

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A S3

Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/29/2024 10:55:19AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	1	43.06	125	140	132.90	3.61E+02	1090.67	2.36E+05	1.10
F	2	59.56	175	189	183.41	1.60E+05	1842.35	3.51E+05	1.14
F	3	74.60	226	237	229.47	2.25E+03	387.24	2.86E+05	0.90
F	4	86.81	263	274	266.83	7.44E+03	413.90	2.63E+05	1.49
F	5	105.41	321	332	323.79	3.27E+03	354.32	2.12E+05	1.07
F	6	123.10	372	386	377.94	5.60E+04	380.57	2.10E+05	1.18
F	7	247.94	755	769	760.12	6.69E+03	168.62	4.70E+04	1.24
	8	277.58	847	856	850.87	5.83E+01	288.54	2.36E+04	1.06
F	9	344.32	1048	1065	1055.22	6.90E+02	265.02	2.47E+04	0.92
F	10	414.85	1265	1279	1271.15	3.03E+03	96.10	1.25E+04	1.44
F	11	444.51	1356	1369	1361.96	3.09E+02	242.98	1.00E+04	0.42
F	12	511.26	1554	1577	1566.32	6.09E+03	101.32	1.21E+04	2.76
	13	575.22	1758	1767	1762.16	7.53E+01	110.36	3.44E+03	0.86
F	14	582.13	1776	1790	1783.31	5.96E+02	327.88	5.13E+03	1.54
F	15	591.91	1803	1824	1813.23	2.97E+03	248.37	7.10E+03	1.56
F	16	625.56	1912	1920	1916.27	2.29E+02	229.86	2.42E+03	1.25
M	17	661.85	2018	2049	2027.39	1.16E+04	292.31	4.23E+03	1.56
m	18	666.52	2018	2049	2041.68	2.25E+03	84.67	4.06E+03	1.56
M	19	692.57	2117	2141	2121.46	8.19E+02	53.52	2.71E+03	1.61
m	20	695.26	2117	2141	2129.68	2.13E+03	62.01	4.39E+03	1.61
F	21	723.53	2204	2225	2216.24	1.03E+04	246.85	4.44E+03	1.60
F	22	757.06	2306	2329	2318.90	2.19E+03	202.31	4.21E+03	1.58
F	23	815.61	2490	2503	2498.17	2.19E+02	38.47	2.03E+03	1.33
F	24	845.78	2584	2598	2590.56	3.82E+02	40.17	1.94E+03	2.12
F	25	873.49	2665	2688	2675.40	5.49E+03	227.02	2.93E+03	1.74
F	26	893.05	2730	2743	2735.28	1.98E+02	32.22	1.47E+03	0.98
F	27	904.24	2763	2782	2769.56	3.81E+02	37.01	2.18E+03	1.59
F	28	928.36	2834	2849	2843.41	7.39E+01	25.49	1.65E+03	0.54
F	29	964.38	2945	2963	2953.69	2.56E+02	120.95	1.68E+03	1.54
F	30	996.57	3039	3060	3052.25	4.42E+03	184.31	1.88E+03	1.70
F	31	1005.05	3066	3091	3078.23	7.83E+03	201.29	2.13E+03	1.78
F	32	1112.56	3395	3418	3407.41	2.53E+02	126.61	1.40E+03	1.92
F	33	1128.87	3445	3466	3457.37	2.58E+02	96.96	1.11E+03	1.50
F	34	1173.57	3582	3608	3594.26	1.03E+04	208.23	1.12E+03	1.87
F	35	1246.55	3809	3827	3817.73	3.91E+02	100.65	3.10E+02	2.32
F	36	1274.82	3890	3915	3904.27	1.34E+04	218.21	5.04E+02	1.97
F	37	1332.93	4067	4092	4082.22	9.62E+03	194.02	3.78E+02	1.91
F	38	1398.09	4270	4290	4281.77	2.11E+02	62.70	2.16E+02	1.45
F	39	1408.45	4305	4320	4313.48	2.39E+02	18.67	1.88E+02	1.61
F	40	1461.42	4469	4483	4475.71	8.76E+01	12.28	9.40E+01	2.14

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A S3

Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1494.53	4568 -	4587	4577.09	2.61E+02	17.23	1.13E+02	1.86
F	42	1596.95	4879 -	4901	4890.73	6.42E+02	25.32	1.26E+02	1.90
F	43	1719.98	5259 -	5275	5267.51	7.47E+01	33.66	5.03E+01	1.81
F	44	2506.14	7665 -	7686	7675.26	9.64E+01	9.40	5.07E+00	2.60

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/29/2024 10:55:18AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567968.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	43.06	3.61E+02	1090.67			3.61E+02	1.09E+03
F	2	59.56	1.60E+05	1842.35			1.60E+05	1.84E+03
F	3	74.60	2.25E+03	387.24	9.86E+01	6.42E+00	2.15E+03	3.87E+02
F	4	86.81	7.44E+03	413.90	2.49E+01	1.18E+00	7.42E+03	4.14E+02
F	5	105.41	3.27E+03	354.32			3.27E+03	3.54E+02
F	6	123.10	5.60E+04	380.57			5.60E+04	3.81E+02
F	7	247.94	6.69E+03	168.62			6.69E+03	1.69E+02
	8	277.58	5.83E+01	288.54	7.01E+00	8.81E-01	5.12E+01	2.89E+02
F	9	344.32	6.90E+02	265.02			6.90E+02	2.65E+02
F	10	414.85	3.03E+03	96.10			3.03E+03	9.61E+01
F	11	444.51	3.09E+02	242.98			3.09E+02	2.43E+02
F	12	511.26	6.09E+03	101.32	1.43E+02	5.10E+00	5.95E+03	1.01E+02
	13	575.22	7.53E+01	110.36			7.53E+01	1.10E+02
F	14	582.13	5.96E+02	327.88			5.96E+02	3.28E+02
F	15	591.91	2.97E+03	248.37			2.97E+03	2.48E+02
F	16	625.56	2.29E+02	229.86			2.29E+02	2.30E+02
M	17	661.85	1.16E+04	292.31			1.16E+04	2.92E+02
m	18	666.52	2.25E+03	84.67	3.45E+00	1.10E+00	2.24E+03	8.47E+01
M	19	692.57	8.19E+02	53.52			8.19E+02	5.35E+01
m	20	695.26	2.13E+03	62.01			2.13E+03	6.20E+01
F	21	723.53	1.03E+04	246.85			1.03E+04	2.47E+02
F	22	757.06	2.19E+03	202.31			2.19E+03	2.02E+02
F	23	815.61	2.19E+02	38.47			2.19E+02	3.85E+01
F	24	845.78	3.82E+02	40.17			3.82E+02	4.02E+01
F	25	873.49	5.49E+03	227.02			5.49E+03	2.27E+02

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A S3

Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 26	893.05	1.98E+02	32.22			1.98E+02	3.22E+01
F 27	904.24	3.81E+02	37.01			3.81E+02	3.70E+01
F 28	928.36	7.39E+01	25.49			7.39E+01	2.55E+01
F 29	964.38	2.56E+02	120.95			2.56E+02	1.21E+02
F 30	996.57	4.42E+03	184.31			4.42E+03	1.84E+02
F 31	1005.05	7.83E+03	201.29			7.83E+03	2.01E+02
F 32	1112.56	2.53E+02	126.61			2.53E+02	1.27E+02
F 33	1128.87	2.58E+02	96.96			2.58E+02	9.70E+01
F 34	1173.57	1.03E+04	208.23			1.03E+04	2.08E+02
F 35	1246.55	3.91E+02	100.65			3.91E+02	1.01E+02
F 36	1274.82	1.34E+04	218.21			1.34E+04	2.18E+02
F 37	1332.93	9.62E+03	194.02			9.62E+03	1.94E+02
F 38	1398.09	2.11E+02	62.70			2.11E+02	6.27E+01
F 39	1408.45	2.39E+02	18.67	5.23E+00	3.80E-01	2.34E+02	1.87E+01
F 40	1461.42	8.76E+01	12.28	5.82E+01	2.23E+00	2.95E+01	1.25E+01
F 41	1494.53	2.61E+02	17.23			2.61E+02	1.72E+01
F 42	1596.95	6.42E+02	25.32			6.42E+02	2.53E+01
F 43	1719.98	7.47E+01	33.66			7.47E+01	3.37E+01
F 44	2506.14	9.64E+01	9.40			9.64E+01	9.40E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.94	1460.83	*	10.67	2.60E-04	1.10E-04	miss
CO-60	0.97	1173.24	*	99.97	8.79E-03	1.83E-04	0.961
		1332.50	*	99.99	8.89E-03	1.87E-04	0.960
		2505.74	*	1.00	1.44E-02	1.58E-03	miss
RH-106	0.42	511.86	*	20.70	1.44E-02	4.98E-04	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.49	223.90		1.39			
		278.20	*	2.40	8.20E-04	4.62E-03	0.853
		296.50		4.50			

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A S3

Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.49	414.70	*	83.30	1.75E-03	7.59E-05	0.871
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.48E-03	5.65E-05	0.868
		674.80		3.10			
		695.00	*	99.60	1.44E-03	4.29E-05	0.868
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.73	64.28		9.60			
		87.30	*	45.90	3.85E-03	2.74E-04	miss
CS-137	0.99	661.66	*	85.20	7.77E-03	2.00E-04	miss
EU-152	0.23	121.78		28.58			
		344.28	*	26.50	1.00E-03	3.86E-04	0.969
		778.90		12.94			
		964.08	*	14.73	1.30E-03	6.14E-04	0.964
		1085.87		10.24			
		1112.07	*	13.69	1.49E-03	7.44E-04	0.979
		1408.01	*	21.07	1.05E-03	8.41E-05	0.972
EU-154	0.98	42.70	*	20.45	2.26E-03	6.83E-03	miss
		123.07	*	40.40	3.35E-02	4.96E-04	0.954
		247.93	*	6.89	3.18E-02	9.03E-04	0.941
		591.76	*	4.95	3.42E-02	2.89E-03	0.929
		692.42	*	1.78	2.86E-02	1.90E-03	0.945
		723.30	*	20.06	3.25E-02	8.67E-04	0.948
		756.80	*	4.52	3.24E-02	3.01E-03	0.927
		873.18	*	12.08	3.27E-02	1.41E-03	0.942
		996.29	*	10.48	3.15E-02	1.36E-03	0.986
		1004.76	*	18.01	3.29E-02	9.25E-04	0.977
		1246.12	*	0.86	4.13E-02	1.07E-02	0.936
		1274.43	*	34.80	3.38E-02	6.57E-04	0.978
		1494.05	*	0.70	3.52E-02	2.37E-03	1.016
		1596.48	*	1.80	3.06E-02	1.27E-03	1.169
EU-155	0.99	43.00	*	18.70	2.47E-03	7.48E-03	1.000
		60.01	*	1.22	5.82E+00	2.14E-01	0.998
		86.55	*	30.70	5.77E-03	3.51E-04	free
		105.31	*	21.10	3.42E-03	3.80E-04	1.000
AM-241	1.00	59.54	*	35.90	1.97E-01	4.64E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A S3

Branch

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.946	2.60E-04	1.10E-04	
CO-60	0.977	8.87E-03	1.30E-04	
RH-106	0.423	1.44E-02	4.98E-04	
SB-126	0.498	1.51E-03	3.12E-05	
Sn-126	0.739	1.63E-03	3.29E-04	
CS-137	0.994	7.77E-03	2.00E-04	
EU-152	0.235	1.06E-03	8.09E-05	
EU-154	0.988	3.30E-02	2.37E-04	
EU-155	0.994	3.33E-03	3.71E-04	
AM-241	1.000	1.97E-01	3.28E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A S3
Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/29/2024 10:55:18AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	74.60	6.44351E-01	18.00		
F	11	444.51	9.25465E-02	78.63		
	13	575.22	2.25648E-02	146.47	D-Esc	
F	14	582.13	1.78574E-01	54.99		
F	16	625.56	6.86726E-02	100.24		
F	23	815.61	6.56316E-02	17.55	Sum	
F	24	845.78	1.14336E-01	10.52	Sum	
F	26	893.05	5.92721E-02	16.28		
F	27	904.24	1.14135E-01	9.71		
F	28	928.36	2.21316E-02	34.49		
F	33	1128.87	7.72271E-02	37.60	Sum	
F	38	1398.09	6.33270E-02	29.65	Sum	
F	43	1719.98	2.23585E-02	45.09	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	3.09E-03	3.09E-03	-6.31E-04	1.54E-03
+	K-40	1460.83	*	10.67	6.78E-04	6.78E-04	2.60E-04	3.27E-04
	MN-54	834.84		99.98	2.11E-04	2.11E-04	-2.06E-05	1.04E-04

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A S3
Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CO-58	810.78		99.45	2.40E-04	2.40E-04	-1.05E-04	1.19E-04
		863.96		0.68	3.34E-02		-3.26E-02	1.66E-02
		1674.73		0.52	1.00E-02		3.64E-03	4.74E-03
	FE-59	142.65		1.00	6.19E-02	2.79E-04	-4.26E-02	3.09E-02
		192.35		3.01	1.84E-02		-5.95E-03	9.21E-03
		334.80		0.27	1.45E-01		7.71E-02	7.22E-02
		1099.25		56.30	3.55E-04		1.68E-04	1.75E-04
		1291.60		43.70	2.79E-04		-1.99E-04	1.36E-04
+	CO-60	1173.24	*	99.97	2.63E-04	1.64E-04	8.79E-03	1.31E-04
		1332.50	*	99.99	1.64E-04		8.89E-03	8.07E-05
		2505.74	*	1.00	3.15E-03		1.44E-02	1.37E-03
	SR-85	514.00		96.00	3.69E-04	3.69E-04	-6.72E-05	1.84E-04
		868.60		0.01	2.66E+00		-1.58E-01	1.32E+00
	NB-94	702.62		97.90	2.53E-04	2.53E-04	-9.36E-05	1.26E-04
		871.09		99.98	3.26E-04		8.05E-06	1.62E-04
	NB-95	765.81		99.81	2.59E-04	2.59E-04	3.52E-05	1.29E-04
	RU-103	497.05		91.00	3.52E-04	3.52E-04	-8.72E-05	1.75E-04
		610.30		5.76	4.99E-03		4.53E-04	2.48E-03
+	RH-106	511.86	*	20.70	2.32E-03	2.32E-03	1.44E-02	1.16E-03
		621.92		9.93	2.68E-03		1.23E-03	1.33E-03
		1050.36		1.56	1.33E-02		-5.34E-03	6.60E-03
	AG-108M	79.13		6.60	1.29E-02	3.06E-04	-2.46E-03	6.44E-03
		433.90		90.50	3.63E-04		-1.35E-04	1.81E-04
		614.30		89.80	3.06E-04		-4.25E-04	1.52E-04
		722.90		90.80	4.45E-04		7.52E-03	2.21E-04
	CD-109	88.03		3.61	2.19E-02	2.19E-02	7.79E-02	1.10E-02
	SB-125	176.31		6.82	7.44E-03	1.03E-03	1.08E-03	3.71E-03
		380.45		1.52	2.14E-02		-9.68E-04	1.07E-02
		427.87		29.55	1.03E-03		-3.83E-04	5.12E-04
		463.36		10.48	2.86E-03		-2.33E-03	1.43E-03
		600.60		17.76	1.45E-03		7.14E-04	7.21E-04
		606.71		5.02	5.11E-03		-4.93E-03	2.54E-03
		635.95		11.32	2.19E-03		2.74E-04	1.09E-03
		671.44		1.78	1.54E-02		-8.38E-03	7.65E-03
+	SB-126	223.90		1.39	3.10E-02	1.98E-04	-5.07E-02	1.55E-02
		278.20	*	2.40	1.52E-02		8.20E-04	7.59E-03
		296.50		4.50	1.00E-02		1.62E-03	5.00E-03
		414.70	*	83.30	4.67E-04		1.75E-03	2.33E-04
		556.30		1.69	1.86E-02		-2.92E-03	9.24E-03
		573.90		6.70	4.54E-03		7.17E-04	2.26E-03
		593.20		7.50	4.41E-03		2.50E-02	2.19E-03
		656.30		2.19	1.61E-02		4.59E-04	8.00E-03
		666.50	*	99.60	1.98E-04		1.48E-03	9.79E-05
		674.80		3.10	9.36E-03		-7.35E-03	4.65E-03
		695.00	*	99.60	2.11E-04		1.44E-03	1.05E-04
		697.00		29.00	1.16E-03		-3.62E-04	5.78E-04
		720.70		53.80	8.10E-04		-4.18E-05	4.03E-04
		856.80		17.60	1.35E-03		-1.28E-03	6.71E-04
		989.60		6.80	3.51E-03		-2.30E-03	1.74E-03
		1213.30		2.39	6.15E-03		7.35E-03	3.02E-03
+	Sn-126	64.28		9.60	1.27E-02	1.76E-03	1.83E-03	6.35E-03
		87.30	*	45.90	1.76E-03		3.85E-03	8.78E-04
	I-129	29.70		56.60	2.98E-02	2.98E-02	-7.01E-02	1.49E-02

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A S3
Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-129	33.60		10.04	8.42E-02	2.98E-02	-3.24E-01	4.20E-02
		34.40		2.01	3.74E-01		-1.23E+00	1.87E-01
		39.60		7.51	5.55E-02		-4.81E-02	2.77E-02
	CS-134	563.25		8.34	3.44E-03	2.72E-04	-3.16E-04	1.71E-03
		569.33		15.37	1.85E-03		4.36E-04	9.20E-04
		604.72		97.62	2.78E-04		-6.44E-05	1.38E-04
		795.86		85.46	2.72E-04		-1.67E-05	1.35E-04
		801.95		8.69	2.73E-03		-1.38E-03	1.36E-03
+	CS-137	661.66	*	85.20	2.04E-04	2.04E-04	7.77E-03	1.01E-04
	CE-139	165.85		79.89	6.86E-04	6.86E-04	4.08E-04	3.43E-04
	CE-141	40.70		3.35	1.31E-01	1.38E-03	-9.40E-02	6.54E-02
		145.44		48.29	1.38E-03		5.09E-04	6.87E-04
	CE-144	80.12		1.36	6.25E-02	5.32E-03	-1.93E-02	3.12E-02
		133.51		11.09	5.32E-03		-1.22E-03	2.65E-03
+	EU-152	121.78		28.58	2.46E-03	4.66E-04	8.47E-04	1.23E-03
		344.28	*	26.50	1.77E-03		1.00E-03	8.83E-04
		778.90		12.94	1.85E-03		1.44E-03	9.20E-04
		964.08	*	14.73	1.66E-03		1.30E-03	8.21E-04
		1085.87		10.24	1.80E-03		1.40E-03	8.89E-04
		1112.07	*	13.69	1.93E-03		1.49E-03	9.57E-04
		1408.01	*	21.07	4.66E-04		1.05E-03	2.27E-04
	GD-153	97.43		29.00	2.48E-03	2.48E-03	3.43E-04	1.24E-03
		103.18		21.10	3.28E-03		7.45E-04	1.64E-03
+	EU-154	42.70	*	20.45	2.25E-02	5.24E-04	2.26E-03	1.12E-02
		123.07	*	40.40	1.97E-03		3.35E-02	9.85E-04
		247.93	*	6.89	7.41E-03		3.18E-02	3.70E-03
		591.76	*	4.95	8.18E-03		3.42E-02	4.07E-03
		692.42	*	1.78	8.55E-03		2.86E-02	4.23E-03
		723.30	*	20.06	1.78E-03		3.25E-02	8.87E-04
		756.80	*	4.52	8.39E-03		3.24E-02	4.17E-03
		873.18	*	12.08	2.83E-03		3.27E-02	1.41E-03
		996.29	*	10.48	2.62E-03		3.15E-02	1.30E-03
		1004.76	*	18.01	1.76E-03		3.29E-02	8.74E-04
		1246.12	*	0.86	1.50E-02		4.13E-02	7.34E-03
		1274.43	*	34.80	5.24E-04		3.38E-02	2.58E-04
		1494.05	*	0.70	1.19E-02		3.52E-02	5.75E-03
		1596.48	*	1.80	4.71E-03		3.06E-02	2.29E-03
+	EU-155	43.00	*	18.70	2.46E-02	2.64E-03	2.47E-03	1.23E-02
		60.01	*	1.22	1.55E-01		5.82E+00	7.75E-02
		86.55	*	30.70	2.64E-03		5.77E-03	1.32E-03
		105.31	*	21.10	3.18E-03		3.42E-03	1.59E-03
	HG-203	72.87		6.30	1.71E-02	5.41E-04	-4.89E-04	8.55E-03
		279.20		81.46	5.41E-04		2.65E-05	2.70E-04
	BI-207	569.15		97.80	2.84E-04	2.71E-04	1.18E-04	1.41E-04
		1063.10		74.90	2.71E-04		-8.62E-06	1.34E-04
	PB-210	46.54		4.25	5.93E-02	5.93E-02	-7.17E-03	2.96E-02
	RA-226	74.81		6.44	1.45E-02	3.67E-04	3.16E-02	7.23E-03
		77.11		10.80	8.21E-03		-2.99E-03	4.10E-03
		87.30		4.84	1.63E-02		4.68E-02	8.16E-03
		186.21		3.59	1.36E-02		-4.85E-03	6.79E-03
		242.00		7.43	5.48E-03		-4.36E-03	2.74E-03
		295.22		19.30	1.97E-03		-1.32E-03	9.85E-04
		351.93		37.60	9.08E-04		-3.01E-04	4.52E-04

Analysis Report for 24-2321 VSM-6.0M-S2-CST-d-A S3

Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	609.31		46.10	5.53E-04	3.67E-04	2.89E-04	2.75E-04
		768.36		4.94	4.56E-03		8.66E-04	2.26E-03
		1120.29		15.10	1.14E-03		1.27E-03	5.63E-04
		1238.11		5.79	2.19E-03		-5.54E-04	1.08E-03
		1764.49		15.40	3.67E-04		3.15E-04	1.74E-04
	PA-231	283.70		1.59	2.48E-02	1.59E-02	5.76E-03	1.24E-02
		300.07		2.38	1.59E-02		-2.93E-03	7.91E-03
		302.67		1.71	2.20E-02		1.62E-03	1.10E-02
		330.07		1.32	2.69E-02		-2.05E-03	1.34E-02
	TH-232	74.81		11.62	8.02E-03	1.22E-04	1.75E-02	4.01E-03
		77.11		17.50	5.07E-03		-1.85E-03	2.53E-03
		87.30		7.80	1.01E-02		2.90E-02	5.07E-03
		238.63		43.30	9.50E-04		2.82E-05	4.74E-04
		338.32		11.30	3.10E-03		1.94E-03	1.54E-03
		583.19		30.37	8.78E-04		9.07E-04	4.37E-04
		727.33		6.58	5.57E-03		-1.08E-03	2.77E-03
		911.21		26.60	7.76E-04		5.02E-05	3.84E-04
		968.97		16.20	1.26E-03		3.49E-05	6.21E-04
		2614.53		35.64	1.22E-04		7.78E-05	5.50E-05
	U-235	143.76		10.96	5.05E-03	8.55E-04	-7.75E-03	2.52E-03
		185.71		57.20	8.55E-04		1.59E-04	4.27E-04
		205.31		5.01	9.13E-03		1.54E-03	4.56E-03
	U-238	63.29		3.70	3.52E-02	1.73E-02	-2.51E-02	1.76E-02
		92.51		4.23	1.73E-02		1.08E-02	8.67E-03
		112.81		0.21	3.01E-01		-2.41E-02	1.50E-01
		742.81		0.11	2.15E-01		-1.80E-03	1.07E-01
		766.28		0.32	7.11E-02		-7.84E-02	3.53E-02
		1001.03		0.84	5.05E-02		3.79E-03	2.51E-02
	NP-239	99.60		12.80	4.05E-02	1.91E-02	-2.91E-02	2.03E-02
		103.80		20.40	2.48E-02		-7.56E-03	1.24E-02
		106.10		26.40	1.91E-02		1.88E-02	9.56E-03
		116.90		7.61	6.20E-02		3.83E-03	3.10E-02
		228.20		11.20	2.92E-02		2.80E-03	1.46E-02
		277.60		14.50	2.12E-02		-3.10E-03	1.06E-02
		315.90		1.60	1.69E-01		-2.53E-01	8.44E-02
		334.30		2.06	1.21E-01		-3.84E-02	6.04E-02
+	AM-241	59.54	*	35.90	5.25E-03	5.25E-03	1.97E-01	2.62E-03

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

Apex-Gamma

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A Q3r
Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2322 VSM-6.0M-S3-CST-A Q3r
Sample Description	: Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/29/2024 10:00:39AM
Procedure	: Q3_gsv02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: Q3_gsv02mlw
Live Time	: 3101.2 seconds
Real Time	: 3256.8 seconds
Dead Time	: 4.78 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: Q3_gsv2ml_R717
Sample Number	: 568007
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/29/2024 12:33:11PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A Q3r

Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.84	136.93	0.2844	5.34
2	59.59	190.36	0.0561	115.65
3	74.95	239.03	0.2998	4.83
4	86.85	276.85	0.2252	5.39
5	123.13	392.88	0.0724	68.00
6	247.92	790.70	0.1218	20.83
7	414.89	1322.90	0.1392	14.96
8	444.35	1416.56	0.2843	3.91
9	511.14	1629.40	0.1403	7.78
10	582.60	1857.64	0.2392	3.04
11	591.93	1887.38	0.1160	19.15
12	609.41	1942.79	0.2792	4.17
13	661.81	2110.18	0.0725	46.60
14	666.45	2124.94	0.1196	17.40
15	692.57	2207.43	0.2447	5.61
16	695.21	2216.73	0.1347	15.29
17	723.47	2306.66	0.0719	46.15
18	756.99	2413.53	0.1149	17.96
19	778.94	2483.57	0.2673	3.40
20	845.77	2696.60	0.2108	5.33
21	873.39	2784.50	0.0840	31.94
22	893.47	2848.33	0.2434	3.81
23	904.20	2882.17	0.1980	4.62
24	964.49	3074.96	0.2500	3.40
25	996.48	3176.90	0.0865	28.97
26	1004.95	3203.95	0.0730	40.01
27	1086.01	3462.24	0.2619	3.79
28	1128.58	3597.61	0.2293	4.44
29	1141.37	3638.62	0.2570	3.51
30	1173.48	3741.12	0.0661	47.15
31	1246.45	3973.13	0.1882	5.16
32	1274.68	4063.73	0.0627	49.89
33	1332.79	4248.99	0.0667	44.13
34	1397.76	4455.35	0.1886	5.33
35	1408.30	4489.60	0.1728	6.91
36	1461.42	4658.04	0.2143	4.36
37	1494.53	4764.05	0.1651	7.46
38	1596.84	5090.53	0.1364	9.68
39	1719.78	5482.14	0.2213	3.81
40	2506.06	7988.62	0.1972	3.38

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A Q3r

Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/29/2024 12:33:11PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	1	42.84	128	139	136.93	8.52E+02	899.35	2.01E+05	0.78
F	2	59.59	182	198	190.33	1.37E+05	1807.91	3.76E+05	1.20
F	3	74.95	235	247	239.30	2.28E+03	418.62	2.69E+05	0.96
F	4	86.85	273	285	277.24	6.05E+03	451.91	2.44E+05	1.55
F	5	123.13	385	402	392.90	4.71E+04	1406.34	2.11E+05	1.25
F	6	247.92	784	801	790.73	5.94E+03	176.67	4.58E+04	1.35
F	7	414.89	1314	1331	1322.98	2.82E+03	385.66	1.21E+04	1.68
F	8	444.35	1412	1428	1416.89	4.05E+02	81.68	9.86E+03	1.42
F	9	511.14	1617	1641	1629.82	5.05E+03	98.42	1.05E+04	2.93
F	10	582.60	1849	1870	1857.62	6.77E+02	63.75	6.04E+03	2.43
F	11	591.93	1878	1896	1887.35	2.71E+03	260.96	5.06E+03	1.65
F	12	609.41	1933	1948	1943.07	1.96E+02	60.39	4.04E+03	0.64
M	13	661.81	2102	2134	2110.10	9.07E+03	308.86	3.42E+03	1.70
m	14	666.45	2102	2134	2124.88	2.02E+03	89.45	3.79E+03	1.71
M	15	692.57	2200	2229	2208.16	8.61E+02	176.82	3.10E+03	1.76
m	16	695.21	2200	2229	2216.56	1.95E+03	296.22	4.17E+03	1.76
F	17	723.47	2293	2317	2306.64	9.10E+03	280.50	3.96E+03	1.74
F	18	756.99	2403	2424	2413.51	1.98E+03	200.35	3.16E+03	1.75
F	19	778.94	2477	2492	2483.48	2.62E+02	133.81	2.18E+03	1.75
F	20	845.77	2691	2703	2696.48	2.71E+02	39.43	1.38E+03	1.61
F	21	873.39	2774	2798	2784.52	4.77E+03	74.83	2.49E+03	1.86
F	22	893.47	2842	2853	2848.53	2.44E+02	35.13	1.04E+03	1.95
F	23	904.20	2874	2894	2882.75	4.03E+02	38.70	1.81E+03	2.11
F	24	964.49	3062	3083	3074.90	2.43E+02	83.77	1.76E+03	2.01
F	25	996.48	3167	3186	3176.89	3.82E+03	67.00	1.58E+03	1.95
F	26	1004.95	3189	3216	3203.88	6.84E+03	219.46	1.89E+03	1.98
F	27	1086.01	3455	3467	3462.25	1.55E+02	173.38	6.67E+02	1.32
F	28	1128.58	3584	3609	3597.94	2.26E+02	27.56	1.04E+03	2.09
F	29	1141.37	3632	3648	3638.72	1.26E+02	118.00	5.77E+02	1.53
F	30	1173.48	3727	3756	3741.08	9.21E+03	200.87	1.10E+03	2.10
F	31	1246.45	3963	3987	3973.65	2.92E+02	23.19	4.83E+02	2.45
F	32	1274.68	4050	4079	4063.64	1.13E+04	215.02	6.38E+02	2.22
F	33	1332.79	4233	4263	4248.84	8.52E+03	188.24	4.19E+02	2.22
F	34	1397.76	4446	4467	4455.91	2.23E+02	17.02	1.44E+02	2.58
F	35	1408.30	4479	4501	4489.51	2.19E+02	55.83	1.81E+02	2.00
F	36	1461.42	4651	4669	4658.82	9.17E+01	13.86	1.31E+02	2.01
F	37	1494.53	4755	4773	4764.37	2.06E+02	16.86	1.24E+02	1.92
F	38	1596.84	5078	5102	5090.43	4.78E+02	22.35	1.19E+02	2.30
F	39	1719.78	5472	5490	5482.27	6.41E+01	9.07	2.85E+01	2.23
F	40	2506.06	7976	7998	7988.09	1.04E+02	34.75	5.83E+00	3.41

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A Q3r

Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/29/2024 12:33:11PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567379.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	42.84	8.52E+02	899.35			8.52E+02	8.99E+02
F	2	59.59	1.37E+05	1807.91			1.37E+05	1.81E+03
F	3	74.95	2.28E+03	418.62	1.19E+02	6.30E+00	2.16E+03	4.19E+02
F	4	86.85	6.05E+03	451.91	2.25E+01	1.51E+00	6.03E+03	4.52E+02
F	5	123.13	4.71E+04	1406.34			4.71E+04	1.41E+03
F	6	247.92	5.94E+03	176.67			5.94E+03	1.77E+02
F	7	414.89	2.82E+03	385.66			2.82E+03	3.86E+02
F	8	444.35	4.05E+02	81.68			4.05E+02	8.17E+01
F	9	511.14	5.05E+03	98.42	1.22E+02	5.11E+00	4.93E+03	9.86E+01
F	10	582.60	6.77E+02	63.75	1.18E+01	6.32E-01	6.65E+02	6.37E+01
F	11	591.93	2.71E+03	260.96			2.71E+03	2.61E+02
F	12	609.41	1.96E+02	60.39	8.44E+01	1.09E+00	1.11E+02	6.04E+01
M	13	661.81	9.07E+03	308.86			9.07E+03	3.09E+02
m	14	666.45	2.02E+03	89.45			2.02E+03	8.95E+01
M	15	692.57	8.61E+02	176.82			8.61E+02	1.77E+02
m	16	695.21	1.95E+03	296.22			1.95E+03	2.96E+02
F	17	723.47	9.10E+03	280.50			9.10E+03	2.81E+02
F	18	756.99	1.98E+03	200.35			1.98E+03	2.00E+02
F	19	778.94	2.62E+02	133.81			2.62E+02	1.34E+02
F	20	845.77	2.71E+02	39.43			2.71E+02	3.94E+01
F	21	873.39	4.77E+03	74.83			4.77E+03	7.48E+01
F	22	893.47	2.44E+02	35.13			2.44E+02	3.51E+01
F	23	904.20	4.03E+02	38.70			4.03E+02	3.87E+01
F	24	964.49	2.43E+02	83.77	8.31E-01	3.65E-01	2.42E+02	8.38E+01
F	25	996.48	3.82E+03	67.00			3.82E+03	6.70E+01
F	26	1004.95	6.84E+03	219.46			6.84E+03	2.19E+02
F	27	1086.01	1.55E+02	173.38			1.55E+02	1.73E+02
F	28	1128.58	2.26E+02	27.56			2.26E+02	2.76E+01
F	29	1141.37	1.26E+02	118.00			1.26E+02	1.18E+02
F	30	1173.48	9.21E+03	200.87			9.21E+03	2.01E+02
F	31	1246.45	2.92E+02	23.19			2.92E+02	2.32E+01
F	32	1274.68	1.13E+04	215.02			1.13E+04	2.15E+02
F	33	1332.79	8.52E+03	188.24			8.52E+03	1.88E+02

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A Q3r

Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 34	1397.76	2.23E+02	17.02			2.23E+02	1.70E+01
F 35	1408.30	2.19E+02	55.83	3.36E+00	1.22E+00	2.16E+02	5.58E+01
F 36	1461.42	9.17E+01	13.86	9.36E+01	2.41E+00	-1.88E+00	1.41E+01
F 37	1494.53	2.06E+02	16.86			2.06E+02	1.69E+01
F 38	1596.84	4.78E+02	22.35			4.78E+02	2.23E+01
F 39	1719.78	6.41E+01	9.07			6.41E+01	9.07E+00
F 40	2506.06	1.04E+02	34.75			1.04E+02	3.47E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.94	1460.83	*	10.67	-1.86E-05	1.39E-04	miss
CO-60	0.98	1173.24	*	99.97	8.79E-03	1.97E-04	0.962
		1332.50	*	99.99	8.83E-03	2.01E-04	0.962
		2505.74	*	1.00	1.64E-02	5.53E-03	miss
RH-106	0.40	511.86	*	20.70	1.35E-02	4.89E-04	0.975
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.86E-03	2.60E-04	0.877
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.50E-03	6.69E-05	0.874
		674.80		3.10			
		695.00	*	99.60	1.49E-03	2.26E-04	0.873
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A Q3r
Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	1213.30		2.39			
Sn-126	0.74	64.28		9.60			
		87.30	*	45.90	3.75E-03	3.26E-04	miss
CS-137	0.99	661.66	*	85.20	6.85E-03	2.36E-04	miss
EU-154	0.99	42.70	*	20.45	6.29E-03	6.64E-03	miss
		123.07	*	40.40	3.22E-02	1.05E-03	0.956
		247.93	*	6.89	3.25E-02	1.05E-03	0.943
		591.76	*	4.95	3.53E-02	3.42E-03	0.932
		692.42	*	1.78	3.39E-02	6.97E-03	0.948
		723.30	*	20.06	3.25E-02	1.06E-03	0.951
		756.80	*	4.52	3.30E-02	3.36E-03	0.928
		873.18	*	12.08	3.19E-02	6.23E-04	0.944
		996.29	*	10.48	3.06E-02	6.29E-04	0.986
		1004.76	*	18.01	3.24E-02	1.10E-03	0.977
		1246.12	*	0.86	3.47E-02	2.80E-03	0.936
		1274.43	*	34.80	3.20E-02	6.94E-04	0.979
		1494.05	*	0.70	3.12E-02	2.59E-03	1.013
		1596.48	*	1.80	2.58E-02	1.25E-03	1.155
AM-241	1.00	59.54	*	35.90	2.01E-01	4.92E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.947	-1.86E-05	1.39E-04	
CO-60	0.988	8.82E-03	1.41E-04	
RH-106	0.407	1.35E-02	4.89E-04	
SB-126	0.486	1.52E-03	6.22E-05	
Sn-126	0.744	3.75E-03	3.26E-04	

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A Q3r

Branch

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CS-137	0.996	6.85E-03	2.36E-04	
	EU-154	0.995	3.15E-02	2.91E-04	
X	EU-155	0.420			
	AM-241	1.000	2.01E-01	4.92E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A Q3r

Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/29/2024 12:33:11PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	74.95	6.95402E-01	19.41	Tol.	TH-232
F	8	444.35	1.30619E-01	20.16		
F	10	582.60	2.14470E-01	9.58	Tol.	TH-232
F	12	609.41	3.59463E-02	54.18		
F	19	778.94	8.44862E-02	51.07	Sum	
F	20	845.77	8.74027E-02	14.55	Sum	
F	22	893.47	7.87553E-02	14.38		
F	23	904.20	1.29838E-01	9.61		
F	24	964.49	7.80765E-02	34.60		
F	27	1086.01	4.99425E-02	111.95	S-Esc	
F	28	1128.58	7.28333E-02	12.20	Sum	
F	29	1141.37	4.07469E-02	93.38		
F	34	1397.76	7.18644E-02	7.64	Sum	
F	35	1408.30	6.95633E-02	25.88		
F	39	1719.78	2.06699E-02	14.15	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A Q3r

Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	3.30E-03	3.30E-03	8.28E-04	1.64E-03
+	K-40	1460.83	*	10.67	9.73E-04	9.73E-04	-1.86E-05	4.73E-04
	MN-54	834.84		99.98	2.33E-04	2.33E-04	2.09E-04	1.15E-04
	CO-58	810.78		99.45	2.62E-04	2.62E-04	3.62E-04	1.30E-04
		863.96		0.68	3.66E-02		-1.21E-02	1.81E-02
		1674.73		0.52	1.04E-02		2.03E-03	4.87E-03
	FE-59	142.65		1.00	6.77E-02	3.12E-04	6.37E-02	3.38E-02
		192.35		3.01	1.93E-02		1.46E-02	9.65E-03
		334.80		0.27	1.56E-01		-7.40E-02	7.79E-02
		1099.25		56.30	3.75E-04		1.40E-06	1.85E-04
		1291.60		43.70	3.12E-04		-2.46E-04	1.52E-04
+	CO-60	1173.24	*	99.97	3.06E-04	2.09E-04	8.79E-03	1.52E-04
		1332.50	*	99.99	2.09E-04		8.83E-03	1.03E-04
		2505.74	*	1.00	3.71E-03		1.64E-02	1.64E-03
	SR-85	514.00		96.00	4.00E-04	4.00E-04	-1.10E-04	1.99E-04
		868.60		0.01	2.93E+00		-5.71E-01	1.46E+00
	NB-94	702.62		97.90	2.71E-04	2.71E-04	3.57E-05	1.35E-04
		871.09		99.98	3.47E-04		-9.40E-07	1.72E-04
	NB-95	765.81		99.81	2.81E-04	2.81E-04	-4.98E-06	1.39E-04
	RU-103	497.05		91.00	3.92E-04	3.92E-04	1.25E-04	1.95E-04
		610.30		5.76	5.31E-03		-5.45E-03	2.64E-03
+	RH-106	511.86	*	20.70	2.50E-03	2.50E-03	1.35E-02	1.25E-03
		621.92		9.93	2.87E-03		2.27E-03	1.42E-03
		1050.36		1.56	1.43E-02		-3.66E-04	7.08E-03
	AG-108M	79.13		6.60	1.51E-02	3.27E-04	-8.58E-03	7.55E-03
		433.90		90.50	3.99E-04		-2.44E-05	1.99E-04
		614.30		89.80	3.27E-04		1.08E-04	1.62E-04
		722.90		90.80	4.66E-04		7.44E-03	2.32E-04
	CD-109	88.03		3.61	2.42E-02	2.42E-02	5.22E-02	1.21E-02
	SB-125	176.31		6.82	7.83E-03	1.10E-03	7.16E-03	3.91E-03
		380.45		1.52	2.31E-02		-1.18E-02	1.15E-02
		427.87		29.55	1.10E-03		7.92E-05	5.50E-04
		463.36		10.48	3.09E-03		-1.84E-03	1.54E-03
		600.60		17.76	1.55E-03		9.85E-04	7.69E-04
		606.71		5.02	5.48E-03		1.29E-03	2.72E-03
		635.95		11.32	2.35E-03		2.18E-03	1.17E-03
		671.44		1.78	1.61E-02		7.54E-04	7.99E-03
+	SB-126	223.90		1.39	3.50E-02	2.15E-04	-4.11E-02	1.75E-02
		278.20		2.40	2.03E-02		1.89E-02	1.01E-02
		296.50		4.50	1.05E-02		8.45E-03	5.22E-03
		414.70	*	83.30	5.63E-04		1.86E-03	2.80E-04
		556.30		1.69	2.01E-02		-1.31E-03	1.00E-02
		573.90		6.70	4.97E-03		-1.29E-03	2.47E-03
		593.20		7.50	4.66E-03		2.33E-02	2.32E-03
		656.30		2.19	1.71E-02		-1.33E-02	8.48E-03
		666.50	*	99.60	2.15E-04		1.50E-03	1.06E-04
		674.80		3.10	9.83E-03		3.21E-03	4.88E-03
		695.00	*	99.60	2.31E-04		1.49E-03	1.14E-04
		697.00		29.00	1.23E-03		-1.46E-04	6.13E-04
		720.70		53.80	8.47E-04		-5.31E-05	4.22E-04
		856.80		17.60	1.45E-03		-8.05E-04	7.19E-04
		989.60		6.80	4.21E-03		-2.73E-03	2.09E-03
		1213.30		2.39	6.61E-03		6.70E-03	3.24E-03

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A Q3r

Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	Sn-126	64.28		9.60	1.52E-02	2.09E-03	6.56E-03	7.60E-03
		87.30	*	45.90	2.09E-03		3.75E-03	1.04E-03
	I-129	29.70		56.60	3.90E-02	3.90E-02	-6.49E-02	1.95E-02
		33.60		10.04	1.11E-01		-2.61E-01	5.54E-02
		34.40		2.01	4.92E-01		-1.18E+00	2.46E-01
		39.60		7.51	7.08E-02		6.28E-03	3.54E-02
	CS-134	563.25		8.34	3.72E-03	2.97E-04	-2.92E-03	1.85E-03
		569.33		15.37	2.01E-03		1.11E-03	9.99E-04
		604.72		97.62	2.98E-04		1.79E-04	1.48E-04
		795.86		85.46	2.97E-04		1.12E-04	1.47E-04
		801.95		8.69	2.99E-03		3.71E-03	1.48E-03
+	CS-137	661.66	*	85.20	2.07E-04	2.07E-04	6.85E-03	1.03E-04
	CE-139	165.85		79.89	7.15E-04	7.15E-04	1.30E-04	3.57E-04
	CE-141	40.70		3.35	1.67E-01	1.44E-03	-3.17E-02	8.32E-02
		145.44		48.29	1.44E-03		6.73E-04	7.20E-04
	CE-144	80.12		1.36	7.30E-02	5.80E-03	-1.97E-02	3.65E-02
		133.51		11.09	5.80E-03		4.88E-03	2.90E-03
	EU-152	121.78		28.58	2.66E-03	5.80E-04	-7.21E-04	1.33E-03
		344.28		26.50	1.47E-03		2.40E-03	7.32E-04
		778.90		12.94	2.03E-03		8.36E-04	1.01E-03
		964.08		14.73	1.58E-03		1.94E-03	7.84E-04
		1085.87		10.24	1.93E-03		1.31E-03	9.53E-04
		1112.07		13.69	1.46E-03		1.81E-03	7.19E-04
		1408.01		21.07	5.80E-04		9.26E-04	2.83E-04
	GD-153	97.43		29.00	2.70E-03	2.70E-03	1.88E-03	1.35E-03
		103.18		21.10	3.54E-03		3.05E-03	1.77E-03
+	EU-154	42.70	*	20.45	2.19E-02	6.92E-04	6.29E-03	1.09E-02
		123.07	*	40.40	2.43E-03		3.22E-02	1.21E-03
		247.93	*	6.89	9.07E-03		3.25E-02	4.53E-03
		591.76	*	4.95	7.36E-03		3.53E-02	3.66E-03
		692.42	*	1.78	1.03E-02		3.39E-02	5.09E-03
		723.30	*	20.06	2.00E-03		3.25E-02	9.95E-04
		756.80	*	4.52	7.92E-03		3.30E-02	3.94E-03
		873.18	*	12.08	2.99E-03		3.19E-02	1.49E-03
		996.29	*	10.48	2.59E-03		3.06E-02	1.28E-03
		1004.76	*	18.01	1.93E-03		3.24E-02	9.60E-04
		1246.12	*	0.86	2.34E-02		3.47E-02	1.16E-02
		1274.43	*	34.80	6.92E-04		3.20E-02	3.42E-04
		1494.05	*	0.70	1.37E-02		3.12E-02	6.66E-03
		1596.48	*	1.80	5.35E-03		2.58E-02	2.60E-03
	EU-155	43.00	*	18.70	2.39E-02	3.13E-03	6.89E-03	1.20E-02
		60.01	*	1.22	2.01E-01		5.93E+00	1.00E-01
		86.55	*	30.70	3.13E-03		5.62E-03	1.56E-03
		105.31		21.10	3.39E-03		7.76E-03	1.69E-03
	HG-203	72.87		6.30	2.02E-02	5.68E-04	6.70E-03	1.01E-02
		279.20		81.46	5.68E-04		4.58E-04	2.83E-04
	BI-207	569.15		97.80	3.08E-04	2.90E-04	1.71E-04	1.53E-04
		1063.10		74.90	2.90E-04		-1.10E-04	1.43E-04
	PB-210	46.54		4.25	7.62E-02	7.62E-02	-1.49E-01	3.81E-02
	RA-226	74.81		6.44	1.70E-02	4.05E-04	3.67E-02	8.50E-03
		77.11		10.80	9.64E-03		1.75E-05	4.82E-03
		87.30		4.84	1.81E-02		5.74E-02	9.03E-03
		186.21		3.59	1.42E-02		2.71E-05	7.11E-03

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A Q3r

Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	242.00		7.43	6.19E-03	4.05E-04	-7.49E-04	3.09E-03
		295.22		19.30	2.09E-03		1.48E-03	1.04E-03
		351.93		37.60	9.79E-04		-7.28E-04	4.88E-04
		609.31		46.10	5.89E-04		3.53E-04	2.93E-04
		768.36		4.94	4.95E-03		-3.30E-03	2.46E-03
		1120.29		15.10	1.28E-03		-4.48E-04	6.33E-04
		1238.11		5.79	2.39E-03		2.06E-03	1.17E-03
		1764.49		15.40	4.05E-04		4.78E-04	1.92E-04
	PA-231	283.70		1.59	2.59E-02	1.66E-02	5.47E-03	1.29E-02
		300.07		2.38	1.66E-02		-3.43E-03	8.29E-03
		302.67		1.71	2.30E-02		-3.01E-02	1.15E-02
		330.07		1.32	2.92E-02		1.65E-02	1.46E-02
	TH-232	74.81		11.62	9.42E-03	8.34E-04	2.04E-02	4.71E-03
		77.11		17.50	5.95E-03		1.08E-05	2.97E-03
		87.30		7.80	1.12E-02		3.56E-02	5.60E-03
		238.63		43.30	1.07E-03		-8.94E-04	5.35E-04
		338.32		11.30	3.34E-03		-6.14E-03	1.66E-03
		583.19		30.37	9.37E-04		6.06E-04	4.66E-04
		727.33		6.58	5.89E-03		3.26E-03	2.93E-03
		911.21		26.60	8.34E-04		4.78E-04	4.13E-04
		968.97		16.20	1.37E-03		2.09E-04	6.80E-04
>		2614.53		35.64	0.00E+00		0.00E+00	0.00E+00
	U-235	143.76		10.96	5.52E-03	8.97E-04	-3.61E-03	2.76E-03
		185.71		57.20	8.97E-04		7.25E-04	4.48E-04
		205.31		5.01	1.03E-02		-1.79E-03	5.15E-03
	U-238	63.29		3.70	4.31E-02	1.90E-02	8.65E-03	2.16E-02
		92.51		4.23	1.90E-02		-4.93E-03	9.51E-03
		112.81		0.21	3.33E-01		1.13E-01	1.66E-01
		742.81		0.11	2.36E-01		1.06E-01	1.17E-01
		766.28		0.32	7.73E-02		3.90E-02	3.83E-02
		1001.03		0.84	5.38E-02		-3.75E-04	2.67E-02
	NP-239	99.60		12.80	4.41E-02	2.07E-02	1.15E-02	2.20E-02
		103.80		20.40	2.68E-02		4.80E-02	1.34E-02
		106.10		26.40	2.07E-02		3.46E-02	1.03E-02
		116.90		7.61	6.82E-02		-9.23E-03	3.40E-02
		228.20		11.20	3.29E-02		1.39E-02	1.64E-02
		277.60		14.50	2.23E-02		1.28E-02	1.11E-02
		315.90		1.60	1.77E-01		-2.07E-03	8.83E-02
		334.30		2.06	1.32E-01		-1.57E-02	6.57E-02
+	AM-241	59.54	*	35.90	6.79E-03	6.79E-03	2.01E-01	3.39E-03

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

Apex-Gamma

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A R3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2322 VSM-6.0M-S3-CST-A R3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 6:48:27AM
Procedure	: R3_gsv02mlw
Operator	: Administrator
Detector Name	: R
Geometry	: R3_gsv02mlw
Live Time	: 3256.3 seconds
Real Time	: 3403.5 seconds
Dead Time	: 4.32 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/5/2019
Efficiency Calibration Description	: R3_gsv2ml_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567852
Certificate Name	: R735-b8 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 7:45:16AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A R3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.93	120.31	0.2222	7.83
2	48.82	136.73	0.3094	3.36
3	59.56	166.62	0.0484	150.95
4	86.86	242.40	0.1980	7.67
5	105.49	294.37	0.2291	6.54
6	123.08	343.29	0.0646	79.91
7	247.88	690.23	0.1172	22.36
8	344.14	957.89	0.2494	5.24
9	414.77	1154.33	0.1307	16.21
10	510.92	1421.77	0.1186	12.60
11	582.15	1620.01	0.2193	5.51
12	591.80	1646.70	0.1067	22.67
13	661.69	1841.18	0.0681	51.54
14	666.41	1854.49	0.1168	18.92
15	692.41	1925.91	0.3713	3.27
16	695.09	1934.18	0.1306	15.29
17	723.40	2012.83	0.0660	54.05
18	756.92	2106.12	0.1118	17.97
19	779.22	2167.69	0.2780	3.40
20	815.69	2268.92	0.2693	3.17
21	845.55	2352.45	0.2370	4.18
22	873.30	2429.87	0.0777	36.31
23	904.16	2515.25	0.1959	5.68
24	964.58	2682.65	0.2525	4.15
25	996.39	2772.18	0.0817	31.37
26	1004.87	2795.96	0.0697	42.76
27	1128.29	3138.52	0.2269	3.81
28	1173.31	3264.59	0.0626	49.81
29	1246.34	3467.62	0.1845	5.40
30	1274.53	3546.30	0.0595	52.84
31	1332.61	3707.89	0.0639	45.37
32	1397.38	3888.09	0.1675	6.38
33	1408.02	3918.16	0.1722	5.76
34	1461.02	4064.52	0.2275	4.03
35	1494.03	4156.63	0.1775	5.42
36	1596.50	4442.29	0.1226	11.48
37	1719.19	4783.60	0.2170	4.08
38	1764.52	4909.21	0.2364	3.53
39	2504.93	6970.87	0.1813	4.72

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A R3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 7:45:16AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
M	1	42.93	111	145	120.42	8.84E+03	2532.44	3.19E+05	1.51
m	2	48.82	111	145	136.78	4.05E+03	805.87	7.38E+05	1.52
F	3	59.56	157	175	166.64	1.72E+05	2239.27	5.45E+05	1.34
F	4	86.86	237	251	242.55	8.25E+03	478.29	3.73E+05	1.77
	5	105.49	291	304	294.37	1.83E+03	1118.96	2.77E+05	1.32
F	6	123.08	334	353	343.26	5.68E+04	1578.68	3.11E+05	1.43
F	7	247.88	684	701	690.30	6.28E+03	192.64	6.20E+04	1.48
F	8	344.14	952	966	957.97	7.50E+02	117.08	2.23E+04	1.26
F	9	414.77	1145	1162	1154.40	3.08E+03	448.64	1.65E+04	1.84
F	10	510.92	1409	1434	1421.81	6.32E+03	494.86	1.43E+04	3.22
F	11	582.15	1610	1626	1619.93	7.80E+02	340.74	6.55E+03	1.97
F	12	591.80	1636	1654	1646.77	2.76E+03	81.39	7.21E+03	1.74
M	13	661.69	1830	1868	1841.16	1.08E+04	357.45	5.22E+03	2.01
m	14	666.41	1830	1868	1854.30	2.43E+03	106.01	4.67E+03	2.01
M	15	692.41	1918	1943	1926.60	9.39E+02	258.73	4.19E+03	2.12
m	16	695.09	1918	1943	1934.07	2.32E+03	444.57	5.11E+03	2.12
F	17	723.40	1998	2024	2012.80	1.09E+04	302.95	5.66E+03	2.00
F	18	756.92	2095	2114	2106.04	2.30E+03	224.70	3.75E+03	2.17
F	19	779.22	2160	2173	2168.08	2.32E+02	133.31	2.56E+03	0.80
F	20	815.69	2261	2280	2269.52	2.76E+02	46.06	3.03E+03	2.37
F	21	845.55	2345	2359	2352.61	2.55E+02	165.79	2.19E+03	1.42
F	22	873.30	2420	2443	2429.79	5.56E+03	258.44	3.12E+03	2.19
F	23	904.16	2509	2524	2515.64	4.33E+02	43.30	1.85E+03	2.39
F	24	964.58	2675	2687	2683.73	1.78E+02	123.06	1.39E+03	0.77
M	25	996.39	2757	2808	2772.23	4.68E+03	128.31	2.28E+03	2.35
m	26	1004.87	2757	2808	2795.83	8.23E+03	205.99	2.16E+03	2.36
F	27	1128.29	3129	3147	3139.22	2.18E+02	30.75	1.07E+03	2.44
F	28	1173.31	3248	3277	3264.49	1.09E+04	235.00	1.12E+03	2.46
F	29	1246.34	3457	3481	3467.70	3.14E+02	24.64	5.68E+02	2.85
F	30	1274.53	3530	3562	3546.14	1.34E+04	228.84	8.50E+02	2.66
F	31	1332.61	3691	3723	3707.74	9.81E+03	201.08	5.94E+02	2.68
F	32	1397.38	3878	3898	3887.99	2.64E+02	78.77	2.54E+02	2.61
F	33	1408.02	3906	3926	3917.61	2.30E+02	19.46	2.36E+02	2.67
F	34	1461.02	4054	4076	4065.11	9.23E+01	14.01	1.72E+02	2.49
F	35	1494.03	4146	4168	4156.96	2.16E+02	17.10	1.48E+02	2.86
F	36	1596.50	4429	4453	4442.15	7.16E+02	68.42	9.97E+01	2.79
F	37	1719.19	4773	4792	4783.65	9.13E+01	39.19	3.48E+01	2.54
F	38	1764.52	4902	4919	4909.84	4.67E+01	8.49	2.80E+01	2.43
F	39	2504.93	6961	6981	6971.30	9.77E+01	10.55	1.90E+01	3.07

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A R3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 7:45:16AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567380.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	1	42.93	8.84E+03	2532.44			8.84E+03	2.53E+03
m	2	48.82	4.05E+03	805.87			4.05E+03	8.06E+02
F	3	59.56	1.72E+05	2239.27			1.72E+05	2.24E+03
F	4	86.86	8.25E+03	478.29	2.58E+01	1.77E+00	8.23E+03	4.78E+02
	5	105.49	1.83E+03	1118.96			1.83E+03	1.12E+03
F	6	123.08	5.68E+04	1578.68			5.68E+04	1.58E+03
F	7	247.88	6.28E+03	192.64			6.28E+03	1.93E+02
F	8	344.14	7.50E+02	117.08			7.50E+02	1.17E+02
F	9	414.77	3.08E+03	448.64			3.08E+03	4.49E+02
F	10	510.92	6.32E+03	494.86	1.33E+02	4.80E+00	6.18E+03	4.95E+02
F	11	582.15	7.80E+02	340.74			7.80E+02	3.41E+02
F	12	591.80	2.76E+03	81.39			2.76E+03	8.14E+01
M	13	661.69	1.08E+04	357.45			1.08E+04	3.57E+02
m	14	666.41	2.43E+03	106.01	2.94E+00	5.35E-01	2.43E+03	1.06E+02
M	15	692.41	9.39E+02	258.73			9.39E+02	2.59E+02
m	16	695.09	2.32E+03	444.57			2.32E+03	4.45E+02
F	17	723.40	1.09E+04	302.95			1.09E+04	3.03E+02
F	18	756.92	2.30E+03	224.70			2.30E+03	2.25E+02
F	19	779.22	2.32E+02	133.31			2.32E+02	1.33E+02
F	20	815.69	2.76E+02	46.06			2.76E+02	4.61E+01
F	21	845.55	2.55E+02	165.79			2.55E+02	1.66E+02
F	22	873.30	5.56E+03	258.44			5.56E+03	2.58E+02
F	23	904.16	4.33E+02	43.30			4.33E+02	4.33E+01
F	24	964.58	1.78E+02	123.06	3.32E+00	8.48E-01	1.75E+02	1.23E+02
M	25	996.39	4.68E+03	128.31			4.68E+03	1.28E+02
m	26	1004.87	8.23E+03	205.99			8.23E+03	2.06E+02
F	27	1128.29	2.18E+02	30.75			2.18E+02	3.07E+01
F	28	1173.31	1.09E+04	235.00			1.09E+04	2.35E+02
F	29	1246.34	3.14E+02	24.64			3.14E+02	2.46E+01
F	30	1274.53	1.34E+04	228.84			1.34E+04	2.29E+02
F	31	1332.61	9.81E+03	201.08			9.81E+03	2.01E+02
F	32	1397.38	2.64E+02	78.77			2.64E+02	7.88E+01
F	33	1408.02	2.30E+02	19.46	4.64E+00	3.82E-01	2.25E+02	1.95E+01

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A R3

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 34	1461.02	9.23E+01	14.01	8.57E+01	2.45E+00	6.65E+00	1.42E+01
F 35	1494.03	2.16E+02	17.10			2.16E+02	1.71E+01
F 36	1596.50	7.16E+02	68.42			7.16E+02	6.84E+01
F 37	1719.19	9.13E+01	39.19			9.13E+01	3.92E+01
F 38	1764.52	4.67E+01	8.49	2.89E+01	1.75E+00	1.77E+01	8.66E+00
F 39	2504.93	9.77E+01	10.55			9.77E+01	1.05E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.99	1460.83	*	10.67	5.90E-05	1.26E-04	miss
CO-60	0.99	1173.24	*	99.97	9.28E-03	2.07E-04	0.963
		1332.50	*	99.99	9.10E-03	1.95E-04	0.961
		2505.74	*	1.00	1.45E-02	1.74E-03	miss
RH-106	0.37	511.86	*	20.70	1.51E-02	1.29E-03	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.82E-03	2.71E-04	0.871
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.63E-03	7.18E-05	0.868
		674.80		3.10			
		695.00	*	99.60	1.60E-03	3.07E-04	0.868
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A R3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
Sn-126	0.74	64.28		9.60			
		87.30	*	45.90	4.36E-03	3.19E-04	miss
CS-137	1.00	661.66	*	85.20	7.32E-03	2.46E-04	miss
EU-152	0.24	121.78		28.58			
		344.28	*	26.50	1.12E-03	1.76E-04	0.969
		778.90	*	12.94	1.20E-03	6.88E-04	0.959
		964.08	*	14.73	8.97E-04	6.30E-04	0.966
		1085.87		10.24			
		1112.07		13.69			
		1408.01	*	21.07	1.01E-03	8.79E-05	0.974
EU-154	0.99	42.70	*	20.45	5.18E-02	1.50E-02	miss
		123.07	*	40.40	3.47E-02	1.07E-03	0.955
		247.93	*	6.89	3.05E-02	1.02E-03	0.942
		591.76	*	4.95	3.23E-02	1.03E-03	0.931
		692.42	*	1.78	3.32E-02	9.17E-03	0.946
		723.30	*	20.06	3.49E-02	1.05E-03	0.949
		756.80	*	4.52	3.44E-02	3.39E-03	0.928
		873.18	*	12.08	3.35E-02	1.61E-03	0.942
		996.29	*	10.48	3.37E-02	9.94E-04	0.986
		1004.76	*	18.01	3.50E-02	9.61E-04	0.977
		1246.12	*	0.86	3.34E-02	2.66E-03	0.937
		1274.43	*	34.80	3.40E-02	6.84E-04	0.979
		1494.05	*	0.70	2.93E-02	2.35E-03	1.016
		1596.48	*	1.80	3.43E-02	3.30E-03	1.169
EU-155	0.99	43.00	*	18.70	5.67E-02	1.63E-02	1.000
		60.01	*	1.22	6.03E+00	2.27E-01	0.999
		86.55	*	30.70	6.53E-03	4.11E-04	free
		105.31	*	21.10	1.97E-03	1.21E-03	1.000
AM-241	1.00	59.54	*	35.90	2.04E-01	5.09E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A R3

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.994	5.90E-05	1.26E-04	
CO-60	0.998	9.22E-03	1.41E-04	
RH-106	0.372	1.51E-02	1.29E-03	
SB-126	0.489	1.64E-03	6.77E-05	
Sn-126	0.740	2.98E-03	8.44E-04	
CS-137	1.000	7.32E-03	2.46E-04	
EU-152	0.247	1.03E-03	7.75E-05	
EU-154	0.998	3.36E-02	3.15E-04	
EU-155	0.991	2.07E-03	1.20E-03	
AM-241	1.000	2.04E-01	3.77E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A R3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 7:45:16AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m	2	48.82	1.24255E+00	19.92		
F	11	582.15	2.39668E-01	43.66		
F	20	815.69	8.48638E-02	16.67	Sum	
F	21	845.55	7.83427E-02	64.99	Sum	
F	23	904.16	1.32832E-01	10.01		
F	27	1128.29	6.68315E-02	14.13	Sum	
F	32	1397.38	8.11196E-02	29.82	Sum	
F	37	1719.19	2.80499E-02	42.90	Sum	
F	38	1764.52	5.44240E-03	48.89	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	3.30E-03	3.30E-03	2.91E-03	1.64E-03
+	K-40	1460.83	*	10.67	1.06E-03	1.06E-03	5.90E-05	5.16E-04
	MN-54	834.84		99.98	2.43E-04	2.43E-04	-1.77E-04	1.21E-04
	CO-58	810.78		99.45	2.64E-04	2.64E-04	1.81E-04	1.31E-04
		863.96		0.68	3.75E-02		2.58E-02	1.86E-02
		1674.73		0.52	1.13E-02		2.97E-03	5.39E-03
	FE-59	142.65		1.00	6.96E-02	3.11E-04	5.07E-02	3.48E-02
		192.35		3.01	1.98E-02		1.15E-02	9.87E-03

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	FE-59	334.80		0.27	1.49E-01	3.11E-04	-9.64E-02	7.41E-02
		1099.25		56.30	3.78E-04		9.60E-06	1.87E-04
		1291.60		43.70	3.11E-04		1.84E-04	1.53E-04
+	CO-60	1173.24	*	99.97	2.77E-04	2.29E-04	9.28E-03	1.37E-04
		1332.50	*	99.99	2.29E-04		9.10E-03	1.13E-04
		2505.74	*	1.00	5.64E-03		1.45E-02	2.62E-03
	SR-85	514.00		96.00	3.88E-04	3.88E-04	-4.63E-05	1.94E-04
		868.60		0.01	2.86E+00		1.15E+00	1.42E+00
	NB-94	702.62		97.90	2.99E-04	2.99E-04	-1.03E-05	1.49E-04
		871.09		99.98	3.51E-04		8.64E-05	1.75E-04
	NB-95	765.81		99.81	2.77E-04	2.77E-04	4.34E-04	1.38E-04
	RU-103	497.05		91.00	3.69E-04	3.69E-04	9.36E-05	1.84E-04
		610.30		5.76	5.21E-03		2.60E-03	2.59E-03
+	RH-106	511.86	*	20.70	2.64E-03	2.64E-03	1.51E-02	1.32E-03
		621.92		9.93	3.10E-03		-2.25E-03	1.54E-03
		1050.36		1.56	1.50E-02		-6.51E-03	7.42E-03
	AG-108M	79.13		6.60	1.53E-02	3.52E-04	3.88E-03	7.62E-03
		433.90		90.50	4.24E-04		5.22E-05	2.11E-04
		614.30		89.80	3.52E-04		-8.24E-05	1.75E-04
		722.90		90.80	4.77E-04		7.63E-03	2.37E-04
	CD-109	88.03		3.61	2.47E-02	2.47E-02	8.15E-02	1.23E-02
	SB-125	176.31		6.82	8.62E-03	1.20E-03	-1.38E-02	4.30E-03
		380.45		1.52	2.46E-02		8.95E-03	1.23E-02
		427.87		29.55	1.20E-03		1.33E-03	6.00E-04
		463.36		10.48	3.25E-03		-1.42E-04	1.62E-03
		600.60		17.76	1.65E-03		-9.16E-04	8.21E-04
		606.71		5.02	5.81E-03		4.69E-03	2.89E-03
		635.95		11.32	2.53E-03		4.05E-04	1.26E-03
		671.44		1.78	1.73E-02		-8.23E-04	8.59E-03
+	SB-126	223.90		1.39	3.60E-02	2.15E-04	9.23E-03	1.80E-02
		278.20		2.40	2.17E-02		1.48E-02	1.08E-02
		296.50		4.50	1.12E-02		1.92E-03	5.59E-03
		414.70	*	83.30	5.88E-04		1.82E-03	2.93E-04
		556.30		1.69	2.17E-02		2.05E-02	1.08E-02
		573.90		6.70	5.39E-03		-3.06E-03	2.68E-03
		593.20		7.50	4.93E-03		2.56E-02	2.45E-03
		656.30		2.19	2.14E-02		-1.13E-02	1.07E-02
		666.50	*	99.60	2.15E-04		1.63E-03	1.07E-04
		674.80		3.10	1.08E-02		2.45E-03	5.36E-03
		695.00	*	99.60	2.31E-04		1.60E-03	1.15E-04
		697.00		29.00	1.28E-03		6.53E-05	6.34E-04
		720.70		53.80	8.69E-04		2.77E-04	4.33E-04
		856.80		17.60	1.57E-03		-1.07E-03	7.78E-04
		989.60		6.80	4.91E-03		1.02E-03	2.44E-03
		1213.30		2.39	6.82E-03		4.41E-03	3.36E-03
+	Sn-126	64.28		9.60	1.57E-02	2.33E-03	2.16E-03	7.85E-03
		87.30	*	45.90	2.33E-03		4.36E-03	1.16E-03
	I-129	29.70		56.60	3.80E-05	3.80E-05	0.00E+00	0.00E+00
		33.60		10.04	6.05E-02		1.80E+00	3.02E-02
		34.40		2.01	3.03E-01		1.05E+01	1.51E-01
		39.60		7.51	6.86E-02		8.53E-01	3.43E-02
	CS-134	563.25		8.34	4.00E-03	3.16E-04	6.87E-04	1.99E-03
		569.33		15.37	2.16E-03		-2.87E-03	1.08E-03

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-134	604.72		97.62	3.16E-04	3.16E-04	-8.31E-05	1.57E-04
		795.86		85.46	3.16E-04		2.72E-04	1.57E-04
		801.95		8.69	3.17E-03		-6.17E-04	1.57E-03
+	CS-137	661.66	*	85.20	2.30E-04	2.30E-04	7.32E-03	1.14E-04
	CE-139	165.85		79.89	7.76E-04	7.76E-04	4.37E-04	3.87E-04
	CE-141	40.70		3.35	1.44E-01	1.44E-03	-6.38E-02	7.20E-02
		145.44		48.29	1.44E-03		6.88E-04	7.18E-04
	CE-144	80.12		1.36	7.30E-02	5.91E-03	-8.78E-02	3.65E-02
		133.51		11.09	5.91E-03		-1.03E-03	2.95E-03
+	EU-152	121.78		28.58	2.72E-03	5.82E-04	-2.17E-04	1.36E-03
		344.28	*	26.50	1.60E-03		1.12E-03	7.99E-04
		778.90	*	12.94	1.84E-03		1.20E-03	9.13E-04
		964.08	*	14.73	1.31E-03		8.97E-04	6.48E-04
		1085.87		10.24	2.03E-03		1.11E-03	1.01E-03
		1112.07		13.69	1.58E-03		1.66E-05	7.80E-04
		1408.01	*	21.07	5.82E-04		1.01E-03	2.85E-04
	GD-153	97.43		29.00	2.78E-03	2.78E-03	3.04E-03	1.39E-03
		103.18		21.10	3.67E-03		-2.34E-03	1.84E-03
+	EU-154	42.70	*	20.45	1.54E-02	7.50E-04	5.18E-02	7.70E-03
		123.07	*	40.40	2.75E-03		3.47E-02	1.37E-03
		247.93	*	6.89	9.38E-03		3.05E-02	4.68E-03
		591.76	*	4.95	7.87E-03		3.23E-02	3.92E-03
		692.42	*	1.78	1.08E-02		3.32E-02	5.33E-03
		723.30	*	20.06	2.22E-03		3.49E-02	1.11E-03
		756.80	*	4.52	7.44E-03		3.44E-02	3.70E-03
		873.18	*	12.08	2.96E-03		3.35E-02	1.47E-03
		996.29	*	10.48	1.62E-03		3.37E-02	8.00E-04
		1004.76	*	18.01	9.31E-04		3.50E-02	4.60E-04
		1246.12	*	0.86	2.27E-02		3.34E-02	1.12E-02
		1274.43	*	34.80	7.50E-04		3.40E-02	3.71E-04
		1494.05	*	0.70	1.44E-02		2.93E-02	7.04E-03
		1596.48	*	1.80	4.36E-03		3.43E-02	2.12E-03
+	EU-155	43.00	*	18.70	1.69E-02	3.48E-03	5.67E-02	8.42E-03
		60.01	*	1.22	2.04E-01		6.03E+00	1.02E-01
		86.55	*	30.70	3.48E-03		6.53E-03	1.74E-03
		105.31	*	21.10	3.97E-03		1.97E-03	1.98E-03
	HG-203	72.87		6.30	1.86E-02	5.59E-04	5.16E-02	9.28E-03
		279.20		81.46	5.59E-04		2.49E-04	2.79E-04
	BI-207	569.15		97.80	3.32E-04	3.12E-04	-3.51E-04	1.65E-04
		1063.10		74.90	3.12E-04		1.46E-04	1.55E-04
	PB-210	46.54		4.25	7.11E-02	7.11E-02	4.38E-02	3.55E-02
	RA-226	74.81		6.44	1.70E-02	3.92E-04	9.56E-03	8.48E-03
		77.11		10.80	9.67E-03		2.23E-02	4.83E-03
		87.30		4.84	1.85E-02		6.27E-02	9.26E-03
		186.21		3.59	1.58E-02		8.62E-03	7.91E-03
		242.00		7.43	6.39E-03		-3.72E-03	3.19E-03
		295.22		19.30	2.21E-03		1.17E-04	1.10E-03
		351.93		37.60	1.04E-03		1.20E-03	5.20E-04
		609.31		46.10	6.31E-04		5.01E-04	3.14E-04
		768.36		4.94	5.32E-03		1.92E-03	2.64E-03
		1120.29		15.10	1.36E-03		-1.22E-03	6.73E-04
		1238.11		5.79	2.51E-03		-2.18E-04	1.23E-03
		1764.49		15.40	3.92E-04		5.55E-04	1.86E-04

Analysis Report for 24-2322 VSM-6.0M-S3-CST-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PA-231	283.70		1.59	2.76E-02	1.77E-02	-2.80E-03	1.38E-02
		300.07		2.38	1.77E-02		9.57E-03	8.83E-03
		302.67		1.71	2.44E-02		-2.40E-02	1.22E-02
		330.07		1.32	2.99E-02		1.12E-03	1.49E-02
	TH-232	74.81		11.62	9.41E-03	1.37E-04	5.30E-03	4.70E-03
		77.11		17.50	5.97E-03		1.38E-02	2.98E-03
		87.30		7.80	1.15E-02		3.89E-02	5.74E-03
		238.63		43.30	1.10E-03		1.28E-05	5.52E-04
		338.32		11.30	3.56E-03		1.37E-03	1.77E-03
		583.19		30.37	1.01E-03		1.14E-03	5.02E-04
		727.33		6.58	6.00E-03		1.13E-03	2.99E-03
		911.21		26.60	8.81E-04		3.00E-04	4.37E-04
		968.97		16.20	1.40E-03		-2.00E-04	6.92E-04
		2614.53		35.64	1.37E-04		1.66E-04	6.27E-05
	U-235	143.76		10.96	6.15E-03	9.95E-04	2.19E-04	3.07E-03
		185.71		57.20	9.95E-04		1.26E-03	4.97E-04
		205.31		5.01	1.06E-02		2.35E-03	5.29E-03
	U-238	63.29		3.70	4.40E-02	1.98E-02	1.36E-02	2.20E-02
		92.51		4.23	1.98E-02		1.11E-02	9.87E-03
		112.81		0.21	3.42E-01		3.90E-01	1.71E-01
		742.81		0.11	2.45E-01		1.64E-01	1.22E-01
		766.28		0.32	8.37E-02		8.53E-02	4.16E-02
		1001.03		0.84	5.38E-02		1.11E+00	2.68E-02
	NP-239	99.60		12.80	1.03E-02	4.84E-03	-8.64E-03	5.13E-03
		103.80		20.40	6.26E-03		-3.34E-03	3.13E-03
		106.10		26.40	4.84E-03		1.07E-02	2.42E-03
		116.90		7.61	1.55E-02		9.87E-03	7.77E-03
		228.20		11.20	7.48E-03		3.35E-03	3.74E-03
		277.60		14.50	5.24E-03		5.13E-04	2.62E-03
		315.90		1.60	4.18E-02		3.06E-02	2.08E-02
		334.30		2.06	2.99E-02		-9.90E-03	1.49E-02
+	AM-241	59.54	*	35.90	6.92E-03	6.92E-03	2.04E-01	3.46E-03

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

Apex-Gamma

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2323 VSM-6.0M-S3-CST-d-A R3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 8:03:32AM
Procedure	: R3_gsv02mlw
Operator	: Administrator
Detector Name	: R
Geometry	: R3_gsv02mlw
Live Time	: 2643.7 seconds
Real Time	: 2763.8 seconds
Dead Time	: 4.35 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/5/2019
Efficiency Calibration Description	: R3_gsv2ml_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567861
Certificate Name	: R735-b8 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 8:49:39AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.79	120.02	0.2820	5.03
2	48.93	137.04	0.3074	4.70
3	56.40	158.00	0.0000	0.00
4	59.56	166.63	0.0522	129.42
5	71.05	198.42	0.3989	3.64
6	75.26	209.88	0.2596	6.32
7	86.90	242.42	0.2256	5.50
8	105.34	293.98	0.2646	4.68
9	123.09	343.31	0.0695	69.06
10	247.90	690.34	0.1233	19.99
11	329.82	918.16	0.3634	3.12
12	344.09	957.99	0.2968	3.28
13	414.87	1154.63	0.1346	14.90
14	482.83	1344.04	0.3180	3.35
15	511.08	1422.06	0.1218	12.73
16	582.31	1620.33	0.2194	4.93
17	591.82	1646.69	0.1164	18.99
18	661.69	1841.18	0.0653	56.35
19	666.45	1854.70	0.1344	14.49
20	695.29	1934.55	0.1428	12.36
21	723.41	2012.85	0.0723	44.58
22	756.92	2106.06	0.1122	19.21
23	815.33	2268.51	0.2455	3.19
24	845.68	2352.85	0.2386	4.10
25	873.30	2429.87	0.0845	30.35
26	904.10	2515.76	0.2112	4.74
27	964.27	2682.57	0.2493	3.32
28	996.40	2772.28	0.0868	27.21
29	1004.90	2796.06	0.0748	37.55
30	1085.15	3019.96	0.2780	3.35
31	1113.35	3096.79	0.3008	3.05
32	1128.35	3139.26	0.2701	3.45
33	1140.06	3171.83	0.2533	3.64
34	1173.34	3264.67	0.0670	42.46
35	1246.42	3467.91	0.1789	5.65
36	1274.54	3546.35	0.0636	45.78
37	1332.61	3707.85	0.0682	40.37
38	1398.29	3889.16	0.1820	5.48
39	1407.96	3917.63	0.1662	7.16
40	1494.27	4157.82	0.1944	5.33
41	1596.27	4441.52	0.1360	8.98
42	1719.22	4783.96	0.2112	4.45
43	2505.08	6971.60	0.2131	3.61

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 8:49:39AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	1	42.79	111 -	128	120.02	1.80E+03	1291.55	3.01E+05	1.34
F	2	48.93	128 -	145	137.11	3.82E+03	2451.80	3.67E+05	1.15
M	3	56.40	149 -	173	157.88	5.44E+03	406.39	3.41E+05	1.37
m	4	59.56	149 -	173	166.64	1.37E+05	2118.67	3.44E+05	1.38
M	5	71.05	196 -	219	198.61	1.05E+03	1063.86	1.37E+05	0.74
m	6	75.26	196 -	219	210.30	5.02E+03	1626.24	4.07E+05	0.75
F	7	86.90	238 -	251	242.66	5.81E+03	438.56	2.83E+05	1.84
F	8	105.34	290 -	303	293.95	2.65E+03	376.89	2.26E+05	1.40
F	9	123.09	336 -	353	343.29	4.36E+04	1659.53	2.29E+05	1.44
F	10	247.90	686 -	697	690.36	4.79E+03	174.25	3.43E+04	1.44
	11	329.82	913 -	922	918.16	3.06E+01	219.44	1.37E+04	0.65
F	12	344.09	950 -	965	957.85	9.21E+02	650.50	1.94E+04	2.50
F	13	414.87	1148 -	1165	1154.68	2.38E+03	97.77	1.33E+04	1.75
F	14	482.83	1339 -	1349	1343.68	1.74E+02	58.05	5.68E+03	0.77
F	15	511.08	1411 -	1432	1422.24	4.50E+03	96.78	1.04E+04	2.71
F	16	582.31	1614 -	1631	1620.36	6.24E+02	829.51	5.36E+03	2.25
F	17	591.82	1639 -	1657	1646.82	2.22E+03	71.80	5.49E+03	1.85
M	18	661.69	1832 -	1862	1841.16	1.20E+04	301.12	4.20E+03	1.98
m	19	666.45	1832 -	1862	1854.39	1.59E+03	74.77	4.33E+03	1.99
F	20	695.29	1920 -	1945	1934.63	2.24E+03	338.58	5.20E+03	1.86
F	21	723.41	2001 -	2024	2012.85	8.00E+03	270.86	4.03E+03	2.05
F	22	756.92	2096 -	2120	2106.06	1.75E+03	57.55	3.68E+03	1.93
F	23	815.33	2258 -	2276	2268.54	3.42E+02	42.62	2.29E+03	2.66
F	24	845.68	2341 -	2362	2352.97	2.57E+02	40.30	2.56E+03	2.05
F	25	873.30	2419 -	2440	2429.80	4.25E+03	351.75	2.08E+03	2.28
F	26	904.10	2506 -	2522	2515.47	3.14E+02	198.06	1.65E+03	2.23
F	27	964.27	2674 -	2694	2682.89	3.36E+02	223.01	1.57E+03	3.31
M	28	996.40	2757 -	2808	2772.27	3.48E+03	117.71	1.89E+03	2.29
m	29	1004.90	2757 -	2808	2795.90	5.92E+03	182.94	1.90E+03	2.29
F	30	1085.15	3014 -	3033	3019.18	7.68E+01	23.10	1.09E+03	0.95
F	31	1113.35	3092 -	3104	3097.65	8.15E+01	30.16	6.90E+02	0.56
F	32	1128.35	3131 -	3150	3139.40	1.89E+02	166.86	7.65E+02	2.72
F	33	1140.06	3164 -	3181	3171.98	1.16E+02	23.60	6.29E+02	1.95
F	34	1173.34	3250 -	3276	3264.56	8.36E+03	192.42	9.40E+02	2.54
F	35	1246.42	3459 -	3479	3467.93	2.53E+02	22.68	4.21E+02	2.51
F	36	1274.54	3530 -	3559	3546.16	1.00E+04	194.54	6.35E+02	2.63
F	37	1332.61	3691 -	3720	3707.75	7.60E+03	177.99	3.34E+02	2.64
F	38	1398.29	3878 -	3896	3890.53	2.11E+02	96.56	1.52E+02	1.31
F	39	1407.96	3906 -	3927	3917.45	2.22E+02	55.49	1.54E+02	2.26
F	40	1494.27	4142 -	4168	4157.63	2.34E+02	60.64	9.45E+01	2.91

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1596.27	4428	4454	4441.51	5.28E+02	49.55	8.07E+01	3.14
F	42	1719.22	4776	4792	4783.75	5.22E+01	34.23	4.31E+01	1.99
F	43	2505.08	6963	6979	6971.72	5.78E+01	40.32	1.27E+01	3.27

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 8:49:39AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567380.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	42.79	1.80E+03	1291.55			1.80E+03	1.29E+03
F	2	48.93	3.82E+03	2451.80			3.82E+03	2.45E+03
M	3	56.40	5.44E+03	406.39			5.44E+03	4.06E+02
m	4	59.56	1.37E+05	2118.67			1.37E+05	2.12E+03
M	5	71.05	1.05E+03	1063.86			1.05E+03	1.06E+03
m	6	75.26	5.02E+03	1626.24	9.61E+01	5.68E+00	4.93E+03	1.63E+03
F	7	86.90	5.81E+03	438.56	2.09E+01	1.44E+00	5.79E+03	4.39E+02
F	8	105.34	2.65E+03	376.89			2.65E+03	3.77E+02
F	9	123.09	4.36E+04	1659.53			4.36E+04	1.66E+03
F	10	247.90	4.79E+03	174.25			4.79E+03	1.74E+02
	11	329.82	3.06E+01	219.44			3.06E+01	2.19E+02
F	12	344.09	9.21E+02	650.50			9.21E+02	6.50E+02
F	13	414.87	2.38E+03	97.77			2.38E+03	9.78E+01
F	14	482.83	1.74E+02	58.05			1.74E+02	5.81E+01
F	15	511.08	4.50E+03	96.78	1.08E+02	3.90E+00	4.40E+03	9.69E+01
F	16	582.31	6.24E+02	829.51	9.08E+00	5.31E-01	6.15E+02	8.30E+02
F	17	591.82	2.22E+03	71.80			2.22E+03	7.18E+01
M	18	661.69	1.20E+04	301.12			1.20E+04	3.01E+02
m	19	666.45	1.59E+03	74.77	2.39E+00	4.34E-01	1.59E+03	7.48E+01
F	20	695.29	2.24E+03	338.58			2.24E+03	3.39E+02
F	21	723.41	8.00E+03	270.86			8.00E+03	2.71E+02
F	22	756.92	1.75E+03	57.55			1.75E+03	5.76E+01
F	23	815.33	3.42E+02	42.62			3.42E+02	4.26E+01
F	24	845.68	2.57E+02	40.30			2.57E+02	4.03E+01
F	25	873.30	4.25E+03	351.75			4.25E+03	3.52E+02
F	26	904.10	3.14E+02	198.06			3.14E+02	1.98E+02

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	27	964.27	3.36E+02	223.01	2.69E+00	6.89E-01	3.34E+02	2.23E+02
M	28	996.40	3.48E+03	117.71			3.48E+03	1.18E+02
m	29	1004.90	5.92E+03	182.94			5.92E+03	1.83E+02
F	30	1085.15	7.68E+01	23.10			7.68E+01	2.31E+01
F	31	1113.35	8.15E+01	30.16			8.15E+01	3.02E+01
F	32	1128.35	1.89E+02	166.86			1.89E+02	1.67E+02
F	33	1140.06	1.16E+02	23.60			1.16E+02	2.36E+01
F	34	1173.34	8.36E+03	192.42			8.36E+03	1.92E+02
F	35	1246.42	2.53E+02	22.68			2.53E+02	2.27E+01
F	36	1274.54	1.00E+04	194.54			1.00E+04	1.95E+02
F	37	1332.61	7.60E+03	177.99			7.60E+03	1.78E+02
F	38	1398.29	2.11E+02	96.56			2.11E+02	9.66E+01
F	39	1407.96	2.22E+02	55.49	3.76E+00	3.10E-01	2.18E+02	5.55E+01
F	40	1494.27	2.34E+02	60.64			2.34E+02	6.06E+01
F	41	1596.27	5.28E+02	49.55			5.28E+02	4.95E+01
F	42	1719.22	5.22E+01	34.23			5.22E+01	3.42E+01
F	43	2505.08	5.78E+01	40.32			5.78E+01	4.03E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	8.80E-03	2.08E-04	0.963
		1332.50	*	99.99	8.68E-03	2.10E-04	0.961
		2505.74	*	1.00	1.06E-02	7.40E-03	miss
RH-106	0.39	511.86	*	20.70	1.32E-02	4.94E-04	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.74E-03	8.78E-05	0.871
		556.30		1.69			
		573.90		6.70			

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.31E-03	6.23E-05	0.868
		674.80		3.10			
		695.00	*	99.60	1.90E-03	2.88E-04	0.868
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.74	64.28		9.60			
		87.30	*	45.90	3.78E-03	3.32E-04	miss
CS-137	1.00	661.66	*	85.20	1.00E-02	2.58E-04	miss
EU-152	0.20	121.78		28.58			
		344.28	*	26.50	1.69E-03	1.19E-03	0.969
		778.90		12.94			
		964.08	*	14.73	2.10E-03	1.41E-03	0.966
		1085.87	*	10.24	7.16E-04	2.15E-04	1.011
		1112.07		13.69			
		1408.01	*	21.07	1.21E-03	3.08E-04	0.974
EU-154	0.98	42.70	*	20.45	1.31E-02	9.46E-03	miss
		123.07	*	40.40	3.28E-02	1.32E-03	0.955
		247.93	*	6.89	2.87E-02	1.11E-03	0.942
		591.76	*	4.95	3.20E-02	1.11E-03	0.931
		692.42		1.78			
		723.30	*	20.06	3.17E-02	1.13E-03	0.949
		756.80	*	4.52	3.24E-02	1.12E-03	0.928
		873.18	*	12.08	3.16E-02	2.64E-03	0.942
		996.29	*	10.48	3.09E-02	1.10E-03	0.986
		1004.76	*	18.01	3.10E-02	1.02E-03	0.977
		1246.12	*	0.86	3.32E-02	3.01E-03	0.937
		1274.43	*	34.80	3.13E-02	6.93E-04	0.979
		1494.05	*	0.70	3.91E-02	1.01E-02	1.016
		1596.48	*	1.80	3.11E-02	2.95E-03	1.169
EU-155	0.98	43.00	*	18.70	1.44E-02	1.03E-02	1.000
		60.01	*	1.22	5.90E+00	2.28E-01	0.999
		86.55	*	30.70	5.65E-03	4.50E-04	free
		105.31	*	21.10	3.52E-03	5.09E-04	1.000
AM-241	1.00	59.54	*	35.90	2.00E-01	5.26E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

ASR 2094 Branch

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.998	8.74E-03	1.48E-04	
RH-106	0.397	1.32E-02	4.94E-04	
SB-126	0.485	1.47E-03	5.00E-05	
Sn-126	0.745	1.46E-03	4.42E-04	
CS-137	1.000	1.00E-02	2.58E-04	
EU-152	0.205	9.14E-04	1.73E-04	
EU-154	0.983	3.13E-02	3.35E-04	
EU-155	0.989	3.47E-03	5.01E-04	
AM-241	1.000	2.00E-01	4.05E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 8:49:39AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	48.93	1.44379E+00	64.23		
M	3	56.40	2.05694E+00	7.47		
M	5	71.05	3.98044E-01	101.10		
m	6	75.26	1.86331E+00	33.01		
	11	329.82	1.15836E-02	716.57	Tol.	PA-231
F	14	482.83	6.59682E-02	33.29		
F	16	582.31	2.32617E-01	134.88		
F	23	815.33	1.29391E-01	12.46		
F	24	845.68	9.71244E-02	15.70	Sum	
F	26	904.10	1.18910E-01	63.00		
F	31	1113.35	3.08341E-02	37.00		
F	32	1128.35	7.13488E-02	88.46	Sum	
F	33	1140.06	4.39251E-02	20.32		
F	38	1398.29	7.99650E-02	45.68	Sum	
F	42	1719.22	1.97367E-02	65.60	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	3.67E-03	3.67E-03	-6.51E-04	1.83E-03
	K-40	1460.83		10.67	9.91E-04	9.91E-04	-1.27E-04	4.81E-04
	MN-54	834.84		99.98	2.67E-04	2.67E-04	1.62E-04	1.32E-04
	CO-58	810.78		99.45	2.92E-04	2.92E-04	-5.95E-05	1.45E-04
		863.96		0.68	4.10E-02		1.07E-02	2.03E-02
		1674.73		0.52	1.22E-02		-2.57E-03	5.78E-03
	FE-59	142.65		1.00	7.76E-02	3.35E-04	1.16E-02	3.87E-02
		192.35		3.01	2.21E-02		4.17E-03	1.10E-02
		334.80		0.27	1.66E-01		2.11E-01	8.30E-02
		1099.25		56.30	4.14E-04		2.46E-04	2.05E-04
		1291.60		43.70	3.35E-04		4.30E-05	1.64E-04
+	CO-60	1173.24	*	99.97	2.99E-04	2.03E-04	8.80E-03	1.48E-04
		1332.50	*	99.99	2.03E-04		8.68E-03	1.00E-04
		2505.74	*	1.00	5.40E-03		1.06E-02	2.45E-03
	SR-85	514.00		96.00	4.30E-04	4.30E-04	-2.48E-05	2.14E-04
		868.60		0.01	3.08E+00		2.26E-01	1.53E+00
	NB-94	702.62		97.90	3.33E-04	3.33E-04	2.33E-04	1.66E-04
		871.09		99.98	3.77E-04		3.59E-03	1.87E-04
	NB-95	765.81		99.81	3.03E-04	3.03E-04	2.26E-04	1.50E-04
	RU-103	497.05		91.00	4.10E-04	4.10E-04	2.51E-04	2.04E-04
		610.30		5.76	5.70E-03		-4.26E-03	2.83E-03
+	RH-106	511.86	*	20.70	2.58E-03	2.58E-03	1.32E-02	1.29E-03
		621.92		9.93	3.43E-03		3.45E-03	1.71E-03
		1050.36		1.56	1.66E-02		1.41E-02	8.24E-03
	AG-108M	79.13		6.60	1.70E-02	3.85E-04	8.24E-04	8.50E-03
		433.90		90.50	4.74E-04		-4.14E-04	2.36E-04
		614.30		89.80	3.85E-04		-4.30E-04	1.91E-04
		722.90		90.80	5.14E-04		7.27E-03	2.56E-04
	CD-109	88.03		3.61	2.75E-02	2.75E-02	7.69E-02	1.37E-02
	SB-125	176.31		6.82	9.63E-03	1.35E-03	3.39E-03	4.81E-03
		380.45		1.52	2.72E-02		3.18E-03	1.36E-02
		427.87		29.55	1.35E-03		2.04E-03	6.72E-04
		463.36		10.48	3.64E-03		1.84E-03	1.81E-03
		600.60		17.76	1.81E-03		6.89E-04	9.01E-04
		606.71		5.02	6.41E-03		5.20E-03	3.19E-03
		635.95		11.32	2.83E-03		1.86E-05	1.41E-03
		671.44		1.78	1.91E-02		2.11E-03	9.47E-03
+	SB-126	223.90		1.39	4.02E-02	2.55E-04	2.13E-02	2.00E-02
		278.20		2.40	2.43E-02		2.22E-02	1.21E-02
		296.50		4.50	1.25E-02		1.89E-03	6.23E-03
		414.70	*	83.30	6.52E-04		1.74E-03	3.25E-04
		556.30		1.69	2.43E-02		3.70E-03	1.21E-02
		573.90		6.70	5.91E-03		2.97E-04	2.94E-03
		593.20		7.50	5.38E-03		2.65E-02	2.67E-03
		656.30		2.19	2.59E-02		-6.12E-03	1.29E-02
		666.50	*	99.60	2.55E-04		1.31E-03	1.27E-04
		674.80		3.10	1.20E-02		8.14E-03	5.97E-03
		695.00	*	99.60	5.54E-04		1.90E-03	2.76E-04
		697.00		29.00	1.41E-03		4.04E-06	7.00E-04
		720.70		53.80	9.36E-04		3.16E-04	4.66E-04
		856.80		17.60	1.74E-03		6.64E-05	8.63E-04
		989.60		6.80	5.34E-03		-2.05E-03	2.65E-03
		1213.30		2.39	7.46E-03		-7.21E-04	3.66E-03

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	Sn-126	64.28		9.60	1.74E-02	2.43E-03	2.07E-03	8.71E-03
		87.30	*	45.90	2.43E-03		3.78E-03	1.21E-03
	I-129	29.70		56.60	4.68E-05	4.68E-05	0.00E+00	0.00E+00
		33.60		10.04	6.73E-02		1.81E+00	3.36E-02
		34.40		2.01	3.37E-01		1.07E+01	1.68E-01
		39.60		7.51	7.62E-02		8.43E-01	3.80E-02
	CS-134	563.25		8.34	4.43E-03	3.47E-04	1.21E-03	2.21E-03
		569.33		15.37	2.39E-03		1.34E-03	1.19E-03
		604.72		97.62	3.49E-04		4.64E-05	1.73E-04
		795.86		85.46	3.47E-04		1.64E-04	1.72E-04
		801.95		8.69	3.46E-03		-1.14E-03	1.71E-03
+	CS-137	661.66	*	85.20	2.54E-04	2.54E-04	1.00E-02	1.26E-04
	CE-139	165.85		79.89	8.64E-04	8.64E-04	-6.13E-04	4.31E-04
	CE-141	40.70		3.35	1.60E-01	1.60E-03	-9.20E-02	8.00E-02
		145.44		48.29	1.60E-03		1.87E-03	8.01E-04
	CE-144	80.12		1.36	8.14E-02	6.60E-03	-1.99E-02	4.07E-02
		133.51		11.09	6.60E-03		4.39E-03	3.29E-03
+	EU-152	121.78		28.58	3.03E-03	5.93E-04	4.56E-05	1.51E-03
		344.28	*	26.50	1.89E-03		1.69E-03	9.41E-04
		778.90		12.94	2.35E-03		-6.25E-05	1.17E-03
		964.08	*	14.73	2.08E-03		2.10E-03	1.03E-03
		1085.87	*	10.24	2.51E-03		7.16E-04	1.24E-03
		1112.07		13.69	1.71E-03		6.80E-04	8.45E-04
		1408.01	*	21.07	5.93E-04		1.21E-03	2.89E-04
	GD-153	97.43		29.00	3.10E-03	3.10E-03	1.89E-03	1.55E-03
		103.18		21.10	4.09E-03		-2.27E-03	2.05E-03
+	EU-154	42.70	*	20.45	3.11E-02	7.69E-04	1.31E-02	1.55E-02
		123.07	*	40.40	2.78E-03		3.28E-02	1.39E-03
		247.93	*	6.89	7.35E-03		2.87E-02	3.67E-03
		591.76	*	4.95	8.48E-03		3.20E-02	4.22E-03
		692.42		1.78	2.05E-02		2.21E-03	1.02E-02
		723.30	*	20.06	2.20E-03		3.17E-02	1.09E-03
		756.80	*	4.52	1.00E-02		3.24E-02	4.97E-03
		873.18	*	12.08	2.86E-03		3.16E-02	1.42E-03
		996.29	*	10.48	1.82E-03		3.09E-02	8.98E-04
		1004.76	*	18.01	1.08E-03		3.10E-02	5.31E-04
		1246.12	*	0.86	2.25E-02		3.32E-02	1.11E-02
		1274.43	*	34.80	7.69E-04		3.13E-02	3.80E-04
		1494.05	*	0.70	1.53E-02		3.91E-02	7.43E-03
		1596.48	*	1.80	5.01E-03		3.11E-02	2.42E-03
+	EU-155	43.00	*	18.70	3.40E-02	3.64E-03	1.44E-02	1.70E-02
		60.01	*	1.22	1.18E-01		5.90E+00	5.88E-02
		86.55	*	30.70	3.64E-03		5.65E-03	1.82E-03
		105.31	*	21.10	4.42E-03		3.52E-03	2.21E-03
	HG-203	72.87		6.30	2.07E-02	6.24E-04	5.19E-03	1.04E-02
		279.20		81.46	6.24E-04		-3.18E-04	3.11E-04
	BI-207	569.15		97.80	3.67E-04	3.43E-04	-7.58E-05	1.83E-04
		1063.10		74.90	3.43E-04		-5.17E-04	1.70E-04
	PB-210	46.54		4.25	7.90E-02	7.90E-02	3.65E-02	3.94E-02
	RA-226	74.81		6.44	1.89E-02	4.30E-04	3.97E-02	9.46E-03
		77.11		10.80	1.08E-02		-2.03E-03	5.38E-03
		87.30		4.84	2.06E-02		3.89E-02	1.03E-02
		186.21		3.59	1.77E-02		4.94E-03	8.82E-03

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	242.00		7.43	7.13E-03	4.30E-04	-3.66E-03	3.56E-03
		295.22		19.30	2.47E-03		1.07E-03	1.23E-03
		351.93		37.60	1.16E-03		2.78E-04	5.79E-04
		609.31		46.10	6.91E-04		-2.47E-04	3.44E-04
		768.36		4.94	5.87E-03		1.68E-03	2.91E-03
		1120.29		15.10	1.47E-03		-4.35E-05	7.27E-04
		1238.11		5.79	2.83E-03		4.77E-04	1.39E-03
		1764.49		15.40	4.30E-04		2.71E-06	2.03E-04
	PA-231	283.70		1.59	3.09E-02	1.97E-02	-2.10E-02	1.54E-02
		300.07		2.38	1.97E-02		-7.04E-03	9.84E-03
		302.67		1.71	2.73E-02		-1.99E-02	1.36E-02
		330.07		1.32	3.34E-02		8.00E-03	1.67E-02
	TH-232	74.81		11.62	1.05E-02	1.56E-04	2.20E-02	5.24E-03
		77.11		17.50	6.65E-03		-1.25E-03	3.32E-03
		87.30		7.80	1.28E-02		2.41E-02	6.39E-03
		238.63		43.30	1.23E-03		4.86E-04	6.14E-04
		338.32		11.30	3.98E-03		5.83E-04	1.98E-03
		583.19		30.37	1.10E-03		1.50E-03	5.46E-04
		727.33		6.58	6.49E-03		8.07E-04	3.23E-03
		911.21		26.60	9.82E-04		-6.05E-04	4.87E-04
		968.97		16.20	1.55E-03		-5.31E-04	7.65E-04
		2614.53		35.64	1.56E-04		1.72E-04	7.09E-05
	U-235	143.76		10.96	6.85E-03	1.11E-03	5.72E-03	3.42E-03
		185.71		57.20	1.11E-03		1.16E-03	5.55E-04
		205.31		5.01	1.19E-02		9.73E-03	5.92E-03
	U-238	63.29		3.70	4.87E-02	2.20E-02	1.32E-02	2.43E-02
		92.51		4.23	2.20E-02		-2.48E-03	1.10E-02
		112.81		0.21	3.80E-01		-7.63E-02	1.90E-01
		742.81		0.11	2.67E-01		3.13E-01	1.33E-01
		766.28		0.32	9.16E-02		2.68E-02	4.54E-02
		1001.03		0.84	5.84E-02		1.05E+00	2.91E-02
	NP-239	99.60		12.80	1.16E-02	5.47E-03	-6.62E-03	5.80E-03
		103.80		20.40	7.07E-03		-1.83E-03	3.53E-03
		106.10		26.40	5.47E-03		1.35E-02	2.73E-03
		116.90		7.61	1.76E-02		3.32E-03	8.79E-03
		228.20		11.20	8.46E-03		-3.18E-03	4.22E-03
		277.60		14.50	5.94E-03		-2.25E-03	2.96E-03
		315.90		1.60	4.74E-02		3.01E-02	2.36E-02
		334.30		2.06	3.39E-02		2.22E-02	1.69E-02
+	AM-241	59.54	*	35.90	3.99E-03	3.99E-03	2.00E-01	1.99E-03

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

Apex-Gamma

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2323 VSM-6.0M-S3-CST-d-A R3
Sample Description	: Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/29/2024 10:06:51AM
Procedure	: R3_gsv02mlw
Operator	: Administrator
Detector Name	: R
Geometry	: R3_gsv02mlw
Live Time	: 2772.3 seconds
Real Time	: 2897.4 seconds
Dead Time	: 4.32 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/5/2019
Efficiency Calibration Description	: R3_gsv2ml_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567993
Certificate Name	: R735-b8 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/29/2024 10:55:12AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	39.33	110.53	0.4022	3.26
2	42.72	119.62	0.2395	5.98
3	48.53	135.98	0.3278	4.05
4	59.57	166.66	0.0518	133.63
5	74.98	208.93	0.3168	3.67
6	86.84	242.36	0.2013	7.25
7	105.28	293.48	0.2296	6.21
8	123.10	343.34	0.0686	71.78
9	145.19	404.76	0.3632	3.28
10	247.89	690.21	0.1268	18.88
11	344.27	958.05	0.2702	4.32
12	414.81	1154.50	0.1341	14.88
13	511.08	1422.07	0.1224	12.65
14	572.74	1594.01	0.3264	3.49
15	582.27	1619.95	0.2527	3.45
16	591.82	1646.72	0.1147	19.30
17	625.37	1740.23	0.2545	4.44
18	661.69	1841.13	0.0640	58.36
19	666.43	1854.59	0.1264	16.30
20	692.42	1925.83	0.3140	4.11
21	695.14	1934.53	0.1350	13.62
22	723.36	2012.70	0.0713	46.10
23	756.90	2106.08	0.1166	16.98
24	778.91	2166.47	0.2632	3.43
25	815.47	2268.44	0.2723	3.06
26	845.94	2352.76	0.2207	3.65
27	873.31	2429.84	0.0821	32.04
28	880.12	2448.86	0.2849	3.01
29	904.25	2515.87	0.2710	3.27
30	963.86	2681.36	0.2197	3.87
31	996.39	2772.27	0.0861	28.45
32	1004.84	2795.86	0.0740	37.74
33	1173.29	3264.53	0.0666	43.68
34	1246.17	3466.91	0.1954	5.89
35	1274.49	3546.21	0.0630	47.08
36	1332.55	3707.70	0.0678	39.78
37	1397.08	3887.28	0.1768	6.29
38	1408.22	3918.29	0.1945	5.02
39	1494.05	4156.97	0.1776	5.49
40	1596.41	4441.60	0.1359	9.08
41	1718.69	4782.38	0.2226	3.99
42	2504.11	6969.04	0.1893	4.23

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/29/2024 10:55:12AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
M	1	39.33	101 -	144	110.41	3.38E+02	130.63	1.98E+05	1.27
m	2	42.72	101 -	144	119.82	3.89E+03	176.99	2.24E+05	1.27
m	3	48.53	101 -	144	135.99	1.74E+03	163.91	2.73E+05	1.29
F	4	59.57	157 -	173	166.68	1.38E+05	1975.56	4.15E+05	1.34
F	5	74.98	204 -	218	209.52	2.52E+03	1680.12	3.50E+05	0.84
F	6	86.84	237 -	251	242.49	7.08E+03	438.40	3.17E+05	1.70
F	7	105.28	290 -	303	293.78	4.68E+03	404.45	2.33E+05	1.68
F	8	123.10	337 -	353	343.31	4.61E+04	1862.86	2.24E+05	1.42
	9	145.19	394 -	414	404.76	1.73E+02	1138.24	2.07E+05	0.45
F	10	247.89	684 -	701	690.33	5.47E+03	178.81	5.25E+04	1.60
F	11	344.27	952 -	969	958.33	7.27E+02	112.96	2.26E+04	1.65
F	12	414.81	1147 -	1166	1154.52	2.17E+03	99.78	1.62E+04	1.60
F	13	511.08	1409 -	1432	1422.27	4.76E+03	100.70	1.18E+04	2.78
F	14	572.74	1590 -	1604	1593.76	1.29E+02	52.33	4.91E+03	0.98
F	15	582.27	1614 -	1626	1620.26	2.81E+02	61.78	4.33E+03	1.81
F	16	591.82	1640 -	1655	1646.82	2.18E+03	73.19	4.96E+03	1.79
F	17	625.37	1732 -	1745	1740.12	2.60E+02	191.14	3.73E+03	1.35
M	18	661.69	1830 -	1861	1841.15	1.25E+04	118.53	4.83E+03	1.92
m	19	666.43	1830 -	1861	1854.35	1.85E+03	63.38	4.13E+03	1.93
M	20	692.42	1912 -	1942	1926.63	7.42E+02	208.90	3.93E+03	1.94
m	21	695.14	1912 -	1942	1934.21	1.63E+03	344.06	4.20E+03	1.94
F	22	723.36	2001 -	2026	2012.69	8.47E+03	275.64	5.02E+03	2.04
F	23	756.90	2098 -	2113	2106.00	1.59E+03	232.82	2.78E+03	1.95
F	24	778.91	2159 -	2178	2167.22	2.27E+02	44.56	3.06E+03	1.97
F	25	815.47	2260 -	2280	2268.93	3.17E+02	42.83	2.53E+03	2.77
F	26	845.94	2346 -	2371	2353.68	3.04E+02	312.00	3.17E+03	1.43
M	27	873.31	2420 -	2455	2429.84	4.50E+03	73.24	2.03E+03	2.17
m	28	880.12	2420 -	2455	2448.77	1.17E+02	36.29	2.08E+03	2.17
F	29	904.25	2506 -	2523	2515.91	2.35E+02	90.26	1.85E+03	2.20
F	30	963.86	2673 -	2696	2681.73	3.40E+02	37.12	1.97E+03	2.67
M	31	996.39	2761 -	2807	2772.25	3.53E+03	66.10	1.91E+03	2.26
m	32	1004.84	2761 -	2807	2795.75	6.25E+03	82.03	1.97E+03	2.26
F	33	1173.29	3250 -	3280	3264.44	8.73E+03	208.88	8.37E+02	2.49
F	34	1246.17	3461 -	3479	3467.21	1.96E+02	22.40	4.14E+02	2.20
F	35	1274.49	3530 -	3562	3546.02	1.07E+04	208.29	6.67E+02	2.60
F	36	1332.55	3691 -	3723	3707.60	7.82E+03	181.62	4.13E+02	2.67
F	37	1397.08	3878 -	3897	3887.17	2.02E+02	63.18	1.75E+02	2.39
F	38	1408.22	3906 -	3930	3918.16	2.18E+02	18.39	2.43E+02	2.95
F	39	1494.05	4148 -	4167	4157.02	1.84E+02	16.53	1.35E+02	2.61
F	40	1596.41	4427 -	4454	4441.91	5.42E+02	213.72	8.48E+01	3.12

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1718.69	4775 -	4790	4782.27	4.29E+01	9.36	4.81E+01	1.87
F	42	2504.11	6959 -	6979	6969.03	8.97E+01	9.11	0.00E+00	3.48

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/29/2024 10:55:12AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567967.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	1	39.33	3.38E+02	130.63			3.38E+02	1.31E+02
m	2	42.72	3.89E+03	176.99			3.89E+03	1.77E+02
m	3	48.53	1.74E+03	163.91			1.74E+03	1.64E+02
F	4	59.57	1.38E+05	1975.56			1.38E+05	1.98E+03
F	5	74.98	2.52E+03	1680.12	1.12E+02	6.45E+00	2.41E+03	1.68E+03
F	6	86.84	7.08E+03	438.40	3.14E+01	1.86E+00	7.04E+03	4.38E+02
F	7	105.28	4.68E+03	404.45			4.68E+03	4.04E+02
F	8	123.10	4.61E+04	1862.86			4.61E+04	1.86E+03
	9	145.19	1.73E+02	1138.24			1.73E+02	1.14E+03
F	10	247.89	5.47E+03	178.81			5.47E+03	1.79E+02
F	11	344.27	7.27E+02	112.96	2.48E+00	6.84E-01	7.25E+02	1.13E+02
F	12	414.81	2.17E+03	99.78			2.17E+03	9.98E+01
F	13	511.08	4.76E+03	100.70	1.28E+02	4.26E+00	4.63E+03	1.01E+02
F	14	572.74	1.29E+02	52.33			1.29E+02	5.23E+01
F	15	582.27	2.81E+02	61.78	1.23E+01	2.14E+00	2.69E+02	6.18E+01
F	16	591.82	2.18E+03	73.19			2.18E+03	7.32E+01
F	17	625.37	2.60E+02	191.14			2.60E+02	1.91E+02
M	18	661.69	1.25E+04	118.53			1.25E+04	1.19E+02
m	19	666.43	1.85E+03	63.38			1.85E+03	6.34E+01
M	20	692.42	7.42E+02	208.90			7.42E+02	2.09E+02
m	21	695.14	1.63E+03	344.06			1.63E+03	3.44E+02
F	22	723.36	8.47E+03	275.64			8.47E+03	2.76E+02
F	23	756.90	1.59E+03	232.82			1.59E+03	2.33E+02
F	24	778.91	2.27E+02	44.56			2.27E+02	4.46E+01
F	25	815.47	3.17E+02	42.83			3.17E+02	4.28E+01
F	26	845.94	3.04E+02	312.00			3.04E+02	3.12E+02
M	27	873.31	4.50E+03	73.24			4.50E+03	7.32E+01

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
m	28	880.12	1.17E+02	36.29			1.17E+02	3.63E+01
F	29	904.25	2.35E+02	90.26			2.35E+02	9.03E+01
F	30	963.86	3.40E+02	37.12	3.39E+00	9.94E-01	3.36E+02	3.71E+01
M	31	996.39	3.53E+03	66.10			3.53E+03	6.61E+01
m	32	1004.84	6.25E+03	82.03			6.25E+03	8.20E+01
F	33	1173.29	8.73E+03	208.88			8.73E+03	2.09E+02
F	34	1246.17	1.96E+02	22.40			1.96E+02	2.24E+01
F	35	1274.49	1.07E+04	208.29			1.07E+04	2.08E+02
F	36	1332.55	7.82E+03	181.62			7.82E+03	1.82E+02
F	37	1397.08	2.02E+02	63.18			2.02E+02	6.32E+01
F	38	1408.22	2.18E+02	18.39	4.22E+00	1.15E+00	2.14E+02	1.84E+01
F	39	1494.05	1.84E+02	16.53			1.84E+02	1.65E+01
F	40	1596.41	5.42E+02	213.72			5.42E+02	2.14E+02
F	41	1718.69	4.29E+01	9.36			4.29E+01	9.36E+00
F	42	2504.11	8.97E+01	9.11			8.97E+01	9.11E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	8.78E-03	2.15E-04	0.963
		1332.50	*	99.99	8.53E-03	2.05E-04	0.961
		2505.74		1.00			
RH-106	0.39	511.86	*	20.70	1.34E-02	4.99E-04	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.51E-03	8.24E-05	0.871
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	666.50	*	99.60	1.46E-03	5.07E-05	0.868
		674.80		3.10			
		695.00	*	99.60	1.32E-03	2.79E-04	0.868
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.73	64.28		9.60			
		87.30	*	45.90	4.39E-03	3.35E-04	miss
I-129	0.99	29.70		56.60			
		33.60		10.04			
		34.40		2.01			
		39.60	*	7.51	9.21E-03	3.60E-03	miss
CS-137	1.00	661.66	*	85.20	9.99E-03	1.11E-04	miss
CE-141	0.94	40.70		3.35			
		145.44	*	48.29	1.21E-04	7.95E-04	free
EU-152	0.25	121.78		28.58			
		344.28	*	26.50	1.27E-03	2.00E-04	0.969
		778.90	*	12.94	1.38E-03	2.70E-04	0.959
		964.08	*	14.73	2.02E-03	2.24E-04	0.966
		1085.87		10.24			
		1112.07		13.69			
		1408.01	*	21.07	1.13E-03	9.78E-05	0.974
EU-154	0.99	42.70	*	20.45	2.73E-02	1.62E-03	miss
		123.07	*	40.40	3.31E-02	1.41E-03	0.955
		247.93	*	6.89	3.13E-02	1.11E-03	0.942
		591.76	*	4.95	3.00E-02	1.07E-03	0.931
		692.42	*	1.78	3.09E-02	8.70E-03	0.946
		723.30	*	20.06	3.20E-02	1.10E-03	0.949
		756.80	*	4.52	2.81E-02	4.12E-03	0.928
		873.18	*	12.08	3.19E-02	6.42E-04	0.942
		996.29	*	10.48	2.99E-02	6.47E-04	0.986
		1004.76	*	18.01	3.12E-02	5.42E-04	0.977
		1246.12	*	0.86	2.46E-02	2.82E-03	0.937
		1274.43	*	34.80	3.19E-02	7.08E-04	0.979
		1494.05	*	0.70	2.93E-02	2.66E-03	1.016
		1596.48	*	1.80	3.05E-02	1.20E-02	1.169
EU-155	0.99	43.00	*	18.70	2.99E-02	1.71E-03	1.000
		60.01	*	1.22	5.69E+00	2.17E-01	0.999
		86.55	*	30.70	6.58E-03	4.39E-04	free
		105.31	*	21.10	5.94E-03	5.35E-04	1.000
AM-241	1.00	59.54	*	35.90	1.93E-01	4.93E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

Branch

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.993	8.65E-03	1.48E-04	
RH-106	0.399	1.34E-02	4.99E-04	
SB-126	0.488	1.47E-03	4.27E-05	
Sn-126	0.738	1.09E-03	4.27E-04	
I-129	0.999	9.21E-03	3.60E-03	
CS-137	1.000	9.99E-03	1.11E-04	
CE-141	0.947	1.21E-04	7.95E-04	
EU-152	0.252	1.28E-03	7.83E-05	
EU-154	0.999	3.10E-02	2.36E-04	
EU-155	0.990	4.94E-03	4.90E-04	
AM-241	1.000	1.92E-01	3.73E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/29/2024 10:55:12AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m	3	48.53	6.29159E-01	9.40		
F	5	74.98	8.70348E-01	69.63	Tol.	RA-226
F	14	572.74	4.67079E-02	40.41		
F	15	582.27	9.69307E-02	23.00		
F	17	625.37	9.38203E-02	73.49		
F	25	815.47	1.14276E-01	13.52	Sum	
F	26	845.94	1.09484E-01	102.80	Sum	
m	28	880.12	4.21641E-02	31.05	Sum	
F	29	904.25	8.46422E-02	38.46		
F	37	1397.08	7.27274E-02	31.33	Sum	
F	41	1718.69	1.54750E-02	21.81	Sum	
F	42	2504.11	3.23422E-02	10.16		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.61	10.44	3.81E-03	3.81E-03	-3.01E-03	1.90E-03
K-40	1460.83	10.67	9.87E-04	9.87E-04	-1.18E-03	4.80E-04
MN-54	834.84	99.98	2.65E-04	2.65E-04	-4.60E-05	1.32E-04
CO-58	810.78	99.45	2.97E-04	2.97E-04	-1.64E-05	1.47E-04

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3
Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CO-58	863.96		0.68	4.20E-02	2.97E-04	1.65E-02	2.08E-02
		1674.73		0.52	1.25E-02		1.23E-03	5.90E-03
	FE-59	142.65		1.00	8.17E-02	3.49E-04	-1.45E-02	4.08E-02
		192.35		3.01	2.33E-02		4.28E-02	1.16E-02
		334.80		0.27	1.75E-01		2.95E-02	8.74E-02
		1099.25		56.30	4.31E-04		-4.77E-04	2.13E-04
		1291.60		43.70	3.49E-04		-3.95E-04	1.71E-04
+	CO-60	1173.24	*	99.97	2.87E-04	2.25E-04	8.78E-03	1.42E-04
		1332.50	*	99.99	2.25E-04		8.53E-03	1.11E-04
		2505.74		1.00	8.78E-03		1.54E-02	4.15E-03
	SR-85	514.00		96.00	4.46E-04	4.46E-04	2.71E-04	2.22E-04
		868.60		0.01	3.20E+00		-3.80E-01	1.59E+00
	NB-94	702.62		97.90	3.22E-04	3.22E-04	2.44E-04	1.60E-04
		871.09		99.98	3.72E-04		3.03E-05	1.85E-04
	NB-95	765.81		99.81	3.32E-04	3.32E-04	2.64E-04	1.65E-04
	RU-103	497.05		91.00	4.36E-04	4.36E-04	-1.19E-04	2.17E-04
		610.30		5.76	6.14E-03		-2.43E-03	3.05E-03
+	RH-106	511.86	*	20.70	2.75E-03	2.75E-03	1.34E-02	1.37E-03
		621.92		9.93	3.39E-03		1.20E-03	1.69E-03
		1050.36		1.56	1.63E-02		-1.62E-02	8.07E-03
	AG-108M	79.13		6.60	1.66E-02	3.78E-04	-3.13E-03	8.28E-03
		433.90		90.50	4.62E-04		-2.10E-04	2.30E-04
		614.30		89.80	3.78E-04		-5.03E-04	1.88E-04
		722.90		90.80	5.10E-04		7.47E-03	2.54E-04
	CD-109	88.03		3.61	2.69E-02	2.69E-02	7.67E-02	1.35E-02
	SB-125	176.31		6.82	9.43E-03	1.31E-03	-6.90E-04	4.71E-03
		380.45		1.52	2.67E-02		2.27E-02	1.33E-02
		427.87		29.55	1.31E-03		1.22E-03	6.54E-04
		463.36		10.48	3.55E-03		-6.65E-04	1.77E-03
		600.60		17.76	1.78E-03		4.64E-04	8.87E-04
		606.71		5.02	6.30E-03		-1.37E-03	3.13E-03
		635.95		11.32	2.74E-03		1.45E-03	1.36E-03
		671.44		1.78	1.84E-02		-3.32E-03	9.16E-03
+	SB-126	223.90		1.39	3.91E-02	2.38E-04	2.95E-02	1.95E-02
		278.20		2.40	2.35E-02		-1.00E-02	1.17E-02
		296.50		4.50	1.22E-02		4.08E-03	6.06E-03
		414.70	*	83.30	7.16E-04		1.51E-03	3.57E-04
		556.30		1.69	2.36E-02		5.37E-03	1.18E-02
		573.90		6.70	5.75E-03		1.50E-03	2.86E-03
		593.20		7.50	5.26E-03		2.24E-02	2.62E-03
		656.30		2.19	2.52E-02		6.80E-03	1.26E-02
		666.50	*	99.60	2.38E-04		1.46E-03	1.18E-04
		674.80		3.10	1.16E-02		-1.49E-02	5.74E-03
		695.00	*	99.60	2.47E-04		1.32E-03	1.22E-04
		697.00		29.00	1.37E-03		4.91E-04	6.81E-04
		720.70		53.80	9.27E-04		-6.83E-07	4.61E-04
		856.80		17.60	1.70E-03		1.87E-03	8.45E-04
		989.60		6.80	5.21E-03		4.00E-03	2.58E-03
		1213.30		2.39	7.41E-03		-3.17E-03	3.64E-03
+	Sn-126	64.28		9.60	1.70E-02	2.52E-03	-4.32E-03	8.48E-03
		87.30	*	45.90	2.52E-03		4.39E-03	1.26E-03
+	I-129	29.70		56.60	4.46E-05	4.46E-05	0.00E+00	0.00E+00
		33.60		10.04	6.55E-02		2.87E-01	3.27E-02

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-129	34.40		2.01	3.28E-01	4.46E-05	1.26E+00	1.64E-01
		39.60	*	7.51	5.65E-02		9.21E-03	2.82E-02
	CS-134	563.25		8.34	4.30E-03	3.41E-04	-3.91E-03	2.14E-03
		569.33		15.37	2.31E-03		6.52E-04	1.15E-03
		604.72		97.62	3.42E-04		-9.77E-06	1.70E-04
		795.86		85.46	3.41E-04		-2.83E-04	1.69E-04
		801.95		8.69	3.42E-03		2.99E-03	1.70E-03
+	CS-137	661.66	*	85.20	2.60E-04	2.60E-04	9.99E-03	1.29E-04
	CE-139	165.85		79.89	8.63E-04	8.63E-04	-4.10E-04	4.31E-04
+	CE-141	40.70		3.35	1.74E-01	2.62E-03	-2.06E-01	8.69E-02
		145.44	*	48.29	2.62E-03		1.21E-04	1.31E-03
	CE-144	80.12		1.36	8.03E-02	6.51E-03	-1.99E-03	4.01E-02
		133.51		11.09	6.51E-03		6.54E-03	3.25E-03
+	EU-152	121.78		28.58	2.94E-03	7.46E-04	2.44E-04	1.47E-03
		344.28	*	26.50	2.04E-03		1.27E-03	1.02E-03
		778.90	*	12.94	2.72E-03		1.38E-03	1.35E-03
		964.08	*	14.73	2.35E-03		2.02E-03	1.16E-03
		1085.87		10.24	2.19E-03		2.57E-03	1.08E-03
		1112.07		13.69	1.67E-03		-1.44E-03	8.26E-04
		1408.01	*	21.07	7.46E-04		1.13E-03	3.66E-04
	GD-153	97.43		29.00	3.06E-03	3.06E-03	2.58E-03	1.53E-03
		103.18		21.10	4.05E-03		8.94E-04	2.02E-03
+	EU-154	42.70	*	20.45	1.55E-02	7.85E-04	2.73E-02	7.74E-03
		123.07	*	40.40	2.57E-03		3.31E-02	1.28E-03
		247.93	*	6.89	1.02E-02		3.13E-02	5.07E-03
		591.76	*	4.95	7.18E-03		3.00E-02	3.57E-03
		692.42	*	1.78	1.22E-02		3.09E-02	6.07E-03
		723.30	*	20.06	2.43E-03		3.20E-02	1.21E-03
		756.80	*	4.52	6.89E-03		2.81E-02	3.42E-03
		873.18	*	12.08	1.51E-03		3.19E-02	7.44E-04
		996.29	*	10.48	1.74E-03		2.99E-02	8.61E-04
		1004.76	*	18.01	1.05E-03		3.12E-02	5.16E-04
		1246.12	*	0.86	2.05E-02		2.46E-02	1.01E-02
		1274.43	*	34.80	7.85E-04		3.19E-02	3.88E-04
		1494.05	*	0.70	1.54E-02		2.93E-02	7.49E-03
		1596.48	*	1.80	5.00E-03		3.05E-02	2.43E-03
+	EU-155	43.00	*	18.70	1.70E-02	3.78E-03	2.99E-02	8.48E-03
		60.01	*	1.22	2.00E-01		5.69E+00	9.99E-02
		86.55	*	30.70	3.78E-03		6.58E-03	1.89E-03
		105.31	*	21.10	4.29E-03		5.94E-03	2.14E-03
	HG-203	72.87		6.30	2.17E-02	6.53E-04	6.29E-04	1.09E-02
		279.20		81.46	6.53E-04		-4.59E-05	3.26E-04
	BI-207	569.15		97.80	3.54E-04	3.35E-04	1.31E-04	1.76E-04
		1063.10		74.90	3.35E-04		4.64E-04	1.66E-04
	PB-210	46.54		4.25	7.70E-02	7.70E-02	-1.19E-02	3.84E-02
	RA-226	74.81		6.44	1.84E-02	4.32E-04	4.24E-02	9.21E-03
		77.11		10.80	1.05E-02		1.51E-02	5.25E-03
		87.30		4.84	2.01E-02		6.75E-02	1.00E-02
		186.21		3.59	1.72E-02		-1.22E-02	8.58E-03
		242.00		7.43	6.92E-03		-2.68E-03	3.45E-03
		295.22		19.30	2.40E-03		-4.45E-04	1.20E-03
		351.93		37.60	1.13E-03		1.59E-04	5.62E-04
		609.31		46.10	6.82E-04		1.16E-03	3.39E-04

Analysis Report for 24-2323 VSM-6.0M-S3-CST-d-A R3

Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	768.36		4.94	5.82E-03	4.32E-04	7.25E-03	2.89E-03
		1120.29		15.10	1.46E-03		-2.35E-03	7.21E-04
		1238.11		5.79	2.74E-03		8.67E-04	1.35E-03
		1764.49		15.40	4.32E-04		1.31E-04	2.05E-04
	PA-231	283.70		1.59	3.00E-02	1.92E-02	-2.82E-02	1.49E-02
		300.07		2.38	1.92E-02		2.07E-02	9.57E-03
		302.67		1.71	2.65E-02		-1.41E-02	1.32E-02
		330.07		1.32	3.25E-02		-6.05E-03	1.62E-02
	TH-232	74.81		11.62	1.02E-02	1.43E-04	2.35E-02	5.10E-03
		77.11		17.50	6.48E-03		9.34E-03	3.24E-03
		87.30		7.80	1.25E-02		4.19E-02	6.23E-03
		238.63		43.30	1.19E-03		-1.32E-03	5.95E-04
		338.32		11.30	3.87E-03		8.01E-04	1.93E-03
		583.19		30.37	1.07E-03		1.49E-03	5.34E-04
		727.33		6.58	6.42E-03		-3.95E-04	3.19E-03
		911.21		26.60	9.58E-04		-2.55E-04	4.75E-04
		968.97		16.20	1.53E-03		1.09E-03	7.58E-04
		2614.53		35.64	1.43E-04		1.49E-04	6.44E-05
	U-235	143.76		10.96	6.66E-03	1.08E-03	-1.36E-03	3.33E-03
		185.71		57.20	1.08E-03		-7.66E-04	5.39E-04
		205.31		5.01	1.15E-02		8.12E-03	5.76E-03
	U-238	63.29		3.70	4.74E-02	2.14E-02	-1.60E-02	2.37E-02
		92.51		4.23	2.14E-02		1.02E-02	1.07E-02
		112.81		0.21	3.70E-01		-5.58E-02	1.85E-01
		742.81		0.11	2.63E-01		1.02E-01	1.30E-01
		766.28		0.32	9.07E-02		8.58E-02	4.50E-02
		1001.03		0.84	5.67E-02		1.07E+00	2.82E-02
	NP-239	99.60		12.80	5.03E-02	2.37E-02	-4.58E-03	2.51E-02
		103.80		20.40	3.07E-02		-4.48E-03	1.53E-02
		106.10		26.40	2.37E-02		3.91E-02	1.18E-02
		116.90		7.61	7.63E-02		2.61E-02	3.81E-02
		228.20		11.20	3.67E-02		1.87E-02	1.83E-02
		277.60		14.50	2.56E-02		4.81E-03	1.28E-02
		315.90		1.60	2.05E-01		1.64E-01	1.02E-01
		334.30		2.06	1.47E-01		6.60E-03	7.33E-02
+	AM-241	59.54	*	35.90	6.77E-03	6.77E-03	1.93E-01	3.38E-03

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

Apex-Gamma

Analysis Report for 24-2324 VSM-6.0M-S4-CST-A S3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2324 VSM-6.0M-S4-CST-A S3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 6:48:36AM
Procedure	: S3_gsv02mlw
Operator	: Administrator
Detector Name	: S
Geometry	: S3_gsv02mlw
Live Time	: 2940.6 seconds
Real Time	: 3080.2 seconds
Dead Time	: 4.53 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 6/27/2024
Efficiency Calibration Used Done On	: 3/5/2019
Efficiency Calibration Description	: S3_gsv2ml_R717
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567853
Certificate Name	: R735-b9 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 7:40:00AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2324 VSM-6.0M-S4-CST-A S3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.85	132.24	0.2782	5.98
2	48.72	150.19	0.3576	3.16
3	59.56	183.43	0.0527	132.78
4	75.00	230.54	0.3242	3.72
5	86.84	266.63	0.2282	6.54
6	105.40	323.71	0.2450	6.40
7	123.09	377.88	0.0712	77.17
8	247.98	760.21	0.1212	22.85
9	344.55	1055.92	0.2852	4.02
10	414.83	1270.96	0.1385	16.22
11	444.09	1360.81	0.3353	3.57
12	478.21	1465.14	0.2835	4.41
13	511.06	1565.86	0.1474	8.88
14	582.13	1783.38	0.2115	7.40
15	591.92	1813.22	0.1133	21.51
16	625.71	1915.84	0.3304	3.29
17	661.81	2027.25	0.0490	111.41
18	666.51	2041.81	0.1267	16.95
19	692.50	2120.74	0.2095	8.16
20	695.22	2129.77	0.1273	18.21
21	715.66	2192.13	0.3078	3.28
22	723.50	2216.14	0.0724	51.25
23	757.06	2318.78	0.1147	20.19
24	778.63	2385.04	0.2941	3.43
25	815.79	2498.80	0.2451	3.48
26	845.91	2590.94	0.2397	4.01
27	873.42	2675.22	0.0840	35.69
28	892.78	2734.80	0.2528	3.17
29	904.24	2769.37	0.2206	5.43
30	952.10	2916.54	0.3300	3.03
31	996.53	3052.20	0.0845	35.10
32	1005.01	3078.12	0.0744	44.42
33	1128.39	3455.61	0.2305	4.85
34	1173.53	3594.13	0.0669	51.35
35	1246.43	3817.31	0.1807	6.83
36	1274.78	3904.21	0.0625	56.50
37	1332.85	4081.98	0.0669	49.79
38	1398.01	4281.48	0.1871	6.02
39	1408.54	4313.60	0.1739	7.71
40	1494.56	4576.86	0.1774	7.02
41	1596.91	4890.41	0.1307	13.08
42	1719.88	5267.07	0.2140	4.84
43	1764.95	5405.18	0.2440	4.00
44	2204.31	6750.89	0.2781	3.15
45	2506.10	7675.06	0.1956	4.79
46	2614.93	8008.34	0.2462	3.34

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2324 VSM-6.0M-S4-CST-A S3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 7:40:00AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	1	42.85	124	140	132.24	5.28E+02	1081.71	2.21E+05	0.86
F	2	48.72	142	158	150.22	3.35E+03	1714.69	2.83E+05	1.50
F	3	59.56	175	191	183.41	1.43E+05	1804.30	3.54E+05	1.14
F	4	75.00	227	238	230.69	2.41E+03	909.59	2.54E+05	0.98
F	5	86.84	262	275	266.93	6.24E+03	380.22	2.74E+05	1.42
F	6	105.40	318	332	323.74	5.14E+03	1892.17	2.38E+05	1.32
F	7	123.09	371	386	377.92	5.09E+04	1457.85	2.00E+05	1.19
F	8	247.98	754	770	760.26	6.34E+03	161.93	4.80E+04	1.27
	9	344.55	1051	1063	1055.92	1.57E+02	265.36	1.65E+04	0.51
F	10	414.83	1265	1281	1271.07	2.37E+03	91.14	1.36E+04	1.33
F	11	444.09	1355	1364	1360.67	1.56E+02	65.16	7.02E+03	0.57
	12	478.21	1460	1469	1465.14	7.86E+01	143.04	5.78E+03	0.74
F	13	511.06	1554	1575	1565.72	5.49E+03	486.72	1.04E+04	3.13
F	14	582.13	1778	1787	1783.31	4.06E+02	54.29	3.35E+03	1.01
F	15	591.92	1806	1822	1813.27	2.68E+03	69.93	5.12E+03	1.50
F	16	625.71	1910	1919	1916.73	1.55E+02	30.13	2.63E+03	0.39
M	17	661.81	2015	2053	2027.26	4.12E+04	422.00	3.53E+03	1.58
m	18	666.51	2015	2053	2041.65	2.09E+03	66.17	3.36E+03	1.58
M	19	692.50	2114	2141	2121.23	9.14E+02	146.07	2.86E+03	1.54
m	20	695.22	2114	2141	2129.55	1.98E+03	256.76	3.54E+03	1.54
	21	715.66	2188	2198	2192.13	4.99E+01	87.18	2.00E+03	0.70
F	22	723.50	2203	2228	2216.15	9.50E+03	268.69	4.40E+03	1.59
F	23	757.06	2306	2327	2318.89	2.14E+03	246.67	3.22E+03	1.71
F	24	778.63	2378	2391	2384.94	1.70E+02	159.19	1.98E+03	1.41
F	25	815.79	2490	2506	2498.73	3.08E+02	38.22	2.05E+03	1.88
F	26	845.91	2585	2599	2590.96	3.11E+02	37.00	1.71E+03	1.90
F	27	873.42	2665	2688	2675.19	5.11E+03	189.22	2.36E+03	1.76
F	28	892.78	2727	2742	2734.46	2.95E+02	165.01	1.47E+03	2.19
F	29	904.24	2761	2778	2769.55	3.53E+02	983.13	1.76E+03	1.77
F	30	952.10	2912	2924	2916.09	7.42E+01	25.31	1.08E+03	0.76
F	31	996.53	3043	3061	3052.13	4.24E+03	180.84	1.45E+03	1.68
F	32	1005.01	3064	3087	3078.11	6.96E+03	214.04	1.89E+03	1.76
F	33	1128.39	3449	3469	3455.90	1.80E+02	23.72	8.16E+02	1.62
F	34	1173.53	3580	3606	3594.12	9.32E+03	204.31	8.79E+02	1.90
F	35	1246.43	3809	3824	3817.36	2.48E+02	20.76	3.23E+02	1.79
F	36	1274.78	3889	3915	3904.17	1.16E+04	207.77	4.89E+02	1.93
F	37	1332.85	4067	4093	4081.98	8.65E+03	177.55	3.93E+02	1.95
F	38	1398.01	4273	4288	4281.52	2.05E+02	64.48	1.20E+02	1.80
F	39	1408.54	4300	4319	4313.76	2.58E+02	56.61	1.27E+02	1.69
F	40	1494.56	4567	4589	4577.17	2.30E+02	16.12	1.24E+02	2.13

Analysis Report for 24-2324 VSM-6.0M-S4-CST-A S3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1596.91	4879	4903	4890.62	5.87E+02	31.79	7.81E+01	2.08
F	42	1719.88	5260	5274	5267.19	6.26E+01	9.12	2.95E+01	1.63
F	43	1764.95	5400	5412	5405.22	2.53E+01	6.55	2.34E+01	1.04
F	44	2204.31	6745	6756	6750.80	1.34E+01	4.38	2.95E+00	1.38
F	45	2506.10	7665	7685	7675.12	9.11E+01	25.31	5.55E+00	2.24
F	46	2614.93	8003	8014	8008.48	2.17E+01	4.72	0.00E+00	1.82

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 7:40:00AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567335.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	42.85	5.28E+02	1081.71			5.28E+02	1.08E+03
F	2	48.72	3.35E+03	1714.69			3.35E+03	1.71E+03
F	3	59.56	1.43E+05	1804.30			1.43E+05	1.80E+03
F	4	75.00	2.41E+03	909.59	8.20E+01	5.15E+00	2.32E+03	9.10E+02
F	5	86.84	6.24E+03	380.22	2.52E+01	1.83E+00	6.21E+03	3.80E+02
F	6	105.40	5.14E+03	1892.17			5.14E+03	1.89E+03
F	7	123.09	5.09E+04	1457.85			5.09E+04	1.46E+03
F	8	247.98	6.34E+03	161.93			6.34E+03	1.62E+02
	9	344.55	1.57E+02	265.36			1.57E+02	2.65E+02
F	10	414.83	2.37E+03	91.14			2.37E+03	9.11E+01
F	11	444.09	1.56E+02	65.16			1.56E+02	6.52E+01
	12	478.21	7.86E+01	143.04			7.86E+01	1.43E+02
F	13	511.06	5.49E+03	486.72	1.02E+02	4.31E+00	5.39E+03	4.87E+02
F	14	582.13	4.06E+02	54.29			4.06E+02	5.43E+01
F	15	591.92	2.68E+03	69.93			2.68E+03	6.99E+01
F	16	625.71	1.55E+02	30.13			1.55E+02	3.01E+01
M	17	661.81	4.12E+04	422.00			4.12E+04	4.22E+02
m	18	666.51	2.09E+03	66.17	3.57E+00	4.18E-01	2.08E+03	6.62E+01
M	19	692.50	9.14E+02	146.07			9.14E+02	1.46E+02
m	20	695.22	1.98E+03	256.76			1.98E+03	2.57E+02
	21	715.66	4.99E+01	87.18			4.99E+01	8.72E+01
F	22	723.50	9.50E+03	268.69			9.50E+03	2.69E+02
F	23	757.06	2.14E+03	246.67			2.14E+03	2.47E+02

Analysis Report for 24-2324 VSM-6.0M-S4-CST-A S3

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 24	778.63	1.70E+02	159.19			1.70E+02	1.59E+02
F 25	815.79	3.08E+02	38.22			3.08E+02	3.82E+01
F 26	845.91	3.11E+02	37.00			3.11E+02	3.70E+01
F 27	873.42	5.11E+03	189.22	1.55E-01	6.06E-01	5.11E+03	1.89E+02
F 28	892.78	2.95E+02	165.01			2.95E+02	1.65E+02
F 29	904.24	3.53E+02	983.13			3.53E+02	9.83E+02
F 30	952.10	7.42E+01	25.31			7.42E+01	2.53E+01
F 31	996.53	4.24E+03	180.84			4.24E+03	1.81E+02
F 32	1005.01	6.96E+03	214.04			6.96E+03	2.14E+02
F 33	1128.39	1.80E+02	23.72			1.80E+02	2.37E+01
F 34	1173.53	9.32E+03	204.31			9.32E+03	2.04E+02
F 35	1246.43	2.48E+02	20.76			2.48E+02	2.08E+01
F 36	1274.78	1.16E+04	207.77			1.16E+04	2.08E+02
F 37	1332.85	8.65E+03	177.55			8.65E+03	1.78E+02
F 38	1398.01	2.05E+02	64.48			2.05E+02	6.45E+01
F 39	1408.54	2.58E+02	56.61	5.82E+00	8.86E-01	2.52E+02	5.66E+01
F 40	1494.56	2.30E+02	16.12			2.30E+02	1.61E+01
F 41	1596.91	5.87E+02	31.79			5.87E+02	3.18E+01
F 42	1719.88	6.26E+01	9.12			6.26E+01	9.12E+00
F 43	1764.95	2.53E+01	6.55	3.05E+01	5.77E-01	-5.22E+00	6.58E+00
F 44	2204.31	1.34E+01	4.38	9.31E+00	1.08E+00	4.06E+00	4.51E+00
F 45	2506.10	9.11E+01	25.31			9.11E+01	2.53E+01
F 46	2614.93	2.17E+01	4.72	2.12E+01	1.14E+00	4.99E-01	4.86E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
BE-7	0.94	477.61	*	10.44	4.03E-04	7.33E-04	miss
CO-60	0.98	1173.24	*	99.97	8.98E-03	2.02E-04	0.961
		1332.50	*	99.99	9.06E-03	1.94E-04	0.960
		2505.74	*	1.00	1.54E-02	4.36E-03	miss
RH-106	0.39	511.86	*	20.70	1.46E-02	1.40E-03	0.974
		621.92		9.93			

Analysis Report for 24-2324 VSM-6.0M-S4-CST-A S3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
RH-106	0.39	1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.56E-03	7.55E-05	0.871
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.56E-03	5.04E-05	0.868
		674.80		3.10			
		695.00	*	99.60	1.52E-03	1.98E-04	0.868
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.74	64.28		9.60			
		87.30	*	45.90	3.66E-03	2.76E-04	miss
CS-137	0.99	661.66	*	85.20	3.12E-02	3.66E-04	miss
EU-154	0.99	42.70	*	20.45	3.83E-03	7.84E-03	miss
		123.07	*	40.40	3.45E-02	1.09E-03	0.954
		247.93	*	6.89	3.41E-02	9.80E-04	0.941
		591.76	*	4.95	3.50E-02	1.01E-03	0.929
		692.42	*	1.78	3.62E-02	5.80E-03	0.945
		723.30	*	20.06	3.41E-02	1.04E-03	0.948
		756.80	*	4.52	3.58E-02	4.16E-03	0.927
		873.18	*	12.08	3.45E-02	1.34E-03	0.942
		996.29	*	10.48	3.43E-02	1.51E-03	0.986
		1004.76	*	18.01	3.32E-02	1.09E-03	0.977
		1246.12	*	0.86	2.98E-02	2.52E-03	0.936
		1274.43	*	34.80	3.34E-02	6.92E-04	0.978
		1494.05	*	0.70	3.52E-02	2.51E-03	1.016
		1596.48	*	1.80	3.18E-02	1.77E-03	1.169
EU-155	0.99	43.00	*	18.70	4.19E-03	8.58E-03	1.000
		60.01	*	1.22	5.90E+00	2.19E-01	0.998
		86.55	*	30.70	5.47E-03	3.60E-04	free
		105.31	*	21.10	6.09E-03	2.25E-03	1.000
AM-241	1.00	59.54	*	35.90	2.00E-01	4.83E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

Analysis Report for 24-2324 VSM-6.0M-S4-CST-A S3

ASR 2094 Branch

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
BE-7	0.943	4.03E-04	7.33E-04	
CO-60	0.984	9.03E-03	1.40E-04	
RH-106	0.396	1.46E-02	1.40E-03	
SB-126	0.487	1.56E-03	4.10E-05	
Sn-126	0.743	1.25E-03	1.47E-03	
CS-137	0.996	3.12E-02	3.66E-04	
EU-154	0.992	3.38E-02	3.22E-04	
EU-155	0.992	3.61E-03	2.17E-03	
AM-241	1.000	2.00E-01	3.49E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2324 VSM-6.0M-S4-CST-A S3
ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 7:40:00AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	48.72	1.13781E+00	51.25		
F	4	75.00	7.90463E-01	39.13	Tol.	TH-232
	9	344.55	5.34225E-02	168.92	Tol.	EU-152
F	11	444.09	5.31712E-02	41.67		
F	14	582.13	1.37945E-01	13.38		
F	16	625.71	5.27226E-02	19.44		
	21	715.66	1.69697E-02	174.71	Sum	
F	24	778.63	5.76536E-02	93.90	Sum	
F	25	815.79	1.04582E-01	12.43	Sum	
F	26	845.91	1.05631E-01	11.91	Sum	
F	28	892.78	1.00419E-01	55.88	Sum	
F	29	904.24	1.19895E-01	278.85		
F	30	952.10	2.52474E-02	34.09		
F	33	1128.39	6.12140E-02	13.18	Sum	
F	38	1398.01	6.98645E-02	31.39	Sum	
F	39	1408.54	8.55903E-02	22.50	Tol.	EU-152
F	42	1719.88	2.12725E-02	14.58	Sum	
F	43	1764.95	-1.77481E-03	- 126.06	Sum	
F	44	2204.31	1.38080E-03	111.08		
F	46	2614.93	1.69759E-04	973.38	Tol.	TH-232

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Analysis Report for 24-2324 VSM-6.0M-S4-CST-A S3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	BE-7	477.61	*	10.44	2.42E-03	2.42E-03	4.03E-04	1.20E-03
	K-40	1460.83		10.67	8.16E-04	8.16E-04	5.28E-04	3.94E-04
	MN-54	834.84		99.98	2.27E-04	2.27E-04	-3.91E-05	1.13E-04
	CO-58	810.78		99.45	2.44E-04	2.44E-04	8.16E-05	1.21E-04
		863.96		0.68	3.42E-02		3.70E-02	1.69E-02
		1674.73		0.52	9.28E-03		-2.22E-03	4.34E-03
	FE-59	142.65		1.00	6.17E-02	2.74E-04	7.87E-02	3.08E-02
		192.35		3.01	1.84E-02		-4.94E-03	9.18E-03
		334.80		0.27	1.45E-01		9.07E-02	7.24E-02
		1099.25		56.30	3.56E-04		4.31E-07	1.76E-04
		1291.60		43.70	2.74E-04		-2.72E-04	1.34E-04
+	CO-60	1173.24	*	99.97	2.65E-04	1.94E-04	8.98E-03	1.31E-04
		1332.50	*	99.99	1.94E-04		9.06E-03	9.55E-05
		2505.74	*	1.00	3.84E-03		1.54E-02	1.69E-03
	SR-85	514.00		96.00	3.83E-04	3.83E-04	-1.70E-04	1.91E-04
		868.60		0.01	2.73E+00		1.42E+00	1.36E+00
	NB-94	702.62		97.90	2.72E-04	2.72E-04	-1.17E-04	1.35E-04
		871.09		99.98	3.51E-04		1.46E-04	1.75E-04
	NB-95	765.81		99.81	2.54E-04	2.54E-04	-8.18E-05	1.26E-04
	RU-103	497.05		91.00	3.56E-04	3.56E-04	-1.83E-04	1.77E-04
		610.30		5.76	4.99E-03		-2.15E-03	2.48E-03
+	RH-106	511.86	*	20.70	2.34E-03	2.34E-03	1.46E-02	1.16E-03
		621.92		9.93	2.91E-03		-2.57E-04	1.45E-03
		1050.36		1.56	1.41E-02		-1.37E-04	6.98E-03
	AG-108M	79.13		6.60	1.38E-02	3.38E-04	-1.45E-03	6.91E-03
		433.90		90.50	3.98E-04		-1.71E-04	1.98E-04
		614.30		89.80	3.38E-04		-2.72E-04	1.68E-04
		722.90		90.80	4.79E-04		7.86E-03	2.38E-04
	CD-109	88.03		3.61	2.33E-02	2.33E-02	5.61E-02	1.17E-02
	SB-125	176.31		6.82	8.00E-03	1.13E-03	-3.21E-03	3.99E-03
		380.45		1.52	2.33E-02		-1.62E-02	1.16E-02
		427.87		29.55	1.13E-03		-5.26E-05	5.64E-04
		463.36		10.48	3.21E-03		-8.93E-04	1.60E-03
		600.60		17.76	1.58E-03		5.13E-04	7.84E-04
		606.71		5.02	5.57E-03		-3.22E-03	2.77E-03
		635.95		11.32	2.39E-03		-2.04E-03	1.19E-03
		671.44		1.78	1.65E-02		-6.05E-03	8.20E-03
+	SB-126	223.90		1.39	3.35E-02	2.04E-04	-1.41E-02	1.67E-02
		278.20		2.40	2.11E-02		1.39E-02	1.05E-02
		296.50		4.50	1.09E-02		-6.09E-03	5.43E-03
		414.70	*	83.30	5.81E-04		1.56E-03	2.89E-04
		556.30		1.69	2.02E-02		1.11E-02	1.01E-02
		573.90		6.70	4.92E-03		-4.01E-03	2.44E-03
		593.20		7.50	4.79E-03		2.33E-02	2.38E-03
		656.30		2.19	2.44E-02		-1.17E-02	1.22E-02
		666.50	*	99.60	2.04E-04		1.56E-03	1.01E-04
		674.80		3.10	1.01E-02		-6.43E-03	5.03E-03
		695.00	*	99.60	2.15E-04		1.52E-03	1.07E-04
		697.00		29.00	1.26E-03		-2.16E-04	6.26E-04
		720.70		53.80	8.74E-04		5.41E-06	4.35E-04
		856.80		17.60	1.44E-03		1.52E-04	7.13E-04

Analysis Report for 24-2324 VSM-6.0M-S4-CST-A S3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-126	989.60		6.80	3.77E-03	2.04E-04	2.78E-03	1.87E-03
		1213.30		2.39	6.51E-03		2.02E-03	3.19E-03
+	Sn-126	64.28		9.60	1.36E-02	2.16E-03	-4.27E-03	6.82E-03
		87.30	*	45.90	2.16E-03		3.66E-03	1.08E-03
	I-129	29.70		56.60	3.21E-02	3.21E-02	-5.47E-02	1.60E-02
		33.60		10.04	9.06E-02		-2.89E-01	4.52E-02
		34.40		2.01	4.02E-01		-1.42E+00	2.01E-01
		39.60		7.51	5.95E-02		-4.10E-02	2.97E-02
	CS-134	563.25		8.34	3.70E-03	2.98E-04	-1.69E-03	1.84E-03
		569.33		15.37	1.99E-03		2.25E-03	9.88E-04
		604.72		97.62	3.03E-04		1.31E-04	1.50E-04
		795.86		85.46	2.98E-04		-1.78E-04	1.48E-04
		801.95		8.69	2.94E-03		1.01E-03	1.46E-03
+	CS-137	661.66	*	85.20	2.11E-04	2.11E-04	3.12E-02	1.05E-04
	CE-139	165.85		79.89	7.17E-04	7.17E-04	-4.74E-04	3.58E-04
	CE-141	40.70		3.35	1.26E-01	1.33E-03	-2.51E-02	6.28E-02
		145.44		48.29	1.33E-03		1.28E-04	6.64E-04
	CE-144	80.12		1.36	6.63E-02	5.64E-03	-1.48E-02	3.31E-02
		133.51		11.09	5.64E-03		2.00E-04	2.82E-03
	EU-152	121.78		28.58	2.64E-03	5.94E-04	-4.11E-04	1.32E-03
		344.28		26.50	1.47E-03		3.22E-04	7.35E-04
		778.90		12.94	1.97E-03		1.15E-03	9.78E-04
		964.08		14.73	1.56E-03		2.06E-03	7.73E-04
		1085.87		10.24	1.98E-03		3.30E-03	9.76E-04
		1112.07		13.69	1.48E-03		1.55E-03	7.31E-04
		1408.01		21.07	5.94E-04		1.59E-03	2.90E-04
	GD-153	97.43		29.00	2.62E-03	2.62E-03	8.30E-05	1.31E-03
		103.18		21.10	3.47E-03		-2.72E-03	1.73E-03
+	EU-154	42.70	*	20.45	2.58E-02	5.92E-04	3.83E-03	1.29E-02
		123.07	*	40.40	2.24E-03		3.45E-02	1.12E-03
		247.93	*	6.89	8.92E-03		3.41E-02	4.45E-03
		591.76	*	4.95	7.10E-03		3.50E-02	3.53E-03
		692.42	*	1.78	9.96E-03		3.62E-02	4.92E-03
		723.30	*	20.06	2.16E-03		3.41E-02	1.07E-03
		756.80	*	4.52	8.05E-03		3.58E-02	4.00E-03
		873.18	*	12.08	2.89E-03		3.45E-02	1.43E-03
		996.29	*	10.48	2.45E-03		3.43E-02	1.21E-03
		1004.76	*	18.01	1.83E-03		3.32E-02	9.08E-04
		1246.12	*	0.86	1.62E-02		2.98E-02	7.92E-03
		1274.43	*	34.80	5.92E-04		3.34E-02	2.92E-04
		1494.05	*	0.70	1.49E-02		3.52E-02	7.26E-03
		1596.48	*	1.80	4.33E-03		3.18E-02	2.09E-03
+	EU-155	43.00	*	18.70	2.82E-02	3.23E-03	4.19E-03	1.41E-02
		60.01	*	1.22	1.86E-01		5.90E+00	9.28E-02
		86.55	*	30.70	3.23E-03		5.47E-03	1.61E-03
		105.31	*	21.10	4.15E-03		6.09E-03	2.08E-03
	HG-203	72.87		6.30	1.70E-02	5.41E-04	-5.08E-03	8.50E-03
		279.20		81.46	5.41E-04		-4.85E-04	2.70E-04
	BI-207	569.15		97.80	3.05E-04	2.91E-04	2.34E-04	1.52E-04
		1063.10		74.90	2.91E-04		-2.48E-04	1.44E-04
	PB-210	46.54		4.25	6.34E-02	6.34E-02	-2.39E-01	3.17E-02
	RA-226	74.81		6.44	1.55E-02	3.69E-04	3.73E-02	7.75E-03
		77.11		10.80	8.81E-03		-3.02E-03	4.40E-03

Analysis Report for 24-2324 VSM-6.0M-S4-CST-A S3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	87.30		4.84	1.75E-02	3.69E-04	5.81E-02	8.76E-03
		186.21		3.59	1.47E-02		8.52E-03	7.34E-03
		242.00		7.43	5.94E-03		3.16E-03	2.96E-03
		295.22		19.30	2.15E-03		1.25E-03	1.07E-03
		351.93		37.60	9.87E-04		5.85E-04	4.92E-04
		609.31		46.10	6.06E-04		-3.10E-04	3.01E-04
		768.36		4.94	4.96E-03		-3.52E-03	2.46E-03
		1120.29		15.10	1.21E-03		6.68E-04	5.94E-04
		1238.11		5.79	2.32E-03		1.71E-03	1.14E-03
		1764.49		15.40	3.69E-04		1.58E-04	1.74E-04
	PA-231	283.70		1.59	2.69E-02	1.72E-02	-3.72E-02	1.34E-02
		300.07		2.38	1.72E-02		-2.70E-03	8.60E-03
		302.67		1.71	2.39E-02		-8.32E-03	1.19E-02
		330.07		1.32	2.92E-02		-5.39E-03	1.46E-02
	TH-232	74.81		11.62	8.60E-03	1.38E-04	2.07E-02	4.30E-03
		77.11		17.50	5.44E-03		-1.87E-03	2.72E-03
		87.30		7.80	1.09E-02		3.60E-02	5.43E-03
		238.63		43.30	1.03E-03		-2.45E-04	5.12E-04
		338.32		11.30	3.36E-03		-2.29E-03	1.68E-03
		583.19		30.37	9.67E-04		2.06E-03	4.81E-04
		727.33		6.58	6.01E-03		-1.26E-03	2.99E-03
		911.21		26.60	8.30E-04		6.15E-05	4.11E-04
		968.97		16.20	1.34E-03		1.50E-03	6.64E-04
		2614.53		35.64	1.38E-04		8.56E-05	6.25E-05
	U-235	143.76		10.96	5.45E-03	9.25E-04	5.63E-03	2.72E-03
		185.71		57.20	9.25E-04		3.53E-04	4.62E-04
		205.31		5.01	9.86E-03		7.12E-03	4.92E-03
	U-238	63.29		3.70	3.78E-02	1.86E-02	1.53E-02	1.89E-02
		92.51		4.23	1.86E-02		3.34E-04	9.31E-03
		112.81		0.21	3.23E-01		2.52E-02	1.62E-01
		742.81		0.11	2.30E-01		-2.35E-01	1.14E-01
		766.28		0.32	7.76E-02		8.94E-02	3.85E-02
		1001.03		0.84	5.49E-02		6.60E-04	2.73E-02
	NP-239	99.60		12.80	9.63E-03	4.56E-03	-6.29E-03	4.81E-03
		103.80		20.40	5.89E-03		-4.42E-03	2.94E-03
		106.10		26.40	4.56E-03		1.16E-02	2.28E-03
		116.90		7.61	1.47E-02		6.62E-03	7.37E-03
		228.20		11.20	6.98E-03		8.29E-04	3.48E-03
		277.60		14.50	5.08E-03		-4.39E-04	2.53E-03
		315.90		1.60	4.07E-02		8.76E-03	2.03E-02
		334.30		2.06	2.92E-02		-1.93E-02	1.45E-02
+	AM-241	59.54	*	35.90	6.30E-03	6.30E-03	2.00E-01	3.15E-03

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

Apex-Gamma

Analysis Report for 24-2325 VSM-6.0M-S4-CST-d-A S3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2325 VSM-6.0M-S4-CST-d-A S3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 8:03:41AM
Procedure	: S3_gsv02mlw
Operator	: Administrator
Detector Name	: S
Geometry	: S3_gsv02mlw
Live Time	: 2654.2 seconds
Real Time	: 2772.4 seconds
Dead Time	: 4.26 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 6/27/2024
Efficiency Calibration Used Done On	: 3/5/2019
Efficiency Calibration Description	: S3_gsv2ml_R717
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567862
Certificate Name	: R735-b9 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 8:49:59AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2325 VSM-6.0M-S4-CST-d-A S3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.93	132.51	0.2861	4.80
2	48.51	149.67	0.3328	4.33
3	59.56	183.44	0.0542	125.70
4	75.06	230.73	0.3670	3.03
5	86.92	266.69	0.2439	5.03
6	105.45	323.77	0.2478	6.74
7	123.08	377.82	0.0731	71.74
8	247.97	760.23	0.1252	22.95
9	344.19	1054.76	0.2741	4.56
10	414.89	1271.24	0.1427	15.35
11	511.15	1566.15	0.1465	7.09
12	582.03	1782.70	0.2346	4.97
13	591.91	1813.17	0.1207	19.98
14	625.60	1916.40	0.3215	3.19
15	661.81	2027.27	0.0510	102.16
16	666.51	2041.76	0.1263	17.61
17	692.52	2120.76	0.2396	6.43
18	695.23	2129.82	0.1317	16.99
19	723.50	2216.14	0.0746	48.11
20	756.95	2318.64	0.1205	17.14
21	815.51	2498.01	0.2621	4.18
22	873.43	2675.19	0.0875	33.10
23	893.20	2735.54	0.2886	3.37
24	904.51	2770.24	0.2102	5.78
25	996.50	3052.09	0.0890	30.35
26	1005.00	3078.15	0.0776	39.99
27	1112.29	3406.71	0.2683	3.99
28	1128.47	3456.06	0.2514	4.11
29	1138.14	3485.75	0.3472	3.15
30	1173.51	3594.09	0.0701	46.45
31	1246.39	3816.79	0.1850	6.42
32	1274.78	3904.21	0.0645	53.87
33	1332.83	4081.98	0.0696	45.67
34	1397.63	4280.22	0.1957	4.88
35	1408.50	4313.77	0.1916	5.79
36	1494.39	4576.54	0.1673	8.28
37	1596.85	4890.49	0.1322	12.12
38	1719.62	5266.41	0.2189	4.84
39	2506.08	7674.95	0.2100	3.78

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2325 VSM-6.0M-S4-CST-d-A S3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 8:49:59AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	1	42.93	124	140	132.51	8.98E+02	996.78	1.88E+05	1.25
F	2	48.51	141	157	149.58	2.97E+03	1047.01	2.37E+05	1.10
F	3	59.56	175	189	183.42	1.24E+05	1682.04	2.64E+05	1.13
F	4	75.06	224	238	230.87	3.89E+03	392.85	2.67E+05	2.02
F	5	86.92	262	275	267.17	6.76E+03	366.93	2.31E+05	1.76
F	6	105.45	320	332	323.92	3.06E+03	302.21	1.74E+05	1.07
F	7	123.08	372	386	377.87	4.26E+04	1308.05	1.60E+05	1.19
F	8	247.97	756	769	760.24	4.74E+03	146.18	3.39E+04	1.13
F	9	344.19	1048	1065	1054.80	7.10E+02	391.59	1.92E+04	1.14
F	10	414.89	1263	1282	1271.26	2.28E+03	372.92	1.31E+04	1.43
F	11	511.15	1554	1577	1565.99	4.11E+03	415.00	9.93E+03	2.82
F	12	582.03	1776	1792	1782.99	3.94E+02	51.18	4.63E+03	1.39
F	13	591.91	1804	1820	1813.26	2.07E+03	64.15	4.59E+03	1.42
	14	625.60	1912	1924	1916.40	5.86E+01	112.38	2.95E+03	0.50
M	15	661.81	2015	2049	2027.28	3.45E+04	388.88	3.41E+03	1.56
m	16	666.51	2015	2049	2041.64	1.75E+03	62.89	2.91E+03	1.56
M	17	692.52	2115	2136	2121.30	5.85E+02	105.79	2.23E+03	1.45
m	18	695.23	2115	2136	2129.60	1.50E+03	212.67	3.07E+03	1.45
F	19	723.50	2203	2224	2216.14	8.13E+03	234.30	3.29E+03	1.59
F	20	756.95	2308	2325	2318.57	1.72E+03	195.26	2.49E+03	1.69
F	21	815.51	2492	2503	2497.88	1.55E+02	33.09	1.31E+03	1.25
F	22	873.43	2667	2688	2675.22	4.36E+03	66.82	1.74E+03	1.70
F	23	893.20	2729	2744	2735.75	1.38E+02	29.07	1.27E+03	1.39
F	24	904.51	2762	2775	2770.39	2.99E+02	123.43	1.16E+03	1.49
F	25	996.50	3040	3060	3052.04	3.66E+03	171.19	1.34E+03	1.78
F	26	1005.00	3067	3086	3078.08	6.07E+03	207.02	1.39E+03	1.79
F	27	1112.29	3397	3411	3406.60	8.50E+01	52.25	7.46E+02	0.77
F	28	1128.47	3446	3462	3456.15	1.82E+02	36.06	6.58E+02	2.10
	29	1138.14	3480	3499	3485.75	1.10E+02	61.70	6.15E+02	0.53
F	30	1173.51	3580	3605	3594.07	7.93E+03	183.88	7.74E+02	1.89
F	31	1246.39	3811	3825	3817.23	2.83E+02	19.68	1.98E+02	2.19
F	32	1274.78	3889	3918	3904.17	9.94E+03	191.93	5.55E+02	1.91
F	33	1332.83	4067	4093	4081.91	7.23E+03	161.15	3.45E+02	1.94
F	34	1397.63	4272	4289	4280.36	1.85E+02	15.24	1.22E+02	2.21
F	35	1408.50	4307	4321	4313.64	1.60E+02	15.04	1.12E+02	1.90
F	36	1494.39	4570	4585	4576.66	1.83E+02	45.80	8.86E+01	1.58
F	37	1596.85	4879	4901	4890.44	5.16E+02	49.09	6.33E+01	2.01
F	38	1719.62	5260	5274	5266.39	5.12E+01	37.55	2.25E+01	1.44
F	39	2506.08	7664	7686	7675.06	1.01E+02	29.46	0.00E+00	3.12

Analysis Report for 24-2325 VSM-6.0M-S4-CST-d-A S3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 8:49:59AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567335.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	42.93	8.98E+02	996.78			8.98E+02	9.97E+02
F	2	48.51	2.97E+03	1047.01			2.97E+03	1.05E+03
F	3	59.56	1.24E+05	1682.04			1.24E+05	1.68E+03
F	4	75.06	3.89E+03	392.85	7.40E+01	4.64E+00	3.82E+03	3.93E+02
F	5	86.92	6.76E+03	366.93	2.27E+01	1.65E+00	6.74E+03	3.67E+02
F	6	105.45	3.06E+03	302.21			3.06E+03	3.02E+02
F	7	123.08	4.26E+04	1308.05			4.26E+04	1.31E+03
F	8	247.97	4.74E+03	146.18			4.74E+03	1.46E+02
F	9	344.19	7.10E+02	391.59			7.10E+02	3.92E+02
F	10	414.89	2.28E+03	372.92			2.28E+03	3.73E+02
F	11	511.15	4.11E+03	415.00	9.22E+01	3.89E+00	4.02E+03	4.15E+02
F	12	582.03	3.94E+02	51.18			3.94E+02	5.12E+01
F	13	591.91	2.07E+03	64.15			2.07E+03	6.41E+01
	14	625.60	5.86E+01	112.38			5.86E+01	1.12E+02
M	15	661.81	3.45E+04	388.88			3.45E+04	3.89E+02
m	16	666.51	1.75E+03	62.89	3.22E+00	3.77E-01	1.74E+03	6.29E+01
M	17	692.52	5.85E+02	105.79			5.85E+02	1.06E+02
m	18	695.23	1.50E+03	212.67			1.50E+03	2.13E+02
F	19	723.50	8.13E+03	234.30			8.13E+03	2.34E+02
F	20	756.95	1.72E+03	195.26			1.72E+03	1.95E+02
F	21	815.51	1.55E+02	33.09			1.55E+02	3.31E+01
F	22	873.43	4.36E+03	66.82	1.40E-01	5.47E-01	4.36E+03	6.68E+01
F	23	893.20	1.38E+02	29.07			1.38E+02	2.91E+01
F	24	904.51	2.99E+02	123.43			2.99E+02	1.23E+02
F	25	996.50	3.66E+03	171.19			3.66E+03	1.71E+02
F	26	1005.00	6.07E+03	207.02			6.07E+03	2.07E+02
F	27	1112.29	8.50E+01	52.25			8.50E+01	5.23E+01
F	28	1128.47	1.82E+02	36.06			1.82E+02	3.61E+01
	29	1138.14	1.10E+02	61.70			1.10E+02	6.17E+01
F	30	1173.51	7.93E+03	183.88			7.93E+03	1.84E+02
F	31	1246.39	2.83E+02	19.68			2.83E+02	1.97E+01
F	32	1274.78	9.94E+03	191.93			9.94E+03	1.92E+02
F	33	1332.83	7.23E+03	161.15			7.23E+03	1.61E+02

Analysis Report for 24-2325 VSM-6.0M-S4-CST-d-A S3

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 34	1397.63	1.85E+02	15.24			1.85E+02	1.52E+01
F 35	1408.50	1.60E+02	15.04	5.25E+00	8.00E-01	1.55E+02	1.51E+01
F 36	1494.39	1.83E+02	45.80			1.83E+02	4.58E+01
F 37	1596.85	5.16E+02	49.09			5.16E+02	4.91E+01
F 38	1719.62	5.12E+01	37.55			5.12E+01	3.75E+01
F 39	2506.08	1.01E+02	29.46			1.01E+02	2.95E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.98	1173.24	*	99.97	8.47E-03	2.01E-04	0.961
		1332.50	*	99.99	8.38E-03	1.94E-04	0.960
		2505.74	*	1.00	1.89E-02	5.61E-03	miss
RH-106	0.40	511.86	*	20.70	1.21E-02	1.30E-03	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.66E-03	2.76E-04	0.871
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.45E-03	5.29E-05	0.868
		674.80		3.10			
		695.00	*	99.60	1.28E-03	1.82E-04	0.868
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.75	64.28		9.60			

Analysis Report for 24-2325 VSM-6.0M-S4-CST-d-A S3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
Sn-126	0.75	87.30	*	45.90	4.39E-03	3.08E-04	miss
CS-137	0.99	661.66	*	85.20	2.89E-02	3.66E-04	miss
EU-154	0.99	42.70	*	20.45	7.15E-03	7.95E-03	miss
		123.07	*	40.40	3.20E-02	1.07E-03	0.954
		247.93	*	6.89	2.83E-02	9.48E-04	0.941
		591.76	*	4.95	3.00E-02	9.97E-04	0.929
		692.42	*	1.78	2.56E-02	4.65E-03	0.945
		723.30	*	20.06	3.24E-02	1.00E-03	0.948
		756.80	*	4.52	3.19E-02	3.65E-03	0.927
		873.18	*	12.08	3.26E-02	6.31E-04	0.942
		996.29	*	10.48	3.27E-02	1.57E-03	0.986
		1004.76	*	18.01	3.21E-02	1.15E-03	0.977
		1246.12	*	0.86	3.76E-02	2.67E-03	0.936
		1274.43	*	34.80	3.16E-02	6.94E-04	0.978
		1494.05	*	0.70	3.10E-02	7.77E-03	1.016
		1596.48	*	1.80	3.09E-02	2.97E-03	1.169
EU-155	0.98	43.00	*	18.70	7.82E-03	8.69E-03	1.000
		60.01	*	1.22	5.69E+00	2.13E-01	0.998
		86.55	*	30.70	6.57E-03	3.92E-04	free
		105.31	*	21.10	4.02E-03	4.09E-04	1.000
AM-241	1.00	59.54	*	35.90	1.93E-01	4.75E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.986	8.43E-03	1.39E-04	
RH-106	0.409	1.21E-02	1.30E-03	
SB-126	0.487	1.44E-03	4.99E-05	

Analysis Report for 24-2325 VSM-6.0M-S4-CST-d-A S3

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
Sn-126	0.752	1.75E-03	3.59E-04	
CS-137	0.996	2.89E-02	3.66E-04	
EU-154	0.992	3.16E-02	2.87E-04	
EU-155	0.989	3.95E-03	3.98E-04	
AM-241	1.000	1.93E-01	3.49E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2325 VSM-6.0M-S4-CST-d-A S3
ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 8:49:59AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	48.51	1.11883E+00	35.26		
F	4	75.06	1.43794E+00	10.29		
F	9	344.19	2.67512E-01	55.15		
F	12	582.03	1.48338E-01	13.00		
	14	625.60	2.20749E-02	191.81		
F	21	815.51	5.82727E-02	21.40	Sum	
F	23	893.20	5.18960E-02	21.11		
F	24	904.51	1.12493E-01	41.34		
F	27	1112.29	3.20153E-02	61.49		
F	28	1128.47	6.86706E-02	19.79	Sum	
	29	1138.14	4.13521E-02	56.22	Sum	
F	34	1397.63	6.96533E-02	8.24	Sum	
F	35	1408.50	5.84088E-02	9.72		
F	38	1719.62	1.92841E-02	73.36	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.61	10.44	3.30E-03	3.30E-03	-1.85E-03	1.64E-03
K-40	1460.83	10.67	8.12E-04	8.12E-04	-3.94E-04	3.91E-04

Analysis Report for 24-2325 VSM-6.0M-S4-CST-d-A S3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	MN-54	834.84		99.98	2.30E-04	2.30E-04	-3.04E-04	1.14E-04
	CO-58	810.78		99.45	2.51E-04	2.51E-04	1.60E-04	1.24E-04
		863.96		0.68	3.50E-02		-1.31E-02	1.73E-02
		1674.73		0.52	1.05E-02		6.74E-03	4.91E-03
	FE-59	142.65		1.00	6.28E-02	2.92E-04	1.72E-02	3.13E-02
		192.35		3.01	1.88E-02		-3.91E-03	9.38E-03
		334.80		0.27	1.49E-01		-1.77E-02	7.42E-02
		1099.25		56.30	3.57E-04		-1.39E-04	1.76E-04
		1291.60		43.70	2.92E-04		3.38E-04	1.43E-04
+	CO-60	1173.24	*	99.97	2.71E-04	2.01E-04	8.47E-03	1.34E-04
		1332.50	*	99.99	2.01E-04		8.38E-03	9.90E-05
		2505.74	*	1.00	5.08E-04		1.89E-02	0.00E+00
	SR-85	514.00		96.00	3.87E-04	3.87E-04	-5.44E-07	1.92E-04
		868.60		0.01	2.79E+00		-2.38E-01	1.39E+00
	NB-94	702.62		97.90	2.78E-04	2.78E-04	5.00E-05	1.38E-04
		871.09		99.98	3.57E-04		-1.32E-05	1.77E-04
	NB-95	765.81		99.81	2.60E-04	2.60E-04	6.23E-05	1.29E-04
	RU-103	497.05		91.00	3.64E-04	3.64E-04	-1.68E-04	1.81E-04
		610.30		5.76	5.12E-03		8.49E-04	2.54E-03
+	RH-106	511.86	*	20.70	2.63E-03	2.63E-03	1.21E-02	1.31E-03
		621.92		9.93	2.97E-03		1.31E-03	1.47E-03
		1050.36		1.56	1.47E-02		-3.73E-04	7.24E-03
	AG-108M	79.13		6.60	1.41E-02	3.44E-04	-1.51E-03	7.04E-03
		433.90		90.50	4.11E-04		1.73E-04	2.04E-04
		614.30		89.80	3.44E-04		-1.92E-04	1.71E-04
		722.90		90.80	4.93E-04		7.16E-03	2.45E-04
	CD-109	88.03		3.61	2.38E-02	2.38E-02	5.40E-02	1.19E-02
	SB-125	176.31		6.82	8.16E-03	1.16E-03	-3.77E-03	4.07E-03
		380.45		1.52	2.38E-02		-4.85E-03	1.19E-02
		427.87		29.55	1.16E-03		-3.02E-04	5.79E-04
		463.36		10.48	3.29E-03		-1.25E-03	1.64E-03
		600.60		17.76	1.60E-03		-1.48E-03	7.97E-04
		606.71		5.02	5.70E-03		3.43E-03	2.83E-03
		635.95		11.32	2.42E-03		1.09E-03	1.20E-03
		671.44		1.78	1.70E-02		2.95E-03	8.46E-03
+	SB-126	223.90		1.39	3.43E-02	2.11E-04	-5.93E-02	1.71E-02
		278.20		2.40	2.16E-02		1.71E-02	1.08E-02
		296.50		4.50	1.11E-02		-4.32E-03	5.54E-03
		414.70	*	83.30	6.75E-04		1.66E-03	3.37E-04
		556.30		1.69	2.07E-02		6.66E-03	1.03E-02
		573.90		6.70	5.07E-03		-2.04E-03	2.52E-03
		593.20		7.50	4.89E-03		2.52E-02	2.43E-03
		656.30		2.19	2.48E-02		7.52E-04	1.23E-02
		666.50	*	99.60	2.11E-04		1.45E-03	1.04E-04
		674.80		3.10	1.04E-02		8.71E-03	5.15E-03
		695.00	*	99.60	2.22E-04		1.28E-03	1.10E-04
		697.00		29.00	1.27E-03		1.17E-04	6.30E-04
		720.70		53.80	8.98E-04		-4.35E-05	4.47E-04
		856.80		17.60	1.48E-03		-1.16E-03	7.30E-04
		989.60		6.80	3.92E-03		1.82E-03	1.94E-03
		1213.30		2.39	6.88E-03		2.49E-03	3.37E-03
+	Sn-126	64.28		9.60	1.39E-02	2.19E-03	4.23E-03	6.94E-03
		87.30	*	45.90	2.19E-03		4.39E-03	1.09E-03

Analysis Report for 24-2325 VSM-6.0M-S4-CST-d-A S3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-129	29.70		56.60	3.26E-02	3.26E-02	-5.95E-02	1.63E-02
		33.60		10.04	9.22E-02		-2.50E-01	4.60E-02
		34.40		2.01	4.09E-01		-1.16E+00	2.04E-01
		39.60		7.51	6.06E-02		-4.05E-02	3.03E-02
	CS-134	563.25		8.34	3.74E-03	2.99E-04	-5.44E-03	1.86E-03
		569.33		15.37	2.03E-03		-2.41E-03	1.01E-03
		604.72		97.62	3.09E-04		1.27E-05	1.54E-04
		795.86		85.46	2.99E-04		-6.41E-05	1.48E-04
		801.95		8.69	2.96E-03		-1.71E-03	1.46E-03
+	CS-137	661.66	*	85.20	2.30E-04	2.30E-04	2.89E-02	1.14E-04
	CE-139	165.85		79.89	7.32E-04	7.32E-04	8.87E-04	3.65E-04
	CE-141	40.70		3.35	1.28E-01	1.35E-03	-2.59E-02	6.41E-02
		145.44		48.29	1.35E-03		6.65E-04	6.77E-04
	CE-144	80.12		1.36	6.75E-02	5.75E-03	-2.86E-02	3.37E-02
		133.51		11.09	5.75E-03		-4.74E-04	2.87E-03
	EU-152	121.78		28.58	2.69E-03	5.80E-04	-6.76E-04	1.34E-03
		344.28		26.50	1.52E-03		2.05E-03	7.57E-04
		778.90		12.94	2.00E-03		-1.83E-03	9.92E-04
		964.08		14.73	1.59E-03		5.07E-04	7.87E-04
		1085.87		10.24	2.00E-03		5.55E-04	9.89E-04
		1112.07		13.69	1.51E-03		1.67E-03	7.44E-04
		1408.01		21.07	5.80E-04		8.73E-04	2.82E-04
	GD-153	97.43		29.00	2.67E-03	2.67E-03	2.52E-03	1.34E-03
		103.18		21.10	3.54E-03		-1.09E-03	1.77E-03
+	EU-154	42.70	*	20.45	2.61E-02	7.26E-04	7.15E-03	1.31E-02
		123.07	*	40.40	2.16E-03		3.20E-02	1.08E-03
		247.93	*	6.89	7.71E-03		2.83E-02	3.85E-03
		591.76	*	4.95	7.43E-03		3.00E-02	3.70E-03
		692.42	*	1.78	9.75E-03		2.56E-02	4.81E-03
		723.30	*	20.06	1.94E-03		3.24E-02	9.64E-04
		756.80	*	4.52	7.20E-03		3.19E-02	3.58E-03
		873.18	*	12.08	2.66E-03		3.26E-02	1.32E-03
		996.29	*	10.48	2.72E-03		3.27E-02	1.35E-03
		1004.76	*	18.01	1.61E-03		3.21E-02	7.96E-04
		1246.12	*	0.86	1.38E-02		3.76E-02	6.71E-03
		1274.43	*	34.80	7.26E-04		3.16E-02	3.59E-04
		1494.05	*	0.70	1.22E-02		3.10E-02	5.86E-03
		1596.48	*	1.80	4.24E-03		3.09E-02	2.04E-03
+	EU-155	43.00	*	18.70	2.86E-02	3.28E-03	7.82E-03	1.43E-02
		60.01	*	1.22	1.69E-01		5.69E+00	8.44E-02
		86.55	*	30.70	3.28E-03		6.57E-03	1.64E-03
		105.31	*	21.10	3.73E-03		4.02E-03	1.86E-03
	HG-203	72.87		6.30	1.73E-02	5.56E-04	2.66E-03	8.66E-03
		279.20		81.46	5.56E-04		-1.95E-05	2.77E-04
	BI-207	569.15		97.80	3.12E-04	2.95E-04	-1.07E-04	1.55E-04
		1063.10		74.90	2.95E-04		-1.46E-04	1.45E-04
	PB-210	46.54		4.25	6.48E-02	6.48E-02	-2.12E-01	3.24E-02
	RA-226	74.81		6.44	1.58E-02	3.79E-04	2.01E-02	7.89E-03
		77.11		10.80	8.97E-03		-8.31E-05	4.48E-03
		87.30		4.84	1.78E-02		6.20E-02	8.92E-03
		186.21		3.59	1.50E-02		3.10E-03	7.48E-03
		242.00		7.43	6.05E-03		-1.01E-03	3.02E-03
		295.22		19.30	2.19E-03		5.06E-04	1.09E-03

Analysis Report for 24-2325 VSM-6.0M-S4-CST-d-A S3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	351.93		37.60	1.01E-03	3.79E-04	7.88E-04	5.04E-04
		609.31		46.10	6.20E-04		7.50E-05	3.08E-04
		768.36		4.94	5.10E-03		4.25E-03	2.53E-03
		1120.29		15.10	1.24E-03		3.33E-04	6.13E-04
		1238.11		5.79	2.35E-03		5.90E-04	1.15E-03
		1764.49		15.40	3.79E-04		2.69E-04	1.77E-04
	PA-231	283.70		1.59	2.74E-02	1.76E-02	2.26E-03	1.37E-02
		300.07		2.38	1.76E-02		1.31E-02	8.78E-03
		302.67		1.71	2.43E-02		-1.75E-02	1.21E-02
		330.07		1.32	2.98E-02		2.64E-02	1.49E-02
	TH-232	74.81		11.62	8.76E-03	1.24E-04	1.11E-02	4.38E-03
		77.11		17.50	5.54E-03		-5.13E-05	2.77E-03
		87.30		7.80	1.11E-02		3.85E-02	5.53E-03
		238.63		43.30	1.05E-03		6.05E-04	5.23E-04
		338.32		11.30	3.45E-03		7.42E-04	1.72E-03
		583.19		30.37	9.80E-04		1.85E-03	4.87E-04
		727.33		6.58	6.21E-03		-1.87E-03	3.09E-03
		911.21		26.60	8.49E-04		8.24E-04	4.20E-04
		968.97		16.20	1.37E-03		1.15E-04	6.79E-04
		2614.53		35.64	1.24E-04		3.05E-05	5.45E-05
	U-235	143.76		10.96	5.55E-03	9.42E-04	2.39E-03	2.77E-03
		185.71		57.20	9.42E-04		-3.34E-04	4.70E-04
		205.31		5.01	1.00E-02		-8.91E-03	5.01E-03
	U-238	63.29		3.70	3.86E-02	1.89E-02	4.67E-02	1.93E-02
		92.51		4.23	1.89E-02		1.58E-02	9.47E-03
		112.81		0.21	3.30E-01		1.99E-01	1.65E-01
		742.81		0.11	2.36E-01		-6.96E-02	1.17E-01
		766.28		0.32	7.88E-02		-2.58E-02	3.91E-02
		1001.03		0.84	5.66E-02		-6.19E-04	2.82E-02
	NP-239	99.60		12.80	9.97E-03	4.72E-03	-2.72E-03	4.98E-03
		103.80		20.40	6.10E-03		-5.19E-04	3.05E-03
		106.10		26.40	4.72E-03		9.97E-03	2.36E-03
		116.90		7.61	1.52E-02		-2.25E-03	7.61E-03
		228.20		11.20	7.24E-03		1.80E-03	3.61E-03
		277.60		14.50	5.28E-03		1.30E-03	2.64E-03
		315.90		1.60	4.22E-02		6.30E-03	2.10E-02
		334.30		2.06	3.03E-02		3.28E-03	1.51E-02
+	AM-241	59.54	*	35.90	5.73E-03	5.73E-03	1.93E-01	2.86E-03

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

Apex-Gamma

Analysis Report for 24-2326 VSM-7.0M-S1-CST-A U3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2326 VSM-7.0M-S1-CST-A U3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 6:48:53AM
Procedure	: U3_gsv02mlw
Operator	: Administrator
Detector Name	: U
Geometry	: U3_gsv02mlw
Live Time	: 2888.4 seconds
Real Time	: 3099.6 seconds
Dead Time	: 6.82 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 7/10/2024
Efficiency Calibration Used Done On	: 6/7/2021
Efficiency Calibration Description	: U3_gsv2mlw_R724p
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567854
Certificate Name	: R735-A6 5ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 7:40:35AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2326 VSM-7.0M-S1-CST-A U3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.86	123.20	0.2789	6.44
2	59.51	170.84	0.0613	121.67
3	86.83	248.44	0.2370	7.01
4	105.34	301.87	0.2610	5.32
5	123.03	352.44	0.0706	74.86
6	247.82	709.42	0.1222	22.74
7	344.19	985.05	0.2666	5.41
8	414.76	1186.91	0.1412	15.66
9	510.95	1461.90	0.1304	12.19
10	581.96	1665.52	0.2155	5.09
11	591.71	1693.08	0.1174	20.41
12	661.60	1893.06	0.0617	71.90
13	666.27	1906.69	0.1263	16.65
14	692.39	1980.40	0.2556	5.62
15	694.99	1988.80	0.1303	17.38
16	723.26	2069.55	0.0726	48.45
17	756.78	2165.36	0.1149	19.72
18	815.70	2333.81	0.2447	4.65
19	845.72	2419.59	0.2366	3.87
20	873.12	2498.31	0.0833	34.70
21	892.99	2555.01	0.2374	5.20
22	904.09	2586.86	0.2295	5.50
23	964.25	2758.70	0.2416	4.68
24	996.19	2850.32	0.0851	32.68
25	1004.67	2874.55	0.0749	40.95
26	1111.77	3181.27	0.2589	3.66
27	1128.07	3227.49	0.2354	4.23
28	1173.10	3356.46	0.0678	45.91
29	1246.02	3565.29	0.1927	5.80
30	1274.32	3646.05	0.0630	52.75
31	1332.37	3812.07	0.0681	44.13
32	1397.00	3997.00	0.1753	7.21
33	1407.82	4028.05	0.1814	6.04
34	1460.98	4179.93	0.2578	3.10
35	1494.24	4275.13	0.1855	6.14
36	1596.34	4567.38	0.1305	11.12
37	1718.74	4917.56	0.2511	3.39
38	2504.81	7166.40	0.1926	3.94

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2326 VSM-7.0M-S1-CST-A U3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 7:40:35AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.86	116	126	123.12	5.45E+03	1606.49	2.96E+05	0.88
F	2	59.51	163	177	170.74	2.03E+05	2275.12	5.38E+05	1.15
F	3	86.83	244	255	248.89	7.80E+03	475.93	3.59E+05	1.45
F	4	105.34	298	309	301.85	5.03E+03	425.38	2.80E+05	1.43
F	5	123.03	346	360	352.45	6.13E+04	1731.19	2.75E+05	1.21
F	6	247.82	703	718	709.44	7.69E+03	198.26	6.44E+04	1.34
F	7	344.19	980	992	985.11	6.03E+02	116.52	2.29E+04	0.96
F	8	414.76	1181	1195	1186.97	2.77E+03	112.32	1.65E+04	1.45
F	9	510.95	1450	1472	1462.14	7.30E+03	520.76	1.43E+04	3.09
F	10	581.96	1661	1672	1665.29	5.34E+02	71.45	5.24E+03	1.59
F	11	591.71	1685	1701	1693.17	3.24E+03	86.01	7.13E+03	1.74
M	12	661.60	1886	1917	1893.11	2.10E+04	364.05	4.70E+03	1.75
m	13	666.27	1886	1917	1906.46	2.44E+03	84.54	5.16E+03	1.76
M	14	692.39	1975	1997	1981.18	9.57E+02	60.19	3.82E+03	1.72
m	15	694.99	1975	1997	1988.62	2.37E+03	72.25	4.85E+03	1.73
F	16	723.26	2057	2081	2069.51	1.09E+04	307.41	5.96E+03	1.78
F	17	756.78	2156	2177	2165.38	2.39E+03	68.15	4.62E+03	1.78
F	18	815.70	2324	2341	2333.93	4.89E+02	205.85	2.87E+03	2.08
F	19	845.72	2413	2427	2419.82	3.46E+02	47.30	2.33E+03	2.01
F	20	873.12	2488	2506	2498.20	5.94E+03	244.12	2.61E+03	1.96
F	21	892.99	2546	2563	2555.04	5.12E+02	208.90	2.16E+03	2.24
F	22	904.09	2580	2596	2586.80	3.38E+02	168.69	2.27E+03	1.64
F	23	964.25	2753	2764	2758.89	2.62E+02	170.07	1.27E+03	1.68
F	24	996.19	2838	2859	2850.27	4.80E+03	222.24	2.21E+03	2.01
F	25	1004.67	2864	2885	2874.55	8.18E+03	237.37	2.36E+03	2.09
F	26	1111.77	3176	3187	3180.92	1.46E+02	33.67	8.88E+02	1.74
F	27	1128.07	3221	3240	3227.55	1.94E+02	31.87	1.21E+03	1.87
F	28	1173.10	3342	3370	3356.38	1.12E+04	224.05	1.15E+03	2.29
F	29	1246.02	3558	3574	3564.97	2.51E+02	25.65	4.76E+02	2.13
F	30	1274.32	3631	3658	3645.94	1.35E+04	226.13	6.41E+02	2.35
F	31	1332.37	3800	3826	3812.00	9.90E+03	204.53	5.22E+02	2.40
F	32	1397.00	3986	4004	3996.89	2.86E+02	71.76	2.23E+02	2.10
F	33	1407.82	4013	4038	4027.86	2.86E+02	63.35	2.78E+02	2.43
F	34	1460.98	4169	4186	4179.92	9.03E+01	61.84	1.30E+02	1.89
F	35	1494.24	4265	4285	4275.07	2.23E+02	62.22	1.79E+02	2.09
F	36	1596.34	4553	4579	4567.17	6.88E+02	69.84	1.76E+02	2.34
F	37	1718.74	4909	4927	4917.34	5.15E+01	35.10	7.23E+01	2.00
F	38	2504.81	7157	7177	7166.19	9.58E+01	10.66	1.51E+01	2.91

Analysis Report for 24-2326 VSM-7.0M-S1-CST-A U3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 7:40:35AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567381.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.86	5.45E+03	1606.49			5.45E+03	1.61E+03
F	2	59.51	2.03E+05	2275.12			2.03E+05	2.28E+03
F	3	86.83	7.80E+03	475.93	2.06E+01	2.14E+00	7.78E+03	4.76E+02
F	4	105.34	5.03E+03	425.38			5.03E+03	4.25E+02
F	5	123.03	6.13E+04	1731.19			6.13E+04	1.73E+03
F	6	247.82	7.69E+03	198.26			7.69E+03	1.98E+02
F	7	344.19	6.03E+02	116.52			6.03E+02	1.17E+02
F	8	414.76	2.77E+03	112.32			2.77E+03	1.12E+02
F	9	510.95	7.30E+03	520.76			7.30E+03	5.21E+02
F	10	581.96	5.34E+02	71.45			5.34E+02	7.15E+01
F	11	591.71	3.24E+03	86.01			3.24E+03	8.60E+01
M	12	661.60	2.10E+04	364.05			2.10E+04	3.64E+02
m	13	666.27	2.44E+03	84.54			2.44E+03	8.45E+01
M	14	692.39	9.57E+02	60.19			9.57E+02	6.02E+01
m	15	694.99	2.37E+03	72.25			2.37E+03	7.22E+01
F	16	723.26	1.09E+04	307.41	2.37E+00	4.27E-01	1.09E+04	3.07E+02
F	17	756.78	2.39E+03	68.15			2.39E+03	6.82E+01
F	18	815.70	4.89E+02	205.85			4.89E+02	2.06E+02
F	19	845.72	3.46E+02	47.30			3.46E+02	4.73E+01
F	20	873.12	5.94E+03	244.12			5.94E+03	2.44E+02
F	21	892.99	5.12E+02	208.90			5.12E+02	2.09E+02
F	22	904.09	3.38E+02	168.69			3.38E+02	1.69E+02
F	23	964.25	2.62E+02	170.07	7.72E+00	4.50E-01	2.54E+02	1.70E+02
F	24	996.19	4.80E+03	222.24	6.80E+00	1.47E+00	4.79E+03	2.22E+02
F	25	1004.67	8.18E+03	237.37			8.18E+03	2.37E+02
F	26	1111.77	1.46E+02	33.67			1.46E+02	3.37E+01
F	27	1128.07	1.94E+02	31.87			1.94E+02	3.19E+01
F	28	1173.10	1.12E+04	224.05			1.12E+04	2.24E+02
F	29	1246.02	2.51E+02	25.65			2.51E+02	2.56E+01
F	30	1274.32	1.35E+04	226.13			1.35E+04	2.26E+02
F	31	1332.37	9.90E+03	204.53			9.90E+03	2.05E+02
F	32	1397.00	2.86E+02	71.76			2.86E+02	7.18E+01
F	33	1407.82	2.86E+02	63.35			2.86E+02	6.33E+01

Analysis Report for 24-2326 VSM-7.0M-S1-CST-A U3

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 34	1460.98	9.03E+01	61.84			9.03E+01	6.18E+01
F 35	1494.24	2.23E+02	62.22			2.23E+02	6.22E+01
F 36	1596.34	6.88E+02	69.84			6.88E+02	6.98E+01
F 37	1718.74	5.15E+01	35.10			5.15E+01	3.51E+01
F 38	2504.81	9.58E+01	10.66			9.58E+01	1.07E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.99	1460.83	*	10.67	9.35E-04	6.40E-04	miss
CO-57	0.70	122.06	*	85.60	1.79E-02	5.32E-04	1.000
		136.47		10.68			
CO-60	0.99	1173.24	*	99.97	1.10E-02	2.25E-04	0.961
		1332.50	*	99.99	1.06E-02	2.28E-04	0.960
		2505.74	*	1.00	1.65E-02	2.01E-03	miss
RH-106	0.37	511.86	*	20.70	1.92E-02	1.49E-03	0.972
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.77E-03	8.92E-05	0.864
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.79E-03	6.29E-05	0.861
		674.80		3.10			
		695.00	*	99.60	1.79E-03	5.55E-05	0.861
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			

Analysis Report for 24-2326 VSM-7.0M-S1-CST-A U3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	1213.30		2.39			
Sn-126	0.73	64.28		9.60			
		87.30	*	45.90	4.26E-03	3.23E-04	miss
CS-137	0.99	661.66	*	85.20	1.55E-02	2.80E-04	miss
EU-152	0.23	121.78		28.58			
		344.28	*	26.50	9.63E-04	1.88E-04	0.968
		778.90		12.94			
		964.08	*	14.73	1.46E-03	9.79E-04	0.962
		1085.87		10.24			
		1112.07	*	13.69	9.81E-04	2.27E-04	0.979
		1408.01	*	21.07	1.50E-03	3.33E-04	0.970
EU-154	0.99	42.70	*	20.45	2.96E-02	8.81E-03	miss
		123.07	*	40.40	3.97E-02	1.24E-03	0.953
		247.93	*	6.89	4.01E-02	1.18E-03	0.938
		591.76	*	4.95	4.12E-02	1.20E-03	0.927
		692.42	*	1.78	3.70E-02	2.37E-03	0.942
		723.30	*	20.06	3.82E-02	1.16E-03	0.946
		756.80	*	4.52	3.95E-02	1.20E-03	0.923
		873.18	*	12.08	3.99E-02	1.70E-03	0.939
		996.29	*	10.48	3.88E-02	1.84E-03	0.985
		1004.76	*	18.01	3.91E-02	1.21E-03	0.975
		1246.12	*	0.86	3.08E-02	3.18E-03	0.933
		1274.43	*	34.80	3.96E-02	7.78E-04	0.977
		1494.05	*	0.70	3.54E-02	9.86E-03	1.017
		1596.48	*	1.80	3.84E-02	3.93E-03	1.177
EU-155	0.99	43.00	*	18.70	3.24E-02	9.63E-03	1.000
		60.01	*	1.22	6.81E+00	2.50E-01	0.998
		86.55	*	30.70	6.38E-03	4.21E-04	free
		105.31	*	21.10	5.75E-03	5.08E-04	1.000
AM-241	1.00	59.54	*	35.90	2.31E-01	5.40E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2326 VSM-7.0M-S1-CST-A U3

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.997	9.35E-04	6.40E-04	
CO-57	0.700	1.37E-04	5.57E-04	
CO-60	0.997	1.08E-02	1.59E-04	
RH-106	0.379	1.92E-02	1.49E-03	
SB-126	0.489	1.79E-03	3.77E-05	
Sn-126	0.731	4.51E-04	4.20E-04	
CS-137	0.999	1.55E-02	2.80E-04	
EU-152	0.237	1.06E-03	1.31E-04	
EU-154	0.999	3.94E-02	3.75E-04	
EU-155	0.993	5.71E-03	4.88E-04	
AM-241	1.000	2.31E-01	3.77E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2326 VSM-7.0M-S1-CST-A U3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 7:40:35AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	10	581.96	1.85038E-01	13.37		
F	18	815.70	1.69414E-01	42.07	Sum	
F	19	845.72	1.19818E-01	13.67	Sum	
F	21	892.99	1.77275E-01	40.80		
F	22	904.09	1.17190E-01	49.84		
F	27	1128.07	6.71116E-02	16.44	Sum	
F	32	1397.00	9.88664E-02	25.13	Sum	
F	37	1718.74	1.78169E-02	68.21	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	3.47E-03	3.47E-03	3.11E-03	1.73E-03
+	K-40	1460.83	*	10.67	9.40E-04	9.40E-04	9.35E-04	4.56E-04
	MN-54	834.84		99.98	2.59E-04	2.59E-04	-1.28E-04	1.28E-04
	CO-58	810.78		99.45	2.81E-04	2.81E-04	-1.17E-04	1.40E-04
		863.96		0.68	3.97E-02		1.27E-02	1.97E-02
		1674.73		0.52	1.18E-02		6.31E-03	5.57E-03
	FE-59	142.65		1.00	6.77E-02	3.38E-04	-4.02E-03	3.38E-02
		192.35		3.01	2.03E-02		-3.57E-04	1.02E-02
		334.80		0.27	1.54E-01		4.16E-03	7.69E-02

Analysis Report for 24-2326 VSM-7.0M-S1-CST-A U3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	FE-59	1099.25		56.30	4.11E-04	3.38E-04	2.03E-04	2.03E-04
		1291.60		43.70	3.38E-04		-3.73E-04	1.66E-04
+	CO-60	1173.24	*	99.97	3.16E-04	2.28E-04	1.10E-02	1.57E-04
		1332.50	*	99.99	2.28E-04		1.06E-02	1.13E-04
		2505.74	*	1.00	5.91E-03		1.65E-02	2.72E-03
	SR-85	514.00		96.00	4.14E-04	4.14E-04	-2.93E-04	2.06E-04
		868.60		0.01	3.12E+00		-1.02E+00	1.55E+00
	NB-94	702.62		97.90	3.03E-04	3.03E-04	1.86E-04	1.51E-04
		871.09		99.98	3.89E-04		4.62E-03	1.93E-04
	NB-95	765.81		99.81	2.93E-04	2.93E-04	-4.99E-05	1.45E-04
	RU-103	497.05		91.00	3.90E-04	3.90E-04	2.68E-04	1.94E-04
		610.30		5.76	5.53E-03		5.67E-03	2.75E-03
+	RH-106	511.86	*	20.70	2.70E-03	2.70E-03	1.92E-02	1.35E-03
		621.92		9.93	3.21E-03		1.86E-03	1.60E-03
		1050.36		1.56	1.66E-02		-2.89E-03	8.23E-03
	AG-108M	79.13		6.60	1.48E-02	3.74E-04	-1.85E-03	7.40E-03
		433.90		90.50	4.50E-04		1.57E-04	2.24E-04
		614.30		89.80	3.74E-04		-1.67E-04	1.86E-04
		722.90		90.80	5.25E-04		8.49E-03	2.61E-04
	CD-109	88.03		3.61	2.44E-02	2.44E-02	7.17E-02	1.22E-02
	SB-125	176.31		6.82	8.86E-03	1.27E-03	2.02E-04	4.42E-03
		380.45		1.52	2.65E-02		-5.70E-03	1.32E-02
		427.87		29.55	1.27E-03		3.17E-04	6.30E-04
		463.36		10.48	3.45E-03		1.04E-03	1.72E-03
		600.60		17.76	1.72E-03		-7.49E-04	8.57E-04
		606.71		5.02	6.14E-03		-1.38E-03	3.06E-03
		635.95		11.32	2.61E-03		1.58E-03	1.30E-03
		671.44		1.78	1.81E-02		2.98E-03	9.01E-03
+	SB-126	223.90		1.39	3.70E-02	2.47E-04	-8.27E-03	1.85E-02
		278.20		2.40	2.27E-02		-1.67E-03	1.13E-02
		296.50		4.50	1.17E-02		7.71E-03	5.86E-03
		414.70	*	83.30	5.93E-04		1.77E-03	2.96E-04
		556.30		1.69	2.32E-02		-2.35E-02	1.15E-02
		573.90		6.70	5.74E-03		9.02E-03	2.86E-03
		593.20		7.50	5.28E-03		3.00E-02	2.63E-03
		656.30		2.19	2.59E-02		-3.27E-02	1.29E-02
		666.50	*	99.60	2.48E-04		1.79E-03	1.23E-04
		674.80		3.10	1.14E-02		3.57E-03	5.67E-03
		695.00	*	99.60	2.47E-04		1.79E-03	1.23E-04
		697.00		29.00	1.39E-03		2.55E-04	6.92E-04
		720.70		53.80	9.61E-04		-7.03E-05	4.78E-04
		856.80		17.60	1.70E-03		-1.20E-03	8.44E-04
		989.60		6.80	4.96E-03		-1.04E-03	2.46E-03
		1213.30		2.39	8.02E-03		-9.45E-04	3.95E-03
+	Sn-126	64.28		9.60	1.40E-02	2.17E-03	-3.61E-03	6.97E-03
		87.30	*	45.90	2.17E-03		4.26E-03	1.08E-03
	I-129	29.70		56.60	3.52E-02	3.52E-02	-8.17E-02	1.76E-02
		33.60		10.04	9.40E-02		-3.20E-01	4.70E-02
		34.40		2.01	4.14E-01		-1.28E+00	2.07E-01
		39.60		7.51	6.30E-02		-4.17E-02	3.15E-02
	CS-134	563.25		8.34	4.21E-03	3.33E-04	-1.64E-05	2.10E-03
		569.33		15.37	2.29E-03		-1.88E-04	1.14E-03
		604.72		97.62	3.33E-04		7.57E-05	1.66E-04

Analysis Report for 24-2326 VSM-7.0M-S1-CST-A U3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-134	795.86		85.46	3.34E-04	3.33E-04	-4.09E-04	1.66E-04
		801.95		8.69	3.35E-03		-1.75E-03	1.66E-03
+	CS-137	661.66	*	85.20	2.37E-04	2.37E-04	1.55E-02	1.18E-04
	CE-139	165.85		79.89	7.95E-04	7.95E-04	-8.94E-05	3.97E-04
	CE-141	40.70		3.35	1.32E-01	1.40E-03	-9.83E-02	6.62E-02
		145.44		48.29	1.40E-03		4.20E-04	6.99E-04
	CE-144	80.12		1.36	7.10E-02	6.23E-03	2.20E-02	3.55E-02
		133.51		11.09	6.23E-03		2.68E-03	3.11E-03
+	EU-152	121.78		28.58	2.77E-03	8.02E-04	4.41E-04	1.38E-03
		344.28	*	26.50	1.65E-03		9.63E-04	8.21E-04
		778.90		12.94	2.27E-03		2.38E-03	1.13E-03
		964.08	*	14.73	1.37E-03		1.46E-03	6.77E-04
		1085.87		10.24	2.24E-03		-8.33E-04	1.11E-03
		1112.07	*	13.69	1.35E-03		9.81E-04	6.64E-04
		1408.01	*	21.07	8.02E-04		1.50E-03	3.94E-04
	GD-153	97.43		29.00	2.78E-03	2.78E-03	1.46E-03	1.39E-03
		103.18		21.10	3.69E-03		-1.87E-03	1.84E-03
+	EU-154	42.70	*	20.45	1.89E-02	7.02E-04	2.96E-02	9.45E-03
		123.07	*	40.40	2.44E-03		3.97E-02	1.22E-03
		247.93	*	6.89	9.78E-03		4.01E-02	4.88E-03
		591.76	*	4.95	8.13E-03		4.12E-02	4.05E-03
		692.42	*	1.78	1.12E-02		3.70E-02	5.56E-03
		723.30	*	20.06	2.42E-03		3.82E-02	1.20E-03
		756.80	*	4.52	9.47E-03		3.95E-02	4.71E-03
		873.18	*	12.08	2.72E-03		3.99E-02	1.35E-03
		996.29	*	10.48	3.21E-03		3.88E-02	1.60E-03
		1004.76	*	18.01	1.96E-03		3.91E-02	9.74E-04
		1246.12	*	0.86	2.07E-02		3.08E-02	1.02E-02
		1274.43	*	34.80	7.02E-04		3.96E-02	3.47E-04
		1494.05	*	0.70	1.79E-02		3.54E-02	8.73E-03
		1596.48	*	1.80	6.93E-03		3.84E-02	3.39E-03
+	EU-155	43.00	*	18.70	2.07E-02	3.24E-03	3.24E-02	1.03E-02
		60.01	*	1.22	1.77E-01		6.81E+00	8.83E-02
		86.55	*	30.70	3.24E-03		6.38E-03	1.62E-03
		105.31	*	21.10	3.99E-03		5.75E-03	1.99E-03
	HG-203	72.87		6.30	1.79E-02	5.81E-04	2.72E-02	8.92E-03
		279.20		81.46	5.81E-04		1.49E-04	2.90E-04
	BI-207	569.15		97.80	3.52E-04	3.42E-04	-2.88E-05	1.75E-04
		1063.10		74.90	3.42E-04		3.76E-04	1.69E-04
	PB-210	46.54		4.25	6.47E-02	6.47E-02	-1.24E-01	3.23E-02
	RA-226	74.81		6.44	1.64E-02	4.16E-04	1.93E-02	8.19E-03
		77.11		10.80	9.38E-03		7.28E-03	4.69E-03
		87.30		4.84	1.83E-02		6.98E-02	9.15E-03
		186.21		3.59	1.63E-02		-1.21E-03	8.12E-03
		242.00		7.43	6.85E-03		-4.83E-03	3.42E-03
		295.22		19.30	2.29E-03		-1.84E-04	1.14E-03
		351.93		37.60	1.05E-03		1.21E-04	5.23E-04
		609.31		46.10	6.69E-04		8.50E-05	3.33E-04
		768.36		4.94	5.69E-03		7.52E-03	2.82E-03
		1120.29		15.10	1.44E-03		5.56E-04	7.12E-04
		1238.11		5.79	2.81E-03		-4.77E-05	1.38E-03
		1764.49		15.40	4.16E-04		3.03E-04	1.97E-04
	PA-231	283.70		1.59	2.87E-02	1.84E-02	4.87E-03	1.43E-02

Analysis Report for 24-2326 VSM-7.0M-S1-CST-A U3

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PA-231	300.07		2.38	1.84E-02	1.84E-02	1.51E-02	9.19E-03
		302.67		1.71	2.55E-02		5.87E-03	1.27E-02
		330.07		1.32	3.10E-02		5.75E-03	1.55E-02
	TH-232	74.81		11.62	9.09E-03	1.50E-04	1.07E-02	4.54E-03
		77.11		17.50	5.79E-03		4.49E-03	2.89E-03
		87.30		7.80	1.14E-02		4.33E-02	5.68E-03
		238.63		43.30	1.19E-03		-1.19E-03	5.92E-04
		338.32		11.30	3.58E-03		3.06E-03	1.78E-03
		583.19		30.37	1.05E-03		5.49E-05	5.20E-04
		727.33		6.58	6.54E-03		8.59E-04	3.26E-03
		911.21		26.60	9.35E-04		4.71E-04	4.64E-04
		968.97		16.20	1.54E-03		8.08E-04	7.64E-04
		2614.53		35.64	1.50E-04		1.04E-04	6.81E-05
	U-235	143.76		10.96	5.98E-03	1.02E-03	-2.11E-03	2.99E-03
		185.71		57.20	1.02E-03		1.99E-04	5.10E-04
		205.31		5.01	1.09E-02		6.08E-03	5.43E-03
	U-238	63.29		3.70	3.78E-02	1.96E-02	-8.11E-03	1.89E-02
		92.51		4.23	1.96E-02		2.81E-03	9.80E-03
		112.81		0.21	3.43E-01		9.86E-02	1.71E-01
		742.81		0.11	2.66E-01		-1.22E-01	1.32E-01
		766.28		0.32	8.87E-02		5.99E-02	4.40E-02
		1001.03		0.84	6.01E-02		2.08E-03	2.99E-02
	NP-239	99.60		12.80	1.02E-02	4.86E-03	1.04E-02	5.12E-03
		103.80		20.40	6.28E-03		-3.39E-03	3.13E-03
		106.10		26.40	4.86E-03		1.55E-02	2.43E-03
		116.90		7.61	1.56E-02		1.10E-02	7.78E-03
		228.20		11.20	8.02E-03		3.97E-03	4.00E-03
		277.60		14.50	5.43E-03		2.01E-03	2.71E-03
		315.90		1.60	4.33E-02		-3.14E-02	2.16E-02
		334.30		2.06	3.09E-02		7.46E-03	1.54E-02
+	AM-241	59.54	*	35.90	5.99E-03	5.99E-03	2.31E-01	2.99E-03

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

Apex-Gamma

Analysis Report for 24-2327 VSM-7.0M-S1-CST-d-A U3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2327 VSM-7.0M-S1-CST-d-A U3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 8:03:58AM
Procedure	: U3_gsv02mlw
Operator	: Administrator
Detector Name	: U
Geometry	: U3_gsv02mlw
Live Time	: 2393.5 seconds
Real Time	: 2570.7 seconds
Dead Time	: 6.89 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 7/10/2024
Efficiency Calibration Used Done On	: 6/7/2021
Efficiency Calibration Description	: U3_gsv2mlw_R724p
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567863
Certificate Name	: R735-A6 5ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 8:46:53AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2327 VSM-7.0M-S1-CST-d-A U3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.85	123.17	0.2709	6.11
2	59.51	170.82	0.0652	108.17
3	86.74	248.49	0.2661	4.89
4	91.18	261.30	0.3497	3.55
5	105.44	302.00	0.2581	5.76
6	123.04	352.48	0.0752	65.00
7	247.87	709.53	0.1257	21.60
8	277.16	793.24	0.3681	3.19
9	414.73	1186.91	0.1506	13.93
10	511.00	1462.32	0.1413	8.69
11	582.13	1665.49	0.2470	5.36
12	591.70	1693.11	0.1267	16.92
13	661.61	1893.09	0.0611	73.40
14	666.27	1906.60	0.1341	15.60
15	672.36	1924.19	0.3750	3.01
16	692.36	1980.73	0.2986	4.63
17	695.07	1989.03	0.1417	14.24
18	723.27	2069.55	0.0764	43.44
19	756.77	2165.32	0.1271	15.74
20	816.22	2335.11	0.3205	3.16
21	845.47	2419.22	0.2268	3.75
22	867.27	2481.78	0.3314	3.19
23	873.17	2498.42	0.0879	31.43
24	904.05	2586.53	0.2262	5.31
25	996.25	2850.48	0.0931	26.54
26	1004.71	2874.64	0.0787	37.49
27	1085.96	3106.63	0.2759	3.35
28	1128.58	3227.85	0.2605	3.64
29	1173.11	3356.49	0.0711	42.11
30	1246.00	3564.73	0.1904	6.09
31	1274.36	3646.14	0.0669	46.65
32	1332.38	3812.17	0.0709	40.70
33	1397.29	3997.75	0.1917	5.60
34	1408.07	4027.94	0.1972	5.33
35	1494.06	4274.34	0.1783	6.68
36	1596.28	4567.11	0.1393	7.99
37	1719.14	4918.64	0.2265	3.98
38	2504.83	7166.90	0.2085	3.14

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2327 VSM-7.0M-S1-CST-d-A U3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 8:46:53AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.85	116	129	123.07	4.80E+03	1262.74	3.21E+05	0.94
F	2	59.51	163	177	170.74	1.62E+05	2031.49	4.53E+05	1.14
M	3	86.74	244	268	248.64	6.74E+03	445.85	3.01E+05	1.52
m	4	91.18	244	268	261.34	1.65E+03	411.83	4.32E+05	1.53
F	5	105.44	299	309	302.12	3.68E+03	385.37	2.16E+05	1.23
F	6	123.04	346	360	352.48	4.97E+04	1752.73	2.31E+05	1.21
F	7	247.87	704	715	709.58	6.04E+03	179.63	4.07E+04	1.23
F	8	277.16	788	802	793.37	4.98E+02	135.91	3.81E+04	0.93
F	9	414.73	1181	1197	1186.90	2.43E+03	452.44	1.55E+04	1.52
F	10	511.00	1451	1473	1462.30	6.20E+03	531.04	1.21E+04	3.24
F	11	582.13	1656	1669	1665.76	5.19E+02	205.87	5.15E+03	0.94
F	12	591.70	1682	1704	1693.15	2.62E+03	286.99	7.91E+03	1.83
M	13	661.61	1884	1928	1893.12	2.15E+04	176.33	4.49E+03	1.75
m	14	666.27	1884	1928	1906.46	1.94E+03	33.95	4.05E+03	1.75
m	15	672.36	1884	1928	1923.88	2.74E+01	23.68	3.50E+03	1.76
M	16	692.36	1969	1999	1981.12	8.08E+02	168.56	4.47E+03	1.83
m	17	695.07	1969	1999	1988.85	1.99E+03	303.42	4.64E+03	1.84
F	18	723.27	2057	2081	2069.54	8.93E+03	285.21	5.07E+03	1.80
F	19	756.77	2158	2172	2165.37	1.88E+03	62.28	2.75E+03	1.92
F	20	816.22	2325	2345	2335.42	3.78E+02	303.53	2.88E+03	3.46
F	21	845.47	2406	2426	2419.11	5.30E+02	187.70	2.47E+03	2.33
M	22	867.27	2475	2506	2481.46	5.98E+01	30.25	1.81E+03	1.89
m	23	873.17	2475	2506	2498.34	4.58E+03	166.86	2.28E+03	1.89
F	24	904.05	2575	2597	2586.69	3.36E+02	139.51	2.47E+03	1.67
F	25	996.25	2839	2860	2850.44	3.94E+03	218.66	1.97E+03	2.12
F	26	1004.71	2863	2887	2874.64	6.63E+03	220.60	2.09E+03	2.08
F	27	1085.96	3100	3113	3107.09	6.92E+01	23.24	9.07E+02	0.88
F	28	1128.58	3219	3233	3229.01	1.95E+02	115.28	6.79E+02	1.00
F	29	1173.11	3345	3366	3356.39	8.75E+03	207.47	8.57E+02	2.22
F	30	1246.00	3559	3574	3564.91	2.50E+02	23.74	3.25E+02	2.18
F	31	1274.36	3631	3660	3646.04	1.08E+04	210.23	7.13E+02	2.33
F	32	1332.38	3800	3825	3812.02	8.21E+03	187.63	4.30E+02	2.38
F	33	1397.29	3986	4004	3997.73	2.04E+02	63.44	2.01E+02	1.88
F	34	1408.07	4020	4042	4028.56	1.99E+02	19.78	2.70E+02	2.39
F	35	1494.06	4264	4284	4274.57	1.98E+02	17.07	1.33E+02	2.14
F	36	1596.28	4555	4581	4566.99	5.44E+02	24.48	1.23E+02	2.66
F	37	1719.14	4909	4926	4918.48	6.54E+01	34.17	3.21E+01	1.85
F	38	2504.83	7156	7176	7166.24	7.99E+01	38.93	9.64E+00	3.38

Analysis Report for 24-2327 VSM-7.0M-S1-CST-d-A U3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 8:46:53AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567381.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.85	4.80E+03	1262.74			4.80E+03	1.26E+03
F	2	59.51	1.62E+05	2031.49			1.62E+05	2.03E+03
M	3	86.74	6.74E+03	445.85	1.71E+01	1.78E+00	6.72E+03	4.46E+02
m	4	91.18	1.65E+03	411.83			1.65E+03	4.12E+02
F	5	105.44	3.68E+03	385.37			3.68E+03	3.85E+02
F	6	123.04	4.97E+04	1752.73			4.97E+04	1.75E+03
F	7	247.87	6.04E+03	179.63			6.04E+03	1.80E+02
F	8	277.16	4.98E+02	135.91			4.98E+02	1.36E+02
F	9	414.73	2.43E+03	452.44			2.43E+03	4.52E+02
F	10	511.00	6.20E+03	531.04			6.20E+03	5.31E+02
F	11	582.13	5.19E+02	205.87			5.19E+02	2.06E+02
F	12	591.70	2.62E+03	286.99			2.62E+03	2.87E+02
M	13	661.61	2.15E+04	176.33			2.15E+04	1.76E+02
m	14	666.27	1.94E+03	33.95			1.94E+03	3.39E+01
m	15	672.36	2.74E+01	23.68			2.74E+01	2.37E+01
M	16	692.36	8.08E+02	168.56			8.08E+02	1.69E+02
m	17	695.07	1.99E+03	303.42			1.99E+03	3.03E+02
F	18	723.27	8.93E+03	285.21	1.96E+00	3.54E-01	8.93E+03	2.85E+02
F	19	756.77	1.88E+03	62.28			1.88E+03	6.23E+01
F	20	816.22	3.78E+02	303.53			3.78E+02	3.04E+02
F	21	845.47	5.30E+02	187.70			5.30E+02	1.88E+02
M	22	867.27	5.98E+01	30.25			5.98E+01	3.03E+01
m	23	873.17	4.58E+03	166.86			4.58E+03	1.67E+02
F	24	904.05	3.36E+02	139.51			3.36E+02	1.40E+02
F	25	996.25	3.94E+03	218.66	5.63E+00	1.22E+00	3.94E+03	2.19E+02
F	26	1004.71	6.63E+03	220.60			6.63E+03	2.21E+02
F	27	1085.96	6.92E+01	23.24			6.92E+01	2.32E+01
F	28	1128.58	1.95E+02	115.28			1.95E+02	1.15E+02
F	29	1173.11	8.75E+03	207.47			8.75E+03	2.07E+02
F	30	1246.00	2.50E+02	23.74			2.50E+02	2.37E+01
F	31	1274.36	1.08E+04	210.23			1.08E+04	2.10E+02
F	32	1332.38	8.21E+03	187.63			8.21E+03	1.88E+02
F	33	1397.29	2.04E+02	63.44			2.04E+02	6.34E+01

Analysis Report for 24-2327 VSM-7.0M-S1-CST-d-A U3

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 34	1408.07	1.99E+02	19.78			1.99E+02	1.98E+01
F 35	1494.06	1.98E+02	17.07			1.98E+02	1.71E+01
F 36	1596.28	5.44E+02	24.48			5.44E+02	2.45E+01
F 37	1719.14	6.54E+01	34.17			6.54E+01	3.42E+01
F 38	2504.83	7.99E+01	38.93			7.99E+01	3.89E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-57	0.69	122.06	*	85.60	1.76E-02	6.39E-04	1.000
		136.47		10.68			
CO-60	0.99	1173.24	*	99.97	1.03E-02	2.49E-04	0.961
		1332.50	*	99.99	1.06E-02	2.50E-04	0.960
		2505.74	*	1.00	1.66E-02	8.13E-03	miss
RH-106	0.38	511.86	*	20.70	1.97E-02	1.79E-03	0.972
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.87E-03	3.54E-04	0.864
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.72E-03	3.14E-05	0.861
		674.80		3.10			
		695.00	*	99.60	1.82E-03	2.78E-04	0.861
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			

Analysis Report for 24-2327 VSM-7.0M-S1-CST-d-A U3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
Sn-126	0.72	64.28		9.60			
		87.30	*	45.90	4.45E-03	3.56E-04	miss
CS-137	1.00	661.66	*	85.20	1.91E-02	1.85E-04	miss
EU-154	0.99	42.70	*	20.45	3.15E-02	8.39E-03	miss
		123.07	*	40.40	3.89E-02	1.47E-03	0.953
		247.93	*	6.89	3.81E-02	1.25E-03	0.938
		591.76	*	4.95	4.02E-02	4.42E-03	0.927
		692.42	*	1.78	3.77E-02	7.88E-03	0.942
		723.30	*	20.06	3.79E-02	1.28E-03	0.946
		756.80	*	4.52	3.75E-02	1.30E-03	0.923
		873.18	*	12.08	3.71E-02	1.42E-03	0.939
		996.29	*	10.48	3.84E-02	2.17E-03	0.985
		1004.76	*	18.01	3.82E-02	1.34E-03	0.975
		1246.12	*	0.86	3.71E-02	3.56E-03	0.933
		1274.43	*	34.80	3.82E-02	8.41E-04	0.977
		1494.05	*	0.70	3.78E-02	3.30E-03	1.017
		1596.48	*	1.80	3.67E-02	1.72E-03	1.177
EU-155	0.99	43.00	*	18.70	3.45E-02	9.16E-03	1.000
		60.01	*	1.22	6.54E+00	2.43E-01	0.998
		86.55	*	30.70	6.66E-03	4.71E-04	free
		105.31	*	21.10	5.07E-03	5.47E-04	1.000
AM-241	1.00	59.54	*	35.90	2.22E-01	5.33E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-57	0.697	4.65E-04	6.65E-04	
CO-60	0.997	1.05E-02	1.77E-04	

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ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
RH-106	0.388	1.97E-02	1.79E-03	
SB-126	0.489	1.72E-03	3.11E-05	
Sn-126	0.720	1.09E-03	4.64E-04	
CS-137	1.000	1.91E-02	1.85E-04	
EU-154	0.999	3.78E-02	4.20E-04	
EU-155	0.995	5.02E-03	5.33E-04	
AM-241	1.000	2.22E-01	3.83E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2327 VSM-7.0M-S1-CST-d-A U3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 8:46:53AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m	4	91.18	6.88855E-01	24.98		
F	8	277.16	2.08217E-01	27.27	Tol.	BA-133 NP-239
F	11	582.13	2.16633E-01	39.70		
m	15	672.36	1.14398E-02	86.49	Tol.	SB-125
F	20	816.22	1.57980E-01	80.27	Sum	
F	21	845.47	2.21327E-01	35.43	Sum	
M	22	867.27	2.50045E-02	50.55		
F	24	904.05	1.40535E-01	41.47		
F	27	1085.96	2.89080E-02	33.58	S-Esc	
F	28	1128.58	8.15850E-02	59.04	Sum	
F	33	1397.29	8.53298E-02	31.06	Sum	
F	34	1408.07	8.30221E-02	9.95		
F	37	1719.14	2.73364E-02	52.23	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)

Analysis Report for 24-2327 VSM-7.0M-S1-CST-d-A U3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	3.84E-03	3.84E-03	-9.08E-04	1.91E-03
	K-40	1460.83		10.67	1.12E-03	1.12E-03	8.31E-04	5.43E-04
	MN-54	834.84		99.98	2.87E-04	2.87E-04	1.94E-04	1.42E-04
	CO-58	810.78		99.45	3.10E-04	3.10E-04	-9.51E-05	1.54E-04
		863.96		0.68	4.33E-02		-2.51E-03	2.15E-02
		1674.73		0.52	1.43E-02		-2.05E-02	6.79E-03
	FE-59	142.65		1.00	7.49E-02	3.69E-04	2.61E-03	3.74E-02
		192.35		3.01	2.26E-02		2.42E-02	1.13E-02
		334.80		0.27	1.71E-01		3.16E-02	8.51E-02
		1099.25		56.30	4.40E-04		5.85E-05	2.17E-04
		1291.60		43.70	3.69E-04		-4.58E-05	1.81E-04
+	CO-60	1173.24	*	99.97	2.93E-04	2.45E-04	1.03E-02	1.45E-04
		1332.50	*	99.99	2.45E-04		1.06E-02	1.21E-04
		2505.74	*	1.00	5.75E-03		1.66E-02	2.59E-03
	SR-85	514.00		96.00	4.58E-04	4.58E-04	-7.83E-05	2.28E-04
		868.60		0.01	3.38E+00		2.97E-01	1.68E+00
	NB-94	702.62		97.90	3.34E-04	3.34E-04	4.25E-04	1.66E-04
		871.09		99.98	4.21E-04		-1.03E-05	2.09E-04
	NB-95	765.81		99.81	3.20E-04	3.20E-04	6.31E-05	1.59E-04
	RU-103	497.05		91.00	4.28E-04	4.28E-04	-3.51E-04	2.13E-04
		610.30		5.76	6.03E-03		3.63E-03	3.00E-03
+	RH-106	511.86	*	20.70	3.00E-03	3.00E-03	1.97E-02	1.50E-03
		621.92		9.93	3.54E-03		1.64E-03	1.76E-03
		1050.36		1.56	1.84E-02		2.58E-02	9.12E-03
	AG-108M	79.13		6.60	1.64E-02	4.09E-04	-3.56E-03	8.19E-03
		433.90		90.50	5.00E-04		-1.75E-04	2.49E-04
		614.30		89.80	4.09E-04		-4.92E-04	2.03E-04
		722.90		90.80	5.77E-04		8.64E-03	2.87E-04
	CD-109	88.03		3.61	2.70E-02	2.70E-02	5.71E-02	1.35E-02
	SB-125	176.31		6.82	9.80E-03	1.41E-03	-6.39E-03	4.89E-03
		380.45		1.52	2.94E-02		-1.16E-03	1.47E-02
		427.87		29.55	1.41E-03		-4.44E-04	7.04E-04
		463.36		10.48	3.82E-03		1.89E-03	1.90E-03
		600.60		17.76	1.90E-03		-2.33E-05	9.47E-04
		606.71		5.02	6.71E-03		-7.32E-04	3.34E-03
		635.95		11.32	2.88E-03		-6.01E-04	1.43E-03
		671.44		1.78	2.00E-02		8.87E-03	9.93E-03
+	SB-126	223.90		1.39	4.11E-02	2.65E-04	-9.60E-03	2.05E-02
		278.20		2.40	2.53E-02		2.58E-02	1.26E-02
		296.50		4.50	1.30E-02		1.60E-02	6.49E-03
		414.70	*	83.30	7.30E-04		1.87E-03	3.64E-04
		556.30		1.69	2.56E-02		2.44E-04	1.27E-02
		573.90		6.70	6.30E-03		8.01E-04	3.13E-03
		593.20		7.50	5.81E-03		-1.23E-03	2.89E-03
		656.30		2.19	3.05E-02		5.26E-03	1.52E-02
		666.50	*	99.60	2.65E-04		1.72E-03	1.32E-04
		674.80		3.10	1.25E-02		1.05E-02	6.23E-03
		695.00	*	99.60	2.92E-04		1.82E-03	1.45E-04
		697.00		29.00	1.52E-03		6.03E-04	7.55E-04
		720.70		53.80	1.05E-03		3.47E-04	5.25E-04
		856.80		17.60	1.88E-03		1.72E-03	9.32E-04
		989.60		6.80	5.49E-03		1.27E-03	2.72E-03
		1213.30		2.39	8.77E-03		1.41E-02	4.31E-03

Analysis Report for 24-2327 VSM-7.0M-S1-CST-d-A U3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	Sn-126	64.28		9.60	1.55E-02	1.69E-03	1.06E-02	7.72E-03
		87.30	*	45.90	1.69E-03		4.45E-03	8.45E-04
	I-129	29.70		56.60	3.89E-02	3.89E-02	-7.68E-02	1.94E-02
		33.60		10.04	1.04E-01		-1.62E-01	5.19E-02
		34.40		2.01	4.58E-01		-7.55E-01	2.29E-01
		39.60		7.51	6.95E-02		-4.18E-02	3.47E-02
	CS-134	563.25		8.34	4.63E-03	3.65E-04	-3.77E-03	2.30E-03
		569.33		15.37	2.51E-03		-3.31E-03	1.25E-03
		604.72		97.62	3.65E-04		-4.68E-05	1.82E-04
		795.86		85.46	3.73E-04		1.18E-04	1.85E-04
		801.95		8.69	3.74E-03		-2.52E-03	1.85E-03
+	CS-137	661.66	*	85.20	2.80E-04	2.80E-04	1.91E-02	1.39E-04
	CE-139	165.85		79.89	8.81E-04	8.81E-04	4.52E-04	4.40E-04
	CE-141	40.70		3.35	1.46E-01	1.55E-03	-4.95E-02	7.32E-02
		145.44		48.29	1.55E-03		1.13E-04	7.74E-04
	CE-144	80.12		1.36	7.87E-02	6.90E-03	-9.16E-03	3.93E-02
		133.51		11.09	6.90E-03		1.19E-03	3.44E-03
	EU-152	121.78		28.58	3.06E-03	7.78E-04	3.81E-05	1.53E-03
		344.28		26.50	1.74E-03		1.17E-03	8.67E-04
		778.90		12.94	2.50E-03		1.57E-04	1.24E-03
		964.08		14.73	1.97E-03		8.63E-04	9.75E-04
		1085.87		10.24	2.47E-03		2.42E-03	1.22E-03
		1112.07		13.69	1.87E-03		3.29E-03	9.26E-04
		1408.01		21.07	7.78E-04		1.50E-03	3.81E-04
	GD-153	97.43		29.00	3.08E-03	3.08E-03	2.68E-04	1.54E-03
		103.18		21.10	4.08E-03		-4.06E-03	2.04E-03
+	EU-154	42.70	*	20.45	2.61E-02	9.17E-04	3.15E-02	1.30E-02
		123.07	*	40.40	2.70E-03		3.89E-02	1.35E-03
		247.93	*	6.89	8.40E-03		3.81E-02	4.19E-03
		591.76	*	4.95	1.17E-02		4.02E-02	5.83E-03
		692.42	*	1.78	1.47E-02		3.77E-02	7.27E-03
		723.30	*	20.06	2.69E-03		3.79E-02	1.34E-03
		756.80	*	4.52	7.55E-03		3.75E-02	3.75E-03
		873.18	*	12.08	1.82E-03		3.71E-02	9.00E-04
		996.29	*	10.48	3.66E-03		3.84E-02	1.82E-03
		1004.76	*	18.01	2.36E-03		3.82E-02	1.17E-03
		1246.12	*	0.86	2.01E-02		3.71E-02	9.87E-03
		1274.43	*	34.80	9.17E-04		3.82E-02	4.54E-04
		1494.05	*	0.70	1.86E-02		3.78E-02	9.06E-03
		1596.48	*	1.80	6.97E-03		3.67E-02	3.39E-03
+	EU-155	43.00	*	18.70	2.85E-02	2.53E-03	3.45E-02	1.43E-02
		60.01	*	1.22	1.96E-01		6.54E+00	9.78E-02
		86.55	*	30.70	2.53E-03		6.66E-03	1.26E-03
		105.31	*	21.10	4.10E-03		5.07E-03	2.05E-03
	HG-203	72.87		6.30	1.98E-02	6.46E-04	3.78E-02	9.88E-03
		279.20		81.46	6.46E-04		2.07E-04	3.22E-04
	BI-207	569.15		97.80	3.85E-04	3.71E-04	-5.07E-04	1.92E-04
		1063.10		74.90	3.71E-04		-7.30E-05	1.83E-04
	PB-210	46.54		4.25	7.15E-02	7.15E-02	-2.11E-02	3.57E-02
	RA-226	74.81		6.44	1.82E-02	4.69E-04	2.18E-02	9.07E-03
		77.11		10.80	1.04E-02		9.02E-03	5.18E-03
		87.30		4.84	2.02E-02		1.41E-03	1.01E-02
		186.21		3.59	1.80E-02		1.57E-02	9.00E-03

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	242.00		7.43	7.57E-03	4.69E-04	7.49E-04	3.78E-03
		295.22		19.30	2.55E-03		2.43E-03	1.27E-03
		351.93		37.60	1.16E-03		7.58E-05	5.78E-04
		609.31		46.10	7.29E-04		6.15E-04	3.62E-04
		768.36		4.94	6.24E-03		-1.43E-03	3.10E-03
		1120.29		15.10	1.57E-03		-1.77E-03	7.75E-04
		1238.11		5.79	3.15E-03		1.31E-03	1.55E-03
		1764.49		15.40	4.69E-04		1.09E-04	2.21E-04
	PA-231	283.70		1.59	3.18E-02	2.04E-02	-2.37E-03	1.59E-02
		300.07		2.38	2.04E-02		6.23E-03	1.02E-02
		302.67		1.71	2.82E-02		-1.11E-02	1.41E-02
		330.07		1.32	3.42E-02		-3.06E-02	1.70E-02
	TH-232	74.81		11.62	1.01E-02	1.57E-04	1.21E-02	5.03E-03
		77.11		17.50	6.40E-03		5.57E-03	3.20E-03
		87.30		7.80	1.26E-02		8.77E-04	6.27E-03
		238.63		43.30	1.31E-03		4.37E-04	6.54E-04
		338.32		11.30	3.95E-03		-2.19E-03	1.97E-03
		583.19		30.37	1.16E-03		1.75E-03	5.78E-04
		727.33		6.58	7.21E-03		1.49E-03	3.59E-03
		911.21		26.60	1.01E-03		-7.26E-05	5.01E-04
		968.97		16.20	1.71E-03		3.17E-04	8.45E-04
		2614.53		35.64	1.57E-04		1.51E-04	7.04E-05
	U-235	143.76		10.96	6.62E-03	1.13E-03	-7.10E-03	3.30E-03
		185.71		57.20	1.13E-03		6.71E-05	5.65E-04
		205.31		5.01	1.21E-02		-1.02E-02	6.02E-03
	U-238	63.29		3.70	4.18E-02	2.17E-02	1.18E-02	2.09E-02
		92.51		4.23	2.17E-02		-2.90E-03	1.08E-02
		112.81		0.21	3.79E-01		1.06E-01	1.89E-01
		742.81		0.11	2.88E-01		-1.06E-01	1.43E-01
		766.28		0.32	9.73E-02		1.23E-02	4.83E-02
		1001.03		0.84	6.52E-02		2.99E-04	3.24E-02
	NP-239	99.60		12.80	1.15E-02	5.45E-03	8.15E-03	5.75E-03
		103.80		20.40	7.04E-03		-5.27E-03	3.52E-03
		106.10		26.40	5.45E-03		8.36E-03	2.72E-03
		116.90		7.61	1.75E-02		-5.58E-03	8.72E-03
		228.20		11.20	9.04E-03		8.17E-03	4.51E-03
		277.60		14.50	6.14E-03		9.64E-04	3.06E-03
		315.90		1.60	4.85E-02		-1.88E-02	2.42E-02
		334.30		2.06	3.46E-02		2.25E-02	1.73E-02
+	AM-241	59.54	*	35.90	6.63E-03	6.63E-03	2.22E-01	3.32E-03

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

Apex-Gamma

Analysis Report for 24-2328 VSM-7.0M-S2-CST-A V3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2328 VSM-7.0M-S2-CST-A V3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 6:49:01AM
Procedure	: V3_gsv02mlw
Operator	: Administrator
Detector Name	: V
Geometry	: V3_gsv02mlw
Live Time	: 2912.2 seconds
Real Time	: 3112.7 seconds
Dead Time	: 6.44 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/8/2023
Efficiency Calibration Used Done On	: 3/28/2019
Efficiency Calibration Description	: V3_gsv2ml_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567855
Certificate Name	: R735-A5 5ml PSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 7:40:58AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2328 VSM-7.0M-S2-CST-A V3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.66	125.94	0.3254	3.37
2	59.54	175.35	0.0693	92.54
3	75.05	220.93	0.3496	4.04
4	86.88	255.36	0.2507	6.33
5	105.40	310.09	0.2476	6.85
6	123.05	362.20	0.0761	70.97
7	124.63	370.00	0.0000	0.00
8	239.70	705.14	0.3406	4.02
9	247.85	729.37	0.1234	24.16
10	344.17	1012.73	0.2479	6.13
11	414.75	1220.28	0.1384	16.13
12	444.38	1307.55	0.2793	3.68
13	511.08	1503.48	0.1324	11.58
14	582.38	1712.44	0.2493	3.96
15	591.74	1741.01	0.1206	19.49
16	661.64	1946.71	0.0561	82.61
17	666.29	1960.43	0.1239	17.47
18	692.54	2036.80	0.2346	7.09
19	695.05	2045.05	0.1408	14.64
20	723.32	2128.17	0.0703	52.62
21	756.81	2226.73	0.1175	18.00
22	816.17	2400.11	0.2980	3.26
23	845.54	2488.06	0.2595	3.74
24	851.08	2503.83	0.3102	3.03
25	873.17	2568.93	0.0810	36.33
26	892.75	2626.33	0.2204	5.39
27	904.06	2659.74	0.2179	5.38
28	964.25	2836.97	0.2673	3.66
29	996.28	2931.18	0.0836	32.39
30	1004.71	2955.99	0.0717	43.25
31	1112.39	3272.24	0.2610	3.42
32	1128.03	3318.69	0.2288	3.55
33	1173.21	3451.69	0.0642	50.70
34	1245.98	3665.84	0.1774	6.55
35	1274.42	3749.37	0.0607	54.06
36	1332.51	3920.33	0.0648	45.94
37	1397.51	4111.49	0.1676	7.49
38	1408.20	4142.55	0.1811	5.94
39	1460.81	4297.30	0.2222	3.98
40	1494.18	4395.59	0.1731	5.90
41	1596.42	4696.69	0.1272	11.33
42	1719.33	5057.85	0.1975	4.58
43	2505.87	7371.60	0.1743	5.15

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2328 VSM-7.0M-S2-CST-A V3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 7:40:58AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.66	119	132	125.70	5.47E+03	871.19	3.49E+05	1.14
F	2	59.54	168	182	175.38	1.74E+05	2301.20	4.89E+05	1.11
F	3	75.05	218	228	221.01	2.21E+03	1656.67	3.32E+05	0.76
F	4	86.88	252	262	255.81	7.21E+03	416.10	2.99E+05	1.41
F	5	105.40	307	317	310.28	3.88E+03	352.66	2.35E+05	1.07
M	6	123.05	355	377	362.21	5.34E+04	1638.70	2.21E+05	1.15
m	7	124.63	355	377	366.87	1.30E+03	342.37	1.98E+05	1.16
F	8	239.70	702	714	705.39	6.67E+02	156.04	5.04E+04	0.79
F	9	247.85	724	734	729.37	6.36E+03	765.04	4.06E+04	1.14
	10	344.17	1009	1018	1012.73	7.47E+01	240.36	1.64E+04	0.97
F	11	414.75	1215	1228	1220.38	2.53E+03	102.67	1.40E+04	1.36
	12	444.38	1303	1315	1307.55	2.94E+02	219.21	1.12E+04	1.51
F	13	511.08	1493	1514	1503.79	6.16E+03	107.57	1.32E+04	2.68
F	14	582.38	1704	1719	1713.52	4.24E+02	253.97	6.51E+03	0.80
F	15	591.74	1729	1749	1741.06	2.90E+03	288.45	7.64E+03	1.75
M	16	661.64	1934	1972	1946.69	2.50E+04	381.75	5.04E+03	1.70
m	17	666.29	1934	1972	1960.37	2.22E+03	76.57	4.99E+03	1.70
M	18	692.54	2030	2057	2037.61	9.73E+02	60.06	4.04E+03	1.76
m	19	695.05	2030	2057	2044.98	2.05E+03	68.08	4.68E+03	1.77
F	20	723.32	2115	2136	2128.14	1.02E+04	291.76	4.99E+03	1.70
F	21	756.81	2217	2235	2226.67	1.87E+03	268.24	4.09E+03	1.73
F	22	816.17	2388	2405	2401.30	2.02E+02	22.00	2.85E+03	0.50
M	23	845.54	2477	2508	2487.70	3.55E+02	39.98	2.66E+03	1.84
m	24	851.08	2477	2508	2503.99	5.24E+01	15.16	3.74E+03	1.84
F	25	873.17	2556	2578	2568.98	5.21E+03	81.16	3.12E+03	1.83
F	26	892.75	2617	2635	2626.58	3.21E+02	40.93	2.14E+03	1.79
F	27	904.06	2650	2669	2659.84	4.41E+02	170.98	2.20E+03	2.01
F	28	964.25	2831	2844	2836.92	1.26E+02	36.46	1.48E+03	1.41
F	29	996.28	2920	2944	2931.14	4.46E+03	203.59	2.12E+03	1.99
F	30	1004.71	2947	2967	2955.93	7.48E+03	91.00	1.94E+03	2.02
F	31	1112.39	3267	3277	3272.69	1.27E+02	30.41	6.96E+02	1.68
	32	1128.03	3311	3327	3318.69	6.29E+01	72.88	9.92E+02	1.29
F	33	1173.21	3438	3465	3451.60	1.00E+04	209.03	1.13E+03	2.15
F	34	1245.98	3658	3680	3665.65	2.74E+02	41.09	6.35E+02	2.08
F	35	1274.42	3736	3764	3749.33	1.22E+04	187.53	6.61E+02	2.30
F	36	1332.51	3904	3935	3920.19	9.35E+03	181.71	5.36E+02	2.38
F	37	1397.51	4102	4121	4111.40	2.08E+02	20.03	2.40E+02	1.95
F	38	1408.20	4133	4155	4142.86	2.51E+02	20.65	2.44E+02	2.59
F	39	1460.81	4288	4306	4297.62	9.55E+01	14.11	1.18E+02	2.31
F	40	1494.18	4385	4407	4395.77	2.47E+02	17.80	1.06E+02	2.71

Analysis Report for 24-2328 VSM-7.0M-S2-CST-A V3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1596.42	4685 -	4707	4696.52	6.41E+02	63.89	9.24E+01	2.48
F	42	1719.33	5050 -	5068	5058.05	7.36E+01	12.08	7.07E+01	2.08
F	43	2505.87	7361 -	7381	7371.53	1.06E+02	31.83	1.56E+01	2.72

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 7:40:58AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567382.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.66	5.47E+03	871.19			5.47E+03	8.71E+02
F	2	59.54	1.74E+05	2301.20			1.74E+05	2.30E+03
F	3	75.05	2.21E+03	1656.67	8.84E+01	5.09E+00	2.12E+03	1.66E+03
F	4	86.88	7.21E+03	416.10	2.28E+01	9.41E-01	7.18E+03	4.16E+02
F	5	105.40	3.88E+03	352.66			3.88E+03	3.53E+02
M	6	123.05	5.34E+04	1638.70			5.34E+04	1.64E+03
m	7	124.63	1.30E+03	342.37			1.30E+03	3.42E+02
F	8	239.70	6.67E+02	156.04			6.67E+02	1.56E+02
F	9	247.85	6.36E+03	765.04			6.36E+03	7.65E+02
	10	344.17	7.47E+01	240.36			7.47E+01	2.40E+02
F	11	414.75	2.53E+03	102.67			2.53E+03	1.03E+02
	12	444.38	2.94E+02	219.21			2.94E+02	2.19E+02
F	13	511.08	6.16E+03	107.57	1.05E+02	4.88E+00	6.06E+03	1.08E+02
F	14	582.38	4.24E+02	253.97	9.39E+00	5.40E-01	4.15E+02	2.54E+02
F	15	591.74	2.90E+03	288.45			2.90E+03	2.88E+02
M	16	661.64	2.50E+04	381.75			2.50E+04	3.82E+02
m	17	666.29	2.22E+03	76.57	3.03E+00	1.58E+00	2.22E+03	7.66E+01
M	18	692.54	9.73E+02	60.06			9.73E+02	6.01E+01
m	19	695.05	2.05E+03	68.08			2.05E+03	6.81E+01
F	20	723.32	1.02E+04	291.76			1.02E+04	2.92E+02
F	21	756.81	1.87E+03	268.24			1.87E+03	2.68E+02
F	22	816.17	2.02E+02	22.00			2.02E+02	2.20E+01
M	23	845.54	3.55E+02	39.98			3.55E+02	4.00E+01
m	24	851.08	5.24E+01	15.16			5.24E+01	1.52E+01
F	25	873.17	5.21E+03	81.16			5.21E+03	8.12E+01
F	26	892.75	3.21E+02	40.93			3.21E+02	4.09E+01

Analysis Report for 24-2328 VSM-7.0M-S2-CST-A V3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	27	904.06	4.41E+02	170.98			4.41E+02	1.71E+02
F	28	964.25	1.26E+02	36.46	1.34E+00	3.54E-01	1.24E+02	3.65E+01
F	29	996.28	4.46E+03	203.59			4.46E+03	2.04E+02
F	30	1004.71	7.48E+03	91.00			7.48E+03	9.10E+01
F	31	1112.39	1.27E+02	30.41			1.27E+02	3.04E+01
	32	1128.03	6.29E+01	72.88			6.29E+01	7.29E+01
F	33	1173.21	1.00E+04	209.03			1.00E+04	2.09E+02
F	34	1245.98	2.74E+02	41.09			2.74E+02	4.11E+01
F	35	1274.42	1.22E+04	187.53			1.22E+04	1.88E+02
F	36	1332.51	9.35E+03	181.71			9.35E+03	1.82E+02
F	37	1397.51	2.08E+02	20.03			2.08E+02	2.00E+01
F	38	1408.20	2.51E+02	20.65	5.19E+00	1.08E+00	2.45E+02	2.07E+01
F	39	1460.81	9.55E+01	14.11	6.25E+01	8.57E-01	3.30E+01	1.41E+01
F	40	1494.18	2.47E+02	17.80			2.47E+02	1.78E+01
F	41	1596.42	6.41E+02	63.89			6.41E+02	6.39E+01
F	42	1719.33	7.36E+01	12.08			7.36E+01	1.21E+01
F	43	2505.87	1.06E+02	31.83			1.06E+02	3.18E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	1.00	1460.83	*	10.67	3.48E-04	1.49E-04	miss
CO-57	0.69	122.06	*	85.60	1.68E-02	5.36E-04	1.000
		136.47		10.68			
CO-60	1.00	1173.24	*	99.97	1.01E-02	2.18E-04	0.963
		1332.50	*	99.99	1.03E-02	2.09E-04	0.962
		2505.74	*	1.00	1.81E-02	5.53E-03	miss
RH-106	0.39	511.86	*	20.70	1.73E-02	6.05E-04	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			

Analysis Report for 24-2328 VSM-7.0M-S2-CST-A V3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	414.70	*	83.30	1.75E-03	8.76E-05	0.873
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.74E-03	6.08E-05	0.870
		674.80		3.10			
		695.00	*	99.60	1.65E-03	5.56E-05	0.870
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.74	64.28		9.60			
		87.30	*	45.90	4.34E-03	3.18E-04	miss
CS-137	1.00	661.66	*	85.20	1.98E-02	3.23E-04	miss
EU-152	0.23	121.78		28.58			
		344.28	*	26.50	1.30E-04	4.18E-04	0.970
		778.90		12.94			
		964.08	*	14.73	7.46E-04	2.19E-04	0.968
		1085.87		10.24			
		1112.07	*	13.69	8.88E-04	2.12E-04	0.984
		1408.01	*	21.07	1.31E-03	1.11E-04	0.976
EU-154	1.00	42.70	*	20.45	3.43E-02	5.61E-03	miss
		123.07	*	40.40	3.72E-02	1.24E-03	0.956
		247.93	*	6.89	3.60E-02	4.36E-03	0.943
		591.76	*	4.95	3.96E-02	3.96E-03	0.932
		692.42	*	1.78	4.02E-02	2.53E-03	0.947
		723.30	*	20.06	3.82E-02	1.18E-03	0.950
		756.80	*	4.52	3.28E-02	4.71E-03	0.929
		873.18	*	12.08	3.68E-02	7.18E-04	0.943
		996.29	*	10.48	3.78E-02	1.77E-03	0.985
		1004.76	*	18.01	3.74E-02	6.21E-04	0.977
		1246.12	*	0.86	3.45E-02	5.19E-03	0.938
		1274.43	*	34.80	3.67E-02	6.85E-04	0.979
		1494.05	*	0.70	3.97E-02	2.91E-03	1.016
		1596.48	*	1.80	3.66E-02	3.68E-03	1.164
EU-155	0.98	43.00	*	18.70	3.75E-02	6.10E-03	1.000
		60.01	*	1.22	6.79E+00	2.54E-01	0.999
		86.55	*	30.70	6.49E-03	4.11E-04	free
		105.31	*	21.10	4.77E-03	4.52E-04	1.000
AM-241	1.00	59.54	*	35.90	2.30E-01	5.64E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Analysis Report for 24-2328 VSM-7.0M-S2-CST-A V3

ASR 2094 Branch

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	1.000	3.48E-04	1.49E-04	
CO-57	0.696	1.43E-06	5.51E-04	
CO-60	1.000	1.02E-02	1.51E-04	
RH-106	0.399	1.73E-02	6.05E-04	
SB-126	0.488	1.70E-03	3.71E-05	
Sn-126	0.742	1.18E-03	3.88E-04	
CS-137	1.000	1.98E-02	3.23E-04	
EU-152	0.239	1.10E-03	8.75E-05	
EU-154	1.000	3.72E-02	2.97E-04	
EU-155	0.987	4.73E-03	4.36E-04	
AM-241	1.000	2.30E-01	4.12E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2328 VSM-7.0M-S2-CST-A V3
ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 7:40:58AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	75.05	7.29551E-01	77.98	Tol.	RA-226
m	7	124.63	4.46499E-01	26.33		
F	8	239.70	2.28932E-01	23.40		
	12	444.38	1.01098E-01	74.46		
F	14	582.38	1.42480E-01	61.21		
F	22	816.17	6.94453E-02	10.88	Sum	
M	23	845.54	1.21834E-01	11.27	Sum	
m	24	851.08	1.79916E-02	28.93		
F	26	892.75	1.10108E-01	12.76		
F	27	904.06	1.51587E-01	38.73		
	32	1128.03	2.16033E-02	115.84	Sum	
F	37	1397.51	7.15815E-02	9.61	Sum	
F	42	1719.33	2.52848E-02	16.41	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	3.75E-03	3.75E-03	-4.38E-04	1.87E-03
+	K-40	1460.83	*	10.67	9.70E-04	9.70E-04	3.48E-04	4.71E-04
	MN-54	834.84		99.98	2.75E-04	2.75E-04	5.83E-05	1.36E-04

Analysis Report for 24-2328 VSM-7.0M-S2-CST-A V3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CO-58	810.78		99.45	2.89E-04	2.89E-04	1.03E-05	1.43E-04
		863.96		0.68	4.26E-02		9.78E-03	2.11E-02
		1674.73		0.52	1.25E-02		1.61E-03	5.94E-03
	FE-59	142.65		1.00	7.03E-02	3.58E-04	8.06E-02	3.51E-02
		192.35		3.01	2.11E-02		-7.32E-03	1.05E-02
		334.80		0.27	1.74E-01		8.46E-02	8.68E-02
		1099.25		56.30	4.06E-04		-3.97E-04	2.01E-04
		1291.60		43.70	3.58E-04		-3.27E-04	1.76E-04
+	CO-60	1173.24	*	99.97	3.19E-04	2.54E-04	1.01E-02	1.58E-04
		1332.50	*	99.99	2.54E-04		1.03E-02	1.25E-04
		2505.74	*	1.00	5.98E-03		1.81E-02	2.76E-03
	SR-85	514.00		96.00	4.43E-04	4.43E-04	1.98E-04	2.20E-04
		868.60		0.01	3.26E+00		6.84E-01	1.62E+00
	NB-94	702.62		97.90	3.21E-04	3.21E-04	5.01E-05	1.59E-04
		871.09		99.98	4.01E-04		4.31E-03	1.99E-04
	NB-95	765.81		99.81	2.96E-04	2.96E-04	3.34E-04	1.47E-04
	RU-103	497.05		91.00	4.20E-04	4.20E-04	2.72E-04	2.09E-04
		610.30		5.76	5.82E-03		2.81E-03	2.90E-03
+	RH-106	511.86	*	20.70	2.76E-03	2.76E-03	1.73E-02	1.38E-03
		621.92		9.93	3.49E-03		2.49E-03	1.74E-03
		1050.36		1.56	1.71E-02		-1.82E-03	8.45E-03
	AG-108M	79.13		6.60	1.59E-02	3.90E-04	5.18E-03	7.92E-03
		433.90		90.50	4.67E-04		-8.68E-05	2.33E-04
		614.30		89.80	3.90E-04		-9.57E-05	1.94E-04
		722.90		90.80	5.38E-04		8.41E-03	2.68E-04
	CD-109	88.03		3.61	2.56E-02	2.56E-02	7.49E-02	1.28E-02
	SB-125	176.31		6.82	9.19E-03	1.33E-03	-5.18E-03	4.59E-03
		380.45		1.52	2.77E-02		1.78E-02	1.38E-02
		427.87		29.55	1.33E-03		1.27E-03	6.61E-04
		463.36		10.48	3.60E-03		1.31E-03	1.79E-03
		600.60		17.76	1.86E-03		2.39E-04	9.23E-04
		606.71		5.02	6.53E-03		1.12E-02	3.25E-03
		635.95		11.32	2.88E-03		9.73E-04	1.43E-03
		671.44		1.78	1.93E-02		2.95E-03	9.62E-03
+	SB-126	223.90		1.39	3.86E-02	2.58E-04	-2.43E-03	1.93E-02
		278.20		2.40	2.35E-02		2.68E-02	1.17E-02
		296.50		4.50	1.21E-02		-2.91E-03	6.02E-03
		414.70	*	83.30	5.73E-04		1.75E-03	2.86E-04
		556.30		1.69	2.38E-02		1.31E-02	1.18E-02
		573.90		6.70	5.98E-03		5.50E-04	2.98E-03
		593.20		7.50	5.50E-03		2.77E-04	2.74E-03
		656.30		2.19	2.77E-02		-2.00E-03	1.38E-02
		666.50	*	99.60	2.59E-04		1.74E-03	1.29E-04
		674.80		3.10	1.19E-02		4.71E-03	5.92E-03
		695.00	*	99.60	2.58E-04		1.65E-03	1.28E-04
		697.00		29.00	1.44E-03		-9.47E-05	7.14E-04
		720.70		53.80	9.83E-04		1.70E-02	4.89E-04
		856.80		17.60	1.80E-03		1.10E-03	8.95E-04
		989.60		6.80	5.47E-03		-2.15E-04	2.71E-03
		1213.30		2.39	8.27E-03		-4.38E-03	4.07E-03
+	Sn-126	64.28		9.60	1.45E-02	2.11E-03	1.55E-03	7.26E-03
		87.30	*	45.90	2.11E-03		4.34E-03	1.05E-03
	I-129	29.70		56.60	3.05E-02	3.05E-02	-4.38E-02	1.52E-02

Analysis Report for 24-2328 VSM-7.0M-S2-CST-A V3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-129	33.60		10.04	9.04E-02	3.05E-02	-2.00E-01	4.51E-02
		34.40		2.01	4.06E-01		-6.24E-01	2.03E-01
		39.60		7.51	6.20E-02		-8.08E-02	3.09E-02
	CS-134	563.25		8.34	4.34E-03	3.53E-04	-2.68E-04	2.16E-03
		569.33		15.37	2.40E-03		-1.33E-03	1.20E-03
		604.72		97.62	3.53E-04		5.06E-05	1.76E-04
		795.86		85.46	3.54E-04		-2.39E-05	1.76E-04
		801.95		8.69	3.51E-03		4.19E-04	1.74E-03
+	CS-137	661.66	*	85.20	2.64E-04	2.64E-04	1.98E-02	1.31E-04
	CE-139	165.85		79.89	8.23E-04	8.23E-04	1.83E-04	4.11E-04
	CE-141	40.70		3.35	1.32E-01	1.45E-03	-9.00E-02	6.58E-02
		145.44		48.29	1.45E-03		3.28E-04	7.26E-04
	CE-144	80.12		1.36	7.59E-02	6.13E-03	-2.77E-03	3.79E-02
		133.51		11.09	6.13E-03		5.27E-03	3.06E-03
+	EU-152	121.78		28.58	2.83E-03	7.25E-04	9.52E-04	1.42E-03
		344.28	*	26.50	1.38E-03		1.30E-04	6.88E-04
		778.90		12.94	2.31E-03		-1.36E-03	1.15E-03
		964.08	*	14.73	1.63E-03		7.46E-04	8.07E-04
		1085.87		10.24	2.31E-03		4.64E-03	1.14E-03
		1112.07	*	13.69	1.19E-03		8.88E-04	5.87E-04
		1408.01	*	21.07	7.25E-04		1.31E-03	3.55E-04
	GD-153	97.43		29.00	2.87E-03	2.87E-03	-7.21E-04	1.43E-03
		103.18		21.10	3.79E-03		-2.39E-03	1.89E-03
+	EU-154	42.70	*	20.45	2.59E-02	7.42E-04	3.43E-02	1.30E-02
		123.07	*	40.40	1.52E-03		3.72E-02	7.61E-04
		247.93	*	6.89	7.31E-03		3.60E-02	3.64E-03
		591.76	*	4.95	9.85E-03		3.96E-02	4.90E-03
		692.42	*	1.78	1.23E-02		4.02E-02	6.11E-03
		723.30	*	20.06	2.25E-03		3.82E-02	1.12E-03
		756.80	*	4.52	8.88E-03		3.28E-02	4.42E-03
		873.18	*	12.08	3.40E-03		3.68E-02	1.69E-03
		996.29	*	10.48	3.49E-03		3.78E-02	1.73E-03
		1004.76	*	18.01	1.84E-03		3.74E-02	9.15E-04
		1246.12	*	0.86	2.79E-02		3.45E-02	1.38E-02
		1274.43	*	34.80	7.42E-04		3.67E-02	3.67E-04
		1494.05	*	0.70	1.45E-02		3.97E-02	7.02E-03
		1596.48	*	1.80	4.87E-03		3.66E-02	2.36E-03
+	EU-155	43.00	*	18.70	2.84E-02	3.16E-03	3.75E-02	1.42E-02
		60.01	*	1.22	1.96E-01		6.79E+00	9.81E-02
		86.55	*	30.70	3.16E-03		6.49E-03	1.58E-03
		105.31	*	21.10	3.82E-03		4.77E-03	1.91E-03
	HG-203	72.87		6.30	1.94E-02	6.05E-04	-4.87E-03	9.67E-03
		279.20		81.46	6.05E-04		3.21E-05	3.02E-04
	BI-207	569.15		97.80	3.69E-04	3.47E-04	-1.13E-04	1.84E-04
		1063.10		74.90	3.47E-04		1.82E-04	1.72E-04
	PB-210	46.54		4.25	6.63E-02	6.63E-02	-1.25E-01	3.31E-02
	RA-226	74.81		6.44	1.77E-02	4.12E-04	3.00E-02	8.84E-03
		77.11		10.80	1.01E-02		4.50E-03	5.03E-03
		87.30		4.84	1.93E-02		6.40E-02	9.64E-03
		186.21		3.59	1.69E-02		-1.58E-05	8.45E-03
		242.00		7.43	7.12E-03		-4.59E-03	3.55E-03
		295.22		19.30	2.39E-03		1.23E-03	1.19E-03
		351.93		37.60	1.18E-03		-7.49E-04	5.87E-04

Analysis Report for 24-2328 VSM-7.0M-S2-CST-A V3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	609.31		46.10	7.07E-04	4.12E-04	2.95E-04	3.52E-04
		768.36		4.94	5.73E-03		-1.06E-03	2.85E-03
		1120.29		15.10	1.45E-03		8.96E-04	7.17E-04
		1238.11		5.79	2.87E-03		-1.02E-03	1.41E-03
		1764.49		15.40	4.12E-04		5.23E-04	1.95E-04
	PA-231	283.70		1.59	2.99E-02	1.92E-02	2.30E-02	1.49E-02
		300.07		2.38	1.92E-02		-1.75E-02	9.57E-03
		302.67		1.71	2.66E-02		4.45E-03	1.33E-02
		330.07		1.32	3.24E-02		-2.30E-02	1.61E-02
	TH-232	74.81		11.62	9.81E-03	1.31E-04	1.66E-02	4.90E-03
		77.11		17.50	6.22E-03		2.78E-03	3.11E-03
		87.30		7.80	1.20E-02		3.97E-02	5.98E-03
		238.63		43.30	1.23E-03		1.96E-04	6.15E-04
		338.32		11.30	4.04E-03		3.48E-03	2.01E-03
		583.19		30.37	1.12E-03		1.43E-03	5.57E-04
		727.33		6.58	6.78E-03		1.09E-03	3.38E-03
		911.21		26.60	9.96E-04		-1.54E-04	4.94E-04
		968.97		16.20	1.58E-03		6.79E-04	7.85E-04
		2614.53		35.64	1.31E-04		1.29E-04	5.90E-05
	U-235	143.76		10.96	6.20E-03	1.06E-03	-3.51E-04	3.10E-03
		185.71		57.20	1.06E-03		-1.03E-04	5.31E-04
		205.31		5.01	1.13E-02		-5.18E-03	5.65E-03
	U-238	63.29		3.70	3.92E-02	2.05E-02	6.90E-03	1.96E-02
		92.51		4.23	2.05E-02		1.71E-02	1.02E-02
		112.81		0.21	3.53E-01		-2.59E-01	1.76E-01
		742.81		0.11	2.71E-01		-1.48E-01	1.34E-01
		766.28		0.32	8.97E-02		-3.34E-02	4.45E-02
		1001.03		0.84	6.07E-02		-4.41E-04	3.02E-02
	NP-239	99.60		12.80	1.06E-02	5.00E-03	-2.03E-03	5.28E-03
		103.80		20.40	6.47E-03		-4.45E-04	3.23E-03
		106.10		26.40	5.00E-03		1.44E-02	2.50E-03
		116.90		7.61	1.61E-02		-1.78E-03	8.02E-03
		228.20		11.20	8.37E-03		9.42E-03	4.18E-03
		277.60		14.50	5.66E-03		-7.58E-04	2.83E-03
		315.90		1.60	4.53E-02		8.63E-03	2.26E-02
		334.30		2.06	3.51E-02		1.82E-02	1.75E-02
+	AM-241	59.54	*	35.90	6.66E-03	6.66E-03	2.30E-01	3.33E-03

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

Apex-Gamma

Analysis Report for 24-2329 VSM-7.0M-S2-CST-d-A V3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2329 VSM-7.0M-S2-CST-d-A V3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 8:04:07AM
Procedure	: V3_gsv02mlw
Operator	: Administrator
Detector Name	: V
Geometry	: V3_gsv02mlw
Live Time	: 2420.9 seconds
Real Time	: 2584.4 seconds
Dead Time	: 6.33 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/8/2023
Efficiency Calibration Used Done On	: 3/28/2019
Efficiency Calibration Description	: V3_gsv2ml_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567864
Certificate Name	: R735-A5 5ml PSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 8:47:14AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2329 VSM-7.0M-S2-CST-d-A V3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.54	175.36	0.0733	82.93
2	75.08	220.91	0.3511	3.27
3	86.79	255.07	0.2626	6.80
4	105.25	309.59	0.3037	3.62
5	109.84	321.94	0.4142	3.30
6	123.05	362.22	0.0798	62.94
7	247.83	729.29	0.1342	20.49
8	344.24	1012.99	0.3215	3.06
9	414.78	1220.48	0.1446	15.29
10	426.44	1254.78	0.3720	3.08
11	444.41	1307.65	0.3007	3.49
12	510.90	1503.18	0.1374	9.40
13	567.03	1667.33	0.3427	3.00
14	582.10	1712.56	0.2491	5.43
15	591.76	1741.03	0.1212	18.77
16	661.62	1946.65	0.0607	70.04
17	666.36	1960.71	0.1266	18.03
18	692.48	2036.58	0.2788	4.50
19	695.06	2045.22	0.1406	14.73
20	723.30	2128.15	0.0740	47.25
21	756.82	2226.67	0.1202	17.68
22	779.49	2292.49	0.2940	3.57
23	815.53	2398.97	0.2619	4.38
24	845.62	2488.05	0.2656	3.44
25	873.16	2568.90	0.0853	32.88
26	892.53	2625.94	0.2427	4.78
27	904.26	2659.52	0.2148	5.60
28	996.28	2931.14	0.0881	28.95
29	1004.71	2955.94	0.0750	39.97
30	1128.13	3318.80	0.2137	4.82
31	1173.21	3451.69	0.0676	45.81
32	1246.08	3666.01	0.1882	5.42
33	1274.42	3749.39	0.0633	49.27
34	1332.50	3920.34	0.0681	41.92
35	1397.48	4111.32	0.1826	5.83
36	1407.94	4142.41	0.1775	4.92
37	1461.16	4298.50	0.2413	3.99
38	1494.18	4395.59	0.1793	5.97
39	1596.61	4697.42	0.1328	9.96

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2329 VSM-7.0M-S2-CST-d-A V3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 8:47:14AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.54	168	182	175.38	1.41E+05	2060.10	4.00E+05	1.11
F	2	75.08	218	227	221.09	2.37E+03	370.71	2.47E+05	1.11
F	3	86.79	252	262	255.54	5.98E+03	376.81	2.43E+05	1.39
M	4	105.25	304	329	309.84	4.34E+03	353.88	2.29E+05	1.57
m	5	109.84	304	329	323.36	1.09E+03	337.32	3.70E+05	1.58
F	6	123.05	355	370	362.22	4.43E+04	1267.26	2.20E+05	1.18
F	7	247.83	724	738	729.32	5.32E+03	158.26	4.44E+04	1.22
F	8	344.24	1006	1018	1012.95	4.85E+02	641.74	1.72E+04	1.19
F	9	414.78	1215	1230	1220.47	2.19E+03	354.47	1.29E+04	1.33
	10	426.44	1251	1258	1254.78	5.61E+00	135.80	6.09E+03	0.88
F	11	444.41	1299	1312	1307.63	4.22E+02	324.44	9.57E+03	1.25
F	12	510.90	1491	1514	1503.25	5.64E+03	481.93	1.13E+04	3.15
F	13	567.03	1661	1671	1668.36	2.40E+02	369.19	3.72E+03	0.40
F	14	582.10	1707	1717	1712.70	2.56E+02	55.17	3.72E+03	1.01
F	15	591.76	1733	1748	1741.12	2.26E+03	72.48	5.10E+03	1.61
M	16	661.62	1934	1970	1946.64	1.80E+04	325.14	3.99E+03	1.69
m	17	666.36	1934	1970	1960.57	1.88E+03	71.21	4.07E+03	1.69
M	18	692.48	2030	2053	2037.42	7.32E+02	50.29	3.00E+03	1.72
m	19	695.06	2030	2053	2045.02	1.63E+03	59.42	3.56E+03	1.72
F	20	723.30	2115	2137	2128.08	8.36E+03	268.66	4.15E+03	1.71
F	21	756.82	2216	2239	2226.68	1.87E+03	195.62	3.69E+03	1.71
F	22	779.49	2285	2297	2293.39	1.29E+02	133.81	1.91E+03	0.50
F	23	815.53	2391	2405	2399.41	2.81E+02	218.63	1.88E+03	1.05
F	24	845.62	2479	2493	2487.92	1.90E+02	40.34	1.83E+03	1.76
F	25	873.16	2562	2582	2568.95	4.24E+03	73.00	2.23E+03	1.84
F	26	892.53	2618	2633	2625.93	1.62E+02	94.68	1.62E+03	0.98
F	27	904.26	2651	2666	2660.44	3.23E+02	160.19	1.54E+03	0.56
F	28	996.28	2920	2941	2931.14	3.55E+03	209.48	1.59E+03	2.03
F	29	1004.71	2946	2970	2955.93	6.14E+03	83.01	2.00E+03	1.98
F	30	1128.13	3311	3332	3319.00	2.16E+02	28.34	9.02E+02	2.06
F	31	1173.21	3438	3465	3451.58	8.19E+03	194.86	1.02E+03	2.14
F	32	1246.08	3656	3674	3665.95	2.82E+02	90.67	3.14E+02	2.33
F	33	1274.42	3734	3764	3749.31	1.02E+04	100.26	6.90E+02	2.27
F	34	1332.50	3907	3932	3920.16	7.36E+03	171.24	4.55E+02	2.30
F	35	1397.48	4102	4122	4111.31	2.15E+02	18.28	1.56E+02	2.50
F	36	1407.94	4133	4151	4142.08	1.83E+02	18.56	1.76E+02	2.30
F	37	1461.16	4291	4305	4298.64	4.98E+01	11.47	1.01E+02	1.37
F	38	1494.18	4386	4405	4395.77	1.84E+02	16.47	1.04E+02	2.42
F	39	1596.61	4685	4708	4697.05	4.99E+02	23.68	9.60E+01	2.53

Analysis Report for 24-2329 VSM-7.0M-S2-CST-d-A V3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 8:47:14AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567382.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.54	1.41E+05	2060.10			1.41E+05	2.06E+03
F	2	75.08	2.37E+03	370.71	7.35E+01	4.23E+00	2.29E+03	3.71E+02
F	3	86.79	5.98E+03	376.81	1.89E+01	7.82E-01	5.96E+03	3.77E+02
M	4	105.25	4.34E+03	353.88			4.34E+03	3.54E+02
m	5	109.84	1.09E+03	337.32			1.09E+03	3.37E+02
F	6	123.05	4.43E+04	1267.26			4.43E+04	1.27E+03
F	7	247.83	5.32E+03	158.26			5.32E+03	1.58E+02
F	8	344.24	4.85E+02	641.74			4.85E+02	6.42E+02
F	9	414.78	2.19E+03	354.47			2.19E+03	3.54E+02
	10	426.44	5.61E+00	135.80			5.61E+00	1.36E+02
F	11	444.41	4.22E+02	324.44			4.22E+02	3.24E+02
F	12	510.90	5.64E+03	481.93	8.74E+01	4.06E+00	5.55E+03	4.82E+02
F	13	567.03	2.40E+02	369.19			2.40E+02	3.69E+02
F	14	582.10	2.56E+02	55.17			2.56E+02	5.52E+01
F	15	591.76	2.26E+03	72.48			2.26E+03	7.25E+01
M	16	661.62	1.80E+04	325.14			1.80E+04	3.25E+02
m	17	666.36	1.88E+03	71.21	2.52E+00	1.31E+00	1.88E+03	7.12E+01
M	18	692.48	7.32E+02	50.29			7.32E+02	5.03E+01
m	19	695.06	1.63E+03	59.42			1.63E+03	5.94E+01
F	20	723.30	8.36E+03	268.66			8.36E+03	2.69E+02
F	21	756.82	1.87E+03	195.62			1.87E+03	1.96E+02
F	22	779.49	1.29E+02	133.81			1.29E+02	1.34E+02
F	23	815.53	2.81E+02	218.63			2.81E+02	2.19E+02
F	24	845.62	1.90E+02	40.34			1.90E+02	4.03E+01
F	25	873.16	4.24E+03	73.00			4.24E+03	7.30E+01
F	26	892.53	1.62E+02	94.68			1.62E+02	9.47E+01
F	27	904.26	3.23E+02	160.19			3.23E+02	1.60E+02
F	28	996.28	3.55E+03	209.48			3.55E+03	2.09E+02
F	29	1004.71	6.14E+03	83.01			6.14E+03	8.30E+01
F	30	1128.13	2.16E+02	28.34			2.16E+02	2.83E+01
F	31	1173.21	8.19E+03	194.86			8.19E+03	1.95E+02
F	32	1246.08	2.82E+02	90.67			2.82E+02	9.07E+01
F	33	1274.42	1.02E+04	100.26			1.02E+04	1.00E+02

Analysis Report for 24-2329 VSM-7.0M-S2-CST-d-A V3

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 34	1332.50	7.36E+03	171.24			7.36E+03	1.71E+02
F 35	1397.48	2.15E+02	18.28			2.15E+02	1.83E+01
F 36	1407.94	1.83E+02	18.56	4.31E+00	8.97E-01	1.79E+02	1.86E+01
F 37	1461.16	4.98E+01	11.47	5.20E+01	7.12E-01	-2.19E+00	1.15E+01
F 38	1494.18	1.84E+02	16.47			1.84E+02	1.65E+01
F 39	1596.61	4.99E+02	23.68			4.99E+02	2.37E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.98	1460.83	*	10.67	-2.77E-05	1.46E-04	miss
CO-57	0.69	122.06	*	85.60	1.68E-02	5.01E-04	1.000
		136.47		10.68			
CO-60	0.99	1173.24	*	99.97	9.94E-03	2.42E-04	0.963
		1332.50	*	99.99	9.72E-03	2.34E-04	0.962
		2505.74		1.00			
RH-106	0.36	511.86	*	20.70	1.90E-02	1.75E-03	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.82E-03	2.99E-04	0.873
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.77E-03	6.78E-05	0.870
		674.80		3.10			
		695.00	*	99.60	1.58E-03	5.82E-05	0.870
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			

Analysis Report for 24-2329 VSM-7.0M-S2-CST-d-A V3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	989.60		6.80			
		1213.30		2.39			
Sn-126	0.73	64.28		9.60			
		87.30	*	45.90	4.34E-03	3.37E-04	miss
CS-137	1.00	661.66	*	85.20	1.72E-02	3.25E-04	miss
EU-154	0.87	42.70		20.45			
		123.07	*	40.40	3.71E-02	1.17E-03	0.956
		247.93	*	6.89	3.63E-02	1.18E-03	0.943
		591.76	*	4.95	3.71E-02	1.27E-03	0.932
		692.42	*	1.78	3.64E-02	2.54E-03	0.947
		723.30	*	20.06	3.77E-02	1.29E-03	0.950
		756.80	*	4.52	3.93E-02	4.14E-03	0.929
		873.18	*	12.08	3.60E-02	7.51E-04	0.943
		996.29	*	10.48	3.62E-02	2.17E-03	0.985
		1004.76	*	18.01	3.69E-02	6.51E-04	0.977
		1246.12	*	0.86	4.27E-02	1.37E-02	0.938
		1274.43	*	34.80	3.71E-02	5.33E-04	0.979
		1494.05	*	0.70	3.56E-02	3.22E-03	1.016
		1596.48	*	1.80	3.43E-02	1.69E-03	1.164
EU-155	0.76	43.00		18.70			
		60.01	*	1.22	6.62E+00	2.51E-01	0.999
		86.55	*	30.70	6.49E-03	4.42E-04	free
		105.31	*	21.10	6.43E-03	5.50E-04	1.000
AM-241	1.00	59.54	*	35.90	2.25E-01	5.67E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments

Analysis Report for 24-2329 VSM-7.0M-S2-CST-d-A V3

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.983	-2.77E-05	1.46E-04	
CO-57	0.696	1.53E-04	5.14E-04	
CO-60	0.994	9.83E-03	1.68E-04	
RH-106	0.368	1.90E-02	1.75E-03	
SB-126	0.488	1.66E-03	4.37E-05	
Sn-126	0.731	4.25E-05	4.50E-04	
CS-137	1.000	1.72E-02	3.25E-04	
EU-154	0.872	3.68E-02	2.62E-04	
EU-155	0.768	6.43E-03	5.29E-04	
AM-241	1.000	2.24E-01	4.26E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2329 VSM-7.0M-S2-CST-d-A V3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 8:47:14AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	75.08	9.47919E-01	16.16		
m	5	109.84	4.51202E-01	30.88		
F	8	344.24	2.00137E-01	132.45	Tol.	EU-152
	10	426.44	2.31830E-03	2419.67		
F	11	444.41	1.74249E-01	76.91		
F	13	567.03	9.92846E-02	153.60		
F	14	582.10	1.05937E-01	21.51		
F	22	779.49	5.34720E-02	103.37	Sum	
F	23	815.53	1.16245E-01	77.69	Sum	
F	24	845.62	7.86665E-02	21.18	Sum	
F	26	892.53	6.67774E-02	58.57		
F	27	904.26	1.33513E-01	49.56		
F	30	1128.13	8.94056E-02	13.09	Sum	
F	35	1397.48	8.87701E-02	8.51	Sum	
F	36	1407.94	7.39512E-02	10.38	Tol.	EU-152

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)

Analysis Report for 24-2329 VSM-7.0M-S2-CST-d-A V3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	4.05E-03	4.05E-03	2.43E-03	2.02E-03
+	K-40	1460.83	*	10.67	9.94E-04	9.94E-04	-2.77E-05	4.80E-04
	MN-54	834.84		99.98	2.92E-04	2.92E-04	-5.13E-05	1.45E-04
	CO-58	810.78		99.45	3.20E-04	3.20E-04	6.70E-05	1.59E-04
		863.96		0.68	4.58E-02		-2.03E-02	2.27E-02
		1674.73		0.52	1.42E-02		1.18E-02	6.74E-03
	FE-59	142.65		1.00	7.65E-02	3.78E-04	-1.64E-02	3.82E-02
		192.35		3.01	2.30E-02		-7.16E-03	1.15E-02
		334.80		0.27	1.90E-01		1.09E-01	9.46E-02
		1099.25		56.30	4.52E-04		8.46E-06	2.23E-04
		1291.60		43.70	3.78E-04		-3.64E-04	1.85E-04
+	CO-60	1173.24	*	99.97	3.64E-04	2.57E-04	9.94E-03	1.80E-04
		1332.50	*	99.99	2.57E-04		9.72E-03	1.27E-04
		2505.74		1.00	1.00E-02		2.01E-02	4.73E-03
	SR-85	514.00		96.00	4.83E-04	4.83E-04	-3.11E-05	2.40E-04
		868.60		0.01	3.53E+00		-7.40E-01	1.75E+00
	NB-94	702.62		97.90	3.44E-04	3.44E-04	-7.02E-05	1.71E-04
		871.09		99.98	4.35E-04		-6.63E-05	2.16E-04
	NB-95	765.81		99.81	3.22E-04	3.22E-04	8.89E-05	1.60E-04
	RU-103	497.05		91.00	4.53E-04	4.53E-04	4.08E-04	2.25E-04
		610.30		5.76	6.35E-03		2.83E-03	3.16E-03
+	RH-106	511.86	*	20.70	3.19E-03	3.19E-03	1.90E-02	1.59E-03
		621.92		9.93	3.79E-03		2.32E-04	1.88E-03
		1050.36		1.56	1.80E-02		3.37E-03	8.91E-03
	AG-108M	79.13		6.60	1.72E-02	4.27E-04	-3.30E-03	8.60E-03
		433.90		90.50	5.07E-04		-5.79E-05	2.52E-04
		614.30		89.80	4.27E-04		6.70E-04	2.12E-04
		722.90		90.80	5.87E-04		8.80E-03	2.92E-04
	CD-109	88.03		3.61	2.78E-02	2.78E-02	4.29E-02	1.39E-02
	SB-125	176.31		6.82	1.00E-02	1.44E-03	-7.25E-03	4.99E-03
		380.45		1.52	3.00E-02		-1.08E-02	1.50E-02
		427.87		29.55	1.44E-03		1.82E-04	7.15E-04
		463.36		10.48	3.90E-03		-1.11E-03	1.94E-03
		600.60		17.76	2.01E-03		1.72E-04	1.00E-03
		606.71		5.02	7.08E-03		-2.19E-03	3.52E-03
		635.95		11.32	3.14E-03		-2.97E-04	1.56E-03
		671.44		1.78	2.11E-02		5.50E-03	1.05E-02
+	SB-126	223.90		1.39	4.20E-02	2.71E-04	-5.24E-02	2.09E-02
		278.20		2.40	2.55E-02		1.39E-02	1.27E-02
		296.50		4.50	1.31E-02		6.54E-03	6.54E-03
		414.70	*	83.30	6.99E-04		1.82E-03	3.48E-04
		556.30		1.69	2.58E-02		-3.33E-03	1.28E-02
		573.90		6.70	6.48E-03		-1.90E-03	3.22E-03
		593.20		7.50	6.03E-03		2.39E-02	3.00E-03
		656.30		2.19	2.91E-02		-1.53E-02	1.45E-02
		666.50	*	99.60	2.82E-04		1.77E-03	1.40E-04
		674.80		3.10	1.30E-02		-3.17E-03	6.46E-03
		695.00	*	99.60	2.71E-04		1.58E-03	1.34E-04
		697.00		29.00	1.54E-03		2.67E-05	7.67E-04
		720.70		53.80	1.06E-03		-1.37E-05	5.30E-04
		856.80		17.60	1.93E-03		-1.15E-03	9.56E-04
		989.60		6.80	5.84E-03		-1.07E-03	2.90E-03
		1213.30		2.39	8.76E-03		-5.44E-04	4.30E-03

Analysis Report for 24-2329 VSM-7.0M-S2-CST-d-A V3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	Sn-126	64.28		9.60	1.58E-02	2.29E-03	7.17E-03	7.89E-03
		87.30	*	45.90	2.29E-03		4.34E-03	1.14E-03
	I-129	29.70		56.60	3.31E-02	3.31E-02	-6.30E-02	1.65E-02
		33.60		10.04	9.81E-02		-1.85E-01	4.90E-02
		34.40		2.01	4.41E-01		-7.88E-01	2.20E-01
		39.60		7.51	6.74E-02		-1.67E-01	3.37E-02
	CS-134	563.25		8.34	4.71E-03	3.83E-04	-1.54E-03	2.34E-03
		569.33		15.37	2.62E-03		2.67E-04	1.30E-03
		604.72		97.62	3.83E-04		4.43E-06	1.90E-04
		795.86		85.46	3.84E-04		-3.17E-04	1.90E-04
		801.95		8.69	3.80E-03		-2.22E-03	1.88E-03
+	CS-137	661.66	*	85.20	2.83E-04	2.83E-04	1.72E-02	1.40E-04
	CE-139	165.85		79.89	8.94E-04	8.94E-04	-4.39E-05	4.46E-04
	CE-141	40.70		3.35	1.43E-01	1.59E-03	-1.67E-01	7.16E-02
		145.44		48.29	1.59E-03		4.55E-04	7.92E-04
	CE-144	80.12		1.36	8.24E-02	6.68E-03	3.12E-02	4.12E-02
		133.51		11.09	6.68E-03		7.00E-03	3.34E-03
	EU-152	121.78		28.58	3.08E-03	7.40E-04	2.65E-04	1.54E-03
		344.28		26.50	1.92E-03		1.58E-03	9.57E-04
		778.90		12.94	2.47E-03		1.55E-04	1.23E-03
		964.08		14.73	2.00E-03		1.58E-03	9.89E-04
		1085.87		10.24	2.47E-03		2.92E-03	1.22E-03
		1112.07		13.69	1.94E-03		2.83E-03	9.58E-04
		1408.01		21.07	7.40E-04		1.39E-03	3.62E-04
	GD-153	97.43		29.00	3.12E-03	3.12E-03	3.62E-04	1.56E-03
		103.18		21.10	4.13E-03		3.01E-04	2.06E-03
+	EU-154	42.70		20.45	1.94E-02	9.36E-04	3.56E-02	9.70E-03
		123.07	*	40.40	2.89E-03		3.71E-02	1.45E-03
		247.93	*	6.89	1.03E-02		3.63E-02	5.16E-03
		591.76	*	4.95	8.67E-03		3.71E-02	4.31E-03
		692.42	*	1.78	1.28E-02		3.64E-02	6.34E-03
		723.30	*	20.06	2.50E-03		3.77E-02	1.24E-03
		756.80	*	4.52	1.12E-02		3.93E-02	5.59E-03
		873.18	*	12.08	3.39E-03		3.60E-02	1.68E-03
		996.29	*	10.48	3.43E-03		3.62E-02	1.70E-03
		1004.76	*	18.01	2.42E-03		3.69E-02	1.20E-03
		1246.12	*	0.86	2.16E-02		4.27E-02	1.06E-02
		1274.43	*	34.80	9.36E-04		3.71E-02	4.63E-04
		1494.05	*	0.70	1.64E-02		3.56E-02	7.96E-03
		1596.48	*	1.80	6.05E-03		3.43E-02	2.93E-03
+	EU-155	43.00		18.70	2.08E-02	3.30E-03	2.86E-02	1.04E-02
		60.01	*	1.22	2.13E-01		6.62E+00	1.07E-01
		86.55	*	30.70	3.43E-03		6.49E-03	1.71E-03
		105.31	*	21.10	3.30E-03		6.43E-03	1.65E-03
	HG-203	72.87		6.30	2.11E-02	6.57E-04	6.67E-03	1.05E-02
		279.20		81.46	6.57E-04		-3.88E-04	3.28E-04
	BI-207	569.15		97.80	4.02E-04	3.67E-04	1.96E-04	2.00E-04
		1063.10		74.90	3.67E-04		2.09E-04	1.81E-04
	PB-210	46.54		4.25	7.21E-02	7.21E-02	-2.49E-01	3.60E-02
	RA-226	74.81		6.44	1.92E-02	4.60E-04	2.11E-02	9.60E-03
		77.11		10.80	1.10E-02		1.09E-02	5.47E-03
		87.30		4.84	2.09E-02		6.71E-02	1.05E-02
		186.21		3.59	1.83E-02		7.14E-03	9.16E-03

Analysis Report for 24-2329 VSM-7.0M-S2-CST-d-A V3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	242.00		7.43	7.75E-03	4.60E-04	1.13E-02	3.87E-03
		295.22		19.30	2.60E-03		-5.21E-04	1.30E-03
		351.93		37.60	1.28E-03		-3.38E-04	6.38E-04
		609.31		46.10	7.70E-04		1.82E-04	3.83E-04
		768.36		4.94	6.28E-03		-1.39E-03	3.11E-03
		1120.29		15.10	1.59E-03		-3.55E-03	7.86E-04
		1238.11		5.79	3.23E-03		-3.67E-04	1.59E-03
		1764.49		15.40	4.60E-04		2.05E-04	2.16E-04
	PA-231	283.70		1.59	3.24E-02	2.08E-02	2.71E-02	1.62E-02
		300.07		2.38	2.08E-02		1.44E-02	1.04E-02
		302.67		1.71	2.87E-02		-1.41E-02	1.43E-02
		330.07		1.32	3.53E-02		-3.34E-02	1.76E-02
	TH-232	74.81		11.62	1.07E-02	1.41E-04	1.17E-02	5.32E-03
		77.11		17.50	6.76E-03		6.72E-03	3.38E-03
		87.30		7.80	1.30E-02		4.17E-02	6.49E-03
		238.63		43.30	1.34E-03		2.29E-04	6.70E-04
		338.32		11.30	4.39E-03		1.06E-03	2.19E-03
		583.19		30.37	1.23E-03		2.45E-04	6.09E-04
		727.33		6.58	7.42E-03		3.02E-03	3.69E-03
		911.21		26.60	1.10E-03		-7.32E-04	5.47E-04
		968.97		16.20	1.75E-03		1.74E-03	8.65E-04
		2614.53		35.64	1.41E-04		1.20E-04	6.23E-05
	U-235	143.76		10.96	6.75E-03	1.15E-03	-3.23E-03	3.37E-03
		185.71		57.20	1.15E-03		6.87E-04	5.75E-04
		205.31		5.01	1.23E-02		6.09E-03	6.16E-03
	U-238	63.29		3.70	4.26E-02	2.23E-02	8.46E-03	2.13E-02
		92.51		4.23	2.23E-02		1.84E-02	1.11E-02
		112.81		0.21	3.84E-01		1.70E-01	1.92E-01
		742.81		0.11	2.93E-01		8.68E-02	1.45E-01
		766.28		0.32	9.77E-02		8.38E-02	4.85E-02
		1001.03		0.84	6.63E-02		6.78E-04	3.30E-02
	NP-239	99.60		12.80	1.17E-02	5.51E-03	7.58E-03	5.83E-03
		103.80		20.40	7.14E-03		-1.35E-03	3.57E-03
		106.10		26.40	5.51E-03		8.54E-03	2.75E-03
		116.90		7.61	1.77E-02		2.99E-03	8.84E-03
		228.20		11.20	9.21E-03		-1.23E-04	4.60E-03
		277.60		14.50	6.25E-03		-2.32E-04	3.12E-03
		315.90		1.60	4.99E-02		-1.48E-02	2.49E-02
		334.30		2.06	3.88E-02		4.21E-02	1.94E-02
+	AM-241	59.54	*	35.90	7.24E-03	7.24E-03	2.25E-01	3.62E-03

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

Apex-Gamma

Analysis Report for 24-2330 VSM-7.0M-S3-CST-A W3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2330 VSM-7.0M-S3-CST-A W3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 6:49:09AM
Procedure	: W3_gsv02mlw
Operator	: Administrator
Detector Name	: W
Geometry	: W3_gsv02mlw
Live Time	: 2943.6 seconds
Real Time	: 3138.5 seconds
Dead Time	: 6.21 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 8/11/2023
Efficiency Calibration Used Done On	: 3/18/2019
Efficiency Calibration Description	: W3_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567856
Certificate Name	: R735-A10 20ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 7:41:32AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2330 VSM-7.0M-S3-CST-A W3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.74	116.71	0.3361	3.17
2	59.52	162.02	0.0590	124.33
3	74.92	202.80	0.4094	3.16
4	86.93	235.48	0.2440	6.01
5	105.31	285.33	0.2804	5.22
6	123.04	333.42	0.0758	64.33
7	247.89	670.39	0.1333	19.28
8	344.26	930.35	0.3107	3.70
9	414.75	1120.70	0.1468	15.42
10	511.01	1380.31	0.1403	11.33
11	582.08	1572.39	0.2813	3.89
12	591.72	1598.32	0.1292	16.46
13	661.64	1787.14	0.0587	82.00
14	666.30	1799.82	0.1275	18.94
15	692.38	1869.76	0.2875	5.60
16	695.05	1877.46	0.1413	15.15
17	723.29	1953.65	0.0762	46.33
18	756.79	2044.05	0.1261	17.63
19	778.96	2103.23	0.3026	3.20
20	845.70	2284.15	0.2580	3.99
21	873.24	2358.36	0.0867	34.76
22	892.74	2410.66	0.2524	3.63
23	904.04	2441.53	0.2080	6.44
24	964.08	2603.66	0.2562	3.59
25	996.30	2690.68	0.0926	28.32
26	1004.77	2713.62	0.0779	39.54
27	1128.04	3046.47	0.2473	3.25
28	1173.26	3168.40	0.0715	44.31
29	1246.20	3365.52	0.2001	5.73
30	1274.46	3441.78	0.0667	50.69
31	1332.52	3598.45	0.0716	42.78
32	1397.44	3773.27	0.2289	4.43
33	1408.02	3802.55	0.2008	5.00
34	1493.86	4034.06	0.1865	5.84
35	1596.49	4311.34	0.1382	11.30
36	1719.48	4643.69	0.2204	4.72
37	2505.02	6764.94	0.1905	5.37

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2330 VSM-7.0M-S3-CST-A W3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 7:41:32AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	1	42.74	109	123	116.71	1.16E+03	1304.31	3.56E+05	1.54
F	2	59.52	154	169	162.01	1.67E+05	2270.70	5.39E+05	1.29
F	3	74.92	199	210	203.57	3.80E+03	552.25	3.95E+05	2.26
F	4	86.93	232	243	235.97	7.62E+03	480.29	3.59E+05	1.63
F	5	105.31	282	293	285.58	5.03E+03	435.69	2.87E+05	1.58
F	6	123.04	326	341	333.42	5.63E+04	1708.70	3.03E+05	1.36
F	7	247.89	666	679	670.39	6.84E+03	199.67	5.85E+04	1.42
F	8	344.26	927	939	930.51	5.71E+02	126.41	2.35E+04	1.27
F	9	414.75	1115	1130	1120.78	2.67E+03	112.77	1.81E+04	1.47
F	10	511.01	1371	1390	1380.58	6.35E+03	114.62	1.40E+04	2.76
F	11	582.08	1567	1576	1572.43	3.50E+02	70.18	4.75E+03	1.42
F	12	591.72	1587	1606	1598.46	3.16E+03	319.07	8.37E+03	2.03
M	13	661.64	1779	1810	1787.20	2.86E+04	174.76	5.28E+03	1.78
m	14	666.30	1779	1810	1799.78	2.45E+03	73.86	4.92E+03	1.78
M	15	692.38	1864	1888	1870.18	8.06E+02	60.50	4.09E+03	1.78
m	16	695.05	1864	1888	1877.40	2.17E+03	72.36	4.86E+03	1.78
F	17	723.29	1942	1964	1953.64	1.06E+04	312.10	5.87E+03	1.85
F	18	756.79	2033	2055	2044.06	2.49E+03	227.87	4.93E+03	2.00
F	19	778.96	2095	2112	2103.90	2.85E+02	52.30	3.70E+03	2.05
F	20	845.70	2274	2291	2284.09	2.82E+02	46.81	2.85E+03	1.81
F	21	873.24	2351	2366	2358.42	5.49E+03	85.02	2.44E+03	1.88
F	22	892.74	2405	2422	2411.07	2.78E+02	44.57	2.42E+03	2.01
F	23	904.04	2437	2450	2441.58	3.77E+02	43.74	1.78E+03	1.66
	24	964.08	2597	2614	2603.66	7.86E+01	110.55	2.20E+03	0.92
F	25	996.30	2681	2699	2690.66	4.51E+03	76.23	2.06E+03	2.09
F	26	1004.77	2701	2723	2713.53	7.78E+03	233.89	2.43E+03	2.07
F	27	1128.04	3038	3052	3046.35	2.25E+02	32.74	9.18E+02	2.38
F	28	1173.26	3157	3181	3168.44	1.07E+04	103.94	1.04E+03	2.28
F	29	1246.20	3356	3373	3365.37	2.87E+02	27.10	5.47E+02	2.24
F	30	1274.46	3429	3454	3441.68	1.29E+04	213.85	7.18E+02	2.34
F	31	1332.52	3585	3611	3598.46	9.73E+03	182.55	5.33E+02	2.37
F	32	1397.44	3764	3784	3773.74	2.50E+02	20.65	2.37E+02	3.09
F	33	1408.02	3791	3811	3802.32	2.85E+02	72.47	2.04E+02	2.55
F	34	1493.86	4025	4045	4034.10	2.90E+02	20.02	1.46E+02	2.70
F	35	1596.49	4299	4322	4311.26	6.69E+02	64.79	7.77E+01	2.53
F	36	1719.48	4635	4650	4643.38	6.52E+01	11.68	6.81E+01	1.86
F	37	2505.02	6756	6773	6765.12	9.60E+01	11.01	2.22E+01	2.25

Analysis Report for 24-2330 VSM-7.0M-S3-CST-A W3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 7:41:32AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567383.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	42.74	1.16E+03	1304.31			1.16E+03	1.30E+03
F	2	59.52	1.67E+05	2270.70			1.67E+05	2.27E+03
F	3	74.92	3.80E+03	552.25	7.30E+01	7.14E+00	3.73E+03	5.52E+02
F	4	86.93	7.62E+03	480.29	1.61E+01	1.20E+00	7.60E+03	4.80E+02
F	5	105.31	5.03E+03	435.69			5.03E+03	4.36E+02
F	6	123.04	5.63E+04	1708.70			5.63E+04	1.71E+03
F	7	247.89	6.84E+03	199.67			6.84E+03	2.00E+02
F	8	344.26	5.71E+02	126.41			5.71E+02	1.26E+02
F	9	414.75	2.67E+03	112.77			2.67E+03	1.13E+02
F	10	511.01	6.35E+03	114.62	1.08E+02	4.37E+00	6.24E+03	1.15E+02
F	11	582.08	3.50E+02	70.18			3.50E+02	7.02E+01
F	12	591.72	3.16E+03	319.07			3.16E+03	3.19E+02
M	13	661.64	2.86E+04	174.76			2.86E+04	1.75E+02
m	14	666.30	2.45E+03	73.86			2.45E+03	7.39E+01
M	15	692.38	8.06E+02	60.50			8.06E+02	6.05E+01
m	16	695.05	2.17E+03	72.36			2.17E+03	7.24E+01
F	17	723.29	1.06E+04	312.10			1.06E+04	3.12E+02
F	18	756.79	2.49E+03	227.87			2.49E+03	2.28E+02
F	19	778.96	2.85E+02	52.30			2.85E+02	5.23E+01
F	20	845.70	2.82E+02	46.81			2.82E+02	4.68E+01
F	21	873.24	5.49E+03	85.02			5.49E+03	8.50E+01
F	22	892.74	2.78E+02	44.57			2.78E+02	4.46E+01
F	23	904.04	3.77E+02	43.74			3.77E+02	4.37E+01
	24	964.08	7.86E+01	110.55	1.02E+00	3.32E-01	7.76E+01	1.11E+02
F	25	996.30	4.51E+03	76.23			4.51E+03	7.62E+01
F	26	1004.77	7.78E+03	233.89			7.78E+03	2.34E+02
F	27	1128.04	2.25E+02	32.74			2.25E+02	3.27E+01
F	28	1173.26	1.07E+04	103.94			1.07E+04	1.04E+02
F	29	1246.20	2.87E+02	27.10			2.87E+02	2.71E+01
F	30	1274.46	1.29E+04	213.85			1.29E+04	2.14E+02
F	31	1332.52	9.73E+03	182.55			9.73E+03	1.83E+02
F	32	1397.44	2.50E+02	20.65			2.50E+02	2.06E+01
F	33	1408.02	2.85E+02	72.47	2.99E+00	3.17E-01	2.82E+02	7.25E+01

Analysis Report for 24-2330 VSM-7.0M-S3-CST-A W3

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 34	1493.86	2.90E+02	20.02			2.90E+02	2.00E+01
F 35	1596.49	6.69E+02	64.79			6.69E+02	6.48E+01
F 36	1719.48	6.52E+01	11.68			6.52E+01	1.17E+01
F 37	2505.02	9.60E+01	11.01			9.60E+01	1.10E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-57	0.69	122.06	*	85.60	1.71E-02	5.39E-04	1.000
		136.47		10.68			
CO-60	0.99	1173.24	*	99.97	1.03E-02	1.09E-04	0.962
		1332.50	*	99.99	1.02E-02	1.98E-04	0.961
		2505.74	*	1.00	1.55E-02	1.89E-03	miss
RH-106	0.38	511.86	*	20.70	1.70E-02	5.99E-04	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.76E-03	9.07E-05	0.870
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.84E-03	5.61E-05	0.867
		674.80		3.10			
		695.00	*	99.60	1.67E-03	5.64E-05	0.867
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.74	64.28		9.60			

Analysis Report for 24-2330 VSM-7.0M-S3-CST-A W3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
Sn-126	0.74	87.30	*	45.90	4.48E-03	3.46E-04	miss
CS-137	1.00	661.66	*	85.20	2.17E-02	1.66E-04	miss
EU-152	0.25	121.78		28.58			
		344.28	*	26.50	9.48E-04	2.11E-04	0.969
		778.90	*	12.94	1.64E-03	3.02E-04	0.958
		964.08	*	14.73	4.49E-04	6.40E-04	0.962
		1085.87		10.24			
		1112.07		13.69			
		1408.01	*	21.07	1.45E-03	3.71E-04	0.969
EU-154	1.00	42.70	*	20.45	8.76E-03	9.83E-03	miss
		123.07	*	40.40	3.78E-02	1.25E-03	0.955
		247.93	*	6.89	3.70E-02	1.17E-03	0.941
		591.76	*	4.95	4.13E-02	4.20E-03	0.930
		692.42	*	1.78	3.19E-02	2.42E-03	0.945
		723.30	*	20.06	3.79E-02	1.20E-03	0.948
		756.80	*	4.52	4.18E-02	3.85E-03	0.927
		873.18	*	12.08	3.72E-02	7.14E-04	0.941
		996.29	*	10.48	3.66E-02	7.26E-04	0.986
		1004.76	*	18.01	3.72E-02	1.19E-03	0.976
		1246.12	*	0.86	3.46E-02	3.30E-03	0.936
		1274.43	*	34.80	3.72E-02	7.18E-04	0.978
		1494.05	*	0.70	4.44E-02	3.12E-03	1.016
		1596.48	*	1.80	3.62E-02	3.54E-03	1.169
EU-155	0.98	43.00	*	18.70	9.58E-03	1.08E-02	1.000
		60.01	*	1.22	6.65E+00	2.54E-01	0.998
		86.55	*	30.70	6.70E-03	4.54E-04	free
		105.31	*	21.10	6.01E-03	5.43E-04	1.000
AM-241	1.00	59.54	*	35.90	2.25E-01	5.79E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2330 VSM-7.0M-S3-CST-A W3

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-57	0.698	3.23E-04	5.55E-04	
CO-60	0.999	1.03E-02	9.54E-05	
RH-106	0.387	1.70E-02	5.99E-04	
SB-126	0.488	1.76E-03	3.64E-05	
Sn-126	0.749	5.19E-04	4.52E-04	
CS-137	1.000	2.17E-02	1.66E-04	
EU-152	0.251	1.18E-03	1.52E-04	
EU-154	1.000	3.71E-02	3.05E-04	
EU-155	0.987	5.93E-03	5.24E-04	
AM-241	1.000	2.25E-01	4.40E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2330 VSM-7.0M-S3-CST-A W3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 7:41:32AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	74.92	1.26694E+00	14.81	Tol.	TH-232
F	11	582.08	1.18803E-01	20.07		
F	20	845.70	9.59376E-02	16.58	Sum	
F	22	892.74	9.44247E-02	16.04		
F	23	904.04	1.28166E-01	11.59		
F	27	1128.04	7.65908E-02	14.52	Sum	
F	32	1397.44	8.49688E-02	8.26	Sum	
F	36	1719.48	2.21484E-02	17.92	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.61	10.44	3.71E-03	3.71E-03	3.44E-03	1.85E-03
K-40	1460.83	10.67	9.74E-04	9.74E-04	5.00E-04	4.74E-04
MN-54	834.84	99.98	2.62E-04	2.62E-04	-1.86E-05	1.30E-04
CO-58	810.78	99.45	2.71E-04	2.71E-04	5.43E-05	1.35E-04
	863.96	0.68	3.96E-02		-8.21E-02	1.97E-02
	1674.73	0.52	1.21E-02		-1.23E-02	5.77E-03
FE-59	142.65	1.00	7.16E-02	3.21E-04	-3.14E-02	3.58E-02
	192.35	3.01	2.15E-02		3.59E-03	1.07E-02
	334.80	0.27	1.64E-01		5.51E-02	8.20E-02

Analysis Report for 24-2330 VSM-7.0M-S3-CST-A W3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	FE-59	1099.25		56.30	3.90E-04	3.21E-04	1.03E-04	1.93E-04
		1291.60		43.70	3.21E-04		-1.47E-04	1.57E-04
+	CO-60	1173.24	*	99.97	2.78E-04	2.25E-04	1.03E-02	1.37E-04
		1332.50	*	99.99	2.25E-04		1.02E-02	1.11E-04
		2505.74	*	1.00	6.32E-03		1.55E-02	2.94E-03
	SR-85	514.00		96.00	4.40E-04	4.40E-04	-8.53E-05	2.19E-04
		868.60		0.01	3.07E+00		-7.24E-01	1.53E+00
	NB-94	702.62		97.90	3.10E-04	3.10E-04	-1.80E-04	1.54E-04
		871.09		99.98	3.85E-04		4.39E-03	1.92E-04
	NB-95	765.81		99.81	2.86E-04	2.86E-04	-1.23E-04	1.42E-04
	RU-103	497.05		91.00	4.14E-04	4.14E-04	1.54E-05	2.06E-04
		610.30		5.76	5.61E-03		-1.93E-03	2.79E-03
+	RH-106	511.86	*	20.70	2.61E-03	2.61E-03	1.70E-02	1.30E-03
		621.92		9.93	3.25E-03		2.33E-03	1.62E-03
		1050.36		1.56	1.58E-02		-5.58E-03	7.80E-03
	AG-108M	79.13		6.60	1.62E-02	3.78E-04	-6.98E-03	8.10E-03
		433.90		90.50	4.79E-04		-7.19E-05	2.39E-04
		614.30		89.80	3.78E-04		-8.85E-05	1.88E-04
		722.90		90.80	5.24E-04		9.07E-03	2.61E-04
	CD-109	88.03		3.61	2.63E-02	2.63E-02	9.98E-02	1.31E-02
	SB-125	176.31		6.82	9.36E-03	1.35E-03	1.94E-03	4.68E-03
		380.45		1.52	2.61E-02		9.70E-03	1.30E-02
		427.87		29.55	1.35E-03		-2.20E-03	6.74E-04
		463.36		10.48	3.68E-03		1.28E-03	1.84E-03
		600.60		17.76	1.78E-03		1.29E-03	8.87E-04
		606.71		5.02	6.27E-03		-3.87E-03	3.12E-03
		635.95		11.32	2.68E-03		-3.74E-03	1.33E-03
		671.44		1.78	1.86E-02		1.52E-02	9.26E-03
+	SB-126	223.90		1.39	3.93E-02	2.47E-04	-3.58E-02	1.96E-02
		278.20		2.40	2.40E-02		1.31E-03	1.20E-02
		296.50		4.50	1.24E-02		1.51E-03	6.19E-03
		414.70	*	83.30	6.58E-04		1.76E-03	3.28E-04
		556.30		1.69	2.36E-02		1.26E-04	1.18E-02
		573.90		6.70	5.77E-03		1.47E-03	2.87E-03
		593.20		7.50	5.32E-03		6.23E-04	2.65E-03
		656.30		2.19	2.66E-02		4.53E-03	1.32E-02
		666.50	*	99.60	2.47E-04		1.84E-03	1.23E-04
		674.80		3.10	1.16E-02		1.54E-02	5.75E-03
		695.00	*	99.60	2.52E-04		1.67E-03	1.25E-04
		697.00		29.00	1.39E-03		-1.84E-04	6.93E-04
		720.70		53.80	9.53E-04		-2.33E-04	4.74E-04
		856.80		17.60	1.67E-03		-2.11E-03	8.29E-04
		989.60		6.80	4.76E-03		1.27E-03	2.36E-03
		1213.30		2.39	7.49E-03		-7.74E-03	3.69E-03
+	Sn-126	64.28		9.60	1.59E-02	2.33E-03	1.47E-02	7.94E-03
		87.30	*	45.90	2.33E-03		4.48E-03	1.17E-03
	I-129	29.70		56.60	6.21E-02	6.21E-02	-1.38E-01	3.10E-02
		33.60		10.04	1.50E-01		-4.73E-01	7.47E-02
		34.40		2.01	6.48E-01		-1.38E+00	3.23E-01
		39.60		7.51	8.35E-02		-1.55E-02	4.17E-02
	CS-134	563.25		8.34	4.30E-03	3.27E-04	-4.20E-03	2.14E-03
		569.33		15.37	2.31E-03		1.10E-03	1.15E-03
		604.72		97.62	3.42E-04		4.85E-04	1.70E-04

Analysis Report for 24-2330 VSM-7.0M-S3-CST-A W3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-134	795.86		85.46	3.27E-04	3.27E-04	-5.59E-06	1.62E-04
		801.95		8.69	3.25E-03		3.31E-03	1.61E-03
+	CS-137	661.66	*	85.20	2.58E-04	2.58E-04	2.17E-02	1.28E-04
	CE-139	165.85		79.89	8.40E-04	8.40E-04	4.31E-04	4.20E-04
	CE-141	40.70		3.35	1.73E-01	1.48E-03	-3.25E-02	8.64E-02
		145.44		48.29	1.48E-03		-7.98E-04	7.40E-04
	CE-144	80.12		1.36	7.76E-02	6.58E-03	4.28E-03	3.88E-02
		133.51		11.09	6.58E-03		7.73E-03	3.29E-03
+	EU-152	121.78		28.58	2.89E-03	6.17E-04	5.52E-04	1.45E-03
		344.28	*	26.50	1.73E-03		9.48E-04	8.64E-04
		778.90	*	12.94	2.73E-03		1.64E-03	1.36E-03
		964.08	*	14.73	2.11E-03		4.49E-04	1.05E-03
		1085.87		10.24	2.18E-03		3.07E-03	1.08E-03
		1112.07		13.69	1.64E-03		8.83E-04	8.12E-04
		1408.01	*	21.07	6.17E-04		1.45E-03	3.02E-04
	GD-153	97.43		29.00	2.97E-03	2.97E-03	3.42E-03	1.48E-03
		103.18		21.10	3.93E-03		-1.94E-03	1.96E-03
+	EU-154	42.70	*	20.45	3.23E-02	7.05E-04	8.76E-03	1.62E-02
		123.07	*	40.40	2.72E-03		3.78E-02	1.36E-03
		247.93	*	6.89	9.17E-03		3.70E-02	4.58E-03
		591.76	*	4.95	9.68E-03		4.13E-02	4.82E-03
		692.42	*	1.78	1.19E-02		3.19E-02	5.89E-03
		723.30	*	20.06	2.36E-03		3.79E-02	1.18E-03
		756.80	*	4.52	1.01E-02		4.18E-02	5.04E-03
		873.18	*	12.08	2.48E-03		3.72E-02	1.23E-03
		996.29	*	10.48	2.92E-03		3.66E-02	1.45E-03
		1004.76	*	18.01	2.02E-03		3.72E-02	1.01E-03
		1246.12	*	0.86	2.21E-02		3.46E-02	1.09E-02
		1274.43	*	34.80	7.05E-04		3.72E-02	3.48E-04
		1494.05	*	0.70	1.57E-02		4.44E-02	7.64E-03
		1596.48	*	1.80	4.30E-03		3.62E-02	2.08E-03
+	EU-155	43.00	*	18.70	3.54E-02	3.49E-03	9.58E-03	1.77E-02
		60.01	*	1.22	2.15E-01		6.65E+00	1.08E-01
		86.55	*	30.70	3.49E-03		6.70E-03	1.74E-03
		105.31	*	21.10	4.23E-03		6.01E-03	2.11E-03
	HG-203	72.87		6.30	1.98E-02	6.17E-04	-6.71E-03	9.88E-03
		279.20		81.46	6.17E-04		3.17E-04	3.08E-04
	BI-207	569.15		97.80	3.55E-04	3.26E-04	-1.00E-04	1.77E-04
		1063.10		74.90	3.26E-04		-1.39E-04	1.61E-04
	PB-210	46.54		4.25	8.43E-02	8.43E-02	2.48E-03	4.21E-02
	RA-226	74.81		6.44	1.81E-02	4.37E-04	3.60E-02	9.03E-03
		77.11		10.80	1.03E-02		-1.75E-03	5.15E-03
		87.30		4.84	1.97E-02		7.06E-02	9.85E-03
		186.21		3.59	1.72E-02		8.43E-03	8.60E-03
		242.00		7.43	6.97E-03		-1.03E-03	3.48E-03
		295.22		19.30	2.44E-03		8.71E-04	1.22E-03
		351.93		37.60	1.11E-03		-1.91E-04	5.55E-04
		609.31		46.10	6.80E-04		-2.37E-05	3.38E-04
		768.36		4.94	5.58E-03		8.81E-03	2.77E-03
		1120.29		15.10	1.36E-03		-1.68E-03	6.72E-04
		1238.11		5.79	2.69E-03		1.71E-03	1.32E-03
		1764.49		15.40	4.37E-04		6.82E-04	2.08E-04
	PA-231	283.70		1.59	3.04E-02	1.96E-02	1.09E-02	1.52E-02

Analysis Report for 24-2330 VSM-7.0M-S3-CST-A W3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PA-231	300.07		2.38	1.96E-02	1.96E-02	-1.96E-02	9.76E-03
		302.67		1.71	2.71E-02		2.32E-02	1.35E-02
		330.07		1.32	3.30E-02		-1.21E-04	1.65E-02
	TH-232	74.81		11.62	1.00E-02	1.35E-04	1.99E-02	5.01E-03
		77.11		17.50	6.36E-03		-1.08E-03	3.18E-03
		87.30		7.80	1.22E-02		4.38E-02	6.11E-03
		238.63		43.30	1.21E-03		5.27E-04	6.02E-04
		338.32		11.30	3.83E-03		3.19E-04	1.91E-03
		583.19		30.37	1.08E-03		3.61E-04	5.37E-04
		727.33		6.58	6.58E-03		-5.01E-04	3.28E-03
		911.21		26.60	9.59E-04		-5.01E-04	4.75E-04
		968.97		16.20	1.54E-03		5.62E-04	7.65E-04
		2614.53		35.64	1.35E-04		1.46E-04	6.10E-05
	U-235	143.76		10.96	6.33E-03	1.08E-03	1.73E-03	3.16E-03
		185.71		57.20	1.08E-03		-3.11E-05	5.40E-04
		205.31		5.01	1.15E-02		-4.91E-03	5.76E-03
	U-238	63.29		3.70	4.43E-02	2.10E-02	6.17E-03	2.21E-02
		92.51		4.23	2.10E-02		3.35E-03	1.05E-02
		112.81		0.21	3.63E-01		2.30E-01	1.81E-01
		742.81		0.11	2.60E-01		-6.44E-02	1.29E-01
		766.28		0.32	8.70E-02		-4.94E-02	4.32E-02
		1001.03		0.84	5.87E-02		1.14E+00	2.92E-02
	NP-239	99.60		12.80	1.09E-02	5.16E-03	-2.58E-03	5.45E-03
		103.80		20.40	6.67E-03		-2.27E-03	3.33E-03
		106.10		26.40	5.16E-03		1.45E-02	2.58E-03
		116.90		7.61	1.65E-02		2.81E-03	8.22E-03
		228.20		11.20	8.16E-03		2.64E-03	4.08E-03
		277.60		14.50	5.78E-03		3.31E-03	2.88E-03
		315.90		1.60	4.62E-02		3.77E-02	2.30E-02
		334.30		2.06	3.30E-02		1.07E-02	1.65E-02
+	AM-241	59.54	*	35.90	7.30E-03	7.30E-03	2.25E-01	3.65E-03

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

Apex-Gamma

Analysis Report for 24-2331 VSM-7.0M-S3-CST-d-A W3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2331 VSM-7.0M-S3-CST-d-A W3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 8:04:14AM
Procedure	: W3_gsv02mlw
Operator	: Administrator
Detector Name	: W
Geometry	: W3_gsv02mlw
Live Time	: 2442.6 seconds
Real Time	: 2599.9 seconds
Dead Time	: 6.05 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 8/11/2023
Efficiency Calibration Used Done On	: 3/18/2019
Efficiency Calibration Description	: W3_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567865
Certificate Name	: R735-A10 20ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 8:47:39AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2331 VSM-7.0M-S3-CST-d-A W3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	56.84	156.00	0.0000	0.00
2	59.52	162.01	0.0625	110.20
3	86.73	234.95	0.2841	4.79
4	105.42	285.93	0.3049	4.94
5	123.03	333.41	0.0788	58.68
6	247.91	670.47	0.1434	16.71
7	344.46	930.68	0.3012	4.30
8	347.22	939.00	0.0000	0.00
9	363.50	982.86	0.3544	3.56
10	414.80	1120.81	0.1537	14.09
11	444.94	1202.06	0.3693	3.34
12	511.00	1380.57	0.1460	8.66
13	581.96	1571.83	0.2669	3.68
14	591.70	1598.45	0.1303	17.10
15	661.65	1787.18	0.0636	69.68
16	666.28	1799.82	0.1445	14.24
17	692.26	1869.57	0.2929	4.47
18	695.12	1877.76	0.1574	12.26
19	723.30	1953.66	0.0802	41.49
20	756.80	2044.00	0.1330	15.40
21	778.90	2103.69	0.2773	4.00
22	815.87	2202.84	0.2623	5.03
23	845.59	2283.83	0.2269	5.91
24	873.24	2358.49	0.0926	29.95
25	892.96	2411.45	0.2923	3.08
26	904.19	2441.79	0.2437	4.78
27	996.32	2690.78	0.0962	26.70
28	1004.81	2713.62	0.0817	36.47
29	1112.12	3003.55	0.2775	3.06
30	1173.25	3168.43	0.0749	41.08
31	1246.35	3365.64	0.2074	4.95
32	1274.47	3441.72	0.0694	46.55
33	1332.53	3598.55	0.0757	37.46
34	1397.53	3773.77	0.1861	6.46
35	1408.11	3801.46	0.2193	5.37
36	1493.96	4034.38	0.2104	4.22
37	1596.40	4311.18	0.1451	9.91
38	2504.64	6764.71	0.2102	4.93

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2331 VSM-7.0M-S3-CST-d-A W3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 8:47:39AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
M	1	56.84	148 -	169	154.76	4.17E+03	441.66	3.46E+05	1.32
m	2	59.52	148 -	169	162.00	1.39E+05	2153.65	3.75E+05	1.32
F	3	86.73	230 -	242	235.43	7.75E+03	449.37	3.14E+05	2.07
F	4	105.42	283 -	293	285.87	2.44E+03	481.43	2.13E+05	1.07
F	5	123.03	326 -	341	333.41	4.72E+04	2036.91	2.45E+05	1.38
F	6	247.91	664 -	679	670.45	5.24E+03	539.22	5.43E+04	1.39
M	7	344.46	924 -	945	931.03	9.64E+02	747.66	1.59E+04	0.85
m	8	347.22	924 -	945	938.50	3.98E+02	187.01	2.59E+04	0.86
F	9	363.50	979 -	986	982.43	2.59E+02	20.94	1.02E+04	0.36
F	10	414.80	1110 -	1130	1120.90	2.92E+03	366.27	1.87E+04	1.71
F	11	444.94	1195 -	1206	1202.25	3.20E+02	426.82	9.28E+03	0.62
F	12	511.00	1370 -	1390	1380.56	5.27E+03	103.42	1.15E+04	2.82
F	13	581.96	1566 -	1578	1572.12	4.45E+02	65.50	4.79E+03	1.79
F	14	591.70	1593 -	1605	1598.40	2.14E+03	384.87	4.73E+03	1.60
M	15	661.65	1777 -	1807	1787.22	2.08E+04	150.57	4.73E+03	1.77
m	16	666.28	1777 -	1807	1799.72	1.75E+03	66.14	4.30E+03	1.77
M	17	692.26	1858 -	1888	1869.85	8.57E+02	150.69	4.41E+03	1.92
m	18	695.12	1858 -	1888	1877.58	2.05E+03	275.36	5.79E+03	1.92
F	19	723.30	1944 -	1961	1953.65	8.64E+03	289.22	3.74E+03	1.86
F	20	756.80	2037 -	2052	2044.09	1.73E+03	61.95	2.96E+03	1.87
F	21	778.90	2092 -	2114	2103.74	2.64E+02	161.20	3.76E+03	1.67
F	22	815.87	2195 -	2207	2203.55	1.87E+02	104.99	1.92E+03	0.54
F	23	845.59	2276 -	2289	2283.77	2.19E+02	92.07	1.96E+03	0.85
F	24	873.24	2350 -	2367	2358.42	4.47E+03	76.33	2.20E+03	1.94
F	25	892.96	2407 -	2419	2411.67	1.52E+02	39.61	1.51E+03	1.70
F	26	904.19	2437 -	2449	2441.99	2.79E+02	40.26	1.40E+03	1.83
F	27	996.32	2681 -	2700	2690.71	3.76E+03	191.13	1.77E+03	2.03
F	28	1004.81	2704 -	2724	2713.64	6.29E+03	85.24	1.85E+03	2.04
F	29	1112.12	2994 -	3015	3003.36	2.30E+02	32.61	1.25E+03	2.64
F	30	1173.25	3157 -	3178	3168.41	8.72E+03	94.77	8.42E+02	2.27
F	31	1246.35	3358 -	3378	3365.79	2.82E+02	25.10	4.75E+02	2.50
F	32	1274.47	3431 -	3454	3441.72	1.08E+04	196.57	4.56E+02	2.32
F	33	1332.53	3587 -	3611	3598.49	7.92E+03	166.77	4.19E+02	2.39
F	34	1397.53	3767 -	3783	3773.99	2.07E+02	18.95	1.58E+02	2.06
F	35	1408.11	3793 -	3812	3802.57	2.00E+02	18.43	1.74E+02	2.84
F	36	1493.96	4026 -	4043	4034.37	1.53E+02	16.78	1.35E+02	2.42
F	37	1596.40	4302 -	4321	4311.01	5.07E+02	64.81	9.00E+01	2.42
F	38	2504.64	6757 -	6773	6764.10	6.96E+01	9.31	1.32E+01	2.24

Analysis Report for 24-2331 VSM-7.0M-S3-CST-d-A W3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 8:47:39AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567383.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	1	56.84	4.17E+03	441.66			4.17E+03	4.42E+02
m	2	59.52	1.39E+05	2153.65			1.39E+05	2.15E+03
F	3	86.73	7.75E+03	449.37	1.33E+01	9.96E-01	7.74E+03	4.49E+02
F	4	105.42	2.44E+03	481.43			2.44E+03	4.81E+02
F	5	123.03	4.72E+04	2036.91			4.72E+04	2.04E+03
F	6	247.91	5.24E+03	539.22			5.24E+03	5.39E+02
M	7	344.46	9.64E+02	747.66			9.64E+02	7.48E+02
m	8	347.22	3.98E+02	187.01			3.98E+02	1.87E+02
F	9	363.50	2.59E+02	20.94			2.59E+02	2.09E+01
F	10	414.80	2.92E+03	366.27			2.92E+03	3.66E+02
F	11	444.94	3.20E+02	426.82			3.20E+02	4.27E+02
F	12	511.00	5.27E+03	103.42	8.92E+01	3.62E+00	5.18E+03	1.03E+02
F	13	581.96	4.45E+02	65.50			4.45E+02	6.55E+01
F	14	591.70	2.14E+03	384.87			2.14E+03	3.85E+02
M	15	661.65	2.08E+04	150.57			2.08E+04	1.51E+02
m	16	666.28	1.75E+03	66.14			1.75E+03	6.61E+01
M	17	692.26	8.57E+02	150.69			8.57E+02	1.51E+02
m	18	695.12	2.05E+03	275.36			2.05E+03	2.75E+02
F	19	723.30	8.64E+03	289.22			8.64E+03	2.89E+02
F	20	756.80	1.73E+03	61.95			1.73E+03	6.19E+01
F	21	778.90	2.64E+02	161.20			2.64E+02	1.61E+02
F	22	815.87	1.87E+02	104.99			1.87E+02	1.05E+02
F	23	845.59	2.19E+02	92.07			2.19E+02	9.21E+01
F	24	873.24	4.47E+03	76.33			4.47E+03	7.63E+01
F	25	892.96	1.52E+02	39.61			1.52E+02	3.96E+01
F	26	904.19	2.79E+02	40.26			2.79E+02	4.03E+01
F	27	996.32	3.76E+03	191.13			3.76E+03	1.91E+02
F	28	1004.81	6.29E+03	85.24			6.29E+03	8.52E+01
F	29	1112.12	2.30E+02	32.61			2.30E+02	3.26E+01
F	30	1173.25	8.72E+03	94.77			8.72E+03	9.48E+01
F	31	1246.35	2.82E+02	25.10			2.82E+02	2.51E+01
F	32	1274.47	1.08E+04	196.57			1.08E+04	1.97E+02
F	33	1332.53	7.92E+03	166.77			7.92E+03	1.67E+02

Analysis Report for 24-2331 VSM-7.0M-S3-CST-d-A W3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	34	1397.53	2.07E+02	18.95			2.07E+02	1.90E+01
F	35	1408.11	2.00E+02	18.43	2.48E+00	2.63E-01	1.98E+02	1.84E+01
F	36	1493.96	1.53E+02	16.78			1.53E+02	1.68E+01
F	37	1596.40	5.07E+02	64.81			5.07E+02	6.48E+01
F	38	2504.64	6.96E+01	9.31			6.96E+01	9.31E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-57	0.70	122.06	*	85.60	1.73E-02	7.60E-04	1.000
		136.47		10.68			
CO-60	0.99	1173.24	*	99.97	1.01E-02	1.18E-04	0.962
		1332.50	*	99.99	1.00E-02	2.16E-04	0.961
		2505.74		1.00			
RH-106	0.38	511.86	*	20.70	1.70E-02	6.14E-04	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	2.32E-03	3.00E-04	0.870
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.59E-03	6.03E-05	0.867
		674.80		3.10			
		695.00	*	99.60	1.91E-03	2.56E-04	0.867
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			

Analysis Report for 24-2331 VSM-7.0M-S3-CST-d-A W3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
Sn-126	0.72	64.28		9.60			
		87.30	*	45.90	5.51E-03	4.03E-04	miss
CS-137	1.00	661.66	*	85.20	1.90E-02	1.63E-04	miss
EU-152	0.23	121.78		28.58			
		344.28	*	26.50	1.93E-03	1.50E-03	0.969
		778.90	*	12.94	1.84E-03	1.12E-03	0.958
		964.08		14.73			
		1085.87		10.24			
		1112.07	*	13.69	1.86E-03	2.64E-04	0.977
		1408.01	*	21.07	1.22E-03	1.14E-04	0.969
EU-154	0.88	42.70		20.45			
		123.07	*	40.40	3.82E-02	1.72E-03	0.955
		247.93	*	6.89	3.41E-02	3.54E-03	0.941
		591.76	*	4.95	3.37E-02	6.08E-03	0.930
		692.42	*	1.78	4.09E-02	7.21E-03	0.945
		723.30	*	20.06	3.74E-02	1.32E-03	0.948
		756.80	*	4.52	3.51E-02	1.31E-03	0.927
		873.18	*	12.08	3.65E-02	7.48E-04	0.941
		996.29	*	10.48	3.67E-02	1.91E-03	0.986
		1004.76	*	18.01	3.63E-02	6.32E-04	0.976
		1246.12	*	0.86	4.10E-02	3.69E-03	0.936
		1274.43	*	34.80	3.73E-02	7.76E-04	0.978
		1494.05	*	0.70	2.83E-02	3.12E-03	1.016
		1596.48	*	1.80	3.31E-02	4.25E-03	1.169
EU-155	0.78	43.00		18.70			
		60.01	*	1.22	6.67E+00	2.60E-01	0.998
		86.55	*	30.70	8.24E-03	5.19E-04	free
		105.31	*	21.10	3.52E-03	7.00E-04	1.000
AM-241	1.00	59.54	*	35.90	2.26E-01	6.05E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2331 VSM-7.0M-S3-CST-d-A W3

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-57	0.700	7.74E-04	7.72E-04	
CO-60	0.994	1.01E-02	1.04E-04	
RH-106	0.385	1.70E-02	6.14E-04	
SB-126	0.487	1.63E-03	5.76E-05	
Sn-126	0.725	3.15E-03	5.66E-04	
CS-137	1.000	1.90E-02	1.63E-04	
EU-152	0.233	1.33E-03	1.04E-04	
EU-154	0.885	3.65E-02	3.13E-04	
EU-155	0.789	3.52E-03	6.95E-04	
AM-241	1.000	2.26E-01	4.72E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2331 VSM-7.0M-S3-CST-d-A W3
ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 8:47:39AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
M	1	56.84	1.70850E+00	10.58		
m	8	347.22	1.62858E-01	47.01		
F	9	363.50	1.06058E-01	8.08		
F	11	444.94	1.30870E-01	133.52		
F	13	581.96	1.82073E-01	14.73		
F	22	815.87	7.66331E-02	56.09	Sum	
F	23	845.59	8.95275E-02	42.10	Sum	
F	25	892.96	6.20494E-02	26.14		
F	26	904.19	1.14213E-01	14.43		
F	34	1397.53	8.48562E-02	9.14	Sum	
F	38	2504.64	2.84898E-02	13.37		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.61	10.44	4.02E-03	4.02E-03	4.87E-03	2.00E-03
K-40	1460.83	10.67	1.06E-03	1.06E-03	1.59E-03	5.16E-04
MN-54	834.84	99.98	2.85E-04	2.85E-04	-1.73E-04	1.41E-04
CO-58	810.78	99.45	2.98E-04	2.98E-04	-5.55E-05	1.48E-04
	863.96	0.68	4.23E-02		4.45E-03	2.10E-02

Analysis Report for 24-2331 VSM-7.0M-S3-CST-d-A W3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CO-58	1674.73		0.52	1.18E-02	2.98E-04	-4.25E-03	5.52E-03
	FE-59	142.65		1.00	7.79E-02	3.39E-04	8.41E-02	3.89E-02
		192.35		3.01	2.33E-02		-8.13E-03	1.16E-02
		334.80		0.27	1.79E-01		1.79E-01	8.91E-02
		1099.25		56.30	4.27E-04		3.08E-04	2.11E-04
		1291.60		43.70	3.39E-04		-3.25E-04	1.66E-04
+	CO-60	1173.24	*	99.97	2.86E-04	2.34E-04	1.01E-02	1.41E-04
		1332.50	*	99.99	2.34E-04		1.00E-02	1.15E-04
		2505.74		1.00	9.73E-03		1.75E-02	4.60E-03
	SR-85	514.00		96.00	4.74E-04	4.74E-04	2.13E-04	2.36E-04
		868.60		0.01	3.31E+00		1.76E+00	1.65E+00
	NB-94	702.62		97.90	3.34E-04	3.34E-04	-6.80E-05	1.66E-04
		871.09		99.98	4.16E-04		4.37E-03	2.07E-04
	NB-95	765.81		99.81	3.11E-04	3.11E-04	1.81E-04	1.54E-04
	RU-103	497.05		91.00	4.49E-04	4.49E-04	2.10E-04	2.24E-04
		610.30		5.76	6.10E-03		-1.34E-03	3.03E-03
+	RH-106	511.86	*	20.70	2.91E-03	2.91E-03	1.70E-02	1.45E-03
		621.92		9.93	3.56E-03		4.67E-03	1.77E-03
		1050.36		1.56	1.73E-02		3.55E-03	8.57E-03
	AG-108M	79.13		6.60	1.76E-02	4.12E-04	-1.93E-02	8.78E-03
		433.90		90.50	5.18E-04		-4.01E-04	2.58E-04
		614.30		89.80	4.12E-04		2.20E-04	2.05E-04
		722.90		90.80	5.72E-04		8.67E-03	2.85E-04
	CD-109	88.03		3.61	2.84E-02	2.84E-02	6.14E-03	1.42E-02
	SB-125	176.31		6.82	1.01E-02	1.47E-03	-9.38E-03	5.06E-03
		380.45		1.52	2.84E-02		-2.77E-02	1.42E-02
		427.87		29.55	1.47E-03		7.47E-05	7.32E-04
		463.36		10.48	4.00E-03		3.99E-03	1.99E-03
		600.60		17.76	1.94E-03		-3.38E-04	9.67E-04
		606.71		5.02	6.84E-03		1.33E-03	3.40E-03
		635.95		11.32	2.89E-03		1.36E-03	1.44E-03
		671.44		1.78	2.01E-02		-8.50E-03	9.98E-03
+	SB-126	223.90		1.39	4.25E-02	2.78E-04	-5.68E-02	2.12E-02
		278.20		2.40	2.59E-02		7.79E-03	1.29E-02
		296.50		4.50	1.34E-02		1.15E-04	6.70E-03
		414.70	*	83.30	8.97E-04		2.32E-03	4.48E-04
		556.30		1.69	2.55E-02		-1.04E-02	1.27E-02
		573.90		6.70	6.27E-03		5.28E-03	3.12E-03
		593.20		7.50	5.78E-03		2.72E-02	2.87E-03
		656.30		2.19	2.80E-02		-4.65E-03	1.39E-02
		666.50	*	99.60	2.78E-04		1.59E-03	1.38E-04
		674.80		3.10	1.25E-02		1.72E-03	6.20E-03
		695.00	*	99.60	3.32E-04		1.91E-03	1.65E-04
		697.00		29.00	1.52E-03		-9.99E-05	7.56E-04
		720.70		53.80	1.04E-03		8.38E-05	5.18E-04
		856.80		17.60	1.81E-03		-7.57E-04	8.98E-04
		989.60		6.80	5.16E-03		-6.47E-04	2.56E-03
		1213.30		2.39	8.41E-03		4.26E-03	4.13E-03
+	Sn-126	64.28		9.60	1.72E-02	2.71E-03	-3.42E-03	8.59E-03
		87.30	*	45.90	2.71E-03		5.51E-03	1.35E-03
	I-129	29.70		56.60	6.75E-02	6.75E-02	-7.74E-02	3.37E-02
		33.60		10.04	1.62E-01		-4.81E-01	8.10E-02
		34.40		2.01	7.01E-01		-2.37E+00	3.50E-01

Analysis Report for 24-2331 VSM-7.0M-S3-CST-d-A W3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-129	39.60		7.51	9.06E-02	6.75E-02	-2.29E-01	4.53E-02
	CS-134	563.25		8.34	4.67E-03	3.59E-04	-5.31E-04	2.32E-03
		569.33		15.37	2.52E-03		5.78E-04	1.25E-03
		604.72		97.62	3.71E-04		7.43E-05	1.84E-04
		795.86		85.46	3.59E-04		-7.35E-06	1.78E-04
		801.95		8.69	3.57E-03		-1.82E-04	1.77E-03
+	CS-137	661.66	*	85.20	2.95E-04	2.95E-04	1.90E-02	1.46E-04
	CE-139	165.85		79.89	9.09E-04	9.09E-04	9.07E-05	4.54E-04
	CE-141	40.70		3.35	1.88E-01	1.61E-03	1.08E-01	9.38E-02
		145.44		48.29	1.61E-03		5.48E-04	8.06E-04
	CE-144	80.12		1.36	8.41E-02	7.13E-03	1.07E-02	4.20E-02
		133.51		11.09	7.13E-03		5.21E-03	3.56E-03
+	EU-152	121.78		28.58	3.14E-03	6.72E-04	4.92E-04	1.57E-03
		344.28	*	26.50	1.18E-03		1.93E-03	5.87E-04
		778.90	*	12.94	3.67E-03		1.84E-03	1.83E-03
		964.08		14.73	1.93E-03		1.48E-03	9.56E-04
		1085.87		10.24	2.39E-03		1.15E-03	1.18E-03
		1112.07	*	13.69	2.42E-03		1.86E-03	1.20E-03
		1408.01	*	21.07	6.72E-04		1.22E-03	3.27E-04
	GD-153	97.43		29.00	3.22E-03	3.22E-03	4.17E-03	1.61E-03
		103.18		21.10	4.26E-03		-2.54E-03	2.13E-03
+	EU-154	42.70		20.45	2.43E-02	6.54E-04	3.84E-02	1.21E-02
		123.07	*	40.40	2.95E-03		3.82E-02	1.47E-03
		247.93	*	6.89	1.12E-02		3.41E-02	5.59E-03
		591.76	*	4.95	7.43E-03		3.37E-02	3.69E-03
		692.42	*	1.78	1.49E-02		4.09E-02	7.37E-03
		723.30	*	20.06	2.06E-03		3.74E-02	1.02E-03
		756.80	*	4.52	8.17E-03		3.51E-02	4.06E-03
		873.18	*	12.08	2.98E-03		3.65E-02	1.48E-03
		996.29	*	10.48	3.34E-03		3.67E-02	1.66E-03
		1004.76	*	18.01	2.06E-03		3.63E-02	1.02E-03
		1246.12	*	0.86	2.65E-02		4.10E-02	1.31E-02
		1274.43	*	34.80	6.54E-04		3.73E-02	3.22E-04
		1494.05	*	0.70	1.71E-02		2.83E-02	8.32E-03
		1596.48	*	1.80	5.19E-03		3.31E-02	2.51E-03
+	EU-155	43.00		18.70	2.59E-02	4.05E-03	3.24E-02	1.29E-02
		60.01	*	1.22	1.37E-01		6.67E+00	6.84E-02
		86.55	*	30.70	4.05E-03		8.24E-03	2.03E-03
		105.31	*	21.10	4.25E-03		3.52E-03	2.13E-03
	HG-203	72.87		6.30	2.14E-02	6.67E-04	3.29E-02	1.07E-02
		279.20		81.46	6.67E-04		4.20E-04	3.33E-04
	BI-207	569.15		97.80	3.88E-04	3.48E-04	8.31E-05	1.93E-04
		1063.10		74.90	3.48E-04		-5.51E-04	1.72E-04
	PB-210	46.54		4.25	9.13E-02	9.13E-02	-2.19E-01	4.56E-02
	RA-226	74.81		6.44	1.96E-02	4.19E-04	4.70E-02	9.79E-03
		77.11		10.80	1.12E-02		2.17E-02	5.57E-03
		87.30		4.84	2.13E-02		3.56E-02	1.07E-02
		186.21		3.59	1.86E-02		4.81E-03	9.31E-03
		242.00		7.43	7.56E-03		4.33E-03	3.77E-03
		295.22		19.30	2.65E-03		5.97E-04	1.32E-03
		351.93		37.60	1.21E-03		2.35E-04	6.02E-04
		609.31		46.10	7.40E-04		7.85E-04	3.68E-04
		768.36		4.94	6.02E-03		1.96E-04	2.99E-03

Analysis Report for 24-2331 VSM-7.0M-S3-CST-d-A W3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	1120.29		15.10	1.47E-03	4.19E-04	3.95E-04	7.27E-04
		1238.11		5.79	2.89E-03		2.61E-03	1.42E-03
		1764.49		15.40	4.19E-04		2.65E-04	1.96E-04
	PA-231	283.70		1.59	3.29E-02	2.12E-02	3.20E-02	1.64E-02
		300.07		2.38	2.12E-02		2.27E-02	1.06E-02
		302.67		1.71	2.93E-02		-1.32E-02	1.46E-02
		330.07		1.32	3.59E-02		1.91E-02	1.79E-02
	TH-232	74.81		11.62	1.09E-02	1.42E-04	2.61E-02	5.42E-03
		77.11		17.50	6.89E-03		1.34E-02	3.44E-03
		87.30		7.80	1.32E-02		2.21E-02	6.61E-03
		238.63		43.30	1.31E-03		-4.22E-04	6.52E-04
		338.32		11.30	4.13E-03		-3.40E-03	2.06E-03
		583.19		30.37	1.16E-03		1.24E-03	5.79E-04
		727.33		6.58	7.15E-03		-1.48E-03	3.56E-03
		911.21		26.60	1.05E-03		-3.87E-04	5.22E-04
		968.97		16.20	1.68E-03		1.20E-03	8.30E-04
		2614.53		35.64	1.42E-04		1.31E-04	6.34E-05
	U-235	143.76		10.96	6.88E-03	1.17E-03	5.17E-03	3.44E-03
		185.71		57.20	1.17E-03		1.23E-04	5.85E-04
		205.31		5.01	1.25E-02		-7.19E-03	6.24E-03
	U-238	63.29		3.70	4.80E-02	2.28E-02	9.81E-03	2.40E-02
		92.51		4.23	2.28E-02		2.37E-02	1.14E-02
		112.81		0.21	3.93E-01		3.32E-01	1.96E-01
		742.81		0.11	2.79E-01		-1.77E-01	1.38E-01
		766.28		0.32	9.45E-02		6.53E-02	4.69E-02
		1001.03		0.84	6.41E-02		2.34E-03	3.19E-02
	NP-239	99.60		12.80	1.20E-02	5.66E-03	1.71E-03	5.99E-03
		103.80		20.40	7.32E-03		-5.36E-03	3.66E-03
		106.10		26.40	5.66E-03		1.45E-02	2.83E-03
		116.90		7.61	1.81E-02		9.00E-03	9.03E-03
		228.20		11.20	8.99E-03		8.08E-03	4.48E-03
		277.60		14.50	6.34E-03		-1.32E-03	3.16E-03
		315.90		1.60	5.07E-02		-2.51E-03	2.53E-02
		334.30		2.06	3.64E-02		1.64E-02	1.81E-02
+	AM-241	59.54	*	35.90	4.64E-03	4.64E-03	2.26E-01	2.32E-03

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

Apex-Gamma

Analysis Report for 24-2332 VSM-7.0M-S4-CST-A X3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2332 VSM-7.0M-S4-CST-A X3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 6:49:18AM
Procedure	: X3_gsv02mlw
Operator	: Administrator
Detector Name	: X
Geometry	: X3_gsv02mlw
Live Time	: 2972.8 seconds
Real Time	: 3144.9 seconds
Dead Time	: 5.47 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 7/9/2024
Efficiency Calibration Used Done On	: 3/13/2019
Efficiency Calibration Description	: X3_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567857
Certificate Name	: QA_Q
Certificate Date	: 3/23/1994 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 7:41:46AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2332 VSM-7.0M-S4-CST-A X3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.52	184.15	0.0501	120.84
2	74.81	230.96	0.3106	3.33
3	86.62	267.57	0.2101	6.18
4	105.28	325.22	0.2082	7.31
5	123.01	380.02	0.0641	70.20
6	247.85	765.10	0.1131	21.72
7	343.84	1061.50	0.2357	4.64
8	414.86	1280.40	0.1257	15.84
9	478.39	1475.95	0.2764	3.05
10	511.05	1577.04	0.1121	13.56
11	581.97	1795.99	0.1855	7.37
12	591.72	1826.23	0.1052	19.88
13	661.69	2042.01	0.0425	119.03
14	666.32	2056.96	0.1282	16.70
15	692.49	2136.07	0.2838	4.92
16	695.07	2145.30	0.1235	15.23
17	723.35	2232.22	0.0631	52.90
18	756.87	2335.79	0.1015	21.08
19	815.55	2516.82	0.2257	3.02
20	845.82	2610.02	0.2230	4.36
21	873.23	2694.74	0.0730	37.85
22	892.70	2754.79	0.2361	3.60
23	904.06	2789.57	0.2072	4.57
24	964.22	2975.44	0.2582	3.66
25	996.31	3074.55	0.0755	33.43
26	1004.80	3100.67	0.0646	45.48
27	1086.48	3350.86	0.2400	3.16
28	1128.46	3482.34	0.2112	3.96
29	1173.32	3620.66	0.0589	52.00
30	1221.68	3769.86	0.2895	3.22
31	1246.19	3845.33	0.1568	6.45
32	1274.51	3932.95	0.0550	58.62
33	1332.59	4112.22	0.0593	49.71
34	1397.77	4313.23	0.1596	6.82
35	1408.24	4345.57	0.1691	5.36
36	1460.89	4508.00	0.2479	3.01
37	1494.15	4610.63	0.1569	7.03
38	1596.59	4926.96	0.1126	12.64
39	1719.85	5307.51	0.2052	3.65
40	2505.66	7731.76	0.1770	5.04

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2332 VSM-7.0M-S4-CST-A X3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 7:41:46AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.52	173	193	184.14	1.43E+05	2213.33	5.03E+05	1.50
F	2	74.81	222	241	231.33	3.36E+03	814.04	4.89E+05	1.86
F	3	86.62	262	278	267.77	6.02E+03	461.39	3.89E+05	1.68
F	4	105.28	320	336	325.34	4.13E+03	405.73	3.16E+05	1.34
F	5	123.01	372	391	380.04	5.54E+04	2268.95	2.95E+05	1.60
F	6	247.85	759	775	765.20	6.36E+03	194.70	5.74E+04	1.53
F	7	343.84	1056	1068	1061.36	8.74E+02	625.18	1.90E+04	1.55
F	8	414.86	1273	1289	1280.45	2.31E+03	108.59	1.62E+04	1.49
F	9	478.39	1470	1485	1476.46	4.39E+02	90.10	1.07E+04	2.13
F	10	511.05	1565	1591	1577.24	6.01E+03	109.70	1.50E+04	2.87
F	11	581.97	1791	1803	1796.07	5.56E+02	68.18	4.87E+03	1.50
F	12	591.72	1817	1835	1826.14	2.83E+03	305.77	6.88E+03	1.91
M	13	661.69	2026	2072	2042.01	4.52E+04	421.38	5.01E+03	1.97
m	14	666.32	2026	2072	2056.30	2.47E+03	77.51	4.65E+03	1.97
M	15	692.49	2128	2160	2137.06	8.71E+02	60.52	4.34E+03	1.85
m	16	695.07	2128	2160	2145.01	1.94E+03	69.42	5.07E+03	1.85
F	17	723.35	2216	2245	2232.26	1.05E+04	285.58	6.21E+03	2.01
F	18	756.87	2320	2346	2335.70	2.18E+03	234.85	5.02E+03	1.91
F	19	815.55	2508	2526	2516.74	2.39E+02	46.13	2.81E+03	2.14
F	20	845.82	2599	2617	2610.14	2.76E+02	180.94	2.57E+03	1.37
F	21	873.23	2684	2706	2694.71	5.46E+03	242.83	2.81E+03	2.07
F	22	892.70	2745	2762	2754.79	2.04E+02	40.96	2.06E+03	1.95
F	23	904.06	2780	2804	2789.85	5.13E+02	242.47	2.49E+03	3.00
F	24	964.22	2958	2982	2975.46	3.46E+02	237.38	2.33E+03	1.86
M	25	996.31	3061	3113	3074.46	4.59E+03	121.69	2.03E+03	2.22
m	26	1004.80	3061	3113	3100.66	7.78E+03	186.09	2.06E+03	2.22
F	27	1086.48	3342	3358	3352.71	2.73E+02	31.84	9.92E+02	3.02
F	28	1128.46	3472	3490	3482.24	1.88E+02	30.60	1.01E+03	2.21
F	29	1173.32	3604	3638	3620.64	1.01E+04	213.84	1.27E+03	2.38
	30	1221.68	3764	3775	3769.86	2.02E+01	34.62	2.94E+02	1.21
F	31	1246.19	3836	3856	3845.49	3.34E+02	25.99	4.99E+02	2.49
F	32	1274.51	3917	3948	3932.89	1.27E+04	206.27	9.04E+02	2.45
F	33	1332.59	4095	4126	4112.11	9.22E+03	198.22	5.76E+02	2.43
F	34	1397.77	4304	4322	4313.22	1.89E+02	19.57	2.41E+02	2.08
F	35	1408.24	4333	4356	4345.51	2.42E+02	20.12	2.75E+02	2.75
	36	1460.89	4499	4516	4508.00	1.73E+01	31.11	1.72E+02	0.38
F	37	1494.15	4599	4622	4610.62	2.42E+02	59.38	1.32E+02	2.67
F	38	1596.59	4915	4939	4926.72	6.41E+02	26.14	1.24E+02	2.50
F	39	1719.85	5298	5315	5307.08	6.80E+01	44.39	2.28E+01	2.45
F	40	2505.66	7723	7741	7732.00	7.69E+01	33.37	4.29E+00	2.60

Analysis Report for 24-2332 VSM-7.0M-S4-CST-A X3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 7:41:46AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567386.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.52	1.43E+05	2213.33			1.43E+05	2.21E+03
F	2	74.81	3.36E+03	814.04	9.43E+01	6.56E+00	3.27E+03	8.14E+02
F	3	86.62	6.02E+03	461.39	2.15E+01	2.17E-01	6.00E+03	4.61E+02
F	4	105.28	4.13E+03	405.73			4.13E+03	4.06E+02
F	5	123.01	5.54E+04	2268.95			5.54E+04	2.27E+03
F	6	247.85	6.36E+03	194.70			6.36E+03	1.95E+02
F	7	343.84	8.74E+02	625.18			8.74E+02	6.25E+02
F	8	414.86	2.31E+03	108.59			2.31E+03	1.09E+02
F	9	478.39	4.39E+02	90.10			4.39E+02	9.01E+01
F	10	511.05	6.01E+03	109.70			6.01E+03	1.10E+02
F	11	581.97	5.56E+02	68.18	9.02E+00	5.77E-01	5.47E+02	6.82E+01
F	12	591.72	2.83E+03	305.77			2.83E+03	3.06E+02
M	13	661.69	4.52E+04	421.38			4.52E+04	4.21E+02
m	14	666.32	2.47E+03	77.51			2.47E+03	7.75E+01
M	15	692.49	8.71E+02	60.52			8.71E+02	6.05E+01
m	16	695.07	1.94E+03	69.42			1.94E+03	6.94E+01
F	17	723.35	1.05E+04	285.58			1.05E+04	2.86E+02
F	18	756.87	2.18E+03	234.85			2.18E+03	2.35E+02
F	19	815.55	2.39E+02	46.13			2.39E+02	4.61E+01
F	20	845.82	2.76E+02	180.94			2.76E+02	1.81E+02
F	21	873.23	5.46E+03	242.83			5.46E+03	2.43E+02
F	22	892.70	2.04E+02	40.96			2.04E+02	4.10E+01
F	23	904.06	5.13E+02	242.47			5.13E+02	2.42E+02
F	24	964.22	3.46E+02	237.38			3.46E+02	2.37E+02
M	25	996.31	4.59E+03	121.69			4.59E+03	1.22E+02
m	26	1004.80	7.78E+03	186.09			7.78E+03	1.86E+02
F	27	1086.48	2.73E+02	31.84			2.73E+02	3.18E+01
F	28	1128.46	1.88E+02	30.60			1.88E+02	3.06E+01
F	29	1173.32	1.01E+04	213.84			1.01E+04	2.14E+02
	30	1221.68	2.02E+01	34.62			2.02E+01	3.46E+01
F	31	1246.19	3.34E+02	25.99			3.34E+02	2.60E+01
F	32	1274.51	1.27E+04	206.27			1.27E+04	2.06E+02
F	33	1332.59	9.22E+03	198.22			9.22E+03	1.98E+02

Analysis Report for 24-2332 VSM-7.0M-S4-CST-A X3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	34	1397.77	1.89E+02	19.57			1.89E+02	1.96E+01
F	35	1408.24	2.42E+02	20.12			2.42E+02	2.01E+01
	36	1460.89	1.73E+01	31.11			1.73E+01	3.11E+01
F	37	1494.15	2.42E+02	59.38			2.42E+02	5.94E+01
F	38	1596.59	6.41E+02	26.14			6.41E+02	2.61E+01
F	39	1719.85	6.80E+01	44.39			6.80E+01	4.44E+01
F	40	2505.66	7.69E+01	33.37			7.69E+01	3.34E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
BE-7	0.90	477.61	*	10.44	2.32E-03	4.78E-04	miss
K-40	0.99	1460.83	*	10.67	1.77E-04	3.18E-04	miss
CO-57	0.70	122.06	*	85.60	1.76E-02	7.34E-04	1.000
		136.47		10.68			
CO-60	0.99	1173.24	*	99.97	9.96E-03	2.17E-04	0.960
		1332.50	*	99.99	9.88E-03	2.21E-04	0.959
		2505.74	*	1.00	1.27E-02	5.57E-03	miss
RH-106	0.39	511.86	*	20.70	1.68E-02	5.93E-04	0.973
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.58E-03	8.77E-05	0.865
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.91E-03	6.07E-05	0.863
		674.80		3.10			
		695.00	*	99.60	1.53E-03	5.57E-05	0.862
		697.00		29.00			

Analysis Report for 24-2332 VSM-7.0M-S4-CST-A X3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.71	64.28		9.60			
		87.30	*	45.90	3.84E-03	3.41E-04	miss
CS-137	1.00	661.66	*	85.20	3.50E-02	3.82E-04	miss
EU-152	0.20	121.78		28.58			
		344.28	*	26.50	1.50E-03	1.07E-03	0.968
		778.90		12.94			
		964.08	*	14.73	2.03E-03	1.40E-03	0.963
		1085.87	*	10.24	2.38E-03	2.78E-04	1.007
		1112.07		13.69			
		1408.01	*	21.07	1.26E-03	1.05E-04	0.971
EU-154	0.90	42.70		20.45			
		123.07	*	40.40	3.89E-02	1.67E-03	0.953
		247.93	*	6.89	3.55E-02	1.18E-03	0.939
		591.76	*	4.95	3.79E-02	4.13E-03	0.927
		692.42	*	1.78	3.53E-02	2.49E-03	0.943
		723.30	*	20.06	3.85E-02	1.14E-03	0.947
		756.80	*	4.52	3.74E-02	4.05E-03	0.925
		873.18	*	12.08	3.77E-02	1.73E-03	0.940
		996.29	*	10.48	3.78E-02	1.08E-03	0.984
		1004.76	*	18.01	3.79E-02	1.00E-03	0.976
		1246.12	*	0.86	4.11E-02	3.24E-03	0.934
		1274.43	*	34.80	3.71E-02	7.20E-04	0.978
		1494.05	*	0.70	3.79E-02	9.31E-03	1.016
		1596.48	*	1.80	3.54E-02	1.52E-03	1.172
EU-155	0.82	43.00		18.70			
		60.01	*	1.22	6.91E+00	2.64E-01	0.998
		86.55	*	30.70	5.75E-03	4.64E-04	free
		105.31	*	21.10	5.26E-03	5.33E-04	1.000
AM-241	1.00	59.54	*	35.90	2.34E-01	6.00E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

Analysis Report for 24-2332 VSM-7.0M-S4-CST-A X3

ASR 2094 Branch

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
BE-7	0.907	2.32E-03	4.78E-04	
K-40	0.999	1.77E-04	3.18E-04	
CO-57	0.703	7.22E-04	7.52E-04	
CO-60	0.999	9.92E-03	1.55E-04	
RH-106	0.393	1.68E-02	5.93E-04	
SB-126	0.487	1.68E-03	3.72E-05	
Sn-126	0.716	3.31E-04	4.57E-04	
CS-137	1.000	3.50E-02	3.82E-04	
EU-152	0.201	1.41E-03	9.77E-05	
EU-154	0.907	3.73E-02	3.67E-04	
EU-155	0.826	5.26E-03	5.19E-04	
AM-241	1.000	2.34E-01	4.56E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2332 VSM-7.0M-S4-CST-A X3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 7:41:46AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	74.81	1.09875E+00	24.92	Tol.	TH-232
F	11	581.97	1.84077E-01	12.46		
F	19	815.55	8.05001E-02	19.28	Sum	
F	20	845.82	9.27693E-02	65.61	Sum	
F	22	892.70	6.85779E-02	20.09	Sum	
F	23	904.06	1.72420E-01	47.31		
F	28	1128.46	6.33410E-02	16.25	Sum	
	30	1221.68	6.80489E-03	171.12		
F	34	1397.77	6.36005E-02	10.35	Sum	
F	39	1719.85	2.28866E-02	65.25	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	BE-7	477.61	*	10.44	4.04E-03	4.04E-03	2.32E-03	2.01E-03
+	K-40	1460.83	*	10.67	1.07E-03	1.07E-03	1.77E-04	5.19E-04
	MN-54	834.84		99.98	2.89E-04	2.89E-04	2.92E-04	1.44E-04
	CO-58	810.78		99.45	3.04E-04	3.04E-04	1.66E-04	1.51E-04
		863.96		0.68	4.41E-02		-4.87E-02	2.19E-02
		1674.73		0.52	1.18E-02		-1.70E-03	5.57E-03

Analysis Report for 24-2332 VSM-7.0M-S4-CST-A X3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	FE-59	142.65		1.00	7.99E-02	3.57E-04	3.57E-02	3.99E-02
		192.35		3.01	2.44E-02		4.65E-03	1.22E-02
		334.80		0.27	1.85E-01		-2.90E-02	9.23E-02
		1099.25		56.30	4.40E-04		1.63E-04	2.18E-04
		1291.60		43.70	3.57E-04		1.65E-05	1.75E-04
+	CO-60	1173.24	*	99.97	3.63E-04	2.55E-04	9.96E-03	1.80E-04
		1332.50	*	99.99	2.55E-04		9.88E-03	1.26E-04
		2505.74	*	1.00	3.06E-03		1.27E-02	1.31E-03
	SR-85	514.00		96.00	4.73E-04	4.73E-04	1.52E-04	2.36E-04
		868.60		0.01	3.30E+00		4.79E-01	1.64E+00
	NB-94	702.62		97.90	3.63E-04	3.63E-04	-6.98E-05	1.81E-04
		871.09		99.98	4.07E-04		4.31E-03	2.02E-04
	NB-95	765.81		99.81	3.15E-04	3.15E-04	-1.36E-04	1.56E-04
	RU-103	497.05		91.00	4.59E-04	4.59E-04	3.73E-04	2.29E-04
		610.30		5.76	6.14E-03		-9.40E-04	3.06E-03
+	RH-106	511.86	*	20.70	3.15E-03	3.15E-03	1.68E-02	1.57E-03
		621.92		9.93	3.59E-03		2.38E-03	1.79E-03
		1050.36		1.56	1.76E-02		1.77E-02	8.74E-03
	AG-108M	79.13		6.60	1.91E-02	4.17E-04	-9.14E-03	9.55E-03
		433.90		90.50	5.23E-04		-5.35E-04	2.61E-04
		614.30		89.80	4.17E-04		-4.45E-04	2.07E-04
		722.90		90.80	5.54E-04		9.06E-03	2.76E-04
	CD-109	88.03		3.61	3.06E-02	3.06E-02	9.12E-02	1.53E-02
	SB-125	176.31		6.82	1.03E-02	1.47E-03	-2.19E-03	5.15E-03
		380.45		1.52	3.04E-02		9.80E-03	1.51E-02
		427.87		29.55	1.47E-03		-9.32E-04	7.34E-04
		463.36		10.48	4.11E-03		1.62E-04	2.05E-03
		600.60		17.76	1.95E-03		-2.91E-04	9.72E-04
		606.71		5.02	6.90E-03		7.50E-04	3.43E-03
		635.95		11.32	3.08E-03		1.09E-03	1.53E-03
		671.44		1.78	2.08E-02		6.69E-03	1.03E-02
+	SB-126	223.90		1.39	4.47E-02	2.47E-04	-8.47E-03	2.23E-02
		278.20		2.40	2.63E-02		2.39E-02	1.31E-02
		296.50		4.50	1.37E-02		1.24E-02	6.82E-03
		414.70	*	83.30	6.59E-04		1.58E-03	3.28E-04
		556.30		1.69	2.62E-02		8.18E-05	1.30E-02
		573.90		6.70	6.43E-03		2.60E-03	3.20E-03
		593.20		7.50	5.81E-03		2.53E-02	2.89E-03
		656.30		2.19	3.95E-02		-1.03E-02	1.97E-02
		666.50	*	99.60	2.47E-04		1.91E-03	1.22E-04
		674.80		3.10	1.31E-02		6.94E-03	6.51E-03
		695.00	*	99.60	2.64E-04		1.53E-03	1.31E-04
		697.00		29.00	1.52E-03		-7.81E-05	7.57E-04
		720.70		53.80	1.01E-03		4.34E-06	5.04E-04
		856.80		17.60	1.88E-03		-3.21E-04	9.33E-04
		989.60		6.80	6.11E-03		-2.15E-03	3.03E-03
		1213.30		2.39	8.15E-03		1.20E-02	4.01E-03
+	Sn-126	64.28		9.60	2.06E-02	3.02E-03	5.37E-03	1.03E-02
		87.30	*	45.90	3.02E-03		3.84E-03	1.51E-03
	I-129	29.70		56.60	2.28E-01	1.72E-01	-3.93E-01	1.14E-01
		33.60		10.04	4.02E-01		-1.49E+00	2.01E-01
		34.40		2.01	1.65E+00		-5.29E+00	8.23E-01
		39.60		7.51	1.72E-01		-5.37E-01	8.57E-02

Analysis Report for 24-2332 VSM-7.0M-S4-CST-A X3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-134	563.25		8.34	4.74E-03	3.67E-04	-4.06E-03	2.36E-03
		569.33		15.37	2.57E-03		1.61E-04	1.28E-03
		604.72		97.62	3.74E-04		-9.93E-05	1.86E-04
		795.86		85.46	3.67E-04		-1.48E-05	1.82E-04
		801.95		8.69	3.69E-03		8.04E-04	1.83E-03
+	CS-137	661.66	*	85.20	2.57E-04	2.57E-04	3.50E-02	1.28E-04
	CE-139	165.85		79.89	9.23E-04	9.23E-04	3.31E-04	4.61E-04
	CE-141	40.70		3.35	3.37E-01	1.65E-03	-6.19E-01	1.68E-01
		145.44		48.29	1.65E-03		-2.58E-04	8.26E-04
	CE-144	80.12		1.36	9.14E-02	7.34E-03	-7.09E-02	4.57E-02
		133.51		11.09	7.34E-03		-3.92E-03	3.66E-03
+	EU-152	121.78		28.58	3.38E-03	7.66E-04	-9.45E-04	1.69E-03
		344.28	*	26.50	1.61E-03		1.50E-03	8.02E-04
		778.90		12.94	2.44E-03		5.20E-04	1.21E-03
		964.08	*	14.73	2.53E-03		2.03E-03	1.26E-03
		1085.87	*	10.24	2.09E-03		2.38E-03	1.04E-03
		1112.07		13.69	1.83E-03		-1.09E-03	9.05E-04
		1408.01	*	21.07	7.66E-04		1.26E-03	3.76E-04
	GD-153	97.43		29.00	3.57E-03	3.57E-03	3.29E-03	1.78E-03
		103.18		21.10	4.69E-03		6.30E-04	2.34E-03
+	EU-154	42.70		20.45	4.05E-02	8.78E-04	-1.03E-01	2.02E-02
		123.07	*	40.40	3.08E-03		3.89E-02	1.54E-03
		247.93	*	6.89	1.01E-02		3.55E-02	5.05E-03
		591.76	*	4.95	8.83E-03		3.79E-02	4.40E-03
		692.42	*	1.78	1.25E-02		3.53E-02	6.20E-03
		723.30	*	20.06	2.79E-03		3.85E-02	1.39E-03
		756.80	*	4.52	1.12E-02		3.74E-02	5.57E-03
		873.18	*	12.08	3.16E-03		3.77E-02	1.57E-03
		996.29	*	10.48	1.75E-03		3.78E-02	8.64E-04
		1004.76	*	18.01	1.04E-03		3.79E-02	5.14E-04
		1246.12	*	0.86	2.29E-02		4.11E-02	1.13E-02
		1274.43	*	34.80	8.78E-04		3.71E-02	4.35E-04
		1494.05	*	0.70	1.61E-02		3.79E-02	7.84E-03
		1596.48	*	1.80	5.59E-03		3.54E-02	2.72E-03
+	EU-155	43.00		18.70	4.27E-02	4.52E-03	-9.11E-02	2.13E-02
		60.01	*	1.22	2.82E-01		6.91E+00	1.41E-01
		86.55	*	30.70	4.52E-03		5.75E-03	2.26E-03
		105.31	*	21.10	5.41E-03		5.26E-03	2.70E-03
	HG-203	72.87		6.30	2.35E-02	6.73E-04	1.41E-02	1.17E-02
		279.20		81.46	6.73E-04		-5.32E-05	3.36E-04
	BI-207	569.15		97.80	3.94E-04	3.58E-04	2.48E-05	1.96E-04
		1063.10		74.90	3.58E-04		1.41E-04	1.78E-04
	PB-210	46.54		4.25	1.28E-01	1.28E-01	-7.63E-02	6.41E-02
	RA-226	74.81		6.44	2.14E-02	4.64E-04	3.43E-02	1.07E-02
		77.11		10.80	1.21E-02		2.77E-03	6.07E-03
		87.30		4.84	2.30E-02		9.41E-02	1.15E-02
		186.21		3.59	1.95E-02		-2.44E-03	9.72E-03
		242.00		7.43	7.99E-03		-3.49E-03	3.99E-03
		295.22		19.30	2.68E-03		2.13E-04	1.34E-03
		351.93		37.60	1.29E-03		6.37E-05	6.44E-04
		609.31		46.10	7.46E-04		3.42E-04	3.71E-04
		768.36		4.94	6.07E-03		-2.31E-03	3.01E-03
		1120.29		15.10	1.60E-03		1.11E-03	7.94E-04

Analysis Report for 24-2332 VSM-7.0M-S4-CST-A X3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	1238.11		5.79	3.02E-03	4.64E-04	4.18E-04	1.49E-03
		1764.49		15.40	4.64E-04		5.36E-04	2.21E-04
	PA-231	283.70		1.59	3.34E-02	2.14E-02	1.01E-02	1.66E-02
		300.07		2.38	2.14E-02		3.08E-02	1.07E-02
		302.67		1.71	3.04E-02		2.73E-02	1.52E-02
		330.07		1.32	3.72E-02		3.65E-02	1.86E-02
	TH-232	74.81		11.62	1.19E-02	1.58E-04	1.90E-02	5.93E-03
		77.11		17.50	7.50E-03		1.71E-03	3.75E-03
		87.30		7.80	1.43E-02		5.84E-02	7.14E-03
		238.63		43.30	1.37E-03		-2.60E-03	6.84E-04
		338.32		11.30	4.31E-03		3.28E-03	2.15E-03
		583.19		30.37	1.18E-03		1.06E-03	5.88E-04
		727.33		6.58	6.94E-03		1.17E-03	3.45E-03
		911.21		26.60	1.02E-03		-8.53E-04	5.08E-04
		968.97		16.20	1.66E-03		9.93E-04	8.25E-04
		2614.53		35.64	1.58E-04		1.26E-04	7.27E-05
	U-235	143.76		10.96	7.07E-03	1.22E-03	-7.43E-04	3.53E-03
		185.71		57.20	1.22E-03		1.02E-03	6.11E-04
		205.31		5.01	1.31E-02		9.34E-03	6.55E-03
	U-238	63.29		3.70	5.70E-02	2.46E-02	1.72E-02	2.85E-02
		92.51		4.23	2.46E-02		2.81E-02	1.23E-02
		112.81		0.21	4.32E-01		2.48E-01	2.16E-01
		742.81		0.11	2.91E-01		1.39E-01	1.44E-01
		766.28		0.32	9.49E-02		-9.34E-02	4.72E-02
		1001.03		0.84	6.12E-02		1.25E+00	3.05E-02
	NP-239	99.60		12.80	1.31E-02	6.16E-03	4.23E-04	6.54E-03
		103.80		20.40	7.97E-03		-2.05E-03	3.98E-03
		106.10		26.40	6.16E-03		1.75E-02	3.08E-03
		116.90		7.61	1.96E-02		2.57E-03	9.77E-03
		228.20		11.20	9.29E-03		6.06E-03	4.64E-03
		277.60		14.50	6.31E-03		-7.24E-04	3.15E-03
		315.90		1.60	5.19E-02		1.50E-03	2.59E-02
		334.30		2.06	3.72E-02		1.57E-02	1.85E-02
+	AM-241	59.54	*	35.90	9.57E-03	9.57E-03	2.34E-01	4.78E-03

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

Apex-Gamma

Analysis Report for 24-2333 VSM-7.0M-S4-CST-d-A X3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2333 VSM-7.0M-S4-CST-d-A X3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 8:04:22AM
Procedure	: X3_gsv02mlw
Operator	: Administrator
Detector Name	: X
Geometry	: X3_gsv02mlw
Live Time	: 2479.1 seconds
Real Time	: 2622.1 seconds
Dead Time	: 5.45 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 7/9/2024
Efficiency Calibration Used Done On	: 3/13/2019
Efficiency Calibration Description	: X3_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567866
Certificate Name	: QA_Q
Certificate Date	: 3/23/1994 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 8:48:09AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2333 VSM-7.0M-S4-CST-d-A X3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.51	184.14	0.0523	110.58
2	86.91	268.28	0.1995	8.01
3	105.38	325.42	0.2347	4.86
4	123.03	380.08	0.0675	64.16
5	247.87	765.19	0.1166	20.73
6	277.28	855.92	0.3116	3.05
7	344.61	1063.52	0.2806	3.30
8	414.80	1280.18	0.1282	16.07
9	511.03	1577.28	0.1163	12.33
10	582.86	1796.71	0.2526	3.01
11	591.73	1826.17	0.1109	18.09
12	661.69	2042.00	0.0445	107.69
13	666.43	2057.24	0.1267	16.40
14	692.54	2135.97	0.3564	3.38
15	695.13	2145.24	0.1307	13.23
16	723.32	2232.16	0.0667	46.63
17	756.87	2335.70	0.1068	17.29
18	845.71	2609.79	0.2132	5.08
19	866.64	2674.49	0.2676	3.28
20	873.25	2694.88	0.0773	33.38
21	904.28	2790.51	0.2002	4.76
22	964.20	2974.65	0.2170	3.79
23	996.32	3074.48	0.0783	31.51
24	1004.81	3100.77	0.0677	41.95
25	1085.87	3350.82	0.2804	3.18
26	1127.96	3480.70	0.2173	4.56
27	1173.34	3620.74	0.0614	48.78
28	1246.17	3845.28	0.1702	6.61
29	1274.54	3933.00	0.0570	55.14
30	1332.58	4112.19	0.0626	43.53
31	1360.95	4199.43	0.2332	4.00
32	1397.28	4311.71	0.1670	5.89
33	1408.21	4345.24	0.1692	6.26
34	1494.31	4611.15	0.1564	6.33
35	1596.56	4926.68	0.1186	11.73
36	1719.48	5305.64	0.2183	3.81
37	2505.46	7731.11	0.1891	4.70

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2333 VSM-7.0M-S4-CST-d-A X3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 8:48:09AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.51	173	193	184.13	1.20E+05	2107.68	4.21E+05	1.52
F	2	86.91	265	279	268.66	5.81E+03	459.16	2.81E+05	1.74
F	3	105.38	321	336	325.63	2.90E+03	375.97	2.46E+05	1.48
F	4	123.03	372	391	380.10	4.58E+04	1564.25	2.45E+05	1.57
F	5	247.87	760	777	765.26	5.10E+03	176.82	5.02E+04	1.45
F	6	277.28	851	860	855.99	4.97E+02	595.69	2.09E+04	1.13
F	7	344.61	1059	1069	1063.73	4.42E+02	112.01	1.36E+04	1.44
F	8	414.80	1273	1292	1280.28	2.50E+03	505.23	1.49E+04	1.72
F	9	511.03	1562	1591	1577.18	5.80E+03	465.87	1.32E+04	3.23
F	10	582.86	1791	1811	1798.81	7.07E+02	89.53	6.22E+03	4.31
F	11	591.73	1813	1836	1826.17	2.50E+03	321.63	6.89E+03	2.02
M	12	661.69	2026	2068	2042.02	3.77E+04	190.76	4.87E+03	1.90
m	13	666.43	2026	2068	2056.65	1.83E+03	66.30	5.08E+03	1.91
M	14	692.54	2127	2159	2137.20	6.14E+02	60.34	4.03E+03	2.02
m	15	695.13	2127	2159	2145.21	1.76E+03	67.89	4.55E+03	2.03
F	16	723.32	2220	2245	2232.19	8.70E+03	288.42	4.60E+03	2.07
F	17	756.87	2326	2346	2335.70	1.93E+03	60.40	3.18E+03	2.11
F	18	845.71	2599	2615	2609.79	2.12E+02	128.11	1.90E+03	1.27
M	19	866.64	2669	2705	2674.39	1.96E+02	37.44	1.48E+03	2.14
m	20	873.25	2669	2705	2694.76	4.67E+03	210.47	2.38E+03	2.14
	21	904.28	2782	2799	2790.51	1.20E+02	100.70	1.80E+03	1.87
F	22	964.20	2962	2984	2975.42	2.36E+02	153.73	1.82E+03	1.47
M	23	996.32	3059	3117	3074.50	3.87E+03	118.05	1.74E+03	2.20
m	24	1004.81	3059	3117	3100.71	6.58E+03	183.98	1.70E+03	2.21
	25	1085.87	3345	3356	3350.82	1.57E+01	54.09	7.26E+02	0.51
	26	1127.96	3470	3488	3480.70	5.70E+01	70.55	8.55E+02	0.81
F	27	1173.34	3606	3634	3620.72	8.45E+03	191.93	8.99E+02	2.34
F	28	1246.17	3836	3857	3845.44	2.10E+02	22.61	4.59E+02	2.05
F	29	1274.54	3915	3948	3932.96	1.09E+04	199.86	7.42E+02	2.44
F	30	1332.58	4094	4126	4112.06	7.78E+03	176.05	3.22E+02	2.51
F	31	1360.95	4193	4206	4199.62	4.35E+01	14.12	1.58E+02	1.51
F	32	1397.28	4302	4323	4311.71	2.14E+02	17.55	1.56E+02	2.64
F	33	1408.21	4329	4356	4345.42	2.40E+02	66.40	2.30E+02	1.79
F	34	1494.31	4599	4620	4611.11	2.25E+02	16.36	8.83E+01	2.64
F	35	1596.56	4914	4938	4926.63	5.69E+02	56.42	6.22E+01	2.70
F	36	1719.48	5298	5313	5305.92	4.57E+01	40.48	3.66E+01	1.50
F	37	2505.46	7723	7740	7731.40	3.93E+01	8.24	3.07E+01	1.64

Analysis Report for 24-2333 VSM-7.0M-S4-CST-d-A X3

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 8:48:09AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567386.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.51	1.20E+05	2107.68			1.20E+05	2.11E+03
F	2	86.91	5.81E+03	459.16	1.80E+01	1.81E-01	5.80E+03	4.59E+02
F	3	105.38	2.90E+03	375.97			2.90E+03	3.76E+02
F	4	123.03	4.58E+04	1564.25			4.58E+04	1.56E+03
F	5	247.87	5.10E+03	176.82			5.10E+03	1.77E+02
F	6	277.28	4.97E+02	595.69			4.97E+02	5.96E+02
F	7	344.61	4.42E+02	112.01			4.42E+02	1.12E+02
F	8	414.80	2.50E+03	505.23			2.50E+03	5.05E+02
F	9	511.03	5.80E+03	465.87			5.80E+03	4.66E+02
F	10	582.86	7.07E+02	89.53			7.07E+02	8.95E+01
F	11	591.73	2.50E+03	321.63			2.50E+03	3.22E+02
M	12	661.69	3.77E+04	190.76			3.77E+04	1.91E+02
m	13	666.43	1.83E+03	66.30			1.83E+03	6.63E+01
M	14	692.54	6.14E+02	60.34			6.14E+02	6.03E+01
m	15	695.13	1.76E+03	67.89			1.76E+03	6.79E+01
F	16	723.32	8.70E+03	288.42			8.70E+03	2.88E+02
F	17	756.87	1.93E+03	60.40			1.93E+03	6.04E+01
F	18	845.71	2.12E+02	128.11			2.12E+02	1.28E+02
M	19	866.64	1.96E+02	37.44			1.96E+02	3.74E+01
m	20	873.25	4.67E+03	210.47			4.67E+03	2.10E+02
	21	904.28	1.20E+02	100.70			1.20E+02	1.01E+02
F	22	964.20	2.36E+02	153.73			2.36E+02	1.54E+02
M	23	996.32	3.87E+03	118.05			3.87E+03	1.18E+02
m	24	1004.81	6.58E+03	183.98			6.58E+03	1.84E+02
	25	1085.87	1.57E+01	54.09			1.57E+01	5.41E+01
	26	1127.96	5.70E+01	70.55			5.70E+01	7.06E+01
F	27	1173.34	8.45E+03	191.93			8.45E+03	1.92E+02
F	28	1246.17	2.10E+02	22.61			2.10E+02	2.26E+01
F	29	1274.54	1.09E+04	199.86			1.09E+04	2.00E+02
F	30	1332.58	7.78E+03	176.05			7.78E+03	1.76E+02
F	31	1360.95	4.35E+01	14.12			4.35E+01	1.41E+01
F	32	1397.28	2.14E+02	17.55			2.14E+02	1.76E+01
F	33	1408.21	2.40E+02	66.40			2.40E+02	6.64E+01

Analysis Report for 24-2333 VSM-7.0M-S4-CST-d-A X3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	34	1494.31	2.25E+02	16.36			2.25E+02	1.64E+01
F	35	1596.56	5.69E+02	56.42			5.69E+02	5.64E+01
F	36	1719.48	4.57E+01	40.48			4.57E+01	4.05E+01
F	37	2505.46	3.93E+01	8.24			3.93E+01	8.24E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-57	0.69	122.06	*	85.60	1.74E-02	6.13E-04	1.000
		136.47		10.68			
CO-60	0.99	1173.24	*	99.97	9.97E-03	2.33E-04	0.960
		1332.50	*	99.99	9.99E-03	2.34E-04	0.959
		2505.74	*	1.00	7.80E-03	1.70E-03	miss
RH-106	0.39	511.86	*	20.70	1.95E-02	1.67E-03	0.973
		621.92		9.93			
		1050.36		1.56			
SB-126	0.49	223.90		1.39			
		278.20	*	2.40	1.13E-02	1.39E-02	0.847
		296.50		4.50			
		414.70	*	83.30	2.05E-03	4.19E-04	0.865
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.69E-03	6.21E-05	0.863
		674.80		3.10			
		695.00	*	99.60	1.67E-03	6.52E-05	0.862
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.75	64.28		9.60			

Analysis Report for 24-2333 VSM-7.0M-S4-CST-d-A X3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
Sn-126	0.75	87.30	*	45.90	4.44E-03	4.03E-04	miss
CS-137	1.00	661.66	*	85.20	3.50E-02	2.66E-04	miss
EU-152	0.20	121.78		28.58			
		344.28	*	26.50	9.09E-04	2.31E-04	0.968
		778.90		12.94			
		964.08	*	14.73	1.66E-03	1.08E-03	0.963
		1085.87	*	10.24	1.64E-04	5.65E-04	1.007
		1112.07		13.69			
		1408.01	*	21.07	1.50E-03	4.15E-04	0.971
EU-154	0.90	42.70		20.45			
		123.07	*	40.40	3.86E-02	1.41E-03	0.953
		247.93	*	6.89	3.41E-02	1.26E-03	0.939
		591.76	*	4.95	4.02E-02	5.19E-03	0.927
		692.42	*	1.78	2.98E-02	2.95E-03	0.943
		723.30	*	20.06	3.83E-02	1.34E-03	0.947
		756.80	*	4.52	3.98E-02	1.32E-03	0.925
		873.18	*	12.08	3.86E-02	1.80E-03	0.940
		996.29	*	10.48	3.83E-02	1.24E-03	0.984
		1004.76	*	18.01	3.84E-02	1.16E-03	0.976
		1246.12	*	0.86	3.09E-02	3.36E-03	0.934
		1274.43	*	34.80	3.83E-02	8.10E-04	0.978
		1494.05	*	0.70	4.22E-02	3.12E-03	1.016
		1596.48	*	1.80	3.77E-02	3.77E-03	1.172
EU-155	0.81	43.00		18.70			
		60.01	*	1.22	6.97E+00	2.72E-01	0.998
		86.55	*	30.70	6.65E-03	5.51E-04	free
		105.31	*	21.10	4.44E-03	5.85E-04	1.000
AM-241	1.00	59.54	*	35.90	2.36E-01	6.36E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2333 VSM-7.0M-S4-CST-d-A X3

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-57	0.699	3.40E-04	6.39E-04	
CO-60	0.999	9.96E-03	1.64E-04	
RH-106	0.390	1.95E-02	1.67E-03	
SB-126	0.499	1.69E-03	4.47E-05	
Sn-126	0.755	1.48E-03	5.23E-04	
CS-137	1.000	3.50E-02	2.66E-04	
EU-152	0.208	9.70E-04	1.87E-04	
EU-154	0.907	3.78E-02	4.06E-04	
EU-155	0.817	4.44E-03	5.75E-04	
AM-241	1.000	2.36E-01	4.99E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2333 VSM-7.0M-S4-CST-d-A X3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 8:48:09AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	10	582.86	2.85312E-01	12.66	Tol.	TH-232
F	18	845.71	8.56575E-02	60.33	Sum	
M	19	866.64	7.90706E-02	19.10		
	21	904.28	4.85330E-02	83.69		
	26	1127.96	2.29918E-02	123.77	Sum	
F	31	1360.95	1.75591E-02	32.45	Sum	
F	32	1397.28	8.62583E-02	8.21	Sum	
F	36	1719.48	1.84258E-02	88.62	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.61	10.44	4.50E-03	4.50E-03	4.14E-04	2.24E-03
K-40	1460.83	10.67	1.15E-03	1.15E-03	1.99E-03	5.58E-04
MN-54	834.84	99.98	3.17E-04	3.17E-04	2.95E-04	1.57E-04
CO-58	810.78	99.45	3.32E-04	3.32E-04	1.25E-04	1.65E-04
	863.96	0.68	4.84E-02		-1.35E-03	2.40E-02
	1674.73	0.52	1.39E-02		9.49E-03	6.56E-03
FE-59	142.65	1.00	8.74E-02	3.86E-04	-3.50E-02	4.37E-02
	192.35	3.01	2.67E-02		1.52E-02	1.33E-02
	334.80	0.27	2.03E-01		1.82E-01	1.01E-01

Analysis Report for 24-2333 VSM-7.0M-S4-CST-d-A X3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	FE-59	1099.25		56.30	4.83E-04	3.86E-04	-5.37E-04	2.39E-04
		1291.60		43.70	3.86E-04		1.64E-04	1.89E-04
+	CO-60	1173.24	*	99.97	3.38E-04	2.35E-04	9.97E-03	1.67E-04
		1332.50	*	99.99	2.35E-04		9.99E-03	1.16E-04
		2505.74	*	1.00	9.16E-03		7.80E-03	4.31E-03
	SR-85	514.00		96.00	5.18E-04	5.18E-04	-1.95E-04	2.58E-04
		868.60		0.01	3.61E+00		7.99E-01	1.80E+00
	NB-94	702.62		97.90	3.96E-04	3.96E-04	2.39E-04	1.97E-04
		871.09		99.98	4.44E-04		4.34E-03	2.21E-04
	NB-95	765.81		99.81	3.52E-04	3.52E-04	2.87E-04	1.75E-04
	RU-103	497.05		91.00	5.00E-04	5.00E-04	2.19E-04	2.49E-04
		610.30		5.76	6.66E-03		1.53E-03	3.31E-03
+	RH-106	511.86	*	20.70	3.71E-03	3.71E-03	1.95E-02	1.85E-03
		621.92		9.93	3.92E-03		1.48E-03	1.95E-03
		1050.36		1.56	1.89E-02		-6.02E-03	9.36E-03
	AG-108M	79.13		6.60	2.09E-02	4.54E-04	-1.88E-02	1.04E-02
		433.90		90.50	5.70E-04		-3.51E-04	2.84E-04
		614.30		89.80	4.54E-04		3.62E-04	2.26E-04
		722.90		90.80	6.08E-04		8.80E-03	3.03E-04
	CD-109	88.03		3.61	3.35E-02	3.35E-02	1.14E-01	1.67E-02
	SB-125	176.31		6.82	1.13E-02	1.60E-03	-3.82E-03	5.62E-03
		380.45		1.52	3.33E-02		2.35E-03	1.66E-02
		427.87		29.55	1.60E-03		-2.24E-03	7.97E-04
		463.36		10.48	4.52E-03		-1.79E-03	2.25E-03
		600.60		17.76	2.12E-03		1.71E-03	1.06E-03
		606.71		5.02	7.47E-03		-1.59E-03	3.72E-03
		635.95		11.32	3.39E-03		-2.36E-03	1.69E-03
		671.44		1.78	2.28E-02		-7.62E-04	1.13E-02
+	SB-126	223.90		1.39	4.87E-02	3.01E-04	1.72E-02	2.43E-02
		278.20	*	2.40	2.04E-02		1.13E-02	1.02E-02
		296.50		4.50	1.49E-02		-1.02E-02	7.43E-03
		414.70	*	83.30	8.10E-04		2.05E-03	4.04E-04
		556.30		1.69	2.86E-02		7.12E-04	1.42E-02
		573.90		6.70	7.00E-03		1.43E-03	3.48E-03
		593.20		7.50	6.33E-03		2.76E-02	3.15E-03
		656.30		2.19	4.35E-02		6.08E-03	2.17E-02
		666.50	*	99.60	3.09E-04		1.69E-03	1.53E-04
		674.80		3.10	1.43E-02		-4.62E-03	7.11E-03
		695.00	*	99.60	3.01E-04		1.67E-03	1.49E-04
		697.00		29.00	1.66E-03		1.87E-04	8.26E-04
		720.70		53.80	1.11E-03		6.53E-04	5.53E-04
		856.80		17.60	2.02E-03		2.09E-03	1.00E-03
		989.60		6.80	6.67E-03		5.78E-03	3.31E-03
		1213.30		2.39	9.29E-03		9.10E-03	4.57E-03
+	Sn-126	64.28		9.60	2.25E-02	2.92E-03	-8.85E-04	1.12E-02
		87.30	*	45.90	2.92E-03		4.44E-03	1.46E-03
	I-129	29.70		56.60	2.49E-01	1.88E-01	-4.01E-01	1.24E-01
		33.60		10.04	4.40E-01		-1.46E+00	2.20E-01
		34.40		2.01	1.80E+00		-3.15E+00	9.00E-01
		39.60		7.51	1.88E-01		-6.38E-01	9.37E-02
	CS-134	563.25		8.34	5.18E-03	3.99E-04	3.53E-03	2.58E-03
		569.33		15.37	2.80E-03		-3.64E-04	1.39E-03
		604.72		97.62	4.07E-04		-1.98E-05	2.02E-04

Analysis Report for 24-2333 VSM-7.0M-S4-CST-d-A X3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-134	795.86		85.46	3.99E-04	3.99E-04	2.94E-04	1.98E-04
		801.95		8.69	3.99E-03		1.89E-03	1.98E-03
+	CS-137	661.66	*	85.20	3.04E-04	3.04E-04	3.50E-02	1.51E-04
	CE-139	165.85		79.89	1.01E-03	1.01E-03	-2.25E-04	5.04E-04
	CE-141	40.70		3.35	3.69E-01	1.81E-03	-1.10E+00	1.84E-01
		145.44		48.29	1.81E-03		2.76E-05	9.04E-04
	CE-144	80.12		1.36	9.99E-02	8.03E-03	-1.06E-01	4.99E-02
		133.51		11.09	8.03E-03		2.07E-03	4.01E-03
+	EU-152	121.78		28.58	3.69E-03	8.98E-04	-7.02E-04	1.85E-03
		344.28	*	26.50	1.53E-03		9.09E-04	7.64E-04
		778.90		12.94	2.68E-03		2.11E-03	1.33E-03
		964.08	*	14.73	2.60E-03		1.66E-03	1.29E-03
		1085.87	*	10.24	1.88E-03		1.64E-04	9.27E-04
		1112.07		13.69	2.02E-03		2.12E-05	1.00E-03
		1408.01	*	21.07	8.98E-04		1.50E-03	4.40E-04
	GD-153	97.43		29.00	3.90E-03	3.90E-03	1.41E-03	1.95E-03
		103.18		21.10	5.13E-03		2.06E-03	2.56E-03
+	EU-154	42.70		20.45	4.43E-02	9.83E-04	-1.02E-01	2.21E-02
		123.07	*	40.40	3.37E-03		3.86E-02	1.68E-03
		247.93	*	6.89	1.16E-02		3.41E-02	5.80E-03
		591.76	*	4.95	1.17E-02		4.02E-02	5.81E-03
		692.42	*	1.78	1.45E-02		2.98E-02	7.17E-03
		723.30	*	20.06	2.70E-03		3.83E-02	1.35E-03
		756.80	*	4.52	9.61E-03		3.98E-02	4.78E-03
		873.18	*	12.08	1.90E-03		3.86E-02	9.40E-04
		996.29	*	10.48	1.94E-03		3.83E-02	9.59E-04
		1004.76	*	18.01	1.13E-03		3.84E-02	5.59E-04
		1246.12	*	0.86	2.69E-02		3.09E-02	1.33E-02
		1274.43	*	34.80	9.83E-04		3.83E-02	4.87E-04
		1494.05	*	0.70	1.54E-02		4.22E-02	7.43E-03
		1596.48	*	1.80	4.80E-03		3.77E-02	2.31E-03
+	EU-155	43.00		18.70	4.67E-02	4.37E-03	-1.42E-01	2.33E-02
		60.01	*	1.22	3.10E-01		6.97E+00	1.55E-01
		86.55	*	30.70	4.37E-03		6.65E-03	2.18E-03
		105.31	*	21.10	5.59E-03		4.44E-03	2.79E-03
	HG-203	72.87		6.30	2.57E-02	7.36E-04	5.63E-02	1.29E-02
		279.20		81.46	7.36E-04		2.69E-04	3.67E-04
	BI-207	569.15		97.80	4.30E-04	3.96E-04	-5.59E-05	2.14E-04
		1063.10		74.90	3.96E-04		-2.29E-04	1.96E-04
	PB-210	46.54		4.25	1.40E-01	1.40E-01	-9.01E-02	7.01E-02
	RA-226	74.81		6.44	2.34E-02	4.58E-04	5.31E-02	1.17E-02
		77.11		10.80	1.33E-02		9.78E-03	6.64E-03
		87.30		4.84	2.51E-02		6.60E-02	1.26E-02
		186.21		3.59	2.13E-02		-2.32E-03	1.06E-02
		242.00		7.43	8.73E-03		-5.99E-03	4.36E-03
		295.22		19.30	2.92E-03		3.90E-03	1.46E-03
		351.93		37.60	1.41E-03		-5.97E-04	7.02E-04
		609.31		46.10	8.10E-04		1.19E-03	4.03E-04
		768.36		4.94	6.79E-03		8.37E-03	3.37E-03
		1120.29		15.10	1.73E-03		-4.78E-04	8.55E-04
		1238.11		5.79	3.29E-03		-4.05E-04	1.62E-03
		1764.49		15.40	4.58E-04		-9.86E-05	2.16E-04
	PA-231	283.70		1.59	3.64E-02	2.35E-02	2.33E-02	1.82E-02

Analysis Report for 24-2333 VSM-7.0M-S4-CST-d-A X3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PA-231	300.07		2.38	2.35E-02	2.35E-02	1.79E-02	1.17E-02
		302.67		1.71	3.33E-02		2.01E-02	1.66E-02
		330.07		1.32	4.08E-02		5.09E-02	2.03E-02
	TH-232	74.81		11.62	1.30E-02	1.55E-04	2.94E-02	6.48E-03
		77.11		17.50	8.20E-03		6.03E-03	4.10E-03
		87.30		7.80	1.56E-02		4.10E-02	7.79E-03
		238.63		43.30	1.50E-03		-1.75E-04	7.48E-04
		338.32		11.30	4.72E-03		3.25E-03	2.35E-03
		583.19		30.37	1.29E-03		1.93E-03	6.42E-04
		727.33		6.58	7.62E-03		1.42E-03	3.79E-03
		911.21		26.60	1.15E-03		1.53E-03	5.69E-04
		968.97		16.20	1.82E-03		1.81E-03	9.01E-04
		2614.53		35.64	1.55E-04		1.56E-04	6.99E-05
	U-235	143.76		10.96	7.72E-03	1.34E-03	7.25E-04	3.86E-03
		185.71		57.20	1.34E-03		9.14E-04	6.68E-04
		205.31		5.01	1.43E-02		1.51E-02	7.16E-03
	U-238	63.29		3.70	6.25E-02	2.68E-02	-1.65E-02	3.12E-02
		92.51		4.23	2.68E-02		-1.22E-03	1.34E-02
		112.81		0.21	4.72E-01		-1.47E-01	2.36E-01
		742.81		0.11	3.14E-01		2.11E-01	1.56E-01
		766.28		0.32	1.06E-01		8.10E-02	5.25E-02
		1001.03		0.84	6.70E-02		1.21E+00	3.34E-02
	NP-239	99.60		12.80	1.45E-02	6.83E-03	-7.33E-04	7.26E-03
		103.80		20.40	8.84E-03		-1.20E-03	4.41E-03
		106.10		26.40	6.83E-03		1.13E-02	3.41E-03
		116.90		7.61	2.17E-02		-1.40E-02	1.08E-02
		228.20		11.20	1.03E-02		-7.28E-04	5.12E-03
		277.60		14.50	7.01E-03		9.95E-03	3.50E-03
		315.90		1.60	5.75E-02		5.41E-02	2.87E-02
		334.30		2.06	4.12E-02		-4.12E-03	2.06E-02
+	AM-241	59.54	*	35.90	1.05E-02	1.05E-02	2.36E-01	5.25E-03

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

Apex-Gamma

Analysis Report for 24-2334 VSM-8.0M-S1-CST-A Z3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2334 VSM-8.0M-S1-CST-A Z3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 6:49:31AM
Procedure	: Z3_gsv02mlw
Operator	: Administrator
Detector Name	: Z
Geometry	: Z3_gsv02mlw
Live Time	: 2896.0 seconds
Real Time	: 3153.4 seconds
Dead Time	: 8.16 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 7/18/2024
Efficiency Calibration Used Done On	: 3/13/2019
Efficiency Calibration Description	: Z3_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567858
Certificate Name	: R735-A4 2ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 7:42:57AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2334 VSM-8.0M-S1-CST-A Z3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	43.20	121.92	0.2439	7.02
2	57.21	162.00	0.0000	0.00
3	59.55	168.65	0.0487	172.63
4	74.88	211.38	0.2853	4.37
5	86.86	245.37	0.2277	6.42
6	105.23	297.12	0.2622	6.36
7	123.00	347.23	0.0662	89.76
8	247.78	698.42	0.1149	26.54
9	266.31	750.04	0.3912	3.25
10	343.98	969.44	0.3304	3.26
11	401.34	1129.91	0.3072	3.86
12	414.55	1167.86	0.1334	16.93
13	444.14	1251.19	0.2666	4.43
14	510.67	1438.25	0.1197	12.67
15	581.72	1638.23	0.2203	5.84
16	591.40	1665.70	0.1051	24.70
17	661.31	1862.41	0.0553	82.48
18	665.94	1875.61	0.1194	18.96
19	676.11	1904.01	0.3357	3.60
20	691.95	1947.79	0.2439	6.54
21	694.71	1956.48	0.1249	17.75
22	715.68	2016.00	0.2684	4.40
23	722.92	2035.77	0.0648	60.53
24	756.49	2130.11	0.1043	22.18
25	815.16	2295.01	0.2412	3.41
26	845.25	2380.02	0.2249	3.85
27	872.73	2457.48	0.0751	41.26
28	892.72	2513.41	0.2408	3.36
29	903.48	2543.84	0.1996	6.43
30	964.26	2713.41	0.2617	3.13
31	995.73	2803.60	0.0764	37.88
32	1004.21	2827.51	0.0667	49.72
33	1085.42	3055.71	0.2625	3.67
34	1111.26	3128.42	0.2274	3.79
35	1127.25	3174.01	0.2218	4.06
36	1165.26	3281.18	0.2745	3.59
37	1172.52	3301.20	0.0617	54.12
38	1245.45	3506.32	0.1578	8.46
39	1273.71	3586.05	0.0570	61.57
40	1331.73	3749.34	0.0623	49.39
41	1396.34	3931.22	0.1677	7.12
42	1407.10	3960.98	0.1763	6.86
43	1493.16	4203.86	0.1573	6.89
44	1595.49	4491.57	0.1194	13.12
45	1718.33	4836.80	0.1954	4.95
46	2504.27	7048.29	0.1836	3.13

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2334 VSM-8.0M-S1-CST-A Z3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 7:42:57AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	43.20	114	124	122.60	7.06E+03	129.04	3.85E+05	0.42
M	2	57.21	154	175	162.02	8.89E+03	546.95	5.76E+05	1.15
m	3	59.55	154	175	168.61	2.67E+05	2659.87	5.66E+05	1.16
F	4	74.88	208	218	211.78	4.76E+03	523.17	4.36E+05	1.37
F	5	86.86	242	253	245.48	7.22E+03	505.40	4.25E+05	1.37
F	6	105.23	293	305	297.19	5.65E+03	2330.16	3.60E+05	1.32
F	7	123.00	341	355	347.22	7.26E+04	1823.18	3.23E+05	1.23
F	8	247.78	692	708	698.44	8.86E+03	207.36	7.97E+04	1.30
F	9	266.31	747	759	750.61	4.16E+02	76.56	5.01E+04	0.35
F	10	343.98	963	974	969.23	6.04E+02	451.20	2.50E+04	1.11
F	11	401.34	1124	1133	1130.65	4.93E+02	354.76	1.38E+04	0.46
F	12	414.55	1161	1174	1167.84	3.14E+03	117.94	1.81E+04	1.51
F	13	444.14	1245	1257	1251.15	5.29E+02	353.46	1.40E+04	1.19
F	14	510.67	1426	1449	1438.39	8.00E+03	565.87	1.80E+04	3.11
F	15	581.72	1629	1650	1638.38	7.85E+02	75.89	1.14E+04	1.79
F	16	591.40	1655	1673	1665.62	3.48E+03	339.75	9.62E+03	1.62
M	17	661.31	1853	1883	1862.38	2.43E+04	386.49	6.56E+03	1.76
m	18	665.94	1853	1883	1875.41	2.42E+03	86.34	6.48E+03	1.76
F	19	676.11	1900	1910	1904.02	1.75E+02	46.26	3.63E+03	0.74
M	20	691.95	1943	1966	1948.62	1.02E+03	65.03	4.57E+03	1.81
m	21	694.71	1943	1966	1956.39	2.62E+03	75.56	6.04E+03	1.82
M	22	715.68	2003	2046	2015.41	2.62E+02	55.29	5.57E+03	1.82
m	23	722.92	2003	2046	2035.79	1.35E+04	348.98	5.70E+03	1.82
F	24	756.49	2122	2143	2130.27	2.82E+03	72.95	5.55E+03	1.86
F	25	815.16	2289	2302	2295.40	4.90E+02	52.91	2.78E+03	2.69
F	26	845.25	2370	2388	2380.08	4.20E+02	50.44	3.54E+03	2.20
F	27	872.73	2448	2470	2457.42	6.96E+03	255.07	3.94E+03	1.96
F	28	892.72	2508	2522	2513.66	3.23E+02	47.98	2.24E+03	2.57
F	29	903.48	2532	2556	2543.96	5.54E+02	209.78	3.73E+03	2.23
F	30	964.26	2704	2727	2715.03	5.88E+02	47.71	2.88E+03	4.07
F	31	995.73	2795	2815	2803.59	5.93E+03	83.55	2.72E+03	2.06
F	32	1004.21	2815	2841	2827.44	1.01E+04	277.05	3.37E+03	2.13
F	33	1085.42	3049	3070	3056.01	2.93E+02	38.77	1.85E+03	3.00
F	34	1111.26	3119	3136	3128.72	3.35E+02	36.56	1.41E+03	2.73
F	35	1127.25	3164	3182	3173.71	2.06E+02	33.80	1.37E+03	2.07
M	36	1165.26	3273	3313	3280.69	9.07E+01	27.89	9.24E+02	2.32
m	37	1172.52	3273	3313	3301.12	1.20E+04	241.15	1.14E+03	2.32
F	38	1245.45	3498	3517	3506.35	3.60E+02	28.60	7.14E+02	2.02
F	39	1273.71	3570	3600	3585.90	1.65E+04	258.02	1.02E+03	2.39
F	40	1331.73	3735	3764	3749.18	1.10E+04	199.69	6.93E+02	2.53

Analysis Report for 24-2334 VSM-8.0M-S1-CST-A Z3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1396.34	3922 -	3940	3931.01	2.59E+02	73.40	3.06E+02	2.20
F	42	1407.10	3948 -	3974	3961.28	3.50E+02	82.90	3.29E+02	3.08
F	43	1493.16	4188 -	4213	4203.47	3.55E+02	64.92	1.98E+02	2.76
F	44	1595.49	4477 -	4503	4491.44	8.20E+02	75.15	1.22E+02	2.66
F	45	1718.33	4829 -	4846	4837.11	7.14E+01	11.75	7.92E+01	2.00
F	46	2504.27	7037 -	7059	7048.58	1.03E+02	10.38	1.11E+01	3.52

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 7:42:57AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567388.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	43.20	7.06E+03	129.04			7.06E+03	1.29E+02
M	2	57.21	8.89E+03	546.95			8.89E+03	5.47E+02
m	3	59.55	2.67E+05	2659.87			2.67E+05	2.66E+03
F	4	74.88	4.76E+03	523.17	1.14E+02	5.42E+00	4.65E+03	5.23E+02
F	5	86.86	7.22E+03	505.40	2.43E+01	1.47E+00	7.20E+03	5.05E+02
F	6	105.23	5.65E+03	2330.16			5.65E+03	2.33E+03
F	7	123.00	7.26E+04	1823.18			7.26E+04	1.82E+03
F	8	247.78	8.86E+03	207.36			8.86E+03	2.07E+02
F	9	266.31	4.16E+02	76.56			4.16E+02	7.66E+01
F	10	343.98	6.04E+02	451.20			6.04E+02	4.51E+02
F	11	401.34	4.93E+02	354.76			4.93E+02	3.55E+02
F	12	414.55	3.14E+03	117.94			3.14E+03	1.18E+02
F	13	444.14	5.29E+02	353.46			5.29E+02	3.53E+02
F	14	510.67	8.00E+03	565.87	1.15E+02	4.46E+00	7.88E+03	5.66E+02
F	15	581.72	7.85E+02	75.89			7.85E+02	7.59E+01
F	16	591.40	3.48E+03	339.75			3.48E+03	3.40E+02
M	17	661.31	2.43E+04	386.49			2.43E+04	3.86E+02
m	18	665.94	2.42E+03	86.34			2.42E+03	8.63E+01
F	19	676.11	1.75E+02	46.26			1.75E+02	4.63E+01
M	20	691.95	1.02E+03	65.03			1.02E+03	6.50E+01
m	21	694.71	2.62E+03	75.56			2.62E+03	7.56E+01
M	22	715.68	2.62E+02	55.29			2.62E+02	5.53E+01
m	23	722.92	1.35E+04	348.98			1.35E+04	3.49E+02

Analysis Report for 24-2334 VSM-8.0M-S1-CST-A Z3

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 24	756.49	2.82E+03	72.95			2.82E+03	7.30E+01
F 25	815.16	4.90E+02	52.91			4.90E+02	5.29E+01
F 26	845.25	4.20E+02	50.44			4.20E+02	5.04E+01
F 27	872.73	6.96E+03	255.07			6.96E+03	2.55E+02
F 28	892.72	3.23E+02	47.98			3.23E+02	4.80E+01
F 29	903.48	5.54E+02	209.78			5.54E+02	2.10E+02
F 30	964.26	5.88E+02	47.71			5.88E+02	4.77E+01
F 31	995.73	5.93E+03	83.55			5.93E+03	8.36E+01
F 32	1004.21	1.01E+04	277.05			1.01E+04	2.77E+02
F 33	1085.42	2.93E+02	38.77			2.93E+02	3.88E+01
F 34	1111.26	3.35E+02	36.56			3.35E+02	3.66E+01
F 35	1127.25	2.06E+02	33.80			2.06E+02	3.38E+01
M 36	1165.26	9.07E+01	27.89			9.07E+01	2.79E+01
m 37	1172.52	1.20E+04	241.15			1.20E+04	2.41E+02
F 38	1245.45	3.60E+02	28.60			3.60E+02	2.86E+01
F 39	1273.71	1.65E+04	258.02			1.65E+04	2.58E+02
F 40	1331.73	1.10E+04	199.69			1.10E+04	2.00E+02
F 41	1396.34	2.59E+02	73.40			2.59E+02	7.34E+01
F 42	1407.10	3.50E+02	82.90			3.50E+02	8.29E+01
F 43	1493.16	3.55E+02	64.92			3.55E+02	6.49E+01
F 44	1595.49	8.20E+02	75.15			8.20E+02	7.52E+01
F 45	1718.33	7.14E+01	11.75			7.14E+01	1.17E+01
F 46	2504.27	1.03E+02	10.38			1.03E+02	1.04E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-57	0.70	122.06	*	85.60	2.28E-02	6.09E-04	1.000
		136.47		10.68			
CO-60	0.90	1173.24	*	99.97	1.19E-02	2.48E-04	0.963
		1332.50	*	99.99	1.18E-02	2.27E-04	0.961
		2505.74		1.00			
SB-126	0.47	223.90		1.39			

Analysis Report for 24-2334 VSM-8.0M-S1-CST-A Z3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.47	278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	2.14E-03	1.02E-04	0.870
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	1.88E-03	6.80E-05	0.867
		674.80		3.10			
		695.00	*	99.60	2.09E-03	6.16E-05	0.866
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.73	64.28		9.60			
		87.30	*	45.90	4.31E-03	3.58E-04	miss
CS-137	0.98	661.66	*	85.20	1.90E-02	3.23E-04	miss
EU-152	0.30	121.78		28.58			
		344.28	*	26.50	1.03E-03	7.71E-04	0.969
		778.90		12.94			
		964.08	*	14.73	3.50E-03	2.85E-04	0.963
		1085.87	*	10.24	2.59E-03	3.43E-04	1.006
		1112.07	*	13.69	2.31E-03	2.52E-04	0.978
		1408.01	*	21.07	1.83E-03	4.35E-04	0.971
EU-154	0.96	42.70	*	20.45	3.98E-02	1.65E-03	miss
		123.07	*	40.40	5.05E-02	1.44E-03	0.955
		247.93	*	6.89	4.94E-02	1.33E-03	0.941
		591.76	*	4.95	4.71E-02	4.63E-03	0.930
		692.42	*	1.78	4.17E-02	2.71E-03	0.945
		723.30	*	20.06	5.02E-02	1.42E-03	0.948
		756.80	*	4.52	4.91E-02	1.38E-03	0.926
		873.18	*	12.08	4.87E-02	1.88E-03	0.941
		996.29	*	10.48	4.95E-02	8.81E-04	0.985
		1004.76	*	18.01	4.99E-02	1.48E-03	0.976
		1246.12	*	0.86	4.46E-02	3.59E-03	0.935
		1274.43	*	34.80	4.87E-02	9.21E-04	0.978
		1494.05	*	0.70	5.59E-02	1.03E-02	1.015
		1596.48	*	1.80	4.57E-02	4.23E-03	1.168
AM-241	1.00	59.54	*	35.90	3.42E-01	7.81E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

Analysis Report for 24-2334 VSM-8.0M-S1-CST-A Z3

ASR 2094 Branch

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-57	0.707	1.09E-03	6.31E-04	
	CO-60	0.909	1.19E-02	1.67E-04	
	SB-126	0.474	2.02E-03	4.17E-05	
	Sn-126	0.737	4.31E-03	3.58E-04	
	CS-137	0.981	1.90E-02	3.23E-04	
	EU-152	0.306	2.59E-03	1.52E-04	
	EU-154	0.963	4.81E-02	3.76E-04	
X	EU-155	0.991			
	AM-241	1.000	3.42E-01	7.81E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2334 VSM-8.0M-S1-CST-A Z3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 7:42:57AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
M	2	57.21	3.07016E+00	6.15		
F	4	74.88	1.60470E+00	11.26		
F	6	105.23	1.95099E+00	41.24		
F	9	266.31	1.43488E-01	18.42		
F	11	401.34	1.70083E-01	72.02	Tol.	SE-75
F	13	444.14	1.82689E-01	66.81		
F	14	510.67	2.72209E+00	7.18		
F	15	581.72	2.70976E-01	9.67		
F	19	676.11	6.05311E-02	26.39		
M	22	715.68	9.06301E-02	21.07		
F	25	815.16	1.69274E-01	10.79	Sum	
F	26	845.25	1.44938E-01	12.02	Sum	
F	28	892.72	1.11365E-01	14.88		
F	29	903.48	1.91221E-01	37.88		
F	35	1127.25	7.11213E-02	16.41	Sum	
M	36	1165.26	3.13311E-02	30.73		
F	41	1396.34	8.93530E-02	28.36	Sum	
F	45	1718.33	2.46650E-02	16.45	Sum	
F	46	2504.27	3.54119E-02	10.12	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Analysis Report for 24-2334 VSM-8.0M-S1-CST-A Z3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	4.18E-03	4.18E-03	-5.49E-03	2.08E-03
	K-40	1460.83		10.67	1.14E-03	1.14E-03	1.66E-03	5.54E-04
	MN-54	834.84		99.98	3.16E-04	3.16E-04	1.74E-04	1.57E-04
	CO-58	810.78		99.45	3.42E-04	3.42E-04	-1.02E-05	1.70E-04
		863.96		0.68	4.78E-02		-2.14E-02	2.37E-02
		1674.73		0.52	1.39E-02		1.50E-02	6.66E-03
	FE-59	142.65		1.00	8.30E-02	3.98E-04	-5.59E-03	4.15E-02
		192.35		3.01	2.46E-02		9.42E-03	1.23E-02
		334.80		0.27	1.93E-01		6.65E-02	9.63E-02
		1099.25		56.30	4.65E-04		4.73E-04	2.30E-04
		1291.60		43.70	3.98E-04		1.15E-04	1.96E-04
+	CO-60	1173.24	*	99.97	1.58E-04	1.58E-04	1.19E-02	7.78E-05
		1332.50	*	99.99	2.74E-04		1.18E-02	1.36E-04
		2505.74		1.00	9.96E-03		2.35E-02	4.74E-03
	SR-85	514.00		96.00	5.07E-04	5.07E-04	1.19E-05	2.53E-04
		868.60		0.01	3.69E+00		-6.44E-01	1.83E+00
	NB-94	702.62		97.90	3.61E-04	3.61E-04	7.41E-05	1.79E-04
		871.09		99.98	4.55E-04		6.01E-03	2.26E-04
	NB-95	765.81		99.81	3.42E-04	3.42E-04	-7.87E-05	1.70E-04
	RU-103	497.05		91.00	4.70E-04	4.70E-04	-2.23E-04	2.34E-04
		610.30		5.76	6.71E-03		-1.11E-04	3.34E-03
	RH-106	511.86		20.70	2.38E-03	2.38E-03	2.20E-02	1.19E-03
		621.92		9.93	3.93E-03		-1.93E-03	1.96E-03
		1050.36		1.56	1.91E-02		-1.23E-02	9.49E-03
	AG-108M	79.13		6.60	1.79E-02	4.57E-04	-4.30E-03	8.92E-03
		433.90		90.50	5.39E-04		-3.74E-04	2.68E-04
		614.30		89.80	4.57E-04		-8.99E-05	2.27E-04
		722.90		90.80	6.16E-04		6.79E-05	3.07E-04
	CD-109	88.03		3.61	2.90E-02	2.90E-02	1.03E-01	1.45E-02
	SB-125	176.31		6.82	1.03E-02	1.53E-03	8.60E-03	5.15E-03
		380.45		1.52	3.07E-02		1.28E-02	1.53E-02
		427.87		29.55	1.53E-03		6.41E-05	7.63E-04
		463.36		10.48	4.15E-03		-1.68E-03	2.07E-03
		600.60		17.76	2.14E-03		3.02E-03	1.07E-03
		606.71		5.02	7.54E-03		3.08E-03	3.75E-03
		635.95		11.32	3.22E-03		-1.08E-03	1.60E-03
		671.44		1.78	2.16E-02		9.62E-03	1.08E-02
+	SB-126	223.90		1.39	4.47E-02	2.91E-04	5.36E-03	2.23E-02
		278.20		2.40	2.62E-02		3.42E-02	1.31E-02
		296.50		4.50	1.45E-02		-1.84E-03	7.26E-03
		414.70	*	83.30	6.44E-04		2.14E-03	3.21E-04
		556.30		1.69	2.76E-02		1.33E-02	1.38E-02
		573.90		6.70	6.97E-03		1.00E-02	3.47E-03
		593.20		7.50	6.37E-03		3.51E-02	3.17E-03
		656.30		2.19	3.22E-02		-6.35E-03	1.60E-02
		666.50	*	99.60	2.93E-04		1.88E-03	1.46E-04
		674.80		3.10	1.36E-02		2.58E-03	6.76E-03
		695.00	*	99.60	2.91E-04		2.09E-03	1.44E-04
		697.00		29.00	1.61E-03		-7.30E-04	8.00E-04
		720.70		53.80	1.12E-03		2.08E-02	5.59E-04
		856.80		17.60	2.00E-03		-2.22E-04	9.94E-04
		989.60		6.80	6.89E-03		3.89E-03	3.42E-03
		1213.30		2.39	9.22E-03		1.05E-02	4.55E-03

Analysis Report for 24-2334 VSM-8.0M-S1-CST-A Z3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	Sn-126	64.28		9.60	1.73E-02	2.57E-03	-1.51E-03	8.62E-03
		87.30	*	45.90	2.57E-03		4.31E-03	1.29E-03
	I-129	29.70		56.60	3.40E-02	3.40E-02	-6.47E-02	1.70E-02
		33.60		10.04	1.08E-01		-3.60E-01	5.42E-02
		34.40		2.01	4.86E-01		-1.17E+00	2.43E-01
		39.60		7.51	7.46E-02		-6.54E-02	3.73E-02
	CS-134	563.25		8.34	5.20E-03	3.97E-04	3.10E-03	2.59E-03
		569.33		15.37	2.79E-03		-1.47E-03	1.39E-03
		604.72		97.62	4.09E-04		2.84E-04	2.04E-04
		795.86		85.46	3.97E-04		-3.72E-05	1.97E-04
		801.95		8.69	4.09E-03		2.48E-03	2.03E-03
+	CS-137	661.66	*	85.20	2.98E-04	2.98E-04	1.90E-02	1.48E-04
	CE-139	165.85		79.89	9.28E-04	9.28E-04	-1.55E-04	4.64E-04
	CE-141	40.70		3.35	1.59E-01	1.72E-03	-1.46E-01	7.92E-02
		145.44		48.29	1.72E-03		7.29E-04	8.57E-04
	CE-144	80.12		1.36	8.56E-02	7.62E-03	-2.41E-02	4.28E-02
		133.51		11.09	7.62E-03		7.44E-04	3.81E-03
+	EU-152	121.78		28.58	3.38E-03	8.85E-04	-7.72E-04	1.69E-03
		344.28	*	26.50	1.79E-03		1.03E-03	8.91E-04
		778.90		12.94	2.67E-03		1.06E-03	1.33E-03
		964.08	*	14.73	2.80E-03		3.50E-03	1.39E-03
		1085.87	*	10.24	3.22E-03		2.59E-03	1.60E-03
		1112.07	*	13.69	2.02E-03		2.31E-03	1.00E-03
		1408.01	*	21.07	8.85E-04		1.83E-03	4.35E-04
	GD-153	97.43		29.00	3.27E-03	3.27E-03	1.69E-03	1.63E-03
		103.18		21.10	4.54E-03		-1.48E-03	2.27E-03
+	EU-154	42.70	*	20.45	2.24E-02	9.26E-04	3.98E-02	1.12E-02
		123.07	*	40.40	2.84E-03		5.05E-02	1.42E-03
		247.93	*	6.89	1.19E-02		4.94E-02	5.94E-03
		591.76	*	4.95	1.05E-02		4.71E-02	5.23E-03
		692.42	*	1.78	1.30E-02		4.17E-02	6.44E-03
		723.30	*	20.06	1.32E-03		5.02E-02	6.53E-04
		756.80	*	4.52	1.09E-02		4.91E-02	5.43E-03
		873.18	*	12.08	3.80E-03		4.87E-02	1.89E-03
		996.29	*	10.48	3.62E-03		4.95E-02	1.80E-03
		1004.76	*	18.01	2.64E-03		4.99E-02	1.31E-03
		1246.12	*	0.86	2.71E-02		4.46E-02	1.34E-02
		1274.43	*	34.80	9.26E-04		4.87E-02	4.59E-04
		1494.05	*	0.70	2.04E-02		5.59E-02	9.98E-03
		1596.48	*	1.80	5.80E-03		4.57E-02	2.83E-03
	EU-155	43.00	*	18.70	2.45E-02	3.85E-03	4.35E-02	1.22E-02
		60.01	*	1.22	1.33E-01		1.01E+01	6.62E-02
		86.55	*	30.70	3.85E-03		6.44E-03	1.92E-03
		105.31	*	21.10	5.00E-03		6.92E-03	2.50E-03
	HG-203	72.87		6.30	2.18E-02	6.72E-04	1.20E-02	1.09E-02
		279.20		81.46	6.72E-04		2.16E-04	3.35E-04
	BI-207	569.15		97.80	4.29E-04	3.98E-04	-2.26E-04	2.14E-04
		1063.10		74.90	3.98E-04		2.04E-04	1.97E-04
	PB-210	46.54		4.25	8.48E-02	8.48E-02	-1.97E-01	4.24E-02
	RA-226	74.81		6.44	1.99E-02	4.11E-04	2.95E-02	9.95E-03
		77.11		10.80	1.13E-02		5.30E-03	5.67E-03
		87.30		4.84	2.18E-02		9.15E-02	1.09E-02
		186.21		3.59	1.97E-02		-4.41E-03	9.83E-03

Analysis Report for 24-2334 VSM-8.0M-S1-CST-A Z3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	242.00		7.43	7.93E-03	4.11E-04	-5.97E-03	3.96E-03
		295.22		19.30	2.86E-03		1.81E-03	1.43E-03
		351.93		37.60	1.31E-03		-3.45E-04	6.53E-04
		609.31		46.10	8.13E-04		-5.40E-04	4.05E-04
		768.36		4.94	6.66E-03		7.86E-03	3.31E-03
		1120.29		15.10	1.66E-03		7.23E-04	8.20E-04
		1238.11		5.79	3.44E-03		1.19E-03	1.70E-03
		1764.49		15.40	4.11E-04		3.40E-04	1.94E-04
	PA-231	283.70		1.59	3.31E-02	2.30E-02	8.09E-03	1.65E-02
		300.07		2.38	2.30E-02		-1.50E-02	1.15E-02
		302.67		1.71	3.18E-02		-3.20E-03	1.59E-02
		330.07		1.32	3.88E-02		-1.09E-04	1.93E-02
	TH-232	74.81		11.62	1.10E-02	1.70E-04	1.63E-02	5.52E-03
		77.11		17.50	7.00E-03		3.27E-03	3.50E-03
		87.30		7.80	1.35E-02		5.68E-02	6.75E-03
		238.63		43.30	1.38E-03		6.87E-04	6.87E-04
		338.32		11.30	4.48E-03		1.31E-03	2.24E-03
		583.19		30.37	1.30E-03		1.95E-03	6.48E-04
		727.33		6.58	7.75E-03		1.15E-03	3.86E-03
		911.21		26.60	1.12E-03		-3.67E-05	5.57E-04
		968.97		16.20	1.84E-03		-6.90E-04	9.12E-04
		2614.53		35.64	1.70E-04		2.14E-04	7.77E-05
	U-235	143.76		10.96	7.33E-03	1.24E-03	1.62E-03	3.66E-03
		185.71		57.20	1.24E-03		6.26E-04	6.19E-04
		205.31		5.01	1.32E-02		-1.06E-02	6.60E-03
	U-238	63.29		3.70	4.80E-02	2.32E-02	2.59E-03	2.40E-02
		92.51		4.23	2.32E-02		6.59E-04	1.16E-02
		112.81		0.21	4.20E-01		-8.95E-02	2.10E-01
		742.81		0.11	3.15E-01		2.26E-01	1.57E-01
		766.28		0.32	1.04E-01		-9.79E-03	5.17E-02
		1001.03		0.84	6.98E-02		1.62E+00	3.48E-02
	NP-239	99.60		12.80	1.20E-02	5.96E-03	1.15E-04	6.00E-03
		103.80		20.40	7.70E-03		-4.56E-03	3.85E-03
		106.10		26.40	5.96E-03		1.93E-02	2.98E-03
		116.90		7.61	1.91E-02		-4.38E-03	9.53E-03
		228.20		11.20	9.31E-03		7.11E-03	4.65E-03
		277.60		14.50	6.31E-03		3.27E-03	3.15E-03
		315.90		1.60	5.41E-02		1.33E-02	2.70E-02
		334.30		2.06	3.88E-02		2.45E-02	1.94E-02
+	AM-241	59.54	*	35.90	4.49E-03	4.49E-03	3.42E-01	2.25E-03

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

Apex-Gamma

Analysis Report for 24-2335 VSM-8.0M-S1-CST-d-A Z3r

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2335 VSM-8.0M-S1-CST-d-A Z3r
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 8:04:36AM
Procedure	: Z3_gsv02mlw
Operator	: Administrator
Detector Name	: Z
Geometry	: Z3_gsv02mlw
Live Time	: 2292.0 seconds
Real Time	: 2491.5 seconds
Dead Time	: 8.01 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 7/18/2024
Efficiency Calibration Used Done On	: 3/13/2019
Efficiency Calibration Description	: Z3_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567927
Certificate Name	: R735-A4 2ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/25/2024 3:29:13PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2335 VSM-8.0M-S1-CST-d-A Z3r

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.84	121.28	0.2942	4.55
2	59.55	168.67	0.0535	144.98
3	66.21	187.37	0.4164	3.20
4	74.85	211.32	0.3204	3.77
5	87.00	245.16	0.2477	6.59
6	105.45	297.69	0.2508	5.75
7	122.99	347.20	0.0720	76.51
8	217.17	612.29	0.3885	3.12
9	247.75	698.39	0.1251	22.52
10	273.94	771.91	0.3853	3.09
11	414.56	1167.86	0.1383	16.51
12	510.75	1438.77	0.1238	12.96
13	581.89	1639.02	0.2533	4.58
14	591.41	1665.68	0.1120	21.67
15	661.31	1862.40	0.0581	74.77
16	665.97	1875.63	0.1261	18.09
17	692.14	1948.31	0.3130	4.00
18	694.67	1956.43	0.1352	15.57
19	722.95	2035.86	0.0699	52.35
20	756.40	2130.08	0.1123	19.00
21	778.84	2193.27	0.3047	3.20
22	783.43	2205.89	0.3383	3.36
23	786.31	2214.20	0.3219	3.55
24	814.77	2294.07	0.2719	3.87
25	822.36	2315.55	0.3273	3.15
26	845.14	2379.10	0.2437	3.19
27	850.60	2394.79	0.3084	3.28
28	872.71	2457.38	0.0807	35.58
29	880.08	2478.43	0.2987	3.55
30	892.53	2512.83	0.2832	3.19
31	903.47	2544.14	0.1993	6.43
32	963.77	2713.17	0.2423	4.26
33	995.70	2803.57	0.0834	32.36
34	1004.19	2827.43	0.0717	42.35
35	1127.97	3175.51	0.2340	3.43
36	1140.39	3210.69	0.2750	3.03
37	1172.51	3301.21	0.0662	46.10
38	1245.64	3506.77	0.1803	6.81
39	1273.69	3585.97	0.0609	53.87
40	1331.75	3749.31	0.0657	45.65
41	1396.38	3931.29	0.1830	4.74
42	1407.20	3961.49	0.1776	6.52
43	1460.35	4111.14	0.2760	3.49
44	1493.22	4203.92	0.1729	5.38
45	1595.76	4492.25	0.1246	12.01
46	1717.94	4836.04	0.2323	3.29
47	2504.43	7048.36	0.1818	4.82

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2335 VSM-8.0M-S1-CST-d-A Z3r

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/25/2024 3:29:13PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.84	114 -	128	121.59	4.35E+03	1293.19	4.15E+05	0.84
F	2	59.55	161 -	175	168.63	1.89E+05	1903.74	5.12E+05	1.14
	3	66.21	184 -	194	187.37	2.57E+03	1162.63	3.58E+05	0.77
F	4	74.85	208 -	218	211.68	2.70E+03	449.15	3.40E+05	1.17
F	5	87.00	242 -	252	245.89	6.69E+03	461.08	3.02E+05	1.64
F	6	105.45	294 -	305	297.83	4.56E+03	388.55	2.56E+05	1.31
F	7	122.99	342 -	355	347.19	5.34E+04	1608.32	2.34E+05	1.22
	8	217.17	609 -	616	612.29	8.13E+01	351.24	4.07E+04	0.52
F	9	247.75	694 -	708	698.36	6.00E+03	180.95	5.50E+04	1.23
F	10	273.94	768 -	776	772.07	4.16E+02	31.98	2.53E+04	0.40
F	11	414.56	1162 -	1176	1167.88	2.42E+03	102.83	1.50E+04	1.41
F	12	510.75	1427 -	1450	1438.60	6.51E+03	485.60	1.39E+04	2.89
F	13	581.89	1632 -	1645	1638.84	4.40E+02	303.00	5.61E+03	1.39
F	14	591.41	1656 -	1673	1665.63	2.70E+03	140.47	6.89E+03	1.65
M	15	661.31	1849 -	1887	1862.38	2.01E+04	352.88	4.85E+03	1.78
m	16	665.97	1849 -	1887	1875.49	2.16E+03	78.81	4.98E+03	1.78
M	17	692.14	1943 -	1968	1949.15	8.55E+02	224.33	3.60E+03	1.76
m	18	694.67	1943 -	1968	1956.27	1.96E+03	378.49	4.49E+03	1.76
F	19	722.95	2022 -	2048	2035.85	1.00E+04	305.43	5.96E+03	1.82
F	20	756.40	2121 -	2136	2130.01	2.16E+03	239.71	3.07E+03	1.93
M	21	778.84	2181 -	2219	2193.16	2.50E+02	104.73	3.29E+03	1.29
m	22	783.43	2181 -	2219	2206.09	1.23E+02	57.94	3.35E+03	1.30
m	23	786.31	2181 -	2219	2214.20	1.29E+02	58.74	3.27E+03	1.30
F	24	814.77	2290 -	2304	2294.28	2.26E+02	44.16	2.34E+03	1.71
F	25	822.36	2311 -	2320	2315.66	8.69E+01	35.00	1.45E+03	1.00
M	26	845.14	2372 -	2399	2379.76	2.95E+02	43.23	2.46E+03	2.03
m	27	850.60	2372 -	2399	2395.12	1.53E+02	38.86	2.30E+03	2.03
M	28	872.71	2444 -	2485	2457.34	5.50E+03	240.96	2.50E+03	2.04
m	29	880.08	2444 -	2485	2478.11	1.85E+02	41.21	2.17E+03	2.05
F	30	892.53	2508 -	2519	2513.14	2.38E+02	40.20	1.33E+03	2.37
F	31	903.47	2538 -	2550	2543.92	2.55E+02	39.94	1.66E+03	1.46
F	32	963.77	2707 -	2718	2713.65	1.60E+02	35.82	1.27E+03	1.51
F	33	995.70	2794 -	2815	2803.51	4.38E+03	194.10	2.09E+03	2.09
F	34	1004.19	2815 -	2839	2827.40	7.53E+03	235.10	2.32E+03	2.16
F	35	1127.97	3167 -	3184	3175.76	2.93E+02	30.23	8.88E+02	2.94
	36	1140.39	3205 -	3217	3210.69	3.79E+01	52.99	6.48E+02	0.41
F	37	1172.51	3289 -	3314	3301.11	9.30E+03	194.21	1.10E+03	2.38
F	38	1245.64	3497 -	3516	3506.91	2.74E+02	24.59	5.33E+02	2.15
F	39	1273.69	3570 -	3599	3585.85	1.23E+04	215.29	8.09E+02	2.43
F	40	1331.75	3733 -	3762	3749.24	8.65E+03	194.08	5.97E+02	2.41

Analysis Report for 24-2335 VSM-8.0M-S1-CST-d-A Z3r

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1396.38	3919	3941	3931.13	2.61E+02	73.06	2.36E+02	2.91
F	42	1407.20	3952	3971	3961.56	2.00E+02	23.76	2.33E+02	2.23
	43	1460.35	4106	4117	4111.14	1.33E+01	21.84	1.16E+02	0.65
F	44	1493.22	4193	4215	4203.63	2.61E+02	18.03	1.44E+02	3.04
F	45	1595.76	4478	4503	4492.20	6.20E+02	63.81	1.10E+02	2.20
F	46	1717.94	4828	4844	4836.02	4.63E+01	9.52	4.63E+01	2.15
F	47	2504.43	7039	7058	7049.02	6.86E+01	9.43	1.90E+01	2.51

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/25/2024 3:29:13PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567388.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.84	4.35E+03	1293.19			4.35E+03	1.29E+03
F	2	59.55	1.89E+05	1903.74			1.89E+05	1.90E+03
	3	66.21	2.57E+03	1162.63			2.57E+03	1.16E+03
F	4	74.85	2.70E+03	449.15	9.02E+01	4.29E+00	2.61E+03	4.49E+02
F	5	87.00	6.69E+03	461.08	1.93E+01	1.16E+00	6.67E+03	4.61E+02
F	6	105.45	4.56E+03	388.55			4.56E+03	3.89E+02
F	7	122.99	5.34E+04	1608.32			5.34E+04	1.61E+03
	8	217.17	8.13E+01	351.24			8.13E+01	3.51E+02
F	9	247.75	6.00E+03	180.95			6.00E+03	1.81E+02
F	10	273.94	4.16E+02	31.98			4.16E+02	3.20E+01
F	11	414.56	2.42E+03	102.83			2.42E+03	1.03E+02
F	12	510.75	6.51E+03	485.60	9.12E+01	3.53E+00	6.42E+03	4.86E+02
F	13	581.89	4.40E+02	303.00			4.40E+02	3.03E+02
F	14	591.41	2.70E+03	140.47			2.70E+03	1.40E+02
M	15	661.31	2.01E+04	352.88			2.01E+04	3.53E+02
m	16	665.97	2.16E+03	78.81			2.16E+03	7.88E+01
M	17	692.14	8.55E+02	224.33			8.55E+02	2.24E+02
m	18	694.67	1.96E+03	378.49			1.96E+03	3.78E+02
F	19	722.95	1.00E+04	305.43			1.00E+04	3.05E+02
F	20	756.40	2.16E+03	239.71			2.16E+03	2.40E+02
M	21	778.84	2.50E+02	104.73			2.50E+02	1.05E+02
m	22	783.43	1.23E+02	57.94			1.23E+02	5.79E+01

Analysis Report for 24-2335 VSM-8.0M-S1-CST-d-A Z3r

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
m	23	786.31	1.29E+02	58.74			1.29E+02	5.87E+01
F	24	814.77	2.26E+02	44.16			2.26E+02	4.42E+01
F	25	822.36	8.69E+01	35.00			8.69E+01	3.50E+01
M	26	845.14	2.95E+02	43.23			2.95E+02	4.32E+01
m	27	850.60	1.53E+02	38.86	8.92E-01	2.89E-01	1.52E+02	3.89E+01
M	28	872.71	5.50E+03	240.96			5.50E+03	2.41E+02
m	29	880.08	1.85E+02	41.21			1.85E+02	4.12E+01
F	30	892.53	2.38E+02	40.20			2.38E+02	4.02E+01
F	31	903.47	2.55E+02	39.94			2.55E+02	3.99E+01
F	32	963.77	1.60E+02	35.82			1.60E+02	3.58E+01
F	33	995.70	4.38E+03	194.10			4.38E+03	1.94E+02
F	34	1004.19	7.53E+03	235.10			7.53E+03	2.35E+02
F	35	1127.97	2.93E+02	30.23			2.93E+02	3.02E+01
	36	1140.39	3.79E+01	52.99			3.79E+01	5.30E+01
F	37	1172.51	9.30E+03	194.21			9.30E+03	1.94E+02
F	38	1245.64	2.74E+02	24.59			2.74E+02	2.46E+01
F	39	1273.69	1.23E+04	215.29			1.23E+04	2.15E+02
F	40	1331.75	8.65E+03	194.08			8.65E+03	1.94E+02
F	41	1396.38	2.61E+02	73.06			2.61E+02	7.31E+01
F	42	1407.20	2.00E+02	23.76			2.00E+02	2.38E+01
	43	1460.35	1.33E+01	21.84			1.33E+01	2.18E+01
F	44	1493.22	2.61E+02	18.03			2.61E+02	1.80E+01
F	45	1595.76	6.20E+02	63.81			6.20E+02	6.38E+01
F	46	1717.94	4.63E+01	9.52			4.63E+01	9.52E+00
F	47	2504.43	6.86E+01	9.43			6.86E+01	9.43E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.96	1460.83	*	10.67	1.73E-04	2.85E-04	miss
CO-57	0.71	122.06	*	85.60	2.13E-02	6.67E-04	1.000
		136.47		10.68			
CO-60	0.91	1173.24	*	99.97	1.17E-02	2.51E-04	0.963

Analysis Report for 24-2335 VSM-8.0M-S1-CST-d-A Z3r

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.91	1332.50	*	99.99	1.18E-02	2.74E-04	0.961
		2505.74		1.00			
SB-126	0.47	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	2.09E-03	1.08E-04	0.870
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	2.12E-03	7.84E-05	0.867
		674.80		3.10			
		695.00	*	99.60	1.98E-03	3.82E-04	0.866
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.75	64.28		9.60			
		87.30	*	45.90	5.03E-03	4.14E-04	miss
CS-137	0.98	661.66	*	85.20	1.99E-02	3.68E-04	miss
EU-154	0.96	42.70	*	20.45	3.19E-02	9.58E-03	miss
		123.07	*	40.40	4.70E-02	1.55E-03	0.955
		247.93	*	6.89	4.22E-02	1.39E-03	0.941
		591.76	*	4.95	4.62E-02	2.46E-03	0.930
		692.42	*	1.78	4.43E-02	1.16E-02	0.945
		723.30	*	20.06	4.70E-02	1.53E-03	0.948
		756.80	*	4.52	4.74E-02	5.29E-03	0.926
		873.18	*	12.08	4.86E-02	2.21E-03	0.941
		996.29	*	10.48	4.63E-02	2.11E-03	0.985
		1004.76	*	18.01	4.69E-02	1.56E-03	0.976
		1246.12	*	0.86	4.28E-02	3.89E-03	0.935
		1274.43	*	34.80	4.60E-02	9.41E-04	0.978
		1494.05	*	0.70	5.21E-02	3.65E-03	1.015
		1596.48	*	1.80	4.37E-02	4.53E-03	1.168
EU-155	0.98	43.00	*	18.70	3.49E-02	1.05E-02	1.000
		60.01	*	1.22	9.03E+00	3.28E-01	0.998
		86.55	*	30.70	7.53E-03	5.52E-04	free
		105.31	*	21.10	7.06E-03	6.28E-04	1.000
AM-241	1.00	59.54	*	35.90	3.06E-01	7.00E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

Analysis Report for 24-2335 VSM-8.0M-S1-CST-d-A Z3r

ASR 2094 Branch

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.964	1.73E-04	2.85E-04	
CO-57	0.710	5.03E-04	7.06E-04	
CO-60	0.911	1.17E-02	1.85E-04	
SB-126	0.474	2.11E-03	6.26E-05	
Sn-126	0.751	3.63E-04	5.35E-04	
CS-137	0.981	1.99E-02	3.68E-04	
EU-154	0.967	4.58E-02	5.15E-04	
EU-155	0.983	6.99E-03	6.04E-04	
AM-241	1.000	3.06E-01	4.77E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2335 VSM-8.0M-S1-CST-d-A Z3r

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/25/2024 3:29:13PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	3	66.21	1.12247E+00	45.19		
F	4	74.85	1.13727E+00	17.23		
	8	217.17	3.54530E-02	432.26		
F	10	273.94	1.81467E-01	7.69		
F	12	510.75	2.79980E+00	7.57		
F	13	581.89	1.91863E-01	68.90		
M	21	778.84	1.09250E-01	41.82	Sum	
m	22	783.43	5.36005E-02	47.16	Sum	
m	23	786.31	5.63992E-02	45.44		
F	24	814.77	9.84210E-02	19.58	Sum	
F	25	822.36	3.79014E-02	40.29		
M	26	845.14	1.28670E-01	14.66	Sum	
m	27	850.60	6.61909E-02	25.62		
m	29	880.08	8.08613E-02	22.24	Sum	
F	30	892.53	1.03697E-01	16.91		
F	31	903.47	1.11200E-01	15.67		
F	32	963.77	6.96114E-02	22.45	Tol.	EU-152
F	35	1127.97	1.27869E-01	10.32	Sum	
	36	1140.39	1.65521E-02	139.67		
F	41	1396.38	1.13935E-01	27.98	Sum	
F	42	1407.20	8.72092E-02	11.89	Tol.	EU-152
F	46	1717.94	2.01957E-02	20.56	Sum	
F	47	2504.43	2.99352E-02	13.74	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2335 VSM-8.0M-S1-CST-d-A Z3r

ASR 2094 Branch

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	4.64E-03	4.64E-03	-1.91E-03	2.31E-03
+	K-40	1460.83	*	10.67	9.58E-04	9.58E-04	1.73E-04	4.61E-04
	MN-54	834.84		99.98	3.50E-04	3.50E-04	-4.76E-05	1.74E-04
	CO-58	810.78		99.45	3.77E-04	3.77E-04	-3.41E-04	1.87E-04
		863.96		0.68	5.34E-02		-2.11E-02	2.65E-02
		1674.73		0.52	1.61E-02		1.82E-02	7.64E-03
	FE-59	142.65		1.00	9.25E-02	4.32E-04	-1.08E-02	4.62E-02
		192.35		3.01	2.74E-02		2.37E-02	1.37E-02
		334.80		0.27	2.14E-01		6.59E-02	1.07E-01
		1099.25		56.30	5.18E-04		1.56E-05	2.56E-04
		1291.60		43.70	4.32E-04		-3.84E-04	2.12E-04
+	CO-60	1173.24	*	99.97	3.78E-04	3.23E-04	1.17E-02	1.87E-04
		1332.50	*	99.99	3.23E-04		1.18E-02	1.59E-04
		2505.74		1.00	1.09E-02		1.70E-02	5.17E-03
	SR-85	514.00		96.00	5.66E-04	5.66E-04	7.15E-05	2.82E-04
		868.60		0.01	4.12E+00		-7.86E-02	2.05E+00
	NB-94	702.62		97.90	4.04E-04	4.04E-04	3.68E-05	2.01E-04
		871.09		99.98	5.07E-04		2.69E-05	2.52E-04
	NB-95	765.81		99.81	3.86E-04	3.86E-04	4.51E-04	1.92E-04
	RU-103	497.05		91.00	5.16E-04	5.16E-04	-5.49E-05	2.57E-04
		610.30		5.76	7.46E-03		-5.45E-03	3.71E-03
	RH-106	511.86		20.70	2.66E-03	2.66E-03	2.21E-02	1.32E-03
		621.92		9.93	4.39E-03		-4.02E-04	2.18E-03
		1050.36		1.56	2.09E-02		-2.85E-03	1.03E-02
	AG-108M	79.13		6.60	1.99E-02	5.09E-04	-7.99E-03	9.95E-03
		433.90		90.50	6.00E-04		-2.09E-04	2.99E-04
		614.30		89.80	5.09E-04		6.23E-04	2.53E-04
		722.90		90.80	6.71E-04		9.84E-03	3.34E-04
	CD-109	88.03		3.61	3.23E-02	3.23E-02	1.19E-01	1.61E-02
	SB-125	176.31		6.82	1.15E-02	1.70E-03	3.25E-03	5.73E-03
		380.45		1.52	3.44E-02		-8.33E-03	1.71E-02
		427.87		29.55	1.70E-03		-3.35E-05	8.45E-04
		463.36		10.48	4.63E-03		2.75E-03	2.31E-03
		600.60		17.76	2.38E-03		3.22E-03	1.18E-03
		606.71		5.02	8.37E-03		-2.01E-03	4.16E-03
		635.95		11.32	3.58E-03		-3.21E-03	1.78E-03
		671.44		1.78	2.44E-02		4.01E-03	1.21E-02
+	SB-126	223.90		1.39	5.00E-02	3.18E-04	-5.38E-03	2.50E-02
		278.20		2.40	2.92E-02		2.12E-02	1.46E-02
		296.50		4.50	1.63E-02		4.08E-03	8.11E-03
		414.70	*	83.30	7.61E-04		2.09E-03	3.79E-04
		556.30		1.69	3.04E-02		8.56E-03	1.51E-02
		573.90		6.70	7.72E-03		-4.72E-03	3.84E-03
		593.20		7.50	7.03E-03		2.43E-02	3.50E-03
		656.30		2.19	3.64E-02		4.30E-04	1.81E-02

Analysis Report for 24-2335 VSM-8.0M-S1-CST-d-A Z3r

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-126	666.50	*	99.60	3.25E-04	3.18E-04	2.12E-03	1.61E-04
		674.80		3.10	1.52E-02		4.60E-03	7.56E-03
		695.00	*	99.60	3.18E-04		1.98E-03	1.57E-04
		697.00		29.00	1.80E-03		-2.61E-04	8.96E-04
		720.70		53.80	1.23E-03		2.69E-04	6.11E-04
		856.80		17.60	2.25E-03		1.12E-03	1.12E-03
		989.60		6.80	7.53E-03		-1.41E-03	3.74E-03
		1213.30		2.39	1.02E-02		7.01E-03	5.04E-03
+	Sn-126	64.28		9.60	1.92E-02	2.65E-03	-1.36E-04	9.62E-03
		87.30	*	45.90	2.65E-03		5.03E-03	1.33E-03
	I-129	29.70		56.60	3.79E-02	3.79E-02	-7.88E-02	1.89E-02
		33.60		10.04	1.21E-01		-4.16E-01	6.03E-02
		34.40		2.01	5.41E-01		-1.32E+00	2.70E-01
		39.60		7.51	8.30E-02		-3.65E-02	4.15E-02
	CS-134	563.25		8.34	5.74E-03	4.40E-04	-1.83E-03	2.86E-03
		569.33		15.37	3.10E-03		-6.32E-05	1.54E-03
		604.72		97.62	4.54E-04		-7.70E-05	2.26E-04
		795.86		85.46	4.40E-04		3.91E-05	2.19E-04
		801.95		8.69	4.52E-03		5.65E-04	2.24E-03
+	CS-137	661.66	*	85.20	3.24E-04	3.24E-04	1.99E-02	1.61E-04
	CE-139	165.85		79.89	1.03E-03	1.03E-03	-6.15E-04	5.17E-04
	CE-141	40.70		3.35	1.76E-01	1.91E-03	-6.83E-02	8.81E-02
		145.44		48.29	1.91E-03		-4.92E-04	9.56E-04
	CE-144	80.12		1.36	9.54E-02	8.48E-03	-8.77E-03	4.76E-02
		133.51		11.09	8.48E-03		-2.22E-03	4.24E-03
	EU-152	121.78		28.58	3.75E-03	8.66E-04	-5.85E-04	1.87E-03
		344.28		26.50	2.17E-03		1.79E-03	1.08E-03
		778.90		12.94	2.99E-03		-7.08E-06	1.48E-03
		964.08		14.73	2.34E-03		2.47E-04	1.16E-03
		1085.87		10.24	2.89E-03		2.39E-03	1.43E-03
		1112.07		13.69	2.17E-03		1.42E-03	1.07E-03
		1408.01		21.07	8.66E-04		1.20E-03	4.24E-04
	GD-153	97.43		29.00	3.64E-03	3.64E-03	4.88E-04	1.82E-03
		103.18		21.10	5.06E-03		-5.19E-04	2.53E-03
+	EU-154	42.70	*	20.45	3.41E-02	1.03E-03	3.19E-02	1.70E-02
		123.07	*	40.40	2.98E-03		4.70E-02	1.49E-03
		247.93	*	6.89	1.19E-02		4.22E-02	5.94E-03
		591.76	*	4.95	1.10E-02		4.62E-02	5.47E-03
		692.42	*	1.78	1.46E-02		4.43E-02	7.23E-03
		723.30	*	20.06	3.33E-03		4.70E-02	1.66E-03
		756.80	*	4.52	9.01E-03		4.74E-02	4.47E-03
		873.18	*	12.08	2.08E-03		4.86E-02	1.03E-03
		996.29	*	10.48	4.11E-03		4.63E-02	2.04E-03
		1004.76	*	18.01	2.68E-03		4.69E-02	1.33E-03
		1246.12	*	0.86	2.95E-02		4.28E-02	1.45E-02
		1274.43	*	34.80	1.03E-03		4.60E-02	5.10E-04
		1494.05	*	0.70	2.11E-02		5.21E-02	1.03E-02
		1596.48	*	1.80	6.84E-03		4.37E-02	3.32E-03
+	EU-155	43.00	*	18.70	3.73E-02	3.97E-03	3.49E-02	1.86E-02
		60.01	*	1.22	2.46E-01		9.03E+00	1.23E-01
		86.55	*	30.70	3.97E-03		7.53E-03	1.98E-03
		105.31	*	21.10	5.18E-03		7.06E-03	2.59E-03
	HG-203	72.87		6.30	2.43E-02	7.51E-04	2.20E-02	1.21E-02

Analysis Report for 24-2335 VSM-8.0M-S1-CST-d-A Z3r

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	HG-203	279.20		81.46	7.51E-04	7.51E-04	1.05E-03	3.75E-04
	BI-207	569.15		97.80	4.76E-04	4.26E-04	-9.71E-06	2.37E-04
		1063.10		74.90	4.26E-04		-5.83E-04	2.11E-04
	PB-210	46.54		4.25	9.43E-02	9.43E-02	-7.47E-03	4.71E-02
	RA-226	74.81		6.44	2.22E-02	5.33E-04	3.03E-02	1.11E-02
		77.11		10.80	1.26E-02		1.14E-03	6.31E-03
		87.30		4.84	2.43E-02		7.17E-02	1.21E-02
		186.21		3.59	2.19E-02		2.42E-03	1.09E-02
		242.00		7.43	8.87E-03		-6.75E-03	4.43E-03
		295.22		19.30	3.19E-03		9.22E-04	1.59E-03
		351.93		37.60	1.46E-03		5.84E-04	7.27E-04
		609.31		46.10	9.04E-04		2.88E-04	4.49E-04
		768.36		4.94	7.47E-03		-8.66E-03	3.71E-03
		1120.29		15.10	1.85E-03		-7.70E-04	9.17E-04
		1238.11		5.79	3.78E-03		-4.13E-03	1.86E-03
		1764.49		15.40	5.33E-04		-8.36E-05	2.53E-04
	PA-231	283.70		1.59	3.70E-02	2.57E-02	-2.10E-02	1.85E-02
		300.07		2.38	2.57E-02		2.33E-03	1.28E-02
		302.67		1.71	3.54E-02		-5.72E-03	1.77E-02
		330.07		1.32	4.32E-02		9.64E-03	2.15E-02
	TH-232	74.81		11.62	1.23E-02	1.86E-04	1.68E-02	6.15E-03
		77.11		17.50	7.80E-03		7.03E-04	3.90E-03
		87.30		7.80	1.51E-02		4.45E-02	7.52E-03
		238.63		43.30	1.54E-03		1.01E-03	7.66E-04
		338.32		11.30	4.97E-03		-1.18E-02	2.48E-03
		583.19		30.37	1.44E-03		1.11E-03	7.14E-04
		727.33		6.58	8.45E-03		4.52E-03	4.21E-03
		911.21		26.60	1.24E-03		-5.97E-05	6.17E-04
		968.97		16.20	2.02E-03		1.15E-03	1.00E-03
		2614.53		35.64	1.86E-04		8.88E-05	8.40E-05
	U-235	143.76		10.96	8.18E-03	1.38E-03	1.47E-03	4.08E-03
		185.71		57.20	1.38E-03		1.19E-03	6.90E-04
		205.31		5.01	1.48E-02		2.21E-05	7.37E-03
	U-238	63.29		3.70	5.34E-02	2.58E-02	-3.62E-04	2.67E-02
		92.51		4.23	2.58E-02		9.48E-03	1.29E-02
		112.81		0.21	4.68E-01		3.80E-01	2.34E-01
		742.81		0.11	3.53E-01		3.38E-01	1.75E-01
		766.28		0.32	1.17E-01		1.12E-01	5.83E-02
		1001.03		0.84	7.61E-02		1.46E+00	3.79E-02
	NP-239	99.60		12.80	1.36E-02	6.73E-03	1.18E-02	6.78E-03
		103.80		20.40	8.69E-03		-4.69E-03	4.34E-03
		106.10		26.40	6.73E-03		1.48E-02	3.36E-03
		116.90		7.61	2.16E-02		5.10E-03	1.08E-02
		228.20		11.20	1.05E-02		-2.12E-03	5.26E-03
		277.60		14.50	7.13E-03		3.11E-03	3.55E-03
		315.90		1.60	6.11E-02		-2.43E-02	3.05E-02
		334.30		2.06	4.36E-02		-2.32E-02	2.18E-02
+	AM-241	59.54	*	35.90	8.33E-03	8.33E-03	3.06E-01	4.16E-03

Analysis Report for 24-2335 VSM-8.0M-S1-CST-d-A Z3r

ASR 2094 Branch

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

Apex-Gamma

Analysis Report for 24-2336 VSM-8.0M-S2-CST-A F3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2336 VSM-8.0M-S2-CST-A F3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 9:00:08AM
Procedure	: F3_gsv02mlw
Operator	: Administrator
Detector Name	: F
Geometry	: F3_gsv02mlw
Live Time	: 2918.3 seconds
Real Time	: 3162.8 seconds
Dead Time	: 7.73 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: F3_gsv2mlw_R717
Sample Number	: 567869
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 9:52:54AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2336 VSM-8.0M-S2-CST-A F3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.90	120.44	0.2403	6.68
2	59.61	167.14	0.0485	175.91
3	74.75	209.12	0.2619	6.09
4	86.86	243.11	0.2060	8.57
5	105.60	295.35	0.2555	5.61
6	123.12	344.61	0.0659	82.38
7	247.95	693.52	0.1219	22.32
8	344.26	962.73	0.2271	6.03
9	414.83	1160.01	0.1424	14.54
10	444.84	1243.29	0.2606	4.43
11	511.07	1428.79	0.1247	14.56
12	582.25	1627.78	0.2374	5.13
13	591.87	1654.73	0.1086	22.77
14	661.78	1850.07	0.0614	70.69
15	666.48	1863.29	0.1236	18.52
16	692.55	1935.23	0.2730	5.08
17	695.23	1943.78	0.1312	16.03
18	723.48	2022.52	0.0666	55.11
19	757.03	2116.26	0.1076	22.34
20	812.01	2269.85	0.3494	3.11
21	815.75	2280.09	0.2385	4.47
22	822.71	2299.79	0.3319	3.01
23	845.99	2364.76	0.2127	6.08
24	873.44	2441.60	0.0774	39.18
25	892.98	2494.95	0.2486	4.51
26	904.48	2528.24	0.2039	5.01
27	964.40	2695.71	0.2683	3.03
28	996.54	2785.53	0.0812	34.90
29	1005.03	2809.29	0.0690	46.61
30	1086.08	3035.93	0.2555	4.14
31	1128.59	3154.36	0.2337	4.38
32	1173.53	3280.06	0.0647	50.15
33	1246.43	3483.96	0.1670	7.85
34	1274.73	3562.94	0.0589	58.50
35	1332.83	3725.34	0.0653	45.19
36	1397.72	3906.77	0.1803	6.61
37	1408.39	3936.19	0.1684	7.18
38	1494.38	4176.75	0.1677	6.11
39	1596.87	4462.62	0.1242	12.31
40	1719.89	4806.71	0.2077	4.38
41	1765.27	4933.55	0.2764	3.00
42	2506.45	7003.76	0.1876	4.55

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2336 VSM-8.0M-S2-CST-A F3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 9:52:54AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.90	112	128	120.42	9.03E+03	2406.61	5.09E+05	1.13
F	2	59.61	159	174	167.14	2.43E+05	2222.53	6.26E+05	1.24
F	3	74.75	206	217	209.44	3.65E+03	553.04	4.33E+05	1.14
F	4	86.86	239	251	243.31	8.85E+03	552.97	4.19E+05	1.51
F	5	105.60	292	303	295.67	5.08E+03	500.57	3.04E+05	1.53
F	6	123.12	339	353	344.64	6.82E+04	1918.63	2.97E+05	1.32
F	7	247.95	687	703	693.55	8.06E+03	835.43	7.30E+04	1.43
F	8	344.26	957	968	962.71	1.04E+03	138.03	2.27E+04	1.41
F	9	414.83	1152	1167	1159.95	3.02E+03	463.31	1.89E+04	1.65
F	10	444.84	1236	1249	1243.81	7.74E+02	402.99	1.38E+04	0.99
F	11	511.07	1418	1440	1428.92	6.95E+03	120.54	1.66E+04	2.75
F	12	582.25	1620	1634	1627.84	7.29E+02	325.31	7.07E+03	1.98
F	13	591.87	1643	1662	1654.71	3.56E+03	967.21	9.26E+03	1.78
M	14	661.78	1840	1873	1850.09	1.95E+04	147.81	6.17E+03	1.82
m	15	666.48	1840	1873	1863.21	2.47E+03	75.78	5.97E+03	1.83
M	16	692.55	1928	1956	1936.08	1.12E+03	66.92	5.10E+03	1.92
m	17	695.23	1928	1956	1943.56	2.54E+03	76.89	5.56E+03	1.93
F	18	723.48	2010	2035	2022.53	1.28E+04	302.56	7.10E+03	1.88
F	19	757.03	2107	2127	2116.27	2.91E+03	242.01	4.87E+03	1.86
M	20	812.01	2265	2307	2269.92	1.03E+02	42.46	2.23E+03	1.68
m	21	815.75	2265	2307	2280.37	3.26E+02	47.07	2.96E+03	1.68
m	22	822.71	2265	2307	2299.82	9.11E+01	41.82	2.93E+03	1.68
F	23	845.99	2356	2373	2364.86	4.57E+02	185.14	3.01E+03	1.84
F	24	873.44	2433	2450	2441.60	6.94E+03	91.41	2.89E+03	2.00
F	25	892.98	2488	2508	2496.19	3.86E+02	46.20	2.91E+03	2.61
F	26	904.48	2515	2537	2528.33	7.35E+02	204.79	3.11E+03	2.78
F	27	964.40	2688	2704	2695.77	2.21E+02	42.12	2.17E+03	2.08
F	28	996.54	2777	2797	2785.59	5.61E+03	376.63	2.43E+03	2.14
F	29	1005.03	2797	2819	2809.29	9.77E+03	101.98	2.70E+03	2.14
F	30	1086.08	3027	3042	3035.78	3.03E+02	246.11	1.19E+03	2.10
F	31	1128.59	3143	3167	3154.58	3.38E+02	142.34	1.52E+03	2.73
F	32	1173.53	3270	3292	3280.15	1.15E+04	104.47	9.69E+02	2.31
F	33	1246.43	3476	3490	3483.84	3.40E+02	28.01	5.31E+02	2.03
F	34	1274.73	3548	3577	3562.93	1.62E+04	217.36	8.85E+02	2.45
F	35	1332.83	3710	3739	3725.26	1.04E+04	179.35	6.74E+02	2.51
F	36	1397.72	3898	3917	3906.59	1.93E+02	73.82	3.01E+02	2.03
F	37	1408.39	3927	3946	3936.40	2.48E+02	20.75	2.79E+02	2.12
F	38	1494.38	4165	4186	4176.66	2.86E+02	30.99	1.87E+02	2.62
F	39	1596.87	4450	4474	4463.03	7.79E+02	28.12	1.38E+02	2.60
F	40	1719.89	4799	4816	4806.74	1.11E+02	9012.21	4.89E+01	2.29

Analysis Report for 24-2336 VSM-8.0M-S2-CST-A F3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1765.27	4928 -	4939	4933.52	1.66E+01	6.48	2.73E+01	1.28
F	42	2506.45	6994 -	7015	7004.09	1.18E+02	11.05	1.60E+01	3.10

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 9:52:54AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567378.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.90	9.03E+03	2406.61			9.03E+03	2.41E+03
F	2	59.61	2.43E+05	2222.53			2.43E+05	2.22E+03
F	3	74.75	3.65E+03	553.04	9.84E+01	5.42E+00	3.55E+03	5.53E+02
F	4	86.86	8.85E+03	552.97	2.17E+01	1.37E+00	8.83E+03	5.53E+02
F	5	105.60	5.08E+03	500.57			5.08E+03	5.01E+02
F	6	123.12	6.82E+04	1918.63			6.82E+04	1.92E+03
F	7	247.95	8.06E+03	835.43			8.06E+03	8.35E+02
F	8	344.26	1.04E+03	138.03			1.04E+03	1.38E+02
F	9	414.83	3.02E+03	463.31			3.02E+03	4.63E+02
F	10	444.84	7.74E+02	402.99			7.74E+02	4.03E+02
F	11	511.07	6.95E+03	120.54	1.14E+02	4.18E+00	6.83E+03	1.21E+02
F	12	582.25	7.29E+02	325.31	1.36E+01	2.15E+00	7.16E+02	3.25E+02
F	13	591.87	3.56E+03	967.21			3.56E+03	9.67E+02
M	14	661.78	1.95E+04	147.81			1.95E+04	1.48E+02
m	15	666.48	2.47E+03	75.78			2.47E+03	7.58E+01
M	16	692.55	1.12E+03	66.92			1.12E+03	6.69E+01
m	17	695.23	2.54E+03	76.89			2.54E+03	7.69E+01
F	18	723.48	1.28E+04	302.56			1.28E+04	3.03E+02
F	19	757.03	2.91E+03	242.01			2.91E+03	2.42E+02
M	20	812.01	1.03E+02	42.46			1.03E+02	4.25E+01
m	21	815.75	3.26E+02	47.07			3.26E+02	4.71E+01
m	22	822.71	9.11E+01	41.82			9.11E+01	4.18E+01
F	23	845.99	4.57E+02	185.14			4.57E+02	1.85E+02
F	24	873.44	6.94E+03	91.41			6.94E+03	9.14E+01
F	25	892.98	3.86E+02	46.20			3.86E+02	4.62E+01
F	26	904.48	7.35E+02	204.79			7.35E+02	2.05E+02
F	27	964.40	2.21E+02	42.12			2.21E+02	4.21E+01

Analysis Report for 24-2336 VSM-8.0M-S2-CST-A F3

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 28	996.54	5.61E+03	376.63			5.61E+03	3.77E+02
F 29	1005.03	9.77E+03	101.98			9.77E+03	1.02E+02
F 30	1086.08	3.03E+02	246.11			3.03E+02	2.46E+02
F 31	1128.59	3.38E+02	142.34			3.38E+02	1.42E+02
F 32	1173.53	1.15E+04	104.47			1.15E+04	1.04E+02
F 33	1246.43	3.40E+02	28.01			3.40E+02	2.80E+01
F 34	1274.73	1.62E+04	217.36			1.62E+04	2.17E+02
F 35	1332.83	1.04E+04	179.35			1.04E+04	1.79E+02
F 36	1397.72	1.93E+02	73.82			1.93E+02	7.38E+01
F 37	1408.39	2.48E+02	20.75	3.66E+00	3.35E-01	2.45E+02	2.08E+01
F 38	1494.38	2.86E+02	30.99			2.86E+02	3.10E+01
F 39	1596.87	7.79E+02	28.12			7.79E+02	2.81E+01
F 40	1719.89	1.11E+02	9012.21			1.11E+02	9.01E+03
F 41	1765.27	1.66E+01	6.48	2.35E+01	1.36E+00	-6.92E+00	6.62E+00
F 42	2506.45	1.18E+02	11.05			1.18E+02	1.11E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
NA-22	0.99	511.00	*	179.91	2.17E-03	3.96E-05	1.000
		1274.54	*	99.94	1.76E-02	2.53E-04	0.925
CO-60	0.98	1173.23	*	99.85	1.14E-02	1.17E-04	0.965
		1332.49	*	99.98	1.11E-02	2.01E-04	0.963
CU-64	0.92	511.00	*	35.00	1.26E-01	2.54E-03	1.000
		1345.77		0.47			
ZR-95	0.95	724.19	*	44.27	2.08E-02	5.15E-04	free
		756.72	*	54.38	3.97E-03	3.31E-04	free
Te-129m	0.93	695.88	*	3.00	6.08E-02	1.23E-02	free
CS-137	0.99	661.66	*	85.10	1.53E-02	1.45E-04	miss
EU-154	0.99	42.70	*	20.45	5.53E-02	1.49E-02	miss
		123.07	*	40.40	4.77E-02	1.47E-03	0.958
		247.93	*	6.89	4.58E-02	4.78E-03	0.945
		591.76	*	4.95	4.82E-02	1.31E-02	0.934

Analysis Report for 24-2336 VSM-8.0M-S2-CST-A F3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.99	692.42	*	1.78	4.56E-02	2.79E-03	0.949
		723.30	*	20.06	4.74E-02	1.24E-03	0.952
		756.80	*	4.52	5.03E-02	4.21E-03	0.932
		873.18	*	12.08	4.82E-02	8.44E-04	0.945
		996.29	*	10.48	4.67E-02	3.17E-03	0.986
		1004.76	*	18.01	4.79E-02	7.31E-04	0.978
		1246.12	*	0.86	4.16E-02	3.48E-03	0.941
		1274.43	*	34.80	4.76E-02	8.04E-04	0.980
		1494.05	*	0.70	4.48E-02	4.88E-03	1.014
		1596.48	*	1.80	4.34E-02	1.66E-03	1.158
EU-155	0.98	43.00	*	18.12	6.25E-02	1.68E-02	1.000
		60.01	*	1.17	9.76E+00	2.89E-01	0.999
		86.55	*	30.70	8.20E-03	5.23E-04	free
		105.31	*	21.10	6.42E-03	6.53E-04	1.000
NP-237	0.97	86.48	*	12.20	2.06E-02	1.40E-03	1.000
AM-241	0.99	59.54	*	35.90	3.17E-01	5.88E-03	free
AM-243	0.99	43.53	*	5.90	1.92E-01	5.15E-02	free
		74.66	*	67.20	1.72E-03	2.70E-04	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	NA-22	0.997	2.25E-05	2.88E-04	
	CO-60	0.984	1.13E-02	1.01E-04	
	CU-64	0.926	1.25E-01	1.69E-02	
X	GA-66	0.447			
	ZR-95	0.957	1.39E-04	2.85E-04	
X	RU-106	0.905			

Analysis Report for 24-2336 VSM-8.0M-S2-CST-A F3

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
Te-129m	0.934	6.08E-02	1.23E-02	
CS-137	0.998	1.53E-02	1.45E-04	
EU-154	0.993	4.75E-02	3.71E-04	
EU-155	0.988	6.42E-03	6.34E-04	
NP-237	0.977	4.46E-03	2.06E-03	
AM-241	0.999	3.17E-01	4.70E-03	
AM-243	0.994	1.72E-03	2.68E-04	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2336 VSM-8.0M-S2-CST-A F3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 9:52:54AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	8	344.26	3.56867E-01	13.25	Tol.	BA-141 EU-152 PU-239
F	9	414.83	1.03412E+00	15.35	Tol.	RH-102M
F	10	444.84	2.65207E-01	52.07	Tol.	SB-127
F	12	582.25	2.45192E-01	45.46		
m	15	666.48	8.44721E-01	3.07	Sum	
M	20	812.01	3.53165E-02	41.20	Tol.	Ni-56 NB-96 SB-129 I-132 EU-156
m	21	815.75	1.11797E-01	14.43	Sum	
m	22	822.71	3.12221E-02	45.90	S-Esc	
F	23	845.99	1.56565E-01	40.52	Sum	
F	25	892.98	1.32174E-01	11.98		
F	26	904.48	2.51890E-01	27.86		
F	27	964.40	7.56706E-02	19.07	Tol.	EU-152
F	30	1086.08	1.03949E-01	81.13	S-Esc	
F	31	1128.59	1.15902E-01	42.08	Sum	
F	36	1397.72	6.60653E-02	38.29	Sum	
F	37	1408.39	8.37963E-02	8.49	Sum	
F	40	1719.89	3.78781E-02	8152.97	Sum	
F	41	1765.27	-2.37151E-03	- 95.61	Sum	
F	42	2506.45	4.03626E-02	9.38	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2336 VSM-8.0M-S2-CST-A F3

ASR 2094 Branch

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.60		10.44	4.07E-03	4.07E-03	-2.16E-03	2.03E-03
+	NA-22	511.00	*	179.91	3.51E-04	3.12E-04	2.17E-03	1.75E-04
		1274.54	*	99.94	3.12E-04		1.76E-02	1.55E-04
	NA-24	1368.63		99.99	1.11E-03	2.50E-04	-7.21E-06	5.46E-04
		2754.01		99.87	2.50E-04		1.44E-04	1.06E-04
	AL-26	1129.67		2.50	9.49E-03	5.12E-05	5.13E-03	4.69E-03
		1808.65		99.76	5.12E-05		-2.37E-05	2.39E-05
	K-40	1460.82		10.66	1.11E-03	1.11E-03	1.25E-03	5.39E-04
	K-42	312.60		0.34	1.88E+00	6.34E-03	-5.87E-01	9.38E-01
		1524.60		18.08	6.34E-03		4.40E-03	3.07E-03
	Sc-44	1157.02		99.90	4.88E-01	4.88E-01	5.66E-01	2.41E-01
		1499.46		0.91	3.49E+01		-7.33E+00	1.71E+01
	Sc-44m	271.24		86.74	1.12E-03	1.12E-03	-5.37E-04	5.61E-04
		1001.83		1.20	8.59E-02		1.86E+00	4.28E-02
		1126.06		1.20	3.65E-02		1.36E-03	1.81E-02
		1157.00		1.20	3.17E-02		3.67E-02	1.56E-02
	TI-44	67.87		93.00	1.63E-03	1.33E-03	6.52E-04	8.14E-04
		78.32		96.40	1.33E-03		4.76E-04	6.64E-04
	SC-46	889.28		99.98	3.00E-04	2.54E-04	-1.86E-05	1.49E-04
		1120.55		99.99	2.54E-04		-1.16E-04	1.26E-04
	CA-47	489.23		5.90	9.48E-03	3.11E-04	7.66E-03	4.72E-03
		807.86		5.90	6.90E-03		4.13E-04	3.43E-03
		1297.09		67.00	3.11E-04		3.36E-04	1.53E-04
	SC-47	159.38		68.30	1.63E-03	1.63E-03	-1.09E-03	8.16E-04
	SC-48	175.36		7.47	1.94E-02	2.99E-04	3.51E-03	9.70E-03
		983.53		100.00	5.45E-04		-4.04E-04	2.70E-04
		1037.52		97.50	5.54E-04		2.72E-04	2.75E-04
		1312.12		100.00	2.99E-04		-1.58E-04	1.47E-04
	V-48	944.13		7.87	3.97E-03	1.70E-04	3.92E-04	1.97E-03
		983.53		99.98	3.03E-04		-2.25E-04	1.50E-04
		1312.11		98.20	1.70E-04		-8.99E-05	8.33E-05
		2240.40		2.33	1.88E-03		-8.77E-04	8.46E-04
	CR-51	320.08		9.91	5.43E-03	5.43E-03	2.73E-03	2.71E-03
	Fe-52	168.69		99.20	3.07E-02	3.07E-02	-6.77E-03	1.53E-02
		377.75		1.64	1.16E+00		9.06E-01	5.79E-01
	Mn-52	744.23		90.00	4.71E-04	1.62E-04	-3.16E-04	2.34E-04
		848.18		3.32	1.22E-02		1.14E-02	6.06E-03
		935.54		94.50	4.03E-04		2.43E-04	2.00E-04
		1246.28		4.21	6.16E-03		1.12E-02	3.04E-03
		1333.65		5.07	1.35E-02		2.90E-01	6.73E-03
		1434.09		100.00	1.62E-04		1.62E-04	7.92E-05
	MN-54	834.85		99.98	2.95E-04	2.95E-04	-1.97E-04	1.46E-04

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Co-55	411.50		1.07	2.47E-01	2.21E-03	8.16E-02	1.23E-01
		477.20		20.20	1.19E-02		1.45E-02	5.95E-03
		803.70		1.87	9.27E-02		-4.46E-03	4.60E-02
		931.10		75.00	2.21E-03		2.64E-04	1.09E-03
		1316.60		7.10	1.20E-02		-1.00E-02	5.90E-03
		1370.00		2.90	2.71E-02		-3.90E-02	1.33E-02
		1408.50		16.90	5.01E-03		1.10E-02	2.46E-03
	Co-56	846.77		99.94	3.20E-04	1.82E-04	3.57E-04	1.59E-04
		977.37		1.42	2.08E-02		-1.82E-02	1.03E-02
		1037.84		14.05	2.05E-03		1.58E-03	1.01E-03
		1175.10		2.25	2.51E-02		5.28E-01	1.25E-02
		1238.29		66.46	2.84E-04		3.00E-04	1.40E-04
		1360.21		4.28	3.48E-03		1.15E-03	1.71E-03
		1771.36		15.41	4.44E-04		2.51E-04	2.10E-04
		2015.20		3.02	1.54E-03		5.97E-04	7.05E-04
		2034.79		7.77	6.47E-04		-5.30E-05	2.98E-04
		2598.50		16.97	1.82E-04		-3.44E-05	7.67E-05
	MN-56	846.76		98.85	4.75E+01	3.04E+01	5.29E+01	2.36E+01
		1810.73		26.90	3.04E+01		-2.10E+01	1.42E+01
		2113.09		14.20	4.42E+01		-1.45E+01	2.00E+01
	Ni-56	158.38		98.80	9.54E-04	4.26E-04	8.04E-04	4.76E-04
		269.50		36.50	1.82E-03		8.06E-04	9.08E-04
		480.44		36.50	1.40E-03		2.70E-03	6.97E-04
		749.50		49.50	7.92E-04		3.94E-04	3.93E-04
		811.85		86.00	4.26E-04		-6.50E-05	2.12E-04
		1561.80		14.00	7.34E-04		3.43E-04	3.53E-04
	CO-57	122.06		85.60	1.08E-03	1.08E-03	-4.82E-04	5.39E-04
		136.47		10.68	7.55E-03		6.48E-03	3.77E-03
	NI-57	127.16		16.70	1.26E-02	3.90E-04	1.45E-03	6.30E-03
		1377.63		81.70	3.90E-04		-1.63E-04	1.91E-04
		1757.55		5.75	2.44E-03		-2.22E-03	1.15E-03
		1919.52		12.30	9.38E-04		4.38E-04	4.35E-04
	CO-58	810.76		99.45	3.08E-04	3.08E-04	-1.77E-05	1.53E-04
		863.96		0.69	4.46E-02		8.27E-03	2.21E-02
		1674.73		0.52	1.35E-02		2.01E-02	6.42E-03
	FE-59	142.65		1.02	7.88E-02	3.76E-04	4.64E-02	3.94E-02
		192.34		3.08	2.34E-02		-1.88E-03	1.17E-02
		1099.24		56.50	4.51E-04		1.97E-05	2.23E-04
		1291.59		43.20	3.76E-04		-1.80E-04	1.85E-04
+	CO-60	1173.23	*	99.85	2.65E-04	2.65E-04	1.14E-02	1.31E-04
		1332.49	*	99.98	2.69E-04		1.11E-02	1.33E-04
+	CU-64	511.00	*	35.00	2.04E-02	2.04E-02	1.26E-01	1.02E-02
		1345.77		0.47	3.26E-01		-4.26E-01	1.60E-01
	NI-65	366.27		4.81	2.08E+03	8.81E+01	3.26E+02	1.04E+03
		1115.53		15.43	3.42E+02		4.93E+02	1.69E+02
		1481.84		23.59	8.81E+01		9.56E+00	4.28E+01
	ZN-65	1115.54		50.04	5.08E-04	5.08E-04	7.31E-04	2.51E-04
	GA-66	511.00	*	114.00	1.42E-02	3.48E-03	8.79E-02	7.09E-03
		833.53		5.90	1.28E-01		-9.80E-02	6.35E-02
		1039.22		37.00	1.85E-02		1.57E-02	9.17E-03
		1333.11	*	1.17	5.68E-01		2.35E+01	2.81E-01
		1918.33		1.99	6.42E-02		5.39E-02	2.98E-02
		2189.62		5.30	1.50E-02		1.78E-03	6.56E-03

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	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	GA-66	2751.83	22.70	3.48E-03	3.48E-03	2.00E-03	1.47E-03
	CU-67	91.27	7.00	2.45E-02	2.34E-03	2.06E-02	1.22E-02
		93.31	16.10	1.04E-02		1.24E-02	5.18E-03
		184.58	48.70	2.34E-03		4.97E-05	1.17E-03
		300.22	0.80	1.11E-01		-3.15E-02	5.52E-02
		393.53	0.22	3.35E-01		1.46E-01	1.67E-01
	GA-67	91.26	3.11	5.09E-02	3.92E-03	4.29E-02	2.54E-02
		93.31	38.81	3.92E-03		4.68E-03	1.96E-03
		184.58	21.41	4.81E-03		1.02E-04	2.40E-03
		208.95	2.46	4.04E-02		-4.41E-02	2.01E-02
		300.22	16.64	4.88E-03		-1.39E-03	2.44E-03
		393.53	4.56	1.32E-02		5.73E-03	6.56E-03
	ZN-69m	438.63	94.85	4.30E-03	4.30E-03	-3.40E-03	2.14E-03
	GA-72	629.97	26.13	1.30E-02	1.67E-03	1.31E-02	6.46E-03
		834.13	95.45	2.85E-03		-1.23E-03	1.41E-03
		894.33	10.14	2.66E-02		3.38E-02	1.32E-02
		1050.79	6.99	3.67E-02		1.29E-02	1.82E-02
		2201.59	26.87	1.67E-03		2.16E-03	7.67E-04
		2491.03	7.73	3.56E-03		2.27E-03	1.53E-03
		2507.72	13.33	6.60E-03		9.83E-03	3.15E-03
	Zn-72	144.70	82.78	1.82E-03	1.82E-03	7.31E-04	9.08E-04
		191.50	9.35	1.41E-02		-2.09E-03	7.02E-03
	SE-75	121.12	17.20	5.68E-03	9.76E-04	-8.54E-04	2.84E-03
		136.00	58.50	1.45E-03		4.15E-04	7.25E-04
		264.66	58.90	9.76E-04		1.09E-03	4.87E-04
		279.54	25.02	2.35E-03		2.75E-03	1.17E-03
		400.66	11.41	2.98E-03		1.73E-03	1.49E-03
	BR-83	529.59	1.30	1.26E+04	1.26E+04	-1.85E+04	6.26E+03
@	BR-84	604.80	1.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		736.50	1.29	1.00E+20		1.00E+20	1.00E+20
@		802.20	6.00	1.00E+20		1.00E+20	1.00E+20
@		881.60	42.00	1.00E+20		1.00E+20	1.00E+20
@		987.30	0.79	1.00E+20		1.00E+20	1.00E+20
@		1015.90	6.20	1.00E+20		1.00E+20	1.00E+20
@		1213.30	2.60	1.00E+20		1.00E+20	1.00E+20
@		1463.80	2.00	1.00E+20		1.00E+20	1.00E+20
@		1741.20	1.60	1.00E+20		1.00E+20	1.00E+20
@		1877.50	1.12	1.00E+20		1.00E+20	1.00E+20
@		1897.60	14.60	1.00E+20		1.00E+20	1.00E+20
@		2029.60	2.10	1.00E+20		1.00E+20	1.00E+20
@		2200.70	1.16	1.00E+20		1.00E+20	1.00E+20
@		2484.10	6.70	1.00E+20		1.00E+20	1.00E+20
@		2824.10	1.12	1.00E+20		1.00E+20	1.00E+20
	KR-85m	151.20	75.20	9.69E-01	9.69E-01	-5.90E-02	4.84E-01
		304.87	14.00	3.67E+00		3.62E+00	1.83E+00
	Y-87	388.53	82.20	8.07E-04	6.68E-04	-8.34E-05	4.03E-04
		484.80	89.80	6.68E-04		-6.39E-04	3.33E-04
	KR-88	165.98	3.10	1.40E+03	5.29E+00	-9.68E+01	6.98E+02
		196.30	26.00	1.44E+02		1.82E+02	7.17E+01
		362.23	2.25	1.10E+03		3.04E+02	5.49E+02
		471.80	0.73	3.21E+03		-2.33E+03	1.60E+03
		834.83	13.00	1.26E+02		-8.46E+01	6.27E+01
		985.78	1.31	1.18E+03		-2.83E+01	5.84E+02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
KR-88	1141.33	1.28	9.61E+02	5.29E+00	1.60E+03	4.75E+02
	1179.51	1.00	2.86E+03		-4.52E+02	1.42E+03
	1250.67	1.12	9.58E+02		1.94E+03	4.72E+02
	1369.50	1.48	5.28E+02		-1.98E+02	2.58E+02
	1518.39	2.15	2.49E+02		-1.52E+02	1.20E+02
	1529.77	10.90	4.96E+01		-8.19E+01	2.40E+01
	2029.84	4.53	5.45E+01		-4.01E+00	2.49E+01
	2035.41	3.74	7.28E+01		4.69E+01	3.36E+01
	2195.84	13.20	1.86E+01		-2.36E+00	8.44E+00
	2231.77	3.39	7.07E+01		3.13E+01	3.23E+01
	2352.08	0.73	2.73E+02		-6.12E+01	1.20E+02
	2392.11	34.60	5.29E+00		4.11E+00	2.32E+00
RB-88	898.03	14.40	1.17E+02	1.29E+01	1.10E+01	5.80E+01
	1382.45	0.78	9.55E+02		8.47E+02	4.67E+02
	1836.00	22.81	1.29E+01		1.07E+01	6.04E+00
	2677.89	2.13	7.52E+01		-2.96E+01	3.15E+01
Y-88	898.04	93.70	3.34E-04	5.58E-05	3.14E-05	1.66E-04
	1836.06	99.20	5.58E-05		4.62E-05	2.61E-05
@ RB-89	272.42	1.53	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	657.77	10.80	1.00E+20		1.00E+20	1.00E+20
@	947.73	10.00	1.00E+20		1.00E+20	1.00E+20
@	1031.92	63.00	1.00E+20		1.00E+20	1.00E+20
@	1248.14	46.00	1.00E+20		1.00E+20	1.00E+20
@	1538.07	2.77	1.00E+20		1.00E+20	1.00E+20
@	2007.50	2.58	1.00E+20		1.00E+20	1.00E+20
@	2195.92	14.50	1.00E+20		1.00E+20	1.00E+20
@	2570.20	10.70	1.00E+20		1.00E+20	1.00E+20
@	2707.26	2.20	1.00E+20		1.00E+20	1.00E+20
SR-89	908.96	0.01	3.18E+00	3.18E+00	9.88E-01	1.58E+00
Sr-91	652.90	11.35	7.53E-02	1.96E-02	6.36E-02	3.75E-02
	749.80	23.70	3.26E-02		1.62E-02	1.62E-02
	925.80	3.85	1.81E-01		-1.19E-02	8.96E-02
	1024.30	33.50	1.96E-02		-1.75E-03	9.70E-03
Y-91	1204.77	0.26	6.95E-02	6.95E-02	-4.73E-02	3.42E-02
NB-92M	912.60	1.78	1.89E-02	3.23E-04	1.03E-02	9.40E-03
	934.44	99.15	3.23E-04		3.23E-05	1.60E-04
	1847.50	0.85	6.65E-03		-1.23E-03	3.10E-03
SR-92	241.56	2.93	2.62E+03	1.95E+01	-4.02E+02	1.31E+03
	430.49	3.28	1.77E+03		-3.88E+02	8.84E+02
	953.31	3.52	1.06E+03		-7.59E+01	5.24E+02
	1142.35	2.79	1.05E+03		8.37E+02	5.18E+02
	1383.93	90.00	1.95E+01		-6.68E+00	9.54E+00
MO-93M	114.04	0.68	1.19E+01	9.27E-03	1.07E+01	5.94E+00
	263.05	57.40	8.53E-02		-7.37E-02	4.25E-02
	684.69	99.90	2.98E-02		-9.80E-03	1.48E-02
	1363.02	0.81	1.57E+00		1.09E+00	7.67E-01
	1477.14	99.10	9.27E-03		6.29E-03	4.50E-03
@ SR-93	168.50	18.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	260.12	7.40	1.00E+20		1.00E+20	1.00E+20
@	346.49	3.28	1.00E+20		1.00E+20	1.00E+20
@	446.20	2.36	1.00E+20		1.00E+20	1.00E+20
@	590.24	68.00	1.00E+20		1.00E+20	1.00E+20
@	710.31	21.80	1.00E+20		1.00E+20	1.00E+20

Analysis Report for 24-2336 VSM-8.0M-S2-CST-A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	SR-93	875.73		24.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		888.13		22.10	1.00E+20		1.00E+20	1.00E+20
@		1040.63		3.20	1.00E+20		1.00E+20	1.00E+20
@		1094.00		1.76	1.00E+20		1.00E+20	1.00E+20
@		1122.48		4.00	1.00E+20		1.00E+20	1.00E+20
@		1215.48		2.50	1.00E+20		1.00E+20	1.00E+20
@		1269.47		7.10	1.00E+20		1.00E+20	1.00E+20
@		1321.24		2.61	1.00E+20		1.00E+20	1.00E+20
@		1387.11		3.50	1.00E+20		1.00E+20	1.00E+20
@		1694.07		2.58	1.00E+20		1.00E+20	1.00E+20
@		1699.06		3.30	1.00E+20		1.00E+20	1.00E+20
@		2543.84		3.03	1.00E+20		1.00E+20	1.00E+20
@		2688.65		2.13	1.00E+20		1.00E+20	1.00E+20
	Y-93	266.90		7.40	1.51E-01	6.43E-02	5.52E-02	7.52E-02
		947.10		2.10	2.74E-01		3.32E-01	1.36E-01
		1917.80		1.57	6.43E-02		-7.43E-02	2.98E-02
	NB-94	702.65		99.81	3.43E-04	3.43E-04	-4.51E-04	1.70E-04
		871.09		99.89	4.37E-04		5.92E-03	2.18E-04
@	Y-94	381.60		2.02	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		550.90		4.90	1.00E+20		1.00E+20	1.00E+20
@		752.60		1.40	1.00E+20		1.00E+20	1.00E+20
@		918.74		56.00	1.00E+20		1.00E+20	1.00E+20
@		1138.90		6.00	1.00E+20		1.00E+20	1.00E+20
@		1671.40		2.50	1.00E+20		1.00E+20	1.00E+20
@		2140.60		0.95	1.00E+20		1.00E+20	1.00E+20
	NB-95	765.80		99.81	3.19E-04	3.19E-04	-1.19E-04	1.59E-04
+	ZR-95	724.19	*	44.27	1.24E-03	7.88E-04	2.08E-02	6.19E-04
		756.72	*	54.38	7.88E-04		3.97E-03	3.92E-04
	NB-96	219.08		2.97	7.82E-02	1.21E-03	-6.35E-03	3.90E-02
		241.38		3.50	6.19E-02		-9.49E-03	3.09E-02
		350.05		1.54	1.18E-01		7.27E-02	5.90E-02
		352.56		0.83	2.18E-01		5.75E-02	1.09E-01
		371.81		2.62	6.64E-02		4.18E-02	3.31E-02
		460.04		26.62	5.95E-03		1.16E-03	2.96E-03
		480.71		5.84	2.65E-02		5.12E-02	1.32E-02
		568.87		58.00	2.40E-03		-1.72E-03	1.19E-03
		719.56		6.85	2.70E-02		9.83E-03	1.34E-02
		721.63		1.02	1.81E-01		9.70E-03	9.02E-02
		778.22		96.45	1.21E-03		8.07E-04	6.03E-04
		810.33		11.09	9.99E-03		-6.67E-04	4.96E-03
		812.58		2.95	3.77E-02		3.99E-03	1.87E-02
		847.69		1.14	9.87E-02		1.28E-02	4.90E-02
		849.93		20.45	5.50E-03		2.95E-04	2.73E-03
		1091.35		48.50	1.97E-03		1.65E-03	9.74E-04
		1200.23		19.97	3.38E-03		-5.01E-04	1.67E-03
		1441.13		0.44	9.67E-02		1.02E-01	4.71E-02
		1497.81		3.28	1.54E-02		5.00E-02	7.54E-03
	Nb-97	657.94		98.23	3.56E-03	3.56E-03	5.53E-04	1.77E-03
		1024.40		1.09	1.56E-01		-1.39E-02	7.71E-02
	ZR-97	254.17		1.15	3.05E-01	2.12E-03	1.12E-01	1.52E-01
		355.40		2.09	1.53E-01		5.50E-02	7.63E-02
		507.64		5.03	5.91E-02		1.69E-02	2.94E-02
		743.36		93.09	2.12E-03		-7.92E-04	1.05E-03

Analysis Report for 24-2336 VSM-8.0M-S2-CST-A F3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ZR-97	1147.97	2.62	5.40E-02	2.12E-03	-1.05E-01	2.67E-02
MO-99	181.07	6.14	1.94E-02	4.25E-03	3.66E-03	9.69E-03
	366.42	1.20	6.21E-02		9.73E-03	3.10E-02
	739.50	12.26	4.25E-03		7.48E-04	2.11E-03
	777.92	4.30	1.16E-02		1.34E-02	5.76E-03
TC-99M	140.51	90.80	1.38E-03	1.38E-03	-1.64E-03	6.91E-04
RH-101	127.23	68.00	1.34E-03	9.46E-04	5.71E-04	6.68E-04
	198.01	73.00	9.46E-04		-2.07E-04	4.72E-04
	325.23	11.80	3.42E-03		3.68E-03	1.71E-03
RH-101M	306.86	81.00	8.78E-04	8.78E-04	2.04E-04	4.38E-04
	545.12	4.30	1.20E-02		-4.62E-03	5.97E-03
RH-102M	415.25	2.10	2.44E-02	4.81E-04	7.69E-02	1.22E-02
	418.52	9.40	5.32E-03		-1.14E-03	2.65E-03
	420.40	3.20	1.59E-02		1.14E-02	7.94E-03
	475.06	95.00	4.81E-04		4.02E-04	2.40E-04
	628.05	8.30	4.82E-03		9.64E-04	2.40E-03
	631.29	56.00	6.90E-04		1.86E-05	3.44E-04
	692.40	1.60	2.68E-02		4.86E-03	1.33E-02
	695.60	2.90	1.45E-02		9.59E-02	7.21E-03
	697.49	44.00	9.49E-04		1.91E-04	4.72E-04
	766.84	34.00	9.78E-04		-5.36E-04	4.86E-04
	1046.59	34.00	8.50E-04		2.65E-04	4.21E-04
	1103.16	4.60	5.50E-03		-9.75E-03	2.72E-03
	1112.84	19.00	1.45E-03		8.40E-04	7.16E-04
RU-103	497.08	91.00	4.55E-04	4.55E-04	-1.28E-04	2.27E-04
	610.33	5.76	6.53E-03		-1.75E-03	3.25E-03
RH-105	306.31	4.66	2.72E-02	7.28E-03	-3.68E-03	1.36E-02
	319.23	16.90	7.28E-03		-4.99E-03	3.63E-03
AG-106M	221.70	6.60	1.09E-02	6.05E-04	1.96E-02	5.43E-03
	228.63	2.10	3.34E-02		2.15E-02	1.67E-02
	328.46	1.14	5.18E-02		-1.33E-02	2.58E-02
	391.04	3.68	1.43E-02		7.98E-03	7.12E-03
	406.18	13.40	3.85E-03		6.22E-04	1.92E-03
	429.65	13.20	3.89E-03		-1.84E-03	1.94E-03
	450.98	28.20	1.77E-03		-1.14E-03	8.81E-04
	511.85	88.00	6.05E-04		5.37E-03	3.02E-04
	601.17	1.61	2.59E-02		2.49E-02	1.29E-02
	616.17	21.60	1.97E-03		1.95E-03	9.79E-04
	646.03	1.46	2.79E-02		-1.67E-03	1.39E-02
	680.42	2.18	1.79E-02		2.25E-03	8.92E-03
	703.11	4.47	8.54E-03		-6.78E-03	4.24E-03
	717.34	28.90	1.69E-03		7.14E-04	8.41E-04
	748.36	20.60	1.78E-03		3.60E-04	8.83E-04
	793.17	5.90	6.06E-03		2.06E-03	3.01E-03
	804.28	12.40	2.81E-03		2.01E-03	1.40E-03
	808.36	4.00	8.57E-03		-2.11E-03	4.25E-03
	824.69	15.30	2.26E-03		-2.96E-04	1.12E-03
	847.15	4.40	7.99E-03		5.09E-03	3.97E-03
	1019.72	1.04	3.00E-02		-3.79E-02	1.49E-02
	1045.83	29.60	1.06E-03		4.56E-05	5.24E-04
	1128.02	11.80	2.35E-03		-2.01E-04	1.16E-03
	1199.39	11.20	1.88E-03		-1.33E-03	9.29E-04
	1222.88	7.00	2.86E-03		1.03E-03	1.41E-03

Analysis Report for 24-2336 VSM-8.0M-S2-CST-A F3

ASR 2094 Branch

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-106M	1394.35		1.49	1.15E-02	6.05E-04	1.87E-02	5.64E-03
	1527.65		16.30	6.77E-04		-5.34E-04	3.28E-04
	1572.35		6.60	1.56E-03		1.25E-03	7.51E-04
	1722.76		1.40	7.10E-03		8.76E-03	3.41E-03
	1839.05		2.00	3.12E-03		1.91E-03	1.46E-03
RH-106	621.93		9.93	3.81E-03	3.81E-03	2.40E-03	1.90E-03
	873.49		0.44	1.03E-01		1.30E+00	5.11E-02
	1050.41		1.56	1.79E-02		-1.46E-03	8.85E-03
RU-106	511.86	*	20.40	3.10E-03	3.10E-03	1.92E-02	1.55E-03
AG-108M	79.13		6.60	1.85E-02	4.41E-04	4.99E-03	9.25E-03
	433.94		90.50	5.23E-04		2.61E-05	2.60E-04
	614.28		89.80	4.41E-04		8.54E-05	2.19E-04
	722.91		90.80	5.92E-04		1.09E-02	2.95E-04
CD-109	88.03		3.64	2.99E-02	2.99E-02	8.63E-02	1.50E-02
AG-110M	446.81		3.70	1.33E-02	4.11E-04	1.32E-02	6.62E-03
	620.35		2.73	1.51E-02		1.28E-02	7.51E-03
	657.76		95.61	6.36E-04		1.08E-04	3.17E-04
	677.62		10.70	3.57E-03		2.99E-03	1.78E-03
	687.01		6.53	5.86E-03		-5.01E-04	2.92E-03
	706.68		16.69	2.18E-03		-1.23E-03	1.08E-03
	744.28		4.77	7.32E-03		-4.91E-03	3.64E-03
	763.94		22.60	1.57E-03		-5.33E-06	7.78E-04
	818.02		7.43	4.68E-03		9.55E-03	2.32E-03
	884.68		75.00	4.11E-04		-1.52E-04	2.04E-04
	937.48		35.00	8.78E-04		4.44E-04	4.35E-04
	1384.29		25.10	5.68E-04		3.55E-04	2.78E-04
	1475.78		4.08	2.64E-03		-3.59E-04	1.28E-03
	1505.03		13.33	7.94E-04		-2.01E-04	3.85E-04
	1562.29		1.22	6.05E-03		-6.77E-04	2.91E-03
AG-111	245.40		1.11	6.32E-02	8.83E-03	6.61E-03	3.16E-02
	342.13		6.68	8.83E-03		5.31E-04	4.40E-03
AG-112	606.82		3.10	5.07E-02	3.64E-03	1.63E-02	2.52E-02
	617.52		43.00	3.64E-03		7.08E-04	1.81E-03
	692.82		1.19	1.39E-01		3.26E-02	6.93E-02
	694.87		2.90	5.70E-02		3.76E-01	2.83E-02
	851.28		1.02	1.28E-01		1.10E-02	6.35E-02
	1312.36		1.11	5.76E-02		-3.05E-02	2.83E-02
	1387.68		5.30	1.08E-02		-4.75E-03	5.29E-03
	1613.66		2.80	1.22E-02		6.93E-03	5.86E-03
	1798.50		0.89	2.31E-02		-5.05E-02	1.07E-02
	2106.31		2.40	6.83E-03		6.86E-03	3.07E-03
	2506.70		1.06	3.89E-02		9.61E-02	1.86E-02
CD-113M	263.70		0.03	2.04E+00	2.04E+00	-5.84E-01	1.02E+00
SN-113	255.13		2.11	2.66E-02	7.00E-04	2.76E-02	1.33E-02
	391.70		64.97	7.00E-04		2.95E-04	3.49E-04
IN-114M	190.27		15.56	4.49E-03	4.49E-03	4.54E-03	2.24E-03
	558.43		4.40	9.20E-03		8.92E-03	4.58E-03
	725.24		4.40	1.20E-02		-1.59E-03	5.98E-03
CD-115	260.90		1.94	5.03E-02	1.92E-03	-4.77E-02	2.51E-02
	336.24		46.02	1.92E-03		3.49E-04	9.58E-04
	527.90		27.45	2.46E-03		3.02E-04	1.23E-03
CD-115M	933.84		2.00	1.46E-02	1.46E-02	4.50E-03	7.23E-03
	1290.59		0.90	1.82E-02		-7.18E-03	8.95E-03

Analysis Report for 24-2336 VSM-8.0M-S2-CST-A F3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
IN-115M	336.24	45.90	1.04E+00	1.04E+00	1.88E-01	5.18E-01
IN-116M	138.29	3.70	1.39E+13	1.17E+11	1.04E+13	6.93E+12
	416.90	27.20	1.04E+12		3.39E+12	5.19E+11
	818.68	12.13	1.63E+12		1.36E+12	8.09E+11
	1097.28	58.50	2.65E+11		3.49E+11	1.31E+11
	1293.56	84.80	1.17E+11		5.87E+10	5.74E+10
	1507.59	9.92	6.12E+11		1.24E+12	2.97E+11
	2112.29	15.09	1.55E+11		8.66E+09	6.98E+10
SB-125	176.31	6.84	1.04E-02	1.49E-03	8.23E-03	5.22E-03
	380.45	1.52	3.03E-02		1.96E-02	1.51E-02
	427.87	29.60	1.49E-03		-5.96E-04	7.43E-04
	463.36	10.49	4.03E-03		-7.46E-04	2.01E-03
	600.60	17.65	2.03E-03		2.72E-03	1.01E-03
	606.71	4.98	7.31E-03		2.35E-03	3.64E-03
	635.95	11.22	3.14E-03		2.72E-03	1.56E-03
	671.44	1.79	2.08E-02		3.61E-04	1.04E-02
SN-125	332.10	1.40	4.41E-02	2.50E-03	-2.66E-02	2.20E-02
	469.85	1.50	3.42E-02		3.32E-02	1.71E-02
	800.28	1.10	3.28E-02		5.23E-02	1.63E-02
	822.48	4.30	8.29E-03		-6.71E-04	4.12E-03
	915.55	4.10	8.21E-03		2.80E-03	4.07E-03
	1067.10	10.00	3.06E-03		-1.13E-03	1.52E-03
	1087.70	1.20	2.65E-02		-5.36E-03	1.31E-02
	1089.10	4.60	6.46E-03		4.56E-03	3.20E-03
	2002.10	1.90	2.50E-03		1.01E-03	1.14E-03
SB-127	61.10	1.43	2.09E-01	1.26E-03	8.00E-03	1.04E-01
	252.40	8.50	9.75E-03		2.98E-03	4.87E-03
	290.80	2.02	3.94E-02		3.15E-02	1.97E-02
	412.10	3.80	1.70E-02		2.06E-03	8.46E-03
	445.10	4.30	1.47E-02		1.88E-02	7.34E-03
	473.00	25.80	2.28E-03		-1.30E-03	1.14E-03
	543.30	2.90	1.81E-02		1.57E-03	9.00E-03
	603.50	4.50	1.18E-02		-1.29E-02	5.88E-03
	685.70	36.80	1.26E-03		-4.93E-04	6.29E-04
	698.50	3.64	1.45E-02		-1.91E-03	7.19E-03
	722.20	1.88	3.69E-02		-2.31E-04	1.84E-02
	783.70	15.10	2.89E-03		-4.74E-04	1.43E-03
SN-127	119.70	2.20	9.73E+04	1.56E+03	-4.57E+04	4.86E+04
	262.50	2.30	5.55E+04		-6.04E+03	2.77E+04
	266.20	2.10	6.03E+04		-1.98E+03	3.01E+04
	284.30	2.70	4.81E+04		2.35E+04	2.40E+04
	438.20	6.10	1.67E+04		-6.78E+03	8.30E+03
	490.90	5.30	1.78E+04		3.78E+03	8.85E+03
	493.20	3.10	3.03E+04		-2.03E+04	1.51E+04
	545.40	2.30	3.90E+04		-2.51E+04	1.94E+04
	583.30	3.20	2.71E+04		2.75E+04	1.35E+04
	805.90	8.20	8.45E+03		9.09E+02	4.20E+03
	823.10	11.00	6.36E+03		1.53E+03	3.16E+03
	824.70	6.10	1.13E+04		-1.49E+03	5.63E+03
	859.50	8.00	8.43E+03		7.19E+02	4.18E+03
	979.20	7.20	8.77E+03		1.01E+04	4.35E+03
	1093.30	3.80	1.56E+04		2.07E+04	7.70E+03
	1095.60	19.00	3.07E+03		5.19E+03	1.52E+03

Analysis Report for 24-2336 VSM-8.0M-S2-CST-A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SN-127	1114.30		38.00	1.56E+03	1.56E+03	1.11E+03	7.74E+02
		1160.40		2.40	2.03E+04		2.04E+03	1.00E+04
		2003.40		5.30	1.76E+03		-1.88E+02	8.01E+02
	SB-129	180.42		2.84	2.87E+01	7.14E-01	4.27E+01	1.43E+01
		359.20		2.39	2.31E+01		1.74E+00	1.15E+01
		404.64		1.17	4.36E+01		3.06E+01	2.18E+01
		523.13		1.55	2.86E+01		-1.28E+01	1.43E+01
		544.56		15.42	2.89E+00		4.81E-01	1.44E+00
		633.74		2.53	1.61E+01		3.29E+00	8.02E+00
		654.28		2.97	1.42E+01		-5.98E-01	7.05E+00
		682.77		5.76	6.72E+00		-2.62E+00	3.34E+00
		761.12		4.32	9.61E+00		8.02E-01	4.78E+00
		773.37		2.82	1.27E+01		-1.15E+01	6.33E+00
		786.36		1.07	3.33E+01		-2.27E+01	1.66E+01
		787.16		1.74	2.05E+01		9.96E+00	1.02E+01
		812.97		48.20	7.14E-01		-6.26E-02	3.55E-01
		819.51		1.39	2.53E+01		-6.30E-01	1.26E+01
		876.65		2.75	1.77E+01		2.45E+02	8.81E+00
		914.96		23.30	1.41E+00		7.17E-01	6.98E-01
		966.78		8.96	3.65E+00		5.72E-01	1.81E+00
		1030.65		15.13	2.05E+00		1.96E+00	1.02E+00
		1656.10		1.31	6.24E+00		-3.90E+00	2.98E+00
		1738.16		7.45	9.21E-01		4.87E-01	4.35E-01
	TE-129	459.60		7.70	5.71E-03	5.71E-03	-2.50E-03	2.84E-03
		487.39		1.42	2.97E-02		-1.82E-02	1.48E-02
+	Te-129m	695.88	*	3.00	8.36E-03	8.36E-03	6.08E-02	4.15E-03
	I-131	80.18		2.62	5.60E-02	6.75E-04	-3.15E-02	2.80E-02
		284.30		6.12	1.08E-02		5.29E-03	5.40E-03
		364.49		81.50	6.75E-04		-3.84E-04	3.37E-04
		636.99		7.16	5.75E-03		3.56E-03	2.86E-03
		722.91		1.77	3.28E-02		6.01E-01	1.63E-02
	Te-131m	773.67		36.80	2.28E-03	2.28E-03	-1.75E-03	1.13E-03
		793.75		13.40	6.37E-03		-6.26E-03	3.16E-03
		852.21		19.90	4.06E-03		3.14E-03	2.02E-03
		1125.46		11.00	5.80E-03		9.03E-04	2.87E-03
		1206.60		9.41	4.91E-03		-3.56E-03	2.42E-03
	I-132	262.90		1.28	6.36E-02	6.56E-04	-5.50E-02	3.17E-02
		284.90		0.71	1.17E-01		6.72E-02	5.83E-02
		505.79		4.93	1.51E-02		2.56E-03	7.54E-03
		522.65		16.00	3.91E-03		-3.08E-03	1.95E-03
		547.20		1.14	5.51E-02		-3.17E-02	2.74E-02
		621.20		1.97	3.03E-02		-2.84E-02	1.51E-02
		630.19		13.30	4.39E-03		4.42E-03	2.18E-03
		650.50		2.57	2.29E-02		6.76E-03	1.14E-02
		667.71		98.70	8.71E-04		1.32E-04	4.34E-04
		669.80		4.60	1.34E-02		-2.53E-03	6.67E-03
		671.40		3.50	1.79E-02		3.11E-04	8.91E-03
		727.10		5.40	1.54E-02		-1.04E-03	7.68E-03
		728.40		1.60	5.09E-02		-1.14E-02	2.53E-02
		772.60		75.60	6.56E-04		-9.08E-04	3.26E-04
		809.50		2.60	1.87E-02		-3.86E-03	9.27E-03
		812.00		5.50	8.78E-03		-1.34E-03	4.36E-03
		910.10		0.93	5.15E-02		9.99E-03	2.56E-02

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
I-132	954.55	17.60	2.58E-03	6.56E-04	1.11E-03	1.28E-03
	1136.00	3.01	1.19E-02		2.00E-03	5.90E-03
	1172.90	1.09	7.26E-02		1.55E+00	3.61E-02
	1290.80	1.13	2.28E-02		-8.98E-03	1.12E-02
	1295.10	1.88	1.09E-02		1.09E-02	5.36E-03
	1297.90	0.89	2.05E-02		1.70E-02	1.01E-02
	1372.07	2.47	8.80E-03		-3.72E-03	4.31E-03
	1398.57	7.01	3.30E-03		8.28E-03	1.61E-03
	1442.56	1.40	1.08E-02		-3.05E-03	5.24E-03
TE-132	49.72	15.00	3.01E-02	1.02E-03	7.96E-02	1.50E-02
	111.76	1.74	7.83E-02		5.48E-02	3.91E-02
	116.30	1.96	6.77E-02		1.67E-02	3.38E-02
	228.16	88.00	1.02E-03		1.54E-04	5.11E-04
BA-133	81.00	32.90	3.77E-03	7.85E-04	6.03E-04	1.88E-03
	276.40	7.16	8.15E-03		4.08E-03	4.07E-03
	302.85	18.34	2.96E-03		-6.47E-04	1.48E-03
	356.01	62.05	7.85E-04		7.13E-04	3.92E-04
	383.85	8.94	4.96E-03		1.37E-04	2.47E-03
I-133	529.87	87.00	1.92E-03	1.92E-03	5.28E-04	9.56E-04
	706.58	1.51	9.79E-02		-5.52E-02	4.86E-02
	856.28	1.24	1.07E-01		7.49E-03	5.33E-02
	875.33	4.51	4.09E-02		5.32E-01	2.03E-02
	1236.44	1.51	4.88E-02		2.15E-02	2.40E-02
	1298.22	2.35	2.92E-02		9.16E-03	1.44E-02
@ TE-133	312.08	62.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	407.63	27.10	1.00E+20		1.00E+20	1.00E+20
@	410.40	0.94	1.00E+20		1.00E+20	1.00E+20
@	474.85	0.88	1.00E+20		1.00E+20	1.00E+20
@	719.71	8.90	1.00E+20		1.00E+20	1.00E+20
@	786.93	5.40	1.00E+20		1.00E+20	1.00E+20
@	844.36	3.31	1.00E+20		1.00E+20	1.00E+20
@	884.30	0.72	1.00E+20		1.00E+20	1.00E+20
@	930.71	3.81	1.00E+20		1.00E+20	1.00E+20
@	997.70	1.04	1.00E+20		1.00E+20	1.00E+20
@	1000.72	3.62	1.00E+20		1.00E+20	1.00E+20
@	1021.13	2.81	1.00E+20		1.00E+20	1.00E+20
@	1061.61	1.19	1.00E+20		1.00E+20	1.00E+20
@	1252.08	1.44	1.00E+20		1.00E+20	1.00E+20
@	1312.80	0.85	1.00E+20		1.00E+20	1.00E+20
@	1333.21	10.67	1.00E+20		1.00E+20	1.00E+20
@	1717.61	3.18	1.00E+20		1.00E+20	1.00E+20
@	1881.52	1.22	1.00E+20		1.00E+20	1.00E+20
@	2136.51	1.25	1.00E+20		1.00E+20	1.00E+20
@	2229.64	0.87	1.00E+20		1.00E+20	1.00E+20
Xe-133	81.00	36.90	4.11E-03	4.11E-03	6.57E-04	2.05E-03
CS-134	475.36	1.48	2.83E-02	3.76E-04	9.88E-03	1.41E-02
	563.25	8.34	4.89E-03		-1.79E-03	2.43E-03
	569.33	15.37	2.63E-03		-9.21E-04	1.31E-03
	604.72	97.62	3.93E-04		-2.09E-04	1.96E-04
	795.86	85.46	3.76E-04		-1.30E-04	1.87E-04
	801.95	8.69	3.74E-03		-6.44E-04	1.86E-03
	1038.61	0.99	2.81E-02		1.08E-04	1.39E-02
	1167.97	1.79	2.60E-02		2.20E-04	1.29E-02

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-134	1365.19		3.02	4.14E-03	3.76E-04	3.81E-03	2.03E-03
	I-135	220.50		1.75	3.96E+00	5.99E-02	3.25E+00	1.98E+00
		288.45		3.10	1.99E+00		1.48E+00	9.92E-01
		417.63		3.53	1.43E+00		1.16E+00	7.14E-01
		546.56		7.15	5.99E-01		2.68E-01	2.98E-01
		836.80		6.69	4.92E-01		2.31E-01	2.44E-01
		971.96		0.89	3.50E+00		2.05E+00	1.74E+00
		972.62		1.21	2.53E+00		1.95E+00	1.25E+00
		1038.76		7.90	3.64E-01		1.40E-03	1.80E-01
		1101.58		1.61	1.70E+00		-3.61E+00	8.41E-01
		1124.00		3.62	7.48E-01		1.84E-02	3.70E-01
		1131.51		22.60	1.16E-01		1.36E-01	5.74E-02
		1240.47		0.90	2.41E+00		1.43E+00	1.19E+00
		1260.41		28.70	5.99E-02		-4.73E-02	2.94E-02
		1457.56		8.70	1.47E-01		2.59E-02	7.14E-02
		1502.79		1.08	1.18E+00		-7.53E-01	5.77E-01
		1566.41		1.29	6.79E-01		-8.34E-01	3.27E-01
		1678.03		9.60	7.30E-02		-1.30E-02	3.47E-02
		1706.46		4.10	1.70E-01		-1.74E-01	8.09E-02
		1791.20		7.72	6.96E-02		-7.00E-03	3.25E-02
		2408.65		0.96	3.20E-01		1.94E-01	1.36E-01
	XE-135	249.79		90.00	1.89E-02	1.89E-02	8.77E-02	9.43E-03
	XE-135m	526.56		80.40	5.11E-02	5.11E-02	-5.01E-02	2.54E-02
	CS-136	66.88		4.79	3.86E-02	3.64E-04	-3.39E-03	1.93E-02
		86.36		5.90	2.26E-02		7.43E-03	1.13E-02
		153.25		7.70	1.20E-02		9.48E-03	5.99E-03
		163.92		4.69	1.99E-02		9.09E-03	9.91E-03
		176.60		13.70	6.30E-03		6.27E-03	3.15E-03
		273.65		12.66	5.45E-03		-9.36E-04	2.72E-03
		340.55		46.80	1.26E-03		3.42E-04	6.29E-04
		818.51		99.70	3.64E-04		5.58E-04	1.81E-04
		1048.07		80.00	4.01E-04		2.68E-04	1.99E-04
		1235.36		20.00	1.01E-03		-5.55E-05	4.99E-04
+	CS-137	661.66	*	85.10	2.90E-04	2.90E-04	1.53E-02	1.44E-04
	BA-139	33.44		3.84	1.54E+09	1.49E+07	-5.27E+09	7.67E+08
		165.86		23.70	1.49E+07		-6.77E+05	7.42E+06
	BA-140	132.69		0.20	4.46E-01	1.77E-03	1.39E-01	2.23E-01
		162.66		6.22	1.36E-02		-1.11E-03	6.81E-03
		304.85		4.29	1.42E-02		1.40E-02	7.08E-03
		423.72		3.10	1.58E-02		1.84E-02	7.90E-03
		437.58		1.93	2.49E-02		3.55E-03	1.24E-02
		537.26		24.39	1.77E-03		-7.27E-04	8.82E-04
	LA-140	109.42		0.22	4.69E-01	2.13E-04	1.15E-01	2.34E-01
		131.12		0.47	1.95E-01		1.06E-01	9.73E-02
		173.54		0.13	6.28E-01		3.48E-01	3.14E-01
		241.93		0.41	1.55E-01		-1.33E-02	7.72E-02
		266.54		0.47	1.28E-01		-9.22E-03	6.41E-02
		328.76		20.30	2.97E-03		-1.25E-03	1.48E-03
		432.49		2.90	1.79E-02		-3.61E-03	8.95E-03
		487.02		45.50	1.04E-03		-8.56E-05	5.19E-04
		618.10		0.04	1.08E+00		4.94E-01	5.39E-01
		751.64		4.33	9.38E-03		4.04E-03	4.66E-03
		815.77		23.28	1.41E-03		-2.04E-05	7.01E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
LA-140	867.85	5.50	8.23E-03	2.13E-04	2.18E-03	4.09E-03
	919.55	2.66	1.19E-02		5.76E-03	5.90E-03
	925.19	6.90	4.73E-03		-1.10E-03	2.35E-03
	950.99	0.52	6.17E-02		1.80E-02	3.06E-02
	1596.21	95.40	2.13E-04		1.12E-03	1.05E-04
	2347.88	0.85	4.20E-03		7.94E-04	1.85E-03
	2521.40	3.46	8.79E-04		-8.83E-04	3.71E-04
	2547.34	0.10	3.14E-02		-4.60E-03	1.33E-02
@ BA-141	33.44	7.93	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	190.33	44.80	1.00E+20		1.00E+20	1.00E+20
@	276.95	23.60	1.00E+20		1.00E+20	1.00E+20
@	304.19	26.10	1.00E+20		1.00E+20	1.00E+20
@	343.67	15.10	1.00E+20		1.00E+20	1.00E+20
@	389.74	1.37	1.00E+20		1.00E+20	1.00E+20
@	457.51	5.00	1.00E+20		1.00E+20	1.00E+20
@	462.06	5.10	1.00E+20		1.00E+20	1.00E+20
@	467.22	5.60	1.00E+20		1.00E+20	1.00E+20
@	625.08	3.45	1.00E+20		1.00E+20	1.00E+20
@	647.78	5.70	1.00E+20		1.00E+20	1.00E+20
@	738.95	4.39	1.00E+20		1.00E+20	1.00E+20
@	831.46	1.64	1.00E+20		1.00E+20	1.00E+20
@	876.09	3.45	1.00E+20		1.00E+20	1.00E+20
@	1160.72	1.12	1.00E+20		1.00E+20	1.00E+20
@	1197.28	4.35	1.00E+20		1.00E+20	1.00E+20
@	1323.92	0.92	1.00E+20		1.00E+20	1.00E+20
@	1654.00	0.65	1.00E+20		1.00E+20	1.00E+20
@	1682.19	1.19	1.00E+20		1.00E+20	1.00E+20
CE-141	145.44	48.30	1.67E-03	1.67E-03	1.44E-03	8.33E-04
@ BA-142	33.44	14.20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	77.59	7.00	1.00E+20		1.00E+20	1.00E+20
@	177.00	2.12	1.00E+20		1.00E+20	1.00E+20
@	231.61	12.20	1.00E+20		1.00E+20	1.00E+20
@	255.30	20.70	1.00E+20		1.00E+20	1.00E+20
@	286.30	1.11	1.00E+20		1.00E+20	1.00E+20
@	309.20	2.60	1.00E+20		1.00E+20	1.00E+20
@	335.00	1.53	1.00E+20		1.00E+20	1.00E+20
@	363.96	4.76	1.00E+20		1.00E+20	1.00E+20
@	425.04	5.75	1.00E+20		1.00E+20	1.00E+20
@	599.80	1.85	1.00E+20		1.00E+20	1.00E+20
@	840.40	3.63	1.00E+20		1.00E+20	1.00E+20
@	895.20	13.90	1.00E+20		1.00E+20	1.00E+20
@	949.10	10.70	1.00E+20		1.00E+20	1.00E+20
@	1001.20	9.80	1.00E+20		1.00E+20	1.00E+20
@	1078.70	11.50	1.00E+20		1.00E+20	1.00E+20
@	1094.10	2.82	1.00E+20		1.00E+20	1.00E+20
@	1126.80	1.50	1.00E+20		1.00E+20	1.00E+20
@	1202.40	5.60	1.00E+20		1.00E+20	1.00E+20
@	1204.30	14.30	1.00E+20		1.00E+20	1.00E+20
@	1380.20	3.42	1.00E+20		1.00E+20	1.00E+20
CE-143	57.36	11.70	5.26E-02	3.24E-03	3.73E-03	2.63E-02
	231.55	2.05	7.68E-02		6.70E-02	3.83E-02
	293.27	42.80	3.24E-03		-7.93E-04	1.62E-03
	350.62	3.23	3.67E-02		1.39E-02	1.83E-02

Analysis Report for 24-2336 VSM-8.0M-S2-CST-A F3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
CE-143	490.37	2.16	4.94E-02	3.24E-03	5.07E-02	2.46E-02
	664.57	5.69	2.58E-02		6.73E-01	1.28E-02
	721.93	5.39	2.29E-02		-1.44E-04	1.14E-02
	880.46	1.03	8.35E-02		3.16E-02	4.15E-02
CE-144	80.12	1.36	8.88E-02	7.36E-03	-4.99E-02	4.43E-02
	133.51	11.09	7.36E-03		7.81E-03	3.68E-03
ND-147	38.17	13.20	5.74E-02	3.26E-03	-5.40E-02	2.87E-02
	38.72	23.80	3.00E-02		-2.97E-02	1.50E-02
	91.11	28.90	4.06E-03		3.41E-03	2.03E-03
	275.39	0.79	8.52E-02		1.83E-02	4.25E-02
	319.41	1.97	3.02E-02		-1.21E-02	1.51E-02
	398.13	0.87	5.87E-02		1.48E-02	2.93E-02
	439.88	1.20	4.13E-02		-1.34E-02	2.06E-02
	531.01	13.11	3.26E-03		1.73E-04	1.62E-03
	685.88	0.82	4.57E-02		1.59E-02	2.27E-02
@ PR-147	36.85	19.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	37.36	35.50	1.00E+20		1.00E+20	1.00E+20
@	49.88	4.00	1.00E+20		1.00E+20	1.00E+20
@	77.97	9.70	1.00E+20		1.00E+20	1.00E+20
@	86.69	5.40	1.00E+20		1.00E+20	1.00E+20
@	127.80	7.40	1.00E+20		1.00E+20	1.00E+20
@	249.20	1.32	1.00E+20		1.00E+20	1.00E+20
@	314.70	18.20	1.00E+20		1.00E+20	1.00E+20
@	328.80	4.00	1.00E+20		1.00E+20	1.00E+20
@	335.70	4.70	1.00E+20		1.00E+20	1.00E+20
@	388.80	1.41	1.00E+20		1.00E+20	1.00E+20
@	466.80	1.70	1.00E+20		1.00E+20	1.00E+20
@	477.90	4.60	1.00E+20		1.00E+20	1.00E+20
@	516.70	1.30	1.00E+20		1.00E+20	1.00E+20
@	554.70	5.90	1.00E+20		1.00E+20	1.00E+20
@	577.90	13.70	1.00E+20		1.00E+20	1.00E+20
@	641.40	16.10	1.00E+20		1.00E+20	1.00E+20
@	996.00	1.52	1.00E+20		1.00E+20	1.00E+20
@	1136.70	1.42	1.00E+20		1.00E+20	1.00E+20
@	1261.10	8.40	1.00E+20		1.00E+20	1.00E+20
@	1300.40	2.30	1.00E+20		1.00E+20	1.00E+20
ND-149	38.17	9.00	4.20E+06	1.38E+05	-3.95E+06	2.10E+06
	38.72	16.30	2.18E+06		-2.16E+06	1.09E+06
	58.88	1.30	1.02E+07		-1.13E+06	5.08E+06
	74.32	2.11	3.69E+06		4.82E+06	1.84E+06
	97.00	1.48	3.98E+06		2.20E+06	1.99E+06
	114.31	19.20	2.71E+05		2.43E+05	1.36E+05
	155.87	5.95	7.53E+05		5.66E+05	3.76E+05
	188.64	1.79	2.31E+06		1.02E+06	1.15E+06
	198.93	1.39	2.81E+06		-6.38E+05	1.40E+06
	208.15	2.55	1.46E+06		3.15E+05	7.27E+05
	211.31	26.00	1.38E+05		5.40E+02	6.89E+04
	240.22	3.95	8.30E+05		-5.05E+04	4.14E+05
	245.72	0.81	4.28E+06		-5.56E+05	2.14E+06
	267.69	6.05	5.27E+05		2.20E+05	2.63E+05
	270.17	10.80	3.00E+05		2.30E+05	1.50E+05
	326.55	4.57	6.47E+05		7.08E+05	3.23E+05
	349.23	1.38	2.06E+06		4.30E+05	1.03E+06

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ND-149	423.55	7.50	3.35E+05	1.38E+05	3.89E+05	1.67E+05
	443.55	1.15	2.21E+06		1.04E+06	1.10E+06
	540.51	6.60	3.37E+05		-5.58E+04	1.68E+05
	654.83	8.00	2.60E+05		4.93E+04	1.29E+05
PM-149	285.95	3.10	3.19E-02	3.19E-02	8.47E-03	1.59E-02
PM-150	39.52	0.63	8.41E+04	6.66E+01	-7.42E+04	4.20E+04
	40.12	1.14	4.44E+04		-4.11E+04	2.22E+04
	333.92	68.00	6.66E+01		2.06E-01	3.32E+01
	406.51	5.60	7.13E+02		-7.19E+02	3.56E+02
	565.70	1.31	2.59E+03		2.32E+03	1.29E+03
	587.02	1.34	2.74E+03		7.36E+01	1.36E+03
	612.25	0.93	3.55E+03		2.67E+02	1.76E+03
	712.22	4.40	6.71E+02		2.85E+02	3.33E+02
	737.50	2.25	1.27E+03		7.71E+02	6.34E+02
	831.85	11.90	2.24E+02		5.32E+01	1.11E+02
	859.95	3.40	7.69E+02		-1.17E+02	3.82E+02
	876.41	7.30	5.22E+02		6.90E+03	2.60E+02
	1165.77	15.80	1.85E+02		-7.52E+01	9.19E+01
	1170.90	1.06	4.40E+03		1.27E+03	2.19E+03
	1193.87	4.80	3.53E+02		2.65E+02	1.74E+02
	1213.72	1.03	1.57E+03		8.37E+02	7.75E+02
	1223.28	2.80	5.54E+02		-5.88E+01	2.73E+02
	1324.51	17.50	1.12E+02		-2.36E+01	5.55E+01
	1379.32	3.10	3.91E+02		1.52E+02	1.91E+02
	1736.40	6.90	7.70E+01		1.92E+00	3.63E+01
	1963.71	1.47	2.68E+02		-6.61E+01	1.23E+02
	2033.46	0.97	4.27E+02		6.81E+01	1.96E+02
@ ND-151	38.17	5.94	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	38.72	10.70	1.00E+20		1.00E+20	1.00E+20
@	68.98	1.26	1.00E+20		1.00E+20	1.00E+20
@	85.12	2.05	1.00E+20		1.00E+20	1.00E+20
@	89.96	1.53	1.00E+20		1.00E+20	1.00E+20
@	116.80	39.00	1.00E+20		1.00E+20	1.00E+20
@	138.89	7.00	1.00E+20		1.00E+20	1.00E+20
@	170.76	2.87	1.00E+20		1.00E+20	1.00E+20
@	175.07	6.30	1.00E+20		1.00E+20	1.00E+20
@	255.68	14.80	1.00E+20		1.00E+20	1.00E+20
@	300.58	1.82	1.00E+20		1.00E+20	1.00E+20
@	423.56	5.90	1.00E+20		1.00E+20	1.00E+20
@	460.59	0.96	1.00E+20		1.00E+20	1.00E+20
@	585.22	1.30	1.00E+20		1.00E+20	1.00E+20
@	677.88	2.38	1.00E+20		1.00E+20	1.00E+20
@	736.23	5.90	1.00E+20		1.00E+20	1.00E+20
@	739.20	1.52	1.00E+20		1.00E+20	1.00E+20
@	755.57	1.17	1.00E+20		1.00E+20	1.00E+20
@	797.53	4.70	1.00E+20		1.00E+20	1.00E+20
@	1016.40	2.50	1.00E+20		1.00E+20	1.00E+20
@	1122.63	4.10	1.00E+20		1.00E+20	1.00E+20
@	1180.89	13.30	1.00E+20		1.00E+20	1.00E+20
Pm-151	167.75	8.30	2.66E-02	6.52E-03	1.28E-02	1.33E-02
	177.16	3.80	5.77E-02		4.06E-02	2.88E-02
	240.09	3.80	4.61E-02		-2.81E-03	2.30E-02
	275.21	6.80	2.49E-02		1.51E-02	1.25E-02

Analysis Report for 24-2336 VSM-8.0M-S2-CST-A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Pm-151	340.08		22.50	6.52E-03	6.52E-03	-2.02E-03	3.25E-03
	EU-152	121.78		28.53	3.39E-03	7.18E-04	-1.34E-03	1.70E-03
		344.28		26.59	1.92E-03		2.32E-03	9.56E-04
		778.90		12.93	2.52E-03		-1.89E-03	1.25E-03
		867.37		4.23	9.58E-03		-4.41E-04	4.76E-03
		964.08		14.51	2.03E-03		1.67E-03	1.00E-03
		1085.87		10.11	2.51E-03		1.75E-03	1.24E-03
		1112.07		13.67	1.89E-03		3.27E-03	9.33E-04
		1408.01		20.87	7.18E-04		1.05E-03	3.52E-04
@	ND-152	44.44		5.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		250.15		16.40	1.00E+20		1.00E+20	1.00E+20
@		278.56		26.00	1.00E+20		1.00E+20	1.00E+20
@		294.47		2.90	1.00E+20		1.00E+20	1.00E+20
@		545.70		0.83	1.00E+20		1.00E+20	1.00E+20
@		592.50		0.99	1.00E+20		1.00E+20	1.00E+20
	GD-153	69.67		2.45	6.18E-02	3.45E-03	1.25E-01	3.09E-02
		97.43		30.00	3.45E-03		2.91E-03	1.72E-03
		103.18		22.10	4.49E-03		-1.94E-03	2.24E-03
	SM-153	69.67		4.67	6.22E-02	6.54E-03	1.26E-01	3.11E-02
		103.18		29.14	6.54E-03		-2.83E-03	3.27E-03
+	EU-154	42.70	*	20.45	3.31E-02	8.45E-04	5.53E-02	1.65E-02
		123.07	*	40.40	2.74E-03		4.77E-02	1.37E-03
		247.93	*	6.89	1.16E-02		4.58E-02	5.79E-03
		591.76	*	4.95	1.05E-02		4.82E-02	5.24E-03
		692.42	*	1.78	1.37E-02		4.56E-02	6.79E-03
		723.30	*	20.06	2.82E-03		4.74E-02	1.41E-03
		756.80	*	4.52	9.97E-03		5.03E-02	4.96E-03
		873.18	*	12.08	2.90E-03		4.82E-02	1.44E-03
		996.29	*	10.48	3.42E-03		4.67E-02	1.70E-03
		1004.76	*	18.01	2.19E-03		4.79E-02	1.09E-03
		1246.12	*	0.86	2.06E-02		4.16E-02	1.01E-02
		1274.43	*	34.80	8.45E-04		4.76E-02	4.19E-04
		1494.05	*	0.70	1.84E-02		4.48E-02	8.97E-03
		1596.48	*	1.80	5.94E-03		4.34E-02	2.90E-03
+	EU-155	43.00	*	18.12	3.73E-02	4.09E-03	6.25E-02	1.87E-02
		60.01	*	1.17	2.34E-01		9.76E+00	1.17E-01
		86.55	*	30.70	4.09E-03		8.20E-03	2.04E-03
		105.31	*	21.10	4.60E-03		6.42E-03	2.30E-03
	EU-156	88.97		8.40	1.47E-02	9.25E-04	8.96E-03	7.34E-03
		646.29		6.30	6.31E-03		-2.31E-03	3.14E-03
		723.47		5.40	1.04E-02		1.95E-01	5.17E-03
		811.77		9.70	3.48E-03		-5.30E-04	1.73E-03
		1065.14		4.90	6.02E-03		4.03E-05	2.98E-03
		1079.16		4.60	6.13E-03		7.63E-04	3.04E-03
		1153.80		11.50	2.04E-03		1.77E-03	1.01E-03
		1230.71		8.00	2.39E-03		-3.65E-03	1.18E-03
		1242.42		6.60	3.24E-03		5.57E-03	1.60E-03
		1277.43		2.89	2.40E-02		-3.91E-04	1.20E-02
		1366.41		1.57	9.74E-03		-3.77E-03	4.77E-03
		1965.95		3.90	1.21E-03		7.34E-04	5.59E-04
		2097.70		3.80	1.04E-03		-1.14E-03	4.68E-04
		2186.71		3.50	9.25E-04		-4.69E-04	4.02E-04
	Sm-156	87.60		24.00	1.21E-01	8.19E-02	4.49E-01	6.03E-02

Analysis Report for 24-2336 VSM-8.0M-S2-CST-A F3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Sm-156	165.80	13.00	1.51E-01	8.19E-02	-6.90E-03	7.57E-02
	204.00	21.00	8.19E-02		-2.76E-02	4.09E-02
EU-158	42.31	5.80	2.39E+16	2.78E+14	-9.52E+15	1.19E+16
	43.00	10.40	1.26E+16		1.73E+16	6.31E+15
	79.49	10.50	3.47E+15		1.59E+15	1.73E+15
	181.97	2.30	9.10E+15		-4.64E+15	4.54E+15
	528.05	1.53	7.44E+15		1.66E+15	3.70E+15
	606.39	4.00	2.72E+15		-1.69E+15	1.35E+15
	743.02	3.60	2.60E+15		-9.72E+14	1.29E+15
	897.61	12.40	7.20E+14		6.82E+13	3.58E+14
	906.50	1.83	4.84E+15		4.55E+14	2.40E+15
	922.51	1.62	5.29E+15		-3.73E+14	2.62E+15
	944.15	30.00	2.78E+14		2.74E+13	1.38E+14
	953.03	1.98	4.24E+15		3.06E+15	2.10E+15
	962.09	1.89	4.52E+15		4.80E+15	2.24E+15
	977.14	16.30	4.94E+14		-4.32E+14	2.45E+14
	986.96	1.35	5.99E+15		-6.04E+15	2.97E+15
	1107.63	5.10	1.49E+15		8.09E+14	7.39E+14
	1184.10	3.00	1.92E+15		-3.60E+14	9.46E+14
	1186.00	2.90	1.97E+15		-4.13E+14	9.69E+14
	1187.10	4.40	1.29E+15		-1.45E+15	6.37E+14
	1263.61	2.20	2.16E+15		-9.93E+14	1.06E+15
	1347.95	1.65	2.55E+15		-2.32E+15	1.25E+15
	1944.47	1.62	7.71E+14		-9.33E+14	3.52E+14
TB-160	86.79	13.20	8.99E-03	1.16E-03	3.06E-02	4.49E-03
	298.58	26.10	2.19E-03		1.04E-03	1.09E-03
	879.38	30.10	1.38E-03		2.70E-04	6.87E-04
	962.32	9.81	3.02E-03		3.20E-03	1.50E-03
	966.17	25.10	1.16E-03		1.60E-03	5.77E-04
	1177.96	14.90	3.41E-03		-1.09E-05	1.70E-03
TB-161	25.65	23.20	3.39E-01	1.57E-02	2.12E+01	1.70E-01
	48.91	17.00	2.15E-02		3.80E-02	1.07E-02
	52.00	3.43	9.15E-02		2.39E-01	4.57E-02
	57.19	1.79	1.61E-01		1.15E-02	8.06E-02
	74.57	10.20	1.57E-02		2.05E-02	7.86E-03
YB-169	63.12	43.62	4.71E-03	1.95E-03	-4.81E-04	2.35E-03
	93.61	2.58	4.69E-02		2.70E-02	2.34E-02
	109.78	17.39	5.75E-03		1.86E-03	2.88E-03
	130.52	11.38	8.01E-03		1.28E-03	4.00E-03
	177.21	22.28	3.50E-03		2.46E-03	1.75E-03
	197.96	35.93	1.95E-03		-4.27E-04	9.75E-04
	307.74	10.05	5.18E-03		-4.47E-03	2.58E-03
HF-172	54.07	63.00	3.78E-03	3.78E-03	1.79E-03	1.89E-03
	67.35	5.30	2.79E-02		1.55E-02	1.39E-02
	81.75	4.50	2.62E-02		6.82E-03	1.31E-02
	114.06	2.60	3.47E-02		3.11E-02	1.73E-02
	125.81	11.30	8.02E-03		2.32E-03	4.01E-03
	127.91	1.46	5.86E-02		2.27E-02	2.93E-02
LU-173	59.30	24.44	9.01E-03	2.78E-03	4.85E-01	4.50E-03
	78.63	11.90	1.09E-02		1.72E-03	5.46E-03
	100.72	5.24	1.95E-02		-2.40E-02	9.76E-03
	171.39	2.90	2.57E-02		3.50E-02	1.28E-02
	272.11	21.20	2.78E-03		-2.10E-03	1.39E-03

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
LU-177	112.95	6.23	1.76E-02	7.46E-03	-9.12E-03	8.80E-03
	208.37	10.41	7.46E-03		1.61E-03	3.73E-03
	249.67	0.20	3.55E-01		1.65E+00	1.77E-01
	321.32	0.22	2.85E-01		-2.70E-01	1.42E-01
HF-181	133.02	43.30	2.02E-03	5.36E-04	2.58E-04	1.01E-03
	345.93	15.12	3.48E-03		5.55E-03	1.74E-03
	482.18	80.50	5.36E-04		1.26E-04	2.67E-04
W-181	56.28	18.70	1.23E-02	7.44E-03	3.54E-03	6.15E-03
	57.53	32.00	7.44E-03		-1.08E-04	3.72E-03
	65.00	10.60	1.50E-02		3.99E-03	7.48E-03
TA-182	57.98	10.01	2.34E-02	6.59E-04	-3.56E-03	1.17E-02
	59.32	17.20	1.29E-02		6.94E-01	6.45E-03
	65.72	3.01	5.69E-02		2.85E-02	2.84E-02
	67.75	46.67	3.33E-03		1.41E-03	1.67E-03
	84.68	2.65	4.55E-02		3.55E-03	2.27E-02
	100.11	14.20	7.58E-03		-5.05E-03	3.79E-03
	113.67	1.87	5.40E-02		5.80E-02	2.70E-02
	116.42	0.44	2.02E-01		4.99E-02	1.01E-01
	152.43	7.02	1.15E-02		-4.24E-03	5.73E-03
	156.39	2.67	3.11E-02		1.65E-02	1.55E-02
	179.39	3.12	2.45E-02		-1.46E-02	1.22E-02
	198.35	1.47	5.03E-02		-1.98E-02	2.51E-02
	222.11	7.57	8.60E-03		3.37E-03	4.29E-03
	229.32	3.64	1.78E-02		1.78E-03	8.89E-03
	264.08	3.61	1.62E-02		6.18E-03	8.06E-03
	928.00	0.61	4.95E-02		3.80E-02	2.46E-02
	959.73	0.35	8.75E-02		6.52E-02	4.34E-02
	1001.70	2.09	2.99E-02		6.79E-01	1.49E-02
	1044.42	0.24	1.21E-01		4.83E-02	6.01E-02
	1113.41	0.44	6.06E-02		5.80E-02	3.00E-02
	1121.29	35.24	7.20E-04		-5.54E-04	3.56E-04
	1157.30	0.73	2.82E-02		2.50E-02	1.39E-02
	1189.04	16.49	1.13E-03		-3.67E-04	5.57E-04
	1221.40	27.23	6.59E-04		-4.58E-04	3.25E-04
	1223.60	0.24	6.27E-02		-6.65E-03	3.09E-02
	1231.00	11.62	1.53E-03		6.99E-04	7.55E-04
	1257.41	1.51	1.07E-02		1.08E-02	5.26E-03
	1273.72	0.66	7.61E-02		2.00E+00	3.79E-02
	1289.15	1.37	8.07E-03		-3.07E-04	3.97E-03
	1342.73	0.26	5.89E-02		-4.20E-02	2.89E-02
	1373.82	0.22	3.98E-02		1.23E-02	1.95E-02
Ta-183	84.71	1.35	1.08E-01	2.80E-03	8.43E-03	5.40E-02
	99.08	6.80	1.90E-02		-1.58E-03	9.50E-03
	107.93	11.20	1.08E-02		1.57E-02	5.39E-03
	161.35	9.10	1.07E-02		-4.45E-03	5.32E-03
	162.32	5.00	1.93E-02		7.63E-03	9.65E-03
	244.26	8.80	8.65E-03		1.02E-03	4.32E-03
	246.06	27.20	2.80E-03		5.36E-06	1.40E-03
	353.99	11.60	5.34E-03		2.42E-03	2.66E-03
Re-184	111.21	17.20	5.52E-03	8.06E-04	5.62E-03	2.76E-03
	252.85	3.00	1.95E-02		6.38E-03	9.75E-03
	792.01	37.70	8.42E-04		-1.16E-03	4.18E-04
	894.76	15.70	1.87E-03		2.76E-03	9.29E-04

Analysis Report for 24-2336 VSM-8.0M-S2-CST-A F3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Re-184	903.28	38.10	8.06E-04	8.06E-04	1.13E-03	4.00E-04
W-185	59.72	0.01	1.85E+01	4.81E+00	9.82E+02	9.23E+00
	61.14	0.02	1.02E+01		3.91E-01	5.10E+00
	69.20	0.01	2.20E+01		1.09E+01	1.10E+01
	125.36	0.02	4.81E+00		3.98E-01	2.40E+00
W-187	61.14	14.30	5.17E-02	3.63E-03	1.98E-03	2.58E-02
	69.20	4.82	1.11E-01		5.50E-02	5.56E-02
	72.00	13.55	3.95E-02		2.75E-02	1.97E-02
	134.25	10.36	2.98E-02		-3.73E-03	1.49E-02
	479.53	26.60	5.81E-03		-9.96E-04	2.89E-03
	618.37	7.57	1.73E-02		9.50E-03	8.59E-03
	685.81	33.20	3.63E-03		1.27E-03	1.81E-03
Ir-188	155.05	29.60	5.49E-03	4.81E-04	-1.40E-03	2.74E-03
	478.00	14.70	5.93E-03		-8.28E-04	2.96E-03
	633.02	17.90	4.14E-03		-2.66E-03	2.06E-03
	634.97	5.00	1.47E-02		5.85E-03	7.34E-03
	829.42	5.10	1.21E-02		-7.50E-03	6.00E-03
	1209.77	6.90	5.43E-03		3.46E-03	2.67E-03
	1715.67	6.20	2.87E-03		3.26E-03	1.38E-03
	2214.59	18.60	4.81E-04		-1.35E-03	2.18E-04
W-188	227.07	0.23	2.62E-01	1.34E-01	4.70E-02	1.31E-01
	290.68	0.42	1.34E-01		8.89E-02	6.69E-02
Ir-189	245.08	6.00	1.09E-02	1.09E-02	-6.86E-04	5.44E-03
Ir-190	186.68	50.00	1.54E-03	1.08E-03	9.57E-04	7.67E-04
	361.09	12.30	4.29E-03		2.50E-04	2.14E-03
	371.24	21.60	2.40E-03		2.74E-03	1.20E-03
	407.22	27.00	1.82E-03		-1.91E-03	9.05E-04
	518.55	32.20	1.38E-03		8.13E-04	6.87E-04
	557.95	28.50	1.48E-03		1.04E-03	7.38E-04
	569.30	27.00	1.53E-03		-5.38E-04	7.64E-04
	605.14	37.80	1.08E-03		-1.38E-04	5.35E-04
OS-191	63.29	15.70	1.22E-02	3.39E-03	3.71E-03	6.07E-03
	64.99	26.70	6.39E-03		1.70E-03	3.19E-03
	73.45	9.21	1.61E-02		1.49E-02	8.02E-03
	129.43	26.50	3.39E-03		-1.14E-03	1.69E-03
Pt-191	359.90	5.80	1.34E-02	4.35E-03	-2.67E-03	6.67E-03
	456.47	3.30	2.06E-02		1.14E-02	1.03E-02
	538.90	14.30	4.35E-03		-2.13E-03	2.17E-03
IR-192	205.79	3.31	2.07E-02	6.72E-04	-8.19E-03	1.03E-02
	295.96	28.71	2.07E-03		-1.20E-04	1.04E-03
	308.45	29.70	1.95E-03		1.28E-03	9.74E-04
	316.51	82.86	6.72E-04		-5.00E-04	3.35E-04
	468.07	47.84	9.32E-04		-1.68E-04	4.64E-04
	588.58	4.52	9.78E-03		2.64E-04	4.87E-03
	604.41	8.22	4.25E-03		-2.69E-03	2.11E-03
	612.46	5.34	6.06E-03		5.31E-04	3.02E-03
IR-192m	155.16	0.09	8.39E-01	8.39E-01	-3.38E-01	4.19E-01
IR-193m	80.22	0.00	2.90E+01	2.90E+01	-1.63E+01	1.45E+01
Pt-193m	135.50	0.11	9.45E-01	9.45E-01	3.36E-01	4.72E-01
Au-194	293.55	10.90	1.12E-02	1.81E-03	-2.75E-03	5.60E-03
	328.47	62.80	1.81E-03		-4.65E-04	9.03E-04
	364.84	1.60	6.59E-02		-8.34E-02	3.29E-02
	528.77	1.78	4.80E-02		-4.56E-02	2.39E-02

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Au-194	645.16		2.32	3.38E-02	1.81E-03	-2.93E-02	1.68E-02
		948.32		2.29	2.73E-02		-2.62E-02	1.36E-02
		1104.06		2.15	2.58E-02		-6.49E-02	1.28E-02
		1175.36		2.14	5.40E-02		1.14E+00	2.69E-02
		1468.90		6.80	3.61E-03		-2.83E-03	1.75E-03
		1595.81		1.89	2.09E-02		1.06E-01	1.02E-02
		2043.72		3.74	2.90E-03		3.00E-03	1.34E-03
	Ir-194	293.54		2.50	1.09E-01	1.92E-02	-2.66E-02	5.41E-02
		328.47		13.10	1.92E-02		-4.94E-03	9.60E-03
	AU-195	98.86		11.21	9.05E-03	9.05E-03	4.47E-03	4.52E-03
		129.74		0.84	9.90E-02		-5.78E-02	4.94E-02
	Pt-195m	98.90		11.70	1.19E-02	1.19E-02	5.86E-03	5.93E-03
		129.79		2.90	3.92E-02		-2.29E-02	1.96E-02
	Au-196	333.03		22.90	2.88E-03	7.06E-04	2.81E-04	1.44E-03
		355.73		87.00	7.06E-04		4.68E-04	3.52E-04
		426.10		6.60	8.24E-03		4.60E-03	4.11E-03
	Au-196m	147.81		43.50	4.36E-02	4.36E-02	1.61E-02	2.18E-02
		188.27		30.00	5.65E-02		5.88E-02	2.82E-02
	Pt-197	77.35		17.00	3.49E-02	3.49E-02	1.35E-02	1.75E-02
		191.44		3.70	8.62E-02		-1.28E-02	4.30E-02
	AU-198	411.80		95.62	7.67E-04	7.67E-04	8.51E-05	3.82E-04
	AU-199	158.38		40.00	2.87E-03	2.87E-03	2.42E-03	1.43E-03
		208.20		8.72	1.10E-02		2.39E-03	5.52E-03
	TL-201	135.34		2.61	4.72E-02	1.13E-02	2.99E-02	2.36E-02
		167.43		10.00	1.13E-02		5.09E-03	5.62E-03
	TL-202	439.51		91.50	5.29E-04	5.29E-04	8.64E-05	2.63E-04
	PB-203	70.83		26.40	9.83E-03	1.30E-03	1.17E-02	4.91E-03
		72.87		44.20	5.63E-03		4.97E-03	2.81E-03
		82.40		15.56	1.35E-02		-6.38E-03	6.77E-03
		279.20		80.90	1.30E-03		1.34E-03	6.50E-04
		401.32		3.35	2.55E-02		2.34E-02	1.27E-02
	PB-210	46.54		4.25	8.14E-02	8.14E-02	-2.92E-02	4.07E-02
	Pa-233	86.60		2.01	5.64E-02	1.37E-03	1.92E-01	2.82E-02
		94.65		8.90	1.18E-02		1.96E-03	5.89E-03
		98.43		14.20	7.12E-03		7.42E-03	3.56E-03
		300.13		6.54	8.21E-03		-2.34E-03	4.10E-03
		311.90		38.20	1.37E-03		7.48E-05	6.84E-04
		340.48		4.44	1.12E-02		3.04E-03	5.60E-03
	U-235	89.96		2.90	3.66E-02	1.21E-03	2.12E-02	1.83E-02
		93.35		4.70	2.16E-02		2.58E-02	1.08E-02
		109.19		1.64	5.68E-02		1.17E-02	2.84E-02
		143.76		10.93	7.12E-03		3.01E-03	3.55E-03
		163.36		5.07	1.48E-02		2.27E-03	7.38E-03
		185.71		57.20	1.21E-03		8.48E-04	6.03E-04
		202.11		1.07	6.11E-02		4.27E-02	3.05E-02
		205.31		5.03	1.28E-02		-1.63E-02	6.40E-03
+	NP-237	86.48	*	12.20	1.03E-02	1.03E-02	2.06E-02	5.13E-03
	U-237	59.54		34.50	7.73E-03	3.70E-03	4.16E-01	3.86E-03
		97.07		15.40	8.04E-03		4.43E-03	4.02E-03
		101.06		24.50	4.89E-03		-1.58E-03	2.44E-03
		113.30		3.07	3.56E-02		3.81E-02	1.78E-02
		114.23		5.81	1.87E-02		1.68E-02	9.35E-03
		117.46		2.27	4.71E-02		-3.25E-02	2.35E-02

Analysis Report for 24-2336 VSM-8.0M-S2-CST-A F3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
U-237	208.00	21.20	3.70E-03	3.70E-03	-2.62E-03	1.85E-03
NP-238	103.37	0.00	3.77E+01	1.97E-03	-2.77E+01	1.88E+01
	882.63	0.80	6.48E-02		2.23E-02	3.22E-02
	923.99	2.60	2.02E-02		-5.09E-03	1.00E-02
	984.45	25.20	1.97E-03		-1.48E-03	9.77E-04
	1025.87	8.75	5.64E-03		1.56E-03	2.79E-03
	1028.53	18.23	2.70E-03		-1.46E-04	1.34E-03
U-238	63.29	3.70	4.74E-02	2.42E-02	1.45E-02	2.37E-02
	92.51	4.23	2.42E-02		2.09E-02	1.21E-02
	112.81	0.21	4.32E-01		4.29E-03	2.16E-01
	742.81	0.11	2.93E-01		-3.97E-01	1.46E-01
	766.42	0.32	9.67E-02		1.57E-02	4.80E-02
	1001.03	0.84	6.73E-02		1.54E+00	3.35E-02
Am-239	181.71	1.08	8.62E-01	5.03E-02	-5.84E-01	4.30E-01
	209.80	3.50	2.43E-01		3.59E-04	1.21E-01
	226.40	3.30	2.44E-01		-1.20E-01	1.22E-01
	228.10	11.30	7.11E-02		7.11E-03	3.55E-02
	277.60	15.00	5.03E-02		2.89E-02	2.51E-02
NP-239	61.46	1.30	2.68E-01	6.58E-03	3.54E-03	1.34E-01
	99.53	12.90	1.34E-02		-1.20E-03	6.69E-03
	103.37	20.50	8.19E-03		-6.01E-03	4.09E-03
	106.12	25.34	6.58E-03		1.92E-02	3.29E-03
	209.75	3.36	3.30E-02		4.88E-05	1.65E-02
	228.18	11.24	9.34E-03		1.40E-03	4.66E-03
	277.60	14.51	6.85E-03		3.93E-03	3.42E-03
	285.46	0.79	1.24E-01		7.43E-02	6.20E-02
	315.88	1.60	5.47E-02		-1.70E-02	2.73E-02
	334.31	2.06	3.94E-02		2.33E-02	1.97E-02
PU-239	38.66	0.01	6.13E+01	9.74E+00	-6.07E+01	3.06E+01
	51.62	0.03	9.74E+00		3.88E+01	4.87E+00
	98.50	0.01	1.39E+01		1.45E+01	6.95E+00
	111.03	0.00	6.90E+01		4.62E+01	3.45E+01
	129.30	0.01	1.31E+01		4.07E+00	6.57E+00
	171.39	0.00	6.62E+02		9.02E+02	3.30E+02
	203.55	0.00	1.14E+02		-3.79E+01	5.71E+01
	332.85	0.00	1.01E+02		-4.79E+01	5.05E+01
	336.11	0.00	4.44E+02		-2.45E+02	2.21E+02
	345.01	0.00	8.88E+01		1.37E+02	4.43E+01
	375.05	0.00	2.98E+01		7.67E+00	1.49E+01
	380.19	0.00	1.50E+02		9.75E+01	7.50E+01
	382.75	0.00	1.76E+02		-2.57E+01	8.79E+01
	413.71	0.00	3.10E+01		7.59E+01	1.54E+01
	422.60	0.00	3.64E+02		1.57E+02	1.81E+02
	451.48	0.00	2.25E+02		-1.06E+02	1.12E+02
Am-240	99.53	18.40	9.98E-03	6.97E-04	-8.93E-04	4.99E-03
	103.37	29.20	6.12E-03		-4.49E-03	3.06E-03
	117.23	6.93	2.34E-02		-1.61E-02	1.17E-02
	888.85	24.70	2.11E-03		-3.35E-04	1.05E-03
	987.79	72.20	6.97E-04		-5.27E-04	3.45E-04
Np-240m	554.60	20.90	1.61E-02	1.61E-02	7.96E-03	8.02E-03
	597.40	11.70	2.94E-02		2.14E-03	1.47E-02
U-240	44.10	1.05	3.43E+00	2.53E+00	-1.47E+00	1.71E+00
	66.50	0.15	8.70E+00		-9.91E-01	4.35E+00

Analysis Report for 24-2336 VSM-8.0M-S2-CST-A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	U-240	169.20		0.12	5.67E+00	2.53E+00	1.90E+00	2.83E+00
		189.70		0.24	2.53E+00		4.07E+00	1.26E+00
+	AM-241	59.54	*	35.90	7.62E-03	7.62E-03	3.17E-01	3.81E-03
	AM-242m	49.35		0.13	2.21E+00	2.21E+00	3.98E+00	1.10E+00
		66.89		0.01	1.00E+01		-8.78E-01	5.01E+00
		86.65		0.02	4.85E+00		1.65E+01	2.43E+00
		163.25		0.02	4.90E+00		7.51E-01	2.45E+00
+	AM-243	43.53	*	5.90	1.15E-01	2.10E-03	1.92E-01	5.72E-02
		74.66	*	67.20	2.10E-03		1.72E-03	1.05E-03

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

Apex-Gamma

Analysis Report for 24-2337 VSM-8.0M-S2-CST-d-A F3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2337 VSM-8.0M-S2-CST-d-A F3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 10:11:26AM
Procedure	: F3_gsv02mlw
Operator	: Administrator
Detector Name	: F
Geometry	: F3_gsv02mlw
Live Time	: 6143.7 seconds
Real Time	: 6683.5 seconds
Dead Time	: 8.08 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: F3_gsv2mlw_R717
Sample Number	: 567877
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 12:02:53PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2337 VSM-8.0M-S2-CST-d-A F3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.94	120.55	0.2032	9.46
2	48.91	137.14	0.2778	3.74
3	59.60	167.12	0.0405	252.88
4	86.96	243.29	0.1797	11.41
5	105.57	295.19	0.2041	9.63
6	123.12	344.62	0.0545	122.30
7	178.33	498.99	0.3757	3.44
8	247.92	693.48	0.0993	33.09
9	344.32	962.61	0.2045	8.26
10	414.82	1159.92	0.1119	24.30
11	444.45	1242.71	0.2347	5.40
12	473.23	1323.14	0.3244	3.45
13	478.21	1336.96	0.2966	3.48
14	511.13	1428.88	0.1040	19.30
15	577.53	1614.57	0.3302	3.25
16	582.04	1627.16	0.1909	7.85
17	591.85	1654.62	0.0913	31.61
18	661.79	1850.08	0.0485	113.15
19	666.50	1863.46	0.1018	25.56
20	692.54	1935.20	0.2086	8.86
21	695.22	1943.82	0.1093	23.56
22	723.47	2022.52	0.0555	79.39
23	757.03	2116.27	0.0899	31.63
24	779.22	2178.51	0.2446	3.73
25	815.66	2280.18	0.1970	6.34
26	845.72	2364.05	0.1817	7.32
27	867.87	2425.74	0.2834	3.84
28	873.43	2441.55	0.0644	56.04
29	893.13	2496.60	0.2146	5.49
30	904.24	2527.67	0.1724	6.43
31	964.37	2695.30	0.2538	3.79
32	996.53	2785.58	0.0674	50.23
33	1005.02	2809.30	0.0571	69.23
34	1085.84	3035.20	0.2046	6.34
35	1112.34	3109.43	0.2145	5.18
36	1128.49	3154.35	0.1903	5.83
37	1140.88	3189.30	0.2500	3.33
38	1173.53	3280.14	0.0530	75.11
39	1241.36	3469.76	0.2893	3.54
40	1246.44	3483.74	0.1432	10.44
41	1274.75	3563.05	0.0489	84.65
42	1332.83	3725.33	0.0538	66.65
43	1397.77	3906.63	0.1492	9.12
44	1408.36	3936.25	0.1442	9.36
45	1461.29	4083.73	0.2490	3.62
46	1494.42	4176.82	0.1349	11.05
47	1596.83	4463.13	0.1010	18.67
48	1720.02	4806.98	0.1773	6.30
49	2115.17	5910.94	0.2676	3.27
50	2506.06	7003.10	0.1552	6.88

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2337 VSM-8.0M-S2-CST-d-A F3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 12:02:53PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	1	42.94	112 -	128	120.55	7.92E+03	2443.63	1.13E+06	1.33
F	2	48.91	129 -	144	137.23	1.28E+04	4317.64	1.25E+06	1.85
F	3	59.60	159 -	174	167.12	5.13E+05	3450.66	1.38E+06	1.24
F	4	86.96	240 -	251	243.58	1.62E+04	831.35	8.53E+05	1.47
F	5	105.57	292 -	303	295.60	1.08E+04	733.18	6.71E+05	1.43
F	6	123.12	338 -	353	344.64	1.48E+05	2728.34	7.01E+05	1.30
F	7	178.33	489 -	508	498.97	1.05E+03	944.31	4.20E+05	0.66
F	8	247.92	688 -	703	693.47	1.70E+04	325.09	1.53E+05	1.41
F	9	344.32	958 -	973	962.88	2.05E+03	201.13	6.58E+04	1.30
F	10	414.82	1152 -	1166	1159.91	6.88E+03	694.54	3.92E+04	1.60
F	11	444.45	1238 -	1249	1242.72	1.17E+03	153.71	2.65E+04	1.55
M	12	473.23	1320 -	1348	1323.16	5.44E+02	403.28	1.87E+04	1.60
m	13	478.21	1320 -	1348	1337.07	9.55E+02	476.15	4.42E+04	1.60
F	14	511.13	1417 -	1440	1429.07	1.58E+04	180.62	3.74E+04	2.88
M	15	577.53	1610 -	1636	1614.65	9.84E+01	94.74	1.32E+04	1.55
m	16	582.04	1610 -	1636	1627.24	1.15E+03	108.72	1.60E+04	1.55
F	17	591.85	1647 -	1663	1654.66	7.28E+03	134.10	1.75E+04	1.76
M	18	661.79	1841 -	1873	1850.11	4.80E+04	231.18	1.35E+04	1.79
m	19	666.50	1841 -	1873	1863.28	5.47E+03	112.99	1.35E+04	1.80
M	20	692.54	1930 -	1953	1936.06	2.43E+03	97.37	9.29E+03	1.88
m	21	695.22	1930 -	1953	1943.54	5.25E+03	112.43	1.26E+04	1.88
F	22	723.47	2009 -	2035	2022.50	2.75E+04	499.98	1.59E+04	1.90
F	23	757.03	2107 -	2129	2116.28	5.71E+03	107.36	1.25E+04	1.86
F	24	779.22	2171 -	2186	2178.29	4.40E+02	78.71	8.08E+03	1.85
F	25	815.66	2274 -	2286	2280.11	6.05E+02	73.77	5.56E+03	1.71
F	26	845.72	2355 -	2371	2364.12	8.82E+02	73.15	6.48E+03	1.98
M	27	867.87	2420 -	2451	2426.01	2.66E+02	66.90	5.14E+03	2.05
m	28	873.43	2420 -	2451	2441.56	1.48E+04	425.95	6.49E+03	2.05
F	29	893.13	2492 -	2504	2496.61	6.27E+02	70.15	4.17E+03	2.12
F	30	904.24	2516 -	2538	2527.64	1.50E+03	378.99	6.95E+03	2.93
F	31	964.37	2690 -	2702	2695.70	2.66E+02	62.03	3.87E+03	1.82
F	32	996.53	2776 -	2796	2785.56	1.22E+04	320.30	5.29E+03	2.16
F	33	1005.02	2797 -	2823	2809.28	2.06E+04	351.29	6.80E+03	2.15
F	34	1085.84	3030 -	3042	3035.13	3.46E+02	49.28	2.47E+03	1.46
F	35	1112.34	3096 -	3117	3109.15	5.89E+02	231.47	3.66E+03	2.11
F	36	1128.49	3144 -	3163	3154.28	6.48E+02	1377.56	2.86E+03	2.41
F	37	1140.88	3181 -	3194	3188.92	2.18E+02	43.45	1.89E+03	2.12
F	38	1173.53	3265 -	3294	3280.15	2.52E+04	155.39	3.25E+03	2.27
M	39	1241.36	3465 -	3494	3469.69	8.28E+01	31.11	1.02E+03	2.14
m	40	1246.44	3465 -	3494	3483.88	7.40E+02	40.47	1.49E+03	2.14

Analysis Report for 24-2337 VSM-8.0M-S2-CST-d-A F3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1274.75	3548	3577	3562.99	3.44E+04	303.93	2.08E+03	2.46
F	42	1332.83	3710	3740	3725.26	2.34E+04	267.15	1.34E+03	2.55
F	43	1397.77	3896	3918	3906.73	6.31E+02	115.63	6.62E+02	2.69
F	44	1408.36	3927	3945	3936.30	6.25E+02	31.30	5.42E+02	2.52
F	45	1461.29	4074	4098	4084.20	1.74E+02	61.87	5.20E+02	3.00
F	46	1494.42	4163	4188	4176.77	6.07E+02	86.07	4.99E+02	2.33
F	47	1596.83	4448	4475	4462.91	1.79E+03	103.21	3.35E+02	2.65
F	48	1720.02	4795	4817	4807.08	2.13E+02	51.23	9.64E+01	2.61
F	49	2115.17	5905	5916	5911.04	2.14E+01	4.70	0.00E+00	1.91
F	50	2506.06	6990	7016	7003.01	2.47E+02	37.51	1.40E+01	3.10

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 12:02:53PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567378.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	42.94	7.92E+03	2443.63			7.92E+03	2.44E+03
F	2	48.91	1.28E+04	4317.64			1.28E+04	4.32E+03
F	3	59.60	5.13E+05	3450.66			5.13E+05	3.45E+03
F	4	86.96	1.62E+04	831.35	4.56E+01	2.88E+00	1.62E+04	8.31E+02
F	5	105.57	1.08E+04	733.18			1.08E+04	7.33E+02
F	6	123.12	1.48E+05	2728.34			1.48E+05	2.73E+03
F	7	178.33	1.05E+03	944.31			1.05E+03	9.44E+02
F	8	247.92	1.70E+04	325.09			1.70E+04	3.25E+02
F	9	344.32	2.05E+03	201.13			2.05E+03	2.01E+02
F	10	414.82	6.88E+03	694.54			6.88E+03	6.95E+02
F	11	444.45	1.17E+03	153.71			1.17E+03	1.54E+02
M	12	473.23	5.44E+02	403.28			5.44E+02	4.03E+02
m	13	478.21	9.55E+02	476.15			9.55E+02	4.76E+02
F	14	511.13	1.58E+04	180.62	2.41E+02	8.80E+00	1.56E+04	1.81E+02
M	15	577.53	9.84E+01	94.74			9.84E+01	9.47E+01
m	16	582.04	1.15E+03	108.72			1.15E+03	1.09E+02
F	17	591.85	7.28E+03	134.10			7.28E+03	1.34E+02
M	18	661.79	4.80E+04	231.18			4.80E+04	2.31E+02
m	19	666.50	5.47E+03	112.99			5.47E+03	1.13E+02

Analysis Report for 24-2337 VSM-8.0M-S2-CST-d-A F3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	20	692.54	2.43E+03	97.37			2.43E+03	9.74E+01
m	21	695.22	5.25E+03	112.43			5.25E+03	1.12E+02
F	22	723.47	2.75E+04	499.98			2.75E+04	5.00E+02
F	23	757.03	5.71E+03	107.36			5.71E+03	1.07E+02
F	24	779.22	4.40E+02	78.71			4.40E+02	7.87E+01
F	25	815.66	6.05E+02	73.77			6.05E+02	7.38E+01
F	26	845.72	8.82E+02	73.15			8.82E+02	7.32E+01
M	27	867.87	2.66E+02	66.90			2.66E+02	6.69E+01
m	28	873.43	1.48E+04	425.95			1.48E+04	4.26E+02
F	29	893.13	6.27E+02	70.15			6.27E+02	7.02E+01
F	30	904.24	1.50E+03	378.99			1.50E+03	3.79E+02
F	31	964.37	2.66E+02	62.03			2.66E+02	6.20E+01
F	32	996.53	1.22E+04	320.30			1.22E+04	3.20E+02
F	33	1005.02	2.06E+04	351.29			2.06E+04	3.51E+02
F	34	1085.84	3.46E+02	49.28			3.46E+02	4.93E+01
F	35	1112.34	5.89E+02	231.47			5.89E+02	2.31E+02
F	36	1128.49	6.48E+02	1377.56			6.48E+02	1.38E+03
F	37	1140.88	2.18E+02	43.45			2.18E+02	4.34E+01
F	38	1173.53	2.52E+04	155.39			2.52E+04	1.55E+02
M	39	1241.36	8.28E+01	31.11			8.28E+01	3.11E+01
m	40	1246.44	7.40E+02	40.47			7.40E+02	4.05E+01
F	41	1274.75	3.44E+04	303.93			3.44E+04	3.04E+02
F	42	1332.83	2.34E+04	267.15			2.34E+04	2.67E+02
F	43	1397.77	6.31E+02	115.63			6.31E+02	1.16E+02
F	44	1408.36	6.25E+02	31.30	7.70E+00	7.06E-01	6.17E+02	3.13E+01
F	45	1461.29	1.74E+02	61.87	1.77E+02	2.01E+00	-3.66E+00	6.19E+01
F	46	1494.42	6.07E+02	86.07			6.07E+02	8.61E+01
F	47	1596.83	1.79E+03	103.21			1.79E+03	1.03E+02
F	48	1720.02	2.13E+02	51.23			2.13E+02	5.12E+01
F	49	2115.17	2.14E+01	4.70			2.14E+01	4.70E+00
F	50	2506.06	2.47E+02	37.51			2.47E+02	3.75E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Analysis Report for 24-2337 VSM-8.0M-S2-CST-d-A F3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
BE-7	0.94	477.60	*	10.44	2.44E-03	1.22E-03	miss
NA-22	0.99	511.00	*	179.91	2.35E-03	2.94E-05	1.000
		1274.54	*	99.94	1.77E-02	1.83E-04	0.925
K-40	0.96	1460.82	*	10.66	-1.78E-05	3.01E-04	miss
CO-60	0.98	1173.23	*	99.85	1.18E-02	9.28E-05	0.965
		1332.49	*	99.98	1.19E-02	1.51E-04	0.963
GA-66	0.44	511.00	*	114.00	1.08E-01	7.75E-03	miss
		833.53		5.90			
		1039.22		37.00			
		1333.11	*	1.17	2.84E+01	1.53E+00	miss
		1918.33		1.99			
		2189.62		5.30			
		2751.83		22.70			
Te-129m	0.93	695.88	*	3.00	5.97E-02	1.20E-02	free
CS-137	0.99	661.66	*	85.10	1.79E-02	1.33E-04	miss
EU-152	0.49	121.78		28.53			
		344.28	*	26.59	1.69E-03	1.67E-04	0.971
		778.90	*	12.93	1.24E-03	2.23E-04	0.961
		867.37	*@	4.23	2.53E-03	6.36E-04	0.934
		964.08	*@	14.51	7.57E-04	1.77E-04	0.967
		1085.87	*	10.11	1.46E-03	2.08E-04	1.008
		1112.07	*	13.67	1.92E-03	7.53E-04	0.982
		1408.01	*	20.87	1.54E-03	7.87E-05	0.975
EU-154	0.99	42.70	*	20.45	2.30E-02	7.13E-03	miss
		123.07	*	40.40	4.90E-02	1.10E-03	0.958
		247.93	*	6.89	4.58E-02	1.05E-03	0.945
		591.76	*	4.95	4.68E-02	1.02E-03	0.934
		692.42	*	1.78	4.72E-02	1.97E-03	0.949
		723.30	*	20.06	4.84E-02	1.03E-03	0.952
		756.80	*	4.52	4.68E-02	1.01E-03	0.932
		873.18	*	12.08	4.89E-02	1.51E-03	0.945
		996.29	*	10.48	4.81E-02	1.36E-03	0.986
		1004.76	*	18.01	4.80E-02	9.78E-04	0.978
		1246.12	*	0.86	4.30E-02	2.42E-03	0.941
		1274.43	*	34.80	4.79E-02	6.50E-04	0.980
		1494.05	*	0.70	4.51E-02	6.42E-03	1.014
		1596.48	*	1.80	4.72E-02	2.80E-03	1.158
EU-155	0.98	43.00	*	18.12	2.59E-02	8.04E-03	1.000
		60.01	*	1.17	9.81E+00	2.84E-01	0.999
		86.55	*	30.70	7.14E-03	3.77E-04	free
		105.31	*	21.10	6.47E-03	4.69E-04	1.000
AM-241	0.99	59.54	*	35.90	3.19E-01	5.56E-03	free
AM-242m	0.63	49.35	*	0.13	3.59E+00	1.21E+00	miss
		66.89		0.01			
		86.65	*	0.02	9.61E+00	3.82E+00	miss
		163.25		0.02			

Analysis Report for 24-2337 VSM-8.0M-S2-CST-d-A F3

ASR 2094 Branch

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name		Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	BE-7		0.942	2.44E-03	1.22E-03	
	NA-22		0.996	1.74E-04	2.20E-04	
	K-40		0.966	-1.78E-05	3.01E-04	
	CO-60		0.984	1.18E-02	7.90E-05	
X	CU-64		0.921			
	GA-66		0.444	9.97E-02	1.02E-02	
X	ZR-95		0.956			
X	RU-106		0.917			
	Te-129m		0.933	5.97E-02	1.20E-02	
	CS-137		0.997	1.79E-02	1.33E-04	
	EU-152	@	0.490	1.53E-03	6.42E-05	
	EU-154		0.992	4.74E-02	3.33E-04	
	EU-155		0.984	6.04E-03	4.03E-04	
X	NP-237		0.964			
	AM-241		0.999	3.19E-01	4.28E-03	
	AM-242m		0.639	1.79E+00	6.53E-01	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2337 VSM-8.0M-S2-CST-d-A F3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 12:02:53PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	7	178.33	1.70778E-01	90.00		
F	10	414.82	1.12039E+00	10.09	Tol.	RH-102M
F	11	444.45	1.90826E-01	13.11	Tol.	SB-127
						ND-149
M	12	473.23	8.84915E-02	74.18	D-Esc	
M	15	577.53	1.60240E-02	96.23	Tol.	PR-147
m	16	582.04	1.87712E-01	9.43		
m	19	666.50	8.90402E-01	2.07		
F	25	815.66	9.84191E-02	12.20	Sum	
F	26	845.72	1.43557E-01	8.29	Sum	
F	29	893.13	1.02054E-01	11.19		
F	30	904.24	2.44289E-01	25.25	Tol.	Re-184
F	36	1128.49	1.05410E-01	212.72	Sum	
F	37	1140.88	3.55040E-02	19.92	Sum	
M	39	1241.36	1.34831E-02	37.55	Tol.	I-135
F	43	1397.77	1.02643E-01	18.34	Sum	
F	48	1720.02	3.46966E-02	24.03	Sum	
F	49	2115.17	3.47940E-03	21.96	Sum	
F	50	2506.06	4.02463E-02	15.17	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

Analysis Report for 24-2337 VSM-8.0M-S2-CST-d-A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	BE-7	477.60	*	10.44	2.51E-03	2.51E-03	2.44E-03	1.25E-03
+	NA-22	511.00	*	179.91	2.55E-04	2.26E-04	2.35E-03	1.27E-04
		1274.54	*	99.94	2.26E-04		1.77E-02	1.12E-04
	NA-24	1368.63		99.99	8.76E-04	1.53E-04	-7.37E-05	4.32E-04
		2754.01		99.87	1.53E-04		1.11E-04	6.65E-05
	AL-26	1129.67		2.50	6.64E-03	3.66E-05	1.54E-02	3.30E-03
		1808.65		99.76	3.66E-05		-3.26E-06	1.75E-05
+	K-40	1460.82	*	10.66	1.02E-03	1.02E-03	-1.78E-05	5.02E-04
	K-42	312.60		0.34	1.46E+00	5.00E-03	-4.55E-01	7.27E-01
		1524.60		18.08	5.00E-03		3.88E-03	2.45E-03
	Sc-44	1157.02		99.90	4.55E-01	4.55E-01	2.33E-01	2.26E-01
		1499.46		0.91	3.25E+01		-2.56E+00	1.60E+01
	Sc-44m	271.24		86.74	8.04E-04	8.04E-04	-8.56E-04	4.02E-04
		1001.83		1.20	6.08E-02		1.88E+00	3.03E-02
		1126.06		1.20	2.59E-02		2.92E-02	1.29E-02
		1157.00		1.20	2.26E-02		1.16E-02	1.12E-02
	TI-44	67.87		93.00	1.15E-03	9.39E-04	1.45E-03	5.75E-04
		78.32		96.40	9.39E-04		6.92E-04	4.69E-04
	SC-46	889.28		99.98	2.13E-04	1.77E-04	-2.51E-04	1.06E-04
		1120.55		99.99	1.77E-04		1.98E-04	8.80E-05
	CA-47	489.23		5.90	6.75E-03	2.14E-04	-1.98E-03	3.37E-03
		807.86		5.90	4.92E-03		1.08E-03	2.45E-03
		1297.09		67.00	2.14E-04		3.77E-05	1.06E-04
	SC-47	159.38		68.30	1.17E-03	1.17E-03	2.95E-04	5.85E-04
	SC-48	175.36		7.47	1.41E-02	2.13E-04	-5.38E-03	7.02E-03
		983.53		100.00	3.96E-04		1.36E-04	1.97E-04
		1037.52		97.50	3.96E-04		-2.49E-04	1.97E-04
		1312.12		100.00	2.13E-04		1.02E-04	1.05E-04
	V-48	944.13		7.87	2.84E-03	1.18E-04	2.12E-03	1.41E-03
		983.53		99.98	2.15E-04		7.38E-05	1.07E-04
		1312.11		98.20	1.18E-04		5.68E-05	5.84E-05
		2240.40		2.33	1.32E-03		-5.33E-04	6.12E-04
	CR-51	320.08		9.91	3.84E-03	3.84E-03	2.44E-04	1.92E-03
	Fe-52	168.69		99.20	2.48E-02	2.48E-02	1.50E-02	1.24E-02
		377.75		1.64	9.42E-01		-1.08E+00	4.70E-01
	Mn-52	744.23		90.00	3.37E-04	1.10E-04	-2.28E-04	1.68E-04
		848.18		3.32	8.65E-03		2.03E-02	4.31E-03
		935.54		94.50	2.86E-04		-2.46E-04	1.42E-04
		1246.28		4.21	4.32E-03		1.01E-02	2.14E-03
		1333.65		5.07	9.66E-03		3.05E-01	4.81E-03
		1434.09		100.00	1.10E-04		2.60E-05	5.38E-05
	MN-54	834.85		99.98	2.07E-04	2.07E-04	-1.59E-05	1.03E-04
	Co-55	411.50		1.07	1.86E-01	1.65E-03	4.11E-02	9.29E-02
		477.20		20.20	8.99E-03		8.94E-03	4.49E-03
		803.70		1.87	6.90E-02		1.79E-02	3.44E-02
		931.10		75.00	1.65E-03		1.14E-03	8.19E-04
		1316.60		7.10	9.02E-03		-4.75E-03	4.45E-03
		1370.00		2.90	2.13E-02		-1.80E-02	1.05E-02
		1408.50		16.90	3.81E-03		1.07E-02	1.88E-03
	Co-56	846.77		99.94	2.25E-04	1.06E-04	2.65E-04	1.12E-04
		977.37		1.42	1.47E-02		-7.25E-04	7.31E-03

Analysis Report for 24-2337 VSM-8.0M-S2-CST-d-A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Co-56	1037.84		14.05	1.42E-03	1.06E-04	-1.67E-03	7.08E-04
		1175.10		2.25	1.77E-02		5.61E-01	8.80E-03
		1238.29		66.46	1.95E-04		6.11E-05	9.65E-05
		1360.21		4.28	2.53E-03		2.11E-03	1.25E-03
		1771.36		15.41	3.07E-04		1.09E-04	1.48E-04
		2015.20		3.02	1.04E-03		5.06E-04	4.92E-04
		2034.79		7.77	3.93E-04		1.11E-04	1.84E-04
		2598.50		16.97	1.06E-04		1.08E-05	4.61E-05
	MN-56	846.76		98.85	5.19E+01	3.34E+01	6.12E+01	2.58E+01
		1810.73		26.90	3.34E+01		-7.17E+01	1.60E+01
		2113.09		14.20	4.74E+01		1.41E+01	2.21E+01
	Ni-56	158.38		98.80	6.79E-04	3.04E-04	5.28E-05	3.39E-04
		269.50		36.50	1.29E-03		-6.62E-04	6.43E-04
		480.44		36.50	9.93E-04		1.71E-04	4.95E-04
		749.50		49.50	5.61E-04		4.97E-04	2.79E-04
		811.85		86.00	3.04E-04		-4.24E-05	1.51E-04
		1561.80		14.00	5.32E-04		-1.42E-04	2.59E-04
	CO-57	122.06		85.60	7.60E-04	7.60E-04	-4.04E-04	3.80E-04
		136.47		10.68	5.34E-03		3.13E-03	2.67E-03
	NI-57	127.16		16.70	9.19E-03	2.86E-04	4.77E-03	4.59E-03
		1377.63		81.70	2.86E-04		-1.23E-04	1.41E-04
		1757.55		5.75	1.74E-03		-2.07E-03	8.37E-04
		1919.52		12.30	6.67E-04		-7.81E-05	3.17E-04
	CO-58	810.76		99.45	2.19E-04	2.19E-04	1.39E-04	1.09E-04
		863.96		0.69	3.11E-02		1.87E-02	1.55E-02
		1674.73		0.52	9.43E-03		-8.11E-03	4.57E-03
	FE-59	142.65		1.02	5.57E-02	2.62E-04	1.14E-02	2.78E-02
		192.34		3.08	1.66E-02		6.07E-03	8.27E-03
		1099.24		56.50	3.14E-04		-8.26E-05	1.56E-04
		1291.59		43.20	2.62E-04		1.75E-04	1.30E-04
+	CO-60	1173.23	*	99.85	2.57E-04	1.83E-04	1.18E-02	1.28E-04
		1332.49	*	99.98	1.83E-04		1.19E-02	9.06E-05
	CU-64	511.00	*	35.00	1.62E-02	1.62E-02	1.50E-01	8.09E-03
		1345.77		0.47	2.48E-01		-2.21E-01	1.22E-01
	NI-65	366.27		4.81	2.32E+03	9.84E+01	1.60E+03	1.16E+03
		1115.53		15.43	3.73E+02		1.65E+02	1.85E+02
		1481.84		23.59	9.84E+01		8.78E+01	4.82E+01
	ZN-65	1115.54		50.04	3.52E-04	3.52E-04	1.55E-04	1.75E-04
+	GA-66	511.00	*	114.00	1.17E-02	2.28E-03	1.08E-01	5.82E-03
		833.53		5.90	1.01E-01		-7.52E-02	5.04E-02
		1039.22		37.00	1.46E-02		-9.40E-04	7.24E-03
		1333.11	*	1.17	4.36E-01		2.84E+01	2.16E-01
		1918.33		1.99	4.87E-02		5.22E-02	2.31E-02
		2189.62		5.30	1.58E-02		7.56E-03	7.41E-03
		2751.83		22.70	2.28E-03		1.71E-03	9.97E-04
	CU-67	91.27		7.00	1.76E-02	1.69E-03	1.49E-02	8.79E-03
		93.31		16.10	7.46E-03		4.45E-03	3.73E-03
		184.58		48.70	1.69E-03		1.32E-03	8.42E-04
		300.22		0.80	7.97E-02		6.67E-03	3.98E-02
		393.53		0.22	2.41E-01		1.17E-01	1.20E-01
	GA-67	91.26		3.11	3.65E-02	2.81E-03	3.09E-02	1.82E-02
		93.31		38.81	2.81E-03		1.68E-03	1.40E-03
		184.58		21.41	3.44E-03		2.71E-03	1.72E-03

Analysis Report for 24-2337 VSM-8.0M-S2-CST-d-A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	GA-67	208.95	2.46	2.89E-02	2.81E-03	4.07E-03	1.45E-02
		300.22	16.64	3.50E-03		2.93E-04	1.75E-03
		393.53	4.56	9.43E-03		4.59E-03	4.71E-03
	ZN-69m	438.63	94.85	3.31E-03	3.31E-03	-1.65E-04	1.65E-03
	GA-72	629.97	26.13	1.00E-02	1.21E-03	1.03E-02	4.99E-03
		834.13	95.45	2.17E-03		7.72E-05	1.08E-03
		894.33	10.14	2.06E-02		4.95E-02	1.02E-02
		1050.79	6.99	2.81E-02		3.58E-02	1.39E-02
		2201.59	26.87	1.21E-03		9.85E-04	5.69E-04
		2491.03	7.73	2.02E-03		-3.03E-04	8.79E-04
		2507.72	13.33	4.66E-03		1.52E-02	2.25E-03
	Zn-72	144.70	82.78	1.31E-03	1.31E-03	-1.28E-04	6.57E-04
		191.50	9.35	1.02E-02		-7.96E-03	5.08E-03
	SE-75	121.12	17.20	4.00E-03	6.87E-04	-2.28E-03	2.00E-03
		136.00	58.50	1.03E-03		1.18E-03	5.13E-04
		264.66	58.90	6.87E-04		1.68E-04	3.43E-04
		279.54	25.02	1.66E-03		1.13E-04	8.30E-04
		400.66	11.41	2.11E-03		1.48E-03	1.05E-03
	BR-83	529.59	1.30	1.45E+04	1.45E+04	-4.73E+03	7.22E+03
@	BR-84	604.80	1.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		736.50	1.29	1.00E+20		1.00E+20	1.00E+20
@		802.20	6.00	1.00E+20		1.00E+20	1.00E+20
@		881.60	42.00	1.00E+20		1.00E+20	1.00E+20
@		987.30	0.79	1.00E+20		1.00E+20	1.00E+20
@		1015.90	6.20	1.00E+20		1.00E+20	1.00E+20
@		1213.30	2.60	1.00E+20		1.00E+20	1.00E+20
@		1463.80	2.00	1.00E+20		1.00E+20	1.00E+20
@		1741.20	1.60	1.00E+20		1.00E+20	1.00E+20
@		1877.50	1.12	1.00E+20		1.00E+20	1.00E+20
@		1897.60	14.60	1.00E+20		1.00E+20	1.00E+20
@		2029.60	2.10	1.00E+20		1.00E+20	1.00E+20
@		2200.70	1.16	1.00E+20		1.00E+20	1.00E+20
@		2484.10	6.70	1.00E+20		1.00E+20	1.00E+20
@		2824.10	1.12	1.00E+20		1.00E+20	1.00E+20
	KR-85m	151.20	75.20	8.86E-01	8.86E-01	1.21E+00	4.42E-01
		304.87	14.00	3.35E+00		-7.76E-01	1.67E+00
	Y-87	388.53	82.20	5.79E-04	4.77E-04	-4.77E-05	2.89E-04
		484.80	89.80	4.77E-04		3.35E-04	2.38E-04
	KR-88	165.98	3.10	1.48E+03	5.20E+00	-1.12E+03	7.37E+02
		196.30	26.00	1.52E+02		9.45E+01	7.59E+01
		362.23	2.25	1.16E+03		-8.14E+02	5.81E+02
		471.80	0.73	3.39E+03		1.23E+02	1.69E+03
		834.83	13.00	1.33E+02		-1.02E+01	6.61E+01
		985.78	1.31	1.25E+03		1.91E+03	6.20E+02
		1141.33	1.28	1.01E+03		1.57E+03	5.03E+02
		1179.51	1.00	3.03E+03		5.14E+01	1.51E+03
		1250.67	1.12	9.85E+02		4.02E+02	4.88E+02
		1369.50	1.48	5.76E+02		1.70E+02	2.84E+02
		1518.39	2.15	2.66E+02		1.11E+02	1.30E+02
		1529.77	10.90	5.26E+01		4.86E+00	2.57E+01
		2029.84	4.53	5.74E+01		1.05E+01	2.70E+01
		2035.41	3.74	6.42E+01		8.55E+00	3.01E+01
		2195.84	13.20	1.95E+01		-3.16E+01	9.16E+00

Analysis Report for 24-2337 VSM-8.0M-S2-CST-d-A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	KR-88	2231.77	3.39	6.58E+01	5.20E+00	7.26E+00	3.07E+01
		2352.08	0.73	2.62E+02		-2.36E+01	1.20E+02
		2392.11	34.60	5.20E+00		-1.62E+00	2.37E+00
	RB-88	898.03	14.40	1.23E+02	1.22E+01	1.81E+02	6.14E+01
		1382.45	0.78	1.00E+03		-4.89E+02	4.93E+02
		1836.00	22.81	1.22E+01		1.43E+00	5.79E+00
		2677.89	2.13	5.83E+01		-5.30E+01	2.48E+01
	Y-88	898.04	93.70	2.36E-04	3.51E-05	3.45E-04	1.17E-04
		1836.06	99.20	3.51E-05		4.13E-06	1.67E-05
@	RB-89	272.42	1.53	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		657.77	10.80	1.00E+20		1.00E+20	1.00E+20
@		947.73	10.00	1.00E+20		1.00E+20	1.00E+20
@		1031.92	63.00	1.00E+20		1.00E+20	1.00E+20
@		1248.14	46.00	1.00E+20		1.00E+20	1.00E+20
@		1538.07	2.77	1.00E+20		1.00E+20	1.00E+20
@		2007.50	2.58	1.00E+20		1.00E+20	1.00E+20
@		2195.92	14.50	1.00E+20		1.00E+20	1.00E+20
@		2570.20	10.70	1.00E+20		1.00E+20	1.00E+20
@		2707.26	2.20	1.00E+20		1.00E+20	1.00E+20
	SR-89	908.96	0.01	2.25E+00	2.25E+00	1.21E+00	1.12E+00
	Sr-91	652.90	11.35	5.93E-02	1.53E-02	7.92E-02	2.96E-02
		749.80	23.70	2.58E-02		2.29E-02	1.29E-02
		925.80	3.85	1.43E-01		3.47E-01	7.11E-02
		1024.30	33.50	1.53E-02		-2.99E-03	7.62E-03
	Y-91	1204.77	0.26	4.94E-02	4.94E-02	-4.05E-02	2.44E-02
	NB-92M	912.60	1.78	1.33E-02	2.28E-04	-4.94E-03	6.62E-03
		934.44	99.15	2.28E-04		-2.49E-05	1.13E-04
		1847.50	0.85	3.97E-03		-4.62E-03	1.88E-03
	SR-92	241.56	2.93	2.87E+03	2.12E+01	-1.96E+03	1.43E+03
		430.49	3.28	1.94E+03		-4.88E+02	9.67E+02
		953.31	3.52	1.16E+03		5.40E+02	5.77E+02
		1142.35	2.79	1.15E+03		1.38E+03	5.69E+02
		1383.93	90.00	2.12E+01		-2.73E+01	1.04E+01
	MO-93M	114.04	0.68	9.92E+00	7.77E-03	7.48E+00	4.95E+00
		263.05	57.40	7.11E-02		1.03E-02	3.55E-02
		684.69	99.90	2.51E-02		6.46E-03	1.25E-02
		1363.02	0.81	1.33E+00		2.04E+00	6.56E-01
		1477.14	99.10	7.77E-03		-9.85E-03	3.81E-03
@	SR-93	168.50	18.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		260.12	7.40	1.00E+20		1.00E+20	1.00E+20
@		346.49	3.28	1.00E+20		1.00E+20	1.00E+20
@		446.20	2.36	1.00E+20		1.00E+20	1.00E+20
@		590.24	68.00	1.00E+20		1.00E+20	1.00E+20
@		710.31	21.80	1.00E+20		1.00E+20	1.00E+20
@		875.73	24.50	1.00E+20		1.00E+20	1.00E+20
@		888.13	22.10	1.00E+20		1.00E+20	1.00E+20
@		1040.63	3.20	1.00E+20		1.00E+20	1.00E+20
@		1094.00	1.76	1.00E+20		1.00E+20	1.00E+20
@		1122.48	4.00	1.00E+20		1.00E+20	1.00E+20
@		1215.48	2.50	1.00E+20		1.00E+20	1.00E+20
@		1269.47	7.10	1.00E+20		1.00E+20	1.00E+20
@		1321.24	2.61	1.00E+20		1.00E+20	1.00E+20
@		1387.11	3.50	1.00E+20		1.00E+20	1.00E+20

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ASR 2094 Branch

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@ SR-93	1694.07		2.58	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	1699.06		3.30	1.00E+20		1.00E+20	1.00E+20
@	2543.84		3.03	1.00E+20		1.00E+20	1.00E+20
@	2688.65		2.13	1.00E+20		1.00E+20	1.00E+20
Y-93	266.90		7.40	1.19E-01	4.87E-02	1.19E-01	5.92E-02
	947.10		2.10	2.19E-01		7.83E-02	1.09E-01
	1917.80		1.57	4.87E-02		-5.06E-03	2.31E-02
NB-94	702.65		99.81	2.44E-04	2.44E-04	8.23E-05	1.21E-04
	871.09		99.89	3.04E-04		5.79E-03	1.52E-04
@ Y-94	381.60		2.02	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	550.90		4.90	1.00E+20		1.00E+20	1.00E+20
@	752.60		1.40	1.00E+20		1.00E+20	1.00E+20
@	918.74		56.00	1.00E+20		1.00E+20	1.00E+20
@	1138.90		6.00	1.00E+20		1.00E+20	1.00E+20
@	1671.40		2.50	1.00E+20		1.00E+20	1.00E+20
@	2140.60		0.95	1.00E+20		1.00E+20	1.00E+20
NB-95	765.80		99.81	2.27E-04	2.27E-04	4.39E-05	1.13E-04
ZR-95	724.19	*	44.27	8.95E-04	6.23E-04	2.13E-02	4.46E-04
	756.72	*	54.38	6.23E-04		3.70E-03	3.10E-04
NB-96	219.08		2.97	5.79E-02	8.95E-04	2.95E-02	2.89E-02
	241.38		3.50	4.59E-02		-3.14E-02	2.29E-02
	350.05		1.54	8.74E-02		1.26E-02	4.36E-02
	352.56		0.83	1.61E-01		-3.36E-02	8.03E-02
	371.81		2.62	4.94E-02		-3.39E-02	2.46E-02
	460.04		26.62	4.42E-03		3.34E-04	2.20E-03
	480.71		5.84	1.96E-02		3.37E-03	9.78E-03
	568.87		58.00	1.77E-03		-3.74E-05	8.84E-04
	719.56		6.85	1.98E-02		9.36E-03	9.88E-03
	721.63		1.02	1.33E-01		3.29E-03	6.64E-02
	778.22		96.45	8.95E-04		1.13E-03	4.45E-04
	810.33		11.09	7.45E-03		9.79E-04	3.71E-03
	812.58		2.95	2.80E-02		1.59E-02	1.39E-02
	847.69		1.14	7.29E-02		1.93E-01	3.63E-02
	849.93		20.45	4.06E-03		2.36E-03	2.02E-03
	1091.35		48.50	1.46E-03		1.21E-03	7.24E-04
	1200.23		19.97	2.51E-03		2.16E-03	1.24E-03
	1441.13		0.44	6.88E-02		-6.15E-02	3.38E-02
	1497.81		3.28	1.12E-02		4.80E-03	5.53E-03
Nb-97	657.94		98.23	2.78E-03	2.78E-03	1.60E-03	1.39E-03
	1024.40		1.09	1.16E-01		-2.26E-02	5.75E-02
ZR-97	254.17		1.15	2.31E-01	1.62E-03	1.09E-01	1.15E-01
	355.40		2.09	1.15E-01		8.06E-02	5.75E-02
	507.64		5.03	4.45E-02		-3.34E-03	2.22E-02
	743.36		93.09	1.62E-03		2.50E-04	8.05E-04
	1147.97		2.62	4.15E-02		-6.64E-03	2.06E-02
MO-99	181.07		6.14	1.39E-02	3.07E-03	6.14E-03	6.97E-03
	366.42		1.20	4.48E-02		3.09E-02	2.23E-02
	739.50		12.26	3.07E-03		1.30E-03	1.53E-03
	777.92		4.30	8.29E-03		6.04E-03	4.13E-03
TC-99M	140.51		90.80	9.95E-04	9.95E-04	7.65E-05	4.97E-04
RH-101	127.23		68.00	9.42E-04	6.68E-04	2.52E-04	4.71E-04
	198.01		73.00	6.68E-04		7.63E-04	3.34E-04
	325.23		11.80	2.40E-03		2.00E-04	1.20E-03

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ASR 2094 Branch

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
RH-101M	306.86		81.00	6.25E-04	6.25E-04	-1.21E-04	3.12E-04
	545.12		4.30	8.55E-03		-1.88E-03	4.26E-03
RH-102M	415.25		2.10	1.72E-02	3.39E-04	7.56E-02	8.60E-03
	418.52		9.40	3.77E-03		3.23E-05	1.88E-03
	420.40		3.20	1.12E-02		-3.16E-03	5.61E-03
	475.06		95.00	3.39E-04		-7.12E-07	1.69E-04
	628.05		8.30	3.43E-03		-7.67E-05	1.71E-03
	631.29		56.00	4.90E-04		2.25E-04	2.44E-04
	692.40		1.60	1.88E-02		-1.17E-03	9.38E-03
	695.60		2.90	1.02E-02		8.80E-02	5.07E-03
	697.49		44.00	6.66E-04		1.87E-04	3.32E-04
	766.84		34.00	6.96E-04		-6.12E-04	3.46E-04
	1046.59		34.00	5.94E-04		1.96E-04	2.95E-04
	1103.16		4.60	3.85E-03		2.18E-03	1.91E-03
	1112.84		19.00	1.01E-03		1.75E-03	5.00E-04
RU-103	497.08		91.00	3.21E-04	3.21E-04	4.81E-04	1.60E-04
	610.33		5.76	4.61E-03		3.50E-03	2.30E-03
RH-105	306.31		4.66	1.98E-02	5.32E-03	-2.26E-02	9.88E-03
	319.23		16.90	5.32E-03		1.23E-03	2.66E-03
AG-106M	221.70		6.60	7.71E-03	4.27E-04	-7.47E-03	3.85E-03
	228.63		2.10	2.38E-02		1.63E-04	1.19E-02
	328.46		1.14	3.67E-02		-3.23E-02	1.83E-02
	391.04		3.68	1.01E-02		-3.03E-03	5.06E-03
	406.18		13.40	2.73E-03		8.41E-04	1.36E-03
	429.65		13.20	2.75E-03		1.22E-03	1.37E-03
	450.98		28.20	1.26E-03		6.68E-04	6.29E-04
	511.85		88.00	4.27E-04		5.70E-03	2.13E-04
	601.17		1.61	1.83E-02		6.18E-03	9.13E-03
	616.17		21.60	1.38E-03		-5.24E-04	6.90E-04
	646.03		1.46	1.99E-02		1.84E-02	9.90E-03
	680.42		2.18	1.29E-02		-5.63E-03	6.41E-03
	703.11		4.47	6.10E-03		2.89E-03	3.04E-03
	717.34		28.90	1.19E-03		5.99E-04	5.94E-04
	748.36		20.60	1.26E-03		1.52E-03	6.29E-04
	793.17		5.90	4.25E-03		3.37E-03	2.12E-03
	804.28		12.40	1.97E-03		6.38E-04	9.82E-04
	808.36		4.00	6.08E-03		2.61E-03	3.03E-03
	824.69		15.30	1.60E-03		1.02E-04	7.97E-04
	847.15		4.40	5.64E-03		1.09E-02	2.81E-03
	1019.72		1.04	2.12E-02		-4.72E-03	1.05E-02
	1045.83		29.60	7.42E-04		2.77E-04	3.69E-04
	1128.02		11.80	1.64E-03		8.00E-04	8.16E-04
	1199.39		11.20	1.34E-03		2.62E-04	6.62E-04
	1222.88		7.00	2.03E-03		-2.11E-04	1.00E-03
	1394.35		1.49	8.48E-03		2.92E-02	4.19E-03
	1527.65		16.30	4.82E-04		-3.47E-04	2.36E-04
	1572.35		6.60	1.03E-03		-1.06E-03	5.00E-04
	1722.76		1.40	4.76E-03		3.28E-03	2.32E-03
	1839.05		2.00	1.93E-03		-3.96E-04	9.15E-04
RH-106	621.93		9.93	2.67E-03	2.67E-03	2.73E-03	1.33E-03
	873.49		0.44	7.16E-02		-6.14E-03	3.57E-02
	1050.41		1.56	1.26E-02		1.84E-02	6.24E-03
RU-106	511.86	*	20.40	2.25E-03	2.25E-03	2.08E-02	1.12E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-108M	79.13	6.60	1.31E-02	3.09E-04	-3.74E-02	6.54E-03
	433.94	90.50	3.70E-04		2.51E-04	1.85E-04
	614.28	89.80	3.09E-04		-2.14E-04	1.54E-04
	722.91	90.80	4.13E-04		1.08E-02	2.06E-04
CD-109	88.03	3.64	2.11E-02	2.11E-02	1.07E-01	1.06E-02
AG-110M	446.81	3.70	9.40E-03	2.91E-04	1.11E-03	4.69E-03
	620.35	2.73	1.05E-02		-1.03E-02	5.25E-03
	657.76	95.61	4.64E-04		8.27E-05	2.32E-04
	677.62	10.70	2.54E-03		-3.82E-03	1.27E-03
	687.01	6.53	4.17E-03		1.26E-03	2.08E-03
	706.68	16.69	1.55E-03		6.58E-05	7.73E-04
	744.28	4.77	5.20E-03		-3.52E-03	2.59E-03
	763.94	22.60	1.11E-03		-3.14E-04	5.53E-04
	818.02	7.43	3.28E-03		2.67E-03	1.63E-03
	884.68	75.00	2.91E-04		-1.61E-04	1.45E-04
	937.48	35.00	6.19E-04		-3.63E-04	3.08E-04
	1384.29	25.10	3.98E-04		-4.92E-04	1.96E-04
	1475.78	4.08	1.87E-03		1.08E-03	9.17E-04
	1505.03	13.33	5.44E-04		1.82E-04	2.66E-04
	1562.29	1.22	4.35E-03		2.30E-03	2.12E-03
AG-111	245.40	1.11	4.49E-02	6.26E-03	9.53E-03	2.24E-02
	342.13	6.68	6.26E-03		-1.70E-03	3.13E-03
AG-112	606.82	3.10	3.79E-02	2.70E-03	-1.09E-02	1.89E-02
	617.52	43.00	2.70E-03		1.73E-03	1.35E-03
	692.82	1.19	1.03E-01		-1.10E-02	5.14E-02
	694.87	2.90	4.23E-02		3.80E-01	2.11E-02
	851.28	1.02	9.46E-02		1.21E-01	4.71E-02
	1312.36	1.11	4.23E-02		2.03E-02	2.09E-02
	1387.68	5.30	8.07E-03		-2.54E-03	3.97E-03
	1613.66	2.80	8.73E-03		-5.98E-04	4.24E-03
	1798.50	0.89	1.97E-02		1.39E-02	9.43E-03
	2106.31	2.40	4.94E-03		1.96E-03	2.30E-03
	2506.70	1.06	2.66E-02		8.69E-02	1.28E-02
CD-113M	263.70	0.03	1.44E+00	1.44E+00	3.35E-01	7.17E-01
SN-113	255.13	2.11	1.88E-02	4.93E-04	-1.18E-02	9.39E-03
	391.70	64.97	4.93E-04		-4.67E-04	2.46E-04
IN-114M	190.27	15.56	3.17E-03	3.17E-03	3.52E-03	1.58E-03
	558.43	4.40	6.48E-03		-1.31E-04	3.23E-03
	725.24	4.40	8.41E-03		9.52E-04	4.19E-03
CD-115	260.90	1.94	3.62E-02	1.39E-03	1.61E-02	1.81E-02
	336.24	46.02	1.39E-03		1.08E-03	6.93E-04
	527.90	27.45	1.80E-03		5.35E-04	8.97E-04
CD-115M	933.84	2.00	1.02E-02	1.02E-02	-7.43E-04	5.09E-03
	1290.59	0.90	1.26E-02		-6.92E-03	6.20E-03
IN-115M	336.24	45.90	9.49E-01	9.49E-01	7.41E-01	4.74E-01
IN-116M	138.29	3.70	3.32E+13	2.73E+11	2.44E+13	1.66E+13
	416.90	27.20	2.49E+12		1.01E+13	1.24E+12
	818.68	12.13	3.88E+12		5.53E+12	1.93E+12
	1097.28	58.50	6.24E+11		-2.41E+11	3.10E+11
	1293.56	84.80	2.73E+11		4.11E+11	1.35E+11
	1507.59	9.92	1.40E+12		-2.80E+12	6.86E+11
	2112.29	15.09	3.66E+11		-1.35E+11	1.70E+11
SB-125	176.31	6.84	7.37E-03	1.05E-03	5.44E-04	3.68E-03

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SB-125	380.45	1.52	2.14E-02	1.05E-03	1.59E-02	1.07E-02
	427.87	29.60	1.05E-03		-1.95E-03	5.23E-04
	463.36	10.49	2.85E-03		3.00E-03	1.42E-03
	600.60	17.65	1.43E-03		-7.17E-04	7.11E-04
	606.71	4.98	5.17E-03		-1.49E-03	2.58E-03
	635.95	11.22	2.23E-03		-1.43E-03	1.11E-03
	671.44	1.79	1.48E-02		2.14E-03	7.40E-03
SN-125	332.10	1.40	3.13E-02	1.69E-03	-6.82E-03	1.56E-02
	469.85	1.50	2.42E-02		-1.54E-03	1.21E-02
	800.28	1.10	2.28E-02		-5.69E-03	1.14E-02
	822.48	4.30	5.85E-03		1.14E-03	2.91E-03
	915.55	4.10	5.79E-03		5.31E-03	2.88E-03
	1067.10	10.00	2.14E-03		1.08E-03	1.06E-03
	1087.70	1.20	1.88E-02		3.85E-02	9.34E-03
	1089.10	4.60	4.57E-03		7.70E-03	2.27E-03
	2002.10	1.90	1.69E-03		6.51E-04	7.94E-04
SB-127	61.10	1.43	1.48E-01	9.11E-04	-4.60E-02	7.42E-02
	252.40	8.50	6.96E-03		-4.19E-05	3.48E-03
	290.80	2.02	2.81E-02		-1.56E-02	1.41E-02
	412.10	3.80	1.21E-02		5.88E-04	6.05E-03
	445.10	4.30	1.05E-02		9.76E-03	5.25E-03
	473.00	25.80	1.63E-03		-3.63E-04	8.12E-04
	543.30	2.90	1.29E-02		7.92E-03	6.42E-03
	603.50	4.50	8.45E-03		1.37E-03	4.21E-03
	685.70	36.80	9.11E-04		-1.40E-04	4.54E-04
	698.50	3.64	1.03E-02		-5.44E-04	5.13E-03
	722.20	1.88	2.61E-02		-1.14E-03	1.30E-02
	783.70	15.10	2.04E-03		-5.36E-04	1.01E-03
SN-127	119.70	2.20	1.18E+05	1.86E+03	-2.70E+04	5.89E+04
	262.50	2.30	6.72E+04		7.48E+02	3.35E+04
	266.20	2.10	7.29E+04		6.71E+04	3.64E+04
	284.30	2.70	5.84E+04		-4.87E+04	2.92E+04
	438.20	6.10	2.02E+04		4.77E+03	1.01E+04
	490.90	5.30	2.16E+04		4.98E+03	1.08E+04
	493.20	3.10	3.68E+04		2.26E+04	1.84E+04
	545.40	2.30	4.73E+04		2.04E+04	2.36E+04
	583.30	3.20	3.27E+04		1.55E+04	1.63E+04
	805.90	8.20	1.02E+04		6.40E+03	5.08E+03
	823.10	11.00	7.66E+03		-1.87E+03	3.81E+03
	824.70	6.10	1.37E+04		8.79E+02	6.84E+03
	859.50	8.00	1.01E+04		6.18E+03	5.02E+03
	979.20	7.20	1.06E+04		-1.47E+04	5.26E+03
	1093.30	3.80	1.88E+04		1.60E+03	9.32E+03
	1095.60	19.00	3.68E+03		3.18E+03	1.83E+03
	1114.30	38.00	1.86E+03		4.64E+03	9.24E+02
	1160.40	2.40	2.41E+04		3.19E+04	1.20E+04
	2003.40	5.30	2.17E+03		2.16E+03	1.02E+03
SB-129	180.42	2.84	2.64E+01	6.56E-01	6.79E+00	1.32E+01
	359.20	2.39	2.11E+01		7.08E+00	1.05E+01
	404.64	1.17	4.02E+01		3.04E+01	2.00E+01
	523.13	1.55	2.67E+01		1.41E+00	1.33E+01
	544.56	15.42	2.65E+00		-1.46E+00	1.32E+00
	633.74	2.53	1.49E+01		-1.44E+00	7.42E+00

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	654.28		2.97	1.29E+01	6.56E-01	1.73E+01	6.45E+00
		682.77		5.76	6.22E+00		-6.78E+00	3.10E+00
		761.12		4.32	8.77E+00		-2.10E+00	4.37E+00
		773.37		2.82	1.17E+01		-3.73E+00	5.83E+00
		786.36		1.07	3.03E+01		5.52E+00	1.51E+01
		787.16		1.74	1.86E+01		6.10E+00	9.25E+00
		812.97		48.20	6.56E-01		5.55E-01	3.27E-01
		819.51		1.39	2.32E+01		3.15E+01	1.16E+01
		876.65		2.75	1.60E+01		3.13E+00	7.99E+00
		914.96		23.30	1.28E+00		-5.03E-01	6.38E-01
		966.78		8.96	3.34E+00		3.82E+00	1.66E+00
		1030.65		15.13	1.86E+00		5.09E-01	9.26E-01
		1656.10		1.31	5.41E+00		6.45E+00	2.62E+00
		1738.16		7.45	8.38E-01		-2.24E-01	4.03E-01
	TE-129	459.60		7.70	4.05E-03	4.05E-03	4.43E-03	2.02E-03
		487.39		1.42	2.09E-02		8.32E-03	1.04E-02
+	Te-129m	695.88	*	3.00	5.96E-03	5.96E-03	5.97E-02	2.97E-03
	I-131	80.18		2.62	3.98E-02	4.81E-04	-3.18E-02	1.99E-02
		284.30		6.12	7.69E-03		-6.41E-03	3.84E-03
		364.49		81.50	4.81E-04		4.45E-05	2.40E-04
		636.99		7.16	4.10E-03		2.07E-03	2.05E-03
		722.91		1.77	2.30E-02		6.04E-01	1.15E-02
	Te-131m	773.67		36.80	1.67E-03	1.67E-03	-1.94E-04	8.29E-04
		793.75		13.40	4.60E-03		9.81E-04	2.29E-03
		852.21		19.90	2.93E-03		2.13E-03	1.46E-03
		1125.46		11.00	4.19E-03		3.88E-03	2.08E-03
		1206.60		9.41	3.59E-03		-1.69E-03	1.77E-03
	I-132	262.90		1.28	4.55E-02	4.71E-04	6.60E-03	2.27E-02
		284.90		0.71	8.37E-02		-2.44E-02	4.18E-02
		505.79		4.93	1.08E-02		-5.39E-03	5.37E-03
		522.65		16.00	2.84E-03		2.08E-03	1.42E-03
		547.20		1.14	3.96E-02		-5.99E-03	1.98E-02
		621.20		1.97	2.15E-02		1.04E-02	1.07E-02
		630.19		13.30	3.16E-03		3.26E-03	1.57E-03
		650.50		2.57	1.63E-02		-1.45E-02	8.12E-03
		667.71		98.70	6.46E-04		-9.32E-05	3.22E-04
		669.80		4.60	9.72E-03		2.18E-03	4.84E-03
		671.40		3.50	1.30E-02		1.87E-03	6.46E-03
		727.10		5.40	1.09E-02		-8.42E-04	5.45E-03
		728.40		1.60	3.61E-02		1.06E-02	1.80E-02
		772.60		75.60	4.71E-04		-2.54E-05	2.35E-04
		809.50		2.60	1.34E-02		-1.69E-04	6.67E-03
		812.00		5.50	6.30E-03		-8.79E-04	3.14E-03
		910.10		0.93	3.68E-02		2.16E-02	1.83E-02
		954.55		17.60	1.86E-03		-2.51E-03	9.24E-04
		1136.00		3.01	8.41E-03		6.18E-03	4.18E-03
		1172.90		1.09	5.17E-02		1.63E+00	2.58E-02
		1290.80		1.13	1.59E-02		-8.78E-03	7.87E-03
		1295.10		1.88	7.60E-03		3.32E-03	3.76E-03
		1297.90		0.89	1.41E-02		-1.79E-02	6.97E-03
		1372.07		2.47	6.50E-03		-1.75E-03	3.21E-03
		1398.57		7.01	2.47E-03		7.97E-03	1.22E-03
		1442.56		1.40	7.64E-03		2.05E-03	3.75E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TE-132	49.72	15.00	2.15E-02	7.34E-04	-2.53E-03	1.08E-02
	111.76	1.74	5.61E-02		-2.73E-02	2.80E-02
	116.30	1.96	4.84E-02		1.33E-03	2.42E-02
	228.16	88.00	7.34E-04		2.85E-04	3.67E-04
BA-133	81.00	32.90	2.66E-03	5.51E-04	-8.90E-04	1.33E-03
	276.40	7.16	5.74E-03		2.95E-03	2.87E-03
	302.85	18.34	2.09E-03		2.10E-03	1.04E-03
	356.01	62.05	5.51E-04		3.00E-04	2.75E-04
	383.85	8.94	3.51E-03		-1.37E-03	1.75E-03
I-133	529.87	87.00	1.44E-03	1.44E-03	-1.16E-03	7.19E-04
	706.58	1.51	7.36E-02		3.12E-03	3.67E-02
	856.28	1.24	7.94E-02		3.47E-02	3.95E-02
	875.33	4.51	3.00E-02		-5.82E-03	1.50E-02
	1236.44	1.51	3.58E-02		2.45E-02	1.77E-02
	1298.22	2.35	2.09E-02		-3.28E-02	1.03E-02
@ TE-133	312.08	62.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	407.63	27.10	1.00E+20		1.00E+20	1.00E+20
@	410.40	0.94	1.00E+20		1.00E+20	1.00E+20
@	474.85	0.88	1.00E+20		1.00E+20	1.00E+20
@	719.71	8.90	1.00E+20		1.00E+20	1.00E+20
@	786.93	5.40	1.00E+20		1.00E+20	1.00E+20
@	844.36	3.31	1.00E+20		1.00E+20	1.00E+20
@	884.30	0.72	1.00E+20		1.00E+20	1.00E+20
@	930.71	3.81	1.00E+20		1.00E+20	1.00E+20
@	997.70	1.04	1.00E+20		1.00E+20	1.00E+20
@	1000.72	3.62	1.00E+20		1.00E+20	1.00E+20
@	1021.13	2.81	1.00E+20		1.00E+20	1.00E+20
@	1061.61	1.19	1.00E+20		1.00E+20	1.00E+20
@	1252.08	1.44	1.00E+20		1.00E+20	1.00E+20
@	1312.80	0.85	1.00E+20		1.00E+20	1.00E+20
@	1333.21	10.67	1.00E+20		1.00E+20	1.00E+20
@	1717.61	3.18	1.00E+20		1.00E+20	1.00E+20
@	1881.52	1.22	1.00E+20		1.00E+20	1.00E+20
@	2136.51	1.25	1.00E+20		1.00E+20	1.00E+20
@	2229.64	0.87	1.00E+20		1.00E+20	1.00E+20
Xe-133	81.00	36.90	2.93E-03	2.93E-03	-9.79E-04	1.46E-03
CS-134	475.36	1.48	2.00E-02	2.62E-04	1.24E-03	9.96E-03
	563.25	8.34	3.43E-03		-7.63E-04	1.71E-03
	569.33	15.37	1.85E-03		-7.20E-04	9.23E-04
	604.72	97.62	2.78E-04		7.97E-06	1.38E-04
	795.86	85.46	2.62E-04		-1.39E-04	1.30E-04
	801.95	8.69	2.60E-03		1.05E-04	1.29E-03
	1038.61	0.99	1.96E-02		1.56E-02	9.75E-03
	1167.97	1.79	1.83E-02		3.72E-03	9.10E-03
	1365.19	3.02	2.99E-03		1.75E-03	1.48E-03
I-135	220.50	1.75	3.33E+00	5.05E-02	1.58E+00	1.66E+00
	288.45	3.10	1.67E+00		-7.64E-01	8.35E-01
	417.63	3.53	1.21E+00		6.56E-01	6.02E-01
	546.56	7.15	5.05E-01		1.13E-01	2.52E-01
	836.80	6.69	4.10E-01		1.80E-01	2.04E-01
	971.96	0.89	2.94E+00		-2.82E-01	1.46E+00
	972.62	1.21	2.12E+00		-1.89E+00	1.05E+00
	1038.76	7.90	3.03E-01		2.41E-01	1.51E-01

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1101.58		1.61	1.42E+00	5.05E-02	7.38E-01	7.05E-01
		1124.00		3.62	6.26E-01		5.62E-01	3.11E-01
		1131.51		22.60	9.67E-02		1.67E-01	4.80E-02
		1240.47		0.90	1.98E+00		1.17E+00	9.79E-01
		1260.41		28.70	5.05E-02		-3.01E-03	2.50E-02
		1457.56		8.70	1.26E-01		2.30E-02	6.21E-02
		1502.79		1.08	9.79E-01		3.80E-01	4.80E-01
		1566.41		1.29	5.97E-01		1.07E-01	2.91E-01
		1678.03		9.60	6.40E-02		1.55E-02	3.10E-02
		1706.46		4.10	1.42E-01		-4.77E-02	6.86E-02
		1791.20		7.72	6.11E-02		-1.53E-03	2.92E-02
		2408.65		0.96	2.64E-01		-4.27E-01	1.19E-01
	XE-135	249.79		90.00	1.51E-02	1.51E-02	9.87E-02	7.56E-03
	XE-135m	526.56		80.40	4.35E-02	4.35E-02	2.64E-02	2.17E-02
	CS-136	66.88		4.79	2.74E-02	2.57E-04	4.01E-02	1.37E-02
		86.36		5.90	1.60E-02		1.90E-03	7.99E-03
		153.25		7.70	8.51E-03		8.41E-03	4.25E-03
		163.92		4.69	1.40E-02		8.79E-04	7.02E-03
		176.60		13.70	4.46E-03		9.01E-05	2.23E-03
		273.65		12.66	3.85E-03		-1.49E-03	1.92E-03
		340.55		46.80	8.94E-04		7.79E-04	4.46E-04
		818.51		99.70	2.57E-04		8.03E-04	1.28E-04
		1048.07		80.00	2.80E-04		6.89E-05	1.39E-04
		1235.36		20.00	7.05E-04		2.40E-04	3.49E-04
+	CS-137	661.66	*	85.10	2.03E-04	2.03E-04	1.79E-02	1.01E-04
	BA-139	33.44		3.84	2.45E+09	2.36E+07	-1.42E+10	1.22E+09
		165.86		23.70	2.36E+07		-1.01E+07	1.18E+07
	BA-140	132.69		0.20	3.17E-01	1.25E-03	-4.39E-02	1.58E-01
		162.66		6.22	9.66E-03		8.30E-03	4.83E-03
		304.85		4.29	1.00E-02		-2.32E-03	5.01E-03
		423.72		3.10	1.12E-02		1.26E-03	5.58E-03
		437.58		1.93	1.77E-02		-3.24E-03	8.82E-03
		537.26		24.39	1.25E-03		-2.90E-04	6.24E-04
	LA-140	109.42		0.22	3.32E-01	1.51E-04	2.53E-02	1.66E-01
		131.12		0.47	1.38E-01		7.94E-02	6.91E-02
		173.54		0.13	4.44E-01		-7.66E-02	2.22E-01
		241.93		0.41	1.10E-01		-5.64E-02	5.47E-02
		266.54		0.47	9.06E-02		8.28E-02	4.52E-02
		328.76		20.30	2.09E-03		-2.88E-04	1.05E-03
		432.49		2.90	1.27E-02		1.41E-02	6.35E-03
		487.02		45.50	7.37E-04		3.74E-04	3.67E-04
		618.10		0.04	7.62E-01		-1.28E-01	3.80E-01
		751.64		4.33	6.56E-03		2.19E-03	3.27E-03
		815.77		23.28	1.00E-03		1.09E-03	4.99E-04
		867.85		5.50	5.74E-03		2.17E-03	2.86E-03
		919.55		2.66	8.33E-03		8.10E-05	4.14E-03
		925.19		6.90	3.33E-03		5.92E-03	1.66E-03
		950.99		0.52	4.39E-02		-2.94E-02	2.18E-02
		1596.21		95.40	1.51E-04		1.19E-03	7.48E-05
		2347.88		0.85	2.67E-03		9.15E-04	1.22E-03
		2521.40		3.46	5.66E-04		1.70E-04	2.50E-04
		2547.34		0.10	1.98E-02		-7.31E-03	8.72E-03
@	BA-141	33.44		7.93	1.00E+20	1.00E+20	1.00E+20	1.00E+20

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	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	BA-141	190.33	44.80	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		276.95	23.60	1.00E+20		1.00E+20	1.00E+20
@		304.19	26.10	1.00E+20		1.00E+20	1.00E+20
@		343.67	15.10	1.00E+20		1.00E+20	1.00E+20
@		389.74	1.37	1.00E+20		1.00E+20	1.00E+20
@		457.51	5.00	1.00E+20		1.00E+20	1.00E+20
@		462.06	5.10	1.00E+20		1.00E+20	1.00E+20
@		467.22	5.60	1.00E+20		1.00E+20	1.00E+20
@		625.08	3.45	1.00E+20		1.00E+20	1.00E+20
@		647.78	5.70	1.00E+20		1.00E+20	1.00E+20
@		738.95	4.39	1.00E+20		1.00E+20	1.00E+20
@		831.46	1.64	1.00E+20		1.00E+20	1.00E+20
@		876.09	3.45	1.00E+20		1.00E+20	1.00E+20
@		1160.72	1.12	1.00E+20		1.00E+20	1.00E+20
@		1197.28	4.35	1.00E+20		1.00E+20	1.00E+20
@		1323.92	0.92	1.00E+20		1.00E+20	1.00E+20
@		1654.00	0.65	1.00E+20		1.00E+20	1.00E+20
@		1682.19	1.19	1.00E+20		1.00E+20	1.00E+20
	CE-141	145.44	48.30	1.18E-03	1.18E-03	1.39E-03	5.88E-04
@	BA-142	33.44	14.20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		77.59	7.00	1.00E+20		1.00E+20	1.00E+20
@		177.00	2.12	1.00E+20		1.00E+20	1.00E+20
@		231.61	12.20	1.00E+20		1.00E+20	1.00E+20
@		255.30	20.70	1.00E+20		1.00E+20	1.00E+20
@		286.30	1.11	1.00E+20		1.00E+20	1.00E+20
@		309.20	2.60	1.00E+20		1.00E+20	1.00E+20
@		335.00	1.53	1.00E+20		1.00E+20	1.00E+20
@		363.96	4.76	1.00E+20		1.00E+20	1.00E+20
@		425.04	5.75	1.00E+20		1.00E+20	1.00E+20
@		599.80	1.85	1.00E+20		1.00E+20	1.00E+20
@		840.40	3.63	1.00E+20		1.00E+20	1.00E+20
@		895.20	13.90	1.00E+20		1.00E+20	1.00E+20
@		949.10	10.70	1.00E+20		1.00E+20	1.00E+20
@		1001.20	9.80	1.00E+20		1.00E+20	1.00E+20
@		1078.70	11.50	1.00E+20		1.00E+20	1.00E+20
@		1094.10	2.82	1.00E+20		1.00E+20	1.00E+20
@		1126.80	1.50	1.00E+20		1.00E+20	1.00E+20
@		1202.40	5.60	1.00E+20		1.00E+20	1.00E+20
@		1204.30	14.30	1.00E+20		1.00E+20	1.00E+20
@		1380.20	3.42	1.00E+20		1.00E+20	1.00E+20
	CE-143	57.36	11.70	3.82E-02	2.37E-03	-6.84E-03	1.91E-02
		231.55	2.05	5.61E-02		4.48E-02	2.80E-02
		293.27	42.80	2.37E-03		-2.04E-03	1.18E-03
		350.62	3.23	2.67E-02		7.74E-03	1.33E-02
		490.37	2.16	3.60E-02		-1.31E-02	1.80E-02
		664.57	5.69	1.95E-02		7.80E-01	9.75E-03
		721.93	5.39	1.66E-02		-7.21E-04	8.27E-03
		880.46	1.03	6.03E-02		-1.32E-02	3.00E-02
	CE-144	80.12	1.36	6.27E-02	5.21E-03	-5.02E-02	3.14E-02
		133.51	11.09	5.21E-03		2.35E-03	2.60E-03
	ND-147	38.17	13.20	4.07E-02	2.32E-03	-8.70E-02	2.03E-02
		38.72	23.80	2.13E-02		-4.47E-02	1.06E-02
		91.11	28.90	2.88E-03		2.44E-03	1.44E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ND-147	275.39	0.79	6.03E-02	2.32E-03	7.05E-02	3.01E-02
	319.41	1.97	2.15E-02		2.22E-02	1.07E-02
	398.13	0.87	4.16E-02		5.64E-02	2.07E-02
	439.88	1.20	2.93E-02		-1.83E-02	1.46E-02
	531.01	13.11	2.32E-03		6.16E-04	1.16E-03
	685.88	0.82	3.26E-02		-1.48E-02	1.63E-02
@ PR-147	36.85	19.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	37.36	35.50	1.00E+20		1.00E+20	1.00E+20
@	49.88	4.00	1.00E+20		1.00E+20	1.00E+20
@	77.97	9.70	1.00E+20		1.00E+20	1.00E+20
@	86.69	5.40	1.00E+20		1.00E+20	1.00E+20
@	127.80	7.40	1.00E+20		1.00E+20	1.00E+20
@	249.20	1.32	1.00E+20		1.00E+20	1.00E+20
@	314.70	18.20	1.00E+20		1.00E+20	1.00E+20
@	328.80	4.00	1.00E+20		1.00E+20	1.00E+20
@	335.70	4.70	1.00E+20		1.00E+20	1.00E+20
@	388.80	1.41	1.00E+20		1.00E+20	1.00E+20
@	466.80	1.70	1.00E+20		1.00E+20	1.00E+20
@	477.90	4.60	1.00E+20		1.00E+20	1.00E+20
@	516.70	1.30	1.00E+20		1.00E+20	1.00E+20
@	554.70	5.90	1.00E+20		1.00E+20	1.00E+20
@	577.90	13.70	1.00E+20		1.00E+20	1.00E+20
@	641.40	16.10	1.00E+20		1.00E+20	1.00E+20
@	996.00	1.52	1.00E+20		1.00E+20	1.00E+20
@	1136.70	1.42	1.00E+20		1.00E+20	1.00E+20
@	1261.10	8.40	1.00E+20		1.00E+20	1.00E+20
@	1300.40	2.30	1.00E+20		1.00E+20	1.00E+20
ND-149	38.17	9.00	5.72E+06	1.88E+05	-1.22E+07	2.86E+06
	38.72	16.30	2.97E+06		-6.25E+06	1.48E+06
	58.88	1.30	1.37E+07		-2.00E+06	6.86E+06
	74.32	2.11	5.02E+06		1.53E+07	2.51E+06
	97.00	1.48	5.42E+06		3.76E+06	2.71E+06
	114.31	19.20	3.68E+05		2.78E+05	1.84E+05
	155.87	5.95	1.02E+06		9.79E+05	5.12E+05
	188.64	1.79	3.14E+06		3.08E+06	1.57E+06
	198.93	1.39	3.82E+06		2.10E+06	1.91E+06
	208.15	2.55	1.98E+06		1.66E+05	9.90E+05
	211.31	26.00	1.88E+05		-6.95E+04	9.37E+04
	240.22	3.95	1.13E+06		-1.02E+06	5.62E+05
	245.72	0.81	5.82E+06		-1.40E+05	2.91E+06
	267.69	6.05	7.13E+05		6.84E+04	3.56E+05
	270.17	10.80	4.06E+05		1.89E+05	2.03E+05
	326.55	4.57	8.77E+05		7.80E+04	4.38E+05
	349.23	1.38	2.79E+06		-1.63E+06	1.39E+06
	423.55	7.50	4.53E+05		5.11E+04	2.26E+05
	443.55	1.15	3.00E+06		1.47E+06	1.50E+06
	540.51	6.60	4.55E+05		-2.34E+05	2.27E+05
	654.83	8.00	3.54E+05		2.17E+05	1.76E+05
PM-149	285.95	3.10	2.30E-02	2.30E-02	3.23E-03	1.15E-02
PM-150	39.52	0.63	9.07E+04	7.19E+01	-1.52E+05	4.53E+04
	40.12	1.14	4.79E+04		-6.06E+04	2.39E+04
	333.92	68.00	7.19E+01		5.26E+01	3.59E+01
	406.51	5.60	7.72E+02		8.63E+02	3.85E+02

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PM-150	565.70		1.31	2.77E+03	7.19E+01	-3.48E+03	1.38E+03
		587.02		1.34	2.91E+03		1.28E+03	1.45E+03
		612.25		0.93	3.81E+03		1.75E+03	1.90E+03
		712.22		4.40	7.27E+02		3.30E+02	3.62E+02
		737.50		2.25	1.37E+03		-1.46E+03	6.83E+02
		831.85		11.90	2.40E+02		3.46E+01	1.19E+02
		859.95		3.40	8.18E+02		2.50E+02	4.07E+02
		876.41		7.30	5.55E+02		8.69E+01	2.76E+02
		1165.77		15.80	1.98E+02		6.25E+01	9.82E+01
		1170.90		1.06	4.72E+03		-3.08E+02	2.35E+03
		1193.87		4.80	3.80E+02		-1.41E+01	1.88E+02
		1213.72		1.03	1.66E+03		-4.50E+02	8.21E+02
		1223.28		2.80	5.97E+02		9.29E+02	2.95E+02
		1324.51		17.50	1.22E+02		-4.54E+01	6.03E+01
		1379.32		3.10	4.24E+02		-1.41E+02	2.09E+02
		1736.40		6.90	8.47E+01		5.78E+01	4.08E+01
		1963.71		1.47	2.64E+02		-1.83E+02	1.24E+02
		2033.46		0.97	4.13E+02		6.32E+01	1.94E+02
@	ND-151	38.17		5.94	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		38.72		10.70	1.00E+20		1.00E+20	1.00E+20
@		68.98		1.26	1.00E+20		1.00E+20	1.00E+20
@		85.12		2.05	1.00E+20		1.00E+20	1.00E+20
@		89.96		1.53	1.00E+20		1.00E+20	1.00E+20
@		116.80		39.00	1.00E+20		1.00E+20	1.00E+20
@		138.89		7.00	1.00E+20		1.00E+20	1.00E+20
@		170.76		2.87	1.00E+20		1.00E+20	1.00E+20
@		175.07		6.30	1.00E+20		1.00E+20	1.00E+20
@		255.68		14.80	1.00E+20		1.00E+20	1.00E+20
@		300.58		1.82	1.00E+20		1.00E+20	1.00E+20
@		423.56		5.90	1.00E+20		1.00E+20	1.00E+20
@		460.59		0.96	1.00E+20		1.00E+20	1.00E+20
@		585.22		1.30	1.00E+20		1.00E+20	1.00E+20
@		677.88		2.38	1.00E+20		1.00E+20	1.00E+20
@		736.23		5.90	1.00E+20		1.00E+20	1.00E+20
@		739.20		1.52	1.00E+20		1.00E+20	1.00E+20
@		755.57		1.17	1.00E+20		1.00E+20	1.00E+20
@		797.53		4.70	1.00E+20		1.00E+20	1.00E+20
@		1016.40		2.50	1.00E+20		1.00E+20	1.00E+20
@		1122.63		4.10	1.00E+20		1.00E+20	1.00E+20
@		1180.89		13.30	1.00E+20		1.00E+20	1.00E+20
	Pm-151	167.75		8.30	1.95E-02	4.79E-03	2.51E-03	9.77E-03
		177.16		3.80	4.24E-02		-4.84E-03	2.12E-02
		240.09		3.80	3.38E-02		-3.06E-02	1.69E-02
		275.21		6.80	1.83E-02		3.24E-02	9.14E-03
		340.08		22.50	4.79E-03		2.58E-03	2.39E-03
+	EU-152	121.78		28.53	2.39E-03	4.65E-04	-7.70E-04	1.19E-03
		344.28	*	26.59	1.56E-03		1.69E-03	7.79E-04
		778.90	*	12.93	1.88E-03		1.24E-03	9.36E-04
		867.37	*	4.23	3.19E-03		2.53E-03	1.58E-03
		964.08	*	14.51	1.21E-03		7.57E-04	6.02E-04
		1085.87	*	10.11	1.44E-03		1.46E-03	7.13E-04
		1112.07	*	13.67	1.66E-03		1.92E-03	8.26E-04
		1408.01	*	20.87	4.65E-04		1.54E-03	2.29E-04

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	ND-152	44.44		5.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		250.15		16.40	1.00E+20		1.00E+20	1.00E+20
@		278.56		26.00	1.00E+20		1.00E+20	1.00E+20
@		294.47		2.90	1.00E+20		1.00E+20	1.00E+20
@		545.70		0.83	1.00E+20		1.00E+20	1.00E+20
@		592.50		0.99	1.00E+20		1.00E+20	1.00E+20
	GD-153	69.67		2.45	4.36E-02	2.43E-03	4.15E-02	2.18E-02
		97.43		30.00	2.43E-03		2.65E-03	1.22E-03
		103.18		22.10	3.17E-03		-2.54E-04	1.58E-03
	SM-153	69.67		4.67	4.51E-02	4.73E-03	4.29E-02	2.25E-02
		103.18		29.14	4.73E-03		-3.80E-04	2.37E-03
+	EU-154	42.70	*	20.45	2.33E-02	6.13E-04	2.30E-02	1.16E-02
		123.07	*	40.40	2.05E-03		4.90E-02	1.03E-03
		247.93	*	6.89	7.79E-03		4.58E-02	3.89E-03
		591.76	*	4.95	6.43E-03		4.68E-02	3.21E-03
		692.42	*	1.78	8.76E-03		4.72E-02	4.35E-03
		723.30	*	20.06	2.03E-03		4.84E-02	1.01E-03
		756.80	*	4.52	7.87E-03		4.68E-02	3.93E-03
		873.18	*	12.08	1.25E-03		4.89E-02	6.18E-04
		996.29	*	10.48	2.38E-03		4.81E-02	1.18E-03
		1004.76	*	18.01	1.77E-03		4.80E-02	8.83E-04
		1246.12	*	0.86	1.06E-02		4.30E-02	5.22E-03
		1274.43	*	34.80	6.13E-04		4.79E-02	3.05E-04
		1494.05	*	0.70	1.52E-02		4.51E-02	7.48E-03
		1596.48	*	1.80	4.58E-03		4.72E-02	2.25E-03
+	EU-155	43.00	*	18.12	2.63E-02	2.69E-03	2.59E-02	1.31E-02
		60.01	*	1.17	1.65E-01		9.81E+00	8.26E-02
		86.55	*	30.70	2.69E-03		7.14E-03	1.34E-03
		105.31	*	21.10	3.25E-03		6.47E-03	1.62E-03
	EU-156	88.97		8.40	1.04E-02	7.69E-04	2.90E-02	5.20E-03
		646.29		6.30	4.48E-03		1.65E-03	2.23E-03
		723.47		5.40	7.27E-03		1.92E-01	3.62E-03
		811.77		9.70	2.47E-03		-3.44E-04	1.23E-03
		1065.14		4.90	4.23E-03		-3.17E-03	2.10E-03
		1079.16		4.60	4.31E-03		-2.90E-03	2.14E-03
		1153.80		11.50	1.43E-03		-7.28E-04	7.11E-04
		1230.71		8.00	1.69E-03		8.11E-04	8.35E-04
		1242.42		6.60	2.26E-03		7.36E-04	1.12E-03
		1277.43		2.89	1.67E-02		-1.20E-03	8.30E-03
		1366.41		1.57	7.11E-03		2.67E-03	3.51E-03
		1965.95		3.90	7.69E-04		-9.11E-05	3.62E-04
		2097.70		3.80	7.97E-04		1.08E-03	3.73E-04
		2186.71		3.50	8.74E-04		7.87E-05	4.08E-04
	Sm-156	87.60		24.00	9.63E-02	6.54E-02	5.39E-01	4.81E-02
		165.80		13.00	1.21E-01		-5.18E-02	6.03E-02
		204.00		21.00	6.54E-02		-1.73E-03	3.27E-02
	EU-158	42.31		5.80	7.04E+16	8.28E+14	-3.36E+16	3.52E+16
		43.00		10.40	3.72E+16		5.56E+16	1.86E+16
		79.49		10.50	1.02E+16		-2.69E+16	5.12E+15
		181.97		2.30	2.69E+16		2.64E+15	1.34E+16
		528.05		1.53	2.22E+16		1.01E+15	1.11E+16
		606.39		4.00	8.05E+15		-8.84E+15	4.01E+15
		743.02		3.60	7.74E+15		1.20E+15	3.85E+15

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	897.61	12.40	2.13E+15	8.28E+14	1.05E+15	1.06E+15
	906.50	1.83	1.43E+16		2.54E+16	7.11E+15
	922.51	1.62	1.54E+16		-1.20E+15	7.68E+15
	944.15	30.00	8.28E+14		6.19E+14	4.12E+14
	953.03	1.98	1.26E+16		8.46E+15	6.26E+15
	962.09	1.89	1.33E+16		1.60E+16	6.63E+15
	977.14	16.30	1.46E+15		-7.21E+13	7.27E+14
	986.96	1.35	1.77E+16		5.31E+15	8.78E+15
	1107.63	5.10	4.35E+15		1.87E+15	2.16E+15
	1184.10	3.00	5.78E+15		6.16E+15	2.86E+15
	1186.00	2.90	5.89E+15		5.69E+15	2.92E+15
	1187.10	4.40	3.87E+15		2.86E+15	1.92E+15
	1263.61	2.20	6.41E+15		9.87E+14	3.17E+15
	1347.95	1.65	7.41E+15		-5.03E+15	3.65E+15
	1944.47	1.62	2.15E+15		2.68E+14	1.01E+15
TB-160	86.79	13.20	6.35E-03	8.20E-04	3.36E-02	3.17E-03
	298.58	26.10	1.55E-03		2.14E-03	7.74E-04
	879.38	30.10	9.61E-04		1.37E-04	4.79E-04
	962.32	9.81	2.13E-03		2.55E-03	1.06E-03
	966.17	25.10	8.20E-04		1.22E-03	4.08E-04
	1177.96	14.90	2.40E-03		3.48E-04	1.20E-03
TB-161	25.65	23.20	2.41E-01	1.12E-02	2.24E+01	1.20E-01
	48.91	17.00	1.53E-02		2.52E-02	7.62E-03
	52.00	3.43	6.50E-02		1.77E-02	3.25E-02
	57.19	1.79	1.14E-01		-2.04E-02	5.70E-02
	74.57	10.20	1.12E-02		3.41E-02	5.59E-03
YB-169	63.12	43.62	3.32E-03	1.38E-03	-8.61E-04	1.66E-03
	93.61	2.58	3.32E-02		1.13E-02	1.66E-02
	109.78	17.39	4.06E-03		-9.98E-06	2.03E-03
	130.52	11.38	5.67E-03		2.94E-03	2.83E-03
	177.21	22.28	2.47E-03		-2.82E-04	1.24E-03
	197.96	35.93	1.38E-03		1.58E-03	6.89E-04
	307.74	10.05	3.65E-03		2.73E-03	1.82E-03
HF-172	54.07	63.00	2.66E-03	2.66E-03	1.03E-03	1.33E-03
	67.35	5.30	1.97E-02		8.41E-03	9.85E-03
	81.75	4.50	1.85E-02		-7.80E-03	9.24E-03
	114.06	2.60	2.44E-02		1.84E-02	1.22E-02
	125.81	11.30	5.65E-03		3.63E-03	2.82E-03
	127.91	1.46	4.13E-02		9.01E-03	2.06E-02
LU-173	59.30	24.44	6.32E-03	1.95E-03	4.85E-01	3.16E-03
	78.63	11.90	7.73E-03		-5.04E-03	3.86E-03
	100.72	5.24	1.38E-02		-6.89E-05	6.89E-03
	171.39	2.90	1.81E-02		-4.40E-03	9.03E-03
	272.11	21.20	1.95E-03		-1.84E-03	9.75E-04
LU-177	112.95	6.23	1.25E-02	5.31E-03	4.19E-05	6.25E-03
	208.37	10.41	5.31E-03		4.45E-04	2.65E-03
	249.67	0.20	2.53E-01		1.65E+00	1.26E-01
	321.32	0.22	2.02E-01		-1.67E-01	1.01E-01
HF-181	133.02	43.30	1.43E-03	3.78E-04	1.48E-03	7.16E-04
	345.93	15.12	2.45E-03		3.23E-03	1.22E-03
	482.18	80.50	3.78E-04		1.53E-04	1.89E-04
W-181	56.28	18.70	8.67E-03	5.22E-03	-6.83E-04	4.33E-03
	57.53	32.00	5.22E-03		-9.45E-04	2.61E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
W-181	65.00	10.60	1.06E-02	5.22E-03	2.52E-03	5.29E-03
TA-182	57.98	10.01	1.64E-02	4.64E-04	-2.10E-03	8.20E-03
	59.32	17.20	9.06E-03		6.95E-01	4.53E-03
	65.72	3.01	4.02E-02		2.56E-02	2.01E-02
	67.75	46.67	2.35E-03		1.92E-03	1.18E-03
	84.68	2.65	3.21E-02		-2.70E-02	1.61E-02
	100.11	14.20	5.35E-03		2.59E-03	2.67E-03
	113.67	1.87	3.81E-02		2.89E-02	1.90E-02
	116.42	0.44	1.43E-01		3.92E-03	7.13E-02
	152.43	7.02	8.11E-03		2.08E-03	4.05E-03
	156.39	2.67	2.20E-02		1.43E-02	1.10E-02
	179.39	3.12	1.73E-02		2.48E-03	8.65E-03
	198.35	1.47	3.55E-02		4.33E-02	1.77E-02
	222.11	7.57	6.06E-03		-6.80E-03	3.03E-03
	229.32	3.64	1.26E-02		9.24E-03	6.29E-03
	264.08	3.61	1.14E-02		4.12E-03	5.68E-03
	928.00	0.61	3.45E-02		3.74E-03	1.71E-02
	959.73	0.35	6.17E-02		-3.21E-02	3.07E-02
	1001.70	2.09	2.07E-02		6.73E-01	1.03E-02
	1044.42	0.24	8.45E-02		-5.83E-03	4.20E-02
	1113.41	0.44	4.20E-02		1.18E-01	2.09E-02
	1121.29	35.24	5.04E-04		5.61E-04	2.50E-04
	1157.30	0.73	1.97E-02		1.22E-02	9.78E-03
	1189.04	16.49	8.01E-04		-8.76E-04	3.97E-04
	1221.40	27.23	4.64E-04		1.45E-04	2.29E-04
	1223.60	0.24	4.42E-02		6.88E-02	2.19E-02
	1231.00	11.62	1.07E-03		-1.23E-03	5.28E-04
	1257.41	1.51	7.49E-03		9.87E-03	3.70E-03
	1273.72	0.66	5.27E-02		2.03E+00	2.63E-02
	1289.15	1.37	5.61E-03		4.18E-03	2.77E-03
	1342.73	0.26	4.06E-02		2.92E-02	2.01E-02
	1373.82	0.22	2.87E-02		-3.41E-03	1.41E-02
Ta-183	84.71	1.35	7.70E-02	1.99E-03	-6.46E-02	3.85E-02
	99.08	6.80	1.35E-02		-2.06E-03	6.77E-03
	107.93	11.20	7.69E-03		2.16E-02	3.84E-03
	161.35	9.10	7.59E-03		-4.72E-03	3.79E-03
	162.32	5.00	1.38E-02		1.92E-03	6.87E-03
	244.26	8.80	6.16E-03		-2.55E-03	3.08E-03
	246.06	27.20	1.99E-03		-4.09E-04	9.94E-04
	353.99	11.60	3.79E-03		1.64E-03	1.89E-03
Re-184	111.21	17.20	3.89E-03	5.70E-04	-1.13E-03	1.95E-03
	252.85	3.00	1.38E-02		5.95E-03	6.89E-03
	792.01	37.70	5.89E-04		3.19E-04	2.93E-04
	894.76	15.70	1.33E-03		1.27E-03	6.60E-04
	903.28	38.10	5.70E-04		1.52E-03	2.83E-04
W-185	59.72	0.01	1.30E+01	3.39E+00	9.81E+02	6.48E+00
	61.14	0.02	7.18E+00		-2.22E+00	3.59E+00
	69.20	0.01	1.56E+01		-9.74E+00	7.78E+00
	125.36	0.02	3.39E+00		9.63E-01	1.70E+00
W-187	61.14	14.30	3.81E-02	2.71E-03	-1.18E-02	1.90E-02
	69.20	4.82	8.24E-02		-5.16E-02	4.12E-02
	72.00	13.55	2.93E-02		5.43E-02	1.46E-02
	134.25	10.36	2.21E-02		8.93E-03	1.10E-02

Analysis Report for 24-2337 VSM-8.0M-S2-CST-d-A F3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
W-187	479.53	26.60	4.29E-03	2.71E-03	4.91E-04	2.14E-03
	618.37	7.57	1.27E-02		-2.01E-02	6.33E-03
	685.81	33.20	2.71E-03		-1.23E-03	1.35E-03
Ir-188	155.05	29.60	3.99E-03	3.39E-04	2.75E-03	1.99E-03
	478.00	14.70	4.31E-03		1.50E-04	2.15E-03
	633.02	17.90	3.02E-03		-8.34E-04	1.50E-03
	634.97	5.00	1.08E-02		7.52E-03	5.38E-03
	829.42	5.10	8.77E-03		3.11E-03	4.36E-03
	1209.77	6.90	3.88E-03		4.07E-03	1.92E-03
	1715.67	6.20	2.03E-03		-1.65E-04	9.87E-04
	2214.59	18.60	3.39E-04		-9.82E-04	1.59E-04
W-188	227.07	0.23	1.85E-01	9.46E-02	-5.48E-02	9.24E-02
	290.68	0.42	9.46E-02		-8.05E-02	4.72E-02
Ir-189	245.08	6.00	7.71E-03	7.71E-03	-1.41E-03	3.85E-03
Ir-190	186.68	50.00	1.09E-03	7.62E-04	1.38E-03	5.44E-04
	361.09	12.30	3.04E-03		1.38E-04	1.52E-03
	371.24	21.60	1.71E-03		1.97E-03	8.52E-04
	407.22	27.00	1.29E-03		-1.34E-03	6.43E-04
	518.55	32.20	9.78E-04		7.84E-05	4.88E-04
	557.95	28.50	1.05E-03		2.71E-04	5.22E-04
	569.30	27.00	1.09E-03		-4.22E-04	5.41E-04
	605.14	37.80	7.62E-04		1.29E-04	3.80E-04
OS-191	63.29	15.70	8.59E-03	2.41E-03	-1.69E-03	4.29E-03
	64.99	26.70	4.53E-03		1.08E-03	2.27E-03
	73.45	9.21	1.14E-02		3.43E-02	5.68E-03
	129.43	26.50	2.41E-03		1.75E-03	1.20E-03
Pt-191	359.90	5.80	9.58E-03	3.11E-03	-1.02E-03	4.78E-03
	456.47	3.30	1.49E-02		-3.27E-03	7.42E-03
	538.90	14.30	3.11E-03		1.46E-03	1.55E-03
IR-192	205.79	3.31	1.46E-02	4.75E-04	3.96E-03	7.31E-03
	295.96	28.71	1.47E-03		8.55E-05	7.33E-04
	308.45	29.70	1.37E-03		-5.28E-04	6.85E-04
	316.51	82.86	4.75E-04		-1.23E-04	2.37E-04
	468.07	47.84	6.57E-04		-3.70E-04	3.28E-04
	588.58	4.52	6.82E-03		3.01E-03	3.40E-03
	604.41	8.22	3.00E-03		-1.01E-04	1.49E-03
	612.46	5.34	4.27E-03		1.04E-03	2.13E-03
IR-192m	155.16	0.09	5.93E-01	5.93E-01	5.62E-02	2.96E-01
IR-193m	80.22	0.00	2.06E+01	2.06E+01	-1.65E+01	1.03E+01
Pt-193m	135.50	0.11	6.75E-01	6.75E-01	6.15E-01	3.37E-01
Au-194	293.55	10.90	8.16E-03	1.31E-03	-7.03E-03	4.08E-03
	328.47	62.80	1.31E-03		-1.16E-03	6.56E-04
	364.84	1.60	4.81E-02		1.49E-02	2.40E-02
	528.77	1.78	3.53E-02		-7.71E-03	1.76E-02
	645.16	2.32	2.47E-02		9.08E-03	1.23E-02
	948.32	2.29	2.02E-02		-2.59E-03	1.00E-02
	1104.06	2.15	1.86E-02		-7.45E-03	9.21E-03
	1175.36	2.14	3.92E-02		7.51E-03	1.95E-02
	1468.90	6.80	2.66E-03		1.03E-03	1.31E-03
	1595.81	1.89	1.52E-02		1.26E-01	7.52E-03
	2043.72	3.74	1.60E-03		5.21E-04	7.44E-04
Ir-194	293.54	2.50	8.13E-02	1.44E-02	-6.99E-02	4.06E-02
	328.47	13.10	1.44E-02		-1.27E-02	7.18E-03

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Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AU-195	98.86		11.21	6.39E-03	6.39E-03	4.26E-03	3.19E-03
	129.74		0.84	7.00E-02		3.85E-02	3.50E-02
Pt-195m	98.90		11.70	8.48E-03	8.48E-03	5.65E-03	4.24E-03
	129.79		2.90	2.81E-02		1.54E-02	1.40E-02
Au-196	333.03		22.90	2.05E-03	5.00E-04	2.81E-03	1.02E-03
	355.73		87.00	5.00E-04		4.23E-04	2.49E-04
	426.10		6.60	5.85E-03		4.13E-03	2.92E-03
Au-196m	147.81		43.50	3.46E-02	3.46E-02	2.41E-02	1.73E-02
	188.27		30.00	4.50E-02		3.27E-02	2.25E-02
Pt-197	77.35		17.00	2.62E-02	2.62E-02	3.18E-02	1.31E-02
	191.44		3.70	6.45E-02		-5.04E-02	3.22E-02
AU-198	411.80		95.62	5.51E-04	5.51E-04	9.09E-05	2.75E-04
AU-199	158.38		40.00	2.06E-03	2.06E-03	1.60E-04	1.03E-03
	208.20		8.72	7.93E-03		6.64E-04	3.96E-03
TL-201	135.34		2.61	3.39E-02	8.05E-03	4.22E-02	1.69E-02
	167.43		10.00	8.05E-03		-4.24E-03	4.02E-03
TL-202	439.51		91.50	3.75E-04	3.75E-04	-1.91E-04	1.87E-04
PB-203	70.83		26.40	7.09E-03	9.40E-04	-1.63E-02	3.55E-03
	72.87		44.20	4.06E-03		1.50E-02	2.03E-03
	82.40		15.56	9.78E-03		-1.36E-02	4.89E-03
	279.20		80.90	9.40E-04		-1.87E-04	4.69E-04
	401.32		3.35	1.85E-02		1.05E-02	9.21E-03
PB-210	46.54		4.25	5.73E-02	5.73E-02	-2.97E-01	2.86E-02
Pa-233	86.60		2.01	3.98E-02	9.68E-04	2.11E-01	1.99E-02
	94.65		8.90	8.32E-03		4.67E-03	4.16E-03
	98.43		14.20	5.03E-03		1.91E-03	2.51E-03
	300.13		6.54	5.80E-03		4.86E-04	2.90E-03
	311.90		38.20	9.68E-04		1.16E-04	4.83E-04
	340.48		4.44	7.93E-03		6.91E-03	3.96E-03
U-235	89.96		2.90	2.58E-02	8.52E-04	8.05E-03	1.29E-02
	93.35		4.70	1.52E-02		9.08E-03	7.61E-03
	109.19		1.64	4.01E-02		9.58E-03	2.00E-02
	143.76		10.93	5.02E-03		1.17E-03	2.51E-03
	163.36		5.07	1.04E-02		9.85E-03	5.21E-03
	185.71		57.20	8.52E-04		5.60E-05	4.26E-04
	202.11		1.07	4.31E-02		-3.00E-03	2.15E-02
	205.31		5.03	9.06E-03		4.41E-04	4.53E-03
NP-237	86.48	*	12.20	6.75E-03	6.75E-03	1.80E-02	3.38E-03
U-237	59.54		34.50	5.46E-03	2.64E-03	4.19E-01	2.73E-03
	97.07		15.40	5.72E-03		3.97E-03	2.86E-03
	101.06		24.50	3.48E-03		-2.39E-04	1.74E-03
	113.30		3.07	2.53E-02		1.33E-02	1.26E-02
	114.23		5.81	1.33E-02		1.00E-02	6.64E-03
	117.46		2.27	3.34E-02		-1.66E-03	1.67E-02
	208.00		21.20	2.64E-03		1.91E-03	1.32E-03
NP-238	103.37		0.00	2.73E+01	1.42E-03	2.07E+00	1.36E+01
	882.63		0.80	4.66E-02		-1.12E-02	2.32E-02
	923.99		2.60	1.45E-02		7.21E-03	7.22E-03
	984.45		25.20	1.42E-03		4.14E-04	7.08E-04
	1025.87		8.75	4.02E-03		-9.18E-04	2.00E-03
	1028.53		18.23	1.93E-03		-1.27E-03	9.58E-04
U-238	63.29		3.70	3.34E-02	1.71E-02	-6.57E-03	1.67E-02
	92.51		4.23	1.71E-02		7.95E-03	8.55E-03

Analysis Report for 24-2337 VSM-8.0M-S2-CST-d-A F3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	U-238	112.81		0.21	3.05E-01	1.71E-02	1.32E-01	1.52E-01
		742.81		0.11	2.09E-01		-5.70E-02	1.04E-01
		766.42		0.32	6.86E-02		-5.61E-02	3.42E-02
		1001.03		0.84	4.67E-02		1.54E+00	2.33E-02
	Am-239	181.71		1.08	6.71E-01	3.91E-02	9.37E-02	3.35E-01
		209.80		3.50	1.89E-01		2.49E-01	9.43E-02
		226.40		3.30	1.90E-01		-3.36E-02	9.50E-02
		228.10		11.30	5.53E-02		5.08E-02	2.76E-02
		277.60		15.00	3.91E-02		2.21E-02	1.95E-02
	NP-239	61.46		1.30	1.92E-01	4.74E-03	-3.76E-02	9.62E-02
		99.53		12.90	9.65E-03		-5.40E-03	4.82E-03
		103.37		20.50	5.91E-03		4.49E-04	2.95E-03
		106.12		25.34	4.74E-03		1.97E-02	2.37E-03
		209.75		3.36	2.38E-02		3.14E-02	1.19E-02
		228.18		11.24	6.73E-03		2.61E-03	3.36E-03
		277.60		14.51	4.93E-03		2.78E-03	2.46E-03
		285.46		0.79	8.96E-02		1.04E-02	4.47E-02
		315.88		1.60	3.95E-02		2.92E-02	1.97E-02
		334.31		2.06	2.84E-02		1.56E-02	1.42E-02
	PU-239	38.66		0.01	4.33E+01	6.87E+00	-9.10E+01	2.16E+01
		51.62		0.03	6.87E+00		-5.78E-01	3.43E+00
		98.50		0.01	9.82E+00		3.72E+00	4.91E+00
		111.03		0.00	4.86E+01		-3.53E-01	2.43E+01
		129.30		0.01	9.28E+00		8.03E+00	4.64E+00
		171.39		0.00	4.66E+02		-1.13E+02	2.33E+02
		203.55		0.00	8.07E+01		2.08E+01	4.03E+01
		332.85		0.00	7.16E+01		2.59E+01	3.57E+01
		336.11		0.00	3.14E+02		1.93E+02	1.57E+02
		345.01		0.00	6.25E+01		6.58E+01	3.12E+01
		375.05		0.00	2.11E+01		2.23E+01	1.05E+01
		380.19		0.00	1.06E+02		7.88E+01	5.30E+01
		382.75		0.00	1.24E+02		-4.13E+01	6.21E+01
		413.71		0.00	2.19E+01		9.13E+01	1.09E+01
		422.60		0.00	2.56E+02		1.02E+02	1.28E+02
		451.48		0.00	1.59E+02		1.56E+02	7.96E+01
	Am-240	99.53		18.40	7.21E-03	5.02E-04	-4.03E-03	3.60E-03
		103.37		29.20	4.42E-03		3.36E-04	2.21E-03
		117.23		6.93	1.69E-02		-8.39E-04	8.42E-03
		888.85		24.70	1.53E-03		-1.10E-03	7.63E-04
		987.79		72.20	5.02E-04		4.11E-04	2.50E-04
	Np-240m	554.60		20.90	1.24E-02	1.24E-02	2.10E-02	6.17E-03
		597.40		11.70	2.24E-02		-7.66E-03	1.12E-02
	U-240	44.10		1.05	2.62E+00	1.94E+00	1.46E+00	1.31E+00
		66.50		0.15	6.68E+00		9.32E+00	3.34E+00
		169.20		0.12	4.33E+00		1.06E+00	2.17E+00
		189.70		0.24	1.94E+00		5.12E-01	9.67E-01
+	AM-241	59.54	*	35.90	5.37E-03	5.37E-03	3.19E-01	2.68E-03
+	AM-242m	49.35	*	0.13	2.30E+00	2.30E+00	3.59E+00	1.15E+00
		66.89		0.01	7.08E+00		1.04E+01	3.54E+00
		86.65	*	0.02	3.61E+00		9.61E+00	1.81E+00
		163.25		0.02	3.46E+00		3.26E+00	1.73E+00
	AM-243	43.53		5.90	5.05E-02	1.39E-03	1.38E-01	2.52E-02
		74.66		67.20	1.39E-03		4.36E-03	6.97E-04

Analysis Report for 24-2337 VSM-8.0M-S2-CST-d-A F3

ASR 2094 Branch

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

Apex-Gamma

Analysis Report for 24-2338 VSM-8.0M-S3-CST-A Q3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2338 VSM-8.0M-S3-CST-A Q3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 9:00:16AM
Procedure	: Q3_gsv02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: Q3_gsv02mlw
Live Time	: 2928.3 seconds
Real Time	: 3176.7 seconds
Dead Time	: 7.82 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: Q3_gsv2ml_R717
Sample Number	: 567870
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 9:53:16AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2338 VSM-8.0M-S3-CST-A Q3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.77	137.03	0.2600	4.46
2	59.58	190.36	0.0490	151.14
3	86.87	277.23	0.2228	6.19
4	105.51	336.71	0.2384	6.76
5	123.11	392.82	0.0671	78.72
6	125.24	401.00	0.0000	0.00
7	158.45	505.51	0.3587	3.21
8	247.96	790.84	0.1132	24.75
9	344.27	1097.90	0.2544	5.03
10	414.91	1323.05	0.1361	15.27
11	444.39	1416.85	0.2603	4.48
12	499.30	1591.67	0.3353	3.37
13	511.02	1629.26	0.1235	11.63
14	582.09	1855.94	0.2169	5.58
15	591.93	1887.32	0.1080	21.36
16	661.80	2110.11	0.0541	83.61
17	666.48	2125.17	0.1198	18.74
18	692.59	2207.67	0.2125	7.75
19	695.28	2216.97	0.1282	16.99
20	723.48	2306.66	0.0650	56.59
21	757.01	2413.50	0.1031	22.21
22	779.11	2484.01	0.3078	3.02
23	815.45	2599.37	0.2786	3.24
24	845.70	2696.60	0.2205	4.08
25	873.42	2784.62	0.0765	39.03
26	892.88	2846.77	0.2225	4.51
27	904.16	2882.49	0.2001	4.77
28	964.42	3073.78	0.2443	4.29
29	990.07	3156.62	0.2990	3.15
30	996.52	3177.12	0.0778	35.29
31	1005.00	3204.09	0.0664	48.46
32	1086.22	3462.39	0.2318	4.03
33	1112.11	3545.18	0.2384	3.58
34	1173.51	3741.26	0.0628	51.17
35	1246.54	3973.91	0.1745	5.97
36	1274.73	4063.88	0.0567	61.39
37	1332.81	4249.03	0.0632	48.86
38	1397.51	4455.42	0.1733	6.61
39	1408.48	4489.74	0.1553	7.87
40	1494.41	4763.66	0.1632	6.79
41	1596.84	5090.66	0.1198	12.42
42	1719.77	5481.56	0.2337	3.02
43	2506.24	7988.21	0.1952	4.41

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2338 VSM-8.0M-S3-CST-A Q3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 9:53:16AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.77	129	141	136.72	4.43E+03	1833.60	3.52E+05	1.18
F	2	59.58	182	198	190.31	2.30E+05	2350.57	6.06E+05	1.20
F	3	86.87	272	285	277.32	9.61E+03	3048.05	4.22E+05	1.64
F	4	105.51	331	345	336.71	6.87E+03	2584.53	3.58E+05	1.26
M	5	123.11	385	410	392.85	6.85E+04	1914.82	2.68E+05	1.26
m	6	125.24	385	410	399.62	6.73E+02	364.67	2.77E+05	1.27
	7	158.45	495	515	505.51	1.50E+03	1238.15	2.45E+05	0.47
F	8	247.96	784	801	790.84	8.88E+03	1010.93	7.31E+04	1.37
F	9	344.27	1089	1106	1097.85	8.60E+02	135.44	3.24E+04	1.23
F	10	414.91	1316	1334	1323.06	3.22E+03	578.56	2.09E+04	1.61
F	11	444.39	1410	1425	1417.01	5.96E+02	101.91	1.52E+04	1.35
F	12	499.30	1586	1595	1592.06	1.97E+02	79.43	6.92E+03	0.38
F	13	511.02	1617	1641	1629.42	8.01E+03	623.94	1.67E+04	3.10
F	14	582.09	1846	1865	1855.99	1.09E+03	377.36	8.63E+03	2.14
F	15	591.93	1880	1896	1887.35	3.43E+03	91.29	7.61E+03	1.66
M	16	661.80	2097	2138	2110.07	2.78E+04	428.47	6.23E+03	1.74
m	17	666.48	2097	2138	2124.97	2.56E+03	84.71	6.21E+03	1.74
M	18	692.59	2198	2228	2208.20	1.18E+03	217.00	5.35E+03	1.71
m	19	695.28	2198	2228	2216.80	2.39E+03	352.97	5.66E+03	1.71
F	20	723.48	2293	2319	2306.67	1.37E+04	346.29	6.84E+03	1.74
F	21	757.01	2406	2425	2413.55	2.81E+03	73.01	4.50E+03	1.71
	22	779.11	2477	2489	2484.01	3.28E+01	111.18	2.89E+03	1.05
F	23	815.45	2593	2604	2599.83	2.67E+02	47.11	2.11E+03	1.84
F	24	845.70	2684	2706	2696.28	4.69E+02	215.74	3.86E+03	2.12
F	25	873.42	2772	2798	2784.62	7.06E+03	253.47	4.13E+03	1.87
F	26	892.88	2839	2853	2846.67	3.42E+02	201.99	2.10E+03	1.86
F	27	904.16	2876	2892	2882.60	5.93E+02	48.18	2.18E+03	2.44
F	28	964.42	3064	3085	3074.68	3.88E+02	43.11	2.42E+03	2.61
M	29	990.07	3151	3187	3156.46	8.56E+01	37.72	1.71E+03	2.01
m	30	996.52	3151	3187	3177.03	6.11E+03	227.35	2.51E+03	2.01
F	31	1005.00	3189	3218	3204.03	1.03E+04	262.63	3.02E+03	2.01
F	32	1086.22	3454	3470	3462.94	3.16E+02	35.00	1.21E+03	2.38
F	33	1112.11	3537	3558	3545.46	2.94E+02	35.14	1.49E+03	2.50
F	34	1173.51	3726	3756	3741.15	1.17E+04	242.14	1.44E+03	2.12
F	35	1246.54	3964	3983	3973.93	3.72E+02	27.50	6.11E+02	2.29
F	36	1274.73	4048	4079	4063.78	1.67E+04	249.72	9.43E+02	2.22
F	37	1332.81	4233	4264	4248.91	1.10E+04	214.63	6.22E+02	2.27
F	38	1397.51	4443	4466	4455.14	2.32E+02	67.22	3.38E+02	1.92
F	39	1408.48	4479	4502	4490.10	3.78E+02	22.40	2.72E+02	2.28
F	40	1494.41	4754	4778	4763.97	3.21E+02	19.21	1.48E+02	2.49

Analysis Report for 24-2338 VSM-8.0M-S3-CST-A Q3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1596.84	5077 -	5101	5090.44	7.62E+02	73.57	1.66E+02	2.23
F	42	1719.77	5474 -	5491	5482.24	4.81E+01	10.23	7.14E+01	2.17
F	43	2506.24	7980 -	7999	7988.68	6.76E+01	9.66	3.01E+01	2.28

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 9:53:16AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567379.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.77	4.43E+03	1833.60			4.43E+03	1.83E+03
F	2	59.58	2.30E+05	2350.57			2.30E+05	2.35E+03
F	3	86.87	9.61E+03	3048.05	2.13E+01	1.43E+00	9.58E+03	3.05E+03
F	4	105.51	6.87E+03	2584.53			6.87E+03	2.58E+03
M	5	123.11	6.85E+04	1914.82			6.85E+04	1.91E+03
m	6	125.24	6.73E+02	364.67			6.73E+02	3.65E+02
	7	158.45	1.50E+03	1238.15			1.50E+03	1.24E+03
F	8	247.96	8.88E+03	1010.93			8.88E+03	1.01E+03
F	9	344.27	8.60E+02	135.44			8.60E+02	1.35E+02
F	10	414.91	3.22E+03	578.56			3.22E+03	5.79E+02
F	11	444.39	5.96E+02	101.91			5.96E+02	1.02E+02
F	12	499.30	1.97E+02	79.43			1.97E+02	7.94E+01
F	13	511.02	8.01E+03	623.94	1.15E+02	4.83E+00	7.89E+03	6.24E+02
F	14	582.09	1.09E+03	377.36			1.09E+03	3.77E+02
F	15	591.93	3.43E+03	91.29			3.43E+03	9.13E+01
M	16	661.80	2.78E+04	428.47			2.78E+04	4.28E+02
m	17	666.48	2.56E+03	84.71			2.56E+03	8.47E+01
M	18	692.59	1.18E+03	217.00			1.18E+03	2.17E+02
m	19	695.28	2.39E+03	352.97			2.39E+03	3.53E+02
F	20	723.48	1.37E+04	346.29			1.37E+04	3.46E+02
F	21	757.01	2.81E+03	73.01			2.81E+03	7.30E+01
	22	779.11	3.28E+01	111.18			3.28E+01	1.11E+02
F	23	815.45	2.67E+02	47.11			2.67E+02	4.71E+01
F	24	845.70	4.69E+02	215.74			4.69E+02	2.16E+02
F	25	873.42	7.06E+03	253.47			7.06E+03	2.53E+02
F	26	892.88	3.42E+02	201.99			3.42E+02	2.02E+02

Analysis Report for 24-2338 VSM-8.0M-S3-CST-A Q3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	27	904.16	5.93E+02	48.18			5.93E+02	4.82E+01
F	28	964.42	3.88E+02	43.11	7.85E-01	3.45E-01	3.88E+02	4.31E+01
M	29	990.07	8.56E+01	37.72			8.56E+01	3.77E+01
m	30	996.52	6.11E+03	227.35			6.11E+03	2.27E+02
F	31	1005.00	1.03E+04	262.63			1.03E+04	2.63E+02
F	32	1086.22	3.16E+02	35.00			3.16E+02	3.50E+01
F	33	1112.11	2.94E+02	35.14			2.94E+02	3.51E+01
F	34	1173.51	1.17E+04	242.14			1.17E+04	2.42E+02
F	35	1246.54	3.72E+02	27.50			3.72E+02	2.75E+01
F	36	1274.73	1.67E+04	249.72			1.67E+04	2.50E+02
F	37	1332.81	1.10E+04	214.63			1.10E+04	2.15E+02
F	38	1397.51	2.32E+02	67.22			2.32E+02	6.72E+01
F	39	1408.48	3.78E+02	22.40	3.17E+00	1.15E+00	3.75E+02	2.24E+01
F	40	1494.41	3.21E+02	19.21			3.21E+02	1.92E+01
F	41	1596.84	7.62E+02	73.57			7.62E+02	7.36E+01
F	42	1719.77	4.81E+01	10.23			4.81E+01	1.02E+01
F	43	2506.24	6.76E+01	9.66			6.76E+01	9.66E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
NA-22	0.99	511.00	*	179.91	2.55E-03	2.02E-04	1.000
		1274.54	*	99.94	1.85E-02	2.94E-04	0.924
SC-47	0.87	159.38	*	68.30	9.80E-04	8.07E-04	free
CO-60	0.98	1173.23	*	99.85	1.18E-02	2.52E-04	0.962
		1332.49	*	99.98	1.20E-02	2.44E-04	0.962
GA-66	0.55	511.00	*	114.00	1.03E-01	1.10E-02	miss
		833.53		5.90			
		1039.22		37.00			
		1333.11	*	1.17	2.54E+01	1.43E+00	miss
		1918.33		1.99			
		2189.62		5.30			
		2751.83		22.70			

Analysis Report for 24-2338 VSM-8.0M-S3-CST-A Q3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
ZR-95	0.95	724.19	*	44.27	2.27E-02	5.97E-04	free
		756.72	*	54.38	3.90E-03	1.05E-04	free
Te-129m	0.94	695.88	*	3.00	5.82E-02	1.45E-02	free
CS-137	0.99	661.66	*	85.10	2.22E-02	3.65E-04	miss
EU-152	0.44	121.78		28.53			
		344.28	*	26.59	1.52E-03	2.39E-04	0.971
		778.90	*	12.93	1.99E-04	6.75E-04	0.959
		867.37	@	4.23			
		964.08	*@	14.51	2.38E-03	2.65E-04	0.966
		1085.87	*	10.11	2.87E-03	3.18E-04	1.009
		1112.07	*	13.67	2.06E-03	2.46E-04	0.981
		1408.01	*	20.87	2.01E-03	1.21E-04	0.974
EU-154	0.99	42.70	*	20.45	3.48E-02	1.45E-02	miss
		123.07	*	40.40	4.96E-02	1.52E-03	0.956
		247.93	*	6.89	5.15E-02	5.90E-03	0.943
		591.76	*	4.95	4.72E-02	1.38E-03	0.932
		692.42	*	1.78	4.92E-02	9.05E-03	0.948
		723.30	*	20.06	5.16E-02	1.43E-03	0.951
		756.80	*	4.52	4.97E-02	1.40E-03	0.928
		873.18	*	12.08	5.00E-02	1.89E-03	0.944
		996.29	*	10.48	5.19E-02	2.01E-03	0.986
		1004.76	*	18.01	5.15E-02	1.44E-03	0.977
		1246.12	*	0.86	4.69E-02	3.52E-03	0.936
		1274.43	*	34.80	5.02E-02	9.12E-04	0.979
		1494.05	*	0.70	5.15E-02	3.15E-03	1.013
		1596.48	*	1.80	4.35E-02	4.24E-03	1.155
EU-155	0.98	43.00	*	18.12	3.93E-02	1.63E-02	1.000
		60.01	*	1.17	1.10E+01	3.31E-01	0.999
		86.55	*	30.70	9.43E-03	3.00E-03	free
		105.31	*	21.10	8.92E-03	3.36E-03	1.000
W-185	0.31	59.72	*	0.01	1.10E+03	3.26E+01	miss
		61.14		0.02			
		69.20		0.01			
		125.36	*	0.02	1.00E+00	5.43E-01	miss
AU-199	0.72	158.38	*	40.00	1.72E-03	1.41E-03	free
		208.20		8.72			
NP-237	0.97	86.48	*	12.20	2.37E-02	7.57E-03	1.000
AM-241	1.00	59.54	*	35.90	3.57E-01	6.92E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

Analysis Report for 24-2338 VSM-8.0M-S3-CST-A Q3

ASR 2094 Branch

INTERFERENCE CORRECTED REPORT

	Nuclide Name		Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	NA-22		0.998	1.20E-04	3.66E-04	
?	SC-47		0.870	9.80E-04	8.07E-04	
	CO-60		0.986	1.19E-02	1.75E-04	
X	CU-64		0.927			
	GA-66		0.559	9.84E-02	1.69E-02	
	ZR-95		0.957	6.13E-06	1.15E-04	
X	RU-106		0.893			
	Te-129m		0.945	5.82E-02	1.45E-02	
	CS-137		0.997	2.22E-02	3.65E-04	
	EU-152	@	0.447	1.98E-03	9.37E-05	
	EU-154		0.994	4.99E-02	5.89E-04	
	EU-155		0.988	7.87E-03	3.29E-03	
	W-185		0.316	1.00E+00	5.42E-01	
?	AU-199		0.726	1.72E-03	1.41E-03	
	NP-237		0.976	3.93E-03	1.12E-02	
	AM-241		1.000	3.57E-01	5.66E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2338 VSM-8.0M-S3-CST-A Q3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 9:53:16AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	10	414.91	1.10094E+00	17.95	Tol.	RH-102M
F	11	444.39	2.03451E-01	17.11	Tol.	SB-127 ND-149
F	12	499.30	6.71557E-02	40.39		
F	14	582.09	3.73880E-01	34.47		
m	17	666.48	8.74388E-01	3.31		
F	23	815.45	9.11581E-02	17.65	Sum	
F	24	845.70	1.60206E-01	45.99	Sum	
F	26	892.88	1.16625E-01	59.15		
F	27	904.16	2.02440E-01	8.13	Sum	
M	29	990.07	2.92211E-02	44.08		
F	38	1397.51	7.92489E-02	28.97	Sum	
F	42	1719.77	1.64370E-02	21.26	Sum	
F	43	2506.24	2.30735E-02	14.30	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)

Analysis Report for 24-2338 VSM-8.0M-S3-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.60		10.44	4.17E-03	4.17E-03	1.19E-03	2.08E-03
+	NA-22	511.00	*	179.91	3.71E-04	3.39E-04	2.55E-03	1.85E-04
		1274.54	*	99.94	3.39E-04		1.85E-02	1.68E-04
	NA-24	1368.63		99.99	1.11E-03	1.11E-03	-1.44E-03	5.46E-04
>		2754.01		99.87	0.00E+00		0.00E+00	0.00E+00
	AL-26	1129.67		2.50	9.77E-03	5.64E-05	1.11E-02	4.83E-03
		1808.65		99.76	5.64E-05		4.98E-05	2.65E-05
	K-40	1460.82		10.66	1.14E-03	1.14E-03	1.79E-03	5.57E-04
	K-42	312.60		0.34	1.87E+00	6.44E-03	1.09E+00	9.33E-01
		1524.60		18.08	6.44E-03		8.86E-03	3.12E-03
	Sc-44	1157.02		99.90	5.04E-01	5.04E-01	2.26E-01	2.49E-01
		1499.46		0.91	3.57E+01		1.02E+01	1.75E+01
	Sc-44m	271.24		86.74	1.11E-03	1.11E-03	-7.23E-04	5.53E-04
		1001.83		1.20	8.84E-02		1.45E+00	4.40E-02
		1126.06		1.20	3.75E-02		1.88E-02	1.86E-02
		1157.00		1.20	3.28E-02		1.47E-02	1.62E-02
	TI-44	67.87		93.00	1.96E-03	1.46E-03	-5.72E-04	9.79E-04
		78.32		96.40	1.46E-03		-8.31E-04	7.30E-04
	SC-46	889.28		99.98	3.16E-04	2.58E-04	5.76E-05	1.57E-04
		1120.55		99.99	2.58E-04		-2.53E-04	1.27E-04
	CA-47	489.23		5.90	1.00E-02	3.18E-04	-6.48E-03	4.99E-03
		807.86		5.90	7.24E-03		3.81E-03	3.59E-03
		1297.09		67.00	3.18E-04		-1.17E-04	1.56E-04
+	SC-47	159.38	*	68.30	2.66E-03	2.66E-03	9.80E-04	1.33E-03
	SC-48	175.36		7.47	1.94E-02	2.97E-04	-1.79E-03	9.67E-03
		983.53		100.00	5.54E-04		3.74E-04	2.74E-04
		1037.52		97.50	5.52E-04		-3.89E-04	2.73E-04
		1312.12		100.00	2.97E-04		-6.90E-05	1.46E-04
	V-48	944.13		7.87	4.09E-03	1.69E-04	-5.43E-03	2.03E-03
		983.53		99.98	3.09E-04		2.09E-04	1.53E-04
		1312.11		98.20	1.69E-04		-3.92E-05	8.27E-05
		2240.40		2.33	2.40E-03		1.80E-04	1.10E-03
	CR-51	320.08		9.91	5.40E-03	5.40E-03	-1.94E-03	2.69E-03
	Fe-52	168.69		99.20	3.06E-02	3.06E-02	1.85E-03	1.53E-02
		377.75		1.64	1.19E+00		3.11E-01	5.92E-01
	Mn-52	744.23		90.00	4.98E-04	1.56E-04	-3.38E-04	2.48E-04
		848.18		3.32	1.26E-02		6.58E-03	6.28E-03
		935.54		94.50	4.13E-04		-3.66E-04	2.05E-04
		1246.28		4.21	6.41E-03		5.88E-03	3.16E-03
		1333.65		5.07	1.42E-02		3.11E-01	7.09E-03
		1434.09		100.00	1.56E-04		-8.89E-05	7.59E-05
	MN-54	834.85		99.98	3.00E-04	3.00E-04	3.69E-04	1.49E-04
	Co-55	411.50		1.07	2.51E-01	2.23E-03	-1.91E-01	1.25E-01
		477.20		20.20	1.22E-02		-2.30E-03	6.08E-03
		803.70		1.87	9.65E-02		-8.16E-02	4.79E-02
		931.10		75.00	2.23E-03		-1.74E-03	1.11E-03
		1316.60		7.10	1.22E-02		-2.22E-03	5.98E-03
		1370.00		2.90	2.72E-02		-1.32E-02	1.33E-02
		1408.50		16.90	5.46E-03		1.68E-02	2.68E-03
	Co-56	846.77		99.94	3.31E-04	2.97E-04	3.12E-04	1.64E-04
		977.37		1.42	2.13E-02		-1.32E-02	1.05E-02
		1037.84		14.05	2.04E-03		-2.20E-03	1.01E-03
		1175.10		2.25	2.60E-02		5.61E-01	1.30E-02

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Co-56	1238.29		66.46	2.97E-04	2.97E-04	2.04E-04	1.46E-04
		1360.21		4.28	3.50E-03		1.78E-03	1.71E-03
		1771.36		15.41	4.61E-04		-9.17E-05	2.19E-04
		2015.20		3.02	1.58E-03		7.13E-04	7.24E-04
		2034.79		7.77	5.55E-04		3.73E-04	2.51E-04
>		2598.50		16.97	0.00E+00		0.00E+00	0.00E+00
	MN-56	846.76		98.85	4.89E+01	3.39E+01	4.62E+01	2.43E+01
		1810.73		26.90	3.39E+01		2.16E+01	1.59E+01
		2113.09		14.20	4.88E+01		-7.60E+00	2.22E+01
	Ni-56	158.38		98.80	9.57E-04	4.45E-04	4.73E-04	4.78E-04
		269.50		36.50	1.93E-03		1.20E-03	9.65E-04
		480.44		36.50	1.43E-03		-2.87E-04	7.14E-04
		749.50		49.50	8.25E-04		9.05E-04	4.10E-04
		811.85		86.00	4.45E-04		-7.79E-05	2.21E-04
		1561.80		14.00	8.02E-04		1.47E-04	3.87E-04
	CO-57	122.06		85.60	1.13E-03	1.13E-03	-1.44E-05	5.64E-04
		136.47		10.68	7.91E-03		4.18E-03	3.95E-03
	NI-57	127.16		16.70	1.28E-02	3.82E-04	3.23E-03	6.39E-03
		1377.63		81.70	3.82E-04		1.40E-04	1.87E-04
		1757.55		5.75	2.70E-03		6.27E-04	1.28E-03
		1919.52		12.30	8.75E-04		1.83E-04	4.02E-04
	CO-58	810.76		99.45	3.21E-04	3.21E-04	-1.82E-05	1.60E-04
		863.96		0.69	4.51E-02		3.98E-02	2.24E-02
		1674.73		0.52	1.39E-02		1.22E-02	6.65E-03
	FE-59	142.65		1.02	8.23E-02	3.83E-04	-2.99E-02	4.11E-02
		192.34		3.08	2.34E-02		5.74E-03	1.17E-02
		1099.24		56.50	4.42E-04		2.39E-04	2.19E-04
		1291.59		43.20	3.83E-04		-3.99E-04	1.88E-04
+	CO-60	1173.23	*	99.85	3.76E-04	2.72E-04	1.18E-02	1.87E-04
		1332.49	*	99.98	2.72E-04		1.20E-02	1.35E-04
	CU-64	511.00	*	35.00	2.15E-02	2.15E-02	1.48E-01	1.07E-02
		1345.77		0.47	3.38E-01		-8.41E-02	1.66E-01
	NI-65	366.27		4.81	2.15E+03	9.17E+01	1.71E+03	1.07E+03
		1115.53		15.43	3.37E+02		6.23E+02	1.67E+02
		1481.84		23.59	9.17E+01		4.86E+01	4.45E+01
	ZN-65	1115.54		50.04	4.99E-04	4.99E-04	9.24E-04	2.47E-04
+	GA-66	511.00	*	114.00	1.50E-02	1.50E-02	1.03E-01	7.49E-03
		833.53		5.90	1.29E-01		-2.06E-01	6.41E-02
		1039.22		37.00	1.86E-02		2.14E-03	9.19E-03
		1333.11	*	1.17	5.75E-01		2.54E+01	2.84E-01
		1918.33		1.99	5.96E-02		3.57E-02	2.75E-02
		2189.62		5.30	2.21E-02		2.60E-02	1.01E-02
>		2751.83		22.70	0.00E+00		0.00E+00	0.00E+00
	CU-67	91.27		7.00	2.59E-02	2.34E-03	6.95E-03	1.29E-02
		93.31		16.10	1.09E-02		1.21E-02	5.47E-03
		184.58		48.70	2.34E-03		-4.81E-04	1.17E-03
		300.22		0.80	1.10E-01		-1.23E-02	5.47E-02
		393.53		0.22	3.45E-01		-6.61E-02	1.72E-01
	GA-67	91.26		3.11	5.40E-02	4.14E-03	1.45E-02	2.70E-02
		93.31		38.81	4.14E-03		4.58E-03	2.07E-03
		184.58		21.41	4.80E-03		-9.86E-04	2.40E-03
		208.95		2.46	4.36E-02		7.53E-03	2.18E-02
		300.22		16.64	4.84E-03		-5.44E-04	2.41E-03

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	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	GA-67	393.53	4.56	1.36E-02	4.14E-03	-2.60E-03	6.77E-03
	ZN-69m	438.63	94.85	4.42E-03	4.42E-03	-2.26E-03	2.20E-03
	GA-72	629.97	26.13	1.29E-02	1.69E-03	4.48E-04	6.41E-03
		834.13	95.45	2.89E-03		-3.96E-03	1.44E-03
		894.33	10.14	2.82E-02		2.86E-02	1.40E-02
		1050.79	6.99	3.71E-02		3.11E-02	1.84E-02
		2201.59	26.87	1.69E-03		1.42E-03	7.76E-04
		2491.03	7.73	3.78E-03		2.52E-03	1.63E-03
		2507.72	13.33	6.10E-03		1.01E-02	2.89E-03
	Zn-72	144.70	82.78	1.90E-03	1.90E-03	-6.01E-05	9.47E-04
		191.50	9.35	1.40E-02		1.52E-03	6.99E-03
	SE-75	121.12	17.20	5.95E-03	1.04E-03	-7.39E-05	2.97E-03
		136.00	58.50	1.53E-03		1.35E-03	7.62E-04
		264.66	58.90	1.04E-03		-2.73E-04	5.20E-04
		279.54	25.02	2.34E-03		2.13E-03	1.17E-03
		400.66	11.41	3.07E-03		9.77E-05	1.53E-03
	BR-83	529.59	1.30	1.33E+04	1.33E+04	-3.44E+03	6.63E+03
@	BR-84	604.80	1.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		736.50	1.29	1.00E+20		1.00E+20	1.00E+20
@		802.20	6.00	1.00E+20		1.00E+20	1.00E+20
@		881.60	42.00	1.00E+20		1.00E+20	1.00E+20
@		987.30	0.79	1.00E+20		1.00E+20	1.00E+20
@		1015.90	6.20	1.00E+20		1.00E+20	1.00E+20
@		1213.30	2.60	1.00E+20		1.00E+20	1.00E+20
@		1463.80	2.00	1.00E+20		1.00E+20	1.00E+20
@		1741.20	1.60	1.00E+20		1.00E+20	1.00E+20
@		1877.50	1.12	1.00E+20		1.00E+20	1.00E+20
@		1897.60	14.60	1.00E+20		1.00E+20	1.00E+20
@		2029.60	2.10	1.00E+20		1.00E+20	1.00E+20
@		2200.70	1.16	1.00E+20		1.00E+20	1.00E+20
@		2484.10	6.70	1.00E+20		1.00E+20	1.00E+20
>@		2824.10	1.12	0.00E+00		0.00E+00	0.00E+00
	KR-85m	151.20	75.20	1.01E+00	1.01E+00	-6.92E-01	5.06E-01
		304.87	14.00	3.63E+00		-2.14E+00	1.81E+00
	Y-87	388.53	82.20	8.31E-04	7.06E-04	6.51E-05	4.14E-04
		484.80	89.80	7.06E-04		3.70E-04	3.52E-04
	KR-88	165.98	3.10	1.42E+03	6.20E+00	2.08E+03	7.07E+02
		196.30	26.00	1.44E+02		8.17E+01	7.21E+01
		362.23	2.25	1.14E+03		-9.06E+02	5.68E+02
		471.80	0.73	3.29E+03		-1.68E+03	1.64E+03
		834.83	13.00	1.29E+02		1.59E+02	6.41E+01
		985.78	1.31	1.21E+03		2.57E+02	5.99E+02
		1141.33	1.28	9.92E+02		1.20E+03	4.90E+02
		1179.51	1.00	2.88E+03		-1.39E+03	1.43E+03
		1250.67	1.12	9.88E+02		7.75E+02	4.87E+02
		1369.50	1.48	5.22E+02		-3.16E+02	2.55E+02
		1518.39	2.15	2.55E+02		2.76E+02	1.23E+02
		1529.77	10.90	5.09E+01		5.47E+01	2.46E+01
		2029.84	4.53	5.19E+01		3.18E+01	2.35E+01
		2035.41	3.74	6.15E+01		3.52E+01	2.78E+01
		2195.84	13.20	1.94E+01		-1.18E+01	8.82E+00
		2231.77	3.39	7.60E+01		6.59E+00	3.49E+01
		2352.08	0.73	2.74E+02		2.20E+02	1.21E+02

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	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	KR-88	2392.11	34.60	6.20E+00	6.20E+00	2.08E+00	2.76E+00
	RB-88	898.03	14.40	1.19E+02	1.26E+01	-3.08E+01	5.91E+01
		1382.45	0.78	9.55E+02		3.56E+02	4.67E+02
		1836.00	22.81	1.26E+01		-1.75E+01	5.89E+00
>		2677.89	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-88	898.04	93.70	3.40E-04	5.40E-05	-8.81E-05	1.69E-04
		1836.06	99.20	5.40E-05		-5.38E-05	2.51E-05
@	RB-89	272.42	1.53	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		657.77	10.80	1.00E+20		1.00E+20	1.00E+20
@		947.73	10.00	1.00E+20		1.00E+20	1.00E+20
@		1031.92	63.00	1.00E+20		1.00E+20	1.00E+20
@		1248.14	46.00	1.00E+20		1.00E+20	1.00E+20
@		1538.07	2.77	1.00E+20		1.00E+20	1.00E+20
@		2007.50	2.58	1.00E+20		1.00E+20	1.00E+20
@		2195.92	14.50	1.00E+20		1.00E+20	1.00E+20
>@		2570.20	10.70	0.00E+00		0.00E+00	0.00E+00
>@		2707.26	2.20	0.00E+00		0.00E+00	0.00E+00
	SR-89	908.96	0.01	3.21E+00	3.21E+00	-3.81E+00	1.59E+00
	Sr-91	652.90	11.35	7.43E-02	1.95E-02	-6.13E-03	3.70E-02
		749.80	23.70	3.40E-02		1.03E-02	1.69E-02
		925.80	3.85	1.84E-01		2.28E-01	9.11E-02
		1024.30	33.50	1.95E-02		-3.26E-03	9.67E-03
	Y-91	1204.77	0.26	7.26E-02	7.26E-02	5.25E-02	3.58E-02
	NB-92M	912.60	1.78	1.90E-02	3.30E-04	-1.96E-02	9.42E-03
		934.44	99.15	3.30E-04		4.16E-04	1.63E-04
		1847.50	0.85	6.87E-03		-5.82E-03	3.20E-03
	SR-92	241.56	2.93	2.81E+03	1.93E+01	3.25E+02	1.40E+03
		430.49	3.28	1.82E+03		2.93E+02	9.08E+02
		953.31	3.52	1.06E+03		-3.48E+02	5.27E+02
		1142.35	2.79	1.09E+03		1.85E+03	5.36E+02
		1383.93	90.00	1.93E+01		1.00E+01	9.42E+00
	MO-93M	114.04	0.68	1.23E+01	9.66E-03	8.66E+00	6.16E+00
		263.05	57.40	9.08E-02		3.46E-02	4.53E-02
		684.69	99.90	3.03E-02		-3.01E-02	1.51E-02
		1363.02	0.81	1.57E+00		1.69E+00	7.68E-01
		1477.14	99.10	9.66E-03		-9.70E-04	4.69E-03
@	SR-93	168.50	18.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		260.12	7.40	1.00E+20		1.00E+20	1.00E+20
@		346.49	3.28	1.00E+20		1.00E+20	1.00E+20
@		446.20	2.36	1.00E+20		1.00E+20	1.00E+20
@		590.24	68.00	1.00E+20		1.00E+20	1.00E+20
@		710.31	21.80	1.00E+20		1.00E+20	1.00E+20
@		875.73	24.50	1.00E+20		1.00E+20	1.00E+20
@		888.13	22.10	1.00E+20		1.00E+20	1.00E+20
@		1040.63	3.20	1.00E+20		1.00E+20	1.00E+20
@		1094.00	1.76	1.00E+20		1.00E+20	1.00E+20
@		1122.48	4.00	1.00E+20		1.00E+20	1.00E+20
@		1215.48	2.50	1.00E+20		1.00E+20	1.00E+20
@		1269.47	7.10	1.00E+20		1.00E+20	1.00E+20
@		1321.24	2.61	1.00E+20		1.00E+20	1.00E+20
@		1387.11	3.50	1.00E+20		1.00E+20	1.00E+20
@		1694.07	2.58	1.00E+20		1.00E+20	1.00E+20
@		1699.06	3.30	1.00E+20		1.00E+20	1.00E+20

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	SR-93	2543.84		3.03	1.00E+20	1.00E+20	1.00E+20	1.00E+20
>@		2688.65		2.13	0.00E+00		0.00E+00	0.00E+00
	Y-93	266.90		7.40	1.60E-01	6.13E-02	-1.71E-02	8.00E-02
		947.10		2.10	2.79E-01		-1.01E-01	1.39E-01
		1917.80		1.57	6.13E-02		1.37E-02	2.82E-02
	NB-94	702.65		99.81	3.49E-04	3.49E-04	-2.97E-04	1.74E-04
		871.09		99.89	4.49E-04		1.25E-04	2.24E-04
@	Y-94	381.60		2.02	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		550.90		4.90	1.00E+20		1.00E+20	1.00E+20
@		752.60		1.40	1.00E+20		1.00E+20	1.00E+20
@		918.74		56.00	1.00E+20		1.00E+20	1.00E+20
@		1138.90		6.00	1.00E+20		1.00E+20	1.00E+20
@		1671.40		2.50	1.00E+20		1.00E+20	1.00E+20
@		2140.60		0.95	1.00E+20		1.00E+20	1.00E+20
	NB-95	765.80		99.81	3.37E-04	3.37E-04	1.92E-04	1.67E-04
+	ZR-95	724.19	*	44.27	1.26E-03	7.58E-04	2.27E-02	6.28E-04
		756.72	*	54.38	7.58E-04		3.90E-03	3.77E-04
	NB-96	219.08		2.97	8.37E-02	1.26E-03	4.43E-02	4.18E-02
		241.38		3.50	6.62E-02		7.67E-03	3.30E-02
		350.05		1.54	1.21E-01		-2.79E-03	6.02E-02
		352.56		0.83	2.23E-01		-1.40E-01	1.11E-01
		371.81		2.62	6.84E-02		4.95E-02	3.41E-02
		460.04		26.62	6.10E-03		1.58E-03	3.04E-03
		480.71		5.84	2.71E-02		-3.39E-03	1.35E-02
		568.87		58.00	2.44E-03		-1.97E-03	1.22E-03
		719.56		6.85	2.79E-02		2.67E-03	1.39E-02
		721.63		1.02	1.87E-01		-5.31E-02	9.33E-02
		778.22		96.45	1.26E-03		-2.38E-05	6.26E-04
		810.33		11.09	1.05E-02		-6.76E-05	5.19E-03
		812.58		2.95	3.94E-02		2.35E-02	1.96E-02
		847.69		1.14	1.02E-01		2.47E-01	5.05E-02
		849.93		20.45	5.64E-03		-9.53E-04	2.80E-03
		1091.35		48.50	1.95E-03		-1.83E-03	9.65E-04
		1200.23		19.97	3.53E-03		-2.32E-03	1.74E-03
		1441.13		0.44	9.38E-02		-9.19E-02	4.56E-02
		1497.81		3.28	1.56E-02		4.33E-02	7.61E-03
	Nb-97	657.94		98.23	4.00E-03	4.00E-03	1.15E-04	1.99E-03
		1024.40		1.09	1.55E-01		-9.72E-02	7.67E-02
	ZR-97	254.17		1.15	3.27E-01	2.25E-03	-2.55E-02	1.63E-01
		355.40		2.09	1.57E-01		9.42E-02	7.82E-02
		507.64		5.03	6.20E-02		-2.13E-02	3.09E-02
		743.36		93.09	2.25E-03		1.51E-03	1.12E-03
		1147.97		2.62	5.64E-02		-4.39E-02	2.79E-02
	MO-99	181.07		6.14	1.94E-02	4.49E-03	1.43E-02	9.69E-03
		366.42		1.20	6.39E-02		5.10E-02	3.19E-02
		739.50		12.26	4.49E-03		3.47E-03	2.23E-03
		777.92		4.30	1.21E-02		2.10E-03	6.00E-03
	TC-99M	140.51		90.80	1.45E-03	1.45E-03	-7.15E-05	7.23E-04
	RH-101	127.23		68.00	1.39E-03	9.44E-04	3.50E-04	6.92E-04
		198.01		73.00	9.44E-04		-5.48E-04	4.71E-04
		325.23		11.80	3.39E-03		-5.12E-04	1.69E-03
	RH-101M	306.86		81.00	8.71E-04	8.71E-04	1.01E-03	4.35E-04
		545.12		4.30	1.22E-02		-4.51E-03	6.09E-03

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Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
RH-102M	415.25		2.10	2.49E-02	4.92E-04	6.83E-02	1.24E-02
	418.52		9.40	5.46E-03		-1.23E-05	2.72E-03
	420.40		3.20	1.56E-02		7.97E-03	7.76E-03
	475.06		95.00	4.92E-04		4.24E-04	2.45E-04
	628.05		8.30	4.81E-03		4.00E-03	2.39E-03
	631.29		56.00	6.82E-04		-6.50E-04	3.39E-04
	692.40		1.60	2.73E-02		-5.76E-04	1.36E-02
	695.60		2.90	1.48E-02		-2.85E-03	7.37E-03
	697.49		44.00	9.65E-04		1.16E-04	4.80E-04
	766.84		34.00	1.03E-03		-7.25E-05	5.14E-04
	1046.59		34.00	8.51E-04		-7.89E-05	4.22E-04
	1103.16		4.60	5.44E-03		-2.50E-03	2.69E-03
	1112.84		19.00	1.43E-03		1.36E-03	7.08E-04
RU-103	497.08		91.00	4.79E-04	4.79E-04	-5.56E-04	2.38E-04
	610.33		5.76	6.52E-03		4.76E-04	3.24E-03
RH-105	306.31		4.66	2.69E-02	7.24E-03	1.02E-02	1.34E-02
	319.23		16.90	7.24E-03		-1.43E-03	3.61E-03
AG-106M	221.70		6.60	1.17E-02	6.37E-04	-2.90E-03	5.83E-03
	228.63		2.10	3.58E-02		4.04E-03	1.79E-02
	328.46		1.14	5.13E-02		-3.85E-02	2.56E-02
	391.04		3.68	1.47E-02		-1.00E-02	7.32E-03
	406.18		13.40	3.93E-03		-4.21E-03	1.96E-03
	429.65		13.20	3.98E-03		3.70E-03	1.98E-03
	450.98		28.20	1.82E-03		1.67E-03	9.05E-04
	511.85		88.00	6.37E-04		6.36E-03	3.17E-04
	601.17		1.61	2.64E-02		-1.33E-02	1.31E-02
	616.17		21.60	1.94E-03		-8.22E-04	9.67E-04
	646.03		1.46	2.79E-02		1.06E-02	1.39E-02
	680.42		2.18	1.83E-02		2.62E-02	9.12E-03
	703.11		4.47	8.71E-03		-4.49E-03	4.33E-03
	717.34		28.90	1.61E-03		-2.91E-05	8.02E-04
	748.36		20.60	1.87E-03		2.19E-03	9.31E-04
	793.17		5.90	6.29E-03		1.90E-03	3.12E-03
	804.28		12.40	2.94E-03		3.97E-03	1.46E-03
	808.36		4.00	8.99E-03		3.08E-03	4.46E-03
	824.69		15.30	2.29E-03		-3.24E-03	1.14E-03
	847.15		4.40	8.21E-03		1.49E-02	4.08E-03
	1019.72		1.04	3.03E-02		-1.39E-02	1.50E-02
	1045.83		29.60	1.06E-03		-3.97E-04	5.23E-04
	1128.02		11.80	2.40E-03		2.99E-03	1.19E-03
	1199.39		11.20	1.96E-03		3.37E-05	9.67E-04
	1222.88		7.00	2.90E-03		7.78E-04	1.43E-03
	1394.35		1.49	1.19E-02		2.29E-02	5.82E-03
	1527.65		16.30	6.98E-04		8.12E-04	3.38E-04
	1572.35		6.60	1.54E-03		5.51E-04	7.43E-04
	1722.76		1.40	6.96E-03		1.34E-02	3.34E-03
	1839.05		2.00	3.05E-03		-2.02E-03	1.42E-03
RH-106	621.93		9.93	3.76E-03	3.76E-03	4.03E-04	1.87E-03
	873.49		0.44	1.06E-01		1.37E+00	5.25E-02
	1050.41		1.56	1.80E-02		1.57E-02	8.93E-03
RU-106	511.86	*	20.40	3.28E-03	3.28E-03	2.25E-02	1.64E-03
AG-108M	79.13		6.60	2.03E-02	4.39E-04	-3.40E-02	1.01E-02
	433.94		90.50	5.38E-04		7.58E-05	2.68E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-108M	614.28	89.80	4.39E-04	4.39E-04	2.34E-04	2.18E-04
	722.91	90.80	6.13E-04		1.19E-02	3.05E-04
CD-109	88.03	3.64	3.19E-02	3.19E-02	7.65E-02	1.60E-02
AG-110M	446.81	3.70	1.36E-02	4.34E-04	-7.79E-03	6.78E-03
	620.35	2.73	1.49E-02		-9.86E-04	7.40E-03
	657.76	95.61	7.13E-04		-4.11E-05	3.56E-04
	677.62	10.70	3.65E-03		-5.31E-05	1.82E-03
	687.01	6.53	5.95E-03		-1.05E-03	2.96E-03
	706.68	16.69	2.24E-03		1.41E-03	1.11E-03
	744.28	4.77	7.73E-03		-5.24E-03	3.84E-03
	763.94	22.60	1.63E-03		1.44E-04	8.10E-04
	818.02	7.43	4.71E-03		1.56E-03	2.34E-03
	884.68	75.00	4.34E-04		4.59E-05	2.15E-04
	937.48	35.00	8.99E-04		5.53E-04	4.46E-04
	1384.29	25.10	5.56E-04		-9.63E-05	2.72E-04
	1475.78	4.08	2.75E-03		5.93E-04	1.34E-03
	1505.03	13.33	7.95E-04		8.97E-05	3.85E-04
	1562.29	1.22	6.61E-03		5.25E-03	3.19E-03
AG-111	245.40	1.11	6.75E-02	9.04E-03	-1.12E-02	3.37E-02
	342.13	6.68	9.04E-03		4.29E-03	4.51E-03
AG-112	606.82	3.10	5.07E-02	3.60E-03	-1.60E-02	2.52E-02
	617.52	43.00	3.60E-03		9.55E-04	1.79E-03
	692.82	1.19	1.42E-01		-2.16E-02	7.05E-02
	694.87	2.90	5.82E-02		3.79E-01	2.90E-02
	851.28	1.02	1.29E-01		8.18E-02	6.43E-02
	1312.36	1.11	5.74E-02		7.14E-03	2.82E-02
	1387.68	5.30	1.05E-02		-2.50E-03	5.14E-03
	1613.66	2.80	1.28E-02		8.41E-03	6.14E-03
	1798.50	0.89	2.55E-02		-4.56E-02	1.19E-02
	2106.31	2.40	7.77E-03		2.26E-03	3.53E-03
	2506.70	1.06	3.60E-02		7.09E-02	1.71E-02
CD-113M	263.70	0.03	2.17E+00	2.17E+00	-9.84E-02	1.08E+00
SN-113	255.13	2.11	2.85E-02	7.20E-04	-8.17E-04	1.42E-02
	391.70	64.97	7.20E-04		8.92E-04	3.59E-04
IN-114M	190.27	15.56	4.47E-03	4.47E-03	9.12E-04	2.23E-03
	558.43	4.40	9.40E-03		1.11E-02	4.68E-03
	725.24	4.40	1.24E-02		-3.43E-03	6.20E-03
CD-115	260.90	1.94	5.36E-02	1.98E-03	9.28E-03	2.68E-02
	336.24	46.02	1.98E-03		3.52E-03	9.89E-04
	527.90	27.45	2.61E-03		4.35E-04	1.30E-03
CD-115M	933.84	2.00	1.49E-02	1.49E-02	-8.32E-03	7.38E-03
	1290.59	0.90	1.85E-02		1.41E-02	9.11E-03
IN-115M	336.24	45.90	1.07E+00	1.07E+00	1.90E+00	5.35E-01
IN-116M	138.29	3.70	1.46E+13	1.20E+11	2.06E+12	7.30E+12
	416.90	27.20	1.07E+12		3.89E+12	5.35E+11
	818.68	12.13	1.66E+12		1.55E+12	8.25E+11
	1097.28	58.50	2.60E+11		-3.33E+10	1.29E+11
	1293.56	84.80	1.20E+11		1.52E+11	5.91E+10
	1507.59	9.92	6.19E+11		4.70E+11	3.00E+11
	2112.29	15.09	1.89E+11		7.43E+10	8.63E+10
SB-125	176.31	6.84	1.04E-02	1.47E-03	6.51E-03	5.21E-03
	380.45	1.52	3.09E-02		-1.81E-02	1.54E-02
	427.87	29.60	1.47E-03		-1.63E-03	7.35E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SB-125	463.36	10.49	4.14E-03	1.47E-03	1.79E-04	2.06E-03
	600.60	17.65	2.07E-03		1.33E-03	1.03E-03
	606.71	4.98	7.31E-03		5.05E-04	3.64E-03
	635.95	11.22	3.12E-03		-1.90E-03	1.55E-03
	671.44	1.79	2.11E-02		1.29E-02	1.05E-02
SN-125	332.10	1.40	4.53E-02	2.59E-03	-3.01E-02	2.26E-02
	469.85	1.50	3.51E-02		-8.54E-03	1.75E-02
	800.28	1.10	3.40E-02		-4.87E-03	1.69E-02
	822.48	4.30	8.42E-03		2.31E-03	4.18E-03
	915.55	4.10	8.27E-03		-4.69E-03	4.10E-03
	1067.10	10.00	3.03E-03		3.32E-03	1.50E-03
	1087.70	1.20	2.63E-02		3.68E-02	1.30E-02
	1089.10	4.60	6.34E-03		3.05E-04	3.14E-03
	2002.10	1.90	2.59E-03		-1.17E-03	1.18E-03
SB-127	61.10	1.43	2.45E-01	1.29E-03	6.62E-02	1.23E-01
	252.40	8.50	1.04E-02		-2.65E-03	5.17E-03
	290.80	2.02	3.94E-02		1.34E-02	1.96E-02
	412.10	3.80	1.73E-02		-1.89E-02	8.62E-03
	445.10	4.30	1.51E-02		1.73E-02	7.55E-03
	473.00	25.80	2.33E-03		-3.60E-03	1.16E-03
	543.30	2.90	1.84E-02		4.09E-04	9.16E-03
	603.50	4.50	1.18E-02		-9.75E-03	5.85E-03
	685.70	36.80	1.29E-03		-2.27E-04	6.39E-04
	698.50	3.64	1.45E-02		-5.82E-03	7.24E-03
	722.20	1.88	3.82E-02		7.01E-01	1.90E-02
	783.70	15.10	3.02E-03		2.53E-03	1.50E-03
SN-127	119.70	2.20	1.02E+05	1.54E+03	2.07E+04	5.11E+04
	262.50	2.30	5.93E+04		8.98E+03	2.96E+04
	266.20	2.10	6.43E+04		7.95E+03	3.21E+04
	284.30	2.70	4.79E+04		1.44E+04	2.39E+04
	438.20	6.10	1.71E+04		-3.88E+03	8.54E+03
	490.90	5.30	1.89E+04		1.51E+04	9.40E+03
	493.20	3.10	3.20E+04		2.39E+04	1.60E+04
	545.40	2.30	3.99E+04		-2.36E+03	1.98E+04
	583.30	3.20	2.76E+04		6.87E+03	1.38E+04
	805.90	8.20	8.85E+03		5.53E+03	4.40E+03
	823.10	11.00	6.44E+03		4.18E+03	3.20E+03
	824.70	6.10	1.15E+04		-1.63E+04	5.73E+03
	859.50	8.00	8.56E+03		1.71E+03	4.25E+03
	979.20	7.20	8.92E+03		-2.12E+03	4.42E+03
	1093.30	3.80	1.52E+04		-1.66E+03	7.54E+03
	1095.60	19.00	3.03E+03		5.94E+03	1.50E+03
	1114.30	38.00	1.54E+03		1.39E+03	7.62E+02
	1160.40	2.40	2.08E+04		-1.84E+04	1.03E+04
	2003.40	5.30	1.98E+03		1.68E+03	9.05E+02
SB-129	180.42	2.84	2.87E+01	7.48E-01	1.22E+01	1.43E+01
	359.20	2.39	2.36E+01		-6.81E-01	1.18E+01
	404.64	1.17	4.49E+01		9.51E+01	2.24E+01
	523.13	1.55	3.03E+01		1.52E+01	1.51E+01
	544.56	15.42	2.95E+00		-1.00E+00	1.47E+00
	633.74	2.53	1.60E+01		8.11E+00	7.97E+00
	654.28	2.97	1.35E+01		-1.77E+01	6.73E+00
	682.77	5.76	6.81E+00		-9.32E+00	3.39E+00

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	761.12		4.32	1.00E+01	7.48E-01	1.41E+00	5.00E+00
		773.37		2.82	1.33E+01		3.04E-01	6.60E+00
		786.36		1.07	3.49E+01		9.31E+00	1.74E+01
		787.16		1.74	2.15E+01		-1.19E+00	1.07E+01
		812.97		48.20	7.48E-01		4.62E-01	3.71E-01
		819.51		1.39	2.58E+01		-9.96E+00	1.28E+01
		876.65		2.75	1.82E+01		5.44E+00	9.07E+00
		914.96		23.30	1.42E+00		-5.59E-01	7.04E-01
		966.78		8.96	3.70E+00		6.95E+00	1.83E+00
		1030.65		15.13	2.04E+00		5.14E-01	1.01E+00
		1656.10		1.31	6.39E+00		-1.10E+00	3.05E+00
		1738.16		7.45	9.49E-01		8.59E-01	4.48E-01
	TE-129	459.60		7.70	5.86E-03	5.86E-03	-2.95E-03	2.92E-03
		487.39		1.42	3.14E-02		1.14E-02	1.56E-02
+	Te-129m	695.88	*	3.00	8.58E-03	8.58E-03	5.82E-02	4.26E-03
	I-131	80.18		2.62	6.13E-02	6.95E-04	-3.00E-02	3.06E-02
		284.30		6.12	1.07E-02		8.01E-03	5.36E-03
		364.49		81.50	6.95E-04		1.48E-04	3.46E-04
		636.99		7.16	5.73E-03		-1.31E-03	2.85E-03
		722.91		1.77	3.39E-02		6.58E-01	1.69E-02
	Te-131m	773.67		36.80	2.38E-03	2.38E-03	5.43E-05	1.18E-03
		793.75		13.40	6.65E-03		4.37E-03	3.30E-03
		852.21		19.90	4.08E-03		-2.41E-03	2.02E-03
		1125.46		11.00	5.97E-03		3.33E-03	2.96E-03
		1206.60		9.41	5.10E-03		-2.19E-03	2.51E-03
	I-132	262.90		1.28	6.78E-02	6.83E-04	3.00E-02	3.38E-02
		284.90		0.71	1.16E-01		1.35E-03	5.78E-02
		505.79		4.93	1.59E-02		-3.15E-03	7.93E-03
		522.65		16.00	4.13E-03		-2.58E-03	2.06E-03
		547.20		1.14	5.65E-02		5.40E-03	2.81E-02
		621.20		1.97	2.99E-02		-2.08E-03	1.49E-02
		630.19		13.30	4.34E-03		-1.77E-03	2.16E-03
		650.50		2.57	2.26E-02		-8.09E-03	1.13E-02
		667.71		98.70	8.40E-04		1.19E-04	4.18E-04
		669.80		4.60	1.36E-02		-2.03E-03	6.77E-03
		671.40		3.50	1.83E-02		7.63E-03	9.10E-03
		727.10		5.40	1.59E-02		4.79E-03	7.93E-03
		728.40		1.60	5.15E-02		1.69E-02	2.57E-02
		772.60		75.60	6.83E-04		1.88E-04	3.40E-04
		809.50		2.60	1.96E-02		8.38E-03	9.75E-03
		812.00		5.50	9.16E-03		9.25E-04	4.55E-03
		910.10		0.93	5.16E-02		-4.39E-02	2.56E-02
		954.55		17.60	2.59E-03		9.45E-04	1.28E-03
		1136.00		3.01	1.23E-02		-1.55E-02	6.07E-03
		1172.90		1.09	7.52E-02		1.58E+00	3.74E-02
		1290.80		1.13	2.31E-02		2.20E-03	1.14E-02
		1295.10		1.88	1.12E-02		5.52E-03	5.49E-03
		1297.90		0.89	2.10E-02		2.97E-02	1.03E-02
		1372.07		2.47	8.83E-03		4.15E-03	4.32E-03
		1398.57		7.01	3.43E-03		2.68E-03	1.68E-03
		1442.56		1.40	1.09E-02		7.71E-04	5.31E-03
	TE-132	49.72		15.00	3.75E-02	1.10E-03	8.23E-02	1.88E-02
		111.76		1.74	8.12E-02		-1.71E-02	4.06E-02

Analysis Report for 24-2338 VSM-8.0M-S3-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TE-132	116.30	1.96	7.03E-02	1.10E-03	4.26E-02	3.51E-02
		228.16	88.00	1.10E-03		-5.00E-04	5.48E-04
	BA-133	81.00	32.90	4.11E-03	8.02E-04	2.63E-05	2.05E-03
		276.40	7.16	8.08E-03		1.57E-03	4.03E-03
		302.85	18.34	2.92E-03		-1.71E-03	1.46E-03
		356.01	62.05	8.02E-04		2.23E-04	4.00E-04
		383.85	8.94	5.07E-03		-6.31E-03	2.53E-03
	I-133	529.87	87.00	2.03E-03	2.03E-03	8.19E-05	1.01E-03
		706.58	1.51	1.01E-01		6.33E-02	5.00E-02
		856.28	1.24	1.09E-01		8.85E-02	5.42E-02
		875.33	4.51	4.20E-02		1.78E-03	2.09E-02
		1236.44	1.51	5.09E-02		3.73E-02	2.51E-02
		1298.22	2.35	2.96E-02		5.76E-03	1.46E-02
@	TE-133	312.08	62.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		407.63	27.10	1.00E+20		1.00E+20	1.00E+20
@		410.40	0.94	1.00E+20		1.00E+20	1.00E+20
@		474.85	0.88	1.00E+20		1.00E+20	1.00E+20
@		719.71	8.90	1.00E+20		1.00E+20	1.00E+20
@		786.93	5.40	1.00E+20		1.00E+20	1.00E+20
@		844.36	3.31	1.00E+20		1.00E+20	1.00E+20
@		884.30	0.72	1.00E+20		1.00E+20	1.00E+20
@		930.71	3.81	1.00E+20		1.00E+20	1.00E+20
@		997.70	1.04	1.00E+20		1.00E+20	1.00E+20
@		1000.72	3.62	1.00E+20		1.00E+20	1.00E+20
@		1021.13	2.81	1.00E+20		1.00E+20	1.00E+20
@		1061.61	1.19	1.00E+20		1.00E+20	1.00E+20
@		1252.08	1.44	1.00E+20		1.00E+20	1.00E+20
@		1312.80	0.85	1.00E+20		1.00E+20	1.00E+20
@		1333.21	10.67	1.00E+20		1.00E+20	1.00E+20
@		1717.61	3.18	1.00E+20		1.00E+20	1.00E+20
@		1881.52	1.22	1.00E+20		1.00E+20	1.00E+20
@		2136.51	1.25	1.00E+20		1.00E+20	1.00E+20
@		2229.64	0.87	1.00E+20		1.00E+20	1.00E+20
	Xe-133	81.00	36.90	4.47E-03	4.47E-03	2.86E-05	2.24E-03
	CS-134	475.36	1.48	2.89E-02	3.89E-04	1.98E-02	1.44E-02
		563.25	8.34	4.95E-03		-5.27E-03	2.46E-03
		569.33	15.37	2.68E-03		-3.15E-03	1.33E-03
		604.72	97.62	3.92E-04		5.96E-05	1.95E-04
		795.86	85.46	3.89E-04		-2.89E-04	1.93E-04
		801.95	8.69	3.89E-03		1.68E-03	1.93E-03
		1038.61	0.99	2.81E-02		-2.00E-02	1.39E-02
		1167.97	1.79	2.69E-02		-1.80E-03	1.34E-02
		1365.19	3.02	4.09E-03		-3.40E-03	2.00E-03
	I-135	220.50	1.75	4.26E+00	6.41E-02	3.74E+00	2.13E+00
		288.45	3.10	1.98E+00		-7.79E-01	9.88E-01
		417.63	3.53	1.47E+00		-6.18E-02	7.31E-01
		546.56	7.15	6.14E-01		2.12E-01	3.06E-01
		836.80	6.69	5.00E-01		-7.50E-02	2.48E-01
		971.96	0.89	3.53E+00		4.23E-01	1.75E+00
		972.62	1.21	2.56E+00		-1.15E+00	1.27E+00
		1038.76	7.90	3.64E-01		-2.60E-01	1.80E-01
		1101.58	1.61	1.69E+00		-1.08E+00	8.37E-01
		1124.00	3.62	7.75E-01		8.22E-01	3.84E-01

Analysis Report for 24-2338 VSM-8.0M-S3-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1131.51		22.60	1.20E-01	6.41E-02	1.38E-01	5.92E-02
		1240.47		0.90	2.48E+00		-4.35E-01	1.22E+00
		1260.41		28.70	6.41E-02		5.31E-02	3.15E-02
		1457.56		8.70	1.52E-01		7.77E-02	7.40E-02
		1502.79		1.08	1.13E+00		2.55E-01	5.48E-01
		1566.41		1.29	7.32E-01		-1.81E-01	3.53E-01
		1678.03		9.60	7.78E-02		-6.07E-03	3.71E-02
		1706.46		4.10	1.77E-01		1.14E-01	8.43E-02
		1791.20		7.72	7.59E-02		-8.40E-02	3.55E-02
		2408.65		0.96	3.52E-01		6.61E-02	1.52E-01
	XE-135	249.79		90.00	2.02E-02	2.02E-02	9.61E-02	1.01E-02
	XE-135m	526.56		80.40	5.40E-02	5.40E-02	-1.59E-02	2.69E-02
	CS-136	66.88		4.79	4.68E-02	3.70E-04	2.76E-02	2.34E-02
		86.36		5.90	2.43E-02		7.68E-02	1.21E-02
		153.25		7.70	1.20E-02		-7.17E-03	6.01E-03
		163.92		4.69	1.99E-02		1.21E-02	9.95E-03
		176.60		13.70	6.30E-03		2.85E-03	3.15E-03
		273.65		12.66	5.41E-03		-4.61E-03	2.70E-03
		340.55		46.80	1.30E-03		6.89E-04	6.46E-04
		818.51		99.70	3.70E-04		5.83E-04	1.84E-04
		1048.07		80.00	4.01E-04		2.32E-04	1.99E-04
		1235.36		20.00	1.05E-03		-6.63E-04	5.17E-04
+	CS-137	661.66	*	85.10	2.96E-04	2.96E-04	2.22E-02	1.47E-04
	BA-139	33.44		3.84	1.89E+09	1.49E+07	-4.70E+09	9.45E+08
		165.86		23.70	1.49E+07		2.18E+07	7.42E+06
	BA-140	132.69		0.20	4.68E-01	1.80E-03	3.59E-01	2.34E-01
		162.66		6.22	1.37E-02		3.88E-03	6.83E-03
		304.85		4.29	1.41E-02		-8.28E-03	7.02E-03
		423.72		3.10	1.56E-02		-4.52E-03	7.77E-03
		437.58		1.93	2.56E-02		-9.26E-03	1.28E-02
		537.26		24.39	1.80E-03		-6.36E-04	8.98E-04
	LA-140	109.42		0.22	4.66E-01	2.23E-04	-1.03E-01	2.33E-01
		131.12		0.47	2.04E-01		3.85E-02	1.02E-01
		173.54		0.13	6.27E-01		-2.51E-03	3.13E-01
		241.93		0.41	1.65E-01		-2.11E-03	8.26E-02
		266.54		0.47	1.37E-01		3.67E-02	6.82E-02
		328.76		20.30	2.96E-03		-3.84E-03	1.47E-03
		432.49		2.90	1.86E-02		1.53E-02	9.25E-03
		487.02		45.50	1.11E-03		-1.04E-03	5.51E-04
		618.10		0.04	1.07E+00		-3.05E-01	5.33E-01
		751.64		4.33	9.75E-03		1.26E-02	4.85E-03
		815.77		23.28	1.48E-03		-3.61E-04	7.34E-04
		867.85		5.50	8.43E-03		4.65E-03	4.19E-03
		919.55		2.66	1.20E-02		-1.04E-03	5.97E-03
		925.19		6.90	4.83E-03		8.11E-03	2.40E-03
		950.99		0.52	6.23E-02		-9.49E-03	3.09E-02
		1596.21		95.40	2.23E-04		1.25E-03	1.10E-04
		2347.88		0.85	4.20E-03		8.53E-04	1.85E-03
		2521.40		3.46	9.38E-04		-1.74E-04	3.99E-04
		2547.34		0.10	2.22E-02		7.39E-03	8.60E-03
@	BA-141	33.44		7.93	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		190.33		44.80	1.00E+20		1.00E+20	1.00E+20
@		276.95		23.60	1.00E+20		1.00E+20	1.00E+20

Analysis Report for 24-2338 VSM-8.0M-S3-CST-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@ BA-141	304.19	26.10	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	343.67	15.10	1.00E+20		1.00E+20	1.00E+20
@	389.74	1.37	1.00E+20		1.00E+20	1.00E+20
@	457.51	5.00	1.00E+20		1.00E+20	1.00E+20
@	462.06	5.10	1.00E+20		1.00E+20	1.00E+20
@	467.22	5.60	1.00E+20		1.00E+20	1.00E+20
@	625.08	3.45	1.00E+20		1.00E+20	1.00E+20
@	647.78	5.70	1.00E+20		1.00E+20	1.00E+20
@	738.95	4.39	1.00E+20		1.00E+20	1.00E+20
@	831.46	1.64	1.00E+20		1.00E+20	1.00E+20
@	876.09	3.45	1.00E+20		1.00E+20	1.00E+20
@	1160.72	1.12	1.00E+20		1.00E+20	1.00E+20
@	1197.28	4.35	1.00E+20		1.00E+20	1.00E+20
@	1323.92	0.92	1.00E+20		1.00E+20	1.00E+20
@	1654.00	0.65	1.00E+20		1.00E+20	1.00E+20
@	1682.19	1.19	1.00E+20		1.00E+20	1.00E+20
CE-141	145.44	48.30	1.74E-03	1.74E-03	4.21E-04	8.67E-04
@ BA-142	33.44	14.20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	77.59	7.00	1.00E+20		1.00E+20	1.00E+20
@	177.00	2.12	1.00E+20		1.00E+20	1.00E+20
@	231.61	12.20	1.00E+20		1.00E+20	1.00E+20
@	255.30	20.70	1.00E+20		1.00E+20	1.00E+20
@	286.30	1.11	1.00E+20		1.00E+20	1.00E+20
@	309.20	2.60	1.00E+20		1.00E+20	1.00E+20
@	335.00	1.53	1.00E+20		1.00E+20	1.00E+20
@	363.96	4.76	1.00E+20		1.00E+20	1.00E+20
@	425.04	5.75	1.00E+20		1.00E+20	1.00E+20
@	599.80	1.85	1.00E+20		1.00E+20	1.00E+20
@	840.40	3.63	1.00E+20		1.00E+20	1.00E+20
@	895.20	13.90	1.00E+20		1.00E+20	1.00E+20
@	949.10	10.70	1.00E+20		1.00E+20	1.00E+20
@	1001.20	9.80	1.00E+20		1.00E+20	1.00E+20
@	1078.70	11.50	1.00E+20		1.00E+20	1.00E+20
@	1094.10	2.82	1.00E+20		1.00E+20	1.00E+20
@	1126.80	1.50	1.00E+20		1.00E+20	1.00E+20
@	1202.40	5.60	1.00E+20		1.00E+20	1.00E+20
@	1204.30	14.30	1.00E+20		1.00E+20	1.00E+20
@	1380.20	3.42	1.00E+20		1.00E+20	1.00E+20
CE-143	57.36	11.70	6.31E-02	3.22E-03	-1.59E-02	3.15E-02
	231.55	2.05	8.23E-02		8.42E-03	4.11E-02
	293.27	42.80	3.22E-03		-7.72E-04	1.61E-03
	350.62	3.23	3.77E-02		1.75E-02	1.88E-02
	490.37	2.16	5.24E-02		2.40E-02	2.61E-02
	664.57	5.69	2.90E-02		9.16E-01	1.45E-02
	721.93	5.39	2.37E-02		4.35E-01	1.18E-02
	880.46	1.03	8.25E-02		3.21E-02	4.10E-02
CE-144	80.12	1.36	9.69E-02	7.71E-03	-4.74E-02	4.84E-02
	133.51	11.09	7.71E-03		1.25E-02	3.85E-03
ND-147	38.17	13.20	7.06E-02	3.44E-03	-1.14E-01	3.53E-02
	38.72	23.80	3.70E-02		-5.83E-02	1.85E-02
	91.11	28.90	4.30E-03		1.15E-03	2.15E-03
	275.39	0.79	8.48E-02		4.10E-02	4.23E-02
	319.41	1.97	3.02E-02		-5.98E-03	1.51E-02

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ND-147	398.13	0.87	6.03E-02	3.44E-03	-9.33E-03	3.01E-02
	439.88	1.20	4.24E-02		-9.02E-03	2.11E-02
	531.01	13.11	3.44E-03		1.64E-03	1.71E-03
	685.88	0.82	4.64E-02		-4.54E-03	2.31E-02
@ PR-147	36.85	19.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	37.36	35.50	1.00E+20		1.00E+20	1.00E+20
@	49.88	4.00	1.00E+20		1.00E+20	1.00E+20
@	77.97	9.70	1.00E+20		1.00E+20	1.00E+20
@	86.69	5.40	1.00E+20		1.00E+20	1.00E+20
@	127.80	7.40	1.00E+20		1.00E+20	1.00E+20
@	249.20	1.32	1.00E+20		1.00E+20	1.00E+20
@	314.70	18.20	1.00E+20		1.00E+20	1.00E+20
@	328.80	4.00	1.00E+20		1.00E+20	1.00E+20
@	335.70	4.70	1.00E+20		1.00E+20	1.00E+20
@	388.80	1.41	1.00E+20		1.00E+20	1.00E+20
@	466.80	1.70	1.00E+20		1.00E+20	1.00E+20
@	477.90	4.60	1.00E+20		1.00E+20	1.00E+20
@	516.70	1.30	1.00E+20		1.00E+20	1.00E+20
@	554.70	5.90	1.00E+20		1.00E+20	1.00E+20
@	577.90	13.70	1.00E+20		1.00E+20	1.00E+20
@	641.40	16.10	1.00E+20		1.00E+20	1.00E+20
@	996.00	1.52	1.00E+20		1.00E+20	1.00E+20
@	1136.70	1.42	1.00E+20		1.00E+20	1.00E+20
@	1261.10	8.40	1.00E+20		1.00E+20	1.00E+20
@	1300.40	2.30	1.00E+20		1.00E+20	1.00E+20
ND-149	38.17	9.00	5.18E+06	1.48E+05	-8.32E+06	2.59E+06
	38.72	16.30	2.70E+06		-4.26E+06	1.35E+06
	58.88	1.30	1.21E+07		1.09E+04	6.06E+06
	74.32	2.11	4.13E+06		9.82E+06	2.06E+06
	97.00	1.48	4.01E+06		3.82E+06	2.00E+06
	114.31	19.20	2.82E+05		-1.47E+05	1.41E+05
	155.87	5.95	7.59E+05		-1.97E+05	3.79E+05
	188.64	1.79	2.32E+06		-2.93E+05	1.16E+06
	198.93	1.39	2.81E+06		-1.28E+05	1.40E+06
	208.15	2.55	1.57E+06		-1.63E+05	7.85E+05
	211.31	26.00	1.48E+05		3.21E+04	7.41E+04
	240.22	3.95	8.88E+05		-1.37E+05	4.44E+05
	245.72	0.81	4.60E+06		6.04E+05	2.30E+06
	267.69	6.05	5.62E+05		-4.32E+05	2.81E+05
	270.17	10.80	2.97E+05		1.69E+05	1.48E+05
	326.55	4.57	6.45E+05		2.47E+05	3.22E+05
	349.23	1.38	2.11E+06		5.17E+05	1.05E+06
	423.55	7.50	3.31E+05		-1.28E+05	1.65E+05
	443.55	1.15	2.27E+06		2.14E+06	1.13E+06
	540.51	6.60	3.44E+05		-8.62E+04	1.71E+05
	654.83	8.00	2.45E+05		-1.52E+05	1.22E+05
PM-149	285.95	3.10	3.17E-02	3.17E-02	-1.45E-03	1.58E-02
PM-150	39.52	0.63	1.03E+05	6.86E+01	-1.49E+05	5.17E+04
	40.12	1.14	5.44E+04		-6.67E+04	2.72E+04
	333.92	68.00	6.86E+01		3.37E+01	3.42E+01
	406.51	5.60	7.30E+02		-1.10E+03	3.64E+02
	565.70	1.31	2.64E+03		1.81E+03	1.31E+03
	587.02	1.34	2.75E+03		6.34E+02	1.37E+03

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PM-150	612.25		0.93	3.55E+03	6.86E+01	3.76E+03	1.77E+03
		712.22		4.40	6.87E+02		3.00E+01	3.41E+02
		737.50		2.25	1.34E+03		-7.49E+02	6.64E+02
		831.85		11.90	2.27E+02		2.77E+01	1.13E+02
		859.95		3.40	7.79E+02		-3.27E+02	3.87E+02
		876.41		7.30	5.38E+02		7.30E+01	2.68E+02
		1165.77		15.80	1.74E+02		-3.43E+01	8.63E+01
		1170.90		1.06	4.57E+03		-1.90E+02	2.27E+03
		1193.87		4.80	3.69E+02		7.62E+01	1.82E+02
		1213.72		1.03	1.58E+03		-1.75E+03	7.78E+02
		1223.28		2.80	5.62E+02		-9.32E+01	2.76E+02
		1324.51		17.50	1.14E+02		1.26E+01	5.65E+01
		1379.32		3.10	3.90E+02		2.82E+02	1.91E+02
		1736.40		6.90	8.02E+01		-1.01E+02	3.79E+01
		1963.71		1.47	2.81E+02		6.49E+01	1.29E+02
		2033.46		0.97	3.54E+02		-1.56E+02	1.59E+02
@	ND-151	38.17		5.94	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		38.72		10.70	1.00E+20		1.00E+20	1.00E+20
@		68.98		1.26	1.00E+20		1.00E+20	1.00E+20
@		85.12		2.05	1.00E+20		1.00E+20	1.00E+20
@		89.96		1.53	1.00E+20		1.00E+20	1.00E+20
@		116.80		39.00	1.00E+20		1.00E+20	1.00E+20
@		138.89		7.00	1.00E+20		1.00E+20	1.00E+20
@		170.76		2.87	1.00E+20		1.00E+20	1.00E+20
@		175.07		6.30	1.00E+20		1.00E+20	1.00E+20
@		255.68		14.80	1.00E+20		1.00E+20	1.00E+20
@		300.58		1.82	1.00E+20		1.00E+20	1.00E+20
@		423.56		5.90	1.00E+20		1.00E+20	1.00E+20
@		460.59		0.96	1.00E+20		1.00E+20	1.00E+20
@		585.22		1.30	1.00E+20		1.00E+20	1.00E+20
@		677.88		2.38	1.00E+20		1.00E+20	1.00E+20
@		736.23		5.90	1.00E+20		1.00E+20	1.00E+20
@		739.20		1.52	1.00E+20		1.00E+20	1.00E+20
@		755.57		1.17	1.00E+20		1.00E+20	1.00E+20
@		797.53		4.70	1.00E+20		1.00E+20	1.00E+20
@		1016.40		2.50	1.00E+20		1.00E+20	1.00E+20
@		1122.63		4.10	1.00E+20		1.00E+20	1.00E+20
@		1180.89		13.30	1.00E+20		1.00E+20	1.00E+20
	Pm-151	167.75		8.30	2.66E-02	6.69E-03	2.18E-02	1.33E-02
		177.16		3.80	5.78E-02		-1.27E-02	2.88E-02
		240.09		3.80	4.93E-02		-7.62E-03	2.46E-02
		275.21		6.80	2.47E-02		1.20E-02	1.23E-02
		340.08		22.50	6.69E-03		2.77E-03	3.34E-03
+	EU-152	121.78		28.53	3.55E-03	7.85E-04	2.75E-04	1.78E-03
		344.28	*	26.59	2.46E-03		1.52E-03	1.23E-03
		778.90	*	12.93	2.24E-03		1.99E-04	1.11E-03
		867.37		4.23	9.36E-03		-1.76E-04	4.65E-03
		964.08	*	14.51	2.54E-03		2.38E-03	1.26E-03
		1085.87	*	10.11	2.40E-03		2.87E-03	1.19E-03
		1112.07	*	13.67	2.29E-03		2.06E-03	1.13E-03
		1408.01	*	20.87	7.85E-04		2.01E-03	3.85E-04
@	ND-152	44.44		5.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		250.15		16.40	1.00E+20		1.00E+20	1.00E+20

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	ND-152	278.56		26.00	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		294.47		2.90	1.00E+20		1.00E+20	1.00E+20
@		545.70		0.83	1.00E+20		1.00E+20	1.00E+20
@		592.50		0.99	1.00E+20		1.00E+20	1.00E+20
	GD-153	69.67		2.45	7.01E-02	3.45E-03	1.20E-02	3.50E-02
		97.43		30.00	3.45E-03		3.48E-03	1.72E-03
		103.18		22.10	4.46E-03		-3.74E-03	2.23E-03
	SM-153	69.67		4.67	7.06E-02	6.51E-03	1.21E-02	3.53E-02
		103.18		29.14	6.51E-03		-5.46E-03	3.25E-03
+	EU-154	42.70	*	20.45	3.17E-02	9.19E-04	3.48E-02	1.59E-02
		123.07	*	40.40	1.74E-03		4.96E-02	8.71E-04
		247.93	*	6.89	1.21E-02		5.15E-02	6.06E-03
		591.76	*	4.95	9.12E-03		4.72E-02	4.54E-03
		692.42	*	1.78	1.43E-02		4.92E-02	7.08E-03
		723.30	*	20.06	2.87E-03		5.16E-02	1.43E-03
		756.80	*	4.52	9.64E-03		4.97E-02	4.80E-03
		873.18	*	12.08	4.19E-03		5.00E-02	2.09E-03
		996.29	*	10.48	2.00E-03		5.19E-02	9.90E-04
		1004.76	*	18.01	2.66E-03		5.15E-02	1.32E-03
		1246.12	*	0.86	2.54E-02		4.69E-02	1.25E-02
		1274.43	*	34.80	9.19E-04		5.02E-02	4.55E-04
		1494.05	*	0.70	1.78E-02		5.15E-02	8.68E-03
		1596.48	*	1.80	6.65E-03		4.35E-02	3.25E-03
+	EU-155	43.00	*	18.12	3.58E-02	4.47E-03	3.93E-02	1.79E-02
		60.01	*	1.17	2.81E-01		1.10E+01	1.40E-01
		86.55	*	30.70	4.47E-03		9.43E-03	2.24E-03
		105.31	*	21.10	5.58E-03		8.92E-03	2.79E-03
	EU-156	88.97		8.40	1.57E-02	1.17E-03	7.82E-03	7.85E-03
		646.29		6.30	6.31E-03		2.41E-03	3.14E-03
		723.47		5.40	1.08E-02		2.13E-01	5.36E-03
		811.77		9.70	3.63E-03		-6.36E-04	1.80E-03
		1065.14		4.90	5.97E-03		-4.34E-05	2.96E-03
		1079.16		4.60	6.00E-03		2.54E-03	2.97E-03
		1153.80		11.50	2.09E-03		-3.19E-03	1.03E-03
		1230.71		8.00	2.49E-03		-1.96E-03	1.23E-03
		1242.42		6.60	3.35E-03		-1.09E-06	1.65E-03
		1277.43		2.89	2.49E-02		-8.80E-04	1.24E-02
		1366.41		1.57	9.76E-03		-1.23E-04	4.78E-03
		1965.95		3.90	1.17E-03		-3.84E-04	5.33E-04
		2097.70		3.80	1.21E-03		-1.93E-03	5.51E-04
		2186.71		3.50	1.35E-03		-4.22E-04	6.11E-04
	Sm-156	87.60		24.00	1.29E-01	8.17E-02	4.97E-01	6.45E-02
		165.80		13.00	1.51E-01		2.22E-01	7.55E-02
		204.00		21.00	8.17E-02		7.72E-02	4.08E-02
	EU-158	42.31		5.80	2.91E+16	2.86E+14	8.96E+15	1.46E+16
		43.00		10.40	1.54E+16		1.97E+16	7.68E+15
		79.49		10.50	3.80E+15		-1.36E+15	1.90E+15
		181.97		2.30	9.13E+15		2.02E+14	4.56E+15
		528.05		1.53	7.90E+15		-5.13E+15	3.93E+15
		606.39		4.00	2.74E+15		2.06E+15	1.36E+15
		743.02		3.60	2.76E+15		2.23E+15	1.37E+15
		897.61		12.40	7.32E+14		-1.91E+14	3.63E+14
		906.50		1.83	4.94E+15		1.33E+16	2.45E+15

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	922.51	1.62	5.39E+15	2.86E+14	-2.70E+15	2.67E+15
	944.15	30.00	2.86E+14		-3.80E+14	1.42E+14
	953.03	1.98	4.28E+15		-1.98E+15	2.12E+15
	962.09	1.89	4.57E+15		3.05E+15	2.27E+15
	977.14	16.30	5.07E+14		-6.04E+14	2.51E+14
	986.96	1.35	6.11E+15		2.70E+15	3.03E+15
	1107.63	5.10	1.47E+15		-5.41E+14	7.26E+14
	1184.10	3.00	2.02E+15		-1.61E+15	9.95E+14
	1186.00	2.90	2.06E+15		-2.12E+14	1.01E+15
	1187.10	4.40	1.37E+15		2.69E+15	6.74E+14
	1263.61	2.20	2.32E+15		-1.14E+15	1.14E+15
	1347.95	1.65	2.56E+15		9.38E+14	1.25E+15
	1944.47	1.62	9.48E+14		4.31E+14	4.40E+14
TB-160	86.79	13.20	9.64E-03	1.18E-03	4.11E-02	4.82E-03
	298.58	26.10	2.17E-03		1.40E-03	1.08E-03
	879.38	30.10	1.43E-03		5.77E-04	7.12E-04
	962.32	9.81	3.05E-03		2.80E-03	1.51E-03
	966.17	25.10	1.18E-03		1.51E-03	5.84E-04
	1177.96	14.90	3.54E-03		-4.41E-04	1.76E-03
TB-161	25.65	23.20	3.97E-01	1.75E-02	-3.67E-01	1.98E-01
	48.91	17.00	2.67E-02		3.92E-02	1.34E-02
	52.00	3.43	1.13E-01		1.31E-01	5.62E-02
	57.19	1.79	1.92E-01		-6.28E-02	9.60E-02
	74.57	10.20	1.75E-02		3.64E-02	8.73E-03
YB-169	63.12	43.62	5.37E-03	1.94E-03	1.50E-03	2.68E-03
	93.61	2.58	4.76E-02		-2.94E-03	2.38E-02
	109.78	17.39	5.73E-03		-2.78E-03	2.86E-03
	130.52	11.38	8.44E-03		5.66E-03	4.22E-03
	177.21	22.28	3.50E-03		-7.69E-04	1.75E-03
	197.96	35.93	1.94E-03		-1.13E-03	9.71E-04
	307.74	10.05	5.15E-03		3.81E-03	2.57E-03
HF-172	54.07	63.00	4.61E-03	4.61E-03	2.51E-03	2.31E-03
	67.35	5.30	3.36E-02		3.56E-03	1.68E-02
	81.75	4.50	2.84E-02		-2.62E-02	1.42E-02
	114.06	2.60	3.59E-02		2.52E-02	1.80E-02
	125.81	11.30	8.39E-03		1.16E-03	4.19E-03
	127.91	1.46	6.02E-02		7.79E-03	3.01E-02
LU-173	59.30	24.44	1.07E-02	2.75E-03	5.42E-01	5.33E-03
	78.63	11.90	1.20E-02		-1.87E-02	6.01E-03
	100.72	5.24	1.95E-02		-6.54E-03	9.74E-03
	171.39	2.90	2.56E-02		-5.14E-03	1.28E-02
	272.11	21.20	2.75E-03		-1.68E-03	1.37E-03
LU-177	112.95	6.23	1.83E-02	8.03E-03	-1.86E-03	9.13E-03
	208.37	10.41	8.03E-03		-8.32E-04	4.01E-03
	249.67	0.20	3.80E-01		1.81E+00	1.90E-01
	321.32	0.22	2.83E-01		2.75E-01	1.41E-01
HF-181	133.02	43.30	2.13E-03	5.52E-04	2.37E-03	1.06E-03
	345.93	15.12	3.57E-03		1.86E-03	1.78E-03
	482.18	80.50	5.52E-04		4.91E-04	2.75E-04
W-181	56.28	18.70	1.53E-02	8.88E-03	-6.38E-03	7.63E-03
	57.53	32.00	8.88E-03		-3.17E-03	4.44E-03
	65.00	10.60	1.82E-02		2.19E-02	9.10E-03
TA-182	57.98	10.01	2.79E-02	6.70E-04	-1.13E-02	1.39E-02

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TA-182	59.32		17.20	1.53E-02	6.70E-04	7.76E-01	7.63E-03
		65.72		3.01	6.95E-02		5.54E-02	3.47E-02
		67.75		46.67	4.01E-03		9.84E-04	2.01E-03
		84.68		2.65	4.92E-02		-2.02E-02	2.46E-02
		100.11		14.20	7.60E-03		-5.64E-03	3.80E-03
		113.67		1.87	5.63E-02		6.34E-02	2.81E-02
		116.42		0.44	2.10E-01		1.27E-01	1.05E-01
		152.43		7.02	1.20E-02		4.23E-04	6.02E-03
		156.39		2.67	3.12E-02		-8.18E-03	1.56E-02
		179.39		3.12	2.46E-02		6.24E-03	1.23E-02
		198.35		1.47	5.03E-02		1.49E-02	2.51E-02
		222.11		7.57	9.26E-03		-2.63E-03	4.62E-03
		229.32		3.64	1.92E-02		6.15E-03	9.57E-03
		264.08		3.61	1.72E-02		-7.50E-03	8.60E-03
		928.00		0.61	5.02E-02		3.62E-02	2.49E-02
		959.73		0.35	8.81E-02		5.15E-02	4.37E-02
		1001.70		2.09	3.11E-02		6.15E-01	1.55E-02
		1044.42		0.24	1.21E-01		-9.43E-02	6.00E-02
		1113.41		0.44	5.99E-02		5.63E-02	2.97E-02
		1121.29		35.24	7.37E-04		-1.03E-03	3.65E-04
		1157.30		0.73	2.92E-02		1.17E-02	1.44E-02
		1189.04		16.49	1.18E-03		5.62E-04	5.84E-04
		1221.40		27.23	6.70E-04		5.10E-04	3.30E-04
		1223.60		0.24	6.37E-02		-1.14E-01	3.14E-02
		1231.00		11.62	1.60E-03		3.20E-04	7.85E-04
		1257.41		1.51	1.12E-02		-8.32E-03	5.49E-03
		1273.72		0.66	7.96E-02		2.11E+00	3.96E-02
		1289.15		1.37	8.35E-03		-2.75E-03	4.10E-03
		1342.73		0.26	5.49E-02		-3.59E-02	2.69E-02
		1373.82		0.22	3.95E-02		-1.27E-02	1.93E-02
	Ta-183	84.71		1.35	1.16E-01	2.98E-03	-4.77E-02	5.82E-02
		99.08		6.80	1.90E-02		2.08E-02	9.50E-03
		107.93		11.20	1.08E-02		1.30E-03	5.37E-03
		161.35		9.10	1.07E-02		4.25E-03	5.33E-03
		162.32		5.00	1.93E-02		3.88E-03	9.65E-03
		244.26		8.80	9.25E-03		3.46E-03	4.62E-03
		246.06		27.20	2.98E-03		9.46E-04	1.49E-03
		353.99		11.60	5.45E-03		-9.80E-05	2.72E-03
	Re-184	111.21		17.20	5.71E-03	8.16E-04	-6.92E-04	2.86E-03
		252.85		3.00	2.09E-02		-1.30E-02	1.05E-02
		792.01		37.70	8.77E-04		-7.15E-04	4.35E-04
		894.76		15.70	1.97E-03		4.18E-03	9.78E-04
		903.28		38.10	8.16E-04		1.04E-03	4.05E-04
+	W-185	59.72	*	0.01	2.80E+01	3.64E+00	1.10E+03	1.40E+01
		61.14		0.02	1.20E+01		3.23E+00	5.99E+00
		69.20		0.01	2.50E+01		1.07E+00	1.25E+01
		125.36	*	0.02	3.64E+00		1.00E+00	1.82E+00
	W-187	61.14		14.30	6.07E-02	3.67E-03	1.64E-02	3.03E-02
		69.20		4.82	1.26E-01		5.40E-03	6.31E-02
		72.00		13.55	4.44E-02		1.13E-01	2.22E-02
		134.25		10.36	3.12E-02		2.29E-02	1.56E-02
		479.53		26.60	5.97E-03		4.82E-03	2.98E-03
		618.37		7.57	1.71E-02		-4.87E-03	8.50E-03

Analysis Report for 24-2338 VSM-8.0M-S3-CST-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
W-187	685.81	33.20	3.67E-03	3.67E-03	-6.50E-04	1.83E-03
Ir-188	155.05	29.60	5.51E-03	5.00E-04	-1.49E-05	2.75E-03
	478.00	14.70	6.08E-03		3.35E-03	3.03E-03
	633.02	17.90	4.11E-03		1.58E-03	2.04E-03
	634.97	5.00	1.47E-02		-4.92E-03	7.31E-03
	829.42	5.10	1.23E-02		-1.02E-02	6.08E-03
	1209.77	6.90	5.53E-03		5.88E-03	2.72E-03
	1715.67	6.20	2.86E-03		3.28E-03	1.37E-03
	2214.59	18.60	5.00E-04		-1.32E-03	2.27E-04
W-188	227.07	0.23	2.81E-01	1.33E-01	8.79E-02	1.40E-01
	290.68	0.42	1.33E-01		4.52E-02	6.64E-02
Ir-189	245.08	6.00	1.16E-02	1.16E-02	3.13E-03	5.81E-03
Ir-190	186.68	50.00	1.53E-03	1.07E-03	-3.09E-04	7.65E-04
	361.09	12.30	4.40E-03		2.78E-03	2.19E-03
	371.24	21.60	2.47E-03		2.44E-03	1.23E-03
	407.22	27.00	1.86E-03		6.79E-04	9.26E-04
	518.55	32.20	1.43E-03		1.11E-04	7.15E-04
	557.95	28.50	1.51E-03		5.31E-05	7.53E-04
	569.30	27.00	1.56E-03		-1.84E-03	7.78E-04
	605.14	37.80	1.07E-03		-5.07E-04	5.34E-04
OS-191	63.29	15.70	1.49E-02	3.55E-03	1.04E-02	7.44E-03
	64.99	26.70	7.78E-03		9.34E-03	3.89E-03
	73.45	9.21	1.79E-02		2.59E-02	8.96E-03
	129.43	26.50	3.55E-03		2.02E-03	1.78E-03
Pt-191	359.90	5.80	1.37E-02	4.43E-03	-9.40E-03	6.84E-03
	456.47	3.30	2.13E-02		2.63E-03	1.06E-02
	538.90	14.30	4.43E-03		-3.91E-03	2.21E-03
IR-192	205.79	3.31	2.23E-02	6.69E-04	2.00E-02	1.11E-02
	295.96	28.71	2.07E-03		2.66E-03	1.04E-03
	308.45	29.70	1.94E-03		2.15E-03	9.70E-04
	316.51	82.86	6.69E-04		2.47E-04	3.34E-04
	468.07	47.84	9.56E-04		8.97E-04	4.76E-04
	588.58	4.52	1.00E-02		2.28E-03	4.98E-03
	604.41	8.22	4.25E-03		-1.94E-03	2.11E-03
	612.46	5.34	6.08E-03		5.41E-03	3.02E-03
IR-192m	155.16	0.09	8.43E-01	8.43E-01	-4.77E-02	4.21E-01
IR-193m	80.22	0.00	3.17E+01	3.17E+01	-1.55E+01	1.58E+01
Pt-193m	135.50	0.11	9.91E-01	9.91E-01	3.14E-01	4.95E-01
Au-194	293.55	10.90	1.12E-02	1.79E-03	5.52E-04	5.56E-03
	328.47	62.80	1.79E-03		-1.35E-03	8.95E-04
	364.84	1.60	6.78E-02		-1.33E-02	3.38E-02
	528.77	1.78	5.08E-02		3.27E-03	2.53E-02
	645.16	2.32	3.39E-02		4.03E-02	1.68E-02
	948.32	2.29	2.78E-02		-1.26E-02	1.38E-02
	1104.06	2.15	2.54E-02		-3.93E-03	1.26E-02
	1175.36	2.14	5.60E-02		1.21E+00	2.79E-02
	1468.90	6.80	3.64E-03		-9.59E-03	1.77E-03
	1595.81	1.89	2.18E-02		1.18E-01	1.07E-02
	2043.72	3.74	2.50E-03		3.40E-04	1.14E-03
Ir-194	293.54	2.50	1.08E-01	1.91E-02	5.34E-03	5.38E-02
	328.47	13.10	1.91E-02		-1.43E-02	9.51E-03
AU-195	98.86	11.21	9.06E-03	9.06E-03	9.69E-03	4.53E-03
	129.74	0.84	1.04E-01		3.41E-02	5.18E-02

Analysis Report for 24-2338 VSM-8.0M-S3-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Pt-195m	98.90		11.70	1.19E-02	1.19E-02	1.27E-02	5.93E-03
		129.79		2.90	4.11E-02		1.35E-02	2.05E-02
	Au-196	333.03		22.90	2.97E-03	7.23E-04	7.46E-04	1.48E-03
		355.73		87.00	7.23E-04		7.95E-04	3.60E-04
		426.10		6.60	8.13E-03		1.51E-03	4.05E-03
	Au-196m	147.81		43.50	4.55E-02	4.55E-02	-2.15E-02	2.27E-02
		188.27		30.00	5.64E-02		2.07E-02	2.82E-02
	Pt-197	77.35		17.00	3.85E-02	3.85E-02	3.15E-02	1.92E-02
		191.44		3.70	8.60E-02		2.07E-02	4.29E-02
	AU-198	411.80		95.62	7.81E-04	7.81E-04	-5.54E-04	3.89E-04
+	AU-199	158.38	*	40.00	4.65E-03	4.65E-03	1.72E-03	2.33E-03
		208.20		8.72	1.19E-02		-1.23E-03	5.94E-03
	TL-201	135.34		2.61	4.94E-02	1.12E-02	1.57E-02	2.47E-02
		167.43		10.00	1.12E-02		4.60E-03	5.61E-03
	TL-202	439.51		91.50	5.42E-04	5.42E-04	-1.25E-04	2.70E-04
	PB-203	70.83		26.40	1.11E-02	1.29E-03	-1.65E-02	5.54E-03
		72.87		44.20	6.31E-03		1.52E-02	3.15E-03
		82.40		15.56	1.47E-02		-7.76E-03	7.33E-03
		279.20		80.90	1.29E-03		7.75E-04	6.46E-04
		401.32		3.35	2.64E-02		2.71E-03	1.31E-02
	PB-210	46.54		4.25	1.02E-01	1.02E-01	-1.15E-01	5.11E-02
	Pa-233	86.60		2.01	6.06E-02	1.36E-03	2.17E-01	3.03E-02
		94.65		8.90	1.18E-02		-4.00E-03	5.92E-03
		98.43		14.20	7.13E-03		1.37E-02	3.56E-03
		300.13		6.54	8.13E-03		-9.14E-04	4.06E-03
		311.90		38.20	1.36E-03		-6.03E-04	6.80E-04
		340.48		4.44	1.15E-02		6.13E-03	5.75E-03
	U-235	89.96		2.90	3.89E-02	1.21E-03	2.00E-02	1.94E-02
		93.35		4.70	2.28E-02		2.52E-02	1.14E-02
		109.19		1.64	5.64E-02		9.22E-03	2.82E-02
		143.76		10.93	7.44E-03		1.02E-03	3.72E-03
		163.36		5.07	1.48E-02		8.56E-03	7.37E-03
		185.71		57.20	1.21E-03		-5.25E-04	6.02E-04
		202.11		1.07	6.10E-02		5.44E-03	3.05E-02
		205.31		5.03	1.38E-02		1.05E-02	6.89E-03
+	NP-237	86.48	*	12.20	1.13E-02	1.13E-02	2.37E-02	5.62E-03
	U-237	59.54		34.50	9.15E-03	3.99E-03	4.59E-01	4.57E-03
		97.07		15.40	8.06E-03		1.04E-02	4.03E-03
		101.06		24.50	4.87E-03		5.72E-04	2.44E-03
		113.30		3.07	3.69E-02		-9.21E-04	1.85E-02
		114.23		5.81	1.94E-02		1.36E-02	9.70E-03
		117.46		2.27	4.89E-02		-4.36E-03	2.44E-02
		208.00		21.20	3.99E-03		1.43E-03	1.99E-03
	NP-238	103.37		0.00	3.75E+01	2.02E-03	-3.93E+01	1.88E+01
		882.63		0.80	6.78E-02		-1.97E-02	3.37E-02
		923.99		2.60	2.06E-02		-5.15E-03	1.02E-02
		984.45		25.20	2.02E-03		2.19E-03	1.00E-03
		1025.87		8.75	5.63E-03		-2.96E-03	2.79E-03
		1028.53		18.23	2.70E-03		-1.98E-03	1.34E-03
	U-238	63.29		3.70	5.81E-02	2.56E-02	4.04E-02	2.90E-02
		92.51		4.23	2.56E-02		-7.54E-04	1.28E-02
		112.81		0.21	4.47E-01		-4.55E-02	2.23E-01
		742.81		0.11	3.10E-01		-4.25E-02	1.54E-01

Analysis Report for 24-2338 VSM-8.0M-S3-CST-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	U-238	766.42		0.32	1.02E-01	2.56E-02	7.31E-02	5.07E-02
		1001.03		0.84	6.98E-02		1.48E+00	3.47E-02
	Am-239	181.71		1.08	8.62E-01	4.99E-02	-2.05E-01	4.31E-01
		209.80		3.50	2.60E-01		-7.49E-02	1.30E-01
		226.40		3.30	2.62E-01		4.42E-01	1.31E-01
		228.10		11.30	7.61E-02		-5.43E-02	3.80E-02
		277.60		15.00	4.99E-02		-8.13E-03	2.49E-02
	NP-239	61.46		1.30	3.15E-01	6.57E-03	1.45E-01	1.57E-01
		99.53		12.90	1.34E-02		1.06E-02	6.69E-03
		103.37		20.50	8.15E-03		-8.53E-03	4.07E-03
		106.12		25.34	6.57E-03		1.60E-02	3.28E-03
		209.75		3.36	3.54E-02		-1.02E-02	1.77E-02
		228.18		11.24	1.00E-02		-4.56E-03	5.00E-03
		277.60		14.51	6.80E-03		-1.11E-03	3.39E-03
		285.46		0.79	1.24E-01		2.02E-02	6.16E-02
		315.88		1.60	5.44E-02		2.71E-02	2.71E-02
		334.31		2.06	4.05E-02		-1.29E-02	2.02E-02
	PU-239	38.66		0.01	7.53E+01	1.20E+01	-1.22E+02	3.76E+01
		51.62		0.03	1.20E+01		3.09E+01	6.00E+00
		98.50		0.01	1.39E+01		2.67E+01	6.96E+00
		111.03		0.00	7.14E+01		1.60E+01	3.57E+01
		129.30		0.01	1.38E+01		3.74E+00	6.87E+00
		171.39		0.00	6.59E+02		-1.32E+02	3.29E+02
		203.55		0.00	1.14E+02		4.47E+01	5.69E+01
		332.85		0.00	1.04E+02		3.58E+00	5.19E+01
		336.11		0.00	4.58E+02		8.12E+02	2.28E+02
		345.01		0.00	9.08E+01		8.42E+01	4.53E+01
		375.05		0.00	3.06E+01		5.00E+01	1.52E+01
		380.19		0.00	1.53E+02		-1.54E+02	7.65E+01
		382.75		0.00	1.80E+02		-3.48E+01	8.97E+01
		413.71		0.00	3.15E+01		-2.51E+01	1.57E+01
		422.60		0.00	3.60E+02		2.15E+02	1.79E+02
		451.48		0.00	2.31E+02		1.80E+02	1.15E+02
	Am-240	99.53		18.40	9.98E-03	7.01E-04	7.93E-03	4.99E-03
		103.37		29.20	6.09E-03		-6.37E-03	3.04E-03
		117.23		6.93	2.43E-02		1.20E-02	1.21E-02
		888.85		24.70	2.22E-03		-1.87E-03	1.10E-03
		987.79		72.20	7.01E-04		4.77E-05	3.47E-04
	Np-240m	554.60		20.90	1.65E-02	1.65E-02	1.60E-02	8.23E-03
		597.40		11.70	2.92E-02		1.62E-02	1.46E-02
	U-240	44.10		1.05	4.14E+00	2.52E+00	-2.58E+00	2.07E+00
		66.50		0.15	1.05E+01		5.98E+00	5.26E+00
		169.20		0.12	5.65E+00		2.55E+00	2.82E+00
		189.70		0.24	2.52E+00		1.63E+00	1.26E+00
+	AM-241	59.54	*	35.90	9.14E-03	9.14E-03	3.57E-01	4.57E-03
	AM-242m	49.35		0.13	2.74E+00	2.74E+00	2.74E+00	1.37E+00
		66.89		0.01	1.21E+01		7.13E+00	6.05E+00
		86.65		0.02	5.20E+00		1.86E+01	2.60E+00
		163.25		0.02	4.89E+00		2.83E+00	2.44E+00
	AM-243	43.53		5.90	8.65E-02	2.20E-03	-5.16E-02	4.32E-02
		74.66		67.20	2.20E-03		4.57E-03	1.10E-03

Analysis Report for 24-2338 VSM-8.0M-S3-CST-A Q3

ASR 2094 Branch

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

Apex-Gamma

Analysis Report for 24-2339 VSM-8.0M-S3-CST-d-A Q3
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2339 VSM-8.0M-S3-CST-d-A Q3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 10:11:34AM
Procedure	: Q3_gsv02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: Q3_gsv02mlw
Live Time	: 6199.9 seconds
Real Time	: 6692.8 seconds
Dead Time	: 7.36 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: Q3_gsv2ml_R717
Sample Number	: 567878
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 12:03:12PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2339 VSM-8.0M-S3-CST-d-A Q3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.83	137.22	0.2209	6.31
2	48.92	156.29	0.3190	3.71
3	59.58	190.36	0.0419	206.94
4	86.90	276.68	0.1837	9.46
5	105.55	336.77	0.1936	8.04
6	123.12	392.85	0.0562	111.82
7	247.93	790.74	0.0979	33.33
8	344.37	1098.16	0.2120	7.39
9	414.90	1323.01	0.1114	23.50
10	444.63	1417.76	0.2302	5.44
11	511.06	1629.67	0.1029	16.25
12	582.16	1856.04	0.2003	6.72
13	591.93	1887.37	0.0899	31.35
14	661.82	2110.19	0.0476	107.56
15	666.53	2125.29	0.0999	25.73
16	692.68	2207.72	0.1874	10.22
17	695.22	2216.85	0.1082	23.10
18	723.47	2306.64	0.0551	78.16
19	756.98	2413.43	0.0896	29.32
20	779.61	2484.67	0.2070	6.99
21	815.45	2599.97	0.2013	4.95
22	845.84	2696.68	0.1836	6.62
23	850.97	2713.15	0.2929	3.55
24	873.42	2784.66	0.0644	54.84
25	892.77	2846.32	0.2359	3.01
26	904.39	2883.31	0.1551	9.74
27	964.27	3074.05	0.2125	5.39
28	996.52	3177.06	0.0661	49.48
29	1004.98	3204.02	0.0563	67.37
30	1086.18	3462.71	0.1994	4.27
31	1112.84	3547.03	0.2231	3.49
32	1128.52	3597.50	0.1908	4.64
33	1141.54	3638.28	0.2644	3.71
34	1173.53	3741.25	0.0523	74.78
35	1246.37	3973.60	0.1348	10.60
36	1274.75	4063.92	0.0478	87.59
37	1332.82	4249.01	0.0526	71.30
38	1397.68	4455.73	0.1475	8.70
39	1408.46	4489.93	0.1345	9.93
40	1461.14	4658.50	0.2162	3.84
41	1494.39	4764.15	0.1315	10.59
42	1596.91	5090.66	0.0995	17.99
43	1719.90	5482.36	0.1595	7.09
44	2506.21	7989.03	0.1500	6.81

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2339 VSM-8.0M-S3-CST-d-A Q3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 12:03:12PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.83	129	140	136.91	9.98E+03	3034.69	6.42E+05	1.30
F	2	48.92	148	164	156.31	7.28E+03	795.94	1.08E+06	1.49
F	3	59.58	182	198	190.31	4.39E+05	3171.65	1.20E+06	1.21
F	4	86.90	272	285	277.41	2.16E+04	809.45	8.38E+05	1.78
F	5	105.55	333	345	336.85	9.99E+03	699.56	6.18E+05	1.32
F	6	123.12	386	402	392.87	1.40E+05	2674.43	6.34E+05	1.27
F	7	247.93	785	801	790.76	1.72E+04	1222.99	1.39E+05	1.37
F	8	344.37	1092	1107	1098.19	2.02E+03	766.01	5.67E+04	1.35
F	9	414.90	1314	1334	1323.00	6.41E+03	868.32	4.66E+04	1.51
F	10	444.63	1412	1428	1417.80	1.21E+03	757.40	3.15E+04	1.29
F	11	511.06	1617	1641	1629.55	1.58E+04	838.22	3.30E+04	3.02
F	12	582.16	1844	1862	1856.21	1.59E+03	559.85	1.67E+04	1.52
F	13	591.93	1878	1897	1887.33	7.12E+03	503.85	1.73E+04	1.66
M	14	661.82	2098	2132	2110.13	4.65E+04	595.18	1.32E+04	1.72
m	15	666.53	2098	2132	2125.13	4.97E+03	123.98	1.22E+04	1.73
M	16	692.68	2201	2227	2208.50	2.27E+03	91.16	9.21E+03	1.70
m	17	695.22	2201	2227	2216.59	4.67E+03	105.22	1.09E+04	1.70
F	18	723.47	2293	2317	2306.65	2.63E+04	492.11	1.29E+04	1.77
F	19	756.98	2404	2426	2413.45	5.82E+03	433.88	1.01E+04	1.85
F	20	779.61	2478	2489	2485.60	5.74E+02	273.99	5.11E+03	0.46
F	21	815.45	2591	2609	2599.86	6.65E+02	71.62	6.94E+03	1.91
M	22	845.84	2688	2721	2696.70	7.47E+02	294.30	5.67E+03	1.71
m	23	850.97	2688	2721	2713.06	2.40E+02	108.16	6.35E+03	1.72
F	24	873.42	2772	2798	2784.64	1.41E+04	340.28	7.71E+03	1.92
F	25	892.77	2837	2860	2846.30	7.82E+02	67.31	6.46E+03	2.96
F	26	904.39	2876	2892	2883.34	8.24E+02	64.80	4.83E+03	1.57
F	27	964.27	3068	3086	3074.22	4.59E+02	304.86	4.48E+03	1.76
F	28	996.52	3162	3188	3177.01	1.16E+04	331.00	5.84E+03	2.00
F	29	1004.98	3190	3216	3203.98	1.99E+04	376.22	5.75E+03	2.00
F	30	1086.18	3457	3473	3462.78	4.13E+02	50.57	2.59E+03	2.15
F	31	1112.84	3535	3555	3547.77	5.30E+02	264.32	2.97E+03	2.06
F	32	1128.52	3586	3612	3597.75	7.05E+02	250.01	3.09E+03	2.92
F	33	1141.54	3632	3644	3639.25	2.56E+02	38.99	1.39E+03	2.22
F	34	1173.53	3726	3756	3741.21	2.46E+04	346.77	2.56E+03	2.11
F	35	1246.37	3966	3983	3973.40	7.30E+02	39.40	1.14E+03	2.02
F	36	1274.75	4048	4079	4063.84	3.30E+04	368.04	1.86E+03	2.17
F	37	1332.82	4233	4263	4248.94	2.24E+04	305.51	1.25E+03	2.20
F	38	1397.68	4442	4464	4455.67	5.36E+02	29.57	6.29E+02	2.30
F	39	1408.46	4478	4499	4490.04	6.65E+02	30.65	5.23E+02	2.27
F	40	1461.14	4647	4668	4657.92	1.34E+02	77.04	4.59E+02	1.94

Analysis Report for 24-2339 VSM-8.0M-S3-CST-d-A Q3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1494.39	4751 -	4775	4763.91	6.17E+02	87.48	3.63E+02	2.21
F	42	1596.91	5073 -	5105	5090.65	1.73E+03	101.49	2.65E+02	2.46
F	43	1719.90	5473 -	5494	5482.66	2.16E+02	16.10	8.29E+01	2.20
F	44	2506.21	7976 -	7999	7988.56	2.33E+02	41.57	2.38E+01	2.58

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 12:03:12PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567379.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.83	9.98E+03	3034.69			9.98E+03	3.03E+03
F	2	48.92	7.28E+03	795.94			7.28E+03	7.96E+02
F	3	59.58	4.39E+05	3171.65			4.39E+05	3.17E+03
F	4	86.90	2.16E+04	809.45	4.50E+01	3.02E+00	2.16E+04	8.09E+02
F	5	105.55	9.99E+03	699.56			9.99E+03	7.00E+02
F	6	123.12	1.40E+05	2674.43			1.40E+05	2.67E+03
F	7	247.93	1.72E+04	1222.99			1.72E+04	1.22E+03
F	8	344.37	2.02E+03	766.01			2.02E+03	7.66E+02
F	9	414.90	6.41E+03	868.32			6.41E+03	8.68E+02
F	10	444.63	1.21E+03	757.40			1.21E+03	7.57E+02
F	11	511.06	1.58E+04	838.22	2.44E+02	1.02E+01	1.55E+04	8.38E+02
F	12	582.16	1.59E+03	559.85			1.59E+03	5.60E+02
F	13	591.93	7.12E+03	503.85			7.12E+03	5.04E+02
M	14	661.82	4.65E+04	595.18			4.65E+04	5.95E+02
m	15	666.53	4.97E+03	123.98			4.97E+03	1.24E+02
M	16	692.68	2.27E+03	91.16			2.27E+03	9.12E+01
m	17	695.22	4.67E+03	105.22			4.67E+03	1.05E+02
F	18	723.47	2.63E+04	492.11			2.63E+04	4.92E+02
F	19	756.98	5.82E+03	433.88			5.82E+03	4.34E+02
F	20	779.61	5.74E+02	273.99			5.74E+02	2.74E+02
F	21	815.45	6.65E+02	71.62			6.65E+02	7.16E+01
M	22	845.84	7.47E+02	294.30			7.47E+02	2.94E+02
m	23	850.97	2.40E+02	108.16			2.40E+02	1.08E+02
F	24	873.42	1.41E+04	340.28			1.41E+04	3.40E+02
F	25	892.77	7.82E+02	67.31			7.82E+02	6.73E+01

Analysis Report for 24-2339 VSM-8.0M-S3-CST-d-A Q3

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 26	904.39	8.24E+02	64.80			8.24E+02	6.48E+01
F 27	964.27	4.59E+02	304.86	1.66E+00	7.31E-01	4.57E+02	3.05E+02
F 28	996.52	1.16E+04	331.00			1.16E+04	3.31E+02
F 29	1004.98	1.99E+04	376.22			1.99E+04	3.76E+02
F 30	1086.18	4.13E+02	50.57			4.13E+02	5.06E+01
F 31	1112.84	5.30E+02	264.32			5.30E+02	2.64E+02
F 32	1128.52	7.05E+02	250.01			7.05E+02	2.50E+02
F 33	1141.54	2.56E+02	38.99			2.56E+02	3.90E+01
F 34	1173.53	2.46E+04	346.77			2.46E+04	3.47E+02
F 35	1246.37	7.30E+02	39.40			7.30E+02	3.94E+01
F 36	1274.75	3.30E+04	368.04			3.30E+04	3.68E+02
F 37	1332.82	2.24E+04	305.51			2.24E+04	3.06E+02
F 38	1397.68	5.36E+02	29.57			5.36E+02	2.96E+01
F 39	1408.46	6.65E+02	30.65	6.71E+00	2.44E+00	6.59E+02	3.07E+01
F 40	1461.14	1.34E+02	77.04	1.87E+02	4.82E+00	-5.34E+01	7.72E+01
F 41	1494.39	6.17E+02	87.48			6.17E+02	8.75E+01
F 42	1596.91	1.73E+03	101.49			1.73E+03	1.01E+02
F 43	1719.90	2.16E+02	16.10			2.16E+02	1.61E+01
F 44	2506.21	2.33E+02	41.57			2.33E+02	4.16E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.98	1460.82	*	10.66	-2.64E-04	3.82E-04	miss
CO-60	0.98	1173.23	*	99.85	1.17E-02	1.75E-04	0.962
		1332.49	*	99.98	1.16E-02	1.71E-04	0.962
CU-64	0.92	511.00	*	35.00	1.51E-01	8.26E-03	1.000
		1345.77		0.47			
ZR-95	0.95	724.19	*	44.27	2.06E-02	4.13E-04	free
		756.72	*	54.38	3.82E-03	2.86E-04	free
Te-129m	0.93	695.88	*	3.00	5.37E-02	1.08E-02	free
CS-137	0.99	661.66	*	85.10	1.76E-02	2.46E-04	miss
EU-152	0.43	121.78		28.53			

Analysis Report for 24-2339 VSM-8.0M-S3-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-152	0.43	344.28	*	26.59	1.69E-03	6.39E-04	0.971
		778.90	*	12.93	1.65E-03	7.87E-04	0.959
		867.37	@	4.23			
		964.08	*@	14.51	1.32E-03	8.82E-04	0.966
		1085.87	*	10.11	1.77E-03	2.17E-04	1.009
		1112.07	*	13.67	1.75E-03	8.74E-04	0.981
		1408.01	*	20.87	1.67E-03	7.89E-05	0.974
EU-154	0.99	42.70	*	20.45	3.68E-02	1.13E-02	miss
		123.07	*	40.40	4.78E-02	1.10E-03	0.956
		247.93	*	6.89	4.72E-02	3.40E-03	0.943
		591.76	*	4.95	4.63E-02	3.32E-03	0.932
		692.42	*	1.78	4.46E-02	1.87E-03	0.948
		723.30	*	20.06	4.69E-02	1.02E-03	0.951
		756.80	*	4.52	4.85E-02	3.66E-03	0.928
		873.18	*	12.08	4.71E-02	1.26E-03	0.944
		996.29	*	10.48	4.65E-02	1.42E-03	0.986
		1004.76	*	18.01	4.71E-02	1.03E-03	0.977
		1246.12	*	0.86	4.34E-02	2.42E-03	0.936
		1274.43	*	34.80	4.68E-02	7.11E-04	0.979
		1494.05	*	0.70	4.68E-02	6.66E-03	1.013
		1596.48	*	1.80	4.67E-02	2.80E-03	1.155
EU-155	0.98	43.00	*	18.12	4.16E-02	1.27E-02	1.000
		60.01	*	1.17	9.92E+00	2.90E-01	0.999
		86.55	*	30.70	1.00E-02	3.97E-04	free
		105.31	*	21.10	6.13E-03	4.56E-04	1.000
NP-237	0.97	86.48	*	12.20	2.52E-02	1.15E-03	1.000
AM-241	1.00	59.54	*	35.90	3.22E-01	5.79E-03	free
AM-242m	0.62	49.35	*	0.13	2.53E+00	2.93E-01	miss
		66.89		0.01			
		86.65	*	0.02	1.35E+01	5.35E+00	miss
		163.25		0.02			

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2339 VSM-8.0M-S3-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name		Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
X	NA-22		0.997			
	K-40		0.984	-2.64E-04	3.82E-04	
	CO-60		0.984	1.17E-02	1.22E-04	
	CU-64		0.923	1.51E-01	8.26E-03	
X	GA-66		0.556			
	ZR-95		0.958	1.04E-04	2.43E-04	
X	RU-106		0.902			
	Te-129m		0.932	5.37E-02	1.08E-02	
	CS-137		0.996	1.76E-02	2.46E-04	
	EU-152	@	0.432	1.68E-03	7.31E-05	
	EU-154		0.993	4.68E-02	3.56E-04	
	EU-155		0.987	6.11E-03	4.32E-04	
	NP-237		0.972	5.13E-03	1.54E-03	
	AM-241		1.000	3.22E-01	4.54E-03	
	AM-242m		0.626	2.53E+00	2.77E-01	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2339 VSM-8.0M-S3-CST-d-A Q3
ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 12:03:12PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	9	414.90	1.03463E+00	13.54	Tol.	RH-102M
F	10	444.63	1.95840E-01	62.38	Tol.	SB-127
F	12	582.16	2.55970E-01	35.28		
m	15	666.53	8.02391E-01	2.49		
F	21	815.45	1.07335E-01	10.76	Sum	
M	22	845.84	1.20509E-01	39.39	Sum	
m	23	850.97	3.87628E-02	45.00	Tol.	AG-112
F	25	892.77	1.26146E-01	8.61		
F	26	904.39	1.32850E-01	7.87		
F	32	1128.52	1.13684E-01	35.47	Sum	
F	33	1141.54	4.13563E-02	15.21	Tol.	SR-92
F	38	1397.68	8.63924E-02	5.52	Sum	
F	43	1719.90	3.48568E-02	7.45	Sum	
F	44	2506.21	3.76369E-02	17.82	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.60		10.44	2.76E-03	2.76E-03	-1.36E-04	1.38E-03
NA-22	511.00	*	179.91	2.46E-04	2.24E-04	2.37E-03	1.23E-04

Analysis Report for 24-2339 VSM-8.0M-S3-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	NA-22	1274.54	*	99.94	2.24E-04	2.24E-04	1.73E-02	1.12E-04
	NA-24	1368.63		99.99	7.91E-04	7.91E-04	-5.63E-04	3.90E-04
>		2754.01		99.87	0.00E+00		0.00E+00	0.00E+00
	AL-26	1129.67		2.50	6.52E-03	3.72E-05	1.27E-02	3.24E-03
		1808.65		99.76	3.72E-05		9.23E-06	1.78E-05
+	K-40	1460.82	*	10.66	9.38E-04	9.38E-04	-2.64E-04	4.62E-04
	K-42	312.60		0.34	1.36E+00	4.67E-03	1.34E-01	6.80E-01
		1524.60		18.08	4.67E-03		-4.04E-03	2.28E-03
	Sc-44	1157.02		99.90	4.50E-01	4.50E-01	6.64E-02	2.23E-01
		1499.46		0.91	3.18E+01		-2.25E+00	1.57E+01
	Sc-44m	271.24		86.74	7.54E-04	7.54E-04	-2.95E-05	3.76E-04
		1001.83		1.20	5.95E-02		1.29E+00	2.97E-02
		1126.06		1.20	2.53E-02		1.22E-04	1.26E-02
		1157.00		1.20	2.23E-02		3.30E-03	1.11E-02
	TI-44	67.87		93.00	1.31E-03	9.73E-04	6.90E-04	6.53E-04
		78.32		96.40	9.73E-04		-1.43E-03	4.86E-04
	SC-46	889.28		99.98	2.10E-04	1.71E-04	-4.20E-05	1.05E-04
		1120.55		99.99	1.71E-04		1.20E-05	8.48E-05
	CA-47	489.23		5.90	6.69E-03	2.09E-04	-4.65E-03	3.34E-03
		807.86		5.90	4.85E-03		4.01E-03	2.41E-03
		1297.09		67.00	2.09E-04		8.20E-05	1.03E-04
	SC-47	159.38		68.30	1.10E-03	1.10E-03	-7.09E-05	5.52E-04
	SC-48	175.36		7.47	1.32E-02	2.08E-04	3.99E-04	6.61E-03
		983.53		100.00	3.80E-04		-3.09E-04	1.89E-04
		1037.52		97.50	3.82E-04		-9.13E-05	1.90E-04
		1312.12		100.00	2.08E-04		2.02E-04	1.03E-04
	V-48	944.13		7.87	2.73E-03	1.16E-04	2.28E-03	1.36E-03
		983.53		99.98	2.07E-04		-1.68E-04	1.03E-04
		1312.11		98.20	1.16E-04		1.12E-04	5.70E-05
		2240.40		2.33	1.23E-03		-1.12E-03	5.69E-04
	CR-51	320.08		9.91	3.59E-03	3.59E-03	3.56E-03	1.79E-03
	Fe-52	168.69		99.20	2.35E-02	2.35E-02	3.39E-02	1.17E-02
		377.75		1.64	9.09E-01		1.19E+00	4.54E-01
	Mn-52	744.23		90.00	3.33E-04	1.06E-04	-1.11E-04	1.66E-04
		848.18		3.32	8.40E-03		2.33E-02	4.18E-03
		935.54		94.50	2.75E-04		-7.28E-05	1.37E-04
		1246.28		4.21	4.36E-03		1.45E-02	2.16E-03
		1333.65		5.07	9.67E-03		3.02E-01	4.82E-03
		1434.09		100.00	1.06E-04		-6.50E-05	5.20E-05
	MN-54	834.85		99.98	1.99E-04	1.99E-04	2.52E-04	9.91E-05
	Co-55	411.50		1.07	1.80E-01	1.57E-03	8.34E-03	8.97E-02
		477.20		20.20	8.65E-03		6.64E-03	4.31E-03
		803.70		1.87	6.84E-02		3.23E-04	3.40E-02
		931.10		75.00	1.57E-03		-1.33E-03	7.79E-04
		1316.60		7.10	8.51E-03		-8.68E-03	4.20E-03
		1370.00		2.90	1.90E-02		-1.43E-03	9.36E-03
		1408.50		16.90	3.78E-03		1.09E-02	1.86E-03
	Co-56	846.77		99.94	2.19E-04	1.93E-04	-3.15E-05	1.09E-04
		977.37		1.42	1.41E-02		8.33E-04	7.01E-03
		1037.84		14.05	1.38E-03		-5.74E-04	6.84E-04
		1175.10		2.25	1.76E-02		5.49E-01	8.79E-03
		1238.29		66.46	1.93E-04		-3.31E-05	9.56E-05
		1360.21		4.28	2.33E-03		3.96E-03	1.15E-03

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Co-56	1771.36		15.41	2.91E-04	1.93E-04	1.32E-04	1.40E-04
		2015.20		3.02	8.65E-04		-1.83E-03	4.01E-04
		2034.79		7.77	3.79E-04		-4.63E-04	1.77E-04
>		2598.50		16.97	0.00E+00		0.00E+00	0.00E+00
	MN-56	846.76		98.85	5.03E+01	3.34E+01	-7.26E+00	2.50E+01
		1810.73		26.90	3.34E+01		-3.96E+00	1.59E+01
		2113.09		14.20	4.80E+01		-3.53E+00	2.24E+01
	Ni-56	158.38		98.80	6.41E-04	3.01E-04	-3.07E-04	3.20E-04
		269.50		36.50	1.30E-03		9.86E-04	6.49E-04
		480.44		36.50	9.56E-04		4.50E-05	4.77E-04
		749.50		49.50	5.51E-04		-1.48E-05	2.74E-04
		811.85		86.00	3.01E-04		-8.68E-05	1.50E-04
		1561.80		14.00	4.96E-04		6.56E-04	2.42E-04
	CO-57	122.06		85.60	7.52E-04	7.52E-04	-3.99E-04	3.76E-04
		136.47		10.68	5.27E-03		7.58E-03	2.63E-03
	NI-57	127.16		16.70	8.81E-03	2.59E-04	2.44E-03	4.40E-03
		1377.63		81.70	2.59E-04		-9.17E-05	1.28E-04
		1757.55		5.75	1.76E-03		-1.46E-03	8.46E-04
		1919.52		12.30	6.11E-04		-8.90E-05	2.88E-04
	CO-58	810.76		99.45	2.16E-04	2.16E-04	3.94E-05	1.07E-04
		863.96		0.69	3.01E-02		-6.38E-03	1.49E-02
		1674.73		0.52	9.00E-03		5.66E-03	4.35E-03
	FE-59	142.65		1.02	5.50E-02	2.55E-04	4.08E-02	2.75E-02
		192.34		3.08	1.56E-02		1.80E-02	7.82E-03
		1099.24		56.50	2.96E-04		-3.28E-04	1.47E-04
		1291.59		43.20	2.55E-04		-3.90E-05	1.26E-04
+	CO-60	1173.23	*	99.85	2.37E-04	1.80E-04	1.17E-02	1.18E-04
		1332.49	*	99.98	1.80E-04		1.16E-02	8.91E-05
+	CU-64	511.00	*	35.00	1.56E-02	1.56E-02	1.51E-01	7.81E-03
		1345.77		0.47	2.50E-01		3.29E-02	1.23E-01
	NI-65	366.27		4.81	2.25E+03	9.73E+01	6.82E+01	1.12E+03
		1115.53		15.43	3.49E+02		7.27E+01	1.73E+02
		1481.84		23.59	9.73E+01		1.12E+02	4.77E+01
	ZN-65	1115.54		50.04	3.29E-04	3.29E-04	6.85E-05	1.63E-04
	GA-66	511.00	*	114.00	1.13E-02	1.13E-02	1.08E-01	5.62E-03
		833.53		5.90	9.75E-02		-1.42E-01	4.85E-02
		1039.22		37.00	1.41E-02		5.47E-04	6.99E-03
		1333.11	*	1.17	4.28E-01		2.76E+01	2.12E-01
		1918.33		1.99	4.46E-02		4.68E-03	2.11E-02
		2189.62		5.30	1.59E-02		1.60E-02	7.45E-03
>		2751.83		22.70	0.00E+00		0.00E+00	0.00E+00
	CU-67	91.27		7.00	1.76E-02	1.59E-03	7.38E-03	8.78E-03
		93.31		16.10	7.43E-03		1.37E-02	3.71E-03
		184.58		48.70	1.59E-03		-6.74E-04	7.92E-04
		300.22		0.80	7.45E-02		1.17E-04	3.72E-02
		393.53		0.22	2.33E-01		-3.36E-02	1.16E-01
	GA-67	91.26		3.11	3.65E-02	2.80E-03	1.53E-02	1.82E-02
		93.31		38.81	2.80E-03		5.17E-03	1.40E-03
		184.58		21.41	3.24E-03		-1.38E-03	1.62E-03
		208.95		2.46	2.95E-02		-7.95E-03	1.47E-02
		300.22		16.64	3.28E-03		5.16E-06	1.64E-03
		393.53		4.56	9.12E-03		-1.32E-03	4.55E-03
	ZN-69m	438.63		94.85	3.18E-03	3.18E-03	9.98E-04	1.58E-03

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ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	GA-72	629.97	26.13	9.38E-03	1.20E-03	1.23E-02	4.67E-03
		834.13	95.45	2.10E-03		-2.93E-03	1.04E-03
		894.33	10.14	2.02E-02		2.43E-02	1.01E-02
		1050.79	6.99	2.69E-02		2.18E-02	1.33E-02
		2201.59	26.87	1.20E-03		1.89E-03	5.66E-04
		2491.03	7.73	2.34E-03		-2.92E-03	1.03E-03
		2507.72	13.33	4.81E-03		1.42E-02	2.33E-03
	Zn-72	144.70	82.78	1.30E-03	1.30E-03	1.35E-03	6.48E-04
		191.50	9.35	9.58E-03		-2.39E-03	4.78E-03
	SE-75	121.12	17.20	3.97E-03	6.95E-04	-3.01E-03	1.98E-03
		136.00	58.50	1.02E-03		1.49E-03	5.08E-04
		264.66	58.90	6.95E-04		4.35E-05	3.47E-04
		279.54	25.02	1.55E-03		9.80E-05	7.76E-04
		400.66	11.41	2.04E-03		2.41E-05	1.02E-03
	BR-83	529.59	1.30	1.43E+04	1.43E+04	-9.40E+03	7.14E+03
@	BR-84	604.80	1.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		736.50	1.29	1.00E+20		1.00E+20	1.00E+20
@		802.20	6.00	1.00E+20		1.00E+20	1.00E+20
@		881.60	42.00	1.00E+20		1.00E+20	1.00E+20
@		987.30	0.79	1.00E+20		1.00E+20	1.00E+20
@		1015.90	6.20	1.00E+20		1.00E+20	1.00E+20
@		1213.30	2.60	1.00E+20		1.00E+20	1.00E+20
@		1463.80	2.00	1.00E+20		1.00E+20	1.00E+20
@		1741.20	1.60	1.00E+20		1.00E+20	1.00E+20
@		1877.50	1.12	1.00E+20		1.00E+20	1.00E+20
@		1897.60	14.60	1.00E+20		1.00E+20	1.00E+20
@		2029.60	2.10	1.00E+20		1.00E+20	1.00E+20
@		2200.70	1.16	1.00E+20		1.00E+20	1.00E+20
@		2484.10	6.70	1.00E+20		1.00E+20	1.00E+20
>@		2824.10	1.12	0.00E+00		0.00E+00	0.00E+00
	KR-85m	151.20	75.20	8.74E-01	8.74E-01	-2.72E-01	4.36E-01
		304.87	14.00	3.13E+00		8.20E-02	1.56E+00
	Y-87	388.53	82.20	5.59E-04	4.73E-04	5.00E-05	2.79E-04
		484.80	89.80	4.73E-04		-1.20E-04	2.36E-04
	KR-88	165.98	3.10	1.41E+03	5.82E+00	6.13E+02	7.06E+02
		196.30	26.00	1.44E+02		-7.83E+00	7.22E+01
		362.23	2.25	1.13E+03		-6.14E+02	5.66E+02
		471.80	0.73	3.28E+03		1.13E+03	1.64E+03
		834.83	13.00	1.29E+02		1.63E+02	6.40E+01
		985.78	1.31	1.20E+03		-1.24E+02	5.96E+02
		1141.33	1.28	9.87E+02		1.85E+02	4.90E+02
		1179.51	1.00	2.93E+03		-2.06E+02	1.46E+03
		1250.67	1.12	9.88E+02		2.90E+03	4.89E+02
		1369.50	1.48	5.10E+02		-4.20E+02	2.51E+02
		1518.39	2.15	2.46E+02		-2.95E+01	1.20E+02
		1529.77	10.90	4.88E+01		-3.89E+01	2.38E+01
		2029.84	4.53	5.35E+01		4.19E+00	2.50E+01
		2035.41	3.74	6.46E+01		5.04E+01	3.02E+01
		2195.84	13.20	1.88E+01		1.31E+01	8.77E+00
		2231.77	3.39	7.12E+01		-1.04E+02	3.34E+01
		2352.08	0.73	2.72E+02		-4.41E+01	1.24E+02
		2392.11	34.60	5.82E+00		-2.14E-01	2.67E+00
	RB-88	898.03	14.40	1.18E+02	1.23E+01	1.14E+01	5.87E+01

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	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RB-88	1382.45	0.78	9.32E+02	1.23E+01	-3.88E+02	4.59E+02
		1836.00	22.81	1.23E+01		4.29E+00	5.82E+00
>		2677.89	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-88	898.04	93.70	2.25E-04	3.54E-05	2.18E-05	1.12E-04
		1836.06	99.20	3.54E-05		1.35E-05	1.68E-05
@	RB-89	272.42	1.53	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		657.77	10.80	1.00E+20		1.00E+20	1.00E+20
@		947.73	10.00	1.00E+20		1.00E+20	1.00E+20
@		1031.92	63.00	1.00E+20		1.00E+20	1.00E+20
@		1248.14	46.00	1.00E+20		1.00E+20	1.00E+20
@		1538.07	2.77	1.00E+20		1.00E+20	1.00E+20
@		2007.50	2.58	1.00E+20		1.00E+20	1.00E+20
@		2195.92	14.50	1.00E+20		1.00E+20	1.00E+20
>@		2570.20	10.70	0.00E+00		0.00E+00	0.00E+00
>@		2707.26	2.20	0.00E+00		0.00E+00	0.00E+00
	SR-89	908.96	0.01	2.14E+00	2.14E+00	-4.65E-01	1.06E+00
	Sr-91	652.90	11.35	5.57E-02	1.47E-02	8.75E-02	2.77E-02
		749.80	23.70	2.55E-02		-4.28E-03	1.27E-02
		925.80	3.85	1.36E-01		2.58E-02	6.78E-02
		1024.30	33.50	1.47E-02		-1.83E-03	7.29E-03
	Y-91	1204.77	0.26	4.82E-02	4.82E-02	-1.71E-02	2.39E-02
	NB-92M	912.60	1.78	1.28E-02	2.18E-04	6.53E-03	6.34E-03
		934.44	99.15	2.18E-04		1.15E-04	1.08E-04
		1847.50	0.85	4.44E-03		1.27E-03	2.11E-03
	SR-92	241.56	2.93	2.90E+03	1.96E+01	-2.03E+03	1.45E+03
		430.49	3.28	1.87E+03		9.81E+02	9.31E+02
		953.31	3.52	1.11E+03		-7.73E+01	5.51E+02
		1142.35	2.79	1.12E+03		1.02E+03	5.53E+02
		1383.93	90.00	1.96E+01		6.33E+00	9.66E+00
	MO-93M	114.04	0.68	9.73E+00	7.76E-03	-1.27E-01	4.86E+00
		263.05	57.40	7.17E-02		3.37E-02	3.58E-02
		684.69	99.90	2.41E-02		3.32E-03	1.20E-02
		1363.02	0.81	1.22E+00		-3.89E-01	6.02E-01
		1477.14	99.10	7.76E-03		6.72E-03	3.80E-03
@	SR-93	168.50	18.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		260.12	7.40	1.00E+20		1.00E+20	1.00E+20
@		346.49	3.28	1.00E+20		1.00E+20	1.00E+20
@		446.20	2.36	1.00E+20		1.00E+20	1.00E+20
@		590.24	68.00	1.00E+20		1.00E+20	1.00E+20
@		710.31	21.80	1.00E+20		1.00E+20	1.00E+20
@		875.73	24.50	1.00E+20		1.00E+20	1.00E+20
@		888.13	22.10	1.00E+20		1.00E+20	1.00E+20
@		1040.63	3.20	1.00E+20		1.00E+20	1.00E+20
@		1094.00	1.76	1.00E+20		1.00E+20	1.00E+20
@		1122.48	4.00	1.00E+20		1.00E+20	1.00E+20
@		1215.48	2.50	1.00E+20		1.00E+20	1.00E+20
@		1269.47	7.10	1.00E+20		1.00E+20	1.00E+20
@		1321.24	2.61	1.00E+20		1.00E+20	1.00E+20
@		1387.11	3.50	1.00E+20		1.00E+20	1.00E+20
@		1694.07	2.58	1.00E+20		1.00E+20	1.00E+20
@		1699.06	3.30	1.00E+20		1.00E+20	1.00E+20
@		2543.84	3.03	1.00E+20		1.00E+20	1.00E+20
>@		2688.65	2.13	0.00E+00		0.00E+00	0.00E+00

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Y-93	266.90		7.40	1.20E-01	4.43E-02	8.01E-02	5.98E-02
		947.10		2.10	2.09E-01		2.49E-01	1.04E-01
		1917.80		1.57	4.43E-02		-1.90E-03	2.09E-02
	NB-94	702.65		99.81	2.33E-04	2.33E-04	2.89E-04	1.16E-04
		871.09		99.89	2.97E-04		1.01E-04	1.48E-04
@	Y-94	381.60		2.02	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		550.90		4.90	1.00E+20		1.00E+20	1.00E+20
@		752.60		1.40	1.00E+20		1.00E+20	1.00E+20
@		918.74		56.00	1.00E+20		1.00E+20	1.00E+20
@		1138.90		6.00	1.00E+20		1.00E+20	1.00E+20
@		1671.40		2.50	1.00E+20		1.00E+20	1.00E+20
@		2140.60		0.95	1.00E+20		1.00E+20	1.00E+20
	NB-95	765.80		99.81	2.25E-04	2.25E-04	8.22E-05	1.12E-04
+	ZR-95	724.19	*	44.27	7.92E-04	5.68E-04	2.06E-02	3.95E-04
		756.72	*	54.38	5.68E-04		3.82E-03	2.83E-04
	NB-96	219.08		2.97	5.84E-02	8.88E-04	-2.30E-03	2.92E-02
		241.38		3.50	4.64E-02		-3.25E-02	2.31E-02
		350.05		1.54	8.43E-02		2.75E-02	4.21E-02
		352.56		0.83	1.55E-01		-1.16E-02	7.75E-02
		371.81		2.62	4.76E-02		-3.18E-02	2.38E-02
		460.04		26.62	4.26E-03		-4.39E-04	2.13E-03
		480.71		5.84	1.89E-02		-9.19E-03	9.40E-03
		568.87		58.00	1.71E-03		5.46E-04	8.50E-04
		719.56		6.85	1.94E-02		7.00E-03	9.68E-03
		721.63		1.02	1.31E-01		3.26E+00	6.51E-02
		778.22		96.45	8.88E-04		1.05E-03	4.42E-04
		810.33		11.09	7.36E-03		2.93E-03	3.66E-03
		812.58		2.95	2.77E-02		2.17E-02	1.38E-02
		847.69		1.14	7.03E-02		9.71E-03	3.50E-02
		849.93		20.45	3.90E-03		-2.73E-05	1.94E-03
		1091.35		48.50	1.37E-03		2.49E-04	6.79E-04
		1200.23		19.97	2.46E-03		3.08E-03	1.22E-03
		1441.13		0.44	6.43E-02		-4.80E-03	3.15E-02
		1497.81		3.28	1.10E-02		-1.45E-03	5.40E-03
	Nb-97	657.94		98.23	2.70E-03	2.70E-03	3.85E-04	1.35E-03
		1024.40		1.09	1.11E-01		-3.07E-02	5.50E-02
	ZR-97	254.17		1.15	2.33E-01	1.59E-03	-2.03E-02	1.17E-01
		355.40		2.09	1.12E-01		9.69E-02	5.57E-02
		507.64		5.03	4.43E-02		-3.96E-03	2.21E-02
		743.36		93.09	1.59E-03		1.71E-04	7.90E-04
		1147.97		2.62	4.01E-02		-3.96E-02	1.99E-02
	MO-99	181.07		6.14	1.31E-02	3.04E-03	-6.41E-03	6.56E-03
		366.42		1.20	4.32E-02		1.31E-03	2.16E-02
		739.50		12.26	3.04E-03		3.27E-03	1.52E-03
		777.92		4.30	8.22E-03		3.83E-03	4.09E-03
	TC-99M	140.51		90.80	9.82E-04	9.82E-04	-4.64E-04	4.91E-04
	RH-101	127.23		68.00	9.24E-04	6.30E-04	2.56E-04	4.62E-04
		198.01		73.00	6.30E-04		3.14E-04	3.15E-04
		325.23		11.80	2.26E-03		-6.44E-04	1.13E-03
	RH-101M	306.86		81.00	5.85E-04	5.85E-04	-1.75E-04	2.92E-04
		545.12		4.30	8.24E-03		1.01E-02	4.11E-03
	RH-102M	415.25		2.10	1.67E-02	3.25E-04	8.86E-02	8.33E-03
		418.52		9.40	3.64E-03		-9.90E-04	1.82E-03

Analysis Report for 24-2339 VSM-8.0M-S3-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
RH-102M	420.40		3.20	1.03E-02	3.25E-04	-3.55E-03	5.16E-03
	475.06		95.00	3.25E-04		9.81E-05	1.62E-04
	628.05		8.30	3.21E-03		1.02E-03	1.60E-03
	631.29		56.00	4.56E-04		-2.56E-05	2.27E-04
	692.40		1.60	1.82E-02		3.59E-03	9.07E-03
	695.60		2.90	9.82E-03		8.67E-02	4.89E-03
	697.49		44.00	6.41E-04		1.56E-05	3.19E-04
	766.84		34.00	6.90E-04		-3.87E-04	3.44E-04
	1046.59		34.00	5.70E-04		6.20E-04	2.83E-04
	1103.16		4.60	3.62E-03		2.95E-03	1.80E-03
	1112.84		19.00	9.42E-04		8.97E-04	4.67E-04
RU-103	497.08		91.00	3.18E-04	3.18E-04	-1.12E-04	1.59E-04
	610.33		5.76	4.29E-03		4.06E-04	2.14E-03
RH-105	306.31		4.66	1.85E-02	4.96E-03	3.12E-03	9.23E-03
	319.23		16.90	4.96E-03		-4.71E-04	2.48E-03
AG-106M	221.70		6.60	7.79E-03	4.25E-04	-6.11E-03	3.89E-03
	228.63		2.10	2.41E-02		1.83E-02	1.20E-02
	328.46		1.14	3.44E-02		-3.05E-02	1.72E-02
	391.04		3.68	9.80E-03		1.16E-04	4.89E-03
	406.18		13.40	2.62E-03		-4.53E-03	1.31E-03
	429.65		13.20	2.65E-03		2.87E-03	1.32E-03
	450.98		28.20	1.21E-03		7.89E-04	6.03E-04
	511.85		88.00	4.25E-04		5.64E-03	2.12E-04
	601.17		1.61	1.76E-02		7.45E-03	8.78E-03
	616.17		21.60	1.29E-03		5.03E-04	6.43E-04
	646.03		1.46	1.86E-02		1.09E-02	9.24E-03
	680.42		2.18	1.23E-02		4.29E-03	6.12E-03
	703.11		4.47	5.84E-03		3.25E-03	2.91E-03
	717.34		28.90	1.08E-03		1.08E-04	5.37E-04
	748.36		20.60	1.24E-03		9.17E-04	6.19E-04
	793.17		5.90	4.21E-03		4.92E-05	2.10E-03
	804.28		12.40	1.95E-03		-1.49E-03	9.70E-04
	808.36		4.00	6.01E-03		6.49E-03	2.99E-03
	824.69		15.30	1.55E-03		2.27E-03	7.72E-04
	847.15		4.40	5.45E-03		6.72E-04	2.71E-03
	1019.72		1.04	2.03E-02		-3.29E-02	1.01E-02
	1045.83		29.60	7.11E-04		2.01E-04	3.53E-04
	1128.02		11.80	1.61E-03		3.25E-03	7.97E-04
	1199.39		11.20	1.32E-03		2.16E-03	6.52E-04
	1222.88		7.00	1.96E-03		-1.29E-03	9.68E-04
	1394.35		1.49	8.13E-03		2.06E-02	4.01E-03
	1527.65		16.30	4.51E-04		-2.60E-04	2.20E-04
	1572.35		6.60	9.83E-04		7.94E-04	4.78E-04
	1722.76		1.40	5.00E-03		3.45E-03	2.43E-03
	1839.05		2.00	2.01E-03		-3.22E-03	9.55E-04
RH-106	621.93		9.93	2.50E-03	2.50E-03	9.12E-04	1.25E-03
	873.49		0.44	6.97E-02		1.29E+00	3.47E-02
	1050.41		1.56	1.20E-02		5.99E-04	5.97E-03
RU-106	511.86	*	20.40	2.17E-03	2.17E-03	2.09E-02	1.09E-03
AG-108M	79.13		6.60	1.35E-02	2.88E-04	-4.97E-02	6.75E-03
	433.94		90.50	3.55E-04		-1.63E-05	1.77E-04
	614.28		89.80	2.88E-04		-1.42E-04	1.44E-04
	722.91		90.80	4.06E-04		1.09E-02	2.03E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
CD-109	88.03	3.64	2.13E-02	2.13E-02	8.87E-02	1.06E-02
AG-110M	446.81	3.70	9.01E-03	2.86E-04	1.18E-02	4.49E-03
	620.35	2.73	9.84E-03		-2.23E-02	4.90E-03
	657.76	95.61	4.50E-04		2.43E-04	2.24E-04
	677.62	10.70	2.43E-03		2.66E-04	1.21E-03
	687.01	6.53	3.96E-03		1.79E-03	1.97E-03
	706.68	16.69	1.49E-03		5.63E-05	7.43E-04
	744.28	4.77	5.12E-03		-1.71E-03	2.55E-03
	763.94	22.60	1.09E-03		1.63E-04	5.43E-04
	818.02	7.43	3.17E-03		6.68E-03	1.58E-03
	884.68	75.00	2.86E-04		6.83E-05	1.42E-04
	937.48	35.00	5.92E-04		-1.08E-04	2.94E-04
	1384.29	25.10	3.67E-04		-4.52E-06	1.81E-04
	1475.78	4.08	1.81E-03		2.70E-04	8.89E-04
	1505.03	13.33	5.34E-04		4.61E-05	2.61E-04
	1562.29	1.22	4.01E-03		7.59E-04	1.95E-03
AG-111	245.40	1.11	4.54E-02	6.05E-03	-3.92E-02	2.27E-02
	342.13	6.68	6.05E-03		-4.50E-03	3.02E-03
AG-112	606.82	3.10	3.53E-02	2.52E-03	-1.64E-02	1.76E-02
	617.52	43.00	2.52E-03		6.44E-04	1.26E-03
	692.82	1.19	9.99E-02		4.47E-02	4.98E-02
	694.87	2.90	4.08E-02		3.76E-01	2.03E-02
	851.28	1.02	9.03E-02		2.66E-02	4.49E-02
	1312.36	1.11	4.12E-02		6.89E-02	2.03E-02
	1387.68	5.30	7.34E-03		-9.97E-03	3.61E-03
	1613.66	2.80	8.37E-03		-3.04E-03	4.06E-03
	1798.50	0.89	1.90E-02		9.36E-04	9.07E-03
	2106.31	2.40	4.88E-03		-1.51E-03	2.26E-03
	2506.70	1.06	2.76E-02		9.16E-02	1.33E-02
CD-113M	263.70	0.03	1.45E+00	1.45E+00	-1.47E+00	7.23E-01
SN-113	255.13	2.11	1.90E-02	4.77E-04	1.61E-03	9.50E-03
	391.70	64.97	4.77E-04		1.52E-04	2.38E-04
IN-114M	190.27	15.56	2.98E-03	2.98E-03	3.63E-04	1.49E-03
	558.43	4.40	6.22E-03		-5.08E-03	3.10E-03
	725.24	4.40	8.24E-03		-1.95E-05	4.11E-03
CD-115	260.90	1.94	3.66E-02	1.34E-03	2.73E-02	1.83E-02
	336.24	46.02	1.34E-03		3.36E-04	6.70E-04
	527.90	27.45	1.77E-03		-4.59E-05	8.84E-04
CD-115M	933.84	2.00	9.84E-03	9.84E-03	7.53E-03	4.89E-03
	1290.59	0.90	1.23E-02		-1.12E-02	6.10E-03
IN-115M	336.24	45.90	9.18E-01	9.18E-01	2.30E-01	4.58E-01
IN-116M	138.29	3.70	3.30E+13	2.69E+11	3.11E+12	1.65E+13
	416.90	27.20	2.43E+12		1.01E+12	1.21E+12
	818.68	12.13	3.78E+12		1.46E+12	1.88E+12
	1097.28	58.50	5.91E+11		-1.75E+11	2.93E+11
	1293.56	84.80	2.69E+11		1.41E+11	1.33E+11
	1507.59	9.92	1.41E+12		1.95E+12	6.87E+11
	2112.29	15.09	3.91E+11		2.43E+11	1.82E+11
SB-125	176.31	6.84	6.94E-03	9.81E-04	-6.42E-03	3.47E-03
	380.45	1.52	2.06E-02		1.13E-02	1.03E-02
	427.87	29.60	9.81E-04		1.09E-03	4.89E-04
	463.36	10.49	2.75E-03		8.28E-04	1.37E-03
	600.60	17.65	1.37E-03		7.04E-04	6.83E-04

Analysis Report for 24-2339 VSM-8.0M-S3-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SB-125	606.71	4.98	4.82E-03	9.81E-04	-2.10E-03	2.40E-03
	635.95	11.22	2.07E-03		9.25E-04	1.03E-03
	671.44	1.79	1.40E-02		-5.22E-03	7.00E-03
SN-125	332.10	1.40	3.03E-02	1.68E-03	-6.54E-03	1.51E-02
	469.85	1.50	2.34E-02		-7.24E-03	1.17E-02
	800.28	1.10	2.26E-02		-3.74E-03	1.13E-02
	822.48	4.30	5.66E-03		2.78E-03	2.82E-03
	915.55	4.10	5.56E-03		6.19E-05	2.77E-03
	1067.10	10.00	2.02E-03		1.07E-03	1.00E-03
	1087.70	1.20	1.76E-02		1.19E-02	8.74E-03
	1089.10	4.60	4.25E-03		3.32E-04	2.11E-03
	2002.10	1.90	1.68E-03		7.78E-04	7.88E-04
SB-127	61.10	1.43	1.65E-01	8.71E-04	-1.38E-02	8.23E-02
	252.40	8.50	7.00E-03		-8.49E-04	3.49E-03
	290.80	2.02	2.66E-02		2.03E-02	1.33E-02
	412.10	3.80	1.17E-02		3.13E-03	5.85E-03
	445.10	4.30	1.01E-02		9.47E-03	5.06E-03
	473.00	25.80	1.57E-03		-2.11E-03	7.81E-04
	543.30	2.90	1.24E-02		7.45E-04	6.18E-03
	603.50	4.50	7.89E-03		-9.58E-03	3.93E-03
	685.70	36.80	8.71E-04		4.35E-05	4.34E-04
	698.50	3.64	9.81E-03		-5.28E-03	4.89E-03
	722.20	1.88	2.56E-02		6.57E-01	1.28E-02
	783.70	15.10	2.03E-03		1.21E-03	1.01E-03
SN-127	119.70	2.20	1.17E+05	1.75E+03	-1.63E+05	5.84E+04
	262.50	2.30	6.79E+04		4.68E+04	3.39E+04
	266.20	2.10	7.37E+04		2.90E+04	3.68E+04
	284.30	2.70	5.46E+04		-2.90E+04	2.73E+04
	438.20	6.10	1.95E+04		4.89E+02	9.71E+03
	490.90	5.30	2.14E+04		-6.39E+03	1.07E+04
	493.20	3.10	3.65E+04		9.97E+03	1.82E+04
	545.40	2.30	4.55E+04		-2.81E+04	2.27E+04
	583.30	3.20	3.15E+04		3.95E+04	1.57E+04
	805.90	8.20	1.01E+04		3.83E+03	5.01E+03
	823.10	11.00	7.41E+03		6.24E+03	3.69E+03
	824.70	6.10	1.33E+04		1.95E+04	6.63E+03
	859.50	8.00	9.70E+03		6.97E+03	4.83E+03
	979.20	7.20	1.02E+04		3.51E+03	5.07E+03
	1093.30	3.80	1.75E+04		1.39E+04	8.67E+03
	1095.60	19.00	3.46E+03		2.35E+03	1.72E+03
	1114.30	38.00	1.75E+03		3.64E+03	8.66E+02
	1160.40	2.40	2.42E+04		-7.83E+02	1.20E+04
	2003.40	5.30	2.08E+03		1.50E+03	9.72E+02
SB-129	180.42	2.84	2.48E+01	6.50E-01	1.63E+01	1.24E+01
	359.20	2.39	2.04E+01		-1.59E+01	1.02E+01
	404.64	1.17	3.87E+01		8.41E+00	1.93E+01
	523.13	1.55	2.63E+01		1.60E+01	1.31E+01
	544.56	15.42	2.55E+00		1.23E+00	1.27E+00
	633.74	2.53	1.39E+01		-1.65E+01	6.91E+00
	654.28	2.97	1.17E+01		1.05E+01	5.84E+00
	682.77	5.76	5.95E+00		-2.84E+00	2.96E+00
	761.12	4.32	8.71E+00		-1.56E+00	4.34E+00
	773.37	2.82	1.16E+01		-1.34E+01	5.78E+00

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	786.36		1.07	3.00E+01	6.50E-01	3.28E+01	1.49E+01
		787.16		1.74	1.85E+01		-7.69E+00	9.20E+00
		812.97		48.20	6.50E-01		5.22E-01	3.23E-01
		819.51		1.39	2.26E+01		1.77E+01	1.12E+01
		876.65		2.75	1.56E+01		-1.49E+00	7.78E+00
		914.96		23.30	1.24E+00		-5.73E-01	6.15E-01
		966.78		8.96	3.20E+00		2.20E+00	1.59E+00
		1030.65		15.13	1.80E+00		1.88E+00	8.92E-01
		1656.10		1.31	5.75E+00		8.92E-02	2.79E+00
		1738.16		7.45	8.66E-01		-5.21E-01	4.17E-01
	TE-129	459.60		7.70	3.90E-03	3.90E-03	-1.89E-03	1.95E-03
		487.39		1.42	2.08E-02		2.52E-02	1.04E-02
+	Te-129m	695.88	*	3.00	5.63E-03	5.63E-03	5.37E-02	2.80E-03
	I-131	80.18		2.62	4.11E-02	4.64E-04	-2.80E-02	2.05E-02
		284.30		6.12	7.18E-03		-1.25E-02	3.58E-03
		364.49		81.50	4.64E-04		-2.32E-04	2.32E-04
		636.99		7.16	3.82E-03		-1.19E-03	1.90E-03
		722.91		1.77	2.26E-02		6.04E-01	1.13E-02
	Te-131m	773.67		36.80	1.65E-03	1.65E-03	-1.91E-03	8.23E-04
		793.75		13.40	4.58E-03		3.03E-03	2.28E-03
		852.21		19.90	2.79E-03		1.01E-03	1.39E-03
		1125.46		11.00	4.08E-03		-3.24E-04	2.02E-03
		1206.60		9.41	3.51E-03		1.88E-04	1.74E-03
	I-132	262.90		1.28	4.59E-02	4.65E-04	-2.34E-03	2.29E-02
		284.90		0.71	7.81E-02		-1.65E-01	3.90E-02
		505.79		4.93	1.08E-02		-4.44E-03	5.37E-03
		522.65		16.00	2.80E-03		7.64E-04	1.40E-03
		547.20		1.14	3.81E-02		1.16E-02	1.90E-02
		621.20		1.97	2.02E-02		2.19E-03	1.00E-02
		630.19		13.30	2.95E-03		2.24E-03	1.47E-03
		650.50		2.57	1.53E-02		1.14E-03	7.61E-03
		667.71		98.70	5.50E-04		-4.20E-05	2.74E-04
		669.80		4.60	9.19E-03		1.28E-04	4.58E-03
		671.40		3.50	1.23E-02		-1.38E-03	6.14E-03
		727.10		5.40	1.07E-02		-3.20E-04	5.33E-03
		728.40		1.60	3.46E-02		-1.11E-02	1.73E-02
		772.60		75.60	4.65E-04		-8.14E-04	2.31E-04
		809.50		2.60	1.33E-02		3.17E-03	6.63E-03
		812.00		5.50	6.24E-03		2.27E-03	3.10E-03
		910.10		0.93	3.51E-02		7.84E-03	1.75E-02
		954.55		17.60	1.77E-03		9.85E-04	8.82E-04
		1136.00		3.01	8.19E-03		-2.69E-04	4.06E-03
		1172.90		1.09	5.18E-02		1.58E+00	2.58E-02
		1290.80		1.13	1.56E-02		-7.48E-03	7.72E-03
		1295.10		1.88	7.41E-03		5.15E-03	3.66E-03
		1297.90		0.89	1.39E-02		1.32E-02	6.86E-03
		1372.07		2.47	5.85E-03		-5.23E-03	2.88E-03
		1398.57		7.01	2.38E-03		6.71E-03	1.17E-03
		1442.56		1.40	7.18E-03		-3.16E-03	3.52E-03
	TE-132	49.72		15.00	2.53E-02	7.44E-04	-5.64E-03	1.27E-02
		111.76		1.74	5.49E-02		-4.19E-02	2.74E-02
		116.30		1.96	4.75E-02		4.50E-02	2.38E-02
		228.16		88.00	7.44E-04		9.61E-04	3.71E-04

Analysis Report for 24-2339 VSM-8.0M-S3-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-133	81.00	32.90	2.74E-03	5.32E-04	-1.68E-03	1.37E-03
	276.40	7.16	5.37E-03		5.78E-03	2.68E-03
	302.85	18.34	1.95E-03		5.32E-04	9.74E-04
	356.01	62.05	5.32E-04		2.25E-04	2.66E-04
	383.85	8.94	3.39E-03		1.37E-03	1.69E-03
I-133	529.87	87.00	1.42E-03	1.42E-03	-8.15E-04	7.10E-04
	706.58	1.51	7.08E-02		2.67E-03	3.52E-02
	856.28	1.24	7.63E-02		5.26E-02	3.79E-02
	875.33	4.51	2.93E-02		-2.09E-03	1.46E-02
	1236.44	1.51	3.53E-02		1.18E-02	1.75E-02
	1298.22	2.35	2.06E-02		-1.45E-03	1.02E-02
@ TE-133	312.08	62.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	407.63	27.10	1.00E+20		1.00E+20	1.00E+20
@	410.40	0.94	1.00E+20		1.00E+20	1.00E+20
@	474.85	0.88	1.00E+20		1.00E+20	1.00E+20
@	719.71	8.90	1.00E+20		1.00E+20	1.00E+20
@	786.93	5.40	1.00E+20		1.00E+20	1.00E+20
@	844.36	3.31	1.00E+20		1.00E+20	1.00E+20
@	884.30	0.72	1.00E+20		1.00E+20	1.00E+20
@	930.71	3.81	1.00E+20		1.00E+20	1.00E+20
@	997.70	1.04	1.00E+20		1.00E+20	1.00E+20
@	1000.72	3.62	1.00E+20		1.00E+20	1.00E+20
@	1021.13	2.81	1.00E+20		1.00E+20	1.00E+20
@	1061.61	1.19	1.00E+20		1.00E+20	1.00E+20
@	1252.08	1.44	1.00E+20		1.00E+20	1.00E+20
@	1312.80	0.85	1.00E+20		1.00E+20	1.00E+20
@	1333.21	10.67	1.00E+20		1.00E+20	1.00E+20
@	1717.61	3.18	1.00E+20		1.00E+20	1.00E+20
@	1881.52	1.22	1.00E+20		1.00E+20	1.00E+20
@	2136.51	1.25	1.00E+20		1.00E+20	1.00E+20
@	2229.64	0.87	1.00E+20		1.00E+20	1.00E+20
Xe-133	81.00	36.90	3.01E-03	3.01E-03	-1.85E-03	1.50E-03
CS-134	475.36	1.48	1.92E-02	2.59E-04	-1.17E-02	9.55E-03
	563.25	8.34	3.30E-03		-2.34E-03	1.64E-03
	569.33	15.37	1.78E-03		-6.81E-04	8.87E-04
	604.72	97.62	2.59E-04		2.07E-04	1.29E-04
	795.86	85.46	2.59E-04		-2.40E-04	1.29E-04
	801.95	8.69	2.58E-03		-2.09E-03	1.28E-03
	1038.61	0.99	1.89E-02		-5.60E-04	9.40E-03
	1167.97	1.79	1.82E-02		-7.80E-03	9.09E-03
	1365.19	3.02	2.77E-03		2.97E-03	1.36E-03
I-135	220.50	1.75	3.37E+00	5.04E-02	-3.52E-01	1.68E+00
	288.45	3.10	1.57E+00		7.75E-01	7.84E-01
	417.63	3.53	1.17E+00		1.44E-01	5.83E-01
	546.56	7.15	4.86E-01		-4.07E-01	2.42E-01
	836.80	6.69	3.95E-01		2.81E-01	1.97E-01
	971.96	0.89	2.81E+00		-2.46E+00	1.40E+00
	972.62	1.21	2.04E+00		-1.49E+00	1.01E+00
	1038.76	7.90	2.92E-01		-8.65E-03	1.45E-01
	1101.58	1.61	1.35E+00		-6.77E-01	6.68E-01
	1124.00	3.62	6.09E-01		1.83E-03	3.02E-01
	1131.51	22.60	9.48E-02		1.35E-01	4.70E-02
	1240.47	0.90	1.95E+00		-3.15E-02	9.67E-01

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1260.41		28.70	5.04E-02	5.04E-02	-8.37E-03	2.49E-02
		1457.56		8.70	1.22E-01		3.33E-02	5.99E-02
		1502.79		1.08	9.00E-01		1.01E-01	4.41E-01
		1566.41		1.29	5.43E-01		3.38E-01	2.64E-01
		1678.03		9.60	6.22E-02		2.82E-02	3.01E-02
		1706.46		4.10	1.31E-01		2.39E-02	6.30E-02
		1791.20		7.72	6.25E-02		8.70E-02	2.99E-02
		2408.65		0.96	2.23E-01		6.50E-02	9.77E-02
	XE-135	249.79		90.00	1.53E-02	1.53E-02	1.08E-01	7.65E-03
	XE-135m	526.56		80.40	4.29E-02	4.29E-02	-1.15E-02	2.14E-02
	CS-136	66.88		4.79	3.13E-02	2.49E-04	6.37E-02	1.57E-02
		86.36		5.90	1.62E-02		8.63E-02	8.11E-03
		153.25		7.70	8.04E-03		1.29E-02	4.02E-03
		163.92		4.69	1.33E-02		1.20E-02	6.66E-03
		176.60		13.70	4.21E-03		-9.83E-04	2.10E-03
		273.65		12.66	3.61E-03		-2.67E-03	1.80E-03
		340.55		46.80	8.65E-04		-5.99E-05	4.32E-04
		818.51		99.70	2.49E-04		3.06E-04	1.24E-04
		1048.07		80.00	2.69E-04		-7.87E-05	1.34E-04
		1235.36		20.00	6.93E-04		-7.42E-04	3.43E-04
+	CS-137	661.66	*	85.10	2.03E-04	2.03E-04	1.76E-02	1.01E-04
	BA-139	33.44		3.84	2.84E+09	2.23E+07	-9.19E+09	1.42E+09
		165.86		23.70	2.23E+07		9.68E+06	1.12E+07
	BA-140	132.69		0.20	3.13E-01	1.20E-03	5.38E-02	1.56E-01
		162.66		6.22	9.14E-03		7.33E-03	4.57E-03
		304.85		4.29	9.41E-03		2.46E-04	4.70E-03
		423.72		3.10	1.04E-02		6.34E-03	5.20E-03
		437.58		1.93	1.70E-02		-6.14E-03	8.47E-03
		537.26		24.39	1.20E-03		1.72E-04	5.98E-04
	LA-140	109.42		0.22	3.12E-01	1.50E-04	6.92E-02	1.56E-01
		131.12		0.47	1.36E-01		-9.39E-02	6.81E-02
		173.54		0.13	4.19E-01		1.90E-02	2.10E-01
		241.93		0.41	1.11E-01		-8.50E-02	5.52E-02
		266.54		0.47	9.16E-02		9.77E-02	4.57E-02
		328.76		20.30	1.98E-03		-3.24E-04	9.86E-04
		432.49		2.90	1.23E-02		-1.37E-02	6.14E-03
		487.02		45.50	7.36E-04		-2.29E-04	3.67E-04
		618.10		0.04	7.11E-01		-1.13E-01	3.54E-01
		751.64		4.33	6.49E-03		1.19E-03	3.23E-03
		815.77		23.28	1.00E-03		1.17E-03	4.98E-04
		867.85		5.50	5.59E-03		-1.56E-03	2.79E-03
		919.55		2.66	8.04E-03		2.65E-06	4.00E-03
		925.19		6.90	3.20E-03		-1.32E-03	1.59E-03
		950.99		0.52	4.21E-02		-8.88E-03	2.10E-02
		1596.21		95.40	1.50E-04		1.16E-03	7.42E-05
		2347.88		0.85	2.89E-03		3.64E-03	1.32E-03
		2521.40		3.46	6.13E-04		1.80E-04	2.73E-04
		2547.34		0.10	1.76E-02		1.23E-02	7.62E-03
	@ BA-141	33.44		7.93	1.00E+20	1.00E+20	1.00E+20	1.00E+20
	@	190.33		44.80	1.00E+20		1.00E+20	1.00E+20
	@	276.95		23.60	1.00E+20		1.00E+20	1.00E+20
	@	304.19		26.10	1.00E+20		1.00E+20	1.00E+20
	@	343.67		15.10	1.00E+20		1.00E+20	1.00E+20

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ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	BA-141	389.74	1.37	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		457.51	5.00	1.00E+20		1.00E+20	1.00E+20
@		462.06	5.10	1.00E+20		1.00E+20	1.00E+20
@		467.22	5.60	1.00E+20		1.00E+20	1.00E+20
@		625.08	3.45	1.00E+20		1.00E+20	1.00E+20
@		647.78	5.70	1.00E+20		1.00E+20	1.00E+20
@		738.95	4.39	1.00E+20		1.00E+20	1.00E+20
@		831.46	1.64	1.00E+20		1.00E+20	1.00E+20
@		876.09	3.45	1.00E+20		1.00E+20	1.00E+20
@		1160.72	1.12	1.00E+20		1.00E+20	1.00E+20
@		1197.28	4.35	1.00E+20		1.00E+20	1.00E+20
@		1323.92	0.92	1.00E+20		1.00E+20	1.00E+20
@		1654.00	0.65	1.00E+20		1.00E+20	1.00E+20
@		1682.19	1.19	1.00E+20		1.00E+20	1.00E+20
	CE-141	145.44	48.30	1.16E-03	1.16E-03	2.57E-03	5.80E-04
@	BA-142	33.44	14.20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		77.59	7.00	1.00E+20		1.00E+20	1.00E+20
@		177.00	2.12	1.00E+20		1.00E+20	1.00E+20
@		231.61	12.20	1.00E+20		1.00E+20	1.00E+20
@		255.30	20.70	1.00E+20		1.00E+20	1.00E+20
@		286.30	1.11	1.00E+20		1.00E+20	1.00E+20
@		309.20	2.60	1.00E+20		1.00E+20	1.00E+20
@		335.00	1.53	1.00E+20		1.00E+20	1.00E+20
@		363.96	4.76	1.00E+20		1.00E+20	1.00E+20
@		425.04	5.75	1.00E+20		1.00E+20	1.00E+20
@		599.80	1.85	1.00E+20		1.00E+20	1.00E+20
@		840.40	3.63	1.00E+20		1.00E+20	1.00E+20
@		895.20	13.90	1.00E+20		1.00E+20	1.00E+20
@		949.10	10.70	1.00E+20		1.00E+20	1.00E+20
@		1001.20	9.80	1.00E+20		1.00E+20	1.00E+20
@		1078.70	11.50	1.00E+20		1.00E+20	1.00E+20
@		1094.10	2.82	1.00E+20		1.00E+20	1.00E+20
@		1126.80	1.50	1.00E+20		1.00E+20	1.00E+20
@		1202.40	5.60	1.00E+20		1.00E+20	1.00E+20
@		1204.30	14.30	1.00E+20		1.00E+20	1.00E+20
@		1380.20	3.42	1.00E+20		1.00E+20	1.00E+20
	CE-143	57.36	11.70	4.33E-02	2.23E-03	-1.94E-02	2.16E-02
		231.55	2.05	5.69E-02		3.25E-02	2.84E-02
		293.27	42.80	2.23E-03		2.07E-04	1.11E-03
		350.62	3.23	2.59E-02		-8.75E-03	1.29E-02
		490.37	2.16	3.58E-02		-3.55E-02	1.79E-02
		664.57	5.69	1.90E-02		2.81E-04	9.47E-03
		721.93	5.39	1.63E-02		4.17E-01	8.12E-03
		880.46	1.03	5.65E-02		-1.78E-02	2.81E-02
	CE-144	80.12	1.36	6.45E-02	5.13E-03	-4.40E-02	3.23E-02
		133.51	11.09	5.13E-03		-1.78E-03	2.57E-03
	ND-147	38.17	13.20	4.72E-02	2.29E-03	-8.84E-02	2.36E-02
		38.72	23.80	2.47E-02		-3.24E-02	1.23E-02
		91.11	28.90	2.87E-03		1.21E-03	1.44E-03
		275.39	0.79	5.66E-02		6.54E-02	2.83E-02
		319.41	1.97	2.01E-02		-1.91E-03	1.00E-02
		398.13	0.87	4.02E-02		3.77E-02	2.01E-02
		439.88	1.20	2.82E-02		-3.69E-03	1.40E-02

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ND-147	531.01	13.11	2.29E-03	2.29E-03	6.22E-04	1.14E-03
	685.88	0.82	3.11E-02		-1.18E-02	1.55E-02
@ PR-147	36.85	19.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	37.36	35.50	1.00E+20		1.00E+20	1.00E+20
@	49.88	4.00	1.00E+20		1.00E+20	1.00E+20
@	77.97	9.70	1.00E+20		1.00E+20	1.00E+20
@	86.69	5.40	1.00E+20		1.00E+20	1.00E+20
@	127.80	7.40	1.00E+20		1.00E+20	1.00E+20
@	249.20	1.32	1.00E+20		1.00E+20	1.00E+20
@	314.70	18.20	1.00E+20		1.00E+20	1.00E+20
@	328.80	4.00	1.00E+20		1.00E+20	1.00E+20
@	335.70	4.70	1.00E+20		1.00E+20	1.00E+20
@	388.80	1.41	1.00E+20		1.00E+20	1.00E+20
@	466.80	1.70	1.00E+20		1.00E+20	1.00E+20
@	477.90	4.60	1.00E+20		1.00E+20	1.00E+20
@	516.70	1.30	1.00E+20		1.00E+20	1.00E+20
@	554.70	5.90	1.00E+20		1.00E+20	1.00E+20
@	577.90	13.70	1.00E+20		1.00E+20	1.00E+20
@	641.40	16.10	1.00E+20		1.00E+20	1.00E+20
@	996.00	1.52	1.00E+20		1.00E+20	1.00E+20
@	1136.70	1.42	1.00E+20		1.00E+20	1.00E+20
@	1261.10	8.40	1.00E+20		1.00E+20	1.00E+20
@	1300.40	2.30	1.00E+20		1.00E+20	1.00E+20
ND-149	38.17	9.00	6.63E+06	1.90E+05	-1.24E+07	3.31E+06
	38.72	16.30	3.46E+06		-4.53E+06	1.73E+06
	58.88	1.30	1.55E+07		-5.10E+06	7.74E+06
	74.32	2.11	5.30E+06		1.86E+07	2.65E+06
	97.00	1.48	5.15E+06		3.18E+06	2.57E+06
	114.31	19.20	3.62E+05		7.63E+04	1.81E+05
	155.87	5.95	9.73E+05		9.22E+05	4.86E+05
	188.64	1.79	2.98E+06		-4.34E+05	1.49E+06
	198.93	1.39	3.61E+06		-2.73E+06	1.80E+06
	208.15	2.55	2.02E+06		5.10E+05	1.01E+06
	211.31	26.00	1.90E+05		-1.29E+05	9.50E+04
	240.22	3.95	1.14E+06		-6.95E+05	5.69E+05
	245.72	0.81	5.91E+06		-3.15E+06	2.95E+06
	267.69	6.05	7.23E+05		-2.51E+05	3.61E+05
	270.17	10.80	3.82E+05		-1.74E+05	1.91E+05
	326.55	4.57	8.26E+05		6.59E+05	4.12E+05
	349.23	1.38	2.70E+06		-1.09E+06	1.35E+06
	423.55	7.50	4.24E+05		-1.32E+05	2.12E+05
	443.55	1.15	2.89E+06		-2.33E+06	1.44E+06
	540.51	6.60	4.39E+05		5.91E+04	2.19E+05
	654.83	8.00	3.12E+05		1.47E+05	1.56E+05
PM-149	285.95	3.10	2.15E-02	2.15E-02	-7.88E-03	1.08E-02
PM-150	39.52	0.63	1.05E+05	6.96E+01	-1.27E+05	5.25E+04
	40.12	1.14	5.53E+04		-4.58E+04	2.76E+04
	333.92	68.00	6.96E+01		1.36E+01	3.47E+01
	406.51	5.60	7.41E+02		-7.89E+02	3.70E+02
	565.70	1.31	2.68E+03		1.99E+03	1.33E+03
	587.02	1.34	2.77E+03		7.67E+01	1.38E+03
	612.25	0.93	3.56E+03		1.84E+03	1.77E+03
	712.22	4.40	6.95E+02		-1.31E+02	3.46E+02

Analysis Report for 24-2339 VSM-8.0M-S3-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PM-150	737.50		2.25	1.36E+03	6.96E+01	1.06E+03	6.75E+02
		831.85		11.90	2.32E+02		-2.82E+01	1.15E+02
		859.95		3.40	7.88E+02		1.05E+03	3.92E+02
		876.41		7.30	5.41E+02		-1.54E+02	2.69E+02
		1165.77		15.80	1.79E+02		-2.65E+01	8.89E+01
		1170.90		1.06	4.73E+03		-6.46E+02	2.36E+03
		1193.87		4.80	3.72E+02		-6.33E+01	1.84E+02
		1213.72		1.03	1.61E+03		1.73E+02	7.95E+02
		1223.28		2.80	5.75E+02		-5.86E+02	2.85E+02
		1324.51		17.50	1.14E+02		-6.87E+01	5.67E+01
		1379.32		3.10	3.84E+02		2.02E+02	1.89E+02
		1736.40		6.90	8.59E+01		6.57E+01	4.13E+01
		1963.71		1.47	2.48E+02		-1.49E+02	1.16E+02
		2033.46		0.97	4.04E+02		1.90E+02	1.89E+02
@	ND-151	38.17		5.94	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		38.72		10.70	1.00E+20		1.00E+20	1.00E+20
@		68.98		1.26	1.00E+20		1.00E+20	1.00E+20
@		85.12		2.05	1.00E+20		1.00E+20	1.00E+20
@		89.96		1.53	1.00E+20		1.00E+20	1.00E+20
@		116.80		39.00	1.00E+20		1.00E+20	1.00E+20
@		138.89		7.00	1.00E+20		1.00E+20	1.00E+20
@		170.76		2.87	1.00E+20		1.00E+20	1.00E+20
@		175.07		6.30	1.00E+20		1.00E+20	1.00E+20
@		255.68		14.80	1.00E+20		1.00E+20	1.00E+20
@		300.58		1.82	1.00E+20		1.00E+20	1.00E+20
@		423.56		5.90	1.00E+20		1.00E+20	1.00E+20
@		460.59		0.96	1.00E+20		1.00E+20	1.00E+20
@		585.22		1.30	1.00E+20		1.00E+20	1.00E+20
@		677.88		2.38	1.00E+20		1.00E+20	1.00E+20
@		736.23		5.90	1.00E+20		1.00E+20	1.00E+20
@		739.20		1.52	1.00E+20		1.00E+20	1.00E+20
@		755.57		1.17	1.00E+20		1.00E+20	1.00E+20
@		797.53		4.70	1.00E+20		1.00E+20	1.00E+20
@		1016.40		2.50	1.00E+20		1.00E+20	1.00E+20
@		1122.63		4.10	1.00E+20		1.00E+20	1.00E+20
@		1180.89		13.30	1.00E+20		1.00E+20	1.00E+20
	Pm-151	167.75		8.30	1.85E-02	4.63E-03	3.47E-03	9.25E-03
		177.16		3.80	4.00E-02		-1.44E-02	2.00E-02
		240.09		3.80	3.42E-02		-2.08E-02	1.71E-02
		275.21		6.80	1.71E-02		1.98E-02	8.55E-03
		340.08		22.50	4.63E-03		-7.73E-04	2.31E-03
+	EU-152	121.78		28.53	2.37E-03	4.95E-04	-2.16E-03	1.18E-03
		344.28	*	26.59	1.47E-03		1.69E-03	7.32E-04
		778.90	*	12.93	1.36E-03		1.65E-03	6.77E-04
		867.37		4.23	6.16E-03		-5.11E-04	3.07E-03
		964.08	*	14.51	1.54E-03		1.32E-03	7.66E-04
		1085.87	*	10.11	1.66E-03		1.77E-03	8.25E-04
		1112.07	*	13.67	1.49E-03		1.75E-03	7.41E-04
		1408.01	*	20.87	4.95E-04		1.67E-03	2.44E-04
@	ND-152	44.44		5.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		250.15		16.40	1.00E+20		1.00E+20	1.00E+20
@		278.56		26.00	1.00E+20		1.00E+20	1.00E+20
@		294.47		2.90	1.00E+20		1.00E+20	1.00E+20

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	ND-152	545.70		0.83	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		592.50		0.99	1.00E+20		1.00E+20	1.00E+20
	GD-153	69.67		2.45	4.67E-02	2.30E-03	-3.35E-03	2.33E-02
		97.43		30.00	2.30E-03		1.66E-03	1.15E-03
		103.18		22.10	2.98E-03		-2.31E-03	1.49E-03
	SM-153	69.67		4.67	4.83E-02	4.45E-03	-3.46E-03	2.41E-02
		103.18		29.14	4.45E-03		-3.45E-03	2.22E-03
+	EU-154	42.70	*	20.45	1.95E-02	6.08E-04	3.68E-02	9.76E-03
		123.07	*	40.40	2.06E-03		4.78E-02	1.03E-03
		247.93	*	6.89	7.71E-03		4.72E-02	3.85E-03
		591.76	*	4.95	6.92E-03		4.63E-02	3.45E-03
		692.42	*	1.78	8.83E-03		4.46E-02	4.39E-03
		723.30	*	20.06	1.80E-03		4.69E-02	8.98E-04
		756.80	*	4.52	7.22E-03		4.85E-02	3.60E-03
		873.18	*	12.08	2.70E-03		4.71E-02	1.35E-03
		996.29	*	10.48	2.82E-03		4.65E-02	1.40E-03
		1004.76	*	18.01	1.65E-03		4.71E-02	8.22E-04
		1246.12	*	0.86	1.57E-02		4.34E-02	7.79E-03
		1274.43	*	34.80	6.08E-04		4.68E-02	3.02E-04
		1494.05	*	0.70	1.30E-02		4.68E-02	6.39E-03
		1596.48	*	1.80	4.48E-03		4.67E-02	2.20E-03
+	EU-155	43.00	*	18.12	2.20E-02	2.97E-03	4.16E-02	1.10E-02
		60.01	*	1.17	1.87E-01		9.92E+00	9.34E-02
		86.55	*	30.70	2.97E-03		1.00E-02	1.49E-03
		105.31	*	21.10	3.28E-03		6.13E-03	1.64E-03
	EU-156	88.97		8.40	1.05E-02	6.99E-04	-5.97E-04	5.24E-03
		646.29		6.30	4.19E-03		2.47E-03	2.09E-03
		723.47		5.40	7.15E-03		1.94E-01	3.57E-03
		811.77		9.70	2.44E-03		-7.05E-04	1.22E-03
		1065.14		4.90	4.00E-03		2.77E-03	1.98E-03
		1079.16		4.60	4.01E-03		2.68E-03	1.99E-03
		1153.80		11.50	1.42E-03		4.07E-04	7.03E-04
		1230.71		8.00	1.62E-03		-7.45E-04	8.02E-04
		1242.42		6.60	2.24E-03		9.38E-04	1.11E-03
		1277.43		2.89	1.66E-02		8.01E-04	8.26E-03
		1366.41		1.57	6.46E-03		1.74E-03	3.18E-03
		1965.95		3.90	6.99E-04		4.59E-04	3.26E-04
		2097.70		3.80	7.14E-04		-2.23E-04	3.31E-04
		2186.71		3.50	8.27E-04		-1.31E-03	3.84E-04
	Sm-156	87.60		24.00	9.73E-02	6.16E-02	5.65E-01	4.86E-02
		165.80		13.00	1.14E-01		4.94E-02	5.69E-02
		204.00		21.00	6.16E-02		8.84E-02	3.08E-02
	EU-158	42.31		5.80	8.11E+16	7.97E+14	7.10E+16	4.05E+16
		43.00		10.40	4.27E+16		3.17E+16	2.14E+16
		79.49		10.50	1.06E+16		-1.23E+16	5.29E+15
		181.97		2.30	2.54E+16		2.44E+16	1.27E+16
		528.05		1.53	2.20E+16		1.95E+16	1.10E+16
		606.39		4.00	7.53E+15		-4.88E+14	3.75E+15
		743.02		3.60	7.62E+15		-2.58E+15	3.79E+15
		897.61		12.40	2.02E+15		1.97E+14	1.01E+15
		906.50		1.83	1.37E+16		4.14E+16	6.83E+15
		922.51		1.62	1.48E+16		-2.01E+16	7.38E+15
		944.15		30.00	7.97E+14		6.64E+14	3.96E+14

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	953.03	1.98	1.21E+16	7.97E+14	6.04E+15	5.99E+15
	962.09	1.89	1.28E+16		1.56E+16	6.38E+15
	977.14	16.30	1.40E+15		-5.31E+14	6.97E+14
	986.96	1.35	1.69E+16		6.92E+15	8.42E+15
	1107.63	5.10	4.13E+15		1.80E+15	2.05E+15
	1184.10	3.00	5.56E+15		5.70E+14	2.75E+15
	1186.00	2.90	5.72E+15		7.12E+15	2.83E+15
	1187.10	4.40	3.74E+15		-5.63E+15	1.85E+15
	1263.61	2.20	6.39E+15		-6.87E+15	3.16E+15
	1347.95	1.65	7.18E+15		7.99E+15	3.54E+15
	1944.47	1.62	2.36E+15		1.36E+15	1.11E+15
TB-160	86.79	13.20	6.42E-03	7.87E-04	3.41E-02	3.21E-03
	298.58	26.10	1.45E-03		2.82E-04	7.24E-04
	879.38	30.10	9.47E-04		-1.16E-04	4.71E-04
	962.32	9.81	2.05E-03		4.06E-03	1.02E-03
	966.17	25.10	7.87E-04		1.45E-03	3.91E-04
	1177.96	14.90	2.39E-03		1.81E-04	1.19E-03
TB-161	25.65	23.20	2.66E-01	1.17E-02	-3.68E-01	1.33E-01
	48.91	17.00	1.79E-02		2.66E-02	8.95E-03
	52.00	3.43	7.54E-02		2.68E-02	3.77E-02
	57.19	1.79	1.28E-01		-1.02E-01	6.41E-02
	74.57	10.20	1.17E-02		4.39E-02	5.86E-03
YB-169	63.12	43.62	3.57E-03	1.30E-03	3.46E-04	1.79E-03
	93.61	2.58	3.18E-02		4.21E-02	1.59E-02
	109.78	17.39	3.83E-03		1.94E-04	1.91E-03
	130.52	11.38	5.63E-03		-2.37E-03	2.81E-03
	177.21	22.28	2.33E-03		-8.37E-04	1.17E-03
	197.96	35.93	1.30E-03		6.49E-04	6.49E-04
	307.74	10.05	3.42E-03		2.57E-03	1.71E-03
HF-172	54.07	63.00	3.07E-03	3.07E-03	-1.00E-04	1.53E-03
	67.35	5.30	2.24E-02		2.30E-02	1.12E-02
	81.75	4.50	1.89E-02		-8.65E-03	9.45E-03
	114.06	2.60	2.40E-02		-3.13E-04	1.20E-02
	125.81	11.30	5.60E-03		1.70E-03	2.80E-03
	127.91	1.46	4.01E-02		2.58E-02	2.00E-02
LU-173	59.30	24.44	7.07E-03	1.83E-03	4.93E-01	3.53E-03
	78.63	11.90	8.01E-03		-2.45E-02	4.00E-03
	100.72	5.24	1.30E-02		-1.56E-02	6.50E-03
	171.39	2.90	1.71E-02		1.70E-02	8.53E-03
	272.11	21.20	1.83E-03		-3.79E-04	9.13E-04
LU-177	112.95	6.23	1.23E-02	5.38E-03	-5.33E-03	6.14E-03
	208.37	10.41	5.38E-03		1.36E-03	2.69E-03
	249.67	0.20	2.55E-01		1.81E+00	1.28E-01
	321.32	0.22	1.89E-01		1.99E-02	9.45E-02
HF-181	133.02	43.30	1.42E-03	3.64E-04	1.11E-03	7.08E-04
	345.93	15.12	2.38E-03		3.33E-03	1.19E-03
	482.18	80.50	3.64E-04		4.13E-04	1.82E-04
W-181	56.28	18.70	1.01E-02	5.89E-03	-8.58E-03	5.07E-03
	57.53	32.00	5.89E-03		-1.68E-03	2.94E-03
	65.00	10.60	1.21E-02		8.96E-03	6.07E-03
TA-182	57.98	10.01	1.85E-02	4.46E-04	-9.57E-03	9.23E-03
	59.32	17.20	1.01E-02		7.07E-01	5.06E-03
	65.72	3.01	4.63E-02		4.30E-02	2.32E-02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	67.75	46.67	2.68E-03	4.46E-04	2.25E-03	1.34E-03
	84.68	2.65	3.28E-02		4.85E-03	1.64E-02
	100.11	14.20	5.07E-03		-4.16E-03	2.53E-03
	113.67	1.87	3.76E-02		2.18E-02	1.88E-02
	116.42	0.44	1.40E-01		1.33E-01	7.00E-02
	152.43	7.02	8.02E-03		-5.20E-04	4.01E-03
	156.39	2.67	2.08E-02		-3.56E-03	1.04E-02
	179.39	3.12	1.64E-02		9.59E-03	8.17E-03
	198.35	1.47	3.36E-02		6.65E-03	1.68E-02
	222.11	7.57	6.15E-03		-4.05E-03	3.07E-03
	229.32	3.64	1.28E-02		-8.20E-03	6.39E-03
	264.08	3.61	1.15E-02		-3.40E-04	5.75E-03
	928.00	0.61	3.31E-02		2.09E-02	1.64E-02
	959.73	0.35	5.91E-02		-1.18E-02	2.94E-02
	1001.70	2.09	2.05E-02		5.63E-01	1.02E-02
	1044.42	0.24	8.18E-02		1.88E-02	4.06E-02
	1113.41	0.44	3.94E-02		5.75E-02	1.96E-02
	1121.29	35.24	4.88E-04		3.42E-05	2.42E-04
	1157.30	0.73	1.95E-02		-3.85E-03	9.67E-03
	1189.04	16.49	7.86E-04		1.69E-03	3.89E-04
	1221.40	27.23	4.46E-04		-4.42E-05	2.21E-04
	1223.60	0.24	4.29E-02		-4.70E-02	2.12E-02
	1231.00	11.62	1.03E-03		-1.84E-03	5.08E-04
	1257.41	1.51	7.47E-03		-5.93E-03	3.69E-03
	1273.72	0.66	5.27E-02		1.98E+00	2.63E-02
	1289.15	1.37	5.63E-03		2.21E-03	2.78E-03
	1342.73	0.26	3.75E-02		-1.37E-02	1.85E-02
	1373.82	0.22	2.60E-02		-2.03E-02	1.28E-02
Ta-183	84.71	1.35	7.83E-02	2.01E-03	1.16E-02	3.91E-02
	99.08	6.80	1.28E-02		6.98E-03	6.39E-03
	107.93	11.20	7.24E-03		1.67E-03	3.62E-03
	161.35	9.10	7.16E-03		2.16E-03	3.58E-03
	162.32	5.00	1.30E-02		7.17E-03	6.49E-03
	244.26	8.80	6.23E-03		-3.56E-03	3.11E-03
	246.06	27.20	2.01E-03		-1.48E-03	1.00E-03
	353.99	11.60	3.65E-03		-2.29E-03	1.82E-03
Re-184	111.21	17.20	3.81E-03	5.44E-04	-3.54E-03	1.91E-03
	252.85	3.00	1.40E-02		4.88E-03	6.99E-03
	792.01	37.70	5.85E-04		3.17E-04	2.91E-04
	894.76	15.70	1.30E-03		4.79E-04	6.48E-04
	903.28	38.10	5.44E-04		9.68E-04	2.70E-04
W-185	59.72	0.01	1.45E+01	3.35E+00	9.88E+02	7.23E+00
	61.14	0.02	7.95E+00		-6.67E-01	3.97E+00
	69.20	0.01	1.67E+01		1.81E+00	8.34E+00
	125.36	0.02	3.35E+00		1.17E+00	1.67E+00
W-187	61.14	14.30	4.22E-02	2.58E-03	-3.54E-03	2.11E-02
	69.20	4.82	8.84E-02		9.61E-03	4.42E-02
	72.00	13.55	3.11E-02		4.93E-02	1.55E-02
	134.25	10.36	2.18E-02		2.49E-02	1.09E-02
	479.53	26.60	4.14E-03		8.29E-04	2.06E-03
	618.37	7.57	1.19E-02		-1.89E-03	5.91E-03
	685.81	33.20	2.58E-03		1.29E-04	1.28E-03
Ir-188	155.05	29.60	3.77E-03	3.25E-04	-3.70E-03	1.88E-03

Analysis Report for 24-2339 VSM-8.0M-S3-CST-d-A Q3

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Ir-188	478.00	14.70	4.14E-03	3.25E-04	1.72E-03	2.06E-03
	633.02	17.90	2.81E-03		7.77E-04	1.40E-03
	634.97	5.00	1.01E-02		-1.89E-04	5.01E-03
	829.42	5.10	8.45E-03		-6.69E-03	4.20E-03
	1209.77	6.90	3.78E-03		-1.12E-03	1.87E-03
	1715.67	6.20	2.05E-03		8.06E-04	9.97E-04
	2214.59	18.60	3.25E-04		-1.09E-03	1.51E-04
W-188	227.07	0.23	1.88E-01	8.88E-02	3.51E-01	9.37E-02
	290.68	0.42	8.88E-02		6.80E-02	4.43E-02
Ir-189	245.08	6.00	7.79E-03	7.79E-03	-4.16E-03	3.89E-03
Ir-190	186.68	50.00	1.03E-03	7.12E-04	8.62E-04	5.12E-04
	361.09	12.30	2.93E-03		-4.16E-04	1.46E-03
	371.24	21.60	1.65E-03		2.48E-04	8.21E-04
	407.22	27.00	1.24E-03		-8.05E-04	6.19E-04
	518.55	32.20	9.60E-04		-4.61E-04	4.79E-04
	557.95	28.50	1.01E-03		4.44E-04	5.01E-04
	569.30	27.00	1.04E-03		-3.99E-04	5.20E-04
	605.14	37.80	7.12E-04		6.34E-04	3.55E-04
OS-191	63.29	15.70	9.92E-03	2.38E-03	2.06E-03	4.96E-03
	64.99	26.70	5.20E-03		3.84E-03	2.60E-03
	73.45	9.21	1.20E-02		3.54E-02	5.99E-03
	129.43	26.50	2.38E-03		5.83E-04	1.19E-03
Pt-191	359.90	5.80	9.27E-03	2.99E-03	1.65E-03	4.63E-03
	456.47	3.30	1.43E-02		-2.03E-02	7.14E-03
	538.90	14.30	2.99E-03		-3.97E-03	1.49E-03
IR-192	205.79	3.31	1.49E-02	4.45E-04	5.15E-03	7.43E-03
	295.96	28.71	1.38E-03		2.83E-05	6.89E-04
	308.45	29.70	1.29E-03		-8.54E-05	6.44E-04
	316.51	82.86	4.45E-04		3.24E-05	2.22E-04
	468.07	47.84	6.35E-04		-3.44E-04	3.17E-04
	588.58	4.52	6.64E-03		1.81E-04	3.31E-03
	604.41	8.22	2.81E-03		1.36E-03	1.40E-03
	612.46	5.34	4.00E-03		-1.23E-03	1.99E-03
IR-192m	155.16	0.09	5.60E-01	5.60E-01	4.33E-02	2.80E-01
IR-193m	80.22	0.00	2.12E+01	2.12E+01	-1.44E+01	1.06E+01
Pt-193m	135.50	0.11	6.67E-01	6.67E-01	-6.03E-02	3.33E-01
Au-194	293.55	10.90	7.66E-03	1.23E-03	-9.18E-05	3.83E-03
	328.47	62.80	1.23E-03		-1.09E-03	6.14E-04
	364.84	1.60	4.65E-02		-2.76E-02	2.32E-02
	528.77	1.78	3.48E-02		-9.46E-03	1.74E-02
	645.16	2.32	2.31E-02		-2.00E-02	1.15E-02
	948.32	2.29	1.92E-02		1.14E-03	9.57E-03
	1104.06	2.15	1.75E-02		1.72E-02	8.69E-03
	1175.36	2.14	3.91E-02		1.24E+00	1.95E-02
	1468.90	6.80	2.49E-03		-2.92E-03	1.22E-03
	1595.81	1.89	1.51E-02		1.10E-01	7.44E-03
	2043.72	3.74	1.68E-03		1.24E-03	7.82E-04
Ir-194	293.54	2.50	7.63E-02	1.35E-02	-9.14E-04	3.81E-02
	328.47	13.10	1.35E-02		-1.20E-02	6.73E-03
AU-195	98.86	11.21	6.04E-03	6.04E-03	4.78E-03	3.02E-03
	129.74	0.84	6.91E-02		-4.48E-03	3.45E-02
Pt-195m	98.90	11.70	8.00E-03	8.00E-03	6.33E-03	4.00E-03
	129.79	2.90	2.77E-02		-1.79E-03	1.39E-02

Analysis Report for 24-2339 VSM-8.0M-S3-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Au-196	333.03		22.90	1.99E-03	4.83E-04	1.80E-04	9.94E-04
		355.73		87.00	4.83E-04		4.86E-05	2.41E-04
		426.10		6.60	5.45E-03		-2.62E-03	2.72E-03
	Au-196m	147.81		43.50	3.42E-02	3.42E-02	2.63E-02	1.71E-02
		188.27		30.00	4.24E-02		-3.17E-02	2.12E-02
	Pt-197	77.35		17.00	2.72E-02	2.72E-02	2.64E-02	1.36E-02
		191.44		3.70	6.08E-02		2.35E-02	3.04E-02
	AU-198	411.80		95.62	5.33E-04	5.33E-04	1.59E-04	2.66E-04
	AU-199	158.38		40.00	1.94E-03	1.94E-03	-9.32E-04	9.71E-04
		208.20		8.72	8.04E-03		2.03E-03	4.01E-03
	TL-201	135.34		2.61	3.34E-02	7.61E-03	-3.02E-03	1.67E-02
		167.43		10.00	7.61E-03		4.61E-03	3.80E-03
	TL-202	439.51		91.50	3.60E-04	3.60E-04	-3.87E-05	1.80E-04
	PB-203	70.83		26.40	7.56E-03	8.79E-04	-2.05E-02	3.78E-03
		72.87		44.20	4.30E-03		1.43E-02	2.15E-03
		82.40		15.56	9.99E-03		-2.05E-03	4.99E-03
		279.20		80.90	8.79E-04		8.34E-04	4.39E-04
		401.32		3.35	1.78E-02		1.03E-02	8.90E-03
	PB-210	46.54		4.25	6.81E-02	6.81E-02	-7.68E-02	3.40E-02
	Pa-233	86.60		2.01	4.04E-02	9.05E-04	2.25E-01	2.02E-02
		94.65		8.90	7.89E-03		9.64E-03	3.94E-03
		98.43		14.20	4.75E-03		1.57E-03	2.37E-03
		300.13		6.54	5.43E-03		8.55E-06	2.71E-03
		311.90		38.20	9.05E-04		1.18E-03	4.52E-04
		340.48		4.44	7.67E-03		-5.31E-04	3.83E-03
	U-235	89.96		2.90	2.59E-02	8.03E-04	7.97E-03	1.29E-02
		93.35		4.70	1.52E-02		2.80E-02	7.58E-03
		109.19		1.64	3.76E-02		8.01E-03	1.88E-02
		143.76		10.93	4.96E-03		-1.41E-03	2.48E-03
		163.36		5.07	9.83E-03		-8.97E-03	4.91E-03
		185.71		57.20	8.03E-04		1.17E-04	4.01E-04
		202.11		1.07	4.06E-02		3.04E-02	2.03E-02
		205.31		5.03	9.20E-03		5.23E-03	4.60E-03
+	NP-237	86.48	*	12.20	7.48E-03	7.48E-03	2.52E-02	3.74E-03
	U-237	59.54		34.50	6.10E-03	2.67E-03	4.22E-01	3.05E-03
		97.07		15.40	5.41E-03		4.58E-03	2.70E-03
		101.06		24.50	3.27E-03		-3.49E-03	1.64E-03
		113.30		3.07	2.48E-02		-2.04E-02	1.24E-02
		114.23		5.81	1.30E-02		-1.70E-04	6.51E-03
		117.46		2.27	3.28E-02		-3.58E-02	1.64E-02
		208.00		21.20	2.67E-03		9.65E-04	1.34E-03
	NP-238	103.37		0.00	2.56E+01	1.37E-03	-2.48E+01	1.28E+01
		882.63		0.80	4.60E-02		2.03E-03	2.29E-02
		923.99		2.60	1.39E-02		-8.73E-04	6.92E-03
		984.45		25.20	1.37E-03		5.00E-04	6.82E-04
		1025.87		8.75	3.86E-03		6.15E-04	1.92E-03
		1028.53		18.23	1.86E-03		-2.31E-04	9.23E-04
	U-238	63.29		3.70	3.86E-02	1.70E-02	8.03E-03	1.93E-02
		92.51		4.23	1.70E-02		1.31E-02	8.52E-03
		112.81		0.21	2.98E-01		-1.29E-01	1.49E-01
		742.81		0.11	2.05E-01		4.60E-02	1.02E-01
		766.42		0.32	6.81E-02		-6.37E-02	3.39E-02
		1001.03		0.84	4.61E-02		1.40E+00	2.30E-02

Analysis Report for 24-2339 VSM-8.0M-S3-CST-d-A Q3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Am-239	181.71		1.08	6.33E-01	3.65E-02	1.59E-01	3.16E-01
		209.80		3.50	1.91E-01		-1.29E-01	9.54E-02
		226.40		3.30	1.92E-01		-6.99E-02	9.61E-02
		228.10		11.30	5.60E-02		6.72E-02	2.80E-02
		277.60		15.00	3.65E-02		3.00E-02	1.82E-02
	NP-239	61.46		1.30	2.13E-01	4.48E-03	3.69E-02	1.06E-01
		99.53		12.90	9.10E-03		-6.75E-03	4.55E-03
		103.37		20.50	5.56E-03		-5.37E-03	2.78E-03
		106.12		25.34	4.48E-03		1.56E-02	2.24E-03
		209.75		3.36	2.41E-02		-1.63E-02	1.20E-02
		228.18		11.24	6.82E-03		8.82E-03	3.41E-03
		277.60		14.51	4.61E-03		3.78E-03	2.30E-03
		285.46		0.79	8.39E-02		7.38E-02	4.19E-02
		315.88		1.60	3.68E-02		-6.43E-03	1.84E-02
		334.31		2.06	2.75E-02		1.01E-02	1.37E-02
	PU-239	38.66		0.01	5.01E+01	7.99E+00	-7.04E+01	2.50E+01
		51.62		0.03	7.99E+00		4.13E-01	3.99E+00
		98.50		0.01	9.27E+00		3.07E+00	4.63E+00
		111.03		0.00	4.76E+01		3.79E-01	2.38E+01
		129.30		0.01	9.17E+00		5.21E+00	4.58E+00
		171.39		0.00	4.39E+02		4.38E+02	2.20E+02
		203.55		0.00	7.60E+01		3.54E+01	3.80E+01
		332.85		0.00	6.93E+01		2.55E+01	3.46E+01
		336.11		0.00	3.03E+02		7.59E+01	1.51E+02
		345.01		0.00	6.05E+01		1.09E+02	3.02E+01
		375.05		0.00	2.03E+01		1.65E+01	1.01E+01
		380.19		0.00	1.02E+02		3.26E+01	5.11E+01
		382.75		0.00	1.20E+02		6.56E+00	6.00E+01
		413.71		0.00	2.11E+01		-4.71E+00	1.05E+01
		422.60		0.00	2.39E+02		-3.62E+01	1.19E+02
		451.48		0.00	1.53E+02		7.47E+00	7.64E+01
	Am-240	99.53		18.40	6.80E-03	4.78E-04	-5.05E-03	3.40E-03
		103.37		29.20	4.16E-03		-4.02E-03	2.08E-03
		117.23		6.93	1.66E-02		-1.78E-02	8.28E-03
		888.85		24.70	1.51E-03		4.23E-04	7.52E-04
		987.79		72.20	4.78E-04		7.65E-04	2.38E-04
	Np-240m	554.60		20.90	1.19E-02	1.19E-02	7.55E-03	5.91E-03
		597.40		11.70	2.11E-02		4.98E-03	1.05E-02
	U-240	44.10		1.05	2.99E+00	1.82E+00	-3.66E+00	1.50E+00
		66.50		0.15	7.62E+00		1.27E+01	3.81E+00
		169.20		0.12	4.09E+00		1.61E+00	2.04E+00
		189.70		0.24	1.82E+00		1.85E-01	9.10E-01
+	AM-241	59.54	*	35.90	6.07E-03	6.07E-03	3.22E-01	3.04E-03
+	AM-242m	49.35	*	0.13	2.73E+00	2.73E+00	2.53E+00	1.36E+00
		66.89		0.01	8.06E+00		1.64E+01	4.03E+00
		86.65	*	0.02	4.00E+00		1.35E+01	2.00E+00
		163.25		0.02	3.26E+00		-2.97E+00	1.63E+00
	AM-243	43.53		5.90	5.76E-02	1.46E-03	-7.10E-02	2.88E-02
		74.66		67.20	1.46E-03		5.47E-03	7.32E-04

Analysis Report for 24-2339 VSM-8.0M-S3-CST-d-A Q3

ASR 2094 Branch

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

Apex-Gamma

Analysis Report for 24-2340 VSM-8.0M-S4-CST-A R3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2340 VSM-8.0M-S4-CST-A R3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 9:00:25AM
Procedure	: R3_gsv02mlw
Operator	: Administrator
Detector Name	: R
Geometry	: R3_gsv02mlw
Live Time	: 2980.5 seconds
Real Time	: 3190.2 seconds
Dead Time	: 6.57 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/5/2019
Efficiency Calibration Description	: R3_gsv2ml_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567871
Certificate Name	: R735-b8 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 9:53:39AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2340 VSM-8.0M-S4-CST-A R3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.86	120.34	0.2224	6.97
2	48.95	136.77	0.2645	4.17
3	59.55	166.62	0.0436	185.21
4	74.86	209.04	0.2503	5.53
5	86.87	242.58	0.1960	7.58
6	99.22	275.97	0.3612	3.28
7	105.41	293.56	0.2356	6.44
8	123.09	343.31	0.0610	89.98
9	247.92	690.38	0.1095	26.53
10	344.22	958.06	0.2510	4.32
11	414.81	1154.46	0.1261	16.43
12	444.16	1236.13	0.2806	3.12
13	511.10	1422.37	0.1144	14.63
14	582.12	1619.90	0.2004	6.58
15	591.84	1646.80	0.1009	25.03
16	625.46	1740.45	0.3197	3.20
17	657.24	1829.00	0.0000	0.00
18	661.69	1841.22	0.0430	130.05
19	666.33	1854.82	0.1376	15.33
20	692.53	1926.17	0.3246	3.80
21	695.12	1934.43	0.1346	13.39
22	723.42	2012.93	0.0624	60.12
23	756.96	2106.24	0.1005	23.08
24	779.27	2168.02	0.2494	4.47
25	845.82	2353.21	0.1965	6.15
26	850.86	2367.45	0.2741	3.47
27	873.30	2429.83	0.0722	41.84
28	892.80	2484.05	0.2314	5.30
29	903.96	2515.24	0.1966	5.44
30	928.03	2582.10	0.3147	3.09
31	945.80	2631.84	0.3161	3.07
32	996.41	2772.36	0.0756	36.56
33	1004.88	2795.93	0.0649	49.63
34	1111.96	3093.80	0.2108	3.53
35	1140.89	3173.85	0.2555	3.49
36	1173.35	3264.71	0.0607	52.26
37	1240.70	3453.05	0.3084	3.04
38	1246.25	3467.61	0.1688	6.33
39	1274.56	3546.37	0.0557	59.99
40	1332.62	3707.91	0.0612	50.53
41	1397.39	3888.06	0.1789	5.79
42	1407.81	3917.03	0.1668	6.97
43	1494.26	4157.77	0.1692	6.27
44	1596.50	4442.25	0.1174	13.23
45	1719.20	4783.43	0.1919	3.40
46	2504.89	6970.65	0.1728	5.09

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2340 VSM-8.0M-S4-CST-A R3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 9:53:39AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
M	1	42.86	111	145	120.22	1.16E+04	2376.46	4.76E+05	1.80
m	2	48.95	111	145	137.14	7.30E+03	1209.78	9.91E+05	1.81
F	3	59.55	157	173	166.63	2.54E+05	2778.89	6.87E+05	1.35
F	4	74.86	206	218	209.20	4.93E+03	595.36	4.98E+05	1.46
F	5	86.87	237	251	242.58	1.30E+04	3438.99	5.21E+05	2.08
F	6	99.22	266	285	276.93	2.85E+03	532.89	6.08E+05	1.78
F	7	105.41	290	303	294.13	5.40E+03	508.39	3.88E+05	1.64
F	8	123.09	337	353	343.29	7.58E+04	1915.82	3.69E+05	1.43
F	9	247.92	685	701	690.42	8.51E+03	227.31	8.28E+04	1.41
F	10	344.22	953	966	958.19	1.16E+03	150.51	2.99E+04	1.92
F	11	414.81	1148	1164	1154.51	3.50E+03	128.93	2.28E+04	1.74
F	12	444.16	1232	1244	1236.13	6.07E+02	118.31	1.52E+04	1.95
F	13	511.10	1409	1435	1422.31	8.13E+03	586.96	2.17E+04	3.28
F	14	582.12	1611	1626	1619.84	9.57E+02	394.40	8.55E+03	1.68
F	15	591.84	1639	1656	1646.86	3.80E+03	96.49	9.71E+03	1.82
F	16	625.46	1731	1748	1740.39	2.27E+02	66.01	7.91E+03	1.28
M	17	657.24	1820	1863	1828.79	1.36E+02	69.71	6.66E+03	1.97
m	18	661.69	1820	1863	1841.16	5.72E+04	569.52	7.40E+03	1.97
m	19	666.33	1820	1863	1854.08	2.58E+03	87.17	7.34E+03	1.97
M	20	692.53	1919	1946	1926.94	1.28E+03	277.36	5.57E+03	2.16
m	21	695.12	1919	1946	1934.16	2.60E+03	393.55	7.88E+03	2.16
F	22	723.42	1999	2024	2012.87	1.42E+04	371.37	7.88E+03	2.01
F	23	756.96	2098	2115	2106.17	2.85E+03	76.07	4.90E+03	1.96
F	24	779.27	2162	2174	2168.22	3.03E+02	205.34	3.16E+03	1.38
M	25	845.82	2344	2372	2353.36	5.67E+02	201.30	3.28E+03	1.88
m	26	850.86	2344	2372	2367.36	2.45E+02	82.29	4.35E+03	1.88
F	27	873.30	2420	2442	2429.80	7.48E+03	320.57	3.94E+03	2.20
F	28	892.80	2479	2493	2484.05	2.35E+02	44.15	2.47E+03	1.38
F	29	903.96	2505	2524	2515.09	5.97E+02	50.24	3.06E+03	2.68
F	30	928.03	2577	2596	2582.06	1.07E+02	37.59	2.98E+03	1.07
F	31	945.80	2627	2638	2631.49	7.93E+01	31.10	1.73E+03	0.76
M	32	996.41	2760	2807	2772.31	6.21E+03	147.22	2.93E+03	2.34
m	33	1004.88	2760	2807	2795.85	1.07E+04	229.01	2.92E+03	2.35
F	34	1111.96	3082	3104	3093.78	3.61E+02	38.52	1.88E+03	2.80
F	35	1140.89	3169	3181	3174.27	1.60E+02	31.61	7.66E+02	2.33
F	36	1173.35	3249	3277	3264.60	1.28E+04	256.23	1.41E+03	2.50
M	37	1240.70	3444	3483	3452.01	1.48E+02	56.35	5.99E+02	2.98
m	38	1246.25	3444	3483	3467.44	4.82E+02	133.91	9.24E+02	2.98
F	39	1274.56	3530	3561	3546.21	1.76E+04	274.59	1.21E+03	2.66
F	40	1332.62	3691	3724	3707.78	1.17E+04	215.54	7.80E+02	2.69

Analysis Report for 24-2340 VSM-8.0M-S4-CST-A R3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1397.39	3877 -	3901	3888.03	2.91E+02	22.32	4.00E+02	2.85
F	42	1407.81	3906 -	3928	3917.01	2.46E+02	21.48	3.68E+02	2.35
F	43	1494.26	4145 -	4171	4157.60	2.99E+02	67.15	1.94E+02	2.97
F	44	1596.50	4427 -	4455	4442.16	9.20E+02	80.73	1.88E+02	2.75
F	45	1719.20	4774 -	4793	4783.68	1.45E+02	12.09	2.47E+01	3.38
F	46	2504.89	6961 -	6981	6971.19	1.18E+02	11.39	1.88E+01	3.07

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 9:53:39AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567380.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	1	42.86	1.16E+04	2376.46			1.16E+04	2.38E+03
m	2	48.95	7.30E+03	1209.78			7.30E+03	1.21E+03
F	3	59.55	2.54E+05	2778.89			2.54E+05	2.78E+03
F	4	74.86	4.93E+03	595.36	1.08E+02	6.41E+00	4.82E+03	5.95E+02
F	5	86.87	1.30E+04	3438.99	2.36E+01	1.62E+00	1.30E+04	3.44E+03
F	6	99.22	2.85E+03	532.89			2.85E+03	5.33E+02
F	7	105.41	5.40E+03	508.39			5.40E+03	5.08E+02
F	8	123.09	7.58E+04	1915.82			7.58E+04	1.92E+03
F	9	247.92	8.51E+03	227.31			8.51E+03	2.27E+02
F	10	344.22	1.16E+03	150.51			1.16E+03	1.51E+02
F	11	414.81	3.50E+03	128.93			3.50E+03	1.29E+02
F	12	444.16	6.07E+02	118.31			6.07E+02	1.18E+02
F	13	511.10	8.13E+03	586.96	1.22E+02	4.40E+00	8.00E+03	5.87E+02
F	14	582.12	9.57E+02	394.40			9.57E+02	3.94E+02
F	15	591.84	3.80E+03	96.49			3.80E+03	9.65E+01
F	16	625.46	2.27E+02	66.01			2.27E+02	6.60E+01
M	17	657.24	1.36E+02	69.71			1.36E+02	6.97E+01
m	18	661.69	5.72E+04	569.52			5.72E+04	5.70E+02
m	19	666.33	2.58E+03	87.17	2.70E+00	4.90E-01	2.58E+03	8.72E+01
M	20	692.53	1.28E+03	277.36			1.28E+03	2.77E+02
m	21	695.12	2.60E+03	393.55			2.60E+03	3.94E+02
F	22	723.42	1.42E+04	371.37			1.42E+04	3.71E+02
F	23	756.96	2.85E+03	76.07			2.85E+03	7.61E+01

Analysis Report for 24-2340 VSM-8.0M-S4-CST-A R3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	24	779.27	3.03E+02	205.34			3.03E+02	2.05E+02
M	25	845.82	5.67E+02	201.30			5.67E+02	2.01E+02
m	26	850.86	2.45E+02	82.29			2.45E+02	8.23E+01
F	27	873.30	7.48E+03	320.57			7.48E+03	3.21E+02
F	28	892.80	2.35E+02	44.15			2.35E+02	4.41E+01
F	29	903.96	5.97E+02	50.24			5.97E+02	5.02E+01
F	30	928.03	1.07E+02	37.59			1.07E+02	3.76E+01
F	31	945.80	7.93E+01	31.10			7.93E+01	3.11E+01
M	32	996.41	6.21E+03	147.22			6.21E+03	1.47E+02
m	33	1004.88	1.07E+04	229.01			1.07E+04	2.29E+02
F	34	1111.96	3.61E+02	38.52			3.61E+02	3.85E+01
F	35	1140.89	1.60E+02	31.61			1.60E+02	3.16E+01
F	36	1173.35	1.28E+04	256.23			1.28E+04	2.56E+02
M	37	1240.70	1.48E+02	56.35			1.48E+02	5.64E+01
m	38	1246.25	4.82E+02	133.91			4.82E+02	1.34E+02
F	39	1274.56	1.76E+04	274.59			1.76E+04	2.75E+02
F	40	1332.62	1.17E+04	215.54			1.17E+04	2.16E+02
F	41	1397.39	2.91E+02	22.32			2.91E+02	2.23E+01
F	42	1407.81	2.46E+02	21.48	4.24E+00	3.50E-01	2.41E+02	2.15E+01
F	43	1494.26	2.99E+02	67.15			2.99E+02	6.72E+01
F	44	1596.50	9.20E+02	80.73			9.20E+02	8.07E+01
F	45	1719.20	1.45E+02	12.09			1.45E+02	1.21E+01
F	46	2504.89	1.18E+02	11.39			1.18E+02	1.14E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	1.19E-02	2.47E-04	0.963
		1332.50	*	99.99	1.19E-02	2.30E-04	0.961
		2505.74	*	1.00	1.91E-02	2.09E-03	miss
RH-106	0.40	511.86	*	20.70	2.14E-02	1.69E-03	0.974
		621.92		9.93			
		1050.36		1.56			

Analysis Report for 24-2340 VSM-8.0M-S4-CST-A R3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.49	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	2.27E-03	1.07E-04	0.871
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30	*	2.19	4.65E-03	2.40E-03	0.840
		666.50	*	99.60	1.89E-03	6.49E-05	0.868
		674.80		3.10			
		695.00	*	99.60	1.96E-03	2.97E-04	0.868
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.74	64.28		9.60			
		87.30	*	45.90	7.52E-03	2.02E-03	miss
CS-137	1.00	661.66	*	85.20	4.24E-02	4.89E-04	miss
EU-152	0.23	121.78		28.58			
		344.28	*	26.50	1.89E-03	2.49E-04	0.969
		778.90	*	12.94	1.71E-03	1.16E-03	0.959
		964.08		14.73			
		1085.87		10.24			
		1112.07	*	13.69	2.34E-03	2.50E-04	0.981
		1408.01	*	21.07	1.19E-03	1.06E-04	0.974
EU-154	0.99	42.70	*	20.45	7.45E-02	1.56E-02	miss
		123.07	*	40.40	5.06E-02	1.44E-03	0.955
		247.93	*	6.89	4.52E-02	1.35E-03	0.942
		591.76	*	4.95	4.85E-02	1.37E-03	0.931
		692.42	*	1.78	4.94E-02	1.07E-02	0.946
		723.30	*	20.06	4.99E-02	1.42E-03	0.949
		756.80	*	4.52	4.67E-02	1.35E-03	0.928
		873.18	*	12.08	4.93E-02	2.19E-03	0.942
		996.29	*	10.48	4.89E-02	1.27E-03	0.986
		1004.76	*	18.01	4.96E-02	1.20E-03	0.977
		1246.12	*	0.86	5.61E-02	1.56E-02	0.937
		1274.43	*	34.80	4.89E-02	9.22E-04	0.979
		1494.05	*	0.70	4.42E-02	9.96E-03	1.016
		1596.48	*	1.80	4.81E-02	4.27E-03	1.169
EU-155	0.99	43.00	*	18.70	8.15E-02	1.70E-02	1.000
		60.01	*	1.22	9.71E+00	3.59E-01	0.999
		86.55	*	30.70	1.13E-02	2.99E-03	free
		105.31	*	21.10	6.36E-03	6.20E-04	1.000
AM-241	1.00	59.54	*	35.90	3.29E-01	7.86E-03	free

Analysis Report for 24-2340 VSM-8.0M-S4-CST-A R3

ASR 2094 Branch

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	*Nuclide Id Confidence*	*Wt mean Activity (µCi/sample)*	*Wt mean Activity Uncertainty*	*Comments*
CO-60	0.997	1.19E-02	1.68E-04	
RH-106	0.401	2.14E-02	1.69E-03	
SB-126	0.495	1.99E-03	5.45E-05	
Sn-126	0.742	3.25E-03	2.03E-03	
CS-137	1.000	4.24E-02	4.89E-04	
EU-152	0.233	1.43E-03	9.05E-05	
EU-154	0.998	4.86E-02	3.97E-04	
EU-155	0.991	6.39E-03	6.01E-04	
AM-241	1.000	3.29E-01	5.62E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2340 VSM-8.0M-S4-CST-A R3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 9:53:39AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m	2	48.95	2.44921E+00	16.57		
F	4	74.86	1.61730E+00	12.35	Tol.	RA-226
F	6	99.22	9.56429E-01	18.69		
F	12	444.16	2.03529E-01	19.50		
F	14	582.12	3.21113E-01	41.21		
F	16	625.46	7.60548E-02	29.12		
M	25	845.82	1.90385E-01	35.47	Sum	
m	26	850.86	8.21035E-02	33.63		
F	28	892.80	7.87332E-02	18.81		
F	29	903.96	2.00366E-01	8.41		
F	30	928.03	3.59647E-02	35.06		
F	31	945.80	2.65951E-02	39.24		
F	35	1140.89	5.35260E-02	19.82		
M	37	1240.70	4.95341E-02	38.17		
F	41	1397.39	9.75152E-02	7.68	Sum	
F	45	1719.20	4.85927E-02	8.35	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Analysis Report for 24-2340 VSM-8.0M-S4-CST-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	4.38E-03	4.38E-03	2.26E-03	2.18E-03
	K-40	1460.83		10.67	1.14E-03	1.14E-03	1.02E-03	5.55E-04
	MN-54	834.84		99.98	3.12E-04	3.12E-04	1.03E-04	1.55E-04
	CO-58	810.78		99.45	3.34E-04	3.34E-04	3.43E-04	1.66E-04
		863.96		0.68	4.71E-02		-1.50E-02	2.34E-02
		1674.73		0.52	1.38E-02		4.12E-03	6.62E-03
	FE-59	142.65		1.00	9.02E-02	3.90E-04	-2.06E-03	4.51E-02
		192.35		3.01	2.58E-02		8.01E-03	1.29E-02
		334.80		0.27	1.95E-01		1.44E-01	9.73E-02
		1099.25		56.30	4.71E-04		-2.41E-04	2.34E-04
		1291.60		43.70	3.90E-04		-2.22E-04	1.92E-04
+	CO-60	1173.24	*	99.97	3.33E-04	2.90E-04	1.19E-02	1.65E-04
		1332.50	*	99.99	2.90E-04		1.19E-02	1.43E-04
		2505.74	*	1.00	6.09E-03		1.91E-02	2.82E-03
	SR-85	514.00		96.00	5.06E-04	5.06E-04	7.07E-05	2.52E-04
		868.60		0.01	3.61E+00		4.48E-02	1.80E+00
	NB-94	702.62		97.90	3.84E-04	3.84E-04	2.49E-04	1.91E-04
		871.09		99.98	4.44E-04		5.67E-03	2.21E-04
	NB-95	765.81		99.81	3.51E-04	3.51E-04	1.49E-04	1.74E-04
	RU-103	497.05		91.00	4.87E-04	4.87E-04	-5.79E-04	2.43E-04
		610.30		5.76	6.67E-03		-6.26E-03	3.32E-03
+	RH-106	511.86	*	20.70	3.61E-03	3.61E-03	2.14E-02	1.80E-03
		621.92		9.93	4.02E-03		-3.32E-03	2.00E-03
		1050.36		1.56	1.89E-02		-1.27E-02	9.37E-03
	AG-108M	79.13		6.60	1.98E-02	4.52E-04	6.08E-03	9.88E-03
		433.90		90.50	5.64E-04		4.70E-06	2.81E-04
		614.30		89.80	4.52E-04		-2.42E-04	2.25E-04
		722.90		90.80	6.06E-04		1.12E-02	3.02E-04
	CD-109	88.03		3.61	3.19E-02	3.19E-02	1.03E-01	1.60E-02
	SB-125	176.31		6.82	1.12E-02	1.59E-03	4.96E-03	5.60E-03
		380.45		1.52	3.21E-02		2.78E-02	1.60E-02
		427.87		29.55	1.59E-03		-1.97E-03	7.95E-04
		463.36		10.48	4.36E-03		3.76E-03	2.18E-03
		600.60		17.76	2.14E-03		5.52E-04	1.06E-03
		606.71		5.02	7.45E-03		4.64E-03	3.71E-03
		635.95		11.32	3.29E-03		3.45E-03	1.64E-03
		671.44		1.78	2.22E-02		1.54E-02	1.11E-02
+	SB-126	223.90		1.39	4.69E-02	2.94E-04	2.08E-02	2.34E-02
		278.20		2.40	2.83E-02		4.50E-03	1.41E-02
		296.50		4.50	1.46E-02		2.99E-03	7.29E-03
		414.70	*	83.30	7.40E-04		2.27E-03	3.69E-04
		556.30		1.69	2.84E-02		3.72E-02	1.42E-02
		573.90		6.70	6.95E-03		-7.98E-03	3.46E-03
		593.20		7.50	6.38E-03		3.67E-02	3.18E-03
		656.30	*	2.19	1.31E-02		4.65E-03	6.49E-03
		666.50	*	99.60	2.94E-04		1.89E-03	1.46E-04
		674.80		3.10	1.40E-02		-3.50E-03	6.96E-03
		695.00	*	99.60	3.13E-04		1.96E-03	1.56E-04
		697.00		29.00	1.62E-03		-6.07E-05	8.05E-04
		720.70		53.80	1.10E-03		2.03E-04	5.49E-04
		856.80		17.60	1.98E-03		-1.02E-03	9.85E-04
		989.60		6.80	6.17E-03		3.85E-04	3.07E-03
		1213.30		2.39	8.51E-03		-7.79E-03	4.19E-03

Analysis Report for 24-2340 VSM-8.0M-S4-CST-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	Sn-126	64.28		9.60	2.04E-02	3.00E-03	1.19E-02	1.02E-02
		87.30	*	45.90	3.00E-03		7.52E-03	1.50E-03
	I-129	29.70		56.60	4.15E-05	4.15E-05	0.00E+00	0.00E+00
		33.60		10.04	7.85E-02		2.80E+00	3.92E-02
		34.40		2.01	3.93E-01		1.63E+01	1.96E-01
		39.60		7.51	8.86E-02		1.32E+00	4.43E-02
	CS-134	563.25		8.34	5.18E-03	4.03E-04	-1.45E-03	2.58E-03
		569.33		15.37	2.80E-03		4.01E-03	1.39E-03
		604.72		97.62	4.06E-04		4.03E-04	2.02E-04
		795.86		85.46	4.03E-04		-3.47E-04	2.00E-04
		801.95		8.69	4.00E-03		3.04E-03	1.99E-03
+	CS-137	661.66	*	85.20	2.99E-04	2.99E-04	4.24E-02	1.48E-04
	CE-139	165.85		79.89	1.01E-03	1.01E-03	-3.58E-04	5.03E-04
	CE-141	40.70		3.35	1.86E-01	1.87E-03	-1.23E-01	9.31E-02
		145.44		48.29	1.87E-03		2.50E-03	9.32E-04
	CE-144	80.12		1.36	9.46E-02	7.66E-03	-6.41E-03	4.73E-02
		133.51		11.09	7.66E-03		4.83E-03	3.83E-03
+	EU-152	121.78		28.58	3.51E-03	8.21E-04	2.68E-04	1.76E-03
		344.28	*	26.50	1.97E-03		1.89E-03	9.83E-04
		778.90	*	12.94	2.17E-03		1.71E-03	1.08E-03
		964.08		14.73	2.04E-03		-8.93E-04	1.01E-03
		1085.87		10.24	2.62E-03		4.06E-03	1.30E-03
		1112.07	*	13.69	2.42E-03		2.34E-03	1.20E-03
		1408.01	*	21.07	8.21E-04		1.19E-03	4.04E-04
	GD-153	97.43		29.00	3.61E-03	3.61E-03	2.35E-04	1.80E-03
		103.18		21.10	4.76E-03		8.83E-04	2.38E-03
+	EU-154	42.70	*	20.45	2.07E-02	9.61E-04	7.45E-02	1.03E-02
		123.07	*	40.40	3.07E-03		5.06E-02	1.53E-03
		247.93	*	6.89	1.16E-02		4.52E-02	5.78E-03
		591.76	*	4.95	9.78E-03		4.85E-02	4.87E-03
		692.42	*	1.78	1.35E-02		4.94E-02	6.72E-03
		723.30	*	20.06	2.82E-03		4.99E-02	1.40E-03
		756.80	*	4.52	8.91E-03		4.67E-02	4.43E-03
		873.18	*	12.08	3.57E-03		4.93E-02	1.77E-03
		996.29	*	10.48	2.00E-03		4.89E-02	9.91E-04
		1004.76	*	18.01	1.18E-03		4.96E-02	5.84E-04
		1246.12	*	0.86	1.68E-02		5.61E-02	8.23E-03
		1274.43	*	34.80	9.61E-04		4.89E-02	4.77E-04
		1494.05	*	0.70	1.93E-02		4.42E-02	9.44E-03
		1596.48	*	1.80	6.92E-03		4.81E-02	3.39E-03
+	EU-155	43.00	*	18.70	2.27E-02	4.49E-03	8.15E-02	1.13E-02
		60.01	*	1.22	2.39E-01		9.71E+00	1.19E-01
		86.55	*	30.70	4.49E-03		1.13E-02	2.25E-03
		105.31	*	21.10	5.13E-03		6.36E-03	2.56E-03
	HG-203	72.87		6.30	2.41E-02	7.30E-04	2.04E-03	1.20E-02
		279.20		81.46	7.30E-04		9.13E-04	3.65E-04
	BI-207	569.15		97.80	4.29E-04	3.87E-04	8.97E-05	2.14E-04
		1063.10		74.90	3.87E-04		-9.20E-05	1.92E-04
	PB-210	46.54		4.25	9.18E-02	9.18E-02	-1.12E-02	4.59E-02
	RA-226	74.81		6.44	2.20E-02	4.12E-04	4.59E-02	1.10E-02
		77.11		10.80	1.25E-02		2.05E-02	6.26E-03
		87.30		4.84	2.40E-02		9.89E-02	1.20E-02
		186.21		3.59	2.06E-02		3.75E-04	1.03E-02

Analysis Report for 24-2340 VSM-8.0M-S4-CST-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	242.00		7.43	8.32E-03	4.12E-04	-3.90E-03	4.15E-03
		295.22		19.30	2.88E-03		-1.04E-03	1.44E-03
		351.93		37.60	1.36E-03		6.75E-04	6.79E-04
		609.31		46.10	8.09E-04		2.69E-05	4.03E-04
		768.36		4.94	6.78E-03		-3.23E-04	3.37E-03
		1120.29		15.10	1.70E-03		-1.01E-03	8.44E-04
		1238.11		5.79	3.23E-03		-1.66E-03	1.59E-03
		1764.49		15.40	4.12E-04		2.45E-04	1.96E-04
	PA-231	283.70		1.59	3.60E-02	2.31E-02	-4.68E-02	1.80E-02
		300.07		2.38	2.31E-02		1.84E-02	1.16E-02
		302.67		1.71	3.20E-02		-8.23E-03	1.60E-02
		330.07		1.32	3.91E-02		5.94E-03	1.95E-02
	TH-232	74.81		11.62	1.22E-02	1.60E-04	2.54E-02	6.10E-03
		77.11		17.50	7.74E-03		1.27E-02	3.87E-03
		87.30		7.80	1.49E-02		6.13E-02	7.43E-03
		238.63		43.30	1.44E-03		-2.99E-04	7.18E-04
		338.32		11.30	4.67E-03		-2.12E-04	2.33E-03
		583.19		30.37	1.30E-03		3.08E-03	6.45E-04
		727.33		6.58	7.64E-03		-8.05E-04	3.81E-03
		911.21		26.60	1.11E-03		-5.60E-04	5.52E-04
		968.97		16.20	1.76E-03		1.16E-03	8.74E-04
		2614.53		35.64	1.60E-04		2.10E-04	7.38E-05
	U-235	143.76		10.96	7.97E-03	1.29E-03	8.54E-03	3.98E-03
		185.71		57.20	1.29E-03		4.45E-04	6.46E-04
		205.31		5.01	1.38E-02		1.11E-02	6.90E-03
	U-238	63.29		3.70	5.72E-02	2.56E-02	1.97E-02	2.86E-02
		92.51		4.23	2.56E-02		1.11E-02	1.28E-02
		112.81		0.21	4.42E-01		-2.62E-01	2.21E-01
		742.81		0.11	3.10E-01		-8.97E-02	1.54E-01
		766.28		0.32	1.06E-01		1.49E-02	5.27E-02
		1001.03		0.84	6.79E-02		1.66E+00	3.38E-02
	NP-239	99.60		12.80	1.36E-02	6.43E-03	5.91E-03	6.82E-03
		103.80		20.40	8.32E-03		1.55E-03	4.16E-03
		106.10		26.40	6.43E-03		1.85E-02	3.21E-03
		116.90		7.61	2.07E-02		-7.87E-03	1.03E-02
		228.20		11.20	1.00E-02		5.24E-03	5.00E-03
		277.60		14.50	7.02E-03		3.91E-03	3.50E-03
		315.90		1.60	5.59E-02		-1.20E-02	2.79E-02
		334.30		2.06	4.02E-02		4.79E-03	2.01E-02
+	AM-241	59.54	*	35.90	8.10E-03	8.10E-03	3.29E-01	4.05E-03

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

Apex-Gamma

Analysis Report for 24-2341 VSM-8.0M-S4-CST-d-A R3

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2341 VSM-8.0M-S4-CST-d-A R3
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 7/22/2024 1:00:00PM
Acquisition Started	: 7/24/2024 10:11:47AM
Procedure	: R3_gsv02mlw
Operator	: Administrator
Detector Name	: R
Geometry	: R3_gsv02mlw
Live Time	: 2607.2 seconds
Real Time	: 2787.4 seconds
Dead Time	: 6.46 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/5/2019
Efficiency Calibration Description	: R3_gsv2ml_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 567879
Certificate Name	: R735-b8 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 7/24/2024 10:58:20AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2341 VSM-8.0M-S4-CST-d-A R3

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	42.94	120.25	0.2623	3.37
2	49.00	136.86	0.3157	3.31
3	52.06	146.18	0.3619	3.20
4	59.56	166.64	0.0471	159.36
5	74.99	209.46	0.2613	5.18
6	86.79	242.40	0.2034	6.89
7	105.43	294.12	0.2344	7.35
8	123.10	343.34	0.0651	78.82
9	227.37	633.30	0.3432	3.10
10	247.91	690.34	0.1173	22.52
11	414.84	1154.52	0.1367	14.30
12	511.09	1422.11	0.1140	14.04
13	566.98	1577.44	0.3241	3.01
14	582.22	1619.40	0.2317	3.66
15	591.80	1646.78	0.1125	20.03
16	661.71	1841.25	0.0449	118.18
17	666.38	1854.73	0.1348	15.77
18	695.10	1934.26	0.1333	14.59
19	723.39	2012.80	0.0662	53.47
20	743.52	2068.77	0.3272	3.44
21	756.95	2106.16	0.1086	20.12
22	816.41	2270.73	0.2342	3.84
23	845.53	2351.93	0.2118	4.31
24	851.36	2369.09	0.2894	3.34
25	873.31	2429.89	0.0763	37.70
26	892.91	2484.23	0.2430	4.50
27	904.80	2516.80	0.2098	5.15
28	911.49	2536.04	0.3114	3.33
29	996.43	2772.41	0.0810	31.59
30	1004.89	2795.99	0.0691	43.35
31	1086.01	3021.57	0.2556	3.25
32	1112.89	3094.29	0.2412	3.37
33	1128.28	3139.27	0.2024	4.64
34	1141.41	3174.97	0.2651	3.11
35	1173.33	3264.64	0.0629	49.17
36	1246.26	3467.57	0.1737	6.04
37	1274.60	3546.45	0.0581	54.72
38	1332.61	3707.88	0.0644	43.42
39	1397.40	3887.95	0.1776	5.68
40	1408.02	3918.02	0.1904	4.73
41	1461.52	4066.58	0.2521	3.17
42	1493.91	4156.99	0.1609	6.25
43	1596.42	4442.10	0.1220	11.62
44	1719.34	4783.64	0.2202	3.48
45	2505.05	6970.59	0.1806	5.31

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2341 VSM-8.0M-S4-CST-d-A R3

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 7/24/2024 10:58:20AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	42.94	111	128	120.44	7.93E+03	4699.14	4.41E+05	1.64
M	2	49.00	128	155	137.30	1.30E+04	2917.36	6.24E+05	2.80
m	3	52.06	128	155	145.80	1.24E+04	2250.14	8.62E+05	2.80
F	4	59.56	157	175	166.65	2.00E+05	2541.77	6.56E+05	1.37
F	5	74.99	205	218	209.55	3.49E+03	507.88	4.65E+05	1.11
F	6	86.79	236	251	242.37	1.14E+04	3014.41	4.81E+05	2.08
F	7	105.43	291	303	294.20	2.64E+03	410.08	3.12E+05	0.86
F	8	123.10	337	353	343.32	5.88E+04	464.37	3.22E+05	1.41
F	9	227.37	630	644	633.27	8.20E+02	217.49	7.70E+04	1.28
F	10	247.91	683	701	690.37	7.45E+03	831.24	7.99E+04	1.51
F	11	414.84	1147	1162	1154.61	2.49E+03	118.33	1.91E+04	1.61
F	12	511.09	1412	1434	1422.27	7.31E+03	118.63	1.57E+04	3.00
F	13	566.98	1568	1588	1577.72	1.73E+02	68.59	1.03E+04	1.36
F	14	582.22	1613	1628	1620.12	5.03E+02	75.27	7.48E+03	2.12
F	15	591.80	1635	1654	1646.78	3.12E+03	312.74	8.86E+03	1.91
M	16	661.71	1831	1864	1841.22	4.78E+04	216.61	6.47E+03	1.93
m	17	666.38	1831	1864	1854.20	2.41E+03	75.21	6.36E+03	1.94
F	18	695.10	1920	1947	1934.09	3.09E+03	375.34	8.06E+03	2.26
F	19	723.39	1998	2024	2012.80	1.14E+04	322.94	6.86E+03	2.04
	20	743.52	2064	2073	2068.77	6.82E+01	91.88	2.36E+03	0.36
F	21	756.95	2096	2120	2106.14	2.69E+03	256.53	5.31E+03	2.09
F	22	816.41	2264	2279	2271.53	3.86E+02	289.48	2.78E+03	1.51
M	23	845.53	2344	2380	2352.54	5.39E+02	49.14	3.09E+03	2.66
m	24	851.36	2344	2380	2368.76	2.60E+02	45.52	4.39E+03	2.66
F	25	873.31	2418	2444	2429.83	6.28E+03	251.66	3.71E+03	2.23
F	26	892.91	2480	2494	2484.36	2.09E+02	42.84	2.16E+03	1.55
M	27	904.80	2505	2541	2517.42	4.33E+02	171.45	2.49E+03	1.47
m	28	911.49	2505	2541	2536.05	1.81E+02	58.74	4.22E+03	1.47
M	29	996.43	2760	2808	2772.36	4.95E+03	130.82	2.55E+03	2.37
m	30	1004.89	2760	2808	2795.89	8.53E+03	202.78	2.46E+03	2.38
	31	1086.01	3015	3027	3021.57	2.14E+01	71.30	1.19E+03	0.40
F	32	1112.89	3082	3101	3096.37	3.83E+02	378.86	1.29E+03	1.69
F	33	1128.28	3132	3146	3139.20	2.22E+02	32.38	9.47E+02	2.17
F	34	1141.41	3166	3183	3175.72	1.48E+02	134.74	9.39E+02	1.36
F	35	1173.33	3248	3280	3264.54	1.07E+04	221.33	1.46E+03	2.51
F	36	1246.26	3460	3478	3467.47	3.33E+02	27.38	5.79E+02	2.62
F	37	1274.60	3530	3562	3546.32	1.45E+04	242.17	7.19E+02	2.61
F	38	1332.61	3694	3724	3707.75	9.78E+03	199.65	6.59E+02	2.77
F	39	1397.40	3875	3897	3888.05	2.53E+02	66.84	2.69E+02	2.52
F	40	1408.02	3906	3926	3917.61	2.11E+02	76.62	2.94E+02	2.76

Analysis Report for 24-2341 VSM-8.0M-S4-CST-d-A R3

ASR 2094 Branch

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	41	1461.52	4058	4075	4066.51	6.94E+01	63.63	1.69E+02	2.27
F	42	1493.91	4143	4167	4156.64	2.80E+02	62.93	2.00E+02	2.74
F	43	1596.42	4430	4452	4441.94	7.00E+02	26.72	1.14E+02	2.83
F	44	1719.34	4775	4793	4784.08	6.10E+01	18.03	5.70E+01	1.87
F	45	2505.05	6961	6983	6971.64	1.08E+02	88.79	9.88E+00	3.16

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 7/24/2024 10:58:20AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000567380.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	42.94	7.93E+03	4699.14			7.93E+03	4.70E+03
M	2	49.00	1.30E+04	2917.36			1.30E+04	2.92E+03
m	3	52.06	1.24E+04	2250.14			1.24E+04	2.25E+03
F	4	59.56	2.00E+05	2541.77			2.00E+05	2.54E+03
F	5	74.99	3.49E+03	507.88	9.48E+01	5.60E+00	3.40E+03	5.08E+02
F	6	86.79	1.14E+04	3014.41	2.06E+01	1.42E+00	1.14E+04	3.01E+03
F	7	105.43	2.64E+03	410.08			2.64E+03	4.10E+02
F	8	123.10	5.88E+04	464.37			5.88E+04	4.64E+02
F	9	227.37	8.20E+02	217.49			8.20E+02	2.17E+02
F	10	247.91	7.45E+03	831.24			7.45E+03	8.31E+02
F	11	414.84	2.49E+03	118.33			2.49E+03	1.18E+02
F	12	511.09	7.31E+03	118.63	1.07E+02	3.85E+00	7.20E+03	1.19E+02
F	13	566.98	1.73E+02	68.59			1.73E+02	6.86E+01
F	14	582.22	5.03E+02	75.27	8.95E+00	5.23E-01	4.94E+02	7.53E+01
F	15	591.80	3.12E+03	312.74			3.12E+03	3.13E+02
M	16	661.71	4.78E+04	216.61			4.78E+04	2.17E+02
m	17	666.38	2.41E+03	75.21	2.36E+00	4.28E-01	2.41E+03	7.52E+01
F	18	695.10	3.09E+03	375.34			3.09E+03	3.75E+02
F	19	723.39	1.14E+04	322.94			1.14E+04	3.23E+02
	20	743.52	6.82E+01	91.88			6.82E+01	9.19E+01
F	21	756.95	2.69E+03	256.53			2.69E+03	2.57E+02
F	22	816.41	3.86E+02	289.48			3.86E+02	2.89E+02
M	23	845.53	5.39E+02	49.14			5.39E+02	4.91E+01
m	24	851.36	2.60E+02	45.52			2.60E+02	4.55E+01

Analysis Report for 24-2341 VSM-8.0M-S4-CST-d-A R3

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	25	873.31	6.28E+03	251.66			6.28E+03	2.52E+02
F	26	892.91	2.09E+02	42.84			2.09E+02	4.28E+01
M	27	904.80	4.33E+02	171.45			4.33E+02	1.71E+02
m	28	911.49	1.81E+02	58.74	9.62E+00	4.60E-01	1.71E+02	5.87E+01
M	29	996.43	4.95E+03	130.82			4.95E+03	1.31E+02
m	30	1004.89	8.53E+03	202.78			8.53E+03	2.03E+02
	31	1086.01	2.14E+01	71.30			2.14E+01	7.13E+01
F	32	1112.89	3.83E+02	378.86			3.83E+02	3.79E+02
F	33	1128.28	2.22E+02	32.38			2.22E+02	3.24E+01
F	34	1141.41	1.48E+02	134.74			1.48E+02	1.35E+02
F	35	1173.33	1.07E+04	221.33			1.07E+04	2.21E+02
F	36	1246.26	3.33E+02	27.38			3.33E+02	2.74E+01
F	37	1274.60	1.45E+04	242.17			1.45E+04	2.42E+02
F	38	1332.61	9.78E+03	199.65			9.78E+03	2.00E+02
F	39	1397.40	2.53E+02	66.84			2.53E+02	6.68E+01
F	40	1408.02	2.11E+02	76.62	3.71E+00	3.06E-01	2.07E+02	7.66E+01
F	41	1461.52	6.94E+01	63.63	6.86E+01	1.96E+00	8.23E-01	6.37E+01
F	42	1493.91	2.80E+02	62.93			2.80E+02	6.29E+01
F	43	1596.42	7.00E+02	26.72			7.00E+02	2.67E+01
F	44	1719.34	6.10E+01	18.03			6.10E+01	1.80E+01
F	45	2505.05	1.08E+02	88.79			1.08E+02	8.88E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.92	1460.83	*	10.67	9.12E-06	7.05E-04	miss
CO-60	0.99	1173.24	*	99.97	1.14E-02	2.44E-04	0.963
		1332.50	*	99.99	1.13E-02	2.41E-04	0.961
		2505.74	*	1.00	2.00E-02	1.65E-02	miss
RH-106	0.39	511.86	*	20.70	2.20E-02	7.56E-04	0.974
		621.92		9.93			
		1050.36		1.56			
SB-126	0.48	223.90		1.39			

Analysis Report for 24-2341 VSM-8.0M-S4-CST-d-A R3

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	1.84E-03	1.03E-04	0.871
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	2.02E-03	6.41E-05	0.868
		674.80		3.10			
		695.00	*	99.60	2.66E-03	3.24E-04	0.868
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.73	64.28		9.60			
		87.30	*	45.90	7.52E-03	2.02E-03	miss
CS-137	1.00	661.66	*	85.20	4.05E-02	2.99E-04	miss
EU-154	0.98	42.70	*	20.45	5.80E-02	3.44E-02	miss
		123.07	*	40.40	4.48E-02	6.93E-04	0.955
		247.93	*	6.89	4.53E-02	5.09E-03	0.942
		591.76	*	4.95	4.56E-02	4.60E-03	0.931
		692.42		1.78			
		723.30	*	20.06	4.56E-02	1.40E-03	0.949
		756.80	*	4.52	5.04E-02	4.84E-03	0.928
		873.18	*	12.08	4.73E-02	1.98E-03	0.942
		996.29	*	10.48	4.45E-02	1.27E-03	0.986
		1004.76	*	18.01	4.53E-02	1.19E-03	0.977
		1246.12	*	0.86	4.43E-02	3.69E-03	0.937
		1274.43	*	34.80	4.60E-02	9.10E-04	0.979
		1494.05	*	0.70	4.74E-02	1.07E-02	1.016
		1596.48	*	1.80	4.18E-02	1.69E-03	1.169
EU-155	0.99	43.00	*	18.70	6.34E-02	3.77E-02	1.000
		60.01	*	1.22	8.76E+00	3.29E-01	0.999
		86.55	*	30.70	1.12E-02	3.00E-03	free
		105.31	*	21.10	3.56E-03	5.60E-04	1.000
AM-241	1.00	59.54	*	35.90	2.97E-01	7.34E-03	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

Analysis Report for 24-2341 VSM-8.0M-S4-CST-d-A R3

ASR 2094 Branch

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.926	9.12E-06	7.05E-04	
CO-60	0.998	1.14E-02	1.72E-04	
RH-106	0.399	2.20E-02	7.56E-04	
SB-126	0.488	1.99E-03	5.37E-05	
Sn-126	0.733	5.14E-03	2.03E-03	
CS-137	1.000	4.05E-02	2.99E-04	
EU-154	0.982	4.51E-02	3.48E-04	
EU-155	0.994	3.56E-03	5.53E-04	
AM-241	1.000	2.97E-01	5.41E-03	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2341 VSM-8.0M-S4-CST-d-A R3

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 7/24/2024 10:58:20AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
M	2	49.00	4.97123E+00	22.51		
m	3	52.06	4.77291E+00	18.08		
F	5	74.99	1.30267E+00	14.95	Tol.	TH-232
F	9	227.37	3.14591E-01	26.52		
F	13	566.98	6.64473E-02	39.59		
F	14	582.22	1.89440E-01	15.24	Tol.	TH-232
	20	743.52	2.61722E-02	134.65		
F	22	816.41	1.47985E-01	75.03	Sum	
M	23	845.53	2.06878E-01	9.11	Sum	
m	24	851.36	9.96801E-02	17.51		
F	26	892.91	8.00766E-02	20.52		
M	27	904.80	1.65986E-01	39.62		
m	28	911.49	6.56535E-02	34.31	Tol.	TH-232
	31	1086.01	8.20098E-03	333.46	S-Esc	
F	32	1112.89	1.46756E-01	99.02		
F	33	1128.28	8.50455E-02	14.60	Sum	
F	34	1141.41	5.67785E-02	91.02		
F	39	1397.40	9.68885E-02	26.46	Sum	
F	40	1408.02	7.94084E-02	37.01		
F	44	1719.34	2.33793E-02	29.57	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Analysis Report for 24-2341 VSM-8.0M-S4-CST-d-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	4.67E-03	4.67E-03	7.92E-03	2.33E-03
+	K-40	1460.83	*	10.67	1.18E-03	1.18E-03	9.12E-06	5.77E-04
	MN-54	834.84		99.98	3.25E-04	3.25E-04	4.49E-04	1.61E-04
	CO-58	810.78		99.45	3.55E-04	3.55E-04	-2.67E-05	1.77E-04
		863.96		0.68	4.97E-02		9.35E-03	2.47E-02
		1674.73		0.52	1.43E-02		-3.61E-03	6.81E-03
	FE-59	142.65		1.00	9.60E-02	4.09E-04	2.93E-02	4.80E-02
		192.35		3.01	2.74E-02		8.90E-03	1.37E-02
		334.80		0.27	2.06E-01		-1.40E-02	1.03E-01
		1099.25		56.30	4.89E-04		5.33E-04	2.42E-04
		1291.60		43.70	4.09E-04		3.13E-04	2.01E-04
+	CO-60	1173.24	*	99.97	4.11E-04	2.93E-04	1.14E-02	2.04E-04
		1332.50	*	99.99	2.93E-04		1.13E-02	1.45E-04
		2505.74	*	1.00	5.24E-03		2.00E-02	2.37E-03
	SR-85	514.00		96.00	5.37E-04	5.37E-04	-3.59E-04	2.68E-04
		868.60		0.01	3.75E+00		-9.20E-01	1.87E+00
	NB-94	702.62		97.90	4.05E-04	4.05E-04	-7.07E-05	2.02E-04
		871.09		99.98	4.63E-04		8.92E-05	2.30E-04
	NB-95	765.81		99.81	3.70E-04	3.70E-04	-1.63E-04	1.84E-04
	RU-103	497.05		91.00	5.16E-04	5.16E-04	3.04E-04	2.57E-04
		610.30		5.76	7.16E-03		-5.01E-03	3.56E-03
+	RH-106	511.86	*	20.70	3.28E-03	3.28E-03	2.20E-02	1.64E-03
		621.92		9.93	4.27E-03		5.19E-03	2.12E-03
		1050.36		1.56	2.02E-02		-4.02E-03	1.00E-02
	AG-108M	79.13		6.60	2.10E-02	4.82E-04	5.64E-03	1.05E-02
		433.90		90.50	5.98E-04		-3.80E-04	2.98E-04
		614.30		89.80	4.82E-04		2.95E-04	2.40E-04
		722.90		90.80	6.28E-04		9.88E-03	3.13E-04
	CD-109	88.03		3.61	3.39E-02	3.39E-02	9.36E-02	1.69E-02
	SB-125	176.31		6.82	1.19E-02	1.70E-03	6.05E-03	5.96E-03
		380.45		1.52	3.40E-02		2.11E-02	1.70E-02
		427.87		29.55	1.70E-03		-1.35E-03	8.46E-04
		463.36		10.48	4.64E-03		8.10E-03	2.31E-03
		600.60		17.76	2.27E-03		9.66E-05	1.13E-03
		606.71		5.02	7.98E-03		8.72E-04	3.97E-03
		635.95		11.32	3.50E-03		-3.92E-03	1.74E-03
		671.44		1.78	2.32E-02		-1.79E-03	1.15E-02
+	SB-126	223.90		1.39	4.99E-02	3.13E-04	5.27E-03	2.49E-02
		278.20		2.40	3.00E-02		6.90E-03	1.50E-02
		296.50		4.50	1.55E-02		7.30E-04	7.72E-03
		414.70	*	83.30	7.56E-04		1.84E-03	3.77E-04
		556.30		1.69	2.98E-02		5.60E-03	1.49E-02
		573.90		6.70	7.30E-03		5.05E-03	3.64E-03
		593.20		7.50	6.66E-03		2.63E-02	3.31E-03
		656.30		2.19	4.45E-02		5.73E-03	2.22E-02
		666.50	*	99.60	3.13E-04		2.02E-03	1.56E-04
		674.80		3.10	1.46E-02		7.07E-03	7.26E-03
		695.00	*	99.60	7.22E-04		2.66E-03	3.60E-04
		697.00		29.00	1.71E-03		-2.31E-04	8.52E-04
		720.70		53.80	1.14E-03		3.00E-04	5.69E-04
		856.80		17.60	2.10E-03		1.57E-03	1.04E-03

Analysis Report for 24-2341 VSM-8.0M-S4-CST-d-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-126	989.60		6.80	6.41E-03	3.13E-04	-1.50E-03	3.19E-03
		1213.30		2.39	9.37E-03		6.05E-03	4.62E-03
+	Sn-126	64.28		9.60	2.15E-02	3.38E-03	9.39E-04	1.08E-02
		87.30	*	45.90	3.38E-03		7.52E-03	1.69E-03
	I-129	29.70		56.60	4.74E-05	4.74E-05	0.00E+00	0.00E+00
		33.60		10.04	8.28E-02		2.68E+00	4.14E-02
		34.40		2.01	4.15E-01		1.60E+01	2.07E-01
		39.60		7.51	9.39E-02		1.24E+00	4.69E-02
	CS-134	563.25		8.34	5.50E-03	4.28E-04	4.06E-03	2.74E-03
		569.33		15.37	2.94E-03		-1.33E-03	1.46E-03
		604.72		97.62	4.33E-04		1.76E-04	2.16E-04
		795.86		85.46	4.28E-04		4.66E-04	2.13E-04
		801.95		8.69	4.25E-03		-3.63E-03	2.11E-03
+	CS-137	661.66	*	85.20	3.19E-04	3.19E-04	4.05E-02	1.59E-04
	CE-139	165.85		79.89	1.07E-03	1.07E-03	3.65E-04	5.34E-04
	CE-141	40.70		3.35	1.98E-01	1.98E-03	-1.79E-01	9.89E-02
		145.44		48.29	1.98E-03		-9.30E-04	9.91E-04
	CE-144	80.12		1.36	1.00E-01	8.16E-03	-2.89E-02	5.02E-02
		133.51		11.09	8.16E-03		-8.31E-04	4.07E-03
	EU-152	121.78		28.58	3.72E-03	7.79E-04	-8.61E-04	1.86E-03
		344.28		26.50	2.16E-03		1.33E-03	1.08E-03
		778.90		12.94	2.85E-03		1.37E-03	1.42E-03
		964.08		14.73	2.13E-03		8.15E-04	1.05E-03
		1085.87		10.24	2.73E-03		5.44E-03	1.35E-03
		1112.07		13.69	2.03E-03		7.64E-04	1.00E-03
		1408.01		21.07	7.79E-04		1.21E-03	3.82E-04
	GD-153	97.43		29.00	3.83E-03	3.83E-03	1.76E-03	1.91E-03
		103.18		21.10	5.06E-03		-1.95E-03	2.53E-03
+	EU-154	42.70	*	20.45	3.76E-02	8.61E-04	5.80E-02	1.88E-02
		123.07	*	40.40	3.27E-03		4.48E-02	1.64E-03
		247.93	*	6.89	1.36E-02		4.53E-02	6.79E-03
		591.76	*	4.95	1.11E-02		4.56E-02	5.54E-03
		692.42		1.78	2.49E-02		-9.57E-03	1.24E-02
		723.30	*	20.06	3.06E-03		4.56E-02	1.52E-03
		756.80	*	4.52	1.22E-02		5.04E-02	6.07E-03
		873.18	*	12.08	4.25E-03		4.73E-02	2.11E-03
		996.29	*	10.48	2.14E-03		4.45E-02	1.06E-03
		1004.76	*	18.01	1.24E-03		4.53E-02	6.13E-04
		1246.12	*	0.86	2.57E-02		4.43E-02	1.27E-02
		1274.43	*	34.80	8.61E-04		4.60E-02	4.26E-04
		1494.05	*	0.70	2.16E-02		4.74E-02	1.06E-02
		1596.48	*	1.80	5.62E-03		4.18E-02	2.73E-03
+	EU-155	43.00	*	18.70	4.11E-02	5.06E-03	6.34E-02	2.06E-02
		60.01	*	1.22	2.80E-01		8.76E+00	1.40E-01
		86.55	*	30.70	5.06E-03		1.12E-02	2.53E-03
		105.31	*	21.10	5.12E-03		3.56E-03	2.56E-03
	HG-203	72.87		6.30	2.56E-02	7.74E-04	1.71E-02	1.28E-02
		279.20		81.46	7.74E-04		-2.98E-04	3.86E-04
	BI-207	569.15		97.80	4.51E-04	4.12E-04	-1.20E-04	2.25E-04
		1063.10		74.90	4.12E-04		4.76E-04	2.04E-04
	PB-210	46.54		4.25	9.72E-02	9.72E-02	-5.48E-02	4.86E-02
	RA-226	74.81		6.44	2.34E-02	4.36E-04	5.05E-02	1.17E-02
		77.11		10.80	1.33E-02		3.40E-02	6.65E-03

Analysis Report for 24-2341 VSM-8.0M-S4-CST-d-A R3

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	87.30		4.84	2.55E-02	4.36E-04	1.05E-01	1.27E-02
		186.21		3.59	2.19E-02		1.74E-02	1.09E-02
		242.00		7.43	8.83E-03		2.17E-03	4.41E-03
		295.22		19.30	3.05E-03		4.53E-04	1.52E-03
		351.93		37.60	1.44E-03		-7.46E-04	7.18E-04
		609.31		46.10	8.66E-04		-2.12E-04	4.31E-04
		768.36		4.94	7.11E-03		-5.61E-03	3.53E-03
		1120.29		15.10	1.77E-03		1.03E-03	8.79E-04
		1238.11		5.79	3.42E-03		7.82E-04	1.69E-03
		1764.49		15.40	4.36E-04		-3.66E-04	2.06E-04
	PA-231	283.70		1.59	3.83E-02	2.45E-02	3.69E-02	1.91E-02
		300.07		2.38	2.45E-02		-2.61E-02	1.22E-02
		302.67		1.71	3.39E-02		1.20E-02	1.69E-02
		330.07		1.32	4.13E-02		-3.23E-02	2.06E-02
	TH-232	74.81		11.62	1.30E-02	1.52E-04	2.80E-02	6.47E-03
		77.11		17.50	8.21E-03		2.10E-02	4.10E-03
		87.30		7.80	1.58E-02		6.51E-02	7.90E-03
		238.63		43.30	1.52E-03		-2.30E-03	7.61E-04
		338.32		11.30	4.93E-03		-6.44E-03	2.46E-03
		583.19		30.37	1.36E-03		1.68E-03	6.80E-04
		727.33		6.58	7.91E-03		-7.48E-06	3.94E-03
		911.21		26.60	1.17E-03		3.83E-04	5.82E-04
		968.97		16.20	1.85E-03		-3.46E-04	9.19E-04
		2614.53		35.64	1.52E-04		8.71E-05	6.85E-05
	U-235	143.76		10.96	8.47E-03	1.37E-03	1.05E-02	4.23E-03
		185.71		57.20	1.37E-03		9.80E-04	6.86E-04
		205.31		5.01	1.47E-02		8.56E-03	7.33E-03
	U-238	63.29		3.70	6.01E-02	2.72E-02	2.46E-02	3.00E-02
		92.51		4.23	2.72E-02		2.46E-02	1.36E-02
		112.81		0.21	4.70E-01		2.81E-01	2.35E-01
		742.81		0.11	3.28E-01		9.27E-02	1.63E-01
		766.28		0.32	1.12E-01		-1.63E-02	5.56E-02
		1001.03		0.84	7.01E-02		1.51E+00	3.49E-02
	NP-239	99.60		12.80	1.47E-02	6.94E-03	-5.26E-03	7.35E-03
		103.80		20.40	8.96E-03		-5.92E-03	4.48E-03
		106.10		26.40	6.94E-03		1.90E-02	3.47E-03
		116.90		7.61	2.23E-02		-1.09E-02	1.11E-02
		228.20		11.20	1.08E-02		1.05E-02	5.39E-03
		277.60		14.50	7.54E-03		-7.46E-03	3.76E-03
		315.90		1.60	6.01E-02		1.11E-02	3.00E-02
		334.30		2.06	4.31E-02		9.89E-04	2.15E-02
+	AM-241	59.54	*	35.90	9.48E-03	9.48E-03	2.97E-01	4.74E-03

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

Battelle PNNL/RPG/Inorganic Analysis ... ICPOES Data Report

		Run Date >	8/28/2024	8/28/2024	8/28/2024	8/28/2024	8/28/2024	8/28/2024	8/28/2024	8/28/2024	8/28/2024	8/28/2024	8/28/2024	8/28/2024	8/28/2024	8/28/2024	8/28/2024	8/28/2024
		Process Factor >	1.0	1.0	348.0	1754.6	346.4	1775.2	346.6	1814.3	327.0	1649.7	330.8	1667.9	322.0	1623.0	317.1	1596.9
			PB @1x	405 Diluent	24-2282 @10x	24-2282 @50x	24-2282 Dup @10x	24-2282 Dup @50x	24-2283 @10x	24-2283 @50x	24-2284 @10x	24-2284 @50x	24-2285 @10x	24-2285 @50x	24-2286 @10x	24-2286 @50x	24-2287 @10x	24-2287 @50x
Instr. Det. Limit (IDL)	Est. Quant. Limit (EQL)	Client ID >			3.5M-AN107 A	3.5M-AN107 A	3.5M-AN107 A	3.5M-AN107 A	3.5M-AN107 d-A	3.5M-AN107 d-A	4.5M-AN107 A	4.5M-AN107 A	4.5M-AN107 d-A	4.5M-AN107 d-A	5.5M-AN107 A	5.5M-AN107 A	5.5M-AN107 d-A	5.5M-AN107 d-A
(µg/g)	(µg/g)	(Analyte)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)
0.0352	0.352	K	0.646	--	586	[570]	574	[570]	573	[550]	755	725	761	671	856	840	863	790
0.0085	0.085	Na	3.68	--	71,900	75,400	72,000	76,600	73,100	78,100	93,300	96,200	92,800	94,700	98,800	111,000	99,800	111,000
Other Analytes																		
0.0022	0.022	Ag	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0091	0.091	Al	0.537	--	892	911	882	912	888	938	1,170	1,200	1,140	1,160	1,250	1,320	1,250	1,320
0.1768	1.768	As	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0193	0.193	B	[0.18]	[0.028]	70.3	[98]	75.2	[120]	[62]	[93]	81.5	[110]	85.6	[110]	96.0	[130]	76.4	[120]
0.0002	0.002	Ba	0.0027	--	1.19	[1.5]	1.14	[1.3]	1.14	[1.3]	1.46	[1.7]	1.48	[1.6]	1.61	[1.8]	1.60	[1.7]
0.0001	0.001	Be	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0618	0.618	Bi	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0075	0.075	Ca	0.186	--	202	207	192	188	199	219	251	256	248	236	272	277	271	277
0.0079	0.079	Cd	--	--	[23]	[28]	[23]	[26]	[23]	[30]	28.4	[34]	29.5	[31]	32.5	[35]	32.4	[35]
0.0163	0.163	Ce	--	--	--	--	--	--	[5.8]	--	[6.7]	--	[6.4]	--	[8.5]	--	[8.2]	--
0.0064	0.064	Co	--	--	--	--	--	--	[3.0]	--	[2.9]	--	[3.3]	--	[3.1]	--	[3.8]	--
0.0046	0.046	Cr	[0.014]	--	32.9	[31]	32.0	[34]	32.4	[35]	42.5	[42]	43.0	[44]	47.4	[52]	46.8	[47]
0.0019	0.019	Cu	[0.012]	--	13.8	[19]	13.6	[17]	13.4	[14]	17.8	[20]	18.2	[16]	19.0	[22]	18.8	[23]
0.0034	0.034	Dy	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0006	0.006	Eu	--	--	--	--	--	--	--	--	--	--	--	--	[0.23]	--	[0.31]	--
0.0025	0.025	Fe	0.277	--	259	266	250	257	255	268	323	334	323	325	353	374	354	371
0.0018	0.018	La	--	[0.0020]	6.65	[4.5]	6.33	[4.5]	6.47	[7.5]	8.02	[7.4]	7.80	[8.2]	9.03	[11]	8.94	[7.7]
0.0015	0.015	Li	[0.0017]	--	--	--	--	--	--	--	--	--	[0.50]	--	--	--	--	--
0.0025	0.025	Mg	[0.016]	--	[1.5]	--	--	--	[1.6]	--	[1.3]	--	[2.0]	--	[1.4]	--	[1.5]	--
0.0007	0.007	Mn	[0.0029]	--	46.7	48.4	46.0	48.6	46.3	49.4	60.9	63.8	61.0	61.9	66.9	71.5	66.5	70.3
0.0173	0.173	Mo	--	--	[6.9]	--	[14]	--	[9.2]	--	[13]	--	[17]	--	[18]	--	[14]	--
0.0126	0.126	Nd	--	--	[15]	--	[14]	--	[16]	--	[22]	[29]	[18]	--	[23]	[23]	[23]	--
0.0085	0.085	Ni	--	--	187	183	185	195	184	185	239	253	241	237	255	269	262	274
0.1778	1.778	P	--	--	[220]	--	[210]	--	[200]	--	[310]	--	[280]	--	[290]	--	[300]	[290]
0.0385	0.385	Pb	[0.090]	--	[94]	[130]	[94]	[110]	[98]	[140]	[120]	[150]	[120]	[180]	143	[200]	127	[180]
0.0113	0.113	Pd	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0389	0.389	Rh	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0128	0.128	Ru	--	--	[12]	--	[12]	--	[11]	[24]	[16]	--	[15]	[24]	[18]	[22]	[19]	[21]
0.6450	6.450	S	--	--	[1,000]	[1,900]	[1,100]	--	[1,100]	[1,900]	[1,500]	[1,400]	[1,300]	[2,000]	[1,400]	[2,000]	[1,400]	[1,200]
0.1139	1.139	Sb	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.4064	4.064	Se	--	--	--	[770]	--	--	--	--	[150]	--	--	--	--	--	--	--
0.0212	0.212	Si	[0.074]	--	[22]	--	[30]	--	[20]	--	[30]	[51]	[29]	[50]	[46]	[70]	[40]	[60]
0.1168	1.168	Sn	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0002	0.002	Sr	[0.0012]	--	1.69	[1.6]	0.881	[0.80]	0.925	[0.98]	1.15	[1.2]	1.15	[1.2]	1.18	[1.3]	2.56	[2.9]
0.0320	0.320	Ta	--	--	--	--	--	--	--	--	--	--	--	[66]	--	--	--	--
0.0623	0.623	Te	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0116	0.116	Th	--	--	--	--	--	--	--	--	[5.5]	--	[6.1]	--	[5.1]	--	[4.9]	--
0.0007	0.007	Ti	0.0083	--	[0.66]	--	[0.75]	--	[0.59]	--	[0.94]	--	[0.81]	[1.2]	[1.2]	[1.1]	[0.93]	--
0.1934	1.934	Tl	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0675	0.675	U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0029	0.029	V	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0513	0.513	W	--	--	[29]	--	[32]	--	[44]	--	[59]	--	[62]	--	[49]	--	[54]	--
0.0006	0.006	Y	--	--	[1.8]	[1.9]	[1.7]	[1.9]	[1.7]	[1.5]	2.35	[2.5]	2.42	[2.0]	2.46	[2.3]	2.59	[2.4]
0.0087	0.087	Zn	[0.070]	--	[22]	[76]	[18]	[64]	[18]	[52]	[20]	[67]	[21]	[69]	[20]	[64]	[17]	[71]
0.0018	0.018	Zr	0.0227	--	[5.9]	--	[5.1]	[4.4]	[6.2]	[5.3]	10.0	[8.7]	8.24	[5.3]	6.97	[4.6]	7.94	[7.8]

1) "--" indicates the value is < MDL. The method detection limit (MDL) = IDL times the "multiplier" near the top of each column. The estimated sample quantitation limit = EQL (in Column 2) times the "multiplier". Overall error for values ≥ EQL is estimated to be within ±15%.

2) Values in brackets [ ] are ≥ MDL but < EQL, with errors likely to exceed 15%.

na = not applicable; KOH flux and Ni crucible or Na_2O_2 flux and Zr crucible for fusion preparations, or Si for HF assisted digests.

Battelle PNNL/RPG/Inorganic Analysis ... ICPOES Data Report

QC Performance 8/28/2024

Criteria >	≤ 20%	80%-120%	80%-120%	75%-125%	80%-120%	80%-120%	≤ 10%
QC ID >	24-2282 @10x Dup	LCS/BS	BS @1x LCS/BS	24-2282 @10x MS	24-2282 @50x + PS-A	24-2287 @50x + AS-B	24-2284 @50x 5-fold Serial Dil
Analytes	RPD (%)	%Rec	%Rec	%Rec	%Rec	%Rec	%Diff
K	1.5	100	91	92	100		4.8
Na	0.6	102	104	nr	101		2.2
Other Analytes							
Ag		82			83		
Al	0.6	102	92	90	103		1.8
As		100			100		
B	7.2	101			103		
Ba	3.6	101	88	89	101		
Be		101	91	91	100		
Bi		94	88		98		
Ca	4.4	101	91	91	101		1.3
Cd		99	93	90	101		
Ce		93	85	88		95	
Co		102			104		
Cr	2.3	97	90	89	100		
Cu	0.8	107	92	95	106		
Dy		98				97	
Eu		97				97	
Fe	2.9	103	92	86	103		2.5
La	4.5	94	86	86		97	
Li		108	93	93	106		
Mg		103	90	92	103		
Mn	1.0	106	90	89	104		3.8
Mo		99			101		
Nd		97	85	85		98	
Ni	0.5	99	88	87	100		4.5
P		103			106		
Pb		101	90	92	102		
Pd		95				96	
Rh		94				96	
Ru		92				98	
S		97				102	
Sb		98			101		
Se		102			104		
Si		103			104		
Sn		104			108		
Sr	62.7	107	96	91	113		
Ta		102			107		
Te		98				100	
Th		99				99	
Ti		102			101		
Tl		97			98		
U		94				94	
V		97	87	88	98		
W		103			108		
Y		99			98		
Zn		104	92	87	107		
Zr		102			101		

Shaded results are outside the acceptance criteria.

nr = spike concentration less than 25% of sample concentration. Matrix effects can be assessed from the serial dilution.

na = not applicable; KOH flux and Ni crucible or Na_2O_2 flux and Zr crucible for fusion preparations, or Si for HF assisted digests.

Battelle PNNL/RPL/Inorganic Analysis … ICP-OES Analysis Report
PO Box 999, Richland, Washington 99352

Project / WP#: 82508 / NU4045
ASR#: 2094 Set 2
Client: S. Branch
Total Samples: 6 (liquids)

ASO Sample ID	Client Sample ID	Client Sample Description
24-2288	6.0M-AN107-A	N/A
24-2289	6.0M-AN107-d-A	N/A
24-2290	7.0M-AN107-A	N/A
24-2291	7.0M-AN107-d-A	N/A
24-2292	8.0M-AN107-A	N/A
24-2293	8.0M-AN107-d-A	N/A

Sample Preparation: Simple dilution of samples received from Radiochemistry in 5% v/v HNO3 performed by J.Waller.

Procedure: ICP-OES operations Lab Assist ID #4555 | Version 1

RPG-CMC-211, Rev. 4, "Determination of Elemental Composition by Inductively Coupled Argon Plasma Optical Emission Spectrometry (ICP-OES)."

Analyst:	J. Waller	**Analysis Date:**	9/05/2024	**ICP File:**	C0962

See Chemical Measurement Center 98620 file: ICP-325-405-3
(Calibration and Maintenance Records)

M&TE:		
	☒ PerkinElmer 5300DV ICP-OES	SN: 077N5122002
	☐ Sartorius ME414S Balance	SN: 21308482
	☒ Mettler AT400 Balance	SN: 1113162654
	☐ Sartorius R200D Balance	SN: 39080042
	☐ Mettler AT201 Balance	SN: 192720-92
	☒ Ohaus Pioneer PA224C	SN: B725287790
	☐ SAL Cell 2 Balance	SN: 8033311209

Report Preparer _____ Date _____

Review and Concurrence _____ Date _____

Battelle PNNL/RPL/Inorganic Analysis … ICP-OES Analysis Report

Six liquid samples for Set 2 were submitted under Analytical Service Request (ASR) 2094 and were analyzed by ICP-OES. The samples had an acid digestion performed by the Radiochemistry team.

All sample results are reported on a mass per mass basis (µg/g) for each detected analyte. The data have been adjusted for instrument dilutions.

Analytes of interest (AOI) were specified in the ASR and are listed in the highlighted section of the attached ICP-OES Data Report. The quality control (QC) results for the AOI have been evaluated and are presented below. The current AOI for this run (C0962) are Potassium (K) and Sodium (Na).

Samples were prepared by radiochemistry team by first digesting in aqua regia to fully digest the organic material and taken to soft dryness. Following this, samples were converted to 2% HNO3 and again taken to soft dryness.

Limited Data:
Tungsten, and Tin is for information only and may be biased high. Strontium is for information only and may be biased low.

Calibration of the ICP-OES was done following the manufacturer's recommended calibration procedure using multi-analyte custom standard solutions traceable to the National Institute of Standards and Technology (NIST). Midrange calibration verification standards (MCVA and MCVB) were used to verify acceptance of the two-point calibration curves obtained for each analyte and for continuing calibration verification.

The controlling documents were procedures RPG-CMC-211, Rev 4, *Determination of Elemental Composition by Inductively Coupled Argon Plasma Optical Emission Spectrometry (ICP-OES)*, and ASO-QAP-001, Rev. 11, *Analytical Support Operations (ASO) Quality Assurance Plan*. Instrument calibrations, QC checks and blanks (e.g., ICV/ICB, CCV/CCB, LLS, ICS), post-digestion spikes, duplicate, blank spike, and serial dilution were conducted during the analysis run.

Preparation Blank (PB):

A preparation blank was supplied with the samples by the radiochemistry team. All AOI were within the acceptance criteria of <EQL (estimated quantitation level), <50% regulatory decision level, or less than ≤5% of the concentration in the sample.

Blank Spike (BS)/Laboratory Control Sample (LCS):

A 50:50 mixture of the MCVA and MCVB solutions was analyzed as the blank spike. Recovery values are listed for all analytes included in the BS that were measured at or above the EQL. All AOI meeting this requirement were within the acceptance criteria of 80% to 120%.

For 24-2288 BS @1x, all AOI included in the spike were within the acceptance criteria.

Battelle PNNL/RPL/Inorganic Analysis … ICP-OES Analysis Report

Duplicate/Replicate Relative Percent Difference (RPD):

A duplicate of sample 24-2288 Dup @10x was prepared and analyzed. RPD are listed for all analytes that were measured at or above the EQL. All AOI detected were within the acceptance criterion of ≤20% for liquid samples.

Matrix-Spike (MS) Sample:

A matrix spike sample was created during sample preparation beforehand by the radiochemistry team.

For 24-2288 MS @10x, Potassium passed within the range of acceptance, but Sodium was an invalid test due the spike being less than 25% of sample concentration.

Initial/Continuing Calibration Verification (ICV/CCV):

MCVA and MCVB solutions were analyzed immediately after calibration, after each group of not more than ten samples, and at the end of the analytical run. All AOI were within the acceptance criteria of 90% to 110%.

Initial/Continuing Calibration Blank (ICB/CCB):

The ICB/CCB solution (5% v/v HNO_3) was analyzed immediately after the ICV solutions and after the CCV solutions (after each group of not more than ten samples and at the end of the analytical run). All AOI passed on the ICB/CCBs.

Low-Level Standard (LLS):

The LLS solution was analyzed immediately after the first CCB solution. All AOI were within the acceptance criteria of 70% to 130%.

Interference Check Standard (ICS/SST):

The ICS solution was analyzed immediately after the first LLS solution and immediately prior to analyzing the final CCV solutions. Recovery values are listed for all analytes included in the SST that were measured at or above the EQL. All AOI were within the acceptance criteria of 80% to 120%.

Serial Dilution (SD):

A five-fold serial dilution was conducted on sample 24-2292 @50x. The percent difference (%D) for Na was withing the acceptance criteria of ≤ 10%. K was not with a percent difference of 10.2%. This issues is likely due to K concentration being at the bottom of the calibration range.

Post-Digestion Spike (PS-A) - Sample (A Component):

A post-digestion spike (A Component) was conducted on sample 24-2289 @50x. All AOI were within the acceptance criterion of 80% to 120%.

Battelle PNNL/RPL/Inorganic Analysis … ICP-OES Analysis Report

Post-Digestion Spike (PS-B) - Sample (B Component):

A post-digestion spike (B Component) was conducted on sample 24-2290 @50x. No AOI were present in the PS-B spike, but all other analytes passed within the PS-B spike.

Other QC:

All other instrument-related QC tests for the AOI passed within their respective acceptance criteria.

Comments:

1) The "Final Results" have been corrected for all laboratory dilutions performed on the samples during processing and analysis, unless specifically noted.
2) Instrument detection limits (IDL) and estimated quantitation limits (EQL) shown are for acidified water and/or fusion flux matrices as applicable. Method detection limits (MDL) for individual samples can be estimated by multiplying the IDL by the "Process Factor" for that individual sample. The estimated quantitation limit (EQL) for each concentration value can be obtained by multiplying the EQL by the "Process Factor".
3) Routine precision and bias is typically ±15% or better for samples in dilute, acidified water (e.g. 5% v/v HNO_3 or less) at analyte concentrations > EQL up to the upper calibration level. This also presumes that the total dissolved solids concentration in the sample is less than 5000 µg/mL (0.5 per cent by weight). Note that bracketed values listed in the data report are within the MDL and the EQL, and have potential uncertainties greater than 15%. Concentration values < MDL are listed as "- -". Note, that calibration and QC standard samples are validated to a precision of ±10%.
4) Analytes included in the spike MCVA component (for the AS/PS) are; Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Eu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Se, Si, Sm, Sn, Sr, Ta, Ti, Tl, V, W, Y, Zn, and Zr. Analytes included in the spike MCVB component are; Ce, Dy, Eu, La, Nd, Pd, Rh, Ru, S, Te, Th, and U.

Battelle PNNL/RPL/Inorganic Analysis … ICP-OES Analysis Report
PO Box 999, Richland, Washington 99352

Project / WP#: 82508 / NU4045
ASR#: 2094 Set 1
Client: S. Branch
Total Samples: 6 (liquids)

ASO Sample ID	Client Sample ID	Client Sample Description
24-2282	3.5M-AN107-A	N/A
24-2283	3.5M-AN107-d-A	N/A
24-2284	4.5M-AN107-A	N/A
24-2285	4.5M-AN107-d-A	N/A
24-2286	5.5M-AN107-A	N/A
24-2287	5.5M-AN107-d-A	N/A

Sample Preparation: Simple dilution of samples received from Radiochemistry in 5% v/v HNO3 performed by C. Perez.

Procedure: ICP-OES operations Lab Assist ID #4555 | Version 1

RPG-CMC-211, Rev. 4, "Determination of Elemental Composition by Inductively Coupled Argon Plasma Optical Emission Spectrometry (ICP-OES)."

Analyst:	C. Perez	**Analysis Date:**	8/27/2024	**ICP File:**	C0959

See Chemical Measurement Center 98620 file: ICP-325-405-3 (Calibration and Maintenance Records)

M&TE:		
	☒ PerkinElmer 5300DV ICP-OES	SN: 077N5122002
	☐ Sartorius ME414S Balance	SN: 21308482
	☒ Mettler AT400 Balance	SN: 1113162654
	☐ Sartorius R200D Balance	SN: 39080042
	☐ Mettler AT201 Balance	SN: 192720-92
	☒ Ohaus Pioneer PA224C	SN: B725287790
	☐ SAL Cell 2 Balance	SN: 8033311209

Report Preparer _____ Date _____

Review and Concurrence _____ Date _____

Battelle PNNL/RPL/Inorganic Analysis … ICP-OES Analysis Report

Six liquid samples for Set 1 were submitted under Analytical Service Request (ASR) 2094 and were analyzed by ICP-OES. The samples had an acid digestion performed by the Radiochemistry team. Other samples from this ASR are to be digested and ran as Set 2.

All sample results are reported on a mass per mass basis (µg/g) for each detected analyte. The data have been adjusted for instrument dilutions.

Analytes of interest (AOI) were specified in the ASR and are listed in the highlighted section of the attached ICP-OES Data Report. The quality control (QC) results for the AOI have been evaluated and are presented below. The current AOI for this run (C0959) are Potassium (K) and Sodium (Na).

Samples were prepared by radiochemistry team by first digesting in aqua regia to fully digest the organic material and taken to soft dryness. Following this, samples were converted to 2% HNO3 and again taken to soft dryness.

Limited Data:
Silver, Cerium, Europium and Uranium data is for information only and may be biased low.

Calibration of the ICP-OES was done following the manufacturer's recommended calibration procedure using multi-analyte custom standard solutions traceable to the National Institute of Standards and Technology (NIST). Midrange calibration verification standards (MCVA and MCVB) were used to verify acceptance of the two-point calibration curves obtained for each analyte and for continuing calibration verification.

The controlling documents were procedures RPG-CMC-211, Rev 4, *Determination of Elemental Composition by Inductively Coupled Argon Plasma Optical Emission Spectrometry (ICP-OES)*, and ASO-QAP-001, Rev. 11, *Analytical Support Operations (ASO) Quality Assurance Plan*. Instrument calibrations, QC checks and blanks (e.g., ICV/ICB, CCV/CCB, LLS, ICS), post-digestion spikes, duplicate, blank spike, and serial dilution were conducted during the analysis run.

Preparation Blank (PB):

A preparation blank was supplied with the samples by the radiochemistry team. All AOI were within the acceptance criteria of <EQL (estimated quantitation level), <50% regulatory decision level, or less than ≤5% of the concentration in the sample.

Blank Spike (BS)/Laboratory Control Sample (LCS):

A 50:50 mixture of the MCVA and MCVB solutions was analyzed as the blank spike. Recovery values are listed for all analytes included in the BS that were measured at or above the EQL. All AOI meeting this requirement were within the acceptance criteria of 80% to 120%.

For 24-2287 BS @1x, all AOI included in the spike were within the acceptance criteria.

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Duplicate/Replicate Relative Percent Difference (RPD):

A duplicate of sample 24-2282 Dup @10x was prepared and analyzed. RPD are listed for all analytes that were measured at or above the EQL. All AOI detected were within the acceptance criterion of ≤20% for liquid samples.

Matrix-Spike (MS) Sample:

A matrix spike sample was created during sample preparation beforehand by the radiochemistry team.

For 24-2282 MS @10x, Potassium passed within the range of acceptance, but Sodium was an invalid test due the spike being less than 25% of sample concentration.

Initial/Continuing Calibration Verification (ICV/CCV):

MCVA and MCVB solutions were analyzed immediately after calibration, after each group of not more than ten samples, and at the end of the analytical run. All AOI were within the acceptance criteria of 90% to 110%.

Initial/Continuing Calibration Blank (ICB/CCB):

The ICB/CCB solution (5% v/v HNO_3) was analyzed immediately after the ICV solutions and after the CCV solutions (after each group of not more than ten samples and at the end of the analytical run). All AOI passed on the ICB/CCBs.

Low-Level Standard (LLS):

The LLS solution was analyzed immediately after the first CCB solution. All AOI were within the acceptance criteria of 70% to 130%.

Interference Check Standard (ICS/SST):

The ICS solution was analyzed immediately after the first LLS solution and immediately prior to analyzing the final CCV solutions. Recovery values are listed for all analytes included in the SST that were measured at or above the EQL. All AOI were within the acceptance criteria of 80% to 120%.

Serial Dilution (SD):

A five-fold serial dilution was conducted on sample 24-2284 @50x. The percent difference (%D) for all AOI were withing the acceptance criteria of ≤ 10%.

Post-Digestion Spike (PS-A) - Sample (A Component):

A post-digestion spike (A Component) was conducted on sample 24-2282 @50x. All AOI were within the acceptance criterion of 80% to 120%.

Post-Digestion Spike (PS-B) - Sample (B Component):

A post-digestion spike (B Component) was conducted on sample 24-2287 @50x. No AOI were present in the PS-B spike, but all other analytes passed within the PS-B spike.

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Other QC:

All other instrument-related QC tests for the AOI passed within their respective acceptance criteria.

Comments:

1) The "Final Results" have been corrected for all laboratory dilutions performed on the samples during processing and analysis, unless specifically noted.
2) Instrument detection limits (IDL) and estimated quantitation limits (EQL) shown are for acidified water and/or fusion flux matrices as applicable. Method detection limits (MDL) for individual samples can be estimated by multiplying the IDL by the "Process Factor" for that individual sample. The estimated quantitation limit (EQL) for each concentration value can be obtained by multiplying the EQL by the "Process Factor".
3) Routine precision and bias is typically ±15% or better for samples in dilute, acidified water (e.g. 5% v/v HNO_3 or less) at analyte concentrations > EQL up to the upper calibration level. This also presumes that the total dissolved solids concentration in the sample is less than 5000 µg/mL (0.5 per cent by weight). Note that bracketed values listed in the data report are within the MDL and the EQL, and have potential uncertainties greater than 15%. Concentration values < MDL are listed as "- -". Note, that calibration and QC standard samples are validated to a precision of ±10%.
4) Analytes included in the spike MCVA component (for the AS/PS) are; Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Eu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Se, Si, Sm, Sn, Sr, Ta, Ti, Tl, V, W, Y, Zn, and Zr. Analytes included in the spike MCVB component are; Ce, Dy, Eu, La, Nd, Pd, Rh, Ru, S, Te, Th, and U.

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		Run Date >	9/5/2024	9/5/2024	9/5/2024	9/5/2024	9/5/2024	9/5/2024	9/5/2024	9/5/2024	9/5/2024	9/5/2024	9/5/2024	9/5/2024	9/5/2024	9/5/2024	9/5/2024	9/5/2024
		Process Factor >	1.0	1.0	306.7	1559.5	306.2	1535.5	302.3	1522.3	295.6	1487.7	292.6	1467.3	282.2	1410.1	281.1	1414.8
			405 Diluent	24-2288 @1x PB	24-2288 @10x	24-2288 @50x	24-2288 Dup @10x	24-2288 Dup @50x	24-2289 @10x	24-2289 @50x	24-2290 @10x	24-2290 @50x	24-2291 @10x	24-2291 @50x	24-2292 @10x	24-2292 @50x	24-2293 @10x	24-2293 @50x
Instr. Det. Limit (IDL)	Est. Quant. Limit (EQL)	Client ID >			6.0M-AN107-A	6.0M-AN107-A	6.0M-AN107-A	6.0M-AN107-A	6.0M-AN107-d-A	6.0M-AN107-d-A	7.0M-AN107-A	7.0M-AN107-A	7.0M-AN107-d-A	7.0M-AN107-d-A	8.0M-AN107-A	8.0M-AN107-A	8.0M-AN107-d-A	8.0M-AN107-d-A
(µg/g)	(µg/g)	(Analyte)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)
0.0352	0.352	K	--	0.789	1,080	953	1,130	971	1,140	1,000	1,260	1,070	1,260	1,090	1,310	1,180	1,370	1,160
0.0085	0.085	Na	[0.0097]	4.90	125,000	130,000	123,000	130,000	124,000	128,000	135,000	142,000	137,000	138,000	151,000	153,000	150,000	155,000
Other Analytes																		
0.0022	0.022	Ag	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0091	0.091	Al	--	0.521	1,610	1,660	1,520	1,550	1,490	1,550	1,680	1,750	1,670	1,730	1,850	1,900	1,760	1,840
0.1768	1.768	As	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0193	0.193	B	--	0.204	79.1	[92]	91.3	[110]	110	[120]	88.2	[100]	79.6	[92]	89.8	[110]	114	[120]
0.0002	0.002	Ba	--	0.0029	1.85	[2.2]	1.86	[1.9]	1.84	[1.9]	2.18	2.43	1.98	[2.1]	2.23	2.48	1.75	[1.8]
0.0001	0.001	Be	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0618	0.618	Bi	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0075	0.075	Ca	[0.0094]	0.212	334	348	338	333	328	331	362	374	363	371	401	416	389	409
0.0079	0.079	Cd	--	--	38.1	[36]	38.1	[36]	37.4	[38]	41.5	[43]	41.5	[40]	46.4	[47]	45.4	[47]
0.0163	0.163	Ce	--	--	[14]	--	[14]	[27]	[14]	--	[16]	--	[11]	[29]	[15]	--	[13]	[27]
0.0064	0.064	Co	--	--	295	303	[3.7]	[9.8]	[2.9]	--	[3.6]	--	[5.2]	--	[2.7]	--	[4.5]	--
0.0046	0.046	Cr	--	[0.015]	59.1	[57]	56.8	[58]	55.6	[58]	64.0	[65]	61.2	[60]	67.4	67.0	57.6	[59]
0.0019	0.019	Cu	--	[0.0093]	61.6	65.6	21.6	[23]	22.3	[23]	24.5	29.1	24.5	[24]	26.8	28.1	26.1	29.6
0.0034	0.034	Dy	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0006	0.006	Eu	--	--	[0.29]	--	[0.27]	--	--	--	[0.31]	--	[0.19]	--	[0.34]	--	[0.22]	--
0.0025	0.025	Fe	--	0.193	933	968	426	440	426	435	494	534	454	477	504	531	379	405
0.0018	0.018	La	--	--	10.2	[11]	10.4	[11]	10.5	[11]	11.5	[13]	11.1	[11]	12.5	[14]	11.5	[13]
0.0015	0.015	Li	--	[0.0032]	[0.53]	--	[0.56]	--	--	--	--	--	--	--	--	--	--	--
0.0025	0.025	Mg	--	0.0867	[1.2]	--	[1.9]	--	[1.8]	--	[1.0]	--	[0.91]	--	[1.2]	--	--	--
0.0007	0.007	Mn	--	[0.0026]	76.9	79.3	75.9	78.9	75.9	77.8	87.3	91.2	79.3	82.8	88.2	93.1	63.6	67.1
0.0173	0.173	Mo	--	--	[21]	--	[19]	--	[20]	--	[21]	--	[23]	[29]	[22]	--	[23]	--
0.0126	0.126	Nd	--	--	[26]	[21]	[26]	[29]	[26]	[22]	[28]	[28]	[27]	[29]	[31]	[25]	[27]	[34]
0.0085	0.085	Ni	--	--	509	512	326	345	323	331	353	365	350	371	382	408	375	405
0.1778	1.778	P	--	--	[390]	[490]	[380]	[360]	[380]	[460]	[410]	[440]	[400]	[420]	[450]	[480]	[430]	[490]
0.0385	0.385	Pb	--	[0.097]	143	[150]	141	[150]	143	[140]	162	[150]	158	[150]	189	[210]	146	[180]
0.0113	0.113	Pd	--	[0.012]	[3.6]	--	--	--	[4.2]	--	--	--	--	--	--	--	--	[16]
0.0389	0.389	Rh	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0128	0.128	Ru	--	--	[20]	--	[21]	--	[21]	[21]	[22]	--	[21]	--	[26]	--	[21]	--
0.6450	6.450	S	--	--	[1,700]	[2,000]	[1,700]	[1,900]	[1,800]	[1,600]	[1,900]	[2,800]	1,920	[1,900]	2,120	[2,300]	2,170	[2,600]
0.1139	1.139	Sb	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.4064	4.064	Se	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0212	0.212	Si	--	[0.053]	[31]	--	[24]	[44]	[29]	[33]	[25]	--	[17]	--	[21]	--	[27]	[33]
0.1168	1.168	Sn	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0002	0.002	Sr	--	[0.0011]	1.27	[1.5]	1.27	[1.5]	1.29	[1.4]	1.41	[1.5]	1.38	[1.5]	1.54	[1.7]	1.44	[1.6]
0.0320	0.320	Ta	--	[0.033]	--	--	--	--	--	--	--	--	[9.6]	--	--	--	--	--
0.0623	0.623	Te	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0116	0.116	Th	--	--	[3.6]	--	[4.3]	--	[5.9]	--	[5.3]	--	[6.0]	--	[5.7]	--	[4.2]	--
0.0007	0.007	Ti	[0.0009]	0.0118	2.06	[3.2]	[1.2]	[2.8]	[1.1]	[2.5]	[1.3]	[2.1]	[1.4]	[2.9]	[1.7]	[2.7]	[0.98]	[2.0]
0.1934	1.934	Tl	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0675	0.675	U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0029	0.029	V	--	[0.0037]	--	--	--	--	--	--	--	--	--	[4.6]	--	--	--	--
0.0513	0.513	W	--	--	[72]	--	[89]	[90]	[84]	[120]	[92]	[110]	[89]	[120]	[95]	[130]	[98]	[110]
0.0006	0.006	Y	--	--	3.18	[3.6]	3.16	[3.7]	3.12	[3.7]	3.67	[4.2]	3.43	[3.8]	3.79	[4.5]	3.56	[3.6]
0.0087	0.087	Zn	--	[0.075]	[21]	[70]	[21]	[71]	[22]	[73]	[23]	[71]	[17]	[66]	[20]	[58]	[19]	[54]
0.0018	0.018	Zr	[0.0020]	0.0242	10.2	[13]	8.34	[10]	8.17	[9.8]	10.2	[13]	7.53	[8.8]	7.84	[9.2]	7.59	[9.8]

see bottom of page 2 for footnotes

Battelle PNNL/RPG/Inorganic Analysis ... ICPOES Data Report

QC Performance 9/5/2024

Criteria >	≤ 20%	80%-120%	75%-125%	75%-125%	80%-120%	80%-120%	≤ 10%
QC ID >	24-2288 @10x Dup	LCS/BS	24-2288 @1x BS	24-2288 @10x MS	24-2289 @50x + PSA	24-2290 @50x + PSB	24-2292 @50x 5-fold Serial Dil
Analytes	RPD (%)	%Rec	%Rec	%Rec	%Rec	%Rec	%Diff
K	5.2	101	98	102	103		10.2
Na	1.7	103	112	nr	102		1.6
Other Analytes							
Ag		95			97		
Al	5.3	103	97	92	105		2.3
As		106			107		
B	14.5	102			105		
Ba	0.5	102	94	93	102		11.3
Be		102	95	94	103		
Bi		93	87		100		
Ca	1.3	103	102	98	106		3.9
Cd	0.1	100	94	94	110		
Ce		96	90	88		98	
Co		102			106		
Cr	3.8	101	94	89	107		0.6
Cu	95.8	112	99	55	111		4.8
Dy		96				98	
Eu		95				97	
Fe	74.4	105	96	nr	107		5.3
La	2.3	93	88	88		95	
Li		108	99	100	106		
Mg		105	94	96	107		
Mn	1.1	106	94	90	106		5.6
Mo		100			105		
Nd		95	89	87		96	
Ni	43.8	105	91	-1	109		6.8
P		101			105		
Pb	1.4	99	91	93	105		
Pd		91				94	
Rh		93				95	
Ru		93				99	
S		97				98	
Sb		100			104		
Se		98			108		
Si		104			106		
Sn		108			113		
Sr	0.4	99	84	82	97		
Ta		103			108		
Te		98				101	
Th		98				101	
Ti		104			106		
Tl		97			99		
U		93				96	
V		100	91	92	101		
W		107			112		
Y	0.5	99			101		
Zn		97	92	92	111		
Zr	19.7	103			105		

Shaded results are outside the acceptance criteria.

nr = spike concentration less than 25% of sample concentration. Matrix effects can be assessed from the serial dilution.

na = not applicable; KOH flux and Ni crucible or Na_2O_2 flux and Zr crucible for fusion preparations, or Si for HF assisted digests.

1) "--" indicates the value is < MDL. The method detection limit (MDL) = IDL times the "multiplier"
near the top of each column. The estimated sample quantitation limit = EQL (in Column 2)
times the "multiplier". Overall error for values ≥ EQL is estimated to be within ±15%.
2) Values in brackets [ ] are ≥ MDL but < EQL, with errors likely to exceed 15%.
na = not applicable; KOH flux and Ni crucible or Na_2O_2 flux and Zr crucible for fusion preparations, or Si for HF assisted digests.

ASR 2120 Shirmir Branch
NU4045

#	RPL ID	Customer ID	Analysis needed 1st	Analysis needed 2nd
1	24-2495	TI185-3.5M-AP105-A	GEA	ICP-OES
2	24-2496	TI185-3.5M-AP105-d-A	GEA	ICP-OES
3	24-2497	TI185-4.5M-AP105-A	GEA	ICP-OES
4	24-2498	TI185-4.5M-AP105-d-A	GEA	ICP-OES
5	24-2499	TI185-5.5M-AP105-A	GEA	ICP-OES
6	24-2500	TI185-5.5M-AP105-d-A	GEA	ICP-OES
7	24-2501	TI185-6.0M-AP105-A	GEA	ICP-OES
8	24-2502	TI185-6.0M-AP105-d-A	GEA	ICP-OES
9	24-2503	TI185-7.0M-AP105-A	GEA	ICP-OES
10	24-2504	TI185-7.0M-AP105-d-A	GEA	ICP-OES
11	24-2505	TI185-8.0M-AP105-A	GEA	ICP-OES
12	24-2506	TI185-8.0M-AP105-d-A	GEA	ICP-OES
13	24-2507	TI185-3.5M-S1-CST-A	GEA	
14	24-2508	TI185-3.5M-S1-CST-d-A	GEA	
15	24-2509	TI185-3.5M-S2-CST-A	GEA	
16	24-2510	TI185-3.5M-S2-CST-d-A	GEA	
17	24-2511	TI185-3.5M-S3-CST-A	GEA	
18	24-2512	TI185-3.5M-S3-CST-d-A	GEA	
19	24-2513	TI185-3.5M-S4-CST-A	GEA	
20	24-2514	TI185-3.5M-S4-CST-d-A	GEA	
21	24-2515	TI185-4.5M-S1-CST-A	GEA	
22	24-2516	TI185-4.5M-S1-CST-d-A	GEA	
23	24-2517	TI185-4.5M-S2-CST-A	GEA	
24	24-2518	TI185-4.5M-S2-CST-d-A	GEA	
25	24-2519	TI185-4.5M-S3-CST-A	GEA	
26	24-2520	TI185-4.5M-S3-CST-d-A	GEA	
27	24-2521	TI185-4.5M-S4-CST-A	GEA	
28	24-2522	TI185-4.5M-S4-CST-d-A	GEA	
29	24-2523	TI185-5.5M-S1-CST-A	GEA	
30	24-2524	TI185-5.5M-S1-CST-d-A	GEA	
31	24-2525	TI185-5.5M-S2-CST-A	GEA	
32	24-2526	TI185-5.5M-S2-CST-d-A	GEA	
33	24-2527	TI185-5.5M-S3-CST-A	GEA	
34	24-2528	TI185-5.5M-S3-CST-d-A	GEA	
35	24-2529	TI185-5.5M-S4-CST-A	GEA	
36	24-2530	TI185-5.5M-S4-CST-d-A	GEA	
37	24-2531	TI185-6.0M-S1-CST-A	GEA	
38	24-2532	TI185-6.0M-S1-CST-d-A	GEA	
39	24-2533	TI185-6.0M-S2-CST-A	GEA	
40	24-2534	TI185-6.0M-S2-CST-d-A	GEA	
41	24-2535	TI185-6.0M-S3-CST-A	GEA	
42	24-2536	TI185-6.0M-S3-CST-d-A	GEA	

ASR 2120 Shirmir Branch
NU4045

#	RPL ID	Customer ID	Analysis needed 1st	Analysis needed 2nd
43	24-2537	TI185-6.0M-S4-CST-A	GEA	
44	24-2538	TI185-6.0M-S4-CST-d-A	GEA	
45	24-2539	TI185-7.0M-S1-CST-A	GEA	
46	24-2540	TI185-7.0M-S1-CST-d-A	GEA	
47	24-2541	TI185-7.0M-S2-CST-A	GEA	
48	24-2542	TI185-7.0M-S2-CST-d-A	GEA	
49	24-2543	TI185-7.0M-S3-CST-A	GEA	
50	24-2544	TI185-7.0M-S3-CST-d-A	GEA	
51	24-2545	TI185-7.0M-S4-CST-A	GEA	
52	24-2546	TI185-7.0M-S4-CST-d-A	GEA	
53	24-2547	TI185-8.0M-S1-CST-A	GEA	
54	24-2548	TI185-8.0M-S1-CST-d-A	GEA	
55	24-2549	TI185-8.0M-S2-CST-A	GEA	
56	24-2550	TI185-8.0M-S2-CST-d-A	GEA	
57	24-2551	TI185-8.0M-S3-CST-A	GEA	
58	24-2552	TI185-8.0M-S3-CST-d-A	GEA	
59	24-2553	TI185-8.0M-S4-CST-A	GEA	
60	24-2554	TI185-8.0M-S4-CST-d-A	GEA	

Branch_ASR2120 GEA Summary

Det and Geom	RPL #	Sample	(Reported) Cs (uCi)	(unc ± 1s)	(Reported) (unc ± 1s)	Comments
24-2495 TI185-3.5M-AP-105A F0_578915	24-2495	TI185-3.5M-AP-105A	4.79E-02	3.02E-04	2%	
24-2496 TI185-3.5M-AP105d-A F0_578921	24-2496	TI185-3.5M-AP105d-A	4.78E-02	3.46E-04	2%	
24-2497 TI185-4.5M-AP-105A Q0_578916	24-2497	TI185-4.5M-AP-105A	5.63E-02	4.23E-04	2%	
24-2498 TI185-4.5M-AP105d-A Q0_578922	24-2498	TI185-4.5M-AP105d-A	5.80E-02	4.85E-04	2%	
24-2499 TI185-5.5M-AP-105A R0_578917	24-2499	TI185-5.5M-AP-105A	7.17E-02	4.01E-04	2%	
24-2500 TI185-5.5M-AP105d-A R0_578923	24-2500	TI185-5.5M-AP105d-A	6.97E-02	4.53E-04	2%	
24-2501 TI185-6.0M-AP-105A S0_578918	24-2501	TI185-6.0M-AP-105A	3.03E-02	1.57E-04	2%	
24-2502 TI185-6.0M-AP105d-A S0_578924	24-2502	TI185-6.0M-AP105d-A	2.92E-02	2.16E-04	2%	
24-2503 TI185-7.0M-AP-105A V0_578919	24-2503	TI185-7.0M-AP-105A	1.63E-02	8.51E-05	2%	
24-2504 TI185-7.0M-AP105d-A V0_578925	24-2504	TI185-7.0M-AP105d-A	1.65E-02	1.40E-04	2%	
24-2505 TI185-8.0M-AP-105A W0_578920	24-2505	TI185-8.0M-AP-105A	2.04E-02	1.18E-04	2%	
24-2506 TI185-8.0M-AP105d-A W0_578926	24-2506	TI185-8.0M-AP105d-A	1.94E-02	1.62E-04	2%	
24-2507 TI185-3.5M-S1-CST-A F0_578929	24-2507	TI185-3.5M-S1-CST-A	4.36E-03	7.11E-05	2%	
24-2508 TI185-3.5M-S1-CST-d-A F0_578933	24-2508	TI185-3.5M-S1-CST-d-A	4.23E-03	7.51E-05	2%	
24-2509 TI185-3.5M-S2-CST-A Q0_578930	24-2509	TI185-3.5M-S2-CST-A	3.20E-03	5.87E-05	2%	
24-2510 TI185-3.5M-S2-CST-d-A Q0_578934	24-2510	TI185-3.5M-S2-CST-d-A	3.72E-03	6.03E-05	2%	
24-2511 TI185-3.5M-S3-CST-A R0_578931	24-2511	TI185-3.5M-S3-CST-A	3.52E-03	5.40E-05	2%	
24-2512 TI185-3.5M-S3-CST-d-A R0_578935	24-2512	TI185-3.5M-S3-CST-d-A	3.69E-03	5.74E-05	2%	
24-2513 TI185-3.5M-S4-CST-A S0_578932	24-2513	TI185-3.5M-S4-CST-A	3.53E-02	2.29E-04	2%	
24-2514 TI185-3.5M-S4-CST-d-A S0_578936	24-2514	TI185-3.5M-S4-CST-d-A	3.63E-02	2.35E-04	2%	
24-2515 TI185-4.5M-S1-CST-A V0_578927	24-2515	TI185-4.5M-S1-CST-A	7.43E-03	7.36E-05	2%	
24-2516 TI185-4.5M-S1-CST-d-A V0_578937	24-2516	TI185-4.5M-S1-CST-d-A	7.12E-03	7.40E-05	2%	
24-2517 TI185-4.5M-S2-CST-A W0_578928	24-2517	TI185-4.5M-S2-CST-A	7.18E-03	7.56E-05	2%	
24-2518 TI185-4.5M-S2-CST-d-A W0_578938	24-2518	TI185-4.5M-S2-CST-d-A	7.79E-03	6.41E-05	2%	
24-2519 TI185-4.5M-S3-CST-A F0_578941	24-2519	TI185-4.5M-S3-CST-A	6.27E-03	5.75E-05	2%	
24-2520 TI185-4.5M-S3-CST-d-A F0_578946	24-2520	TI185-4.5M-S3-CST-d-A	6.33E-03	7.24E-05	2%	
24-2521 TI185-4.5M-S4-CST-A Q0_578942	24-2521	TI185-4.5M-S4-CST-A	4.40E-02	3.66E-04	2%	
24-2522 TI185-4.5M-S4-CST-d-A Q0_578947	24-2522	TI185-4.5M-S4-CST-d-A	4.02E-02	3.37E-04	2%	
24-2523 TI185-5.5M-S1-CST-A R0_578943	24-2523	TI185-5.5M-S1-CST-A	1.11E-02	1.07E-04	2%	
24-2524 TI185-5.5M-S1-CST-d-A R0_578948	24-2524	TI185-5.5M-S1-CST-d-A	1.10E-02	1.09E-04	2%	
24-2525 TI185-5.5M-S2-CST-A S0_578944	24-2525	TI185-5.5M-S2-CST-A	1.14E-02	1.08E-04	2%	
24-2526 TI185-5.5M-S2-CST-d-A S0_578949	24-2526	TI185-5.5M-S2-CST-d-A	1.10E-02	1.08E-04	2%	
24-2527 TI185-5.5M-S3-CST-A V0_578939	24-2527	TI185-5.5M-S3-CST-A	9.80E-03	9.21E-05	2%	
24-2528 TI185-5.5M-S3-CST-d-A V0_578950	24-2528	TI185-5.5M-S3-CST-d-A	8.39E-03	7.54E-05	2%	
24-2529 TI185-5.5M-S4-CST-A W0_578940	24-2529	TI185-5.5M-S4-CST-A	5.81E-02	3.63E-04	2%	
24-2530 TI185-5.5M-S4-CST-d-A W0_578951	24-2530	TI185-5.5M-S4-CST-d-A	5.81E-02	3.58E-04	2%	
24-2531 TI185-6.0M-S1-CST-A F0_578958	24-2531	TI185-6.0M-S1-CST-A	5.90E-03	7.31E-05	2%	
24-2532 TI185-6.0M-S1-CST-d-A F0_578964	24-2532	TI185-6.0M-S1-CST-d-A	5.67E-03	6.96E-05	2%	
24-2533 TI185-6.0M-S2-CST-A Q0_578959	24-2533	TI185-6.0M-S2-CST-A	5.21E-03	7.19E-05	2%	
24-2534 TI185-6.0M-S2-CST-d-A Q0_578965	24-2534	TI185-6.0M-S2-CST-d-A	5.53E-03	8.06E-05	2%	
24-2535 TI185-6.0M-S3-CST-A R0_578960	24-2535	TI185-6.0M-S3-CST-A	4.89E-03	6.81E-05	2%	
24-2536 TI185-6.0M-S3-CST-d-A R0_578966	24-2536	TI185-6.0M-S3-CST-d-A	4.73E-03	6.42E-05	2%	
24-2537 TI185-6.0M-S4-CST-A S0_578961	24-2537	TI185-6.0M-S4-CST-A	2.42E-02	1.78E-04	2%	
24-2538 TI185-6.0M-S4-CST-d-A S0_578967	24-2538	TI185-6.0M-S4-CST-d-A	2.53E-02	1.80E-04	2%	
24-2539 TI185-7.0M-S1-CST-A V0_578956	24-2539	TI185-7.0M-S1-CST-A	3.71E-03	3.58E-05	2%	
24-2540 TI185-7.0M-S1-CST-d-A V0_578968	24-2540	TI185-7.0M-S1-CST-d-A	3.82E-03	5.48E-05	2%	
24-2541 TI185-7.0M-S2-CST-A W0_578957	24-2541	TI185-7.0M-S2-CST-A	3.33E-03	5.00E-05	2%	
24-2542 TI185-7.0M-S2-CST-d-A W0_578969	24-2542	TI185-7.0M-S2-CST-d-A	3.13E-03	3.49E-05	2%	
24-2543 TI185-7.0M-S3-CST-A F0_578996	24-2543	TI185-7.0M-S3-CST-A	3.22E-03	5.01E-05	2%	
24-2544 TI185-7.0M-S3-CST-d-A F0_579000	24-2544	TI185-7.0M-S3-CST-d-A	3.08E-03	5.19E-05	2%	
24-2545 TI185-7.0M-S4-CST-A Q0_578997	24-2545	TI185-7.0M-S4-CST-A	1.29E-02	1.34E-04	2%	

Branch_ASR2120 GEA Summary

Det and Geom	RPL #	Sample	(Reported) Cs (uCi)	(unc ± 1s)	(Reported) (unc ± 1s)	Comments
24-2546 TI185-7.0M-S4-CST-d-A Q0_579001	24-2546	TI185-7.0M-S4-CST-d-A	1.33E-02	1.41E-04	2%	
24-2547 TI185-8.0M-S1-CST-A R0_578998	24-2547	TI185-8.0M-S1-CST-A	5.14E-03	6.98E-05	2%	
24-2548 TI185-8.0M-S1-CST-d-A R0_579002	24-2548	TI185-8.0M-S1-CST-d-A	5.16E-03	7.04E-05	2%	
24-2549 TI185-8.0M-S2-CST-A S0_578999	24-2549	TI185-8.0M-S2-CST-A	4.64E-03	6.64E-05	2%	
24-2550 TI185-8.0M-S2-CST-d-A S0_579003	24-2550	TI185-8.0M-S2-CST-d-A	4.97E-03	6.21E-05	2%	
24-2551 TI185-8.0M-S3-CST-A V0_578994	24-2551	TI185-8.0M-S3-CST-A	4.57E-03	5.85E-05	2%	
24-2552 TI185-8.0M-S3-CST-d-A V0_579004	24-2552	TI185-8.0M-S3-CST-d-A	4.30E-03	3.91E-05	2%	
24-2553 TI185-8.0M-S4-CST-A W0_578995	24-2553	TI185-8.0M-S4-CST-A	1.38E-02	1.18E-04	2%	
24-2554 TI185-8.0M-S4-CST-d-A W0_579005	24-2554	TI185-8.0M-S4-CST-d-A	1.18E-02	1.06E-04	2%	

Apex-Gamma

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2495 TI185-3.5M-AP-105A F0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 8:12:26AM
Procedure	: F0_gsv02mlw
Operator	: Administrator
Detector Name	: F
Geometry	: F0_gsv02mlw
Live Time	: 4897.8 seconds
Real Time	: 4928.8 seconds
Dead Time	: 0.63 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: F0_gsv2mlw_R717
Sample Number	: 578915
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 9:34:39AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.78	167.47	0.2039	9.80
2	74.80	209.48	0.3257	3.71
3	87.59	245.43	0.1623	13.73
4	123.08	344.55	0.2373	5.88
5	269.47	753.41	0.3387	3.41
6	414.88	1160.01	0.1534	12.60
7	602.06	1682.20	0.2824	3.42
8	609.24	1703.26	0.3035	3.34
9	661.88	1850.40	0.0247	411.08
10	666.63	1864.56	0.1612	15.07
11	695.30	1943.78	0.1163	18.39
12	723.73	2022.90	0.2739	4.35
13	873.55	2441.14	0.2726	3.68
14	1004.82	2808.87	0.2619	3.39
15	1081.31	3022.19	0.1885	6.41
16	1110.25	3103.13	0.1915	5.60
17	1173.66	3280.65	0.0925	25.11
18	1275.16	3564.06	0.1933	5.99
19	1333.00	3725.78	0.0931	22.61
20	1362.01	3806.44	0.1916	5.20
21	1461.43	4084.53	0.1844	5.97
22	2506.65	7004.63	0.1511	7.97

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 9:34:39AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.78	159 -	173	167.61	1.56E+03	223.22	1.25E+04	0.88
F	2	74.80	206 -	214	209.58	3.39E+02	79.84	7.35E+03	0.95
F	3	87.59	239 -	253	245.34	2.28E+03	97.70	1.29E+04	1.26
F	4	123.08	335 -	350	344.53	7.00E+02	89.11	1.35E+04	1.18
F	5	269.47	749 -	757	753.69	2.15E+02	165.46	7.15E+03	0.60
F	6	414.88	1155 -	1170	1160.08	1.77E+03	102.56	1.42E+04	1.49
F	7	602.06	1676 -	1687	1683.19	3.08E+02	576.60	2.32E+03	0.78
F	8	609.24	1697 -	1708	1703.25	1.38E+02	45.75	2.53E+03	1.20
M	9	661.88	1838 -	1874	1850.36	6.13E+05	998.10	2.35E+03	1.83
m	10	666.63	1838 -	1874	1863.65	1.35E+03	39.66	2.30E+02	1.84
F	11	695.30	1931 -	1954	1943.75	1.36E+03	84.58	2.87E+02	1.90
F	12	723.73	2018 -	2031	2023.21	6.07E+01	15.03	2.15E+02	1.25
F	13	873.55	2437 -	2449	2441.91	6.42E+01	14.15	1.36E+02	1.84
F	14	1004.82	2802 -	2816	2808.72	5.90E+01	14.96	2.10E+02	1.69
F	15	1081.31	3016 -	3030	3022.47	1.80E+02	17.73	1.64E+02	1.98
F	16	1110.25	3096 -	3113	3103.32	2.07E+02	17.43	1.57E+02	2.32
F	17	1173.66	3266 -	3291	3280.52	2.81E+03	103.89	1.00E+02	2.33
F	18	1275.16	3552 -	3574	3564.13	1.97E+02	48.28	7.47E+01	1.94
F	19	1333.00	3713 -	3739	3725.75	2.60E+03	79.08	6.75E+01	2.58
F	20	1362.01	3797 -	3817	3806.81	1.49E+02	13.54	6.72E+01	2.35
F	21	1461.43	4075 -	4095	4084.59	1.71E+02	13.46	3.65E+01	2.46
F	22	2506.65	6994 -	7014	7004.65	1.96E+02	37.63	1.09E+01	2.16

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 9:34:39AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578890.CNF

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 1	59.78	1.56E+03	223.22	1.12E+01	1.63E+00	1.55E+03	2.23E+02
F 2	74.80	3.39E+02	79.84	1.68E+02	1.08E+01	1.71E+02	8.06E+01
F 3	87.59	2.28E+03	97.70	4.35E+01	2.51E+00	2.24E+03	9.77E+01
F 4	123.08	7.00E+02	89.11			7.00E+02	8.91E+01
F 5	269.47	2.15E+02	165.46			2.15E+02	1.65E+02
F 6	414.88	1.77E+03	102.56			1.77E+03	1.03E+02
F 7	602.06	3.08E+02	576.60			3.08E+02	5.77E+02
F 8	609.24	1.38E+02	45.75	1.56E+02	1.87E+00	-1.83E+01	4.58E+01
M 9	661.88	6.13E+05	998.10			6.13E+05	9.98E+02
m 10	666.63	1.35E+03	39.66			1.35E+03	3.97E+01
F 11	695.30	1.36E+03	84.58			1.36E+03	8.46E+01
F 12	723.73	6.07E+01	15.03			6.07E+01	1.50E+01
F 13	873.55	6.42E+01	14.15			6.42E+01	1.41E+01
F 14	1004.82	5.90E+01	14.96			5.90E+01	1.50E+01
F 15	1081.31	1.80E+02	17.73			1.80E+02	1.77E+01
F 16	1110.25	2.07E+02	17.43			2.07E+02	1.74E+01
F 17	1173.66	2.81E+03	103.89			2.81E+03	1.04E+02
F 18	1275.16	1.97E+02	48.28			1.97E+02	4.83E+01
F 19	1333.00	2.60E+03	79.08			2.60E+03	7.91E+01
F 20	1362.01	1.49E+02	13.54			1.49E+02	1.35E+01
F 21	1461.43	1.71E+02	13.46	1.46E+02	1.62E+00	2.54E+01	1.36E+01
F 22	2506.65	1.96E+02	37.63			1.96E+02	3.76E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.94	1460.82	*	10.66	2.62E-05	1.40E-05	miss
CO-60	0.96	1173.23	*	99.85	3.43E-04	1.28E-05	0.786
		1332.49	*	99.98	3.47E-04	1.08E-05	0.777
CD-109	0.96	88.03	*	3.64	1.83E-03	8.19E-05	free

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
Te-129m	0.94	695.88	*	3.00	3.12E-03	6.54E-04	free
CS-137	0.99	661.66	*	85.10	4.79E-02	3.02E-04	miss
EU-154	0.59	42.70		20.45			
		123.07	*	40.40	6.31E-05	8.10E-06	0.754
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	2.97E-05	7.37E-06	0.718
		756.80		4.52			
		873.18	*	12.08	6.14E-05	1.36E-05	0.689
		996.29		10.48			
		1004.76	*	18.01	3.28E-05	8.32E-06	0.869
		1246.12		0.86			
		1274.43	*	34.80	6.49E-05	1.59E-05	0.880
		1494.05		0.70			
		1596.48		1.80			
AM-241	0.99	59.54	*	35.90	2.53E-04	3.66E-05	free
AM-243	0.94	43.53		5.90			
		74.66	*	67.20	9.15E-06	4.31E-06	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.943	2.62E-05	1.40E-05	
CO-60	0.965	3.45E-04	8.26E-06	
CD-109	0.969	1.83E-03	8.19E-05	
Te-129m	0.947	3.12E-03	6.54E-04	
CS-137	0.992	4.79E-02	3.02E-04	

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
EU-154	0.595	4.48E-05	4.17E-06	
AM-241	0.991	2.53E-04	3.66E-05	
AM-243	0.941	9.15E-06	4.31E-06	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 9:34:39AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	5	269.47	4.39266E-02	76.91	Tol.	Ni-56 ND-149
F	6	414.88	3.62194E-01	5.78	Tol.	RH-102M
F	7	602.06	6.29537E-02	187.00	Tol.	AG-106M
F	8	609.24	-3.73076E-03	- 250.59		
m	10	666.63	2.75686E-01	2.94		
F	15	1081.31	3.67650E-02	9.84		
F	16	1110.25	4.22581E-02	8.42		
F	20	1362.01	3.04070E-02	9.09	Sum	
F	22	2506.65	3.99357E-02	19.24	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.60	10.44	4.16E-04	4.16E-04	3.94E-04	2.07E-04
NA-22	511.00	179.91	1.83E-05	1.67E-05	1.77E-06	9.12E-06
	1274.54	99.94	1.67E-05		3.32E-05	8.11E-06
NA-24	1368.63	99.99	1.06E-05	3.45E-06	-1.55E-06	5.11E-06
	2754.01	99.87	3.45E-06		-2.66E-06	1.37E-06

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	AL-26	1129.67		2.50	3.49E-04	4.74E-06	-8.42E-05	1.69E-04
		1808.65		99.76	4.74E-06		-3.89E-06	2.20E-06
+	K-40	1460.82	*	10.66	6.87E-05	6.87E-05	2.62E-05	3.29E-05
	K-42	312.60		0.34	9.32E-03	3.13E-05	-4.36E-03	4.64E-03
		1524.60		18.08	3.13E-05		-1.89E-05	1.47E-05
	Sc-44	1157.02		99.90	1.02E-05	1.02E-05	1.21E-05	4.91E-06
		1499.46		0.91	8.70E-04		4.25E-04	4.10E-04
	Sc-44m	271.24		86.74	3.16E-05	3.16E-05	1.30E-05	1.57E-05
		1001.83		1.20	1.42E-03		1.89E-03	6.92E-04
		1126.06		1.20	1.22E-03		7.59E-04	5.90E-04
		1157.00		1.20	1.05E-03		1.25E-03	5.07E-04
	TI-44	67.87		93.00	3.32E-05	2.54E-05	-5.12E-05	1.65E-05
		78.32		96.40	2.54E-05		-7.74E-06	1.26E-05
	SC-46	889.28		99.98	1.07E-05	1.07E-05	-1.24E-06	5.20E-06
		1120.55		99.99	1.14E-05		-3.66E-06	5.55E-06
	CA-47	489.23		5.90	8.32E-04	8.72E-06	-1.70E-04	4.14E-04
		807.86		5.90	1.63E-04		-2.53E-04	7.92E-05
		1297.09		67.00	8.72E-06		5.40E-06	4.16E-06
	SC-47	159.38		68.30	2.96E-05	2.96E-05	2.33E-05	1.48E-05
	SC-48	175.36		7.47	2.86E-04	6.20E-06	-6.81E-05	1.42E-04
		983.53		100.00	8.54E-06		-3.04E-06	4.15E-06
		1037.52		97.50	8.90E-06		-6.02E-07	4.32E-06
		1312.12		100.00	6.20E-06		-2.06E-08	2.96E-06
	V-48	944.13		7.87	1.42E-04	8.07E-06	-5.28E-05	6.91E-05
		983.53		99.98	1.06E-05		-3.78E-06	5.17E-06
		1312.11		98.20	8.07E-06		-2.68E-08	3.85E-06
		2240.40		2.33	2.93E-04		3.10E-04	1.35E-04
	CR-51	320.08		9.91	2.87E-04	2.87E-04	-1.50E-05	1.43E-04
	Fe-52	168.69		99.20	2.40E-05	2.40E-05	1.64E-05	1.19E-05
		377.75		1.64	2.29E-03		-9.20E-04	1.14E-03
	Mn-52	744.23		90.00	1.32E-05	8.96E-06	2.02E-06	6.40E-06
		848.18		3.32	3.72E-04		3.84E-04	1.81E-04
		935.54		94.50	1.65E-05		1.42E-05	8.06E-06
		1246.28		4.21	2.43E-04		-8.67E-05	1.16E-04
		1333.65		5.07	7.72E-04		8.01E-03	3.82E-04
		1434.09		100.00	8.96E-06		3.37E-07	4.22E-06
	MN-54	834.85		99.98	7.68E-06	7.68E-06	9.01E-06	3.74E-06
	Co-55	411.50		1.07	3.73E-03	1.34E-05	8.09E-04	1.86E-03
		477.20		20.20	2.33E-04		3.66E-04	1.16E-04
		803.70		1.87	4.09E-04		-2.28E-04	1.98E-04
		931.10		75.00	1.34E-05		5.81E-06	6.53E-06
		1316.60		7.10	9.79E-05		-7.22E-05	4.68E-05
		1370.00		2.90	2.81E-04		-3.24E-05	1.35E-04
		1408.50		16.90	3.86E-05		-9.27E-05	1.84E-05
	Co-56	846.77		99.94	1.00E-05	1.00E-05	-7.05E-06	4.88E-06
		977.37		1.42	9.67E-04		-8.12E-05	4.70E-04
		1037.84		14.05	8.59E-05		1.11E-06	4.17E-05
		1175.10		2.25	1.78E-03		1.90E-02	8.80E-04
		1238.29		66.46	1.40E-05		-6.08E-06	6.72E-06
		1360.21		4.28	2.65E-04		6.17E-04	1.28E-04
		1771.36		15.41	5.48E-05		2.92E-05	2.59E-05
		2015.20		3.02	2.17E-04		8.41E-05	1.00E-04
		2034.79		7.77	9.52E-05		-8.40E-06	4.43E-05

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Co-56	2598.50		16.97	2.56E-05	1.00E-05	1.63E-05	1.10E-05
	MN-56	846.76		98.85	1.38E-05	1.38E-05	-9.72E-06	6.72E-06
		1810.73		26.90	3.76E-05		2.96E-05	1.74E-05
		2113.09		14.20	8.63E-05		-1.08E-05	4.01E-05
	Ni-56	158.38		98.80	2.03E-05	8.60E-06	1.46E-05	1.01E-05
		269.50		36.50	6.86E-05		-1.25E-05	3.42E-05
		480.44		36.50	1.14E-04		-1.03E-04	5.67E-05
		749.50		49.50	1.45E-05		1.05E-05	7.03E-06
		811.85		86.00	8.60E-06		6.60E-06	4.18E-06
		1561.80		14.00	3.83E-05		-3.19E-05	1.80E-05
	CO-57	122.06		85.60	2.12E-05	2.12E-05	2.27E-05	1.06E-05
		136.47		10.68	1.71E-04		1.77E-04	8.52E-05
	NI-57	127.16		16.70	1.13E-04	7.83E-06	6.90E-05	5.64E-05
		1377.63		81.70	7.83E-06		-2.09E-06	3.73E-06
		1757.55		5.75	1.01E-04		-7.35E-05	4.73E-05
		1919.52		12.30	3.79E-05		3.81E-05	1.74E-05
	CO-58	810.76		99.45	7.85E-06	7.85E-06	-4.61E-06	3.81E-06
		863.96		0.69	1.58E-03		9.18E-04	7.71E-04
		1674.73		0.52	8.53E-04		-1.32E-03	3.99E-04
	FE-59	142.65		1.02	1.80E-03	1.32E-05	-7.88E-04	8.99E-04
		192.34		3.08	1.08E-03		5.07E-04	5.36E-04
		1099.24		56.50	1.51E-05		-4.88E-06	7.30E-06
		1291.59		43.20	1.32E-05		1.75E-05	6.30E-06
+	CO-60	1173.23	*	99.85	1.12E-05	1.04E-05	3.43E-04	5.43E-06
		1332.49	*	99.98	1.04E-05		3.47E-04	5.03E-06
	CU-64	511.00		35.00	1.04E-04	1.04E-04	1.01E-05	5.20E-05
		1345.77		0.47	1.24E-03		5.64E-04	5.85E-04
	NI-65	366.27		4.81	1.41E-03	3.63E-05	-2.36E-04	7.02E-04
		1115.53		15.43	1.29E-04		5.98E-05	6.30E-05
		1481.84		23.59	3.63E-05		6.90E-06	1.71E-05
	ZN-65	1115.54		50.04	2.17E-05	2.17E-05	1.01E-05	1.06E-05
	GA-66	511.00		114.00	3.32E-05	1.36E-05	3.20E-06	1.65E-05
		833.53		5.90	1.48E-04		-8.85E-05	7.18E-05
		1039.22		37.00	2.58E-05		-1.76E-05	1.25E-05
		1333.11		1.17	2.50E-03		2.58E-02	1.24E-03
		1918.33		1.99	2.48E-04		3.99E-05	1.13E-04
		2189.62		5.30	1.18E-04		4.22E-05	5.48E-05
		2751.83		22.70	1.36E-05		-4.41E-06	5.48E-06
	CU-67	91.27		7.00	2.73E-04	4.99E-05	4.40E-05	1.36E-04
		93.31		16.10	1.11E-04		-3.21E-05	5.52E-05
		184.58		48.70	4.99E-05		1.00E-04	2.48E-05
		300.22		0.80	3.54E-03		6.53E-04	1.76E-03
		393.53		0.22	1.58E-02		1.65E-02	7.85E-03
	GA-67	91.26		3.11	7.16E-04	4.93E-05	1.15E-04	3.57E-04
		93.31		38.81	4.93E-05		-1.43E-05	2.46E-05
		184.58		21.41	1.14E-04		2.30E-04	5.70E-05
		208.95		2.46	1.44E-03		5.28E-04	7.19E-04
		300.22		16.64	1.92E-04		3.54E-05	9.56E-05
		393.53		4.56	4.74E-04		4.95E-04	2.36E-04
	ZN-69m	438.63		94.85	4.77E-05	4.77E-05	8.59E-06	2.38E-05
	GA-72	629.97		26.13	1.64E-04	1.13E-05	-1.25E-04	8.14E-05
		834.13		95.45	1.13E-05		1.22E-05	5.50E-06
		894.33		10.14	1.46E-04		6.34E-05	7.13E-05

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
GA-72	1050.79	6.99	2.29E-04	1.13E-05	9.57E-05	1.11E-04
	2201.59	26.87	3.31E-05		2.41E-05	1.55E-05
	2491.03	7.73	6.25E-05		1.05E-05	2.75E-05
	2507.72	13.33	1.35E-04		3.65E-04	6.49E-05
Zn-72	144.70	82.78	2.30E-05	2.30E-05	3.31E-06	1.15E-05
	191.50	9.35	2.82E-04		2.64E-04	1.40E-04
SE-75	121.12	17.20	1.44E-04	4.25E-05	4.00E-05	7.19E-05
	136.00	58.50	4.25E-05		5.41E-05	2.12E-05
	264.66	58.90	5.72E-05		4.48E-05	2.85E-05
	279.54	25.02	1.32E-04		-5.41E-05	6.57E-05
	400.66	11.41	1.05E-04		5.05E-05	5.21E-05
BR-83	529.59	1.30	3.95E-03	3.95E-03	-5.97E-04	1.96E-03
BR-84	604.80	1.70	1.56E-02	2.05E-04	-1.00E-02	7.74E-03
	736.50	1.29	5.68E-03		6.71E-03	2.76E-03
	802.20	6.00	1.24E-03		2.06E-04	6.02E-04
	881.60	42.00	2.05E-04		3.02E-04	9.96E-05
	987.30	0.79	1.15E-02		1.92E-02	5.61E-03
	1015.90	6.20	1.36E-03		-5.57E-04	6.60E-04
	1213.30	2.60	2.67E-03		1.16E-03	1.28E-03
	1463.80	2.00	4.52E-03		1.11E-02	2.18E-03
	1741.20	1.60	2.75E-03		-5.61E-03	1.27E-03
	1877.50	1.12	4.79E-03		1.50E-03	2.23E-03
	1897.60	14.60	3.19E-04		6.78E-05	1.46E-04
	2029.60	2.10	2.66E-03		1.47E-03	1.23E-03
	2200.70	1.16	5.52E-03		-3.01E-03	2.58E-03
	2484.10	6.70	4.79E-04		-9.05E-04	2.04E-04
	2824.10	1.12	2.75E-03		1.28E-03	1.13E-03
KR-85m	151.20	75.20	3.35E-05	3.35E-05	2.62E-06	1.67E-05
	304.87	14.00	2.66E-04		1.18E-04	1.32E-04
Y-87	388.53	82.20	4.12E-05	4.12E-05	1.64E-06	2.05E-05
	484.80	89.80	4.32E-05		-1.00E-04	2.15E-05
KR-88	165.98	3.10	1.68E-03	1.97E-05	-1.74E-03	8.37E-04
	196.30	26.00	1.91E-04		-1.08E-04	9.51E-05
	362.23	2.25	1.87E-03		-4.91E-04	9.33E-04
	471.80	0.73	1.23E-02		3.81E-02	6.14E-03
	834.83	13.00	1.14E-04		1.34E-04	5.54E-05
	985.78	1.31	1.46E-03		-1.68E-03	7.10E-04
	1141.33	1.28	1.11E-03		1.00E-03	5.38E-04
	1179.51	1.00	5.23E-03		-4.76E-04	2.59E-03
	1250.67	1.12	1.13E-03		5.62E-04	5.42E-04
	1369.50	1.48	1.15E-03		-2.73E-04	5.55E-04
	1518.39	2.15	5.23E-04		-1.02E-04	2.46E-04
	1529.77	10.90	9.57E-05		-1.75E-04	4.49E-05
	2029.84	4.53	2.92E-04		1.62E-04	1.36E-04
	2035.41	3.74	3.00E-04		-5.10E-04	1.39E-04
	2195.84	13.20	9.43E-05		4.10E-05	4.40E-05
	2231.77	3.39	2.34E-04		-3.55E-04	1.09E-04
	2352.08	0.73	1.30E-03		1.44E-03	5.91E-04
	2392.11	34.60	1.97E-05		-6.53E-06	8.93E-06
RB-88	898.03	14.40	1.14E-04	4.04E-05	-1.28E-04	5.54E-05
	1382.45	0.78	1.49E-03		4.09E-04	7.09E-04
	1836.00	22.81	4.04E-05		1.32E-05	1.87E-05
	2677.89	2.13	2.97E-04		1.80E-04	1.27E-04

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Y-88	898.04	93.70	1.09E-05	6.22E-06	-1.23E-05	5.33E-06
	1836.06	99.20	6.22E-06		2.04E-06	2.88E-06
RB-89	272.42	1.53	1.77E-01	1.28E-03	-1.16E-01	8.81E-02
	657.77	10.80	2.26E-01		-1.14E-02	1.13E-01
	947.73	10.00	8.75E-03		-7.24E-03	4.26E-03
	1031.92	63.00	1.36E-03		8.90E-04	6.63E-04
	1248.14	46.00	1.28E-03		-1.38E-04	6.10E-04
	1538.07	2.77	1.76E-02		1.62E-02	8.26E-03
	2007.50	2.58	1.68E-02		6.24E-03	7.68E-03
	2195.92	14.50	4.20E-03		1.82E-03	1.96E-03
	2570.20	10.70	3.53E-03		2.65E-03	1.54E-03
	2707.26	2.20	1.36E-02		-5.99E-03	5.63E-03
SR-89	908.96	0.01	9.08E-02	9.08E-02	9.03E-02	4.42E-02
Sr-91	652.90	11.35	2.79E-04	2.81E-05	9.59E-06	1.39E-04
	749.80	23.70	3.43E-05		2.49E-05	1.67E-05
	925.80	3.85	2.70E-04		3.69E-04	1.32E-04
	1024.30	33.50	2.81E-05		-4.13E-05	1.36E-05
Y-91	1204.77	0.26	2.65E-03	2.65E-03	3.30E-04	1.27E-03
Y-91m	555.57	61.64	4.83E-05	4.83E-05	-1.65E-05	2.40E-05
NB-92M	912.60	1.78	6.30E-04	9.46E-06	-4.36E-04	3.07E-04
	934.44	99.15	9.46E-06		-5.97E-06	4.61E-06
	1847.50	0.85	4.51E-04		-2.72E-05	2.09E-04
SR-92	241.56	2.93	1.38E-03	1.09E-05	-1.09E-03	6.87E-04
	430.49	3.28	1.99E-03		-2.82E-04	9.94E-04
	953.31	3.52	4.16E-04		3.62E-04	2.03E-04
	1142.35	2.79	4.50E-04		-1.33E-04	2.18E-04
	1383.93	90.00	1.09E-05		-9.12E-06	5.21E-06
MO-93M	114.04	0.68	3.12E-03	6.67E-06	-1.18E-03	1.55E-03
	263.05	57.40	5.23E-05		2.34E-05	2.61E-05
	684.69	99.90	8.16E-06		2.72E-06	3.97E-06
	1363.02	0.81	1.28E-03		3.00E-03	6.17E-04
	1477.14	99.10	6.67E-06		4.39E-06	3.15E-06
SR-93	168.50	18.40	7.28E-01	2.11E-01	4.98E-01	3.62E-01
	260.12	7.40	2.22E+00		2.47E+00	1.11E+00
	346.49	3.28	6.02E+00		2.50E+00	3.00E+00
	446.20	2.36	1.19E+01		5.24E+00	5.92E+00
	590.24	68.00	2.40E-01		-3.08E-01	1.19E-01
	710.31	21.80	2.11E-01		1.07E-01	1.03E-01
	875.73	24.50	2.28E-01		-2.06E-01	1.11E-01
	888.13	22.10	2.51E-01		-1.27E-01	1.22E-01
	1040.63	3.20	1.73E+00		1.28E+00	8.42E-01
	1094.00	1.76	3.13E+00		-3.38E+00	1.52E+00
	1122.48	4.00	1.43E+00		6.60E-01	6.92E-01
	1215.48	2.50	1.78E+00		1.51E+00	8.54E-01
	1269.47	7.10	8.06E-01		-1.72E-03	3.90E-01
	1321.24	2.61	1.73E+00		1.16E+00	8.32E-01
	1387.11	3.50	1.10E+00		-1.10E+00	5.22E-01
	1694.07	2.58	1.12E+00		-2.77E-01	5.18E-01
	1699.06	3.30	8.77E-01		-1.07E+00	4.06E-01
	2543.84	3.03	6.30E-01		3.40E-01	2.64E-01
	2688.65	2.13	1.12E+00		7.44E-01	4.80E-01
Y-93	266.90	7.40	3.81E-04	2.97E-04	-3.39E-04	1.90E-04
	947.10	2.10	4.75E-04		-2.20E-04	2.31E-04

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Y-93	1917.80	1.57	2.97E-04	2.97E-04	-3.16E-04	1.35E-04
NB-94	702.65	99.81	1.05E-05	1.05E-05	-1.63E-06	5.11E-06
	871.09	99.89	1.11E-05		8.18E-06	5.39E-06
Y-94	381.60	2.02	7.54E-02	7.17E-04	-6.51E-02	3.76E-02
	550.90	4.90	2.53E-02		-1.83E-02	1.26E-02
	752.60	1.40	2.38E-02		-1.60E-02	1.16E-02
	918.74	56.00	7.17E-04		-4.18E-04	3.49E-04
	1138.90	6.00	6.21E-03		4.57E-03	3.01E-03
	1671.40	2.50	1.01E-02		-2.86E-03	4.74E-03
	2140.60	0.95	2.35E-02		1.32E-03	1.08E-02
NB-95	765.80	99.81	7.43E-06	7.43E-06	-4.25E-07	3.61E-06
ZR-95	724.19	44.27	1.86E-05	1.35E-05	4.40E-05	9.10E-06
	756.72	54.38	1.35E-05		9.04E-06	6.55E-06
NB-96	219.08	2.97	8.88E-04	7.81E-06	8.18E-04	4.42E-04
	241.38	3.50	7.43E-04		-5.90E-04	3.70E-04
	350.05	1.54	2.08E-03		-5.58E-04	1.03E-03
	352.56	0.83	3.88E-03		-1.20E-03	1.93E-03
	371.81	2.62	1.29E-03		-5.49E-04	6.42E-04
	460.04	26.62	1.81E-04		2.31E-06	9.01E-05
	480.71	5.84	7.46E-04		-6.75E-04	3.72E-04
	568.87	58.00	4.51E-05		-3.07E-05	2.24E-05
	719.56	6.85	1.26E-04		4.27E-05	6.16E-05
	721.63	1.02	8.52E-04		1.08E-03	4.16E-04
	778.22	96.45	7.81E-06		8.92E-07	3.79E-06
	810.33	11.09	6.84E-05		-2.07E-05	3.32E-05
	812.58	2.95	2.62E-04		9.85E-05	1.27E-04
	847.69	1.14	7.06E-04		-6.12E-04	3.43E-04
	849.93	20.45	3.94E-05		-5.66E-05	1.92E-05
	1091.35	48.50	1.85E-05		5.56E-06	8.98E-06
	1200.23	19.97	3.52E-05		-2.01E-05	1.69E-05
	1441.13	0.44	1.25E-03		-1.57E-04	5.90E-04
	1497.81	3.28	1.67E-04		1.18E-04	7.88E-05
Nb-97	657.94	98.23	2.67E-04	2.67E-04	-5.31E-06	1.33E-04
	1024.40	1.09	8.15E-04		-1.20E-03	3.96E-04
ZR-97	254.17	1.15	2.33E-03	8.40E-06	-7.85E-04	1.16E-03
	355.40	2.09	2.28E-03		9.01E-04	1.13E-03
	507.64	5.03	9.64E-04		-8.35E-04	4.80E-04
	743.36	93.09	8.40E-06		2.81E-06	4.08E-06
	1147.97	2.62	4.45E-04		-6.94E-06	2.15E-04
MO-99	181.07	6.14	5.88E-04	7.91E-05	-9.35E-04	2.93E-04
	366.42	1.20	2.66E-03		-4.45E-04	1.32E-03
	739.50	12.26	7.91E-05		4.93E-05	3.85E-05
	777.92	4.30	1.69E-04		8.60E-05	8.24E-05
TC-99M	140.51	90.80	2.06E-05	2.06E-05	3.53E-06	1.03E-05
RH-101	127.23	68.00	3.59E-05	3.59E-05	4.48E-05	1.79E-05
	198.01	73.00	4.56E-05		1.73E-05	2.27E-05
	325.23	11.80	9.47E-05		2.44E-05	4.72E-05
RH-101M	306.86	81.00	3.50E-05	3.50E-05	-2.48E-05	1.74E-05
	545.12	4.30	6.49E-04		2.24E-04	3.23E-04
RH-102M	415.25	2.10	4.25E-03	3.91E-05	1.02E-02	2.12E-03
	418.52	9.40	8.40E-04		1.60E-04	4.19E-04
	420.40	3.20	2.62E-03		-2.45E-04	1.30E-03
	475.06	95.00	8.78E-05		2.74E-04	4.38E-05

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RH-102M	628.05		8.30	6.66E-04	3.91E-05	2.70E-04	3.31E-04
		631.29		56.00	7.80E-05		-1.10E-05	3.87E-05
		692.40		1.60	1.85E-03		-8.44E-05	9.10E-04
		695.60		2.90	9.00E-04		6.32E-03	4.44E-04
		697.49		44.00	5.75E-05		4.83E-06	2.84E-05
		766.84		34.00	3.91E-05		4.84E-05	1.90E-05
		1046.59		34.00	4.16E-05		-9.83E-06	2.02E-05
		1103.16		4.60	2.71E-04		5.67E-05	1.32E-04
		1112.84		19.00	9.90E-05		1.75E-04	4.84E-05
	RU-103	497.08		91.00	3.85E-05	3.85E-05	-1.64E-06	1.92E-05
		610.33		5.76	4.40E-04		5.07E-04	2.18E-04
	RH-105	306.31		4.66	6.22E-04	1.74E-04	2.02E-04	3.10E-04
		319.23		16.90	1.74E-04		-1.88E-04	8.65E-05
	AG-106M	221.70		6.60	3.79E-04	2.72E-05	3.18E-04	1.89E-04
		228.63		2.10	1.18E-03		1.14E-04	5.89E-04
		328.46		1.14	2.55E-03		5.05E-03	1.27E-03
		391.04		3.68	9.21E-04		-2.26E-04	4.59E-04
		406.18		13.40	2.64E-04		-1.40E-04	1.32E-04
		429.65		13.20	3.03E-04		3.22E-05	1.51E-04
		450.98		28.20	1.54E-04		-7.72E-05	7.70E-05
		511.85		88.00	3.76E-05		1.37E-05	1.87E-05
		601.17		1.61	1.54E-03		5.62E-04	7.63E-04
		616.17		21.60	1.17E-04		1.56E-05	5.80E-05
		646.03		1.46	1.74E-03		-5.05E-04	8.62E-04
		680.42		2.18	3.26E-04		1.38E-04	1.59E-04
		703.11		4.47	1.66E-04		3.63E-05	8.09E-05
		717.34		28.90	2.72E-05		1.81E-05	1.33E-05
		748.36		20.60	3.44E-05		3.59E-06	1.67E-05
		793.17		5.90	1.20E-04		-5.53E-05	5.82E-05
		804.28		12.40	5.79E-05		-3.60E-06	2.81E-05
		808.36		4.00	1.79E-04		-1.03E-04	8.69E-05
		824.69		15.30	4.93E-05		-2.24E-05	2.40E-05
		847.15		4.40	1.75E-04		-7.54E-05	8.51E-05
		1019.72		1.04	7.87E-04		8.68E-04	3.82E-04
		1045.83		29.60	2.82E-05		-1.27E-05	1.37E-05
		1128.02		11.80	7.03E-05		-9.64E-05	3.41E-05
		1199.39		11.20	6.05E-05		0.00E+00	2.91E-05
		1222.88		7.00	8.86E-05		-6.84E-05	4.24E-05
		1394.35		1.49	4.27E-04		1.67E-06	2.04E-04
		1527.65		16.30	3.14E-05		-3.49E-05	1.48E-05
		1572.35		6.60	7.63E-05		-2.67E-06	3.58E-05
		1722.76		1.40	3.95E-04		-5.32E-04	1.86E-04
		1839.05		2.00	2.34E-04		-1.84E-05	1.08E-04
	RH-106	621.93		9.93	3.36E-04	3.36E-04	5.08E-04	1.67E-04
		873.49		0.44	3.00E-03		-7.33E-05	1.46E-03
		1050.41		1.56	7.25E-04		8.03E-04	3.52E-04
	RU-106	511.86		20.40	1.61E-04	1.61E-04	1.76E-04	8.01E-05
	AG-108M	79.13		6.60	3.11E-04	1.65E-05	2.71E-04	1.55E-04
		433.94		90.50	7.86E-05		9.91E-06	3.92E-05
		614.28		89.80	5.07E-05		2.75E-05	2.52E-05
		722.91		90.80	1.65E-05		3.67E-05	8.05E-06
+	CD-109	88.03	*	3.64	6.71E-04	6.71E-04	1.83E-03	3.34E-04
	AG-110M	446.81		3.70	2.66E-03	2.05E-05	1.47E-03	1.32E-03

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-110M	620.35	2.73	2.12E-03	2.05E-05	2.78E-04	1.05E-03
	657.76	95.61	4.61E-04		-2.32E-05	2.30E-04
	677.62	10.70	1.55E-04		-5.09E-05	7.54E-05
	687.01	6.53	2.13E-04		-2.97E-05	1.04E-04
	706.68	16.69	9.09E-05		2.29E-05	4.42E-05
	744.28	4.77	3.04E-04		4.65E-05	1.48E-04
	763.94	22.60	6.09E-05		3.81E-05	2.97E-05
	818.02	7.43	2.37E-04		-1.06E-04	1.16E-04
	884.68	75.00	2.05E-05		3.31E-06	9.99E-06
	937.48	35.00	4.69E-05		-1.02E-05	2.29E-05
	1384.29	25.10	3.84E-05		-1.84E-05	1.83E-05
	1475.78	4.08	1.85E-04		-9.46E-05	8.75E-05
	1505.03	13.33	6.40E-05		2.73E-05	3.01E-05
	1562.29	1.22	3.16E-04		-7.23E-05	1.49E-04
AG-111	245.40	1.11	2.24E-03	4.49E-04	3.07E-05	1.12E-03
	342.13	6.68	4.49E-04		1.18E-04	2.23E-04
AG-112	606.82	3.10	8.75E-04	6.19E-05	9.94E-04	4.35E-04
	617.52	43.00	6.19E-05		1.39E-05	3.07E-05
	692.82	1.19	1.22E-03		-1.56E-04	6.01E-04
	694.87	2.90	5.02E-04		3.28E-03	2.48E-04
	851.28	1.02	8.12E-04		-5.58E-04	3.95E-04
	1312.36	1.11	5.77E-04		-1.92E-06	2.75E-04
	1387.68	5.30	1.19E-04		-1.26E-05	5.65E-05
	1613.66	2.80	1.77E-04		-6.90E-05	8.27E-05
	1798.50	0.89	5.85E-04		-2.63E-04	2.72E-04
	2106.31	2.40	2.54E-04		-3.88E-04	1.18E-04
	2506.70	1.06	1.25E-03		3.89E-03	6.01E-04
CD-113M	263.70	0.03	9.28E-02	9.28E-02	1.70E-02	4.62E-02
SN-113	255.13	2.11	1.17E-03	5.20E-05	4.17E-04	5.85E-04
	391.70	64.97	5.20E-05		-3.89E-07	2.59E-05
IN-114M	190.27	15.56	1.65E-04	1.65E-04	2.58E-04	8.20E-05
	558.43	4.40	7.78E-04		7.32E-04	3.87E-04
	725.24	4.40	2.49E-04		2.18E-04	1.22E-04
CD-115	260.90	1.94	1.32E-03	6.53E-05	4.16E-04	6.55E-04
	336.24	46.02	6.53E-05		3.85E-05	3.25E-05
	527.90	27.45	1.12E-04		2.12E-05	5.57E-05
CD-115M	933.84	2.00	4.87E-04	4.87E-04	2.70E-05	2.38E-04
	1290.59	0.90	6.42E-04		2.39E-05	3.06E-04
IN-115M	336.24	45.90	8.54E-05	8.54E-05	5.04E-05	4.25E-05
IN-116M	138.29	3.70	3.31E-03	3.67E-05	-2.30E-03	1.65E-03
	416.90	27.20	7.61E-04		1.46E-03	3.79E-04
	818.68	12.13	4.48E-04		4.66E-04	2.18E-04
	1097.28	58.50	7.46E-05		-1.08E-04	3.62E-05
	1293.56	84.80	3.67E-05		-5.15E-06	1.75E-05
	1507.59	9.92	2.64E-04		-2.66E-04	1.24E-04
	2112.29	15.09	1.85E-04		2.54E-05	8.60E-05
SB-125	176.31	6.84	3.03E-04	1.33E-04	-5.61E-04	1.51E-04
	380.45	1.52	2.14E-03		-8.58E-05	1.06E-03
	427.87	29.60	1.33E-04		-6.14E-07	6.64E-05
	463.36	10.49	4.40E-04		1.18E-04	2.19E-04
	600.60	17.65	1.39E-04		6.05E-05	6.92E-05
	606.71	4.98	5.12E-04		5.82E-04	2.54E-04
	635.95	11.22	2.16E-04		-2.56E-06	1.07E-04

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SB-125	671.44	1.79	7.66E-04	1.33E-04	1.42E-05	3.78E-04
SN-125	332.10	1.40	3.48E-03	1.10E-04	-6.97E-04	1.73E-03
	469.85	1.50	5.00E-03		7.38E-03	2.49E-03
	800.28	1.10	8.61E-04		2.33E-04	4.19E-04
	822.48	4.30	2.30E-04		-3.05E-05	1.12E-04
	915.55	4.10	2.70E-04		-2.03E-05	1.31E-04
	1067.10	10.00	1.10E-04		8.59E-06	5.36E-05
	1087.70	1.20	1.53E-03		1.30E-04	7.48E-04
	1089.10	4.60	2.20E-04		-6.54E-06	1.07E-04
	2002.10	1.90	2.32E-04		2.04E-05	1.06E-04
SB-127	61.10	1.43	3.22E-03	1.87E-05	2.10E-04	1.61E-03
	252.40	8.50	3.64E-04		-3.78E-05	1.81E-04
	290.80	2.02	1.86E-03		1.12E-04	9.25E-04
	412.10	3.80	1.08E-03		2.40E-04	5.36E-04
	445.10	4.30	1.35E-03		1.94E-03	6.74E-04
	473.00	25.80	1.91E-04		5.69E-04	9.53E-05
	543.30	2.90	8.28E-04		-6.35E-04	4.12E-04
	603.50	4.50	7.72E-04		-1.26E-04	3.84E-04
	685.70	36.80	1.87E-05		4.06E-06	9.10E-06
	698.50	3.64	3.82E-04		-2.18E-05	1.88E-04
	722.20	1.88	4.59E-04		8.38E-04	2.24E-04
	783.70	15.10	4.81E-05		6.18E-06	2.34E-05
SN-127	119.70	2.20	1.51E-03	5.25E-05	5.41E-04	7.54E-04
	262.50	2.30	2.00E-03		9.63E-04	9.96E-04
	266.20	2.10	2.19E-03		-1.58E-04	1.09E-03
	284.30	2.70	1.86E-03		1.10E-03	9.28E-04
	438.20	6.10	1.25E-03		5.77E-04	6.21E-04
	490.90	5.30	1.26E-03		-6.55E-04	6.28E-04
	493.20	3.10	2.13E-03		1.69E-03	1.06E-03
	545.40	2.30	2.21E-03		1.27E-03	1.10E-03
	583.30	3.20	1.44E-03		1.23E-03	7.16E-04
	805.90	8.20	1.62E-04		2.27E-05	7.87E-05
	823.10	11.00	1.26E-04		-6.69E-05	6.11E-05
	824.70	6.10	2.28E-04		-1.03E-04	1.11E-04
	859.50	8.00	1.84E-04		8.69E-05	8.98E-05
	979.20	7.20	2.19E-04		1.19E-04	1.07E-04
	1093.30	3.80	4.07E-04		-2.21E-05	1.97E-04
	1095.60	19.00	8.07E-05		-1.36E-05	3.91E-05
	1114.30	38.00	5.25E-05		6.23E-05	2.57E-05
	1160.40	2.40	5.73E-04		8.78E-04	2.77E-04
	2003.40	5.30	1.50E-04		-1.23E-04	6.85E-05
SB-129	180.42	2.84	1.03E-03	2.05E-05	-3.58E-03	5.12E-04
	359.20	2.39	1.73E-03		-4.77E-04	8.64E-04
	404.64	1.17	4.02E-03		-2.35E-03	2.00E-03
	523.13	1.55	2.66E-03		-2.48E-03	1.32E-03
	544.56	15.42	2.41E-04		-1.20E-04	1.20E-04
	633.74	2.53	1.28E-03		-4.35E-04	6.37E-04
	654.28	2.97	2.50E-03		-1.34E-03	1.25E-03
	682.77	5.76	1.60E-04		-1.10E-04	7.77E-05
	761.12	4.32	2.32E-04		1.02E-04	1.13E-04
	773.37	2.82	3.41E-04		-3.39E-04	1.66E-04
	786.36	1.07	8.97E-04		-6.79E-04	4.36E-04
	787.16	1.74	5.61E-04		3.75E-04	2.73E-04

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	812.97		48.20	2.05E-05	2.05E-05	4.10E-06	9.94E-06
		819.51		1.39	7.48E-04		-5.64E-05	3.64E-04
		876.65		2.75	4.19E-04		-1.56E-04	2.04E-04
		914.96		23.30	4.89E-05		-5.16E-05	2.38E-05
		966.78		8.96	1.31E-04		-5.20E-05	6.40E-05
		1030.65		15.13	7.53E-05		8.37E-05	3.66E-05
		1656.10		1.31	5.33E-04		2.64E-04	2.50E-04
		1738.16		7.45	8.56E-05		-5.30E-05	3.98E-05
	TE-129	459.60		7.70	5.90E-04	5.90E-04	1.19E-04	2.94E-04
		487.39		1.42	2.62E-03		7.56E-04	1.31E-03
+	Te-129m	695.88	*	3.00	3.44E-04	3.44E-04	3.12E-03	1.69E-04
	I-131	80.18		2.62	1.03E-03	3.83E-05	-8.45E-04	5.12E-04
		284.30		6.12	4.85E-04		2.87E-04	2.42E-04
		364.49		81.50	3.83E-05		1.74E-06	1.91E-05
		636.99		7.16	3.40E-04		-4.74E-04	1.69E-04
		722.91		1.77	4.72E-04		1.05E-03	2.30E-04
	Te-131m	773.67		36.80	3.06E-05	3.06E-05	-7.74E-06	1.49E-05
		793.75		13.40	1.22E-04		-1.00E-04	5.92E-05
		852.21		19.90	6.60E-05		2.02E-05	3.21E-05
		1125.46		11.00	1.08E-04		4.63E-05	5.22E-05
		1206.60		9.41	9.65E-05		1.03E-05	4.64E-05
	I-132	262.90		1.28	1.97E-03	1.60E-05	8.84E-04	9.82E-04
		284.90		0.71	3.88E-03		-4.72E-03	1.93E-03
		505.79		4.93	2.44E-03		-6.97E-04	1.22E-03
		522.65		16.00	3.59E-04		-5.86E-04	1.79E-04
		547.20		1.14	4.68E-03		-7.65E-05	2.33E-03
		621.20		1.97	2.48E-03		1.80E-03	1.23E-03
		630.19		13.30	3.53E-04		-2.70E-04	1.75E-04
		650.50		2.57	2.37E-03		-6.14E-03	1.18E-03
		667.71		98.70	3.69E-04		1.44E-06	1.84E-04
		669.80		4.60	1.69E-03		6.12E-05	8.41E-04
		671.40		3.50	9.14E-04		1.70E-05	4.51E-04
		727.10		5.40	3.51E-04		-2.10E-04	1.71E-04
		728.40		1.60	1.04E-03		-5.20E-04	5.06E-04
		772.60		75.60	1.60E-05		6.11E-06	7.79E-06
		809.50		2.60	5.38E-04		-6.68E-04	2.61E-04
		812.00		5.50	2.44E-04		1.87E-04	1.18E-04
		910.10		0.93	1.67E-03		9.48E-04	8.12E-04
		954.55		17.60	9.11E-05		-2.14E-05	4.44E-05
		1136.00		3.01	3.60E-04		-2.05E-05	1.74E-04
		1172.90		1.09	3.05E-03		3.30E-02	1.51E-03
		1290.80		1.13	9.03E-04		3.36E-05	4.30E-04
		1295.10		1.88	1.90E-04		1.06E-04	9.04E-05
		1297.90		0.89	2.92E-04		-2.21E-04	1.39E-04
		1372.07		2.47	4.50E-04		3.39E-04	2.15E-04
		1398.57		7.01	1.52E-04		1.77E-04	7.24E-05
		1442.56		1.40	2.66E-04		2.15E-04	1.25E-04
	TE-132	49.72		15.00	5.81E-04	2.88E-05	-1.56E-04	2.89E-04
		111.76		1.74	1.02E-03		1.61E-03	5.07E-04
		116.30		1.96	9.14E-04		-1.47E-05	4.55E-04
		228.16		88.00	2.88E-05		-1.38E-05	1.43E-05
	BA-133	81.00		32.90	8.16E-05	5.32E-05	-2.40E-06	4.06E-05
		276.40		7.16	4.26E-04		6.14E-04	2.12E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-133	302.85	18.34	1.65E-04	5.32E-05	2.81E-05	8.20E-05
	356.01	62.05	5.32E-05		4.30E-05	2.65E-05
	383.85	8.94	3.22E-04		4.25E-04	1.60E-04
I-133	529.87	87.00	3.66E-05	3.66E-05	1.99E-05	1.82E-05
	706.58	1.51	6.57E-04		1.66E-04	3.20E-04
	856.28	1.24	9.24E-04		1.51E-05	4.50E-04
	875.33	4.51	2.00E-04		-2.05E-05	9.76E-05
	1236.44	1.51	3.94E-04		1.55E-04	1.89E-04
	1298.22	2.35	2.59E-04		-2.02E-04	1.23E-04
TE-133	312.08	62.40	1.15E-02	1.15E-02	5.21E-03	5.75E-03
	407.63	27.10	3.33E-02		-1.02E-02	1.66E-02
	410.40	0.94	9.96E-01		1.21E-01	4.96E-01
	474.85	0.88	1.32E+00		3.29E+00	6.58E-01
	719.71	8.90	2.35E-02		7.93E-03	1.15E-02
	786.93	5.40	3.39E-02		-1.01E-02	1.65E-02
	844.36	3.31	5.98E-02		4.91E-02	2.91E-02
	884.30	0.72	2.95E-01		2.34E-02	1.44E-01
	930.71	3.81	6.24E-02		2.31E-02	3.05E-02
	997.70	1.04	2.37E-01		1.18E-01	1.16E-01
	1000.72	3.62	6.98E-02		-9.76E-03	3.41E-02
	1021.13	2.81	7.31E-02		-5.19E-02	3.54E-02
	1061.61	1.19	1.78E-01		-1.34E-01	8.66E-02
	1252.08	1.44	1.08E-01		1.69E-01	5.14E-02
	1312.80	0.85	1.82E-01		3.95E-02	8.69E-02
	1333.21	10.67	6.10E-02		6.42E-01	3.02E-02
	1717.61	3.18	4.01E-02		-4.46E-02	1.87E-02
	1881.52	1.22	1.04E-01		-9.36E-03	4.80E-02
	2136.51	1.25	9.39E-02		-4.33E-03	4.29E-02
	2229.64	0.87	1.88E-01		-2.01E-02	8.82E-02
Xe-133	81.00	36.90	5.48E-05	5.48E-05	-1.61E-06	2.73E-05
CS-134	475.36	1.48	3.05E-03	1.18E-05	1.16E-02	1.52E-03
	563.25	8.34	5.11E-04		-4.87E-04	2.54E-04
	569.33	15.37	2.85E-04		-6.04E-05	1.42E-04
	604.72	97.62	3.64E-05		-2.35E-05	1.81E-05
	795.86	85.46	1.18E-05		-9.71E-06	5.74E-06
	801.95	8.69	1.38E-04		2.37E-05	6.71E-05
	1038.61	0.99	1.13E-03		5.61E-04	5.47E-04
	1167.97	1.79	9.69E-04		9.60E-05	4.79E-04
	1365.19	3.02	1.82E-04		4.35E-04	8.78E-05
I-135	220.50	1.75	2.23E-03	2.60E-05	1.33E-03	1.11E-03
	288.45	3.10	1.37E-03		-2.64E-04	6.84E-04
	417.63	3.53	1.69E-03		4.41E-03	8.41E-04
	546.56	7.15	6.00E-04		3.78E-04	2.98E-04
	836.80	6.69	1.83E-04		1.15E-04	8.91E-05
	971.96	0.89	1.67E-03		1.41E-03	8.13E-04
	972.62	1.21	1.13E-03		2.98E-03	5.50E-04
	1038.76	7.90	1.29E-04		6.41E-05	6.25E-05
	1101.58	1.61	8.35E-04		3.78E-04	4.05E-04
	1124.00	3.62	3.68E-04		-1.24E-05	1.78E-04
	1131.51	22.60	5.58E-05		-1.20E-05	2.70E-05
	1240.47	0.90	1.11E-03		-2.03E-04	5.32E-04
	1260.41	28.70	2.60E-05		2.26E-05	1.24E-05
	1457.56	8.70	1.25E-04		-2.22E-06	6.03E-05

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1502.79		1.08	8.06E-04	2.60E-05	6.03E-04	3.80E-04
		1566.41		1.29	5.06E-04		4.76E-04	2.38E-04
		1678.03		9.60	5.53E-05		3.41E-05	2.59E-05
		1706.46		4.10	1.39E-04		4.01E-05	6.45E-05
		1791.20		7.72	6.57E-05		-1.27E-04	3.02E-05
		2408.65		0.96	4.56E-04		-6.53E-04	2.00E-04
	XE-135	249.79		90.00	3.18E-05	3.18E-05	2.90E-05	1.58E-05
	XE-135m	526.56		80.40	4.57E-05	4.57E-05	5.21E-05	2.27E-05
	CS-136	66.88		4.79	1.19E-03	1.27E-05	5.67E-04	5.92E-04
		86.36		5.90	5.91E-04		1.47E-04	2.94E-04
		153.25		7.70	4.20E-04		-5.53E-04	2.09E-04
		163.92		4.69	9.91E-04		1.89E-04	4.93E-04
		176.60		13.70	2.87E-04		-3.81E-04	1.43E-04
		273.65		12.66	3.83E-04		-2.68E-04	1.91E-04
		340.55		46.80	1.06E-04		9.42E-05	5.27E-05
		818.51		99.70	1.27E-05		4.44E-06	6.18E-06
		1048.07		80.00	1.83E-05		1.78E-05	8.87E-06
		1235.36		20.00	4.98E-05		2.64E-05	2.39E-05
+	CS-137	661.66	*	85.10	1.78E-05	1.78E-05	4.79E-02	8.82E-06
	BA-139	33.44		3.84	4.64E-02	2.15E-04	-4.37E-02	2.31E-02
		165.86		23.70	2.15E-04		-1.47E-04	1.07E-04
	BA-140	132.69		0.20	9.03E-03	1.20E-04	2.50E-03	4.49E-03
		162.66		6.22	3.75E-04		-3.89E-04	1.87E-04
		304.85		4.29	8.25E-04		3.67E-04	4.11E-04
		423.72		3.10	1.26E-03		4.22E-04	6.26E-04
		437.58		1.93	2.13E-03		-1.02E-03	1.06E-03
		537.26		24.39	1.20E-04		-6.65E-05	5.97E-05
	LA-140	109.42		0.22	7.95E-03	8.23E-06	-7.88E-03	3.96E-03
		131.12		0.47	3.90E-03		5.61E-04	1.94E-03
		173.54		0.13	1.63E-02		-7.44E-03	8.09E-03
		241.93		0.41	5.98E-03		-5.12E-03	2.98E-03
		266.54		0.47	5.34E-03		-2.50E-03	2.66E-03
		328.76		20.30	2.38E-04		2.88E-04	1.18E-04
		432.49		2.90	2.31E-03		-1.21E-03	1.15E-03
		487.02		45.50	1.18E-04		-3.57E-05	5.87E-05
		618.10		0.04	6.79E-02		1.11E-02	3.37E-02
		751.64		4.33	2.04E-04		-2.17E-04	9.92E-05
		815.77		23.28	3.36E-05		-1.31E-05	1.63E-05
		867.85		5.50	1.90E-04		-6.76E-05	9.25E-05
		919.55		2.66	3.32E-04		-7.69E-04	1.62E-04
		925.19		6.90	1.64E-04		1.18E-04	7.98E-05
		950.99		0.52	2.09E-03		1.85E-03	1.02E-03
		1596.21		95.40	8.23E-06		-9.95E-07	3.88E-06
		2347.88		0.85	3.29E-04		-1.23E-04	1.49E-04
		2521.40		3.46	8.27E-05		5.76E-05	3.58E-05
		2547.34		0.10	3.48E-03		-1.85E-04	1.50E-03
	BA-141	33.44		7.93	4.52E-01	2.91E-03	-4.25E-01	2.25E-01
		190.33		44.80	2.91E-03		4.55E-03	1.45E-03
		276.95		23.60	5.81E-03		1.50E-03	2.89E-03
		304.19		26.10	5.42E-03		8.91E-04	2.70E-03
		343.67		15.10	1.00E-02		-1.14E-02	5.00E-03
		389.74		1.37	1.25E-01		2.46E-02	6.21E-02
		457.51		5.00	4.58E-02		4.05E-02	2.28E-02

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-141	462.06	5.10	4.58E-02	2.91E-03	4.73E-02	2.28E-02
	467.22	5.60	4.26E-02		3.71E-02	2.12E-02
	625.08	3.45	3.64E-02		2.87E-04	1.81E-02
	647.78	5.70	2.27E-02		-1.33E-02	1.13E-02
	738.95	4.39	8.24E-03		3.64E-03	4.01E-03
	831.46	1.64	2.35E-02		-1.63E-02	1.14E-02
	876.09	3.45	1.26E-02		-6.33E-03	6.15E-03
	1160.72	1.12	3.37E-02		2.91E-02	1.63E-02
	1197.28	4.35	8.00E-03		-1.53E-03	3.85E-03
	1323.92	0.92	4.73E-02		9.94E-03	2.29E-02
	1654.00	0.65	4.16E-02		-9.44E-03	1.95E-02
	1682.19	1.19	2.19E-02		1.30E-02	1.02E-02
CE-141	145.44	48.30	3.85E-05	3.85E-05	1.34E-06	1.91E-05
BA-142	33.44	14.20	3.05E+00	2.95E-02	-2.87E+00	1.52E+00
	77.59	7.00	1.86E-01		5.58E-03	9.26E-02
	177.00	2.12	6.06E-01		-9.38E-01	3.02E-01
	231.61	12.20	1.25E-01		6.34E-02	6.21E-02
	255.30	20.70	7.37E-02		2.62E-02	3.67E-02
	286.30	1.11	1.50E+00		2.65E-01	7.49E-01
	309.20	2.60	6.65E-01		-3.38E-01	3.31E-01
	335.00	1.53	1.18E+00		7.34E-01	5.86E-01
	363.96	4.76	4.03E-01		5.50E-02	2.01E-01
	425.04	5.75	4.19E-01		3.10E-01	2.09E-01
	599.80	1.85	8.16E-01		-2.26E-01	4.05E-01
	840.40	3.63	1.28E-01		-1.22E-01	6.22E-02
	895.20	13.90	3.63E-02		-1.06E-02	1.77E-02
	949.10	10.70	5.02E-02		-1.59E-02	2.44E-02
	1001.20	9.80	6.22E-02		3.67E-02	3.04E-02
	1078.70	11.50	5.58E-02		1.07E-01	2.72E-02
	1094.10	2.82	1.82E-01		-7.83E-02	8.83E-02
	1126.80	1.50	3.41E-01		-6.61E-01	1.65E-01
	1202.40	5.60	7.46E-02		7.94E-02	3.59E-02
	1204.30	14.30	2.95E-02		1.19E-02	1.42E-02
	1380.20	3.42	1.12E-01		-3.00E-02	5.33E-02
CE-143	57.36	11.70	4.28E-04	6.74E-05	5.63E-05	2.13E-04
	231.55	2.05	1.63E-03		8.27E-04	8.10E-04
	293.27	42.80	6.74E-05		8.59E-06	3.36E-05
	350.62	3.23	8.41E-04		3.79E-04	4.19E-04
	490.37	2.16	2.28E-03		-4.19E-03	1.13E-03
	664.57	5.69	4.53E-03		7.60E-01	2.26E-03
	721.93	5.39	1.46E-04		2.67E-04	7.14E-05
	880.46	1.03	8.41E-04		4.63E-04	4.10E-04
CE-144	80.12	1.36	1.48E-03	1.64E-04	-1.22E-03	7.38E-04
	133.51	11.09	1.64E-04		-8.54E-05	8.15E-05
ND-147	38.17	13.20	2.06E-03	6.60E-05	2.51E-03	1.03E-03
	38.72	23.80	1.04E-03		7.81E-04	5.19E-04
	91.11	28.90	6.60E-05		1.06E-05	3.29E-05
	275.39	0.79	4.79E-03		2.06E-03	2.39E-03
	319.41	1.97	1.73E-03		-2.63E-03	8.63E-04
	398.13	0.87	4.32E-03		2.53E-03	2.15E-03
	439.88	1.20	3.74E-03		-2.22E-03	1.86E-03
	531.01	13.11	2.25E-04		7.29E-05	1.12E-04
	685.88	0.82	8.18E-04		2.52E-04	3.98E-04

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PR-147	36.85	19.70	3.14E-01	1.26E-02	1.11E-01	1.56E-01
	37.36	35.50	1.59E-01		1.73E-01	7.89E-02
	49.88	4.00	2.89E-01		-7.77E-02	1.44E-01
	77.97	9.70	3.91E-02		5.03E-03	1.95E-02
	86.69	5.40	6.67E-02		-6.66E-05	3.32E-02
	127.80	7.40	4.40E-02		3.11E-02	2.19E-02
	249.20	1.32	3.38E-01		1.09E-01	1.69E-01
	314.70	18.20	2.81E-02		2.51E-03	1.40E-02
	328.80	4.00	1.30E-01		1.58E-01	6.48E-02
	335.70	4.70	1.12E-01		2.61E-02	5.59E-02
	388.80	1.41	4.27E-01		-4.23E-01	2.12E-01
	466.80	1.70	4.96E-01		3.15E-01	2.47E-01
	477.90	4.60	1.69E-01		1.52E-01	8.41E-02
	516.70	1.30	4.41E-01		-5.71E-02	2.20E-01
	554.70	5.90	7.97E-02		-3.52E-02	3.96E-02
	577.90	13.70	3.27E-02		-6.61E-03	1.62E-02
	641.40	16.10	2.77E-02		8.94E-03	1.37E-02
	996.00	1.52	1.12E-01		1.35E-01	5.44E-02
	1136.70	1.42	1.01E-01		-2.38E-02	4.88E-02
	1261.10	8.40	1.26E-02		6.81E-03	6.00E-03
	1300.40	2.30	4.53E-02		-3.20E-02	2.16E-02
ND-149	38.17	9.00	6.35E-03	2.14E-04	7.72E-03	3.16E-03
	38.72	16.30	3.20E-03		2.40E-03	1.59E-03
	58.88	1.30	8.89E-03		-8.98E-04	4.43E-03
	74.32	2.11	2.87E-03		-9.90E-05	1.43E-03
	97.00	1.48	2.99E-03		4.68E-04	1.49E-03
	114.31	19.20	2.37E-04		-8.99E-05	1.18E-04
	155.87	5.95	8.85E-04		1.88E-04	4.41E-04
	188.64	1.79	5.48E-03		1.57E-02	2.73E-03
	198.93	1.39	5.31E-03		-5.00E-03	2.65E-03
	208.15	2.55	2.59E-03		-2.02E-03	1.29E-03
	211.31	26.00	2.14E-04		-3.72E-05	1.07E-04
	240.22	3.95	1.35E-03		3.84E-04	6.75E-04
	245.72	0.81	8.62E-03		7.02E-04	4.29E-03
	267.69	6.05	1.23E-03		-2.51E-04	6.11E-04
	270.17	10.80	5.35E-04		2.78E-04	2.66E-04
	326.55	4.57	1.72E-03		-9.66E-04	8.55E-04
	349.23	1.38	5.76E-03		-4.36E-03	2.87E-03
	423.55	7.50	1.16E-03		3.89E-04	5.77E-04
	443.55	1.15	1.01E-02		1.14E-03	5.02E-03
	540.51	6.60	1.02E-03		-3.66E-04	5.06E-04
	654.83	8.00	1.83E-03		-4.08E-04	9.12E-04
PM-149	285.95	3.10	8.98E-04	8.98E-04	6.52E-04	4.47E-04
PM-150	39.52	0.63	5.55E-02	6.95E-05	4.98E-02	2.76E-02
	40.12	1.14	2.79E-02		-1.69E-02	1.39E-02
	333.92	68.00	6.95E-05		-1.05E-05	3.46E-05
	406.51	5.60	1.02E-03		-4.65E-05	5.06E-04
	565.70	1.31	3.08E-03		-1.82E-03	1.53E-03
	587.02	1.34	3.01E-03		1.28E-03	1.49E-03
	612.25	0.93	4.41E-03		-5.57E-04	2.19E-03
	712.22	4.40	2.54E-04		-2.28E-04	1.24E-04
	737.50	2.25	5.07E-04		3.40E-04	2.47E-04
	831.85	11.90	1.03E-04		-3.12E-06	5.02E-05

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	859.95	3.40	3.81E-04	6.95E-05	1.07E-05	1.86E-04
	876.41	7.30	1.90E-04		9.52E-05	9.25E-05
	1165.77	15.80	1.41E-04		2.89E-05	6.91E-05
	1170.90	1.06	3.77E-03		4.03E-02	1.86E-03
	1193.87	4.80	2.32E-04		-5.89E-06	1.12E-04
	1213.72	1.03	1.05E-03		4.05E-05	5.05E-04
	1223.28	2.80	3.58E-04		-3.97E-05	1.71E-04
	1324.51	17.50	9.00E-05		2.57E-05	4.37E-05
	1379.32	3.10	3.26E-04		3.12E-04	1.56E-04
	1736.40	6.90	1.19E-04		-1.02E-05	5.54E-05
	1963.71	1.47	5.58E-04		2.61E-04	2.59E-04
	2033.46	0.97	8.99E-04		4.38E-04	4.18E-04
ND-151	38.17	5.94	1.19E+00	1.18E-02	1.45E+00	5.94E-01
	38.72	10.70	6.04E-01		4.52E-01	3.00E-01
	68.98	1.26	5.04E-01		-5.37E-01	2.51E-01
	85.12	2.05	2.60E-01		4.65E-02	1.29E-01
	89.96	1.53	3.31E-01		1.64E-01	1.65E-01
	116.80	39.00	1.18E-02		3.48E-03	5.89E-03
	138.89	7.00	6.84E-02		6.13E-03	3.41E-02
	170.76	2.87	1.86E-01		-2.40E-02	9.29E-02
	175.07	6.30	8.60E-02		2.01E-02	4.29E-02
	255.68	14.80	4.38E-02		1.63E-03	2.18E-02
	300.58	1.82	3.97E-01		-7.78E-02	1.98E-01
	423.56	5.90	1.72E-01		5.78E-02	8.57E-02
	460.59	0.96	1.24E+00		-1.20E-01	6.19E-01
	585.22	1.30	5.01E-01		1.78E-01	2.49E-01
	677.88	2.38	7.82E-02		-2.57E-02	3.81E-02
	736.23	5.90	3.11E-02		3.67E-02	1.51E-02
	739.20	1.52	1.23E-01		7.89E-02	5.98E-02
	755.57	1.17	1.62E-01		-8.88E-02	7.87E-02
	797.53	4.70	4.04E-02		-2.01E-03	1.96E-02
	1016.40	2.50	8.40E-02		-4.01E-02	4.07E-02
	1122.63	4.10	5.52E-02		2.56E-02	2.68E-02
	1180.89	13.30	4.00E-02		-1.29E-03	1.98E-02
Pm-151	167.75	8.30	2.80E-04	1.35E-04	2.26E-04	1.39E-04
	177.16	3.80	7.55E-04		-1.17E-03	3.76E-04
	240.09	3.80	7.51E-04		2.13E-04	3.74E-04
	275.21	6.80	4.23E-04		1.05E-04	2.11E-04
	340.08	22.50	1.35E-04		8.93E-05	6.73E-05
EU-152	121.78	28.53	8.59E-05	3.40E-05	1.21E-04	4.28E-05
	344.28	26.59	1.36E-04		-3.14E-05	6.78E-05
	778.90	12.93	7.26E-05		-4.27E-05	3.53E-05
	867.37	4.23	3.10E-04		1.43E-05	1.51E-04
	964.08	14.51	7.35E-05		2.92E-05	3.58E-05
	1085.87	10.11	9.60E-05		1.68E-04	4.69E-05
	1112.07	13.67	8.63E-05		1.32E-04	4.22E-05
	1408.01	20.87	3.40E-05		-3.83E-05	1.62E-05
ND-152	44.44	5.50	8.20E-01	4.26E-02	-2.92E-01	4.08E-01
	250.15	16.40	6.22E-02		7.56E-02	3.10E-02
	278.56	26.00	4.26E-02		7.12E-03	2.12E-02
	294.47	2.90	3.88E-01		-3.31E-02	1.93E-01
	545.70	0.83	1.36E+00		-1.32E-01	6.75E-01
	592.50	0.99	1.03E+00		1.42E-01	5.12E-01

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	GD-153	69.67		2.45	1.15E-03	6.08E-05	4.06E-04	5.74E-04
		97.43		30.00	6.08E-05		2.84E-05	3.03E-05
		103.18		22.10	8.12E-05		4.68E-05	4.04E-05
	SM-153	69.67		4.67	6.07E-04	6.21E-05	2.13E-04	3.02E-04
		103.18		29.14	6.21E-05		3.58E-05	3.09E-05
+	EU-154	42.70		20.45	6.63E-04	2.53E-05	4.14E-04	3.30E-04
		123.07	*	40.40	7.76E-05		6.31E-05	3.87E-05
		247.93		6.89	5.19E-04		1.69E-04	2.58E-04
		591.76		4.95	7.84E-04		-3.65E-04	3.89E-04
		692.42		1.78	1.08E-03		-4.95E-05	5.34E-04
		723.30	*	20.06	5.22E-05		2.97E-05	2.54E-05
		756.80		4.52	2.59E-04		1.74E-04	1.26E-04
		873.18	*	12.08	7.87E-05		6.14E-05	3.80E-05
		996.29		10.48	1.01E-04		5.17E-05	4.94E-05
		1004.76	*	18.01	5.95E-05		3.28E-05	2.90E-05
		1246.12		0.86	1.11E-03		1.89E-04	5.30E-04
		1274.43	*	34.80	2.53E-05		6.49E-05	1.22E-05
		1494.05		0.70	6.41E-04		-2.24E-04	3.00E-04
		1596.48		1.80	1.66E-04		-2.00E-05	7.82E-05
	EU-155	43.00		18.12	7.18E-04	6.52E-05	-3.80E-05	3.58E-04
		60.01		1.17	3.07E-03		-4.65E-04	1.53E-03
		86.55		30.70	6.52E-05		-6.51E-08	3.25E-05
		105.31		21.10	8.20E-05		-7.10E-05	4.08E-05
	EU-156	88.97		8.40	3.33E-04	7.60E-05	-2.37E-05	1.66E-04
		646.29		6.30	5.40E-04		8.30E-05	2.68E-04
		723.47		5.40	2.02E-04		4.00E-04	9.86E-05
		811.77		9.70	1.01E-04		7.73E-05	4.90E-05
		1065.14		4.90	2.37E-04		2.64E-04	1.15E-04
		1079.16		4.60	2.44E-04		2.80E-04	1.19E-04
		1153.80		11.50	7.60E-05		-5.82E-05	3.67E-05
		1230.71		8.00	1.03E-04		-4.82E-05	4.94E-05
		1242.42		6.60	1.12E-04		7.37E-05	5.39E-05
		1277.43		2.89	3.77E-04		1.03E-03	1.83E-04
		1366.41		1.57	5.89E-04		8.78E-04	2.85E-04
		1965.95		3.90	9.78E-05		-1.35E-05	4.52E-05
		2097.70		3.80	1.42E-04		-1.61E-05	6.61E-05
		2186.71		3.50	1.44E-04		-9.55E-05	6.65E-05
	Sm-156	87.60		24.00	9.50E-05	9.50E-05	4.32E-04	4.73E-05
		165.80		13.00	1.78E-04		-1.22E-04	8.85E-05
		204.00		21.00	1.38E-04		-8.21E-05	6.89E-05
	EU-158	42.31		5.80	1.28E-02	1.55E-04	1.85E-03	6.37E-03
		43.00		10.40	6.53E-03		-3.45E-04	3.25E-03
		79.49		10.50	1.01E-03		7.89E-04	5.04E-04
		181.97		2.30	5.10E-03		-8.35E-03	2.54E-03
		528.05		1.53	1.02E-02		-3.79E-03	5.07E-03
		606.39		4.00	3.32E-03		3.25E-03	1.65E-03
		743.02		3.60	1.03E-03		3.44E-04	4.99E-04
		897.61		12.40	3.56E-04		-3.84E-04	1.73E-04
		906.50		1.83	2.45E-03		4.07E-04	1.19E-03
		922.51		1.62	2.85E-03		-8.93E-04	1.39E-03
		944.15		30.00	1.55E-04		-5.79E-05	7.57E-05
		953.03		1.98	2.33E-03		3.81E-04	1.14E-03
		962.09		1.89	2.46E-03		1.57E-03	1.20E-03

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	977.14	16.30	2.71E-04	1.55E-04	-2.28E-05	1.32E-04
	986.96	1.35	3.32E-03		1.98E-03	1.62E-03
	1107.63	5.10	1.08E-03		2.20E-03	5.27E-04
	1184.10	3.00	1.22E-03		2.10E-04	5.89E-04
	1186.00	2.90	1.27E-03		9.67E-04	6.11E-04
	1187.10	4.40	8.28E-04		8.31E-04	3.99E-04
	1263.61	2.20	1.39E-03		9.63E-04	6.61E-04
	1347.95	1.65	1.72E-03		-7.30E-04	8.13E-04
	1944.47	1.62	1.66E-03		-3.53E-04	7.70E-04
TB-160	86.79	13.20	2.16E-04	3.38E-05	-2.15E-07	1.07E-04
	298.58	26.10	1.42E-04		-3.63E-05	7.07E-05
	879.38	30.10	3.38E-05		2.13E-05	1.65E-05
	962.32	9.81	1.02E-04		6.54E-05	4.99E-05
	966.17	25.10	3.87E-05		-3.93E-05	1.88E-05
	1177.96	14.90	1.40E-04		9.41E-06	6.95E-05
TB-161	25.65	23.20	3.22E-02	2.22E-04	4.26E-01	1.60E-02
	48.91	17.00	4.14E-04		-2.37E-04	2.06E-04
	52.00	3.43	1.61E-03		-7.47E-04	8.01E-04
	57.19	1.79	2.40E-03		3.16E-04	1.20E-03
	74.57	10.20	2.22E-04		-7.64E-06	1.10E-04
YB-169	63.12	43.62	1.19E-04	7.78E-05	4.82E-05	5.92E-05
	93.61	2.58	1.32E-03		1.81E-05	6.56E-04
	109.78	17.39	1.25E-04		-1.22E-04	6.23E-05
	130.52	11.38	2.36E-04		1.48E-04	1.17E-04
	177.21	22.28	1.22E-04		-1.89E-04	6.08E-05
	197.96	35.93	7.78E-05		2.96E-05	3.88E-05
	307.74	10.05	2.09E-04		-2.08E-05	1.04E-04
HF-172	54.07	63.00	7.55E-05	7.55E-05	2.33E-05	3.76E-05
	67.35	5.30	4.84E-04		4.71E-04	2.41E-04
	81.75	4.50	4.41E-04		1.10E-04	2.20E-04
	114.06	2.60	6.74E-04		-2.56E-04	3.36E-04
	122.92	1.14	1.59E-03		1.47E-03	7.93E-04
	125.81	11.30	1.62E-04		4.90E-05	8.05E-05
	127.91	1.46	1.24E-03		8.76E-04	6.17E-04
LU-173	59.30	24.44	1.51E-04	1.39E-04	3.50E-04	7.53E-05
	78.63	11.90	2.23E-04		4.93E-06	1.11E-04
	100.72	5.24	3.80E-04		-2.50E-05	1.89E-04
	171.39	2.90	7.95E-04		2.53E-04	3.96E-04
	272.11	21.20	1.39E-04		-9.87E-06	6.92E-05
LU-177	112.95	6.23	2.83E-04	2.43E-04	-8.39E-05	1.41E-04
	208.37	10.41	2.43E-04		-1.90E-04	1.21E-04
	249.67	0.20	1.25E-02		1.14E-02	6.24E-03
	321.32	0.22	1.31E-02		-8.43E-03	6.52E-03
HF-181	133.02	43.30	5.67E-05	5.50E-05	-6.19E-05	2.82E-05
	345.93	15.12	2.49E-04		1.57E-04	1.24E-04
	482.18	80.50	5.50E-05		-8.98E-05	2.74E-05
W-181	56.28	18.70	2.26E-04	1.27E-04	8.43E-05	1.12E-04
	57.53	32.00	1.27E-04		3.24E-06	6.30E-05
	65.00	10.60	2.63E-04		4.41E-05	1.31E-04
TA-182	57.98	10.01	3.95E-04	2.61E-05	-6.46E-05	1.97E-04
	59.32	17.20	2.15E-04		4.97E-04	1.07E-04
	65.72	3.01	1.71E-03		1.01E-03	8.53E-04
	67.75	46.67	7.56E-05		-4.68E-05	3.76E-05

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	84.68	2.65	1.06E-03	2.61E-05	3.20E-04	5.27E-04
	100.11	14.20	1.87E-04		2.93E-05	9.29E-05
	113.67	1.87	1.85E-03		-6.64E-04	9.22E-04
	116.42	0.44	3.97E-03		-6.39E-05	1.98E-03
	152.43	7.02	4.07E-04		-2.42E-05	2.03E-04
	156.39	2.67	1.10E-03		-4.48E-04	5.50E-04
	179.39	3.12	1.07E-03		-1.49E-03	5.31E-04
	198.35	1.47	3.13E-03		-1.26E-03	1.56E-03
	222.11	7.57	4.51E-04		2.31E-05	2.24E-04
	229.32	3.64	1.05E-03		-6.31E-04	5.25E-04
	264.08	3.61	9.79E-04		6.81E-05	4.88E-04
	928.00	0.61	2.06E-03		3.07E-03	1.00E-03
	959.73	0.35	3.55E-03		2.63E-03	1.73E-03
	1001.70	2.09	8.34E-04		8.11E-04	4.07E-04
	1044.42	0.24	5.40E-03		-1.70E-03	2.62E-03
	1113.41	0.44	3.30E-03		3.72E-03	1.61E-03
	1121.29	35.24	3.13E-05		1.84E-05	1.52E-05
	1157.30	0.73	8.85E-04		5.54E-04	4.27E-04
	1189.04	16.49	3.82E-05		-3.57E-05	1.84E-05
	1221.40	27.23	2.61E-05		-1.29E-05	1.25E-05
	1223.60	0.24	1.56E-03		-1.73E-04	7.47E-04
	1231.00	11.62	6.81E-05		-5.95E-05	3.26E-05
	1257.41	1.51	3.68E-04		-2.68E-04	1.75E-04
	1273.72	0.66	6.04E-04		1.41E-03	2.93E-04
	1289.15	1.37	1.33E-04		6.54E-05	6.35E-05
	1342.73	0.26	2.15E-03		-3.92E-04	1.03E-03
	1373.82	0.22	6.59E-04		1.53E-04	3.14E-04
Ta-183	84.71	1.35	1.52E-03	9.20E-05	4.61E-04	7.59E-04
	99.08	6.80	2.62E-04		-5.19E-05	1.30E-04
	107.93	11.20	1.56E-04		-6.21E-05	7.79E-05
	161.35	9.10	2.21E-04		-8.71E-05	1.10E-04
	162.32	5.00	4.04E-04		-1.05E-04	2.01E-04
	244.26	8.80	2.84E-04		-1.38E-04	1.41E-04
	246.06	27.20	9.20E-05		3.28E-05	4.58E-05
	353.99	11.60	2.66E-04		9.63E-05	1.33E-04
Re-184	111.21	17.20	1.01E-04	1.91E-05	1.99E-05	5.04E-05
	252.85	3.00	8.27E-04		2.51E-05	4.12E-04
	792.01	37.70	1.91E-05		1.43E-05	9.27E-06
	894.76	15.70	5.23E-05		-2.93E-05	2.55E-05
	903.28	38.10	2.27E-05		1.70E-05	1.11E-05
W-185	59.72	0.01	3.05E-01	9.52E-02	8.43E-01	1.52E-01
	61.14	0.02	1.67E-01		1.09E-02	8.33E-02
	69.20	0.01	3.70E-01		-2.02E-01	1.84E-01
	125.36	0.02	9.52E-02		1.99E-02	4.74E-02
W-187	61.14	14.30	2.52E-04	2.12E-05	1.64E-05	1.25E-04
	69.20	4.82	5.56E-04		-3.03E-04	2.77E-04
	72.00	13.55	2.74E-04		1.98E-04	1.37E-04
	134.25	10.36	2.60E-04		-1.21E-04	1.30E-04
	479.53	26.60	2.00E-04		1.09E-04	9.97E-05
	618.37	7.57	3.48E-04		-2.15E-05	1.73E-04
	685.81	33.20	2.12E-05		6.52E-06	1.03E-05
Ir-188	155.05	29.60	6.87E-05	3.17E-05	3.38E-06	3.42E-05
	478.00	14.70	3.03E-04		2.72E-04	1.51E-04

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Ir-188	633.02	17.90	1.39E-04	3.17E-05	-4.69E-05	6.90E-05
	634.97	5.00	5.01E-04		4.29E-04	2.49E-04
	829.42	5.10	1.53E-04		-1.51E-04	7.44E-05
	1209.77	6.90	1.01E-04		-3.57E-05	4.84E-05
	1715.67	6.20	8.52E-05		7.24E-05	3.98E-05
	2214.59	18.60	3.17E-05		-8.05E-05	1.47E-05
W-188	227.07	0.23	1.05E-02	6.58E-03	1.01E-02	5.25E-03
	290.68	0.42	6.58E-03		-2.54E-03	3.28E-03
Ir-189	245.08	6.00	4.14E-04	4.14E-04	-9.46E-05	2.06E-04
Ir-190	186.68	50.00	4.95E-05	4.95E-05	1.03E-04	2.46E-05
	361.09	12.30	2.52E-04		-1.87E-04	1.26E-04
	371.24	21.60	1.48E-04		-5.63E-05	7.38E-05
	407.22	27.00	1.31E-04		-1.44E-04	6.53E-05
	518.55	32.20	9.82E-05		5.43E-05	4.89E-05
	557.95	28.50	9.07E-05		9.97E-06	4.51E-05
	569.30	27.00	9.21E-05		-1.95E-05	4.57E-05
	605.14	37.80	6.74E-05		-3.03E-05	3.35E-05
OS-191	63.29	15.70	1.95E-04	6.85E-05	6.16E-05	9.68E-05
	64.99	26.70	1.05E-04		1.76E-05	5.21E-05
	73.45	9.21	2.50E-04		1.18E-04	1.24E-04
	129.43	26.50	6.85E-05		4.89E-05	3.41E-05
Pt-191	359.90	5.80	6.58E-04	2.18E-04	3.67E-04	3.28E-04
	456.47	3.30	1.51E-03		7.30E-04	7.54E-04
	538.90	14.30	2.18E-04		1.42E-04	1.08E-04
IR-192	205.79	3.31	1.03E-03	4.99E-05	-4.74E-04	5.13E-04
	295.96	28.71	1.68E-04		-3.23E-05	8.35E-05
	308.45	29.70	1.59E-04		-5.05E-05	7.90E-05
	316.51	82.86	4.99E-05		-1.41E-05	2.49E-05
	468.07	47.84	1.30E-04		1.28E-04	6.50E-05
	588.58	4.52	9.24E-04		6.77E-04	4.59E-04
	604.41	8.22	2.44E-04		-6.07E-05	1.21E-04
	612.46	5.34	2.91E-04		2.10E-04	1.44E-04
IR-192m	155.16	0.09	2.14E-02	2.14E-02	-1.78E-02	1.07E-02
IR-193m	80.22	0.00	4.33E-01	4.33E-01	-3.56E-01	2.16E-01
Pt-193m	135.50	0.11	1.61E-02	1.61E-02	7.18E-03	8.01E-03
Au-194	293.55	10.90	2.60E-04	4.76E-05	3.31E-05	1.29E-04
	328.47	62.80	4.76E-05		9.42E-05	2.37E-05
	364.84	1.60	2.02E-03		-1.72E-05	1.01E-03
	528.77	1.78	1.74E-03		8.00E-04	8.64E-04
	645.16	2.32	1.12E-03		5.46E-04	5.56E-04
	948.32	2.29	3.92E-04		-3.81E-04	1.91E-04
	1104.06	2.15	4.87E-04		-2.42E-04	2.37E-04
	1175.36	2.14	1.20E-03		1.32E-02	5.92E-04
	1468.90	6.80	1.22E-04		-4.06E-05	5.87E-05
	1595.81	1.89	3.08E-04		2.40E-05	1.45E-04
	2043.72	3.74	1.44E-04		-3.53E-05	6.66E-05
Ir-194	293.54	2.50	1.17E-03	2.36E-04	1.49E-04	5.83E-04
	328.47	13.10	2.36E-04		4.67E-04	1.18E-04
AU-195	98.86	11.21	1.57E-04	1.57E-04	-4.29E-05	7.83E-05
	129.74	0.84	2.16E-03		1.14E-03	1.07E-03
Pt-195m	98.90	11.70	1.53E-04	1.53E-04	-4.16E-05	7.61E-05
	129.79	2.90	6.33E-04		3.34E-04	3.15E-04
Au-196	333.03	22.90	2.05E-04	4.34E-05	-1.62E-04	1.02E-04

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Au-196	355.73	87.00	4.34E-05	4.34E-05	4.02E-05	2.16E-05
	426.10	6.60	6.00E-04		7.33E-05	2.99E-04
Au-196m	147.81	43.50	4.91E-05	4.91E-05	7.56E-06	2.44E-05
	188.27	30.00	9.60E-05		2.88E-04	4.79E-05
Pt-197	77.35	17.00	1.33E-04	1.33E-04	-6.85E-06	6.64E-05
	191.44	3.70	7.39E-04		6.93E-04	3.68E-04
AU-198	411.80	95.62	3.96E-05	3.96E-05	1.18E-05	1.97E-05
AU-199	158.38	40.00	5.06E-05	5.06E-05	3.63E-05	2.52E-05
	208.20	8.72	2.93E-04		-2.29E-04	1.46E-04
TL-201	135.34	2.61	7.11E-04	2.06E-04	-2.53E-04	3.54E-04
	167.43	10.00	2.06E-04		-1.05E-04	1.02E-04
TL-202	439.51	91.50	4.54E-05	4.54E-05	9.96E-06	2.26E-05
PB-203	70.83	26.40	9.44E-05	3.99E-05	4.37E-05	4.70E-05
	72.87	44.20	5.40E-05		1.44E-05	2.69E-05
	82.40	15.56	1.30E-04		1.93E-05	6.45E-05
	279.20	80.90	3.99E-05		3.39E-05	1.99E-05
	401.32	3.35	1.62E-03		9.00E-04	8.09E-04
PB-210	46.54	4.25	2.06E-03	2.06E-03	-3.72E-04	1.02E-03
Pa-233	86.60	2.01	1.17E-03	7.44E-05	-1.17E-06	5.82E-04
	94.65	8.90	2.04E-04		-2.49E-05	1.01E-04
	98.43	14.20	1.25E-04		1.01E-04	6.20E-05
	300.13	6.54	4.27E-04		7.88E-05	2.13E-04
	311.90	38.20	7.44E-05		3.36E-05	3.71E-05
	340.48	4.44	6.77E-04		6.03E-04	3.37E-04
U-235	89.96	2.90	6.67E-04	4.24E-05	3.30E-04	3.32E-04
	93.35	4.70	3.71E-04		-1.08E-04	1.85E-04
	109.19	1.64	1.06E-03		-1.01E-04	5.27E-04
	143.76	10.93	1.69E-04		-2.45E-04	8.39E-05
	163.36	5.07	3.95E-04		-9.45E-05	1.97E-04
	185.71	57.20	4.24E-05		9.85E-05	2.11E-05
	202.11	1.07	2.38E-03		1.41E-03	1.18E-03
	205.31	5.03	5.02E-04		-3.02E-04	2.50E-04
NP-237	86.48	12.20	1.64E-04	1.64E-04	-1.64E-07	8.18E-05
U-237	59.54	34.50	1.15E-04	7.21E-05	2.67E-04	5.75E-05
	97.07	15.40	1.17E-04		1.83E-05	5.82E-05
	101.06	24.50	7.21E-05		-8.50E-06	3.59E-05
	113.30	3.07	5.74E-04		-3.68E-04	2.86E-04
	114.23	5.81	3.04E-04		-1.15E-04	1.51E-04
	117.46	2.27	7.85E-04		1.65E-04	3.91E-04
	208.00	21.20	1.27E-04		-7.06E-05	6.30E-05
NP-238	103.37	0.00	3.74E-01	3.38E-05	-9.61E-02	1.86E-01
	882.63	0.80	1.04E-03		1.26E-03	5.08E-04
	923.99	2.60	3.57E-04		2.75E-04	1.74E-04
	984.45	25.20	3.38E-05		-3.15E-05	1.64E-05
	1025.87	8.75	9.81E-05		-6.72E-06	4.76E-05
	1028.53	18.23	4.70E-05		2.99E-05	2.28E-05
U-238	63.29	3.70	8.22E-04	4.19E-04	2.61E-04	4.09E-04
	92.51	4.23	4.19E-04		2.19E-04	2.08E-04
	112.81	0.21	8.31E-03		-5.86E-04	4.14E-03
	742.81	0.11	6.61E-03		-4.96E-04	3.21E-03
	766.42	0.32	2.33E-03		1.48E-03	1.14E-03
	1001.03	0.84	1.18E-03		6.94E-04	5.74E-04
Am-239	181.71	1.08	2.31E-03	2.00E-04	-5.02E-03	1.15E-03

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Am-239	209.80		3.50	7.98E-04	2.00E-04	-3.13E-04	3.98E-04
		226.40		3.30	8.37E-04		-3.96E-04	4.17E-04
		228.10		11.30	2.44E-04		4.77E-06	1.22E-04
		277.60		15.00	2.00E-04		-1.00E-04	9.98E-05
	NP-239	61.46		1.30	2.65E-03	7.73E-05	4.03E-04	1.32E-03
		99.53		12.90	1.40E-04		7.03E-05	6.95E-05
		103.37		20.50	8.67E-05		-2.23E-05	4.32E-05
		106.12		25.34	7.73E-05		7.16E-05	3.85E-05
		209.75		3.36	8.05E-04		-3.16E-04	4.01E-04
		228.18		11.24	2.39E-04		-1.15E-04	1.19E-04
		277.60		14.51	2.08E-04		-1.04E-04	1.04E-04
		285.46		0.79	4.25E-03		1.48E-03	2.12E-03
		315.88		1.60	1.62E-03		1.45E-03	8.05E-04
		334.31		2.06	1.07E-03		-7.69E-04	5.34E-04
	PU-239	38.66		0.01	2.39E+00	2.07E-01	1.79E+00	1.19E+00
		51.62		0.03	2.07E-01		-1.30E-01	1.03E-01
		98.50		0.01	2.43E-01		1.98E-01	1.21E-01
		111.03		0.00	1.31E+00		-4.08E-01	6.50E-01
		129.30		0.01	2.86E-01		3.84E-02	1.43E-01
		171.39		0.00	1.86E+01		5.92E+00	9.27E+00
		203.55		0.00	4.45E+00		1.94E+00	2.22E+00
		332.85		0.00	5.89E+00		-2.50E+00	2.94E+00
		336.11		0.00	2.62E+01		1.62E+01	1.30E+01
		345.01		0.00	5.36E+00		-2.58E-01	2.67E+00
		375.05		0.00	2.06E+00		-1.83E+00	1.02E+00
		380.19		0.00	1.06E+01		-4.27E-01	5.29E+00
		382.75		0.00	1.26E+01		-1.30E+01	6.26E+00
		413.71		0.00	2.55E+00		8.38E-01	1.27E+00
		422.60		0.00	3.17E+01		3.08E+01	1.58E+01
		451.48		0.00	2.29E+01		-2.96E+01	1.14E+01
	Am-240	99.53		18.40	9.82E-05	1.24E-05	4.94E-05	4.89E-05
		103.37		29.20	6.10E-05		-1.57E-05	3.04E-05
		117.23		6.93	2.62E-04		5.50E-05	1.30E-04
		888.85		24.70	3.48E-05		1.34E-05	1.70E-05
		987.79		72.20	1.24E-05		-7.32E-06	6.01E-06
	Np-240m	554.60		20.90	1.37E-04	1.37E-04	-6.05E-05	6.81E-05
		597.40		11.70	2.33E-04		-1.48E-05	1.15E-04
	U-240	44.10		1.05	1.19E-02	1.16E-02	3.76E-03	5.94E-03
		66.50		0.15	1.87E-02		-1.63E-02	9.33E-03
		169.20		0.12	1.94E-02		1.00E-02	9.66E-03
		189.70		0.24	1.16E-02		9.24E-03	5.80E-03
+	AM-241	59.54	*	35.90	1.31E-04	1.31E-04	2.53E-04	6.55E-05
	AM-242m	49.35		0.13	5.00E-02	5.00E-02	-4.32E-02	2.49E-02
		66.89		0.01	1.75E-01		8.33E-02	8.70E-02
		86.65		0.02	8.77E-02		-8.76E-05	4.37E-02
		163.25		0.02	1.31E-01		-3.13E-02	6.52E-02
+	AM-243	43.53		5.90	2.07E-03	2.76E-05	9.38E-04	1.03E-03
		74.66	*	67.20	2.76E-05		9.15E-06	1.37E-05

Analysis Report for 24-2495 TI185-3.5M-AP-105A F0

ASR 2094 Branch

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

Apex-Gamma

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2496 TI185-3.5M-AP105d-A F0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 9:58:41AM
Procedure	: F0_gsv02mlw
Operator	: Administrator
Detector Name	: F
Geometry	: F0_gsv02mlw
Live Time	: 900.0 seconds
Real Time	: 905.7 seconds
Dead Time	: 0.63 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: F0_gsv2mlw_R717
Sample Number	: 578921
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 10:13:52AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.64	167.11	0.3083	4.61
2	87.68	245.76	0.2507	6.08
3	256.11	716.35	0.3730	3.19
4	366.96	1025.87	0.3267	3.09
5	414.92	1160.36	0.2481	5.62
6	661.88	1850.40	0.0377	176.79
7	666.57	1864.48	0.2454	6.53
8	695.29	1943.75	0.1772	7.23
9	723.38	2021.99	0.3141	3.08
10	1081.25	3022.32	0.2620	3.51
11	1110.46	3103.47	0.2533	3.72
12	1173.78	3280.90	0.1418	10.28
13	1333.03	3725.77	0.1416	9.30

? = Adjacent peak noted
Errors quoted at 1.000sigma

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ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 10:13:53AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.64	162 -	174	167.20	2.42E+02	38.33	2.00E+03	1.09
F	2	87.68	241 -	250	245.60	4.40E+02	42.22	1.53E+03	1.37
	3	256.11	713 -	720	716.35	3.12E+01	60.01	1.18E+03	0.51
F	4	366.96	1022 -	1032	1026.14	1.70E+02	39.77	1.39E+03	1.90
F	5	414.92	1150 -	1165	1160.19	2.10E+02	64.86	2.62E+03	0.71
M	6	661.88	1841 -	1870	1850.36	1.12E+05	437.79	5.32E+02	1.83
m	7	666.57	1841 -	1870	1863.47	2.41E+02	17.19	5.78E+01	1.83
F	8	695.29	1935 -	1951	1943.74	2.64E+02	20.51	3.38E+01	2.00
F	9	723.38	2012 -	2027	2022.23	2.89E+01	21.20	4.77E+01	1.00
F	10	1081.25	3014 -	3028	3022.30	5.49E+01	27.89	1.12E+01	2.01
F	11	1110.46	3097 -	3109	3103.91	4.42E+01	7.68	1.91E+01	1.90
F	12	1173.78	3271 -	3291	3280.85	5.00E+02	21.30	1.45E+01	2.30
F	13	1333.03	3715 -	3736	3725.84	4.59E+02	38.82	1.66E+01	2.48

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 10:13:52AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578890.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.64	2.42E+02	38.33	2.05E+00	2.99E-01	2.40E+02	3.83E+01
F	2	87.68	4.40E+02	42.22	7.99E+00	4.61E-01	4.32E+02	4.22E+01
	3	256.11	3.12E+01	60.01			3.12E+01	6.00E+01

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 4	366.96	1.70E+02	39.77			1.70E+02	3.98E+01
F 5	414.92	2.10E+02	64.86			2.10E+02	6.49E+01
M 6	661.88	1.12E+05	437.79			1.12E+05	4.38E+02
m 7	666.57	2.41E+02	17.19			2.41E+02	1.72E+01
F 8	695.29	2.64E+02	20.51			2.64E+02	2.05E+01
F 9	723.38	2.89E+01	21.20			2.89E+01	2.12E+01
F 10	1081.25	5.49E+01	27.89			5.49E+01	2.79E+01
F 11	1110.46	4.42E+01	7.68			4.42E+01	7.68E+00
F 12	1173.78	5.00E+02	21.30			5.00E+02	2.13E+01
F 13	1333.03	4.59E+02	38.82			4.59E+02	3.88E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.95	1173.23	*	99.85	3.32E-04	1.43E-05	0.786
		1332.49	*	99.98	3.34E-04	2.83E-05	0.777
CD-109	0.98	88.03	*	3.64	1.93E-03	1.89E-04	free
Te-129m	0.94	695.88	*	3.00	3.29E-03	7.07E-04	free
CS-137	0.99	661.66	*	85.10	4.78E-02	3.46E-04	miss
AM-241	0.99	59.54	*	35.90	2.14E-04	3.44E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

INTERFERENCE CORRECTED REPORT

Nuclide Name	***Nuclide Id Confidence***	***Wt mean Activity (µCi/sample)***	***Wt mean Activity Uncertainty***	***Comments***
CO-60	0.953	3.32E-04	1.27E-05	
CD-109	0.981	1.93E-03	1.89E-04	
Te-129m	0.946	3.29E-03	7.07E-04	
CS-137	0.992	4.78E-02	3.46E-04	
AM-241	0.999	2.14E-04	3.44E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 10:13:52AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	3	256.11	3.46756E-02	192.28	Tol.	SN-113
F	4	366.96	1.88890E-01	23.39	Tol.	NI-65 MO-99
F	5	414.92	2.33035E-01	30.93	Tol.	RH-102M
m	7	666.57	2.67734E-01	7.13		
F	9	723.38	3.21219E-02	73.34	Tol.	ZR-95 AG-108M I-131 EU-156
F	10	1081.25	6.09572E-02	50.83		
F	11	1110.46	4.90912E-02	17.38		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.60	10.44	9.78E-04	9.78E-04	8.27E-04	4.85E-04
NA-22	511.00	179.91	4.31E-05	4.06E-05	3.88E-05	2.13E-05
	1274.54	99.94	4.06E-05		5.37E-05	1.89E-05

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
NA-24	1368.63	99.99	2.46E-05	1.63E-05	-3.87E-06	1.13E-05
	2754.01	99.87	1.63E-05		4.55E-06	6.11E-06
AL-26	1129.67	2.50	7.99E-04	1.32E-05	2.93E-04	3.70E-04
	1808.65	99.76	1.32E-05		8.39E-06	5.63E-06
K-40	1460.82	10.66	1.95E-04	1.95E-04	1.38E-04	8.97E-05
K-42	312.60	0.34	2.31E-02	7.37E-05	2.23E-03	1.14E-02
	1524.60	18.08	7.37E-05		3.32E-06	3.13E-05
Sc-44	1157.02	99.90	2.86E-05	2.86E-05	7.44E-06	1.31E-05
	1499.46	0.91	2.74E-03		-2.13E-03	1.20E-03
Sc-44m	271.24	86.74	7.52E-05	7.52E-05	1.02E-04	3.73E-05
	1001.83	1.20	3.41E-03		2.48E-03	1.61E-03
	1126.06	1.20	2.97E-03		7.83E-05	1.38E-03
	1157.00	1.20	2.42E-03		6.29E-04	1.11E-03
TI-44	67.87	93.00	7.85E-05	5.96E-05	-9.20E-06	3.88E-05
	78.32	96.40	5.96E-05		-3.99E-05	2.95E-05
SC-46	889.28	99.98	2.56E-05	2.56E-05	2.68E-05	1.20E-05
	1120.55	99.99	2.94E-05		3.73E-06	1.38E-05
CA-47	489.23	5.90	1.98E-03	2.42E-05	1.31E-03	9.83E-04
	807.86	5.90	3.94E-04		-3.55E-04	1.84E-04
	1297.09	67.00	2.42E-05		1.72E-05	1.10E-05
SC-47	159.38	68.30	6.97E-05	6.97E-05	3.41E-05	3.45E-05
SC-48	175.36	7.47	6.87E-04	1.47E-05	2.48E-04	3.40E-04
	983.53	100.00	2.04E-05		4.90E-06	9.54E-06
	1037.52	97.50	2.21E-05		-2.60E-06	1.03E-05
	1312.12	100.00	1.47E-05		-4.87E-06	6.55E-06
V-48	944.13	7.87	3.37E-04	1.88E-05	8.79E-05	1.59E-04
	983.53	99.98	2.50E-05		6.00E-06	1.17E-05
	1312.11	98.20	1.88E-05		-6.23E-06	8.39E-06
	2240.40	2.33	7.62E-04		-7.55E-04	3.19E-04
CR-51	320.08	9.91	6.76E-04	6.76E-04	-3.28E-04	3.35E-04
Fe-52	168.69	99.20	6.27E-05	6.27E-05	1.26E-05	3.10E-05
	377.75	1.64	6.01E-03		-3.24E-04	2.98E-03
Mn-52	744.23	90.00	2.93E-05	2.15E-05	-7.49E-06	1.37E-05
	848.18	3.32	8.36E-04		1.30E-05	3.90E-04
	935.54	94.50	3.64E-05		2.70E-05	1.71E-05
	1246.28	4.21	6.08E-04		-5.80E-04	2.75E-04
	1333.65	5.07	1.84E-03		8.01E-03	8.94E-04
	1434.09	100.00	2.15E-05		1.55E-05	9.34E-06
MN-54	834.85	99.98	1.89E-05	1.89E-05	-8.00E-06	8.87E-06
Co-55	411.50	1.07	9.06E-03	2.96E-05	-1.01E-05	4.49E-03
	477.20	20.20	5.74E-04		6.10E-04	2.85E-04
	803.70	1.87	1.07E-03		1.00E-03	5.04E-04
	931.10	75.00	2.96E-05		-7.65E-06	1.39E-05
	1316.60	7.10	2.55E-04		-1.26E-04	1.16E-04
	1370.00	2.90	6.32E-04		-1.84E-03	2.86E-04
	1408.50	16.90	1.03E-04		5.15E-05	4.64E-05
Co-56	846.77	99.94	2.24E-05	2.24E-05	5.82E-06	1.04E-05
	977.37	1.42	2.18E-03		-4.99E-04	1.02E-03
	1037.84	14.05	2.10E-04		7.17E-05	9.82E-05
	1175.10	2.25	4.15E-03		1.81E-02	2.02E-03
	1238.29	66.46	3.66E-05		-4.10E-06	1.67E-05
	1360.21	4.28	6.17E-04		5.92E-04	2.84E-04
	1771.36	15.41	1.81E-04		1.22E-04	8.21E-05

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Co-56	2015.20		3.02	6.76E-04	2.24E-05	4.89E-04	2.94E-04
		2034.79		7.77	2.33E-04		1.34E-04	9.85E-05
		2598.50		16.97	6.88E-05		1.48E-05	2.44E-05
	MN-56	846.76		98.85	4.29E-05	4.29E-05	1.12E-05	2.00E-05
		1810.73		26.90	1.25E-04		-1.05E-04	5.18E-05
		2113.09		14.20	3.79E-04		1.44E-04	1.67E-04
	Ni-56	158.38		98.80	4.73E-05	1.99E-05	-3.20E-05	2.34E-05
		269.50		36.50	1.61E-04		-1.30E-04	7.97E-05
		480.44		36.50	2.66E-04		-3.18E-04	1.32E-04
		749.50		49.50	3.40E-05		8.51E-06	1.59E-05
		811.85		86.00	1.99E-05		-9.38E-06	9.29E-06
		1561.80		14.00	7.21E-05		-6.59E-05	2.99E-05
	CO-57	122.06		85.60	4.97E-05	4.97E-05	-8.96E-06	2.46E-05
		136.47		10.68	4.02E-04		-7.32E-05	1.99E-04
	NI-57	127.16		16.70	2.72E-04	1.95E-05	-3.44E-04	1.35E-04
		1377.63		81.70	1.95E-05		1.88E-05	8.72E-06
		1757.55		5.75	2.96E-04		1.48E-04	1.31E-04
		1919.52		12.30	1.18E-04		7.55E-05	5.07E-05
	CO-58	810.76		99.45	1.89E-05	1.89E-05	-8.79E-06	8.85E-06
		863.96		0.69	3.51E-03		-5.66E-03	1.64E-03
		1674.73		0.52	1.72E-03		8.69E-04	7.15E-04
	FE-59	142.65		1.02	4.23E-03	3.56E-05	-4.30E-03	2.10E-03
		192.34		3.08	2.52E-03		-1.21E-03	1.25E-03
		1099.24		56.50	3.80E-05		2.79E-05	1.78E-05
		1291.59		43.20	3.56E-05		1.15E-05	1.61E-05
+	CO-60	1173.23	*	99.85	2.20E-05	2.20E-05	3.32E-04	1.01E-05
		1332.49	*	99.98	2.69E-05		3.34E-04	1.24E-05
	CU-64	511.00		35.00	2.62E-04	2.62E-04	2.36E-04	1.30E-04
		1345.77		0.47	3.77E-03		3.71E-03	1.69E-03
	NI-65	366.27		4.81	4.59E-03	1.40E-04	4.67E-04	2.27E-03
		1115.53		15.43	4.51E-04		5.34E-05	2.14E-04
		1481.84		23.59	1.40E-04		4.22E-05	6.21E-05
	ZN-65	1115.54		50.04	5.40E-05	5.40E-05	6.39E-06	2.56E-05
	GA-66	511.00		114.00	8.53E-05	6.15E-05	7.69E-05	4.22E-05
		833.53		5.90	4.01E-04		2.37E-04	1.88E-04
		1039.22		37.00	7.13E-05		5.89E-05	3.34E-05
		1333.11		1.17	6.45E-03		2.89E-02	3.14E-03
		1918.33		1.99	8.64E-04		-9.18E-05	3.70E-04
		2189.62		5.30	3.21E-04		1.73E-04	1.34E-04
		2751.83		22.70	6.15E-05		-4.76E-05	2.30E-05
	CU-67	91.27		7.00	6.45E-04	1.18E-04	4.13E-04	3.20E-04
		93.31		16.10	2.62E-04		9.63E-05	1.30E-04
		184.58		48.70	1.18E-04		-1.74E-05	5.84E-05
		300.22		0.80	8.33E-03		2.81E-04	4.13E-03
		393.53		0.22	3.69E-02		-2.04E-02	1.83E-02
	GA-67	91.26		3.11	1.69E-03	1.16E-04	1.08E-03	8.37E-04
		93.31		38.81	1.16E-04		4.28E-05	5.75E-05
		184.58		21.41	2.69E-04		-3.97E-05	1.34E-04
		208.95		2.46	3.42E-03		-9.47E-04	1.70E-03
		300.22		16.64	4.51E-04		1.52E-05	2.23E-04
		393.53		4.56	1.11E-03		-6.10E-04	5.48E-04
	ZN-69m	438.63		94.85	1.17E-04	1.17E-04	-1.43E-05	5.82E-05
	GA-72	629.97		26.13	4.10E-04	2.97E-05	-4.06E-04	2.02E-04

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
GA-72	834.13	95.45	2.97E-05	2.97E-05	2.45E-05	1.39E-05
	894.33	10.14	3.68E-04		1.34E-04	1.73E-04
	1050.79	6.99	5.25E-04		-4.16E-04	2.43E-04
	2201.59	26.87	9.38E-05		6.53E-05	4.06E-05
	2491.03	7.73	1.73E-04		-4.56E-05	6.48E-05
	2507.72	13.33	3.44E-04		2.69E-04	1.57E-04
Zn-72	144.70	82.78	5.49E-05	5.49E-05	1.75E-05	2.72E-05
	191.50	9.35	6.73E-04		6.36E-04	3.34E-04
SE-75	121.12	17.20	3.40E-04	1.01E-04	4.84E-04	1.68E-04
	136.00	58.50	1.01E-04		1.06E-05	4.98E-05
	264.66	58.90	1.32E-04		-2.03E-04	6.54E-05
	279.54	25.02	3.07E-04		-3.38E-04	1.52E-04
	400.66	11.41	2.46E-04		1.81E-04	1.22E-04
BR-83	529.59	1.30	1.32E-02	1.32E-02	-2.06E-03	6.53E-03
BR-84	604.80	1.70	1.99E-01	2.45E-03	1.86E-02	9.82E-02
	736.50	1.29	6.60E-02		-9.76E-03	3.06E-02
	802.20	6.00	1.65E-02		-2.10E-02	7.71E-03
	881.60	42.00	2.45E-03		-3.11E-03	1.15E-03
	987.30	0.79	1.43E-01		-6.08E-02	6.68E-02
	1015.90	6.20	1.84E-02		4.68E-03	8.61E-03
	1213.30	2.60	3.59E-02		-1.96E-02	1.63E-02
	1463.80	2.00	6.19E-02		8.70E-02	2.86E-02
	1741.20	1.60	3.46E-02		-4.29E-02	1.40E-02
	1877.50	1.12	7.22E-02		-5.24E-02	3.11E-02
	1897.60	14.60	6.11E-03		1.43E-04	2.67E-03
	2029.60	2.10	3.82E-02		-2.10E-03	1.62E-02
	2200.70	1.16	8.22E-02		5.72E-02	3.56E-02
	2484.10	6.70	5.86E-03		-1.55E-02	1.85E-03
	2824.10	1.12	4.07E-02		5.53E-03	1.29E-02
KR-85m	151.20	75.20	9.42E-05	9.42E-05	4.10E-05	4.67E-05
	304.87	14.00	7.44E-04		8.40E-06	3.69E-04
Y-87	388.53	82.20	9.65E-05	9.65E-05	-9.92E-06	4.78E-05
	484.80	89.80	1.03E-04		-3.70E-05	5.12E-05
KR-88	165.98	3.10	5.40E-03	6.55E-05	2.86E-03	2.68E-03
	196.30	26.00	6.10E-04		2.38E-04	3.02E-04
	362.23	2.25	5.94E-03		3.26E-03	2.94E-03
	471.80	0.73	3.90E-02		5.17E-02	1.94E-02
	834.83	13.00	3.79E-04		-1.60E-04	1.78E-04
	985.78	1.31	4.62E-03		-1.97E-03	2.16E-03
	1141.33	1.28	3.52E-03		1.88E-03	1.63E-03
	1179.51	1.00	1.66E-02		2.43E-03	8.08E-03
	1250.67	1.12	3.59E-03		-7.27E-04	1.61E-03
	1369.50	1.48	3.35E-03		-1.98E-03	1.53E-03
	1518.39	2.15	1.63E-03		-1.80E-03	7.01E-04
	1529.77	10.90	2.90E-04		-3.85E-05	1.23E-04
	2029.84	4.53	1.03E-03		6.25E-04	4.38E-04
	2035.41	3.74	1.03E-03		5.94E-04	4.37E-04
	2195.84	13.20	2.26E-04		-3.54E-04	8.98E-05
	2231.77	3.39	7.41E-04		-6.29E-04	3.13E-04
	2352.08	0.73	3.56E-03		9.91E-04	1.33E-03
	2392.11	34.60	6.55E-05		2.50E-05	2.60E-05
RB-88	898.03	14.40	3.78E-04	1.62E-04	-2.82E-04	1.78E-04
	1382.45	0.78	5.24E-03		3.30E-03	2.36E-03

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
RB-88	1836.00	22.81	1.62E-04	1.62E-04	1.50E-05	7.02E-05
	2677.89	2.13	1.30E-03		3.62E-04	4.86E-04
Y-88	898.04	93.70	2.69E-05	1.85E-05	-2.01E-05	1.27E-05
	1836.06	99.20	1.85E-05		1.70E-06	7.99E-06
RB-89	272.42	1.53	1.84E+01	1.41E-01	1.21E+01	9.14E+00
	657.77	10.80	2.34E+01		-2.28E+00	1.17E+01
	947.73	10.00	9.62E-01		2.66E-01	4.53E-01
	1031.92	63.00	1.41E-01		-4.39E-03	6.61E-02
	1248.14	46.00	1.44E-01		1.48E-01	6.49E-02
	1538.07	2.77	2.08E+00		1.50E+00	9.04E-01
	2007.50	2.58	2.79E+00		2.10E+00	1.22E+00
	2195.92	14.50	3.30E-01		-5.17E-01	1.31E-01
	2570.20	10.70	2.94E-01		-2.20E-01	9.30E-02
	2707.26	2.20	1.92E+00		4.13E-01	6.79E-01
SR-89	908.96	0.01	2.21E-01	2.21E-01	1.90E-02	1.04E-01
Sr-91	652.90	11.35	7.23E-04	6.87E-05	-9.71E-04	3.56E-04
	749.80	23.70	8.73E-05		2.19E-05	4.09E-05
	925.80	3.85	6.50E-04		-2.37E-04	3.05E-04
	1024.30	33.50	6.87E-05		3.81E-05	3.19E-05
Y-91	1204.77	0.26	5.58E-03	5.58E-03	1.81E-03	2.51E-03
Y-91m	555.57	61.64	1.23E-04	1.23E-04	3.48E-05	6.04E-05
NB-92M	912.60	1.78	1.58E-03	2.02E-05	8.45E-04	7.46E-04
	934.44	99.15	2.02E-05		-1.14E-05	9.49E-06
	1847.50	0.85	1.26E-03		-7.67E-04	5.38E-04
SR-92	241.56	2.93	4.51E-03	4.00E-05	-6.12E-03	2.24E-03
	430.49	3.28	6.44E-03		-2.64E-03	3.20E-03
	953.31	3.52	1.38E-03		-2.52E-04	6.50E-04
	1142.35	2.79	1.48E-03		7.69E-04	6.82E-04
	1383.93	90.00	4.00E-05		-1.16E-05	1.80E-05
MO-93M	114.04	0.68	8.24E-03	2.13E-05	-9.37E-03	4.08E-03
	263.05	57.40	1.38E-04		4.05E-05	6.83E-05
	684.69	99.90	2.32E-05		-1.33E-06	1.09E-05
	1363.02	0.81	3.29E-03		2.18E-03	1.51E-03
	1477.14	99.10	2.13E-05		2.00E-05	9.51E-06
SR-93	168.50	18.40	8.43E+03	2.51E+03	1.70E+03	4.18E+03
	260.12	7.40	2.54E+04		1.25E+04	1.26E+04
	346.49	3.28	6.94E+04		-5.94E+04	3.44E+04
	446.20	2.36	1.36E+05		6.61E+04	6.76E+04
	590.24	68.00	2.72E+03		-1.19E+03	1.34E+03
	710.31	21.80	2.51E+03		1.64E+03	1.18E+03
	875.73	24.50	2.60E+03		-3.48E+02	1.22E+03
	888.13	22.10	2.81E+03		-9.30E+02	1.32E+03
	1040.63	3.20	2.14E+04		1.01E+04	1.01E+04
	1094.00	1.76	3.97E+04		-1.63E+04	1.86E+04
	1122.48	4.00	1.75E+04		6.94E+03	8.22E+03
	1215.48	2.50	2.14E+04		4.23E+03	9.77E+03
	1269.47	7.10	9.68E+03		3.49E+03	4.50E+03
	1321.24	2.61	2.13E+04		3.18E+03	9.73E+03
	1387.11	3.50	1.44E+04		-1.10E+04	6.48E+03
	1694.07	2.58	1.73E+04		1.25E+04	7.50E+03
	1699.06	3.30	1.35E+04		2.09E+03	5.88E+03
	2543.84	3.03	7.43E+03		1.01E+03	2.35E+03
	2688.65	2.13	4.14E+03		0.00E+00	0.00E+00

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Y-93	266.90	7.40	9.63E-04	9.63E-04	3.44E-05	4.77E-04
	947.10	2.10	1.28E-03		1.18E-03	6.02E-04
	1917.80	1.57	1.12E-03		7.44E-04	4.80E-04
NB-94	702.65	99.81	2.59E-05	2.59E-05	2.99E-07	1.23E-05
	871.09	99.89	2.64E-05		-8.19E-06	1.24E-05
Y-94	381.60	2.02	3.74E+00	3.71E-02	1.16E+00	1.85E+00
	550.90	4.90	1.26E+00		-1.13E+00	6.21E-01
	752.60	1.40	1.19E+00		1.34E+00	5.57E-01
	918.74	56.00	3.71E-02		2.66E-03	1.75E-02
	1138.90	6.00	2.90E-01		5.36E-02	1.34E-01
	1671.40	2.50	4.30E-01		-1.33E-01	1.80E-01
	2140.60	0.95	1.24E+00		5.78E-01	5.08E-01
NB-95	765.80	99.81	1.80E-05	1.80E-05	1.30E-05	8.47E-06
ZR-95	724.19	44.27	4.64E-05	3.03E-05	8.82E-06	2.20E-05
	756.72	54.38	3.03E-05		-1.71E-05	1.42E-05
NB-96	219.08	2.97	2.18E-03	1.88E-05	9.33E-04	1.08E-03
	241.38	3.50	1.82E-03		-2.46E-03	9.01E-04
	350.05	1.54	5.09E-03		1.84E-03	2.52E-03
	352.56	0.83	9.53E-03		1.25E-02	4.72E-03
	371.81	2.62	3.11E-03		-7.07E-04	1.54E-03
	460.04	26.62	4.37E-04		1.77E-04	2.17E-04
	480.71	5.84	1.80E-03		-2.15E-03	8.91E-04
	568.87	58.00	1.12E-04		-6.22E-05	5.53E-05
	719.56	6.85	3.19E-04		5.66E-06	1.51E-04
	721.63	1.02	2.17E-03		1.11E-03	1.03E-03
	778.22	96.45	1.88E-05		1.22E-05	8.77E-06
	810.33	11.09	1.72E-04		2.45E-05	8.06E-05
	812.58	2.95	6.18E-04		-3.59E-04	2.88E-04
	847.69	1.14	1.62E-03		-2.45E-03	7.55E-04
	849.93	20.45	9.05E-05		-8.52E-05	4.21E-05
	1091.35	48.50	4.90E-05		-1.75E-05	2.30E-05
	1200.23	19.97	7.67E-05		-4.35E-05	3.44E-05
	1441.13	0.44	3.13E-03		7.84E-04	1.37E-03
	1497.81	3.28	4.46E-04		1.38E-04	1.95E-04
Nb-97	657.94	98.23	6.56E-04	6.56E-04	-2.96E-05	3.27E-04
	1024.40	1.09	1.92E-03		1.06E-03	8.93E-04
ZR-97	254.17	1.15	5.67E-03	1.82E-05	-8.01E-04	2.81E-03
	355.40	2.09	5.67E-03		-1.67E-03	2.81E-03
	507.64	5.03	2.41E-03		2.98E-03	1.19E-03
	743.36	93.09	1.82E-05		-3.01E-06	8.46E-06
	1147.97	2.62	1.19E-03		1.06E-03	5.52E-04
MO-99	181.07	6.14	1.38E-03	1.60E-04	-2.37E-03	6.84E-04
	366.42	1.20	6.24E-03		6.35E-04	3.09E-03
	739.50	12.26	1.60E-04		4.23E-05	7.43E-05
	777.92	4.30	3.97E-04		1.14E-05	1.85E-04
TC-99M	140.51	90.80	4.91E-05	4.91E-05	-2.57E-05	2.43E-05
RH-101	127.23	68.00	8.47E-05	8.47E-05	-8.17E-05	4.20E-05
	198.01	73.00	1.07E-04		-4.98E-05	5.33E-05
	325.23	11.80	2.24E-04		1.64E-04	1.11E-04
RH-101M	306.86	81.00	8.12E-05	8.12E-05	2.52E-05	4.02E-05
	545.12	4.30	1.54E-03		1.77E-04	7.61E-04
RH-102M	415.25	2.10	9.89E-03	9.57E-05	1.17E-02	4.90E-03
	418.52	9.40	1.96E-03		8.01E-04	9.71E-04

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
RH-102M	420.40	3.20	6.13E-03	9.57E-05	-2.34E-05	3.04E-03
	475.06	95.00	2.06E-04		3.96E-04	1.02E-04
	628.05	8.30	1.57E-03		1.95E-04	7.70E-04
	631.29	56.00	1.85E-04		6.43E-05	9.09E-05
	692.40	1.60	4.48E-03		1.40E-02	2.17E-03
	695.60	2.90	2.15E-03		5.77E-03	1.04E-03
	697.49	44.00	1.38E-04		4.04E-04	6.70E-05
	766.84	34.00	9.67E-05		3.52E-05	4.55E-05
	1046.59	34.00	9.57E-05		8.19E-05	4.45E-05
	1103.16	4.60	6.35E-04		-1.25E-04	2.98E-04
	1112.84	19.00	2.47E-04		3.50E-04	1.17E-04
RU-103	497.08	91.00	9.05E-05	9.05E-05	-1.35E-04	4.48E-05
	610.33	5.76	1.03E-03		-9.43E-04	5.06E-04
RH-105	306.31	4.66	1.47E-03	4.21E-04	-3.63E-04	7.28E-04
	319.23	16.90	4.21E-04		-1.57E-05	2.09E-04
AG-106M	221.70	6.60	8.95E-04	6.57E-05	4.00E-05	4.44E-04
	228.63	2.10	2.76E-03		-8.17E-04	1.37E-03
	328.46	1.14	6.02E-03		6.98E-04	2.98E-03
	391.04	3.68	2.13E-03		-1.65E-03	1.06E-03
	406.18	13.40	6.19E-04		5.18E-05	3.07E-04
	429.65	13.20	7.10E-04		2.71E-04	3.52E-04
	450.98	28.20	3.65E-04		-2.68E-04	1.81E-04
	511.85	88.00	8.86E-05		6.60E-05	4.38E-05
	601.17	1.61	3.57E-03		1.65E-03	1.75E-03
	616.17	21.60	2.71E-04		-1.81E-04	1.34E-04
	646.03	1.46	4.12E-03		2.83E-03	2.03E-03
	680.42	2.18	7.79E-04		-3.19E-04	3.66E-04
	703.11	4.47	4.01E-04		1.41E-04	1.89E-04
	717.34	28.90	6.60E-05		3.05E-06	3.12E-05
	748.36	20.60	7.85E-05		-3.94E-05	3.66E-05
	793.17	5.90	2.98E-04		1.47E-04	1.40E-04
	804.28	12.40	1.44E-04		7.31E-05	6.75E-05
	808.36	4.00	4.31E-04		-1.83E-04	2.01E-04
	824.69	15.30	1.13E-04		-1.83E-05	5.25E-05
	847.15	4.40	3.90E-04		-1.13E-04	1.82E-04
	1019.72	1.04	1.85E-03		-1.34E-04	8.64E-04
	1045.83	29.60	6.57E-05		4.11E-05	3.06E-05
	1128.02	11.80	1.61E-04		-2.50E-04	7.45E-05
	1199.39	11.20	1.26E-04		-7.15E-05	5.66E-05
	1222.88	7.00	2.27E-04		-9.07E-05	1.03E-04
	1394.35	1.49	1.11E-03		6.97E-04	5.03E-04
	1527.65	16.30	6.67E-05		4.79E-06	2.82E-05
	1572.35	6.60	1.53E-04		7.71E-05	6.34E-05
	1722.76	1.40	9.75E-04		-4.60E-04	4.22E-04
	1839.05	2.00	7.38E-04		7.60E-05	3.21E-04
RH-106	621.93	9.93	7.82E-04	7.82E-04	2.30E-04	3.85E-04
	873.49	0.44	7.35E-03		7.20E-05	3.46E-03
	1050.41	1.56	1.52E-03		-2.58E-03	7.04E-04
RU-106	511.86	20.40	3.76E-04	3.76E-04	1.39E-04	1.86E-04
AG-108M	79.13	6.60	7.35E-04	3.98E-05	2.83E-04	3.64E-04
	433.94	90.50	1.84E-04		4.31E-05	9.11E-05
	614.28	89.80	1.18E-04		5.00E-05	5.79E-05
	722.91	90.80	3.98E-05		3.33E-05	1.88E-05

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	CD-109	88.03	*	3.64	1.09E-03	1.09E-03	1.93E-03	5.38E-04
	AG-110M	446.81		3.70	6.20E-03	4.36E-05	1.39E-03	3.08E-03
		620.35		2.73	4.96E-03		2.72E-03	2.44E-03
		657.76		95.61	1.08E-03		-1.05E-04	5.37E-04
		677.62		10.70	3.79E-04		-2.31E-05	1.79E-04
		687.01		6.53	5.13E-04		-2.60E-04	2.41E-04
		706.68		16.69	2.18E-04		8.89E-05	1.02E-04
		744.28		4.77	6.72E-04		-1.72E-04	3.13E-04
		763.94		22.60	1.37E-04		-1.57E-04	6.39E-05
		818.02		7.43	5.35E-04		5.38E-05	2.50E-04
		884.68		75.00	4.36E-05		-7.57E-06	2.03E-05
		937.48		35.00	1.01E-04		-2.99E-05	4.71E-05
		1384.29		25.10	1.01E-04		-2.28E-05	4.54E-05
		1475.78		4.08	5.24E-04		3.08E-05	2.34E-04
		1505.03		13.33	1.75E-04		1.44E-04	7.70E-05
		1562.29		1.22	5.80E-04		-5.94E-05	2.41E-04
	AG-111	245.40		1.11	5.30E-03	1.04E-03	1.47E-03	2.63E-03
		342.13		6.68	1.04E-03		1.06E-03	5.17E-04
	AG-112	606.82		3.10	2.11E-03	1.50E-04	1.50E-03	1.04E-03
		617.52		43.00	1.50E-04		1.25E-04	7.39E-05
		692.82		1.19	3.08E-03		8.43E-03	1.49E-03
		694.87		2.90	1.25E-03		3.62E-03	6.07E-04
		851.28		1.02	1.94E-03		1.12E-03	9.07E-04
		1312.36		1.11	1.40E-03		-4.62E-04	6.23E-04
		1387.68		5.30	3.20E-04		-9.27E-05	1.44E-04
		1613.66		2.80	4.77E-04		2.11E-05	2.04E-04
		1798.50		0.89	1.73E-03		1.21E-03	7.50E-04
		2106.31		2.40	8.72E-04		3.19E-04	3.87E-04
		2506.70		1.06	3.12E-03		3.89E-03	1.43E-03
	CD-113M	263.70		0.03	2.16E-01	2.16E-01	3.74E-02	1.07E-01
	SN-113	255.13		2.11	2.74E-03	1.20E-04	-1.30E-03	1.36E-03
		391.70		64.97	1.20E-04		-6.49E-05	5.95E-05
	IN-114M	190.27		15.56	3.86E-04	3.86E-04	5.05E-04	1.92E-04
		558.43		4.40	1.78E-03		-2.52E-03	8.79E-04
		725.24		4.40	6.38E-04		5.31E-04	3.03E-04
	CD-115	260.90		1.94	3.11E-03	1.54E-04	4.29E-03	1.54E-03
		336.24		46.02	1.54E-04		-1.44E-04	7.61E-05
		527.90		27.45	2.67E-04		3.12E-05	1.32E-04
	CD-115M	933.84		2.00	1.03E-03	1.03E-03	-2.15E-04	4.83E-04
		1290.59		0.90	1.76E-03		6.47E-04	7.98E-04
	IN-115M	336.24		45.90	2.39E-04	2.39E-04	-2.24E-04	1.18E-04
	IN-116M	138.29		3.70	2.07E-02	2.42E-04	-1.43E-03	1.03E-02
		416.90		27.20	4.68E-03		1.13E-04	2.32E-03
		818.68		12.13	2.61E-03		2.06E-04	1.22E-03
		1097.28		58.50	5.25E-04		1.45E-05	2.47E-04
		1293.56		84.80	2.42E-04		-1.59E-04	1.08E-04
		1507.59		9.92	1.95E-03		6.00E-04	8.59E-04
		2112.29		15.09	1.57E-03		-1.19E-03	6.90E-04
	SB-125	176.31		6.84	7.16E-04	3.11E-04	1.45E-05	3.55E-04
		380.45		1.52	5.04E-03		-3.89E-03	2.50E-03
		427.87		29.60	3.11E-04		1.17E-05	1.55E-04
		463.36		10.49	1.03E-03		7.96E-04	5.11E-04
		600.60		17.65	3.23E-04		-2.94E-05	1.59E-04

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SB-125	606.71	4.98	1.19E-03	3.11E-04	8.44E-04	5.84E-04
	635.95	11.22	5.11E-04		3.64E-04	2.51E-04
	671.44	1.79	1.84E-03		4.32E-04	8.94E-04
SN-125	332.10	1.40	8.15E-03	2.47E-04	4.63E-03	4.04E-03
	469.85	1.50	1.18E-02		1.00E-02	5.86E-03
	800.28	1.10	2.07E-03		9.83E-05	9.70E-04
	822.48	4.30	5.15E-04		-9.46E-06	2.40E-04
	915.55	4.10	6.91E-04		4.05E-04	3.26E-04
	1067.10	10.00	2.47E-04		-8.68E-05	1.15E-04
	1087.70	1.20	3.98E-03		7.00E-04	1.89E-03
	1089.10	4.60	5.53E-04		1.90E-04	2.61E-04
	2002.10	1.90	6.88E-04		-2.09E-04	2.91E-04
SB-127	61.10	1.43	7.54E-03	4.73E-05	1.41E-03	3.73E-03
	252.40	8.50	8.57E-04		6.22E-04	4.25E-04
	290.80	2.02	4.29E-03		-1.16E-03	2.13E-03
	412.10	3.80	2.52E-03		2.94E-03	1.25E-03
	445.10	4.30	3.18E-03		3.14E-03	1.58E-03
	473.00	25.80	4.52E-04		9.93E-04	2.24E-04
	543.30	2.90	1.97E-03		1.79E-03	9.71E-04
	603.50	4.50	1.80E-03		3.25E-04	8.88E-04
	685.70	36.80	4.73E-05		-1.56E-06	2.22E-05
	698.50	3.64	9.29E-04		2.31E-04	4.50E-04
	722.20	1.88	1.12E-03		-1.22E-04	5.29E-04
	783.70	15.10	1.13E-04		4.51E-05	5.28E-05
SN-127	119.70	2.20	5.30E-03	1.99E-04	-7.27E-03	2.63E-03
	262.50	2.30	7.00E-03		2.10E-03	3.47E-03
	266.20	2.10	7.66E-03		3.69E-03	3.79E-03
	284.30	2.70	6.47E-03		-1.64E-03	3.20E-03
	438.20	6.10	4.34E-03		1.27E-03	2.15E-03
	490.90	5.30	4.50E-03		4.17E-04	2.23E-03
	493.20	3.10	7.62E-03		2.95E-03	3.78E-03
	545.40	2.30	7.85E-03		-1.30E-03	3.87E-03
	583.30	3.20	5.10E-03		2.96E-03	2.51E-03
	805.90	8.20	5.89E-04		-3.34E-04	2.76E-04
	823.10	11.00	4.25E-04		-9.50E-05	1.98E-04
	824.70	6.10	7.78E-04		-1.26E-04	3.63E-04
	859.50	8.00	6.13E-04		-6.96E-04	2.86E-04
	979.20	7.20	7.65E-04		-2.89E-04	3.58E-04
	1093.30	3.80	1.59E-03		5.78E-04	7.46E-04
	1095.60	19.00	3.30E-04		2.96E-04	1.55E-04
	1114.30	38.00	1.99E-04		2.20E-04	9.46E-05
	1160.40	2.40	1.93E-03		-6.01E-05	8.84E-04
	2003.40	5.30	7.18E-04		-7.25E-04	3.06E-04
SB-129	180.42	2.84	2.91E-03	5.77E-05	-4.38E-03	1.44E-03
	359.20	2.39	4.96E-03		1.50E-03	2.46E-03
	404.64	1.17	1.14E-02		-1.23E-02	5.66E-03
	523.13	1.55	7.56E-03		3.78E-03	3.73E-03
	544.56	15.42	6.88E-04		1.07E-04	3.39E-04
	633.74	2.53	3.69E-03		-1.02E-03	1.81E-03
	654.28	2.97	7.10E-03		-4.44E-03	3.53E-03
	682.77	5.76	4.76E-04		2.41E-04	2.24E-04
	761.12	4.32	6.58E-04		-5.39E-06	3.09E-04
	773.37	2.82	1.01E-03		-7.62E-04	4.75E-04

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	786.36		1.07	2.56E-03	5.77E-05	-6.19E-05	1.20E-03
		787.16		1.74	1.59E-03		3.43E-04	7.42E-04
		812.97		48.20	5.77E-05		-2.81E-06	2.70E-05
		819.51		1.39	2.01E-03		6.12E-04	9.39E-04
		876.65		2.75	1.16E-03		-4.36E-04	5.44E-04
		914.96		23.30	1.51E-04		-4.70E-06	7.14E-05
		966.78		8.96	3.78E-04		3.37E-05	1.78E-04
		1030.65		15.13	2.19E-04		1.16E-04	1.03E-04
		1656.10		1.31	1.53E-03		1.36E-04	6.57E-04
		1738.16		7.45	2.47E-04		1.34E-04	1.04E-04
	TE-129	459.60		7.70	1.38E-03	1.38E-03	-1.04E-03	6.83E-04
		487.39		1.42	6.20E-03		-1.58E-03	3.07E-03
+	Te-129m	695.88	*	3.00	5.80E-04	5.80E-04	3.29E-03	2.73E-04
	I-131	80.18		2.62	2.44E-03	8.98E-05	2.56E-04	1.21E-03
		284.30		6.12	1.12E-03		-2.85E-04	5.57E-04
		364.49		81.50	8.98E-05		-6.79E-05	4.45E-05
		636.99		7.16	8.04E-04		-2.01E-04	3.95E-04
		722.91		1.77	1.14E-03		9.56E-04	5.42E-04
	Te-131m	773.67		36.80	7.61E-05	7.61E-05	-9.84E-07	3.57E-05
		793.75		13.40	3.16E-04		1.64E-04	1.48E-04
		852.21		19.90	1.50E-04		5.24E-05	7.03E-05
		1125.46		11.00	2.71E-04		1.28E-04	1.27E-04
		1206.60		9.41	2.16E-04		7.26E-05	9.74E-05
	I-132	262.90		1.28	4.65E-03	4.06E-05	1.36E-03	2.30E-03
		284.90		0.71	9.06E-03		-4.02E-03	4.49E-03
		505.79		4.93	5.79E-03		-1.67E-03	2.86E-03
		522.65		16.00	8.48E-04		3.12E-04	4.19E-04
		547.20		1.14	1.13E-02		9.89E-03	5.59E-03
		621.20		1.97	5.84E-03		-4.27E-03	2.87E-03
		630.19		13.30	8.42E-04		-8.34E-04	4.14E-04
		650.50		2.57	5.69E-03		-5.14E-03	2.80E-03
		667.71		98.70	8.71E-04		-7.58E-06	4.35E-04
		669.80		4.60	4.03E-03		8.95E-05	2.00E-03
		671.40		3.50	2.22E-03		5.21E-04	1.08E-03
		727.10		5.40	9.40E-04		1.15E-04	4.46E-04
		728.40		1.60	2.75E-03		6.71E-04	1.30E-03
		772.60		75.60	4.06E-05		6.71E-06	1.91E-05
		809.50		2.60	1.32E-03		5.25E-04	6.20E-04
		812.00		5.50	5.67E-04		-2.67E-04	2.65E-04
		910.10		0.93	4.05E-03		-5.16E-03	1.91E-03
		954.55		17.60	2.23E-04		2.16E-06	1.05E-04
		1136.00		3.01	7.60E-04		-5.21E-04	3.49E-04
		1172.90		1.09	7.17E-03		3.06E-02	3.50E-03
		1290.80		1.13	2.50E-03		9.19E-04	1.13E-03
		1295.10		1.88	4.93E-04		1.22E-04	2.22E-04
		1297.90		0.89	8.41E-04		9.43E-04	3.82E-04
		1372.07		2.47	1.04E-03		-3.89E-04	4.65E-04
		1398.57		7.01	3.77E-04		2.16E-04	1.70E-04
		1442.56		1.40	6.66E-04		1.52E-04	2.92E-04
	TE-132	49.72		15.00	1.37E-03	6.75E-05	-6.43E-04	6.75E-04
		111.76		1.74	2.41E-03		-3.10E-04	1.20E-03
		116.30		1.96	2.16E-03		-7.71E-04	1.07E-03
		228.16		88.00	6.75E-05		-4.92E-05	3.34E-05

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-133	81.00	32.90	1.91E-04	1.26E-04	-1.04E-04	9.48E-05
	276.40	7.16	9.95E-04		8.48E-04	4.93E-04
	302.85	18.34	3.85E-04		1.72E-04	1.91E-04
	356.01	62.05	1.26E-04		2.00E-05	6.24E-05
	383.85	8.94	7.54E-04		4.26E-05	3.73E-04
I-133	529.87	87.00	8.88E-05	8.88E-05	1.15E-05	4.39E-05
	706.58	1.51	1.64E-03		6.69E-04	7.70E-04
	856.28	1.24	2.17E-03		1.79E-03	1.01E-03
	875.33	4.51	4.94E-04		6.78E-04	2.33E-04
	1236.44	1.51	1.09E-03		9.44E-04	4.98E-04
	1298.22	2.35	7.71E-04		2.06E-04	3.50E-04
TE-133	312.08	62.40	3.09E+00	3.09E+00	-4.44E+00	1.53E+00
	407.63	27.10	9.01E+00		3.23E+00	4.46E+00
	410.40	0.94	2.69E+02		1.70E+02	1.33E+02
	474.85	0.88	3.57E+02		2.39E+02	1.77E+02
	719.71	8.90	6.65E+00		1.18E-01	3.15E+00
	786.93	5.40	9.40E+00		4.34E+00	4.40E+00
	844.36	3.31	1.59E+01		-3.88E-01	7.45E+00
	884.30	0.72	7.49E+01		8.72E+00	3.50E+01
	930.71	3.81	1.51E+01		-7.90E+00	7.08E+00
	997.70	1.04	6.62E+01		-3.32E+01	3.13E+01
	1000.72	3.62	1.94E+01		9.98E+00	9.18E+00
	1021.13	2.81	1.93E+01		-4.54E+00	8.95E+00
	1061.61	1.19	4.43E+01		-1.20E+01	2.05E+01
	1252.08	1.44	2.96E+01		-2.70E+01	1.33E+01
	1312.80	0.85	4.98E+01		6.67E+00	2.23E+01
	1333.21	10.67	1.67E+01		7.34E+01	8.16E+00
	1717.61	3.18	1.22E+01		-6.57E+00	5.24E+00
	1881.52	1.22	3.62E+01		2.62E+01	1.57E+01
	2136.51	1.25	2.67E+01		1.13E+01	1.08E+01
	2229.64	0.87	4.70E+01		-8.47E+00	1.97E+01
Xe-133	81.00	36.90	1.29E-04	1.29E-04	-7.05E-05	6.40E-05
CS-134	475.36	1.48	7.13E-03	2.84E-05	9.86E-03	3.54E-03
	563.25	8.34	1.19E-03		-1.97E-04	5.87E-04
	569.33	15.37	6.86E-04		1.83E-04	3.38E-04
	604.72	97.62	8.41E-05		7.82E-06	4.14E-05
	795.86	85.46	2.84E-05		-3.15E-06	1.33E-05
	801.95	8.69	3.29E-04		-3.51E-04	1.54E-04
	1038.61	0.99	2.84E-03		3.75E-03	1.33E-03
	1167.97	1.79	2.25E-03		3.27E-04	1.10E-03
	1365.19	3.02	4.16E-04		2.85E-04	1.92E-04
I-135	220.50	1.75	5.99E-03	7.40E-05	1.39E-03	2.97E-03
	288.45	3.10	3.59E-03		-3.78E-03	1.78E-03
	417.63	3.53	4.48E-03		1.05E-03	2.22E-03
	546.56	7.15	1.63E-03		1.97E-04	8.02E-04
	836.80	6.69	5.23E-04		4.78E-04	2.46E-04
	971.96	0.89	4.40E-03		-2.55E-03	2.06E-03
	972.62	1.21	2.95E-03		-2.17E-03	1.38E-03
	1038.76	7.90	3.69E-04		4.88E-04	1.73E-04
	1101.58	1.61	2.24E-03		-2.96E-03	1.04E-03
	1124.00	3.62	1.04E-03		8.29E-04	4.88E-04
	1131.51	22.60	1.42E-04		-2.29E-06	6.54E-05
	1240.47	0.90	3.33E-03		1.77E-03	1.52E-03

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1260.41		28.70	7.40E-05	7.40E-05	4.79E-05	3.33E-05
		1457.56		8.70	3.45E-04		3.31E-04	1.59E-04
		1502.79		1.08	2.43E-03		2.01E-03	1.07E-03
		1566.41		1.29	9.52E-04		-4.39E-04	3.85E-04
		1678.03		9.60	1.19E-04		5.57E-05	4.90E-05
		1706.46		4.10	4.39E-04		-5.03E-04	1.89E-04
		1791.20		7.72	1.82E-04		8.47E-05	7.45E-05
		2408.65		0.96	9.48E-04		1.29E-04	3.00E-04
	XE-135	249.79		90.00	8.20E-05	8.20E-05	7.26E-05	4.06E-05
	XE-135m	526.56		80.40	1.22E-04	1.22E-04	1.89E-06	6.01E-05
	CS-136	66.88		4.79	2.82E-03	2.90E-05	5.81E-04	1.39E-03
		86.36		5.90	1.38E-03		2.34E-03	6.85E-04
		153.25		7.70	9.80E-04		-2.16E-04	4.85E-04
		163.92		4.69	2.35E-03		8.26E-04	1.16E-03
		176.60		13.70	6.77E-04		3.57E-04	3.36E-04
		273.65		12.66	8.98E-04		-5.87E-04	4.45E-04
		340.55		46.80	2.44E-04		-4.54E-05	1.21E-04
		818.51		99.70	2.90E-05		1.77E-05	1.36E-05
		1048.07		80.00	4.09E-05		2.62E-06	1.90E-05
		1235.36		20.00	1.33E-04		8.18E-05	6.08E-05
+	CS-137	661.66	*	85.10	4.68E-05	4.68E-05	4.78E-02	2.28E-05
	BA-139	33.44		3.84	2.03E-01	9.54E-04	-6.47E-02	1.00E-01
		165.86		23.70	9.54E-04		6.04E-05	4.73E-04
	BA-140	132.69		0.20	2.14E-02	2.77E-04	1.32E-02	1.06E-02
		162.66		6.22	8.82E-04		-6.69E-04	4.37E-04
		304.85		4.29	1.91E-03		2.16E-05	9.48E-04
		423.72		3.10	2.94E-03		1.22E-05	1.46E-03
		437.58		1.93	4.96E-03		2.53E-03	2.46E-03
		537.26		24.39	2.77E-04		4.93E-05	1.37E-04
	LA-140	109.42		0.22	1.87E-02	1.99E-05	1.42E-02	9.27E-03
		131.12		0.47	9.19E-03		-3.45E-03	4.55E-03
		173.54		0.13	3.86E-02		5.84E-03	1.91E-02
		241.93		0.41	1.42E-02		-5.19E-03	7.01E-03
		266.54		0.47	1.24E-02		-3.97E-03	6.16E-03
		328.76		20.30	5.62E-04		4.60E-04	2.79E-04
		432.49		2.90	5.41E-03		-1.95E-03	2.68E-03
		487.02		45.50	2.80E-04		1.60E-05	1.39E-04
		618.10		0.04	1.59E-01		1.23E-01	7.84E-02
		751.64		4.33	4.81E-04		-6.31E-05	2.25E-04
		815.77		23.28	7.48E-05		-7.92E-05	3.48E-05
		867.85		5.50	4.41E-04		-3.20E-04	2.08E-04
		919.55		2.66	8.32E-04		6.35E-04	3.92E-04
		925.19		6.90	3.71E-04		2.18E-04	1.74E-04
		950.99		0.52	5.18E-03		2.51E-03	2.44E-03
		1596.21		95.40	1.99E-05		1.49E-05	8.69E-06
		2347.88		0.85	6.97E-04		-6.80E-04	2.61E-04
		2521.40		3.46	2.08E-04		4.49E-05	7.38E-05
		2547.34		0.10	6.94E-03		9.43E-04	2.19E-03
	BA-141	33.44		7.93	2.39E+01	1.55E-01	-7.64E+00	1.18E+01
		190.33		44.80	1.55E-01		2.02E-01	7.68E-02
		276.95		23.60	3.07E-01		-1.91E-02	1.52E-01
		304.19		26.10	2.85E-01		7.28E-02	1.41E-01
		343.67		15.10	5.31E-01		1.69E-01	2.63E-01

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-141	389.74	1.37	6.52E+00	1.55E-01	1.58E+00	3.23E+00
	457.51	5.00	2.41E+00		-6.59E-01	1.20E+00
	462.06	5.10	2.43E+00		-1.43E+00	1.21E+00
	467.22	5.60	2.27E+00		2.86E-01	1.13E+00
	625.08	3.45	1.91E+00		-5.61E-01	9.38E-01
	647.78	5.70	1.22E+00		-1.33E-01	5.99E-01
	738.95	4.39	3.71E-01		3.54E-03	1.72E-01
	831.46	1.64	1.26E+00		-2.15E+00	5.88E-01
	876.09	3.45	6.52E-01		-5.78E-01	3.06E-01
	1160.72	1.12	1.74E+00		0.00E+00	7.96E-01
	1197.28	4.35	3.89E-01		-5.73E-02	1.76E-01
	1323.92	0.92	2.54E+00		4.11E-01	1.17E+00
	1654.00	0.65	2.27E+00		1.52E+00	9.78E-01
	1682.19	1.19	1.02E+00		-9.93E-01	4.22E-01
CE-141	145.44	48.30	9.07E-05	9.07E-05	3.59E-05	4.49E-05
BA-142	33.44	14.20	2.16E+03	1.89E+01	-6.90E+02	1.07E+03
	77.59	7.00	1.33E+02		9.27E+01	6.60E+01
	177.00	2.12	4.33E+02		3.21E+02	2.15E+02
	231.61	12.20	8.78E+01		-2.12E+01	4.35E+01
	255.30	20.70	5.21E+01		-2.48E+01	2.58E+01
	286.30	1.11	1.05E+03		8.59E+01	5.21E+02
	309.20	2.60	4.68E+02		-3.07E+02	2.32E+02
	335.00	1.53	8.30E+02		-1.40E+02	4.11E+02
	363.96	4.76	2.88E+02		2.71E+02	1.43E+02
	425.04	5.75	2.96E+02		-1.11E+02	1.47E+02
	599.80	1.85	5.74E+02		-6.85E+02	2.83E+02
	840.40	3.63	9.64E+01		-1.02E+01	4.53E+01
	895.20	13.90	2.65E+01		-2.98E+01	1.25E+01
	949.10	10.70	3.68E+01		-3.14E+01	1.73E+01
	1001.20	9.80	4.54E+01		4.19E+01	2.15E+01
	1078.70	11.50	4.19E+01		5.07E+01	1.99E+01
	1094.10	2.82	1.46E+02		5.79E+01	6.84E+01
	1126.80	1.50	2.47E+02		-7.08E+01	1.15E+02
	1202.40	5.60	4.98E+01		9.72E-01	2.25E+01
	1204.30	14.30	1.89E+01		-2.72E+00	8.52E+00
	1380.20	3.42	8.34E+01		-2.12E+01	3.74E+01
CE-143	57.36	11.70	1.02E-03	1.59E-04	2.62E-05	5.07E-04
	231.55	2.05	3.86E-03		-9.32E-04	1.92E-03
	293.27	42.80	1.59E-04		1.52E-05	7.90E-05
	350.62	3.23	2.03E-03		-1.17E-04	1.01E-03
	490.37	2.16	5.53E-03		-2.49E-04	2.74E-03
	664.57	5.69	1.08E-02		7.78E-01	5.41E-03
	721.93	5.39	3.61E-04		-3.95E-05	1.71E-04
	880.46	1.03	1.98E-03		6.74E-04	9.27E-04
CE-144	80.12	1.36	3.50E-03	3.88E-04	3.68E-04	1.73E-03
	133.51	11.09	3.88E-04		-4.91E-05	1.92E-04
ND-147	38.17	13.20	4.77E-03	1.55E-04	1.51E-04	2.36E-03
	38.72	23.80	2.41E-03		-8.21E-05	1.19E-03
	91.11	28.90	1.55E-04		9.89E-05	7.65E-05
	275.39	0.79	1.13E-02		2.33E-03	5.59E-03
	319.41	1.97	4.11E-03		9.34E-04	2.04E-03
	398.13	0.87	1.01E-02		-2.33E-03	5.01E-03
	439.88	1.20	8.67E-03		-5.55E-03	4.30E-03

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ND-147	531.01	13.11	5.23E-04	1.55E-04	-6.67E-05	2.58E-04
	685.88	0.82	2.05E-03		3.83E-04	9.64E-04
PR-147	36.85	19.70	5.85E+01	2.44E+00	9.55E+00	2.89E+01
	37.36	35.50	2.95E+01		5.94E+00	1.46E+01
	49.88	4.00	5.40E+01		-2.54E+01	2.67E+01
	77.97	9.70	7.38E+00		1.83E+00	3.65E+00
	86.69	5.40	1.25E+01		1.76E+01	6.18E+00
	127.80	7.40	8.39E+00		-1.70E+00	4.16E+00
	249.20	1.32	6.37E+01		-1.00E+01	3.15E+01
	314.70	18.20	5.22E+00		1.72E+00	2.58E+00
	328.80	4.00	2.46E+01		2.01E+01	1.22E+01
	335.70	4.70	2.09E+01		-8.12E+00	1.04E+01
	388.80	1.41	7.92E+01		-3.60E+01	3.92E+01
	466.80	1.70	9.37E+01		-6.67E+00	4.65E+01
	477.90	4.60	3.18E+01		8.78E+00	1.58E+01
	516.70	1.30	8.23E+01		-1.65E+01	4.07E+01
	554.70	5.90	1.50E+01		-3.36E+00	7.40E+00
	577.90	13.70	6.38E+00		5.99E+00	3.14E+00
	641.40	16.10	5.25E+00		2.35E+00	2.58E+00
	996.00	1.52	2.10E+01		1.02E+01	9.89E+00
	1136.70	1.42	1.67E+01		4.70E+00	7.66E+00
	1261.10	8.40	2.44E+00		-4.57E-01	1.09E+00
	1300.40	2.30	9.56E+00		-6.00E-01	4.31E+00
ND-149	38.17	9.00	2.41E-02	8.33E-04	7.61E-04	1.19E-02
	38.72	16.30	1.21E-02		-4.14E-04	6.01E-03
	58.88	1.30	3.42E-02		6.54E-03	1.69E-02
	74.32	2.11	1.11E-02		-3.09E-03	5.50E-03
	97.00	1.48	1.16E-02		9.10E-04	5.76E-03
	114.31	19.20	9.11E-04		-1.04E-03	4.51E-04
	155.87	5.95	3.37E-03		-3.29E-04	1.67E-03
	188.64	1.79	2.12E-02		4.53E-02	1.05E-02
	198.93	1.39	2.07E-02		-4.09E-03	1.03E-02
	208.15	2.55	1.00E-02		-1.75E-03	4.97E-03
	211.31	26.00	8.33E-04		9.21E-05	4.13E-04
	240.22	3.95	5.26E-03		4.40E-03	2.61E-03
	245.72	0.81	3.34E-02		1.66E-02	1.65E-02
	267.69	6.05	4.67E-03		-6.35E-03	2.31E-03
	270.17	10.80	2.06E-03		-5.58E-04	1.02E-03
	326.55	4.57	6.68E-03		3.01E-03	3.31E-03
	349.23	1.38	2.24E-02		3.13E-04	1.11E-02
	423.55	7.50	4.45E-03		1.85E-05	2.21E-03
	443.55	1.15	3.88E-02		4.00E-03	1.92E-02
	540.51	6.60	3.90E-03		-2.16E-03	1.92E-03
	654.83	8.00	7.03E-03		-2.67E-03	3.50E-03
PM-149	285.95	3.10	2.10E-03	2.10E-03	6.07E-04	1.04E-03
PM-150	39.52	0.63	1.76E-01	2.21E-04	-2.18E-02	8.70E-02
	40.12	1.14	8.87E-02		-3.17E-02	4.39E-02
	333.92	68.00	2.21E-04		-1.04E-04	1.09E-04
	406.51	5.60	3.26E-03		3.48E-03	1.61E-03
	565.70	1.31	9.90E-03		-5.58E-03	4.87E-03
	587.02	1.34	9.59E-03		-9.14E-03	4.72E-03
	612.25	0.93	1.42E-02		5.81E-03	6.98E-03
	712.22	4.40	8.29E-04		-7.17E-05	3.88E-04

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	737.50	2.25	1.38E-03	2.21E-04	-2.40E-03	6.37E-04
	831.85	11.90	3.39E-04		-1.65E-04	1.59E-04
	859.95	3.40	1.17E-03		-1.24E-04	5.49E-04
	876.41	7.30	6.02E-04		-3.31E-05	2.83E-04
	1165.77	15.80	4.32E-04		-1.41E-05	2.06E-04
	1170.90	1.06	1.21E-02		5.49E-02	5.88E-03
	1193.87	4.80	7.07E-04		6.21E-05	3.21E-04
	1213.72	1.03	3.51E-03		5.88E-04	1.60E-03
	1223.28	2.80	1.30E-03		-1.06E-05	5.92E-04
	1324.51	17.50	2.95E-04		4.86E-05	1.38E-04
	1379.32	3.10	1.05E-03		-1.32E-03	4.71E-04
	1736.40	6.90	3.45E-04		1.74E-04	1.43E-04
	1963.71	1.47	2.25E-03		-1.20E-05	9.74E-04
	2033.46	0.97	3.04E-03		1.75E-03	1.28E-03
ND-151	38.17	5.94	3.28E+02	3.30E+00	1.04E+01	1.62E+02
	38.72	10.70	1.66E+02		-5.65E+00	8.21E+01
	68.98	1.26	1.41E+02		-3.71E+01	6.98E+01
	85.12	2.05	7.23E+01		-2.55E+00	3.58E+01
	89.96	1.53	9.14E+01		-1.44E+01	4.53E+01
	116.80	39.00	3.30E+00		6.01E-01	1.64E+00
	138.89	7.00	1.93E+01		8.10E+00	9.57E+00
	170.76	2.87	5.27E+01		-1.95E+01	2.61E+01
	175.07	6.30	2.41E+01		-1.10E+01	1.20E+01
	255.68	14.80	1.22E+01		3.51E+00	6.06E+00
	300.58	1.82	1.10E+02		3.91E+01	5.46E+01
	423.56	5.90	4.79E+01		1.99E-01	2.37E+01
	460.59	0.96	3.45E+02		-2.11E+02	1.71E+02
	585.22	1.30	1.39E+02		2.00E+02	6.85E+01
	677.88	2.38	2.28E+01		-1.39E+00	1.07E+01
	736.23	5.90	7.76E+00		-1.15E+00	3.60E+00
	739.20	1.52	2.89E+01		-7.96E+00	1.34E+01
	755.57	1.17	4.50E+01		-9.50E+00	2.11E+01
	797.53	4.70	1.11E+01		-8.14E-01	5.16E+00
	1016.40	2.50	2.48E+01		1.33E+01	1.16E+01
	1122.63	4.10	1.65E+01		6.52E+00	7.72E+00
	1180.89	13.30	1.13E+01		3.68E-01	5.49E+00
Pm-151	167.75	8.30	6.81E-04	3.20E-04	-8.17E-05	3.37E-04
	177.16	3.80	1.83E-03		1.36E-03	9.08E-04
	240.09	3.80	1.82E-03		1.52E-03	9.04E-04
	275.21	6.80	1.02E-03		-2.08E-04	5.07E-04
	340.08	22.50	3.20E-04		-7.17E-05	1.59E-04
EU-152	121.78	28.53	2.02E-04	8.53E-05	4.97E-06	9.99E-05
	344.28	26.59	3.18E-04		-7.64E-05	1.57E-04
	778.90	12.93	1.64E-04		-1.73E-04	7.63E-05
	867.37	4.23	7.14E-04		-2.73E-04	3.35E-04
	964.08	14.51	1.76E-04		7.27E-05	8.27E-05
	1085.87	10.11	2.45E-04		-1.34E-04	1.16E-04
	1112.07	13.67	2.07E-04		-7.14E-05	9.81E-05
	1408.01	20.87	8.53E-05		8.39E-05	3.83E-05
ND-152	44.44	5.50	3.74E+02	1.93E+01	1.75E+02	1.85E+02
	250.15	16.40	2.83E+01		1.21E+00	1.40E+01
	278.56	26.00	1.93E+01		-2.57E+00	9.58E+00
	294.47	2.90	1.75E+02		1.63E+02	8.65E+01

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ND-152	545.70	0.83	6.24E+02	1.93E+01	-4.95E+02	3.08E+02
	592.50	0.99	4.64E+02		1.60E+02	2.28E+02
GD-153	69.67	2.45	2.71E-03	1.44E-04	6.16E-04	1.34E-03
	97.43	30.00	1.44E-04		4.56E-05	7.11E-05
	103.18	22.10	1.90E-04		-2.41E-04	9.42E-05
SM-153	69.67	4.67	1.45E-03	1.48E-04	3.30E-04	7.19E-04
	103.18	29.14	1.48E-04		-1.88E-04	7.33E-05
EU-154	42.70	20.45	1.54E-03	7.00E-05	2.56E-04	7.60E-04
	123.07	40.40	1.40E-04		-9.49E-05	6.92E-05
	247.93	6.89	1.21E-03		-1.07E-03	6.00E-04
	591.76	4.95	1.81E-03		6.73E-04	8.91E-04
	692.42	1.78	2.63E-03		8.23E-03	1.27E-03
	723.30	20.06	1.41E-04		1.93E-04	6.67E-05
	756.80	4.52	5.83E-04		-3.30E-04	2.73E-04
	873.18	12.08	2.45E-04		-7.81E-06	1.16E-04
	996.29	10.48	2.37E-04		-3.94E-05	1.11E-04
	1004.76	18.01	1.46E-04		7.99E-05	6.89E-05
	1246.12	0.86	2.78E-03		-1.40E-03	1.26E-03
	1274.43	34.80	7.00E-05		7.49E-05	3.26E-05
	1494.05	0.70	1.73E-03		-1.77E-03	7.55E-04
	1596.48	1.80	4.00E-04		3.00E-04	1.75E-04
EU-155	43.00	18.12	1.67E-03	1.52E-04	-5.32E-04	8.24E-04
	60.01	1.17	7.12E-03		4.60E-04	3.53E-03
	86.55	30.70	1.52E-04		2.14E-04	7.52E-05
	105.31	21.10	1.91E-04		-2.80E-04	9.43E-05
EU-156	88.97	8.40	7.77E-04	1.80E-04	9.03E-04	3.85E-04
	646.29	6.30	1.28E-03		1.24E-03	6.29E-04
	723.47	5.40	4.98E-04		5.97E-04	2.36E-04
	811.77	9.70	2.32E-04		-1.10E-04	1.09E-04
	1065.14	4.90	5.33E-04		-1.67E-04	2.48E-04
	1079.16	4.60	6.07E-04		8.37E-04	2.88E-04
	1153.80	11.50	1.80E-04		4.72E-05	8.23E-05
	1230.71	8.00	2.61E-04		-1.79E-04	1.18E-04
	1242.42	6.60	2.83E-04		-7.24E-05	1.29E-04
	1277.43	2.89	9.15E-04		2.19E-04	4.26E-04
	1366.41	1.57	1.35E-03		9.27E-04	6.22E-04
	1965.95	3.90	2.80E-04		-1.88E-04	1.20E-04
	2097.70	3.80	4.46E-04		1.46E-04	1.95E-04
	2186.71	3.50	3.47E-04		1.75E-04	1.44E-04
Sm-156	87.60	24.00	2.41E-04	2.41E-04	4.67E-04	1.19E-04
	165.80	13.00	4.61E-04		2.92E-05	2.29E-04
	204.00	21.00	3.59E-04		1.17E-04	1.78E-04
EU-158	42.31	5.80	9.45E-02	1.17E-03	1.89E-02	4.68E-02
	43.00	10.40	4.83E-02		-1.54E-02	2.39E-02
	79.49	10.50	7.63E-03		1.59E-05	3.78E-03
	181.97	2.30	3.77E-02		-4.83E-02	1.87E-02
	528.05	1.53	7.63E-02		2.06E-02	3.77E-02
	606.39	4.00	2.45E-02		2.17E-02	1.20E-02
	743.02	3.60	6.76E-03		-1.11E-03	3.14E-03
	897.61	12.40	2.80E-03		2.75E-04	1.32E-03
	906.50	1.83	1.87E-02		-1.20E-02	8.79E-03
	922.51	1.62	2.14E-02		-3.36E-03	1.01E-02
	944.15	30.00	1.17E-03		3.06E-04	5.53E-04

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	953.03	1.98	1.81E-02	1.17E-03	8.97E-03	8.52E-03
	962.09	1.89	1.86E-02		-1.57E-03	8.73E-03
	977.14	16.30	1.95E-03		-4.45E-04	9.09E-04
	986.96	1.35	2.41E-02		-1.67E-02	1.13E-02
	1107.63	5.10	8.22E-03		2.17E-03	3.89E-03
	1184.10	3.00	9.11E-03		2.32E-03	4.16E-03
	1186.00	2.90	9.88E-03		9.60E-03	4.53E-03
	1187.10	4.40	6.37E-03		1.90E-03	2.92E-03
	1263.61	2.20	1.13E-02		6.72E-03	5.08E-03
	1347.95	1.65	1.51E-02		-7.05E-04	6.80E-03
	1944.47	1.62	1.42E-02		2.64E-03	6.08E-03
TB-160	86.79	13.20	5.03E-04	7.52E-05	7.08E-04	2.49E-04
	298.58	26.10	3.29E-04		1.56E-04	1.63E-04
	879.38	30.10	7.52E-05		-7.78E-05	3.53E-05
	962.32	9.81	2.43E-04		-2.05E-05	1.14E-04
	966.17	25.10	9.24E-05		3.48E-05	4.35E-05
	1177.96	14.90	3.28E-04		4.29E-05	1.60E-04
TB-161	25.65	23.20	7.64E-02	5.23E-04	4.23E-01	3.78E-02
	48.91	17.00	9.66E-04		4.62E-05	4.78E-04
	52.00	3.43	3.74E-03		7.62E-05	1.85E-03
	57.19	1.79	5.64E-03		1.44E-04	2.79E-03
	74.57	10.20	5.23E-04		-1.46E-04	2.59E-04
YB-169	63.12	43.62	2.77E-04	1.84E-04	4.88E-05	1.37E-04
	93.61	2.58	3.06E-03		-2.36E-03	1.52E-03
	109.78	17.39	2.94E-04		4.41E-06	1.45E-04
	130.52	11.38	5.54E-04		-2.44E-04	2.74E-04
	177.21	22.28	2.88E-04		2.13E-04	1.43E-04
	197.96	35.93	1.84E-04		-8.52E-05	9.11E-05
	307.74	10.05	4.84E-04		2.71E-04	2.40E-04
HF-172	54.07	63.00	1.77E-04	1.77E-04	7.19E-05	8.75E-05
	67.35	5.30	1.14E-03		3.45E-05	5.65E-04
	81.75	4.50	1.03E-03		-2.11E-04	5.12E-04
	114.06	2.60	1.57E-03		-1.79E-03	7.78E-04
	122.92	1.14	3.74E-03		2.38E-03	1.85E-03
	125.81	11.30	3.80E-04		2.33E-04	1.88E-04
	127.91	1.46	2.94E-03		-5.95E-04	1.46E-03
LU-173	59.30	24.44	3.53E-04	3.26E-04	4.53E-04	1.75E-04
	78.63	11.90	5.25E-04		-3.17E-04	2.60E-04
	100.72	5.24	8.99E-04		7.27E-04	4.45E-04
	171.39	2.90	1.89E-03		-1.81E-04	9.35E-04
	272.11	21.20	3.26E-04		2.01E-04	1.61E-04
LU-177	112.95	6.23	6.65E-04	5.74E-04	-1.65E-04	3.29E-04
	208.37	10.41	5.74E-04		-1.00E-04	2.85E-04
	249.67	0.20	2.96E-02		2.62E-02	1.47E-02
	321.32	0.22	3.10E-02		-3.50E-03	1.54E-02
HF-181	133.02	43.30	1.35E-04	1.29E-04	9.74E-05	6.67E-05
	345.93	15.12	5.85E-04		-5.23E-05	2.90E-04
	482.18	80.50	1.29E-04		-1.12E-04	6.39E-05
W-181	56.28	18.70	5.29E-04	2.97E-04	2.64E-04	2.62E-04
	57.53	32.00	2.97E-04		1.38E-04	1.47E-04
	65.00	10.60	6.18E-04		6.68E-04	3.06E-04
TA-182	57.98	10.01	9.25E-04	6.68E-05	2.33E-04	4.58E-04
	59.32	17.20	5.02E-04		6.43E-04	2.48E-04

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	65.72	3.01	4.04E-03	6.68E-05	2.03E-03	2.00E-03
	67.75	46.67	1.79E-04		2.30E-05	8.85E-05
	84.68	2.65	2.48E-03		5.72E-05	1.23E-03
	100.11	14.20	4.41E-04		4.75E-04	2.18E-04
	113.67	1.87	4.33E-03		-2.16E-03	2.15E-03
	116.42	0.44	9.29E-03		-3.31E-03	4.60E-03
	152.43	7.02	9.47E-04		-3.55E-04	4.69E-04
	156.39	2.67	2.56E-03		-4.11E-04	1.27E-03
	179.39	3.12	2.49E-03		-2.73E-03	1.23E-03
	198.35	1.47	7.41E-03		4.77E-03	3.68E-03
	222.11	7.57	1.06E-03		3.14E-04	5.25E-04
	229.32	3.64	2.44E-03		-1.54E-03	1.21E-03
	264.08	3.61	2.28E-03		-4.37E-05	1.13E-03
	928.00	0.61	4.49E-03		1.46E-03	2.11E-03
	959.73	0.35	8.48E-03		9.95E-04	3.99E-03
	1001.70	2.09	1.99E-03		2.56E-03	9.43E-04
	1044.42	0.24	1.25E-02		7.55E-03	5.81E-03
	1113.41	0.44	8.32E-03		1.16E-02	3.95E-03
	1121.29	35.24	7.93E-05		-5.49E-06	3.72E-05
	1157.30	0.73	2.06E-03		5.45E-04	9.46E-04
	1189.04	16.49	9.10E-05		-6.95E-05	4.15E-05
	1221.40	27.23	6.68E-05		3.02E-05	3.04E-05
	1223.60	0.24	4.13E-03		-3.37E-05	1.88E-03
	1231.00	11.62	1.70E-04		-2.26E-04	7.68E-05
	1257.41	1.51	9.97E-04		6.97E-04	4.51E-04
	1273.72	0.66	1.44E-03		1.47E-03	6.69E-04
	1289.15	1.37	3.63E-04		1.44E-04	1.65E-04
	1342.73	0.26	5.85E-03		1.92E-04	2.68E-03
	1373.82	0.22	1.51E-03		-9.45E-05	6.72E-04
Ta-183	84.71	1.35	3.59E-03	2.18E-04	8.29E-05	1.78E-03
	99.08	6.80	6.23E-04		3.16E-04	3.08E-04
	107.93	11.20	3.69E-04		2.28E-04	1.82E-04
	161.35	9.10	5.22E-04		1.08E-04	2.59E-04
	162.32	5.00	9.57E-04		-2.31E-05	4.74E-04
	244.26	8.80	6.76E-04		8.29E-05	3.35E-04
	246.06	27.20	2.18E-04		9.72E-05	1.08E-04
	353.99	11.60	6.34E-04		-6.36E-04	3.14E-04
Re-184	111.21	17.20	2.39E-04	4.53E-05	9.70E-06	1.18E-04
	252.85	3.00	1.92E-03		6.18E-04	9.53E-04
	792.01	37.70	4.53E-05		2.28E-06	2.12E-05
	894.76	15.70	1.26E-04		-9.68E-06	5.92E-05
	903.28	38.10	5.19E-05		-2.05E-05	2.44E-05
W-185	59.72	0.01	7.10E-01	2.23E-01	5.26E-01	3.51E-01
	61.14	0.02	3.88E-01		7.25E-02	1.92E-01
	69.20	0.01	8.66E-01		-9.52E-01	4.28E-01
	125.36	0.02	2.23E-01		1.11E-01	1.11E-01
W-187	61.14	14.30	6.05E-04	5.49E-05	1.13E-04	2.99E-04
	69.20	4.82	1.35E-03		-1.48E-03	6.66E-04
	72.00	13.55	6.63E-04		2.60E-04	3.28E-04
	134.25	10.36	6.41E-04		-2.60E-05	3.17E-04
	479.53	26.60	4.84E-04		1.13E-04	2.40E-04
	618.37	7.57	8.41E-04		2.88E-04	4.14E-04
	685.81	33.20	5.49E-05		1.03E-05	2.58E-05

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Ir-188	155.05	29.60	1.62E-04	9.65E-05	-1.22E-04	8.02E-05
	478.00	14.70	7.24E-04		2.00E-04	3.59E-04
	633.02	17.90	3.36E-04		-1.74E-04	1.65E-04
	634.97	5.00	1.20E-03		4.90E-04	5.92E-04
	829.42	5.10	3.55E-04		-4.45E-04	1.66E-04
	1209.77	6.90	2.35E-04		-2.39E-04	1.07E-04
	1715.67	6.20	2.29E-04		1.59E-04	9.89E-05
	2214.59	18.60	9.65E-05		-1.23E-05	4.19E-05
W-188	227.07	0.23	2.44E-02	1.50E-02	-1.88E-02	1.21E-02
	290.68	0.42	1.50E-02		-3.23E-02	7.44E-03
Ir-189	245.08	6.00	9.81E-04	9.81E-04	9.32E-04	4.86E-04
Ir-190	186.68	50.00	1.17E-04	1.17E-04	2.52E-04	5.79E-05
	361.09	12.30	5.91E-04		4.52E-04	2.93E-04
	371.24	21.60	3.46E-04		-6.69E-05	1.71E-04
	407.22	27.00	3.07E-04		2.88E-04	1.52E-04
	518.55	32.20	2.28E-04		-3.50E-04	1.13E-04
	557.95	28.50	2.11E-04		-1.57E-04	1.04E-04
	569.30	27.00	2.22E-04		5.94E-05	1.09E-04
	605.14	37.80	1.56E-04		-4.57E-06	7.67E-05
OS-191	63.29	15.70	4.55E-04	1.62E-04	7.78E-05	2.25E-04
	64.99	26.70	2.47E-04		2.67E-04	1.22E-04
	73.45	9.21	5.89E-04		4.08E-06	2.91E-04
	129.43	26.50	1.62E-04		-7.19E-06	8.00E-05
Pt-191	359.90	5.80	1.56E-03	5.09E-04	1.24E-03	7.75E-04
	456.47	3.30	3.56E-03		1.73E-03	1.77E-03
	538.90	14.30	5.09E-04		-4.40E-04	2.51E-04
IR-192	205.79	3.31	2.42E-03	1.17E-04	-6.66E-04	1.20E-03
	295.96	28.71	3.90E-04		1.63E-04	1.93E-04
	308.45	29.70	3.67E-04		-5.86E-05	1.82E-04
	316.51	82.86	1.17E-04		-2.68E-05	5.78E-05
	468.07	47.84	3.08E-04		1.88E-04	1.53E-04
	588.58	4.52	2.13E-03		-1.13E-03	1.05E-03
	604.41	8.22	5.65E-04		3.85E-04	2.78E-04
	612.46	5.34	6.81E-04		2.29E-04	3.35E-04
IR-192m	155.16	0.09	4.95E-02	4.95E-02	-3.45E-02	2.45E-02
IR-193m	80.22	0.00	1.03E+00	1.03E+00	1.08E-01	5.09E-01
Pt-193m	135.50	0.11	3.86E-02	3.86E-02	2.46E-02	1.91E-02
Au-194	293.55	10.90	6.12E-04	1.14E-04	5.82E-05	3.03E-04
	328.47	62.80	1.14E-04		1.33E-05	5.67E-05
	364.84	1.60	4.80E-03		-2.02E-03	2.38E-03
	528.77	1.78	4.15E-03		-2.76E-03	2.05E-03
	645.16	2.32	2.69E-03		2.98E-04	1.32E-03
	948.32	2.29	9.93E-04		2.74E-04	4.68E-04
	1104.06	2.15	1.21E-03		1.95E-04	5.72E-04
	1175.36	2.14	2.85E-03		1.25E-02	1.39E-03
	1468.90	6.80	3.04E-04		-4.01E-04	1.39E-04
	1595.81	1.89	7.16E-04		-1.10E-03	3.10E-04
	2043.72	3.74	3.78E-04		2.17E-04	1.60E-04
Ir-194	293.54	2.50	2.82E-03	5.80E-04	2.68E-04	1.40E-03
	328.47	13.10	5.80E-04		6.72E-05	2.87E-04
AU-195	98.86	11.21	3.70E-04	3.70E-04	-9.88E-05	1.83E-04
	129.74	0.84	5.09E-03		4.71E-03	2.52E-03
Pt-195m	98.90	11.70	3.63E-04	3.63E-04	-9.68E-05	1.80E-04

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Pt-195m	129.79	2.90	1.51E-03	3.63E-04	1.40E-03	7.46E-04
Au-196	333.03	22.90	4.78E-04	1.03E-04	2.24E-05	2.37E-04
	355.73	87.00	1.03E-04		-3.31E-05	5.11E-05
	426.10	6.60	1.41E-03		5.09E-04	6.98E-04
Au-196m	147.81	43.50	1.26E-04	1.26E-04	6.61E-05	6.22E-05
	188.27	30.00	2.46E-04		3.57E-04	1.22E-04
Pt-197	77.35	17.00	3.27E-04	3.27E-04	-1.95E-04	1.62E-04
	191.44	3.70	1.81E-03		1.71E-03	8.97E-04
AU-198	411.80	95.62	9.28E-05	9.28E-05	2.12E-05	4.60E-05
AU-199	158.38	40.00	1.18E-04	1.18E-04	-8.01E-05	5.86E-05
	208.20	8.72	6.95E-04		-1.21E-04	3.45E-04
TL-201	135.34	2.61	1.72E-03	4.94E-04	1.68E-03	8.51E-04
	167.43	10.00	4.94E-04		3.14E-04	2.45E-04
TL-202	439.51	91.50	1.05E-04	1.05E-04	-1.17E-04	5.20E-05
PB-203	70.83	26.40	2.24E-04	9.44E-05	-1.44E-04	1.11E-04
	72.87	44.20	1.29E-04		6.20E-05	6.39E-05
	82.40	15.56	3.10E-04		-5.80E-06	1.53E-04
	279.20	80.90	9.44E-05		-4.95E-05	4.68E-05
	401.32	3.35	3.89E-03		2.11E-03	1.93E-03
PB-210	46.54	4.25	4.78E-03	4.78E-03	-1.08E-03	2.36E-03
Pa-233	86.60	2.01	2.72E-03	1.71E-04	3.83E-03	1.35E-03
	94.65	8.90	4.75E-04		-2.51E-04	2.35E-04
	98.43	14.20	2.93E-04		-1.37E-04	1.45E-04
	300.13	6.54	9.92E-04		3.34E-05	4.92E-04
	311.90	38.20	1.71E-04		-2.46E-04	8.50E-05
	340.48	4.44	1.56E-03		-2.90E-04	7.73E-04
U-235	89.96	2.90	1.55E-03	9.94E-05	-2.44E-04	7.66E-04
	93.35	4.70	8.66E-04		3.19E-04	4.29E-04
	109.19	1.64	2.48E-03		2.35E-03	1.23E-03
	143.76	10.93	3.95E-04		-1.13E-04	1.96E-04
	163.36	5.07	9.32E-04		2.50E-05	4.62E-04
	185.71	57.20	9.94E-05		1.95E-04	4.93E-05
	202.11	1.07	5.61E-03		-3.24E-03	2.79E-03
	205.31	5.03	1.18E-03		-5.84E-04	5.85E-04
NP-237	86.48	12.20	3.82E-04	3.82E-04	5.38E-04	1.89E-04
U-237	59.54	34.50	2.71E-04	1.71E-04	3.47E-04	1.34E-04
	97.07	15.40	2.78E-04		2.17E-05	1.37E-04
	101.06	24.50	1.71E-04		1.45E-04	8.46E-05
	113.30	3.07	1.35E-03		-4.72E-04	6.69E-04
	114.23	5.81	7.13E-04		-8.11E-04	3.53E-04
	117.46	2.27	1.85E-03		3.82E-04	9.14E-04
	208.00	21.20	2.99E-04		-1.17E-05	1.48E-04
NP-238	103.37	0.00	8.93E-01	8.16E-05	-4.33E-01	4.42E-01
	882.63	0.80	2.36E-03		1.87E-03	1.10E-03
	923.99	2.60	8.31E-04		2.40E-05	3.91E-04
	984.45	25.20	8.16E-05		1.93E-06	3.82E-05
	1025.87	8.75	2.15E-04		-7.02E-05	9.95E-05
	1028.53	18.23	1.15E-04		6.62E-05	5.39E-05
U-238	63.29	3.70	1.92E-03	9.74E-04	3.28E-04	9.49E-04
	92.51	4.23	9.74E-04		2.72E-04	4.82E-04
	112.81	0.21	1.95E-02		1.54E-02	9.65E-03
	742.81	0.11	1.36E-02		4.51E-03	6.32E-03
	766.42	0.32	5.73E-03		8.28E-04	2.69E-03

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	U-238	1001.03		0.84	2.82E-03	9.74E-04	2.61E-03	1.34E-03
	Am-239	181.71		1.08	5.75E-03	5.02E-04	-4.96E-03	2.85E-03
		209.80		3.50	2.01E-03		-1.26E-03	9.98E-04
		226.40		3.30	2.08E-03		-4.06E-04	1.03E-03
		228.10		11.30	6.08E-04		9.72E-05	3.02E-04
		277.60		15.00	5.02E-04		-1.72E-04	2.49E-04
	NP-239	61.46		1.30	6.25E-03	1.83E-04	2.41E-03	3.09E-03
		99.53		12.90	3.34E-04		2.12E-04	1.66E-04
		103.37		20.50	2.06E-04		-1.00E-04	1.02E-04
		106.12		25.34	1.83E-04		7.59E-05	9.07E-05
		209.75		3.36	1.92E-03		-1.20E-03	9.52E-04
		228.18		11.24	5.63E-04		-4.11E-04	2.79E-04
		277.60		14.51	4.93E-04		-1.69E-04	2.44E-04
		285.46		0.79	9.94E-03		3.93E-03	4.92E-03
		315.88		1.60	3.81E-03		-4.79E-05	1.89E-03
		334.31		2.06	2.53E-03		-1.02E-03	1.25E-03
	PU-239	38.66		0.01	5.51E+00	4.78E-01	-1.88E-01	2.73E+00
		51.62		0.03	4.78E-01		-1.08E-01	2.37E-01
		98.50		0.01	5.73E-01		-2.67E-01	2.84E-01
		111.03		0.00	3.08E+00		1.07E+00	1.52E+00
		129.30		0.01	6.75E-01		-7.92E-02	3.34E-01
		171.39		0.00	4.42E+01		-4.24E+00	2.19E+01
		203.55		0.00	1.06E+01		4.44E+00	5.23E+00
		332.85		0.00	1.37E+01		5.81E+00	6.80E+00
		336.11		0.00	6.07E+01		-4.36E+01	3.01E+01
		345.01		0.00	1.25E+01		-7.52E+00	6.22E+00
		375.05		0.00	4.84E+00		3.04E+00	2.40E+00
		380.19		0.00	2.51E+01		-1.93E+01	1.24E+01
		382.75		0.00	2.97E+01		-7.02E+00	1.47E+01
		413.71		0.00	5.93E+00		6.21E+00	2.94E+00
		422.60		0.00	7.42E+01		1.42E+01	3.68E+01
		451.48		0.00	5.38E+01		-2.53E+01	2.67E+01
	Am-240	99.53		18.40	2.35E-04	2.82E-05	1.49E-04	1.17E-04
		103.37		29.20	1.46E-04		-7.05E-05	7.21E-05
		117.23		6.93	6.22E-04		1.29E-04	3.08E-04
		888.85		24.70	8.34E-05		1.07E-04	3.92E-05
		987.79		72.20	2.82E-05		1.12E-06	1.32E-05
	Np-240m	554.60		20.90	3.41E-04	3.41E-04	-7.64E-05	1.68E-04
		597.40		11.70	5.69E-04		-1.52E-04	2.80E-04
	U-240	44.10		1.05	2.96E-02	2.89E-02	7.39E-03	1.47E-02
		66.50		0.15	4.71E-02		-6.94E-03	2.33E-02
		169.20		0.12	4.86E-02		-2.61E-02	2.41E-02
		189.70		0.24	2.89E-02		-7.87E-03	1.44E-02
+	AM-241	59.54	*	35.90	2.74E-04	2.74E-04	2.14E-04	1.36E-04
	AM-242m	49.35		0.13	1.16E-01	1.16E-01	-1.44E-02	5.75E-02
		66.89		0.01	4.13E-01		8.50E-02	2.04E-01
		86.65		0.02	2.04E-01		2.87E-01	1.01E-01
		163.25		0.02	3.09E-01		8.29E-03	1.53E-01
	AM-243	43.53		5.90	4.82E-03	7.81E-05	-1.34E-03	2.38E-03
		74.66		67.20	7.81E-05		-4.46E-05	3.87E-05

Analysis Report for 24-2496 TI185-3.5M-AP105d-A F0

ASR 2094 Branch

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

Apex-Gamma

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2497 TI185-4.5M-AP-105A Q0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 8:12:34AM
Procedure	: Q0_gsv02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: Q0_gsv02mlw
Live Time	: 4883.6 seconds
Real Time	: 4925.0 seconds
Dead Time	: 0.84 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 1/16/2018
Efficiency Calibration Description	: Q0_gsv2mlw_R651_PT
Sample Number	: 578916
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 9:34:41AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.62	190.39	0.1917	9.83
2	87.55	279.49	0.1500	14.30
3	123.16	393.05	0.2295	7.62
4	414.97	1323.18	0.1481	12.89
5	455.97	1454.05	0.3125	3.34
6	661.85	2110.31	0.0229	461.60
7	666.50	2125.76	0.1300	18.85
8	688.62	2195.73	0.3344	3.00
9	695.23	2216.58	0.1080	20.28
10	720.69	2297.65	0.3181	3.36
11	723.63	2307.13	0.2265	5.55
12	856.96	2732.16	0.2737	3.13
13	996.59	3177.20	0.2406	4.52
14	1004.84	3203.56	0.2056	5.51
15	1081.24	3447.27	0.1773	6.80
16	1109.88	3538.31	0.1885	5.91
17	1173.55	3741.38	0.0844	28.62
18	1274.92	4064.19	0.1632	7.10
19	1332.88	4249.34	0.0845	26.82
20	1361.72	4340.49	0.1714	6.60
21	1461.35	4658.24	0.1753	6.24
22	1764.49	5624.89	0.2452	3.36
23	2506.48	7988.42	0.1622	5.51

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 9:34:41AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.62	185	197	190.44	1.59E+03	100.25	1.23E+04	1.09
F	2	87.55	270	288	279.46	3.42E+03	405.97	1.72E+04	1.33
F	3	123.16	386	399	393.01	9.83E+02	185.65	1.30E+04	1.09
F	4	414.97	1311	1331	1323.25	2.69E+03	414.53	1.94E+04	1.63
F	5	455.97	1450	1458	1453.95	3.50E+02	109.09	1.04E+04	1.18
M	6	661.85	2097	2138	2110.22	7.50E+05	1334.55	3.76E+03	1.70
m	7	666.50	2097	2138	2125.04	1.74E+03	43.37	3.18E+02	1.70
M	8	688.62	2191	2229	2195.57	3.24E+01	15.71	2.55E+02	1.78
m	9	695.23	2191	2229	2216.64	1.72E+03	41.82	3.35E+02	1.78
M	10	720.69	2291	2317	2297.78	1.08E+02	49.83	1.63E+02	1.71
m	11	723.63	2291	2317	2307.14	1.87E+02	69.57	2.26E+02	1.71
	12	856.96	2725	2740	2732.16	2.77E+01	32.62	2.07E+02	0.67
F	13	996.59	3171	3182	3177.24	6.69E+01	14.23	1.41E+02	1.31
F	14	1004.84	3195	3209	3203.53	1.34E+02	60.34	1.84E+02	1.60
F	15	1081.24	3440	3455	3447.06	2.19E+02	18.35	1.62E+02	1.91
F	16	1109.88	3523	3553	3538.33	2.68E+02	64.45	2.73E+02	2.16
F	17	1173.55	3726	3754	3741.28	3.31E+03	122.33	2.57E+02	2.05
F	18	1274.92	4054	4076	4064.40	2.74E+02	16.89	6.79E+01	2.21
F	19	1332.88	4234	4261	4249.14	3.20E+03	105.89	5.87E+01	2.22
F	20	1361.72	4331	4350	4341.04	1.90E+02	14.96	6.96E+01	2.10
F	21	1461.35	4649	4670	4658.61	1.70E+02	13.36	3.53E+01	2.19
F	22	1764.49	5619	5632	5624.78	4.83E+01	8.48	1.72E+01	2.36
F	23	2506.48	7980	8000	7989.45	1.71E+02	20.09	3.38E+01	2.42

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 9:34:41AM

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578893.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.62	1.59E+03	100.25			1.59E+03	1.00E+02
F	2	87.55	3.42E+03	405.97	4.10E+01	1.94E+00	3.38E+03	4.06E+02
F	3	123.16	9.83E+02	185.65			9.83E+02	1.86E+02
F	4	414.97	2.69E+03	414.53			2.69E+03	4.15E+02
F	5	455.97	3.50E+02	109.09			3.50E+02	1.09E+02
M	6	661.85	7.50E+05	1334.55			7.50E+05	1.33E+03
m	7	666.50	1.74E+03	43.37	3.39E+00	7.62E-01	1.73E+03	4.34E+01
M	8	688.62	3.24E+01	15.71			3.24E+01	1.57E+01
m	9	695.23	1.72E+03	41.82			1.72E+03	4.18E+01
M	10	720.69	1.08E+02	49.83			1.08E+02	4.98E+01
m	11	723.63	1.87E+02	69.57			1.87E+02	6.96E+01
	12	856.96	2.77E+01	32.62			2.77E+01	3.26E+01
F	13	996.59	6.69E+01	14.23			6.69E+01	1.42E+01
F	14	1004.84	1.34E+02	60.34			1.34E+02	6.03E+01
F	15	1081.24	2.19E+02	18.35			2.19E+02	1.83E+01
F	16	1109.88	2.68E+02	64.45			2.68E+02	6.45E+01
F	17	1173.55	3.31E+03	122.33			3.31E+03	1.22E+02
F	18	1274.92	2.74E+02	16.89			2.74E+02	1.69E+01
F	19	1332.88	3.20E+03	105.89			3.20E+03	1.06E+02
F	20	1361.72	1.90E+02	14.96			1.90E+02	1.50E+01
F	21	1461.35	1.70E+02	13.36	1.45E+02	1.61E+00	2.57E+01	1.35E+01
F	22	1764.49	4.83E+01	8.48	4.39E+01	9.28E-01	4.40E+00	8.53E+00
F	23	2506.48	1.71E+02	20.09			1.71E+02	2.01E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.95	1460.82	*	10.66	2.58E-05	1.36E-05	miss

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.98	1173.23	*	99.85	4.02E-04	1.51E-05	0.765
		1332.49	*	99.98	4.22E-04	1.44E-05	0.763
CD-109	0.96	88.03	*	3.64	3.15E-03	3.80E-04	free
Te-129m	0.93	695.88	*	3.00	3.79E-03	7.64E-04	free
CS-137	0.99	661.66	*	85.10	5.63E-02	4.23E-04	miss
EU-154	0.60	42.70		20.45			
		123.07	*	40.40	8.91E-05	1.69E-05	0.741
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	8.90E-05	3.31E-05	0.710
		756.80		4.52			
		873.18		12.08			
		996.29	*	10.48	6.04E-05	1.29E-05	0.880
		1004.76	*	18.01	7.20E-05	3.25E-05	0.863
		1246.12		0.86			
		1274.43	*	34.80	8.80E-05	5.54E-06	0.874
		1494.05		0.70			
		1596.48		1.80			
AM-241	0.99	59.54	*	35.90	3.10E-04	2.01E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.956	2.58E-05	1.36E-05	
CO-60	0.980	4.13E-04	1.04E-05	
CD-109	0.963	3.15E-03	3.80E-04	
Te-129m	0.936	3.79E-03	7.64E-04	

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CS-137	0.994	5.63E-02	4.23E-04	
EU-154	0.600	8.40E-05	4.77E-06	
AM-241	0.999	3.10E-04	2.01E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 9:34:41AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	4	414.97	5.51646E-01	15.39	Tol.	RH-102M
F	5	455.97	7.15845E-02	31.21	Tol.	Pt-191
m	7	666.50	3.55006E-01	2.50		
M	8	688.62	6.63735E-03	48.47		
M	10	720.69	2.21131E-02	46.14	Sum	
	12	856.96	5.67162E-03	117.79	Tol.	I-133
F	15	1081.24	4.48560E-02	8.38		
F	16	1109.88	5.48058E-02	24.08		
F	20	1361.72	3.89895E-02	7.86	Sum	
F	22	1764.49	9.01769E-04	193.66		
F	23	2506.48	3.50247E-02	11.75	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.60	10.44	4.35E-04	4.35E-04	9.90E-04	2.17E-04
	NA-22	511.00	179.91	1.95E-05	1.86E-05	-2.90E-07	9.71E-06
		1274.54	99.94	1.86E-05		3.35E-05	9.05E-06
	NA-24	1368.63	99.99	1.01E-05	1.01E-05	2.45E-06	4.87E-06
>		2754.01	99.87	0.00E+00		0.00E+00	0.00E+00

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	AL-26	1129.67		2.50	3.71E-04	4.81E-06	4.16E-04	1.80E-04
		1808.65		99.76	4.81E-06		2.44E-06	2.23E-06
+	K-40	1460.82	*	10.66	6.62E-05	6.62E-05	2.58E-05	3.17E-05
	K-42	312.60		0.34	9.61E-03	3.12E-05	5.94E-03	4.79E-03
		1524.60		18.08	3.12E-05		-2.92E-05	1.47E-05
	Sc-44	1157.02		99.90	1.06E-05	1.06E-05	2.38E-06	5.14E-06
		1499.46		0.91	8.21E-04		-6.28E-04	3.86E-04
	Sc-44m	271.24		86.74	3.27E-05	3.27E-05	1.99E-05	1.63E-05
		1001.83		1.20	1.52E-03		1.91E-03	7.42E-04
		1126.06		1.20	1.30E-03		-8.21E-04	6.30E-04
		1157.00		1.20	1.12E-03		2.53E-04	5.44E-04
	TI-44	67.87		93.00	4.51E-05	3.21E-05	-1.56E-05	2.25E-05
		78.32		96.40	3.21E-05		-1.06E-05	1.60E-05
	SC-46	889.28		99.98	1.12E-05	1.12E-05	1.37E-05	5.47E-06
		1120.55		99.99	1.19E-05		3.01E-06	5.80E-06
	CA-47	489.23		5.90	8.95E-04	9.05E-06	6.38E-05	4.46E-04
		807.86		5.90	1.75E-04		-2.44E-05	8.52E-05
		1297.09		67.00	9.05E-06		1.22E-05	4.32E-06
	SC-47	159.38		68.30	3.04E-05	3.04E-05	7.15E-06	1.52E-05
	SC-48	175.36		7.47	2.95E-04	6.30E-06	8.68E-05	1.47E-04
		983.53		100.00	8.42E-06		-4.62E-06	4.10E-06
		1037.52		97.50	8.80E-06		6.30E-06	4.28E-06
		1312.12		100.00	6.30E-06		3.88E-06	3.01E-06
	V-48	944.13		7.87	1.42E-04	8.29E-06	6.61E-05	6.92E-05
		983.53		99.98	1.08E-05		-5.91E-06	5.24E-06
		1312.11		98.20	8.29E-06		5.10E-06	3.96E-06
		2240.40		2.33	2.74E-04		1.21E-04	1.26E-04
	CR-51	320.08		9.91	2.95E-04	2.95E-04	-1.36E-04	1.47E-04
	Fe-52	168.69		99.20	2.47E-05	2.47E-05	2.33E-06	1.23E-05
		377.75		1.64	2.42E-03		-7.04E-04	1.21E-03
	Mn-52	744.23		90.00	1.36E-05	9.24E-06	6.54E-06	6.64E-06
		848.18		3.32	4.09E-04		-9.50E-05	1.99E-04
		935.54		94.50	1.64E-05		-1.99E-05	8.01E-06
		1246.28		4.21	2.72E-04		-3.25E-05	1.31E-04
		1333.65		5.07	8.59E-04		1.02E-02	4.25E-04
		1434.09		100.00	9.24E-06		3.33E-06	4.37E-06
	MN-54	834.85		99.98	7.71E-06	7.71E-06	-3.35E-06	3.75E-06
	Co-55	411.50		1.07	3.93E-03	1.31E-05	-7.15E-04	1.96E-03
		477.20		20.20	2.45E-04		5.50E-04	1.22E-04
		803.70		1.87	4.30E-04		2.73E-04	2.09E-04
		931.10		75.00	1.31E-05		1.83E-05	6.41E-06
		1316.60		7.10	1.02E-04		1.70E-05	4.90E-05
		1370.00		2.90	2.19E-04		-3.38E-04	1.04E-04
		1408.50		16.90	3.69E-05		2.86E-06	1.76E-05
	Co-56	846.77		99.94	1.13E-05	1.13E-05	1.04E-05	5.49E-06
		977.37		1.42	9.83E-04		5.13E-04	4.79E-04
		1037.84		14.05	8.63E-05		-3.45E-05	4.19E-05
		1175.10		2.25	1.94E-03		2.26E-02	9.59E-04
		1238.29		66.46	1.43E-05		-8.24E-06	6.85E-06
		1360.21		4.28	2.90E-04		8.79E-04	1.41E-04
		1771.36		15.41	6.41E-05		-4.73E-06	3.06E-05
		2015.20		3.02	1.98E-04		-2.00E-04	9.11E-05
		2034.79		7.77	8.97E-05		3.27E-05	4.16E-05

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
>	Co-56	2598.50		16.97	0.00E+00	1.13E-05	0.00E+00	0.00E+00
	MN-56	846.76		98.85	1.49E-05	1.49E-05	1.38E-05	7.27E-06
		1810.73		26.90	3.88E-05		-3.32E-05	1.80E-05
		2113.09		14.20	8.14E-05		-8.62E-05	3.77E-05
	Ni-56	158.38		98.80	2.08E-05	8.75E-06	-1.15E-05	1.04E-05
		269.50		36.50	7.63E-05		-2.64E-05	3.80E-05
		480.44		36.50	1.18E-04		-2.30E-04	5.89E-05
		749.50		49.50	1.43E-05		-2.20E-05	6.96E-06
		811.85		86.00	8.75E-06		-7.38E-06	4.26E-06
		1561.80		14.00	3.55E-05		6.48E-06	1.67E-05
	CO-57	122.06		85.60	2.30E-05	2.30E-05	3.34E-05	1.14E-05
		136.47		10.68	1.85E-04		-2.38E-05	9.23E-05
	NI-57	127.16		16.70	1.22E-04	7.48E-06	-7.31E-06	6.05E-05
		1377.63		81.70	7.48E-06		1.21E-05	3.56E-06
		1757.55		5.75	1.14E-04		-8.13E-05	5.38E-05
		1919.52		12.30	3.91E-05		-3.05E-05	1.81E-05
	CO-58	810.76		99.45	8.28E-06	8.28E-06	4.16E-06	4.03E-06
		863.96		0.69	1.57E-03		-1.69E-04	7.65E-04
		1674.73		0.52	7.85E-04		-3.91E-04	3.66E-04
	FE-59	142.65		1.02	1.97E-03	1.50E-05	2.42E-03	9.80E-04
		192.34		3.08	1.12E-03		7.72E-04	5.58E-04
		1099.24		56.50	1.50E-05		-2.82E-06	7.28E-06
		1291.59		43.20	1.50E-05		1.20E-05	7.18E-06
+	CO-60	1173.23	*	99.85	1.88E-05	9.97E-06	4.02E-04	9.24E-06
		1332.49	*	99.98	9.97E-06		4.22E-04	4.81E-06
	CU-64	511.00		35.00	1.11E-04	1.11E-04	-1.65E-06	5.53E-05
		1345.77		0.47	1.27E-03		-1.87E-04	6.02E-04
	NI-65	366.27		4.81	1.51E-03	3.37E-05	-9.28E-04	7.51E-04
		1115.53		15.43	1.28E-04		1.29E-04	6.24E-05
		1481.84		23.59	3.37E-05		-2.49E-05	1.59E-05
	ZN-65	1115.54		50.04	2.13E-05	2.13E-05	2.15E-05	1.04E-05
	GA-66	511.00		114.00	3.53E-05	2.63E-05	-5.25E-07	1.76E-05
		833.53		5.90	1.51E-04		2.68E-07	7.33E-05
		1039.22		37.00	2.63E-05		2.95E-05	1.28E-05
		1333.11		1.17	2.68E-03		3.17E-02	1.33E-03
		1918.33		1.99	2.82E-04		3.19E-04	1.31E-04
		2189.62		5.30	1.16E-04		7.81E-05	5.35E-05
>		2751.83		22.70	0.00E+00		0.00E+00	0.00E+00
	CU-67	91.27		7.00	3.32E-04	5.13E-05	3.22E-05	1.66E-04
		93.31		16.10	1.37E-04		4.97E-06	6.82E-05
		184.58		48.70	5.13E-05		6.14E-05	2.56E-05
		300.22		0.80	3.64E-03		-5.54E-04	1.81E-03
		393.53		0.22	1.65E-02		2.76E-03	8.20E-03
	GA-67	91.26		3.11	8.79E-04	6.13E-05	8.50E-05	4.38E-04
		93.31		38.81	6.13E-05		2.23E-06	3.05E-05
		184.58		21.41	1.18E-04		1.42E-04	5.90E-05
		208.95		2.46	1.67E-03		1.24E-03	8.31E-04
		300.22		16.64	1.98E-04		-3.02E-05	9.87E-05
		393.53		4.56	5.01E-04		8.40E-05	2.50E-04
	ZN-69m	438.63		94.85	4.98E-05	4.98E-05	-2.50E-05	2.48E-05
	GA-72	629.97		26.13	1.72E-04	1.20E-05	1.25E-05	8.56E-05
		834.13		95.45	1.20E-05		1.01E-05	5.86E-06
		894.33		10.14	1.55E-04		2.48E-04	7.57E-05

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	GA-72	1050.79	6.99	2.30E-04	1.20E-05	6.65E-05	1.12E-04
		2201.59	26.87	3.64E-05		3.59E-05	1.71E-05
		2491.03	7.73	6.30E-05		-1.04E-04	2.78E-05
		2507.72	13.33	1.36E-04		4.36E-04	6.56E-05
	Zn-72	144.70	82.78	2.48E-05	2.48E-05	6.75E-06	1.24E-05
		191.50	9.35	2.88E-04		2.93E-04	1.44E-04
	SE-75	121.12	17.20	1.63E-04	4.78E-05	2.49E-05	8.12E-05
		136.00	58.50	4.78E-05		-8.63E-07	2.38E-05
		264.66	58.90	6.47E-05		3.44E-05	3.22E-05
		279.54	25.02	1.37E-04		7.69E-05	6.84E-05
		400.66	11.41	1.11E-04		5.56E-05	5.51E-05
	BR-83	529.59	1.30	4.21E-03	4.21E-03	-1.16E-03	2.10E-03
	BR-84	604.80	1.70	1.57E-02	2.08E-04	7.60E-03	7.78E-03
		736.50	1.29	5.76E-03		-3.89E-03	2.81E-03
		802.20	6.00	1.29E-03		-7.04E-04	6.30E-04
		881.60	42.00	2.08E-04		-4.54E-05	1.01E-04
		987.30	0.79	1.09E-02		-3.01E-03	5.32E-03
		1015.90	6.20	1.35E-03		1.17E-03	6.54E-04
		1213.30	2.60	2.54E-03		-1.27E-03	1.22E-03
		1463.80	2.00	4.37E-03		1.01E-02	2.11E-03
		1741.20	1.60	3.23E-03		-7.23E-04	1.51E-03
		1877.50	1.12	4.01E-03		-1.29E-03	1.84E-03
		1897.60	14.60	3.17E-04		-5.61E-05	1.46E-04
		2029.60	2.10	2.45E-03		1.61E-03	1.13E-03
		2200.70	1.16	5.99E-03		-4.28E-03	2.81E-03
		2484.10	6.70	5.82E-04		4.67E-04	2.56E-04
>		2824.10	1.12	0.00E+00		0.00E+00	0.00E+00
	KR-85m	151.20	75.20	3.57E-05	3.57E-05	5.93E-06	1.78E-05
		304.87	14.00	2.73E-04		1.63E-04	1.36E-04
	Y-87	388.53	82.20	4.31E-05	4.31E-05	9.43E-06	2.15E-05
		484.80	89.80	4.62E-05		-1.21E-04	2.30E-05
	KR-88	165.98	3.10	1.92E-03	1.64E-05	-1.28E-03	9.54E-04
		196.30	26.00	2.08E-04		1.56E-04	1.04E-04
		362.23	2.25	2.11E-03		-2.93E-03	1.05E-03
		471.80	0.73	1.33E-02		2.00E-02	6.64E-03
		834.83	13.00	1.18E-04		-5.14E-05	5.76E-05
		985.78	1.31	1.49E-03		-5.66E-04	7.26E-04
		1141.33	1.28	1.14E-03		-1.43E-03	5.55E-04
		1179.51	1.00	5.50E-03		-1.10E-04	2.72E-03
		1250.67	1.12	1.19E-03		1.74E-04	5.69E-04
		1369.50	1.48	8.84E-04		-1.74E-03	4.23E-04
		1518.39	2.15	5.41E-04		-5.46E-04	2.55E-04
		1529.77	10.90	9.83E-05		-1.51E-05	4.63E-05
		2029.84	4.53	2.84E-04		-3.72E-05	1.31E-04
		2035.41	3.74	3.05E-04		1.16E-04	1.42E-04
		2195.84	13.20	9.61E-05		-1.19E-04	4.48E-05
		2231.77	3.39	2.15E-04		1.30E-04	9.99E-05
		2352.08	0.73	1.32E-03		7.84E-04	5.96E-04
		2392.11	34.60	1.64E-05		1.47E-05	7.28E-06
	RB-88	898.03	14.40	1.20E-04	4.47E-05	7.30E-05	5.83E-05
		1382.45	0.78	1.54E-03		2.32E-03	7.32E-04
		1836.00	22.81	4.47E-05		3.28E-05	2.09E-05
>		2677.89	2.13	0.00E+00		0.00E+00	0.00E+00

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Y-88	898.04	93.70	1.15E-05	6.79E-06	6.99E-06	5.59E-06
		1836.06	99.20	6.79E-06		8.75E-06	3.17E-06
	RB-89	272.42	1.53	1.84E-01	1.34E-03	2.39E-01	9.17E-02
		657.77	10.80	2.39E-01		-2.54E-02	1.20E-01
		947.73	10.00	8.96E-03		-5.00E-03	4.37E-03
		1031.92	63.00	1.34E-03		2.07E-04	6.52E-04
		1248.14	46.00	1.42E-03		2.66E-03	6.82E-04
		1538.07	2.77	1.77E-02		-1.44E-03	8.32E-03
		2007.50	2.58	1.98E-02		2.24E-02	9.18E-03
		2195.92	14.50	4.24E-03		-1.76E-03	1.98E-03
>		2570.20	10.70	0.00E+00		0.00E+00	0.00E+00
>		2707.26	2.20	0.00E+00		0.00E+00	0.00E+00
	SR-89	908.96	0.01	9.07E-02	9.07E-02	-3.18E-02	4.42E-02
	Sr-91	652.90	11.35	2.95E-04	2.73E-05	-6.17E-04	1.47E-04
		749.80	23.70	3.42E-05		-2.39E-05	1.66E-05
		925.80	3.85	2.63E-04		2.33E-04	1.28E-04
		1024.30	33.50	2.73E-05		-1.56E-05	1.32E-05
	Y-91	1204.77	0.26	2.66E-03	2.66E-03	3.24E-03	1.28E-03
	Y-91m	555.57	61.64	4.99E-05	4.99E-05	1.79E-05	2.48E-05
	NB-92M	912.60	1.78	6.53E-04	9.21E-06	-7.26E-05	3.18E-04
		934.44	99.15	9.21E-06		8.56E-06	4.50E-06
		1847.50	0.85	4.61E-04		5.61E-04	2.14E-04
	SR-92	241.56	2.93	1.54E-03	1.05E-05	2.53E-04	7.66E-04
		430.49	3.28	2.09E-03		2.83E-03	1.04E-03
		953.31	3.52	4.26E-04		1.00E-04	2.08E-04
		1142.35	2.79	4.64E-04		6.69E-05	2.25E-04
		1383.93	90.00	1.05E-05		-1.55E-05	4.99E-06
	MO-93M	114.04	0.68	3.54E-03	5.89E-06	-2.22E-03	1.77E-03
		263.05	57.40	5.75E-05		-3.04E-05	2.86E-05
		684.69	99.90	1.14E-05		1.44E-05	5.61E-06
		1363.02	0.81	1.33E-03		3.51E-03	6.46E-04
		1477.14	99.10	5.89E-06		-3.36E-06	2.76E-06
	SR-93	168.50	18.40	7.58E-01	2.13E-01	5.45E-01	3.78E-01
		260.12	7.40	2.46E+00		1.68E-01	1.23E+00
		346.49	3.28	6.39E+00		-1.04E+01	3.18E+00
		446.20	2.36	1.26E+01		-3.98E+00	6.26E+00
		590.24	68.00	2.53E-01		3.44E-01	1.26E-01
		710.31	21.80	2.13E-01		-7.62E-02	1.04E-01
		875.73	24.50	2.41E-01		2.31E-01	1.18E-01
		888.13	22.10	2.54E-01		9.12E-02	1.24E-01
		1040.63	3.20	1.74E+00		-1.03E+00	8.48E-01
		1094.00	1.76	3.14E+00		-3.33E+00	1.53E+00
		1122.48	4.00	1.52E+00		3.75E-01	7.40E-01
		1215.48	2.50	1.66E+00		6.74E-01	7.96E-01
		1269.47	7.10	8.98E-01		-1.70E-01	4.37E-01
		1321.24	2.61	1.79E+00		4.83E-01	8.59E-01
		1387.11	3.50	1.06E+00		-7.28E-01	5.05E-01
		1694.07	2.58	1.34E+00		-1.54E-02	6.26E-01
		1699.06	3.30	1.05E+00		1.84E+00	4.91E-01
		2543.84	3.03	7.53E-01		5.24E-01	3.26E-01
>		2688.65	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-93	266.90	7.40	4.23E-04	3.54E-04	-2.54E-04	2.11E-04
		947.10	2.10	4.77E-04		-3.13E-05	2.32E-04

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Y-93	1917.80	1.57	3.54E-04	3.54E-04	-1.03E-04	1.64E-04
NB-94	702.65	99.81	1.01E-05	1.01E-05	-8.72E-06	4.92E-06
	871.09	99.89	1.18E-05		2.12E-06	5.77E-06
Y-94	381.60	2.02	7.98E-02	7.28E-04	-3.63E-02	3.98E-02
	550.90	4.90	2.65E-02		2.54E-03	1.32E-02
	752.60	1.40	2.48E-02		1.06E-02	1.21E-02
	918.74	56.00	7.28E-04		-2.32E-04	3.55E-04
	1138.90	6.00	6.29E-03		-8.15E-04	3.05E-03
	1671.40	2.50	9.26E-03		2.01E-03	4.33E-03
	2140.60	0.95	2.35E-02		1.13E-03	1.08E-02
NB-95	765.80	99.81	7.16E-06	7.16E-06	4.37E-06	3.49E-06
ZR-95	724.19	44.27	1.95E-05	1.34E-05	1.73E-06	9.53E-06
	756.72	54.38	1.34E-05		1.12E-05	6.54E-06
NB-96	219.08	2.97	9.86E-04	7.59E-06	3.65E-05	4.92E-04
	241.38	3.50	8.28E-04		1.36E-04	4.13E-04
	350.05	1.54	2.18E-03		-3.09E-03	1.09E-03
	352.56	0.83	4.10E-03		8.84E-04	2.04E-03
	371.81	2.62	1.35E-03		-1.02E-03	6.73E-04
	460.04	26.62	1.88E-04		6.97E-05	9.37E-05
	480.71	5.84	7.69E-04		-1.25E-03	3.83E-04
	568.87	58.00	4.69E-05		-2.21E-05	2.33E-05
	719.56	6.85	1.33E-04		-1.10E-05	6.50E-05
	721.63	1.02	8.80E-04		7.95E-04	4.30E-04
	778.22	96.45	7.59E-06		-5.78E-06	3.69E-06
	810.33	11.09	7.19E-05		-3.19E-05	3.50E-05
	812.58	2.95	2.69E-04		1.10E-04	1.31E-04
	847.69	1.14	7.45E-04		6.06E-05	3.63E-04
	849.93	20.45	4.13E-05		4.19E-05	2.01E-05
	1091.35	48.50	1.85E-05		4.39E-06	8.97E-06
	1200.23	19.97	3.72E-05		1.23E-05	1.79E-05
	1441.13	0.44	1.18E-03		7.51E-04	5.56E-04
	1497.81	3.28	1.63E-04		6.16E-05	7.68E-05
Nb-97	657.94	98.23	2.83E-04	2.83E-04	-3.35E-05	1.41E-04
	1024.40	1.09	7.90E-04		-4.71E-04	3.84E-04
ZR-97	254.17	1.15	2.57E-03	8.39E-06	-1.54E-03	1.28E-03
	355.40	2.09	2.50E-03		1.57E-03	1.24E-03
	507.64	5.03	1.04E-03		1.37E-04	5.19E-04
	743.36	93.09	8.39E-06		3.24E-06	4.08E-06
	1147.97	2.62	4.83E-04		1.22E-04	2.34E-04
MO-99	181.07	6.14	6.05E-04	7.94E-05	-1.90E-03	3.01E-04
	366.42	1.20	2.80E-03		-1.72E-03	1.39E-03
	739.50	12.26	7.94E-05		2.82E-05	3.86E-05
	777.92	4.30	1.65E-04		-4.88E-05	8.00E-05
TC-99M	140.51	90.80	2.24E-05	2.24E-05	-7.43E-06	1.12E-05
RH-101	127.23	68.00	4.03E-05	4.03E-05	-2.42E-06	2.01E-05
	198.01	73.00	4.73E-05		-4.79E-05	2.36E-05
	325.23	11.80	9.86E-05		-4.82E-05	4.91E-05
RH-101M	306.86	81.00	3.58E-05	3.58E-05	-1.61E-05	1.78E-05
	545.12	4.30	6.72E-04		-1.23E-04	3.34E-04
RH-102M	415.25	2.10	4.55E-03	3.83E-05	9.84E-03	2.27E-03
	418.52	9.40	9.01E-04		3.71E-04	4.49E-04
	420.40	3.20	2.69E-03		1.70E-03	1.34E-03
	475.06	95.00	9.31E-05		3.10E-04	4.64E-05

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RH-102M	628.05		8.30	6.97E-04	3.83E-05	1.30E-04	3.46E-04
		631.29		56.00	8.23E-05		2.59E-05	4.09E-05
		692.40		1.60	2.11E-03		-2.72E-05	1.04E-03
		695.60		2.90	1.01E-03		-8.10E-06	4.99E-04
		697.49		44.00	6.43E-05		-9.14E-06	3.17E-05
		766.84		34.00	3.83E-05		2.25E-05	1.87E-05
		1046.59		34.00	4.16E-05		-1.20E-05	2.02E-05
		1103.16		4.60	2.69E-04		4.81E-06	1.31E-04
		1112.84		19.00	1.02E-04		1.71E-05	4.97E-05
	RU-103	497.08		91.00	4.14E-05	4.14E-05	1.53E-05	2.06E-05
		610.33		5.76	4.39E-04		2.71E-05	2.18E-04
	RH-105	306.31		4.66	6.37E-04	1.79E-04	-1.43E-04	3.17E-04
		319.23		16.90	1.79E-04		-5.42E-05	8.92E-05
	AG-106M	221.70		6.60	4.22E-04	2.74E-05	3.58E-04	2.10E-04
		228.63		2.10	1.32E-03		8.12E-04	6.56E-04
		328.46		1.14	2.62E-03		3.61E-04	1.30E-03
		391.04		3.68	9.62E-04		4.15E-04	4.79E-04
		406.18		13.40	2.77E-04		-1.57E-04	1.38E-04
		429.65		13.20	3.16E-04		3.56E-05	1.58E-04
		450.98		28.20	1.62E-04		-4.39E-06	8.06E-05
		511.85		88.00	4.00E-05		2.77E-05	1.99E-05
		601.17		1.61	1.57E-03		-1.13E-03	7.82E-04
		616.17		21.60	1.16E-04		-5.40E-05	5.76E-05
		646.03		1.46	1.85E-03		-2.08E-03	9.17E-04
		680.42		2.18	4.48E-04		3.09E-04	2.20E-04
		703.11		4.47	1.66E-04		-8.34E-05	8.08E-05
		717.34		28.90	2.74E-05		-1.31E-05	1.34E-05
		748.36		20.60	3.46E-05		-3.19E-05	1.68E-05
		793.17		5.90	1.24E-04		-8.44E-05	6.03E-05
		804.28		12.40	5.97E-05		-4.28E-05	2.90E-05
		808.36		4.00	1.91E-04		6.83E-05	9.29E-05
		824.69		15.30	5.02E-05		1.50E-05	2.44E-05
		847.15		4.40	1.85E-04		1.70E-04	9.01E-05
		1019.72		1.04	7.70E-04		5.62E-04	3.74E-04
		1045.83		29.60	2.74E-05		4.47E-06	1.33E-05
		1128.02		11.80	7.22E-05		-1.25E-04	3.51E-05
		1199.39		11.20	6.34E-05		3.33E-05	3.05E-05
		1222.88		7.00	8.83E-05		-3.37E-05	4.23E-05
		1394.35		1.49	3.98E-04		-3.03E-04	1.90E-04
		1527.65		16.30	3.07E-05		7.86E-06	1.44E-05
		1572.35		6.60	7.64E-05		5.71E-05	3.59E-05
		1722.76		1.40	4.05E-04		3.22E-04	1.91E-04
		1839.05		2.00	2.40E-04		-3.72E-04	1.11E-04
	RH-106	621.93		9.93	3.38E-04	3.38E-04	-3.59E-05	1.68E-04
		873.49		0.44	3.29E-03		7.73E-03	1.61E-03
		1050.41		1.56	7.09E-04		-3.95E-04	3.45E-04
	RU-106	511.86		20.40	1.71E-04	1.71E-04	1.19E-04	8.53E-05
	AG-108M	79.13		6.60	3.93E-04	1.74E-05	-2.22E-04	1.95E-04
		433.94		90.50	8.34E-05		1.04E-04	4.16E-05
		614.28		89.80	5.15E-05		1.96E-05	2.56E-05
		722.91		90.80	1.74E-05		1.30E-05	8.49E-06
+	CD-109	88.03	*	3.64	9.66E-04	9.66E-04	3.15E-03	4.82E-04
	AG-110M	446.81		3.70	2.82E-03	2.08E-05	-2.46E-03	1.41E-03

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-110M	620.35	2.73	2.14E-03	2.08E-05	-2.98E-04	1.06E-03
	657.76	95.61	4.98E-04		-5.29E-05	2.49E-04
	677.62	10.70	2.11E-04		2.21E-04	1.04E-04
	687.01	6.53	2.90E-04		4.58E-05	1.42E-04
	706.68	16.69	9.30E-05		-2.77E-05	4.53E-05
	744.28	4.77	3.10E-04		1.48E-04	1.51E-04
	763.94	22.60	5.91E-05		-1.22E-04	2.88E-05
	818.02	7.43	2.38E-04		8.37E-05	1.16E-04
	884.68	75.00	2.08E-05		5.24E-06	1.01E-05
	937.48	35.00	4.66E-05		-2.11E-05	2.28E-05
	1384.29	25.10	3.64E-05		-6.34E-05	1.73E-05
	1475.78	4.08	1.72E-04		1.46E-04	8.08E-05
	1505.03	13.33	6.49E-05		5.77E-06	3.06E-05
	1562.29	1.22	2.88E-04		3.59E-04	1.35E-04
AG-111	245.40	1.11	2.49E-03	4.68E-04	-1.40E-03	1.24E-03
	342.13	6.68	4.68E-04		-3.00E-04	2.33E-04
AG-112	606.82	3.10	8.71E-04	6.15E-05	3.66E-04	4.33E-04
	617.52	43.00	6.15E-05		1.99E-06	3.05E-05
	692.82	1.19	1.35E-03		9.91E-03	6.69E-04
	694.87	2.90	5.54E-04		2.28E-05	2.74E-04
	851.28	1.02	8.52E-04		2.03E-04	4.15E-04
	1312.36	1.11	5.88E-04		-1.72E-04	2.81E-04
	1387.68	5.30	1.12E-04		-1.02E-05	5.30E-05
	1613.66	2.80	1.77E-04		-4.39E-05	8.27E-05
	1798.50	0.89	5.37E-04		-3.81E-04	2.48E-04
	2106.31	2.40	2.37E-04		-4.64E-05	1.10E-04
	2506.70	1.06	1.25E-03		4.02E-03	6.05E-04
CD-113M	263.70	0.03	1.02E-01	1.02E-01	-2.29E-01	5.08E-02
SN-113	255.13	2.11	1.29E-03	5.42E-05	8.54E-05	6.45E-04
	391.70	64.97	5.42E-05		3.59E-05	2.70E-05
IN-114M	190.27	15.56	1.69E-04	1.69E-04	1.51E-04	8.40E-05
	558.43	4.40	8.06E-04		2.51E-04	4.00E-04
	725.24	4.40	2.64E-04		-1.31E-05	1.29E-04
CD-115	260.90	1.94	1.44E-03	6.88E-05	2.86E-04	7.18E-04
	336.24	46.02	6.88E-05		-4.72E-05	3.43E-05
	527.90	27.45	1.20E-04		1.25E-04	5.97E-05
CD-115M	933.84	2.00	4.71E-04	4.71E-04	1.58E-05	2.30E-04
	1290.59	0.90	7.29E-04		4.43E-04	3.50E-04
IN-115M	336.24	45.90	9.00E-05	9.00E-05	-6.18E-05	4.48E-05
IN-116M	138.29	3.70	3.75E-03	4.16E-05	1.31E-04	1.87E-03
	416.90	27.20	8.46E-04		-6.30E-05	4.22E-04
	818.68	12.13	4.54E-04		-1.67E-04	2.21E-04
	1097.28	58.50	7.84E-05		4.09E-05	3.81E-05
	1293.56	84.80	4.16E-05		5.21E-05	1.99E-05
	1507.59	9.92	2.88E-04		-1.10E-04	1.36E-04
	2112.29	15.09	1.75E-04		-2.26E-04	8.09E-05
SB-125	176.31	6.84	3.13E-04	1.35E-04	-3.45E-04	1.56E-04
	380.45	1.52	2.26E-03		-8.91E-04	1.12E-03
	427.87	29.60	1.35E-04		-9.28E-05	6.73E-05
	463.36	10.49	4.57E-04		1.85E-04	2.28E-04
	600.60	17.65	1.42E-04		-9.82E-05	7.08E-05
	606.71	4.98	5.10E-04		3.94E-04	2.54E-04
	635.95	11.22	2.26E-04		-1.06E-05	1.12E-04

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SB-125	671.44	1.79	8.08E-04	1.35E-04	3.25E-05	3.99E-04
SN-125	332.10	1.40	3.79E-03	1.10E-04	1.45E-04	1.89E-03
	469.85	1.50	5.43E-03		9.05E-03	2.71E-03
	800.28	1.10	8.91E-04		6.31E-04	4.34E-04
	822.48	4.30	2.30E-04		-8.38E-05	1.12E-04
	915.55	4.10	2.85E-04		4.16E-05	1.39E-04
	1067.10	10.00	1.10E-04		-4.94E-05	5.35E-05
	1087.70	1.20	1.52E-03		6.18E-04	7.41E-04
	1089.10	4.60	2.02E-04		-1.05E-05	9.82E-05
	2002.10	1.90	2.41E-04		4.74E-05	1.11E-04
SB-127	61.10	1.43	4.23E-03	2.57E-05	-1.65E-03	2.11E-03
	252.40	8.50	4.07E-04		6.89E-05	2.03E-04
	290.80	2.02	1.97E-03		9.00E-05	9.81E-04
	412.10	3.80	1.13E-03		-1.90E-04	5.65E-04
	445.10	4.30	1.47E-03		1.91E-03	7.31E-04
	473.00	25.80	2.00E-04		6.81E-04	9.98E-05
	543.30	2.90	8.63E-04		7.62E-04	4.29E-04
	603.50	4.50	7.79E-04		-1.35E-03	3.87E-04
	685.70	36.80	2.57E-05		1.20E-05	1.26E-05
	698.50	3.64	4.16E-04		-3.15E-05	2.05E-04
	722.20	1.88	4.73E-04		5.75E-04	2.32E-04
	783.70	15.10	4.82E-05		-1.22E-06	2.35E-05
SN-127	119.70	2.20	1.67E-03	5.30E-05	1.83E-04	8.30E-04
	262.50	2.30	2.20E-03		2.54E-03	1.10E-03
	266.20	2.10	2.43E-03		1.89E-04	1.21E-03
	284.30	2.70	1.90E-03		-7.66E-04	9.49E-04
	438.20	6.10	1.30E-03		-3.37E-04	6.50E-04
	490.90	5.30	1.36E-03		-1.34E-03	6.76E-04
	493.20	3.10	2.29E-03		1.75E-03	1.14E-03
	545.40	2.30	2.30E-03		1.78E-03	1.14E-03
	583.30	3.20	1.49E-03		9.18E-06	7.43E-04
	805.90	8.20	1.66E-04		-2.96E-05	8.10E-05
	823.10	11.00	1.26E-04		-1.06E-05	6.11E-05
	824.70	6.10	2.32E-04		6.94E-05	1.13E-04
	859.50	8.00	1.93E-04		1.97E-04	9.40E-05
	979.20	7.20	2.12E-04		-5.61E-05	1.03E-04
	1093.30	3.80	4.08E-04		-3.06E-05	1.98E-04
	1095.60	19.00	8.24E-05		2.21E-05	4.00E-05
	1114.30	38.00	5.30E-05		1.51E-05	2.59E-05
	1160.40	2.40	6.02E-04		5.78E-05	2.91E-04
	2003.40	5.30	1.66E-04		-7.74E-05	7.68E-05
SB-129	180.42	2.84	1.05E-03	2.10E-05	-2.67E-03	5.25E-04
	359.20	2.39	1.84E-03		-7.22E-04	9.15E-04
	404.64	1.17	4.22E-03		-2.02E-03	2.10E-03
	523.13	1.55	2.86E-03		2.42E-03	1.42E-03
	544.56	15.42	2.51E-04		2.13E-05	1.25E-04
	633.74	2.53	1.33E-03		-2.02E-04	6.63E-04
	654.28	2.97	1.57E-03		-2.45E-03	7.83E-04
	682.77	5.76	2.25E-04		3.15E-04	1.11E-04
	761.12	4.32	2.28E-04		1.94E-04	1.11E-04
	773.37	2.82	3.37E-04		1.52E-04	1.64E-04
	786.36	1.07	9.16E-04		3.90E-05	4.46E-04
	787.16	1.74	5.59E-04		-4.98E-04	2.72E-04

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	812.97		48.20	2.10E-05	2.10E-05	-8.87E-07	1.02E-05
		819.51		1.39	7.25E-04		1.47E-04	3.53E-04
		876.65		2.75	4.26E-04		3.57E-04	2.08E-04
		914.96		23.30	5.15E-05		1.95E-05	2.51E-05
		966.78		8.96	1.34E-04		7.37E-05	6.52E-05
		1030.65		15.13	7.40E-05		-1.96E-05	3.60E-05
		1656.10		1.31	4.64E-04		-4.71E-04	2.16E-04
		1738.16		7.45	8.92E-05		3.20E-05	4.16E-05
	TE-129	459.60		7.70	6.13E-04	6.13E-04	-6.67E-04	3.05E-04
		487.39		1.42	2.81E-03		4.96E-04	1.40E-03
+	Te-129m	695.88	*	3.00	1.94E-04	1.94E-04	3.79E-03	9.38E-05
	I-131	80.18		2.62	1.34E-03	4.05E-05	-8.63E-04	6.66E-04
		284.30		6.12	4.97E-04		8.55E-05	2.47E-04
		364.49		81.50	4.05E-05		-1.99E-05	2.02E-05
		636.99		7.16	3.58E-04		-2.09E-04	1.78E-04
		722.91		1.77	4.86E-04		3.64E-04	2.38E-04
	Te-131m	773.67		36.80	3.10E-05	3.10E-05	1.40E-05	1.51E-05
		793.75		13.40	1.36E-04		-2.59E-05	6.60E-05
		852.21		19.90	6.96E-05		2.58E-05	3.39E-05
		1125.46		11.00	1.13E-04		4.77E-05	5.50E-05
		1206.60		9.41	9.55E-05		1.01E-05	4.59E-05
	I-132	262.90		1.28	2.17E-03	1.58E-05	1.17E-03	1.08E-03
		284.90		0.71	3.98E-03		8.65E-04	1.98E-03
		505.79		4.93	2.72E-03		2.47E-03	1.35E-03
		522.65		16.00	3.90E-04		-1.22E-04	1.94E-04
		547.20		1.14	4.97E-03		6.42E-03	2.47E-03
		621.20		1.97	2.52E-03		1.45E-03	1.25E-03
		630.19		13.30	3.70E-04		-1.43E-04	1.84E-04
		650.50		2.57	2.57E-03		-5.90E-03	1.28E-03
		667.71		98.70	3.00E-04		-4.52E-07	1.50E-04
		669.80		4.60	8.24E-04		-8.80E-05	4.08E-04
		671.40		3.50	9.99E-04		-2.25E-04	4.94E-04
		727.10		5.40	3.72E-04		2.72E-04	1.82E-04
		728.40		1.60	1.11E-03		6.58E-04	5.44E-04
		772.60		75.60	1.58E-05		5.99E-06	7.67E-06
		809.50		2.60	5.89E-04		5.65E-04	2.87E-04
		812.00		5.50	2.52E-04		1.30E-04	1.23E-04
		910.10		0.93	1.70E-03		9.12E-04	8.29E-04
		954.55		17.60	9.31E-05		-1.58E-04	4.54E-05
		1136.00		3.01	3.69E-04		-2.14E-06	1.79E-04
		1172.90		1.09	3.28E-03		4.02E-02	1.62E-03
		1290.80		1.13	1.03E-03		-6.46E-04	4.92E-04
		1295.10		1.88	2.04E-04		1.79E-04	9.75E-05
		1297.90		0.89	3.00E-04		-4.08E-04	1.43E-04
		1372.07		2.47	4.19E-04		9.29E-05	1.99E-04
		1398.57		7.01	1.51E-04		1.43E-04	7.21E-05
		1442.56		1.40	2.56E-04		-1.34E-04	1.21E-04
	TE-132	49.72		15.00	8.53E-04	3.20E-05	2.51E-04	4.25E-04
		111.76		1.74	1.17E-03		6.94E-04	5.85E-04
		116.30		1.96	1.03E-03		2.65E-04	5.11E-04
		228.16		88.00	3.20E-05		-5.15E-06	1.60E-05
	BA-133	81.00		32.90	1.05E-04	5.63E-05	-5.53E-06	5.22E-05
		276.40		7.16	4.42E-04		3.85E-04	2.20E-04

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-133	302.85	18.34	1.69E-04	5.63E-05	-6.23E-05	8.44E-05
	356.01	62.05	5.63E-05		-1.88E-05	2.80E-05
	383.85	8.94	3.40E-04		-2.69E-04	1.70E-04
I-133	529.87	87.00	3.91E-05	3.91E-05	3.90E-05	1.94E-05
	706.58	1.51	6.64E-04		-1.98E-04	3.23E-04
	856.28	1.24	9.58E-04		1.33E-03	4.67E-04
	875.33	4.51	2.10E-04		9.25E-05	1.02E-04
	1236.44	1.51	3.95E-04		1.26E-05	1.90E-04
	1298.22	2.35	2.63E-04		-3.57E-04	1.25E-04
TE-133	312.08	62.40	1.20E-02	1.20E-02	-9.23E-03	5.96E-03
	407.63	27.10	3.52E-02		4.76E-03	1.75E-02
	410.40	0.94	1.05E+00		4.79E-01	5.22E-01
	474.85	0.88	1.39E+00		5.29E+00	6.91E-01
	719.71	8.90	2.49E-02		-2.06E-03	1.22E-02
	786.93	5.40	3.44E-02		-3.06E-02	1.67E-02
	844.36	3.31	6.25E-02		-1.80E-02	3.05E-02
	884.30	0.72	2.96E-01		-1.60E-01	1.44E-01
	930.71	3.81	6.13E-02		7.63E-02	2.99E-02
	997.70	1.04	2.32E-01		3.16E-01	1.13E-01
	1000.72	3.62	7.33E-02		1.15E-01	3.59E-02
	1021.13	2.81	7.24E-02		-5.36E-02	3.51E-02
	1061.61	1.19	1.77E-01		-7.64E-02	8.60E-02
	1252.08	1.44	1.09E-01		-1.00E-01	5.23E-02
	1312.80	0.85	1.86E-01		-8.28E-02	8.88E-02
	1333.21	10.67	6.58E-02		7.80E-01	3.26E-02
	1717.61	3.18	4.14E-02		-3.99E-02	1.94E-02
	1881.52	1.22	8.87E-02		-3.09E-02	4.07E-02
	2136.51	1.25	9.63E-02		4.00E-02	4.41E-02
	2229.64	0.87	1.73E-01		2.65E-02	8.04E-02
Xe-133	81.00	36.90	6.86E-05	6.86E-05	-3.62E-06	3.42E-05
CS-134	475.36	1.48	3.18E-03	1.20E-05	9.72E-03	1.59E-03
	563.25	8.34	5.33E-04		-5.60E-05	2.65E-04
	569.33	15.37	3.00E-04		2.24E-04	1.49E-04
	604.72	97.62	3.68E-05		1.79E-05	1.83E-05
	795.86	85.46	1.20E-05		1.28E-05	5.86E-06
	801.95	8.69	1.45E-04		-7.89E-05	7.06E-05
	1038.61	0.99	1.13E-03		-3.83E-04	5.52E-04
	1167.97	1.79	1.04E-03		1.04E-04	5.15E-04
	1365.19	3.02	1.87E-04		4.08E-04	9.06E-05
I-135	220.50	1.75	2.57E-03	2.56E-05	-8.61E-04	1.28E-03
	288.45	3.10	1.44E-03		5.17E-04	7.16E-04
	417.63	3.53	1.82E-03		3.19E-04	9.06E-04
	546.56	7.15	6.33E-04		1.86E-04	3.15E-04
	836.80	6.69	1.83E-04		-4.37E-05	8.93E-05
	971.96	0.89	1.74E-03		9.06E-04	8.46E-04
	972.62	1.21	1.15E-03		-3.25E-04	5.59E-04
	1038.76	7.90	1.29E-04		-4.35E-05	6.27E-05
	1101.58	1.61	8.47E-04		-6.48E-05	4.11E-04
	1124.00	3.62	3.96E-04		3.24E-04	1.92E-04
	1131.51	22.60	5.84E-05		3.14E-05	2.83E-05
	1240.47	0.90	1.19E-03		1.62E-03	5.71E-04
	1260.41	28.70	2.56E-05		-2.35E-05	1.22E-05
	1457.56	8.70	1.19E-04		-3.20E-05	5.73E-05

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1502.79		1.08	7.73E-04	2.56E-05	-1.10E-03	3.63E-04
		1566.41		1.29	4.58E-04		-7.77E-05	2.15E-04
		1678.03		9.60	5.30E-05		1.25E-05	2.48E-05
		1706.46		4.10	1.54E-04		1.28E-04	7.24E-05
		1791.20		7.72	7.08E-05		-2.36E-05	3.28E-05
		2408.65		0.96	5.02E-04		-1.33E-04	2.23E-04
	XE-135	249.79		90.00	3.52E-05	3.52E-05	1.33E-05	1.75E-05
	XE-135m	526.56		80.40	4.89E-05	4.89E-05	-3.08E-05	2.43E-05
	CS-136	66.88		4.79	1.68E-03	1.29E-05	4.32E-04	8.36E-04
		86.36		5.90	7.57E-04		-7.71E-05	3.77E-04
		153.25		7.70	4.44E-04		3.30E-04	2.21E-04
		163.92		4.69	1.07E-03		5.50E-04	5.34E-04
		176.60		13.70	3.03E-04		-2.63E-04	1.51E-04
		273.65		12.66	4.03E-04		-2.34E-04	2.01E-04
		340.55		46.80	1.13E-04		9.07E-05	5.63E-05
		818.51		99.70	1.29E-05		-4.09E-06	6.28E-06
		1048.07		80.00	1.79E-05		-1.62E-05	8.70E-06
		1235.36		20.00	5.06E-05		-1.55E-05	2.43E-05
+	CS-137	661.66	*	85.10	2.16E-05	2.16E-05	5.63E-02	1.07E-05
	BA-139	33.44		3.84	9.63E-02	2.21E-04	-1.46E-01	4.80E-02
		165.86		23.70	2.21E-04		-1.48E-04	1.10E-04
	BA-140	132.69		0.20	9.77E-03	1.24E-04	8.48E-03	4.86E-03
		162.66		6.22	3.91E-04		3.10E-04	1.95E-04
		304.85		4.29	8.69E-04		5.18E-04	4.33E-04
		423.72		3.10	1.27E-03		-1.60E-03	6.34E-04
		437.58		1.93	2.23E-03		-1.41E-04	1.11E-03
		537.26		24.39	1.24E-04		-5.12E-05	6.16E-05
	LA-140	109.42		0.22	8.89E-03	8.95E-06	-4.48E-03	4.43E-03
		131.12		0.47	4.20E-03		-4.40E-04	2.09E-03
		173.54		0.13	1.68E-02		3.46E-03	8.39E-03
		241.93		0.41	6.65E-03		-1.97E-03	3.31E-03
		266.54		0.47	5.92E-03		-1.13E-03	2.95E-03
		328.76		20.30	2.58E-04		-7.62E-05	1.28E-04
		432.49		2.90	2.55E-03		-3.34E-04	1.27E-03
		487.02		45.50	1.33E-04		-3.62E-05	6.64E-05
		618.10		0.04	6.74E-02		6.64E-02	3.35E-02
		751.64		4.33	2.22E-04		8.73E-05	1.08E-04
		815.77		23.28	3.57E-05		1.96E-05	1.74E-05
		867.85		5.50	2.05E-04		-2.30E-05	1.00E-04
		919.55		2.66	3.51E-04		-2.92E-04	1.71E-04
		925.19		6.90	1.68E-04		1.95E-04	8.21E-05
		950.99		0.52	2.24E-03		-2.55E-03	1.09E-03
		1596.21		95.40	8.95E-06		-1.68E-06	4.25E-06
		2347.88		0.85	3.56E-04		4.18E-04	1.62E-04
		2521.40		3.46	7.57E-05		-2.10E-05	3.24E-05
		2547.34		0.10	3.30E-03		2.20E-03	1.42E-03
	BA-141	33.44		7.93	9.41E-01	2.99E-03	-1.42E+00	4.69E-01
		190.33		44.80	2.99E-03		2.68E-03	1.49E-03
		276.95		23.60	6.02E-03		2.39E-04	3.00E-03
		304.19		26.10	5.58E-03		-8.36E-03	2.78E-03
		343.67		15.10	1.06E-02		1.49E-02	5.27E-03
		389.74		1.37	1.31E-01		6.60E-02	6.51E-02
		457.51		5.00	4.78E-02		-9.43E-03	2.38E-02

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-141	462.06	5.10	4.77E-02	2.99E-03	1.93E-02	2.38E-02
	467.22	5.60	4.45E-02		4.96E-02	2.22E-02
	625.08	3.45	3.66E-02		-3.57E-02	1.82E-02
	647.78	5.70	2.43E-02		-2.41E-04	1.21E-02
	738.95	4.39	8.05E-03		1.13E-03	3.91E-03
	831.46	1.64	2.37E-02		-3.34E-03	1.16E-02
	876.09	3.45	1.31E-02		1.09E-02	6.38E-03
	1160.72	1.12	3.56E-02		-5.35E-02	1.72E-02
	1197.28	4.35	8.16E-03		-1.35E-04	3.93E-03
	1323.92	0.92	4.40E-02		-6.55E-03	2.12E-02
	1654.00	0.65	3.79E-02		3.11E-02	1.77E-02
	1682.19	1.19	2.21E-02		-2.37E-02	1.03E-02
CE-141	145.44	48.30	4.14E-05	4.14E-05	-3.37E-06	2.06E-05
BA-142	33.44	14.20	6.37E+00	3.01E-02	-9.64E+00	3.17E+00
	77.59	7.00	2.37E-01		1.99E-02	1.18E-01
	177.00	2.12	6.29E-01		-5.36E-01	3.13E-01
	231.61	12.20	1.40E-01		2.78E-02	6.96E-02
	255.30	20.70	8.18E-02		4.49E-02	4.07E-02
	286.30	1.11	1.55E+00		-6.67E-01	7.72E-01
	309.20	2.60	6.89E-01		2.30E-01	3.43E-01
	335.00	1.53	1.25E+00		-2.81E-02	6.24E-01
	363.96	4.76	4.29E-01		4.66E-01	2.14E-01
	425.04	5.75	4.26E-01		-3.23E-01	2.13E-01
	599.80	1.85	8.44E-01		-7.79E-01	4.19E-01
	840.40	3.63	1.37E-01		-6.55E-03	6.66E-02
	895.20	13.90	3.80E-02		2.66E-02	1.85E-02
	949.10	10.70	5.18E-02		-2.49E-02	2.53E-02
	1001.20	9.80	6.56E-02		6.66E-02	3.21E-02
	1078.70	11.50	5.59E-02		2.52E-02	2.73E-02
	1094.10	2.82	1.82E-01		-1.93E-01	8.85E-02
	1126.80	1.50	3.62E-01		-2.75E-01	1.76E-01
	1202.40	5.60	7.76E-02		3.56E-02	3.74E-02
	1204.30	14.30	3.01E-02		1.36E-02	1.45E-02
	1380.20	3.42	1.11E-01		1.07E-01	5.28E-02
CE-143	57.36	11.70	5.77E-04	6.95E-05	1.72E-04	2.88E-04
	231.55	2.05	1.83E-03		1.05E-03	9.10E-04
	293.27	42.80	6.95E-05		-1.54E-05	3.46E-05
	350.62	3.23	9.04E-04		7.15E-04	4.51E-04
	490.37	2.16	2.53E-03		-2.26E-03	1.26E-03
	664.57	5.69	4.81E-03		8.91E-01	2.40E-03
	721.93	5.39	1.51E-04		1.83E-04	7.38E-05
	880.46	1.03	8.70E-04		-1.69E-03	4.24E-04
CE-144	80.12	1.36	1.87E-03	1.77E-04	-1.21E-03	9.30E-04
	133.51	11.09	1.77E-04		3.45E-05	8.82E-05
ND-147	38.17	13.20	3.47E-03	8.06E-05	4.72E-03	1.73E-03
	38.72	23.80	1.72E-03		1.02E-03	8.56E-04
	91.11	28.90	8.06E-05		7.80E-06	4.01E-05
	275.39	0.79	5.10E-03		3.88E-04	2.54E-03
	319.41	1.97	1.81E-03		-5.47E-04	9.00E-04
	398.13	0.87	4.51E-03		2.15E-03	2.25E-03
	439.88	1.20	3.92E-03		1.66E-03	1.95E-03
	531.01	13.11	2.40E-04		5.85E-06	1.19E-04
	685.88	0.82	1.11E-03		7.12E-04	5.44E-04

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PR-147	36.85	19.70	5.59E-01	1.25E-02	5.32E-01	2.78E-01
	37.36	35.50	2.77E-01		4.85E-01	1.38E-01
	49.88	4.00	4.12E-01		1.21E-01	2.05E-01
	77.97	9.70	4.96E-02		-3.25E-03	2.47E-02
	86.69	5.40	8.37E-02		-6.83E-03	4.17E-02
	127.80	7.40	4.77E-02		-1.64E-02	2.37E-02
	249.20	1.32	3.76E-01		-2.10E-01	1.87E-01
	314.70	18.20	2.90E-02		1.83E-02	1.44E-02
	328.80	4.00	1.34E-01		-3.97E-02	6.69E-02
	335.70	4.70	1.19E-01		2.43E-02	5.94E-02
	388.80	1.41	4.49E-01		2.33E-01	2.24E-01
	466.80	1.70	5.18E-01		4.48E-02	2.58E-01
	477.90	4.60	1.78E-01		3.97E-01	8.85E-02
	516.70	1.30	4.72E-01		-6.23E-01	2.35E-01
	554.70	5.90	8.29E-02		1.46E-02	4.12E-02
	577.90	13.70	3.43E-02		-7.49E-03	1.70E-02
	641.40	16.10	2.93E-02		-1.18E-02	1.45E-02
	996.00	1.52	1.08E-01		1.17E-01	5.29E-02
	1136.70	1.42	1.03E-01		3.12E-02	4.98E-02
	1261.10	8.40	1.25E-02		3.35E-03	5.99E-03
	1300.40	2.30	4.37E-02		-6.06E-02	2.08E-02
ND-149	38.17	9.00	1.07E-02	2.40E-04	1.46E-02	5.33E-03
	38.72	16.30	5.27E-03		3.14E-03	2.63E-03
	58.88	1.30	1.23E-02		3.22E-02	6.13E-03
	74.32	2.11	3.72E-03		-1.70E-04	1.85E-03
	97.00	1.48	3.54E-03		1.87E-03	1.76E-03
	114.31	19.20	2.73E-04		1.40E-05	1.36E-04
	155.87	5.95	9.21E-04		6.55E-04	4.59E-04
	188.64	1.79	6.19E-03		1.54E-02	3.09E-03
	198.93	1.39	5.58E-03		4.68E-03	2.78E-03
	208.15	2.55	2.94E-03		5.15E-04	1.47E-03
	211.31	26.00	2.40E-04		4.60E-05	1.20E-04
	240.22	3.95	1.51E-03		-7.25E-04	7.54E-04
	245.72	0.81	9.77E-03		1.95E-03	4.87E-03
	267.69	6.05	1.42E-03		-9.59E-04	7.05E-04
	270.17	10.80	5.62E-04		5.00E-04	2.80E-04
	326.55	4.57	1.83E-03		-1.57E-03	9.10E-04
	349.23	1.38	6.19E-03		-2.01E-03	3.08E-03
	423.55	7.50	1.18E-03		1.60E-04	5.88E-04
	443.55	1.15	1.09E-02		-3.03E-03	5.42E-03
	540.51	6.60	1.06E-03		-5.48E-04	5.29E-04
	654.83	8.00	1.20E-03		-8.87E-04	5.97E-04
PM-149	285.95	3.10	9.17E-04	9.17E-04	5.66E-04	4.57E-04
PM-150	39.52	0.63	8.89E-02	7.34E-05	-5.20E-02	4.43E-02
	40.12	1.14	4.40E-02		-1.96E-02	2.19E-02
	333.92	68.00	7.34E-05		-6.35E-06	3.66E-05
	406.51	5.60	1.07E-03		-2.85E-04	5.31E-04
	565.70	1.31	3.19E-03		-1.36E-03	1.58E-03
	587.02	1.34	3.12E-03		-1.60E-03	1.55E-03
	612.25	0.93	4.39E-03		3.39E-03	2.18E-03
	712.22	4.40	2.53E-04		-4.54E-05	1.23E-04
	737.50	2.25	5.08E-04		-1.05E-04	2.47E-04
	831.85	11.90	1.03E-04		-4.34E-05	5.00E-05

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	859.95	3.40	3.97E-04	7.34E-05	6.66E-04	1.94E-04
	876.41	7.30	1.94E-04		1.29E-04	9.47E-05
	1165.77	15.80	1.39E-04		4.49E-05	6.81E-05
	1170.90	1.06	4.02E-03		4.78E-02	1.99E-03
	1193.87	4.80	2.35E-04		-2.37E-04	1.13E-04
	1213.72	1.03	9.96E-04		2.16E-04	4.78E-04
	1223.28	2.80	3.62E-04		1.55E-04	1.73E-04
	1324.51	17.50	9.58E-05		4.77E-05	4.66E-05
	1379.32	3.10	3.08E-04		-8.48E-05	1.47E-04
	1736.40	6.90	1.17E-04		-1.62E-04	5.47E-05
	1963.71	1.47	5.25E-04		-6.49E-04	2.43E-04
	2033.46	0.97	8.20E-04		-3.81E-04	3.79E-04
ND-151	38.17	5.94	2.02E+00	1.33E-02	2.75E+00	1.01E+00
	38.72	10.70	1.00E+00		5.98E-01	4.99E-01
	68.98	1.26	6.83E-01		-8.03E-01	3.40E-01
	85.12	2.05	3.27E-01		-1.94E-02	1.63E-01
	89.96	1.53	4.12E-01		-1.21E-01	2.05E-01
	116.80	39.00	1.33E-02		2.27E-03	6.64E-03
	138.89	7.00	7.50E-02		-1.03E-03	3.73E-02
	170.76	2.87	1.94E-01		3.18E-02	9.66E-02
	175.07	6.30	8.94E-02		-7.61E-02	4.45E-02
	255.68	14.80	4.86E-02		9.89E-02	2.42E-02
	300.58	1.82	4.11E-01		-3.22E-02	2.05E-01
	423.56	5.90	1.75E-01		2.37E-02	8.73E-02
	460.59	0.96	1.30E+00		4.33E-01	6.48E-01
	585.22	1.30	5.23E-01		-5.73E-01	2.60E-01
	677.88	2.38	1.06E-01		4.60E-02	5.21E-02
	736.23	5.90	3.17E-02		-3.10E-03	1.54E-02
	739.20	1.52	1.19E-01		-1.18E-01	5.79E-02
	755.57	1.17	1.62E-01		1.71E-01	7.91E-02
	797.53	4.70	4.08E-02		-2.56E-02	1.98E-02
	1016.40	2.50	8.29E-02		-4.57E-02	4.02E-02
	1122.63	4.10	5.83E-02		-1.45E-02	2.84E-02
	1180.89	13.30	3.71E-02		7.03E-04	1.83E-02
Pm-151	167.75	8.30	2.91E-04	1.42E-04	-1.99E-04	1.45E-04
	177.16	3.80	8.03E-04		-1.13E-03	4.00E-04
	240.09	3.80	8.38E-04		-4.02E-04	4.18E-04
	275.21	6.80	4.38E-04		3.33E-05	2.18E-04
	340.08	22.50	1.42E-04		-1.20E-04	7.06E-05
EU-152	121.78	28.53	9.51E-05	3.15E-05	1.38E-04	4.74E-05
	344.28	26.59	1.43E-04		-1.75E-04	7.14E-05
	778.90	12.93	7.39E-05		-3.86E-06	3.59E-05
	867.37	4.23	3.26E-04		-6.78E-04	1.59E-04
	964.08	14.51	7.58E-05		3.75E-05	3.70E-05
	1085.87	10.11	9.60E-05		-1.33E-05	4.69E-05
	1112.07	13.67	8.72E-05		9.82E-06	4.26E-05
	1408.01	20.87	3.15E-05		3.39E-06	1.49E-05
ND-152	44.44	5.50	1.18E+00	4.42E-02	-5.73E-01	5.90E-01
	250.15	16.40	6.92E-02		1.48E-02	3.45E-02
	278.56	26.00	4.42E-02		-4.01E-02	2.20E-02
	294.47	2.90	4.04E-01		1.93E-01	2.01E-01
	545.70	0.83	1.42E+00		5.22E-01	7.06E-01
	592.50	0.99	1.07E+00		-4.91E-01	5.32E-01

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	GD-153	69.67		2.45	1.48E-03	7.11E-05	-8.44E-04	7.36E-04
		97.43		30.00	7.11E-05		-1.49E-05	3.54E-05
		103.18		22.10	9.25E-05		-8.57E-06	4.60E-05
	SM-153	69.67		4.67	7.79E-04	7.08E-05	-4.45E-04	3.88E-04
		103.18		29.14	7.08E-05		-6.57E-06	3.53E-05
+	EU-154	42.70		20.45	9.79E-04	2.34E-05	-1.20E-03	4.88E-04
		123.07	*	40.40	7.25E-05		8.91E-05	3.61E-05
		247.93		6.89	5.82E-04		8.01E-05	2.90E-04
		591.76		4.95	8.26E-04		-1.41E-04	4.10E-04
		692.42		1.78	1.22E-03		-1.57E-05	6.01E-04
		723.30	*	20.06	3.45E-05		8.90E-05	1.66E-05
		756.80		4.52	2.71E-04		1.89E-04	1.32E-04
		873.18		12.08	1.09E-04		1.90E-04	5.31E-05
		996.29	*	10.48	7.31E-05		6.04E-05	3.53E-05
		1004.76	*	18.01	5.38E-05		7.20E-05	2.62E-05
		1246.12		0.86	1.22E-03		-7.28E-04	5.85E-04
		1274.43	*	34.80	2.34E-05		8.80E-05	1.13E-05
		1494.05		0.70	6.70E-04		-3.64E-04	3.15E-04
		1596.48		1.80	1.79E-04		1.61E-05	8.50E-05
	EU-155	43.00		18.12	1.06E-03	8.14E-05	-9.49E-04	5.27E-04
		60.01		1.17	4.02E-03		8.82E-03	2.00E-03
		86.55		30.70	8.14E-05		-6.75E-06	4.05E-05
		105.31		21.10	9.30E-05		-1.03E-04	4.63E-05
	EU-156	88.97		8.40	4.29E-04	8.13E-05	-3.09E-05	2.14E-04
		646.29		6.30	5.85E-04		-6.59E-04	2.91E-04
		723.47		5.40	2.14E-04		3.86E-04	1.05E-04
		811.77		9.70	1.04E-04		-8.78E-05	5.07E-05
		1065.14		4.90	2.33E-04		-4.14E-04	1.13E-04
		1079.16		4.60	2.43E-04		1.29E-04	1.19E-04
		1153.80		11.50	8.13E-05		-2.73E-05	3.93E-05
		1230.71		8.00	1.07E-04		8.41E-06	5.14E-05
		1242.42		6.60	1.18E-04		8.24E-05	5.67E-05
		1277.43		2.89	4.07E-04		1.20E-03	1.98E-04
		1366.41		1.57	6.03E-04		-1.79E-04	2.92E-04
		1965.95		3.90	8.89E-05		1.24E-05	4.08E-05
		2097.70		3.80	1.56E-04		1.19E-04	7.30E-05
		2186.71		3.50	1.39E-04		-3.99E-05	6.43E-05
	Sm-156	87.60		24.00	1.18E-04	1.18E-04	6.22E-04	5.88E-05
		165.80		13.00	1.83E-04		-1.22E-04	9.10E-05
		204.00		21.00	1.42E-04		1.42E-05	7.07E-05
	EU-158	42.31		5.80	1.92E-02	1.54E-04	-1.03E-02	9.54E-03
		43.00		10.40	9.63E-03		-8.64E-03	4.80E-03
		79.49		10.50	1.28E-03		1.77E-04	6.37E-04
		181.97		2.30	5.21E-03		-1.06E-02	2.60E-03
		528.05		1.53	1.09E-02		4.08E-03	5.43E-03
		606.39		4.00	3.32E-03		2.85E-03	1.65E-03
		743.02		3.60	1.03E-03		9.63E-04	5.04E-04
		897.61		12.40	3.53E-04		9.58E-05	1.72E-04
		906.50		1.83	2.46E-03		1.04E-03	1.20E-03
		922.51		1.62	2.88E-03		5.26E-04	1.41E-03
		944.15		30.00	1.54E-04		7.16E-05	7.50E-05
		953.03		1.98	2.39E-03		-1.49E-03	1.17E-03
		962.09		1.89	2.52E-03		7.47E-04	1.23E-03

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	977.14	16.30	2.69E-04	1.54E-04	-5.24E-05	1.31E-04
	986.96	1.35	3.20E-03		2.53E-03	1.56E-03
	1107.63	5.10	1.10E-03		-2.42E-04	5.37E-04
	1184.10	3.00	1.27E-03		1.02E-03	6.14E-04
	1186.00	2.90	1.31E-03		-3.86E-04	6.34E-04
	1187.10	4.40	8.52E-04		-1.31E-04	4.11E-04
	1263.61	2.20	1.40E-03		-5.76E-04	6.68E-04
	1347.95	1.65	1.77E-03		1.51E-03	8.42E-04
	1944.47	1.62	1.51E-03		-1.74E-03	6.97E-04
TB-160	86.79	13.20	2.75E-04	3.56E-05	-2.25E-05	1.37E-04
	298.58	26.10	1.47E-04		9.80E-05	7.34E-05
	879.38	30.10	3.56E-05		-5.13E-06	1.74E-05
	962.32	9.81	1.06E-04		5.33E-05	5.19E-05
	966.17	25.10	3.96E-05		-7.61E-05	1.93E-05
	1177.96	14.90	1.49E-04		9.47E-06	7.36E-05
TB-161	25.65	23.20	1.49E-01	2.83E-04	1.44E-01	7.42E-02
	48.91	17.00	5.92E-04		-1.10E-04	2.95E-04
	52.00	3.43	2.22E-03		-3.39E-04	1.11E-03
	57.19	1.79	3.19E-03		2.88E-03	1.59E-03
	74.57	10.20	2.83E-04		-3.01E-05	1.41E-04
YB-169	63.12	43.62	1.62E-04	7.96E-05	3.77E-05	8.04E-05
	93.61	2.58	1.65E-03		1.26E-03	8.20E-04
	109.78	17.39	1.43E-04		-7.74E-05	7.10E-05
	130.52	11.38	2.64E-04		-1.09E-05	1.32E-04
	177.21	22.28	1.27E-04		-1.78E-04	6.32E-05
	197.96	35.93	7.96E-05		-8.06E-05	3.97E-05
	307.74	10.05	2.17E-04		2.54E-04	1.08E-04
HF-172	54.07	63.00	1.03E-04	1.03E-04	1.72E-05	5.12E-05
	67.35	5.30	6.53E-04		2.78E-04	3.25E-04
	81.75	4.50	5.50E-04		-3.88E-04	2.74E-04
	114.06	2.60	7.65E-04		-4.79E-04	3.81E-04
	122.92	1.14	1.73E-03		2.99E-03	8.62E-04
	125.81	11.30	1.75E-04		-5.05E-05	8.73E-05
	127.91	1.46	1.33E-03		-4.60E-04	6.64E-04
LU-173	59.30	24.44	1.99E-04	1.44E-04	5.58E-04	9.92E-05
	78.63	11.90	2.83E-04		-1.26E-04	1.41E-04
	100.72	5.24	4.40E-04		-8.21E-06	2.19E-04
	171.39	2.90	8.29E-04		6.89E-04	4.13E-04
	272.11	21.20	1.44E-04		2.69E-04	7.16E-05
LU-177	112.95	6.23	3.24E-04	2.70E-04	8.99E-05	1.61E-04
	208.37	10.41	2.70E-04		4.72E-05	1.34E-04
	249.67	0.20	1.38E-02		5.23E-03	6.90E-03
	321.32	0.22	1.35E-02		-4.86E-04	6.71E-03
HF-181	133.02	43.30	6.24E-05	5.79E-05	3.73E-05	3.11E-05
	345.93	15.12	2.65E-04		1.19E-04	1.32E-04
	482.18	80.50	5.79E-05		-8.74E-05	2.89E-05
W-181	56.28	18.70	3.05E-04	1.68E-04	1.19E-04	1.52E-04
	57.53	32.00	1.68E-04		6.56E-05	8.38E-05
	65.00	10.60	3.56E-04		1.56E-04	1.77E-04
TA-182	57.98	10.01	5.24E-04	2.59E-05	3.84E-04	2.61E-04
	59.32	17.20	2.83E-04		7.92E-04	1.41E-04
	65.72	3.01	2.46E-03		1.22E-03	1.22E-03
	67.75	46.67	1.04E-04		-3.68E-05	5.20E-05

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	84.68	2.65	1.35E-03	2.59E-05	-9.82E-05	6.72E-04
	100.11	14.20	2.22E-04		-6.65E-05	1.11E-04
	113.67	1.87	2.20E-03		-2.45E-03	1.10E-03
	116.42	0.44	4.45E-03		1.15E-03	2.22E-03
	152.43	7.02	4.55E-04		1.98E-04	2.26E-04
	156.39	2.67	1.16E-03		-4.73E-04	5.77E-04
	179.39	3.12	1.13E-03		-1.60E-03	5.64E-04
	198.35	1.47	3.28E-03		-3.12E-03	1.64E-03
	222.11	7.57	5.16E-04		2.23E-04	2.57E-04
	229.32	3.64	1.20E-03		6.15E-04	6.00E-04
	264.08	3.61	1.10E-03		-5.45E-04	5.50E-04
	928.00	0.61	2.04E-03		-7.67E-04	9.93E-04
	959.73	0.35	3.86E-03		-3.81E-04	1.88E-03
	1001.70	2.09	9.25E-04		1.06E-03	4.52E-04
	1044.42	0.24	5.47E-03		-4.04E-03	2.66E-03
	1113.41	0.44	3.45E-03		2.50E-04	1.69E-03
	1121.29	35.24	3.30E-05		4.32E-05	1.61E-05
	1157.30	0.73	9.36E-04		5.04E-04	4.53E-04
	1189.04	16.49	4.14E-05		3.70E-05	2.00E-05
	1221.40	27.23	2.59E-05		-4.25E-05	1.24E-05
	1223.60	0.24	1.65E-03		1.86E-03	7.93E-04
	1231.00	11.62	7.09E-05		-1.07E-04	3.39E-05
	1257.41	1.51	3.67E-04		-1.65E-04	1.75E-04
	1273.72	0.66	6.72E-04		2.08E-03	3.27E-04
	1289.15	1.37	1.58E-04		1.21E-05	7.58E-05
	1342.73	0.26	1.66E-03		-1.71E-03	7.89E-04
	1373.82	0.22	6.46E-04		-1.46E-04	3.08E-04
Ta-183	84.71	1.35	1.90E-03	1.02E-04	-1.38E-04	9.46E-04
	99.08	6.80	3.05E-04		1.42E-05	1.52E-04
	107.93	11.20	1.76E-04		-2.03E-05	8.76E-05
	161.35	9.10	2.27E-04		5.15E-05	1.13E-04
	162.32	5.00	4.14E-04		3.78E-05	2.06E-04
	244.26	8.80	3.15E-04		1.03E-05	1.57E-04
	246.06	27.20	1.02E-04		3.53E-05	5.08E-05
	353.99	11.60	2.82E-04		4.43E-04	1.40E-04
Re-184	111.21	17.20	1.17E-04	1.94E-05	9.11E-06	5.84E-05
	252.85	3.00	9.14E-04		7.54E-04	4.55E-04
	792.01	37.70	1.94E-05		-2.64E-06	9.44E-06
	894.76	15.70	5.43E-05		5.37E-05	2.65E-05
	903.28	38.10	2.22E-05		-2.51E-05	1.08E-05
W-185	59.72	0.01	4.00E-01	1.03E-01	8.77E-01	1.99E-01
	61.14	0.02	2.17E-01		-8.46E-02	1.08E-01
	69.20	0.01	4.73E-01		-2.31E-01	2.36E-01
	125.36	0.02	1.03E-01		-1.81E-02	5.13E-02
W-187	61.14	14.30	3.27E-04	2.89E-05	-1.27E-04	1.63E-04
	69.20	4.82	7.11E-04		-3.47E-04	3.54E-04
	72.00	13.55	3.55E-04		2.35E-04	1.77E-04
	134.25	10.36	2.84E-04		-1.46E-04	1.42E-04
	479.53	26.60	2.09E-04		-1.53E-04	1.04E-04
	618.37	7.57	3.47E-04		3.42E-04	1.72E-04
	685.81	33.20	2.89E-05		1.35E-05	1.42E-05
Ir-188	155.05	29.60	7.04E-05	3.20E-05	-6.63E-05	3.51E-05
	478.00	14.70	3.16E-04		7.07E-04	1.58E-04

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Ir-188	633.02	17.90	1.44E-04	3.20E-05	-1.28E-04	7.16E-05
	634.97	5.00	5.20E-04		-5.96E-04	2.58E-04
	829.42	5.10	1.53E-04		-3.38E-05	7.42E-05
	1209.77	6.90	9.95E-05		1.26E-04	4.78E-05
	1715.67	6.20	8.79E-05		1.34E-04	4.12E-05
	2214.59	18.60	3.20E-05		-5.15E-05	1.49E-05
W-188	227.07	0.23	1.17E-02	6.72E-03	3.86E-03	5.84E-03
	290.68	0.42	6.72E-03		3.07E-04	3.35E-03
Ir-189	245.08	6.00	4.59E-04	4.59E-04	-1.80E-04	2.29E-04
Ir-190	186.68	50.00	5.10E-05	5.10E-05	1.42E-04	2.54E-05
	361.09	12.30	2.67E-04		3.50E-05	1.33E-04
	371.24	21.60	1.55E-04		-7.68E-05	7.75E-05
	407.22	27.00	1.38E-04		2.41E-05	6.86E-05
	518.55	32.20	1.05E-04		3.71E-05	5.21E-05
	557.95	28.50	9.36E-05		5.03E-05	4.65E-05
	569.30	27.00	9.58E-05		7.17E-05	4.76E-05
	605.14	37.80	6.77E-05		4.00E-05	3.36E-05
OS-191	63.29	15.70	2.64E-04	7.39E-05	1.60E-04	1.31E-04
	64.99	26.70	1.42E-04		6.21E-05	7.07E-05
	73.45	9.21	3.18E-04		7.18E-05	1.59E-04
	129.43	26.50	7.39E-05		7.24E-05	3.68E-05
Pt-191	359.90	5.80	7.02E-04	2.25E-04	4.89E-04	3.50E-04
	456.47	3.30	1.58E-03		1.20E-03	7.88E-04
	538.90	14.30	2.25E-04		-1.53E-04	1.12E-04
IR-192	205.79	3.31	1.16E-03	5.25E-05	8.13E-04	5.77E-04
	295.96	28.71	1.83E-04		3.03E-05	9.14E-05
	308.45	29.70	1.71E-04		-5.99E-05	8.50E-05
	316.51	82.86	5.25E-05		-3.15E-05	2.62E-05
	468.07	47.84	1.40E-04		1.01E-04	6.96E-05
	588.58	4.52	1.00E-03		-1.03E-03	4.98E-04
	604.41	8.22	2.51E-04		5.00E-06	1.24E-04
	612.46	5.34	2.96E-04		-1.41E-04	1.47E-04
IR-192m	155.16	0.09	2.20E-02	2.20E-02	-1.30E-02	1.09E-02
IR-193m	80.22	0.00	5.46E-01	5.46E-01	-3.52E-01	2.72E-01
Pt-193m	135.50	0.11	1.74E-02	1.74E-02	-2.08E-02	8.66E-03
Au-194	293.55	10.90	2.68E-04	4.88E-05	-4.76E-06	1.33E-04
	328.47	62.80	4.88E-05		6.73E-06	2.43E-05
	364.84	1.60	2.13E-03		-7.00E-04	1.06E-03
	528.77	1.78	1.85E-03		5.94E-04	9.22E-04
	645.16	2.32	1.19E-03		-2.43E-04	5.92E-04
	948.32	2.29	4.05E-04		2.97E-04	1.98E-04
	1104.06	2.15	4.89E-04		-3.02E-04	2.39E-04
	1175.36	2.14	1.27E-03		1.48E-02	6.31E-04
	1468.90	6.80	1.05E-04		-5.48E-05	5.02E-05
	1595.81	1.89	3.34E-04		2.12E-04	1.59E-04
	2043.72	3.74	1.45E-04		4.92E-05	6.74E-05
Ir-194	293.54	2.50	1.21E-03	2.42E-04	-2.15E-05	6.02E-04
	328.47	13.10	2.42E-04		3.34E-05	1.21E-04
AU-195	98.86	11.21	1.84E-04	1.84E-04	8.92E-05	9.15E-05
	129.74	0.84	2.32E-03		-2.11E-04	1.16E-03
Pt-195m	98.90	11.70	1.78E-04	1.78E-04	8.66E-05	8.88E-05
	129.79	2.90	6.82E-04		-6.18E-05	3.40E-04
Au-196	333.03	22.90	2.23E-04	4.61E-05	2.33E-04	1.11E-04

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Au-196	355.73	87.00	4.61E-05	4.61E-05	-2.41E-06	2.30E-05
	426.10	6.60	6.07E-04		-5.50E-04	3.03E-04
Au-196m	147.81	43.50	5.26E-05	5.26E-05	-2.86E-05	2.62E-05
	188.27	30.00	9.91E-05		2.13E-04	4.94E-05
Pt-197	77.35	17.00	1.69E-04	1.69E-04	4.05E-05	8.43E-05
	191.44	3.70	7.57E-04		1.21E-03	3.77E-04
AU-198	411.80	95.62	4.17E-05	4.17E-05	-3.50E-06	2.08E-05
AU-199	158.38	40.00	5.19E-05	5.19E-05	-2.87E-05	2.58E-05
	208.20	8.72	3.25E-04		5.69E-05	1.62E-04
TL-201	135.34	2.61	7.69E-04	2.11E-04	-9.21E-04	3.83E-04
	167.43	10.00	2.11E-04		-1.83E-04	1.05E-04
TL-202	439.51	91.50	4.74E-05	4.74E-05	-2.32E-05	2.36E-05
PB-203	70.83	26.40	1.20E-04	4.12E-05	-7.89E-05	6.00E-05
	72.87	44.20	6.88E-05		3.93E-05	3.42E-05
	82.40	15.56	1.61E-04		-1.63E-04	8.04E-05
	279.20	80.90	4.12E-05		-1.86E-05	2.05E-05
	401.32	3.35	1.76E-03		-6.27E-04	8.77E-04
PB-210	46.54	4.25	3.01E-03	3.01E-03	2.74E-03	1.50E-03
Pa-233	86.60	2.01	1.48E-03	7.67E-05	-1.23E-04	7.37E-04
	94.65	8.90	2.40E-04		3.32E-05	1.20E-04
	98.43	14.20	1.46E-04		8.82E-05	7.25E-05
	300.13	6.54	4.39E-04		-6.69E-05	2.19E-04
	311.90	38.20	7.67E-05		-7.31E-06	3.82E-05
	340.48	4.44	7.10E-04		5.70E-04	3.54E-04
U-235	89.96	2.90	8.24E-04	4.36E-05	-2.43E-04	4.11E-04
	93.35	4.70	4.59E-04		1.67E-05	2.28E-04
	109.19	1.64	1.18E-03		3.36E-04	5.90E-04
	143.76	10.93	1.83E-04		-1.38E-04	9.11E-05
	163.36	5.07	4.05E-04		-3.71E-04	2.02E-04
	185.71	57.20	4.36E-05		4.60E-05	2.17E-05
	202.11	1.07	2.43E-03		-5.68E-04	1.21E-03
	205.31	5.03	5.55E-04		4.96E-04	2.77E-04
NP-237	86.48	12.20	2.05E-04	2.05E-04	-1.70E-05	1.02E-04
U-237	59.54	34.50	1.53E-04	8.29E-05	3.60E-04	7.63E-05
	97.07	15.40	1.37E-04		5.98E-05	6.84E-05
	101.06	24.50	8.29E-05		-3.52E-05	4.13E-05
	113.30	3.07	6.55E-04		9.69E-05	3.26E-04
	114.23	5.81	3.45E-04		-2.16E-04	1.72E-04
	117.46	2.27	8.73E-04		2.82E-04	4.35E-04
	208.00	21.20	1.40E-04		-6.13E-06	6.98E-05
NP-238	103.37	0.00	4.28E-01	3.37E-05	2.26E-01	2.13E-01
	882.63	0.80	1.06E-03		-5.09E-04	5.15E-04
	923.99	2.60	3.54E-04		3.21E-04	1.73E-04
	984.45	25.20	3.37E-05		2.70E-05	1.64E-05
	1025.87	8.75	9.38E-05		4.05E-05	4.56E-05
	1028.53	18.23	4.62E-05		1.23E-05	2.25E-05
U-238	63.29	3.70	1.11E-03	5.14E-04	6.77E-04	5.55E-04
	92.51	4.23	5.14E-04		1.59E-04	2.56E-04
	112.81	0.21	9.53E-03		2.65E-03	4.75E-03
	742.81	0.11	6.70E-03		3.91E-03	3.26E-03
	766.42	0.32	2.25E-03		2.45E-04	1.09E-03
	1001.03	0.84	1.23E-03		1.04E-03	5.99E-04
Am-239	181.71	1.08	2.36E-03	2.07E-04	-5.83E-03	1.17E-03

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Am-239	209.80		3.50	8.87E-04	2.07E-04	-5.59E-04	4.42E-04
		226.40		3.30	9.30E-04		-3.29E-04	4.63E-04
		228.10		11.30	2.71E-04		-3.35E-04	1.35E-04
		277.60		15.00	2.07E-04		1.58E-04	1.03E-04
	NP-239	61.46		1.30	3.44E-03	8.84E-05	-1.65E-04	1.71E-03
		99.53		12.90	1.62E-04		-7.31E-05	8.07E-05
		103.37		20.50	9.91E-05		5.24E-05	4.94E-05
		106.12		25.34	8.84E-05		1.70E-05	4.40E-05
		209.75		3.36	8.96E-04		-5.65E-04	4.47E-04
		228.18		11.24	2.67E-04		-4.29E-05	1.33E-04
		277.60		14.51	2.16E-04		1.65E-04	1.07E-04
		285.46		0.79	4.37E-03		-2.11E-03	2.18E-03
		315.88		1.60	1.66E-03		-3.87E-04	8.29E-04
		334.31		2.06	1.14E-03		-6.60E-04	5.69E-04
	PU-239	38.66		0.01	3.96E+00	2.84E-01	3.82E+00	1.97E+00
		51.62		0.03	2.86E-01		-2.05E-01	1.42E-01
		98.50		0.01	2.84E-01		1.72E-01	1.42E-01
		111.03		0.00	1.51E+00		-8.90E-01	7.53E-01
		129.30		0.01	3.09E-01		1.23E-01	1.54E-01
		171.39		0.00	1.93E+01		1.60E+01	9.59E+00
		203.55		0.00	4.56E+00		-2.57E+00	2.27E+00
		332.85		0.00	6.25E+00		6.67E+00	3.11E+00
		336.11		0.00	2.76E+01		-1.89E+01	1.37E+01
		345.01		0.00	5.63E+00		-2.97E+00	2.80E+00
		375.05		0.00	2.18E+00		7.53E-02	1.08E+00
		380.19		0.00	1.12E+01		-2.55E+00	5.59E+00
		382.75		0.00	1.33E+01		-7.82E+00	6.61E+00
		413.71		0.00	2.68E+00		7.77E+00	1.33E+00
		422.60		0.00	3.20E+01		3.62E+01	1.60E+01
		451.48		0.00	2.40E+01		8.68E+00	1.20E+01
	Am-240	99.53		18.40	1.14E-04	1.18E-05	-5.14E-05	5.67E-05
		103.37		29.20	6.98E-05		3.69E-05	3.48E-05
		117.23		6.93	2.92E-04		1.37E-04	1.45E-04
		888.85		24.70	3.53E-05		4.56E-05	1.72E-05
		987.79		72.20	1.18E-05		4.41E-06	5.72E-06
	Np-240m	554.60		20.90	1.42E-04	1.42E-04	2.49E-05	7.04E-05
		597.40		11.70	2.38E-04		-1.82E-04	1.18E-04
	U-240	44.10		1.05	1.72E-02	1.20E-02	7.03E-03	8.57E-03
		66.50		0.15	2.54E-02		1.70E-02	1.27E-02
		169.20		0.12	2.00E-02		4.66E-03	9.97E-03
		189.70		0.24	1.20E-02		3.79E-03	5.96E-03
+	AM-241	59.54	*	35.90	1.48E-04	1.48E-04	3.10E-04	7.35E-05
	AM-242m	49.35		0.13	7.12E-02	7.12E-02	-3.08E-02	3.55E-02
		66.89		0.01	2.36E-01		6.07E-02	1.18E-01
		86.65		0.02	1.09E-01		-9.08E-03	5.45E-02
		163.25		0.02	1.34E-01		-1.23E-01	6.68E-02
	AM-243	43.53		5.90	3.01E-03	4.24E-05	-3.81E-03	1.50E-03
		74.66		67.20	4.24E-05		-4.52E-06	2.11E-05

Analysis Report for 24-2497 TI185-4.5M-AP-105A Q0

ASR 2094 Branch

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

Apex-Gamma

Analysis Report for 24-2498 TI185-4.5M-AP105d-A Q0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2498 TI185-4.5M-AP105d-A Q0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 9:58:49AM
Procedure	: Q0_gsv02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: Q0_gsv02mlw
Live Time	: 900.0 seconds
Real Time	: 907.8 seconds
Dead Time	: 0.85 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 1/16/2018
Efficiency Calibration Description	: Q0_gsv2mlw_R651_PT
Sample Number	: 578922
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 10:14:03AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2498 TI185-4.5M-AP105d-A Q0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.63	189.88	0.2889	3.62
2	87.49	279.44	0.2148	7.14
3	414.87	1323.10	0.2315	4.74
4	661.85	2110.33	0.0347	201.17
5	666.56	2126.19	0.2087	7.21
6	695.25	2216.75	0.1644	9.17
7	1081.38	3447.38	0.2586	3.54
8	1173.55	3741.25	0.1299	11.84
9	1275.17	4064.91	0.2486	4.02
10	1332.87	4249.52	0.1320	10.76
11	1461.00	4657.35	0.2537	3.17

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2498 TI185-4.5M-AP105d-A Q0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 10:14:03AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.63	186 -	198	190.47	3.18E+02	45.08	2.30E+03	1.27
F	2	87.49	270 -	288	279.28	6.89E+02	47.63	3.22E+03	1.28
F	3	414.87	1315 -	1330	1322.93	5.69E+02	224.53	2.75E+03	1.83
M	4	661.85	2097 -	2131	2110.24	1.42E+05	585.16	6.79E+02	1.69
m	5	666.56	2097 -	2131	2125.24	2.98E+02	18.68	9.57E+01	1.70
F	6	695.25	2208 -	2226	2216.70	2.96E+02	45.08	6.72E+01	1.67
F	7	1081.38	3442 -	3454	3447.50	3.80E+01	7.86	2.52E+01	1.41
F	8	1173.55	3729 -	3754	3741.28	6.32E+02	45.82	1.22E+01	2.23
F	9	1275.17	4060 -	4071	4065.19	2.90E+01	6.79	1.95E+01	1.02
F	10	1332.87	4236 -	4259	4249.09	5.41E+02	48.18	3.60E+01	2.21
F	11	1461.00	4651 -	4665	4657.49	3.39E+01	6.01	3.37E+00	2.02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 10:14:03AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578893.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.63	3.18E+02	45.08			3.18E+02	4.51E+01
F	2	87.49	6.89E+02	47.63	7.55E+00	3.57E-01	6.81E+02	4.76E+01
F	3	414.87	5.69E+02	224.53			5.69E+02	2.25E+02
M	4	661.85	1.42E+05	585.16			1.42E+05	5.85E+02
m	5	666.56	2.98E+02	18.68	6.25E-01	1.40E-01	2.97E+02	1.87E+01

Analysis Report for 24-2498 TI185-4.5M-AP105d-A Q0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	6	695.25	2.96E+02	45.08			2.96E+02	4.51E+01
F	7	1081.38	3.80E+01	7.86			3.80E+01	7.86E+00
F	8	1173.55	6.32E+02	45.82			6.32E+02	4.58E+01
F	9	1275.17	2.90E+01	6.79			2.90E+01	6.79E+00
F	10	1332.87	5.41E+02	48.18			5.41E+02	4.82E+01
F	11	1461.00	3.39E+01	6.01	2.67E+01	2.98E-01	7.18E+00	6.02E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.99	1460.82	*	10.66	3.92E-05	3.29E-05	miss
CO-60	0.98	1173.23	*	99.85	4.16E-04	3.03E-05	0.765
		1332.49	*	99.98	3.87E-04	3.46E-05	0.763
CD-109	0.95	88.03	*	3.64	3.44E-03	2.44E-04	free
Te-129m	0.93	695.88	*	3.00	3.55E-03	8.91E-04	free
CS-137	0.99	661.66	*	85.10	5.80E-02	4.85E-04	miss
AM-241	0.99	59.54	*	35.90	3.36E-04	4.79E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

Analysis Report for 24-2498 TI185-4.5M-AP105d-A Q0

ASR 2094 Branch

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.995	3.92E-05	3.29E-05	
CO-60	0.981	4.03E-04	2.28E-05	
CD-109	0.954	3.44E-03	2.44E-04	
Te-129m	0.939	3.55E-03	8.91E-04	
CS-137	0.994	5.80E-02	4.85E-04	
AM-241	0.999	3.36E-04	4.79E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2498 TI185-4.5M-AP105d-A Q0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 10:14:03AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	414.87	6.32044E-01	39.47	Tol.	RH-102M
m	5	666.56	3.30001E-01	6.29		
F	7	1081.38	4.21762E-02	20.71		
F	9	1275.17	3.21741E-02	23.45		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.60		10.44	1.03E-03	1.03E-03	-2.29E-04	5.09E-04
	NA-22	511.00		179.91	4.70E-05	4.70E-05	-2.03E-05	2.33E-05
		1274.54		99.94	4.85E-05		7.37E-05	2.28E-05
	NA-24	1368.63		99.99	2.45E-05	2.45E-05	-3.70E-05	1.12E-05
>		2754.01		99.87	0.00E+00		0.00E+00	0.00E+00
	AL-26	1129.67		2.50	9.02E-04	1.61E-05	-1.50E-04	4.22E-04
		1808.65		99.76	1.61E-05		1.37E-05	7.12E-06
+	K-40	1460.82	*	10.66	1.31E-04	1.31E-04	3.92E-05	5.82E-05
	K-42	312.60		0.34	2.43E-02	8.65E-05	1.85E-02	1.20E-02
		1524.60		18.08	8.65E-05		-2.57E-05	3.79E-05
	Sc-44	1157.02		99.90	2.97E-05	2.97E-05	1.11E-05	1.37E-05
		1499.46		0.91	2.22E-03		-2.74E-03	9.44E-04
	Sc-44m	271.24		86.74	7.91E-05	7.91E-05	-8.97E-05	3.92E-05
		1001.83		1.20	3.59E-03		4.99E-04	1.70E-03

Analysis Report for 24-2498 TI185-4.5M-AP105d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Sc-44m	1126.06	1.20	3.14E-03	7.91E-05	-8.99E-04	1.47E-03
		1157.00	1.20	2.57E-03		9.59E-04	1.19E-03
	TI-44	67.87	93.00	1.07E-04	7.50E-05	-1.12E-04	5.30E-05
		78.32	96.40	7.50E-05		-4.23E-05	3.72E-05
	SC-46	889.28	99.98	2.47E-05	2.47E-05	-2.78E-05	1.16E-05
		1120.55	99.99	3.06E-05		9.10E-06	1.44E-05
	CA-47	489.23	5.90	2.14E-03	2.34E-05	-1.91E-03	1.06E-03
		807.86	5.90	4.21E-04		8.29E-07	1.98E-04
		1297.09	67.00	2.34E-05		1.60E-05	1.06E-05
	SC-47	159.38	68.30	7.29E-05	7.29E-05	-3.54E-05	3.61E-05
	SC-48	175.36	7.47	7.13E-04	1.74E-05	2.63E-04	3.53E-04
		983.53	100.00	2.29E-05		-1.63E-05	1.08E-05
		1037.52	97.50	2.11E-05		-2.65E-05	9.86E-06
		1312.12	100.00	1.74E-05		1.19E-06	7.93E-06
	V-48	944.13	7.87	3.66E-04	2.25E-05	-1.37E-04	1.74E-04
		983.53	99.98	2.89E-05		-2.05E-05	1.36E-05
		1312.11	98.20	2.25E-05		1.54E-06	1.02E-05
		2240.40	2.33	9.65E-04		7.25E-04	4.21E-04
	CR-51	320.08	9.91	7.00E-04	7.00E-04	-7.10E-04	3.47E-04
	Fe-52	168.69	99.20	6.39E-05	6.39E-05	-8.29E-07	3.16E-05
		377.75	1.64	6.38E-03		-1.89E-03	3.16E-03
	Mn-52	744.23	90.00	3.41E-05	2.34E-05	-2.63E-05	1.61E-05
		848.18	3.32	1.01E-03		-1.72E-03	4.76E-04
		935.54	94.50	4.36E-05		1.63E-05	2.07E-05
		1246.28	4.21	6.39E-04		-1.47E-03	2.90E-04
		1333.65	5.07	2.02E-03		1.00E-02	9.87E-04
		1434.09	100.00	2.34E-05		7.49E-06	1.03E-05
	MN-54	834.85	99.98	1.88E-05	1.88E-05	-1.13E-05	8.85E-06
	Co-55	411.50	1.07	9.77E-03	3.28E-05	-2.95E-03	4.85E-03
		477.20	20.20	6.08E-04		9.47E-04	3.02E-04
		803.70	1.87	1.13E-03		-5.94E-04	5.30E-04
		931.10	75.00	3.28E-05		9.94E-06	1.55E-05
		1316.60	7.10	2.61E-04		8.51E-05	1.19E-04
		1370.00	2.90	5.43E-04		-1.34E-03	2.42E-04
		1408.50	16.90	9.50E-05		8.73E-05	4.24E-05
	Co-56	846.77	99.94	2.78E-05	2.78E-05	-1.97E-05	1.31E-05
		977.37	1.42	2.28E-03		-1.65E-03	1.07E-03
		1037.84	14.05	2.08E-04		-1.86E-04	9.72E-05
		1175.10	2.25	4.55E-03		2.22E-02	2.22E-03
		1238.29	66.46	3.29E-05		-7.69E-06	1.49E-05
		1360.21	4.28	6.76E-04		1.02E-03	3.14E-04
		1771.36	15.41	1.56E-04		-1.02E-04	6.99E-05
		2015.20	3.02	4.25E-04		-1.06E-03	1.69E-04
		2034.79	7.77	2.22E-04		-9.03E-05	9.30E-05
>		2598.50	16.97	0.00E+00		0.00E+00	0.00E+00
	MN-56	846.76	98.85	5.13E-05	5.13E-05	-3.62E-05	2.42E-05
		1810.73	26.90	1.65E-04		1.24E-04	7.21E-05
		2113.09	14.20	2.35E-04		-1.42E-04	9.50E-05
	Ni-56	158.38	98.80	4.98E-05	2.13E-05	4.93E-06	2.47E-05
		269.50	36.50	1.84E-04		2.11E-04	9.14E-05
		480.44	36.50	2.81E-04		-3.77E-04	1.40E-04
		749.50	49.50	3.74E-05		-1.51E-07	1.77E-05
		811.85	86.00	2.13E-05		4.04E-06	1.00E-05

Analysis Report for 24-2498 TI185-4.5M-AP105d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Ni-56	1561.80		14.00	8.02E-05	2.13E-05	-1.79E-05	3.41E-05
	CO-57	122.06		85.60	5.40E-05	5.40E-05	3.39E-05	2.68E-05
		136.47		10.68	4.43E-04		7.60E-05	2.20E-04
	NI-57	127.16		16.70	2.97E-04	1.82E-05	2.51E-05	1.47E-04
		1377.63		81.70	1.82E-05		7.88E-06	8.11E-06
		1757.55		5.75	3.08E-04		-3.08E-05	1.37E-04
		1919.52		12.30	1.03E-04		-8.36E-05	4.30E-05
	CO-58	810.76		99.45	1.92E-05	1.92E-05	-1.27E-05	9.02E-06
		863.96		0.69	3.95E-03		-2.52E-03	1.87E-03
		1674.73		0.52	2.13E-03		-1.11E-03	9.22E-04
	FE-59	142.65		1.02	4.63E-03	3.69E-05	-2.72E-03	2.29E-03
		192.34		3.08	2.65E-03		9.48E-04	1.32E-03
		1099.24		56.50	3.85E-05		3.68E-05	1.81E-05
		1291.59		43.20	3.69E-05		-5.48E-05	1.68E-05
+	CO-60	1173.23	*	99.85	2.20E-05	2.20E-05	4.16E-04	1.01E-05
		1332.49	*	99.98	3.94E-05		3.87E-04	1.87E-05
	CU-64	511.00		35.00	2.86E-04	2.86E-04	-1.24E-04	1.42E-04
		1345.77		0.47	3.32E-03		-1.75E-03	1.47E-03
	NI-65	366.27		4.81	4.98E-03	1.33E-04	-3.71E-03	2.47E-03
		1115.53		15.43	4.40E-04		-3.02E-04	2.09E-04
		1481.84		23.59	1.33E-04		1.13E-04	5.89E-05
	ZN-65	1115.54		50.04	5.23E-05	5.23E-05	-3.59E-05	2.48E-05
	GA-66	511.00		114.00	9.31E-05	6.81E-05	-4.03E-05	4.61E-05
		833.53		5.90	3.84E-04		-2.30E-04	1.80E-04
		1039.22		37.00	6.81E-05		-2.17E-05	3.19E-05
		1333.11		1.17	6.84E-03		3.46E-02	3.34E-03
		1918.33		1.99	7.50E-04		-2.72E-04	3.14E-04
		2189.62		5.30	2.03E-04		5.67E-05	7.62E-05
>		2751.83		22.70	0.00E+00		0.00E+00	0.00E+00
	CU-67	91.27		7.00	7.90E-04	1.23E-04	2.36E-04	3.91E-04
		93.31		16.10	3.24E-04		6.42E-05	1.61E-04
		184.58		48.70	1.23E-04		1.95E-04	6.10E-05
		300.22		0.80	8.71E-03		-7.66E-03	4.32E-03
		393.53		0.22	3.96E-02		8.08E-03	1.96E-02
	GA-67	91.26		3.11	2.08E-03	1.45E-04	6.22E-04	1.03E-03
		93.31		38.81	1.45E-04		2.87E-05	7.18E-05
		184.58		21.41	2.83E-04		4.49E-04	1.40E-04
		208.95		2.46	3.95E-03		8.96E-05	1.96E-03
		300.22		16.64	4.73E-04		-4.16E-04	2.34E-04
		393.53		4.56	1.20E-03		2.45E-04	5.96E-04
	ZN-69m	438.63		94.85	1.26E-04	1.26E-04	2.30E-05	6.24E-05
	GA-72	629.97		26.13	4.34E-04	3.08E-05	2.15E-04	2.14E-04
		834.13		95.45	3.08E-05		-2.61E-06	1.45E-05
		894.33		10.14	4.09E-04		3.46E-04	1.93E-04
		1050.79		6.99	6.08E-04		-3.40E-04	2.85E-04
		2201.59		26.87	8.34E-05		5.06E-05	3.55E-05
		2491.03		7.73	1.70E-04		4.74E-05	6.36E-05
		2507.72		13.33	3.22E-04		3.78E-04	1.47E-04
	Zn-72	144.70		82.78	5.95E-05	5.95E-05	-1.89E-05	2.95E-05
		191.50		9.35	6.94E-04		1.01E-05	3.44E-04
	SE-75	121.12		17.20	3.84E-04	1.14E-04	4.15E-04	1.90E-04
		136.00		58.50	1.14E-04		5.64E-05	5.66E-05
		264.66		58.90	1.54E-04		-1.03E-04	7.64E-05

Analysis Report for 24-2498 TI185-4.5M-AP105d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SE-75	279.54	25.02	3.28E-04	1.14E-04	1.01E-04	1.63E-04
		400.66	11.41	2.63E-04		-3.87E-05	1.31E-04
	BR-83	529.59	1.30	1.42E-02	1.42E-02	4.62E-03	7.02E-03
	BR-84	604.80	1.70	2.05E-01	2.69E-03	-4.40E-02	1.01E-01
		736.50	1.29	8.09E-02		-2.04E-02	3.82E-02
		802.20	6.00	1.83E-02		-2.69E-03	8.63E-03
		881.60	42.00	2.69E-03		-5.17E-03	1.27E-03
		987.30	0.79	1.56E-01		1.96E-01	7.37E-02
		1015.90	6.20	1.92E-02		4.04E-03	9.03E-03
		1213.30	2.60	3.43E-02		1.32E-02	1.56E-02
		1463.80	2.00	6.15E-02		7.31E-02	2.84E-02
		1741.20	1.60	4.83E-02		-3.16E-02	2.09E-02
		1877.50	1.12	5.47E-02		2.55E-02	2.24E-02
		1897.60	14.60	4.69E-03		2.54E-03	1.97E-03
		2029.60	2.10	3.61E-02		-3.42E-02	1.52E-02
		2200.70	1.16	7.29E-02		4.42E-02	3.10E-02
		2484.10	6.70	1.02E-02		3.91E-03	4.07E-03
>		2824.10	1.12	0.00E+00		0.00E+00	0.00E+00
	KR-85m	151.20	75.20	1.02E-04	1.02E-04	-7.76E-05	5.05E-05
		304.87	14.00	7.77E-04		1.03E-04	3.85E-04
	Y-87	388.53	82.20	1.04E-04	1.04E-04	5.92E-05	5.16E-05
		484.80	89.80	1.11E-04		2.66E-05	5.49E-05
	KR-88	165.98	3.10	6.14E-03	5.88E-05	-3.37E-04	3.05E-03
		196.30	26.00	6.68E-04		-1.67E-04	3.31E-04
		362.23	2.25	6.76E-03		4.37E-04	3.35E-03
		471.80	0.73	4.29E-02		4.41E-02	2.13E-02
		834.83	13.00	3.90E-04		-2.35E-04	1.84E-04
		985.78	1.31	5.28E-03		-3.14E-03	2.49E-03
		1141.33	1.28	3.67E-03		-2.29E-03	1.70E-03
		1179.51	1.00	1.75E-02		-2.86E-03	8.57E-03
		1250.67	1.12	4.12E-03		1.70E-03	1.87E-03
		1369.50	1.48	2.67E-03		-8.37E-03	1.19E-03
		1518.39	2.15	1.81E-03		-9.22E-04	7.89E-04
		1529.77	10.90	3.15E-04		-1.35E-04	1.36E-04
		2029.84	4.53	1.06E-03		6.45E-04	4.52E-04
		2035.41	3.74	1.06E-03		6.08E-04	4.47E-04
		2195.84	13.20	1.90E-04		-7.95E-04	7.12E-05
		2231.77	3.39	7.86E-04		-4.52E-05	3.36E-04
		2352.08	0.73	4.43E-03		1.69E-03	1.76E-03
		2392.11	34.60	5.88E-05		1.96E-05	2.28E-05
	RB-88	898.03	14.40	4.13E-04	1.76E-04	-1.66E-04	1.96E-04
		1382.45	0.78	5.11E-03		4.92E-03	2.29E-03
		1836.00	22.81	1.76E-04		3.72E-05	7.72E-05
>		2677.89	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-88	898.04	93.70	2.93E-05	1.98E-05	-1.18E-05	1.39E-05
		1836.06	99.20	1.98E-05		4.63E-06	8.67E-06
	RB-89	272.42	1.53	1.95E+01	1.43E-01	-5.46E+00	9.66E+00
		657.77	10.80	2.52E+01		2.16E-01	1.26E+01
		947.73	10.00	9.92E-01		-8.58E-01	4.70E-01
		1031.92	63.00	1.43E-01		1.49E-02	6.70E-02
		1248.14	46.00	1.47E-01		-1.51E-01	6.64E-02
		1538.07	2.77	1.71E+00		-2.60E-01	7.22E-01
		2007.50	2.58	1.82E+00		7.76E-01	7.37E-01

Analysis Report for 24-2498 TI185-4.5M-AP105d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RB-89	2195.92	14.50	3.51E-01	1.43E-01	1.49E-01	1.42E-01
>		2570.20	10.70	0.00E+00		0.00E+00	0.00E+00
>		2707.26	2.20	0.00E+00		0.00E+00	0.00E+00
	SR-89	908.96	0.01	2.39E-01	2.39E-01	-1.97E-01	1.14E-01
	Sr-91	652.90	11.35	7.73E-04	7.55E-05	-1.63E-03	3.81E-04
		749.80	23.70	9.58E-05		3.52E-05	4.52E-05
		925.80	3.85	7.07E-04		-2.54E-04	3.35E-04
		1024.30	33.50	7.55E-05		9.32E-06	3.55E-05
	Y-91	1204.77	0.26	6.94E-03	6.94E-03	1.17E-03	3.20E-03
	Y-91m	555.57	61.64	1.30E-04	1.30E-04	1.08E-05	6.43E-05
	NB-92M	912.60	1.78	1.69E-03	2.39E-05	4.63E-04	8.03E-04
		934.44	99.15	2.39E-05		1.24E-05	1.13E-05
		1847.50	0.85	1.35E-03		-4.91E-04	5.88E-04
	SR-92	241.56	2.93	5.08E-03	3.56E-05	4.76E-03	2.52E-03
		430.49	3.28	6.88E-03		1.14E-03	3.42E-03
		953.31	3.52	1.48E-03		8.39E-04	7.00E-04
		1142.35	2.79	1.50E-03		-5.27E-04	6.96E-04
		1383.93	90.00	3.56E-05		2.03E-05	1.59E-05
	MO-93M	114.04	0.68	9.50E-03	1.91E-05	1.31E-03	4.71E-03
		263.05	57.40	1.55E-04		-8.62E-06	7.68E-05
		684.69	99.90	3.17E-05		1.16E-05	1.52E-05
		1363.02	0.81	3.55E-03		3.62E-03	1.65E-03
		1477.14	99.10	1.91E-05		6.34E-06	8.43E-06
	SR-93	168.50	18.40	8.67E+03	2.59E+03	-8.86E+03	4.30E+03
		260.12	7.40	2.86E+04		1.64E+04	1.42E+04
		346.49	3.28	7.50E+04		-2.55E+04	3.72E+04
		446.20	2.36	1.47E+05		1.46E+05	7.30E+04
		590.24	68.00	2.86E+03		-1.56E+03	1.41E+03
		710.31	21.80	2.59E+03		-1.15E+03	1.22E+03
		875.73	24.50	2.94E+03		-1.84E+03	1.39E+03
		888.13	22.10	2.87E+03		-2.24E+03	1.35E+03
		1040.63	3.20	1.99E+04		-2.47E+04	9.33E+03
		1094.00	1.76	3.98E+04		-2.78E+03	1.87E+04
		1122.48	4.00	1.83E+04		-5.05E+03	8.63E+03
		1215.48	2.50	2.01E+04		-6.15E+02	9.15E+03
		1269.47	7.10	1.04E+04		-3.33E+03	4.89E+03
		1321.24	2.61	2.12E+04		-5.46E+03	9.66E+03
		1387.11	3.50	1.24E+04		-3.03E+03	5.48E+03
		1694.07	2.58	1.60E+04		3.17E+01	6.91E+03
		1699.06	3.30	1.30E+04		-8.30E+03	5.62E+03
		2543.84	3.03	2.70E+03		0.00E+00	0.00E+00
>		2688.65	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-93	266.90	7.40	1.10E-03	8.91E-04	1.93E-04	5.45E-04
		947.10	2.10	1.28E-03		2.12E-04	6.07E-04
		1917.80	1.57	8.91E-04		-9.82E-04	3.69E-04
	NB-94	702.65	99.81	2.54E-05	2.54E-05	2.15E-06	1.20E-05
		871.09	99.89	2.87E-05		1.17E-05	1.36E-05
	Y-94	381.60	2.02	4.01E+00	3.86E-02	9.71E-01	1.99E+00
		550.90	4.90	1.32E+00		3.41E-01	6.53E-01
		752.60	1.40	1.30E+00		5.32E-01	6.12E-01
		918.74	56.00	3.86E-02		5.48E-03	1.83E-02
		1138.90	6.00	3.04E-01		8.19E-02	1.41E-01
		1671.40	2.50	4.77E-01		3.04E-01	2.04E-01

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Y-94	2140.60	0.95	1.22E+00	3.86E-02	5.70E-01	5.01E-01
NB-95	765.80	99.81	1.92E-05	1.92E-05	2.57E-06	9.08E-06
ZR-95	724.19	44.27	4.70E-05	3.26E-05	2.17E-05	2.24E-05
	756.72	54.38	3.26E-05		3.71E-07	1.54E-05
NB-96	219.08	2.97	2.40E-03	2.08E-05	-1.06E-03	1.19E-03
	241.38	3.50	2.05E-03		1.92E-03	1.01E-03
	350.05	1.54	5.38E-03		-5.70E-03	2.67E-03
	352.56	0.83	1.01E-02		-3.94E-03	5.03E-03
	371.81	2.62	3.33E-03		7.69E-04	1.65E-03
	460.04	26.62	4.62E-04		-8.51E-05	2.29E-04
	480.71	5.84	1.89E-03		-2.32E-03	9.37E-04
	568.87	58.00	1.17E-04		1.08E-05	5.79E-05
	719.56	6.85	3.40E-04		4.52E-04	1.62E-04
	721.63	1.02	2.26E-03		-7.71E-04	1.08E-03
	778.22	96.45	2.08E-05		-1.38E-05	9.82E-06
	810.33	11.09	1.72E-04		-3.38E-04	8.08E-05
	812.58	2.95	6.82E-04		-1.16E-04	3.21E-04
	847.69	1.14	1.94E-03		1.36E-03	9.15E-04
	849.93	20.45	1.05E-04		-1.59E-04	4.95E-05
	1091.35	48.50	4.77E-05		3.14E-05	2.24E-05
	1200.23	19.97	1.01E-04		2.29E-05	4.69E-05
	1441.13	0.44	3.42E-03		-1.88E-03	1.52E-03
	1497.81	3.28	3.86E-04		-2.08E-04	1.66E-04
Nb-97	657.94	98.23	7.05E-04	7.05E-04	-1.44E-05	3.52E-04
	1024.40	1.09	2.13E-03		2.56E-04	9.98E-04
ZR-97	254.17	1.15	6.40E-03	2.21E-05	1.45E-03	3.18E-03
	355.40	2.09	6.27E-03		9.80E-03	3.11E-03
	507.64	5.03	2.62E-03		-7.02E-04	1.30E-03
	743.36	93.09	2.21E-05		-1.67E-05	1.04E-05
	1147.97	2.62	1.14E-03		-5.72E-04	5.29E-04
MO-99	181.07	6.14	1.45E-03	2.06E-04	-2.87E-03	7.18E-04
	366.42	1.20	6.66E-03		-4.97E-03	3.30E-03
	739.50	12.26	2.06E-04		2.97E-05	9.72E-05
	777.92	4.30	4.42E-04		-3.62E-04	2.09E-04
TC-99M	140.51	90.80	5.37E-05	5.37E-05	8.06E-06	2.66E-05
RH-101	127.23	68.00	9.61E-05	9.61E-05	8.13E-06	4.76E-05
	198.01	73.00	1.13E-04		1.10E-04	5.59E-05
	325.23	11.80	2.33E-04		1.01E-04	1.16E-04
RH-101M	306.86	81.00	8.48E-05	8.48E-05	3.37E-05	4.20E-05
	545.12	4.30	1.60E-03		1.27E-04	7.90E-04
RH-102M	415.25	2.10	1.08E-02	9.94E-05	1.00E-02	5.35E-03
	418.52	9.40	2.13E-03		-1.51E-03	1.06E-03
	420.40	3.20	6.39E-03		-1.04E-03	3.17E-03
	475.06	95.00	2.21E-04		3.91E-04	1.10E-04
	628.05	8.30	1.64E-03		-1.32E-03	8.09E-04
	631.29	56.00	1.97E-04		-1.71E-04	9.68E-05
	692.40	1.60	4.98E-03		2.60E-04	2.42E-03
	695.60	2.90	2.37E-03		6.83E-03	1.15E-03
	697.49	44.00	1.51E-04		4.66E-04	7.36E-05
	766.84	34.00	1.05E-04		4.41E-05	4.99E-05
	1046.59	34.00	9.94E-05		-1.45E-06	4.65E-05
	1103.16	4.60	6.41E-04		-3.54E-04	3.02E-04
	1112.84	19.00	2.54E-04		2.18E-04	1.21E-04

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RU-103	497.08		91.00	9.74E-05	9.74E-05	-3.54E-05	4.83E-05
		610.33		5.76	1.03E-03		-2.19E-04	5.08E-04
	RH-105	306.31		4.66	1.54E-03	4.35E-04	2.05E-03	7.61E-04
		319.23		16.90	4.35E-04		1.08E-04	2.16E-04
	AG-106M	221.70		6.60	9.91E-04	6.80E-05	-5.76E-05	4.92E-04
		228.63		2.10	3.13E-03		1.64E-03	1.55E-03
		328.46		1.14	6.23E-03		1.27E-03	3.09E-03
		391.04		3.68	2.29E-03		9.80E-04	1.14E-03
		406.18		13.40	6.61E-04		-4.86E-04	3.28E-04
		429.65		13.20	7.56E-04		5.80E-05	3.75E-04
		450.98		28.20	3.81E-04		-2.94E-04	1.89E-04
		511.85		88.00	9.68E-05		8.50E-05	4.80E-05
		601.17		1.61	3.79E-03		2.04E-03	1.87E-03
		616.17		21.60	2.79E-04		-6.81E-05	1.37E-04
		646.03		1.46	4.48E-03		2.65E-03	2.21E-03
		680.42		2.18	1.11E-03		1.07E-03	5.32E-04
		703.11		4.47	4.03E-04		-3.59E-04	1.91E-04
		717.34		28.90	6.86E-05		-1.73E-05	3.26E-05
		748.36		20.60	8.77E-05		-4.61E-05	4.13E-05
		793.17		5.90	3.24E-04		-5.24E-04	1.53E-04
		804.28		12.40	1.54E-04		8.30E-05	7.27E-05
		808.36		4.00	4.39E-04		-5.53E-04	2.06E-04
		824.69		15.30	1.26E-04		-4.55E-06	5.96E-05
		847.15		4.40	4.60E-04		2.06E-04	2.17E-04
		1019.72		1.04	2.01E-03		-7.40E-04	9.44E-04
		1045.83		29.60	6.80E-05		3.63E-05	3.18E-05
		1128.02		11.80	1.82E-04		1.87E-04	8.56E-05
		1199.39		11.20	1.71E-04		-1.02E-04	7.93E-05
		1222.88		7.00	2.16E-04		7.08E-05	9.81E-05
		1394.35		1.49	1.01E-03		-3.81E-04	4.54E-04
		1527.65		16.30	7.49E-05		-3.03E-05	3.24E-05
		1572.35		6.60	1.64E-04		-7.98E-06	6.91E-05
		1722.76		1.40	1.04E-03		-4.03E-04	4.54E-04
		1839.05		2.00	7.23E-04		-3.25E-04	3.14E-04
	RH-106	621.93		9.93	8.14E-04	8.14E-04	2.81E-04	4.01E-04
		873.49		0.44	7.92E-03		-3.76E-03	3.75E-03
		1050.41		1.56	1.81E-03		3.69E-04	8.52E-04
	RU-106	511.86		20.40	4.13E-04	4.13E-04	3.63E-04	2.05E-04
	AG-108M	79.13		6.60	9.18E-04	4.26E-05	-1.55E-03	4.55E-04
		433.94		90.50	1.97E-04		-1.07E-04	9.78E-05
		614.28		89.80	1.22E-04		6.72E-05	6.03E-05
		722.91		90.80	4.26E-05		4.05E-05	2.03E-05
+	CD-109	88.03	*	3.64	2.28E-03	2.28E-03	3.44E-03	1.13E-03
	AG-110M	446.81		3.70	6.70E-03	5.00E-05	-1.38E-03	3.33E-03
		620.35		2.73	5.10E-03		-4.59E-03	2.51E-03
		657.76		95.61	1.18E-03		1.01E-05	5.88E-04
		677.62		10.70	5.20E-04		3.27E-04	2.50E-04
		687.01		6.53	7.13E-04		-1.12E-04	3.41E-04
		706.68		16.69	2.34E-04		-6.65E-05	1.10E-04
		744.28		4.77	7.69E-04		-5.92E-04	3.62E-04
		763.94		22.60	1.54E-04		1.20E-04	7.27E-05
		818.02		7.43	6.08E-04		-2.74E-04	2.87E-04
		884.68		75.00	5.00E-05		5.54E-05	2.36E-05

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-110M	937.48	35.00	1.17E-04	5.00E-05	-8.73E-05	5.56E-05
	1384.29	25.10	8.87E-05		-3.29E-05	3.94E-05
	1475.78	4.08	4.51E-04		1.43E-04	1.98E-04
	1505.03	13.33	1.63E-04		5.54E-05	7.14E-05
	1562.29	1.22	6.48E-04		-4.47E-04	2.76E-04
AG-111	245.40	1.11	5.91E-03	1.12E-03	1.18E-03	2.93E-03
	342.13	6.68	1.12E-03		-5.73E-05	5.54E-04
AG-112	606.82	3.10	2.15E-03	1.53E-04	2.97E-04	1.06E-03
	617.52	43.00	1.53E-04		-7.27E-05	7.53E-05
	692.82	1.19	3.34E-03		1.10E-02	1.62E-03
	694.87	2.90	1.36E-03		4.48E-03	6.60E-04
	851.28	1.02	2.24E-03		4.41E-04	1.06E-03
	1312.36	1.11	1.65E-03		-4.86E-04	7.53E-04
	1387.68	5.30	2.76E-04		1.10E-04	1.22E-04
	1613.66	2.80	5.68E-04		1.29E-04	2.51E-04
	1798.50	0.89	1.80E-03		1.35E-03	7.85E-04
	2106.31	2.40	6.20E-04		3.56E-04	2.62E-04
	2506.70	1.06	2.91E-03		3.42E-03	1.33E-03
CD-113M	263.70	0.03	2.43E-01	2.43E-01	-1.05E-01	1.21E-01
SN-113	255.13	2.11	3.07E-03	1.29E-04	-1.80E-05	1.52E-03
	391.70	64.97	1.29E-04		-8.83E-05	6.38E-05
IN-114M	190.27	15.56	3.97E-04	3.97E-04	-2.70E-04	1.97E-04
	558.43	4.40	1.94E-03		7.81E-04	9.57E-04
	725.24	4.40	6.54E-04		7.48E-04	3.12E-04
CD-115	260.90	1.94	3.45E-03	1.65E-04	-2.01E-03	1.71E-03
	336.24	46.02	1.65E-04		-1.68E-04	8.20E-05
	527.90	27.45	2.87E-04		2.89E-04	1.42E-04
CD-115M	933.84	2.00	1.22E-03	1.22E-03	4.33E-04	5.77E-04
	1290.59	0.90	1.85E-03		-3.84E-04	8.43E-04
IN-115M	336.24	45.90	2.57E-04	2.57E-04	-2.62E-04	1.28E-04
IN-116M	138.29	3.70	2.37E-02	2.81E-04	2.83E-02	1.17E-02
	416.90	27.20	5.31E-03		7.48E-03	2.63E-03
	818.68	12.13	3.12E-03		2.00E-03	1.47E-03
	1097.28	58.50	5.20E-04		5.77E-04	2.44E-04
	1293.56	84.80	2.81E-04		1.24E-04	1.28E-04
	1507.59	9.92	1.90E-03		1.52E-03	8.36E-04
	2112.29	15.09	1.11E-03		5.59E-04	4.60E-04
SB-125	176.31	6.84	7.52E-04	3.23E-04	1.06E-03	3.73E-04
	380.45	1.52	5.39E-03		1.39E-03	2.67E-03
	427.87	29.60	3.23E-04		3.52E-04	1.60E-04
	463.36	10.49	1.09E-03		6.85E-04	5.42E-04
	600.60	17.65	3.40E-04		7.60E-05	1.68E-04
	606.71	4.98	1.21E-03		9.24E-04	5.98E-04
	635.95	11.22	5.45E-04		4.04E-05	2.69E-04
	671.44	1.79	1.94E-03		-1.91E-03	9.42E-04
SN-125	332.10	1.40	8.99E-03	2.78E-04	9.17E-04	4.46E-03
	469.85	1.50	1.30E-02		4.85E-03	6.44E-03
	800.28	1.10	2.38E-03		2.62E-04	1.13E-03
	822.48	4.30	6.15E-04		4.76E-04	2.91E-04
	915.55	4.10	7.48E-04		8.36E-04	3.55E-04
	1067.10	10.00	2.78E-04		1.88E-04	1.31E-04
	1087.70	1.20	3.60E-03		-2.34E-03	1.70E-03
	1089.10	4.60	4.85E-04		-1.08E-03	2.27E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SN-125	2002.10	1.90	5.46E-04	2.78E-04	-1.05E-03	2.21E-04
SB-127	61.10	1.43	1.00E-02	6.37E-05	6.30E-03	4.98E-03
	252.40	8.50	9.75E-04		5.34E-04	4.83E-04
	290.80	2.02	4.74E-03		-1.57E-03	2.35E-03
	412.10	3.80	2.72E-03		-4.31E-04	1.35E-03
	445.10	4.30	3.51E-03		7.18E-04	1.74E-03
	473.00	25.80	4.81E-04		5.03E-04	2.39E-04
	543.30	2.90	2.06E-03		1.59E-03	1.02E-03
	603.50	4.50	1.88E-03		1.06E-03	9.26E-04
	685.70	36.80	6.37E-05		-2.98E-06	3.05E-05
	698.50	3.64	9.88E-04		-1.48E-04	4.80E-04
	722.20	1.88	1.18E-03		1.64E-04	5.60E-04
	783.70	15.10	1.24E-04		-1.44E-05	5.84E-05
SN-127	119.70	2.20	5.87E-03	1.97E-04	-6.12E-03	2.91E-03
	262.50	2.30	7.85E-03		2.06E-03	3.89E-03
	266.20	2.10	8.72E-03		-6.54E-04	4.32E-03
	284.30	2.70	6.78E-03		-4.39E-03	3.36E-03
	438.20	6.10	4.66E-03		4.66E-03	2.31E-03
	490.90	5.30	4.83E-03		-3.99E-03	2.39E-03
	493.20	3.10	8.12E-03		-5.23E-03	4.03E-03
	545.40	2.30	8.14E-03		1.00E-03	4.02E-03
	583.30	3.20	5.42E-03		6.94E-03	2.67E-03
	805.90	8.20	6.34E-04		-4.46E-04	2.99E-04
	823.10	11.00	4.84E-04		-6.92E-05	2.28E-04
	824.70	6.10	8.73E-04		-3.15E-05	4.12E-04
	859.50	8.00	7.55E-04		4.16E-04	3.58E-04
	979.20	7.20	7.88E-04		4.09E-04	3.71E-04
	1093.30	3.80	1.59E-03		3.43E-04	7.45E-04
	1095.60	19.00	3.19E-04		3.74E-04	1.50E-04
	1114.30	38.00	1.97E-04		1.25E-04	9.37E-05
	1160.40	2.40	2.12E-03		1.00E-03	9.80E-04
	2003.40	5.30	5.48E-04		2.33E-04	2.22E-04
SB-129	180.42	2.84	3.03E-03	6.30E-05	-2.58E-03	1.50E-03
	359.20	2.39	5.32E-03		2.40E-03	2.64E-03
	404.64	1.17	1.23E-02		1.72E-03	6.09E-03
	523.13	1.55	8.20E-03		-1.41E-03	4.06E-03
	544.56	15.42	7.19E-04		-1.97E-04	3.55E-04
	633.74	2.53	3.89E-03		-1.65E-03	1.91E-03
	654.28	2.97	4.55E-03		-4.59E-03	2.25E-03
	682.77	5.76	6.74E-04		-1.08E-04	3.23E-04
	761.12	4.32	7.28E-04		4.03E-04	3.45E-04
	773.37	2.82	1.08E-03		-9.02E-04	5.08E-04
	786.36	1.07	2.76E-03		-5.95E-04	1.30E-03
	787.16	1.74	1.73E-03		2.26E-03	8.14E-04
	812.97	48.20	6.30E-05		2.09E-06	2.97E-05
	819.51	1.39	2.34E-03		3.43E-03	1.11E-03
	876.65	2.75	1.34E-03		1.13E-03	6.36E-04
	914.96	23.30	1.62E-04		1.17E-04	7.68E-05
	966.78	8.96	4.06E-04		4.36E-04	1.92E-04
	1030.65	15.13	2.19E-04		-2.91E-05	1.03E-04
	1656.10	1.31	1.60E-03		1.11E-03	6.92E-04
	1738.16	7.45	2.92E-04		-7.78E-06	1.26E-04
TE-129	459.60	7.70	1.45E-03	1.45E-03	-1.14E-03	7.22E-04

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TE-129	487.39		1.42	6.67E-03	1.45E-03	-5.26E-03	3.31E-03
+	Te-129m	695.88	*	3.00	8.12E-04	8.12E-04	3.55E-03	3.90E-04
	I-131	80.18		2.62	3.19E-03	9.54E-05	5.61E-04	1.58E-03
		284.30		6.12	1.18E-03		-1.09E-04	5.85E-04
		364.49		81.50	9.54E-05		-6.74E-05	4.73E-05
		636.99		7.16	8.60E-04		-8.90E-04	4.24E-04
		722.91		1.77	1.20E-03		1.14E-03	5.71E-04
	Te-131m	773.67		36.80	8.35E-05	8.35E-05	-7.00E-05	3.94E-05
		793.75		13.40	3.63E-04		-3.72E-04	1.72E-04
		852.21		19.90	1.84E-04		1.56E-04	8.74E-05
		1125.46		11.00	2.80E-04		1.48E-04	1.31E-04
		1206.60		9.41	2.59E-04		4.27E-05	1.20E-04
	I-132	262.90		1.28	5.21E-03	4.25E-05	-2.27E-04	2.58E-03
		284.90		0.71	9.52E-03		-1.40E-03	4.72E-03
		505.79		4.93	6.53E-03		7.88E-03	3.24E-03
		522.65		16.00	9.31E-04		-2.60E-04	4.61E-04
		547.20		1.14	1.19E-02		-2.71E-03	5.88E-03
		621.20		1.97	6.09E-03		-3.38E-03	3.00E-03
		630.19		13.30	8.87E-04		-3.97E-04	4.37E-04
		650.50		2.57	6.33E-03		-2.87E-03	3.12E-03
		667.71		98.70	7.19E-04		-1.72E-05	3.59E-04
		669.80		4.60	2.00E-03		-4.44E-04	9.81E-04
		671.40		3.50	2.43E-03		-2.61E-03	1.18E-03
		727.10		5.40	9.05E-04		-4.28E-04	4.30E-04
		728.40		1.60	2.74E-03		1.38E-03	1.30E-03
		772.60		75.60	4.25E-05		-2.54E-05	2.01E-05
		809.50		2.60	1.38E-03		-5.39E-04	6.49E-04
		812.00		5.50	6.21E-04		-1.22E-04	2.92E-04
		910.10		0.93	4.58E-03		2.55E-03	2.18E-03
		954.55		17.60	2.33E-04		6.72E-05	1.10E-04
		1136.00		3.01	8.58E-04		5.67E-05	3.98E-04
		1172.90		1.09	7.79E-03		3.73E-02	3.81E-03
		1290.80		1.13	2.65E-03		1.24E-03	1.21E-03
		1295.10		1.88	5.50E-04		4.42E-04	2.51E-04
		1297.90		0.89	8.09E-04		-8.14E-05	3.67E-04
		1372.07		2.47	1.02E-03		1.76E-04	4.55E-04
		1398.57		7.01	3.75E-04		2.05E-04	1.69E-04
		1442.56		1.40	6.79E-04		-1.31E-04	3.00E-04
	TE-132	49.72		15.00	2.05E-03	7.68E-05	1.28E-03	1.01E-03
		111.76		1.74	2.77E-03		-7.98E-04	1.37E-03
		116.30		1.96	2.46E-03		1.03E-03	1.22E-03
		228.16		88.00	7.68E-05		3.33E-05	3.81E-05
	BA-133	81.00		32.90	2.49E-04	1.34E-04	1.89E-04	1.23E-04
		276.40		7.16	1.05E-03		-3.33E-04	5.20E-04
		302.85		18.34	4.00E-04		3.83E-04	1.98E-04
		356.01		62.05	1.34E-04		6.48E-05	6.67E-05
		383.85		8.94	8.14E-04		-2.02E-05	4.04E-04
	I-133	529.87		87.00	9.57E-05	9.57E-05	1.10E-05	4.73E-05
		706.58		1.51	1.74E-03		-4.95E-04	8.21E-04
		856.28		1.24	2.58E-03		1.19E-03	1.22E-03
		875.33		4.51	5.33E-04		-4.67E-04	2.53E-04
		1236.44		1.51	9.45E-04		6.56E-04	4.28E-04
		1298.22		2.35	7.56E-04		5.53E-04	3.44E-04

Analysis Report for 24-2498 TI185-4.5M-AP105d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TE-133	312.08	62.40	3.27E+00	3.27E+00	-6.77E-01	1.62E+00
	407.63	27.10	9.69E+00		-7.21E+00	4.81E+00
	410.40	0.94	2.90E+02		7.06E+01	1.44E+02
	474.85	0.88	3.83E+02		7.73E+02	1.90E+02
	719.71	8.90	7.13E+00		9.49E+00	3.40E+00
	786.93	5.40	1.02E+01		1.33E+01	4.79E+00
	844.36	3.31	1.84E+01		-1.25E+01	8.70E+00
	884.30	0.72	8.22E+01		6.94E+01	3.88E+01
	930.71	3.81	1.69E+01		-9.63E+00	8.01E+00
	997.70	1.04	6.43E+01		3.61E+01	3.04E+01
	1000.72	3.62	2.00E+01		3.25E+01	9.49E+00
	1021.13	2.81	2.14E+01		-1.14E+01	1.00E+01
	1061.61	1.19	5.27E+01		-3.71E+01	2.48E+01
	1252.08	1.44	3.20E+01		-7.92E-01	1.46E+01
	1312.80	0.85	5.83E+01		2.57E+01	2.66E+01
	1333.21	10.67	1.79E+01		9.03E+01	8.73E+00
	1717.61	3.18	1.28E+01		9.23E+00	5.55E+00
	1881.52	1.22	2.26E+01		-3.53E+01	8.96E+00
	2136.51	1.25	2.81E+01		-1.01E+01	1.15E+01
	2229.64	0.87	4.65E+01		2.51E+01	1.95E+01
Xe-133	81.00	36.90	1.64E-04	1.64E-04	1.25E-04	8.14E-05
CS-134	475.36	1.48	7.56E-03	3.16E-05	1.34E-02	3.75E-03
	563.25	8.34	1.28E-03		-1.44E-04	6.30E-04
	569.33	15.37	7.24E-04		1.53E-04	3.57E-04
	604.72	97.62	8.69E-05		-1.86E-05	4.28E-05
	795.86	85.46	3.16E-05		-5.43E-06	1.49E-05
	801.95	8.69	3.69E-04		-5.42E-05	1.74E-04
	1038.61	0.99	2.79E-03		3.05E-03	1.31E-03
	1167.97	1.79	2.43E-03		-3.54E-04	1.19E-03
	1365.19	3.02	4.31E-04		-4.05E-04	1.99E-04
I-135	220.50	1.75	6.86E-03	7.04E-05	-4.43E-03	3.40E-03
	288.45	3.10	3.89E-03		-3.60E-03	1.93E-03
	417.63	3.53	4.90E-03		-2.61E-04	2.43E-03
	546.56	7.15	1.70E-03		2.34E-04	8.41E-04
	836.80	6.69	5.32E-04		-1.08E-04	2.51E-04
	971.96	0.89	4.69E-03		-3.81E-03	2.21E-03
	972.62	1.21	3.17E-03		-2.38E-03	1.49E-03
	1038.76	7.90	3.61E-04		3.94E-04	1.69E-04
	1101.58	1.61	2.33E-03		-3.48E-03	1.09E-03
	1124.00	3.62	1.12E-03		7.33E-04	5.26E-04
	1131.51	22.60	1.61E-04		-2.30E-05	7.53E-05
	1240.47	0.90	3.06E-03		9.37E-04	1.39E-03
	1260.41	28.70	7.04E-05		-4.12E-05	3.16E-05
	1457.56	8.70	3.53E-04		3.47E-04	1.63E-04
	1502.79	1.08	2.14E-03		-2.32E-04	9.26E-04
	1566.41	1.29	1.04E-03		5.26E-04	4.33E-04
	1678.03	9.60	1.65E-04		-5.29E-05	7.22E-05
	1706.46	4.10	4.15E-04		2.64E-04	1.78E-04
	1791.20	7.72	1.97E-04		1.07E-04	8.27E-05
	2408.65	0.96	1.52E-03		5.05E-04	5.87E-04
XE-135	249.79	90.00	9.09E-05	9.09E-05	-1.08E-04	4.51E-05
XE-135m	526.56	80.40	1.31E-04	1.31E-04	-3.66E-06	6.50E-05
CS-136	66.88	4.79	3.99E-03	3.33E-05	1.20E-03	1.98E-03

Analysis Report for 24-2498 TI185-4.5M-AP105d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-136	86.36		5.90	1.81E-03	3.33E-05	5.19E-04	9.00E-04
		153.25		7.70	1.05E-03		-1.29E-03	5.19E-04
		163.92		4.69	2.55E-03		-6.15E-04	1.26E-03
		176.60		13.70	7.29E-04		6.80E-04	3.61E-04
		273.65		12.66	9.64E-04		-6.32E-05	4.78E-04
		340.55		46.80	2.69E-04		-5.32E-05	1.33E-04
		818.51		99.70	3.33E-05		2.70E-05	1.57E-05
		1048.07		80.00	4.36E-05		-1.54E-06	2.04E-05
		1235.36		20.00	1.19E-04		1.31E-04	5.39E-05
+	CS-137	661.66	*	85.10	5.05E-05	5.05E-05	5.80E-02	2.47E-05
	BA-139	33.44		3.84	4.34E-01	9.82E-04	2.24E-01	2.15E-01
		165.86		23.70	9.82E-04		-5.39E-05	4.86E-04
	BA-140	132.69		0.20	2.31E-02	2.92E-04	-2.06E-02	1.14E-02
		162.66		6.22	9.31E-04		6.54E-04	4.61E-04
		304.85		4.29	2.05E-03		2.72E-04	1.02E-03
		423.72		3.10	3.05E-03		2.81E-03	1.51E-03
		437.58		1.93	5.30E-03		-1.47E-03	2.63E-03
		537.26		24.39	2.92E-04		2.33E-04	1.45E-04
	LA-140	109.42		0.22	2.08E-02	2.02E-05	-8.48E-03	1.03E-02
		131.12		0.47	9.98E-03		-5.39E-03	4.94E-03
		173.54		0.13	3.95E-02		-4.15E-02	1.96E-02
		241.93		0.41	1.58E-02		-3.31E-03	7.85E-03
		266.54		0.47	1.42E-02		9.71E-03	7.05E-03
		328.76		20.30	6.12E-04		-2.99E-04	3.03E-04
		432.49		2.90	6.07E-03		-3.63E-03	3.01E-03
		487.02		45.50	3.17E-04		-1.21E-05	1.57E-04
		618.10		0.04	1.62E-01		1.77E-01	7.96E-02
		751.64		4.33	5.53E-04		4.46E-04	2.61E-04
		815.77		23.28	9.14E-05		1.87E-06	4.32E-05
		867.85		5.50	5.04E-04		-3.11E-04	2.39E-04
		919.55		2.66	8.84E-04		8.03E-04	4.19E-04
		925.19		6.90	4.10E-04		2.03E-05	1.94E-04
		950.99		0.52	5.54E-03		-1.21E-02	2.62E-03
		1596.21		95.40	2.02E-05		1.57E-05	8.84E-06
		2347.88		0.85	8.29E-04		-1.49E-03	3.29E-04
		2521.40		3.46	2.63E-04		8.76E-05	1.02E-04
		2547.34		0.10	2.49E-03		0.00E+00	0.00E+00
	BA-141	33.44		7.93	5.14E+01	1.60E-01	2.65E+01	2.55E+01
		190.33		44.80	1.60E-01		-1.09E-01	7.93E-02
		276.95		23.60	3.25E-01		-1.81E-01	1.61E-01
		304.19		26.10	2.99E-01		-1.83E-01	1.48E-01
		343.67		15.10	5.73E-01		1.12E-01	2.84E-01
		389.74		1.37	7.06E+00		2.72E+00	3.50E+00
		457.51		5.00	2.56E+00		8.87E-01	1.27E+00
		462.06		5.10	2.59E+00		1.02E-01	1.28E+00
		467.22		5.60	2.40E+00		1.98E+00	1.19E+00
		625.08		3.45	1.97E+00		1.72E-01	9.72E-01
		647.78		5.70	1.33E+00		-2.69E-01	6.55E-01
		738.95		4.39	4.76E-01		3.69E-01	2.25E-01
		831.46		1.64	1.27E+00		-1.99E-01	5.96E-01
		876.09		3.45	7.54E-01		5.65E-01	3.58E-01
		1160.72		1.12	1.89E+00		4.14E-01	8.76E-01
		1197.28		4.35	5.30E-01		3.68E-01	2.47E-01

Analysis Report for 24-2498 TI185-4.5M-AP105d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-141	1323.92	0.92	2.42E+00	1.60E-01	-1.29E+00	1.12E+00
	1654.00	0.65	2.23E+00		-2.67E+00	9.60E-01
	1682.19	1.19	1.41E+00		1.13E+00	6.21E-01
CE-141	145.44	48.30	9.80E-05	9.80E-05	1.74E-05	4.86E-05
BA-142	33.44	14.20	4.66E+03	2.38E+01	2.40E+03	2.31E+03
	77.59	7.00	1.68E+02		-7.97E+00	8.34E+01
	177.00	2.12	4.57E+02		-8.18E+01	2.27E+02
	231.61	12.20	1.00E+02		2.83E+01	4.97E+01
	255.30	20.70	5.90E+01		4.32E+01	2.93E+01
	286.30	1.11	1.12E+03		-6.22E+02	5.55E+02
	309.20	2.60	4.90E+02		-1.89E+02	2.43E+02
	335.00	1.53	9.03E+02		-9.69E+02	4.48E+02
	363.96	4.76	3.07E+02		1.59E+02	1.52E+02
	425.04	5.75	3.08E+02		2.96E+01	1.53E+02
	599.80	1.85	6.12E+02		-1.60E+02	3.01E+02
	840.40	3.63	9.95E+01		-1.16E+01	4.69E+01
	895.20	13.90	2.85E+01		6.31E+00	1.35E+01
	949.10	10.70	3.94E+01		-4.95E+00	1.86E+01
	1001.20	9.80	4.64E+01		-7.22E+00	2.20E+01
	1078.70	11.50	4.12E+01		2.30E+01	1.95E+01
	1094.10	2.82	1.43E+02		-9.98E+00	6.72E+01
	1126.80	1.50	2.64E+02		2.02E+02	1.24E+02
	1202.40	5.60	6.12E+01		2.64E+01	2.83E+01
	1204.30	14.30	2.38E+01		8.73E-01	1.10E+01
	1380.20	3.42	7.87E+01		3.84E+01	3.52E+01
CE-143	57.36	11.70	1.40E-03	1.70E-04	1.24E-03	6.92E-04
	231.55	2.05	4.42E-03		1.59E-03	2.19E-03
	293.27	42.80	1.70E-04		8.02E-05	8.42E-05
	350.62	3.23	2.21E-03		3.49E-04	1.10E-03
	490.37	2.16	6.13E-03		-5.61E-03	3.04E-03
	664.57	5.69	1.17E-02		-6.29E-05	5.83E-03
	721.93	5.39	3.81E-04		5.32E-05	1.82E-04
	880.46	1.03	2.16E-03		-5.01E-04	1.02E-03
CE-144	80.12	1.36	4.44E-03	4.19E-04	7.81E-04	2.20E-03
	133.51	11.09	4.19E-04		-3.40E-04	2.08E-04
ND-147	38.17	13.20	8.24E-03	1.89E-04	5.73E-03	4.08E-03
	38.72	23.80	4.08E-03		2.81E-04	2.02E-03
	91.11	28.90	1.89E-04		5.66E-05	9.38E-05
	275.39	0.79	1.22E-02		-5.21E-03	6.03E-03
	319.41	1.97	4.31E-03		1.07E-03	2.13E-03
	398.13	0.87	1.08E-02		2.98E-03	5.34E-03
	439.88	1.20	9.33E-03		-7.19E-03	4.63E-03
	531.01	13.11	5.64E-04		-4.32E-04	2.79E-04
	685.88	0.82	2.75E-03		6.07E-04	1.32E-03
PR-147	36.85	19.70	1.07E+02	2.24E+00	6.03E+01	5.29E+01
	37.36	35.50	5.27E+01		1.68E+01	2.61E+01
	49.88	4.00	7.86E+01		4.93E+01	3.89E+01
	77.97	9.70	9.33E+00		2.71E+00	4.62E+00
	86.69	5.40	1.60E+01		1.21E+00	7.93E+00
	127.80	7.40	9.10E+00		-1.08E+01	4.51E+00
	249.20	1.32	7.14E+01		-8.53E+01	3.54E+01
	314.70	18.20	5.51E+00		3.15E+00	2.73E+00
	328.80	4.00	2.56E+01		-1.25E+01	1.27E+01

Analysis Report for 24-2498 TI185-4.5M-AP105d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PR-147	335.70	4.70	2.28E+01	2.24E+00	1.86E+01	1.13E+01
	388.80	1.41	8.61E+01		4.99E+01	4.27E+01
	466.80	1.70	9.90E+01		1.20E+01	4.92E+01
	477.90	4.60	3.38E+01		1.98E+01	1.68E+01
	516.70	1.30	9.16E+01		-1.24E+01	4.53E+01
	554.70	5.90	1.59E+01		-1.44E+01	7.82E+00
	577.90	13.70	6.63E+00		-1.05E-01	3.27E+00
	641.40	16.10	5.78E+00		3.42E+00	2.85E+00
	996.00	1.52	2.20E+01		-7.16E+00	1.04E+01
	1136.70	1.42	1.88E+01		5.53E+00	8.71E+00
	1261.10	8.40	2.24E+00		-6.21E+00	9.97E-01
	1300.40	2.30	1.00E+01		-1.17E+01	4.55E+00
ND-149	38.17	9.00	4.17E-02	9.26E-04	2.90E-02	2.07E-02
	38.72	16.30	2.06E-02		1.42E-03	1.02E-02
	58.88	1.30	4.78E-02		2.42E-02	2.37E-02
	74.32	2.11	1.44E-02		7.78E-03	7.15E-03
	97.00	1.48	1.37E-02		-7.21E-03	6.80E-03
	114.31	19.20	1.06E-03		-2.50E-04	5.27E-04
	155.87	5.95	3.60E-03		1.20E-04	1.79E-03
	188.64	1.79	2.41E-02		2.43E-02	1.20E-02
	198.93	1.39	2.18E-02		-2.59E-02	1.08E-02
	208.15	2.55	1.14E-02		-6.99E-04	5.65E-03
	211.31	26.00	9.26E-04		-8.56E-04	4.60E-04
	240.22	3.95	5.90E-03		1.04E-04	2.93E-03
	245.72	0.81	3.80E-02		6.88E-03	1.88E-02
	267.69	6.05	5.59E-03		5.63E-03	2.77E-03
	270.17	10.80	2.22E-03		9.39E-04	1.10E-03
	326.55	4.57	7.14E-03		-5.43E-03	3.54E-03
	349.23	1.38	2.43E-02		-2.49E-03	1.20E-02
	423.55	7.50	4.63E-03		-5.01E-03	2.30E-03
	443.55	1.15	4.26E-02		1.71E-02	2.12E-02
	540.51	6.60	4.15E-03		1.74E-03	2.05E-03
	654.83	8.00	4.66E-03		-2.51E-03	2.31E-03
PM-149	285.95	3.10	2.21E-03	2.21E-03	-1.62E-04	1.10E-03
PM-150	39.52	0.63	2.89E-01	2.39E-04	-3.08E-01	1.43E-01
	40.12	1.14	1.44E-01		2.68E-02	7.14E-02
	333.92	68.00	2.39E-04		1.47E-04	1.19E-04
	406.51	5.60	3.48E-03		1.94E-03	1.73E-03
	565.70	1.31	1.06E-02		-1.42E-03	5.20E-03
	587.02	1.34	1.01E-02		-4.03E-03	4.97E-03
	612.25	0.93	1.42E-02		-8.57E-03	7.01E-03
	712.22	4.40	9.08E-04		1.00E-03	4.29E-04
	737.50	2.25	1.77E-03		-4.28E-04	8.37E-04
	831.85	11.90	3.40E-04		2.68E-04	1.60E-04
	859.95	3.40	1.40E-03		2.91E-04	6.66E-04
	876.41	7.30	6.89E-04		1.07E-03	3.28E-04
	1165.77	15.80	4.38E-04		-3.59E-05	2.09E-04
	1170.90	1.06	1.30E-02		6.38E-02	6.34E-03
	1193.87	4.80	8.29E-04		-4.35E-04	3.83E-04
	1213.72	1.03	3.21E-03		-2.67E-03	1.46E-03
	1223.28	2.80	1.20E-03		-1.38E-04	5.47E-04
	1324.51	17.50	3.13E-04		1.32E-04	1.47E-04
	1379.32	3.10	1.06E-03		-7.71E-06	4.75E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	1736.40	6.90	4.65E-04	2.39E-04	9.87E-05	2.04E-04
	1963.71	1.47	1.91E-03		-1.70E-03	8.08E-04
	2033.46	0.97	2.86E-03		1.54E-03	1.20E-03
ND-151	38.17	5.94	5.71E+02	3.77E+00	3.97E+02	2.83E+02
	38.72	10.70	2.83E+02		1.95E+01	1.40E+02
	68.98	1.26	1.94E+02		-1.43E+02	9.60E+01
	85.12	2.05	9.35E+01		3.86E+01	4.63E+01
	89.96	1.53	1.17E+02		4.45E+01	5.79E+01
	116.80	39.00	3.77E+00		1.07E+00	1.87E+00
	138.89	7.00	2.12E+01		4.33E+00	1.05E+01
	170.76	2.87	5.40E+01		-2.24E+01	2.67E+01
	175.07	6.30	2.52E+01		8.30E+00	1.25E+01
	255.68	14.80	1.37E+01		7.71E+00	6.81E+00
	300.58	1.82	1.16E+02		-5.35E+01	5.74E+01
	423.56	5.90	4.98E+01		-5.39E+01	2.47E+01
	460.59	0.96	3.68E+02		2.60E+02	1.83E+02
	585.22	1.30	1.49E+02		7.27E+01	7.37E+01
	677.88	2.38	3.12E+01		2.48E+01	1.50E+01
	736.23	5.90	9.65E+00		1.86E+00	4.56E+00
	739.20	1.52	3.66E+01		-2.56E+01	1.73E+01
	755.57	1.17	4.70E+01		-4.80E+01	2.22E+01
	797.53	4.70	1.30E+01		-1.17E+01	6.15E+00
	1016.40	2.50	2.61E+01		2.35E+01	1.23E+01
	1122.63	4.10	1.72E+01		-7.93E+00	8.11E+00
	1180.89	13.30	1.04E+01		-4.24E-01	5.03E+00
Pm-151	167.75	8.30	7.03E-04	3.47E-04	1.43E-04	3.49E-04
	177.16	3.80	1.98E-03		-8.05E-05	9.81E-04
	240.09	3.80	2.05E-03		3.62E-05	1.01E-03
	275.21	6.80	1.07E-03		-4.59E-04	5.32E-04
	340.08	22.50	3.47E-04		2.23E-05	1.72E-04
EU-152	121.78	28.53	2.23E-04	7.86E-05	2.86E-05	1.11E-04
	344.28	26.59	3.43E-04		-4.54E-05	1.70E-04
	778.90	12.93	1.90E-04		-2.14E-05	8.95E-05
	867.37	4.23	7.95E-04		-4.76E-04	3.76E-04
	964.08	14.51	1.96E-04		-1.42E-04	9.30E-05
	1085.87	10.11	2.24E-04		-6.55E-05	1.06E-04
	1112.07	13.67	2.16E-04		6.01E-05	1.03E-04
	1408.01	20.87	7.86E-05		3.74E-05	3.51E-05
ND-152	44.44	5.50	5.52E+02	2.06E+01	-1.38E+02	2.73E+02
	250.15	16.40	3.18E+01		-1.02E+01	1.58E+01
	278.56	26.00	2.06E+01		1.27E+01	1.02E+01
	294.47	2.90	1.87E+02		1.18E+01	9.26E+01
	545.70	0.83	6.52E+02		2.29E+01	3.22E+02
	592.50	0.99	4.78E+02		-1.66E+02	2.36E+02
GD-153	69.67	2.45	3.52E-03	1.68E-04	6.19E-04	1.75E-03
	97.43	30.00	1.68E-04		1.27E-04	8.33E-05
	103.18	22.10	2.21E-04		-7.34E-05	1.10E-04
SM-153	69.67	4.67	1.89E-03	1.73E-04	3.32E-04	9.37E-04
	103.18	29.14	1.73E-04		-5.73E-05	8.55E-05
EU-154	42.70	20.45	2.35E-03	8.25E-05	-2.34E-04	1.16E-03
	123.07	40.40	1.55E-04		1.24E-04	7.71E-05
	247.93	6.89	1.38E-03		1.47E-03	6.83E-04
	591.76	4.95	1.90E-03		1.63E-04	9.34E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-154	692.42	1.78	2.88E-03	8.25E-05	1.50E-04	1.40E-03
	723.30	20.06	1.46E-04		4.28E-05	6.95E-05
	756.80	4.52	6.55E-04		-9.92E-05	3.09E-04
	873.18	12.08	2.61E-04		2.96E-05	1.24E-04
	996.29	10.48	2.48E-04		1.51E-05	1.17E-04
	1004.76	18.01	1.42E-04		1.51E-05	6.69E-05
	1246.12	0.86	2.95E-03		-3.31E-03	1.34E-03
	1274.43	34.80	8.25E-05		1.25E-04	3.89E-05
	1494.05	0.70	1.59E-03		-5.66E-05	6.90E-04
	1596.48	1.80	4.01E-04		3.12E-04	1.76E-04
EU-155	43.00	18.12	2.53E-03	1.94E-04	-1.63E-03	1.25E-03
	60.01	1.17	9.45E-03		3.99E-03	4.68E-03
	86.55	30.70	1.94E-04		3.01E-05	9.64E-05
	105.31	21.10	2.20E-04		1.68E-04	1.09E-04
EU-156	88.97	8.40	1.02E-03	1.90E-04	-8.80E-05	5.05E-04
	646.29	6.30	1.42E-03		8.40E-04	6.98E-04
	723.47	5.40	5.19E-04		1.52E-04	2.47E-04
	811.77	9.70	2.53E-04		4.80E-05	1.19E-04
	1065.14	4.90	5.86E-04		-3.19E-04	2.75E-04
	1079.16	4.60	5.91E-04		8.22E-04	2.80E-04
	1153.80	11.50	1.90E-04		-3.28E-05	8.78E-05
	1230.71	8.00	2.46E-04		-1.53E-04	1.11E-04
	1242.42	6.60	2.67E-04		-8.04E-06	1.22E-04
	1277.43	2.89	1.06E-03		1.53E-03	5.02E-04
	1366.41	1.57	1.48E-03		1.63E-03	6.87E-04
	1965.95	3.90	2.74E-04		1.75E-04	1.17E-04
	2097.70	3.80	3.33E-04		-1.83E-04	1.39E-04
	2186.71	3.50	2.31E-04		-3.08E-04	8.66E-05
Sm-156	87.60	24.00	3.06E-04	3.06E-04	6.68E-04	1.52E-04
	165.80	13.00	4.74E-04		-2.60E-05	2.35E-04
	204.00	21.00	3.71E-04		3.06E-04	1.84E-04
EU-158	42.31	5.80	1.46E-01	1.26E-03	-1.91E-02	7.25E-02
	43.00	10.40	7.34E-02		-4.74E-02	3.63E-02
	79.49	10.50	9.63E-03		1.54E-04	4.77E-03
	181.97	2.30	3.93E-02		-7.36E-02	1.95E-02
	528.05	1.53	8.22E-02		6.08E-02	4.06E-02
	606.39	4.00	2.50E-02		-2.05E-02	1.23E-02
	743.02	3.60	8.22E-03		-4.46E-03	3.88E-03
	897.61	12.40	2.86E-03		-1.16E-03	1.35E-03
	906.50	1.83	2.08E-02		1.15E-02	9.89E-03
	922.51	1.62	2.16E-02		-2.62E-02	1.02E-02
	944.15	30.00	1.26E-03		-4.71E-04	5.98E-04
	953.03	1.98	1.88E-02		-1.31E-02	8.92E-03
	962.09	1.89	2.07E-02		-2.12E-03	9.83E-03
	977.14	16.30	2.05E-03		5.03E-04	9.65E-04
	986.96	1.35	2.62E-02		2.10E-02	1.23E-02
	1107.63	5.10	8.34E-03		9.13E-03	3.95E-03
	1184.10	3.00	9.11E-03		-1.35E-02	4.18E-03
	1186.00	2.90	9.95E-03		-6.01E-03	4.58E-03
	1187.10	4.40	6.36E-03		-1.21E-02	2.92E-03
	1263.61	2.20	1.05E-02		1.24E-03	4.73E-03
	1347.95	1.65	1.25E-02		3.50E-03	5.49E-03
	1944.47	1.62	1.24E-02		-3.75E-03	5.17E-03

Analysis Report for 24-2498 TI185-4.5M-AP105d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TB-160	86.79	13.20	6.54E-04	8.72E-05	4.93E-05	3.24E-04
	298.58	26.10	3.47E-04		-2.43E-04	1.72E-04
	879.38	30.10	8.72E-05		5.78E-05	4.13E-05
	962.32	9.81	2.74E-04		-2.51E-05	1.30E-04
	966.17	25.10	1.00E-04		7.31E-05	4.75E-05
	1177.96	14.90	3.51E-04		-4.15E-06	1.72E-04
TB-161	25.65	23.20	3.57E-01	6.68E-04	9.21E-02	1.77E-01
	48.91	17.00	1.42E-03		-1.60E-04	7.01E-04
	52.00	3.43	5.24E-03		-7.99E-04	2.60E-03
	57.19	1.79	7.55E-03		6.93E-03	3.74E-03
	74.57	10.20	6.68E-04		4.49E-04	3.31E-04
YB-169	63.12	43.62	3.79E-04	1.90E-04	2.03E-04	1.88E-04
	93.61	2.58	3.85E-03		4.14E-03	1.91E-03
	109.78	17.39	3.33E-04		-1.06E-04	1.65E-04
	130.52	11.38	6.27E-04		2.11E-05	3.11E-04
	177.21	22.28	3.04E-04		-1.24E-05	1.51E-04
	197.96	35.93	1.90E-04		1.86E-04	9.42E-05
	307.74	10.05	5.09E-04		-1.74E-04	2.52E-04
HF-172	54.07	63.00	2.41E-04	2.41E-04	-5.12E-05	1.19E-04
	67.35	5.30	1.55E-03		-5.10E-06	7.67E-04
	81.75	4.50	1.31E-03		9.74E-04	6.47E-04
	114.06	2.60	1.81E-03		2.51E-04	8.98E-04
	122.92	1.14	4.07E-03		1.67E-03	2.02E-03
	125.81	11.30	4.16E-04		3.94E-04	2.06E-04
	127.91	1.46	3.16E-03		-3.77E-03	1.57E-03
LU-173	59.30	24.44	4.69E-04	3.43E-04	5.73E-04	2.32E-04
	78.63	11.90	6.61E-04		-9.82E-04	3.27E-04
	100.72	5.24	1.06E-03		6.76E-04	5.23E-04
	171.39	2.90	1.93E-03		-1.85E-03	9.57E-04
	272.11	21.20	3.43E-04		2.25E-05	1.70E-04
LU-177	112.95	6.23	7.65E-04	6.38E-04	5.40E-04	3.79E-04
	208.37	10.41	6.38E-04		-3.91E-05	3.17E-04
	249.67	0.20	3.28E-02		-3.91E-02	1.63E-02
	321.32	0.22	3.21E-02		-2.35E-04	1.59E-02
HF-181	133.02	43.30	1.47E-04	1.38E-04	-1.18E-04	7.30E-05
	345.93	15.12	6.33E-04		1.98E-04	3.14E-04
	482.18	80.50	1.38E-04		-1.44E-04	6.83E-05
W-181	56.28	18.70	7.15E-04	3.98E-04	2.01E-04	3.54E-04
	57.53	32.00	3.98E-04		2.36E-04	1.97E-04
	65.00	10.60	8.30E-04		1.06E-04	4.11E-04
TA-182	57.98	10.01	1.24E-03	6.33E-05	2.87E-04	6.13E-04
	59.32	17.20	6.66E-04		8.15E-04	3.30E-04
	65.72	3.01	5.79E-03		2.49E-03	2.87E-03
	67.75	46.67	2.48E-04		-2.09E-04	1.23E-04
	84.68	2.65	3.25E-03		2.19E-03	1.61E-03
	100.11	14.20	5.32E-04		1.83E-04	2.63E-04
	113.67	1.87	5.23E-03		3.71E-03	2.59E-03
	116.42	0.44	1.06E-02		4.41E-03	5.23E-03
	152.43	7.02	1.07E-03		1.59E-04	5.32E-04
	156.39	2.67	2.76E-03		-1.61E-03	1.37E-03
	179.39	3.12	2.71E-03		2.93E-04	1.34E-03
	198.35	1.47	7.81E-03		-1.24E-03	3.88E-03
	222.11	7.57	1.21E-03		-4.37E-04	5.98E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	229.32	3.64	2.84E-03	6.33E-05	1.52E-03	1.41E-03
	264.08	3.61	2.63E-03		9.95E-04	1.30E-03
	928.00	0.61	5.08E-03		-1.80E-03	2.40E-03
	959.73	0.35	9.99E-03		8.64E-03	4.74E-03
	1001.70	2.09	2.15E-03		-6.41E-04	1.02E-03
	1044.42	0.24	1.36E-02		7.64E-03	6.38E-03
	1113.41	0.44	8.54E-03		4.52E-03	4.06E-03
	1121.29	35.24	8.20E-05		-6.52E-05	3.86E-05
	1157.30	0.73	2.11E-03		2.22E-03	9.75E-04
	1189.04	16.49	1.02E-04		1.12E-04	4.70E-05
	1221.40	27.23	6.33E-05		4.61E-05	2.87E-05
	1223.60	0.24	4.09E-03		1.51E-03	1.86E-03
	1231.00	11.62	1.66E-04		-2.65E-05	7.50E-05
	1257.41	1.51	9.78E-04		-4.79E-04	4.43E-04
	1273.72	0.66	1.71E-03		2.62E-03	8.06E-04
	1289.15	1.37	4.02E-04		-1.04E-04	1.83E-04
	1342.73	0.26	4.64E-03		-1.06E-03	2.09E-03
	1373.82	0.22	1.56E-03		1.44E-03	6.97E-04
Ta-183	84.71	1.35	4.60E-03	2.42E-04	3.09E-03	2.28E-03
	99.08	6.80	7.33E-04		-4.49E-06	3.63E-04
	107.93	11.20	4.12E-04		-8.33E-05	2.04E-04
	161.35	9.10	5.46E-04		7.04E-04	2.71E-04
	162.32	5.00	9.91E-04		-1.77E-04	4.91E-04
	244.26	8.80	7.50E-04		-9.45E-05	3.72E-04
	246.06	27.20	2.42E-04		-1.40E-04	1.20E-04
	353.99	11.60	6.75E-04		-2.38E-04	3.35E-04
Re-184	111.21	17.20	2.74E-04	5.15E-05	-2.93E-04	1.36E-04
	252.85	3.00	2.17E-03		2.16E-03	1.08E-03
	792.01	37.70	5.15E-05		3.43E-05	2.43E-05
	894.76	15.70	1.33E-04		-6.07E-05	6.29E-05
	903.28	38.10	5.72E-05		-1.08E-04	2.71E-05
W-185	59.72	0.01	9.40E-01	2.45E-01	3.97E-01	4.65E-01
	61.14	0.02	5.11E-01		3.20E-01	2.53E-01
	69.20	0.01	1.13E+00		7.39E-02	5.60E-01
	125.36	0.02	2.45E-01		1.82E-01	1.21E-01
W-187	61.14	14.30	7.97E-04	7.35E-05	4.99E-04	3.95E-04
	69.20	4.82	1.76E-03		1.15E-04	8.71E-04
	72.00	13.55	8.78E-04		6.86E-04	4.35E-04
	134.25	10.36	7.01E-04		3.75E-04	3.47E-04
	479.53	26.60	5.13E-04		-7.62E-04	2.54E-04
	618.37	7.57	8.59E-04		9.41E-04	4.23E-04
	685.81	33.20	7.35E-05		-3.44E-06	3.52E-05
Ir-188	155.05	29.60	1.70E-04	6.86E-05	1.22E-05	8.43E-05
	478.00	14.70	7.65E-04		4.47E-04	3.80E-04
	633.02	17.90	3.50E-04		-7.04E-04	1.72E-04
	634.97	5.00	1.28E-03		2.29E-04	6.32E-04
	829.42	5.10	3.84E-04		3.21E-04	1.81E-04
	1209.77	6.90	2.42E-04		4.84E-05	1.11E-04
	1715.67	6.20	2.23E-04		-2.14E-04	9.67E-05
	2214.59	18.60	6.86E-05		-3.26E-07	2.81E-05
W-188	227.07	0.23	2.76E-02	1.61E-02	-5.57E-03	1.37E-02
	290.68	0.42	1.61E-02		-5.31E-03	7.96E-03
Ir-189	245.08	6.00	1.09E-03	1.09E-03	-2.18E-04	5.40E-04

Analysis Report for 24-2498 TI185-4.5M-AP105d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Ir-190	186.68	50.00	1.21E-04	1.21E-04	1.36E-04	5.98E-05
	361.09	12.30	6.32E-04		-3.97E-04	3.14E-04
	371.24	21.60	3.70E-04		-7.57E-06	1.84E-04
	407.22	27.00	3.28E-04		2.17E-04	1.63E-04
	518.55	32.20	2.52E-04		1.06E-04	1.25E-04
	557.95	28.50	2.26E-04		-1.15E-04	1.11E-04
	569.30	27.00	2.32E-04		4.91E-05	1.14E-04
	605.14	37.80	1.60E-04		1.60E-05	7.90E-05
OS-191	63.29	15.70	6.19E-04	1.75E-04	4.54E-04	3.07E-04
	64.99	26.70	3.31E-04		4.21E-05	1.64E-04
	73.45	9.21	7.53E-04		-3.91E-04	3.73E-04
	129.43	26.50	1.75E-04		-1.11E-05	8.67E-05
Pt-191	359.90	5.80	1.69E-03	5.38E-04	1.37E-03	8.39E-04
	456.47	3.30	3.78E-03		1.30E-04	1.88E-03
	538.90	14.30	5.38E-04		9.91E-06	2.66E-04
IR-192	205.79	3.31	2.76E-03	1.24E-04	3.25E-03	1.37E-03
	295.96	28.71	4.35E-04		1.31E-04	2.16E-04
	308.45	29.70	4.01E-04		6.99E-05	1.99E-04
	316.51	82.86	1.24E-04		4.86E-05	6.16E-05
	468.07	47.84	3.31E-04		1.15E-04	1.64E-04
	588.58	4.52	2.33E-03		-3.85E-03	1.15E-03
	604.41	8.22	5.94E-04		-1.90E-05	2.93E-04
	612.46	5.34	7.04E-04		1.47E-05	3.47E-04
IR-192m	155.16	0.09	5.21E-02	5.21E-02	8.96E-03	2.58E-02
IR-193m	80.22	0.00	1.30E+00	1.30E+00	2.29E-01	6.44E-01
Pt-193m	135.50	0.11	4.19E-02	4.19E-02	1.39E-02	2.08E-02
Au-194	293.55	10.90	6.53E-04	1.18E-04	6.00E-04	3.24E-04
	328.47	62.80	1.18E-04		2.40E-05	5.87E-05
	364.84	1.60	5.11E-03		-1.00E-03	2.54E-03
	528.77	1.78	4.45E-03		-2.00E-03	2.20E-03
	645.16	2.32	2.94E-03		-1.40E-03	1.45E-03
	948.32	2.29	1.04E-03		5.69E-04	4.91E-04
	1104.06	2.15	1.18E-03		-5.71E-04	5.58E-04
	1175.36	2.14	3.06E-03		1.48E-02	1.50E-03
	1468.90	6.80	2.64E-04		-1.18E-04	1.20E-04
	1595.81	1.89	7.40E-04		1.57E-04	3.23E-04
	2043.72	3.74	3.38E-04		1.70E-04	1.40E-04
Ir-194	293.54	2.50	3.01E-03	6.00E-04	2.76E-03	1.49E-03
	328.47	13.10	6.00E-04		1.22E-04	2.97E-04
AU-195	98.86	11.21	4.36E-04	4.36E-04	-1.34E-04	2.16E-04
	129.74	0.84	5.49E-03		-8.13E-04	2.72E-03
Pt-195m	98.90	11.70	4.27E-04	4.27E-04	-1.31E-04	2.12E-04
	129.79	2.90	1.63E-03		-2.41E-04	8.06E-04
Au-196	333.03	22.90	5.32E-04	1.11E-04	4.52E-04	2.64E-04
	355.73	87.00	1.11E-04		9.14E-05	5.49E-05
	426.10	6.60	1.45E-03		-4.04E-05	7.21E-04
Au-196m	147.81	43.50	1.36E-04	1.36E-04	-3.55E-05	6.76E-05
	188.27	30.00	2.56E-04		4.47E-04	1.27E-04
Pt-197	77.35	17.00	4.10E-04	4.10E-04	-1.42E-04	2.03E-04
	191.44	3.70	1.86E-03		-2.98E-03	9.21E-04
AU-198	411.80	95.62	9.99E-05	9.99E-05	-4.60E-05	4.96E-05
AU-199	158.38	40.00	1.25E-04	1.25E-04	1.23E-05	6.19E-05
	208.20	8.72	7.73E-04		-4.74E-05	3.84E-04

Analysis Report for 24-2498 TI185-4.5M-AP105d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TL-201	135.34	2.61	1.86E-03	5.04E-04	6.18E-04	9.21E-04
	167.43	10.00	5.04E-04		6.97E-05	2.50E-04
TL-202	439.51	91.50	1.13E-04	1.13E-04	-8.61E-05	5.61E-05
PB-203	70.83	26.40	2.92E-04	1.00E-04	-4.39E-05	1.45E-04
	72.87	44.20	1.66E-04		2.78E-05	8.22E-05
	82.40	15.56	3.93E-04		3.89E-04	1.95E-04
	279.20	80.90	1.00E-04		7.10E-05	4.97E-05
	401.32	3.35	4.28E-03		-1.17E-03	2.12E-03
PB-210	46.54	4.25	7.20E-03	7.20E-03	1.62E-03	3.56E-03
Pa-233	86.60	2.01	3.53E-03	1.80E-04	5.47E-04	1.75E-03
	94.65	8.90	5.60E-04		-2.43E-04	2.77E-04
	98.43	14.20	3.45E-04		-7.90E-05	1.71E-04
	300.13	6.54	1.04E-03		-9.12E-04	5.14E-04
	311.90	38.20	1.80E-04		-7.52E-06	8.93E-05
	340.48	4.44	1.68E-03		-3.34E-04	8.35E-04
U-235	89.96	2.90	1.96E-03	1.03E-04	7.46E-04	9.71E-04
	93.35	4.70	1.07E-03		2.12E-04	5.31E-04
	109.19	1.64	2.76E-03		2.62E-04	1.37E-03
	143.76	10.93	4.31E-04		-8.41E-05	2.14E-04
	163.36	5.07	9.61E-04		-6.89E-04	4.76E-04
	185.71	57.20	1.03E-04		2.32E-05	5.10E-05
	202.11	1.07	5.79E-03		1.36E-04	2.87E-03
	205.31	5.03	1.32E-03		1.23E-03	6.56E-04
NP-237	86.48	12.20	4.89E-04	4.89E-04	7.57E-05	2.43E-04
U-237	59.54	34.50	3.62E-04	1.99E-04	2.49E-04	1.79E-04
	97.07	15.40	3.25E-04		-2.90E-04	1.61E-04
	101.06	24.50	1.99E-04		1.10E-04	9.88E-05
	113.30	3.07	1.55E-03		-6.00E-04	7.68E-04
	114.23	5.81	8.21E-04		1.14E-04	4.07E-04
	117.46	2.27	2.08E-03		2.44E-05	1.03E-03
	208.00	21.20	3.32E-04		-8.66E-05	1.65E-04
NP-238	103.37	0.00	1.04E+00	9.18E-05	-2.85E-02	5.16E-01
	882.63	0.80	2.53E-03		-4.30E-05	1.19E-03
	923.99	2.60	8.86E-04		8.21E-04	4.20E-04
	984.45	25.20	9.18E-05		1.24E-05	4.34E-05
	1025.87	8.75	2.36E-04		-1.07E-04	1.11E-04
	1028.53	18.23	1.19E-04		1.38E-04	5.59E-05
U-238	63.29	3.70	2.61E-03	1.20E-03	1.92E-03	1.29E-03
	92.51	4.23	1.20E-03		4.18E-04	5.95E-04
	112.81	0.21	2.24E-02		1.58E-02	1.11E-02
	742.81	0.11	1.67E-02		-1.24E-02	7.86E-03
	766.42	0.32	6.14E-03		3.53E-03	2.91E-03
	1001.03	0.84	2.87E-03		2.45E-03	1.36E-03
Am-239	181.71	1.08	5.99E-03	5.29E-04	-8.26E-03	2.97E-03
	209.80	3.50	2.23E-03		-1.87E-03	1.11E-03
	226.40	3.30	2.35E-03		-2.43E-05	1.17E-03
	228.10	11.30	6.89E-04		1.09E-04	3.42E-04
	277.60	15.00	5.29E-04		2.33E-04	2.62E-04
NP-239	61.46	1.30	8.20E-03	2.11E-04	2.64E-03	4.06E-03
	99.53	12.90	3.93E-04		4.00E-05	1.95E-04
	103.37	20.50	2.41E-04		-6.59E-06	1.19E-04
	106.12	25.34	2.11E-04		-3.02E-05	1.04E-04
	209.75	3.36	2.13E-03		-1.79E-03	1.06E-03

Analysis Report for 24-2498 TI185-4.5M-AP105d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	NP-239	228.18		11.24	6.43E-04	2.11E-04	2.79E-04	3.19E-04
		277.60		14.51	5.22E-04		2.29E-04	2.59E-04
		285.46		0.79	1.05E-02		-1.94E-04	5.23E-03
		315.88		1.60	4.00E-03		4.79E-03	1.99E-03
		334.31		2.06	2.76E-03		3.15E-03	1.37E-03
	PU-239	38.66		0.01	9.36E+00	6.74E-01	4.37E+00	4.64E+00
		51.62		0.03	6.74E-01		-5.61E-02	3.34E-01
		98.50		0.01	6.74E-01		-1.54E-01	3.34E-01
		111.03		0.00	3.53E+00		-3.20E+00	1.75E+00
		129.30		0.01	7.29E-01		-7.06E-01	3.61E-01
		171.39		0.00	4.49E+01		-4.29E+01	2.22E+01
		203.55		0.00	1.09E+01		2.58E+00	5.42E+00
		332.85		0.00	1.48E+01		1.42E+01	7.35E+00
		336.11		0.00	6.53E+01		-6.65E+01	3.24E+01
		345.01		0.00	1.35E+01		7.00E+00	6.67E+00
		375.05		0.00	5.17E+00		-1.50E+00	2.56E+00
		380.19		0.00	2.67E+01		-1.63E+01	1.33E+01
		382.75		0.00	3.17E+01		-8.56E+00	1.57E+01
		413.71		0.00	6.38E+00		8.19E+00	3.17E+00
		422.60		0.00	7.66E+01		4.66E+01	3.80E+01
		451.48		0.00	5.62E+01		-1.94E+01	2.79E+01
	Am-240	99.53		18.40	2.77E-04	3.05E-05	2.81E-05	1.37E-04
		103.37		29.20	1.70E-04		-4.64E-06	8.41E-05
		117.23		6.93	7.01E-04		1.29E-04	3.47E-04
		888.85		24.70	7.81E-05		-1.90E-04	3.66E-05
		987.79		72.20	3.05E-05		2.53E-05	1.44E-05
	Np-240m	554.60		20.90	3.58E-04	3.58E-04	-3.25E-04	1.77E-04
		597.40		11.70	5.98E-04		2.59E-04	2.94E-04
	U-240	44.10		1.05	4.37E-02	2.99E-02	6.61E-04	2.16E-02
		66.50		0.15	6.39E-02		2.62E-02	3.16E-02
		169.20		0.12	4.95E-02		-2.95E-02	2.45E-02
		189.70		0.24	2.99E-02		-7.33E-03	1.49E-02
+	AM-241	59.54	*	35.90	3.48E-04	3.48E-04	3.36E-04	1.73E-04
	AM-242m	49.35		0.13	1.69E-01	1.69E-01	-7.68E-03	8.38E-02
		66.89		0.01	5.60E-01		1.69E-01	2.77E-01
		86.65		0.02	2.61E-01		4.04E-02	1.30E-01
		163.25		0.02	3.18E-01		-2.28E-01	1.58E-01
	AM-243	43.53		5.90	7.23E-03	9.96E-05	4.16E-03	3.58E-03
		74.66		67.20	9.96E-05		6.71E-05	4.94E-05

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

Apex-Gamma

Analysis Report for 24-2499 TI185-5.5M-AP-105A R0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2499 TI185-5.5M-AP-105A R0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 8:12:43AM
Procedure	: R0_gsv02mlw
Operator	: Administrator
Detector Name	: R
Geometry	: R0_gsv02mlw
Live Time	: 4891.1 seconds
Real Time	: 4930.0 seconds
Dead Time	: 0.79 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/15/2019
Efficiency Calibration Description	: R0_gsv2mlw_R697P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578917
Certificate Name	: R735-b8 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 9:34:56AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2499 TI185-5.5M-AP-105A R0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.67	166.99	0.1656	13.81
2	64.38	179.79	0.3532	3.50
3	87.57	244.55	0.1360	17.94
4	123.25	343.63	0.2096	8.17
5	414.92	1154.81	0.1416	14.60
6	555.17	1544.89	0.3598	3.21
7	629.66	1752.01	0.3076	3.02
8	661.75	1841.43	0.0208	539.89
9	666.50	1855.93	0.1849	14.11
10	695.20	1934.47	0.0996	23.34
11	723.73	2013.29	0.2368	4.63
12	873.23	2429.54	0.2192	4.94
13	996.72	2772.68	0.2727	3.31
14	1005.01	2796.04	0.1758	7.20
15	1081.40	3008.52	0.1592	8.81
16	1109.94	3088.22	0.1652	7.38
17	1173.43	3264.98	0.0786	32.42
18	1274.56	3546.41	0.1595	7.36
19	1323.33	3682.82	0.2350	4.29
20	1332.71	3708.30	0.0801	28.45
21	1361.38	3787.93	0.1665	6.94
22	1461.44	4066.15	0.1949	5.32
23	1776.09	4941.63	0.2269	3.83
24	2505.15	6972.30	0.1447	6.28

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2499 TI185-5.5M-AP-105A R0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 9:34:56AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
M	1	59.67	161 -	187	166.97	2.52E+03	435.01	1.57E+04	1.29
m	2	64.38	161 -	187	180.05	3.14E+02	105.19	1.82E+04	1.31
F	3	87.57	235 -	251	244.54	4.19E+03	400.68	2.13E+04	1.42
F	4	123.25	339 -	351	343.73	1.11E+03	106.81	1.68E+04	1.20
F	5	414.92	1146 -	1163	1154.83	2.68E+03	420.01	2.37E+04	1.51
	6	555.17	1535 -	1555	1544.89	3.80E+02	229.16	8.33E+03	1.10
F	7	629.66	1747 -	1757	1752.06	1.88E+02	54.40	2.97E+03	1.51
M	8	661.75	1827 -	1865	1841.34	9.55E+05	1462.64	4.04E+03	1.94
m	9	666.50	1827 -	1865	1854.53	2.11E+03	49.30	3.76E+02	1.94
F	10	695.20	1922 -	1946	1934.38	2.03E+03	115.04	5.26E+02	1.99
F	11	723.73	2008 -	2019	2013.73	1.23E+02	20.07	3.19E+02	1.62
F	12	873.23	2422 -	2437	2429.61	1.20E+02	17.57	2.64E+02	1.81
M	13	996.72	2762 -	2803	2773.16	1.08E+02	27.80	2.95E+02	2.20
m	14	1005.01	2762 -	2803	2796.21	2.66E+02	56.01	3.05E+02	2.20
F	15	1081.40	3000 -	3022	3008.74	3.06E+02	21.29	2.84E+02	2.07
F	16	1109.94	3080 -	3099	3088.17	2.71E+02	20.86	2.80E+02	2.21
F	17	1173.43	3251 -	3278	3264.81	4.20E+03	132.03	2.09E+02	2.42
F	18	1274.56	3532 -	3557	3546.23	3.30E+02	54.69	9.72E+01	2.76
M	19	1323.33	3676 -	3721	3681.93	4.36E+01	11.90	1.07E+02	2.66
m	20	1332.71	3676 -	3721	3708.04	3.91E+03	121.86	1.37E+02	2.67
F	21	1361.38	3777 -	3799	3787.83	2.35E+02	16.46	9.12E+01	2.56
F	22	1461.44	4056 -	4076	4066.28	1.27E+02	39.87	4.58E+01	2.23
F	23	1776.09	4935 -	4948	4942.05	3.22E+01	7.95	2.78E+01	1.90
F	24	2505.15	6958 -	6983	6971.90	2.92E+02	48.35	2.01E+01	3.51

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 9:34:56AM

Analysis Report for 24-2499 TI185-5.5M-AP-105A R0

ASR 2094 Branch

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578894.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	1	59.67	2.52E+03	435.01			2.52E+03	4.35E+02
m	2	64.38	3.14E+02	105.19	7.37E+01	3.95E+00	2.40E+02	1.05E+02
F	3	87.57	4.19E+03	400.68	5.04E+01	2.86E+00	4.14E+03	4.01E+02
F	4	123.25	1.11E+03	106.81			1.11E+03	1.07E+02
F	5	414.92	2.68E+03	420.01			2.68E+03	4.20E+02
	6	555.17	3.80E+02	229.16			3.80E+02	2.29E+02
F	7	629.66	1.88E+02	54.40			1.88E+02	5.44E+01
M	8	661.75	9.55E+05	1462.64			9.55E+05	1.46E+03
m	9	666.50	2.11E+03	49.30			2.11E+03	4.93E+01
F	10	695.20	2.03E+03	115.04			2.03E+03	1.15E+02
F	11	723.73	1.23E+02	20.07			1.23E+02	2.01E+01
F	12	873.23	1.20E+02	17.57			1.20E+02	1.76E+01
M	13	996.72	1.08E+02	27.80			1.08E+02	2.78E+01
m	14	1005.01	2.66E+02	56.01			2.66E+02	5.60E+01
F	15	1081.40	3.06E+02	21.29			3.06E+02	2.13E+01
F	16	1109.94	2.71E+02	20.86			2.71E+02	2.09E+01
F	17	1173.43	4.20E+03	132.03			4.20E+03	1.32E+02
F	18	1274.56	3.30E+02	54.69			3.30E+02	5.47E+01
M	19	1323.33	4.36E+01	11.90			4.36E+01	1.19E+01
m	20	1332.71	3.91E+03	121.86			3.91E+03	1.22E+02
F	21	1361.38	2.35E+02	16.46			2.35E+02	1.65E+01
F	22	1461.44	1.27E+02	39.87	1.28E+02	3.92E+00	-6.29E-01	4.01E+01
F	23	1776.09	3.22E+01	7.95			3.22E+01	7.95E+00
F	24	2505.15	2.92E+02	48.35			2.92E+02	4.84E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr

Analysis Report for 24-2499 TI185-5.5M-AP-105A R0

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Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.94	1460.83	*	10.67	-6.25E-07	3.98E-05	miss
CO-60	0.99	1173.24	*	99.97	5.00E-04	1.60E-05	0.774
		1332.50	*	99.99	5.09E-04	1.62E-05	0.766
		2505.74	*	1.00	4.68E-03	8.09E-04	miss
CD-109	0.96	88.03	*	3.61	3.50E-03	3.55E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	3.84E-04	6.49E-05	0.397
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	3.54E-04	8.51E-06	0.386
		674.80		3.10			
		695.00	*	99.60	3.51E-04	1.99E-05	0.385
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.99	64.28	*	9.60	1.37E-04	6.36E-05	miss
		87.30	*	45.90	2.76E-04	2.94E-05	miss
CS-137	0.99	661.66	*	85.20	7.17E-02	4.01E-04	miss
EU-154	0.69	42.70		20.45			
		123.07	*	40.40	1.01E-04	9.82E-06	0.743
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	5.85E-05	9.61E-06	0.709
		756.80		4.52			
		873.18	*	12.08	1.11E-04	1.64E-05	0.682
		996.29	*	10.48	9.75E-05	2.51E-05	0.878
		1004.76	*	18.01	1.42E-04	3.00E-05	0.869
		1246.12		0.86			
		1274.43	*	34.80	1.05E-04	1.74E-05	0.880
		1494.05		0.70			
		1596.48		1.80			
AM-241	0.99	59.54	*	35.90	4.80E-04	8.32E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

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INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.942	-6.25E-07	3.98E-05	
CO-60	0.993	5.05E-04	1.14E-05	
CD-109	0.967	1.77E-03	8.35E-04	
SB-126	0.487	3.54E-04	7.77E-06	
Sn-126	0.990	1.37E-04	5.99E-05	
CS-137	0.999	7.17E-02	4.01E-04	
EU-154	0.697	8.90E-05	5.69E-06	
AM-241	0.997	4.80E-04	8.32E-05	

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

Errors quoted at 1.000sigma

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ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 9:34:56AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	6	555.17	7.77587E-02	60.25		
F	7	629.66	3.83593E-02	28.99		
F	15	1081.40	6.25429E-02	6.96	Sum	
F	16	1109.94	5.53932E-02	7.70	Sum	
M	19	1323.33	8.91710E-03	27.29	Sum	
F	21	1361.38	4.80355E-02	7.00	Sum	
F	23	1776.09	6.59363E-03	24.65		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	5.31E-04	5.31E-04	1.04E-03	2.65E-04
+	K-40	1460.83	*	10.67	7.01E-05	7.01E-05	-6.25E-07	3.37E-05
	MN-54	834.84		99.98	9.43E-06	9.43E-06	5.73E-06	4.61E-06
	CO-58	810.78		99.45	1.00E-05	1.00E-05	2.98E-06	4.90E-06
		863.96		0.68	1.93E-03		5.04E-04	9.43E-04
		1674.73		0.52	9.27E-04		-3.48E-04	4.38E-04
	FE-59	142.65		1.00	2.53E-03	1.61E-05	1.71E-03	1.26E-03
		192.35		3.01	1.46E-03		4.38E-04	7.27E-04
		334.80		0.27	1.34E-02		-1.10E-02	6.69E-03
		1099.25		56.30	1.80E-05		1.69E-05	8.77E-06

Analysis Report for 24-2499 TI185-5.5M-AP-105A R0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	FE-59	1291.60		43.70	1.61E-05	1.61E-05	-2.50E-05	7.73E-06
+	CO-60	1173.24	*	99.97	1.63E-05	7.44E-06	5.00E-04	8.00E-06
		1332.50	*	99.99	7.44E-06		5.09E-04	3.54E-06
		2505.74	*	1.00	7.00E-04		4.68E-03	3.28E-04
	SR-85	514.00		96.00	4.30E-05	4.30E-05	4.45E-05	2.14E-05
		868.60		0.01	8.67E-02		-1.10E-02	4.25E-02
	NB-94	702.62		97.90	1.77E-05	1.41E-05	3.80E-07	8.71E-06
		871.09		99.98	1.41E-05		9.45E-06	6.89E-06
	NB-95	765.81		99.81	8.98E-06	8.98E-06	-6.65E-06	4.39E-06
	RU-103	497.05		91.00	4.92E-05	4.92E-05	4.25E-05	2.45E-05
		610.30		5.76	5.32E-04		6.95E-04	2.64E-04
	RH-106	511.86		20.70	2.39E-04	2.39E-04	-7.27E-05	1.19E-04
		621.92		9.93	4.22E-04		5.85E-04	2.10E-04
		1050.36		1.56	8.65E-04		5.32E-04	4.22E-04
	AG-108M	79.13		6.60	4.41E-04	2.10E-05	-2.70E-04	2.20E-04
		433.90		90.50	1.03E-04		-4.32E-05	5.11E-05
		614.30		89.80	6.25E-05		-1.27E-05	3.11E-05
		722.90		90.80	2.10E-05		3.95E-05	1.03E-05
+	CD-109	88.03	*	3.61	9.35E-04	9.35E-04	3.50E-03	4.66E-04
	SB-125	176.31		6.82	4.02E-04	1.70E-04	3.18E-05	2.00E-04
		380.45		1.52	2.75E-03		-2.35E-04	1.37E-03
		427.87		29.55	1.70E-04		1.22E-04	8.47E-05
		463.36		10.48	5.61E-04		-5.05E-04	2.80E-04
		600.60		17.76	1.74E-04		-8.51E-05	8.64E-05
		606.71		5.02	6.11E-04		3.52E-04	3.04E-04
		635.95		11.32	2.70E-04		3.69E-05	1.34E-04
		671.44		1.78	1.00E-03		2.90E-04	4.97E-04
+	SB-126	223.90		1.39	2.34E-03	1.56E-05	8.02E-04	1.17E-03
		278.20		2.40	4.17E-03		2.89E-03	2.08E-03
		296.50		4.50	2.47E-03		1.29E-03	1.23E-03
		414.70	*	83.30	1.71E-04		3.84E-04	8.51E-05
		556.30		1.69	6.46E-03		-3.93E-03	3.21E-03
		573.90		6.70	1.58E-03		8.31E-05	7.87E-04
		593.20		7.50	1.02E-03		9.91E-04	5.07E-04
		656.30		2.19	4.36E-02		-8.36E-04	2.18E-02
		666.50	*	99.60	1.56E-05		3.54E-04	7.55E-06
		674.80		3.10	1.06E-03		3.90E-04	5.21E-04
		695.00	*	99.60	3.55E-05		3.51E-04	1.75E-05
		697.00		29.00	1.91E-04		1.57E-03	9.44E-05
		720.70		53.80	5.86E-05		1.17E-04	2.88E-05
		856.80		17.60	1.43E-04		-7.50E-05	6.99E-05
		989.60		6.80	3.81E-04		3.15E-04	1.87E-04
		1213.30		2.39	7.44E-04		-3.19E-04	3.59E-04
+	Sn-126	64.28	*	9.60	3.59E-04	7.35E-05	1.37E-04	1.79E-04
		87.30	*	45.90	7.35E-05		2.76E-04	3.67E-05
	I-129	29.70		56.60	1.51E-05	1.51E-05	0.00E+00	0.00E+00
		33.60		10.04	5.78E-03		5.79E-02	2.87E-03
		34.40		2.01	2.76E-02		3.27E-01	1.37E-02
		39.60		7.51	4.64E-03		4.21E-02	2.31E-03
	CS-134	563.25		8.34	6.63E-04	1.47E-05	-2.06E-04	3.30E-04
		569.33		15.37	3.74E-04		-1.90E-05	1.86E-04
		604.72		97.62	4.47E-05		-1.06E-05	2.22E-05
		795.86		85.46	1.47E-05		-1.51E-06	7.16E-06

Analysis Report for 24-2499 TI185-5.5M-AP-105A R0

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-134	801.95		8.69	1.82E-04	1.47E-05	1.67E-04	8.91E-05
+	CS-137	661.66	*	85.20	2.24E-05	2.24E-05	7.17E-02	1.11E-05
	CE-139	165.85		79.89	3.30E-05	3.30E-05	-2.50E-05	1.64E-05
	CE-141	40.70		3.35	8.83E-03	5.27E-05	-6.08E-03	4.40E-03
		145.44		48.29	5.27E-05		-2.95E-06	2.63E-05
	CE-144	80.12		1.36	2.10E-03	2.09E-04	-2.41E-03	1.05E-03
		133.51		11.09	2.09E-04		9.92E-05	1.04E-04
	EU-152	121.78		28.58	1.11E-04	3.65E-05	4.34E-05	5.54E-05
		344.28		26.50	1.77E-04		-9.10E-05	8.82E-05
		778.90		12.94	9.15E-05		1.71E-05	4.48E-05
		964.08		14.73	8.57E-05		6.04E-05	4.19E-05
		1085.87		10.24	1.10E-04		1.70E-04	5.42E-05
		1112.07		13.69	1.00E-04		1.08E-04	4.90E-05
		1408.01		21.07	3.65E-05		-3.77E-05	1.75E-05
	GD-153	97.43		29.00	8.07E-05	8.07E-05	-1.52E-05	4.02E-05
		103.18		21.10	1.08E-04		-4.89E-06	5.40E-05
+	EU-154	42.70		20.45	1.09E-03	2.90E-05	-9.13E-04	5.45E-04
		123.07	*	40.40	8.03E-05		1.01E-04	4.00E-05
		247.93		6.89	7.08E-04		-2.95E-04	3.53E-04
		591.76		4.95	1.01E-03		-1.12E-03	5.04E-04
		692.42		1.78	1.32E-03		4.47E-05	6.55E-04
		723.30	*	20.06	5.83E-05		5.85E-05	2.85E-05
		756.80		4.52	3.15E-04		5.20E-04	1.54E-04
		873.18	*	12.08	1.14E-04		1.11E-04	5.55E-05
		996.29	*	10.48	7.46E-05		9.75E-05	3.61E-05
		1004.76	*	18.01	4.48E-05		1.42E-04	2.17E-05
		1246.12		0.86	1.32E-03		-2.65E-04	6.39E-04
		1274.43	*	34.80	2.90E-05		1.05E-04	1.41E-05
		1494.05		0.70	8.66E-04		1.02E-03	4.14E-04
		1596.48		1.80	1.79E-04		-8.09E-05	8.52E-05
	EU-155	43.00		18.70	1.15E-03	8.88E-05	-4.16E-04	5.74E-04
		60.01		1.22	4.62E-03		4.84E-04	2.30E-03
		86.55		30.70	8.88E-05		4.38E-04	4.43E-05
		105.31		21.10	1.05E-04		9.25E-06	5.24E-05
	HG-203	72.87		6.30	5.40E-04	4.17E-05	3.64E-04	2.69E-04
		279.20		81.46	4.17E-05		3.92E-06	2.08E-05
	BI-207	569.15		97.80	4.70E-05	2.12E-05	4.35E-05	2.34E-05
		1063.10		74.90	2.12E-05		-1.99E-05	1.04E-05
	PB-210	46.54		4.25	3.41E-03	3.41E-03	1.13E-03	1.70E-03
	RA-226	74.81		6.44	5.01E-04	4.55E-05	3.99E-04	2.50E-04
		77.11		10.80	2.83E-04		1.35E-04	1.41E-04
		87.30		4.84	5.57E-04		1.91E-03	2.77E-04
		186.21		3.59	8.85E-04		2.28E-03	4.41E-04
		242.00		7.43	4.35E-04		-2.28E-04	2.17E-04
		295.22		19.30	1.79E-04		-1.53E-05	8.93E-05
		351.93		37.60	1.04E-04		4.22E-05	5.19E-05
		609.31		46.10	6.62E-05		1.35E-05	3.29E-05
		768.36		4.94	1.84E-04		-2.98E-05	9.01E-05
		1120.29		15.10	6.91E-05		6.19E-05	3.37E-05
		1238.11		5.79	1.31E-04		-1.29E-05	6.32E-05
		1764.49		15.40	4.55E-05		4.52E-05	2.17E-05
	PA-231	283.70		1.59	2.15E-03	1.46E-03	-5.01E-04	1.07E-03
		300.07		2.38	1.46E-03		-3.30E-04	7.28E-04

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PA-231	302.67		1.71	2.04E-03	1.46E-03	4.58E-05	1.02E-03
		330.07		1.32	2.73E-03		3.16E-04	1.36E-03
	TH-232	74.81		11.62	2.78E-04	2.04E-05	2.21E-04	1.38E-04
		77.11		17.50	1.74E-04		8.32E-05	8.69E-05
		87.30		7.80	3.45E-04		1.19E-03	1.72E-04
		238.63		43.30	7.49E-05		3.21E-05	3.73E-05
		338.32		11.30	3.34E-04		-3.55E-04	1.67E-04
		583.19		30.37	1.05E-04		4.21E-05	5.20E-05
		727.33		6.58	1.56E-04		2.36E-04	7.66E-05
		911.21		26.60	3.85E-05		-4.08E-05	1.89E-05
		968.97		16.20	6.33E-05		-3.01E-05	3.09E-05
		2614.53		35.64	2.04E-05		3.60E-05	9.55E-06
	U-235	143.76		10.96	2.31E-04	5.52E-05	1.51E-04	1.15E-04
		185.71		57.20	5.52E-05		1.51E-04	2.75E-05
		205.31		5.01	6.58E-04		1.32E-05	3.28E-04
	U-238	63.29		3.70	1.35E-03	5.73E-04	3.65E-03	6.73E-04
		92.51		4.23	5.73E-04		5.59E-05	2.85E-04
		112.81		0.21	1.06E-02		3.40E-03	5.29E-03
		742.81		0.11	7.55E-03		-4.05E-03	3.69E-03
		766.28		0.32	2.83E-03		-1.52E-03	1.39E-03
		1001.03		0.84	1.46E-03		-6.34E-05	7.16E-04
	NP-239	99.60		12.80	1.80E-04	9.51E-05	-1.37E-05	8.99E-05
		103.80		20.40	1.11E-04		-5.49E-05	5.55E-05
		106.10		26.40	9.51E-05		2.61E-05	4.74E-05
		116.90		7.61	3.03E-04		1.62E-04	1.51E-04
		228.20		11.20	3.17E-04		2.68E-05	1.58E-04
		277.60		14.50	2.62E-04		-3.36E-05	1.30E-04
		315.90		1.60	2.02E-03		-8.77E-04	1.01E-03
		334.30		2.06	1.33E-03		-8.19E-04	6.61E-04
+	AM-241	59.54	*	35.90	1.11E-04	1.11E-04	4.80E-04	5.54E-05

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

Apex-Gamma

Analysis Report for 24-2500 TI185-5.5M-AP105d-A R0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2500 TI185-5.5M-AP105d-A R0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 9:58:57AM
Procedure	: R0_gsv02mlw
Operator	: Administrator
Detector Name	: R
Geometry	: R0_gsv02mlw
Live Time	: 900.0 seconds
Real Time	: 907.0 seconds
Dead Time	: 0.77 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/15/2019
Efficiency Calibration Description	: R0_gsv2mlw_R697P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578923
Certificate Name	: R735-b8 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 10:14:09AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2500 TI185-5.5M-AP105d-A R0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.57	166.63	0.2461	6.16
2	87.56	244.47	0.2097	7.44
3	122.95	342.93	0.3200	3.43
4	414.90	1154.73	0.2058	7.58
5	661.76	1841.43	0.0320	228.61
6	666.44	1855.91	0.3034	5.47
7	695.28	1934.50	0.1512	10.23
8	1082.01	3008.86	0.2355	4.38
9	1173.40	3264.84	0.1207	13.44
10	1275.37	3547.61	0.2413	3.30
11	1332.74	3708.45	0.1238	11.71
12	1361.44	3787.86	0.2247	4.33

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2500 TI185-5.5M-AP105d-A R0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 10:14:09AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.57	162 -	170	166.69	3.25E+02	46.36	2.17E+03	1.03
F	2	87.56	240 -	253	244.50	7.00E+02	51.49	3.29E+03	1.48
F	3	122.95	334 -	352	342.90	3.91E+02	49.57	4.27E+03	1.90
F	4	414.90	1146 -	1165	1154.77	6.61E+02	40.56	4.66E+03	1.34
M	5	661.76	1827 -	1866	1841.35	1.71E+05	622.29	6.96E+02	1.94
m	6	666.44	1827 -	1866	1854.36	3.64E+02	20.29	6.63E+01	1.94
F	7	695.28	1924 -	1945	1934.59	3.92E+02	19.94	9.33E+01	1.99
F	8	1082.01	3001 -	3014	3010.45	5.56E+01	10.05	3.50E+01	0.56
F	9	1173.40	3252 -	3276	3264.74	7.79E+02	52.71	1.26E+01	2.52
F	10	1275.37	3540 -	3557	3548.47	5.63E+01	7.23	4.08E+00	2.89
F	11	1332.74	3695 -	3719	3708.11	7.16E+02	58.48	1.25E+01	2.70
F	12	1361.44	3780 -	3796	3787.99	5.88E+01	26.01	0.00E+00	2.24

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 10:14:09AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578894.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.57	3.25E+02	46.36			3.25E+02	4.64E+01
F	2	87.56	7.00E+02	51.49	9.28E+00	5.27E-01	6.91E+02	5.15E+01
F	3	122.95	3.91E+02	49.57			3.91E+02	4.96E+01
F	4	414.90	6.61E+02	40.56			6.61E+02	4.06E+01

Analysis Report for 24-2500 TI185-5.5M-AP105d-A R0

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M 5	661.76	1.71E+05	622.29			1.71E+05	6.22E+02
m 6	666.44	3.64E+02	20.29			3.64E+02	2.03E+01
F 7	695.28	3.92E+02	19.94			3.92E+02	1.99E+01
F 8	1082.01	5.56E+01	10.05			5.56E+01	1.00E+01
F 9	1173.40	7.79E+02	52.71			7.79E+02	5.27E+01
F 10	1275.37	5.63E+01	7.23			5.63E+01	7.23E+00
F 11	1332.74	7.16E+02	58.48			7.16E+02	5.85E+01
F 12	1361.44	5.88E+01	26.01			5.88E+01	2.60E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-57	0.71	122.06	*	85.60	6.76E-05	8.60E-06	1.000
		136.47		10.68			
CO-60	0.98	1173.24	*	99.97	5.04E-04	3.42E-05	0.774
		1332.50	*	99.99	5.07E-04	4.15E-05	0.766
		2505.74		1.00			
CD-109	0.96	88.03	*	3.61	3.18E-03	2.56E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	5.14E-04	4.55E-05	0.397
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	3.31E-04	1.86E-05	0.386
		674.80		3.10			
		695.00	*	99.60	3.68E-04	1.88E-05	0.385
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			

Analysis Report for 24-2500 TI185-5.5M-AP105d-A R0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	1213.30		2.39			
Sn-126	0.77	64.28		9.60			
		87.30	*	45.90	2.50E-04	2.18E-05	miss
CS-137	0.99	661.66	*	85.20	6.97E-02	4.53E-04	miss
AM-241	1.00	59.54	*	35.90	3.37E-04	4.86E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-57	0.719	6.76E-05	8.60E-06	
	CO-60	0.987	5.05E-04	2.64E-05	
?	CD-109	0.965	3.18E-03	2.56E-04	
	SB-126	0.486	3.62E-04	1.27E-05	
?	Sn-126	0.775	2.50E-04	2.18E-05	
	CS-137	0.998	6.97E-02	4.53E-04	
	AM-241	1.000	3.37E-04	4.86E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2500 TI185-5.5M-AP105d-A R0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 10:14:09AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	8	1082.01	6.17423E-02	18.08	Sum	
F	10	1275.37	6.25570E-02	12.85	Tol.	EU-154
F	12	1361.44	6.53707E-02	44.20	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	1.23E-03	1.23E-03	6.86E-04	6.10E-04
	K-40	1460.83		10.67	1.87E-04	1.87E-04	5.32E-05	8.60E-05
	MN-54	834.84		99.98	2.05E-05	2.05E-05	1.46E-05	9.72E-06
	CO-58	810.78		99.45	2.33E-05	2.33E-05	1.72E-05	1.11E-05
		863.96		0.68	4.97E-03		3.77E-03	2.38E-03
		1674.73		0.52	2.20E-03		1.65E-03	9.62E-04
	FE-59	142.65		1.00	5.87E-03	3.43E-05	-1.39E-03	2.92E-03
		192.35		3.01	3.33E-03		2.61E-03	1.66E-03
		334.80		0.27	3.13E-02		-7.44E-03	1.55E-02
		1099.25		56.30	4.23E-05		6.63E-06	2.00E-05
		1291.60		43.70	3.43E-05		-2.42E-05	1.55E-05
+	CO-60	1173.24	*	99.97	2.22E-05	2.22E-05	5.04E-04	1.02E-05
		1332.50	*	99.99	2.41E-05		5.07E-04	1.11E-05
		2505.74		1.00	3.21E-03		3.35E-03	1.49E-03
	SR-85	514.00		96.00	9.94E-05	9.94E-05	-2.74E-05	4.93E-05

Analysis Report for 24-2500 TI185-5.5M-AP105d-A R0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	868.60		0.01	2.23E-01	9.94E-05	1.52E-02	1.07E-01
	NB-94	702.62		97.90	4.35E-05	3.59E-05	1.73E-05	2.11E-05
		871.09		99.98	3.59E-05		1.29E-05	1.72E-05
	NB-95	765.81		99.81	2.05E-05	2.05E-05	1.60E-05	9.74E-06
	RU-103	497.05		91.00	1.14E-04	1.14E-04	-5.36E-05	5.66E-05
		610.30		5.76	1.22E-03		-1.03E-03	6.03E-04
	RH-106	511.86		20.70	5.51E-04	5.51E-04	-7.67E-05	2.73E-04
		621.92		9.93	9.71E-04		5.83E-05	4.79E-04
		1050.36		1.56	2.17E-03		5.79E-04	1.03E-03
	AG-108M	79.13		6.60	1.03E-03	4.76E-05	-5.71E-04	5.11E-04
		433.90		90.50	2.36E-04		-1.16E-04	1.17E-04
		614.30		89.80	1.43E-04		5.15E-05	7.06E-05
		722.90		90.80	4.76E-05		-7.32E-06	2.28E-05
+	CD-109	88.03	*	3.61	1.87E-03	1.87E-03	3.18E-03	9.26E-04
	SB-125	176.31		6.82	9.26E-04	3.92E-04	-2.99E-04	4.60E-04
		380.45		1.52	6.28E-03		-8.18E-03	3.12E-03
		427.87		29.55	3.92E-04		3.74E-04	1.95E-04
		463.36		10.48	1.30E-03		1.95E-03	6.46E-04
		600.60		17.76	4.06E-04		-2.96E-04	2.00E-04
		606.71		5.02	1.41E-03		-1.44E-05	6.98E-04
		635.95		11.32	6.28E-04		-1.47E-03	3.10E-04
		671.44		1.78	2.29E-03		-1.21E-04	1.12E-03
+	SB-126	223.90		1.39	5.40E-03	3.69E-05	1.18E-03	2.68E-03
		278.20		2.40	9.76E-03		2.72E-03	4.85E-03
		296.50		4.50	5.76E-03		2.87E-03	2.86E-03
		414.70	*	83.30	4.30E-04		5.14E-04	2.14E-04
		556.30		1.69	1.50E-02		-9.58E-03	7.41E-03
		573.90		6.70	3.66E-03		2.10E-03	1.81E-03
		593.20		7.50	2.35E-03		1.11E-03	1.16E-03
		656.30		2.19	1.00E-01		6.20E-04	5.01E-02
		666.50	*	99.60	3.69E-05		3.31E-04	1.72E-05
		674.80		3.10	2.41E-03		1.66E-03	1.15E-03
		695.00	*	99.60	7.84E-05		3.68E-04	3.80E-05
		697.00		29.00	4.61E-04		1.72E-03	2.25E-04
		720.70		53.80	1.37E-04		3.04E-04	6.58E-05
		856.80		17.60	3.49E-04		7.42E-05	1.66E-04
		989.60		6.80	8.23E-04		-3.45E-04	3.89E-04
		1213.30		2.39	1.72E-03		3.76E-04	7.90E-04
+	Sn-126	64.28		9.60	1.13E-03	1.47E-04	-2.13E-04	5.61E-04
		87.30	*	45.90	1.47E-04		2.50E-04	7.28E-05
	I-129	29.70		56.60	8.18E-05	8.18E-05	0.00E+00	0.00E+00
		33.60		10.04	1.32E-02		5.58E-02	6.50E-03
		34.40		2.01	6.29E-02		3.14E-01	3.11E-02
		39.60		7.51	1.07E-02		4.39E-02	5.30E-03
	CS-134	563.25		8.34	1.52E-03	3.61E-05	-2.02E-03	7.51E-04
		569.33		15.37	8.58E-04		-1.31E-05	4.24E-04
		604.72		97.62	1.04E-04		3.41E-05	5.15E-05
		795.86		85.46	3.61E-05		3.17E-05	1.72E-05
		801.95		8.69	4.16E-04		2.57E-04	1.97E-04
+	CS-137	661.66	*	85.20	5.12E-05	5.12E-05	6.97E-02	2.50E-05
	CE-139	165.85		79.89	7.70E-05	7.70E-05	-4.04E-05	3.82E-05
	CE-141	40.70		3.35	2.04E-02	1.22E-04	2.20E-03	1.01E-02
		145.44		48.29	1.22E-04		2.02E-05	6.04E-05

Analysis Report for 24-2500 TI185-5.5M-AP105d-A R0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
CE-144	80.12	1.36	4.91E-03	4.91E-04	-5.40E-04	2.44E-03
	133.51	11.09	4.91E-04		1.98E-04	2.44E-04
EU-152	121.78	28.58	2.58E-04	9.14E-05	1.26E-05	1.28E-04
	344.28	26.50	4.07E-04		-6.71E-05	2.02E-04
	778.90	12.94	2.17E-04		7.58E-05	1.03E-04
	964.08	14.73	2.01E-04		6.01E-05	9.57E-05
	1085.87	10.24	2.66E-04		3.73E-04	1.27E-04
	1112.07	13.69	2.44E-04		1.72E-04	1.17E-04
	1408.01	21.07	9.14E-05		-1.63E-04	4.16E-05
GD-153	97.43	29.00	1.87E-04	1.87E-04	7.73E-05	9.26E-05
	103.18	21.10	2.49E-04		-7.25E-05	1.24E-04
EU-154	42.70	20.45	2.52E-03	8.02E-05	-1.18E-03	1.25E-03
	123.07	40.40	1.79E-04		3.31E-05	8.89E-05
	247.93	6.89	1.66E-03		2.34E-03	8.25E-04
	591.76	4.95	2.32E-03		9.01E-04	1.15E-03
	692.42	1.78	3.20E-03		3.70E-04	1.56E-03
	723.30	20.06	1.65E-04		1.06E-04	7.91E-05
	756.80	4.52	7.75E-04		-1.23E-04	3.69E-04
	873.18	12.08	3.27E-04		3.81E-04	1.57E-04
	996.29	10.48	2.85E-04		1.66E-04	1.36E-04
	1004.76	18.01	1.78E-04		1.05E-04	8.51E-05
	1246.12	0.86	3.21E-03		1.16E-03	1.48E-03
	1274.43	34.80	8.02E-05		7.40E-05	3.78E-05
	1494.05	0.70	2.05E-03		-4.80E-03	9.18E-04
	1596.48	1.80	4.40E-04		-2.29E-06	1.96E-04
EU-155	43.00	18.70	2.65E-03	2.09E-04	2.03E-04	1.32E-03
	60.01	1.22	1.07E-02		9.61E-03	5.29E-03
	86.55	30.70	2.09E-04		-2.27E-05	1.04E-04
	105.31	21.10	2.44E-04		6.44E-05	1.21E-04
HG-203	72.87	6.30	1.25E-03	9.70E-05	5.01E-04	6.21E-04
	279.20	81.46	9.70E-05		-2.40E-05	4.82E-05
BI-207	569.15	97.80	1.08E-04	5.23E-05	6.36E-06	5.33E-05
	1063.10	74.90	5.23E-05		3.19E-05	2.48E-05
PB-210	46.54	4.25	7.89E-03	7.89E-03	-3.80E-03	3.91E-03
RA-226	74.81	6.44	1.16E-03	1.16E-04	4.86E-04	5.75E-04
	77.11	10.80	6.55E-04		7.70E-05	3.25E-04
	87.30	4.84	1.31E-03		3.29E-03	6.53E-04
	186.21	3.59	2.03E-03		2.84E-03	1.01E-03
	242.00	7.43	1.01E-03		5.52E-04	5.04E-04
	295.22	19.30	4.16E-04		2.02E-04	2.07E-04
	351.93	37.60	2.40E-04		1.32E-04	1.19E-04
	609.31	46.10	1.53E-04		1.64E-05	7.56E-05
	768.36	4.94	3.87E-04		-3.33E-04	1.83E-04
	1120.29	15.10	1.55E-04		-4.49E-04	7.33E-05
	1238.11	5.79	2.90E-04		1.65E-04	1.33E-04
	1764.49	15.40	1.16E-04		6.97E-05	5.23E-05
PA-231	283.70	1.59	5.02E-03	3.39E-03	4.24E-03	2.49E-03
	300.07	2.38	3.39E-03		4.67E-04	1.68E-03
	302.67	1.71	4.73E-03		-2.94E-03	2.35E-03
	330.07	1.32	6.38E-03		-2.33E-03	3.17E-03
TH-232	74.81	11.62	6.42E-04	5.27E-05	2.69E-04	3.19E-04
	77.11	17.50	4.04E-04		4.75E-05	2.01E-04
	87.30	7.80	8.16E-04		2.04E-03	4.05E-04

Analysis Report for 24-2500 TI185-5.5M-AP105d-A R0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	238.63		43.30	1.73E-04	5.27E-05	-4.33E-05	8.57E-05
		338.32		11.30	7.74E-04		-5.40E-06	3.84E-04
		583.19		30.37	2.40E-04		-1.12E-04	1.18E-04
		727.33		6.58	3.50E-04		-1.28E-04	1.67E-04
		911.21		26.60	9.58E-05		6.03E-05	4.57E-05
		968.97		16.20	1.49E-04		3.39E-05	7.09E-05
		2614.53		35.64	5.27E-05		-3.95E-05	2.29E-05
	U-235	143.76		10.96	5.36E-04	1.27E-04	-4.47E-04	2.66E-04
		185.71		57.20	1.27E-04		2.61E-04	6.31E-05
		205.31		5.01	1.51E-03		7.05E-04	7.53E-04
	U-238	63.29		3.70	3.10E-03	1.34E-03	4.24E-04	1.54E-03
		92.51		4.23	1.34E-03		-5.25E-04	6.67E-04
		112.81		0.21	2.48E-02		1.16E-02	1.23E-02
		742.81		0.11	1.91E-02		-1.07E-02	9.07E-03
		766.28		0.32	6.34E-03		6.23E-04	3.01E-03
		1001.03		0.84	3.39E-03		-2.49E-03	1.62E-03
	NP-239	99.60		12.80	4.22E-04	2.24E-04	2.07E-05	2.10E-04
		103.80		20.40	2.60E-04		-1.86E-04	1.29E-04
		106.10		26.40	2.24E-04		4.94E-05	1.11E-04
		116.90		7.61	7.12E-04		6.06E-04	3.53E-04
		228.20		11.20	7.41E-04		2.26E-04	3.68E-04
		277.60		14.50	6.22E-04		5.91E-04	3.09E-04
		315.90		1.60	4.72E-03		-3.76E-03	2.34E-03
		334.30		2.06	3.14E-03		-1.40E-03	1.56E-03
+	AM-241	59.54	*	35.90	2.91E-04	2.91E-04	3.37E-04	1.44E-04

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

Apex-Gamma

Analysis Report for 24-2501 TI185-6.0M-AP-105A S0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2501 TI185-6.0M-AP-105A S0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 8:12:52AM
Procedure	: S0_gsv02mlw
Operator	: Administrator
Detector Name	: S
Geometry	: S0_gsv02mlw
Live Time	: 4964.7 seconds
Real Time	: 4985.4 seconds
Dead Time	: 0.41 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 6/27/2024
Efficiency Calibration Used Done On	: 3/15/2019
Efficiency Calibration Description	: S0_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578918
Certificate Name	: R735-b9 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 9:36:01AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2501 TI185-6.0M-AP-105A S0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.57	183.50	0.1616	13.47
2	64.28	197.54	0.3167	3.65
3	87.53	269.06	0.1253	24.05
4	123.13	378.13	0.1835	11.73
5	143.27	439.68	0.3918	3.31
6	213.56	655.05	0.4010	3.04
7	352.13	1079.13	0.2948	4.09
8	414.89	1271.26	0.1135	24.03
9	446.62	1368.27	0.3598	3.08
10	581.22	1781.05	0.3793	3.10
11	661.86	2027.43	0.0272	353.56
12	666.56	2042.03	0.1020	27.39
13	695.24	2129.59	0.1007	25.86
14	720.69	2207.27	0.2526	5.45
15	723.43	2216.22	0.2070	6.58
16	873.52	2675.36	0.2450	4.49
17	996.46	3052.12	0.2190	5.00
18	1005.19	3078.16	0.2076	4.90
19	1081.50	3312.23	0.1679	8.25
20	1110.21	3400.22	0.1564	10.14
21	1173.59	3594.39	0.0789	36.27
22	1239.05	3793.93	0.3008	3.10
23	1274.93	3904.55	0.1480	10.74
24	1332.94	4082.30	0.0784	35.39
25	1361.71	4170.11	0.1596	8.27
26	1461.28	4475.09	0.2320	4.13
27	1776.75	5441.03	0.2474	3.71
28	2506.23	7675.43	0.1348	10.44

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2501 TI185-6.0M-AP-105A S0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 9:36:01AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.57	175 -	191	183.45	2.42E+03	291.11	9.32E+03	1.25
F	2	64.28	192 -	205	197.86	5.02E+02	65.12	7.74E+03	1.27
F	3	87.53	260 -	277	269.04	4.95E+03	333.44	9.87E+03	1.30
F	4	123.13	370 -	383	378.04	1.25E+03	281.47	7.91E+03	1.05
	5	143.27	436 -	444	439.68	4.04E+01	125.63	4.81E+03	0.83
F	6	213.56	650 -	659	654.88	1.17E+02	59.56	6.53E+03	0.54
	7	352.13	1074 -	1083	1079.13	9.77E+01	128.05	4.63E+03	1.08
F	8	414.89	1260 -	1278	1271.26	3.41E+03	349.32	1.02E+04	1.36
F	9	446.62	1364 -	1372	1368.40	1.75E+02	231.24	5.51E+03	0.66
F	10	581.22	1777 -	1792	1780.51	6.10E+01	45.48	2.38E+03	0.39
M	11	661.86	2015 -	2054	2027.42	4.07E+05	994.60	1.53E+03	1.56
m	12	666.56	2015 -	2054	2041.81	2.60E+03	52.13	3.21E+02	1.56
F	13	695.24	2117 -	2141	2129.62	2.44E+03	112.55	3.87E+02	1.64
M	14	720.69	2200 -	2222	2207.55	1.40E+02	16.99	2.87E+02	1.38
m	15	723.43	2200 -	2222	2215.94	2.11E+02	19.46	3.54E+02	1.38
F	16	873.52	2670 -	2683	2675.51	1.14E+02	67.43	2.39E+02	1.40
F	17	996.46	3041 -	3059	3051.94	1.40E+02	56.59	2.75E+02	1.67
F	18	1005.19	3071 -	3088	3078.67	1.64E+02	18.14	3.26E+02	1.74
F	19	1081.50	3307 -	3320	3312.32	3.17E+02	97.17	2.26E+02	1.80
F	20	1110.21	3392 -	3411	3400.23	4.01E+02	22.28	2.87E+02	1.73
F	21	1173.59	3583 -	3603	3594.32	5.01E+03	141.00	2.44E+02	1.90
F	22	1239.05	3787 -	3801	3794.75	4.67E+01	9.20	4.46E+01	0.74
F	23	1274.93	3896 -	3914	3904.62	3.35E+02	18.95	1.06E+02	1.64
F	24	1332.94	4067 -	4094	4082.25	4.61E+03	127.41	1.56E+02	1.95
F	25	1361.71	4162 -	4178	4170.35	2.75E+02	16.83	6.73E+01	1.86
F	26	1461.28	4464 -	4483	4475.27	1.10E+02	39.16	3.94E+01	2.35
F	27	1776.75	5433 -	5447	5441.34	4.41E+01	43.30	3.46E+01	1.30
F	28	2506.23	7662 -	7687	7675.53	3.64E+02	43.60	1.95E+01	2.36

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2501 TI185-6.0M-AP-105A S0

ASR 2094 Branch

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 9:36:01AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578895.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.57	2.42E+03	291.11			2.42E+03	2.91E+02
F	2	64.28	5.02E+02	65.12	6.62E+01	6.46E+00	4.36E+02	6.54E+01
F	3	87.53	4.95E+03	333.44	3.16E+01	2.31E+00	4.92E+03	3.33E+02
F	4	123.13	1.25E+03	281.47			1.25E+03	2.81E+02
	5	143.27	4.04E+01	125.63	1.51E+01	1.56E+00	2.54E+01	1.26E+02
F	6	213.56	1.17E+02	59.56			1.17E+02	5.96E+01
	7	352.13	9.77E+01	128.05	1.56E+02	5.47E+00	-5.80E+01	1.28E+02
F	8	414.89	3.41E+03	349.32			3.41E+03	3.49E+02
F	9	446.62	1.75E+02	231.24			1.75E+02	2.31E+02
F	10	581.22	6.10E+01	45.48			6.10E+01	4.55E+01
M	11	661.86	4.07E+05	994.60			4.07E+05	9.95E+02
m	12	666.56	2.60E+03	52.13			2.60E+03	5.21E+01
F	13	695.24	2.44E+03	112.55			2.44E+03	1.13E+02
M	14	720.69	1.40E+02	16.99			1.40E+02	1.70E+01
m	15	723.43	2.11E+02	19.46			2.11E+02	1.95E+01
F	16	873.52	1.14E+02	67.43			1.14E+02	6.74E+01
F	17	996.46	1.40E+02	56.59			1.40E+02	5.66E+01
F	18	1005.19	1.64E+02	18.14			1.64E+02	1.81E+01
F	19	1081.50	3.17E+02	97.17			3.17E+02	9.72E+01
F	20	1110.21	4.01E+02	22.28			4.01E+02	2.23E+01
F	21	1173.59	5.01E+03	141.00			5.01E+03	1.41E+02
F	22	1239.05	4.67E+01	9.20	1.52E+01	6.95E-01	3.15E+01	9.23E+00
F	23	1274.93	3.35E+02	18.95			3.35E+02	1.89E+01
F	24	1332.94	4.61E+03	127.41	3.83E-01	9.21E-01	4.61E+03	1.27E+02
F	25	1361.71	2.75E+02	16.83			2.75E+02	1.68E+01
F	26	1461.28	1.10E+02	39.16	8.73E+01	3.14E+00	2.26E+01	3.93E+01
F	27	1776.75	4.41E+01	43.30			4.41E+01	4.33E+01
F	28	2506.23	3.64E+02	43.60			3.64E+02	4.36E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2501 TI185-6.0M-AP-105A S0

ASR 2094 Branch

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.96	1460.83	*	10.67	2.21E-05	3.85E-05	miss
CO-60	0.97	1173.24	*	99.97	5.95E-04	1.70E-05	0.762
		1332.50	*	99.99	5.99E-04	1.68E-05	0.757
		2505.74	*	1.00	6.22E-03	7.90E-04	miss
CD-109	0.96	88.03	*	3.61	4.29E-03	3.16E-04	free
SB-126	0.68	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	4.86E-04	5.87E-05	0.395
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	4.33E-04	8.96E-06	0.385
		674.80		3.10			
		695.00	*	99.60	4.18E-04	1.94E-05	0.384
		697.00		29.00			
		720.70	*	53.80	5.31E-05	9.71E-06	0.327
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.99	64.28	*	9.60	2.57E-04	5.58E-05	miss
		87.30	*	45.90	3.38E-04	2.73E-05	miss
CS-137	0.99	661.66	*	85.20	3.03E-02	1.57E-04	miss
EU-154	0.69	42.70		20.45			
		123.07	*	40.40	1.13E-04	2.55E-05	0.737
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	1.00E-04	9.37E-06	0.703
		756.80		4.52			
		873.18	*	12.08	1.05E-04	6.21E-05	0.678
		996.29	*	10.48	1.24E-04	5.02E-05	0.880
		1004.76	*	18.01	8.67E-05	9.62E-06	0.866
		1246.12		0.86			
		1274.43	*	34.80	1.05E-04	6.04E-06	0.876
		1494.05		0.70			
		1596.48		1.80			
AM-241	1.00	59.54	*	35.90	4.80E-04	5.85E-05	free

Analysis Report for 24-2501 TI185-6.0M-AP-105A S0

ASR 2094 Branch

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.969	2.21E-05	3.85E-05	
CO-60	0.975	5.98E-04	1.20E-05	
CD-109	0.961	1.02E-03	5.72E-04	
SB-126	0.680	2.77E-04	6.20E-06	
Sn-126	0.993	2.57E-04	3.87E-05	
CS-137	0.994	3.03E-02	1.57E-04	
EU-154	0.697	1.00E-04	4.40E-06	
AM-241	1.000	4.80E-04	5.85E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2501 TI185-6.0M-AP-105A S0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 9:36:01AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	5	143.27	5.10698E-03	495.53	Tol.	FE-59 U-235
F	6	213.56	2.36246E-02	50.78		
	7	352.13	-1.16788E-02	- 221.05	Tol.	RA-226
F	9	446.62	3.52364E-02	132.19		
F	10	581.22	1.22842E-02	74.57		
F	19	1081.50	6.39382E-02	30.61	Sum	
F	20	1110.21	8.08502E-02	5.55	Sum	
F	22	1239.05	6.34910E-03	29.27	Tol.	RA-226
F	25	1361.71	5.53075E-02	6.13	Sum	
F	27	1776.75	8.87505E-03	98.27		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	3.16E-04	3.16E-04	-9.03E-05	1.57E-04
+	K-40	1460.83	*	10.67	6.14E-05	6.14E-05	2.21E-05	2.94E-05
	MN-54	834.84		99.98	8.51E-06	8.51E-06	-1.10E-05	4.16E-06
	CO-58	810.78		99.45	9.01E-06	9.01E-06	1.09E-06	4.40E-06

Analysis Report for 24-2501 TI185-6.0M-AP-105A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CO-58	863.96		0.68	1.83E-03	9.01E-06	-2.29E-03	8.96E-04
		1674.73		0.52	8.63E-04		-3.05E-04	4.06E-04
	FE-59	142.65		1.00	1.44E-03	1.54E-05	1.27E-03	7.17E-04
		192.35		3.01	8.63E-04		3.10E-05	4.30E-04
		334.80		0.27	8.21E-03		-5.95E-03	4.08E-03
		1099.25		56.30	1.69E-05		-1.03E-05	8.26E-06
		1291.60		43.70	1.54E-05		1.75E-05	7.38E-06
+	CO-60	1173.24	*	99.97	1.57E-05	1.56E-05	5.95E-04	7.68E-06
		1332.50	*	99.99	1.56E-05		5.99E-04	7.61E-06
		2505.74	*	1.00	7.29E-04		6.22E-03	3.41E-04
	SR-85	514.00		96.00	2.60E-05	2.60E-05	1.78E-05	1.29E-05
		868.60		0.01	8.24E-02		-1.02E-02	4.03E-02
	NB-94	702.62		97.90	1.15E-05	1.15E-05	-5.14E-06	5.65E-06
		871.09		99.98	1.32E-05		7.22E-06	6.44E-06
	NB-95	765.81		99.81	7.80E-06	7.80E-06	-6.19E-06	3.80E-06
	RU-103	497.05		91.00	2.93E-05	2.93E-05	1.94E-05	1.46E-05
		610.30		5.76	3.29E-04		2.63E-04	1.63E-04
	RH-106	511.86		20.70	1.45E-04	1.45E-04	-1.22E-05	7.19E-05
		621.92		9.93	2.51E-04		2.01E-04	1.24E-04
		1050.36		1.56	8.07E-04		3.44E-04	3.93E-04
	AG-108M	79.13		6.60	2.78E-04	2.11E-05	-1.90E-04	1.38E-04
		433.90		90.50	5.89E-05		-3.13E-05	2.93E-05
		614.30		89.80	3.84E-05		-2.56E-05	1.90E-05
		722.90		90.80	2.11E-05		5.44E-05	1.03E-05
+	CD-109	88.03	*	3.61	6.71E-04	6.71E-04	4.29E-03	3.34E-04
	SB-125	176.31		6.82	2.34E-04	9.72E-05	-1.36E-04	1.16E-04
		380.45		1.52	1.64E-03		2.67E-03	8.14E-04
		427.87		29.55	9.72E-05		-4.67E-05	4.84E-05
		463.36		10.48	3.33E-04		1.28E-04	1.66E-04
		600.60		17.76	1.06E-04		1.91E-05	5.26E-05
		606.71		5.02	3.77E-04		3.37E-04	1.87E-04
		635.95		11.32	1.55E-04		2.85E-05	7.70E-05
		671.44		1.78	9.41E-04		-1.12E-04	4.66E-04
+	SB-126	223.90		1.39	1.38E-03	1.43E-05	6.00E-04	6.89E-04
		278.20		2.40	2.55E-03		7.37E-05	1.27E-03
		296.50		4.50	1.53E-03		1.74E-03	7.63E-04
		414.70	*	83.30	1.14E-04		4.86E-04	5.69E-05
		556.30		1.69	3.85E-03		-1.33E-03	1.91E-03
		573.90		6.70	9.36E-04		-9.94E-05	4.64E-04
		593.20		7.50	6.31E-04		3.04E-04	3.13E-04
		656.30		2.19	1.67E-02		-4.71E-03	8.34E-03
		666.50	*	99.60	1.43E-05		4.33E-04	6.93E-06
		674.80		3.10	8.41E-04		-1.87E-04	4.11E-04
		695.00	*	99.60	3.03E-05		4.18E-04	1.49E-05
		697.00		29.00	1.98E-04		-8.56E-06	9.78E-05
		720.70	*	53.80	3.10E-05		5.31E-05	1.50E-05
		856.80		17.60	1.37E-04		1.24E-04	6.71E-05
		989.60		6.80	3.52E-04		5.54E-05	1.72E-04
		1213.30		2.39	7.72E-04		-4.77E-04	3.73E-04
+	Sn-126	64.28	*	9.60	3.65E-04	5.28E-05	2.57E-04	1.82E-04
		87.30	*	45.90	5.28E-05		3.38E-04	2.63E-05
	I-129	29.70		56.60	4.14E-03	3.21E-03	7.99E-04	2.06E-03
		33.60		10.04	7.96E-03		-9.20E-03	3.96E-03

Analysis Report for 24-2501 TI185-6.0M-AP-105A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-129	34.40		2.01	3.32E-02	3.21E-03	1.07E-03	1.65E-02
		39.60		7.51	3.21E-03		4.10E-04	1.60E-03
	CS-134	563.25		8.34	3.93E-04	1.33E-05	2.40E-04	1.95E-04
		569.33		15.37	2.21E-04		-1.26E-04	1.10E-04
		604.72		97.62	2.75E-05		-3.19E-05	1.36E-05
		795.86		85.46	1.33E-05		7.45E-07	6.50E-06
		801.95		8.69	1.64E-04		1.98E-04	8.01E-05
+	CS-137	661.66	*	85.20	1.37E-05	1.37E-05	3.03E-02	6.77E-06
	CE-139	165.85		79.89	1.95E-05	1.95E-05	1.02E-06	9.71E-06
	CE-141	40.70		3.35	5.99E-03	3.12E-05	-6.91E-03	2.98E-03
		145.44		48.29	3.12E-05		-2.81E-05	1.55E-05
	CE-144	80.12		1.36	1.32E-03	1.29E-04	-1.88E-04	6.58E-04
		133.51		11.09	1.29E-04		3.83E-05	6.40E-05
	EU-152	121.78		28.58	7.25E-05	3.60E-05	1.37E-04	3.61E-05
		344.28		26.50	1.05E-04		-3.86E-05	5.23E-05
		778.90		12.94	8.35E-05		3.55E-05	4.07E-05
		964.08		14.73	8.29E-05		2.74E-05	4.06E-05
		1085.87		10.24	1.11E-04		2.29E-04	5.46E-05
		1112.07		13.69	1.06E-04		3.51E-04	5.19E-05
		1408.01		21.07	3.60E-05		-6.78E-07	1.72E-05
	GD-153	97.43		29.00	5.25E-05	5.25E-05	3.57E-05	2.61E-05
		103.18		21.10	6.98E-05		1.80E-06	3.47E-05
+	EU-154	42.70		20.45	7.28E-04	2.61E-05	-7.01E-04	3.62E-04
		123.07	*	40.40	5.64E-05		1.13E-04	2.81E-05
		247.93		6.89	4.10E-04		1.33E-04	2.04E-04
		591.76		4.95	6.28E-04		-4.60E-06	3.11E-04
		692.42		1.78	1.36E-03		3.66E-05	6.74E-04
		723.30	*	20.06	4.29E-05		1.00E-04	2.08E-05
		756.80		4.52	2.85E-04		2.22E-04	1.39E-04
		873.18	*	12.08	1.02E-04		1.05E-04	4.99E-05
		996.29	*	10.48	1.19E-04		1.24E-04	5.81E-05
		1004.76	*	18.01	7.48E-05		8.67E-05	3.67E-05
		1246.12		0.86	1.20E-03		-1.57E-04	5.75E-04
		1274.43	*	34.80	2.61E-05		1.05E-04	1.26E-05
		1494.05		0.70	7.96E-04		-4.38E-04	3.79E-04
		1596.48		1.80	1.84E-04		7.90E-05	8.78E-05
	EU-155	43.00		18.70	7.64E-04	6.48E-05	-7.36E-04	3.80E-04
		60.01		1.22	3.18E-03		7.70E-03	1.58E-03
		86.55		30.70	6.48E-05		-1.91E-05	3.23E-05
		105.31		21.10	6.68E-05		3.75E-05	3.32E-05
	HG-203	72.87		6.30	3.41E-04	2.53E-05	3.03E-04	1.70E-04
		279.20		81.46	2.53E-05		-1.23E-05	1.26E-05
	BI-207	569.15		97.80	2.84E-05	2.04E-05	8.87E-06	1.41E-05
		1063.10		74.90	2.04E-05		1.48E-05	9.96E-06
	PB-210	46.54		4.25	2.20E-03	2.20E-03	9.17E-04	1.10E-03
	RA-226	74.81		6.44	3.18E-04	4.11E-05	1.68E-04	1.58E-04
		77.11		10.80	1.79E-04		3.71E-05	8.88E-05
		87.30		4.84	4.06E-04		3.35E-03	2.02E-04
		186.21		3.59	5.23E-04		1.07E-03	2.60E-04
		242.00		7.43	2.57E-04		7.60E-05	1.28E-04
		295.22		19.30	1.10E-04		-1.15E-05	5.47E-05
		351.93		37.60	6.15E-05		-5.43E-06	3.06E-05
		609.31		46.10	4.11E-05		1.46E-05	2.04E-05

Analysis Report for 24-2501 TI185-6.0M-AP-105A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RA-226	768.36		4.94	1.62E-04	4.11E-05	1.65E-04	7.92E-05
		1120.29		15.10	6.49E-05		6.81E-05	3.17E-05
		1238.11		5.79	1.26E-04		7.16E-05	6.07E-05
		1764.49		15.40	4.25E-05		6.90E-05	2.02E-05
	PA-231	283.70		1.59	1.31E-03	8.99E-04	-7.69E-04	6.54E-04
		300.07		2.38	8.99E-04		3.47E-04	4.47E-04
		302.67		1.71	1.25E-03		1.02E-03	6.22E-04
		330.07		1.32	1.65E-03		-2.23E-03	8.22E-04
	TH-232	74.81		11.62	1.76E-04	2.05E-05	9.34E-05	8.75E-05
		77.11		17.50	1.10E-04		2.29E-05	5.48E-05
		87.30		7.80	2.52E-04		2.08E-03	1.25E-04
		238.63		43.30	4.40E-05		1.03E-05	2.19E-05
		338.32		11.30	1.99E-04		-1.70E-04	9.89E-05
		583.19		30.37	6.39E-05		6.48E-06	3.17E-05
		727.33		6.58	1.45E-04		4.09E-06	7.14E-05
		911.21		26.60	3.54E-05		-1.71E-05	1.73E-05
		968.97		16.20	5.89E-05		2.72E-05	2.88E-05
		2614.53		35.64	2.05E-05		2.68E-05	9.56E-06
	U-235	143.76		10.96	1.31E-04	3.25E-05	4.19E-05	6.53E-05
		185.71		57.20	3.25E-05		5.55E-05	1.62E-05
		205.31		5.01	3.81E-04		1.32E-04	1.90E-04
	U-238	63.29		3.70	8.43E-04	3.68E-04	-6.74E-03	4.19E-04
		92.51		4.23	3.68E-04		-2.12E-04	1.83E-04
		112.81		0.21	6.66E-03		-2.50E-03	3.31E-03
		742.81		0.11	7.33E-03		-4.65E-03	3.58E-03
		766.28		0.32	2.50E-03		2.54E-03	1.22E-03
		1001.03		0.84	1.39E-03		3.30E-04	6.82E-04
	NP-239	99.60		12.80	1.16E-04	6.03E-05	-2.15E-05	5.79E-05
		103.80		20.40	7.10E-05		-1.18E-05	3.53E-05
		106.10		26.40	6.03E-05		-1.44E-05	3.00E-05
		116.90		7.61	1.89E-04		-8.95E-05	9.42E-05
		228.20		11.20	1.88E-04		2.57E-05	9.34E-05
		277.60		14.50	1.60E-04		-3.37E-05	7.96E-05
		315.90		1.60	1.22E-03		-1.67E-03	6.08E-04
		334.30		2.06	8.01E-04		-4.94E-04	3.98E-04
+	AM-241	59.54	*	35.90	1.45E-04	1.45E-04	4.80E-04	7.23E-05

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

Apex-Gamma

Analysis Report for 24-2502 TI185-6.0M-AP105d-A S0
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2502 TI185-6.0M-AP105d-A S0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 9:59:06AM
Procedure	: S0_gsv02mlw
Operator	: Administrator
Detector Name	: S
Geometry	: S0_gsv02mlw
Live Time	: 900.0 seconds
Real Time	: 903.6 seconds
Dead Time	: 0.40 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 6/27/2024
Efficiency Calibration Used Done On	: 3/15/2019
Efficiency Calibration Description	: S0_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578924
Certificate Name	: R735-b9 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 10:14:14AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2502 TI185-6.0M-AP105d-A S0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.62	183.55	0.2310	6.50
2	87.58	269.23	0.1869	9.73
3	123.25	378.35	0.2774	4.90
4	314.85	964.98	0.3814	3.02
5	356.33	1091.97	0.3791	3.05
6	414.90	1271.33	0.1851	8.54
7	661.82	2027.29	0.0421	150.55
8	666.56	2041.98	0.1556	12.02
9	695.21	2129.49	0.1521	11.45
10	790.27	2420.67	0.3064	3.33
11	868.87	2660.83	0.3334	3.03
12	1005.21	3078.71	0.3277	3.24
13	1081.45	3311.82	0.2537	3.99
14	1110.00	3399.67	0.2607	3.66
15	1173.54	3594.09	0.1198	16.32
16	1274.71	3903.92	0.2226	4.87
17	1332.86	4082.08	0.1230	14.53
18	1361.82	4170.48	0.2172	4.91
19	1460.97	4474.15	0.2661	3.25
20	2506.49	7675.90	0.2403	3.18

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2502 TI185-6.0M-AP105d-A S0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 10:14:14AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.62	177 -	188	183.60	4.71E+02	154.92	1.17E+03	1.18
F	2	87.58	261 -	274	269.18	9.08E+02	121.47	1.36E+03	1.13
F	3	123.25	372 -	386	378.39	2.57E+02	98.92	1.39E+03	1.03
	4	314.85	961 -	968	964.98	3.11E+01	43.19	6.08E+02	0.75
	5	356.33	1087 -	1095	1091.97	3.26E+01	49.72	7.45E+02	0.94
F	6	414.90	1261 -	1279	1271.31	6.30E+02	136.47	1.81E+03	1.41
M	7	661.82	2015 -	2049	2027.29	7.11E+04	412.59	2.61E+02	1.55
m	8	666.56	2015 -	2049	2041.80	3.80E+02	21.29	1.37E+02	1.55
F	9	695.21	2118 -	2139	2129.52	4.38E+02	48.52	7.67E+01	1.52
F	10	790.27	2416 -	2425	2420.60	1.84E+01	13.59	9.79E+00	0.81
F	11	868.87	2656 -	2665	2661.25	1.40E+01	5.38	2.50E+01	0.62
	12	1005.21	3073 -	3083	3078.71	7.38E+00	13.09	4.36E+01	0.66
F	13	1081.45	3307 -	3319	3312.16	4.82E+01	8.08	2.60E+01	1.52
F	14	1110.00	3393 -	3406	3399.59	3.91E+01	8.77	5.62E+01	1.39
F	15	1173.54	3583 -	3604	3594.15	8.62E+02	28.02	4.95E+01	1.75
F	16	1274.71	3898 -	3911	3903.96	6.00E+01	7.96	1.08E+01	1.59
F	17	1332.86	4070 -	4092	4082.02	7.92E+02	55.83	2.30E+01	1.98
F	18	1361.82	4165 -	4179	4170.69	6.30E+01	7.54	0.00E+00	1.70
F	19	1460.97	4469 -	4480	4474.33	2.51E+01	5.46	6.00E+00	1.54
F	20	2506.49	7669 -	7684	7676.32	4.38E+01	36.60	6.32E+00	2.20

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 10:14:14AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578895.CNF

Analysis Report for 24-2502 TI185-6.0M-AP105d-A S0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.62	4.71E+02	154.92			4.71E+02	1.55E+02
F	2	87.58	9.08E+02	121.47	5.73E+00	4.19E-01	9.02E+02	1.21E+02
F	3	123.25	2.57E+02	98.92			2.57E+02	9.89E+01
	4	314.85	3.11E+01	43.19			3.11E+01	4.32E+01
	5	356.33	3.26E+01	49.72			3.26E+01	4.97E+01
F	6	414.90	6.30E+02	136.47			6.30E+02	1.36E+02
M	7	661.82	7.11E+04	412.59			7.11E+04	4.13E+02
m	8	666.56	3.80E+02	21.29			3.80E+02	2.13E+01
F	9	695.21	4.38E+02	48.52			4.38E+02	4.85E+01
F	10	790.27	1.84E+01	13.59			1.84E+01	1.36E+01
F	11	868.87	1.40E+01	5.38	1.14E+00	1.20E-01	1.29E+01	5.38E+00
	12	1005.21	7.38E+00	13.09			7.38E+00	1.31E+01
F	13	1081.45	4.82E+01	8.08			4.82E+01	8.08E+00
F	14	1110.00	3.91E+01	8.77			3.91E+01	8.77E+00
F	15	1173.54	8.62E+02	28.02			8.62E+02	2.80E+01
F	16	1274.71	6.00E+01	7.96			6.00E+01	7.96E+00
F	17	1332.86	7.92E+02	55.83	6.94E-02	1.67E-01	7.91E+02	5.58E+01
F	18	1361.82	6.30E+01	7.54			6.30E+01	7.54E+00
F	19	1460.97	2.51E+01	5.46	1.58E+01	5.69E-01	9.28E+00	5.49E+00
F	20	2506.49	4.38E+01	36.60			4.38E+01	3.66E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.99	1460.83	*	10.67	5.02E-05	2.97E-05	miss
CO-60	0.98	1173.24	*	99.97	5.65E-04	1.85E-05	0.762
		1332.50	*	99.99	5.67E-04	4.01E-05	0.757
		2505.74	*	1.00	4.13E-03	3.46E-03	miss
CD-109	0.96	88.03	*	3.61	4.34E-03	5.97E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	4.96E-04	1.12E-04	0.395

Analysis Report for 24-2502 TI185-6.0M-AP105d-A S0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	3.49E-04	1.96E-05	0.385
		674.80		3.10			
		695.00	*	99.60	4.13E-04	4.59E-05	0.384
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.77	64.28		9.60			
		87.30	*	45.90	3.41E-04	4.84E-05	miss
CS-137	0.99	661.66	*	85.20	2.92E-02	2.16E-04	miss
EU-154	0.34	42.70		20.45			
		123.07	*	40.40	1.28E-04	4.94E-05	0.737
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30		20.06			
		756.80		4.52			
		873.18		12.08			
		996.29		10.48			
		1004.76	*	18.01	2.15E-05	3.81E-05	0.866
		1246.12		0.86			
		1274.43	*	34.80	1.04E-04	1.38E-05	0.876
		1494.05		0.70			
		1596.48		1.80			
AM-241	0.99	59.54	*	35.90	5.14E-04	1.69E-04	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2502 TI185-6.0M-AP105d-A S0

ASR 2094 Branch

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	K-40	0.997	5.02E-05	2.97E-05	
	CO-60	0.982	5.66E-04	1.68E-05	
?	CD-109	0.967	4.34E-03	5.97E-04	
	SB-126	0.486	3.63E-04	1.78E-05	
?	Sn-126	0.774	3.41E-04	4.84E-05	
	CS-137	0.996	2.92E-02	2.16E-04	
	EU-154	0.346	9.63E-05	1.25E-05	
	AM-241	0.999	5.14E-04	1.69E-04	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2502 TI185-6.0M-AP105d-A S0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 10:14:14AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	4	314.85	3.45853E-02	138.77		
	5	356.33	3.62204E-02	152.53	Tol.	BA-133
F	10	790.27	2.04314E-02	73.91	Sum	
F	11	868.87	1.42901E-02	41.81	Tol.	SR-85
F	13	1081.45	5.35946E-02	16.76	Sum	
F	14	1110.00	4.34505E-02	22.41	Sum	
F	18	1361.82	7.00548E-02	11.96	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	7.40E-04	7.40E-04	7.93E-04	3.66E-04
+	K-40	1460.83	*	10.67	1.28E-04	1.28E-04	5.02E-05	5.65E-05
	MN-54	834.84		99.98	2.09E-05	2.09E-05	2.00E-05	9.92E-06
	CO-58	810.78		99.45	1.95E-05	1.95E-05	-2.40E-06	9.18E-06
		863.96		0.68	4.37E-03		-1.88E-03	2.08E-03
		1674.73		0.52	2.04E-03		3.86E-04	8.76E-04
	FE-59	142.65		1.00	3.34E-03	3.94E-05	1.19E-03	1.65E-03
		192.35		3.01	2.02E-03		1.92E-03	1.00E-03
		334.80		0.27	1.92E-02		-2.86E-04	9.48E-03
		1099.25		56.30	4.52E-05		5.49E-05	2.14E-05

Analysis Report for 24-2502 TI185-6.0M-AP105d-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	FE-59	1291.60		43.70	3.94E-05	3.94E-05	1.34E-05	1.81E-05
+	CO-60	1173.24	*	99.97	4.05E-05	3.13E-05	5.65E-04	1.94E-05
		1332.50	*	99.99	3.13E-05		5.67E-04	1.47E-05
		2505.74	*	1.00	1.90E-03		4.13E-03	8.25E-04
	SR-85	514.00		96.00	5.99E-05	5.99E-05	2.47E-05	2.95E-05
		868.60		0.01	1.89E-01		-1.24E-01	8.96E-02
	NB-94	702.62		97.90	2.51E-05	2.51E-05	-1.99E-05	1.19E-05
		871.09		99.98	3.06E-05		6.74E-06	1.45E-05
	NB-95	765.81		99.81	2.00E-05	2.00E-05	-2.78E-05	9.49E-06
	RU-103	497.05		91.00	6.78E-05	6.78E-05	-4.12E-05	3.35E-05
		610.30		5.76	7.77E-04		1.73E-04	3.81E-04
	RH-106	511.86		20.70	3.37E-04	3.37E-04	4.02E-05	1.66E-04
		621.92		9.93	5.71E-04		1.80E-04	2.79E-04
		1050.36		1.56	1.86E-03		-8.57E-04	8.76E-04
	AG-108M	79.13		6.60	6.55E-04	4.58E-05	1.45E-04	3.23E-04
		433.90		90.50	1.37E-04		-8.01E-06	6.79E-05
		614.30		89.80	8.94E-05		-1.20E-06	4.38E-05
		722.90		90.80	4.58E-05		5.22E-05	2.19E-05
+	CD-109	88.03	*	3.61	1.25E-03	1.25E-03	4.34E-03	6.20E-04
	SB-125	176.31		6.82	5.40E-04	2.26E-04	-2.00E-04	2.67E-04
		380.45		1.52	3.76E-03		-2.38E-03	1.86E-03
		427.87		29.55	2.26E-04		-2.01E-05	1.12E-04
		463.36		10.48	7.69E-04		7.00E-05	3.81E-04
		600.60		17.76	2.54E-04		-2.59E-04	1.24E-04
		606.71		5.02	9.00E-04		4.31E-04	4.41E-04
		635.95		11.32	3.89E-04		-3.55E-05	1.91E-04
		671.44		1.78	2.18E-03		4.26E-04	1.06E-03
+	SB-126	223.90		1.39	3.19E-03	5.25E-05	4.40E-04	1.58E-03
		278.20		2.40	5.98E-03		-3.35E-03	2.96E-03
		296.50		4.50	3.49E-03		2.91E-04	1.73E-03
		414.70	*	83.30	2.66E-04		4.96E-04	1.32E-04
		556.30		1.69	8.99E-03		-3.55E-03	4.41E-03
		573.90		6.70	2.21E-03		-1.80E-04	1.08E-03
		593.20		7.50	1.47E-03		-8.17E-04	7.21E-04
		656.30		2.19	3.98E-02		-7.19E-03	1.98E-02
		666.50	*	99.60	5.25E-05		3.49E-04	2.50E-05
		674.80		3.10	2.11E-03		1.72E-04	1.00E-03
		695.00	*	99.60	7.18E-05		4.13E-04	3.46E-05
		697.00		29.00	4.71E-04		-4.41E-05	2.30E-04
		720.70		53.80	1.30E-04		1.29E-04	6.21E-05
		856.80		17.60	3.27E-04		2.24E-04	1.55E-04
		989.60		6.80	8.19E-04		1.47E-04	3.87E-04
		1213.30		2.39	1.72E-03		-1.19E-03	7.89E-04
+	Sn-126	64.28		9.60	6.96E-04	9.85E-05	3.95E-04	3.43E-04
		87.30	*	45.90	9.85E-05		3.41E-04	4.87E-05
	I-129	29.70		56.60	9.61E-03	7.58E-03	3.40E-03	4.74E-03
		33.60		10.04	1.86E-02		-1.87E-02	9.19E-03
		34.40		2.01	7.77E-02		-3.16E-02	3.83E-02
		39.60		7.51	7.58E-03		3.43E-03	3.74E-03
	CS-134	563.25		8.34	9.39E-04	3.29E-05	1.22E-04	4.61E-04
		569.33		15.37	5.25E-04		-1.27E-04	2.57E-04
		604.72		97.62	6.59E-05		-5.65E-05	3.23E-05
		795.86		85.46	3.29E-05		1.81E-06	1.56E-05

Analysis Report for 24-2502 TI185-6.0M-AP105d-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-134	801.95		8.69	3.68E-04	3.29E-05	4.62E-04	1.74E-04
+	CS-137	661.66	*	85.20	3.20E-05	3.20E-05	2.92E-02	1.54E-05
	CE-139	165.85		79.89	4.50E-05	4.50E-05	-3.86E-05	2.22E-05
	CE-141	40.70		3.35	1.41E-02	7.22E-05	-3.10E-03	6.94E-03
		145.44		48.29	7.22E-05		3.37E-05	3.57E-05
	CE-144	80.12		1.36	3.09E-03	3.01E-04	-2.50E-03	1.53E-03
		133.51		11.09	3.01E-04		-2.48E-04	1.49E-04
	EU-152	121.78		28.58	1.68E-04	7.76E-05	5.19E-05	8.32E-05
		344.28		26.50	2.40E-04		-1.30E-04	1.18E-04
		778.90		12.94	1.95E-04		3.81E-05	9.20E-05
		964.08		14.73	2.02E-04		-1.83E-04	9.60E-05
		1085.87		10.24	2.57E-04		3.65E-04	1.22E-04
		1112.07		13.69	2.37E-04		1.39E-04	1.13E-04
		1408.01		21.07	7.76E-05		4.07E-05	3.46E-05
	GD-153	97.43		29.00	1.23E-04	1.23E-04	-6.19E-05	6.07E-05
		103.18		21.10	1.63E-04		1.86E-04	8.07E-05
+	EU-154	42.70		20.45	1.72E-03	4.50E-05	2.29E-04	8.48E-04
		123.07	*	40.40	1.35E-04		1.28E-04	6.68E-05
		247.93		6.89	9.37E-04		-4.05E-04	4.63E-04
		591.76		4.95	1.46E-03		3.65E-04	7.15E-04
		692.42		1.78	3.25E-03		-1.94E-04	1.59E-03
		723.30		20.06	1.61E-04		2.52E-04	7.70E-05
		756.80		4.52	7.44E-04		2.25E-04	3.53E-04
		873.18		12.08	2.81E-04		2.08E-04	1.34E-04
		996.29		10.48	2.64E-04		9.56E-05	1.25E-04
		1004.76	*	18.01	1.30E-04		2.15E-05	6.13E-05
		1246.12		0.86	3.10E-03		1.08E-03	1.42E-03
		1274.43	*	34.80	4.50E-05		1.04E-04	2.02E-05
		1494.05		0.70	2.06E-03		2.03E-03	9.24E-04
		1596.48		1.80	4.09E-04		-6.22E-05	1.80E-04
	EU-155	43.00		18.70	1.81E-03	1.51E-04	2.41E-04	8.91E-04
		60.01		1.22	7.45E-03		1.13E-02	3.68E-03
		86.55		30.70	1.51E-04		4.96E-04	7.46E-05
		105.31		21.10	1.55E-04		3.11E-05	7.65E-05
	HG-203	72.87		6.30	8.03E-04	5.96E-05	7.57E-04	3.96E-04
		279.20		81.46	5.96E-05		-2.68E-05	2.94E-05
	BI-207	569.15		97.80	6.74E-05	4.92E-05	5.96E-06	3.31E-05
		1063.10		74.90	4.92E-05		-4.33E-06	2.32E-05
	PB-210	46.54		4.25	5.10E-03	5.10E-03	-2.18E-04	2.51E-03
	RA-226	74.81		6.44	7.45E-04	9.69E-05	-4.01E-05	3.68E-04
		77.11		10.80	4.19E-04		-1.35E-04	2.07E-04
		87.30		4.84	9.49E-04		3.70E-03	4.70E-04
		186.21		3.59	1.22E-03		-4.14E-05	6.02E-04
		242.00		7.43	5.97E-04		8.50E-05	2.95E-04
		295.22		19.30	2.51E-04		-8.15E-05	1.24E-04
		351.93		37.60	1.46E-04		1.10E-04	7.19E-05
		609.31		46.10	9.70E-05		-3.66E-05	4.75E-05
		768.36		4.94	4.09E-04		2.19E-04	1.94E-04
		1120.29		15.10	1.54E-04		-9.67E-05	7.28E-05
		1238.11		5.79	3.06E-04		-5.12E-05	1.41E-04
		1764.49		15.40	9.69E-05		-2.42E-05	4.26E-05
	PA-231	283.70		1.59	3.07E-03	2.06E-03	-2.09E-03	1.52E-03
		300.07		2.38	2.06E-03		7.35E-04	1.02E-03

Analysis Report for 24-2502 TI185-6.0M-AP105d-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PA-231	302.67		1.71	2.89E-03	2.06E-03	7.73E-04	1.43E-03
		330.07		1.32	3.86E-03		3.21E-03	1.91E-03
	TH-232	74.81		11.62	4.13E-04	3.94E-05	-2.22E-05	2.04E-04
		77.11		17.50	2.59E-04		-8.32E-05	1.28E-04
		87.30		7.80	5.89E-04		2.30E-03	2.91E-04
		238.63		43.30	1.03E-04		6.55E-05	5.11E-05
		338.32		11.30	4.61E-04		1.67E-04	2.28E-04
		583.19		30.37	1.48E-04		1.33E-04	7.27E-05
		727.33		6.58	3.32E-04		3.45E-04	1.58E-04
		911.21		26.60	9.46E-05		1.02E-04	4.51E-05
		968.97		16.20	1.49E-04		-1.43E-04	7.09E-05
		2614.53		35.64	3.94E-05		1.67E-05	1.59E-05
	U-235	143.76		10.96	3.04E-04	7.56E-05	9.45E-05	1.50E-04
		185.71		57.20	7.56E-05		-1.64E-05	3.74E-05
		205.31		5.01	8.83E-04		-3.53E-04	4.37E-04
	U-238	63.29		3.70	1.93E-03	8.60E-04	3.06E-04	9.55E-04
		92.51		4.23	8.60E-04		2.12E-04	4.25E-04
		112.81		0.21	1.56E-02		1.30E-02	7.70E-03
		742.81		0.11	1.64E-02		9.58E-03	7.71E-03
		766.28		0.32	6.45E-03		4.79E-03	3.06E-03
		1001.03		0.84	3.17E-03		2.33E-03	1.51E-03
	NP-239	99.60		12.80	2.77E-04	1.42E-04	1.08E-04	1.37E-04
		103.80		20.40	1.68E-04		1.11E-06	8.29E-05
		106.10		26.40	1.42E-04		4.53E-05	6.99E-05
		116.90		7.61	4.46E-04		-2.40E-04	2.20E-04
		228.20		11.20	4.41E-04		2.16E-04	2.18E-04
		277.60		14.50	3.80E-04		-1.51E-04	1.88E-04
		315.90		1.60	2.91E-03		-1.62E-03	1.44E-03
		334.30		2.06	1.91E-03		2.16E-03	9.46E-04
+	AM-241	59.54	*	35.90	2.49E-04	2.49E-04	5.14E-04	1.23E-04

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

Apex-Gamma

Analysis Report for 24-2503 TI185-7.0M-AP-105A V0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2503 TI185-7.0M-AP-105A V0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 8:13:08AM
Procedure	: V0_gsv02mlw
Operator	: Administrator
Detector Name	: V
Geometry	: V0_gsv02mlw
Live Time	: 4824.4 seconds
Real Time	: 4837.8 seconds
Dead Time	: 0.28 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/8/2023
Efficiency Calibration Used Done On	: 3/28/2019
Efficiency Calibration Description	: V0_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578919
Certificate Name	: R735-A5 5ml PSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 9:33:49AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2503 TI185-7.0M-AP-105A V0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.62	175.76	0.1974	11.03
2	64.42	189.66	0.3701	4.37
3	87.51	257.71	0.1283	23.52
4	123.18	362.57	0.1833	11.39
5	185.97	546.71	0.3693	3.30
6	414.81	1220.56	0.1096	25.48
7	490.88	1444.34	0.3243	3.39
8	661.68	1946.88	0.0320	258.24
9	666.35	1960.80	0.1016	27.73
10	695.09	2045.12	0.0992	26.57
11	720.70	2119.77	0.3340	3.12
12	723.24	2128.26	0.2341	5.15
13	873.20	2569.03	0.2974	3.01
14	996.33	2931.28	0.2035	5.80
15	1004.84	2956.50	0.2038	5.67
16	1081.15	3180.90	0.1509	9.77
17	1109.84	3265.32	0.1583	8.66
18	1135.53	3340.50	0.2616	3.77
19	1173.30	3452.00	0.0742	38.46
20	1274.44	3749.62	0.1518	8.41
21	1332.57	3920.53	0.0750	35.27
22	1361.53	4005.46	0.1545	9.04
23	1397.46	4111.14	0.2560	3.47
24	1460.96	4297.97	0.2067	5.12
25	1764.94	5191.48	0.2525	3.10
26	2505.76	7371.50	0.1301	8.81

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2503 TI185-7.0M-AP-105A V0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 9:33:49AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.62	168	182	175.60	2.77E+03	241.53	6.04E+03	1.13
F	2	64.42	182	196	189.73	7.38E+02	222.53	5.77E+03	0.93
F	3	87.51	252	265	257.66	5.25E+03	297.30	5.31E+03	1.26
F	4	123.18	354	368	362.59	1.33E+03	198.89	5.10E+03	1.13
F	5	185.97	538	555	547.32	8.33E+02	602.56	6.76E+03	3.06
F	6	414.81	1211	1228	1220.55	3.45E+03	252.69	5.58E+03	1.45
F	7	490.88	1440	1450	1444.34	1.29E+02	41.99	2.49E+03	0.88
M	8	661.68	1934	1968	1946.82	2.14E+05	679.52	1.18E+03	1.68
m	9	666.35	1934	1968	1960.56	2.65E+03	54.73	4.10E+02	1.68
F	10	695.09	2032	2057	2045.10	2.66E+03	116.60	4.09E+02	1.79
M	11	720.70	2112	2134	2120.43	1.73E+02	34.61	2.83E+02	1.94
m	12	723.24	2112	2134	2127.91	2.47E+02	27.88	2.86E+02	1.94
F	13	873.20	2562	2578	2569.05	1.22E+02	105.64	3.09E+02	2.56
F	14	996.33	2925	2940	2931.27	1.52E+02	18.42	2.36E+02	1.73
F	15	1004.84	2949	2962	2956.32	1.55E+02	19.70	2.56E+02	1.74
F	16	1081.15	3171	3189	3180.79	4.23E+02	41.35	2.52E+02	2.08
F	17	1109.84	3257	3272	3265.18	3.28E+02	23.57	2.64E+02	1.93
F	18	1135.53	3334	3345	3340.76	5.33E+01	12.78	1.13E+02	1.41
F	19	1173.30	3438	3462	3451.88	5.49E+03	145.90	2.34E+02	2.14
F	20	1274.44	3739	3758	3749.37	3.77E+02	20.66	9.00E+01	2.40
F	21	1332.57	3905	3934	3920.38	4.92E+03	128.46	1.12E+02	2.29
F	22	1361.53	3994	4015	4005.56	2.84E+02	50.12	8.24E+01	1.84
F	23	1397.46	4104	4119	4111.26	4.42E+01	45.52	5.26E+01	0.57
F	24	1460.96	4287	4307	4298.03	1.28E+02	49.56	6.31E+01	1.85
F	25	1764.94	5184	5198	5192.20	2.41E+01	7.17	3.25E+01	1.52
F	26	2505.76	7357	7383	7371.20	3.61E+02	39.51	1.35E+01	2.87

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2503 TI185-7.0M-AP-105A V0

ASR 2094 Branch

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 9:33:49AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578897.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.62	2.77E+03	241.53			2.77E+03	2.42E+02
F	2	64.42	7.38E+02	222.53			7.38E+02	2.23E+02
F	3	87.51	5.25E+03	297.30	2.61E+01	2.84E+00	5.23E+03	2.97E+02
F	4	123.18	1.33E+03	198.89			1.33E+03	1.99E+02
F	5	185.97	8.33E+02	602.56	1.17E+02	8.10E+00	7.16E+02	6.03E+02
F	6	414.81	3.45E+03	252.69			3.45E+03	2.53E+02
F	7	490.88	1.29E+02	41.99			1.29E+02	4.20E+01
M	8	661.68	2.14E+05	679.52			2.14E+05	6.80E+02
m	9	666.35	2.65E+03	54.73			2.65E+03	5.47E+01
F	10	695.09	2.66E+03	116.60			2.66E+03	1.17E+02
M	11	720.70	1.73E+02	34.61			1.73E+02	3.46E+01
m	12	723.24	2.47E+02	27.88			2.47E+02	2.79E+01
F	13	873.20	1.22E+02	105.64			1.22E+02	1.06E+02
F	14	996.33	1.52E+02	18.42			1.52E+02	1.84E+01
F	15	1004.84	1.55E+02	19.70			1.55E+02	1.97E+01
F	16	1081.15	4.23E+02	41.35			4.23E+02	4.14E+01
F	17	1109.84	3.28E+02	23.57			3.28E+02	2.36E+01
F	18	1135.53	5.33E+01	12.78			5.33E+01	1.28E+01
F	19	1173.30	5.49E+03	145.90			5.49E+03	1.46E+02
F	20	1274.44	3.77E+02	20.66			3.77E+02	2.07E+01
F	21	1332.57	4.92E+03	128.46			4.92E+03	1.28E+02
F	22	1361.53	2.84E+02	50.12			2.84E+02	5.01E+01
F	23	1397.46	4.42E+01	45.52			4.42E+01	4.55E+01
F	24	1460.96	1.28E+02	49.56	1.08E+02	1.46E+00	1.96E+01	4.96E+01
F	25	1764.94	2.41E+01	7.17	3.60E+01	2.36E+00	-1.19E+01	7.55E+00
F	26	2505.76	3.61E+02	39.51			3.61E+02	3.95E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Analysis Report for 24-2503 TI185-7.0M-AP-105A V0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.99	1460.83	*	10.67	2.02E-05	5.13E-05	miss
CO-60	0.99	1173.24	*	99.97	6.76E-04	1.82E-05	0.774
		1332.50	*	99.99	6.65E-04	1.76E-05	0.768
		2505.74	*	1.00	5.58E-03	6.18E-04	miss
SB-126	0.68	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	5.01E-04	4.86E-05	0.396
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	4.49E-04	9.52E-06	0.385
		674.80		3.10			
		695.00	*	99.60	4.65E-04	2.05E-05	0.384
		697.00		29.00			
		720.70	*	53.80	6.76E-05	1.64E-05	0.327
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.99	64.28	*	9.60	4.41E-04	3.52E-04	miss
		87.30	*	45.90	3.65E-04	3.62E-05	miss
CS-137	1.00	661.66	*	85.20	1.63E-02	8.51E-05	miss
EU-154	0.70	42.70		20.45			
		123.07	*	40.40	1.20E-04	1.81E-05	0.744
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	1.19E-04	1.35E-05	0.711
		756.80		4.52			
		873.18	*	12.08	1.15E-04	9.97E-05	0.684
		996.29	*	10.48	1.41E-04	1.72E-05	0.874
		1004.76	*	18.01	8.47E-05	1.08E-05	0.871
		1246.12		0.86			
		1274.43	*	34.80	1.24E-04	6.90E-06	0.883
		1494.05		0.70			
		1596.48		1.80			
U-235	0.63	143.76		10.96			
		185.71	*	57.20	3.93E-05	3.31E-05	free
		205.31		5.01			
AM-241	0.99	59.54	*	35.90	5.57E-04	5.00E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Analysis Report for 24-2503 TI185-7.0M-AP-105A V0

ASR 2094 Branch

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	K-40	0.998	2.02E-05	5.13E-05	
	CO-60	0.999	6.73E-04	1.26E-05	
X	CD-109	0.958			
	SB-126	0.683	3.72E-04	7.54E-06	
	Sn-126	0.994	3.66E-04	3.60E-05	
	CS-137	1.000	1.63E-02	8.51E-05	
	EU-154	0.707	1.16E-04	4.91E-06	
	U-235	0.635	3.93E-05	3.31E-05	
	AM-241	0.999	5.57E-04	5.00E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2503 TI185-7.0M-AP-105A V0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 9:33:49AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	7	490.88	2.67392E-02	32.55		
F	16	1081.15	8.77697E-02	9.77	Sum	
F	17	1109.84	6.79115E-02	7.20	Sum	
F	18	1135.53	1.10378E-02	24.00	Sum	
F	22	1361.53	5.89202E-02	17.63	Sum	
F	23	1397.46	9.15396E-03	103.07	Sum	
F	25	1764.94	-2.47100E-03	- 63.32	Tol.	RA-226

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	2.42E-04	2.42E-04	3.55E-04	1.21E-04
+	K-40	1460.83	*	10.67	7.94E-05	7.94E-05	2.02E-05	3.83E-05
	MN-54	834.84		99.98	9.46E-06	9.46E-06	1.52E-06	4.63E-06
	CO-58	810.78		99.45	9.92E-06	9.92E-06	8.59E-07	4.85E-06
		863.96		0.68	2.01E-03		-3.71E-03	9.83E-04
		1674.73		0.52	9.51E-04		8.70E-04	4.49E-04
	FE-59	142.65		1.00	1.11E-03	1.72E-05	3.71E-04	5.53E-04
		192.35		3.01	6.52E-04		3.71E-04	3.24E-04
		334.80		0.27	6.51E-03		-6.28E-04	3.24E-03
		1099.25		56.30	1.97E-05		9.53E-06	9.63E-06

Analysis Report for 24-2503 TI185-7.0M-AP-105A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	FE-59	1291.60		43.70	1.72E-05	1.72E-05	-8.50E-07	8.31E-06
+	CO-60	1173.24	*	99.97	1.72E-05	1.41E-05	6.76E-04	8.42E-06
		1332.50	*	99.99	1.41E-05		6.65E-04	6.87E-06
		2505.74	*	1.00	5.62E-04		5.58E-03	2.60E-04
	SR-85	514.00		96.00	2.04E-05	2.04E-05	1.93E-05	1.01E-05
		868.60		0.01	9.08E-02		-9.32E-02	4.45E-02
	NB-94	702.62		97.90	1.16E-05	1.16E-05	-1.33E-05	5.66E-06
		871.09		99.98	1.46E-05		9.63E-06	7.16E-06
	NB-95	765.81		99.81	8.24E-06	8.24E-06	-1.38E-06	4.02E-06
	RU-103	497.05		91.00	2.26E-05	2.26E-05	9.25E-06	1.12E-05
		610.30		5.76	2.73E-04		3.60E-04	1.35E-04
	RH-106	511.86		20.70	1.13E-04	1.13E-04	3.18E-05	5.63E-05
		621.92		9.93	2.08E-04		-1.65E-04	1.03E-04
		1050.36		1.56	8.89E-04		7.61E-04	4.34E-04
	AG-108M	79.13		6.60	2.23E-04	2.12E-05	-1.32E-04	1.11E-04
		433.90		90.50	4.55E-05		4.03E-05	2.26E-05
		614.30		89.80	3.14E-05		-4.19E-05	1.55E-05
		722.90		90.80	2.12E-05		4.06E-05	1.04E-05
	CD-109	88.03	*	3.61	4.56E-04	4.56E-04	4.64E-03	2.27E-04
	SB-125	176.31		6.82	1.82E-04	7.55E-05	1.73E-04	9.02E-05
		380.45		1.52	1.26E-03		-8.49E-04	6.25E-04
		427.87		29.55	7.55E-05		7.06E-05	3.75E-05
		463.36		10.48	2.49E-04		2.59E-04	1.24E-04
		600.60		17.76	8.63E-05		6.12E-05	4.27E-05
		606.71		5.02	3.13E-04		9.37E-05	1.55E-04
		635.95		11.32	1.34E-04		5.37E-05	6.62E-05
		671.44		1.78	9.75E-04		5.89E-04	4.83E-04
+	SB-126	223.90		1.39	1.06E-03	1.64E-05	1.88E-04	5.27E-04
		278.20		2.40	1.89E-03		2.55E-04	9.39E-04
		296.50		4.50	1.13E-03		-1.84E-04	5.59E-04
		414.70	*	83.30	8.41E-05		5.01E-04	4.19E-05
		556.30		1.69	3.02E-03		-7.59E-04	1.49E-03
		573.90		6.70	7.75E-04		1.61E-04	3.83E-04
		593.20		7.50	4.98E-04		8.05E-05	2.46E-04
		656.30		2.19	1.68E-02		-2.35E-03	8.41E-03
		666.50	*	99.60	1.64E-05		4.49E-04	7.98E-06
		674.80		3.10	8.79E-04		6.07E-04	4.30E-04
		695.00	*	99.60	3.23E-05		4.65E-04	1.59E-05
		697.00		29.00	2.09E-04		-2.32E-05	1.03E-04
		720.70	*	53.80	3.16E-05		6.76E-05	1.53E-05
		856.80		17.60	1.49E-04		1.43E-04	7.28E-05
		989.60		6.80	4.06E-04		1.97E-04	1.99E-04
		1213.30		2.39	8.58E-04		-2.19E-04	4.15E-04
+	Sn-126	64.28	*	9.60	3.28E-04	3.59E-05	4.41E-04	1.63E-04
		87.30	*	45.90	3.59E-05		3.65E-04	1.78E-05
	I-129	29.70		56.60	2.45E-03	2.26E-03	1.81E-03	1.22E-03
		33.60		10.04	5.17E-03		-4.51E-03	2.57E-03
		34.40		2.01	2.20E-02		-3.01E-02	1.09E-02
		39.60		7.51	2.26E-03		-2.99E-03	1.12E-03
	CS-134	563.25		8.34	3.12E-04	1.50E-05	1.40E-04	1.54E-04
		569.33		15.37	1.83E-04		6.49E-05	9.08E-05
		604.72		97.62	2.28E-05		-5.72E-06	1.13E-05
		795.86		85.46	1.50E-05		-8.61E-06	7.34E-06

Analysis Report for 24-2503 TI185-7.0M-AP-105A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-134	801.95		8.69	1.78E-04	1.50E-05	2.04E-05	8.69E-05
+	CS-137	661.66	*	85.20	1.24E-05	1.24E-05	1.63E-02	6.08E-06
	CE-139	165.85		79.89	1.52E-05	1.52E-05	-2.11E-06	7.53E-06
	CE-141	40.70		3.35	4.23E-03	2.32E-05	-7.90E-03	2.10E-03
		145.44		48.29	2.32E-05		-2.12E-07	1.15E-05
	CE-144	80.12		1.36	1.06E-03	9.31E-05	-2.42E-04	5.28E-04
		133.51		11.09	9.31E-05		1.14E-05	4.62E-05
	EU-152	121.78		28.58	5.32E-05	3.74E-05	-2.66E-06	2.64E-05
		344.28		26.50	8.35E-05		6.72E-05	4.15E-05
		778.90		12.94	8.75E-05		-3.60E-05	4.27E-05
		964.08		14.73	9.08E-05		6.62E-05	4.45E-05
		1085.87		10.24	1.22E-04		-1.88E-05	5.97E-05
		1112.07		13.69	1.08E-04		2.47E-04	5.29E-05
		1408.01		21.07	3.74E-05		-1.33E-05	1.79E-05
	GD-153	97.43		29.00	3.86E-05	3.86E-05	-2.94E-05	1.91E-05
		103.18		21.10	5.12E-05		2.08E-05	2.54E-05
+	EU-154	42.70		20.45	5.26E-04	2.60E-05	1.33E-04	2.61E-04
		123.07	*	40.40	4.66E-05		1.20E-04	2.32E-05
		247.93		6.89	3.24E-04		9.16E-05	1.61E-04
		591.76		4.95	4.88E-04		-4.86E-04	2.41E-04
		692.42		1.78	1.44E-03		1.61E-04	7.13E-04
		723.30	*	20.06	3.92E-05		1.19E-04	1.89E-05
		756.80		4.52	3.04E-04		-1.76E-04	1.48E-04
		873.18	*	12.08	1.28E-04		1.15E-04	6.27E-05
		996.29	*	10.48	1.08E-04		1.41E-04	5.28E-05
		1004.76	*	18.01	6.26E-05		8.47E-05	3.06E-05
		1246.12		0.86	1.32E-03		-1.31E-04	6.36E-04
		1274.43	*	34.80	2.60E-05		1.24E-04	1.25E-05
		1494.05		0.70	8.18E-04		1.20E-03	3.89E-04
		1596.48		1.80	2.10E-04		1.80E-04	1.00E-04
	EU-155	43.00		18.70	5.52E-04	4.97E-05	-1.12E-04	2.74E-04
		60.01		1.22	2.66E-03		1.29E-02	1.32E-03
		86.55		30.70	5.58E-05		-2.11E-06	2.77E-05
		105.31		21.10	4.97E-05		5.15E-06	2.47E-05
	HG-203	72.87		6.30	2.74E-04	1.88E-05	1.47E-04	1.36E-04
		279.20		81.46	1.88E-05		2.97E-06	9.34E-06
	BI-207	569.15		97.80	2.28E-05	2.21E-05	1.31E-05	1.13E-05
		1063.10		74.90	2.21E-05		-2.95E-07	1.08E-05
	PB-210	46.54		4.25	1.60E-03	1.60E-03	-2.87E-03	7.94E-04
	RA-226	74.81		6.44	2.55E-04	3.41E-05	3.09E-04	1.27E-04
		77.11		10.80	1.43E-04		1.54E-05	7.09E-05
		87.30		4.84	3.50E-04		2.35E-06	1.74E-04
		186.21		3.59	4.01E-04		9.08E-04	1.99E-04
		242.00		7.43	2.06E-04		-1.47E-05	1.02E-04
		295.22		19.30	8.09E-05		3.07E-05	4.02E-05
		351.93		37.60	4.85E-05		-2.52E-05	2.41E-05
		609.31		46.10	3.41E-05		2.05E-05	1.69E-05
		768.36		4.94	1.68E-04		-7.46E-05	8.18E-05
		1120.29		15.10	7.35E-05		-1.43E-06	3.59E-05
		1238.11		5.79	1.28E-04		-1.26E-04	6.15E-05
		1764.49		15.40	4.24E-05		-2.20E-05	2.01E-05
	PA-231	283.70		1.59	9.83E-04	6.66E-04	3.14E-04	4.88E-04
		300.07		2.38	6.66E-04		-1.63E-04	3.31E-04

Analysis Report for 24-2503 TI185-7.0M-AP-105A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PA-231	302.67		1.71	9.33E-04	6.66E-04	7.11E-04	4.63E-04
		330.07		1.32	1.23E-03		5.22E-04	6.13E-04
	TH-232	74.81		11.62	1.41E-04	1.58E-05	1.71E-04	7.01E-05
		77.11		17.50	8.82E-05		9.53E-06	4.38E-05
		87.30		7.80	2.17E-04		1.46E-06	1.08E-04
		238.63		43.30	3.53E-05		3.95E-05	1.75E-05
		338.32		11.30	1.58E-04		6.63E-05	7.86E-05
		583.19		30.37	4.99E-05		-2.55E-05	2.47E-05
		727.33		6.58	1.53E-04		-5.28E-05	7.48E-05
		911.21		26.60	4.10E-05		5.91E-06	2.01E-05
		968.97		16.20	6.71E-05		-3.55E-05	3.28E-05
		2614.53		35.64	1.58E-05		2.22E-05	7.31E-06
+	U-235	143.76		10.96	1.01E-04	3.51E-05	1.63E-05	5.03E-05
		185.71	*	57.20	3.51E-05		3.93E-05	1.75E-05
		205.31		5.01	2.95E-04		8.63E-05	1.47E-04
	U-238	63.29		3.70	6.58E-04	2.79E-04	-6.35E-03	3.27E-04
		92.51		4.23	2.79E-04		-4.75E-05	1.39E-04
		112.81		0.21	4.86E-03		-3.07E-03	2.41E-03
		742.81		0.11	7.78E-03		-3.37E-03	3.80E-03
		766.28		0.32	2.59E-03		1.30E-03	1.26E-03
		1001.03		0.84	1.50E-03		3.69E-03	7.36E-04
	NP-239	99.60		12.80	8.57E-05	4.51E-05	-3.14E-05	4.25E-05
		103.80		20.40	5.30E-05		2.25E-05	2.63E-05
		106.10		26.40	4.51E-05		5.51E-05	2.24E-05
		116.90		7.61	1.37E-04		-2.28E-06	6.80E-05
		228.20		11.20	1.49E-04		1.29E-05	7.42E-05
		277.60		14.50	1.18E-04		-3.73E-05	5.87E-05
		315.90		1.60	9.24E-04		2.50E-04	4.59E-04
		334.30		2.06	6.50E-04		-4.81E-04	3.23E-04
+	AM-241	59.54	*	35.90	1.13E-04	1.13E-04	5.57E-04	5.60E-05

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

Apex-Gamma

Analysis Report for 24-2504 TI185-7.0M-AP105d-A V0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2504 TI185-7.0M-AP105d-A V0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 9:59:54AM
Procedure	: V0_gsv02mlw
Operator	: Administrator
Detector Name	: V
Geometry	: V0_gsv02mlw
Live Time	: 900.0 seconds
Real Time	: 902.5 seconds
Dead Time	: 0.28 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/8/2023
Efficiency Calibration Used Done On	: 3/28/2019
Efficiency Calibration Description	: V0_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578925
Certificate Name	: R735-A5 5ml PSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 10:15:02AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2504 TI185-7.0M-AP105d-A V0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.65	175.71	0.3056	4.35
2	85.13	251.00	0.0000	0.00
3	87.49	257.56	0.1854	10.13
4	123.08	362.18	0.2913	5.47
5	230.30	677.00	0.3698	3.25
6	414.74	1220.23	0.1654	11.29
7	661.68	1946.87	0.0486	112.22
8	666.47	1961.10	0.1528	12.52
9	695.13	2045.03	0.1516	11.70
10	1081.26	3181.13	0.2201	4.33
11	1109.57	3264.55	0.2322	3.57
12	1173.26	3452.14	0.1172	14.72
13	1332.59	3920.64	0.1119	15.37
14	1361.47	4005.36	0.2344	3.23

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2504 TI185-7.0M-AP105d-A V0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 10:15:02AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.65	168 -	182	175.69	6.07E+02	117.37	1.05E+03	1.33
M	2	85.13	246 -	264	250.66	4.55E+01	21.33	7.23E+02	1.13
m	3	87.49	246 -	264	257.59	9.62E+02	35.08	1.05E+03	1.14
F	4	123.08	359 -	370	362.31	1.67E+02	23.30	8.13E+02	0.86
F	5	230.30	668 -	682	677.73	8.22E+01	24.18	9.71E+02	0.31
F	6	414.74	1213 -	1230	1220.35	6.41E+02	32.75	1.05E+03	1.43
M	7	661.68	1934 -	1969	1946.82	4.04E+04	300.51	2.19E+02	1.67
m	8	666.47	1934 -	1969	1960.90	4.82E+02	23.04	7.01E+01	1.68
F	9	695.13	2037 -	2053	2045.23	4.51E+02	21.82	9.69E+01	1.66
F	10	1081.26	3174 -	3186	3181.12	6.65E+01	10.71	4.55E+01	1.73
F	11	1109.57	3256 -	3271	3264.39	8.71E+01	36.24	3.18E+01	2.31
F	12	1173.26	3441 -	3462	3451.74	9.75E+02	60.71	4.51E+01	2.15
F	13	1332.59	3907 -	3931	3920.45	9.85E+02	55.77	1.33E+01	2.24
F	14	1361.47	3997 -	4013	4005.40	5.44E+01	8.15	1.26E+01	2.35

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 10:15:02AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578897.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.65	6.07E+02	117.37			6.07E+02	1.17E+02
M	2	85.13	4.55E+01	21.33	1.33E+01	1.36E+00	3.22E+01	2.14E+01

Analysis Report for 24-2504 TI185-7.0M-AP105d-A V0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
m	3	87.49	9.62E+02	35.08	4.87E+00	5.30E-01	9.58E+02	3.51E+01
F	4	123.08	1.67E+02	23.30			1.67E+02	2.33E+01
F	5	230.30	8.22E+01	24.18			8.22E+01	2.42E+01
F	6	414.74	6.41E+02	32.75			6.41E+02	3.28E+01
M	7	661.68	4.04E+04	300.51			4.04E+04	3.01E+02
m	8	666.47	4.82E+02	23.04			4.82E+02	2.30E+01
F	9	695.13	4.51E+02	21.82			4.51E+02	2.18E+01
F	10	1081.26	6.65E+01	10.71			6.65E+01	1.07E+01
F	11	1109.57	8.71E+01	36.24			8.71E+01	3.62E+01
F	12	1173.26	9.75E+02	60.71			9.75E+02	6.07E+01
F	13	1332.59	9.85E+02	55.77			9.85E+02	5.58E+01
F	14	1361.47	5.44E+01	8.15			5.44E+01	8.15E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	6.43E-04	4.01E-05	0.774
		1332.50	*	99.99	7.13E-04	4.05E-05	0.768
		2505.74		1.00			
CD-109	0.95	88.03	*	3.61	4.56E-03	3.87E-04	free
SB-126	0.49	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	4.99E-04	4.08E-05	0.396
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	4.38E-04	2.10E-05	0.385
		674.80		3.10			
		695.00	*	99.60	4.23E-04	2.05E-05	0.384
		697.00		29.00			
		720.70		53.80			

Analysis Report for 24-2504 TI185-7.0M-AP105d-A V0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.49	856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.77	64.28		9.60			
		87.30	*	45.90	3.58E-04	3.27E-05	miss
CS-137	1.00	661.66	*	85.20	1.65E-02	1.40E-04	miss
AM-241	0.99	59.54	*	35.90	6.53E-04	1.27E-04	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-60	0.993	6.78E-04	2.85E-05	
?	CD-109	0.954	4.56E-03	3.87E-04	
	SB-126	0.490	4.38E-04	1.38E-05	
?	Sn-126	0.779	3.58E-04	3.27E-05	
	CS-137	1.000	1.65E-02	1.40E-04	
	AM-241	0.998	6.53E-04	1.27E-04	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2504 TI185-7.0M-AP105d-A V0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 10:15:02AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
M	2	85.13	3.57867E-02	66.37		
F	4	123.08	1.85828E-01	13.93	Tol.	EU-154
F	5	230.30	9.13391E-02	29.41		
F	10	1081.26	7.38459E-02	16.12	Sum	
F	11	1109.57	9.68246E-02	41.58	Sum	
F	14	1361.47	6.04795E-02	14.97	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.61	10.44	5.69E-04	5.69E-04	9.32E-04	2.81E-04
K-40	1460.83	10.67	2.04E-04	2.04E-04	2.99E-04	9.47E-05
MN-54	834.84	99.98	2.15E-05	2.15E-05	-1.26E-05	1.02E-05
CO-58	810.78	99.45	2.28E-05	2.28E-05	-2.29E-05	1.08E-05
	863.96	0.68	4.94E-03		-5.80E-03	2.36E-03
	1674.73	0.52	2.26E-03		3.85E-04	9.88E-04
FE-59	142.65	1.00	2.63E-03	4.21E-05	2.41E-04	1.30E-03
	192.35	3.01	1.56E-03		-4.58E-04	7.70E-04
	334.80	0.27	1.54E-02		-5.64E-04	7.57E-03
	1099.25	56.30	4.33E-05		2.39E-05	2.04E-05
	1291.60	43.70	4.21E-05		-1.34E-06	1.94E-05

Analysis Report for 24-2504 TI185-7.0M-AP105d-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	CO-60	1173.24	*	99.97	3.94E-05	2.60E-05	6.43E-04	1.88E-05
		1332.50	*	99.99	2.60E-05		7.13E-04	1.20E-05
		2505.74		1.00	3.33E-03		5.39E-03	1.55E-03
	SR-85	514.00		96.00	4.84E-05	4.84E-05	1.11E-07	2.38E-05
		868.60		0.01	2.28E-01		-1.41E-02	1.09E-01
	NB-94	702.62		97.90	2.73E-05	2.73E-05	2.13E-05	1.30E-05
		871.09		99.98	3.68E-05		1.45E-05	1.76E-05
	NB-95	765.81		99.81	1.96E-05	1.96E-05	-8.97E-06	9.29E-06
	RU-103	497.05		91.00	5.40E-05	5.40E-05	4.66E-05	2.66E-05
		610.30		5.76	6.36E-04		-5.65E-04	3.10E-04
	RH-106	511.86		20.70	2.70E-04	2.70E-04	1.79E-04	1.33E-04
		621.92		9.93	4.96E-04		-2.11E-04	2.42E-04
		1050.36		1.56	2.13E-03		-2.20E-03	1.01E-03
	AG-108M	79.13		6.60	5.16E-04	4.97E-05	-5.13E-04	2.54E-04
		433.90		90.50	1.08E-04		-5.66E-06	5.33E-05
		614.30		89.80	7.42E-05		2.52E-05	3.62E-05
		722.90		90.80	4.97E-05		-1.47E-06	2.38E-05
+	CD-109	88.03	*	3.61	7.30E-04	7.30E-04	4.56E-03	3.59E-04
	SB-125	176.31		6.82	4.16E-04	1.79E-04	-2.42E-05	2.05E-04
		380.45		1.52	2.89E-03		-3.42E-03	1.42E-03
		427.87		29.55	1.79E-04		-4.53E-05	8.83E-05
		463.36		10.48	5.73E-04		-3.91E-04	2.83E-04
		600.60		17.76	2.03E-04		9.85E-05	9.91E-05
		606.71		5.02	7.26E-04		-4.77E-05	3.54E-04
		635.95		11.32	3.19E-04		-1.54E-04	1.55E-04
		671.44		1.78	2.26E-03		-3.74E-05	1.10E-03
+	SB-126	223.90		1.39	2.42E-03	3.78E-05	1.75E-03	1.19E-03
		278.20		2.40	4.54E-03		8.47E-04	2.23E-03
		296.50		4.50	2.61E-03		-2.32E-03	1.29E-03
		414.70	*	83.30	1.98E-04		4.99E-04	9.78E-05
		556.30		1.69	7.05E-03		-3.74E-03	3.44E-03
		573.90		6.70	1.81E-03		-1.09E-03	8.83E-04
		593.20		7.50	1.17E-03		1.27E-03	5.70E-04
		656.30		2.19	3.95E-02		-4.27E-03	1.97E-02
		666.50	*	99.60	3.78E-05		4.38E-04	1.77E-05
		674.80		3.10	2.10E-03		-4.68E-04	9.99E-04
		695.00	*	99.60	7.19E-05		4.23E-04	3.47E-05
		697.00		29.00	4.91E-04		2.02E-03	2.40E-04
		720.70		53.80	1.42E-04		1.44E-04	6.83E-05
		856.80		17.60	3.64E-04		1.71E-04	1.74E-04
		989.60		6.80	9.48E-04		1.02E-04	4.52E-04
		1213.30		2.39	2.06E-03		-2.38E-03	9.55E-04
+	Sn-126	64.28		9.60	5.59E-04	5.74E-05	3.54E-04	2.75E-04
		87.30	*	45.90	5.74E-05		3.58E-04	2.82E-05
	I-129	29.70		56.60	5.75E-03	5.27E-03	2.08E-03	2.83E-03
		33.60		10.04	1.22E-02		-1.66E-03	6.00E-03
		34.40		2.01	5.21E-02		-7.45E-03	2.56E-02
		39.60		7.51	5.27E-03		-6.27E-03	2.59E-03
	CS-134	563.25		8.34	7.40E-04	3.59E-05	3.14E-04	3.61E-04
		569.33		15.37	4.33E-04		6.16E-04	2.11E-04
		604.72		97.62	5.33E-05		1.10E-05	2.60E-05
		795.86		85.46	3.59E-05		-2.06E-05	1.71E-05
		801.95		8.69	4.37E-04		-3.45E-04	2.08E-04

Analysis Report for 24-2504 TI185-7.0M-AP105d-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	CS-137	661.66	*	85.20	2.91E-05	2.91E-05	1.65E-02	1.40E-05
	CE-139	165.85		79.89	3.50E-05	3.50E-05	1.59E-05	1.72E-05
	CE-141	40.70		3.35	1.01E-02	5.45E-05	-4.77E-03	4.94E-03
		145.44		48.29	5.45E-05		4.74E-05	2.68E-05
	CE-144	80.12		1.36	2.48E-03	2.18E-04	1.27E-03	1.22E-03
		133.51		11.09	2.18E-04		-5.35E-05	1.07E-04
	EU-152	121.78		28.58	1.23E-04	9.89E-05	-1.18E-05	6.07E-05
		344.28		26.50	1.99E-04		9.14E-05	9.81E-05
		778.90		12.94	2.12E-04		-2.82E-04	1.01E-04
		964.08		14.73	2.23E-04		-2.85E-04	1.07E-04
		1085.87		10.24	2.87E-04		-5.48E-05	1.38E-04
		1112.07		13.69	2.61E-04		2.82E-04	1.25E-04
		1408.01		21.07	9.89E-05		-1.12E-05	4.52E-05
	GD-153	97.43		29.00	9.13E-05	9.13E-05	-1.76E-05	4.49E-05
		103.18		21.10	1.22E-04		1.06E-04	6.00E-05
	EU-154	42.70		20.45	1.25E-03	8.71E-05	-2.43E-04	6.16E-04
		123.07		40.40	8.71E-05		1.59E-04	4.29E-05
		247.93		6.89	7.49E-04		-5.51E-04	3.69E-04
		591.76		4.95	1.14E-03		-1.07E-03	5.59E-04
		692.42		1.78	3.42E-03		1.47E-02	1.67E-03
		723.30		20.06	1.70E-04		-8.16E-05	8.14E-05
		756.80		4.52	7.16E-04		-3.42E-04	3.40E-04
		873.18		12.08	3.33E-04		3.29E-04	1.60E-04
		996.29		10.48	2.98E-04		1.87E-04	1.42E-04
		1004.76		18.01	1.88E-04		1.91E-04	9.03E-05
		1246.12		0.86	3.13E-03		1.04E-03	1.44E-03
		1274.43		34.80	8.98E-05		7.21E-05	4.25E-05
		1494.05		0.70	2.06E-03		1.99E-03	9.25E-04
		1596.48		1.80	5.05E-04		1.00E-04	2.28E-04
	EU-155	43.00		18.70	1.31E-03	1.16E-04	-3.04E-04	6.46E-04
		60.01		1.22	6.26E-03		-3.82E-04	3.09E-03
		86.55		30.70	1.30E-04		5.38E-04	6.43E-05
		105.31		21.10	1.16E-04		-2.34E-05	5.70E-05
	HG-203	72.87		6.30	6.58E-04	4.52E-05	7.21E-04	3.24E-04
		279.20		81.46	4.52E-05		3.02E-05	2.23E-05
	BI-207	569.15		97.80	5.37E-05	5.17E-05	4.86E-05	2.62E-05
		1063.10		74.90	5.17E-05		-1.86E-05	2.45E-05
	PB-210	46.54		4.25	3.74E-03	3.74E-03	-1.80E-03	1.84E-03
	RA-226	74.81		6.44	6.08E-04	8.02E-05	3.00E-04	3.00E-04
		77.11		10.80	3.37E-04		1.44E-04	1.66E-04
		87.30		4.84	8.19E-04		3.74E-03	4.05E-04
		186.21		3.59	9.37E-04		1.28E-05	4.62E-04
		242.00		7.43	4.86E-04		2.04E-04	2.40E-04
		295.22		19.30	1.89E-04		2.90E-05	9.31E-05
		351.93		37.60	1.15E-04		-1.53E-05	5.67E-05
		609.31		46.10	8.02E-05		4.41E-05	3.91E-05
		768.36		4.94	4.15E-04		5.80E-04	1.97E-04
		1120.29		15.10	1.63E-04		4.42E-05	7.70E-05
		1238.11		5.79	3.52E-04		2.51E-04	1.63E-04
		1764.49		15.40	1.17E-04		-5.09E-05	5.25E-05
	PA-231	283.70		1.59	2.27E-03	1.53E-03	7.80E-04	1.12E-03
		300.07		2.38	1.53E-03		-8.86E-04	7.54E-04
		302.67		1.71	2.19E-03		1.25E-03	1.08E-03

Analysis Report for 24-2504 TI185-7.0M-AP105d-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PA-231	330.07		1.32	2.87E-03	1.53E-03	3.79E-03	1.41E-03
	TH-232	74.81		11.62	3.37E-04	3.97E-05	1.66E-04	1.66E-04
		77.11		17.50	2.08E-04		8.88E-05	1.02E-04
		87.30		7.80	5.08E-04		2.32E-03	2.51E-04
		238.63		43.30	8.44E-05		1.86E-05	4.16E-05
		338.32		11.30	3.70E-04		-1.64E-04	1.82E-04
		583.19		30.37	1.21E-04		4.86E-05	5.90E-05
		727.33		6.58	3.53E-04		1.93E-04	1.69E-04
		911.21		26.60	8.92E-05		-3.50E-05	4.24E-05
		968.97		16.20	1.61E-04		-1.15E-04	7.65E-05
		2614.53		35.64	3.97E-05		2.14E-05	1.66E-05
	U-235	143.76		10.96	2.38E-04	5.87E-05	-1.05E-04	1.17E-04
		185.71		57.20	5.87E-05		4.09E-05	2.90E-05
		205.31		5.01	7.00E-04		9.66E-05	3.45E-04
	U-238	63.29		3.70	1.55E-03	6.56E-04	9.17E-04	7.63E-04
		92.51		4.23	6.56E-04		-4.36E-05	3.23E-04
		112.81		0.21	1.16E-02		-7.23E-03	5.68E-03
		742.81		0.11	1.85E-02		1.25E-02	8.77E-03
		766.28		0.32	6.27E-03		1.92E-03	2.97E-03
		1001.03		0.84	3.63E-03		4.43E-03	1.74E-03
	NP-239	99.60		12.80	2.07E-04	1.07E-04	-5.87E-05	1.02E-04
		103.80		20.40	1.27E-04		2.94E-05	6.23E-05
		106.10		26.40	1.07E-04		5.43E-06	5.28E-05
		116.90		7.61	3.36E-04		1.44E-04	1.65E-04
		228.20		11.20	3.57E-04		3.51E-04	1.76E-04
		277.60		14.50	2.89E-04		8.62E-06	1.42E-04
		315.90		1.60	2.18E-03		8.40E-04	1.07E-03
		334.30		2.06	1.55E-03		-1.06E-03	7.65E-04
+	AM-241	59.54	*	35.90	2.53E-04	2.53E-04	6.53E-04	1.25E-04

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

Apex-Gamma

Analysis Report for 24-2505 TI185-8.0M-AP-105A W0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2505 TI185-8.0M-AP-105A W0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 8:13:17AM
Procedure	: W0_gsv02mlw
Operator	: Administrator
Detector Name	: W
Geometry	: W0_gsv02mlw
Live Time	: 4809.2 seconds
Real Time	: 4823.7 seconds
Dead Time	: 0.30 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 8/11/2023
Efficiency Calibration Used Done On	: 5/17/2021
Efficiency Calibration Description	: W0_gsv2mlw_R724p
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578920
Certificate Name	: R735-A10 20ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 9:33:47AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2505 TI185-8.0M-AP-105A W0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.59	162.13	0.1553	17.10
2	64.36	175.18	0.2715	5.02
3	87.48	237.49	0.1208	23.54
4	123.13	333.72	0.1827	11.83
5	248.09	670.93	0.3592	3.30
6	351.77	950.65	0.3264	4.09
7	414.77	1120.82	0.1103	25.30
8	661.71	1787.36	0.0332	245.64
9	666.38	1800.37	0.1147	25.41
10	695.11	1877.54	0.1031	24.42
11	723.61	1954.31	0.2369	5.50
12	757.42	2045.76	0.3080	3.53
13	873.32	2358.67	0.2373	4.75
14	996.02	2690.48	0.2550	3.58
15	1004.87	2713.47	0.2207	5.21
16	1081.11	2919.60	0.1538	10.37
17	1109.98	2997.68	0.1691	8.34
18	1173.34	3168.68	0.0798	36.59
19	1274.59	3442.12	0.1593	9.52
20	1332.62	3598.79	0.0806	33.36
21	1361.45	3676.64	0.1697	7.35
22	1460.77	3944.95	0.2210	3.95
23	2505.11	6765.70	0.1381	8.48

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2505 TI185-8.0M-AP-105A W0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 9:33:47AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.59	156 -	168	162.19	2.95E+03	78.09	6.72E+03	1.26
F	2	64.36	169 -	179	175.07	6.69E+02	62.55	5.35E+03	1.25
F	3	87.48	229 -	245	237.46	6.16E+03	338.15	8.03E+03	1.50
F	4	123.13	325 -	340	333.67	1.72E+03	255.56	7.05E+03	1.30
	5	248.09	667 -	674	670.93	5.27E+01	102.87	3.49E+03	1.20
F	6	351.77	947 -	960	950.77	1.96E+02	49.06	4.96E+03	0.80
F	7	414.77	1112 -	1127	1120.83	4.21E+03	87.85	6.49E+03	1.62
M	8	661.71	1776 -	1810	1787.39	2.57E+05	490.44	1.36E+03	1.78
m	9	666.38	1776 -	1810	1800.01	3.01E+03	56.40	4.65E+02	1.78
F	10	695.11	1866 -	1888	1877.55	3.01E+03	119.21	5.92E+02	1.91
F	11	723.61	1950 -	1965	1954.49	1.73E+02	24.21	5.37E+02	1.41
	12	757.42	2041 -	2052	2045.76	1.31E+01	33.86	2.82E+02	0.98
F	13	873.32	2348 -	2365	2358.65	2.04E+02	72.08	4.36E+02	1.79
F	14	996.02	2681 -	2698	2689.90	1.92E+02	87.49	4.07E+02	2.15
F	15	1004.87	2707 -	2723	2713.81	2.60E+02	22.67	3.26E+02	2.49
F	16	1081.11	2913 -	2932	2919.64	5.24E+02	27.36	3.30E+02	2.05
F	17	1109.98	2989 -	3009	2997.58	4.86E+02	82.72	3.26E+02	2.31
F	18	1173.34	3157 -	3181	3168.67	6.47E+03	79.71	2.91E+02	2.24
F	19	1274.59	3435 -	3449	3442.03	4.19E+02	22.60	9.75E+01	2.24
F	20	1332.62	3588 -	3610	3598.72	6.01E+03	76.54	1.47E+02	2.39
F	21	1361.45	3669 -	3685	3676.58	3.40E+02	20.75	1.01E+02	2.38
F	22	1460.77	3936 -	3953	3944.76	1.21E+02	13.69	7.14E+01	2.44
F	23	2505.11	6752 -	6777	6765.38	4.81E+02	22.33	1.96E+01	2.96

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 9:33:47AM

Analysis Report for 24-2505 TI185-8.0M-AP-105A W0

ASR 2094 Branch

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578898.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.59	2.95E+03	78.09			2.95E+03	7.81E+01
F	2	64.36	6.69E+02	62.55			6.69E+02	6.26E+01
F	3	87.48	6.16E+03	338.15	3.69E+01	3.02E+00	6.12E+03	3.38E+02
F	4	123.13	1.72E+03	255.56			1.72E+03	2.56E+02
	5	248.09	5.27E+01	102.87			5.27E+01	1.03E+02
F	6	351.77	1.96E+02	49.06	1.60E+02	1.97E+00	3.62E+01	4.91E+01
F	7	414.77	4.21E+03	87.85			4.21E+03	8.78E+01
M	8	661.71	2.57E+05	490.44			2.57E+05	4.90E+02
m	9	666.38	3.01E+03	56.40	3.51E+00	3.34E-01	3.01E+03	5.64E+01
F	10	695.11	3.01E+03	119.21			3.01E+03	1.19E+02
F	11	723.61	1.73E+02	24.21			1.73E+02	2.42E+01
	12	757.42	1.31E+01	33.86			1.31E+01	3.39E+01
F	13	873.32	2.04E+02	72.08			2.04E+02	7.21E+01
F	14	996.02	1.92E+02	87.49			1.92E+02	8.75E+01
F	15	1004.87	2.60E+02	22.67			2.60E+02	2.27E+01
F	16	1081.11	5.24E+02	27.36			5.24E+02	2.74E+01
F	17	1109.98	4.86E+02	82.72			4.86E+02	8.27E+01
F	18	1173.34	6.47E+03	79.71			6.47E+03	7.97E+01
F	19	1274.59	4.19E+02	22.60			4.19E+02	2.26E+01
F	20	1332.62	6.01E+03	76.54			6.01E+03	7.65E+01
F	21	1361.45	3.40E+02	20.75			3.40E+02	2.07E+01
F	22	1460.77	1.21E+02	13.69	1.10E+02	3.81E+00	1.15E+01	1.42E+01
F	23	2505.11	4.81E+02	22.33			4.81E+02	2.23E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.99	1460.83	*	10.67	1.20E-05	1.49E-05	miss

Analysis Report for 24-2505 TI185-8.0M-AP-105A W0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	8.11E-04	1.11E-05	0.773
		1332.50	*	99.99	8.26E-04	1.20E-05	0.765
		2505.74	*	1.00	8.68E-03	6.78E-04	miss
CD-109	0.95	88.03	*	3.61	5.65E-03	3.53E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	6.43E-04	4.35E-05	0.393
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	5.38E-04	1.06E-05	0.382
		674.80		3.10			
		695.00	*	99.60	5.54E-04	2.22E-05	0.381
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.99	64.28	*	9.60	3.97E-04	7.26E-05	miss
		87.30	*	45.90	4.44E-04	3.15E-05	miss
CS-137	1.00	661.66	*	85.20	2.04E-02	1.18E-04	miss
EU-154	0.82	42.70		20.45			
		123.07	*	40.40	1.69E-04	2.52E-05	0.742
		247.93	*	6.89	4.14E-05	8.08E-05	0.680
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	8.77E-05	1.23E-05	0.705
		756.80	*	4.52	3.50E-05	9.06E-05	0.610
		873.18	*	12.08	2.01E-04	7.12E-05	0.676
		996.29	*	10.48	1.82E-04	8.32E-05	0.878
		1004.76	*	18.01	1.47E-04	1.30E-05	0.864
		1246.12		0.86			
		1274.43	*	34.80	1.41E-04	7.76E-06	0.875
		1494.05		0.70			
		1596.48		1.80			
AM-241	1.00	59.54	*	35.90	5.89E-04	2.07E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

Analysis Report for 24-2505 TI185-8.0M-AP-105A W0

ASR 2094 Branch

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.999	1.20E-05	1.49E-05	
CO-60	0.998	8.19E-04	8.13E-06	
CD-109	0.953	5.98E-04	5.73E-04	
SB-126	0.489	5.46E-04	9.33E-06	
Sn-126	0.995	3.97E-04	3.76E-05	
CS-137	1.000	2.04E-02	1.18E-04	
EU-154	0.827	1.32E-04	5.65E-06	
AM-241	1.000	5.89E-04	2.07E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2505 TI185-8.0M-AP-105A W0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 9:33:47AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	6	351.77	7.53706E-03	135.46	Tol.	RA-226
F	16	1081.11	1.08988E-01	5.22	Sum	
F	17	1109.98	1.00993E-01	17.03	Sum	
F	21	1361.45	7.07810E-02	6.09	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	2.80E-04	2.80E-04	2.59E-04	1.39E-04
+	K-40	1460.83	*	10.67	8.11E-05	8.11E-05	1.20E-05	3.91E-05
	MN-54	834.84		99.98	1.10E-05	1.10E-05	5.34E-06	5.40E-06
	CO-58	810.78		99.45	1.07E-05	1.07E-05	-2.01E-05	5.23E-06
		863.96		0.68	2.17E-03		-1.80E-03	1.06E-03
		1674.73		0.52	9.98E-04		-1.08E-03	4.72E-04
	FE-59	142.65		1.00	1.33E-03	1.63E-05	-3.99E-04	6.61E-04
		192.35		3.01	7.68E-04		3.48E-04	3.82E-04
		334.80		0.27	7.12E-03		4.67E-03	3.54E-03
		1099.25		56.30	2.05E-05		6.89E-06	1.00E-05
		1291.60		43.70	1.63E-05		-2.12E-06	7.86E-06
+	CO-60	1173.24	*	99.97	1.92E-05	1.45E-05	8.11E-04	9.45E-06
		1332.50	*	99.99	1.45E-05		8.26E-04	7.09E-06
		2505.74	*	1.00	7.72E-04		8.68E-03	3.61E-04

Analysis Report for 24-2505 TI185-8.0M-AP-105A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	514.00		96.00	2.36E-05	2.36E-05	2.58E-05	1.17E-05
		868.60		0.01	9.98E-02		-1.82E-02	4.90E-02
	NB-94	702.62		97.90	1.33E-05	1.33E-05	-5.19E-06	6.54E-06
		871.09		99.98	1.63E-05		1.92E-05	8.01E-06
	NB-95	765.81		99.81	9.58E-06	9.58E-06	8.34E-06	4.69E-06
	RU-103	497.05		91.00	2.61E-05	2.61E-05	1.64E-05	1.30E-05
		610.30		5.76	3.02E-04		1.34E-04	1.49E-04
	RH-106	511.86		20.70	1.31E-04	1.31E-04	9.14E-05	6.53E-05
		621.92		9.93	2.29E-04		9.15E-05	1.13E-04
		1050.36		1.56	9.85E-04		8.62E-04	4.82E-04
	AG-108M	79.13		6.60	2.56E-04	2.47E-05	-9.36E-05	1.27E-04
		433.90		90.50	5.41E-05		1.45E-06	2.69E-05
		614.30		89.80	3.56E-05		-4.89E-06	1.76E-05
		722.90		90.80	2.47E-05		8.81E-05	1.22E-05
+	CD-109	88.03	*	3.61	6.26E-04	6.26E-04	5.65E-03	3.12E-04
	SB-125	176.31		6.82	2.15E-04	8.90E-05	1.10E-04	1.07E-04
		380.45		1.52	1.39E-03		-2.48E-04	6.91E-04
		427.87		29.55	8.90E-05		1.67E-05	4.43E-05
		463.36		10.48	2.92E-04		-6.65E-05	1.45E-04
		600.60		17.76	9.69E-05		-4.57E-06	4.79E-05
		606.71		5.02	3.48E-04		2.37E-04	1.72E-04
		635.95		11.32	1.48E-04		1.04E-04	7.30E-05
		671.44		1.78	1.06E-03		1.56E-04	5.25E-04
+	SB-126	223.90		1.39	1.24E-03	1.85E-05	-1.84E-04	6.15E-04
		278.20		2.40	2.20E-03		-2.55E-03	1.09E-03
		296.50		4.50	1.33E-03		-4.76E-04	6.62E-04
		414.70	*	83.30	9.08E-05		6.43E-04	4.52E-05
		556.30		1.69	3.57E-03		1.79E-03	1.77E-03
		573.90		6.70	8.72E-04		1.57E-04	4.32E-04
		593.20		7.50	5.70E-04		4.68E-04	2.82E-04
		656.30		2.19	1.80E-02		6.69E-04	9.00E-03
		666.50	*	99.60	1.85E-05		5.38E-04	8.99E-06
		674.80		3.10	1.00E-03		7.30E-04	4.92E-04
		695.00	*	99.60	3.88E-05		5.54E-04	1.92E-05
		697.00		29.00	2.37E-04		8.30E-06	1.17E-04
		720.70		53.80	6.97E-05		-2.41E-05	3.43E-05
		856.80		17.60	1.66E-04		9.09E-05	8.12E-05
		989.60		6.80	4.41E-04		1.38E-04	2.16E-04
		1213.30		2.39	8.82E-04		-5.74E-04	4.27E-04
+	Sn-126	64.28	*	9.60	2.79E-04	4.92E-05	3.97E-04	1.39E-04
		87.30	*	45.90	4.92E-05		4.44E-04	2.45E-05
	I-129	29.70		56.60	5.44E-03	3.21E-03	-4.02E-03	2.71E-03
		33.60		10.04	9.07E-03		-1.46E-02	4.51E-03
		34.40		2.01	3.72E-02		2.78E-02	1.85E-02
		39.60		7.51	3.21E-03		1.17E-03	1.59E-03
	CS-134	563.25		8.34	3.66E-04	1.62E-05	-2.05E-04	1.81E-04
		569.33		15.37	2.06E-04		2.62E-04	1.02E-04
		604.72		97.62	2.55E-05		-1.31E-05	1.26E-05
		795.86		85.46	1.62E-05		-7.31E-06	7.91E-06
		801.95		8.69	1.97E-04		3.37E-05	9.62E-05
+	CS-137	661.66	*	85.20	1.39E-05	1.39E-05	2.04E-02	6.83E-06
	CE-139	165.85		79.89	1.79E-05	1.79E-05	8.83E-06	8.88E-06
	CE-141	40.70		3.35	5.84E-03	2.76E-05	-1.59E-02	2.90E-03

Analysis Report for 24-2505 TI185-8.0M-AP-105A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CE-141	145.44		48.29	2.76E-05	2.76E-05	8.91E-06	1.37E-05
	CE-144	80.12		1.36	1.22E-03	1.19E-04	-6.68E-04	6.06E-04
		133.51		11.09	1.19E-04		-1.56E-04	5.90E-05
	EU-152	121.78		28.58	6.69E-05	4.19E-05	-9.00E-06	3.33E-05
		344.28		26.50	9.08E-05		-4.97E-05	4.51E-05
		778.90		12.94	9.89E-05		2.70E-05	4.84E-05
		964.08		14.73	1.02E-04		8.24E-05	5.02E-05
		1085.87		10.24	1.35E-04		4.98E-06	6.65E-05
		1112.07		13.69	1.19E-04		2.70E-04	5.85E-05
		1408.01		21.07	4.19E-05		-4.81E-05	2.01E-05
	GD-153	97.43		29.00	4.70E-05	4.70E-05	6.48E-06	2.33E-05
		103.18		21.10	6.30E-05		-4.22E-05	3.13E-05
+	EU-154	42.70		20.45	7.03E-04	2.47E-05	4.31E-04	3.49E-04
		123.07	*	40.40	6.08E-05		1.69E-04	3.03E-05
		247.93	*	6.89	2.67E-04		4.14E-05	1.33E-04
		591.76		4.95	5.63E-04		-2.53E-04	2.78E-04
		692.42		1.78	1.63E-03		2.93E-05	8.05E-04
		723.30	*	20.06	8.89E-05		8.77E-05	4.38E-05
		756.80	*	4.52	3.03E-04		3.50E-05	1.48E-04
		873.18	*	12.08	1.62E-04		2.01E-04	7.95E-05
		996.29	*	10.48	1.52E-04		1.82E-04	7.45E-05
		1004.76	*	18.01	7.91E-05		1.47E-04	3.88E-05
		1246.12		0.86	1.46E-03		9.64E-04	7.08E-04
		1274.43	*	34.80	2.47E-05		1.41E-04	1.19E-05
		1494.05		0.70	8.39E-04		-3.23E-04	3.99E-04
		1596.48		1.80	2.18E-04		1.38E-04	1.04E-04
	EU-155	43.00		18.70	7.38E-04	6.03E-05	8.86E-04	3.66E-04
		60.01		1.22	3.03E-03		1.81E-02	1.51E-03
		86.55		30.70	6.33E-05		-5.85E-06	3.15E-05
		105.31		21.10	6.03E-05		4.13E-05	3.00E-05
	HG-203	72.87		6.30	3.08E-04	2.18E-05	1.06E-04	1.53E-04
		279.20		81.46	2.18E-05		1.44E-05	1.08E-05
	BI-207	569.15		97.80	2.63E-05	2.44E-05	1.10E-05	1.30E-05
		1063.10		74.90	2.44E-05		-1.00E-05	1.19E-05
	PB-210	46.54		4.25	2.17E-03	2.17E-03	-5.06E-04	1.08E-03
	RA-226	74.81		6.44	2.88E-04	3.76E-05	1.95E-04	1.43E-04
		77.11		10.80	1.62E-04		-1.58E-04	8.06E-05
		87.30		4.84	3.98E-04		4.57E-03	1.98E-04
		186.21		3.59	4.69E-04		3.94E-04	2.33E-04
		242.00		7.43	2.30E-04		-7.20E-05	1.15E-04
		295.22		19.30	9.53E-05		2.25E-05	4.74E-05
		351.93		37.60	5.35E-05		-1.15E-05	2.66E-05
		609.31		46.10	3.76E-05		5.03E-06	1.86E-05
		768.36		4.94	1.94E-04		1.16E-04	9.50E-05
		1120.29		15.10	7.54E-05		-5.59E-06	3.69E-05
		1238.11		5.79	1.47E-04		1.05E-04	7.10E-05
		1764.49		15.40	4.73E-05		3.32E-05	2.25E-05
	PA-231	283.70		1.59	1.14E-03	7.73E-04	-9.37E-05	5.67E-04
		300.07		2.38	7.73E-04		2.47E-05	3.84E-04
		302.67		1.71	1.07E-03		-1.44E-03	5.33E-04
		330.07		1.32	1.44E-03		-7.47E-04	7.14E-04
	TH-232	74.81		11.62	1.59E-04	2.19E-05	1.08E-04	7.93E-05
		77.11		17.50	1.00E-04		-9.73E-05	4.97E-05

Analysis Report for 24-2505 TI185-8.0M-AP-105A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	87.30		7.80	2.47E-04	2.19E-05	2.83E-03	1.23E-04
		238.63		43.30	3.93E-05		-3.92E-05	1.95E-05
		338.32		11.30	1.72E-04		1.17E-04	8.54E-05
		583.19		30.37	5.72E-05		3.86E-05	2.83E-05
		727.33		6.58	1.70E-04		-1.99E-04	8.37E-05
		911.21		26.60	4.56E-05		6.85E-06	2.24E-05
		968.97		16.20	7.35E-05		1.74E-05	3.61E-05
		2614.53		35.64	2.19E-05		3.63E-05	1.02E-05
	U-235	143.76		10.96	1.22E-04	2.92E-05	3.30E-05	6.05E-05
		185.71		57.20	2.92E-05		6.94E-06	1.45E-05
		205.31		5.01	3.43E-04		1.07E-04	1.71E-04
	U-238	63.29		3.70	7.96E-04	3.28E-04	-6.56E-03	3.96E-04
		92.51		4.23	3.28E-04		2.34E-04	1.63E-04
		112.81		0.21	5.94E-03		5.52E-04	2.95E-03
		742.81		0.11	8.55E-03		-1.26E-02	4.18E-03
		766.28		0.32	3.01E-03		1.28E-03	1.47E-03
		1001.03		0.84	1.70E-03		1.64E-04	8.34E-04
	NP-239	99.60		12.80	1.03E-04	5.46E-05	-5.26E-05	5.11E-05
		103.80		20.40	6.39E-05		-5.62E-08	3.17E-05
		106.10		26.40	5.46E-05		8.01E-06	2.71E-05
		116.90		7.61	1.68E-04		-8.72E-06	8.33E-05
		228.20		11.20	1.69E-04		1.29E-04	8.40E-05
		277.60		14.50	1.38E-04		6.76E-05	6.84E-05
		315.90		1.60	1.06E-03		-2.26E-04	5.25E-04
		334.30		2.06	6.95E-04		2.81E-04	3.45E-04
+	AM-241	59.54	*	35.90	1.12E-04	1.12E-04	5.89E-04	5.55E-05

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

Apex-Gamma

Analysis Report for 24-2506 TI185-8.0M-AP105d-A W0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2506 TI185-8.0M-AP105d-A W0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 10:00:01AM
Procedure	: W0_gsv02mlw
Operator	: Administrator
Detector Name	: W
Geometry	: W0_gsv02mlw
Live Time	: 900.0 seconds
Real Time	: 902.6 seconds
Dead Time	: 0.29 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 8/11/2023
Efficiency Calibration Used Done On	: 5/17/2021
Efficiency Calibration Description	: W0_gsv2mlw_R724p
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578926
Certificate Name	: R735-A10 20ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 10:15:10AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2506 TI185-8.0M-AP105d-A W0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.57	162.12	0.2322	7.57
2	87.46	237.36	0.1811	11.78
3	123.13	333.56	0.2656	5.22
4	296.50	802.05	0.3642	3.31
5	300.04	811.18	0.3694	3.53
6	414.80	1120.82	0.1674	10.67
7	661.70	1787.36	0.0512	102.54
8	666.39	1800.44	0.1695	11.34
9	695.05	1877.31	0.1614	10.14
10	720.89	1946.82	0.3480	3.28
11	723.26	1953.93	0.3169	3.39
12	1004.78	2713.76	0.2701	3.57
13	1081.13	2919.57	0.2291	5.03
14	1173.27	3168.68	0.1235	14.95
15	1274.69	3442.37	0.2378	4.30
16	1332.60	3598.49	0.1262	13.16
17	1361.33	3676.33	0.2632	3.32
18	2505.03	6764.99	0.2016	4.35

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2506 TI185-8.0M-AP105d-A W0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 10:15:10AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.57	156 -	168	162.15	6.14E+02	33.67	1.14E+03	1.33
F	2	87.46	229 -	244	237.42	1.16E+03	157.75	1.40E+03	1.40
F	3	123.13	329 -	341	333.67	2.69E+02	28.71	1.07E+03	1.22
M	4	296.50	794 -	814	801.60	6.00E+01	17.78	3.22E+02	0.55
m	5	300.04	794 -	814	811.15	5.43E+01	18.48	3.76E+02	0.56
F	6	414.80	1115 -	1130	1120.89	7.25E+02	37.05	1.20E+03	1.57
M	7	661.70	1776 -	1809	1787.36	4.57E+04	291.32	2.15E+02	1.82
m	8	666.39	1776 -	1809	1800.03	5.67E+02	25.38	8.75E+01	1.83
F	9	695.05	1867 -	1885	1877.40	5.51E+02	23.64	8.39E+01	1.96
M	10	720.89	1942 -	1960	1947.15	4.36E+01	8.95	4.95E+01	1.31
m	11	723.26	1942 -	1960	1953.54	5.02E+01	9.44	4.95E+01	1.31
F	12	1004.78	2708 -	2720	2713.55	5.22E+01	31.89	4.73E+01	1.60
F	13	1081.13	2912 -	2930	2919.70	9.87E+01	11.44	4.61E+01	1.92
F	14	1173.27	3159 -	3178	3168.47	1.15E+03	67.08	5.59E+01	2.21
F	15	1274.69	3436 -	3450	3442.31	6.37E+01	9.15	1.92E+01	1.88
F	16	1332.60	3587 -	3610	3598.67	1.06E+03	48.71	0.00E+00	2.51
F	17	1361.33	3668 -	3686	3676.25	7.36E+01	27.13	5.31E+00	2.74
F	18	2505.03	6756 -	6775	6765.16	1.01E+02	10.46	4.46E+00	2.88

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 10:15:10AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578898.CNF

Analysis Report for 24-2506 TI185-8.0M-AP105d-A W0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.57	6.14E+02	33.67			6.14E+02	3.37E+01
F	2	87.46	1.16E+03	157.75	6.91E+00	5.66E-01	1.15E+03	1.58E+02
F	3	123.13	2.69E+02	28.71			2.69E+02	2.87E+01
M	4	296.50	6.00E+01	17.78			6.00E+01	1.78E+01
m	5	300.04	5.43E+01	18.48	8.00E-01	2.16E-01	5.35E+01	1.85E+01
F	6	414.80	7.25E+02	37.05			7.25E+02	3.70E+01
M	7	661.70	4.57E+04	291.32			4.57E+04	2.91E+02
m	8	666.39	5.67E+02	25.38	6.57E-01	6.25E-02	5.67E+02	2.54E+01
F	9	695.05	5.51E+02	23.64			5.51E+02	2.36E+01
M	10	720.89	4.36E+01	8.95			4.36E+01	8.95E+00
m	11	723.26	5.02E+01	9.44			5.02E+01	9.44E+00
F	12	1004.78	5.22E+01	31.89			5.22E+01	3.19E+01
F	13	1081.13	9.87E+01	11.44			9.87E+01	1.14E+01
F	14	1173.27	1.15E+03	67.08			1.15E+03	6.71E+01
F	15	1274.69	6.37E+01	9.15			6.37E+01	9.15E+00
F	16	1332.60	1.06E+03	48.71			1.06E+03	4.87E+01
F	17	1361.33	7.36E+01	27.13			7.36E+01	2.71E+01
F	18	2505.03	1.01E+02	10.46			1.01E+02	1.05E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	7.72E-04	4.52E-05	0.773
		1332.50	*	99.99	7.75E-04	3.62E-05	0.765
		2505.74	*	1.00	9.77E-03	1.18E-03	miss
CD-109	0.95	88.03	*	3.61	5.67E-03	7.95E-04	free
SB-126	0.70	223.90		1.39			
		278.20		2.40			
		296.50	*	4.50	9.41E-04	3.90E-04	0.307
		414.70	*	83.30	5.91E-04	4.85E-05	0.393
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			

Analysis Report for 24-2506 TI185-8.0M-AP105d-A W0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.70	656.30		2.19			
		666.50	*	99.60	5.42E-04	2.45E-05	0.382
		674.80		3.10			
		695.00	*	99.60	5.42E-04	2.35E-05	0.381
		697.00		29.00			
		720.70	*	53.80	9.57E-05	2.37E-05	0.323
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.77	64.28		9.60			
		87.30	*	45.90	4.46E-04	6.43E-05	miss
CS-137	1.00	661.66	*	85.20	1.94E-02	1.62E-04	miss
EU-154	0.52	42.70		20.45			
		123.07	*	40.40	1.41E-04	1.52E-05	0.742
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	1.36E-04	2.56E-05	0.705
		756.80		4.52			
		873.18		12.08			
		996.29		10.48			
		1004.76	*	18.01	1.58E-04	9.64E-05	0.864
		1246.12		0.86			
		1274.43	*	34.80	1.14E-04	1.64E-05	0.875
		1494.05		0.70			
		1596.48		1.80			
AM-241	1.00	59.54	*	35.90	6.55E-04	3.90E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2506 TI185-8.0M-AP105d-A W0

ASR 2094 Branch

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-60	0.999	7.79E-04	2.82E-05	
?	CD-109	0.950	5.67E-03	7.95E-04	
	SB-126	0.704	4.06E-04	1.33E-05	
?	Sn-126	0.776	4.46E-04	6.43E-05	
	CS-137	1.000	1.94E-02	1.62E-04	
	EU-154	0.524	1.30E-04	1.02E-05	
	AM-241	1.000	6.55E-04	3.90E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2506 TI185-8.0M-AP105d-A W0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 10:15:10AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m	5	300.04	5.93908E-02	34.58	Tol.	PA-231
F	13	1081.13	1.09644E-01	11.59	Sum	
F	17	1361.33	8.17506E-02	36.88	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	6.37E-04	6.37E-04	5.75E-04	3.15E-04
	K-40	1460.83		10.67	1.97E-04	1.97E-04	2.16E-04	9.11E-05
	MN-54	834.84		99.98	2.30E-05	2.30E-05	-2.35E-05	1.09E-05
	CO-58	810.78		99.45	2.57E-05	2.57E-05	1.80E-05	1.22E-05
		863.96		0.68	4.80E-03		-2.08E-03	2.29E-03
		1674.73		0.52	2.70E-03		2.70E-04	1.20E-03
	FE-59	142.65		1.00	3.03E-03	4.58E-05	-7.27E-04	1.49E-03
		192.35		3.01	1.76E-03		1.41E-03	8.70E-04
		334.80		0.27	1.63E-02		2.95E-03	8.03E-03
		1099.25		56.30	5.07E-05		-2.26E-05	2.41E-05
		1291.60		43.70	4.58E-05		3.22E-05	2.12E-05
+	CO-60	1173.24	*	99.97	4.25E-05	1.99E-06	7.72E-04	2.03E-05
		1332.50	*	99.99	1.99E-06		7.75E-04	0.00E+00
		2505.74	*	1.00	1.84E-03		9.77E-03	7.88E-04
	SR-85	514.00		96.00	5.29E-05	5.29E-05	-3.61E-05	2.60E-05

Analysis Report for 24-2506 TI185-8.0M-AP105d-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	868.60		0.01	2.26E-01	5.29E-05	-1.10E-01	1.08E-01
	NB-94	702.62		97.90	3.12E-05	3.12E-05	-4.51E-06	1.49E-05
		871.09		99.98	3.78E-05		5.32E-05	1.81E-05
	NB-95	765.81		99.81	2.25E-05	2.25E-05	3.91E-06	1.07E-05
	RU-103	497.05		91.00	5.90E-05	5.90E-05	-2.53E-05	2.91E-05
		610.30		5.76	6.94E-04		3.17E-04	3.39E-04
	RH-106	511.86		20.70	2.93E-04	2.93E-04	1.66E-04	1.44E-04
		621.92		9.93	5.39E-04		4.65E-04	2.63E-04
		1050.36		1.56	2.22E-03		-2.12E-03	1.06E-03
	AG-108M	79.13		6.60	5.86E-04	5.74E-05	-2.47E-04	2.89E-04
		433.90		90.50	1.24E-04		-5.06E-05	6.12E-05
		614.30		89.80	8.04E-05		-6.86E-05	3.92E-05
		722.90		90.80	5.74E-05		1.19E-04	2.76E-05
+	CD-109	88.03	*	3.61	1.37E-03	1.37E-03	5.67E-03	6.79E-04
	SB-125	176.31		6.82	4.86E-04	2.06E-04	-1.27E-05	2.40E-04
		380.45		1.52	3.14E-03		-3.83E-03	1.55E-03
		427.87		29.55	2.06E-04		-2.43E-04	1.02E-04
		463.36		10.48	6.61E-04		-2.81E-04	3.27E-04
		600.60		17.76	2.27E-04		-1.18E-04	1.11E-04
		606.71		5.02	8.12E-04		3.14E-04	3.97E-04
		635.95		11.32	3.40E-04		2.59E-04	1.66E-04
		671.44		1.78	2.47E-03		-3.09E-06	1.21E-03
+	SB-126	223.90		1.39	2.77E-03	4.43E-05	-2.74E-03	1.37E-03
		278.20		2.40	5.12E-03		-2.19E-03	2.53E-03
		296.50	*	4.50	1.35E-03		9.41E-04	6.55E-04
		414.70	*	83.30	2.11E-04		5.91E-04	1.04E-04
		556.30		1.69	8.34E-03		-2.56E-03	4.08E-03
		573.90		6.70	2.09E-03		8.81E-04	1.02E-03
		593.20		7.50	1.33E-03		2.19E-04	6.49E-04
		656.30		2.19	4.07E-02		-8.83E-04	2.03E-02
		666.50	*	99.60	4.43E-05		5.42E-04	2.08E-05
		674.80		3.10	2.26E-03		1.67E-03	1.08E-03
		695.00	*	99.60	7.35E-05		5.42E-04	3.54E-05
		697.00		29.00	5.48E-04		2.04E-05	2.68E-04
		720.70	*	53.80	7.78E-05		9.57E-05	3.59E-05
		856.80		17.60	3.71E-04		2.14E-04	1.77E-04
		989.60		6.80	1.08E-03		-2.08E-03	5.15E-04
		1213.30		2.39	1.90E-03		-3.51E-04	8.75E-04
+	Sn-126	64.28		9.60	6.34E-04	1.08E-04	3.98E-04	3.13E-04
		87.30	*	45.90	1.08E-04		4.46E-04	5.34E-05
	I-129	29.70		56.60	1.24E-02	7.32E-03	-2.80E-03	6.13E-03
		33.60		10.04	2.10E-02		-1.29E-02	1.03E-02
		34.40		2.01	8.54E-02		-1.47E-02	4.21E-02
		39.60		7.51	7.32E-03		-6.71E-03	3.61E-03
	CS-134	563.25		8.34	8.41E-04	3.94E-05	-7.13E-04	4.11E-04
		569.33		15.37	4.92E-04		6.07E-05	2.41E-04
		604.72		97.62	5.94E-05		4.07E-05	2.90E-05
		795.86		85.46	3.94E-05		2.79E-05	1.88E-05
		801.95		8.69	4.64E-04		-2.72E-04	2.21E-04
+	CS-137	661.66	*	85.20	3.01E-05	3.01E-05	1.94E-02	1.45E-05
	CE-139	165.85		79.89	4.01E-05	4.01E-05	-6.40E-06	1.98E-05
	CE-141	40.70		3.35	1.35E-02	6.28E-05	-1.01E-02	6.66E-03
		145.44		48.29	6.28E-05		-5.82E-06	3.10E-05

Analysis Report for 24-2506 TI185-8.0M-AP105d-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CE-144	80.12		1.36	2.78E-03	2.66E-04	-1.71E-03	1.37E-03
		133.51		11.09	2.66E-04		6.65E-05	1.31E-04
	EU-152	121.78		28.58	1.54E-04	9.91E-05	5.00E-05	7.60E-05
		344.28		26.50	2.07E-04		5.92E-05	1.02E-04
		778.90		12.94	2.28E-04		3.30E-04	1.09E-04
		964.08		14.73	2.40E-04		-2.98E-04	1.15E-04
		1085.87		10.24	3.06E-04		4.70E-05	1.47E-04
		1112.07		13.69	2.84E-04		9.21E-05	1.37E-04
		1408.01		21.07	9.91E-05		2.19E-05	4.52E-05
	GD-153	97.43		29.00	1.09E-04	1.09E-04	6.52E-05	5.37E-05
		103.18		21.10	1.46E-04		2.85E-05	7.18E-05
+	EU-154	42.70		20.45	1.61E-03	6.22E-05	-7.41E-04	7.93E-04
		123.07	*	40.40	1.18E-04		1.41E-04	5.82E-05
		247.93		6.89	8.41E-04		-5.09E-05	4.15E-04
		591.76		4.95	1.31E-03		5.86E-04	6.40E-04
		692.42		1.78	3.77E-03		3.31E-04	1.84E-03
		723.30	*	20.06	9.59E-05		1.36E-04	4.43E-05
		756.80		4.52	8.85E-04		8.57E-04	4.23E-04
		873.18		12.08	3.43E-04		-2.75E-04	1.64E-04
		996.29		10.48	3.29E-04		1.95E-04	1.58E-04
		1004.76	*	18.01	1.53E-04		1.58E-04	7.23E-05
		1246.12		0.86	3.12E-03		-2.47E-03	1.43E-03
		1274.43	*	34.80	6.22E-05		1.14E-04	2.87E-05
		1494.05		0.70	2.34E-03		1.01E-03	1.06E-03
		1596.48		1.80	5.11E-04		-2.41E-05	2.31E-04
	EU-155	43.00		18.70	1.69E-03	1.36E-04	-1.10E-03	8.33E-04
		60.01		1.22	6.94E-03		1.30E-02	3.43E-03
		86.55		30.70	1.47E-04		-1.21E-05	7.25E-05
		105.31		21.10	1.36E-04		-5.90E-05	6.70E-05
	HG-203	72.87		6.30	7.25E-04	5.10E-05	4.60E-04	3.57E-04
		279.20		81.46	5.10E-05		1.68E-05	2.51E-05
	BI-207	569.15		97.80	6.25E-05	5.79E-05	1.86E-05	3.06E-05
		1063.10		74.90	5.79E-05		2.87E-05	2.75E-05
	PB-210	46.54		4.25	5.05E-03	5.05E-03	2.34E-04	2.49E-03
	RA-226	74.81		6.44	6.71E-04	8.66E-05	6.59E-04	3.31E-04
		77.11		10.80	3.74E-04		-8.67E-05	1.84E-04
		87.30		4.84	9.21E-04		4.86E-03	4.56E-04
		186.21		3.59	1.08E-03		1.35E-05	5.33E-04
		242.00		7.43	5.23E-04		3.50E-05	2.58E-04
		295.22		19.30	2.17E-04		2.43E-06	1.07E-04
		351.93		37.60	1.22E-04		-2.53E-06	6.01E-05
		609.31		46.10	8.66E-05		3.00E-05	4.23E-05
		768.36		4.94	4.37E-04		7.06E-05	2.08E-04
		1120.29		15.10	1.70E-04		-1.78E-04	8.05E-05
		1238.11		5.79	3.17E-04		9.53E-05	1.46E-04
		1764.49		15.40	1.02E-04		-9.80E-05	4.52E-05
	PA-231	283.70		1.59	2.66E-03	1.80E-03	1.70E-03	1.31E-03
		300.07		2.38	1.80E-03		4.63E-04	8.86E-04
		302.67		1.71	2.45E-03		-2.57E-05	1.21E-03
		330.07		1.32	3.28E-03		-1.08E-03	1.61E-03
	TH-232	74.81		11.62	3.72E-04	5.17E-05	3.65E-04	1.83E-04
		77.11		17.50	2.31E-04		-5.35E-05	1.14E-04
		87.30		7.80	5.72E-04		3.02E-03	2.83E-04

Analysis Report for 24-2506 TI185-8.0M-AP105d-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	238.63		43.30	9.02E-05	5.17E-05	-5.59E-05	4.45E-05
		338.32		11.30	3.90E-04		9.88E-05	1.92E-04
		583.19		30.37	1.36E-04		1.29E-04	6.65E-05
		727.33		6.58	3.92E-04		1.13E-04	1.88E-04
		911.21		26.60	9.96E-05		1.94E-05	4.75E-05
		968.97		16.20	1.82E-04		-2.21E-04	8.71E-05
		2614.53		35.64	5.17E-05		3.14E-05	2.20E-05
	U-235	143.76		10.96	2.75E-04	6.75E-05	-2.41E-04	1.35E-04
		185.71		57.20	6.75E-05		5.28E-05	3.33E-05
		205.31		5.01	7.80E-04		-2.47E-04	3.85E-04
	U-238	63.29		3.70	1.81E-03	7.38E-04	8.83E-04	8.92E-04
		92.51		4.23	7.38E-04		7.97E-05	3.64E-04
		112.81		0.21	1.36E-02		-7.19E-04	6.72E-03
		742.81		0.11	2.02E-02		-6.40E-03	9.61E-03
		766.28		0.32	7.01E-03		8.77E-04	3.34E-03
		1001.03		0.84	4.02E-03		2.37E-03	1.93E-03
	NP-239	99.60		12.80	2.44E-04	1.26E-04	1.23E-04	1.20E-04
		103.80		20.40	1.49E-04		1.87E-05	7.34E-05
		106.10		26.40	1.26E-04		4.41E-05	6.20E-05
		116.90		7.61	3.90E-04		-3.74E-04	1.92E-04
		228.20		11.20	3.85E-04		5.33E-05	1.90E-04
		277.60		14.50	3.23E-04		2.54E-06	1.60E-04
		315.90		1.60	2.48E-03		5.52E-04	1.22E-03
		334.30		2.06	1.61E-03		8.97E-04	7.95E-04
+	AM-241	59.54	*	35.90	2.48E-04	2.48E-04	6.55E-04	1.22E-04

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

Apex-Gamma

Analysis Report for 24-2507 TI185-3.5M-S1-CST-A F0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2507 TI185-3.5M-S1-CST-A F0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 10:47:00AM
Procedure	: F0_gsv02mlw
Operator	: Administrator
Detector Name	: F
Geometry	: F0_gsv02mlw
Live Time	: 1050.2 seconds
Real Time	: 1051.2 seconds
Dead Time	: 0.10 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: F0_gsv2mlw_R717
Sample Number	: 578929
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 11:04:35AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2507 TI185-3.5M-S1-CST-A F0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.87	167.55	0.3039	4.10
2	87.66	245.57	0.1776	11.22
3	123.17	344.87	0.3735	3.28
4	414.92	1160.10	0.1673	10.37
5	661.87	1850.38	0.0662	57.08
6	666.51	1863.68	0.1716	9.88
7	695.15	1943.33	0.1737	8.13
8	1081.25	3022.44	0.2490	3.78
9	1109.86	3102.11	0.2645	3.56
10	1173.62	3280.37	0.1297	12.13
11	1332.97	3725.64	0.1317	11.50

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2507 TI185-3.5M-S1-CST-A F0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 11:04:36AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.87	162 -	175	167.87	1.56E+02	22.58	5.95E+02	1.16
F	2	87.66	240 -	253	245.54	7.42E+02	101.90	4.21E+02	1.32
F	3	123.17	336 -	353	344.79	6.90E+01	71.82	4.64E+02	1.04
F	4	414.92	1151 -	1169	1160.19	5.15E+02	77.62	2.77E+02	1.74
M	5	661.87	1838 -	1871	1850.34	1.20E+04	181.08	7.50E+01	1.82
m	6	666.51	1838 -	1871	1863.30	3.51E+02	19.48	5.48E+01	1.82
F	7	695.15	1933 -	1953	1943.35	3.21E+02	17.88	6.31E+01	2.02
F	8	1081.25	3014 -	3028	3022.28	5.26E+01	23.09	1.77E+01	1.79
F	9	1109.86	3096 -	3109	3102.24	3.43E+01	7.84	3.12E+01	1.60
F	10	1173.62	3269 -	3291	3280.40	7.44E+02	53.57	4.04E+01	2.41
F	11	1332.97	3713 -	3736	3725.66	6.54E+02	45.17	1.26E+01	2.54

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 11:04:35AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578890.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.87	1.56E+02	22.58	2.40E+00	3.48E-01	1.54E+02	2.26E+01
F	2	87.66	7.42E+02	101.90	9.32E+00	5.38E-01	7.33E+02	1.02E+02
F	3	123.17	6.90E+01	71.82			6.90E+01	7.18E+01
F	4	414.92	5.15E+02	77.62			5.15E+02	7.76E+01
M	5	661.87	1.20E+04	181.08			1.20E+04	1.81E+02

Analysis Report for 24-2507 TI185-3.5M-S1-CST-A F0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
m	6	666.51	3.51E+02	19.48			3.51E+02	1.95E+01
F	7	695.15	3.21E+02	17.88			3.21E+02	1.79E+01
F	8	1081.25	5.26E+01	23.09			5.26E+01	2.31E+01
F	9	1109.86	3.43E+01	7.84			3.43E+01	7.84E+00
F	10	1173.62	7.44E+02	53.57			7.44E+02	5.36E+01
F	11	1332.97	6.54E+02	45.17			6.54E+02	4.52E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.97	1173.23	*	99.85	4.23E-04	3.06E-05	0.786
		1332.49	*	99.98	4.07E-04	2.83E-05	0.777
CD-109	0.97	88.03	*	3.64	2.80E-03	3.90E-04	free
Te-129m	0.91	695.88	*	3.00	3.43E-03	7.13E-04	free
CS-137	0.99	661.66	*	85.10	4.36E-03	7.11E-05	miss
AM-241	0.98	59.54	*	35.90	1.17E-04	1.72E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

Analysis Report for 24-2507 TI185-3.5M-S1-CST-A F0

ASR 2094 Branch

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.970	4.15E-04	2.08E-05	
CD-109	0.978	2.80E-03	3.90E-04	
Te-129m	0.918	3.43E-03	7.13E-04	
CS-137	0.993	4.36E-03	7.11E-05	
AM-241	0.982	1.17E-04	1.72E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2507 TI185-3.5M-S1-CST-A F0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 11:04:35AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	123.17	6.57175E-02	104.06	Tol.	HF-172
F	4	414.92	4.90583E-01	15.07	Tol.	RH-102M
m	6	666.51	3.34162E-01	5.55		
F	8	1081.25	5.01109E-02	43.87		
F	9	1109.86	3.26715E-02	22.84		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.60	10.44	3.10E-04	3.10E-04	3.14E-04	1.52E-04
NA-22	511.00	179.91	1.48E-05	1.48E-05	9.24E-06	7.21E-06
	1274.54	99.94	2.88E-05		2.65E-05	1.32E-05
NA-24	1368.63	99.99	2.80E-05	1.25E-05	1.68E-05	1.31E-05
	2754.01	99.87	1.25E-05		-2.53E-05	4.44E-06
AL-26	1129.67	2.50	7.74E-04	1.09E-05	-1.37E-03	3.62E-04
	1808.65	99.76	1.09E-05		-9.36E-06	4.62E-06
K-40	1460.82	10.66	1.84E-04	1.84E-04	2.20E-04	8.54E-05
K-42	312.60	0.34	7.98E-03	8.18E-05	6.18E-03	3.90E-03
	1524.60	18.08	8.18E-05		-1.64E-05	3.60E-05
Sc-44	1157.02	99.90	3.36E-05	3.36E-05	3.29E-05	1.56E-05
	1499.46	0.91	3.70E-03		2.37E-05	1.68E-03

Analysis Report for 24-2507 TI185-3.5M-S1-CST-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Sc-44m	271.24	86.74	2.55E-05	2.55E-05	2.68E-05	1.25E-05
	1001.83	1.20	2.83E-03		-5.45E-05	1.33E-03
	1126.06	1.20	2.88E-03		-1.25E-03	1.35E-03
	1157.00	1.20	2.48E-03		2.43E-03	1.15E-03
TI-44	67.87	93.00	3.41E-05	2.54E-05	-6.54E-06	1.67E-05
	78.32	96.40	2.54E-05		3.27E-05	1.24E-05
SC-46	889.28	99.98	2.60E-05	2.60E-05	2.68E-05	1.23E-05
	1120.55	99.99	2.72E-05		1.81E-05	1.28E-05
CA-47	489.23	5.90	6.19E-04	2.14E-05	3.96E-05	3.01E-04
	807.86	5.90	3.81E-04		-7.06E-05	1.79E-04
	1297.09	67.00	2.14E-05		2.22E-06	9.74E-06
SC-47	159.38	68.30	2.55E-05	2.55E-05	1.04E-05	1.25E-05
SC-48	175.36	7.47	2.42E-04	1.37E-05	-1.48E-04	1.18E-04
	983.53	100.00	2.03E-05		-6.59E-06	9.55E-06
	1037.52	97.50	2.06E-05		1.77E-05	9.68E-06
	1312.12	100.00	1.37E-05		1.00E-06	6.17E-06
V-48	944.13	7.87	3.26E-04	1.74E-05	1.09E-04	1.55E-04
	983.53	99.98	2.45E-05		-7.98E-06	1.16E-05
	1312.11	98.20	1.74E-05		1.27E-06	7.80E-06
	2240.40	2.33	6.84E-04		3.93E-04	2.89E-04
CR-51	320.08	9.91	2.17E-04	2.17E-04	5.53E-05	1.06E-04
Fe-52	168.69	99.20	2.36E-05	2.36E-05	-1.30E-05	1.15E-05
	377.75	1.64	2.01E-03		-8.20E-04	9.79E-04
Mn-52	744.23	90.00	2.83E-05	2.05E-05	9.70E-06	1.33E-05
	848.18	3.32	9.26E-04		2.03E-04	4.39E-04
	935.54	94.50	3.84E-05		6.29E-06	1.83E-05
	1246.28	4.21	5.76E-04		1.58E-04	2.63E-04
	1333.65	5.07	1.85E-03		1.01E-02	9.06E-04
	1434.09	100.00	2.05E-05		6.05E-06	9.04E-06
MN-54	834.85	99.98	1.72E-05	1.72E-05	1.71E-05	8.10E-06
Co-55	411.50	1.07	3.80E-03	3.52E-05	2.21E-03	1.87E-03
	477.20	20.20	1.88E-04		1.84E-04	9.22E-05
	803.70	1.87	9.63E-04		-3.30E-05	4.52E-04
	931.10	75.00	3.52E-05		2.41E-05	1.68E-05
	1316.60	7.10	2.01E-04		-2.07E-04	9.01E-05
	1370.00	2.90	7.51E-04		-5.51E-04	3.49E-04
	1408.50	16.90	9.16E-05		-6.59E-05	4.11E-05
Co-56	846.77	99.94	2.49E-05	2.49E-05	-1.67E-05	1.18E-05
	977.37	1.42	2.26E-03		-6.08E-04	1.07E-03
	1037.84	14.05	1.91E-04		1.22E-04	8.98E-05
	1175.10	2.25	4.36E-03		2.41E-02	2.14E-03
	1238.29	66.46	3.29E-05		2.27E-05	1.51E-05
	1360.21	4.28	6.36E-04		4.88E-04	2.97E-04
	1771.36	15.41	1.44E-04		1.51E-04	6.50E-05
	2015.20	3.02	5.26E-04		3.35E-04	2.25E-04
	2034.79	7.77	2.16E-04		1.38E-04	9.25E-05
	2598.50	16.97	4.67E-05		6.35E-06	1.48E-05
MN-56	846.76	98.85	5.96E-05	5.96E-05	-4.00E-05	2.82E-05
	1810.73	26.90	1.53E-04		-1.84E-05	6.49E-05
	2113.09	14.20	3.95E-04		-9.88E-05	1.73E-04
Ni-56	158.38	98.80	1.71E-05	1.71E-05	4.73E-06	8.34E-06
	269.50	36.50	5.35E-05		2.92E-06	2.61E-05
	480.44	36.50	8.49E-05		-1.95E-05	4.15E-05

Analysis Report for 24-2507 TI185-3.5M-S1-CST-A F0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Ni-56	749.50		49.50	3.07E-05	1.71E-05	2.48E-05	1.44E-05
		811.85		86.00	2.11E-05		1.54E-05	1.00E-05
		1561.80		14.00	9.39E-05		3.88E-05	4.17E-05
	CO-57	122.06		85.60	1.84E-05	1.84E-05	2.01E-06	8.99E-06
		136.47		10.68	1.43E-04		4.31E-05	6.98E-05
	NI-57	127.16		16.70	1.01E-04	1.95E-05	3.77E-05	4.95E-05
		1377.63		81.70	1.95E-05		2.21E-07	8.86E-06
		1757.55		5.75	2.52E-04		-3.06E-04	1.11E-04
		1919.52		12.30	8.69E-05		-1.59E-04	3.60E-05
	CO-58	810.76		99.45	1.91E-05	1.91E-05	8.66E-06	9.00E-06
		863.96		0.69	3.90E-03		-2.32E-03	1.85E-03
		1674.73		0.52	1.75E-03		1.12E-03	7.51E-04
	FE-59	142.65		1.02	1.47E-03	3.06E-05	9.71E-04	7.19E-04
		192.34		3.08	8.34E-04		5.11E-04	4.08E-04
		1099.24		56.50	3.77E-05		4.29E-06	1.78E-05
		1291.59		43.20	3.06E-05		1.47E-05	1.38E-05
+	CO-60	1173.23	*	99.85	3.26E-05	2.13E-05	4.23E-04	1.55E-05
		1332.49	*	99.98	2.13E-05		4.07E-04	9.82E-06
	CU-64	511.00		35.00	9.44E-05	9.44E-05	5.88E-05	4.59E-05
		1345.77		0.47	3.38E-03		-6.64E-04	1.52E-03
	NI-65	366.27		4.81	1.95E-03	1.63E-04	1.16E-04	9.54E-04
		1115.53		15.43	5.11E-04		1.41E-04	2.43E-04
		1481.84		23.59	1.63E-04		2.81E-05	7.29E-05
	ZN-65	1115.54		50.04	4.88E-05	4.88E-05	1.35E-05	2.32E-05
	GA-66	511.00		114.00	3.12E-05	3.12E-05	1.94E-05	1.52E-05
		833.53		5.90	3.79E-04		-1.16E-04	1.79E-04
		1039.22		37.00	6.41E-05		8.32E-06	3.00E-05
		1333.11		1.17	6.88E-03		3.62E-02	3.36E-03
		1918.33		1.99	6.96E-04		-2.58E-04	2.91E-04
		2189.62		5.30	2.92E-04		1.58E-04	1.22E-04
		2751.83		22.70	5.60E-05		1.56E-05	2.10E-05
	CU-67	91.27		7.00	3.29E-04	3.95E-05	1.39E-04	1.62E-04
		93.31		16.10	1.04E-04		3.74E-05	5.09E-05
		184.58		48.70	3.95E-05		9.03E-06	1.93E-05
		300.22		0.80	2.84E-03		-3.67E-03	1.39E-03
		393.53		0.22	1.16E-02		2.50E-04	5.67E-03
	GA-67	91.26		3.11	8.60E-04	4.62E-05	3.63E-04	4.23E-04
		93.31		38.81	4.62E-05		1.66E-05	2.26E-05
		184.58		21.41	9.03E-05		2.06E-05	4.42E-05
		208.95		2.46	1.17E-03		-8.02E-05	5.70E-04
		300.22		16.64	1.53E-04		-1.98E-04	7.50E-05
		393.53		4.56	3.48E-04		7.49E-06	1.70E-04
	ZN-69m	438.63		94.85	3.77E-05	3.77E-05	-3.96E-05	1.84E-05
	GA-72	629.97		26.13	1.61E-04	2.71E-05	1.66E-04	7.72E-05
		834.13		95.45	2.71E-05		-2.43E-05	1.27E-05
		894.33		10.14	3.76E-04		-2.21E-05	1.78E-04
		1050.79		6.99	5.18E-04		-2.29E-05	2.42E-04
		2201.59		26.87	7.55E-05		-6.03E-05	3.21E-05
		2491.03		7.73	1.72E-04		5.74E-05	6.68E-05
		2507.72		13.33	3.78E-04		6.01E-04	1.76E-04
	Zn-72	144.70		82.78	1.90E-05	1.90E-05	-1.13E-05	9.28E-06
		191.50		9.35	2.26E-04		2.48E-04	1.11E-04
	SE-75	121.12		17.20	1.26E-04	3.54E-05	4.67E-05	6.16E-05

Analysis Report for 24-2507 TI185-3.5M-S1-CST-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SE-75	136.00	58.50	3.54E-05	3.54E-05	4.45E-06	1.73E-05
	264.66	58.90	4.42E-05		1.22E-05	2.16E-05
	279.54	25.02	1.05E-04		6.12E-05	5.13E-05
	400.66	11.41	7.77E-05		-5.50E-06	3.79E-05
BR-83	529.59	1.30	5.70E-03	5.70E-03	-6.76E-04	2.76E-03
BR-84	604.80	1.70	2.32E-01	8.01E-03	1.51E-02	1.12E-01
	736.50	1.29	1.87E-01		4.02E-02	8.74E-02
	802.20	6.00	4.43E-02		-3.01E-02	2.08E-02
	881.60	42.00	8.01E-03		3.57E-03	3.80E-03
	987.30	0.79	4.16E-01		-1.10E-01	1.96E-01
	1015.90	6.20	4.58E-02		-3.42E-02	2.14E-02
	1213.30	2.60	9.73E-02		6.01E-02	4.46E-02
	1463.80	2.00	1.66E-01		1.38E-01	7.70E-02
	1741.20	1.60	1.03E-01		5.56E-02	4.31E-02
	1877.50	1.12	1.63E-01		-3.88E-02	6.87E-02
	1897.60	14.60	1.36E-02		-1.63E-03	5.82E-03
	2029.60	2.10	1.03E-01		6.89E-02	4.45E-02
	2200.70	1.16	1.94E-01		-1.39E-01	8.30E-02
	2484.10	6.70	2.41E-02		8.04E-03	9.35E-03
	2824.10	1.12	1.29E-01		-5.58E-02	4.59E-02
KR-85m	151.20	75.20	3.71E-05	3.71E-05	1.24E-05	1.81E-05
	304.87	14.00	2.78E-04		6.77E-05	1.36E-04
Y-87	388.53	82.20	3.03E-05	3.03E-05	-5.15E-05	1.48E-05
	484.80	89.80	3.23E-05		2.80E-05	1.58E-05
KR-88	165.98	3.10	2.33E-03	6.87E-05	-1.89E-03	1.14E-03
	196.30	26.00	2.41E-04		-9.38E-06	1.18E-04
	362.23	2.25	2.40E-03		-1.89E-04	1.17E-03
	471.80	0.73	1.47E-02		-1.43E-03	7.22E-03
	834.83	13.00	4.22E-04		4.19E-04	1.99E-04
	985.78	1.31	5.53E-03		8.23E-04	2.61E-03
	1141.33	1.28	4.05E-03		-9.81E-04	1.88E-03
	1179.51	1.00	2.13E-02		3.93E-03	1.04E-02
	1250.67	1.12	3.90E-03		-2.03E-03	1.75E-03
	1369.50	1.48	4.66E-03		1.24E-03	2.17E-03
	1518.39	2.15	2.24E-03		2.10E-03	9.99E-04
	1529.77	10.90	3.86E-04		1.35E-04	1.70E-04
	2029.84	4.53	1.16E-03		7.75E-04	5.00E-04
	2035.41	3.74	1.17E-03		-1.38E-04	5.02E-04
	2195.84	13.20	3.02E-04		-2.99E-04	1.26E-04
	2231.77	3.39	8.09E-04		-1.24E-04	3.44E-04
	2352.08	0.73	3.73E-03		-2.77E-03	1.40E-03
	2392.11	34.60	6.87E-05		-6.03E-05	2.73E-05
RB-88	898.03	14.40	4.36E-04	1.59E-04	1.14E-04	2.06E-04
	1382.45	0.78	5.92E-03		6.64E-03	2.69E-03
	1836.00	22.81	1.59E-04		1.02E-04	6.82E-05
	2677.89	2.13	1.18E-03		-7.60E-04	4.17E-04
Y-88	898.04	93.70	2.53E-05	1.48E-05	6.60E-06	1.20E-05
	1836.06	99.20	1.48E-05		9.44E-06	6.34E-06
RB-89	272.42	1.53	5.73E+01	1.26E+00	1.02E+01	2.80E+01
	657.77	10.80	6.15E+01		-5.49E+00	3.06E+01
	947.73	10.00	8.94E+00		7.75E+00	4.25E+00
	1031.92	63.00	1.31E+00		1.78E+00	6.17E-01
	1248.14	46.00	1.26E+00		2.36E-01	5.73E-01

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
RB-89	1538.07	2.77	1.84E+01	1.26E+00	-4.10E+00	8.13E+00
	2007.50	2.58	1.90E+01		1.15E+01	8.09E+00
	2195.92	14.50	3.36E+00		-3.33E+00	1.41E+00
	2570.20	10.70	2.97E+00		6.40E-01	1.05E+00
	2707.26	2.20	1.22E+01		1.65E+00	3.84E+00
SR-89	908.96	0.01	2.09E-01	2.09E-01	-9.49E-02	9.91E-02
Sr-91	652.90	11.35	2.83E-04	7.32E-05	-1.44E-04	1.36E-04
	749.80	23.70	8.34E-05		6.75E-05	3.92E-05
	925.80	3.85	7.87E-04		2.81E-04	3.75E-04
	1024.30	33.50	7.32E-05		-5.35E-05	3.44E-05
Y-91	1204.77	0.26	5.36E-03	5.36E-03	-2.48E-03	2.44E-03
Y-91m	555.57	61.64	4.67E-05	4.67E-05	3.65E-05	2.26E-05
NB-92M	912.60	1.78	1.55E-03	2.22E-05	-3.90E-04	7.36E-04
	934.44	99.15	2.22E-05		-1.06E-05	1.06E-05
	1847.50	0.85	9.10E-04		-1.38E-03	3.77E-04
SR-92	241.56	2.93	1.93E-03	4.60E-05	7.78E-04	9.42E-04
	430.49	3.28	2.50E-03		1.49E-03	1.23E-03
	953.31	3.52	1.77E-03		4.43E-04	8.42E-04
	1142.35	2.79	1.73E-03		9.00E-04	8.05E-04
	1383.93	90.00	4.60E-05		-5.16E-05	2.09E-05
MO-93M	114.04	0.68	3.32E-03	1.83E-05	-2.14E-03	1.62E-03
	263.05	57.40	5.05E-05		1.41E-05	2.47E-05
	684.69	99.90	2.09E-05		8.19E-06	9.83E-06
	1363.02	0.81	3.66E-03		1.90E-03	1.71E-03
	1477.14	99.10	1.83E-05		1.55E-05	8.08E-06
SR-93	168.50	18.40	2.93E+05	9.94E+04	-1.61E+05	1.43E+05
	260.12	7.40	8.43E+05		-2.70E+04	4.12E+05
	346.49	3.28	2.28E+06		-8.65E+05	1.11E+06
	446.20	2.36	4.21E+06		4.38E+05	2.06E+06
	590.24	68.00	9.94E+04		-8.78E+04	4.79E+04
	710.31	21.80	2.22E+05		1.37E+04	1.05E+05
	875.73	24.50	2.59E+05		-2.59E+05	1.23E+05
	888.13	22.10	2.88E+05		-1.91E+04	1.37E+05
	1040.63	3.20	1.76E+06		-1.15E+06	8.23E+05
	1094.00	1.76	3.56E+06		-4.98E+05	1.68E+06
	1122.48	4.00	1.63E+06		3.12E+05	7.70E+05
	1215.48	2.50	1.79E+06		-4.55E+06	8.15E+05
	1269.47	7.10	7.24E+05		2.02E+05	3.33E+05
	1321.24	2.61	1.64E+06		1.17E+06	7.39E+05
	1387.11	3.50	1.32E+06		-6.60E+05	5.97E+05
	1694.07	2.58	1.28E+06		7.74E+05	5.43E+05
	1699.06	3.30	9.19E+05		-8.27E+04	3.85E+05
	2543.84	3.03	7.93E+05		1.71E+05	2.81E+05
	2688.65	2.13	9.52E+05		-3.30E+06	3.01E+05
Y-93	266.90	7.40	3.35E-04	3.35E-04	-2.13E-04	1.63E-04
	947.10	2.10	1.32E-03		-3.77E-04	6.25E-04
	1917.80	1.57	8.65E-04		4.67E-04	3.62E-04
NB-94	702.65	99.81	2.36E-05	2.36E-05	2.22E-06	1.12E-05
	871.09	99.89	2.70E-05		-2.37E-06	1.28E-05
Y-94	381.60	2.02	7.43E+00	2.34E-01	5.44E+00	3.63E+00
	550.90	4.90	2.56E+00		-8.66E-01	1.24E+00
	752.60	1.40	6.55E+00		-1.11E+00	3.07E+00
	918.74	56.00	2.34E-01		-2.99E-02	1.11E-01

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Y-94	1138.90	6.00	1.80E+00	2.34E-01	1.08E+00	8.40E-01
	1671.40	2.50	2.78E+00		9.86E-03	1.20E+00
	2140.60	0.95	8.60E+00		-3.39E-01	3.70E+00
NB-95	765.80	99.81	1.61E-05	1.61E-05	1.16E-05	7.61E-06
ZR-95	724.19	44.27	4.06E-05	2.66E-05	2.88E-05	1.93E-05
	756.72	54.38	2.66E-05		2.49E-06	1.25E-05
NB-96	219.08	2.97	7.34E-04	1.93E-05	-2.14E-04	3.59E-04
	241.38	3.50	6.39E-04		2.58E-04	3.12E-04
	350.05	1.54	1.76E-03		-2.09E-04	8.58E-04
	352.56	0.83	3.36E-03		4.94E-03	1.64E-03
	371.81	2.62	1.05E-03		6.69E-04	5.15E-04
	460.04	26.62	1.34E-04		-1.61E-04	6.58E-05
	480.71	5.84	5.86E-04		-1.34E-04	2.86E-04
	568.87	58.00	4.05E-05		-3.25E-05	1.95E-05
	719.56	6.85	2.90E-04		3.25E-04	1.38E-04
	721.63	1.02	1.98E-03		1.99E-03	9.40E-04
	778.22	96.45	1.93E-05		-3.40E-06	9.11E-06
	810.33	11.09	1.75E-04		1.85E-05	8.26E-05
	812.58	2.95	6.80E-04		4.54E-04	3.22E-04
	847.69	1.14	1.86E-03		-6.28E-04	8.84E-04
	849.93	20.45	1.02E-04		-8.02E-05	4.85E-05
	1091.35	48.50	4.68E-05		2.92E-05	2.21E-05
	1200.23	19.97	8.29E-05		-1.32E-05	3.80E-05
	1441.13	0.44	2.59E-03		5.20E-04	1.12E-03
	1497.81	3.28	5.12E-04		-9.19E-04	2.32E-04
Nb-97	657.94	98.23	1.91E-04	1.91E-04	-1.27E-05	9.48E-05
	1024.40	1.09	2.00E-03		-1.46E-03	9.39E-04
ZR-97	254.17	1.15	1.98E-03	1.94E-05	-4.76E-04	9.69E-04
	355.40	2.09	2.01E-03		1.05E-03	9.80E-04
	507.64	5.03	8.43E-04		-1.12E-04	4.10E-04
	743.36	93.09	1.94E-05		9.22E-06	9.14E-06
	1147.97	2.62	1.14E-03		8.56E-04	5.30E-04
MO-99	181.07	6.14	4.75E-04	1.67E-04	1.28E-05	2.32E-04
	366.42	1.20	2.13E-03		1.27E-04	1.04E-03
	739.50	12.26	1.67E-04		-2.90E-05	7.82E-05
	777.92	4.30	4.03E-04		2.17E-04	1.90E-04
TC-99M	140.51	90.80	1.70E-05	1.70E-05	-1.06E-05	8.31E-06
RH-101	127.23	68.00	3.05E-05	3.05E-05	1.12E-05	1.49E-05
	198.01	73.00	3.49E-05		-1.36E-05	1.71E-05
	325.23	11.80	7.12E-05		-4.97E-05	3.47E-05
RH-101M	306.86	81.00	2.72E-05	2.72E-05	1.06E-05	1.33E-05
	545.12	4.30	5.20E-04		-6.14E-04	2.51E-04
RH-102M	415.25	2.10	3.84E-03	6.47E-05	9.75E-03	1.89E-03
	418.52	9.40	7.59E-04		1.53E-04	3.73E-04
	420.40	3.20	2.16E-03		-2.01E-04	1.06E-03
	475.06	95.00	6.47E-05		5.19E-05	3.17E-05
	628.05	8.30	5.83E-04		7.76E-05	2.81E-04
	631.29	56.00	6.81E-05		-1.60E-05	3.27E-05
	692.40	1.60	4.24E-03		7.54E-04	2.06E-03
	695.60	2.90	2.05E-03		6.74E-03	9.96E-04
	697.49	44.00	1.31E-04		4.54E-04	6.36E-05
	766.84	34.00	8.65E-05		4.65E-05	4.08E-05
	1046.59	34.00	9.02E-05		1.39E-04	4.23E-05

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RH-102M	1103.16		4.60	6.53E-04	6.47E-05	-2.17E-05	3.10E-04
		1112.84		19.00	2.17E-04		7.80E-05	1.03E-04
	RU-103	497.08		91.00	3.00E-05	3.00E-05	1.92E-05	1.46E-05
		610.33		5.76	4.07E-04		-2.58E-04	1.97E-04
	RH-105	306.31		4.66	4.96E-04	1.36E-04	2.76E-04	2.42E-04
		319.23		16.90	1.36E-04		1.28E-05	6.64E-05
	AG-106M	221.70		6.60	2.94E-04	3.05E-05	-7.36E-05	1.44E-04
		228.63		2.10	9.45E-04		2.73E-04	4.62E-04
		328.46		1.14	1.96E-03		2.53E-04	9.57E-04
		391.04		3.68	6.79E-04		-7.23E-05	3.32E-04
		406.18		13.40	2.01E-04		8.12E-05	9.81E-05
		429.65		13.20	2.22E-04		1.24E-04	1.09E-04
		450.98		28.20	1.13E-04		-9.89E-06	5.52E-05
		511.85		88.00	3.05E-05		4.11E-05	1.48E-05
		601.17		1.61	1.30E-03		4.89E-04	6.25E-04
		616.17		21.60	1.10E-04		-1.16E-06	5.30E-05
		646.03		1.46	1.50E-03		-2.16E-03	7.19E-04
		680.42		2.18	6.55E-04		-1.51E-04	3.07E-04
		703.11		4.47	3.85E-04		2.74E-04	1.83E-04
		717.34		28.90	5.88E-05		4.76E-06	2.79E-05
		748.36		20.60	7.16E-05		-6.83E-06	3.35E-05
		793.17		5.90	2.98E-04		8.69E-05	1.41E-04
		804.28		12.40	1.26E-04		-3.69E-07	5.91E-05
		808.36		4.00	4.06E-04		-7.80E-04	1.91E-04
		824.69		15.30	1.13E-04		-1.11E-04	5.32E-05
		847.15		4.40	4.43E-04		2.74E-04	2.10E-04
		1019.72		1.04	1.65E-03		5.10E-04	7.71E-04
		1045.83		29.60	5.81E-05		-8.23E-05	2.71E-05
		1128.02		11.80	1.67E-04		-9.40E-05	7.84E-05
		1199.39		11.20	1.29E-04		-2.18E-05	5.88E-05
		1222.88		7.00	2.21E-04		1.51E-04	1.01E-04
		1394.35		1.49	9.11E-04		-1.97E-04	4.10E-04
		1527.65		16.30	7.57E-05		-8.56E-05	3.34E-05
		1572.35		6.60	1.86E-04		-3.73E-05	8.18E-05
		1722.76		1.40	9.35E-04		7.50E-04	4.11E-04
		1839.05		2.00	5.96E-04		1.18E-05	2.57E-04
	RH-106	621.93		9.93	3.04E-04	3.04E-04	2.45E-04	1.47E-04
		873.49		0.44	7.38E-03		5.89E-03	3.51E-03
		1050.41		1.56	1.44E-03		-1.70E-03	6.69E-04
	RU-106	511.86		20.40	1.30E-04	1.30E-04	2.28E-04	6.31E-05
	AG-108M	79.13		6.60	3.04E-04	3.60E-05	-3.74E-04	1.49E-04
		433.94		90.50	5.62E-05		1.54E-05	2.75E-05
		614.28		89.80	4.88E-05		4.87E-05	2.36E-05
		722.91		90.80	3.60E-05		3.72E-05	1.71E-05
+	CD-109	88.03	*	3.64	5.59E-04	5.59E-04	2.80E-03	2.75E-04
	AG-110M	446.81		3.70	1.95E-03	4.76E-05	2.31E-04	9.53E-04
		620.35		2.73	1.87E-03		-3.24E-04	9.02E-04
		657.76		95.61	3.02E-04		-2.70E-05	1.50E-04
		677.62		10.70	2.97E-04		5.48E-05	1.39E-04
		687.01		6.53	4.35E-04		2.29E-05	2.04E-04
		706.68		16.69	1.98E-04		8.22E-05	9.31E-05
		744.28		4.77	6.46E-04		2.21E-04	3.03E-04
		763.94		22.60	1.30E-04		4.16E-05	6.15E-05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-110M	818.02	7.43	5.95E-04	4.76E-05	4.99E-05	2.82E-04
	884.68	75.00	4.76E-05		-1.57E-05	2.25E-05
	937.48	35.00	1.05E-04		-2.94E-05	5.00E-05
	1384.29	25.10	9.56E-05		-5.31E-05	4.35E-05
	1475.78	4.08	4.41E-04		-7.74E-05	1.97E-04
	1505.03	13.33	1.99E-04		8.79E-05	9.08E-05
	1562.29	1.22	7.37E-04		2.94E-04	3.26E-04
AG-111	245.40	1.11	1.83E-03	3.35E-04	-3.60E-04	8.93E-04
	342.13	6.68	3.35E-04		1.76E-04	1.63E-04
AG-112	606.82	3.10	8.70E-04	5.85E-05	4.95E-04	4.21E-04
	617.52	43.00	5.85E-05		-3.23E-05	2.82E-05
	692.82	1.19	2.98E-03		3.64E-04	1.45E-03
	694.87	2.90	1.23E-03		4.15E-03	5.97E-04
	851.28	1.02	2.15E-03		5.67E-04	1.02E-03
	1312.36	1.11	1.32E-03		9.65E-05	5.94E-04
	1387.68	5.30	3.10E-04		-2.62E-04	1.40E-04
	1613.66	2.80	4.89E-04		1.22E-04	2.14E-04
	1798.50	0.89	1.26E-03		-2.06E-03	5.30E-04
	2106.31	2.40	7.51E-04		6.39E-04	3.32E-04
	2506.70	1.06	3.39E-03		5.39E-03	1.58E-03
CD-113M	263.70	0.03	7.27E-02	7.27E-02	-5.42E-03	3.55E-02
SN-113	255.13	2.11	9.32E-04	3.78E-05	-4.77E-05	4.55E-04
	391.70	64.97	3.78E-05		-1.67E-05	1.84E-05
IN-114M	190.27	15.56	1.27E-04	1.27E-04	2.96E-06	6.24E-05
	558.43	4.40	6.52E-04		3.14E-04	3.15E-04
	725.24	4.40	5.27E-04		1.72E-04	2.50E-04
CD-115	260.90	1.94	1.06E-03	4.90E-05	9.32E-04	5.20E-04
	336.24	46.02	4.90E-05		-5.86E-05	2.39E-05
	527.90	27.45	8.96E-05		3.20E-05	4.34E-05
CD-115M	933.84	2.00	1.13E-03	1.13E-03	-1.34E-03	5.39E-04
	1290.59	0.90	1.42E-03		-1.16E-03	6.39E-04
IN-115M	336.24	45.90	8.57E-05	8.57E-05	-1.03E-04	4.18E-05
IN-116M	138.29	3.70	1.38E-02	4.60E-04	2.62E-03	6.72E-03
	416.90	27.20	3.41E-03		-9.64E-04	1.67E-03
	818.68	12.13	5.53E-03		4.37E-03	2.62E-03
	1097.28	58.50	9.64E-04		1.01E-03	4.56E-04
	1293.56	84.80	4.60E-04		4.14E-04	2.09E-04
	1507.59	9.92	4.07E-03		1.57E-03	1.85E-03
	2112.29	15.09	2.59E-03		-1.74E-03	1.14E-03
SB-125	176.31	6.84	2.47E-04	9.75E-05	-1.72E-05	1.20E-04
	380.45	1.52	1.59E-03		8.66E-05	7.77E-04
	427.87	29.60	9.75E-05		1.28E-04	4.77E-05
	463.36	10.49	3.10E-04		1.09E-04	1.52E-04
	600.60	17.65	1.18E-04		1.03E-04	5.67E-05
	606.71	4.98	4.76E-04		2.71E-04	2.30E-04
	635.95	11.22	1.86E-04		2.60E-06	8.93E-05
	671.44	1.79	1.74E-03		-2.09E-04	8.48E-04
SN-125	332.10	1.40	2.65E-03	2.56E-04	1.95E-03	1.29E-03
	469.85	1.50	3.61E-03		1.52E-03	1.77E-03
	800.28	1.10	1.92E-03		3.98E-04	9.05E-04
	822.48	4.30	5.45E-04		-4.25E-04	2.57E-04
	915.55	4.10	6.72E-04		5.80E-04	3.20E-04
	1067.10	10.00	2.56E-04		-2.42E-04	1.20E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SN-125	1087.70	1.20	3.46E-03	2.56E-04	-2.00E-03	1.64E-03
	1089.10	4.60	5.09E-04		1.45E-04	2.41E-04
	2002.10	1.90	5.66E-04		-1.17E-03	2.37E-04
SB-127	61.10	1.43	3.57E-03	3.85E-05	-7.68E-04	1.75E-03
	252.40	8.50	2.93E-04		-1.14E-04	1.43E-04
	290.80	2.02	1.50E-03		1.30E-03	7.31E-04
	412.10	3.80	1.02E-03		4.01E-04	5.03E-04
	445.10	4.30	9.87E-04		-4.53E-04	4.83E-04
	473.00	25.80	1.43E-04		2.10E-04	6.99E-05
	543.30	2.90	6.77E-04		2.50E-05	3.27E-04
	603.50	4.50	6.85E-04		-1.61E-03	3.30E-04
	685.70	36.80	3.85E-05		-4.77E-06	1.80E-05
	698.50	3.64	8.88E-04		1.13E-04	4.32E-04
	722.20	1.88	1.01E-03		6.93E-06	4.78E-04
	783.70	15.10	1.11E-04		3.14E-05	5.25E-05
SN-127	119.70	2.20	2.56E-03	2.29E-04	3.31E-04	1.25E-03
	262.50	2.30	3.08E-03		-1.16E-03	1.50E-03
	266.20	2.10	3.32E-03		9.66E-04	1.62E-03
	284.30	2.70	2.85E-03		-1.59E-03	1.39E-03
	438.20	6.10	1.76E-03		-2.31E-04	8.62E-04
	490.90	5.30	1.86E-03		2.76E-04	9.07E-04
	493.20	3.10	3.17E-03		-6.76E-04	1.55E-03
	545.40	2.30	3.49E-03		6.61E-04	1.69E-03
	583.30	3.20	2.36E-03		-5.62E-04	1.13E-03
	805.90	8.20	6.84E-04		-1.13E-03	3.21E-04
	823.10	11.00	5.90E-04		2.32E-04	2.79E-04
	824.70	6.10	1.02E-03		-1.00E-03	4.81E-04
	859.50	8.00	8.91E-04		2.51E-04	4.23E-04
	979.20	7.20	9.98E-04		2.69E-04	4.71E-04
	1093.30	3.80	1.88E-03		-3.08E-04	8.82E-04
	1095.60	19.00	3.90E-04		-2.50E-04	1.84E-04
	1114.30	38.00	2.29E-04		-1.51E-04	1.09E-04
	1160.40	2.40	2.60E-03		1.83E-03	1.21E-03
	2003.40	5.30	8.39E-04		5.35E-04	3.59E-04
SB-129	180.42	2.84	1.12E-03	6.88E-05	-1.10E-03	5.48E-04
	359.20	2.39	1.88E-03		1.48E-04	9.19E-04
	404.64	1.17	4.25E-03		-1.55E-03	2.07E-03
	523.13	1.55	2.86E-03		6.73E-04	1.38E-03
	544.56	15.42	2.63E-04		-5.29E-04	1.27E-04
	633.74	2.53	1.52E-03		-1.36E-03	7.31E-04
	654.28	2.97	2.55E-03		1.83E-05	1.25E-03
	682.77	5.76	4.57E-04		-3.39E-04	2.15E-04
	761.12	4.32	6.31E-04		-5.70E-04	2.96E-04
	773.37	2.82	1.15E-03		5.18E-04	5.47E-04
	786.36	1.07	2.92E-03		1.07E-03	1.38E-03
	787.16	1.74	1.80E-03		-3.35E-04	8.49E-04
	812.97	48.20	6.88E-05		2.11E-07	3.26E-05
	819.51	1.39	2.49E-03		-2.42E-03	1.18E-03
	876.65	2.75	1.35E-03		9.47E-04	6.41E-04
	914.96	23.30	1.68E-04		-6.67E-06	7.96E-05
	966.78	8.96	4.24E-04		-6.17E-04	2.01E-04
	1030.65	15.13	2.40E-04		-7.84E-05	1.13E-04
	1656.10	1.31	1.74E-03		1.35E-03	7.63E-04

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	1738.16		7.45	2.30E-04	6.88E-05	-3.62E-04	9.54E-05
	TE-129	459.60		7.70	4.16E-04	4.16E-04	-1.83E-04	2.04E-04
		487.39		1.42	1.90E-03		-5.75E-04	9.26E-04
+	Te-129m	695.88	*	3.00	7.30E-04	7.30E-04	3.43E-03	3.50E-04
	I-131	80.18		2.62	1.00E-03	3.04E-05	-1.36E-03	4.90E-04
		284.30		6.12	3.79E-04		-2.12E-04	1.85E-04
		364.49		81.50	3.04E-05		5.67E-06	1.48E-05
		636.99		7.16	2.93E-04		-9.92E-06	1.41E-04
		722.91		1.77	1.04E-03		1.07E-03	4.94E-04
	Te-131m	773.67		36.80	7.80E-05	7.80E-05	3.25E-05	3.69E-05
		793.75		13.40	3.13E-04		-2.75E-05	1.48E-04
		852.21		19.90	1.67E-04		-1.17E-05	7.92E-05
		1125.46		11.00	2.61E-04		5.83E-05	1.23E-04
		1206.60		9.41	2.09E-04		-1.61E-04	9.56E-05
	I-132	262.90		1.28	1.58E-03	4.00E-05	4.41E-04	7.70E-04
		284.90		0.71	3.07E-03		-2.18E-03	1.50E-03
		505.79		4.93	1.94E-03		-3.44E-03	9.44E-04
		522.65		16.00	2.82E-04		-5.96E-05	1.37E-04
		547.20		1.14	3.80E-03		7.71E-04	1.84E-03
		621.20		1.97	2.27E-03		9.03E-04	1.09E-03
		630.19		13.30	3.19E-04		3.30E-04	1.53E-04
		650.50		2.57	2.13E-03		2.00E-03	1.03E-03
		667.71		98.70	2.50E-04		-5.35E-06	1.24E-04
		669.80		4.60	1.64E-03		-1.42E-04	8.01E-04
		671.40		3.50	2.12E-03		-2.54E-04	1.03E-03
		727.10		5.40	7.59E-04		5.80E-04	3.59E-04
		728.40		1.60	2.23E-03		-1.63E-03	1.05E-03
		772.60		75.60	4.00E-05		3.11E-05	1.89E-05
		809.50		2.60	1.32E-03		8.07E-04	6.25E-04
		812.00		5.50	6.05E-04		4.41E-04	2.86E-04
		910.10		0.93	4.09E-03		1.99E-03	1.94E-03
		954.55		17.60	2.29E-04		1.83E-05	1.09E-04
		1136.00		3.01	7.89E-04		-1.11E-03	3.67E-04
		1172.90		1.09	7.63E-03		4.42E-02	3.74E-03
		1290.80		1.13	2.03E-03		-1.66E-03	9.14E-04
		1295.10		1.88	4.85E-04		2.45E-04	2.21E-04
		1297.90		0.89	7.55E-04		8.84E-05	3.44E-04
		1372.07		2.47	1.11E-03		-2.11E-03	5.09E-04
		1398.57		7.01	3.03E-04		2.78E-04	1.35E-04
		1442.56		1.40	5.44E-04		-1.03E-03	2.37E-04
	TE-132	49.72		15.00	5.61E-04	2.32E-05	3.44E-04	2.74E-04
		111.76		1.74	9.17E-04		-3.60E-05	4.48E-04
		116.30		1.96	7.99E-04		4.01E-05	3.90E-04
		228.16		88.00	2.32E-05		-5.57E-06	1.14E-05
	BA-133	81.00		32.90	7.89E-05	4.30E-05	-1.01E-04	3.86E-05
		276.40		7.16	3.38E-04		9.89E-05	1.65E-04
		302.85		18.34	1.25E-04		-1.03E-04	6.12E-05
		356.01		62.05	4.30E-05		-1.39E-05	2.10E-05
		383.85		8.94	2.43E-04		1.46E-04	1.19E-04
	I-133	529.87		87.00	3.08E-05	3.08E-05	-1.48E-05	1.49E-05
		706.58		1.51	1.53E-03		6.36E-04	7.20E-04
		856.28		1.24	2.43E-03		8.29E-04	1.15E-03
		875.33		4.51	5.02E-04		-4.11E-04	2.38E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
I-133	1236.44	1.51	9.35E-04	3.08E-05	2.51E-04	4.27E-04
	1298.22	2.35	6.98E-04		-1.74E-04	3.18E-04
TE-133	312.08	62.40	1.58E+01	1.58E+01	8.98E+00	7.70E+00
	407.63	27.10	4.41E+01		3.43E+01	2.15E+01
	410.40	0.94	1.61E+03		1.02E+03	7.90E+02
	474.85	0.88	1.75E+03		1.75E+03	8.57E+02
	719.71	8.90	9.08E+01		1.02E+02	4.31E+01
	786.93	5.40	1.41E+02		-4.70E+00	6.64E+01
	844.36	3.31	2.63E+02		-1.71E+02	1.25E+02
	884.30	0.72	1.25E+03		5.47E+02	5.93E+02
	930.71	3.81	2.74E+02		3.30E+02	1.31E+02
	997.70	1.04	8.50E+02		-1.81E+02	4.01E+02
	1000.72	3.62	2.49E+02		1.55E+02	1.18E+02
	1021.13	2.81	2.80E+02		3.56E+01	1.31E+02
	1061.61	1.19	7.24E+02		2.29E+02	3.40E+02
	1252.08	1.44	3.91E+02		8.14E+01	1.75E+02
	1312.80	0.85	6.94E+02		-5.16E+01	3.12E+02
	1333.21	10.67	2.59E+02		1.37E+03	1.27E+02
	1717.61	3.18	1.76E+02		1.32E+02	7.69E+01
	1881.52	1.22	4.02E+02		-3.11E+02	1.70E+02
	2136.51	1.25	4.35E+02		-9.37E+01	1.84E+02
	2229.64	0.87	6.50E+02		-1.72E+02	2.75E+02
Xe-133	81.00	36.90	5.35E-05	5.35E-05	-6.84E-05	2.62E-05
CS-134	475.36	1.48	2.26E-03	2.86E-05	1.82E-03	1.11E-03
	563.25	8.34	4.28E-04		-2.03E-04	2.06E-04
	569.33	15.37	2.42E-04		2.25E-06	1.16E-04
	604.72	97.62	3.32E-05		2.16E-06	1.60E-05
	795.86	85.46	2.86E-05		2.51E-05	1.35E-05
	801.95	8.69	3.02E-04		-9.22E-05	1.42E-04
	1038.61	0.99	2.41E-03		-7.72E-04	1.13E-03
	1167.97	1.79	2.35E-03		-1.78E-04	1.15E-03
	1365.19	3.02	4.30E-04		4.84E-04	2.01E-04
I-135	220.50	1.75	2.15E-03	7.78E-05	1.23E-03	1.05E-03
	288.45	3.10	1.30E-03		-1.75E-04	6.37E-04
	417.63	3.53	1.90E-03		3.73E-05	9.33E-04
	546.56	7.15	5.87E-04		-1.25E-05	2.83E-04
	836.80	6.69	5.06E-04		2.21E-04	2.39E-04
	971.96	0.89	4.78E-03		2.33E-03	2.26E-03
	972.62	1.21	3.17E-03		8.31E-04	1.50E-03
	1038.76	7.90	3.41E-04		-1.09E-04	1.60E-04
	1101.58	1.61	2.51E-03		7.87E-04	1.19E-03
	1124.00	3.62	1.09E-03		2.06E-05	5.12E-04
	1131.51	22.60	1.51E-04		1.47E-05	7.04E-05
	1240.47	0.90	3.47E-03		3.66E-03	1.60E-03
	1260.41	28.70	7.78E-05		6.29E-05	3.54E-05
	1457.56	8.70	3.46E-04		5.16E-04	1.61E-04
	1502.79	1.08	2.87E-03		-2.41E-03	1.30E-03
	1566.41	1.29	1.45E-03		4.77E-04	6.40E-04
	1678.03	9.60	1.35E-04		0.00E+00	5.74E-05
	1706.46	4.10	3.67E-04		2.11E-04	1.55E-04
	1791.20	7.72	2.20E-04		-1.78E-04	9.49E-05
	2408.65	0.96	1.12E-03		2.41E-04	3.96E-04
XE-135	249.79	90.00	2.96E-05	2.96E-05	1.60E-05	1.45E-05

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	XE-135m	526.56		80.40	4.47E-05	4.47E-05	5.74E-05	2.17E-05
	CS-136	66.88		4.79	1.23E-03	3.20E-05	3.95E-04	6.03E-04
		86.36		5.90	7.57E-04		2.21E-04	3.73E-04
		153.25		7.70	3.39E-04		-1.49E-04	1.66E-04
		163.92		4.69	8.37E-04		5.97E-04	4.09E-04
		176.60		13.70	2.33E-04		-1.41E-04	1.14E-04
		273.65		12.66	2.97E-04		-1.43E-04	1.45E-04
		340.55		46.80	7.90E-05		5.47E-05	3.85E-05
		818.51		99.70	3.20E-05		2.95E-05	1.52E-05
		1048.07		80.00	3.81E-05		1.30E-05	1.79E-05
		1235.36		20.00	1.13E-04		-1.08E-05	5.15E-05
+	CS-137	661.66	*	85.10	1.57E-05	1.57E-05	4.36E-03	7.34E-06
	BA-139	33.44		3.84	1.20E-01	5.08E-04	2.51E-02	5.87E-02
		165.86		23.70	5.08E-04		-3.07E-04	2.48E-04
	BA-140	132.69		0.20	7.67E-03	9.65E-05	2.10E-03	3.75E-03
		162.66		6.22	3.20E-04		8.24E-05	1.57E-04
		304.85		4.29	6.31E-04		1.53E-04	3.08E-04
		423.72		3.10	8.89E-04		-3.19E-04	4.34E-04
		437.58		1.93	1.52E-03		-1.06E-03	7.45E-04
		537.26		24.39	9.65E-05		-9.91E-05	4.67E-05
	LA-140	109.42		0.22	7.19E-03	1.71E-05	-3.76E-03	3.52E-03
		131.12		0.47	3.28E-03		-8.19E-04	1.60E-03
		173.54		0.13	1.37E-02		7.50E-03	6.69E-03
		241.93		0.41	4.86E-03		2.93E-03	2.38E-03
		266.54		0.47	4.15E-03		4.82E-04	2.02E-03
		328.76		20.30	1.83E-04		-6.48E-05	8.92E-05
		432.49		2.90	1.66E-03		-1.50E-04	8.12E-04
		487.02		45.50	8.58E-05		-5.56E-05	4.18E-05
		618.10		0.04	5.97E-02		-3.40E-02	2.88E-02
		751.64		4.33	4.29E-04		6.56E-05	2.01E-04
		815.77		23.28	8.52E-05		4.45E-05	4.04E-05
		867.85		5.50	4.57E-04		-2.23E-04	2.17E-04
		919.55		2.66	8.43E-04		-7.96E-04	4.01E-04
		925.19		6.90	4.11E-04		-7.84E-06	1.96E-04
		950.99		0.52	5.19E-03		7.91E-04	2.47E-03
		1596.21		95.40	1.71E-05		4.44E-06	7.46E-06
		2347.88		0.85	7.84E-04		3.33E-04	3.17E-04
		2521.40		3.46	1.42E-04		1.93E-05	4.48E-05
		2547.34		0.10	5.96E-03		8.10E-04	1.88E-03
	BA-141	33.44		7.93	6.10E+01	3.32E-01	1.27E+01	2.98E+01
		190.33		44.80	3.32E-01		7.73E-03	1.63E-01
		276.95		23.60	6.82E-01		6.78E-02	3.34E-01
		304.19		26.10	6.09E-01		-6.87E-01	2.97E-01
		343.67		15.10	1.12E+00		9.57E-02	5.47E-01
		389.74		1.37	1.36E+01		8.25E+00	6.62E+00
		457.51		5.00	4.78E+00		-1.27E+00	2.34E+00
		462.06		5.10	4.74E+00		5.36E-01	2.32E+00
		467.22		5.60	4.43E+00		-2.86E+00	2.17E+00
		625.08		3.45	4.68E+00		-5.48E+00	2.25E+00
		647.78		5.70	2.91E+00		-2.71E+00	1.40E+00
		738.95		4.39	2.50E+00		4.07E-01	1.17E+00
		831.46		1.64	7.57E+00		-4.22E+00	3.56E+00
		876.09		3.45	4.32E+00		-9.33E-01	2.05E+00

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-141	1160.72	1.12	1.16E+01	3.32E-01	5.34E+00	5.42E+00
	1197.28	4.35	2.60E+00		2.56E+00	1.19E+00
	1323.92	0.92	1.57E+01		-6.82E-01	7.34E+00
	1654.00	0.65	1.50E+01		1.24E+01	6.60E+00
	1682.19	1.19	6.49E+00		3.93E+00	2.76E+00
CE-141	145.44	48.30	3.08E-05	3.08E-05	-1.62E-05	1.50E-05
BA-142	33.44	14.20	2.13E+04	4.46E+02	4.44E+03	1.04E+04
	77.59	7.00	1.42E+03		1.30E+03	6.98E+02
	177.00	2.12	3.73E+03		-9.14E+02	1.82E+03
	231.61	12.20	7.49E+02		-7.69E+02	3.66E+02
	255.30	20.70	4.46E+02		-2.28E+01	2.18E+02
	286.30	1.11	8.93E+03		-3.79E+03	4.36E+03
	309.20	2.60	3.81E+03		7.68E+02	1.86E+03
	335.00	1.53	6.63E+03		-1.62E+03	3.23E+03
	363.96	4.76	2.42E+03		9.70E+02	1.18E+03
	425.04	5.75	2.31E+03		1.62E+03	1.13E+03
	599.80	1.85	5.23E+03		-6.50E+03	2.52E+03
	840.40	3.63	2.38E+03		2.90E+02	1.13E+03
	895.20	13.90	6.42E+02		2.84E+02	3.04E+02
	949.10	10.70	9.29E+02		-2.56E+02	4.41E+02
	1001.20	9.80	9.41E+02		5.42E+02	4.44E+02
	1078.70	11.50	9.29E+02		1.01E+03	4.41E+02
	1094.10	2.82	3.28E+03		-3.91E+02	1.55E+03
	1126.80	1.50	6.12E+03		-7.04E+02	2.87E+03
	1202.40	5.60	1.25E+03		1.29E+03	5.74E+02
	1204.30	14.30	4.62E+02		-4.55E+02	2.11E+02
	1380.20	3.42	1.97E+03		-7.88E+02	8.95E+02
CE-143	57.36	11.70	4.82E-04	5.66E-05	2.60E-04	2.36E-04
	231.55	2.05	1.34E-03		-1.37E-03	6.53E-04
	293.27	42.80	5.66E-05		1.63E-05	2.77E-05
	350.62	3.23	7.04E-04		1.20E-04	3.44E-04
	490.37	2.16	1.76E-03		-5.17E-04	8.56E-04
	664.57	5.69	3.14E-03		3.76E-07	1.56E-03
	721.93	5.39	3.29E-04		2.27E-06	1.56E-04
	880.46	1.03	2.11E-03		-1.66E-03	9.99E-04
CE-144	80.12	1.36	1.43E-03	1.37E-04	-1.94E-03	7.02E-04
	133.51	11.09	1.37E-04		3.65E-05	6.70E-05
ND-147	38.17	13.20	1.86E-03	7.82E-05	1.44E-04	9.09E-04
	38.72	23.80	9.52E-04		6.02E-04	4.65E-04
	91.11	28.90	7.82E-05		3.31E-05	3.85E-05
	275.39	0.79	3.81E-03		-5.13E-04	1.86E-03
	319.41	1.97	1.32E-03		7.51E-04	6.45E-04
	398.13	0.87	3.29E-03		2.16E-03	1.61E-03
	439.88	1.20	2.69E-03		-7.85E-04	1.32E-03
	531.01	13.11	1.76E-04		-1.13E-04	8.54E-05
	685.88	0.82	1.65E-03		-1.96E-04	7.74E-04
PR-147	36.85	19.70	2.87E+02	2.15E+01	-1.64E+02	1.40E+02
	37.36	35.50	1.45E+02		-3.70E+01	7.09E+01
	49.88	4.00	2.81E+02		1.72E+02	1.37E+02
	77.97	9.70	4.02E+01		5.42E+01	1.97E+01
	86.69	5.40	8.71E+01		2.04E+01	4.29E+01
	127.80	7.40	3.76E+01		-1.21E+01	1.84E+01
	249.20	1.32	2.76E+02		-6.58E+00	1.35E+02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PR-147	314.70	18.20	2.15E+01	2.15E+01	-1.07E+01	1.05E+01
	328.80	4.00	1.02E+02		-3.61E+01	4.97E+01
	335.70	4.70	8.42E+01		-7.25E+01	4.10E+01
	388.80	1.41	3.19E+02		-2.33E+02	1.55E+02
	466.80	1.70	3.59E+02		1.81E+02	1.76E+02
	477.90	4.60	1.28E+02		5.93E+01	6.28E+01
	516.70	1.30	3.61E+02		3.90E+02	1.76E+02
	554.70	5.90	6.78E+01		-4.77E+00	3.28E+01
	577.90	13.70	2.72E+01		-1.92E+01	1.31E+01
	641.40	16.10	2.41E+01		1.33E+00	1.16E+01
	996.00	1.52	2.32E+02		2.21E+01	1.09E+02
	1136.70	1.42	2.30E+02		-3.18E+01	1.08E+02
	1261.10	8.40	3.06E+01		-1.81E+01	1.39E+01
	1300.40	2.30	1.20E+02		2.50E+01	5.48E+01
ND-149	38.17	9.00	1.31E-02	3.90E-04	1.01E-03	6.39E-03
	38.72	16.30	6.66E-03		4.21E-03	3.26E-03
	58.88	1.30	2.27E-02		1.19E-02	1.11E-02
	74.32	2.11	6.67E-03		1.62E-03	3.27E-03
	97.00	1.48	6.04E-03		-3.50E-03	2.95E-03
	114.31	19.20	4.70E-04		-3.03E-04	2.30E-04
	155.87	5.95	1.64E-03		-8.92E-04	7.99E-04
	188.64	1.79	9.69E-03		4.29E-03	4.74E-03
	198.93	1.39	9.34E-03		-8.90E-03	4.57E-03
	208.15	2.55	4.71E-03		-1.57E-03	2.30E-03
	211.31	26.00	3.90E-04		-4.37E-05	1.91E-04
	240.22	3.95	2.53E-03		1.08E-03	1.23E-03
	245.72	0.81	1.60E-02		9.69E-04	7.82E-03
	267.69	6.05	2.17E-03		2.21E-04	1.06E-03
	270.17	10.80	9.49E-04		-1.05E-03	4.64E-04
	326.55	4.57	3.02E-03		3.09E-03	1.47E-03
	349.23	1.38	1.04E-02		-3.46E-03	5.06E-03
	423.55	7.50	1.87E-03		-6.71E-04	9.14E-04
	443.55	1.15	1.66E-02		-1.68E-03	8.13E-03
	540.51	6.60	1.93E-03		7.64E-04	9.34E-04
	654.83	8.00	2.90E-03		-1.81E-04	1.43E-03
PM-149	285.95	3.10	7.17E-04	7.17E-04	-2.41E-04	3.50E-04
PM-150	39.52	0.63	8.61E-02	8.77E-05	6.60E-02	4.21E-02
	40.12	1.14	4.30E-02		-2.56E-02	2.10E-02
	333.92	68.00	8.77E-05		5.81E-05	4.28E-05
	406.51	5.60	1.29E-03		3.43E-04	6.31E-04
	565.70	1.31	4.38E-03		-2.87E-04	2.11E-03
	587.02	1.34	4.24E-03		-4.27E-03	2.04E-03
	612.25	0.93	7.13E-03		4.88E-03	3.45E-03
	712.22	4.40	9.60E-04		-6.62E-04	4.53E-04
	737.50	2.25	1.73E-03		-1.75E-04	8.12E-04
	831.85	11.90	3.80E-04		-1.43E-04	1.79E-04
	859.95	3.40	1.59E-03		1.64E-03	7.56E-04
	876.41	7.30	7.44E-04		1.11E-04	3.53E-04
	1165.77	15.80	5.89E-04		2.88E-04	2.84E-04
	1170.90	1.06	1.56E-02		8.66E-02	7.65E-03
	1193.87	4.80	8.84E-04		3.99E-04	4.07E-04
	1213.72	1.03	3.90E-03		-2.34E-04	1.79E-03
	1223.28	2.80	1.48E-03		1.47E-03	6.77E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	1324.51	17.50	3.52E-04	8.77E-05	6.05E-05	1.66E-04
	1379.32	3.10	1.27E-03		-1.20E-04	5.76E-04
	1736.40	6.90	4.33E-04		2.76E-04	1.85E-04
	1963.71	1.47	2.60E-03		-2.38E-03	1.14E-03
	2033.46	0.97	3.22E-03		-6.57E-04	1.36E-03
ND-151	38.17	5.94	2.00E+03	1.88E+01	1.54E+02	9.75E+02
	38.72	10.70	1.02E+03		6.46E+02	4.99E+02
	68.98	1.26	9.30E+02		-3.66E+02	4.55E+02
	85.12	2.05	6.11E+02		-8.57E+01	3.01E+02
	89.96	1.53	7.74E+02		9.73E+01	3.81E+02
	116.80	39.00	1.88E+01		2.09E+00	9.19E+00
	138.89	7.00	1.06E+02		-2.59E+01	5.16E+01
	170.76	2.87	2.86E+02		-1.00E+01	1.40E+02
	175.07	6.30	1.32E+02		-5.04E+01	6.44E+01
	255.68	14.80	6.48E+01		2.07E+01	3.16E+01
	300.58	1.82	5.78E+02		-4.28E+02	2.82E+02
	423.56	5.90	2.26E+02		-8.09E+01	1.10E+02
	460.59	0.96	1.62E+03		-1.28E+03	7.91E+02
	585.22	1.30	7.82E+02		2.26E+02	3.76E+02
	677.88	2.38	2.79E+02		5.15E+01	1.31E+02
	736.23	5.90	1.17E+02		2.51E+01	5.46E+01
	739.20	1.52	4.71E+02		1.77E+02	2.21E+02
	755.57	1.17	6.10E+02		5.77E+02	2.86E+02
	797.53	4.70	1.76E+02		1.26E+02	8.32E+01
	1016.40	2.50	3.27E+02		-1.62E+02	1.53E+02
	1122.63	4.10	2.43E+02		4.65E+01	1.15E+02
	1180.89	13.30	1.79E+02		1.48E+01	8.71E+01
Pm-151	167.75	8.30	2.45E-04	1.05E-04	-3.68E-05	1.20E-04
	177.16	3.80	6.40E-04		-1.57E-04	3.13E-04
	240.09	3.80	6.41E-04		2.74E-04	3.14E-04
	275.21	6.80	3.49E-04		7.63E-05	1.71E-04
	340.08	22.50	1.05E-04		-4.86E-05	5.10E-05
EU-152	121.78	28.53	7.45E-05	7.18E-05	8.91E-06	3.64E-05
	344.28	26.59	1.04E-04		-2.47E-06	5.05E-05
	778.90	12.93	1.72E-04		1.45E-04	8.11E-05
	867.37	4.23	7.35E-04		-6.36E-04	3.49E-04
	964.08	14.51	1.71E-04		-1.67E-04	8.13E-05
	1085.87	10.11	2.15E-04		-4.49E-05	1.02E-04
	1112.07	13.67	1.88E-04		9.50E-05	8.94E-05
	1408.01	20.87	7.18E-05		-5.53E-05	3.22E-05
ND-152	44.44	5.50	2.93E+03	1.33E+02	1.43E+03	1.43E+03
	250.15	16.40	1.93E+02		1.19E+02	9.43E+01
	278.56	26.00	1.33E+02		5.75E+01	6.48E+01
	294.47	2.90	1.23E+03		1.94E+03	6.01E+02
	545.70	0.83	4.21E+03		1.00E+03	2.04E+03
	592.50	0.99	3.47E+03		2.28E+03	1.67E+03
GD-153	69.67	2.45	1.13E-03	5.32E-05	-5.96E-05	5.54E-04
	97.43	30.00	5.32E-05		-4.89E-05	2.60E-05
	103.18	22.10	7.26E-05		3.44E-05	3.55E-05
SM-153	69.67	4.67	6.14E-04	5.72E-05	-3.23E-05	3.00E-04
	103.18	29.14	5.72E-05		2.71E-05	2.79E-05
EU-154	42.70	20.45	6.00E-04	4.99E-05	8.99E-05	2.93E-04
	123.07	40.40	5.12E-05		3.26E-05	2.50E-05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-154	247.93	6.89	4.14E-04	4.99E-05	-8.99E-05	2.02E-04
	591.76	4.95	6.79E-04		2.27E-04	3.27E-04
	692.42	1.78	2.49E-03		4.42E-04	1.21E-03
	723.30	20.06	1.26E-04		1.11E-04	6.01E-05
	756.80	4.52	5.13E-04		4.80E-05	2.40E-04
	873.18	12.08	2.42E-04		-1.45E-04	1.15E-04
	996.29	10.48	2.06E-04		1.02E-04	9.71E-05
	1004.76	18.01	1.18E-04		-5.68E-05	5.55E-05
	1246.12	0.86	2.48E-03		-4.92E-04	1.13E-03
	1274.43	34.80	4.99E-05		6.30E-05	2.29E-05
	1494.05	0.70	2.21E-03		2.71E-03	1.01E-03
	1596.48	1.80	3.43E-04		8.90E-05	1.50E-04
EU-155	43.00	18.12	6.51E-04	7.30E-05	-5.17E-05	3.18E-04
	60.01	1.17	3.38E-03		4.71E-03	1.66E-03
	86.55	30.70	8.32E-05		1.95E-05	4.10E-05
	105.31	21.10	7.30E-05		-4.13E-06	3.57E-05
EU-156	88.97	8.40	4.19E-04	1.76E-04	1.33E-03	2.06E-04
	646.29	6.30	4.70E-04		-1.65E-04	2.26E-04
	723.47	5.40	4.45E-04		5.36E-04	2.11E-04
	811.77	9.70	2.46E-04		1.80E-04	1.17E-04
	1065.14	4.90	5.72E-04		2.87E-04	2.70E-04
	1079.16	4.60	5.31E-04		-4.99E-05	2.52E-04
	1153.80	11.50	1.76E-04		1.24E-05	8.18E-05
	1230.71	8.00	2.53E-04		-1.61E-04	1.16E-04
	1242.42	6.60	2.61E-04		1.90E-04	1.20E-04
	1277.43	2.89	6.29E-04		3.66E-04	2.88E-04
	1366.41	1.57	1.39E-03		1.26E-03	6.49E-04
	1965.95	3.90	2.93E-04		-1.33E-04	1.29E-04
	2097.70	3.80	3.92E-04		1.43E-04	1.72E-04
	2186.71	3.50	3.12E-04		1.69E-04	1.31E-04
Sm-156	87.60	24.00	1.39E-04	1.25E-04	5.62E-04	6.86E-05
	165.80	13.00	1.73E-04		-1.04E-04	8.43E-05
	204.00	21.00	1.25E-04		4.53E-05	6.12E-05
EU-158	42.31	5.80	7.79E-02	2.40E-03	-1.06E-05	3.80E-02
	43.00	10.40	3.98E-02		-3.16E-03	1.94E-02
	79.49	10.50	6.63E-03		-9.06E-03	3.25E-03
	181.97	2.30	2.67E-02		-2.52E-02	1.31E-02
	528.05	1.53	5.38E-02		4.18E-02	2.61E-02
	606.39	4.00	2.08E-02		7.93E-03	1.01E-02
	743.02	3.60	1.47E-02		6.97E-03	6.91E-03
	897.61	12.40	5.48E-03		-4.16E-03	2.59E-03
	906.50	1.83	3.77E-02		-1.86E-02	1.79E-02
	922.51	1.62	4.98E-02		4.32E-03	2.38E-02
	944.15	30.00	2.40E-03		8.02E-04	1.14E-03
	953.03	1.98	3.89E-02		3.03E-02	1.85E-02
	962.09	1.89	3.85E-02		-3.11E-02	1.83E-02
	977.14	16.30	4.26E-03		-1.14E-03	2.01E-03
	986.96	1.35	5.01E-02		1.77E-02	2.36E-02
	1107.63	5.10	1.64E-02		2.58E-02	7.80E-03
	1184.10	3.00	1.94E-02		1.68E-02	8.98E-03
	1186.00	2.90	1.88E-02		-1.07E-02	8.67E-03
	1187.10	4.40	1.22E-02		2.47E-03	5.60E-03
	1263.61	2.20	2.28E-02		3.15E-03	1.04E-02

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	1347.95	1.65	2.92E-02	2.40E-03	3.11E-02	1.32E-02
	1944.47	1.62	2.27E-02		-5.53E-03	9.52E-03
TB-160	86.79	13.20	2.76E-04	7.79E-05	6.45E-05	1.36E-04
	298.58	26.10	1.13E-04		5.66E-06	5.54E-05
	879.38	30.10	7.79E-05		-5.07E-05	3.70E-05
	962.32	9.81	2.39E-04		-1.93E-04	1.13E-04
	966.17	25.10	9.19E-05		-1.67E-05	4.36E-05
	1177.96	14.90	3.44E-04		4.01E-05	1.68E-04
TB-161	25.65	23.20	3.03E-02	2.26E-04	6.82E-02	1.48E-02
	48.91	17.00	3.93E-04		-2.12E-04	1.92E-04
	52.00	3.43	1.54E-03		-7.38E-04	7.54E-04
	57.19	1.79	2.62E-03		1.41E-03	1.28E-03
	74.57	10.20	2.26E-04		5.49E-05	1.11E-04
YB-169	63.12	43.62	1.32E-04	5.98E-05	5.50E-05	6.49E-05
	93.61	2.58	1.20E-03		5.13E-04	5.87E-04
	109.78	17.39	1.14E-04		6.00E-05	5.56E-05
	130.52	11.38	1.97E-04		-6.86E-05	9.61E-05
	177.21	22.28	9.85E-05		-2.42E-05	4.81E-05
	197.96	35.93	5.98E-05		-2.33E-05	2.93E-05
	307.74	10.05	1.59E-04		2.93E-05	7.76E-05
HF-172	54.07	63.00	7.52E-05	7.52E-05	-6.55E-06	3.68E-05
	67.35	5.30	4.96E-04		-1.15E-04	2.43E-04
	81.75	4.50	4.31E-04		1.83E-04	2.11E-04
	114.06	2.60	5.82E-04		-3.75E-04	2.84E-04
	122.92	1.14	1.37E-03		7.82E-04	6.71E-04
	125.81	11.30	1.40E-04		4.84E-05	6.87E-05
	127.91	1.46	1.03E-03		-3.32E-04	5.05E-04
LU-173	59.30	24.44	1.67E-04	1.09E-04	1.08E-05	8.19E-05
	78.63	11.90	2.21E-04		6.66E-06	1.08E-04
	100.72	5.24	3.29E-04		-3.11E-04	1.61E-04
	171.39	2.90	6.61E-04		7.24E-04	3.23E-04
	272.11	21.20	1.09E-04		2.30E-05	5.32E-05
LU-177	112.95	6.23	2.48E-04	1.94E-04	2.29E-05	1.21E-04
	208.37	10.41	1.94E-04		-6.48E-05	9.52E-05
	249.67	0.20	1.01E-02		5.43E-03	4.93E-03
	321.32	0.22	9.95E-03		6.83E-03	4.85E-03
HF-181	133.02	43.30	4.76E-05	4.08E-05	-9.62E-06	2.32E-05
	345.93	15.12	1.93E-04		-1.44E-04	9.42E-05
	482.18	80.50	4.08E-05		-2.76E-05	1.99E-05
W-181	56.28	18.70	2.30E-04	1.39E-04	8.68E-05	1.13E-04
	57.53	32.00	1.39E-04		4.71E-05	6.80E-05
	65.00	10.60	2.68E-04		-2.34E-05	1.31E-04
TA-182	57.98	10.01	4.32E-04	6.51E-05	9.73E-06	2.12E-04
	59.32	17.20	2.37E-04		1.53E-05	1.16E-04
	65.72	3.01	1.75E-03		5.01E-04	8.59E-04
	67.75	46.67	7.80E-05		1.94E-05	3.82E-05
	84.68	2.65	1.32E-03		-4.19E-04	6.50E-04
	100.11	14.20	1.61E-04		-9.83E-05	7.87E-05
	113.67	1.87	1.61E-03		-8.05E-04	7.85E-04
	116.42	0.44	3.41E-03		1.71E-04	1.66E-03
	152.43	7.02	3.31E-04		2.48E-04	1.62E-04
	156.39	2.67	8.87E-04		-7.22E-04	4.33E-04
	179.39	3.12	8.46E-04		2.44E-04	4.13E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	198.35	1.47	2.42E-03	6.51E-05	1.15E-03	1.18E-03
	222.11	7.57	3.48E-04		-1.49E-04	1.70E-04
	229.32	3.64	8.38E-04		3.66E-04	4.10E-04
	264.08	3.61	7.63E-04		-5.98E-05	3.72E-04
	928.00	0.61	4.91E-03		-7.49E-03	2.34E-03
	959.73	0.35	8.60E-03		-5.77E-03	4.08E-03
	1001.70	2.09	1.64E-03		2.84E-04	7.77E-04
	1044.42	0.24	1.12E-02		-4.72E-03	5.25E-03
	1113.41	0.44	7.30E-03		4.34E-03	3.47E-03
	1121.29	35.24	7.47E-05		7.96E-05	3.52E-05
	1157.30	0.73	2.05E-03		2.02E-03	9.53E-04
	1189.04	16.49	8.44E-05		-5.74E-05	3.88E-05
	1221.40	27.23	6.51E-05		-5.55E-05	2.99E-05
	1223.60	0.24	3.80E-03		3.78E-03	1.74E-03
	1231.00	11.62	1.58E-04		-2.69E-04	7.21E-05
	1257.41	1.51	9.52E-04		1.15E-03	4.35E-04
	1273.72	0.66	1.02E-03		6.20E-04	4.68E-04
	1289.15	1.37	2.73E-04		-6.32E-05	1.22E-04
	1342.73	0.26	5.12E-03		3.05E-04	2.36E-03
	1373.82	0.22	1.63E-03		1.89E-03	7.43E-04
Ta-183	84.71	1.35	1.92E-03	7.52E-05	-6.10E-04	9.46E-04
	99.08	6.80	2.32E-04		1.53E-04	1.13E-04
	107.93	11.20	1.42E-04		1.01E-04	6.95E-05
	161.35	9.10	1.90E-04		1.52E-04	9.29E-05
	162.32	5.00	3.49E-04		2.61E-04	1.71E-04
	244.26	8.80	2.35E-04		1.54E-04	1.15E-04
	246.06	27.20	7.52E-05		1.10E-05	3.67E-05
	353.99	11.60	2.18E-04		-1.61E-05	1.07E-04
Re-184	111.21	17.20	9.02E-05	4.59E-05	-5.42E-07	4.41E-05
	252.85	3.00	6.49E-04		-3.22E-04	3.17E-04
	792.01	37.70	4.59E-05		1.22E-05	2.17E-05
	894.76	15.70	1.22E-04		1.55E-05	5.77E-05
	903.28	38.10	5.14E-05		1.38E-05	2.44E-05
W-185	59.72	0.01	3.37E-01	8.20E-02	5.39E-01	1.66E-01
	61.14	0.02	1.83E-01		-3.93E-02	8.97E-02
	69.20	0.01	3.67E-01		-3.45E-01	1.80E-01
	125.36	0.02	8.20E-02		-1.71E-02	4.01E-02
W-187	61.14	14.30	2.92E-04	4.52E-05	-6.27E-05	1.43E-04
	69.20	4.82	5.84E-04		-5.49E-04	2.86E-04
	72.00	13.55	2.91E-04		1.09E-04	1.43E-04
	134.25	10.36	2.28E-04		-1.43E-04	1.11E-04
	479.53	26.60	1.57E-04		5.99E-05	7.69E-05
	618.37	7.57	3.21E-04		-4.02E-04	1.54E-04
	685.81	33.20	4.52E-05		-5.36E-06	2.12E-05
Ir-188	155.05	29.60	5.73E-05	5.73E-05	-7.16E-05	2.80E-05
	478.00	14.70	2.33E-04		1.07E-04	1.14E-04
	633.02	17.90	1.24E-04		-5.28E-05	5.98E-05
	634.97	5.00	4.49E-04		1.50E-04	2.16E-04
	829.42	5.10	3.41E-04		7.73E-05	1.60E-04
	1209.77	6.90	2.21E-04		4.20E-05	1.01E-04
	1715.67	6.20	2.05E-04		4.21E-05	8.90E-05
	2214.59	18.60	7.61E-05		-2.53E-06	3.26E-05
W-188	227.07	0.23	8.28E-03	5.18E-03	-1.14E-02	4.05E-03

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
W-188	290.68	0.42	5.18E-03	5.18E-03	-1.92E-03	2.53E-03
Ir-189	245.08	6.00	3.40E-04	3.40E-04	2.54E-04	1.66E-04
Ir-190	186.68	50.00	3.87E-05	3.87E-05	1.24E-05	1.89E-05
	361.09	12.30	1.95E-04		-2.92E-04	9.53E-05
	371.24	21.60	1.15E-04		6.97E-05	5.61E-05
	407.22	27.00	9.72E-05		1.70E-05	4.75E-05
	518.55	32.20	7.52E-05		-8.45E-05	3.65E-05
	557.95	28.50	7.59E-05		4.94E-05	3.66E-05
	569.30	27.00	7.84E-05		7.30E-07	3.78E-05
	605.14	37.80	6.22E-05		1.63E-05	3.01E-05
OS-191	63.29	15.70	2.14E-04	5.70E-05	1.58E-04	1.05E-04
	64.99	26.70	1.07E-04		-9.34E-06	5.24E-05
	73.45	9.21	2.55E-04		1.09E-04	1.25E-04
	129.43	26.50	5.70E-05		8.62E-06	2.78E-05
Pt-191	359.90	5.80	5.24E-04	1.84E-04	-5.75E-05	2.56E-04
	456.47	3.30	1.11E-03		5.81E-04	5.44E-04
	538.90	14.30	1.84E-04		3.10E-04	8.92E-05
IR-192	205.79	3.31	8.11E-04	3.67E-05	-9.24E-04	3.97E-04
	295.96	28.71	1.35E-04		7.91E-06	6.58E-05
	308.45	29.70	1.19E-04		-5.55E-06	5.83E-05
	316.51	82.86	3.67E-05		-1.94E-05	1.79E-05
	468.07	47.84	9.21E-05		-3.11E-05	4.51E-05
	588.58	4.52	7.92E-04		5.86E-04	3.82E-04
	604.41	8.22	2.19E-04		-1.06E-04	1.06E-04
	612.46	5.34	2.79E-04		2.90E-04	1.35E-04
IR-192m	155.16	0.09	1.74E-02	1.74E-02	-1.35E-02	8.48E-03
IR-193m	80.22	0.00	4.21E-01	4.21E-01	-5.71E-01	2.06E-01
Pt-193m	135.50	0.11	1.35E-02	1.35E-02	-1.23E-03	6.58E-03
Au-194	293.55	10.90	2.17E-04	3.77E-05	6.24E-05	1.06E-04
	328.47	62.80	3.77E-05		4.86E-06	1.84E-05
	364.84	1.60	1.64E-03		-7.97E-04	8.03E-04
	528.77	1.78	1.42E-03		3.99E-04	6.89E-04
	645.16	2.32	1.01E-03		3.88E-04	4.87E-04
	948.32	2.29	1.00E-03		8.34E-04	4.75E-04
	1104.06	2.15	1.19E-03		9.39E-05	5.65E-04
	1175.36	2.14	3.04E-03		1.69E-02	1.49E-03
	1468.90	6.80	2.95E-04		-2.75E-04	1.37E-04
	1595.81	1.89	6.78E-04		5.27E-04	2.97E-04
	2043.72	3.74	3.79E-04		-4.42E-04	1.64E-04
Ir-194	293.54	2.50	1.01E-03	1.94E-04	2.92E-04	4.96E-04
	328.47	13.10	1.94E-04		2.50E-05	9.47E-05
AU-195	98.86	11.21	1.37E-04	1.37E-04	-3.59E-05	6.68E-05
	129.74	0.84	1.79E-03		-2.88E-04	8.74E-04
Pt-195m	98.90	11.70	1.35E-04	1.35E-04	-3.54E-05	6.58E-05
	129.79	2.90	5.33E-04		-8.57E-05	2.60E-04
Au-196	333.03	22.90	1.54E-04	3.56E-05	-5.43E-05	7.50E-05
	355.73	87.00	3.56E-05		3.37E-05	1.74E-05
	426.10	6.60	4.37E-04		2.95E-04	2.14E-04
Au-196m	147.81	43.50	4.62E-05	4.62E-05	1.61E-06	2.25E-05
	188.27	30.00	8.58E-05		1.35E-05	4.20E-05
Pt-197	77.35	17.00	1.45E-04	1.45E-04	1.78E-04	7.09E-05
	191.44	3.70	6.19E-04		6.78E-04	3.03E-04
AU-198	411.80	95.62	3.80E-05	3.80E-05	1.33E-05	1.87E-05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AU-199	158.38	40.00	4.29E-05	4.29E-05	1.19E-05	2.10E-05
	208.20	8.72	2.36E-04		-7.88E-05	1.16E-04
TL-201	135.34	2.61	5.99E-04	1.75E-04	1.88E-04	2.92E-04
	167.43	10.00	1.75E-04		-4.54E-05	8.55E-05
TL-202	439.51	91.50	3.27E-05	3.27E-05	2.10E-06	1.60E-05
PB-203	70.83	26.40	9.37E-05	3.26E-05	-1.41E-04	4.58E-05
	72.87	44.20	5.60E-05		-7.61E-06	2.74E-05
	82.40	15.56	1.29E-04		-1.20E-04	6.30E-05
	279.20	80.90	3.26E-05		2.06E-06	1.59E-05
	401.32	3.35	1.23E-03		-1.00E-03	6.03E-04
PB-210	46.54	4.25	1.87E-03	1.87E-03	-5.13E-05	9.14E-04
Pa-233	86.60	2.01	1.49E-03	5.68E-05	3.49E-04	7.34E-04
	94.65	8.90	1.82E-04		-4.86E-05	8.90E-05
	98.43	14.20	1.08E-04		-7.07E-05	5.27E-05
	300.13	6.54	3.35E-04		-4.33E-04	1.64E-04
	311.90	38.20	5.68E-05		3.23E-05	2.77E-05
	340.48	4.44	5.03E-04		3.48E-04	2.46E-04
U-235	89.96	2.90	8.38E-04	3.29E-05	1.05E-04	4.13E-04
	93.35	4.70	3.42E-04		1.23E-04	1.67E-04
	109.19	1.64	9.55E-04		-2.21E-04	4.67E-04
	143.76	10.93	1.37E-04		8.59E-05	6.71E-05
	163.36	5.07	3.33E-04		-5.96E-05	1.63E-04
	185.71	57.20	3.29E-05		1.75E-05	1.61E-05
	202.11	1.07	1.85E-03		1.27E-03	9.05E-04
	205.31	5.03	3.95E-04		1.96E-05	1.94E-04
NP-237	86.48	12.20	2.09E-04	2.09E-04	4.91E-05	1.03E-04
U-237	59.54	34.50	1.28E-04	6.32E-05	8.32E-06	6.31E-05
	97.07	15.40	1.04E-04		-6.02E-05	5.07E-05
	101.06	24.50	6.32E-05		6.96E-06	3.09E-05
	113.30	3.07	5.04E-04		-6.76E-05	2.46E-04
	114.23	5.81	2.65E-04		-1.71E-04	1.29E-04
	117.46	2.27	6.68E-04		-1.18E-04	3.27E-04
	208.00	21.20	1.01E-04		6.34E-06	4.97E-05
NP-238	103.37	0.00	3.44E-01	8.06E-05	-1.21E-02	1.68E-01
	882.63	0.80	2.60E-03		1.08E-03	1.23E-03
	923.99	2.60	9.33E-04		1.47E-04	4.45E-04
	984.45	25.20	8.06E-05		-3.75E-05	3.80E-05
	1025.87	8.75	2.27E-04		-1.18E-05	1.07E-04
	1028.53	18.23	1.17E-04		5.00E-05	5.51E-05
U-238	63.29	3.70	9.02E-04	4.00E-04	6.67E-04	4.43E-04
	92.51	4.23	4.00E-04		8.70E-05	1.96E-04
	112.81	0.21	7.25E-03		-4.90E-04	3.54E-03
	742.81	0.11	1.41E-02		6.45E-03	6.61E-03
	766.42	0.32	5.02E-03		-1.36E-03	2.36E-03
	1001.03	0.84	2.33E-03		1.34E-03	1.10E-03
Am-239	181.71	1.08	2.04E-03	1.80E-04	2.33E-06	9.99E-04
	209.80	3.50	7.15E-04		1.99E-04	3.50E-04
	226.40	3.30	7.53E-04		2.38E-04	3.68E-04
	228.10	11.30	2.17E-04		-1.10E-04	1.06E-04
	277.60	15.00	1.80E-04		-2.23E-05	8.78E-05
NP-239	61.46	1.30	2.99E-03	7.10E-05	-7.65E-05	1.47E-03
	99.53	12.90	1.25E-04		7.59E-05	6.10E-05
	103.37	20.50	7.95E-05		-2.79E-06	3.89E-05

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	NP-239	106.12		25.34	7.10E-05	7.10E-05	4.34E-05	3.47E-05
		209.75		3.36	6.56E-04		1.82E-04	3.21E-04
		228.18		11.24	1.94E-04		-4.66E-05	9.50E-05
		277.60		14.51	1.70E-04		-2.11E-05	8.31E-05
		285.46		0.79	3.40E-03		-2.99E-05	1.66E-03
		315.88		1.60	1.23E-03		8.25E-04	5.99E-04
		334.31		2.06	8.14E-04		1.23E-05	3.97E-04
	PU-239	38.66		0.01	2.17E+00	1.95E-01	1.37E+00	1.06E+00
		51.62		0.03	1.95E-01		-1.42E-01	9.51E-02
		98.50		0.01	2.11E-01		-1.38E-01	1.03E-01
		111.03		0.00	1.17E+00		-2.76E-01	5.73E-01
		129.30		0.01	2.36E-01		-1.77E-02	1.15E-01
		171.39		0.00	1.55E+01		1.69E+01	7.56E+00
		203.55		0.00	3.45E+00		-8.56E-01	1.69E+00
		332.85		0.00	4.43E+00		4.87E-01	2.16E+00
		336.11		0.00	1.92E+01		-1.61E+01	9.37E+00
		345.01		0.00	4.13E+00		2.89E+00	2.01E+00
		375.05		0.00	1.53E+00		-8.08E-01	7.45E-01
		380.19		0.00	7.92E+00		4.30E-01	3.86E+00
		382.75		0.00	9.53E+00		3.31E+00	4.65E+00
		413.71		0.00	2.34E+00		6.19E+00	1.15E+00
		422.60		0.00	2.23E+01		-3.14E+00	1.09E+01
		451.48		0.00	1.65E+01		-4.65E+00	8.05E+00
	Am-240	99.53		18.40	8.81E-05	2.87E-05	5.35E-05	4.30E-05
		103.37		29.20	5.61E-05		-1.97E-06	2.74E-05
		117.23		6.93	2.27E-04		-4.00E-05	1.11E-04
		888.85		24.70	8.57E-05		7.22E-05	4.07E-05
		987.79		72.20	2.87E-05		4.68E-06	1.36E-05
	Np-240m	554.60		20.90	1.26E-04	1.26E-04	-8.86E-06	6.08E-05
		597.40		11.70	2.17E-04		-2.50E-04	1.05E-04
	U-240	44.10		1.05	1.20E-02	9.91E-03	-2.84E-03	5.84E-03
		66.50		0.15	2.13E-02		4.69E-03	1.04E-02
		169.20		0.12	1.78E-02		9.51E-03	8.69E-03
		189.70		0.24	9.91E-03		-7.03E-03	4.85E-03
+	AM-241	59.54	*	35.90	1.31E-04	1.31E-04	1.17E-04	6.45E-05
	AM-242m	49.35		0.13	4.73E-02	4.73E-02	-5.10E-03	2.31E-02
		66.89		0.01	1.80E-01		5.77E-02	8.81E-02
		86.65		0.02	1.12E-01		2.62E-02	5.51E-02
		163.25		0.02	1.10E-01		-1.97E-02	5.39E-02
	AM-243	43.53		5.90	1.88E-03	3.36E-05	-2.38E-04	9.20E-04
		74.66		67.20	3.36E-05		1.64E-05	1.65E-05

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

Apex-Gamma

Analysis Report for 24-2508 TI185-3.5M-S1-CST-d-A F0
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2508 TI185-3.5M-S1-CST-d-A F0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 11:35:32AM
Procedure	: F0_gsv02mlw
Operator	: Administrator
Detector Name	: F
Geometry	: F0_gsv02mlw
Live Time	: 600.0 seconds
Real Time	: 600.6 seconds
Dead Time	: 0.09 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: F0_gsv2mlw_R717
Sample Number	: 578933
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 11:45:39AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2508 TI185-3.5M-S1-CST-d-A F0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.75	167.85	0.2968	4.65
2	87.72	245.72	0.2059	8.76
3	414.85	1159.86	0.1970	6.42
4	661.88	1850.38	0.0765	43.45
5	666.57	1863.79	0.2003	7.30
6	695.21	1943.43	0.1909	6.92
7	1173.64	3280.65	0.1513	8.01
8	1333.05	3726.08	0.1489	8.89

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2508 TI185-3.5M-S1-CST-d-A F0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 11:45:39AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.75	161 -	172	167.53	1.20E+02	80.70	2.47E+02	1.16
F	2	87.72	237 -	251	245.70	4.12E+02	66.70	2.94E+02	1.27
F	3	414.85	1155 -	1169	1159.99	2.91E+02	19.38	1.54E+02	1.87
M	4	661.88	1839 -	1871	1850.36	6.64E+03	110.56	3.84E+01	1.83
m	5	666.57	1839 -	1871	1863.48	1.95E+02	14.87	2.59E+01	1.84
F	6	695.21	1935 -	1954	1943.50	2.06E+02	14.40	3.56E+01	1.96
F	7	1173.64	3270 -	3289	3280.45	3.95E+02	18.80	5.16E+00	2.36
F	8	1333.05	3715 -	3736	3725.88	4.05E+02	18.88	0.00E+00	2.46

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 11:45:39AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578890.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.75	1.20E+02	80.70	1.37E+00	1.99E-01	1.18E+02	8.07E+01
F	2	87.72	4.12E+02	66.70	5.33E+00	3.07E-01	4.07E+02	6.67E+01
F	3	414.85	2.91E+02	19.38			2.91E+02	1.94E+01
M	4	661.88	6.64E+03	110.56			6.64E+03	1.11E+02
m	5	666.57	1.95E+02	14.87			1.95E+02	1.49E+01
F	6	695.21	2.06E+02	14.40			2.06E+02	1.44E+01
F	7	1173.64	3.95E+02	18.80			3.95E+02	1.88E+01
F	8	1333.05	4.05E+02	18.88			4.05E+02	1.89E+01

Analysis Report for 24-2508 TI185-3.5M-S1-CST-d-A F0

ASR 2094 Branch

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.96	1173.23	*	99.85	3.94E-04	1.89E-05	0.786
		1332.49	*	99.98	4.42E-04	2.08E-05	0.777
CD-109	0.98	88.03	*	3.64	2.72E-03	4.46E-04	free
Te-129m	0.93	695.88	*	3.00	3.87E-03	8.20E-04	free
CS-137	0.99	661.66	*	85.10	4.23E-03	7.51E-05	miss
AM-241	0.99	59.54	*	35.90	1.57E-04	1.08E-04	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2508 TI185-3.5M-S1-CST-d-A F0

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.963	4.15E-04	1.40E-05	
CD-109	0.984	2.72E-03	4.46E-04	
Te-129m	0.930	3.87E-03	8.20E-04	
CS-137	0.992	4.23E-03	7.51E-05	
AM-241	0.993	1.57E-04	1.08E-04	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2508 TI185-3.5M-S1-CST-d-A F0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 11:45:39AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	414.85	4.85436E-01	6.66	Tol.	RH-102M
m	5	666.57	3.24372E-01	7.64		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.60	10.44	3.92E-04	3.92E-04	-2.07E-05	1.90E-04
NA-22	511.00	179.91	2.02E-05	2.02E-05	1.91E-05	9.76E-06
	1274.54	99.94	4.37E-05		1.53E-05	1.97E-05
NA-24	1368.63	99.99	3.23E-05	2.27E-05	2.91E-06	1.45E-05
	2754.01	99.87	2.27E-05		4.90E-06	8.05E-06
AL-26	1129.67	2.50	1.00E-03	2.04E-05	-8.02E-04	4.57E-04
	1808.65	99.76	2.04E-05		8.87E-07	8.79E-06
K-40	1460.82	10.66	2.58E-04	2.58E-04	9.84E-06	1.18E-04
K-42	312.60	0.34	1.09E-02	1.06E-04	6.74E-05	5.29E-03
	1524.60	18.08	1.06E-04		-1.66E-05	4.38E-05
Sc-44	1157.02	99.90	5.64E-05	5.64E-05	1.46E-05	2.58E-05
	1499.46	0.91	4.12E-03		2.22E-03	1.72E-03
Sc-44m	271.24	86.74	3.45E-05	3.45E-05	2.34E-05	1.67E-05
	1001.83	1.20	3.99E-03		8.78E-04	1.86E-03
	1126.06	1.20	3.62E-03		-1.36E-03	1.66E-03
	1157.00	1.20	3.69E-03		9.54E-04	1.69E-03

Analysis Report for 24-2508 TI185-3.5M-S1-CST-d-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TI-44	67.87	93.00	4.22E-05	3.26E-05	-3.23E-05	2.05E-05
	78.32	96.40	3.26E-05		1.87E-05	1.59E-05
SC-46	889.28	99.98	2.91E-05	2.91E-05	-8.08E-06	1.34E-05
	1120.55	99.99	3.43E-05		3.05E-06	1.58E-05
CA-47	489.23	5.90	7.99E-04	2.77E-05	9.38E-04	3.85E-04
	807.86	5.90	5.18E-04		2.18E-04	2.39E-04
	1297.09	67.00	2.77E-05		2.15E-05	1.21E-05
SC-47	159.38	68.30	3.36E-05	3.36E-05	-9.35E-06	1.63E-05
SC-48	175.36	7.47	3.28E-04	1.70E-05	6.95E-05	1.59E-04
	983.53	100.00	2.78E-05		2.60E-05	1.29E-05
	1037.52	97.50	2.95E-05		4.12E-06	1.37E-05
	1312.12	100.00	1.70E-05		2.63E-07	7.28E-06
V-48	944.13	7.87	4.40E-04	2.13E-05	3.94E-04	2.05E-04
	983.53	99.98	3.33E-05		3.12E-05	1.54E-05
	1312.11	98.20	2.13E-05		3.30E-07	9.12E-06
	2240.40	2.33	5.06E-04		6.88E-05	1.60E-04
CR-51	320.08	9.91	2.99E-04	2.99E-04	1.89E-04	1.45E-04
Fe-52	168.69	99.20	3.29E-05	3.29E-05	-2.14E-05	1.59E-05
	377.75	1.64	2.90E-03		-5.26E-05	1.40E-03
Mn-52	744.23	90.00	3.66E-05	2.84E-05	3.85E-05	1.68E-05
	848.18	3.32	1.19E-03		6.55E-04	5.53E-04
	935.54	94.50	4.46E-05		-8.46E-06	2.06E-05
	1246.28	4.21	8.16E-04		-1.92E-04	3.64E-04
	1333.65	5.07	2.54E-03		9.72E-03	1.23E-03
	1434.09	100.00	2.84E-05		1.72E-05	1.21E-05
MN-54	834.85	99.98	2.68E-05	2.68E-05	1.65E-05	1.26E-05
Co-55	411.50	1.07	5.20E-03	3.86E-05	3.76E-04	2.54E-03
	477.20	20.20	2.47E-04		2.22E-04	1.20E-04
	803.70	1.87	1.34E-03		-1.30E-03	6.18E-04
	931.10	75.00	3.86E-05		2.14E-05	1.79E-05
	1316.60	7.10	2.78E-04		1.85E-04	1.19E-04
	1370.00	2.90	8.77E-04		-4.37E-04	3.90E-04
	1408.50	16.90	1.18E-04		-9.17E-05	5.04E-05
Co-56	846.77	99.94	3.31E-05	3.31E-05	-1.62E-05	1.54E-05
	977.37	1.42	2.73E-03		-4.50E-05	1.26E-03
	1037.84	14.05	2.74E-04		4.19E-05	1.27E-04
	1175.10	2.25	5.56E-03		2.23E-02	2.70E-03
	1238.29	66.46	3.67E-05		-2.59E-05	1.60E-05
	1360.21	4.28	7.82E-04		8.47E-04	3.54E-04
	1771.36	15.41	1.94E-04		2.73E-05	8.46E-05
	2015.20	3.02	7.35E-04		-2.80E-04	3.01E-04
	2034.79	7.77	2.63E-04		1.00E-04	1.04E-04
	2598.50	16.97	1.03E-04		2.22E-05	3.66E-05
MN-56	846.76	98.85	9.68E-05	9.68E-05	-4.73E-05	4.51E-05
	1810.73	26.90	3.27E-04		-2.36E-04	1.39E-04
	2113.09	14.20	5.07E-04		1.93E-04	2.01E-04
Ni-56	158.38	98.80	2.28E-05	2.28E-05	5.62E-06	1.10E-05
	269.50	36.50	7.34E-05		-1.07E-05	3.55E-05
	480.44	36.50	1.09E-04		-2.09E-06	5.30E-05
	749.50	49.50	4.53E-05		2.43E-05	2.10E-05
	811.85	86.00	2.47E-05		-1.19E-05	1.14E-05
	1561.80	14.00	1.20E-04		6.87E-06	5.05E-05
CO-57	122.06	85.60	2.52E-05	2.52E-05	9.34E-06	1.22E-05

Analysis Report for 24-2508 TI185-3.5M-S1-CST-d-A F0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CO-57	136.47		10.68	1.89E-04	2.52E-05	-7.31E-06	9.14E-05
	NI-57	127.16		16.70	1.41E-04	2.10E-05	-7.81E-05	6.86E-05
		1377.63		81.70	2.10E-05		-3.06E-06	8.95E-06
		1757.55		5.75	3.09E-04		4.74E-05	1.28E-04
		1919.52		12.30	1.28E-04		4.86E-05	5.06E-05
	CO-58	810.76		99.45	2.32E-05	2.32E-05	-9.63E-06	1.07E-05
		863.96		0.69	5.43E-03		3.10E-03	2.55E-03
		1674.73		0.52	2.14E-03		8.15E-04	8.48E-04
	FE-59	142.65		1.02	1.98E-03	4.05E-05	3.32E-04	9.61E-04
		192.34		3.08	1.03E-03		-2.38E-04	5.02E-04
		1099.24		56.50	4.25E-05		-1.89E-05	1.94E-05
		1291.59		43.20	4.05E-05		1.25E-05	1.77E-05
+	CO-60	1173.23	*	99.85	2.12E-05	2.95E-06	3.94E-04	9.25E-06
		1332.49	*	99.98	2.95E-06		4.42E-04	0.00E+00
	CU-64	511.00		35.00	1.34E-04	1.34E-04	1.27E-04	6.47E-05
		1345.77		0.47	3.88E-03		2.10E-03	1.63E-03
	NI-65	366.27		4.81	3.13E-03	2.95E-04	3.15E-03	1.51E-03
		1115.53		15.43	8.33E-04		9.40E-04	3.90E-04
		1481.84		23.59	2.95E-04		-1.65E-04	1.29E-04
	ZN-65	1115.54		50.04	6.47E-05	6.47E-05	7.31E-05	3.03E-05
	GA-66	511.00		114.00	4.49E-05	4.49E-05	4.24E-05	2.17E-05
		833.53		5.90	6.13E-04		-9.40E-04	2.86E-04
		1039.22		37.00	9.90E-05		3.72E-05	4.58E-05
		1333.11		1.17	9.95E-03		4.24E-02	4.84E-03
		1918.33		1.99	1.01E-03		3.86E-04	4.02E-04
		2189.62		5.30	3.49E-04		9.72E-05	1.31E-04
		2751.83		22.70	8.93E-05		1.92E-05	3.16E-05
	CU-67	91.27		7.00	4.39E-04	5.33E-05	2.50E-04	2.15E-04
		93.31		16.10	1.33E-04		4.51E-05	6.46E-05
		184.58		48.70	5.33E-05		-2.32E-05	2.59E-05
		300.22		0.80	3.79E-03		-3.94E-03	1.84E-03
		393.53		0.22	1.52E-02		-3.17E-03	7.34E-03
	GA-67	91.26		3.11	1.15E-03	5.90E-05	6.53E-04	5.60E-04
		93.31		38.81	5.90E-05		2.00E-05	2.86E-05
		184.58		21.41	1.22E-04		-5.28E-05	5.91E-05
		208.95		2.46	1.51E-03		5.20E-04	7.35E-04
		300.22		16.64	2.04E-04		-2.12E-04	9.90E-05
		393.53		4.56	4.53E-04		-9.46E-05	2.19E-04
	ZN-69m	438.63		94.85	5.05E-05	5.05E-05	-3.60E-06	2.45E-05
	GA-72	629.97		26.13	2.09E-04	4.50E-05	-2.11E-05	9.89E-05
		834.13		95.45	4.50E-05		2.70E-05	2.10E-05
		894.33		10.14	4.44E-04		1.98E-04	2.04E-04
		1050.79		6.99	8.13E-04		1.88E-04	3.75E-04
		2201.59		26.87	1.07E-04		4.53E-05	4.30E-05
		2491.03		7.73	1.92E-04		2.61E-05	6.06E-05
		2507.72		13.33	4.74E-04		4.85E-04	2.13E-04
	Zn-72	144.70		82.78	2.62E-05	2.62E-05	1.26E-05	1.27E-05
		191.50		9.35	2.80E-04		-2.04E-04	1.36E-04
	SE-75	121.12		17.20	1.74E-04	4.68E-05	5.69E-05	8.46E-05
		136.00		58.50	4.68E-05		-1.19E-06	2.27E-05
		264.66		58.90	6.11E-05		-3.14E-06	2.96E-05
		279.54		25.02	1.34E-04		-9.65E-05	6.49E-05
		400.66		11.41	9.86E-05		-4.90E-05	4.77E-05

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BR-83	529.59	1.30	9.13E-03	9.13E-03	-2.18E-03	4.37E-03
BR-84	604.80	1.70	7.93E-01	2.40E-02	9.72E-01	3.78E-01
	736.50	1.29	6.90E-01		3.34E-01	3.17E-01
	802.20	6.00	1.62E-01		1.69E-02	7.44E-02
	881.60	42.00	2.40E-02		-4.25E-04	1.11E-02
	987.30	0.79	1.48E+00		-9.91E-01	6.85E-01
	1015.90	6.20	2.00E-01		3.86E-02	9.30E-02
	1213.30	2.60	2.72E-01		-1.54E-01	1.17E-01
	1463.80	2.00	6.27E-01		7.38E-01	2.86E-01
	1741.20	1.60	4.58E-01		-1.70E-01	1.90E-01
	1877.50	1.12	7.27E-01		3.93E-01	3.05E-01
	1897.60	14.60	5.88E-02		-7.76E-03	2.48E-02
	2029.60	2.10	3.25E-01		1.24E-01	1.29E-01
	2200.70	1.16	6.79E-01		2.89E-01	2.74E-01
	2484.10	6.70	6.91E-02		9.38E-03	2.18E-02
	2824.10	1.12	1.76E-01		0.00E+00	0.00E+00
KR-85m	151.20	75.20	5.65E-05	5.65E-05	1.53E-05	2.74E-05
	304.87	14.00	4.08E-04		-2.21E-04	1.97E-04
Y-87	388.53	82.20	3.89E-05	3.89E-05	-2.79E-05	1.88E-05
	484.80	89.80	4.25E-05		-1.30E-05	2.06E-05
KR-88	165.98	3.10	3.58E-03	1.66E-04	-3.07E-04	1.74E-03
	196.30	26.00	3.80E-04		2.00E-04	1.85E-04
	362.23	2.25	3.60E-03		-3.44E-03	1.74E-03
	471.80	0.73	2.23E-02		-9.05E-03	1.08E-02
	834.83	13.00	7.91E-04		4.88E-04	3.70E-04
	985.78	1.31	8.92E-03		3.63E-03	4.13E-03
	1141.33	1.28	6.59E-03		-1.54E-03	3.00E-03
	1179.51	1.00	3.23E-02		2.30E-03	1.57E-02
	1250.67	1.12	7.63E-03		7.62E-04	3.40E-03
	1369.50	1.48	6.16E-03		-9.36E-04	2.75E-03
	1518.39	2.15	3.07E-03		-8.19E-05	1.29E-03
	1529.77	10.90	5.30E-04		2.47E-04	2.17E-04
	2029.84	4.53	1.64E-03		-1.37E-03	6.52E-04
	2035.41	3.74	1.72E-03		6.55E-04	6.81E-04
	2195.84	13.20	4.99E-04		1.90E-04	1.98E-04
	2231.77	3.39	1.23E-03		4.69E-04	4.88E-04
	2352.08	0.73	1.03E-02		4.37E-03	4.15E-03
	2392.11	34.60	1.66E-04		-4.57E-05	6.79E-05
RB-88	898.03	14.40	6.19E-04	2.96E-04	-2.22E-04	2.85E-04
	1382.45	0.78	8.24E-03		5.50E-03	3.55E-03
	1836.00	22.81	2.96E-04		-2.77E-05	1.24E-04
	2677.89	2.13	1.96E-03		2.66E-04	6.20E-04
Y-88	898.04	93.70	2.99E-05	2.29E-05	-1.07E-05	1.38E-05
	1836.06	99.20	2.29E-05		-2.14E-06	9.61E-06
RB-89	272.42	1.53	5.87E+02	1.38E+01	-1.44E+02	2.85E+02
	657.77	10.80	6.20E+02		7.79E+00	3.08E+02
	947.73	10.00	9.25E+01		7.87E+00	4.33E+01
	1031.92	63.00	1.38E+01		5.91E+00	6.38E+00
	1248.14	46.00	1.48E+01		8.62E+00	6.63E+00
	1538.07	2.77	2.04E+02		1.30E+02	8.74E+01
	2007.50	2.58	2.25E+02		1.13E+02	9.32E+01
	2195.92	14.50	3.57E+01		1.36E+01	1.42E+01
	2570.20	10.70	4.01E+01		8.65E+00	1.42E+01

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
RB-89	2707.26	2.20	6.04E+01	1.38E+01	0.00E+00	0.00E+00
SR-89	908.96	0.01	2.81E-01	2.81E-01	1.84E-01	1.31E-01
Sr-91	652.90	11.35	3.66E-04	1.08E-04	-2.02E-04	1.74E-04
	749.80	23.70	1.29E-04		6.95E-05	6.00E-05
	925.80	3.85	9.34E-04		-4.90E-04	4.34E-04
	1024.30	33.50	1.08E-04		-1.06E-06	4.98E-05
Y-91	1204.77	0.26	7.52E-03	7.52E-03	-4.18E-04	3.34E-03
Y-91m	555.57	61.64	6.46E-05	6.46E-05	-5.71E-05	3.08E-05
NB-92M	912.60	1.78	2.03E-03	2.55E-05	1.08E-03	9.49E-04
	934.44	99.15	2.55E-05		1.70E-05	1.18E-05
	1847.50	0.85	1.75E-03		-5.03E-05	7.40E-04
SR-92	241.56	2.93	2.95E-03	6.50E-05	1.64E-03	1.43E-03
	430.49	3.28	3.82E-03		-2.51E-03	1.85E-03
	953.31	3.52	2.79E-03		2.73E-03	1.30E-03
	1142.35	2.79	2.84E-03		-1.60E-03	1.29E-03
	1383.93	90.00	6.50E-05		-4.82E-05	2.80E-05
MO-93M	114.04	0.68	4.60E-03	3.09E-05	2.75E-05	2.23E-03
	263.05	57.40	7.40E-05		6.07E-05	3.59E-05
	684.69	99.90	3.09E-05		3.43E-06	1.42E-05
	1363.02	0.81	4.81E-03		3.48E-03	2.17E-03
	1477.14	99.10	3.13E-05		5.87E-06	1.36E-05
SR-93	168.50	18.40	2.68E+07	7.97E+06	-1.75E+07	1.30E+07
	260.12	7.40	7.77E+07		-1.85E+07	3.76E+07
	346.49	3.28	2.02E+08		-1.53E+08	9.78E+07
	446.20	2.36	3.85E+08		1.20E+08	1.87E+08
	590.24	68.00	7.97E+06		-1.16E+07	3.76E+06
	710.31	21.80	2.30E+07		2.03E+07	1.07E+07
	875.73	24.50	2.02E+07		-2.25E+05	9.30E+06
	888.13	22.10	2.31E+07		6.66E+06	1.06E+07
	1040.63	3.20	1.86E+08		1.54E+08	8.61E+07
	1094.00	1.76	2.96E+08		5.68E+07	1.35E+08
	1122.48	4.00	1.42E+08		1.35E+08	6.51E+07
	1215.48	2.50	1.44E+08		1.00E+08	6.24E+07
	1269.47	7.10	7.20E+07		4.27E+07	3.25E+07
	1321.24	2.61	1.41E+08		2.34E+07	6.07E+07
	1387.11	3.50	1.05E+08		-1.15E+08	4.49E+07
	1694.07	2.58	8.03E+07		-5.84E+07	2.84E+07
	1699.06	3.30	8.88E+07		3.39E+07	3.52E+07
	2543.84	3.03	9.74E+07		2.10E+07	3.45E+07
	2688.65	2.13	4.30E+07		0.00E+00	0.00E+00
Y-93	266.90	7.40	4.91E-04	4.91E-04	2.46E-04	2.38E-04
	947.10	2.10	1.90E-03		6.49E-04	8.90E-04
	1917.80	1.57	1.25E-03		4.78E-04	4.97E-04
NB-94	702.65	99.81	3.34E-05	3.17E-05	1.35E-05	1.57E-05
	871.09	99.89	3.17E-05		-4.02E-05	1.47E-05
Y-94	381.60	2.02	5.26E+01	1.47E+00	6.97E+01	2.55E+01
	550.90	4.90	1.82E+01		-4.00E+00	8.68E+00
	752.60	1.40	5.08E+01		2.06E+00	2.35E+01
	918.74	56.00	1.47E+00		-1.90E-01	6.81E-01
	1138.90	6.00	1.29E+01		6.89E+00	5.91E+00
	1671.40	2.50	1.54E+01		-3.12E+01	5.98E+00
	2140.60	0.95	6.52E+01		3.29E+01	2.70E+01
NB-95	765.80	99.81	2.20E-05	2.20E-05	3.00E-07	1.02E-05

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ZR-95	724.19	44.27	5.78E-05	4.03E-05	4.56E-05	2.71E-05
	756.72	54.38	4.03E-05		1.19E-05	1.87E-05
NB-96	219.08	2.97	9.29E-04	2.46E-05	-1.52E-03	4.50E-04
	241.38	3.50	8.20E-04		4.55E-04	3.97E-04
	350.05	1.54	2.27E-03		-2.71E-04	1.10E-03
	352.56	0.83	4.32E-03		4.84E-03	2.09E-03
	371.81	2.62	1.43E-03		-4.42E-04	6.95E-04
	460.04	26.62	1.79E-04		-4.21E-05	8.72E-05
	480.71	5.84	7.68E-04		-1.47E-05	3.72E-04
	568.87	58.00	5.46E-05		-1.46E-05	2.60E-05
	719.56	6.85	4.08E-04		1.02E-04	1.91E-04
	721.63	1.02	2.82E-03		-6.79E-04	1.32E-03
	778.22	96.45	2.46E-05		-1.11E-05	1.13E-05
	810.33	11.09	2.22E-04		8.62E-05	1.02E-04
	812.58	2.95	8.19E-04		5.64E-06	3.77E-04
	847.69	1.14	2.49E-03		-2.17E-04	1.16E-03
	849.93	20.45	1.39E-04		9.68E-06	6.46E-05
	1091.35	48.50	5.42E-05		-9.13E-05	2.47E-05
	1200.23	19.97	1.21E-04		7.34E-05	5.41E-05
	1441.13	0.44	3.84E-03		-8.58E-04	1.61E-03
	1497.81	3.28	5.58E-04		1.60E-05	2.36E-04
Nb-97	657.94	98.23	2.57E-04	2.57E-04	-3.82E-07	1.27E-04
	1024.40	1.09	2.87E-03		-2.82E-05	1.33E-03
ZR-97	254.17	1.15	2.63E-03	2.50E-05	-1.22E-03	1.27E-03
	355.40	2.09	2.59E-03		3.58E-03	1.26E-03
	507.64	5.03	1.17E-03		7.02E-04	5.66E-04
	743.36	93.09	2.50E-05		-3.07E-05	1.15E-05
	1147.97	2.62	1.68E-03		-8.36E-05	7.68E-04
MO-99	181.07	6.14	6.39E-04	2.06E-04	1.93E-05	3.10E-04
	366.42	1.20	2.80E-03		2.82E-03	1.36E-03
	739.50	12.26	2.06E-04		-1.03E-04	9.39E-05
	777.92	4.30	5.10E-04		1.77E-04	2.35E-04
TC-99M	140.51	90.80	2.27E-05	2.27E-05	-1.25E-05	1.10E-05
RH-101	127.23	68.00	4.21E-05	4.21E-05	-1.51E-05	2.04E-05
	198.01	73.00	4.61E-05		2.36E-05	2.24E-05
	325.23	11.80	1.01E-04		3.92E-05	4.89E-05
RH-101M	306.86	81.00	3.52E-05	3.52E-05	1.30E-05	1.71E-05
	545.12	4.30	6.65E-04		-6.93E-04	3.17E-04
RH-102M	415.25	2.10	5.18E-03	8.28E-05	1.07E-02	2.53E-03
	418.52	9.40	1.03E-03		4.13E-04	5.03E-04
	420.40	3.20	2.88E-03		1.17E-03	1.40E-03
	475.06	95.00	8.28E-05		3.86E-05	4.03E-05
	628.05	8.30	7.49E-04		-1.26E-04	3.55E-04
	631.29	56.00	8.73E-05		9.97E-06	4.13E-05
	692.40	1.60	5.93E-03		-4.16E-04	2.86E-03
	695.60	2.90	2.87E-03		8.72E-03	1.39E-03
	697.49	44.00	1.84E-04		4.37E-04	8.86E-05
	766.84	34.00	1.16E-04		6.18E-05	5.36E-05
	1046.59	34.00	1.24E-04		-1.24E-05	5.69E-05
	1103.16	4.60	7.99E-04		-3.77E-04	3.71E-04
	1112.84	19.00	2.86E-04		7.67E-05	1.34E-04
RU-103	497.08	91.00	3.83E-05	3.83E-05	-6.48E-06	1.85E-05
	610.33	5.76	5.28E-04		-1.44E-05	2.52E-04

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RH-105	306.31		4.66	6.56E-04	1.89E-04	2.86E-04	3.18E-04
		319.23		16.90	1.89E-04		4.01E-05	9.15E-05
	AG-106M	221.70		6.60	3.88E-04	4.11E-05	5.43E-04	1.88E-04
		228.63		2.10	1.25E-03		-1.84E-03	6.08E-04
		328.46		1.14	2.70E-03		-3.20E-04	1.31E-03
		391.04		3.68	8.62E-04		-6.66E-04	4.17E-04
		406.18		13.40	2.51E-04		-1.79E-04	1.21E-04
		429.65		13.20	2.85E-04		3.79E-04	1.38E-04
		450.98		28.20	1.51E-04		4.85E-05	7.35E-05
		511.85		88.00	4.11E-05		2.57E-05	1.98E-05
		601.17		1.61	1.68E-03		1.01E-03	7.95E-04
		616.17		21.60	1.43E-04		-8.68E-05	6.80E-05
		646.03		1.46	2.00E-03		-6.72E-04	9.52E-04
		680.42		2.18	9.75E-04		2.74E-04	4.53E-04
		703.11		4.47	5.38E-04		2.13E-04	2.52E-04
		717.34		28.90	8.27E-05		-5.82E-05	3.86E-05
		748.36		20.60	1.11E-04		6.68E-05	5.14E-05
		793.17		5.90	3.88E-04		1.14E-04	1.80E-04
		804.28		12.40	1.82E-04		2.15E-04	8.39E-05
		808.36		4.00	5.49E-04		-3.45E-04	2.53E-04
		824.69		15.30	1.61E-04		-9.40E-05	7.50E-05
		847.15		4.40	5.66E-04		-3.45E-04	2.63E-04
		1019.72		1.04	2.47E-03		-1.33E-03	1.14E-03
		1045.83		29.60	8.21E-05		-9.11E-05	3.77E-05
		1128.02		11.80	2.16E-04		1.01E-04	9.91E-05
		1199.39		11.20	1.93E-04		1.19E-04	8.70E-05
		1222.88		7.00	2.62E-04		-1.21E-04	1.15E-04
		1394.35		1.49	1.16E-03		7.73E-04	4.99E-04
		1527.65		16.30	9.16E-05		-1.55E-05	3.80E-05
		1572.35		6.60	2.31E-04		1.16E-04	9.57E-05
		1722.76		1.40	1.27E-03		7.31E-04	5.38E-04
		1839.05		2.00	9.74E-04		5.91E-04	4.14E-04
	RH-106	621.93		9.93	3.80E-04	3.80E-04	4.29E-04	1.81E-04
		873.49		0.44	8.49E-03		-1.75E-03	3.93E-03
		1050.41		1.56	2.22E-03		1.18E-03	1.03E-03
	RU-106	511.86		20.40	1.74E-04	1.74E-04	2.16E-04	8.41E-05
	AG-108M	79.13		6.60	3.96E-04	5.07E-05	9.11E-05	1.93E-04
		433.94		90.50	7.23E-05		1.75E-05	3.51E-05
		614.28		89.80	6.25E-05		7.09E-05	2.99E-05
		722.91		90.80	5.07E-05		5.18E-05	2.38E-05
+	CD-109	88.03	*	3.64	8.43E-04	8.43E-04	2.72E-03	4.12E-04
	AG-110M	446.81		3.70	2.54E-03	5.27E-05	1.74E-03	1.23E-03
		620.35		2.73	2.43E-03		1.02E-03	1.15E-03
		657.76		95.61	3.95E-04		4.96E-06	1.96E-04
		677.62		10.70	4.58E-04		1.24E-04	2.13E-04
		687.01		6.53	5.95E-04		-1.22E-04	2.74E-04
		706.68		16.69	2.76E-04		-1.76E-04	1.28E-04
		744.28		4.77	8.32E-04		8.75E-04	3.82E-04
		763.94		22.60	1.78E-04		1.76E-04	8.25E-05
		818.02		7.43	6.58E-04		-2.23E-04	3.03E-04
		884.68		75.00	5.27E-05		-5.43E-05	2.42E-05
		937.48		35.00	1.33E-04		6.55E-05	6.17E-05
		1384.29		25.10	1.08E-04		-5.26E-05	4.65E-05

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-110M	1475.78	4.08	6.39E-04	5.27E-05	1.37E-04	2.78E-04
	1505.03	13.33	1.90E-04		1.03E-04	7.95E-05
	1562.29	1.22	9.56E-04		5.49E-04	4.04E-04
AG-111	245.40	1.11	2.26E-03	4.32E-04	-4.99E-04	1.09E-03
	342.13	6.68	4.32E-04		-2.42E-04	2.09E-04
AG-112	606.82	3.10	1.12E-03	7.98E-05	6.45E-04	5.36E-04
	617.52	43.00	7.98E-05		6.62E-05	3.80E-05
	692.82	1.19	4.29E-03		-5.30E-04	2.07E-03
	694.87	2.90	1.76E-03		5.13E-03	8.47E-04
	851.28	1.02	2.92E-03		-1.31E-03	1.36E-03
	1312.36	1.11	1.66E-03		2.57E-05	7.11E-04
	1387.68	5.30	3.85E-04		2.68E-04	1.67E-04
	1613.66	2.80	4.31E-04		1.20E-04	1.61E-04
	1798.50	0.89	2.16E-03		1.09E-03	8.96E-04
	2106.31	2.40	9.55E-04		5.16E-04	4.00E-04
	2506.70	1.06	4.19E-03		4.30E-03	1.89E-03
CD-113M	263.70	0.03	9.83E-02	9.83E-02	-1.69E-02	4.76E-02
SN-113	255.13	2.11	1.20E-03	4.84E-05	-2.63E-04	5.79E-04
	391.70	64.97	4.84E-05		1.30E-05	2.34E-05
IN-114M	190.27	15.56	1.59E-04	1.59E-04	-5.30E-05	7.73E-05
	558.43	4.40	8.82E-04		2.98E-04	4.21E-04
	725.24	4.40	7.67E-04		1.50E-05	3.60E-04
CD-115	260.90	1.94	1.40E-03	6.70E-05	7.53E-04	6.77E-04
	336.24	46.02	6.70E-05		-6.29E-06	3.24E-05
	527.90	27.45	1.20E-04		-5.35E-05	5.75E-05
CD-115M	933.84	2.00	1.27E-03	1.27E-03	-2.24E-04	5.87E-04
	1290.59	0.90	1.80E-03		-1.69E-03	7.76E-04
IN-115M	336.24	45.90	1.30E-04	1.30E-04	-1.22E-05	6.30E-05
IN-116M	138.29	3.70	3.20E-02	1.05E-03	-1.25E-02	1.55E-02
	416.90	27.20	8.21E-03		1.43E-02	4.01E-03
	818.68	12.13	1.12E-02		8.02E-04	5.18E-03
	1097.28	58.50	1.90E-03		1.10E-03	8.67E-04
	1293.56	84.80	1.05E-03		3.13E-04	4.60E-04
	1507.59	9.92	7.69E-03		1.73E-04	3.27E-03
	2112.29	15.09	4.93E-03		-2.92E-03	1.99E-03
SB-125	176.31	6.84	3.27E-04	1.24E-04	-4.04E-05	1.59E-04
	380.45	1.52	2.12E-03		1.26E-04	1.03E-03
	427.87	29.60	1.24E-04		-8.57E-05	6.02E-05
	463.36	10.49	3.95E-04		-2.83E-04	1.92E-04
	600.60	17.65	1.52E-04		9.37E-05	7.20E-05
	606.71	4.98	6.01E-04		3.44E-04	2.86E-04
	635.95	11.22	2.58E-04		5.09E-05	1.23E-04
	671.44	1.79	2.35E-03		5.88E-04	1.13E-03
SN-125	332.10	1.40	3.65E-03	3.04E-04	4.54E-04	1.77E-03
	469.85	1.50	4.64E-03		2.42E-04	2.26E-03
	800.28	1.10	2.61E-03		-1.07E-03	1.21E-03
	822.48	4.30	7.25E-04		8.69E-05	3.36E-04
	915.55	4.10	8.38E-04		2.69E-04	3.90E-04
	1067.10	10.00	3.04E-04		-6.24E-04	1.39E-04
	1087.70	1.20	4.56E-03		6.11E-03	2.13E-03
	1089.10	4.60	6.55E-04		-7.35E-04	3.03E-04
	2002.10	1.90	8.94E-04		4.17E-04	3.66E-04
SB-127	61.10	1.43	4.75E-03	5.50E-05	-3.98E-04	2.32E-03

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-127	252.40		8.50	3.79E-04	5.50E-05	5.51E-05	1.83E-04
		290.80		2.02	1.93E-03		-8.21E-05	9.35E-04
		412.10		3.80	1.37E-03		-5.21E-04	6.68E-04
		445.10		4.30	1.30E-03		-8.96E-04	6.34E-04
		473.00		25.80	1.77E-04		-1.79E-05	8.60E-05
		543.30		2.90	8.86E-04		-3.52E-05	4.23E-04
		603.50		4.50	8.71E-04		-2.23E-03	4.14E-04
		685.70		36.80	5.50E-05		3.26E-05	2.54E-05
		698.50		3.64	1.25E-03		-4.67E-05	6.05E-04
		722.20		1.88	1.44E-03		5.81E-04	6.74E-04
		783.70		15.10	1.46E-04		-4.98E-05	6.75E-05
	SN-127	119.70		2.20	4.53E-03	3.88E-04	2.11E-03	2.20E-03
		262.50		2.30	5.32E-03		1.62E-03	2.58E-03
		266.20		2.10	5.88E-03		1.65E-03	2.85E-03
		284.30		2.70	4.73E-03		3.18E-03	2.29E-03
		438.20		6.10	2.89E-03		1.37E-03	1.40E-03
		490.90		5.30	3.01E-03		-2.03E-03	1.45E-03
		493.20		3.10	5.26E-03		2.03E-03	2.54E-03
		545.40		2.30	5.61E-03		-5.37E-03	2.67E-03
		583.30		3.20	4.14E-03		-1.48E-03	1.97E-03
		805.90		8.20	1.22E-03		-2.08E-04	5.62E-04
		823.10		11.00	9.99E-04		2.90E-04	4.63E-04
		824.70		6.10	1.86E-03		-1.09E-03	8.66E-04
		859.50		8.00	1.60E-03		-7.89E-04	7.48E-04
		979.20		7.20	1.55E-03		7.42E-04	7.16E-04
		1093.30		3.80	2.82E-03		-1.41E-03	1.29E-03
		1095.60		19.00	5.72E-04		-7.38E-05	2.61E-04
		1114.30		38.00	3.88E-04		-1.51E-04	1.81E-04
		1160.40		2.40	5.08E-03		-1.03E-03	2.34E-03
		2003.40		5.30	1.50E-03		-2.31E-03	6.14E-04
	SB-129	180.42		2.84	1.69E-03	9.27E-05	-1.29E-03	8.20E-04
		359.20		2.39	2.55E-03		-5.26E-04	1.23E-03
		404.64		1.17	5.81E-03		-4.97E-04	2.81E-03
		523.13		1.55	4.14E-03		3.32E-04	1.98E-03
		544.56		15.42	3.88E-04		-1.01E-05	1.85E-04
		633.74		2.53	2.38E-03		3.13E-03	1.13E-03
		654.28		2.97	3.58E-03		-8.83E-05	1.74E-03
		682.77		5.76	6.99E-04		-4.65E-04	3.22E-04
		761.12		4.32	1.00E-03		5.88E-05	4.61E-04
		773.37		2.82	1.50E-03		4.03E-04	6.91E-04
		786.36		1.07	4.54E-03		2.74E-03	2.11E-03
		787.16		1.74	2.82E-03		2.35E-03	1.31E-03
		812.97		48.20	9.27E-05		5.09E-05	4.27E-05
		819.51		1.39	3.33E-03		-4.02E-03	1.54E-03
		876.65		2.75	1.69E-03		3.98E-04	7.76E-04
		914.96		23.30	2.34E-04		1.17E-04	1.09E-04
		966.78		8.96	5.56E-04		-3.20E-05	2.56E-04
		1030.65		15.13	3.40E-04		-7.97E-04	1.56E-04
		1656.10		1.31	3.15E-03		5.04E-04	1.37E-03
		1738.16		7.45	4.98E-04		-8.43E-05	2.10E-04
	TE-129	459.60		7.70	5.39E-04	5.39E-04	5.22E-05	2.62E-04
		487.39		1.42	2.43E-03		-5.94E-04	1.17E-03
+	Te-129m	695.88	*	3.00	9.67E-04	9.67E-04	3.87E-03	4.58E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
I-131	80.18	2.62	1.32E-03	3.88E-05	1.42E-04	6.43E-04
	284.30	6.12	4.92E-04		3.31E-04	2.38E-04
	364.49	81.50	3.88E-05		4.95E-05	1.88E-05
	636.99	7.16	4.11E-04		2.83E-04	1.95E-04
	722.91	1.77	1.46E-03		1.50E-03	6.88E-04
Te-131m	773.67	36.80	9.06E-05	9.06E-05	2.42E-05	4.16E-05
	793.75	13.40	4.10E-04		-5.66E-06	1.90E-04
	852.21	19.90	2.25E-04		-2.01E-04	1.05E-04
	1125.46	11.00	3.36E-04		3.28E-04	1.54E-04
	1206.60	9.41	3.02E-04		2.84E-04	1.35E-04
I-132	262.90	1.28	2.16E-03	4.59E-05	1.77E-03	1.05E-03
	284.90	0.71	4.01E-03		3.44E-03	1.94E-03
	505.79	4.93	2.68E-03		-1.98E-03	1.29E-03
	522.65	16.00	3.68E-04		2.85E-04	1.76E-04
	547.20	1.14	4.89E-03		-1.45E-03	2.33E-03
	621.20	1.97	2.87E-03		8.79E-04	1.36E-03
	630.19	13.30	4.03E-04		-4.06E-05	1.91E-04
	650.50	2.57	2.70E-03		-1.84E-03	1.28E-03
	667.71	98.70	3.31E-04		9.79E-06	1.64E-04
	669.80	4.60	2.27E-03		3.30E-04	1.11E-03
	671.40	3.50	2.87E-03		7.19E-04	1.39E-03
	727.10	5.40	1.10E-03		-5.24E-04	5.16E-04
	728.40	1.60	3.23E-03		2.96E-03	1.51E-03
	772.60	75.60	4.59E-05		-2.23E-05	2.11E-05
	809.50	2.60	1.71E-03		1.12E-03	7.91E-04
	812.00	5.50	7.10E-04		-3.43E-04	3.26E-04
	910.10	0.93	5.20E-03		1.88E-03	2.42E-03
	954.55	17.60	2.83E-04		-5.14E-05	1.32E-04
	1136.00	3.01	1.05E-03		-1.40E-03	4.76E-04
	1172.90	1.09	9.84E-03		4.17E-02	4.79E-03
	1290.80	1.13	2.59E-03		-2.43E-03	1.12E-03
	1295.10	1.88	6.41E-04		5.30E-04	2.83E-04
	1297.90	0.89	9.26E-04		2.99E-04	4.04E-04
	1372.07	2.47	1.10E-03		-9.00E-04	4.66E-04
	1398.57	7.01	4.02E-04		-4.44E-05	1.72E-04
	1442.56	1.40	7.34E-04		3.70E-04	3.04E-04
TE-132	49.72	15.00	7.71E-04	3.14E-05	6.96E-04	3.74E-04
	111.76	1.74	1.14E-03		-1.31E-04	5.54E-04
	116.30	1.96	1.05E-03		8.95E-05	5.08E-04
	228.16	88.00	3.14E-05		-1.03E-05	1.52E-05
BA-133	81.00	32.90	1.03E-04	5.26E-05	-1.77E-05	5.00E-05
	276.40	7.16	4.31E-04		-1.72E-04	2.09E-04
	302.85	18.34	1.67E-04		2.35E-04	8.08E-05
	356.01	62.05	5.26E-05		-1.58E-05	2.54E-05
	383.85	8.94	3.11E-04		1.82E-04	1.51E-04
I-133	529.87	87.00	4.10E-05	4.10E-05	9.54E-06	1.97E-05
	706.58	1.51	2.19E-03		-1.40E-03	1.02E-03
	856.28	1.24	3.45E-03		2.59E-03	1.61E-03
	875.33	4.51	5.77E-04		-2.05E-05	2.66E-04
	1236.44	1.51	1.24E-03		-5.31E-04	5.49E-04
	1298.22	2.35	8.59E-04		2.39E-04	3.73E-04
TE-133	312.08	62.40	2.57E+02	2.57E+02	2.11E+02	1.24E+02
	407.63	27.10	6.99E+02		1.46E+02	3.38E+02

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TE-133	410.40	0.94	2.57E+04	2.57E+02	-8.52E+03	1.26E+04
	474.85	0.88	2.75E+04		2.65E+04	1.34E+04
	719.71	8.90	1.54E+03		3.87E+02	7.21E+02
	786.93	5.40	2.44E+03		2.04E+03	1.13E+03
	844.36	3.31	4.44E+03		3.35E+03	2.08E+03
	884.30	0.72	1.72E+04		1.76E+04	7.90E+03
	930.71	3.81	3.53E+03		1.15E+03	1.63E+03
	997.70	1.04	1.35E+04		-1.73E+04	6.23E+03
	1000.72	3.62	4.30E+03		-6.21E+02	2.00E+03
	1021.13	2.81	5.12E+03		4.30E+03	2.36E+03
	1061.61	1.19	1.10E+04		-6.78E+03	5.05E+03
	1252.08	1.44	7.97E+03		7.96E+02	3.55E+03
	1312.80	0.85	1.05E+04		6.67E+03	4.48E+03
	1333.21	10.67	4.36E+03		1.72E+04	2.12E+03
	1717.61	3.18	3.47E+03		2.31E+03	1.49E+03
	1881.52	1.22	7.45E+03		3.47E+03	3.06E+03
	2136.51	1.25	7.59E+03		3.23E+03	3.07E+03
	2229.64	0.87	1.05E+04		4.02E+03	4.18E+03
Xe-133	81.00	36.90	7.01E-05	7.01E-05	-1.21E-05	3.41E-05
CS-134	475.36	1.48	2.87E-03	3.74E-05	1.60E-03	1.39E-03
	563.25	8.34	5.98E-04		-3.64E-04	2.85E-04
	569.33	15.37	3.18E-04		1.10E-04	1.51E-04
	604.72	97.62	4.26E-05		5.22E-05	2.03E-05
	795.86	85.46	3.74E-05		2.80E-05	1.73E-05
	801.95	8.69	4.15E-04		1.54E-04	1.91E-04
	1038.61	0.99	3.52E-03		-6.33E-04	1.63E-03
	1167.97	1.79	3.07E-03		-5.51E-04	1.49E-03
	1365.19	3.02	5.06E-04		4.04E-04	2.28E-04
I-135	220.50	1.75	2.95E-03	1.15E-04	-8.68E-04	1.43E-03
	288.45	3.10	1.81E-03		-2.79E-04	8.74E-04
	417.63	3.53	2.76E-03		5.17E-03	1.35E-03
	546.56	7.15	8.18E-04		-9.55E-05	3.90E-04
	836.80	6.69	8.31E-04		1.03E-04	3.88E-04
	971.96	0.89	6.02E-03		7.25E-04	2.77E-03
	972.62	1.21	3.85E-03		-8.18E-03	1.76E-03
	1038.76	7.90	5.39E-04		-9.70E-05	2.49E-04
	1101.58	1.61	3.13E-03		-5.20E-03	1.43E-03
	1124.00	3.62	1.46E-03		4.73E-04	6.69E-04
	1131.51	22.60	2.12E-04		-1.30E-04	9.64E-05
	1240.47	0.90	4.37E-03		-2.85E-04	1.93E-03
	1260.41	28.70	1.15E-04		9.74E-05	5.07E-05
	1457.56	8.70	5.28E-04		2.18E-04	2.40E-04
	1502.79	1.08	3.26E-03		1.87E-03	1.38E-03
	1566.41	1.29	1.79E-03		8.36E-04	7.35E-04
	1678.03	9.60	2.11E-04		9.86E-05	8.67E-05
	1706.46	4.10	7.51E-04		1.80E-04	3.22E-04
	1791.20	7.72	3.02E-04		1.29E-04	1.22E-04
	2408.65	0.96	2.99E-03		-7.30E-04	1.19E-03
XE-135	249.79	90.00	3.90E-05	3.90E-05	-3.61E-06	1.89E-05
XE-135m	526.56	80.40	6.42E-05	6.42E-05	-3.43E-05	3.08E-05
CS-136	66.88	4.79	1.58E-03	3.58E-05	5.96E-04	7.67E-04
	86.36	5.90	9.77E-04		2.04E-05	4.79E-04
	153.25	7.70	4.65E-04		-1.05E-04	2.25E-04

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-136	163.92		4.69	1.07E-03	3.58E-05	3.46E-04	5.21E-04
		176.60		13.70	3.12E-04		3.31E-05	1.51E-04
		273.65		12.66	3.97E-04		2.12E-05	1.93E-04
		340.55		46.80	1.04E-04		3.39E-05	5.03E-05
		818.51		99.70	3.58E-05		8.93E-06	1.65E-05
		1048.07		80.00	5.50E-05		4.30E-05	2.54E-05
		1235.36		20.00	1.48E-04		-3.15E-06	6.55E-05
+	CS-137	661.66	*	85.10	2.01E-05	2.01E-05	4.23E-03	9.19E-06
	BA-139	33.44		3.84	2.31E-01	9.42E-04	3.59E-03	1.12E-01
		165.86		23.70	9.42E-04		-4.68E-04	4.56E-04
	BA-140	132.69		0.20	1.03E-02	1.26E-04	2.83E-04	5.02E-03
		162.66		6.22	4.10E-04		-8.54E-05	1.99E-04
		304.85		4.29	8.25E-04		-4.48E-04	3.99E-04
		423.72		3.10	1.18E-03		1.26E-03	5.71E-04
		437.58		1.93	1.93E-03		-1.56E-03	9.37E-04
		537.26		24.39	1.26E-04		-1.50E-04	6.06E-05
	LA-140	109.42		0.22	9.19E-03	2.34E-05	4.20E-03	4.45E-03
		131.12		0.47	4.50E-03		3.41E-03	2.18E-03
		173.54		0.13	1.79E-02		1.30E-02	8.70E-03
		241.93		0.41	6.11E-03		2.41E-04	2.96E-03
		266.54		0.47	5.76E-03		3.36E-03	2.79E-03
		328.76		20.30	2.51E-04		-7.00E-05	1.22E-04
		432.49		2.90	2.11E-03		-2.55E-03	1.02E-03
		487.02		45.50	1.10E-04		7.17E-05	5.32E-05
		618.10		0.04	8.04E-02		7.94E-02	3.83E-02
		751.64		4.33	6.30E-04		1.52E-04	2.92E-04
		815.77		23.28	9.63E-05		-4.49E-05	4.43E-05
		867.85		5.50	5.62E-04		1.34E-04	2.61E-04
		919.55		2.66	9.88E-04		-2.49E-05	4.58E-04
		925.19		6.90	4.74E-04		-1.19E-04	2.20E-04
		950.99		0.52	6.75E-03		-4.94E-03	3.15E-03
		1596.21		95.40	2.34E-05		-2.66E-06	9.82E-06
		2347.88		0.85	1.28E-03		4.87E-04	5.07E-04
		2521.40		3.46	9.14E-05		0.00E+00	0.00E+00
		2547.34		0.10	1.71E-02		5.68E-03	6.61E-03
	BA-141	33.44		7.93	4.47E+02	2.30E+00	6.95E+00	2.17E+02
		190.33		44.80	2.30E+00		-7.65E-01	1.12E+00
		276.95		23.60	4.84E+00		-5.70E-01	2.35E+00
		304.19		26.10	4.37E+00		-6.08E+00	2.11E+00
		343.67		15.10	7.98E+00		3.38E+00	3.86E+00
		389.74		1.37	9.39E+01		-5.42E+01	4.54E+01
		457.51		5.00	3.42E+01		2.03E+01	1.66E+01
		462.06		5.10	3.44E+01		7.43E+00	1.67E+01
		467.22		5.60	3.22E+01		-8.13E+00	1.57E+01
		625.08		3.45	3.26E+01		-3.17E+01	1.55E+01
		647.78		5.70	2.12E+01		-3.44E+00	1.01E+01
		738.95		4.39	1.70E+01		-1.47E+01	7.73E+00
		831.46		1.64	6.62E+01		-1.04E+01	3.09E+01
		876.09		3.45	2.69E+01		8.26E+00	1.24E+01
		1160.72		1.12	9.80E+01		3.50E+01	4.51E+01
		1197.28		4.35	2.04E+01		4.93E+00	9.17E+00
		1323.92		0.92	1.08E+02		-1.00E+02	4.87E+01
		1654.00		0.65	1.27E+02		-4.51E+00	5.49E+01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-141	1682.19	1.19	5.20E+01	2.30E+00	2.43E+01	2.13E+01
CE-141	145.44	48.30	4.16E-05	4.16E-05	-3.75E-05	2.02E-05
BA-142	33.44	14.20	5.46E+05	1.11E+04	8.49E+03	2.65E+05
	77.59	7.00	3.49E+04		-4.58E+03	1.70E+04
	177.00	2.12	9.58E+04		7.17E+02	4.65E+04
	231.61	12.20	1.99E+04		1.91E+04	9.68E+03
	255.30	20.70	1.11E+04		-2.44E+03	5.37E+03
	286.30	1.11	2.22E+05		-1.25E+04	1.08E+05
	309.20	2.60	9.58E+04		7.25E+03	4.63E+04
	335.00	1.53	1.77E+05		-7.00E+04	8.56E+04
	363.96	4.76	5.98E+04		7.84E+04	2.90E+04
	425.04	5.75	5.77E+04		7.68E+03	2.80E+04
	599.80	1.85	1.29E+05		2.74E+03	6.11E+04
	840.40	3.63	6.44E+04		-1.54E+04	3.01E+04
	895.20	13.90	1.44E+04		-1.67E+03	6.60E+03
	949.10	10.70	2.48E+04		2.51E+04	1.16E+04
	1001.20	9.80	2.57E+04		3.98E+03	1.20E+04
	1078.70	11.50	2.59E+04		2.23E+04	1.22E+04
	1094.10	2.82	7.40E+04		-3.67E+04	3.37E+04
	1126.80	1.50	1.54E+05		9.49E+04	7.06E+04
	1202.40	5.60	3.23E+04		1.49E+04	1.44E+04
	1204.30	14.30	1.19E+04		-8.56E+03	5.27E+03
	1380.20	3.42	4.34E+04		2.77E+04	1.86E+04
CE-143	57.36	11.70	6.32E-04	7.48E-05	-6.60E-05	3.08E-04
	231.55	2.05	1.86E-03		1.78E-03	9.03E-04
	293.27	42.80	7.48E-05		5.19E-05	3.63E-05
	350.62	3.23	8.92E-04		-2.91E-04	4.32E-04
	490.37	2.16	2.25E-03		-2.44E-03	1.08E-03
	664.57	5.69	4.17E-03		-1.07E-05	2.07E-03
	721.93	5.39	4.75E-04		1.92E-04	2.23E-04
	880.46	1.03	2.50E-03		2.16E-03	1.15E-03
CE-144	80.12	1.36	1.89E-03	1.85E-04	2.02E-04	9.18E-04
	133.51	11.09	1.85E-04		2.70E-05	8.97E-05
ND-147	38.17	13.20	2.64E-03	1.04E-04	2.52E-03	1.28E-03
	38.72	23.80	1.32E-03		4.34E-04	6.43E-04
	91.11	28.90	1.04E-04		5.91E-05	5.07E-05
	275.39	0.79	4.89E-03		-2.56E-03	2.37E-03
	319.41	1.97	1.80E-03		-3.58E-04	8.70E-04
	398.13	0.87	4.16E-03		2.09E-03	2.01E-03
	439.88	1.20	3.41E-03		-2.81E-03	1.66E-03
	531.01	13.11	2.31E-04		7.39E-05	1.11E-04
	685.88	0.82	2.33E-03		1.53E-04	1.07E-03
PR-147	36.85	19.70	4.18E+03	2.97E+02	3.59E+03	2.03E+03
	37.36	35.50	2.09E+03		3.01E+02	1.02E+03
	49.88	4.00	3.94E+03		3.56E+03	1.91E+03
	77.97	9.70	5.31E+02		2.33E+02	2.58E+02
	86.69	5.40	1.16E+03		3.76E+03	5.67E+02
	127.80	7.40	5.35E+02		-3.94E+02	2.60E+02
	249.20	1.32	3.54E+03		-4.78E+01	1.71E+03
	314.70	18.20	2.97E+02		1.94E-01	1.44E+02
	328.80	4.00	1.44E+03		-4.02E+02	6.98E+02
	335.70	4.70	1.19E+03		5.89E+02	5.77E+02
	388.80	1.41	4.18E+03		-1.24E+03	2.02E+03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PR-147	466.80	1.70	4.84E+03	2.97E+02	1.48E+03	2.36E+03
	477.90	4.60	1.68E+03		-2.57E+02	8.15E+02
	516.70	1.30	4.83E+03		-2.80E+03	2.33E+03
	554.70	5.90	9.22E+02		2.49E+02	4.40E+02
	577.90	13.70	4.23E+02		3.15E+02	2.02E+02
	641.40	16.10	3.45E+02		7.46E+01	1.64E+02
	996.00	1.52	3.05E+03		-1.98E+03	1.41E+03
	1136.70	1.42	3.10E+03		4.22E+02	1.41E+03
	1261.10	8.40	4.35E+02		-2.87E+01	1.93E+02
	1300.40	2.30	1.30E+03		-1.43E+03	5.55E+02
ND-149	38.17	9.00	2.50E-02	6.70E-04	2.38E-02	1.22E-02
	38.72	16.30	1.25E-02		4.09E-03	6.06E-03
	58.88	1.30	3.85E-02		3.34E-02	1.87E-02
	74.32	2.11	1.11E-02		5.21E-03	5.39E-03
	97.00	1.48	1.08E-02		2.71E-03	5.24E-03
	114.31	19.20	8.16E-04		4.87E-06	3.96E-04
	155.87	5.95	3.03E-03		1.66E-05	1.47E-03
	188.64	1.79	1.69E-02		8.16E-03	8.24E-03
	198.93	1.39	1.70E-02		1.24E-02	8.27E-03
	208.15	2.55	8.12E-03		-3.35E-03	3.94E-03
	211.31	26.00	6.70E-04		-4.75E-05	3.25E-04
	240.22	3.95	4.31E-03		2.44E-03	2.09E-03
	245.72	0.81	2.64E-02		-2.62E-02	1.28E-02
	267.69	6.05	4.01E-03		-5.87E-04	1.94E-03
	270.17	10.80	1.75E-03		8.74E-04	8.48E-04
	326.55	4.57	5.58E-03		7.92E-04	2.70E-03
	349.23	1.38	1.81E-02		7.83E-03	8.75E-03
	423.55	7.50	3.34E-03		3.57E-03	1.62E-03
	443.55	1.15	2.95E-02		-7.29E-03	1.43E-02
	540.51	6.60	3.30E-03		3.92E-04	1.58E-03
	654.83	8.00	5.08E-03		-3.46E-04	2.49E-03
PM-149	285.95	3.10	9.30E-04	9.30E-04	1.68E-04	4.51E-04
PM-150	39.52	0.63	1.44E-01	1.45E-04	8.35E-02	7.01E-02
	40.12	1.14	7.19E-02		-1.59E-02	3.49E-02
	333.92	68.00	1.45E-04		4.64E-06	7.02E-05
	406.51	5.60	2.00E-03		2.05E-04	9.66E-04
	565.70	1.31	7.21E-03		-2.71E-05	3.44E-03
	587.02	1.34	6.65E-03		5.06E-03	3.15E-03
	612.25	0.93	1.10E-02		-8.84E-05	5.25E-03
	712.22	4.40	1.63E-03		-2.07E-03	7.56E-04
	737.50	2.25	2.80E-03		-9.90E-04	1.28E-03
	831.85	11.90	7.27E-04		-7.20E-05	3.40E-04
	859.95	3.40	2.69E-03		-6.20E-04	1.26E-03
	876.41	7.30	1.02E-03		5.04E-04	4.68E-04
	1165.77	15.80	9.43E-04		1.31E-04	4.49E-04
	1170.90	1.06	2.43E-02		9.91E-02	1.18E-02
	1193.87	4.80	1.23E-03		-6.10E-04	5.40E-04
	1213.72	1.03	4.85E-03		-7.47E-03	2.08E-03
	1223.28	2.80	2.19E-03		-1.43E-04	9.66E-04
	1324.51	17.50	5.38E-04		-2.63E-04	2.47E-04
	1379.32	3.10	1.75E-03		1.11E-03	7.48E-04
	1736.40	6.90	8.13E-04		-2.57E-04	3.40E-04
	1963.71	1.47	3.02E-03		1.01E-03	1.17E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	2033.46	0.97	5.14E-03	1.45E-04	1.96E-03	2.04E-03
ND-151	38.17	5.94	3.52E+04	3.07E+02	3.35E+04	1.71E+04
	38.72	10.70	1.77E+04		5.79E+03	8.58E+03
	68.98	1.26	1.43E+04		-9.34E+03	6.93E+03
	85.12	2.05	9.96E+03		4.42E+02	4.88E+03
	89.96	1.53	1.26E+04		1.80E+03	6.18E+03
	116.80	39.00	3.07E+02		1.05E+02	1.49E+02
	138.89	7.00	1.74E+03		4.24E+02	8.41E+02
	170.76	2.87	4.76E+03		-1.10E+03	2.31E+03
	175.07	6.30	2.17E+03		-9.20E+02	1.05E+03
	255.68	14.80	1.03E+03		-9.50E+02	4.99E+02
	300.58	1.82	9.58E+03		1.15E+03	4.64E+03
	423.56	5.90	3.71E+03		3.98E+03	1.80E+03
	460.59	0.96	2.64E+04		-1.71E+04	1.28E+04
	585.22	1.30	1.30E+04		3.96E+03	6.17E+03
	677.88	2.38	5.36E+03		1.45E+03	2.49E+03
	736.23	5.90	2.01E+03		9.74E+02	9.24E+02
	739.20	1.52	7.14E+03		-3.84E+03	3.25E+03
	755.57	1.17	1.13E+04		5.83E+03	5.25E+03
	797.53	4.70	2.77E+03		-2.36E+03	1.28E+03
	1016.40	2.50	6.67E+03		5.06E+03	3.10E+03
	1122.63	4.10	3.74E+03		3.58E+03	1.72E+03
	1180.89	13.30	2.80E+03		2.44E+02	1.35E+03
Pm-151	167.75	8.30	3.29E-04	1.41E-04	1.07E-04	1.59E-04
	177.16	3.80	8.64E-04		6.46E-06	4.19E-04
	240.09	3.80	8.26E-04		4.68E-04	4.00E-04
	275.21	6.80	4.60E-04		4.33E-05	2.23E-04
	340.08	22.50	1.41E-04		-9.24E-05	6.81E-05
EU-152	121.78	28.53	1.02E-04	9.43E-05	1.28E-06	4.96E-05
	344.28	26.59	1.33E-04		5.32E-05	6.43E-05
	778.90	12.93	2.12E-04		-9.22E-05	9.78E-05
	867.37	4.23	8.96E-04		-1.04E-03	4.16E-04
	964.08	14.51	2.14E-04		1.53E-04	9.92E-05
	1085.87	10.11	2.79E-04		1.78E-04	1.30E-04
	1112.07	13.67	2.50E-04		2.89E-04	1.17E-04
	1408.01	20.87	9.43E-05		1.12E-06	4.06E-05
ND-152	44.44	5.50	6.01E+04	2.66E+03	-3.54E+04	2.91E+04
	250.15	16.40	3.83E+03		-2.25E+01	1.85E+03
	278.56	26.00	2.66E+03		-1.02E+03	1.29E+03
	294.47	2.90	2.50E+04		-7.78E+03	1.21E+04
	545.70	0.83	8.43E+04		1.85E+03	4.02E+04
	592.50	0.99	6.44E+04		-1.43E+04	3.05E+04
GD-153	69.67	2.45	1.40E-03	6.97E-05	-2.89E-04	6.79E-04
	97.43	30.00	6.97E-05		-2.88E-05	3.38E-05
	103.18	22.10	9.64E-05		1.04E-04	4.68E-05
SM-153	69.67	4.67	7.67E-04	7.68E-05	-1.59E-04	3.72E-04
	103.18	29.14	7.68E-05		8.27E-05	3.73E-05
EU-154	42.70	20.45	7.93E-04	6.91E-05	-8.28E-05	3.84E-04
	123.07	40.40	6.91E-05		-8.50E-06	3.36E-05
	247.93	6.89	5.18E-04		-3.28E-04	2.50E-04
	591.76	4.95	8.06E-04		5.00E-04	3.82E-04
	692.42	1.78	3.48E-03		-2.44E-04	1.68E-03
	723.30	20.06	1.76E-04		2.12E-04	8.26E-05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-154	756.80	4.52	7.75E-04	6.91E-05	2.30E-04	3.59E-04
	873.18	12.08	2.86E-04		2.65E-06	1.32E-04
	996.29	10.48	2.61E-04		-3.13E-04	1.20E-04
	1004.76	18.01	1.87E-04		4.76E-05	8.76E-05
	1246.12	0.86	3.59E-03		-6.30E-04	1.60E-03
	1274.43	34.80	7.58E-05		8.07E-05	3.43E-05
	1494.05	0.70	1.93E-03		9.73E-04	8.00E-04
	1596.48	1.80	4.69E-04		-5.32E-05	1.96E-04
EU-155	43.00	18.12	8.52E-04	9.79E-05	-5.31E-04	4.12E-04
	60.01	1.17	4.34E-03		2.94E-03	2.12E-03
	86.55	30.70	1.07E-04		3.49E-04	5.25E-05
	105.31	21.10	9.79E-05		3.00E-05	4.75E-05
EU-156	88.97	8.40	5.50E-04	2.67E-04	-3.44E-05	2.70E-04
	646.29	6.30	6.19E-04		-1.09E-04	2.94E-04
	723.47	5.40	6.23E-04		4.87E-04	2.92E-04
	811.77	9.70	2.88E-04		-1.39E-04	1.32E-04
	1065.14	4.90	6.54E-04		-7.10E-04	2.99E-04
	1079.16	4.60	7.71E-04		6.65E-04	3.62E-04
	1153.80	11.50	2.67E-04		-2.93E-04	1.22E-04
	1230.71	8.00	3.49E-04		3.21E-04	1.56E-04
	1242.42	6.60	3.27E-04		-2.92E-04	1.45E-04
	1277.43	2.89	9.49E-04		6.81E-04	4.27E-04
	1366.41	1.57	1.57E-03		-1.51E-04	7.04E-04
	1965.95	3.90	2.68E-04		8.94E-05	1.04E-04
	2097.70	3.80	4.60E-04		-3.17E-04	1.88E-04
	2186.71	3.50	3.54E-04		9.86E-05	1.32E-04
Sm-156	87.60	24.00	1.92E-04	1.73E-04	6.63E-04	9.38E-05
	165.80	13.00	2.32E-04		-1.15E-04	1.13E-04
	204.00	21.00	1.73E-04		-2.75E-04	8.40E-05
EU-158	42.31	5.80	2.05E-01	6.37E-03	1.64E-02	9.93E-02
	43.00	10.40	1.03E-01		-6.39E-02	4.97E-02
	79.49	10.50	1.70E-02		-5.39E-03	8.26E-03
	181.97	2.30	7.16E-02		2.48E-02	3.48E-02
	528.05	1.53	1.39E-01		-2.06E-02	6.65E-02
	606.39	4.00	5.06E-02		8.72E-04	2.41E-02
	743.02	3.60	3.61E-02		-4.44E-02	1.65E-02
	897.61	12.40	1.25E-02		-9.01E-03	5.75E-03
	906.50	1.83	9.58E-02		-2.27E-02	4.45E-02
	922.51	1.62	1.05E-01		9.92E-02	4.86E-02
	944.15	30.00	6.37E-03		5.69E-03	2.97E-03
	953.03	1.98	9.91E-02		4.98E-02	4.63E-02
	962.09	1.89	9.48E-02		4.29E-02	4.40E-02
	977.14	16.30	1.01E-02		-1.67E-04	4.66E-03
	986.96	1.35	1.30E-01		-9.83E-02	6.03E-02
	1107.63	5.10	4.28E-02		3.07E-02	2.00E-02
	1184.10	3.00	3.96E-02		-5.43E-03	1.74E-02
	1186.00	2.90	4.00E-02		-6.58E-02	1.75E-02
	1187.10	4.40	2.91E-02		2.47E-02	1.29E-02
	1263.61	2.20	6.18E-02		2.65E-02	2.74E-02
	1347.95	1.65	5.96E-02		-1.53E-02	2.49E-02
	1944.47	1.62	7.84E-02		-3.14E-03	3.28E-02
TB-160	86.79	13.20	3.55E-04	8.97E-05	1.16E-03	1.74E-04
	298.58	26.10	1.51E-04		8.24E-05	7.33E-05

Analysis Report for 24-2508 TI185-3.5M-S1-CST-d-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TB-160	879.38	30.10	8.97E-05	8.97E-05	7.45E-07	4.14E-05
	962.32	9.81	2.98E-04		1.35E-04	1.38E-04
	966.17	25.10	1.04E-04		-7.51E-05	4.77E-05
	1177.96	14.90	4.37E-04		-5.16E-05	2.13E-04
TB-161	25.65	23.20	3.92E-02	2.80E-04	8.00E-02	1.90E-02
	48.91	17.00	5.27E-04		5.70E-05	2.56E-04
	52.00	3.43	2.06E-03		-2.61E-04	9.99E-04
	57.19	1.79	3.39E-03		-3.54E-04	1.65E-03
	74.57	10.20	2.80E-04		1.31E-04	1.36E-04
YB-169	63.12	43.62	1.72E-04	7.89E-05	1.28E-04	8.39E-05
	93.61	2.58	1.54E-03		5.80E-04	7.47E-04
	109.78	17.39	1.43E-04		-9.76E-06	6.93E-05
	130.52	11.38	2.69E-04		6.69E-05	1.31E-04
	177.21	22.28	1.31E-04		9.78E-07	6.34E-05
	197.96	35.93	7.89E-05		4.04E-05	3.84E-05
	307.74	10.05	2.06E-04		-4.30E-05	9.96E-05
HF-172	54.07	63.00	9.40E-05	9.40E-05	-3.36E-05	4.56E-05
	67.35	5.30	6.33E-04		4.21E-04	3.07E-04
	81.75	4.50	5.50E-04		8.56E-05	2.67E-04
	114.06	2.60	7.49E-04		4.48E-06	3.63E-04
	122.92	1.14	1.87E-03		1.94E-03	9.09E-04
	125.81	11.30	1.94E-04		2.33E-04	9.42E-05
	127.91	1.46	1.43E-03		-1.05E-03	6.93E-04
LU-173	59.30	24.44	2.13E-04	1.46E-04	2.38E-04	1.04E-04
	78.63	11.90	2.89E-04		2.40E-04	1.40E-04
	100.72	5.24	4.40E-04		1.46E-04	2.14E-04
	171.39	2.90	8.77E-04		1.71E-04	4.26E-04
	272.11	21.20	1.46E-04		1.34E-05	7.08E-05
LU-177	112.95	6.23	3.10E-04	2.49E-04	-5.51E-04	1.50E-04
	208.37	10.41	2.49E-04		-1.03E-04	1.21E-04
	249.67	0.20	1.26E-02		-1.16E-03	6.08E-03
	321.32	0.22	1.38E-02		-7.62E-03	6.67E-03
HF-181	133.02	43.30	6.41E-05	5.28E-05	-1.12E-05	3.11E-05
	345.93	15.12	2.45E-04		-1.04E-04	1.18E-04
	482.18	80.50	5.28E-05		1.32E-07	2.56E-05
W-181	56.28	18.70	2.88E-04	1.77E-04	-1.40E-04	1.40E-04
	57.53	32.00	1.77E-04		-9.14E-06	8.64E-05
	65.00	10.60	3.52E-04		2.50E-04	1.71E-04
TA-182	57.98	10.01	5.54E-04	6.96E-05	2.95E-05	2.70E-04
	59.32	17.20	3.03E-04		3.38E-04	1.48E-04
	65.72	3.01	2.28E-03		-9.96E-05	1.11E-03
	67.75	46.67	9.80E-05		-2.63E-06	4.76E-05
	84.68	2.65	1.72E-03		-6.48E-05	8.42E-04
	100.11	14.20	2.15E-04		7.33E-05	1.04E-04
	113.67	1.87	2.05E-03		1.85E-04	9.94E-04
	116.42	0.44	4.44E-03		3.79E-04	2.15E-03
	152.43	7.02	4.44E-04		-9.03E-05	2.15E-04
	156.39	2.67	1.23E-03		1.06E-03	5.97E-04
	179.39	3.12	1.12E-03		-3.65E-04	5.44E-04
	198.35	1.47	3.19E-03		1.76E-03	1.55E-03
	222.11	7.57	4.56E-04		9.65E-05	2.21E-04
	229.32	3.64	1.13E-03		7.31E-04	5.48E-04
	264.08	3.61	1.04E-03		-2.33E-04	5.06E-04

Analysis Report for 24-2508 TI185-3.5M-S1-CST-d-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	928.00	0.61	5.60E-03	6.96E-05	-4.90E-04	2.60E-03
	959.73	0.35	1.10E-02		-4.38E-03	5.10E-03
	1001.70	2.09	2.30E-03		-4.07E-04	1.07E-03
	1044.42	0.24	1.68E-02		-4.01E-03	7.77E-03
	1113.41	0.44	9.69E-03		3.90E-03	4.53E-03
	1121.29	35.24	9.08E-05		-4.81E-05	4.17E-05
	1157.30	0.73	3.06E-03		1.93E-03	1.40E-03
	1189.04	16.49	1.08E-04		4.96E-05	4.81E-05
	1221.40	27.23	6.96E-05		-1.85E-05	3.03E-05
	1223.60	0.24	4.65E-03		-3.04E-04	2.05E-03
	1231.00	11.62	2.26E-04		2.08E-04	1.01E-04
	1257.41	1.51	1.22E-03		-1.16E-03	5.38E-04
	1273.72	0.66	1.57E-03		-9.91E-04	7.10E-04
	1289.15	1.37	3.78E-04		6.24E-05	1.63E-04
	1342.73	0.26	6.28E-03		-3.84E-04	2.78E-03
	1373.82	0.22	1.65E-03		-3.88E-04	6.95E-04
Ta-183	84.71	1.35	2.51E-03	9.29E-05	-9.47E-05	1.23E-03
	99.08	6.80	3.01E-04		-2.13E-04	1.46E-04
	107.93	11.20	1.85E-04		-1.30E-05	8.96E-05
	161.35	9.10	2.49E-04		1.97E-06	1.21E-04
	162.32	5.00	4.47E-04		-7.40E-05	2.17E-04
	244.26	8.80	2.88E-04		-7.72E-05	1.39E-04
	246.06	27.20	9.29E-05		-5.85E-05	4.50E-05
	353.99	11.60	2.74E-04		1.93E-04	1.33E-04
Re-184	111.21	17.20	1.12E-04	6.00E-05	1.38E-05	5.42E-05
	252.85	3.00	8.38E-04		-5.23E-05	4.06E-04
	792.01	37.70	6.00E-05		-3.94E-05	2.78E-05
	894.76	15.70	1.40E-04		2.53E-05	6.43E-05
	903.28	38.10	6.62E-05		3.15E-05	3.07E-05
W-185	59.72	0.01	4.33E-01	1.12E-01	4.44E-01	2.11E-01
	61.14	0.02	2.42E-01		-2.02E-02	1.18E-01
	69.20	0.01	4.55E-01		-4.93E-01	2.21E-01
	125.36	0.02	1.12E-01		1.22E-02	5.46E-02
W-187	61.14	14.30	3.94E-04	6.50E-05	-3.30E-05	1.92E-04
	69.20	4.82	7.39E-04		-8.01E-04	3.59E-04
	72.00	13.55	3.65E-04		1.93E-04	1.77E-04
	134.25	10.36	3.14E-04		-1.20E-04	1.52E-04
	479.53	26.60	2.06E-04		4.78E-05	9.97E-05
	618.37	7.57	4.42E-04		8.72E-05	2.10E-04
	685.81	33.20	6.50E-05		4.26E-06	3.00E-05
Ir-188	155.05	29.60	7.94E-05	7.94E-05	-6.92E-05	3.85E-05
	478.00	14.70	2.99E-04		-4.58E-05	1.45E-04
	633.02	17.90	1.68E-04		-4.19E-05	7.97E-05
	634.97	5.00	6.30E-04		7.49E-04	2.99E-04
	829.42	5.10	5.47E-04		4.65E-05	2.56E-04
	1209.77	6.90	2.87E-04		1.91E-05	1.27E-04
	1715.67	6.20	3.63E-04		8.69E-05	1.58E-04
	2214.59	18.60	1.19E-04		-8.92E-05	5.00E-05
W-188	227.07	0.23	1.12E-02	6.64E-03	4.78E-03	5.44E-03
	290.68	0.42	6.64E-03		-5.57E-03	3.21E-03
Ir-189	245.08	6.00	4.22E-04	4.22E-04	4.74E-04	2.04E-04
Ir-190	186.68	50.00	5.16E-05	5.16E-05	5.39E-05	2.51E-05
	361.09	12.30	2.44E-04		-9.66E-05	1.18E-04

Analysis Report for 24-2508 TI185-3.5M-S1-CST-d-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Ir-190	371.24	21.60	1.52E-04	5.16E-05	-3.76E-05	7.39E-05
	407.22	27.00	1.26E-04		-1.00E-05	6.11E-05
	518.55	32.20	1.01E-04		8.39E-06	4.86E-05
	557.95	28.50	1.04E-04		5.34E-05	4.98E-05
	569.30	27.00	1.03E-04		3.58E-05	4.92E-05
	605.14	37.80	7.82E-05		9.18E-06	3.73E-05
OS-191	63.29	15.70	2.78E-04	7.66E-05	2.86E-04	1.35E-04
	64.99	26.70	1.41E-04		1.00E-04	6.84E-05
	73.45	9.21	3.08E-04		-2.83E-04	1.49E-04
	129.43	26.50	7.66E-05		-5.93E-05	3.71E-05
Pt-191	359.90	5.80	6.36E-04	2.34E-04	-8.71E-04	3.07E-04
	456.47	3.30	1.41E-03		-1.08E-03	6.87E-04
	538.90	14.30	2.34E-04		-3.33E-05	1.12E-04
IR-192	205.79	3.31	1.07E-03	4.96E-05	7.48E-04	5.19E-04
	295.96	28.71	1.79E-04		2.28E-04	8.67E-05
	308.45	29.70	1.55E-04		-9.61E-05	7.47E-05
	316.51	82.86	4.96E-05		-5.11E-05	2.40E-05
	468.07	47.84	1.21E-04		-5.90E-06	5.87E-05
	588.58	4.52	9.31E-04		-5.13E-04	4.40E-04
	604.41	8.22	2.84E-04		3.44E-04	1.35E-04
	612.46	5.34	3.50E-04		-2.66E-06	1.67E-04
IR-192m	155.16	0.09	2.37E-02	2.37E-02	-2.11E-03	1.15E-02
IR-193m	80.22	0.00	5.56E-01	5.56E-01	5.95E-02	2.70E-01
Pt-193m	135.50	0.11	1.81E-02	1.81E-02	2.95E-03	8.79E-03
Au-194	293.55	10.90	2.86E-04	5.25E-05	1.98E-04	1.39E-04
	328.47	62.80	5.25E-05		-6.22E-06	2.54E-05
	364.84	1.60	2.11E-03		1.43E-03	1.02E-03
	528.77	1.78	1.87E-03		1.00E-03	8.97E-04
	645.16	2.32	1.37E-03		-1.42E-04	6.49E-04
	948.32	2.29	1.35E-03		-2.60E-04	6.33E-04
	1104.06	2.15	1.51E-03		-1.09E-03	7.04E-04
	1175.36	2.14	3.92E-03		1.55E-02	1.91E-03
	1468.90	6.80	4.25E-04		-1.62E-04	1.93E-04
	1595.81	1.89	9.16E-04		-1.26E-03	3.84E-04
	2043.72	3.74	4.39E-04		1.67E-04	1.74E-04
Ir-194	293.54	2.50	1.36E-03	2.73E-04	9.41E-04	6.57E-04
	328.47	13.10	2.73E-04		-3.24E-05	1.33E-04
AU-195	98.86	11.21	1.76E-04	1.76E-04	-4.37E-05	8.55E-05
	129.74	0.84	2.45E-03		2.82E-04	1.19E-03
Pt-195m	98.90	11.70	1.75E-04	1.75E-04	-4.33E-05	8.46E-05
	129.79	2.90	7.32E-04		8.45E-05	3.55E-04
Au-196	333.03	22.90	2.11E-04	4.45E-05	1.07E-05	1.02E-04
	355.73	87.00	4.45E-05		5.44E-05	2.15E-05
	426.10	6.60	5.73E-04		6.80E-04	2.78E-04
Au-196m	147.81	43.50	6.58E-05	6.58E-05	2.15E-06	3.19E-05
	188.27	30.00	1.18E-04		6.89E-05	5.74E-05
Pt-197	77.35	17.00	1.87E-04	1.87E-04	2.23E-05	9.11E-05
	191.44	3.70	7.76E-04		-5.66E-04	3.77E-04
AU-198	411.80	95.62	5.07E-05	5.07E-05	-1.15E-05	2.48E-05
AU-199	158.38	40.00	5.74E-05	5.74E-05	1.42E-05	2.79E-05
	208.20	8.72	3.04E-04		-1.25E-04	1.48E-04
TL-201	135.34	2.61	8.02E-04	2.31E-04	-8.26E-05	3.88E-04
	167.43	10.00	2.31E-04		1.02E-04	1.12E-04

Analysis Report for 24-2508 TI185-3.5M-S1-CST-d-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TL-202	439.51	91.50	4.18E-05	4.18E-05	-2.09E-05	2.03E-05
PB-203	70.83	26.40	1.19E-04	4.21E-05	-7.76E-05	5.79E-05
	72.87	44.20	6.94E-05		-2.93E-05	3.37E-05
	82.40	15.56	1.69E-04		6.45E-05	8.20E-05
	279.20	80.90	4.21E-05		-2.64E-05	2.04E-05
	401.32	3.35	1.57E-03		-1.90E-03	7.59E-04
PB-210	46.54	4.25	2.52E-03	2.52E-03	-2.42E-04	1.22E-03
Pa-233	86.60	2.01	1.92E-03	7.51E-05	6.25E-03	9.41E-04
	94.65	8.90	2.40E-04		2.19E-04	1.16E-04
	98.43	14.20	1.40E-04		-1.19E-04	6.80E-05
	300.13	6.54	4.43E-04		-4.61E-04	2.15E-04
	311.90	38.20	7.51E-05		6.18E-05	3.64E-05
	340.48	4.44	6.61E-04		2.15E-04	3.20E-04
U-235	89.96	2.90	1.10E-03	4.38E-05	1.57E-04	5.37E-04
	93.35	4.70	4.33E-04		1.47E-04	2.10E-04
	109.19	1.64	1.22E-03		6.59E-04	5.93E-04
	143.76	10.93	1.85E-04		5.21E-05	8.94E-05
	163.36	5.07	4.25E-04		-4.09E-05	2.06E-04
	185.71	57.20	4.38E-05		1.76E-05	2.13E-05
	202.11	1.07	2.48E-03		1.32E-03	1.21E-03
	205.31	5.03	5.21E-04		4.80E-04	2.53E-04
NP-237	86.48	12.20	2.70E-04	2.70E-04	8.78E-04	1.32E-04
U-237	59.54	34.50	1.65E-04	8.48E-05	1.84E-04	8.03E-05
	97.07	15.40	1.38E-04		3.46E-05	6.69E-05
	101.06	24.50	8.48E-05		3.26E-05	4.11E-05
	113.30	3.07	6.36E-04		-3.38E-04	3.08E-04
	114.23	5.81	3.42E-04		2.04E-06	1.66E-04
	117.46	2.27	8.89E-04		5.01E-04	4.31E-04
	208.00	21.20	1.31E-04		9.16E-05	6.35E-05
NP-238	103.37	0.00	4.61E-01	1.09E-04	2.47E-01	2.24E-01
	882.63	0.80	2.79E-03		-1.35E-03	1.28E-03
	923.99	2.60	1.03E-03		3.59E-04	4.77E-04
	984.45	25.20	1.09E-04		1.53E-05	5.07E-05
	1025.87	8.75	3.18E-04		2.31E-04	1.47E-04
	1028.53	18.23	1.40E-04		-1.47E-04	6.43E-05
U-238	63.29	3.70	1.17E-03	5.26E-04	1.20E-03	5.70E-04
	92.51	4.23	5.26E-04		6.00E-04	2.56E-04
	112.81	0.21	8.92E-03		-2.04E-02	4.32E-03
	742.81	0.11	1.78E-02		-1.28E-02	8.18E-03
	766.42	0.32	7.01E-03		7.07E-03	3.25E-03
	1001.03	0.84	3.28E-03		5.08E-04	1.53E-03
Am-239	181.71	1.08	2.87E-03	2.41E-04	-1.75E-04	1.39E-03
	209.80	3.50	9.70E-04		1.00E-03	4.71E-04
	226.40	3.30	1.03E-03		2.95E-04	4.99E-04
	228.10	11.30	3.05E-04		5.50E-06	1.48E-04
	277.60	15.00	2.41E-04		6.30E-05	1.17E-04
NP-239	61.46	1.30	4.01E-03	9.50E-05	1.56E-03	1.96E-03
	99.53	12.90	1.62E-04		-1.70E-04	7.87E-05
	103.37	20.50	1.06E-04		5.69E-05	5.16E-05
	106.12	25.34	9.50E-05		1.56E-05	4.61E-05
	209.75	3.36	8.61E-04		8.89E-04	4.18E-04
	228.18	11.24	2.63E-04		-8.64E-05	1.28E-04
	277.60	14.51	2.20E-04		5.76E-05	1.07E-04

Analysis Report for 24-2508 TI185-3.5M-S1-CST-d-A F0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	NP-239	285.46		0.79	4.37E-03	9.50E-05	2.45E-04	2.12E-03
		315.88		1.60	1.67E-03		-4.58E-04	8.08E-04
		334.31		2.06	1.13E-03		-2.23E-04	5.46E-04
	PU-239	38.66		0.01	3.01E+00	2.64E-01	9.88E-01	1.46E+00
		51.62		0.03	2.64E-01		6.79E-02	1.28E-01
		98.50		0.01	2.74E-01		-2.33E-01	1.33E-01
		111.03		0.00	1.45E+00		3.41E-01	7.03E-01
		129.30		0.01	3.23E-01		-1.87E-01	1.57E-01
		171.39		0.00	2.05E+01		4.00E+00	9.96E+00
		203.55		0.00	4.53E+00		-5.64E+00	2.20E+00
		332.85		0.00	6.06E+00		3.17E+00	2.93E+00
		336.11		0.00	2.60E+01		1.36E+00	1.26E+01
		345.01		0.00	5.19E+00		-5.74E+00	2.51E+00
		375.05		0.00	2.03E+00		8.69E-01	9.84E-01
		380.19		0.00	1.05E+01		6.28E-01	5.10E+00
		382.75		0.00	1.24E+01		3.59E+00	5.99E+00
		413.71		0.00	3.14E+00		7.80E+00	1.53E+00
		422.60		0.00	2.92E+01		1.30E+01	1.41E+01
		451.48		0.00	2.21E+01		-5.69E+00	1.07E+01
	Am-240	99.53		18.40	1.15E-04	3.79E-05	-1.20E-04	5.55E-05
		103.37		29.20	7.51E-05		4.02E-05	3.64E-05
		117.23		6.93	3.04E-04		1.71E-04	1.47E-04
		888.85		24.70	9.81E-05		2.83E-05	4.52E-05
		987.79		72.20	3.79E-05		2.51E-05	1.76E-05
	Np-240m	554.60		20.90	1.72E-04	1.72E-04	4.65E-05	8.22E-05
		597.40		11.70	2.75E-04		-2.07E-04	1.30E-04
	U-240	44.10		1.05	1.62E-02	1.30E-02	-1.16E-02	7.84E-03
		66.50		0.15	2.86E-02		9.51E-03	1.39E-02
		169.20		0.12	2.43E-02		-2.59E-03	1.18E-02
		189.70		0.24	1.30E-02		-4.69E-03	6.31E-03
+	AM-241	59.54	*	35.90	1.42E-04	1.42E-04	1.57E-04	6.91E-05
	AM-242m	49.35		0.13	6.44E-02	6.44E-02	8.49E-02	3.12E-02
		66.89		0.01	2.30E-01		8.70E-02	1.12E-01
		86.65		0.02	1.44E-01		4.69E-01	7.06E-02
		163.25		0.02	1.41E-01		-1.36E-02	6.82E-02
	AM-243	43.53		5.90	2.47E-03	4.15E-05	-9.97E-04	1.19E-03
		74.66		67.20	4.15E-05		7.85E-06	2.01E-05

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

Apex-Gamma

Analysis Report for 24-2509 TI185-3.5M-S2-CST-A Q0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2509 TI185-3.5M-S2-CST-A Q0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 10:47:08AM
Procedure	: Q0_gsv02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: Q0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1202.0 seconds
Dead Time	: 0.17 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 1/16/2018
Efficiency Calibration Description	: Q0_gsv2mlw_R651_PT
Sample Number	: 578930
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 11:07:15AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2509 TI185-3.5M-S2-CST-A Q0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	45.56	145.62	0.4033	3.30
2	59.74	190.44	0.3064	3.54
3	87.59	279.46	0.1934	8.07
4	351.84	1121.95	0.2870	3.65
5	414.96	1323.17	0.1610	11.18
6	609.03	1942.68	0.2680	3.16
7	661.87	2110.34	0.0664	55.31
8	666.54	2125.48	0.1673	9.42
9	695.21	2216.40	0.1576	9.64
10	1081.25	3447.14	0.2477	3.55
11	1120.36	3571.51	0.2926	3.16
12	1173.60	3741.64	0.1303	11.55
13	1332.84	4249.02	0.1224	13.42

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2509 TI185-3.5M-S2-CST-A Q0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 11:07:15AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	1	45.56	141 -	148	145.62	1.12E+01	24.64	1.97E+02	0.48
F	2	59.74	185 -	198	190.80	1.99E+02	20.26	3.18E+02	1.50
F	3	87.59	272 -	288	279.59	6.28E+02	29.70	4.69E+02	1.36
F	4	351.84	1118 -	1129	1121.98	7.54E+01	15.69	2.03E+02	1.28
F	5	414.96	1316 -	1329	1323.21	4.41E+02	69.66	2.50E+02	1.14
F	6	609.03	1936 -	1948	1941.86	4.48E+01	39.59	8.94E+01	1.52
M	7	661.87	2097 -	2135	2110.28	1.05E+04	176.14	7.55E+01	1.68
m	8	666.54	2097 -	2135	2125.19	2.99E+02	17.64	3.00E+01	1.68
F	9	695.21	2210 -	2225	2216.57	3.09E+02	18.22	5.47E+01	1.58
F	10	1081.25	3441 -	3453	3447.08	3.68E+01	7.75	2.29E+01	1.63
F	11	1120.36	3565 -	3576	3571.76	2.24E+01	6.08	1.51E+01	1.26
F	12	1173.60	3729 -	3755	3741.45	6.31E+02	56.72	5.00E+01	2.19
F	13	1332.84	4236 -	4260	4249.01	6.90E+02	53.07	1.27E+01	2.04

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 11:07:15AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578893.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	45.56	1.12E+01	24.64			1.12E+01	2.46E+01
F	2	59.74	1.99E+02	20.26			1.99E+02	2.03E+01
F	3	87.59	6.28E+02	29.70	1.01E+01	4.77E-01	6.18E+02	2.97E+01

Analysis Report for 24-2509 TI185-3.5M-S2-CST-A Q0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	4	351.84	7.54E+01	15.69	4.04E+01	1.53E+00	3.50E+01	1.58E+01
F	5	414.96	4.41E+02	69.66			4.41E+02	6.97E+01
F	6	609.03	4.48E+01	39.59	3.78E+01	1.30E+00	6.97E+00	3.96E+01
M	7	661.87	1.05E+04	176.14			1.05E+04	1.76E+02
m	8	666.54	2.99E+02	17.64	8.33E-01	1.87E-01	2.98E+02	1.76E+01
F	9	695.21	3.09E+02	18.22			3.09E+02	1.82E+01
F	10	1081.25	3.68E+01	7.75			3.68E+01	7.75E+00
F	11	1120.36	2.24E+01	6.08	1.11E+01	3.67E+01	1.14E+01	3.72E+01
F	12	1173.60	6.31E+02	56.72			6.31E+02	5.67E+01
F	13	1332.84	6.90E+02	53.07			6.90E+02	5.31E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.97	1173.23	*	99.85	3.11E-04	2.81E-05	0.765
		1332.49	*	99.98	3.70E-04	2.87E-05	0.763
CD-109	0.96	88.03	*	3.64	2.34E-03	1.15E-04	free
Te-129m	0.93	695.88	*	3.00	2.78E-03	5.79E-04	free
CS-137	0.99	661.66	*	85.10	3.20E-03	5.87E-05	miss
PB-210	0.85	46.54	*	4.25	2.36E-04	5.19E-04	free
AM-241	0.99	59.54	*	35.90	1.57E-04	1.62E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Analysis Report for 24-2509 TI185-3.5M-S2-CST-A Q0

ASR 2094 Branch

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.979	3.40E-04	2.01E-05	
CD-109	0.968	2.34E-03	1.15E-04	
Te-129m	0.931	2.78E-03	5.79E-04	
CS-137	0.993	3.20E-03	5.87E-05	
PB-210	0.859	2.36E-04	5.19E-04	
AM-241	0.994	1.57E-04	1.62E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2509 TI185-3.5M-S2-CST-A Q0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 11:07:15AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	4	351.84	2.91606E-02	45.04	Tol.	NB-96
F	5	414.96	3.67875E-01	15.78	Tol.	RH-102M
F	6	609.03	5.80811E-03	568.33		
m	8	666.54	2.48286E-01	5.92		
F	10	1081.25	3.06724E-02	21.07		
F	11	1120.36	9.46731E-03	327.57	Tol.	SC-46 TA-182

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.60	10.44	2.36E-04	2.36E-04	8.08E-05	1.15E-04
	NA-22	511.00	179.91	1.20E-05	1.20E-05	1.67E-05	5.83E-06
		1274.54	99.94	2.95E-05		3.65E-05	1.37E-05
	NA-24	1368.63	99.99	1.99E-05	1.99E-05	5.56E-06	9.08E-06
>		2754.01	99.87	0.00E+00		0.00E+00	0.00E+00
	AL-26	1129.67	2.50	6.63E-04	8.55E-06	2.14E-05	3.10E-04
		1808.65	99.76	8.55E-06		4.62E-06	3.58E-06
	K-40	1460.82	10.66	1.55E-04	1.55E-04	1.87E-04	7.19E-05
	K-42	312.60	0.34	6.22E-03	6.44E-05	-2.10E-03	3.03E-03

Analysis Report for 24-2509 TI185-3.5M-S2-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	K-42	1524.60	18.08	6.44E-05	6.44E-05	-2.64E-05	2.80E-05
	Sc-44	1157.02	99.90	3.16E-05	3.16E-05	2.98E-05	1.48E-05
		1499.46	0.91	2.56E-03		-1.78E-03	1.13E-03
	Sc-44m	271.24	86.74	2.03E-05	2.03E-05	-9.20E-06	9.91E-06
		1001.83	1.20	2.46E-03		5.79E-04	1.16E-03
		1126.06	1.20	2.55E-03		5.00E-04	1.20E-03
		1157.00	1.20	2.39E-03		2.25E-03	1.12E-03
	TI-44	67.87	93.00	3.40E-05	2.42E-05	-1.90E-05	1.66E-05
		78.32	96.40	2.42E-05		-9.45E-06	1.18E-05
	SC-46	889.28	99.98	1.98E-05	1.98E-05	8.86E-06	9.33E-06
		1120.55	99.99	2.21E-05		-2.22E-05	1.04E-05
	CA-47	489.23	5.90	5.12E-04	1.61E-05	6.89E-05	2.49E-04
		807.86	5.90	3.32E-04		-1.64E-05	1.56E-04
		1297.09	67.00	1.61E-05		-4.36E-06	7.21E-06
	SC-47	159.38	68.30	1.97E-05	1.97E-05	1.20E-05	9.61E-06
	SC-48	175.36	7.47	1.93E-04	1.36E-05	1.18E-04	9.40E-05
		983.53	100.00	1.61E-05		7.36E-06	7.58E-06
		1037.52	97.50	1.71E-05		1.63E-05	8.04E-06
		1312.12	100.00	1.36E-05		1.78E-06	6.19E-06
	V-48	944.13	7.87	2.66E-04	1.73E-05	-2.67E-04	1.26E-04
		983.53	99.98	2.00E-05		9.15E-06	9.42E-06
		1312.11	98.20	1.73E-05		2.27E-06	7.91E-06
		2240.40	2.33	4.46E-04		-7.65E-04	1.77E-04
	CR-51	320.08	9.91	1.64E-04	1.64E-04	-9.89E-05	7.95E-05
	Fe-52	168.69	99.20	1.91E-05	1.91E-05	1.28E-05	9.30E-06
		377.75	1.64	1.61E-03		-8.08E-04	7.83E-04
	Mn-52	744.23	90.00	2.65E-05	1.50E-05	-6.24E-06	1.25E-05
		848.18	3.32	7.85E-04		6.51E-05	3.71E-04
		935.54	94.50	3.17E-05		3.14E-05	1.50E-05
		1246.28	4.21	4.88E-04		-1.86E-04	2.22E-04
		1333.65	5.07	1.66E-03		8.96E-03	8.14E-04
		1434.09	100.00	1.50E-05		-4.88E-05	6.44E-06
	MN-54	834.85	99.98	1.50E-05	1.50E-05	1.03E-05	7.10E-06
	Co-55	411.50	1.07	3.14E-03	2.55E-05	1.05E-03	1.54E-03
		477.20	20.20	1.44E-04		7.40E-05	7.03E-05
		803.70	1.87	9.70E-04		1.04E-03	4.60E-04
		931.10	75.00	2.55E-05		-1.07E-05	1.20E-05
		1316.60	7.10	2.10E-04		2.30E-05	9.60E-05
		1370.00	2.90	4.13E-04		-9.27E-04	1.84E-04
		1408.50	16.90	7.22E-05		8.97E-06	3.21E-05
	Co-56	846.77	99.94	2.07E-05	2.07E-05	-4.25E-06	9.76E-06
		977.37	1.42	1.79E-03		-2.67E-04	8.41E-04
		1037.84	14.05	1.61E-04		1.16E-04	7.58E-05
		1175.10	2.25	3.51E-03		1.86E-02	1.72E-03
		1238.29	66.46	2.91E-05		1.79E-05	1.33E-05
		1360.21	4.28	5.03E-04		2.70E-04	2.33E-04
		1771.36	15.41	1.45E-04		1.80E-04	6.63E-05
		2015.20	3.02	3.19E-04		-5.79E-04	1.27E-04
		2034.79	7.77	1.67E-04		8.99E-05	6.97E-05
>		2598.50	16.97	0.00E+00		0.00E+00	0.00E+00
	MN-56	846.76	98.85	4.78E-05	4.78E-05	-9.82E-06	2.26E-05
		1810.73	26.90	1.16E-04		5.84E-05	4.80E-05
		2113.09	14.20	2.95E-04		2.35E-05	1.26E-04

Analysis Report for 24-2509 TI185-3.5M-S2-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Ni-56	158.38		98.80	1.34E-05	1.34E-05	1.50E-05	6.53E-06
		269.50		36.50	4.69E-05		1.40E-06	2.29E-05
		480.44		36.50	6.53E-05		-5.73E-06	3.18E-05
		749.50		49.50	2.76E-05		-7.76E-06	1.30E-05
		811.85		86.00	1.59E-05		-1.16E-05	7.45E-06
		1561.80		14.00	6.27E-05		4.00E-05	2.68E-05
	CO-57	122.06		85.60	1.55E-05	1.55E-05	1.10E-05	7.56E-06
		136.47		10.68	1.23E-04		-4.99E-05	6.02E-05
	NI-57	127.16		16.70	8.22E-05	1.18E-05	-4.52E-05	4.01E-05
		1377.63		81.70	1.18E-05		-3.60E-06	5.16E-06
		1757.55		5.75	2.16E-04		-1.25E-04	9.51E-05
		1919.52		12.30	9.74E-05		9.24E-06	4.24E-05
	CO-58	810.76		99.45	1.51E-05	1.51E-05	-2.41E-06	7.13E-06
		863.96		0.69	2.99E-03		-1.45E-03	1.42E-03
		1674.73		0.52	1.44E-03		8.74E-04	6.13E-04
	FE-59	142.65		1.02	1.26E-03	2.66E-05	-3.78E-06	6.12E-04
		192.34		3.08	6.67E-04		2.46E-05	3.26E-04
		1099.24		56.50	2.75E-05		4.07E-05	1.29E-05
		1291.59		43.20	2.66E-05		-2.65E-06	1.21E-05
+	CO-60	1173.23	*	99.85	3.24E-05	1.85E-05	3.11E-04	1.55E-05
		1332.49	*	99.98	1.85E-05		3.70E-04	8.53E-06
	CU-64	511.00		35.00	7.65E-05	7.65E-05	1.07E-04	3.72E-05
		1345.77		0.47	2.61E-03		-2.60E-03	1.16E-03
	NI-65	366.27		4.81	1.51E-03	1.23E-04	-1.25E-03	7.37E-04
		1115.53		15.43	4.20E-04		3.28E-04	1.99E-04
		1481.84		23.59	1.23E-04		-2.80E-04	5.44E-05
	ZN-65	1115.54		50.04	3.96E-05	3.96E-05	3.10E-05	1.88E-05
	GA-66	511.00		114.00	2.53E-05	2.53E-05	3.52E-05	1.23E-05
		833.53		5.90	3.41E-04		1.69E-04	1.61E-04
		1039.22		37.00	5.46E-05		-6.27E-06	2.56E-05
		1333.11		1.17	5.97E-03		3.32E-02	2.92E-03
		1918.33		1.99	7.86E-04		6.10E-04	3.44E-04
		2189.62		5.30	2.51E-04		-2.79E-04	1.05E-04
>		2751.83		22.70	0.00E+00		0.00E+00	0.00E+00
	CU-67	91.27		7.00	2.84E-04	3.26E-05	-8.82E-06	1.39E-04
		93.31		16.10	9.71E-05		-4.75E-05	4.74E-05
		184.58		48.70	3.26E-05		-2.77E-05	1.59E-05
		300.22		0.80	2.21E-03		-1.22E-03	1.08E-03
		393.53		0.22	9.48E-03		-1.32E-03	4.62E-03
	GA-67	91.26		3.11	7.47E-04	4.33E-05	-2.32E-05	3.67E-04
		93.31		38.81	4.33E-05		-2.12E-05	2.11E-05
		184.58		21.41	7.47E-05		-6.35E-05	3.65E-05
		208.95		2.46	1.01E-03		3.98E-04	4.93E-04
		300.22		16.64	1.20E-04		-6.61E-05	5.83E-05
		393.53		4.56	2.87E-04		-4.01E-05	1.40E-04
	ZN-69m	438.63		94.85	3.08E-05	3.08E-05	2.29E-05	1.50E-05
	GA-72	629.97		26.13	1.25E-04	2.59E-05	5.24E-05	6.00E-05
		834.13		95.45	2.59E-05		1.31E-05	1.23E-05
		894.33		10.14	3.08E-04		-3.58E-04	1.45E-04
		1050.79		6.99	4.58E-04		1.18E-05	2.14E-04
		2201.59		26.87	7.00E-05		4.67E-05	3.02E-05
		2491.03		7.73	1.74E-04		7.41E-05	7.03E-05
		2507.72		13.33	2.70E-04		3.45E-04	1.24E-04

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	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Zn-72	144.70	82.78	1.63E-05	1.63E-05	-3.63E-07	7.96E-06
		191.50	9.35	1.80E-04		6.39E-05	8.78E-05
	SE-75	121.12	17.20	1.11E-04	3.21E-05	2.52E-05	5.42E-05
		136.00	58.50	3.21E-05		5.60E-06	1.57E-05
		264.66	58.90	3.84E-05		-1.35E-05	1.87E-05
		279.54	25.02	8.42E-05		2.46E-05	4.11E-05
		400.66	11.41	6.13E-05		5.27E-06	2.99E-05
	BR-83	529.59	1.30	4.61E-03	4.61E-03	2.93E-03	2.23E-03
	BR-84	604.80	1.70	1.98E-01	6.31E-03	-5.34E-02	9.56E-02
		736.50	1.29	1.78E-01		-3.00E-01	8.37E-02
		802.20	6.00	4.51E-02		4.62E-02	2.14E-02
		881.60	42.00	6.31E-03		-3.64E-03	2.98E-03
		987.30	0.79	3.39E-01		-6.49E-02	1.59E-01
		1015.90	6.20	4.40E-02		-1.03E-03	2.07E-02
		1213.30	2.60	8.16E-02		1.11E-02	3.73E-02
		1463.80	2.00	1.40E-01		1.66E-01	6.50E-02
		1741.20	1.60	1.02E-01		6.53E-02	4.38E-02
		1877.50	1.12	1.44E-01		8.24E-02	6.06E-02
		1897.60	14.60	1.24E-02		-4.66E-04	5.35E-03
		2029.60	2.10	7.81E-02		-3.20E-02	3.27E-02
		2200.70	1.16	1.71E-01		1.09E-01	7.34E-02
		2484.10	6.70	1.90E-02		5.31E-03	7.13E-03
>		2824.10	1.12	0.00E+00		0.00E+00	0.00E+00
	KR-85m	151.20	75.20	3.04E-05	3.04E-05	-8.90E-06	1.48E-05
		304.87	14.00	2.17E-04		3.75E-05	1.06E-04
	Y-87	388.53	82.20	2.48E-05	2.48E-05	2.36E-05	1.21E-05
		484.80	89.80	2.57E-05		-4.14E-06	1.25E-05
	KR-88	165.98	3.10	2.03E-03	7.53E-05	9.01E-04	9.91E-04
		196.30	26.00	2.02E-04		-1.06E-05	9.89E-05
		362.23	2.25	1.95E-03		-2.12E-04	9.51E-04
		471.80	0.73	1.20E-02		-7.73E-03	5.88E-03
		834.83	13.00	3.84E-04		2.64E-04	1.81E-04
		985.78	1.31	4.63E-03		-9.94E-04	2.18E-03
		1141.33	1.28	3.27E-03		2.30E-03	1.51E-03
		1179.51	1.00	1.64E-02		-3.89E-03	7.99E-03
		1250.67	1.12	3.43E-03		1.34E-03	1.55E-03
		1369.50	1.48	2.69E-03		-4.11E-03	1.21E-03
		1518.39	2.15	1.62E-03		1.30E-05	7.05E-04
		1529.77	10.90	3.08E-04		6.73E-05	1.34E-04
		2029.84	4.53	9.01E-04		-3.97E-04	3.77E-04
		2035.41	3.74	8.90E-04		-3.44E-04	3.69E-04
		2195.84	13.20	2.84E-04		-7.34E-04	1.20E-04
		2231.77	3.39	6.71E-04		3.85E-04	2.83E-04
		2352.08	0.73	5.19E-03		-2.06E-03	2.18E-03
		2392.11	34.60	7.53E-05		4.07E-05	3.15E-05
	RB-88	898.03	14.40	3.66E-04	1.24E-04	1.02E-04	1.73E-04
		1382.45	0.78	4.71E-03		7.99E-04	2.11E-03
		1836.00	22.81	1.24E-04		6.68E-05	5.18E-05
>		2677.89	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-88	898.04	93.70	2.11E-05	1.13E-05	5.86E-06	9.94E-06
		1836.06	99.20	1.13E-05		-3.54E-06	4.73E-06
	RB-89	272.42	1.53	4.86E+01	1.06E+00	6.05E+00	2.37E+01
		657.77	10.80	5.05E+01		9.63E-01	2.51E+01

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	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RB-89	947.73	10.00	7.42E+00	1.06E+00	-6.79E-01	3.52E+00
		1031.92	63.00	1.06E+00		1.11E+00	4.96E-01
		1248.14	46.00	1.06E+00		2.86E-01	4.80E-01
		1538.07	2.77	1.45E+01		-6.86E+00	6.28E+00
		2007.50	2.58	1.85E+01		1.24E+01	7.98E+00
		2195.92	14.50	3.05E+00		-4.79E+00	1.28E+00
>		2570.20	10.70	0.00E+00		0.00E+00	0.00E+00
>		2707.26	2.20	0.00E+00		0.00E+00	0.00E+00
	SR-89	908.96	0.01	1.58E-01	1.58E-01	-1.42E-01	7.42E-02
	Sr-91	652.90	11.35	2.14E-04	5.57E-05	2.80E-06	1.03E-04
		749.80	23.70	7.44E-05		-5.50E-05	3.51E-05
		925.80	3.85	5.16E-04		-2.42E-04	2.43E-04
		1024.30	33.50	5.57E-05		2.03E-05	2.60E-05
	Y-91	1204.77	0.26	4.80E-03	4.80E-03	9.17E-04	2.20E-03
	Y-91m	555.57	61.64	3.57E-05	3.57E-05	-1.29E-05	1.72E-05
	NB-92M	912.60	1.78	1.16E-03	1.73E-05	3.60E-04	5.50E-04
		934.44	99.15	1.73E-05		9.30E-06	8.19E-06
		1847.50	0.85	1.02E-03		7.36E-04	4.42E-04
	SR-92	241.56	2.93	1.62E-03	3.70E-05	4.34E-04	7.89E-04
		430.49	3.28	2.00E-03		1.63E-03	9.75E-04
		953.31	3.52	1.43E-03		1.01E-03	6.77E-04
		1142.35	2.79	1.35E-03		-1.00E-03	6.23E-04
		1383.93	90.00	3.70E-05		8.67E-06	1.67E-05
	MO-93M	114.04	0.68	2.90E-03	1.62E-05	2.46E-03	1.42E-03
		263.05	57.40	4.23E-05		1.25E-05	2.06E-05
		684.69	99.90	1.87E-05		-7.42E-07	8.81E-06
		1363.02	0.81	2.88E-03		2.57E-03	1.34E-03
		1477.14	99.10	1.62E-05		-9.93E-07	7.23E-06
	SR-93	168.50	18.40	2.56E+05	8.82E+04	-9.50E+04	1.25E+05
		260.12	7.40	7.60E+05		-1.03E+06	3.70E+05
		346.49	3.28	2.02E+06		8.52E+04	9.83E+05
		446.20	2.36	3.55E+06		-8.78E+05	1.74E+06
		590.24	68.00	8.82E+04		8.00E+04	4.24E+04
		710.31	21.80	1.96E+05		-6.35E+03	9.21E+04
		875.73	24.50	2.24E+05		2.45E+05	1.06E+05
		888.13	22.10	2.40E+05		1.16E+05	1.13E+05
		1040.63	3.20	1.66E+06		5.56E+05	7.77E+05
		1094.00	1.76	2.89E+06		-1.97E+06	1.35E+06
		1122.48	4.00	1.48E+06		2.23E+05	6.99E+05
		1215.48	2.50	1.80E+06		-1.04E+05	8.28E+05
		1269.47	7.10	7.38E+05		4.99E+04	3.43E+05
		1321.24	2.61	1.55E+06		-1.52E+06	7.01E+05
		1387.11	3.50	1.16E+06		-3.13E+05	5.22E+05
		1694.07	2.58	1.37E+06		-1.02E+05	5.97E+05
		1699.06	3.30	1.08E+06		-1.67E+06	4.68E+05
		2543.84	3.03	5.92E+05		8.04E+04	1.87E+05
>		2688.65	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-93	266.90	7.40	2.89E-04	2.89E-04	-7.04E-05	1.41E-04
		947.10	2.10	1.06E-03		1.25E-03	5.03E-04
		1917.80	1.57	9.76E-04		7.58E-04	4.28E-04
	NB-94	702.65	99.81	1.75E-05	1.75E-05	-1.09E-05	8.27E-06
		871.09	99.89	2.07E-05		-3.95E-07	9.80E-06
	Y-94	381.60	2.02	5.74E+00	1.69E-01	-2.25E+00	2.79E+00

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Y-94	550.90	4.90	2.09E+00	1.69E-01	-3.08E+00	1.00E+00
	752.60	1.40	5.98E+00		3.69E+00	2.81E+00
	918.74	56.00	1.69E-01		1.32E-01	7.95E-02
	1138.90	6.00	1.52E+00		-5.19E-01	7.06E-01
	1671.40	2.50	2.48E+00		2.78E-01	1.08E+00
	2140.60	0.95	6.61E+00		-2.69E+00	2.77E+00
NB-95	765.80	99.81	1.35E-05	1.35E-05	1.90E-06	6.38E-06
ZR-95	724.19	44.27	3.53E-05	2.33E-05	5.82E-06	1.68E-05
	756.72	54.38	2.33E-05		-2.95E-05	1.09E-05
NB-96	219.08	2.97	6.27E-04	1.56E-05	9.22E-04	3.07E-04
	241.38	3.50	5.32E-04		1.43E-04	2.60E-04
	350.05	1.54	1.49E-03		1.34E-03	7.29E-04
	352.56	0.83	2.72E-03		2.52E-03	1.33E-03
	371.81	2.62	8.62E-04		1.09E-03	4.20E-04
	460.04	26.62	1.09E-04		3.94E-05	5.35E-05
	480.71	5.84	4.50E-04		1.44E-04	2.19E-04
	568.87	58.00	3.33E-05		-3.91E-07	1.60E-05
	719.56	6.85	2.45E-04		1.75E-05	1.16E-04
	721.63	1.02	1.70E-03		1.48E-03	8.07E-04
	778.22	96.45	1.56E-05		3.37E-06	7.35E-06
	810.33	11.09	1.41E-04		-1.04E-04	6.63E-05
	812.58	2.95	4.99E-04		-5.47E-04	2.34E-04
	847.69	1.14	1.50E-03		1.02E-03	7.07E-04
	849.93	20.45	8.54E-05		-8.35E-05	4.04E-05
	1091.35	48.50	3.51E-05		-8.90E-06	1.64E-05
	1200.23	19.97	7.22E-05		-2.99E-05	3.32E-05
	1441.13	0.44	2.46E-03		-8.52E-04	1.08E-03
	1497.81	3.28	3.66E-04		1.75E-04	1.62E-04
Nb-97	657.94	98.23	1.50E-04	1.50E-04	-8.70E-07	7.43E-05
	1024.40	1.09	1.52E-03		-6.40E-04	7.09E-04
ZR-97	254.17	1.15	1.64E-03	1.73E-05	2.44E-04	8.02E-04
	355.40	2.09	1.66E-03		-6.73E-04	8.12E-04
	507.64	5.03	6.81E-04		6.79E-04	3.31E-04
	743.36	93.09	1.73E-05		5.70E-06	8.16E-06
	1147.97	2.62	8.88E-04		-8.87E-05	4.11E-04
MO-99	181.07	6.14	3.83E-04	1.51E-04	-1.39E-04	1.87E-04
	366.42	1.20	1.62E-03		-1.34E-03	7.88E-04
	739.50	12.26	1.51E-04		4.26E-07	7.12E-05
	777.92	4.30	3.24E-04		2.80E-04	1.53E-04
TC-99M	140.51	90.80	1.45E-05	1.45E-05	-9.39E-06	7.06E-06
RH-101	127.23	68.00	2.62E-05	2.62E-05	-1.44E-05	1.28E-05
	198.01	73.00	2.71E-05		-4.45E-05	1.32E-05
	325.23	11.80	5.81E-05		2.36E-05	2.83E-05
RH-101M	306.86	81.00	2.08E-05	2.08E-05	1.12E-06	1.01E-05
	545.12	4.30	4.21E-04		5.11E-04	2.03E-04
RH-102M	415.25	2.10	3.30E-03	5.05E-05	8.02E-03	1.62E-03
	418.52	9.40	6.38E-04		9.88E-05	3.13E-04
	420.40	3.20	1.53E-03		9.58E-04	7.47E-04
	475.06	95.00	5.05E-05		2.23E-05	2.47E-05
	628.05	8.30	4.53E-04		-2.08E-04	2.17E-04
	631.29	56.00	5.23E-05		-1.49E-05	2.50E-05
	692.40	1.60	3.68E-03		4.77E-05	1.79E-03
	695.60	2.90	1.79E-03		5.88E-03	8.70E-04

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RH-102M	697.49		44.00	1.14E-04	5.05E-05	4.22E-04	5.56E-05
		766.84		34.00	7.18E-05		-7.32E-05	3.38E-05
		1046.59		34.00	7.56E-05		5.69E-05	3.54E-05
		1103.16		4.60	4.38E-04		-7.17E-04	2.05E-04
		1112.84		19.00	1.73E-04		1.83E-04	8.17E-05
	RU-103	497.08		91.00	2.42E-05	2.42E-05	1.17E-05	1.18E-05
		610.33		5.76	3.24E-04		1.65E-04	1.56E-04
	RH-105	306.31		4.66	3.80E-04	1.03E-04	-2.71E-05	1.85E-04
		319.23		16.90	1.03E-04		9.52E-06	5.03E-05
	AG-106M	221.70		6.60	2.58E-04	2.51E-05	-9.05E-06	1.26E-04
		228.63		2.10	7.93E-04		-7.15E-04	3.88E-04
		328.46		1.14	1.59E-03		1.10E-03	7.74E-04
		391.04		3.68	5.55E-04		1.33E-04	2.71E-04
		406.18		13.40	1.57E-04		-1.77E-04	7.66E-05
		429.65		13.20	1.74E-04		8.66E-05	8.47E-05
		450.98		28.20	8.61E-05		-5.45E-05	4.20E-05
		511.85		88.00	2.51E-05		2.18E-05	1.22E-05
		601.17		1.61	1.06E-03		8.68E-04	5.12E-04
		616.17		21.60	7.51E-05		1.03E-04	3.60E-05
		646.03		1.46	1.15E-03		1.25E-03	5.49E-04
		680.42		2.18	5.52E-04		3.44E-04	2.59E-04
		703.11		4.47	2.96E-04		-1.40E-04	1.40E-04
		717.34		28.90	4.78E-05		-3.84E-05	2.26E-05
		748.36		20.60	6.79E-05		9.73E-05	3.21E-05
		793.17		5.90	2.41E-04		-1.80E-04	1.14E-04
		804.28		12.40	1.25E-04		4.15E-05	5.94E-05
		808.36		4.00	3.50E-04		-5.12E-05	1.65E-04
		824.69		15.30	9.64E-05		3.77E-05	4.55E-05
		847.15		4.40	3.44E-04		8.09E-05	1.63E-04
		1019.72		1.04	1.48E-03		-1.29E-04	6.97E-04
		1045.83		29.60	5.01E-05		3.36E-05	2.35E-05
		1128.02		11.80	1.28E-04		-1.16E-04	5.96E-05
		1199.39		11.20	1.20E-04		1.83E-05	5.52E-05
		1222.88		7.00	1.58E-04		-1.38E-04	7.14E-05
		1394.35		1.49	8.11E-04		-1.57E-03	3.67E-04
		1527.65		16.30	5.64E-05		-5.33E-05	2.44E-05
		1572.35		6.60	1.55E-04		1.20E-04	6.78E-05
		1722.76		1.40	5.35E-04		-1.14E-03	2.19E-04
		1839.05		2.00	4.16E-04		-3.70E-04	1.73E-04
	RH-106	621.93		9.93	2.25E-04	2.25E-04	-1.26E-04	1.08E-04
		873.49		0.44	5.66E-03		1.69E-03	2.68E-03
		1050.41		1.56	1.28E-03		-6.77E-04	5.98E-04
	RU-106	511.86		20.40	1.07E-04	1.07E-04	9.26E-05	5.19E-05
	AG-108M	79.13		6.60	2.90E-04	3.12E-05	-1.88E-04	1.42E-04
		433.94		90.50	4.62E-05		1.15E-06	2.26E-05
		614.28		89.80	3.66E-05		1.90E-05	1.76E-05
		722.91		90.80	3.12E-05		3.13E-05	1.48E-05
+	CD-109	88.03	*	3.64	6.28E-04	6.28E-04	2.34E-03	3.09E-04
	AG-110M	446.81		3.70	1.51E-03	3.88E-05	-4.89E-05	7.36E-04
		620.35		2.73	1.41E-03		1.44E-03	6.77E-04
		657.76		95.61	2.41E-04		4.60E-06	1.20E-04
		677.62		10.70	2.66E-04		1.20E-04	1.25E-04
		687.01		6.53	4.10E-04		-1.41E-04	1.94E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-110M	706.68	16.69	1.56E-04	3.88E-05	3.63E-06	7.32E-05
	744.28	4.77	5.94E-04		-1.40E-04	2.80E-04
	763.94	22.60	1.14E-04		6.12E-05	5.40E-05
	818.02	7.43	4.29E-04		-3.44E-05	2.02E-04
	884.68	75.00	3.88E-05		2.36E-05	1.83E-05
	937.48	35.00	8.73E-05		-5.57E-05	4.13E-05
	1384.29	25.10	7.41E-05		-1.75E-05	3.34E-05
	1475.78	4.08	3.62E-04		-2.00E-04	1.61E-04
	1505.03	13.33	1.25E-04		-3.07E-05	5.51E-05
	1562.29	1.22	4.86E-04		-5.73E-05	2.07E-04
AG-111	245.40	1.11	1.50E-03	2.81E-04	6.90E-04	7.33E-04
	342.13	6.68	2.81E-04		1.18E-05	1.37E-04
AG-112	606.82	3.10	6.96E-04	4.22E-05	6.32E-04	3.36E-04
	617.52	43.00	4.22E-05		-5.60E-06	2.02E-05
	692.82	1.19	2.53E-03		8.39E-03	1.23E-03
	694.87	2.90	1.04E-03		3.24E-03	5.07E-04
	851.28	1.02	1.77E-03		-5.06E-04	8.41E-04
	1312.36	1.11	1.31E-03		6.45E-04	5.97E-04
	1387.68	5.30	2.47E-04		1.39E-04	1.11E-04
	1613.66	2.80	4.06E-04		3.05E-04	1.77E-04
	1798.50	0.89	1.39E-03		1.04E-03	6.06E-04
	2106.31	2.40	5.17E-04		-2.06E-05	2.21E-04
	2506.70	1.06	2.38E-03		2.08E-03	1.09E-03
CD-113M	263.70	0.03	6.10E-02	6.10E-02	-1.48E-02	2.98E-02
SN-113	255.13	2.11	7.63E-04	3.11E-05	-4.59E-04	3.72E-04
	391.70	64.97	3.11E-05		1.51E-05	1.52E-05
IN-114M	190.27	15.56	1.03E-04	1.03E-04	-1.43E-05	5.05E-05
	558.43	4.40	5.11E-04		-1.66E-04	2.46E-04
	725.24	4.40	4.86E-04		1.08E-04	2.31E-04
CD-115	260.90	1.94	8.75E-04	4.19E-05	-3.10E-04	4.27E-04
	336.24	46.02	4.19E-05		2.65E-05	2.04E-05
	527.90	27.45	7.47E-05		4.59E-05	3.62E-05
CD-115M	933.84	2.00	8.83E-04	8.83E-04	7.23E-04	4.19E-04
	1290.59	0.90	1.32E-03		-3.66E-05	5.97E-04
IN-115M	336.24	45.90	7.35E-05	7.35E-05	4.65E-05	3.58E-05
IN-116M	138.29	3.70	1.25E-02	3.65E-04	-7.85E-03	6.11E-03
	416.90	27.20	3.06E-03		8.03E-03	1.50E-03
	818.68	12.13	4.21E-03		-3.71E-03	1.98E-03
	1097.28	58.50	6.99E-04		4.31E-04	3.26E-04
	1293.56	84.80	3.65E-04		-4.21E-05	1.65E-04
	1507.59	9.92	2.85E-03		2.43E-03	1.26E-03
	2112.29	15.09	2.01E-03		1.40E-03	8.72E-04
SB-125	176.31	6.84	1.98E-04	7.28E-05	-1.85E-04	9.68E-05
	380.45	1.52	1.21E-03		6.02E-05	5.89E-04
	427.87	29.60	7.28E-05		9.66E-06	3.55E-05
	463.36	10.49	2.52E-04		1.22E-04	1.23E-04
	600.60	17.65	9.58E-05		-1.97E-05	4.60E-05
	606.71	4.98	3.81E-04		3.55E-04	1.84E-04
	635.95	11.22	1.38E-04		-4.53E-05	6.57E-05
	671.44	1.79	1.29E-03		-8.97E-06	6.26E-04
SN-125	332.10	1.40	2.22E-03	2.31E-04	-1.35E-03	1.08E-03
	469.85	1.50	2.97E-03		5.95E-04	1.45E-03
	800.28	1.10	1.93E-03		1.48E-03	9.14E-04

Analysis Report for 24-2509 TI185-3.5M-S2-CST-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SN-125	822.48	4.30	4.49E-04	2.31E-04	-2.74E-05	2.12E-04
	915.55	4.10	4.71E-04		-1.70E-04	2.22E-04
	1067.10	10.00	2.31E-04		2.80E-04	1.09E-04
	1087.70	1.20	2.65E-03		1.45E-03	1.25E-03
	1089.10	4.60	3.56E-04		5.49E-05	1.66E-04
	2002.10	1.90	6.04E-04		1.06E-04	2.63E-04
SB-127	61.10	1.43	3.32E-03	3.57E-05	-1.14E-04	1.62E-03
	252.40	8.50	2.42E-04		-1.53E-04	1.18E-04
	290.80	2.02	1.19E-03		-1.25E-03	5.79E-04
	412.10	3.80	8.48E-04		4.11E-04	4.16E-04
	445.10	4.30	7.98E-04		-5.56E-04	3.90E-04
	473.00	25.80	1.09E-04		-6.76E-05	5.35E-05
	543.30	2.90	5.40E-04		-9.25E-05	2.61E-04
	603.50	4.50	5.64E-04		1.39E-04	2.71E-04
	685.70	36.80	3.57E-05		-2.23E-05	1.68E-05
	698.50	3.64	7.48E-04		2.25E-03	3.63E-04
	722.20	1.88	8.66E-04		7.14E-04	4.12E-04
	783.70	15.10	8.49E-05		-8.29E-05	3.98E-05
SN-127	119.70	2.20	2.25E-03	1.89E-04	1.89E-03	1.10E-03
	262.50	2.30	2.58E-03		-1.65E-03	1.26E-03
	266.20	2.10	2.85E-03		1.26E-03	1.39E-03
	284.30	2.70	2.26E-03		-7.13E-04	1.10E-03
	438.20	6.10	1.43E-03		-2.44E-04	7.00E-04
	490.90	5.30	1.54E-03		-1.23E-03	7.52E-04
	493.20	3.10	2.63E-03		6.80E-04	1.28E-03
	545.40	2.30	2.77E-03		1.43E-03	1.34E-03
	583.30	3.20	1.81E-03		-8.14E-04	8.67E-04
	805.90	8.20	6.59E-04		9.67E-05	3.12E-04
	823.10	11.00	4.79E-04		-3.51E-05	2.26E-04
	824.70	6.10	8.79E-04		3.44E-04	4.15E-04
	859.50	8.00	7.30E-04		-2.46E-04	3.46E-04
	979.20	7.20	7.90E-04		4.52E-04	3.72E-04
	1093.30	3.80	1.43E-03		1.29E-03	6.69E-04
	1095.60	19.00	2.87E-04		1.12E-04	1.34E-04
	1114.30	38.00	1.89E-04		1.61E-04	8.96E-05
	1160.40	2.40	2.37E-03		8.61E-05	1.11E-03
	2003.40	5.30	7.51E-04		7.71E-05	3.23E-04
SB-129	180.42	2.84	9.17E-04	5.20E-05	1.40E-04	4.48E-04
	359.20	2.39	1.44E-03		2.99E-04	7.01E-04
	404.64	1.17	3.27E-03		-4.39E-03	1.59E-03
	523.13	1.55	2.38E-03		-3.01E-04	1.15E-03
	544.56	15.42	2.15E-04		1.37E-04	1.04E-04
	633.74	2.53	1.14E-03		-1.61E-04	5.46E-04
	654.28	2.97	1.26E-03		-2.00E-04	6.06E-04
	682.77	5.76	4.08E-04		2.36E-04	1.93E-04
	761.12	4.32	5.75E-04		1.87E-04	2.71E-04
	773.37	2.82	8.85E-04		-3.56E-04	4.17E-04
	786.36	1.07	2.14E-03		-1.32E-03	1.00E-03
	787.16	1.74	1.32E-03		1.15E-04	6.18E-04
	812.97	48.20	5.20E-05		2.78E-05	2.45E-05
	819.51	1.39	1.90E-03		-5.68E-04	8.97E-04
	876.65	2.75	1.04E-03		-6.78E-04	4.91E-04
	914.96	23.30	1.19E-04		-2.16E-05	5.62E-05

Analysis Report for 24-2509 TI185-3.5M-S2-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	966.78		8.96	3.33E-04	5.20E-05	9.71E-05	1.57E-04
		1030.65		15.13	1.88E-04		2.78E-05	8.80E-05
		1656.10		1.31	1.45E-03		2.13E-05	6.35E-04
		1738.16		7.45	2.58E-04		1.87E-04	1.12E-04
	TE-129	459.60		7.70	3.37E-04	3.37E-04	1.41E-04	1.65E-04
		487.39		1.42	1.55E-03		-9.47E-04	7.54E-04
+	Te-129m	695.88	*	3.00	5.14E-04	5.14E-04	2.78E-03	2.45E-04
	I-131	80.18		2.62	9.87E-04	2.30E-05	-1.54E-04	4.83E-04
		284.30		6.12	2.97E-04		-3.26E-04	1.45E-04
		364.49		81.50	2.30E-05		4.18E-06	1.12E-05
		636.99		7.16	2.15E-04		-1.23E-04	1.03E-04
		722.91		1.77	8.80E-04		8.84E-04	4.19E-04
	Te-131m	773.67		36.80	6.12E-05	6.12E-05	-2.46E-05	2.88E-05
		793.75		13.40	2.73E-04		-3.57E-04	1.29E-04
		852.21		19.90	1.45E-04		1.39E-04	6.87E-05
		1125.46		11.00	2.26E-04		4.18E-05	1.06E-04
		1206.60		9.41	1.84E-04		-9.10E-05	8.44E-05
	I-132	262.90		1.28	1.31E-03	3.09E-05	1.10E-04	6.41E-04
		284.90		0.71	2.42E-03		-2.71E-03	1.18E-03
		505.79		4.93	1.61E-03		4.40E-06	7.83E-04
		522.65		16.00	2.39E-04		3.07E-05	1.16E-04
		547.20		1.14	2.99E-03		-1.24E-03	1.44E-03
		621.20		1.97	1.68E-03		-1.80E-03	8.02E-04
		630.19		13.30	2.42E-04		-2.53E-04	1.16E-04
		650.50		2.57	1.63E-03		-3.26E-04	7.84E-04
		667.71		98.70	1.54E-04		2.25E-06	7.62E-05
		669.80		4.60	1.05E-03		-1.49E-04	5.12E-04
		671.40		3.50	1.63E-03		1.18E-04	7.92E-04
		727.10		5.40	7.18E-04		-1.31E-05	3.42E-04
		728.40		1.60	2.17E-03		1.39E-03	1.03E-03
		772.60		75.60	3.09E-05		-4.54E-06	1.45E-05
		809.50		2.60	1.10E-03		-3.84E-04	5.20E-04
		812.00		5.50	4.56E-04		-2.55E-04	2.14E-04
		910.10		0.93	3.07E-03		-3.97E-04	1.45E-03
		954.55		17.60	1.80E-04		-1.50E-04	8.55E-05
		1136.00		3.01	7.14E-04		2.21E-04	3.34E-04
		1172.90		1.09	6.05E-03		3.07E-02	2.96E-03
		1290.80		1.13	1.90E-03		1.44E-03	8.64E-04
		1295.10		1.88	3.89E-04		2.61E-04	1.76E-04
		1297.90		0.89	5.57E-04		7.37E-05	2.50E-04
		1372.07		2.47	7.25E-04		-1.71E-04	3.21E-04
		1398.57		7.01	2.88E-04		-3.05E-04	1.30E-04
		1442.56		1.40	5.01E-04		-3.81E-04	2.20E-04
	TE-132	49.72		15.00	6.34E-04	1.94E-05	1.55E-04	3.10E-04
		111.76		1.74	7.97E-04		7.81E-04	3.89E-04
		116.30		1.96	6.84E-04		-2.42E-04	3.34E-04
		228.16		88.00	1.94E-05		-3.42E-05	9.48E-06
	BA-133	81.00		32.90	7.64E-05	3.44E-05	-1.02E-04	3.74E-05
		276.40		7.16	2.72E-04		1.36E-04	1.33E-04
		302.85		18.34	9.61E-05		-4.54E-05	4.67E-05
		356.01		62.05	3.44E-05		-1.60E-05	1.68E-05
		383.85		8.94	1.81E-04		-4.48E-05	8.80E-05
	I-133	529.87		87.00	2.49E-05	2.49E-05	1.65E-05	1.20E-05

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
I-133	706.58	1.51	1.19E-03	2.49E-05	2.78E-05	5.59E-04
	856.28	1.24	1.95E-03		7.44E-04	9.25E-04
	875.33	4.51	3.86E-04		-2.14E-04	1.82E-04
	1236.44	1.51	8.18E-04		7.25E-04	3.75E-04
	1298.22	2.35	5.25E-04		5.28E-04	2.36E-04
TE-133	312.08	62.40	1.33E+01	1.33E+01	1.65E+01	6.46E+00
	407.63	27.10	3.81E+01		1.49E+01	1.86E+01
	410.40	0.94	1.35E+03		8.77E+02	6.62E+02
	474.85	0.88	1.43E+03		1.21E+03	7.00E+02
	719.71	8.90	8.19E+01		5.84E+00	3.89E+01
	786.93	5.40	1.11E+02		9.63E+00	5.20E+01
	844.36	3.31	2.16E+02		-9.92E+01	1.02E+02
	884.30	0.72	1.04E+03		3.62E+02	4.93E+02
	930.71	3.81	2.07E+02		-1.46E+02	9.76E+01
	997.70	1.04	7.84E+02		-7.31E+02	3.70E+02
	1000.72	3.62	2.26E+02		-2.52E+00	1.07E+02
	1021.13	2.81	2.59E+02		-2.12E+02	1.21E+02
	1061.61	1.19	6.82E+02		2.70E+02	3.21E+02
	1252.08	1.44	3.46E+02		-6.78E+02	1.55E+02
	1312.80	0.85	7.41E+02		9.10E+02	3.39E+02
	1333.21	10.67	2.40E+02		1.33E+03	1.17E+02
	1717.61	3.18	1.13E+02		-1.45E+02	4.64E+01
	1881.52	1.22	3.52E+02		-8.91E+01	1.47E+02
	2136.51	1.25	4.15E+02		2.52E+02	1.77E+02
	2229.64	0.87	6.44E+02		4.10E+02	2.76E+02
Xe-133	81.00	36.90	5.06E-05	5.06E-05	-6.79E-05	2.48E-05
CS-134	475.36	1.48	1.72E-03	2.49E-05	4.87E-04	8.42E-04
	563.25	8.34	3.58E-04		3.07E-04	1.73E-04
	569.33	15.37	2.00E-04		-3.02E-05	9.61E-05
	604.72	97.62	2.78E-05		-7.49E-06	1.34E-05
	795.86	85.46	2.49E-05		3.00E-05	1.18E-05
	801.95	8.69	3.02E-04		3.09E-04	1.43E-04
	1038.61	0.99	2.07E-03		7.80E-04	9.71E-04
	1167.97	1.79	1.87E-03		-1.26E-04	9.16E-04
	1365.19	3.02	3.29E-04		4.86E-04	1.52E-04
I-135	220.50	1.75	1.92E-03	5.87E-05	4.72E-05	9.39E-04
	288.45	3.10	1.05E-03		7.22E-04	5.12E-04
	417.63	3.53	1.61E-03		9.49E-05	7.92E-04
	546.56	7.15	4.71E-04		-5.07E-04	2.27E-04
	836.80	6.69	4.43E-04		2.18E-04	2.09E-04
	971.96	0.89	3.93E-03		-1.97E-03	1.85E-03
	972.62	1.21	2.64E-03		7.45E-05	1.24E-03
	1038.76	7.90	2.92E-04		1.10E-04	1.37E-04
	1101.58	1.61	1.83E-03		-1.10E-03	8.56E-04
	1124.00	3.62	9.22E-04		-5.24E-04	4.34E-04
	1131.51	22.60	1.29E-04		1.41E-04	6.04E-05
	1240.47	0.90	2.77E-03		-4.31E-04	1.27E-03
	1260.41	28.70	5.87E-05		3.77E-05	2.64E-05
	1457.56	8.70	2.92E-04		1.77E-04	1.35E-04
	1502.79	1.08	2.10E-03		7.50E-04	9.30E-04
	1566.41	1.29	1.05E-03		7.01E-04	4.52E-04
	1678.03	9.60	1.11E-04		6.36E-05	4.68E-05
	1706.46	4.10	3.63E-04		-2.32E-05	1.57E-04

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1791.20		7.72	2.33E-04	5.87E-05	9.67E-05	1.04E-04
		2408.65		0.96	1.24E-03		4.14E-04	4.81E-04
	XE-135	249.79		90.00	2.42E-05	2.42E-05	7.67E-06	1.18E-05
	XE-135m	526.56		80.40	3.63E-05	3.63E-05	-8.93E-06	1.76E-05
	CS-136	66.88		4.79	1.28E-03	2.38E-05	1.01E-03	6.26E-04
		86.36		5.90	7.22E-04		4.40E-05	3.55E-04
		153.25		7.70	2.74E-04		-5.30E-05	1.33E-04
		163.92		4.69	6.98E-04		4.83E-04	3.41E-04
		176.60		13.70	1.92E-04		-2.82E-04	9.35E-05
		273.65		12.66	2.44E-04		-5.60E-05	1.19E-04
		340.55		46.80	6.65E-05		4.99E-05	3.24E-05
		818.51		99.70	2.38E-05		5.14E-06	1.12E-05
		1048.07		80.00	3.26E-05		-3.25E-05	1.52E-05
		1235.36		20.00	9.66E-05		4.07E-05	4.41E-05
+	CS-137	661.66	*	85.10	1.32E-05	1.32E-05	3.20E-03	6.18E-06
	BA-139	33.44		3.84	1.93E-01	4.03E-04	-5.04E-02	9.43E-02
		165.86		23.70	4.03E-04		1.79E-04	1.97E-04
	BA-140	132.69		0.20	6.63E-03	7.37E-05	2.27E-03	3.24E-03
		162.66		6.22	2.51E-04		-4.17E-05	1.23E-04
		304.85		4.29	5.04E-04		8.71E-05	2.46E-04
		423.72		3.10	6.80E-04		-2.80E-04	3.31E-04
		437.58		1.93	1.24E-03		3.30E-04	6.08E-04
		537.26		24.39	7.37E-05		-2.33E-05	3.56E-05
	LA-140	109.42		0.22	6.01E-03	1.63E-05	-2.60E-03	2.93E-03
		131.12		0.47	2.79E-03		-1.25E-03	1.36E-03
		173.54		0.13	1.07E-02		-2.03E-03	5.24E-03
		241.93		0.41	4.06E-03		2.33E-03	1.98E-03
		266.54		0.47	3.53E-03		9.91E-04	1.72E-03
		328.76		20.30	1.57E-04		1.51E-04	7.63E-05
		432.49		2.90	1.40E-03		-1.34E-03	6.86E-04
		487.02		45.50	7.42E-05		2.83E-05	3.61E-05
		618.10		0.04	4.34E-02		1.74E-02	2.08E-02
		751.64		4.33	3.93E-04		1.89E-04	1.85E-04
		815.77		23.28	6.42E-05		-2.20E-05	3.02E-05
		867.85		5.50	3.76E-04		-6.56E-05	1.78E-04
		919.55		2.66	5.95E-04		2.95E-04	2.80E-04
		925.19		6.90	2.79E-04		2.26E-04	1.31E-04
		950.99		0.52	4.37E-03		-2.19E-03	2.07E-03
		1596.21		95.40	1.63E-05		4.54E-06	7.21E-06
		2347.88		0.85	8.28E-04		4.75E-04	3.50E-04
		2521.40		3.46	2.16E-04		8.23E-05	8.56E-05
		2547.34		0.10	5.09E-03		6.92E-04	1.61E-03
	BA-141	33.44		7.93	1.02E+02	2.82E-01	-2.66E+01	4.97E+01
		190.33		44.80	2.82E-01		-3.90E-02	1.38E-01
		276.95		23.60	5.67E-01		-1.75E-01	2.76E-01
		304.19		26.10	4.97E-01		-1.36E-01	2.42E-01
		343.67		15.10	9.69E-01		6.60E-02	4.72E-01
		389.74		1.37	1.13E+01		-3.15E+00	5.50E+00
		457.51		5.00	4.02E+00		1.20E+00	1.97E+00
		462.06		5.10	4.04E+00		-5.98E+00	1.97E+00
		467.22		5.60	3.71E+00		-3.39E+00	1.82E+00
		625.08		3.45	3.78E+00		4.77E-01	1.81E+00
		647.78		5.70	2.33E+00		-6.68E-01	1.11E+00

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-141	738.95	4.39	2.35E+00	2.82E-01	1.58E+00	1.11E+00
	831.46	1.64	7.27E+00		-4.57E+00	3.44E+00
	876.09	3.45	3.51E+00		1.64E+00	1.66E+00
	1160.72	1.12	1.07E+01		-5.74E+00	4.98E+00
	1197.28	4.35	2.42E+00		9.28E-01	1.12E+00
	1323.92	0.92	1.30E+01		-8.05E+00	6.04E+00
	1654.00	0.65	1.17E+01		-1.18E+01	5.07E+00
	1682.19	1.19	6.03E+00		-8.12E+00	2.58E+00
CE-141	145.44	48.30	2.65E-05	2.65E-05	5.59E-06	1.29E-05
BA-142	33.44	14.20	3.65E+04	3.94E+02	-9.51E+03	1.78E+04
	77.59	7.00	1.48E+03		1.38E+02	7.24E+02
	177.00	2.12	3.26E+03		-1.27E+03	1.59E+03
	231.61	12.20	6.87E+02		1.84E+02	3.36E+02
	255.30	20.70	3.94E+02		-4.28E+02	1.92E+02
	286.30	1.11	7.67E+03		4.80E+02	3.74E+03
	309.20	2.60	3.24E+03		2.55E+03	1.58E+03
	335.00	1.53	5.90E+03		-7.56E+03	2.88E+03
	363.96	4.76	1.96E+03		-6.78E+02	9.54E+02
	425.04	5.75	1.88E+03		5.47E+02	9.15E+02
	599.80	1.85	4.67E+03		9.94E+02	2.25E+03
	840.40	3.63	2.01E+03		-3.13E+03	9.49E+02
	895.20	13.90	5.74E+02		3.44E+02	2.72E+02
	949.10	10.70	8.13E+02		6.22E+02	3.85E+02
	1001.20	9.80	8.51E+02		1.58E+02	4.02E+02
	1078.70	11.50	8.18E+02		-3.01E+02	3.88E+02
	1094.10	2.82	2.60E+03		-1.77E+03	1.21E+03
	1126.80	1.50	5.64E+03		2.35E+03	2.65E+03
	1202.40	5.60	1.14E+03		-8.85E+02	5.21E+02
	1204.30	14.30	4.41E+02		-1.83E+02	2.02E+02
	1380.20	3.42	1.58E+03		1.49E+03	7.08E+02
CE-143	57.36	11.70	4.65E-04	4.45E-05	-1.02E-04	2.28E-04
	231.55	2.05	1.15E-03		-3.99E-04	5.61E-04
	293.27	42.80	4.45E-05		3.11E-05	2.17E-05
	350.62	3.23	6.06E-04		5.87E-04	2.96E-04
	490.37	2.16	1.50E-03		-1.09E-04	7.31E-04
	664.57	5.69	2.47E-03		5.46E-02	1.23E-03
	721.93	5.39	2.84E-04		2.34E-04	1.35E-04
	880.46	1.03	1.65E-03		6.29E-04	7.78E-04
CE-144	80.12	1.36	1.37E-03	1.18E-04	-2.13E-04	6.69E-04
	133.51	11.09	1.18E-04		5.59E-05	5.78E-05
ND-147	38.17	13.20	2.47E-03	6.76E-05	8.45E-04	1.21E-03
	38.72	23.80	1.22E-03		-1.00E-03	5.93E-04
	91.11	28.90	6.76E-05		-2.10E-06	3.32E-05
	275.39	0.79	3.13E-03		-9.36E-04	1.53E-03
	319.41	1.97	1.01E-03		9.28E-05	4.90E-04
	398.13	0.87	2.53E-03		-3.33E-03	1.23E-03
	439.88	1.20	2.18E-03		9.40E-04	1.06E-03
	531.01	13.11	1.43E-04		1.40E-04	6.91E-05
	685.88	0.82	1.53E-03		-1.20E-03	7.23E-04
PR-147	36.85	19.70	4.37E+02	1.81E+01	2.18E+02	2.13E+02
	37.36	35.50	2.14E+02		-2.85E+01	1.04E+02
	49.88	4.00	3.25E+02		7.93E+01	1.59E+02
	77.97	9.70	4.11E+01		3.12E+01	2.01E+01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PR-147	86.69	5.40	8.63E+01	1.81E+01	1.40E+01	4.25E+01
	127.80	7.40	3.30E+01		-7.66E+01	1.61E+01
	249.20	1.32	2.39E+02		7.05E+01	1.17E+02
	314.70	18.20	1.81E+01		6.79E+00	8.80E+00
	328.80	4.00	8.79E+01		8.50E+01	4.28E+01
	335.70	4.70	7.58E+01		2.63E+01	3.70E+01
	388.80	1.41	2.73E+02		2.29E+02	1.33E+02
	466.80	1.70	3.05E+02		-2.40E+01	1.49E+02
	477.90	4.60	1.04E+02		9.68E-01	5.10E+01
	516.70	1.30	3.15E+02		4.25E+01	1.53E+02
	554.70	5.90	5.46E+01		-1.75E+01	2.63E+01
	577.90	13.70	2.43E+01		2.20E+01	1.17E+01
	641.40	16.10	1.92E+01		1.49E+01	9.17E+00
	996.00	1.52	2.20E+02		1.00E+02	1.04E+02
	1136.70	1.42	2.05E+02		-6.08E+01	9.55E+01
	1261.10	8.40	2.52E+01		-2.88E+00	1.14E+01
	1300.40	2.30	9.69E+01		6.29E+01	4.38E+01
ND-149	38.17	9.00	1.75E-02	3.27E-04	5.99E-03	8.55E-03
	38.72	16.30	8.58E-03		-7.09E-03	4.19E-03
	58.88	1.30	2.17E-02		-1.78E-03	1.06E-02
	74.32	2.11	6.80E-03		5.49E-03	3.33E-03
	97.00	1.48	5.52E-03		-3.81E-03	2.69E-03
	114.31	19.20	4.15E-04		-2.36E-05	2.03E-04
	155.87	5.95	1.34E-03		1.09E-04	6.52E-04
	188.64	1.79	8.86E-03		8.38E-03	4.33E-03
	198.93	1.39	7.53E-03		2.23E-03	3.68E-03
	208.15	2.55	4.02E-03		7.79E-04	1.97E-03
	211.31	26.00	3.27E-04		3.15E-04	1.60E-04
	240.22	3.95	2.10E-03		-1.19E-03	1.03E-03
	245.72	0.81	1.35E-02		-1.47E-03	6.59E-03
	267.69	6.05	1.95E-03		-1.89E-03	9.51E-04
	270.17	10.80	7.89E-04		1.19E-04	3.85E-04
	326.55	4.57	2.49E-03		4.32E-04	1.21E-03
	349.23	1.38	9.15E-03		7.76E-04	4.47E-03
	423.55	7.50	1.44E-03		-5.44E-05	7.02E-04
	443.55	1.15	1.35E-02		1.48E-03	6.59E-03
	540.51	6.60	1.50E-03		8.31E-04	7.22E-04
	654.83	8.00	1.49E-03		-2.35E-04	7.25E-04
PM-149	285.95	3.10	5.73E-04	5.73E-04	3.89E-04	2.79E-04
PM-150	39.52	0.63	1.08E-01	7.37E-05	4.11E-02	5.27E-02
	40.12	1.14	5.28E-02		-1.36E-02	2.57E-02
	333.92	68.00	7.37E-05		1.37E-05	3.59E-05
	406.51	5.60	1.03E-03		-1.56E-03	5.00E-04
	565.70	1.31	3.58E-03		-1.19E-03	1.72E-03
	587.02	1.34	3.40E-03		-1.35E-03	1.63E-03
	612.25	0.93	5.58E-03		6.30E-03	2.69E-03
	712.22	4.40	7.26E-04		-8.36E-04	3.40E-04
	737.50	2.25	1.61E-03		-1.91E-03	7.59E-04
	831.85	11.90	3.52E-04		-1.47E-04	1.67E-04
	859.95	3.40	1.28E-03		-2.31E-04	6.07E-04
	876.41	7.30	5.72E-04		-3.31E-04	2.70E-04
	1165.77	15.80	4.38E-04		-1.86E-05	2.10E-04
	1170.90	1.06	1.25E-02		-3.83E-04	6.10E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	1193.87	4.80	7.58E-04	7.37E-05	-2.80E-04	3.49E-04
	1213.72	1.03	3.28E-03		1.70E-03	1.50E-03
	1223.28	2.80	1.09E-03		3.24E-04	4.94E-04
	1324.51	17.50	3.05E-04		-8.53E-05	1.44E-04
	1379.32	3.10	8.38E-04		-1.60E-03	3.69E-04
	1736.40	6.90	3.73E-04		-2.75E-04	1.60E-04
	1963.71	1.47	1.86E-03		-7.26E-04	7.90E-04
	2033.46	0.97	2.66E-03		-5.50E-04	1.11E-03
ND-151	38.17	5.94	2.83E+03	1.72E+01	9.67E+02	1.38E+03
	38.72	10.70	1.39E+03		-1.15E+03	6.79E+02
	68.98	1.26	1.01E+03		-7.56E+02	4.92E+02
	85.12	2.05	6.11E+02		1.66E+01	3.00E+02
	89.96	1.53	7.59E+02		-1.57E+02	3.73E+02
	116.80	39.00	1.72E+01		-1.01E+01	8.39E+00
	138.89	7.00	9.70E+01		-3.74E+01	4.74E+01
	170.76	2.87	2.44E+02		6.33E+01	1.19E+02
	175.07	6.30	1.12E+02		1.02E+02	5.48E+01
	255.68	14.80	5.74E+01		3.45E+01	2.80E+01
	300.58	1.82	4.75E+02		-4.34E+02	2.31E+02
	423.56	5.90	1.83E+02		-6.90E+00	8.90E+01
	460.59	0.96	1.40E+03		-4.26E+02	6.85E+02
	585.22	1.30	6.51E+02		-9.15E+02	3.13E+02
	677.88	2.38	2.62E+02		1.10E+02	1.23E+02
	736.23	5.90	1.19E+02		1.26E+01	5.63E+01
	739.20	1.52	4.50E+02		3.11E+02	2.12E+02
	755.57	1.17	5.65E+02		-2.99E+02	2.66E+02
	797.53	4.70	1.67E+02		1.69E+02	7.89E+01
	1016.40	2.50	3.24E+02		-2.43E+02	1.52E+02
	1122.63	4.10	2.15E+02		2.11E+02	1.01E+02
	1180.89	13.30	1.35E+02		3.95E+00	6.53E+01
Pm-151	167.75	8.30	1.96E-04	8.59E-05	7.94E-06	9.57E-05
	177.16	3.80	5.38E-04		9.88E-05	2.62E-04
	240.09	3.80	5.30E-04		-2.99E-04	2.59E-04
	275.21	6.80	2.82E-04		-8.40E-05	1.37E-04
	340.08	22.50	8.59E-05		-3.89E-05	4.19E-05
EU-152	121.78	28.53	6.42E-05	6.01E-05	2.62E-05	3.14E-05
	344.28	26.59	8.57E-05		5.79E-05	4.18E-05
	778.90	12.93	1.42E-04		8.78E-05	6.71E-05
	867.37	4.23	6.05E-04		-1.19E-04	2.86E-04
	964.08	14.51	1.40E-04		-1.29E-05	6.64E-05
	1085.87	10.11	1.69E-04		6.90E-05	8.02E-05
	1112.07	13.67	1.47E-04		9.86E-05	6.94E-05
	1408.01	20.87	6.01E-05		-1.13E-05	2.69E-05
ND-152	44.44	5.50	3.46E+03	1.12E+02	1.41E+03	1.69E+03
	250.15	16.40	1.69E+02		-1.37E+02	8.23E+01
	278.56	26.00	1.12E+02		-4.40E+01	5.44E+01
	294.47	2.90	1.00E+03		-7.26E+02	4.87E+02
	545.70	0.83	3.55E+03		-8.57E+02	1.71E+03
	592.50	0.99	2.88E+03		1.68E+03	1.39E+03
GD-153	69.67	2.45	1.10E-03	4.78E-05	-7.09E-04	5.38E-04
	97.43	30.00	4.78E-05		-1.92E-06	2.33E-05
	103.18	22.10	6.14E-05		1.66E-05	3.00E-05
SM-153	69.67	4.67	5.98E-04	4.85E-05	-3.85E-04	2.92E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SM-153	103.18	29.14	4.85E-05	4.85E-05	1.31E-05	2.37E-05
EU-154	42.70	20.45	6.81E-04	4.41E-05	3.99E-05	3.32E-04
	123.07	40.40	4.41E-05		1.11E-05	2.15E-05
	247.93	6.89	3.45E-04		1.04E-04	1.68E-04
	591.76	4.95	5.32E-04		3.06E-05	2.55E-04
	692.42	1.78	2.12E-03		2.76E-05	1.03E-03
	723.30	20.06	1.08E-04		1.26E-04	5.15E-05
	756.80	4.52	4.68E-04		-7.87E-04	2.20E-04
	873.18	12.08	1.88E-04		-1.82E-05	8.87E-05
	996.29	10.48	1.83E-04		-7.71E-05	8.67E-05
	1004.76	18.01	1.04E-04		-9.38E-05	4.91E-05
	1246.12	0.86	2.21E-03		9.85E-04	1.01E-03
	1274.43	34.80	5.03E-05		6.22E-05	2.34E-05
	1494.05	0.70	1.60E-03		1.61E-03	7.19E-04
	1596.48	1.80	3.30E-04		1.06E-04	1.47E-04
EU-155	43.00	18.12	7.43E-04	6.23E-05	4.51E-05	3.62E-04
	60.01	1.17	3.03E-03		9.54E-04	1.48E-03
	86.55	30.70	7.75E-05		1.94E-06	3.82E-05
	105.31	21.10	6.23E-05		-1.08E-05	3.04E-05
EU-156	88.97	8.40	4.02E-04	1.64E-04	-1.28E-04	1.98E-04
	646.29	6.30	3.62E-04		3.94E-04	1.74E-04
	723.47	5.40	3.86E-04		4.48E-04	1.84E-04
	811.77	9.70	1.88E-04		-1.37E-04	8.82E-05
	1065.14	4.90	4.71E-04		7.53E-05	2.22E-04
	1079.16	4.60	4.42E-04		2.96E-04	2.10E-04
	1153.80	11.50	1.64E-04		1.78E-04	7.63E-05
	1230.71	8.00	1.96E-04		-1.49E-04	8.90E-05
	1242.42	6.60	2.14E-04		-3.43E-04	9.78E-05
	1277.43	2.89	6.51E-04		7.84E-04	3.03E-04
	1366.41	1.57	1.05E-03		9.96E-04	4.84E-04
	1965.95	3.90	2.27E-04		1.64E-04	9.85E-05
	2097.70	3.80	2.83E-04		6.25E-06	1.21E-04
	2186.71	3.50	2.69E-04		1.45E-04	1.13E-04
Sm-156	87.60	24.00	1.30E-04	9.58E-05	5.84E-04	6.40E-05
	165.80	13.00	1.36E-04		6.01E-05	6.62E-05
	204.00	21.00	9.58E-05		1.52E-05	4.68E-05
EU-158	42.31	5.80	9.07E-02	1.97E-03	-2.70E-03	4.42E-02
	43.00	10.40	4.63E-02		2.81E-03	2.26E-02
	79.49	10.50	6.40E-03		-3.85E-03	3.13E-03
	181.97	2.30	2.19E-02		-4.25E-02	1.07E-02
	528.05	1.53	4.55E-02		3.67E-02	2.20E-02
	606.39	4.00	1.70E-02		1.39E-02	8.20E-03
	743.02	3.60	1.32E-02		-1.53E-03	6.22E-03
	897.61	12.40	4.48E-03		3.51E-03	2.11E-03
	906.50	1.83	2.95E-02		-1.30E-02	1.39E-02
	922.51	1.62	3.17E-02		-6.65E-02	1.49E-02
	944.15	30.00	1.97E-03		-1.97E-03	9.30E-04
	953.03	1.98	3.11E-02		1.59E-03	1.48E-02
	962.09	1.89	3.24E-02		-1.03E-02	1.54E-02
	977.14	16.30	3.33E-03		-5.08E-03	1.56E-03
	986.96	1.35	4.04E-02		1.10E-02	1.90E-02
	1107.63	5.10	1.28E-02		4.70E-03	6.04E-03
	1184.10	3.00	1.45E-02		-7.19E-03	6.65E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	1186.00	2.90	1.54E-02	1.97E-03	4.12E-03	7.05E-03
	1187.10	4.40	1.06E-02		7.25E-03	4.87E-03
	1263.61	2.20	1.84E-02		4.77E-03	8.33E-03
	1347.95	1.65	2.11E-02		-1.21E-02	9.32E-03
	1944.47	1.62	2.55E-02		1.91E-02	1.11E-02
TB-160	86.79	13.20	2.62E-04	6.29E-05	4.25E-05	1.29E-04
	298.58	26.10	8.96E-05		6.07E-05	4.37E-05
	879.38	30.10	6.29E-05		-8.18E-06	2.97E-05
	962.32	9.81	2.02E-04		2.82E-04	9.59E-05
	966.17	25.10	7.15E-05		-6.88E-05	3.38E-05
	1177.96	14.90	2.68E-04		-5.08E-05	1.31E-04
TB-161	25.65	23.20	1.12E-01	2.24E-04	-8.13E-02	5.50E-02
	48.91	17.00	4.34E-04		1.17E-04	2.12E-04
	52.00	3.43	1.68E-03		7.98E-04	8.19E-04
	57.19	1.79	2.47E-03		-6.58E-04	1.21E-03
	74.57	10.20	2.24E-04		8.49E-05	1.10E-04
YB-169	63.12	43.62	1.23E-04	4.57E-05	4.07E-05	6.02E-05
	93.61	2.58	1.13E-03		-7.15E-04	5.51E-04
	109.78	17.39	9.63E-05		-4.31E-05	4.70E-05
	130.52	11.38	1.71E-04		-1.50E-04	8.35E-05
	177.21	22.28	8.10E-05		1.49E-05	3.95E-05
	197.96	35.93	4.57E-05		-7.51E-05	2.23E-05
	307.74	10.05	1.24E-04		-1.94E-05	6.05E-05
HF-172	54.07	63.00	7.57E-05	7.57E-05	6.53E-05	3.70E-05
	67.35	5.30	4.94E-04		-1.92E-04	2.42E-04
	81.75	4.50	4.06E-04		-2.09E-04	1.98E-04
	114.06	2.60	5.08E-04		4.31E-04	2.48E-04
	122.92	1.14	1.16E-03		1.01E-03	5.68E-04
	125.81	11.30	1.17E-04		1.40E-04	5.70E-05
	127.91	1.46	8.52E-04		-1.98E-03	4.16E-04
LU-173	59.30	24.44	1.51E-04	8.75E-05	2.27E-04	7.41E-05
	78.63	11.90	2.10E-04		-3.15E-04	1.03E-04
	100.72	5.24	2.86E-04		-3.15E-04	1.39E-04
	171.39	2.90	5.27E-04		1.31E-04	2.57E-04
	272.11	21.20	8.75E-05		1.49E-05	4.27E-05
LU-177	112.95	6.23	2.15E-04	1.61E-04	-3.88E-05	1.05E-04
	208.37	10.41	1.61E-04		3.12E-05	7.87E-05
	249.67	0.20	8.21E-03		2.60E-03	4.01E-03
	321.32	0.22	7.64E-03		-1.93E-03	3.72E-03
HF-181	133.02	43.30	4.20E-05	3.20E-05	2.49E-05	2.05E-05
	345.93	15.12	1.57E-04		-4.03E-05	7.63E-05
	482.18	80.50	3.20E-05		-1.96E-05	1.56E-05
W-181	56.28	18.70	2.31E-04	1.29E-04	1.19E-05	1.13E-04
	57.53	32.00	1.29E-04		-2.43E-05	6.34E-05
	65.00	10.60	2.65E-04		2.58E-04	1.30E-04
TA-182	57.98	10.01	3.99E-04	4.94E-05	-1.38E-04	1.95E-04
	59.32	17.20	2.15E-04		3.22E-04	1.05E-04
	65.72	3.01	1.84E-03		1.40E-03	8.99E-04
	67.75	46.67	7.92E-05		7.37E-06	3.88E-05
	84.68	2.65	1.25E-03		1.03E-04	6.16E-04
	100.11	14.20	1.46E-04		6.31E-05	7.12E-05
	113.67	1.87	1.47E-03		9.51E-04	7.16E-04
	116.42	0.44	2.91E-03		-1.03E-03	1.42E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	152.43	7.02	2.82E-04	4.94E-05	1.32E-04	1.38E-04
	156.39	2.67	7.29E-04		-4.91E-04	3.56E-04
	179.39	3.12	7.22E-04		5.90E-04	3.52E-04
	198.35	1.47	1.90E-03		-2.35E-03	9.26E-04
	222.11	7.57	3.12E-04		-2.40E-04	1.52E-04
	229.32	3.64	7.23E-04		-2.05E-04	3.53E-04
	264.08	3.61	6.61E-04		-4.97E-05	3.22E-04
	928.00	0.61	3.60E-03		1.10E-03	1.70E-03
	959.73	0.35	7.31E-03		-2.99E-03	3.47E-03
	1001.70	2.09	1.46E-03		-7.91E-04	6.87E-04
	1044.42	0.24	9.68E-03		-1.10E-03	4.52E-03
	1113.41	0.44	5.91E-03		4.31E-03	2.80E-03
	1121.29	35.24	6.02E-05		-1.14E-05	2.83E-05
	1157.30	0.73	1.91E-03		1.29E-03	8.96E-04
	1189.04	16.49	7.50E-05		2.83E-05	3.46E-05
	1221.40	27.23	4.94E-05		2.40E-05	2.25E-05
	1223.60	0.24	2.90E-03		4.75E-04	1.31E-03
	1231.00	11.62	1.30E-04		3.02E-06	5.91E-05
	1257.41	1.51	7.01E-04		-6.37E-04	3.16E-04
	1273.72	0.66	1.04E-03		6.67E-04	4.84E-04
	1289.15	1.37	2.94E-04		1.10E-04	1.34E-04
	1342.73	0.26	3.24E-03		-6.92E-03	1.44E-03
	1373.82	0.22	1.05E-03		-8.27E-04	4.63E-04
Ta-183	84.71	1.35	1.78E-03	6.18E-05	1.47E-04	8.76E-04
	99.08	6.80	2.04E-04		1.44E-04	9.97E-05
	107.93	11.20	1.22E-04		7.63E-05	5.94E-05
	161.35	9.10	1.46E-04		-1.53E-04	7.14E-05
	162.32	5.00	2.70E-04		-3.99E-05	1.32E-04
	244.26	8.80	1.92E-04		1.06E-04	9.36E-05
	246.06	27.20	6.18E-05		2.35E-05	3.02E-05
	353.99	11.60	1.75E-04		1.19E-04	8.52E-05
Re-184	111.21	17.20	7.88E-05	3.58E-05	7.79E-05	3.85E-05
	252.85	3.00	5.33E-04		-6.07E-04	2.60E-04
	792.01	37.70	3.58E-05		-6.01E-05	1.69E-05
	894.76	15.70	9.84E-05		-1.13E-04	4.65E-05
	903.28	38.10	4.16E-05		-2.58E-05	1.97E-05
W-185	59.72	0.01	3.01E-01	6.86E-02	9.49E-02	1.47E-01
	61.14	0.02	1.68E-01		-5.75E-03	8.21E-02
	69.20	0.01	3.55E-01		-2.19E-01	1.74E-01
	125.36	0.02	6.86E-02		1.54E-02	3.35E-02
W-187	61.14	14.30	2.68E-04	4.20E-05	-9.18E-06	1.31E-04
	69.20	4.82	5.65E-04		-3.48E-04	2.76E-04
	72.00	13.55	2.96E-04		1.69E-04	1.45E-04
	134.25	10.36	2.03E-04		1.57E-04	9.93E-05
	479.53	26.60	1.20E-04		-3.92E-05	5.86E-05
	618.37	7.57	2.36E-04		9.45E-05	1.13E-04
	685.81	33.20	4.20E-05		-2.63E-05	1.98E-05
Ir-188	155.05	29.60	4.57E-05	4.57E-05	-1.30E-05	2.23E-05
	478.00	14.70	1.78E-04		1.65E-06	8.70E-05
	633.02	17.90	9.26E-05		-8.68E-05	4.43E-05
	634.97	5.00	3.31E-04		3.18E-04	1.58E-04
	829.42	5.10	3.23E-04		7.16E-05	1.53E-04
	1209.77	6.90	1.87E-04		2.11E-05	8.53E-05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Ir-188	1715.67	6.20	1.34E-04	4.57E-05	-5.07E-05	5.56E-05
	2214.59	18.60	6.05E-05		-1.91E-05	2.56E-05
W-188	227.07	0.23	7.07E-03	4.00E-03	5.93E-03	3.46E-03
	290.68	0.42	4.00E-03		-4.19E-03	1.95E-03
Ir-189	245.08	6.00	2.78E-04	2.78E-04	2.84E-04	1.36E-04
Ir-190	186.68	50.00	3.12E-05	3.12E-05	1.40E-05	1.53E-05
	361.09	12.30	1.49E-04		-2.06E-05	7.24E-05
	371.24	21.60	9.28E-05		3.82E-05	4.53E-05
	407.22	27.00	7.94E-05		3.48E-05	3.87E-05
	518.55	32.20	6.32E-05		-7.99E-05	3.06E-05
	557.95	28.50	5.95E-05		-4.87E-05	2.86E-05
	569.30	27.00	6.41E-05		-9.72E-06	3.09E-05
	605.14	37.80	5.16E-05		-9.84E-06	2.49E-05
OS-191	63.29	15.70	2.01E-04	4.75E-05	1.68E-04	9.86E-05
	64.99	26.70	1.06E-04		1.03E-04	5.18E-05
	73.45	9.21	2.52E-04		2.02E-04	1.23E-04
	129.43	26.50	4.75E-05		5.88E-06	2.32E-05
Pt-191	359.90	5.80	3.99E-04	1.37E-04	-2.79E-04	1.94E-04
	456.47	3.30	8.71E-04		-5.04E-04	4.26E-04
	538.90	14.30	1.37E-04		-1.60E-04	6.60E-05
IR-192	205.79	3.31	6.81E-04	2.98E-05	-2.77E-04	3.33E-04
	295.96	28.71	1.09E-04		-3.22E-06	5.29E-05
	308.45	29.70	9.80E-05		-9.55E-05	4.77E-05
	316.51	82.86	2.98E-05		-6.02E-06	1.45E-05
	468.07	47.84	7.62E-05		4.63E-05	3.73E-05
	588.58	4.52	6.40E-04		-1.10E-04	3.07E-04
	604.41	8.22	1.87E-04		-3.63E-05	9.02E-05
	612.46	5.34	2.22E-04		2.09E-04	1.07E-04
IR-192m	155.16	0.09	1.39E-02	1.39E-02	2.99E-03	6.75E-03
IR-193m	80.22	0.00	4.02E-01	4.02E-01	-6.27E-02	1.97E-01
Pt-193m	135.50	0.11	1.19E-02	1.19E-02	6.54E-03	5.82E-03
Au-194	293.55	10.90	1.71E-04	3.06E-05	2.37E-04	8.35E-05
	328.47	62.80	3.06E-05		2.11E-05	1.49E-05
	364.84	1.60	1.25E-03		6.63E-04	6.11E-04
	528.77	1.78	1.15E-03		6.39E-05	5.59E-04
	645.16	2.32	7.49E-04		1.36E-04	3.59E-04
	948.32	2.29	7.82E-04		-1.21E-03	3.70E-04
	1104.06	2.15	8.06E-04		-2.28E-03	3.79E-04
	1175.36	2.14	2.40E-03		1.27E-02	1.17E-03
	1468.90	6.80	2.33E-04		-9.58E-05	1.07E-04
	1595.81	1.89	6.22E-04		1.86E-04	2.75E-04
	2043.72	3.74	2.94E-04		1.78E-04	1.25E-04
Ir-194	293.54	2.50	8.01E-04	1.57E-04	1.11E-03	3.91E-04
	328.47	13.10	1.57E-04		1.09E-04	7.67E-05
AU-195	98.86	11.21	1.20E-04	1.20E-04	-7.64E-05	5.85E-05
	129.74	0.84	1.49E-03		1.60E-05	7.28E-04
Pt-195m	98.90	11.70	1.18E-04	1.18E-04	-7.53E-05	5.76E-05
	129.79	2.90	4.44E-04		4.78E-06	2.17E-04
Au-196	333.03	22.90	1.32E-04	2.86E-05	-7.66E-05	6.42E-05
	355.73	87.00	2.86E-05		-6.06E-06	1.40E-05
	426.10	6.60	3.27E-04		-1.38E-04	1.60E-04
Au-196m	147.81	43.50	3.87E-05	3.87E-05	2.28E-05	1.89E-05
	188.27	30.00	7.05E-05		2.92E-05	3.45E-05

Analysis Report for 24-2509 TI185-3.5M-S2-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Pt-197	77.35		17.00	1.40E-04	1.40E-04	1.75E-05	6.85E-05
		191.44		3.70	4.95E-04		3.03E-04	2.42E-04
	AU-198	411.80		95.62	3.14E-05	3.14E-05	1.70E-05	1.54E-05
	AU-199	158.38		40.00	3.36E-05	3.36E-05	3.78E-05	1.64E-05
		208.20		8.72	1.96E-04		3.79E-05	9.58E-05
	TL-201	135.34		2.61	5.30E-04	1.38E-04	2.91E-04	2.59E-04
		167.43		10.00	1.38E-04		5.24E-05	6.73E-05
	TL-202	439.51		91.50	2.64E-05	2.64E-05	2.04E-06	1.29E-05
	PB-203	70.83		26.40	9.31E-05	2.59E-05	-1.92E-04	4.56E-05
		72.87		44.20	5.56E-05		5.93E-05	2.72E-05
		82.40		15.56	1.22E-04		-4.70E-05	5.97E-05
		279.20		80.90	2.59E-05		-1.21E-05	1.26E-05
		401.32		3.35	9.98E-04		3.63E-05	4.86E-04
+	PB-210	46.54	*	4.25	1.75E-03	1.75E-03	2.36E-04	8.45E-04
	Pa-233	86.60		2.01	1.41E-03	4.50E-05	3.54E-05	6.94E-04
		94.65		8.90	1.65E-04		9.03E-05	8.06E-05
		98.43		14.20	9.55E-05		-8.28E-05	4.66E-05
		300.13		6.54	2.61E-04		-1.44E-04	1.27E-04
		311.90		38.20	4.50E-05		7.32E-05	2.19E-05
		340.48		4.44	4.16E-04		3.12E-04	2.03E-04
	U-235	89.96		2.90	7.69E-04	2.72E-05	-1.59E-04	3.78E-04
		93.35		4.70	3.18E-04		-1.56E-04	1.55E-04
		109.19		1.64	7.97E-04		-5.36E-04	3.89E-04
		143.76		10.93	1.18E-04		1.11E-04	5.76E-05
		163.36		5.07	2.60E-04		-1.84E-04	1.27E-04
		185.71		57.20	2.72E-05		1.70E-05	1.33E-05
		202.11		1.07	1.43E-03		7.21E-04	7.00E-04
		205.31		5.03	3.27E-04		2.95E-04	1.60E-04
	NP-237	86.48		12.20	1.95E-04	1.95E-04	4.90E-06	9.61E-05
	U-237	59.54		34.50	1.16E-04	5.47E-05	6.87E-05	5.69E-05
		97.07		15.40	9.26E-05		-7.24E-05	4.52E-05
		101.06		24.50	5.47E-05		-7.08E-05	2.66E-05
		113.30		3.07	4.34E-04		-3.23E-04	2.12E-04
		114.23		5.81	2.31E-04		1.96E-04	1.13E-04
		117.46		2.27	5.77E-04		-2.00E-04	2.82E-04
		208.00		21.20	8.36E-05		-2.56E-05	4.09E-05
	NP-238	103.37		0.00	2.92E-01	6.31E-05	-2.91E-02	1.42E-01
		882.63		0.80	1.98E-03		-1.17E-03	9.35E-04
		923.99		2.60	5.84E-04		-3.73E-05	2.74E-04
		984.45		25.20	6.31E-05		-6.35E-05	2.97E-05
		1025.87		8.75	1.69E-04		-6.66E-05	7.87E-05
		1028.53		18.23	8.50E-05		-6.25E-05	3.98E-05
	U-238	63.29		3.70	8.48E-04	3.59E-04	7.06E-04	4.15E-04
		92.51		4.23	3.59E-04		-1.63E-04	1.75E-04
		112.81		0.21	6.27E-03		-1.13E-03	3.06E-03
		742.81		0.11	1.24E-02		-1.58E-03	5.87E-03
		766.42		0.32	4.20E-03		-1.93E-03	1.98E-03
		1001.03		0.84	1.98E-03		3.89E-04	9.34E-04
	Am-239	181.71		1.08	1.64E-03	1.41E-04	-1.69E-03	7.99E-04
		209.80		3.50	5.96E-04		9.11E-04	2.91E-04
		226.40		3.30	6.32E-04		2.67E-04	3.09E-04
		228.10		11.30	1.84E-04		-7.65E-05	8.98E-05
		277.60		15.00	1.41E-04		-8.59E-05	6.89E-05

Analysis Report for 24-2509 TI185-3.5M-S2-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	NP-239	61.46		1.30	2.74E-03	6.15E-05	4.87E-05	1.34E-03
		99.53		12.90	1.10E-04		4.35E-05	5.35E-05
		103.37		20.50	6.74E-05		-6.71E-06	3.29E-05
		106.12		25.34	6.15E-05		7.63E-05	3.00E-05
		209.75		3.36	5.47E-04		8.37E-04	2.68E-04
		228.18		11.24	1.63E-04		-2.87E-04	7.96E-05
		277.60		14.51	1.34E-04		-8.15E-05	6.54E-05
		285.46		0.79	2.72E-03		-7.72E-04	1.32E-03
		315.88		1.60	9.78E-04		7.98E-04	4.76E-04
		334.31		2.06	6.87E-04		6.96E-04	3.35E-04
	PU-239	38.66		0.01	2.78E+00	1.87E-01	-1.80E+00	1.36E+00
		51.62		0.03	2.14E-01		1.50E-01	1.05E-01
		98.50		0.01	1.87E-01		-1.62E-01	9.09E-02
		111.03		0.00	1.02E+00		9.24E-01	4.98E-01
		129.30		0.01	1.98E-01		-8.83E-02	9.64E-02
		171.39		0.00	1.22E+01		3.04E+00	5.97E+00
		203.55		0.00	2.65E+00		-8.38E-01	1.29E+00
		332.85		0.00	3.65E+00		-3.53E+00	1.78E+00
		336.11		0.00	1.63E+01		1.04E+01	7.97E+00
		345.01		0.00	3.36E+00		2.31E+00	1.64E+00
		375.05		0.00	1.26E+00		1.27E+00	6.14E-01
		380.19		0.00	6.09E+00		5.97E+00	2.96E+00
		382.75		0.00	6.92E+00		-7.05E+00	3.36E+00
		413.71		0.00	1.97E+00		6.33E+00	9.69E-01
		422.60		0.00	1.70E+01		-8.78E-01	8.30E+00
		451.48		0.00	1.27E+01		-1.05E+00	6.21E+00
	Am-240	99.53		18.40	7.74E-05	2.24E-05	3.07E-05	3.77E-05
		103.37		29.20	4.76E-05		-4.74E-06	2.32E-05
		117.23		6.93	1.97E-04		-7.67E-05	9.60E-05
		888.85		24.70	6.43E-05		1.20E-05	3.03E-05
		987.79		72.20	2.24E-05		-1.85E-05	1.06E-05
	Np-240m	554.60		20.90	9.55E-05	9.55E-05	-3.05E-05	4.59E-05
		597.40		11.70	1.77E-04		-4.68E-05	8.50E-05
	U-240	44.10		1.05	1.33E-02	8.16E-03	3.79E-04	6.50E-03
		66.50		0.15	2.14E-02		3.12E-02	1.05E-02
		169.20		0.12	1.43E-02		1.62E-03	6.97E-03
		189.70		0.24	8.16E-03		-6.79E-04	3.99E-03
+	AM-241	59.54	*	35.90	1.00E-04	1.00E-04	1.57E-04	4.90E-05
	AM-242m	49.35		0.13	5.14E-02	5.14E-02	3.61E-02	2.51E-02
		66.89		0.01	1.79E-01		1.42E-01	8.77E-02
		86.65		0.02	1.04E-01		2.62E-03	5.13E-02
		163.25		0.02	8.60E-02		-6.09E-02	4.19E-02
	AM-243	43.53		5.90	2.11E-03	3.33E-05	7.64E-04	1.03E-03
		74.66		67.20	3.33E-05		1.26E-05	1.63E-05

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

Apex-Gamma

Analysis Report for 24-2510 TI185-3.5M-S2-CST-d-A Q0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2510 TI185-3.5M-S2-CST-d-A Q0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 11:35:40AM
Procedure	: Q0_gsv02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: Q0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1202.5 seconds
Dead Time	: 0.20 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 1/16/2018
Efficiency Calibration Description	: Q0_gsv2mlw_R651_PT
Sample Number	: 578934
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 11:55:47AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2510 TI185-3.5M-S2-CST-d-A Q0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.63	190.45	0.2571	5.99
2	87.61	279.67	0.1849	10.40
3	123.21	392.69	0.3170	3.50
4	414.96	1323.32	0.1608	10.18
5	609.51	1943.49	0.2940	3.64
6	661.85	2110.33	0.0641	58.84
7	666.55	2125.23	0.1623	9.48
8	695.29	2216.84	0.1657	9.11
9	1081.43	3447.46	0.2346	4.33
10	1109.95	3538.44	0.2234	4.44
11	1173.54	3741.45	0.1261	12.12
12	1332.95	4249.58	0.1234	12.83
13	1461.35	4658.45	0.2447	3.63

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2510 TI185-3.5M-S2-CST-d-A Q0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 11:55:47AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.63	185 -	196	190.45	1.76E+02	21.26	4.14E+02	0.87
F	2	87.61	274 -	288	279.67	6.41E+02	103.10	5.40E+02	1.19
F	3	123.21	388 -	400	393.14	1.16E+02	18.76	3.20E+02	1.27
F	4	414.96	1316 -	1329	1323.20	5.00E+02	82.78	2.52E+02	1.51
F	5	609.51	1939 -	1948	1943.39	3.06E+01	9.15	6.45E+01	0.86
M	6	661.85	2100 -	2134	2110.22	1.22E+04	176.29	9.97E+01	1.70
m	7	666.55	2100 -	2134	2125.22	3.72E+02	20.17	4.93E+01	1.70
F	8	695.29	2208 -	2225	2216.83	3.02E+02	48.33	4.94E+01	1.73
F	9	1081.43	3440 -	3455	3447.65	5.73E+01	14.66	1.89E+01	1.72
F	10	1109.95	3533 -	3546	3538.56	5.82E+01	8.97	2.39E+01	1.63
F	11	1173.54	3730 -	3752	3741.26	7.16E+02	53.91	5.19E+01	2.19
F	12	1332.95	4236 -	4261	4249.35	7.10E+02	54.84	1.29E+01	2.16
F	13	1461.35	4652 -	4664	4658.60	2.82E+01	5.95	5.95E+00	1.65

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 11:55:47AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578893.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.63	1.76E+02	21.26			1.76E+02	2.13E+01
F	2	87.61	6.41E+02	103.10	1.01E+01	4.77E-01	6.31E+02	1.03E+02
F	3	123.21	1.16E+02	18.76			1.16E+02	1.88E+01

Analysis Report for 24-2510 TI185-3.5M-S2-CST-d-A Q0

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 4	414.96	5.00E+02	82.78			5.00E+02	8.28E+01
F 5	609.51	3.06E+01	9.15	3.78E+01	1.30E+00	-7.28E+00	9.24E+00
M 6	661.85	1.22E+04	176.29			1.22E+04	1.76E+02
m 7	666.55	3.72E+02	20.17	8.33E-01	1.87E-01	3.71E+02	2.02E+01
F 8	695.29	3.02E+02	48.33			3.02E+02	4.83E+01
F 9	1081.43	5.73E+01	14.66			5.73E+01	1.47E+01
F 10	1109.95	5.82E+01	8.97			5.82E+01	8.97E+00
F 11	1173.54	7.16E+02	53.91			7.16E+02	5.39E+01
F 12	1332.95	7.10E+02	54.84			7.10E+02	5.48E+01
F 13	1461.35	2.82E+01	5.95	3.56E+01	3.97E-01	-7.37E+00	5.96E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.95	1460.82	*	10.66	-3.02E-05	2.44E-05	miss
CO-60	0.97	1173.23	*	99.85	3.53E-04	2.67E-05	0.765
		1332.49	*	99.98	3.81E-04	2.96E-05	0.763
CD-109	0.97	88.03	*	3.64	2.39E-03	3.91E-04	free
Te-129m	0.94	695.88	*	3.00	2.72E-03	6.96E-04	free
CS-137	0.99	661.66	*	85.10	3.72E-03	6.03E-05	miss
AM-241	0.99	59.54	*	35.90	1.39E-04	1.70E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Analysis Report for 24-2510 TI185-3.5M-S2-CST-d-A Q0

ASR 2094 Branch

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.956	-3.02E-05	2.44E-05	
CO-60	0.976	3.66E-04	1.98E-05	
CD-109	0.972	2.39E-03	3.91E-04	
Te-129m	0.946	2.72E-03	6.96E-04	
CS-137	0.994	3.72E-03	6.03E-05	
AM-241	0.999	1.39E-04	1.70E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2510 TI185-3.5M-S2-CST-d-A Q0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 11:55:47AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	123.21	9.68752E-02	16.14	Tol.	HF-172
F	4	414.96	4.16791E-01	16.55	Tol.	RH-102M
F	5	609.51	-6.06629E-03	- 126.95	Tol.	RU-103
m	7	666.55	3.09263E-01	5.43		
F	9	1081.43	4.77261E-02	25.60		
F	10	1109.95	4.84973E-02	15.42		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.60		10.44	2.51E-04	2.51E-04	3.97E-05	1.23E-04
	NA-22	511.00		179.91	1.24E-05	1.24E-05	-5.54E-06	6.04E-06
		1274.54		99.94	3.18E-05		2.77E-05	1.48E-05
	NA-24	1368.63		99.99	2.04E-05	2.04E-05	-1.96E-05	9.30E-06
>		2754.01		99.87	0.00E+00		0.00E+00	0.00E+00
	AL-26	1129.67		2.50	6.36E-04	9.99E-06	9.82E-05	2.96E-04
		1808.65		99.76	9.99E-06		6.67E-06	4.30E-06
+	K-40	1460.82	*	10.66	1.16E-04	1.16E-04	-3.02E-05	5.26E-05
	K-42	312.60		0.34	7.00E-03	7.65E-05	2.28E-03	3.41E-03
		1524.60		18.08	7.65E-05		3.41E-05	3.38E-05
	Sc-44	1157.02		99.90	3.64E-05	3.64E-05	3.28E-05	1.71E-05

Analysis Report for 24-2510 TI185-3.5M-S2-CST-d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Sc-44	1499.46	0.91	2.68E-03	3.64E-05	-7.96E-04	1.17E-03
	Sc-44m	271.24	86.74	2.14E-05	2.14E-05	2.85E-06	1.05E-05
		1001.83	1.20	2.67E-03		4.14E-04	1.26E-03
		1126.06	1.20	2.38E-03		5.48E-04	1.12E-03
		1157.00	1.20	2.41E-03		2.17E-03	1.13E-03
	TI-44	67.87	93.00	3.47E-05	2.56E-05	-4.45E-05	1.70E-05
		78.32	96.40	2.56E-05		-1.41E-05	1.26E-05
	SC-46	889.28	99.98	2.18E-05	2.07E-05	1.83E-05	1.04E-05
		1120.55	99.99	2.07E-05		-1.93E-05	9.70E-06
	CA-47	489.23	5.90	5.27E-04	1.47E-05	-4.02E-05	2.57E-04
		807.86	5.90	3.70E-04		-4.94E-05	1.76E-04
		1297.09	67.00	1.47E-05		4.96E-06	6.51E-06
	SC-47	159.38	68.30	2.03E-05	2.03E-05	-5.58E-06	9.89E-06
	SC-48	175.36	7.47	2.01E-04	1.12E-05	-7.78E-05	9.79E-05
		983.53	100.00	1.76E-05		8.84E-06	8.30E-06
		1037.52	97.50	1.67E-05		5.17E-06	7.85E-06
		1312.12	100.00	1.12E-05		5.29E-07	4.99E-06
	V-48	944.13	7.87	2.52E-04	1.41E-05	-2.14E-04	1.19E-04
		983.53	99.98	2.16E-05		1.09E-05	1.02E-05
		1312.11	98.20	1.41E-05		6.67E-07	6.29E-06
		2240.40	2.33	7.26E-04		5.45E-04	3.17E-04
	CR-51	320.08	9.91	1.79E-04	1.79E-04	-6.71E-05	8.73E-05
	Fe-52	168.69	99.20	1.99E-05	1.99E-05	-6.86E-06	9.71E-06
		377.75	1.64	1.86E-03		6.08E-04	9.06E-04
	Mn-52	744.23	90.00	2.47E-05	2.11E-05	-1.41E-05	1.16E-05
		848.18	3.32	8.24E-04		-5.39E-04	3.91E-04
		935.54	94.50	3.40E-05		1.21E-05	1.62E-05
		1246.28	4.21	4.70E-04		-2.07E-05	2.13E-04
		1333.65	5.07	1.70E-03		9.34E-03	8.31E-04
		1434.09	100.00	2.11E-05		5.26E-06	9.49E-06
	MN-54	834.85	99.98	1.48E-05	1.48E-05	6.37E-06	7.00E-06
	Co-55	411.50	1.07	3.41E-03	2.92E-05	1.49E-03	1.68E-03
		477.20	20.20	1.58E-04		5.54E-05	7.72E-05
		803.70	1.87	9.89E-04		-1.02E-04	4.69E-04
		931.10	75.00	2.92E-05		1.45E-05	1.39E-05
		1316.60	7.10	1.83E-04		-2.35E-04	8.20E-05
		1370.00	2.90	4.43E-04		-1.71E-03	1.98E-04
		1408.50	16.90	8.17E-05		4.25E-05	3.68E-05
	Co-56	846.77	99.94	2.25E-05	2.25E-05	1.53E-05	1.07E-05
		977.37	1.42	1.81E-03		-2.54E-03	8.51E-04
		1037.84	14.05	1.60E-04		1.38E-04	7.49E-05
		1175.10	2.25	3.73E-03		2.12E-02	1.83E-03
		1238.29	66.46	3.03E-05		2.14E-05	1.40E-05
		1360.21	4.28	5.28E-04		6.79E-04	2.46E-04
		1771.36	15.41	1.25E-04		-3.81E-05	5.65E-05
		2015.20	3.02	4.90E-04		2.52E-05	2.12E-04
		2034.79	7.77	1.59E-04		8.00E-05	6.58E-05
>		2598.50	16.97	0.00E+00		0.00E+00	0.00E+00
	MN-56	846.76	98.85	6.47E-05	6.47E-05	4.39E-05	3.07E-05
		1810.73	26.90	1.64E-04		9.97E-05	6.99E-05
		2113.09	14.20	4.38E-04		-4.24E-04	1.92E-04
	Ni-56	158.38	98.80	1.35E-05	1.35E-05	-1.20E-06	6.58E-06
		269.50	36.50	4.81E-05		-3.14E-05	2.35E-05

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Ni-56	480.44		36.50	6.76E-05	1.35E-05	-5.14E-05	3.30E-05
		749.50		49.50	2.60E-05		-1.54E-05	1.22E-05
		811.85		86.00	1.83E-05		-4.67E-06	8.65E-06
		1561.80		14.00	6.29E-05		5.71E-06	2.69E-05
	CO-57	122.06		85.60	1.65E-05	1.65E-05	-1.87E-06	8.06E-06
		136.47		10.68	1.26E-04		8.11E-05	6.16E-05
	NI-57	127.16		16.70	8.92E-05	1.68E-05	4.90E-05	4.36E-05
		1377.63		81.70	1.68E-05		7.37E-06	7.64E-06
		1757.55		5.75	1.98E-04		-1.00E-04	8.59E-05
		1919.52		12.30	1.05E-04		1.17E-05	4.58E-05
	CO-58	810.76		99.45	1.70E-05	1.70E-05	2.41E-06	8.08E-06
		863.96		0.69	3.12E-03		2.19E-03	1.48E-03
		1674.73		0.52	1.74E-03		1.66E-04	7.63E-04
	FE-59	142.65		1.02	1.31E-03	2.34E-05	-6.75E-05	6.38E-04
		192.34		3.08	6.89E-04		-4.59E-05	3.37E-04
		1099.24		56.50	3.18E-05		3.22E-06	1.50E-05
		1291.59		43.20	2.34E-05		1.38E-06	1.05E-05
+	CO-60	1173.23	*	99.85	3.18E-05	1.88E-05	3.53E-04	1.52E-05
		1332.49	*	99.98	1.88E-05		3.81E-04	8.69E-06
	CU-64	511.00		35.00	8.27E-05	8.27E-05	-3.69E-05	4.03E-05
		1345.77		0.47	2.48E-03		-4.18E-03	1.09E-03
	NI-65	366.27		4.81	2.04E-03	1.71E-04	1.21E-03	9.98E-04
		1115.53		15.43	5.44E-04		3.68E-04	2.59E-04
		1481.84		23.59	1.71E-04		3.35E-06	7.64E-05
	ZN-65	1115.54		50.04	4.11E-05	4.11E-05	2.78E-05	1.95E-05
	GA-66	511.00		114.00	2.77E-05	2.77E-05	-1.24E-05	1.35E-05
		833.53		5.90	3.58E-04		1.63E-04	1.69E-04
		1039.22		37.00	6.14E-05		8.85E-05	2.89E-05
		1333.11		1.17	6.43E-03		3.70E-02	3.15E-03
		1918.33		1.99	8.12E-04		1.86E-04	3.54E-04
		2189.62		5.30	3.32E-04		-6.45E-04	1.44E-04
>		2751.83		22.70	0.00E+00		0.00E+00	0.00E+00
	CU-67	91.27		7.00	3.06E-04	3.34E-05	1.42E-05	1.50E-04
		93.31		16.10	1.03E-04		-3.46E-05	5.02E-05
		184.58		48.70	3.34E-05		-3.36E-05	1.63E-05
		300.22		0.80	2.28E-03		-1.37E-03	1.11E-03
		393.53		0.22	1.04E-02		4.74E-03	5.07E-03
	GA-67	91.26		3.11	8.03E-04	4.57E-05	3.73E-05	3.94E-04
		93.31		38.81	4.57E-05		-1.54E-05	2.23E-05
		184.58		21.41	7.64E-05		-7.69E-05	3.74E-05
		208.95		2.46	1.05E-03		4.14E-04	5.14E-04
		300.22		16.64	1.23E-04		-7.41E-05	6.01E-05
		393.53		4.56	3.14E-04		1.43E-04	1.53E-04
	ZN-69m	438.63		94.85	3.25E-05	3.25E-05	-2.25E-05	1.59E-05
	GA-72	629.97		26.13	1.33E-04	2.62E-05	5.55E-05	6.37E-05
		834.13		95.45	2.62E-05		-1.11E-05	1.24E-05
		894.33		10.14	3.57E-04		1.17E-04	1.70E-04
		1050.79		6.99	5.03E-04		-1.21E-04	2.36E-04
		2201.59		26.87	8.99E-05		3.17E-05	3.99E-05
		2491.03		7.73	1.81E-04		7.71E-05	7.32E-05
		2507.72		13.33	3.13E-04		3.07E-04	1.45E-04
	Zn-72	144.70		82.78	1.72E-05	1.72E-05	1.01E-05	8.41E-06
		191.50		9.35	1.82E-04		-9.13E-05	8.91E-05

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	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SE-75	121.12	17.20	1.20E-04	3.24E-05	4.97E-05	5.88E-05
		136.00	58.50	3.24E-05		1.06E-05	1.59E-05
		264.66	58.90	4.12E-05		3.19E-05	2.01E-05
		279.54	25.02	8.84E-05		-2.58E-05	4.32E-05
		400.66	11.41	6.49E-05		6.02E-05	3.17E-05
	BR-83	529.59	1.30	6.10E-03	6.10E-03	2.98E-03	2.95E-03
	BR-84	604.80	1.70	5.61E-01	1.93E-02	2.46E-01	2.71E-01
		736.50	1.29	5.23E-01		3.60E-01	2.47E-01
		802.20	6.00	1.29E-01		-3.87E-02	6.09E-02
		881.60	42.00	1.93E-02		-2.47E-02	9.12E-03
		987.30	0.79	9.62E-01		-1.65E-01	4.52E-01
		1015.90	6.20	1.45E-01		1.14E-01	6.89E-02
		1213.30	2.60	2.77E-01		6.75E-02	1.28E-01
		1463.80	2.00	4.05E-01		5.87E-01	1.87E-01
		1741.20	1.60	2.73E-01		-1.33E-01	1.15E-01
		1877.50	1.12	4.47E-01		-6.83E-02	1.92E-01
		1897.60	14.60	2.76E-02		-2.60E-02	1.13E-02
		2029.60	2.10	2.54E-01		1.62E-01	1.09E-01
		2200.70	1.16	5.89E-01		-5.41E-01	2.59E-01
		2484.10	6.70	6.69E-02		2.55E-02	2.65E-02
>		2824.10	1.12	0.00E+00		0.00E+00	0.00E+00
	KR-85m	151.20	75.20	3.62E-05	3.62E-05	-1.34E-05	1.77E-05
		304.87	14.00	2.56E-04		5.81E-05	1.25E-04
	Y-87	388.53	82.20	2.67E-05	2.67E-05	-1.20E-05	1.30E-05
		484.80	89.80	2.75E-05		-3.76E-05	1.34E-05
	KR-88	165.98	3.10	2.58E-03	7.77E-05	1.52E-04	1.26E-03
		196.30	26.00	2.68E-04		2.01E-04	1.31E-04
		362.23	2.25	2.64E-03		1.25E-03	1.29E-03
		471.80	0.73	1.56E-02		1.32E-02	7.65E-03
		834.83	13.00	4.62E-04		1.98E-04	2.18E-04
		985.78	1.31	5.68E-03		1.97E-03	2.67E-03
		1141.33	1.28	5.06E-03		-2.18E-04	2.38E-03
		1179.51	1.00	2.14E-02		1.93E-03	1.05E-02
		1250.67	1.12	3.91E-03		-6.13E-04	1.75E-03
		1369.50	1.48	3.12E-03		-1.00E-02	1.40E-03
		1518.39	2.15	2.34E-03		2.10E-03	1.04E-03
		1529.77	10.90	4.05E-04		-7.93E-05	1.79E-04
		2029.84	4.53	1.15E-03		-7.52E-04	4.85E-04
		2035.41	3.74	1.09E-03		5.47E-04	4.50E-04
		2195.84	13.20	4.78E-04		1.46E-04	2.12E-04
		2231.77	3.39	9.16E-04		6.15E-05	3.94E-04
		2352.08	0.73	4.57E-03		1.52E-03	1.77E-03
		2392.11	34.60	7.77E-05		3.31E-05	3.14E-05
	RB-88	898.03	14.40	4.65E-04	1.44E-04	-5.75E-05	2.20E-04
		1382.45	0.78	6.86E-03		3.21E-03	3.13E-03
		1836.00	22.81	1.44E-04		-2.63E-04	5.96E-05
>		2677.89	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-88	898.04	93.70	2.20E-05	1.13E-05	-2.71E-06	1.04E-05
		1836.06	99.20	1.13E-05		6.11E-06	4.74E-06
	RB-89	272.42	1.53	4.53E+02	9.10E+00	-1.19E+02	2.21E+02
		657.77	10.80	4.90E+02		-2.11E+01	2.44E+02
		947.73	10.00	6.41E+01		-4.52E+01	3.03E+01
		1031.92	63.00	9.79E+00		-7.69E+00	4.60E+00

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	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RB-89	1248.14	46.00	9.10E+00	9.10E+00	1.52E+00	4.09E+00
		1538.07	2.77	1.74E+02		2.27E+01	7.85E+01
		2007.50	2.58	1.67E+02		1.11E+02	7.17E+01
		2195.92	14.50	4.03E+01		3.62E+01	1.79E+01
>		2570.20	10.70	0.00E+00		0.00E+00	0.00E+00
>		2707.26	2.20	0.00E+00		0.00E+00	0.00E+00
	SR-89	908.96	0.01	1.69E-01	1.69E-01	-1.60E-01	8.02E-02
	Sr-91	652.90	11.35	2.40E-04	7.16E-05	1.58E-04	1.16E-04
		749.80	23.70	7.55E-05		-7.97E-06	3.55E-05
		925.80	3.85	6.24E-04		-7.97E-04	2.96E-04
		1024.30	33.50	7.16E-05		8.69E-05	3.39E-05
	Y-91	1204.77	0.26	5.26E-03	5.26E-03	-9.86E-03	2.43E-03
	Y-91m	555.57	61.64	3.86E-05	3.86E-05	-7.12E-07	1.86E-05
	NB-92M	912.60	1.78	1.26E-03	1.85E-05	-6.96E-05	5.95E-04
		934.44	99.15	1.85E-05		5.30E-07	8.81E-06
		1847.50	0.85	6.44E-04		-4.18E-04	2.56E-04
	SR-92	241.56	2.93	2.14E-03	5.00E-05	-9.51E-04	1.05E-03
		430.49	3.28	2.73E-03		1.57E-03	1.34E-03
		953.31	3.52	1.67E-03		-2.61E-04	7.89E-04
		1142.35	2.79	2.19E-03		4.18E-03	1.03E-03
		1383.93	90.00	5.00E-05		6.64E-06	2.28E-05
	MO-93M	114.04	0.68	3.22E-03	1.65E-05	9.68E-04	1.58E-03
		263.05	57.40	4.86E-05		4.99E-06	2.37E-05
		684.69	99.90	2.11E-05		3.47E-06	9.98E-06
		1363.02	0.81	3.15E-03		2.50E-03	1.46E-03
		1477.14	99.10	1.65E-05		-2.01E-05	7.29E-06
	SR-93	168.50	18.40	2.37E+07	8.39E+06	-1.79E+05	1.16E+07
		260.12	7.40	7.43E+07		-3.26E+07	3.63E+07
		346.49	3.28	1.92E+08		-1.58E+08	9.39E+07
		446.20	2.36	3.41E+08		-2.31E+07	1.67E+08
		590.24	68.00	8.39E+06		5.68E+06	4.04E+06
		710.31	21.80	1.90E+07		-1.43E+06	8.94E+06
		875.73	24.50	2.24E+07		1.02E+07	1.07E+07
		888.13	22.10	2.40E+07		-3.68E+05	1.14E+07
		1040.63	3.20	1.61E+08		1.83E+08	7.57E+07
		1094.00	1.76	3.07E+08		1.10E+08	1.45E+08
		1122.48	4.00	1.30E+08		-2.69E+06	6.09E+07
		1215.48	2.50	1.82E+08		1.48E+08	8.44E+07
		1269.47	7.10	7.28E+07		5.79E+07	3.39E+07
		1321.24	2.61	1.48E+08		9.84E+07	6.70E+07
		1387.11	3.50	1.09E+08		8.19E+07	4.92E+07
		1694.07	2.58	1.41E+08		4.11E+07	6.23E+07
		1699.06	3.30	1.13E+08		9.62E+07	5.01E+07
		2543.84	3.03	6.92E+07		1.49E+07	2.45E+07
>		2688.65	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-93	266.90	7.40	3.15E-04	3.15E-04	-3.06E-04	1.54E-04
		947.10	2.10	1.06E-03		-5.09E-04	5.02E-04
		1917.80	1.57	9.77E-04		-1.19E-03	4.25E-04
	NB-94	702.65	99.81	1.88E-05	1.88E-05	-7.65E-06	8.92E-06
		871.09	99.89	2.29E-05		3.52E-07	1.09E-05
	Y-94	381.60	2.02	4.00E+01	1.15E+00	4.51E+01	1.95E+01
		550.90	4.90	1.34E+01		-8.34E+00	6.43E+00
		752.60	1.40	3.65E+01		5.45E+01	1.72E+01

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Y-94	918.74	56.00	1.15E+00	1.15E+00	-4.73E-01	5.46E-01
	1138.90	6.00	1.10E+01		4.46E+00	5.18E+00
	1671.40	2.50	1.72E+01		7.11E+00	7.57E+00
	2140.60	0.95	4.82E+01		-1.63E+01	2.09E+01
NB-95	765.80	99.81	1.28E-05	1.28E-05	1.92E-07	6.02E-06
ZR-95	724.19	44.27	3.31E-05	2.41E-05	4.33E-05	1.57E-05
	756.72	54.38	2.41E-05		-2.52E-07	1.13E-05
NB-96	219.08	2.97	6.73E-04	1.51E-05	5.28E-04	3.29E-04
	241.38	3.50	5.83E-04		-2.59E-04	2.85E-04
	350.05	1.54	1.51E-03		1.08E-03	7.37E-04
	352.56	0.83	2.78E-03		3.01E-03	1.36E-03
	371.81	2.62	8.92E-04		9.61E-04	4.35E-04
	460.04	26.62	1.18E-04		-4.05E-06	5.80E-05
	480.71	5.84	4.78E-04		1.54E-04	2.33E-04
	568.87	58.00	3.55E-05		-3.21E-05	1.71E-05
	719.56	6.85	2.47E-04		2.55E-04	1.17E-04
	721.63	1.02	1.67E-03		5.97E-04	7.92E-04
	778.22	96.45	1.51E-05		-1.01E-05	7.09E-06
	810.33	11.09	1.63E-04		-5.36E-05	7.71E-05
	812.58	2.95	5.92E-04		1.51E-05	2.80E-04
	847.69	1.14	1.61E-03		1.93E-04	7.66E-04
	849.93	20.45	8.87E-05		-6.60E-05	4.20E-05
	1091.35	48.50	3.76E-05		-1.07E-05	1.76E-05
	1200.23	19.97	8.20E-05		4.15E-05	3.80E-05
	1441.13	0.44	2.58E-03		-2.62E-03	1.14E-03
	1497.81	3.28	3.42E-04		5.55E-05	1.50E-04
Nb-97	657.94	98.23	1.67E-04	1.67E-04	5.94E-07	8.30E-05
	1024.40	1.09	1.90E-03		1.95E-03	9.00E-04
ZR-97	254.17	1.15	1.85E-03	1.68E-05	6.15E-05	9.05E-04
	355.40	2.09	1.75E-03		-1.56E-03	8.56E-04
	507.64	5.03	7.52E-04		1.84E-05	3.66E-04
	743.36	93.09	1.68E-05		1.21E-05	7.88E-06
	1147.97	2.62	1.13E-03		-2.56E-04	5.32E-04
MO-99	181.07	6.14	4.14E-04	1.55E-04	-6.13E-05	2.02E-04
	366.42	1.20	1.76E-03		1.04E-03	8.61E-04
	739.50	12.26	1.55E-04		1.16E-04	7.30E-05
	777.92	4.30	3.15E-04		8.78E-05	1.48E-04
TC-99M	140.51	90.80	1.54E-05	1.54E-05	-9.29E-06	7.51E-06
RH-101	127.23	68.00	2.80E-05	2.80E-05	1.54E-05	1.37E-05
	198.01	73.00	2.94E-05		-1.83E-05	1.44E-05
	325.23	11.80	5.88E-05		2.22E-05	2.87E-05
RH-101M	306.86	81.00	2.17E-05	2.17E-05	-1.23E-05	1.06E-05
	545.12	4.30	4.34E-04		-2.25E-04	2.09E-04
RH-102M	415.25	2.10	3.45E-03	5.38E-05	1.16E-02	1.70E-03
	418.52	9.40	6.82E-04		1.51E-04	3.35E-04
	420.40	3.20	1.72E-03		1.12E-04	8.42E-04
	475.06	95.00	5.38E-05		1.30E-05	2.63E-05
	628.05	8.30	4.73E-04		2.69E-04	2.27E-04
	631.29	56.00	5.50E-05		-6.35E-06	2.64E-05
	692.40	1.60	3.60E-03		-9.32E-05	1.75E-03
	695.60	2.90	1.77E-03		6.08E-03	8.60E-04
	697.49	44.00	1.13E-04		3.72E-04	5.52E-05
	766.84	34.00	6.91E-05		3.69E-06	3.25E-05

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RH-102M	1046.59		34.00	7.60E-05	5.38E-05	5.90E-05	3.56E-05
		1103.16		4.60	5.25E-04		-2.00E-04	2.48E-04
		1112.84		19.00	1.87E-04		6.44E-05	8.88E-05
	RU-103	497.08		91.00	2.48E-05	2.48E-05	-6.58E-06	1.21E-05
		610.33		5.76	3.29E-04		-8.41E-05	1.59E-04
	RH-105	306.31		4.66	4.00E-04	1.16E-04	-2.65E-04	1.95E-04
		319.23		16.90	1.16E-04		1.44E-06	5.65E-05
	AG-106M	221.70		6.60	2.68E-04	2.58E-05	1.52E-04	1.31E-04
		228.63		2.10	8.01E-04		5.61E-05	3.91E-04
		328.46		1.14	1.57E-03		-1.03E-03	7.64E-04
		391.04		3.68	5.89E-04		2.45E-04	2.88E-04
		406.18		13.40	1.69E-04		8.55E-05	8.24E-05
		429.65		13.20	1.95E-04		1.21E-04	9.55E-05
		450.98		28.20	9.17E-05		5.49E-05	4.48E-05
		511.85		88.00	2.58E-05		1.26E-05	1.26E-05
		601.17		1.61	1.11E-03		-6.72E-04	5.33E-04
		616.17		21.60	8.33E-05		5.93E-05	4.01E-05
		646.03		1.46	1.23E-03		-4.77E-04	5.90E-04
		680.42		2.18	6.42E-04		6.98E-04	3.04E-04
		703.11		4.47	3.09E-04		-2.04E-04	1.46E-04
		717.34		28.90	4.81E-05		-3.58E-05	2.28E-05
		748.36		20.60	6.27E-05		6.67E-06	2.95E-05
		793.17		5.90	2.38E-04		-4.04E-04	1.12E-04
		804.28		12.40	1.25E-04		-3.77E-05	5.93E-05
		808.36		4.00	4.04E-04		9.66E-05	1.92E-04
		824.69		15.30	9.95E-05		4.44E-05	4.70E-05
		847.15		4.40	3.68E-04		-3.00E-04	1.74E-04
		1019.72		1.04	1.71E-03		8.50E-04	8.09E-04
		1045.83		29.60	5.03E-05		-1.32E-05	2.35E-05
		1128.02		11.80	1.28E-04		-1.29E-06	5.98E-05
		1199.39		11.20	1.31E-04		7.88E-05	6.09E-05
		1222.88		7.00	1.68E-04		-3.26E-04	7.62E-05
		1394.35		1.49	7.36E-04		1.44E-05	3.29E-04
		1527.65		16.30	6.61E-05		-7.59E-05	2.92E-05
		1572.35		6.60	1.70E-04		4.89E-05	7.55E-05
		1722.76		1.40	8.76E-04		7.86E-04	3.90E-04
		1839.05		2.00	4.17E-04		-2.09E-04	1.73E-04
	RH-106	621.93		9.93	2.34E-04	2.34E-04	-9.21E-05	1.13E-04
		873.49		0.44	6.06E-03		-6.51E-03	2.88E-03
		1050.41		1.56	1.37E-03		9.52E-04	6.43E-04
	RU-106	511.86		20.40	1.10E-04	1.10E-04	5.37E-05	5.33E-05
	AG-108M	79.13		6.60	3.13E-04	3.03E-05	-1.38E-05	1.53E-04
		433.94		90.50	4.88E-05		2.59E-05	2.39E-05
		614.28		89.80	3.87E-05		7.42E-06	1.86E-05
		722.91		90.80	3.03E-05		5.29E-05	1.44E-05
+	CD-109	88.03	*	3.64	6.48E-04	6.48E-04	2.39E-03	3.19E-04
	AG-110M	446.81		3.70	1.57E-03	4.16E-05	9.44E-05	7.68E-04
		620.35		2.73	1.49E-03		9.62E-04	7.15E-04
		657.76		95.61	2.61E-04		-1.12E-05	1.30E-04
		677.62		10.70	2.78E-04		2.92E-06	1.31E-04
		687.01		6.53	4.16E-04		-2.07E-05	1.97E-04
		706.68		16.69	1.75E-04		1.14E-04	8.28E-05
		744.28		4.77	5.52E-04		-3.15E-04	2.59E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-110M	763.94	22.60	1.08E-04	4.16E-05	1.05E-04	5.07E-05
	818.02	7.43	4.94E-04		1.63E-04	2.35E-04
	884.68	75.00	4.16E-05		3.58E-06	1.97E-05
	937.48	35.00	9.21E-05		6.81E-05	4.37E-05
	1384.29	25.10	8.20E-05		4.81E-05	3.73E-05
	1475.78	4.08	3.30E-04		-3.53E-04	1.45E-04
	1505.03	13.33	1.19E-04		-1.13E-04	5.20E-05
	1562.29	1.22	5.22E-04		3.49E-04	2.25E-04
AG-111	245.40	1.11	1.62E-03	2.90E-04	1.34E-03	7.92E-04
	342.13	6.68	2.90E-04		-2.28E-05	1.41E-04
AG-112	606.82	3.10	7.00E-04	4.85E-05	4.69E-04	3.37E-04
	617.52	43.00	4.85E-05		3.10E-05	2.34E-05
	692.82	1.19	2.54E-03		8.09E-03	1.24E-03
	694.87	2.90	1.05E-03		3.50E-03	5.13E-04
	851.28	1.02	1.83E-03		-1.86E-03	8.68E-04
	1312.36	1.11	1.07E-03		-4.66E-04	4.77E-04
	1387.68	5.30	2.42E-04		-2.11E-04	1.08E-04
	1613.66	2.80	4.70E-04		2.02E-04	2.09E-04
	1798.50	0.89	1.11E-03		6.01E-04	4.66E-04
	2106.31	2.40	6.78E-04		5.92E-04	3.01E-04
	2506.70	1.06	2.75E-03		3.02E-03	1.27E-03
CD-113M	263.70	0.03	6.44E-02	6.44E-02	-1.98E-02	3.14E-02
SN-113	255.13	2.11	8.25E-04	3.30E-05	9.20E-04	4.03E-04
	391.70	64.97	3.30E-05		-3.60E-06	1.61E-05
IN-114M	190.27	15.56	1.03E-04	1.03E-04	-2.51E-05	5.04E-05
	558.43	4.40	5.37E-04		4.80E-04	2.59E-04
	725.24	4.40	4.51E-04		-1.69E-04	2.14E-04
CD-115	260.90	1.94	9.27E-04	4.35E-05	1.61E-05	4.53E-04
	336.24	46.02	4.35E-05		3.05E-05	2.12E-05
	527.90	27.45	7.59E-05		-1.78E-05	3.68E-05
CD-115M	933.84	2.00	9.37E-04	9.37E-04	1.13E-04	4.46E-04
	1290.59	0.90	1.16E-03		6.85E-04	5.20E-04
IN-115M	336.24	45.90	8.57E-05	8.57E-05	6.00E-05	4.18E-05
IN-116M	138.29	3.70	2.33E-02	6.45E-04	-8.57E-03	1.14E-02
	416.90	27.20	6.01E-03		1.67E-02	2.95E-03
	818.68	12.13	8.74E-03		-6.18E-03	4.14E-03
	1097.28	58.50	1.49E-03		9.61E-04	7.01E-04
	1293.56	84.80	6.45E-04		3.98E-04	2.90E-04
	1507.59	9.92	5.06E-03		4.06E-03	2.22E-03
	2112.29	15.09	4.28E-03		-1.68E-03	1.89E-03
SB-125	176.31	6.84	2.08E-04	8.21E-05	1.07E-04	1.02E-04
	380.45	1.52	1.36E-03		1.44E-04	6.65E-04
	427.87	29.60	8.21E-05		-1.08E-05	4.02E-05
	463.36	10.49	2.65E-04		-3.81E-05	1.30E-04
	600.60	17.65	1.00E-04		4.22E-05	4.81E-05
	606.71	4.98	3.73E-04		3.03E-04	1.80E-04
	635.95	11.22	1.49E-04		6.31E-05	7.15E-05
	671.44	1.79	1.44E-03		-3.42E-04	6.99E-04
SN-125	332.10	1.40	2.30E-03	2.01E-04	1.54E-03	1.12E-03
	469.85	1.50	3.16E-03		9.07E-04	1.55E-03
	800.28	1.10	1.85E-03		-6.14E-04	8.78E-04
	822.48	4.30	4.74E-04		5.67E-04	2.24E-04
	915.55	4.10	5.53E-04		3.69E-04	2.62E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SN-125	1067.10	10.00	2.01E-04	2.01E-04	1.52E-04	9.42E-05
	1087.70	1.20	2.83E-03		-1.75E-03	1.34E-03
	1089.10	4.60	3.73E-04		2.32E-05	1.75E-04
	2002.10	1.90	5.09E-04		-7.58E-04	2.15E-04
SB-127	61.10	1.43	3.64E-03	3.66E-05	1.77E-04	1.78E-03
	252.40	8.50	2.66E-04		-8.64E-05	1.30E-04
	290.80	2.02	1.28E-03		4.56E-04	6.24E-04
	412.10	3.80	8.91E-04		9.41E-06	4.38E-04
	445.10	4.30	8.38E-04		4.32E-04	4.10E-04
	473.00	25.80	1.17E-04		3.77E-05	5.73E-05
	543.30	2.90	5.77E-04		-5.39E-06	2.79E-04
	603.50	4.50	5.52E-04		-4.84E-05	2.65E-04
	685.70	36.80	3.66E-05		-3.04E-06	1.73E-05
	698.50	3.64	7.51E-04		2.91E-05	3.65E-04
	722.20	1.88	8.38E-04		2.91E-04	3.98E-04
	783.70	15.10	8.90E-05		5.47E-05	4.18E-05
SN-127	119.70	2.20	3.14E-03	2.56E-04	2.83E-03	1.54E-03
	262.50	2.30	3.57E-03		-2.44E-03	1.74E-03
	266.20	2.10	3.93E-03		3.87E-03	1.92E-03
	284.30	2.70	3.11E-03		1.05E-03	1.52E-03
	438.20	6.10	1.91E-03		-1.53E-03	9.34E-04
	490.90	5.30	2.05E-03		1.49E-04	9.99E-04
	493.20	3.10	3.58E-03		2.79E-03	1.74E-03
	545.40	2.30	3.75E-03		-4.00E-03	1.81E-03
	583.30	3.20	2.48E-03		-1.27E-03	1.19E-03
	805.90	8.20	9.08E-04		-5.59E-04	4.31E-04
	823.10	11.00	6.51E-04		4.59E-04	3.08E-04
	824.70	6.10	1.18E-03		5.27E-04	5.58E-04
	859.50	8.00	9.74E-04		-3.70E-05	4.62E-04
	979.20	7.20	1.04E-03		1.34E-04	4.88E-04
	1093.30	3.80	2.01E-03		-3.31E-05	9.41E-04
	1095.60	19.00	4.16E-04		-2.29E-04	1.96E-04
	1114.30	38.00	2.56E-04		6.14E-05	1.22E-04
	1160.40	2.40	3.12E-03		2.54E-03	1.46E-03
	2003.40	5.30	9.48E-04		-6.80E-04	4.06E-04
SB-129	180.42	2.84	1.12E-03	6.67E-05	9.49E-04	5.47E-04
	359.20	2.39	1.76E-03		-6.47E-04	8.58E-04
	404.64	1.17	4.00E-03		1.97E-03	1.96E-03
	523.13	1.55	2.79E-03		1.10E-03	1.35E-03
	544.56	15.42	2.55E-04		1.91E-04	1.23E-04
	633.74	2.53	1.39E-03		-9.68E-04	6.68E-04
	654.28	2.97	1.52E-03		1.55E-04	7.34E-04
	682.77	5.76	5.03E-04		3.55E-04	2.38E-04
	761.12	4.32	6.22E-04		1.91E-04	2.92E-04
	773.37	2.82	9.79E-04		-3.28E-04	4.60E-04
	786.36	1.07	2.52E-03		-1.32E-03	1.18E-03
	787.16	1.74	1.52E-03		-1.17E-03	7.12E-04
	812.97	48.20	6.67E-05		-1.31E-05	3.16E-05
	819.51	1.39	2.41E-03		3.50E-03	1.14E-03
	876.65	2.75	1.33E-03		1.32E-03	6.30E-04
	914.96	23.30	1.57E-04		2.01E-04	7.46E-05
	966.78	8.96	4.13E-04		1.25E-05	1.96E-04
	1030.65	15.13	2.27E-04		-2.27E-04	1.07E-04

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	1656.10		1.31	1.46E-03	6.67E-05	9.31E-04	6.25E-04
		1738.16		7.45	2.66E-04		-4.74E-04	1.14E-04
	TE-129	459.60		7.70	3.58E-04	3.58E-04	5.02E-04	1.75E-04
		487.39		1.42	1.62E-03		3.91E-04	7.91E-04
+	Te-129m	695.88	*	3.00	5.11E-04	5.11E-04	2.72E-03	2.44E-04
	I-131	80.18		2.62	1.06E-03	2.51E-05	-6.75E-04	5.17E-04
		284.30		6.12	3.14E-04		-3.10E-05	1.53E-04
		364.49		81.50	2.51E-05		2.93E-06	1.23E-05
		636.99		7.16	2.42E-04		1.24E-04	1.16E-04
		722.91		1.77	8.56E-04		1.50E-03	4.07E-04
	Te-131m	773.67		36.80	6.05E-05	6.05E-05	-2.03E-05	2.84E-05
		793.75		13.40	2.79E-04		-4.46E-05	1.32E-04
		852.21		19.90	1.45E-04		-1.12E-04	6.90E-05
		1125.46		11.00	2.16E-04		1.72E-04	1.01E-04
		1206.60		9.41	2.11E-04		-9.95E-05	9.76E-05
	I-132	262.90		1.28	1.39E-03	2.91E-05	-6.12E-05	6.80E-04
		284.90		0.71	2.56E-03		-5.86E-04	1.25E-03
		505.79		4.93	1.74E-03		-3.17E-04	8.50E-04
		522.65		16.00	2.45E-04		-2.23E-04	1.19E-04
		547.20		1.14	3.10E-03		-2.79E-03	1.49E-03
		621.20		1.97	1.79E-03		-1.27E-03	8.59E-04
		630.19		13.30	2.55E-04		4.72E-05	1.23E-04
		650.50		2.57	1.79E-03		2.29E-03	8.64E-04
		667.71		98.70	1.67E-04		3.05E-06	8.31E-05
		669.80		4.60	1.16E-03		1.37E-05	5.63E-04
		671.40		3.50	1.83E-03		-2.90E-04	8.92E-04
		727.10		5.40	6.58E-04		1.32E-04	3.12E-04
		728.40		1.60	1.93E-03		-1.81E-03	9.13E-04
		772.60		75.60	2.91E-05		-6.59E-06	1.36E-05
		809.50		2.60	1.26E-03		5.52E-04	6.01E-04
		812.00		5.50	5.21E-04		2.13E-04	2.47E-04
		910.10		0.93	3.24E-03		2.18E-03	1.53E-03
		954.55		17.60	1.79E-04		2.04E-04	8.50E-05
		1136.00		3.01	7.70E-04		-2.15E-04	3.61E-04
		1172.90		1.09	6.48E-03		3.72E-02	3.18E-03
		1290.80		1.13	1.69E-03		1.03E-03	7.57E-04
		1295.10		1.88	3.31E-04		-6.75E-06	1.47E-04
		1297.90		0.89	4.99E-04		-5.30E-04	2.21E-04
		1372.07		2.47	8.21E-04		5.00E-04	3.68E-04
		1398.57		7.01	2.90E-04		3.03E-04	1.31E-04
		1442.56		1.40	5.63E-04		2.54E-04	2.51E-04
	TE-132	49.72		15.00	6.53E-04	1.99E-05	3.43E-04	3.19E-04
		111.76		1.74	8.19E-04		2.46E-04	4.00E-04
		116.30		1.96	7.10E-04		-4.91E-04	3.47E-04
		228.16		88.00	1.99E-05		-1.35E-06	9.71E-06
	BA-133	81.00		32.90	8.23E-05	3.56E-05	-4.53E-05	4.03E-05
		276.40		7.16	2.84E-04		3.13E-05	1.39E-04
		302.85		18.34	1.04E-04		4.90E-05	5.08E-05
		356.01		62.05	3.56E-05		3.48E-05	1.74E-05
		383.85		8.94	2.04E-04		2.33E-04	9.95E-05
	I-133	529.87		87.00	2.70E-05	2.70E-05	1.75E-05	1.31E-05
		706.58		1.51	1.38E-03		8.96E-04	6.50E-04
		856.28		1.24	2.06E-03		2.70E-04	9.76E-04

Analysis Report for 24-2510 TI185-3.5M-S2-CST-d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
I-133	875.33	4.51	4.41E-04	2.70E-05	1.37E-04	2.10E-04
	1236.44	1.51	9.32E-04		7.67E-04	4.30E-04
	1298.22	2.35	4.82E-04		1.77E-04	2.14E-04
TE-133	312.08	62.40	2.08E+02	2.08E+02	7.20E+01	1.01E+02
	407.63	27.10	5.98E+02		8.11E+02	2.92E+02
	410.40	0.94	2.07E+04		9.00E+03	1.02E+04
	474.85	0.88	2.23E+04		7.05E+03	1.09E+04
	719.71	8.90	1.19E+03		1.23E+03	5.65E+02
	786.93	5.40	1.66E+03		-1.28E+03	7.77E+02
	844.36	3.31	3.50E+03		-7.20E+02	1.66E+03
	884.30	0.72	1.65E+04		-6.17E+03	7.83E+03
	930.71	3.81	3.44E+03		4.13E+02	1.64E+03
	997.70	1.04	1.11E+04		-5.10E+03	5.24E+03
	1000.72	3.62	3.50E+03		4.04E+03	1.66E+03
	1021.13	2.81	4.35E+03		-2.27E+03	2.05E+03
	1061.61	1.19	9.53E+03		-6.67E+03	4.48E+03
	1252.08	1.44	5.02E+03		-1.10E+04	2.24E+03
	1312.80	0.85	8.61E+03		-3.82E+03	3.84E+03
	1333.21	10.67	3.59E+03		2.06E+04	1.76E+03
	1717.61	3.18	2.37E+03		2.33E+02	1.04E+03
	1881.52	1.22	5.65E+03		3.43E+03	2.40E+03
	2136.51	1.25	6.59E+03		-5.90E+03	2.84E+03
	2229.64	0.87	1.08E+04		2.60E+03	4.70E+03
Xe-133	81.00	36.90	5.47E-05	5.47E-05	-3.02E-05	2.68E-05
CS-134	475.36	1.48	1.83E-03	2.36E-05	-1.11E-03	8.96E-04
	563.25	8.34	3.65E-04		-1.11E-04	1.76E-04
	569.33	15.37	2.09E-04		-1.59E-04	1.01E-04
	604.72	97.62	2.72E-05		1.19E-05	1.31E-05
	795.86	85.46	2.36E-05		-9.51E-06	1.11E-05
	801.95	8.69	2.98E-04		-8.98E-05	1.41E-04
	1038.61	0.99	2.09E-03		-1.02E-03	9.83E-04
	1167.97	1.79	1.99E-03		-2.43E-05	9.77E-04
	1365.19	3.02	3.23E-04		2.04E-04	1.50E-04
I-135	220.50	1.75	2.20E-03	6.50E-05	3.21E-03	1.08E-03
	288.45	3.10	1.23E-03		3.74E-04	5.99E-04
	417.63	3.53	1.87E-03		5.65E-05	9.18E-04
	546.56	7.15	5.33E-04		6.74E-04	2.57E-04
	836.80	6.69	5.00E-04		-8.26E-05	2.37E-04
	971.96	0.89	4.38E-03		-8.23E-04	2.07E-03
	972.62	1.21	2.93E-03		-2.70E-04	1.38E-03
	1038.76	7.90	3.22E-04		-1.56E-04	1.51E-04
	1101.58	1.61	2.28E-03		-2.02E-03	1.07E-03
	1124.00	3.62	9.36E-04		3.57E-04	4.38E-04
	1131.51	22.60	1.51E-04		1.44E-04	7.06E-05
	1240.47	0.90	3.28E-03		2.40E-03	1.51E-03
	1260.41	28.70	6.50E-05		3.70E-05	2.93E-05
	1457.56	8.70	3.18E-04		-1.88E-04	1.47E-04
	1502.79	1.08	2.18E-03		-4.27E-04	9.63E-04
	1566.41	1.29	1.22E-03		1.74E-04	5.29E-04
	1678.03	9.60	1.52E-04		-5.20E-05	6.65E-05
	1706.46	4.10	4.52E-04		-1.28E-04	1.99E-04
	1791.20	7.72	1.84E-04		3.07E-05	7.78E-05
	2408.65	0.96	1.21E-03		3.38E-04	4.54E-04

Analysis Report for 24-2510 TI185-3.5M-S2-CST-d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	XE-135	249.79		90.00	2.84E-05	2.84E-05	-1.77E-05	1.39E-05
	XE-135m	526.56		80.40	4.08E-05	4.08E-05	-1.13E-05	1.98E-05
	CS-136	66.88		4.79	1.31E-03	2.67E-05	-4.21E-04	6.41E-04
		86.36		5.90	7.68E-04		-1.19E-04	3.78E-04
		153.25		7.70	2.92E-04		-7.12E-05	1.43E-04
		163.92		4.69	7.16E-04		4.64E-04	3.50E-04
		176.60		13.70	2.05E-04		1.73E-04	1.00E-04
		273.65		12.66	2.57E-04		1.45E-04	1.26E-04
		340.55		46.80	6.92E-05		2.63E-05	3.37E-05
		818.51		99.70	2.67E-05		-1.73E-05	1.26E-05
		1048.07		80.00	3.31E-05		-3.05E-05	1.55E-05
		1235.36		20.00	1.08E-04		9.25E-06	4.97E-05
+	CS-137	661.66	*	85.10	1.50E-05	1.50E-05	3.72E-03	7.10E-06
	BA-139	33.44		3.84	3.16E-01	6.30E-04	-3.95E-01	1.54E-01
		165.86		23.70	6.30E-04		3.70E-05	3.07E-04
	BA-140	132.69		0.20	6.63E-03	8.43E-05	-5.73E-03	3.24E-03
		162.66		6.22	2.59E-04		-1.70E-04	1.26E-04
		304.85		4.29	5.24E-04		1.19E-04	2.56E-04
		423.72		3.10	7.77E-04		-2.67E-04	3.80E-04
		437.58		1.93	1.28E-03		-5.78E-04	6.25E-04
		537.26		24.39	8.43E-05		9.67E-05	4.09E-05
	LA-140	109.42		0.22	6.29E-03	1.77E-05	6.42E-03	3.07E-03
		131.12		0.47	2.88E-03		-7.72E-04	1.41E-03
		173.54		0.13	1.09E-02		1.23E-03	5.33E-03
		241.93		0.41	4.30E-03		-2.80E-03	2.10E-03
		266.54		0.47	3.69E-03		1.72E-04	1.80E-03
		328.76		20.30	1.55E-04		-7.71E-06	7.56E-05
		432.49		2.90	1.54E-03		-1.93E-04	7.52E-04
		487.02		45.50	7.70E-05		-3.82E-05	3.75E-05
		618.10		0.04	4.85E-02		3.02E-02	2.33E-02
		751.64		4.33	3.83E-04		-3.78E-04	1.80E-04
		815.77		23.28	7.49E-05		-2.84E-06	3.55E-05
		867.85		5.50	3.89E-04		-1.51E-04	1.85E-04
		919.55		2.66	6.78E-04		1.07E-04	3.21E-04
		925.19		6.90	3.18E-04		-2.09E-04	1.51E-04
		950.99		0.52	4.10E-03		7.43E-04	1.94E-03
		1596.21		95.40	1.77E-05		8.36E-06	7.91E-06
		2347.88		0.85	5.72E-04		1.90E-04	2.21E-04
		2521.40		3.46	1.53E-04		3.30E-05	5.42E-05
		2547.34		0.10	6.44E-03		1.39E-03	2.28E-03
	BA-141	33.44		7.93	6.99E+02	1.77E+00	-8.76E+02	3.42E+02
		190.33		44.80	1.77E+00		-4.32E-01	8.68E-01
		276.95		23.60	3.78E+00		2.89E-01	1.85E+00
		304.19		26.10	3.29E+00		-1.69E+00	1.60E+00
		343.67		15.10	6.19E+00		-4.99E+00	3.02E+00
		389.74		1.37	7.74E+01		4.07E+01	3.78E+01
		457.51		5.00	2.71E+01		2.63E+01	1.33E+01
		462.06		5.10	2.70E+01		-1.63E+01	1.32E+01
		467.22		5.60	2.49E+01		-1.66E+01	1.22E+01
		625.08		3.45	2.41E+01		-1.63E+01	1.16E+01
		647.78		5.70	1.58E+01		-1.36E+01	7.60E+00
		738.95		4.39	1.50E+01		4.43E+00	7.06E+00
		831.46		1.64	4.31E+01		-4.16E+01	2.03E+01

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-141	876.09	3.45	2.46E+01	1.77E+00	2.57E+01	1.17E+01
	1160.72	1.12	7.01E+01		8.22E+01	3.28E+01
	1197.28	4.35	1.60E+01		3.92E+00	7.39E+00
	1323.92	0.92	8.62E+01		2.36E+01	4.01E+01
	1654.00	0.65	6.13E+01		-5.70E+01	2.57E+01
	1682.19	1.19	4.42E+01		-2.01E+01	1.94E+01
CE-141	145.44	48.30	2.77E-05	2.77E-05	-7.80E-06	1.35E-05
BA-142	33.44	14.20	9.49E+05	1.01E+04	-1.19E+06	4.64E+05
	77.59	7.00	3.74E+04		2.04E+04	1.83E+04
	177.00	2.12	8.23E+04		4.79E+04	4.02E+04
	231.61	12.20	1.65E+04		-4.23E+03	8.08E+03
	255.30	20.70	1.01E+04		2.25E+03	4.93E+03
	286.30	1.11	1.90E+05		6.58E+04	9.29E+04
	309.20	2.60	8.37E+04		2.67E+04	4.08E+04
	335.00	1.53	1.47E+05		7.02E+04	7.19E+04
	363.96	4.76	5.16E+04		-2.08E+04	2.52E+04
	425.04	5.75	5.08E+04		7.85E+03	2.48E+04
	599.80	1.85	1.17E+05		-6.28E+04	5.62E+04
	840.40	3.63	5.00E+04		-6.88E+03	2.36E+04
	895.20	13.90	1.46E+04		1.33E+04	6.92E+03
	949.10	10.70	1.84E+04		1.50E+04	8.72E+03
	1001.20	9.80	2.15E+04		-1.45E+04	1.02E+04
	1078.70	11.50	2.10E+04		1.51E+04	9.98E+03
	1094.10	2.82	7.12E+04		2.54E+04	3.35E+04
	1126.80	1.50	1.24E+05		-1.61E+05	5.80E+04
	1202.40	5.60	2.92E+04		5.64E+03	1.35E+04
	1204.30	14.30	1.14E+04		-1.33E+04	5.28E+03
	1380.20	3.42	4.49E+04		-3.27E+04	2.04E+04
CE-143	57.36	11.70	5.07E-04	4.68E-05	1.23E-04	2.48E-04
	231.55	2.05	1.16E-03		-1.03E-03	5.69E-04
	293.27	42.80	4.68E-05		-2.67E-06	2.29E-05
	350.62	3.23	6.04E-04		-4.28E-04	2.95E-04
	490.37	2.16	1.55E-03		-1.37E-04	7.53E-04
	664.57	5.69	2.71E-03		0.00E+00	1.35E-03
	721.93	5.39	2.78E-04		9.65E-05	1.32E-04
	880.46	1.03	1.77E-03		-2.31E-03	8.41E-04
CE-144	80.12	1.36	1.46E-03	1.20E-04	-9.34E-04	7.16E-04
	133.51	11.09	1.20E-04		-9.87E-05	5.85E-05
ND-147	38.17	13.20	2.73E-03	7.23E-05	-4.27E-04	1.34E-03
	38.72	23.80	1.35E-03		4.54E-04	6.60E-04
	91.11	28.90	7.23E-05		3.36E-06	3.55E-05
	275.39	0.79	3.27E-03		-9.97E-04	1.60E-03
	319.41	1.97	1.11E-03		1.38E-05	5.43E-04
	398.13	0.87	2.68E-03		-7.49E-04	1.31E-03
	439.88	1.20	2.20E-03		-2.61E-04	1.08E-03
	531.01	13.11	1.51E-04		-1.41E-04	7.33E-05
	685.88	0.82	1.56E-03		-4.84E-04	7.36E-04
PR-147	36.85	19.70	5.77E+03	2.40E+02	2.16E+03	2.82E+03
	37.36	35.50	2.86E+03		1.69E+03	1.40E+03
	49.88	4.00	4.06E+03		2.14E+03	1.98E+03
	77.97	9.70	5.26E+02		-1.93E+02	2.58E+02
	86.69	5.40	1.12E+03		3.32E+01	5.50E+02
	127.80	7.40	4.29E+02		3.12E+02	2.10E+02

Analysis Report for 24-2510 TI185-3.5M-S2-CST-d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PR-147	249.20	1.32	3.26E+03	2.40E+02	6.26E+02	1.59E+03
	314.70	18.20	2.40E+02		1.08E+02	1.17E+02
	328.80	4.00	1.06E+03		-5.28E+01	5.17E+02
	335.70	4.70	9.53E+02		3.81E+01	4.65E+02
	388.80	1.41	3.61E+03		6.69E+02	1.76E+03
	466.80	1.70	3.96E+03		5.33E+02	1.94E+03
	477.90	4.60	1.36E+03		4.34E+02	6.63E+02
	516.70	1.30	3.93E+03		-2.22E+03	1.91E+03
	554.70	5.90	6.88E+02		6.79E+02	3.31E+02
	577.90	13.70	3.09E+02		-6.66E-01	1.49E+02
	641.40	16.10	2.60E+02		1.28E+02	1.25E+02
	996.00	1.52	2.51E+03		-1.04E+03	1.18E+03
	1136.70	1.42	2.81E+03		9.65E+02	1.32E+03
	1261.10	8.40	3.03E+02		5.07E+01	1.36E+02
	1300.40	2.30	9.66E+02		-2.46E+02	4.26E+02
ND-149	38.17	9.00	2.68E-02	4.68E-04	-4.18E-03	1.31E-02
	38.72	16.30	1.32E-02		4.42E-03	6.44E-03
	58.88	1.30	3.27E-02		4.61E-02	1.60E-02
	74.32	2.11	9.65E-03		-8.76E-04	4.73E-03
	97.00	1.48	8.00E-03		-5.00E-03	3.91E-03
	114.31	19.20	5.89E-04		-7.21E-04	2.88E-04
	155.87	5.95	1.90E-03		3.71E-04	9.25E-04
	188.64	1.79	1.20E-02		-1.18E-03	5.89E-03
	198.93	1.39	1.12E-02		-3.06E-03	5.47E-03
	208.15	2.55	5.77E-03		-1.98E-03	2.82E-03
	211.31	26.00	4.68E-04		7.72E-05	2.29E-04
	240.22	3.95	3.13E-03		4.01E-04	1.53E-03
	245.72	0.81	2.01E-02		1.14E-02	9.84E-03
	267.69	6.05	2.83E-03		1.83E-03	1.38E-03
	270.17	10.80	1.13E-03		1.18E-03	5.54E-04
	326.55	4.57	3.53E-03		4.40E-03	1.72E-03
	349.23	1.38	1.25E-02		1.19E-02	6.13E-03
	423.55	7.50	2.29E-03		-2.16E-04	1.12E-03
	443.55	1.15	1.93E-02		-6.67E-03	9.45E-03
	540.51	6.60	2.26E-03		1.32E-04	1.09E-03
	654.83	8.00	2.18E-03		-2.49E-04	1.06E-03
PM-149	285.95	3.10	5.98E-04	5.98E-04	-6.49E-05	2.92E-04
PM-150	39.52	0.63	1.44E-01	9.26E-05	1.68E-03	7.02E-02
	40.12	1.14	7.00E-02		-3.02E-02	3.42E-02
	333.92	68.00	9.26E-05		-5.03E-06	4.51E-05
	406.51	5.60	1.35E-03		1.24E-03	6.60E-04
	565.70	1.31	4.62E-03		-3.09E-03	2.23E-03
	587.02	1.34	4.27E-03		-2.20E-03	2.05E-03
	612.25	0.93	7.00E-03		9.36E-03	3.38E-03
	712.22	4.40	9.66E-04		-1.10E-04	4.54E-04
	737.50	2.25	1.97E-03		-1.51E-03	9.30E-04
	831.85	11.90	4.03E-04		-3.17E-04	1.90E-04
	859.95	3.40	1.64E-03		9.71E-04	7.78E-04
	876.41	7.30	7.91E-04		6.46E-04	3.76E-04
	1165.77	15.80	5.52E-04		1.20E-04	2.65E-04
	1170.90	1.06	1.63E-02		8.96E-02	7.98E-03
	1193.87	4.80	9.42E-04		6.87E-04	4.35E-04
	1213.72	1.03	4.69E-03		2.55E-03	2.17E-03

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	1223.28	2.80	1.47E-03	9.26E-05	7.28E-04	6.73E-04
	1324.51	17.50	3.81E-04		-7.13E-05	1.80E-04
	1379.32	3.10	1.37E-03		5.29E-04	6.24E-04
	1736.40	6.90	5.05E-04		1.45E-04	2.20E-04
	1963.71	1.47	2.37E-03		-1.32E-03	1.02E-03
	2033.46	0.97	2.95E-03		1.38E-03	1.21E-03
ND-151	38.17	5.94	4.66E+04	2.65E+02	-7.29E+03	2.28E+04
	38.72	10.70	2.31E+04		7.75E+03	1.13E+04
	68.98	1.26	1.55E+04		-1.22E+04	7.56E+03
	85.12	2.05	9.76E+03		1.60E+03	4.80E+03
	89.96	1.53	1.21E+04		4.79E+02	5.94E+03
	116.80	39.00	2.65E+02		-2.00E+02	1.29E+02
	138.89	7.00	1.46E+03		6.92E+02	7.15E+02
	170.76	2.87	3.60E+03		-3.03E+03	1.76E+03
	175.07	6.30	1.70E+03		-8.73E+02	8.32E+02
	255.68	14.80	9.08E+02		1.70E+02	4.44E+02
	300.58	1.82	7.36E+03		-5.27E+03	3.59E+03
	423.56	5.90	3.14E+03		-2.96E+02	1.53E+03
	460.59	0.96	2.24E+04		2.14E+04	1.10E+04
	585.22	1.30	9.95E+03		-9.89E+03	4.78E+03
	677.88	2.38	4.19E+03		4.45E+03	1.98E+03
	736.23	5.90	1.75E+03		9.00E+02	8.24E+02
	739.20	1.52	6.80E+03		5.10E+03	3.21E+03
	755.57	1.17	8.69E+03		-3.75E+03	4.09E+03
	797.53	4.70	2.41E+03		2.19E+02	1.14E+03
	1016.40	2.50	5.57E+03		6.64E+03	2.64E+03
	1122.63	4.10	3.00E+03		2.20E+03	1.41E+03
	1180.89	13.30	2.15E+03		-1.42E+02	1.05E+03
Pm-151	167.75	8.30	2.03E-04	9.21E-05	9.79E-05	9.91E-05
	177.16	3.80	5.80E-04		2.66E-04	2.83E-04
	240.09	3.80	5.81E-04		7.45E-05	2.84E-04
	275.21	6.80	2.99E-04		-9.11E-05	1.46E-04
	340.08	22.50	9.21E-05		-4.17E-05	4.49E-05
EU-152	121.78	28.53	6.90E-05	6.23E-05	2.01E-05	3.38E-05
	344.28	26.59	8.65E-05		-3.83E-05	4.22E-05
	778.90	12.93	1.36E-04		3.84E-05	6.41E-05
	867.37	4.23	6.05E-04		-1.30E-03	2.86E-04
	964.08	14.51	1.44E-04		-2.30E-04	6.83E-05
	1085.87	10.11	1.76E-04		1.64E-06	8.37E-05
	1112.07	13.67	1.61E-04		1.06E-04	7.68E-05
	1408.01	20.87	6.23E-05		-4.61E-05	2.80E-05
ND-152	44.44	5.50	6.91E+04	2.29E+03	-2.40E+04	3.37E+04
	250.15	16.40	3.57E+03		-3.40E+02	1.75E+03
	278.56	26.00	2.29E+03		2.30E+03	1.12E+03
	294.47	2.90	2.03E+04		-2.79E+03	9.93E+03
	545.70	0.83	7.10E+04		-5.26E+04	3.42E+04
	592.50	0.99	6.00E+04		5.80E+04	2.89E+04
GD-153	69.67	2.45	1.13E-03	4.95E-05	3.63E-05	5.54E-04
	97.43	30.00	4.95E-05		-5.44E-05	2.42E-05
	103.18	22.10	6.32E-05		1.26E-05	3.08E-05
SM-153	69.67	4.67	6.23E-04	5.05E-05	2.00E-05	3.05E-04
	103.18	29.14	5.05E-05		1.01E-05	2.46E-05
EU-154	42.70	20.45	7.36E-04	4.77E-05	1.01E-05	3.59E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-154	123.07	40.40	4.77E-05	4.77E-05	5.04E-05	2.33E-05
	247.93	6.89	3.78E-04		-2.66E-04	1.85E-04
	591.76	4.95	5.75E-04		2.64E-04	2.77E-04
	692.42	1.78	2.08E-03		-5.38E-05	1.01E-03
	723.30	20.06	1.03E-04		8.71E-05	4.89E-05
	756.80	4.52	4.79E-04		-4.41E-04	2.25E-04
	873.18	12.08	2.03E-04		-1.43E-04	9.62E-05
	996.29	10.48	1.73E-04		-3.71E-05	8.15E-05
	1004.76	18.01	1.12E-04		1.02E-05	5.32E-05
	1246.12	0.86	2.03E-03		-2.30E-03	9.20E-04
	1274.43	34.80	5.41E-05		4.72E-05	2.53E-05
	1494.05	0.70	1.40E-03		-2.08E-04	6.19E-04
	1596.48	1.80	3.44E-04		-1.84E-04	1.53E-04
EU-155	43.00	18.12	7.93E-04	6.28E-05	-1.79E-04	3.87E-04
	60.01	1.17	3.36E-03		5.35E-03	1.65E-03
	86.55	30.70	8.19E-05		-1.09E-05	4.04E-05
	105.31	21.10	6.28E-05		-8.68E-05	3.07E-05
EU-156	88.97	8.40	4.27E-04	1.70E-04	1.28E-03	2.10E-04
	646.29	6.30	3.88E-04		-1.51E-04	1.86E-04
	723.47	5.40	3.68E-04		3.11E-04	1.75E-04
	811.77	9.70	2.16E-04		-5.52E-05	1.02E-04
	1065.14	4.90	4.28E-04		-2.85E-04	2.00E-04
	1079.16	4.60	4.75E-04		5.04E-04	2.26E-04
	1153.80	11.50	1.70E-04		-1.89E-05	7.98E-05
	1230.71	8.00	2.30E-04		8.43E-05	1.06E-04
	1242.42	6.60	2.17E-04		-9.27E-06	9.92E-05
	1277.43	2.89	7.01E-04		4.98E-04	3.28E-04
	1366.41	1.57	1.02E-03		3.45E-05	4.71E-04
	1965.95	3.90	1.74E-04		-4.31E-05	7.21E-05
	2097.70	3.80	3.37E-04		2.71E-04	1.48E-04
	2186.71	3.50	3.25E-04		-2.18E-04	1.41E-04
Sm-156	87.60	24.00	1.48E-04	1.08E-04	7.25E-04	7.27E-05
	165.80	13.00	1.50E-04		8.82E-06	7.32E-05
	204.00	21.00	1.08E-04		1.77E-05	5.27E-05
EU-158	42.31	5.80	2.03E-01	3.88E-03	-5.13E-02	9.92E-02
	43.00	10.40	1.03E-01		-2.33E-02	5.03E-02
	79.49	10.50	1.43E-02		-5.78E-03	7.02E-03
	181.97	2.30	4.83E-02		-3.07E-02	2.36E-02
	528.05	1.53	9.54E-02		-5.24E-02	4.62E-02
	606.39	4.00	3.43E-02		-3.54E-02	1.65E-02
	743.02	3.60	2.56E-02		-5.78E-03	1.20E-02
	897.61	12.40	9.66E-03		8.56E-04	4.58E-03
	906.50	1.83	6.50E-02		-1.07E-02	3.08E-02
	922.51	1.62	7.56E-02		-7.00E-02	3.58E-02
	944.15	30.00	3.88E-03		-3.30E-03	1.83E-03
	953.03	1.98	6.21E-02		2.14E-03	2.94E-02
	962.09	1.89	6.75E-02		5.11E-02	3.20E-02
	977.14	16.30	7.12E-03		-9.73E-03	3.35E-03
	986.96	1.35	8.47E-02		4.64E-02	3.98E-02
	1107.63	5.10	3.00E-02		3.72E-02	1.43E-02
	1184.10	3.00	3.09E-02		-2.82E-03	1.42E-02
	1186.00	2.90	3.09E-02		-3.99E-02	1.41E-02
	1187.10	4.40	2.09E-02		-1.05E-02	9.57E-03

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	1263.61	2.20	3.66E-02	3.88E-03	-2.28E-02	1.65E-02
	1347.95	1.65	4.29E-02		1.57E-02	1.89E-02
	1944.47	1.62	4.33E-02		-8.00E-02	1.83E-02
TB-160	86.79	13.20	2.78E-04	6.89E-05	8.26E-06	1.37E-04
	298.58	26.10	9.15E-05		1.18E-04	4.46E-05
	879.38	30.10	6.89E-05		4.33E-05	3.28E-05
	962.32	9.81	2.01E-04		1.15E-04	9.51E-05
	966.17	25.10	7.80E-05		1.25E-06	3.70E-05
	1177.96	14.90	2.87E-04		4.04E-05	1.41E-04
TB-161	25.65	23.20	1.20E-01	2.34E-04	-4.48E-02	5.87E-02
	48.91	17.00	4.47E-04		-2.83E-04	2.19E-04
	52.00	3.43	1.65E-03		-1.78E-03	8.09E-04
	57.19	1.79	2.66E-03		1.04E-03	1.30E-03
	74.57	10.20	2.34E-04		2.72E-04	1.15E-04
YB-169	63.12	43.62	1.32E-04	4.96E-05	1.02E-04	6.46E-05
	93.61	2.58	1.19E-03		-3.59E-04	5.83E-04
	109.78	17.39	1.00E-04		9.10E-05	4.89E-05
	130.52	11.38	1.81E-04		-3.99E-05	8.85E-05
	177.21	22.28	8.57E-05		3.93E-05	4.18E-05
	197.96	35.93	4.96E-05		-3.10E-05	2.43E-05
	307.74	10.05	1.32E-04		5.95E-05	6.42E-05
HF-172	54.07	63.00	7.66E-05	7.66E-05	1.62E-05	3.74E-05
	67.35	5.30	5.08E-04		6.94E-05	2.49E-04
	81.75	4.50	4.32E-04		-3.71E-04	2.12E-04
	114.06	2.60	5.20E-04		1.56E-04	2.54E-04
	122.92	1.14	1.25E-03		4.16E-04	6.10E-04
	125.81	11.30	1.27E-04		9.80E-05	6.23E-05
	127.91	1.46	9.08E-04		6.59E-04	4.44E-04
LU-173	59.30	24.44	1.65E-04	9.04E-05	1.63E-04	8.08E-05
	78.63	11.90	2.26E-04		-1.71E-04	1.11E-04
	100.72	5.24	3.08E-04		9.51E-05	1.50E-04
	171.39	2.90	5.14E-04		-8.27E-04	2.51E-04
	272.11	21.20	9.04E-05		-7.50E-05	4.42E-05
LU-177	112.95	6.23	2.22E-04	1.67E-04	-5.18E-05	1.08E-04
	208.37	10.41	1.67E-04		-5.74E-05	8.20E-05
	249.67	0.20	9.12E-03		-5.66E-03	4.46E-03
	321.32	0.22	8.34E-03		-3.44E-03	4.07E-03
HF-181	133.02	43.30	4.25E-05	3.32E-05	2.67E-06	2.08E-05
	345.93	15.12	1.61E-04		-2.33E-04	7.84E-05
	482.18	80.50	3.32E-05		-1.04E-05	1.62E-05
W-181	56.28	18.70	2.41E-04	1.39E-04	2.17E-05	1.18E-04
	57.53	32.00	1.39E-04		1.81E-05	6.83E-05
	65.00	10.60	2.77E-04		1.85E-04	1.36E-04
TA-182	57.98	10.01	4.35E-04	5.01E-05	1.16E-04	2.13E-04
	59.32	17.20	2.34E-04		2.32E-04	1.15E-04
	65.72	3.01	1.92E-03		1.16E-03	9.41E-04
	67.75	46.67	8.12E-05		-3.24E-05	3.98E-05
	84.68	2.65	1.33E-03		-2.56E-04	6.54E-04
	100.11	14.20	1.55E-04		-5.42E-06	7.59E-05
	113.67	1.87	1.50E-03		-2.47E-04	7.31E-04
	116.42	0.44	3.00E-03		-2.08E-03	1.47E-03
	152.43	7.02	2.99E-04		6.43E-06	1.46E-04
	156.39	2.67	7.51E-04		9.37E-04	3.66E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	179.39	3.12	7.52E-04	5.01E-05	-6.41E-04	3.67E-04
	198.35	1.47	2.06E-03		-8.95E-05	1.01E-03
	222.11	7.57	3.25E-04		5.53E-04	1.59E-04
	229.32	3.64	7.22E-04		9.14E-05	3.53E-04
	264.08	3.61	7.01E-04		1.97E-04	3.43E-04
	928.00	0.61	3.92E-03		-7.41E-03	1.86E-03
	959.73	0.35	7.31E-03		4.39E-03	3.47E-03
	1001.70	2.09	1.55E-03		-1.05E-03	7.36E-04
	1044.42	0.24	9.89E-03		4.43E-03	4.62E-03
	1113.41	0.44	6.36E-03		-8.97E-04	3.02E-03
	1121.29	35.24	5.88E-05		4.67E-05	2.76E-05
	1157.30	0.73	1.93E-03		1.58E-03	9.02E-04
	1189.04	16.49	7.12E-05		4.23E-05	3.27E-05
	1221.40	27.23	5.01E-05		-2.59E-05	2.28E-05
	1223.60	0.24	3.19E-03		-1.85E-03	1.46E-03
	1231.00	11.62	1.55E-04		7.48E-05	7.16E-05
	1257.41	1.51	6.78E-04		-1.60E-04	3.04E-04
	1273.72	0.66	1.09E-03		5.54E-04	5.09E-04
	1289.15	1.37	2.57E-04		5.09E-05	1.15E-04
	1342.73	0.26	2.98E-03		-7.12E-04	1.31E-03
	1373.82	0.22	1.26E-03		-1.17E-03	5.67E-04
Ta-183	84.71	1.35	1.90E-03	6.69E-05	-3.66E-04	9.35E-04
	99.08	6.80	2.16E-04		-5.38E-07	1.05E-04
	107.93	11.20	1.22E-04		-7.88E-06	5.97E-05
	161.35	9.10	1.49E-04		-2.01E-04	7.28E-05
	162.32	5.00	2.76E-04		-1.03E-04	1.35E-04
	244.26	8.80	2.05E-04		2.56E-05	1.00E-04
	246.06	27.20	6.69E-05		2.56E-05	3.27E-05
	353.99	11.60	1.78E-04		-7.36E-05	8.70E-05
Re-184	111.21	17.20	8.07E-05	3.68E-05	5.48E-05	3.94E-05
	252.85	3.00	5.85E-04		-2.04E-05	2.86E-04
	792.01	37.70	3.68E-05		2.61E-05	1.74E-05
	894.76	15.70	1.07E-04		-6.57E-05	5.08E-05
	903.28	38.10	4.24E-05		1.08E-05	2.01E-05
W-185	59.72	0.01	3.34E-01	7.44E-02	5.32E-01	1.64E-01
	61.14	0.02	1.83E-01		8.90E-03	8.97E-02
	69.20	0.01	3.62E-01		-1.21E-01	1.77E-01
	125.36	0.02	7.44E-02		3.86E-02	3.64E-02
W-187	61.14	14.30	2.99E-04	4.38E-05	1.45E-05	1.47E-04
	69.20	4.82	5.90E-04		-1.98E-04	2.89E-04
	72.00	13.55	3.08E-04		1.95E-04	1.51E-04
	134.25	10.36	2.10E-04		1.22E-04	1.03E-04
	479.53	26.60	1.30E-04		5.11E-05	6.36E-05
	618.37	7.57	2.69E-04		1.68E-04	1.29E-04
	685.81	33.20	4.38E-05		-3.64E-06	2.07E-05
Ir-188	155.05	29.60	4.77E-05	4.77E-05	-2.45E-05	2.33E-05
	478.00	14.70	1.92E-04		6.13E-05	9.37E-05
	633.02	17.90	1.00E-04		-3.29E-06	4.80E-05
	634.97	5.00	3.58E-04		-6.65E-05	1.72E-04
	829.42	5.10	3.07E-04		4.17E-05	1.45E-04
	1209.77	6.90	2.30E-04		7.84E-05	1.07E-04
	1715.67	6.20	1.67E-04		1.11E-04	7.18E-05
	2214.59	18.60	8.46E-05		2.36E-05	3.75E-05

Analysis Report for 24-2510 TI185-3.5M-S2-CST-d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
W-188	227.07	0.23	7.01E-03	4.28E-03	-3.35E-03	3.43E-03
	290.68	0.42	4.28E-03		1.53E-03	2.09E-03
Ir-189	245.08	6.00	2.96E-04	2.96E-04	-9.31E-05	1.45E-04
Ir-190	186.68	50.00	3.18E-05	3.18E-05	1.15E-06	1.56E-05
	361.09	12.30	1.63E-04		-5.78E-05	7.93E-05
	371.24	21.60	9.54E-05		1.51E-04	4.66E-05
	407.22	27.00	8.34E-05		7.58E-06	4.07E-05
	518.55	32.20	6.52E-05		6.44E-09	3.16E-05
	557.95	28.50	6.19E-05		6.78E-05	2.98E-05
	569.30	27.00	6.73E-05		-5.12E-05	3.25E-05
	605.14	37.80	5.04E-05		7.68E-06	2.43E-05
OS-191	63.29	15.70	2.14E-04	5.05E-05	1.20E-04	1.05E-04
	64.99	26.70	1.11E-04		7.42E-05	5.44E-05
	73.45	9.21	2.57E-04		3.62E-05	1.26E-04
	129.43	26.50	5.05E-05		4.19E-05	2.47E-05
Pt-191	359.90	5.80	4.41E-04	1.55E-04	2.99E-05	2.15E-04
	456.47	3.30	9.34E-04		6.60E-05	4.57E-04
	538.90	14.30	1.55E-04		7.28E-05	7.49E-05
IR-192	205.79	3.31	7.08E-04	3.33E-05	4.42E-04	3.47E-04
	295.96	28.71	1.17E-04		8.09E-05	5.70E-05
	308.45	29.70	1.05E-04		4.31E-05	5.10E-05
	316.51	82.86	3.33E-05		2.22E-05	1.62E-05
	468.07	47.84	8.05E-05		-1.51E-05	3.94E-05
	588.58	4.52	6.65E-04		-7.55E-04	3.20E-04
	604.41	8.22	1.84E-04		1.14E-04	8.86E-05
	612.46	5.34	2.24E-04		2.92E-04	1.08E-04
IR-192m	155.16	0.09	1.41E-02	1.41E-02	-7.58E-03	6.90E-03
IR-193m	80.22	0.00	4.31E-01	4.31E-01	-2.75E-01	2.11E-01
Pt-193m	135.50	0.11	1.21E-02	1.21E-02	2.43E-03	5.92E-03
Au-194	293.55	10.90	1.80E-04	3.05E-05	1.01E-04	8.79E-05
	328.47	62.80	3.05E-05		-2.00E-05	1.49E-05
	364.84	1.60	1.38E-03		9.01E-04	6.74E-04
	528.77	1.78	1.21E-03		3.58E-04	5.85E-04
	645.16	2.32	8.14E-04		-4.96E-04	3.91E-04
	948.32	2.29	7.73E-04		1.43E-04	3.65E-04
	1104.06	2.15	1.03E-03		-5.28E-05	4.91E-04
	1175.36	2.14	2.59E-03		1.53E-02	1.27E-03
	1468.90	6.80	2.07E-04		3.45E-05	9.39E-05
	1595.81	1.89	6.84E-04		6.44E-04	3.06E-04
	2043.72	3.74	2.98E-04		1.81E-04	1.27E-04
Ir-194	293.54	2.50	8.55E-04	1.59E-04	4.82E-04	4.17E-04
	328.47	13.10	1.59E-04		-1.04E-04	7.77E-05
AU-195	98.86	11.21	1.29E-04	1.29E-04	7.64E-05	6.28E-05
	129.74	0.84	1.60E-03		1.89E-03	7.80E-04
Pt-195m	98.90	11.70	1.27E-04	1.27E-04	7.56E-05	6.22E-05
	129.79	2.90	4.78E-04		5.65E-04	2.34E-04
Au-196	333.03	22.90	1.36E-04	2.94E-05	2.70E-05	6.64E-05
	355.73	87.00	2.94E-05		1.18E-05	1.44E-05
	426.10	6.60	3.75E-04		6.67E-05	1.83E-04
Au-196m	147.81	43.50	4.40E-05	4.40E-05	3.46E-06	2.15E-05
	188.27	30.00	7.41E-05		-3.66E-05	3.62E-05
Pt-197	77.35	17.00	1.51E-04	1.51E-04	1.91E-04	7.42E-05
	191.44	3.70	5.06E-04		-3.25E-04	2.48E-04

Analysis Report for 24-2510 TI185-3.5M-S2-CST-d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AU-198	411.80	95.62	3.31E-05	3.31E-05	1.59E-06	1.63E-05
AU-199	158.38	40.00	3.40E-05	3.40E-05	-3.03E-06	1.66E-05
	208.20	8.72	2.04E-04		-7.01E-05	1.00E-04
TL-201	135.34	2.61	5.40E-04	1.43E-04	1.08E-04	2.64E-04
	167.43	10.00	1.43E-04		4.14E-05	6.96E-05
TL-202	439.51	91.50	2.69E-05	2.69E-05	-1.19E-05	1.32E-05
PB-203	70.83	26.40	9.71E-05	2.74E-05	-1.01E-04	4.75E-05
	72.87	44.20	5.71E-05		1.95E-05	2.80E-05
	82.40	15.56	1.33E-04		-1.25E-05	6.53E-05
	279.20	80.90	2.74E-05		-2.90E-05	1.34E-05
	401.32	3.35	1.06E-03		-1.61E-03	5.17E-04
PB-210	46.54	4.25	2.23E-03	2.23E-03	9.55E-04	1.09E-03
Pa-233	86.60	2.01	1.49E-03	4.78E-05	-1.98E-04	7.34E-04
	94.65	8.90	1.72E-04		-1.14E-04	8.39E-05
	98.43	14.20	1.02E-04		1.16E-04	4.99E-05
	300.13	6.54	2.67E-04		-1.60E-04	1.30E-04
	311.90	38.20	4.78E-05		2.25E-05	2.33E-05
	340.48	4.44	4.32E-04		1.64E-04	2.11E-04
U-235	89.96	2.90	8.17E-04	2.74E-05	3.25E-05	4.02E-04
	93.35	4.70	3.33E-04		-1.12E-04	1.63E-04
	109.19	1.64	8.23E-04		2.14E-04	4.02E-04
	143.76	10.93	1.21E-04		5.56E-05	5.92E-05
	163.36	5.07	2.69E-04		5.66E-05	1.31E-04
	185.71	57.20	2.74E-05		1.58E-05	1.34E-05
	202.11	1.07	1.49E-03		-9.10E-04	7.29E-04
	205.31	5.03	3.38E-04		1.22E-04	1.65E-04
NP-237	86.48	12.20	2.06E-04	2.06E-04	-2.74E-05	1.02E-04
U-237	59.54	34.50	1.29E-04	5.86E-05	1.44E-04	6.31E-05
	97.07	15.40	9.71E-05		-8.97E-05	4.74E-05
	101.06	24.50	5.86E-05		2.00E-05	2.86E-05
	113.30	3.07	4.48E-04		-3.73E-04	2.19E-04
	114.23	5.81	2.37E-04		7.13E-05	1.16E-04
	117.46	2.27	5.98E-04		3.73E-04	2.92E-04
	208.00	21.20	8.64E-05		-1.18E-04	4.23E-05
NP-238	103.37	0.00	3.04E-01	6.77E-05	-2.22E-02	1.48E-01
	882.63	0.80	2.16E-03		4.07E-04	1.02E-03
	923.99	2.60	6.97E-04		-1.05E-04	3.31E-04
	984.45	25.20	6.77E-05		-7.01E-05	3.19E-05
	1025.87	8.75	2.00E-04		8.56E-05	9.44E-05
	1028.53	18.23	9.33E-05		-7.71E-06	4.39E-05
U-238	63.29	3.70	9.00E-04	3.80E-04	5.06E-04	4.41E-04
	92.51	4.23	3.80E-04		1.94E-05	1.86E-04
	112.81	0.21	6.45E-03		-1.51E-03	3.15E-03
	742.81	0.11	1.14E-02		-1.30E-02	5.37E-03
	766.42	0.32	4.07E-03		2.28E-03	1.91E-03
	1001.03	0.84	2.06E-03		1.84E-04	9.75E-04
Am-239	181.71	1.08	1.82E-03	1.58E-04	-1.88E-03	8.88E-04
	209.80	3.50	6.38E-04		-2.45E-04	3.12E-04
	226.40	3.30	6.58E-04		-2.52E-05	3.22E-04
	228.10	11.30	1.93E-04		-1.11E-04	9.45E-05
	277.60	15.00	1.58E-04		-3.64E-05	7.70E-05
NP-239	61.46	1.30	3.03E-03	6.28E-05	4.44E-04	1.48E-03
	99.53	12.90	1.18E-04		1.28E-05	5.74E-05

Analysis Report for 24-2510 TI185-3.5M-S2-CST-d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	NP-239	103.37		20.50	7.01E-05	6.28E-05	-5.11E-06	3.42E-05
		106.12		25.34	6.28E-05		2.95E-05	3.06E-05
		209.75		3.36	5.64E-04		-2.17E-04	2.76E-04
		228.18		11.24	1.67E-04		-1.14E-05	8.17E-05
		277.60		14.51	1.44E-04		-3.33E-05	7.03E-05
		285.46		0.79	2.84E-03		-2.62E-03	1.39E-03
		315.88		1.60	1.09E-03		3.01E-04	5.33E-04
		334.31		2.06	7.16E-04		6.64E-04	3.49E-04
	PU-239	38.66		0.01	3.09E+00	2.00E-01	8.51E-01	1.51E+00
		51.62		0.03	2.13E-01		-2.37E-02	1.04E-01
		98.50		0.01	2.00E-01		2.27E-01	9.75E-02
		111.03		0.00	1.05E+00		9.47E-01	5.11E-01
		129.30		0.01	2.08E-01		9.59E-02	1.02E-01
		171.39		0.00	1.19E+01		-1.92E+01	5.82E+00
		203.55		0.00	2.81E+00		3.51E-01	1.37E+00
		332.85		0.00	3.72E+00		-2.56E+00	1.81E+00
		336.11		0.00	1.68E+01		1.18E+01	8.20E+00
		345.01		0.00	3.43E+00		1.95E+00	1.67E+00
		375.05		0.00	1.30E+00		-1.58E-01	6.36E-01
		380.19		0.00	6.79E+00		-2.85E+00	3.31E+00
		382.75		0.00	7.99E+00		-1.69E+00	3.90E+00
		413.71		0.00	2.04E+00		4.68E+00	1.00E+00
		422.60		0.00	1.93E+01		-1.32E+01	9.41E+00
		451.48		0.00	1.35E+01		2.16E+00	6.60E+00
	Am-240	99.53		18.40	8.29E-05	2.17E-05	9.04E-06	4.05E-05
		103.37		29.20	4.95E-05		-3.61E-06	2.42E-05
		117.23		6.93	2.05E-04		-1.85E-05	1.00E-04
		888.85		24.70	7.15E-05		1.70E-05	3.39E-05
		987.79		72.20	2.17E-05		-1.82E-05	1.02E-05
	Np-240m	554.60		20.90	1.02E-04	1.02E-04	1.01E-04	4.93E-05
		597.40		11.70	1.95E-04		-6.97E-05	9.40E-05
	U-240	44.10		1.05	1.47E-02	8.42E-03	3.69E-03	7.17E-03
		66.50		0.15	2.27E-02		-5.38E-03	1.11E-02
		169.20		0.12	1.46E-02		1.13E-03	7.13E-03
		189.70	*	0.24	8.42E-03		-3.12E-04	4.12E-03
+	AM-241	59.54	*	35.90	1.08E-04	1.08E-04	1.39E-04	5.32E-05
	AM-242m	49.35		0.13	5.33E-02	5.33E-02	-1.46E-02	2.61E-02
		66.89		0.01	1.83E-01		-5.88E-02	8.96E-02
		86.65		0.02	1.10E-01		-1.47E-02	5.43E-02
		163.25		0.02	8.91E-02		1.87E-02	4.35E-02
	AM-243	43.53		5.90	2.25E-03	3.46E-05	-7.87E-04	1.10E-03
		74.66		67.20	3.46E-05		4.04E-05	1.70E-05

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

Apex-Gamma

Analysis Report for 24-2511 TI185-3.5M-S3-CST-A R0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2511 TI185-3.5M-S3-CST-A R0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 10:47:19AM
Procedure	: R0_gsv02mlw
Operator	: Administrator
Detector Name	: R
Geometry	: R0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1200.9 seconds
Dead Time	: 0.08 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/15/2019
Efficiency Calibration Description	: R0_gsv2mlw_R697P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578931
Certificate Name	: R735-b8 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 11:07:25AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2511 TI185-3.5M-S3-CST-A R0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.65	166.95	0.2398	5.23
2	87.51	244.45	0.1659	11.08
3	123.36	344.05	0.3020	3.40
4	414.92	1154.88	0.1535	12.12
5	661.75	1841.43	0.0633	58.02
6	666.47	1855.06	0.1797	9.37
7	695.22	1934.63	0.1565	9.56
8	1081.25	3008.12	0.2444	3.78
9	1110.03	3088.26	0.2391	3.72
10	1173.54	3265.31	0.1218	12.82
11	1332.86	3708.63	0.1241	12.39
12	1361.81	3788.37	0.2589	3.16

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2511 TI185-3.5M-S3-CST-A R0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 11:07:25AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.65	157 -	174	166.90	2.25E+02	23.00	6.98E+02	1.35
F	2	87.51	235 -	249	244.38	7.86E+02	88.86	4.24E+02	1.54
F	3	123.36	339 -	349	344.04	7.76E+01	17.92	3.28E+02	1.24
F	4	414.92	1145 -	1161	1154.83	4.89E+02	75.62	3.21E+02	1.46
M	5	661.75	1831 -	1865	1841.32	1.15E+04	165.33	9.40E+01	1.98
m	6	666.47	1831 -	1865	1854.44	3.84E+02	20.42	2.97E+01	1.98
F	7	695.22	1924 -	1942	1934.42	3.25E+02	18.29	6.50E+01	1.98
F	8	1081.25	3000 -	3017	3008.35	4.84E+01	8.78	4.05E+01	1.92
F	9	1110.03	3082 -	3096	3088.43	4.64E+01	8.65	3.33E+01	1.97
F	10	1173.54	3250 -	3276	3265.12	8.00E+02	57.11	2.70E+01	2.43
F	11	1332.86	3695 -	3719	3708.45	6.89E+02	59.24	3.21E+01	2.55
F	12	1361.81	3783 -	3794	3789.02	2.72E+01	11.05	8.43E+00	1.34

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 11:07:25AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578894.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.65	2.25E+02	23.00			2.25E+02	2.30E+01
F	2	87.51	7.86E+02	88.86	1.24E+01	7.02E-01	7.73E+02	8.89E+01
F	3	123.36	7.76E+01	17.92			7.76E+01	1.79E+01
F	4	414.92	4.89E+02	75.62			4.89E+02	7.56E+01

Analysis Report for 24-2511 TI185-3.5M-S3-CST-A R0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	5	661.75	1.15E+04	165.33			1.15E+04	1.65E+02
m	6	666.47	3.84E+02	20.42			3.84E+02	2.04E+01
F	7	695.22	3.25E+02	18.29			3.25E+02	1.83E+01
F	8	1081.25	4.84E+01	8.78			4.84E+01	8.78E+00
F	9	1110.03	4.64E+01	8.65			4.64E+01	8.65E+00
F	10	1173.54	8.00E+02	57.11			8.00E+02	5.71E+01
F	11	1332.86	6.89E+02	59.24			6.89E+02	5.92E+01
F	12	1361.81	2.72E+01	11.05			2.72E+01	1.10E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.97	1173.24	*	99.97	3.88E-04	2.78E-05	0.774
		1332.50	*	99.99	3.66E-04	3.15E-05	0.766
		2505.74		1.00			
CD-109	0.95	88.03	*	3.61	2.67E-03	3.17E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	2.85E-04	4.77E-05	0.397
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	2.62E-04	1.40E-05	0.386
		674.80		3.10			
		695.00	*	99.60	2.28E-04	1.29E-05	0.385
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.77	64.28		9.60			

Analysis Report for 24-2511 TI185-3.5M-S3-CST-A R0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
Sn-126	0.77	87.30	*	45.90	2.10E-04	2.59E-05	miss
CS-137	0.99	661.66	*	85.20	3.52E-03	5.40E-05	miss
AM-241	0.99	59.54	*	35.90	1.75E-04	1.81E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-60	0.976	3.79E-04	2.08E-05	
?	CD-109	0.958	2.67E-03	3.17E-04	
	SB-126	0.487	2.45E-04	9.32E-06	
?	Sn-126	0.777	2.10E-04	2.59E-05	
	CS-137	0.999	3.52E-03	5.40E-05	
	AM-241	0.998	1.75E-04	1.81E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2511 TI185-3.5M-S3-CST-A R0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 11:07:25AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	123.36	6.46816E-02	23.08	Tol.	EU-154
F	8	1081.25	4.03655E-02	18.14	Sum	
F	9	1110.03	3.86623E-02	18.65	Sum	
F	12	1361.81	2.26468E-02	40.65	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	2.69E-04	2.69E-04	8.05E-05	1.32E-04
	K-40	1460.83		10.67	1.54E-04	1.54E-04	1.82E-04	7.17E-05
	MN-54	834.84		99.98	1.66E-05	1.66E-05	1.30E-05	7.88E-06
	CO-58	810.78		99.45	1.74E-05	1.74E-05	-3.93E-06	8.24E-06
		863.96		0.68	3.51E-03		-8.24E-04	1.67E-03
		1674.73		0.52	1.46E-03		-1.39E-04	6.25E-04
	FE-59	142.65		1.00	1.52E-03	3.02E-05	-1.11E-03	7.43E-04
		192.35		3.01	7.55E-04		-1.50E-05	3.70E-04
		334.80		0.27	7.22E-03		1.45E-03	3.52E-03
		1099.25		56.30	3.44E-05		9.46E-06	1.63E-05
		1291.60		43.70	3.02E-05		7.43E-06	1.39E-05
+	CO-60	1173.24	*	99.97	2.45E-05	2.45E-05	3.88E-04	1.16E-05
		1332.50	*	99.99	2.85E-05		3.66E-04	1.35E-05
		2505.74		1.00	2.75E-03		4.70E-03	1.29E-03

Analysis Report for 24-2511 TI185-3.5M-S3-CST-A R0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	514.00		96.00	2.51E-05	2.51E-05	2.37E-05	1.22E-05
		868.60		0.01	1.41E-01		-1.68E-01	6.69E-02
	NB-94	702.62		97.90	3.09E-05	2.31E-05	-8.21E-06	1.50E-05
		871.09		99.98	2.31E-05		-5.03E-06	1.10E-05
	NB-95	765.81		99.81	1.56E-05	1.56E-05	1.22E-05	7.43E-06
	RU-103	497.05		91.00	2.64E-05	2.64E-05	-3.02E-06	1.29E-05
		610.30		5.76	3.55E-04		3.93E-04	1.72E-04
	RH-106	511.86		20.70	1.39E-04	1.39E-04	5.22E-05	6.77E-05
		621.92		9.93	2.64E-04		1.72E-04	1.27E-04
		1050.36		1.56	1.60E-03		1.04E-03	7.58E-04
	AG-108M	79.13		6.60	3.06E-04	3.32E-05	1.41E-05	1.50E-04
		433.90		90.50	5.28E-05		-3.30E-05	2.59E-05
		614.30		89.80	4.19E-05		-3.23E-05	2.02E-05
		722.90		90.80	3.32E-05		3.36E-05	1.58E-05
+	CD-109	88.03	*	3.61	5.23E-04	5.23E-04	2.67E-03	2.57E-04
	SB-125	176.31		6.82	2.31E-04	8.83E-05	4.28E-05	1.13E-04
		380.45		1.52	1.39E-03		-3.84E-04	6.78E-04
		427.87		29.55	8.83E-05		-2.72E-05	4.33E-05
		463.36		10.48	2.82E-04		2.86E-04	1.38E-04
		600.60		17.76	1.06E-04		-8.90E-05	5.10E-05
		606.71		5.02	3.98E-04		2.68E-04	1.92E-04
		635.95		11.32	1.61E-04		-2.26E-04	7.75E-05
		671.44		1.78	1.54E-03		-1.23E-04	7.51E-04
+	SB-126	223.90		1.39	1.27E-03	1.91E-05	4.75E-04	6.20E-04
		278.20		2.40	2.28E-03		-3.45E-04	1.11E-03
		296.50		4.50	1.43E-03		4.59E-04	7.00E-04
		414.70	*	83.30	8.02E-05		2.85E-04	3.93E-05
		556.30		1.69	3.76E-03		-1.18E-03	1.82E-03
		573.90		6.70	8.84E-04		-1.81E-04	4.26E-04
		593.20		7.50	6.03E-04		3.08E-04	2.91E-04
		656.30		2.19	1.97E-02		8.75E-04	9.80E-03
		666.50	*	99.60	1.91E-05		2.62E-04	8.65E-06
		674.80		3.10	1.62E-03		-9.83E-05	7.73E-04
		695.00	*	99.60	4.63E-05		2.28E-04	2.22E-05
		697.00		29.00	3.18E-04		1.11E-03	1.55E-04
		720.70		53.80	9.19E-05		1.33E-05	4.38E-05
		856.80		17.60	2.40E-04		-1.49E-04	1.14E-04
		989.60		6.80	6.60E-04		9.97E-05	3.14E-04
		1213.30		2.39	1.46E-03		1.30E-03	6.74E-04
+	Sn-126	64.28		9.60	3.57E-04	4.11E-05	1.12E-04	1.75E-04
		87.30	*	45.90	4.11E-05		2.10E-04	2.02E-05
	I-129	29.70		56.60	6.13E-05	6.13E-05	0.00E+00	0.00E+00
		33.60		10.04	3.86E-03		4.69E-03	1.86E-03
		34.40		2.01	1.88E-02		4.07E-02	9.10E-03
		39.60		7.51	2.96E-03		4.02E-03	1.45E-03
	CS-134	563.25		8.34	3.84E-04	2.51E-05	-8.85E-05	1.86E-04
		569.33		15.37	2.08E-04		-4.99E-05	1.00E-04
		604.72		97.62	2.91E-05		-8.57E-06	1.41E-05
		795.86		85.46	2.51E-05		-1.63E-05	1.19E-05
		801.95		8.69	3.14E-04		-2.45E-04	1.49E-04
+	CS-137	661.66	*	85.20	1.46E-05	1.46E-05	3.52E-03	6.91E-06
	CE-139	165.85		79.89	1.97E-05	1.97E-05	1.86E-05	9.64E-06
	CE-141	40.70		3.35	5.66E-03	3.14E-05	8.36E-05	2.77E-03

Analysis Report for 24-2511 TI185-3.5M-S3-CST-A R0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
CE-141	145.44	48.29	3.14E-05	3.14E-05	1.37E-05	1.54E-05
CE-144	80.12	1.36	1.41E-03	1.23E-04	-2.45E-03	6.93E-04
	133.51	11.09	1.23E-04		-1.53E-05	6.00E-05
EU-152	121.78	28.58	7.23E-05	6.38E-05	1.22E-04	3.54E-05
	344.28	26.50	9.52E-05		-9.86E-06	4.65E-05
	778.90	12.94	1.66E-04		4.63E-05	7.90E-05
	964.08	14.73	1.44E-04		-9.31E-05	6.83E-05
	1085.87	10.24	2.01E-04		1.80E-04	9.60E-05
	1112.07	13.69	1.76E-04		1.95E-04	8.42E-05
	1408.01	21.07	6.38E-05		-1.07E-04	2.88E-05
GD-153	97.43	29.00	5.23E-05	5.23E-05	-3.00E-05	2.56E-05
	103.18	21.10	6.98E-05		2.41E-05	3.42E-05
EU-154	42.70	20.45	6.77E-04	4.93E-05	-1.35E-03	3.31E-04
	123.07	40.40	4.96E-05		1.74E-06	2.43E-05
	247.93	6.89	3.81E-04		-3.72E-04	1.86E-04
	591.76	4.95	6.00E-04		-2.49E-04	2.89E-04
	692.42	1.78	2.17E-03		8.02E-03	1.06E-03
	723.30	20.06	1.15E-04		1.00E-04	5.50E-05
	756.80	4.52	5.54E-04		-4.86E-05	2.63E-04
	873.18	12.08	2.06E-04		-7.03E-05	9.80E-05
	996.29	10.48	2.03E-04		-6.75E-05	9.65E-05
	1004.76	18.01	1.20E-04		-6.42E-05	5.73E-05
	1246.12	0.86	2.08E-03		-1.14E-03	9.44E-04
	1274.43	34.80	4.93E-05		1.11E-05	2.29E-05
	1494.05	0.70	1.40E-03		1.22E-03	6.19E-04
	1596.48	1.80	3.49E-04		3.43E-04	1.56E-04
EU-155	43.00	18.70	7.19E-04	6.83E-05	-7.87E-04	3.51E-04
	60.01	1.22	3.50E-03		1.85E-03	1.72E-03
	86.55	30.70	7.62E-05		3.20E-04	3.75E-05
	105.31	21.10	6.83E-05		-4.48E-05	3.34E-05
HG-203	72.87	6.30	3.91E-04	2.23E-05	1.35E-04	1.92E-04
	279.20	81.46	2.23E-05		-2.65E-05	1.09E-05
BI-207	569.15	97.80	2.60E-05	2.60E-05	-3.06E-05	1.25E-05
	1063.10	74.90	3.97E-05		5.96E-05	1.88E-05
PB-210	46.54	4.25	2.19E-03	2.19E-03	-1.12E-03	1.07E-03
RA-226	74.81	6.44	3.58E-04	4.39E-05	-1.34E-04	1.76E-04
	77.11	10.80	2.01E-04		5.74E-05	9.84E-05
	87.30	4.84	4.78E-04		1.98E-03	2.36E-04
	186.21	3.59	4.71E-04		-2.76E-04	2.31E-04
	242.00	7.43	2.43E-04		-4.84E-05	1.19E-04
	295.22	19.30	1.02E-04		6.94E-05	5.01E-05
	351.93	37.60	5.74E-05		8.16E-05	2.81E-05
	609.31	46.10	4.39E-05		1.61E-05	2.12E-05
	768.36	4.94	3.17E-04		-1.30E-05	1.51E-04
	1120.29	15.10	1.17E-04		6.66E-06	5.53E-05
	1238.11	5.79	2.39E-04		9.16E-05	1.10E-04
	1764.49	15.40	9.64E-05		-5.10E-05	4.39E-05
PA-231	283.70	1.59	1.18E-03	8.20E-04	9.92E-04	5.76E-04
	300.07	2.38	8.20E-04		3.06E-04	4.01E-04
	302.67	1.71	1.10E-03		-2.68E-04	5.36E-04
	330.07	1.32	1.51E-03		-5.75E-04	7.37E-04
TH-232	74.81	11.62	1.98E-04	4.17E-05	-7.45E-05	9.73E-05
	77.11	17.50	1.24E-04		3.54E-05	6.07E-05

Analysis Report for 24-2511 TI185-3.5M-S3-CST-A R0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	87.30		7.80	2.97E-04	4.17E-05	1.23E-03	1.46E-04
		238.63		43.30	4.23E-05		-1.43E-05	2.07E-05
		338.32		11.30	1.81E-04		-5.42E-05	8.84E-05
		583.19		30.37	6.12E-05		-5.26E-05	2.95E-05
		727.33		6.58	2.44E-04		-8.49E-05	1.16E-04
		911.21		26.60	7.00E-05		3.61E-05	3.34E-05
		968.97		16.20	1.08E-04		6.93E-05	5.15E-05
		2614.53		35.64	4.17E-05		3.24E-05	1.83E-05
	U-235	143.76		10.96	1.40E-04	2.97E-05	1.72E-04	6.84E-05
		185.71		57.20	2.97E-05		2.59E-05	1.46E-05
		205.31		5.01	3.58E-04		-2.01E-04	1.76E-04
	U-238	63.29		3.70	1.01E-03	4.12E-04	1.92E-04	4.96E-04
		92.51		4.23	4.12E-04		-1.02E-04	2.02E-04
		112.81		0.21	6.64E-03		-1.14E-03	3.25E-03
		742.81		0.11	1.53E-02		1.02E-02	7.28E-03
		766.28		0.32	4.83E-03		-2.13E-03	2.30E-03
		1001.03		0.84	2.31E-03		3.68E-04	1.10E-03
	NP-239	99.60		12.80	1.19E-04	6.40E-05	6.34E-05	5.80E-05
		103.80		20.40	7.35E-05		-2.75E-05	3.60E-05
		106.10		26.40	6.40E-05		6.01E-05	3.13E-05
		116.90		7.61	1.92E-04		2.99E-05	9.40E-05
		228.20		11.20	1.76E-04		7.21E-05	8.61E-05
		277.60		14.50	1.47E-04		1.91E-05	7.17E-05
		315.90		1.60	1.12E-03		-1.25E-03	5.45E-04
		334.30		2.06	7.24E-04		-5.34E-04	3.54E-04
+	AM-241	59.54	*	35.90	1.60E-04	1.60E-04	1.75E-04	7.92E-05

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

Apex-Gamma

Analysis Report for 24-2512 TI185-3.5M-S3-CST-d-A R0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2512 TI185-3.5M-S3-CST-d-A R0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 11:35:49AM
Procedure	: R0_gsv02mlw
Operator	: Administrator
Detector Name	: R
Geometry	: R0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1200.9 seconds
Dead Time	: 0.08 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/15/2019
Efficiency Calibration Description	: R0_gsv2mlw_R697P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578935
Certificate Name	: R735-b8 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 11:55:55AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2512 TI185-3.5M-S3-CST-d-A R0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.59	166.85	0.2345	6.15
2	64.27	179.70	0.3080	3.71
3	87.46	244.27	0.1679	12.37
4	414.90	1154.80	0.1556	11.12
5	554.81	1543.70	0.3320	3.08
6	609.39	1695.50	0.2717	3.48
7	661.75	1841.39	0.0622	60.64
8	666.39	1854.68	0.1811	9.68
9	695.15	1934.10	0.1581	8.76
10	742.89	2066.88	0.3006	3.01
11	1081.16	3008.05	0.2192	4.91
12	1110.14	3088.24	0.2534	3.29
13	1173.40	3264.93	0.1165	14.97
14	1274.32	3545.33	0.2488	3.51
15	1332.81	3708.56	0.1246	12.24
16	1361.92	3788.95	0.2395	3.95

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2512 TI185-3.5M-S3-CST-d-A R0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 11:55:55AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
M	1	59.59	161 -	183	166.73	2.01E+02	22.02	4.28E+02	1.19
m	2	64.27	161 -	183	179.74	9.54E+01	18.32	3.90E+02	1.20
F	3	87.46	238 -	253	244.24	7.03E+02	95.75	5.81E+02	1.42
F	4	414.90	1145 -	1163	1154.77	5.37E+02	76.08	3.04E+02	1.80
F	5	554.81	1539 -	1548	1543.88	2.64E+01	8.74	7.41E+01	0.83
F	6	609.39	1689 -	1701	1695.69	6.04E+01	10.35	6.44E+01	1.84
M	7	661.75	1827 -	1861	1841.32	1.21E+04	175.92	1.18E+02	1.94
m	8	666.39	1827 -	1861	1854.23	3.20E+02	19.52	7.37E+01	1.94
F	9	695.15	1926 -	1944	1934.23	3.06E+02	17.87	7.18E+01	1.96
F	10	742.89	2062 -	2071	2067.01	1.83E+01	5.71	1.48E+01	1.24
F	11	1081.16	3001 -	3015	3008.09	6.85E+01	27.82	3.00E+01	1.85
F	12	1110.14	3080 -	3096	3088.72	5.46E+01	8.89	3.78E+01	2.40
F	13	1173.40	3251 -	3275	3264.74	8.36E+02	60.28	4.24E+01	2.26
F	14	1274.32	3539 -	3554	3545.56	2.79E+01	6.28	1.15E+01	1.88
F	15	1332.81	3695 -	3720	3708.30	6.68E+02	53.99	2.60E+01	2.52
F	16	1361.92	3783 -	3796	3789.32	2.82E+01	7.44	2.82E+01	1.60

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 11:55:55AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578894.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.

Analysis Report for 24-2512 TI185-3.5M-S3-CST-d-A R0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	1	59.59	2.01E+02	22.02			2.01E+02	2.20E+01
m	2	64.27	9.54E+01	18.32	1.81E+01	9.68E-01	7.73E+01	1.83E+01
F	3	87.46	7.03E+02	95.75	1.24E+01	7.02E-01	6.90E+02	9.57E+01
F	4	414.90	5.37E+02	76.08			5.37E+02	7.61E+01
F	5	554.81	2.64E+01	8.74			2.64E+01	8.74E+00
F	6	609.39	6.04E+01	10.35	4.16E+01	1.45E+00	1.88E+01	1.05E+01
M	7	661.75	1.21E+04	175.92			1.21E+04	1.76E+02
m	8	666.39	3.20E+02	19.52			3.20E+02	1.95E+01
F	9	695.15	3.06E+02	17.87			3.06E+02	1.79E+01
F	10	742.89	1.83E+01	5.71			1.83E+01	5.71E+00
F	11	1081.16	6.85E+01	27.82			6.85E+01	2.78E+01
F	12	1110.14	5.46E+01	8.89			5.46E+01	8.89E+00
F	13	1173.40	8.36E+02	60.28			8.36E+02	6.03E+01
F	14	1274.32	2.79E+01	6.28			2.79E+01	6.28E+00
F	15	1332.81	6.68E+02	53.99			6.68E+02	5.40E+01
F	16	1361.92	2.82E+01	7.44			2.82E+01	7.44E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.98	1173.24	*	99.97	4.05E-04	2.93E-05	0.774
		1332.50	*	99.99	3.55E-04	2.88E-05	0.766
		2505.74		1.00			
CD-109	0.95	88.03	*	3.61	2.39E-03	3.39E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	3.13E-04	4.86E-05	0.397
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	2.18E-04	1.34E-05	0.386

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ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	674.80		3.10			
		695.00	*	99.60	2.15E-04	1.26E-05	0.385
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.99	64.28	*	9.60	1.80E-04	5.12E-05	miss
		87.30	*	45.90	1.88E-04	2.74E-05	miss
CS-137	0.99	661.66	*	85.20	3.69E-03	5.74E-05	miss
AM-241	1.00	59.54	*	35.90	1.57E-04	1.74E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.984	3.80E-04	2.05E-05	
CD-109	0.950	9.70E-05	6.37E-04	
SB-126	0.487	2.20E-04	9.02E-06	
Sn-126	0.996	1.80E-04	4.28E-05	
CS-137	0.999	3.69E-03	5.74E-05	
AM-241	1.000	1.57E-04	1.74E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2512 TI185-3.5M-S3-CST-d-A R0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 11:55:55AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	5	554.81	2.20320E-02	33.05		
F	6	609.39	1.56642E-02	55.61	Tol.	RU-103 RA-226
F	10	742.89	1.52098E-02	31.28	Tol.	U-238
F	11	1081.16	5.71068E-02	40.59	Sum	
F	12	1110.14	4.55048E-02	16.29	Sum	
F	14	1274.32	2.32541E-02	22.50	Tol.	EU-154
F	16	1361.92	2.34662E-02	26.42	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.61	10.44	2.77E-04	2.77E-04	3.71E-05	1.36E-04
K-40	1460.83	10.67	1.53E-04	1.53E-04	1.31E-04	7.11E-05
MN-54	834.84	99.98	1.57E-05	1.57E-05	-1.30E-06	7.46E-06
CO-58	810.78	99.45	1.76E-05	1.76E-05	2.91E-06	8.38E-06
	863.96	0.68	3.21E-03		-2.92E-03	1.52E-03
	1674.73	0.52	1.90E-03		-5.53E-04	8.46E-04
FE-59	142.65	1.00	1.52E-03	2.72E-05	-1.53E-04	7.43E-04
	192.35	3.01	8.02E-04		1.99E-05	3.94E-04

Analysis Report for 24-2512 TI185-3.5M-S3-CST-d-A R0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	FE-59	334.80		0.27	7.35E-03	2.72E-05	2.68E-03	3.59E-03
		1099.25		56.30	3.21E-05		-3.63E-06	1.52E-05
		1291.60		43.70	2.72E-05		-3.86E-08	1.24E-05
+	CO-60	1173.24	*	99.97	2.90E-05	2.59E-05	4.05E-04	1.38E-05
		1332.50	*	99.99	2.59E-05		3.55E-04	1.22E-05
		2505.74		1.00	2.62E-03		4.24E-03	1.22E-03
	SR-85	514.00		96.00	2.46E-05	2.46E-05	-1.34E-05	1.20E-05
		868.60		0.01	1.41E-01		5.73E-02	6.69E-02
	NB-94	702.62		97.90	2.93E-05	2.32E-05	9.70E-06	1.42E-05
		871.09		99.98	2.32E-05		1.20E-05	1.10E-05
	NB-95	765.81		99.81	1.52E-05	1.52E-05	-1.36E-05	7.19E-06
	RU-103	497.05		91.00	2.62E-05	2.62E-05	-1.02E-05	1.28E-05
		610.30		5.76	3.55E-04		4.33E-04	1.72E-04
	RH-106	511.86		20.70	1.40E-04	1.40E-04	2.04E-04	6.82E-05
		621.92		9.93	2.65E-04		-1.24E-04	1.28E-04
		1050.36		1.56	1.59E-03		1.39E-03	7.55E-04
	AG-108M	79.13		6.60	3.09E-04	3.21E-05	4.13E-05	1.52E-04
		433.90		90.50	5.23E-05		-1.46E-06	2.56E-05
		614.30		89.80	4.14E-05		-1.56E-05	2.00E-05
		722.90		90.80	3.21E-05		-5.66E-06	1.53E-05
+	CD-109	88.03	*	3.61	6.33E-04	6.33E-04	2.39E-03	3.12E-04
	SB-125	176.31		6.82	2.33E-04	8.83E-05	-4.24E-05	1.14E-04
		380.45		1.52	1.44E-03		1.02E-03	7.04E-04
		427.87		29.55	8.83E-05		-6.94E-05	4.33E-05
		463.36		10.48	2.79E-04		1.32E-05	1.37E-04
		600.60		17.76	1.08E-04		5.00E-05	5.24E-05
		606.71		5.02	4.05E-04		3.50E-04	1.96E-04
		635.95		11.32	1.63E-04		-1.13E-04	7.86E-05
		671.44		1.78	1.52E-03		3.83E-04	7.41E-04
+	SB-126	223.90		1.39	1.29E-03	2.91E-05	9.28E-04	6.34E-04
		278.20		2.40	2.29E-03		2.02E-03	1.12E-03
		296.50		4.50	1.36E-03		6.81E-04	6.65E-04
		414.70	*	83.30	8.18E-05		3.13E-04	4.01E-05
		556.30		1.69	3.96E-03		8.42E-04	1.92E-03
		573.90		6.70	9.80E-04		-3.41E-04	4.74E-04
		593.20		7.50	6.48E-04		2.08E-04	3.13E-04
		656.30		2.19	2.02E-02		3.08E-04	1.00E-02
		666.50	*	99.60	2.91E-05		2.18E-04	1.36E-05
		674.80		3.10	1.76E-03		1.25E-03	8.41E-04
		695.00	*	99.60	4.93E-05		2.15E-04	2.37E-05
		697.00		29.00	3.14E-04		8.74E-04	1.53E-04
		720.70		53.80	8.91E-05		1.38E-05	4.25E-05
		856.80		17.60	2.43E-04		5.16E-05	1.16E-04
		989.60		6.80	6.91E-04		-1.05E-05	3.29E-04
		1213.30		2.39	1.39E-03		-8.42E-04	6.41E-04
+	Sn-126	64.28	*	9.60	2.23E-04	4.98E-05	1.80E-04	1.08E-04
		87.30	*	45.90	4.98E-05		1.88E-04	2.45E-05
	I-129	29.70		56.60	6.13E-05	6.13E-05	0.00E+00	0.00E+00
		33.60		10.04	3.96E-03		6.88E-03	1.91E-03
		34.40		2.01	1.86E-02		3.84E-02	9.04E-03
		39.60		7.51	3.06E-03		5.75E-03	1.50E-03
	CS-134	563.25		8.34	3.86E-04	2.50E-05	-7.30E-05	1.87E-04
		569.33		15.37	2.27E-04		-1.04E-04	1.10E-04

Analysis Report for 24-2512 TI185-3.5M-S3-CST-d-A R0

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-134	604.72		97.62	2.98E-05	2.50E-05	3.47E-06	1.44E-05
		795.86		85.46	2.50E-05		8.75E-06	1.19E-05
		801.95		8.69	3.04E-04		-3.78E-04	1.44E-04
+	CS-137	661.66	*	85.20	1.63E-05	1.63E-05	3.69E-03	7.74E-06
	CE-139	165.85		79.89	1.97E-05	1.97E-05	-7.19E-07	9.63E-06
	CE-141	40.70		3.35	5.79E-03	3.13E-05	-1.05E-03	2.84E-03
		145.44		48.29	3.13E-05		5.38E-06	1.53E-05
	CE-144	80.12		1.36	1.48E-03	1.25E-04	-2.82E-04	7.26E-04
		133.51		11.09	1.25E-04		-8.48E-05	6.11E-05
	EU-152	121.78		28.58	7.10E-05	7.04E-05	7.90E-05	3.48E-05
		344.28		26.50	9.67E-05		-4.74E-05	4.73E-05
		778.90		12.94	1.64E-04		1.88E-04	7.81E-05
		964.08		14.73	1.67E-04		2.93E-04	7.96E-05
		1085.87		10.24	2.04E-04		1.82E-04	9.74E-05
		1112.07		13.69	1.84E-04		-7.37E-05	8.79E-05
		1408.01		21.07	7.04E-05		-1.21E-05	3.21E-05
	GD-153	97.43		29.00	5.12E-05	5.12E-05	-1.04E-05	2.50E-05
		103.18		21.10	6.87E-05		4.00E-05	3.36E-05
	EU-154	42.70		20.45	7.10E-04	4.96E-05	-4.52E-04	3.47E-04
		123.07		40.40	4.96E-05		6.76E-05	2.43E-05
		247.93		6.89	4.14E-04		8.78E-05	2.03E-04
		591.76		4.95	6.35E-04		-7.98E-05	3.07E-04
		692.42		1.78	2.14E-03		5.82E-03	1.04E-03
		723.30		20.06	1.11E-04		-2.33E-05	5.29E-05
		756.80		4.52	5.37E-04		-1.09E-05	2.55E-04
		873.18		12.08	2.18E-04		2.71E-05	1.04E-04
		996.29		10.48	2.11E-04		9.90E-05	1.01E-04
		1004.76		18.01	1.18E-04		-1.02E-04	5.61E-05
		1246.12		0.86	2.41E-03		1.39E-04	1.11E-03
		1274.43		34.80	5.19E-05		7.44E-06	2.42E-05
		1494.05		0.70	1.66E-03		1.17E-03	7.52E-04
		1596.48		1.80	3.36E-04		1.51E-04	1.50E-04
	EU-155	43.00		18.70	7.55E-04	6.64E-05	-1.31E-04	3.69E-04
		60.01		1.22	3.41E-03		6.53E-04	1.68E-03
		86.55		30.70	7.79E-05		-1.05E-05	3.84E-05
		105.31		21.10	6.64E-05		-6.67E-05	3.25E-05
	HG-203	72.87		6.30	3.71E-04	2.26E-05	-5.25E-05	1.82E-04
		279.20		81.46	2.26E-05		-3.70E-06	1.11E-05
	BI-207	569.15		97.80	2.83E-05	2.83E-05	-4.02E-05	1.37E-05
		1063.10		74.90	3.67E-05		-3.15E-05	1.73E-05
	PB-210	46.54		4.25	2.26E-03	2.26E-03	-2.69E-04	1.10E-03
	RA-226	74.81		6.44	3.50E-04	4.37E-05	8.54E-05	1.72E-04
		77.11		10.80	1.96E-04		4.81E-05	9.60E-05
		87.30		4.84	4.90E-04		2.13E-03	2.41E-04
		186.21		3.59	4.88E-04		-1.44E-04	2.39E-04
		242.00		7.43	2.58E-04		1.56E-04	1.27E-04
		295.22		19.30	9.80E-05		6.41E-06	4.79E-05
		351.93		37.60	5.75E-05		2.23E-05	2.81E-05
		609.31		46.10	4.37E-05		4.23E-06	2.11E-05
		768.36		4.94	3.05E-04		-5.23E-05	1.44E-04
		1120.29		15.10	1.28E-04		3.59E-05	6.07E-05
		1238.11		5.79	2.34E-04		-5.68E-05	1.08E-04
		1764.49		15.40	8.28E-05		7.97E-05	3.71E-05

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PA-231	283.70		1.59	1.15E-03	8.06E-04	1.56E-04	5.64E-04
		300.07		2.38	8.06E-04		-4.75E-04	3.94E-04
		302.67		1.71	1.12E-03		-5.15E-04	5.47E-04
		330.07		1.32	1.47E-03		1.67E-03	7.17E-04
	TH-232	74.81		11.62	1.94E-04	4.06E-05	4.73E-05	9.51E-05
		77.11		17.50	1.21E-04		2.97E-05	5.93E-05
		87.30		7.80	3.04E-04		1.32E-03	1.50E-04
		238.63		43.30	4.29E-05		1.18E-05	2.10E-05
		338.32		11.30	1.85E-04		1.82E-05	9.04E-05
		583.19		30.37	6.59E-05		-4.05E-05	3.19E-05
		727.33		6.58	2.47E-04		3.75E-04	1.18E-04
		911.21		26.60	7.32E-05		-2.19E-05	3.50E-05
		968.97		16.20	1.22E-04		-7.94E-05	5.83E-05
		2614.53		35.64	4.06E-05		3.05E-05	1.77E-05
	U-235	143.76		10.96	1.39E-04	3.06E-05	6.08E-05	6.80E-05
		185.71		57.20	3.06E-05		1.09E-05	1.50E-05
		205.31		5.01	3.58E-04		1.47E-04	1.76E-04
	U-238	63.29		3.70	1.01E-03	4.08E-04	2.03E-05	4.96E-04
		92.51		4.23	4.08E-04		1.86E-04	2.00E-04
		112.81		0.21	6.64E-03		2.64E-03	3.25E-03
		742.81		0.11	1.36E-02		1.36E-03	6.46E-03
		766.28		0.32	4.82E-03		-2.31E-03	2.29E-03
		1001.03		0.84	2.35E-03		1.71E-03	1.12E-03
	NP-239	99.60		12.80	1.18E-04	6.23E-05	6.03E-05	5.80E-05
		103.80		20.40	7.27E-05		3.23E-05	3.56E-05
		106.10		26.40	6.23E-05		-3.72E-05	3.05E-05
		116.90		7.61	1.91E-04		1.09E-05	9.36E-05
		228.20		11.20	1.79E-04		8.26E-06	8.76E-05
		277.60		14.50	1.48E-04		1.48E-04	7.26E-05
		315.90		1.60	1.09E-03		-2.01E-03	5.31E-04
		334.30		2.06	7.49E-04		-1.35E-05	3.66E-04
+	AM-241	59.54	*	35.90	7.71E-05	7.71E-05	1.57E-04	3.75E-05

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

Apex-Gamma

Analysis Report for 24-2513 TI185-3.5M-S4-CST-A S0
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2513 TI185-3.5M-S4-CST-A S0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 11:05:54AM
Procedure	: S0_gsv02mlw
Operator	: Administrator
Detector Name	: S
Geometry	: S0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1205.6 seconds
Dead Time	: 0.46 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 6/27/2024
Efficiency Calibration Used Done On	: 3/15/2019
Efficiency Calibration Description	: S0_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578932
Certificate Name	: R735-b9 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 11:26:06AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2513 TI185-3.5M-S4-CST-A S0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.49	183.01	0.3572	3.45
2	74.97	230.59	0.4249	3.00
3	87.62	269.32	0.1964	8.47
4	372.84	1142.50	0.3352	3.11
5	414.79	1270.90	0.2246	6.27
6	661.77	2027.12	0.0376	193.17
7	666.51	2041.88	0.1635	10.68
8	695.18	2129.25	0.1578	10.43
9	1081.14	3310.91	0.2369	4.41
10	1110.21	3400.27	0.2595	3.71
11	1173.48	3593.96	0.1201	15.72
12	1274.85	3904.37	0.3035	3.14
13	1332.82	4081.79	0.1243	14.20
14	1361.71	4170.38	0.2405	3.75
15	2505.82	7674.33	0.1930	5.07

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2513 TI185-3.5M-S4-CST-A S0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 11:26:06AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.49	178 -	189	183.19	1.67E+02	32.34	1.70E+03	0.98
	2	74.97	228 -	233	230.59	9.27E+00	47.86	8.96E+02	0.43
F	3	87.62	265 -	274	269.31	7.86E+02	40.42	1.41E+03	1.25
F	4	372.84	1139 -	1146	1142.53	9.55E+01	31.38	9.87E+02	0.96
F	5	414.79	1265 -	1280	1270.95	4.12E+02	164.42	2.39E+03	1.23
M	6	661.77	2015 -	2050	2027.14	1.15E+05	527.16	3.80E+02	1.55
m	7	666.51	2015 -	2050	2041.66	4.01E+02	19.86	3.55E+01	1.56
F	8	695.18	2121 -	2139	2129.43	4.09E+02	18.35	5.35E+01	1.60
F	9	1081.14	3305 -	3319	3311.21	5.76E+01	9.05	4.08E+01	1.61
F	10	1110.21	3392 -	3407	3400.24	5.81E+01	30.77	3.61E+01	1.52
F	11	1173.48	3586 -	3602	3593.98	8.27E+02	27.55	3.66E+01	1.73
	12	1274.85	3900 -	3910	3904.37	5.35E+00	8.60	1.77E+01	0.40
F	13	1332.82	4071 -	4093	4081.89	7.67E+02	25.84	3.18E+01	1.95
F	14	1361.71	4163 -	4177	4170.37	3.91E+01	21.11	1.91E+01	1.39
F	15	2505.82	7667 -	7681	7674.27	5.38E+01	8.50	1.88E+01	1.67

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 11:26:06AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578895.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.49	1.67E+02	32.34			1.67E+02	3.23E+01

Analysis Report for 24-2513 TI185-3.5M-S4-CST-A S0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	2	74.97	9.27E+00	47.86	3.26E+01	2.15E+00	-2.33E+01	4.79E+01
F	3	87.62	7.86E+02	40.42	7.63E+00	5.59E-01	7.79E+02	4.04E+01
F	4	372.84	9.55E+01	31.38			9.55E+01	3.14E+01
F	5	414.79	4.12E+02	164.42			4.12E+02	1.64E+02
M	6	661.77	1.15E+05	527.16			1.15E+05	5.27E+02
m	7	666.51	4.01E+02	19.86			4.01E+02	1.99E+01
F	8	695.18	4.09E+02	18.35			4.09E+02	1.83E+01
F	9	1081.14	5.76E+01	9.05			5.76E+01	9.05E+00
F	10	1110.21	5.81E+01	30.77			5.81E+01	3.08E+01
F	11	1173.48	8.27E+02	27.55			8.27E+02	2.75E+01
	12	1274.85	5.35E+00	8.60			5.35E+00	8.60E+00
F	13	1332.82	7.67E+02	25.84	9.25E-02	2.23E-01	7.67E+02	2.58E+01
F	14	1361.71	3.91E+01	21.11			3.91E+01	2.11E+01
F	15	2505.82	5.38E+01	8.50			5.38E+01	8.50E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.98	1173.24	*	99.97	4.06E-04	1.37E-05	0.762
		1332.50	*	99.99	4.12E-04	1.40E-05	0.757
		2505.74	*	1.00	3.80E-03	6.22E-04	miss
CD-109	0.97	88.03	*	3.61	2.81E-03	1.67E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	2.43E-04	9.83E-05	0.395
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	2.76E-04	1.37E-05	0.385
		674.80		3.10			
		695.00	*	99.60	2.90E-04	1.31E-05	0.384

Analysis Report for 24-2513 TI185-3.5M-S4-CST-A S0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.77	64.28		9.60			
		87.30	*	45.90	2.21E-04	1.51E-05	miss
CS-137	0.99	661.66	*	85.20	3.53E-02	2.29E-04	miss
AM-241	1.00	59.54	*	35.90	1.38E-04	2.68E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-60	0.987	4.10E-04	9.79E-06	
?	CD-109	0.973	2.81E-03	1.67E-04	
	SB-126	0.488	2.83E-04	9.43E-06	
?	Sn-126	0.771	2.21E-04	1.51E-05	
	CS-137	0.998	3.53E-02	2.29E-04	
	AM-241	1.000	1.38E-04	2.68E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2513 TI185-3.5M-S4-CST-A S0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 11:26:06AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	2	74.97	-1.94564E-02	- 205.20	Tol.	RA-226 TH-232
F	4	372.84	7.95503E-02	32.88		
F	9	1081.14	4.80308E-02	15.69	Sum	
F	10	1110.21	4.84516E-02	52.93	Sum	
	12	1274.85	4.45652E-03	160.85	Tol.	EU-154
F	14	1361.71	3.26203E-02	53.93	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.61	10.44	6.88E-04	6.88E-04	-1.68E-04	3.41E-04
K-40	1460.83	10.67	1.42E-04	1.42E-04	2.80E-05	6.54E-05
MN-54	834.84	99.98	1.39E-05	1.39E-05	1.32E-05	6.55E-06
CO-58	810.78	99.45	1.43E-05	1.43E-05	-4.40E-06	6.72E-06
	863.96	0.68	2.82E-03		-2.73E-03	1.33E-03
	1674.73	0.52	1.48E-03		4.28E-04	6.32E-04
FE-59	142.65	1.00	3.13E-03	2.65E-05	-6.54E-04	1.55E-03
	192.35	3.01	1.88E-03		7.29E-05	9.31E-04
	334.80	0.27	1.83E-02		2.35E-03	9.07E-03

Analysis Report for 24-2513 TI185-3.5M-S4-CST-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	FE-59	1099.25		56.30	3.20E-05	2.65E-05	2.21E-07	1.51E-05
		1291.60		43.70	2.65E-05		-5.30E-05	1.20E-05
+	CO-60	1173.24	*	99.97	2.34E-05	2.34E-05	4.06E-04	1.10E-05
		1332.50	*	99.99	2.66E-05		4.12E-04	1.26E-05
		2505.74	*	1.00	2.39E-03		3.80E-03	1.10E-03
	SR-85	514.00		96.00	5.64E-05	5.64E-05	8.83E-06	2.79E-05
		868.60		0.01	1.37E-01		1.70E-01	6.48E-02
	NB-94	702.62		97.90	1.84E-05	1.84E-05	4.43E-06	8.68E-06
		871.09		99.98	2.22E-05		2.00E-05	1.05E-05
	NB-95	765.81		99.81	1.40E-05	1.40E-05	-1.02E-05	6.63E-06
	RU-103	497.05		91.00	6.35E-05	6.35E-05	-1.10E-05	3.14E-05
		610.30		5.76	7.12E-04		2.50E-04	3.50E-04
	RH-106	511.86		20.70	3.15E-04	3.15E-04	-7.59E-06	1.56E-04
		621.92		9.93	5.31E-04		-4.26E-04	2.61E-04
		1050.36		1.56	1.28E-03		3.45E-05	5.97E-04
	AG-108M	79.13		6.60	5.86E-04	2.88E-05	2.14E-04	2.90E-04
		433.90		90.50	1.29E-04		-3.44E-05	6.39E-05
		614.30		89.80	8.28E-05		-1.21E-04	4.07E-05
		722.90		90.80	2.88E-05		-1.30E-05	1.36E-05
+	CD-109	88.03	*	3.61	8.47E-04	8.47E-04	2.81E-03	4.19E-04
	SB-125	176.31		6.82	5.11E-04	2.14E-04	-3.21E-04	2.53E-04
		380.45		1.52	3.54E-03		-2.42E-03	1.75E-03
		427.87		29.55	2.14E-04		-1.54E-05	1.06E-04
		463.36		10.48	7.29E-04		6.14E-04	3.62E-04
		600.60		17.76	2.26E-04		4.40E-05	1.11E-04
		606.71		5.02	8.16E-04		5.57E-06	4.01E-04
		635.95		11.32	3.34E-04		1.91E-04	1.64E-04
		671.44		1.78	1.53E-03		8.50E-05	7.46E-04
+	SB-126	223.90		1.39	3.01E-03	2.10E-05	-5.32E-04	1.49E-03
		278.20		2.40	5.61E-03		2.30E-03	2.78E-03
		296.50		4.50	3.31E-03		2.00E-03	1.64E-03
		414.70	*	83.30	2.15E-04		2.43E-04	1.07E-04
		556.30		1.69	8.29E-03		-1.01E-03	4.08E-03
		573.90		6.70	2.02E-03		1.89E-03	9.92E-04
		593.20		7.50	1.37E-03		-3.56E-04	6.72E-04
		656.30		2.19	3.93E-02		-2.16E-03	1.96E-02
		666.50	*	99.60	2.10E-05		2.76E-04	9.55E-06
		674.80		3.10	1.43E-03		6.70E-04	6.75E-04
		695.00	*	99.60	4.21E-05		2.90E-04	2.01E-05
		697.00		29.00	3.36E-04		1.25E-03	1.64E-04
		720.70		53.80	8.21E-05		-2.60E-05	3.89E-05
		856.80		17.60	2.08E-04		4.35E-05	9.78E-05
		989.60		6.80	6.00E-04		-9.32E-05	2.83E-04
		1213.30		2.39	1.29E-03		0.00E+00	5.92E-04
+	Sn-126	64.28		9.60	6.40E-04	6.66E-05	7.44E-04	3.17E-04
		87.30	*	45.90	6.66E-05		2.21E-04	3.29E-05
	I-129	29.70		56.60	8.88E-03	6.85E-03	-1.79E-03	4.39E-03
		33.60		10.04	1.72E-02		-1.28E-02	8.50E-03
		34.40		2.01	7.14E-02		-8.60E-03	3.53E-02
		39.60		7.51	6.85E-03		3.32E-03	3.39E-03
	CS-134	563.25		8.34	8.65E-04	2.32E-05	1.49E-03	4.26E-04
		569.33		15.37	4.75E-04		-4.07E-04	2.34E-04
		604.72		97.62	5.94E-05		-1.52E-06	2.92E-05

Analysis Report for 24-2513 TI185-3.5M-S4-CST-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-134	795.86		85.46	2.32E-05	2.32E-05	-2.27E-05	1.09E-05
		801.95		8.69	2.48E-04		-1.25E-04	1.16E-04
+	CS-137	661.66	*	85.20	2.88E-05	2.88E-05	3.53E-02	1.40E-05
	CE-139	165.85		79.89	4.25E-05	4.25E-05	2.64E-05	2.11E-05
	CE-141	40.70		3.35	1.28E-02	6.75E-05	-1.34E-02	6.31E-03
		145.44		48.29	6.75E-05		-1.30E-05	3.34E-05
	CE-144	80.12		1.36	2.79E-03	2.79E-04	-1.11E-03	1.38E-03
		133.51		11.09	2.79E-04		-1.70E-04	1.38E-04
	EU-152	121.78		28.58	1.52E-04	5.94E-05	2.12E-04	7.51E-05
		344.28		26.50	2.32E-04		1.53E-04	1.15E-04
		778.90		12.94	1.37E-04		-1.16E-04	6.42E-05
		964.08		14.73	1.35E-04		-8.49E-05	6.36E-05
		1085.87		10.24	2.02E-04		-8.60E-05	9.67E-05
		1112.07		13.69	1.70E-04		2.75E-04	8.11E-05
		1408.01		21.07	5.94E-05		-1.51E-05	2.65E-05
	GD-153	97.43		29.00	1.11E-04	1.11E-04	-1.57E-05	5.47E-05
		103.18		21.10	1.50E-04		-2.00E-05	7.43E-05
	EU-154	42.70		20.45	1.56E-03	4.39E-05	-7.21E-04	7.73E-04
		123.07		40.40	1.04E-04		-1.94E-05	5.16E-05
		247.93		6.89	8.88E-04		-6.75E-04	4.40E-04
		591.76		4.95	1.37E-03		-9.18E-04	6.74E-04
		692.42		1.78	2.37E-03		-8.52E-04	1.15E-03
		723.30		20.06	1.01E-04		2.56E-05	4.78E-05
		756.80		4.52	5.10E-04		-4.81E-04	2.41E-04
		873.18		12.08	2.06E-04		9.60E-05	9.78E-05
		996.29		10.48	1.89E-04		-3.67E-06	8.95E-05
		1004.76		18.01	1.13E-04		3.63E-05	5.37E-05
		1246.12		0.86	2.22E-03		6.96E-04	1.02E-03
		1274.43		34.80	4.39E-05		2.00E-05	2.02E-05
		1494.05		0.70	1.46E-03		8.85E-04	6.52E-04
		1596.48		1.80	3.07E-04		-2.21E-04	1.35E-04
	EU-155	43.00		18.70	1.64E-03	1.29E-04	-7.57E-04	8.12E-04
		60.01		1.22	6.32E-03		2.46E-04	3.13E-03
		86.55		30.70	1.29E-04		3.26E-04	6.38E-05
		105.31		21.10	1.45E-04		6.46E-05	7.16E-05
	HG-203	72.87		6.30	7.12E-04	5.60E-05	-5.11E-04	3.52E-04
		279.20		81.46	5.60E-05		-1.76E-05	2.78E-05
	BI-207	569.15		97.80	6.07E-05	3.65E-05	-5.76E-05	2.98E-05
		1063.10		74.90	3.65E-05		8.52E-06	1.72E-05
	PB-210	46.54		4.25	4.68E-03	4.68E-03	5.98E-04	2.31E-03
	RA-226	74.81		6.44	6.65E-04	8.90E-05	-1.28E-04	3.29E-04
		77.11		10.80	3.76E-04		-2.91E-04	1.86E-04
		87.30		4.84	8.10E-04		2.27E-03	4.01E-04
		186.21		3.59	1.14E-03		1.59E-04	5.67E-04
		242.00		7.43	5.56E-04		4.74E-04	2.75E-04
		295.22		19.30	2.38E-04		1.70E-04	1.18E-04
		351.93		37.60	1.35E-04		4.06E-05	6.69E-05
		609.31		46.10	8.90E-05		1.41E-04	4.38E-05
		768.36		4.94	2.94E-04		1.98E-04	1.39E-04
		1120.29		15.10	1.12E-04		9.46E-05	5.29E-05
		1238.11		5.79	2.41E-04		1.40E-04	1.11E-04
		1764.49		15.40	9.79E-05		4.05E-05	4.46E-05
	PA-231	283.70		1.59	2.92E-03	1.95E-03	2.43E-03	1.45E-03

Analysis Report for 24-2513 TI185-3.5M-S4-CST-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PA-231	300.07		2.38	1.95E-03	1.95E-03	-1.24E-03	9.65E-04
		302.67		1.71	2.72E-03		8.33E-04	1.35E-03
		330.07		1.32	3.70E-03		1.03E-03	1.83E-03
	TH-232	74.81		11.62	3.69E-04	3.49E-05	-7.08E-05	1.82E-04
		77.11		17.50	2.32E-04		-1.79E-04	1.15E-04
		87.30		7.80	5.03E-04		1.41E-03	2.49E-04
		238.63		43.30	9.42E-05		-8.06E-05	4.67E-05
		338.32		11.30	4.41E-04		1.00E-05	2.18E-04
		583.19		30.37	1.40E-04		5.82E-05	6.89E-05
		727.33		6.58	2.11E-04		6.55E-05	1.00E-04
		911.21		26.60	5.84E-05		-2.95E-05	2.76E-05
		968.97		16.20	1.02E-04		3.82E-05	4.82E-05
		2614.53		35.64	3.49E-05		-1.14E-05	1.46E-05
	U-235	143.76		10.96	2.87E-04	7.09E-05	2.80E-04	1.42E-04
		185.71		57.20	7.09E-05		1.03E-05	3.52E-05
		205.31		5.01	8.43E-04		-1.23E-04	4.18E-04
	U-238	63.29		3.70	1.74E-03	7.85E-04	1.34E-03	8.62E-04
		92.51		4.23	7.85E-04		2.65E-04	3.88E-04
		112.81		0.21	1.44E-02		4.98E-03	7.11E-03
		742.81		0.11	1.19E-02		-3.22E-04	5.61E-03
		766.28		0.32	4.45E-03		-2.51E-03	2.10E-03
		1001.03		0.84	2.10E-03		-1.05E-03	9.97E-04
	NP-239	99.60		12.80	2.54E-04	1.34E-04	9.13E-05	1.26E-04
		103.80		20.40	1.58E-04		-8.93E-05	7.80E-05
		106.10		26.40	1.34E-04		4.94E-06	6.64E-05
		116.90		7.61	4.19E-04		1.62E-05	2.08E-04
		228.20		11.20	4.18E-04		-5.50E-05	2.07E-04
		277.60		14.50	3.61E-04		-2.08E-04	1.79E-04
		315.90		1.60	2.76E-03		-1.77E-03	1.37E-03
		334.30		2.06	1.84E-03		2.53E-04	9.11E-04
+	AM-241	59.54	*	35.90	2.26E-04	2.26E-04	1.38E-04	1.12E-04

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

Apex-Gamma

Analysis Report for 24-2514 TI185-3.5M-S4-CST-d-A S0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2514 TI185-3.5M-S4-CST-d-A S0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 11:35:58AM
Procedure	: S0_gsv02mlw
Operator	: Administrator
Detector Name	: S
Geometry	: S0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1205.7 seconds
Dead Time	: 0.47 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 6/27/2024
Efficiency Calibration Used Done On	: 3/15/2019
Efficiency Calibration Description	: S0_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578936
Certificate Name	: R735-b9 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 11:56:10AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2514 TI185-3.5M-S4-CST-d-A S0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.55	183.20	0.2987	4.63
2	87.46	268.80	0.2180	7.66
3	415.03	1271.64	0.2063	7.23
4	661.76	2027.09	0.0374	195.77
5	666.43	2041.58	0.1624	11.38
6	695.22	2129.44	0.1526	11.10
7	1081.39	3311.57	0.2452	3.96
8	1110.17	3399.93	0.2486	4.37
9	1173.47	3594.02	0.1246	14.07
10	1275.22	3905.45	0.2851	3.05
11	1332.77	4081.77	0.1200	15.54
12	1361.47	4169.93	0.2529	3.51

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2514 TI185-3.5M-S4-CST-d-A S0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 11:56:10AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.55	179 -	188	183.38	2.65E+02	33.93	1.41E+03	1.07
F	2	87.46	262 -	277	268.82	7.09E+02	160.99	2.34E+03	1.31
F	3	415.03	1260 -	1280	1271.69	7.70E+02	180.58	3.03E+03	1.59
M	4	661.76	2015 -	2053	2027.11	1.18E+05	539.43	3.83E+02	1.55
m	5	666.43	2015 -	2053	2041.42	4.11E+02	20.10	3.56E+01	1.55
F	6	695.22	2122 -	2138	2129.56	4.25E+02	51.18	4.63E+01	1.58
F	7	1081.39	3307 -	3320	3311.98	5.83E+01	9.33	4.12E+01	1.68
F	8	1110.17	3394 -	3407	3400.11	5.81E+01	28.90	2.42E+01	1.53
F	9	1173.47	3581 -	3605	3593.93	7.88E+02	53.29	1.28E+01	1.93
F	10	1275.22	3899 -	3911	3905.53	2.69E+01	10.76	5.66E+00	1.53
F	11	1332.77	4070 -	4092	4081.73	8.13E+02	53.16	1.14E+01	1.90
F	12	1361.47	4162 -	4175	4169.63	4.04E+01	19.97	6.37E+00	1.83

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 11:56:10AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578895.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.55	2.65E+02	33.93			2.65E+02	3.39E+01
F	2	87.46	7.09E+02	160.99	7.63E+00	5.59E-01	7.01E+02	1.61E+02
F	3	415.03	7.70E+02	180.58			7.70E+02	1.81E+02
M	4	661.76	1.18E+05	539.43			1.18E+05	5.39E+02

Analysis Report for 24-2514 TI185-3.5M-S4-CST-d-A S0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
m	5	666.43	4.11E+02	20.10			4.11E+02	2.01E+01
F	6	695.22	4.25E+02	51.18			4.25E+02	5.12E+01
F	7	1081.39	5.83E+01	9.33			5.83E+01	9.33E+00
F	8	1110.17	5.81E+01	28.90			5.81E+01	2.89E+01
F	9	1173.47	7.88E+02	53.29			7.88E+02	5.33E+01
F	10	1275.22	2.69E+01	10.76			2.69E+01	1.08E+01
F	11	1332.77	8.13E+02	53.16	9.25E-02	2.23E-01	8.13E+02	5.32E+01
F	12	1361.47	4.04E+01	19.97			4.04E+01	2.00E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.98	1173.24	*	99.97	3.88E-04	2.63E-05	0.762
		1332.50	*	99.99	4.36E-04	2.86E-05	0.757
		2505.74		1.00			
CD-109	0.94	88.03	*	3.61	2.53E-03	5.86E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	4.55E-04	1.11E-04	0.395
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	2.83E-04	1.39E-05	0.385
		674.80		3.10			
		695.00	*	99.60	3.01E-04	3.63E-05	0.384
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.78	64.28		9.60			

Analysis Report for 24-2514 TI185-3.5M-S4-CST-d-A S0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
Sn-126	0.78	87.30	*	45.90	1.99E-04	4.66E-05	miss
CS-137	0.99	661.66	*	85.20	3.63E-02	2.35E-04	miss
AM-241	1.00	59.54	*	35.90	2.18E-04	2.82E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-60	0.984	4.10E-04	1.94E-05	
?	CD-109	0.949	2.53E-03	5.86E-04	
	SB-126	0.484	2.87E-04	1.29E-05	
?	Sn-126	0.781	1.99E-04	4.66E-05	
	CS-137	0.998	3.63E-02	2.35E-04	
	AM-241	1.000	2.18E-04	2.82E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2514 TI185-3.5M-S4-CST-d-A S0
ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 11:56:10AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	7	1081.39	4.85493E-02	16.02	Sum	
F	8	1110.17	4.83762E-02	49.79	Sum	
F	10	1275.22	2.23976E-02	40.03	Tol.	EU-154
F	12	1361.47	3.36366E-02	49.47	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	6.94E-04	6.94E-04	7.26E-04	3.44E-04
	K-40	1460.83		10.67	1.35E-04	1.35E-04	-8.04E-05	6.19E-05
	MN-54	834.84		99.98	1.40E-05	1.40E-05	-4.54E-08	6.59E-06
	CO-58	810.78		99.45	1.41E-05	1.41E-05	-7.76E-06	6.59E-06
		863.96		0.68	2.94E-03		-1.27E-04	1.39E-03
		1674.73		0.52	1.53E-03		3.17E-04	6.58E-04
	FE-59	142.65		1.00	3.25E-03	2.53E-05	4.85E-03	1.61E-03
		192.35		3.01	1.92E-03		2.38E-03	9.55E-04
		334.80		0.27	1.84E-02		2.25E-03	9.13E-03
		1099.25		56.30	3.03E-05		-1.77E-05	1.43E-05
		1291.60		43.70	2.53E-05		-3.15E-06	1.15E-05
+	CO-60	1173.24	*	99.97	1.71E-05	1.69E-05	3.88E-04	7.89E-06
		1332.50	*	99.99	1.69E-05		4.36E-04	7.75E-06
		2505.74		1.00	2.37E-03		3.11E-03	1.09E-03

Analysis Report for 24-2514 TI185-3.5M-S4-CST-d-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	514.00		96.00	5.77E-05	5.77E-05	-7.88E-06	2.85E-05
		868.60		0.01	1.30E-01		1.40E-02	6.13E-02
	NB-94	702.62		97.90	1.77E-05	1.77E-05	3.39E-06	8.37E-06
		871.09		99.98	2.07E-05		-1.32E-05	9.80E-06
	NB-95	765.81		99.81	1.35E-05	1.35E-05	-3.97E-06	6.35E-06
	RU-103	497.05		91.00	6.60E-05	6.60E-05	-1.42E-05	3.27E-05
		610.30		5.76	7.19E-04		-3.84E-04	3.53E-04
	RH-106	511.86		20.70	3.21E-04	3.21E-04	2.11E-04	1.59E-04
		621.92		9.93	5.50E-04		3.32E-04	2.70E-04
		1050.36		1.56	1.46E-03		4.04E-04	6.87E-04
	AG-108M	79.13		6.60	5.93E-04	3.01E-05	2.06E-06	2.94E-04
		433.90		90.50	1.31E-04		9.16E-05	6.52E-05
		614.30		89.80	8.44E-05		4.82E-05	4.15E-05
		722.90		90.80	3.01E-05		1.11E-05	1.43E-05
+	CD-109	88.03	*	3.61	1.30E-03	1.30E-03	2.53E-03	6.44E-04
	SB-125	176.31		6.82	5.21E-04	2.16E-04	6.92E-05	2.58E-04
		380.45		1.52	3.61E-03		-3.65E-03	1.79E-03
		427.87		29.55	2.16E-04		-8.36E-05	1.07E-04
		463.36		10.48	7.33E-04		2.69E-04	3.64E-04
		600.60		17.76	2.28E-04		-1.59E-04	1.12E-04
		606.71		5.02	8.30E-04		4.97E-04	4.08E-04
		635.95		11.32	3.37E-04		-6.22E-04	1.66E-04
		671.44		1.78	1.52E-03		3.49E-04	7.42E-04
+	SB-126	223.90		1.39	2.99E-03	2.10E-05	-2.52E-03	1.48E-03
		278.20		2.40	5.74E-03		-4.19E-03	2.85E-03
		296.50		4.50	3.37E-03		1.97E-03	1.67E-03
		414.70	*	83.30	2.69E-04		4.55E-04	1.34E-04
		556.30		1.69	8.38E-03		5.96E-03	4.13E-03
		573.90		6.70	2.11E-03		2.35E-03	1.04E-03
		593.20		7.50	1.34E-03		-9.26E-05	6.59E-04
		656.30		2.19	4.03E-02		-6.47E-03	2.01E-02
		666.50	*	99.60	2.10E-05		2.83E-04	9.55E-06
		674.80		3.10	1.34E-03		8.04E-04	6.30E-04
		695.00	*	99.60	3.83E-05		3.01E-04	1.82E-05
		697.00		29.00	3.43E-04		1.25E-03	1.67E-04
		720.70		53.80	8.51E-05		8.35E-05	4.04E-05
		856.80		17.60	2.21E-04		-1.37E-04	1.04E-04
		989.60		6.80	6.08E-04		-1.23E-04	2.87E-04
		1213.30		2.39	1.23E-03		2.94E-04	5.62E-04
+	Sn-126	64.28		9.60	6.42E-04	1.02E-04	4.01E-04	3.18E-04
		87.30	*	45.90	1.02E-04		1.99E-04	5.07E-05
	I-129	29.70		56.60	8.92E-03	6.92E-03	1.02E-04	4.41E-03
		33.60		10.04	1.75E-02		2.07E-04	8.63E-03
		34.40		2.01	7.26E-02		4.36E-02	3.59E-02
		39.60		7.51	6.92E-03		2.42E-03	3.42E-03
	CS-134	563.25		8.34	8.58E-04	2.33E-05	-1.47E-04	4.22E-04
		569.33		15.37	4.99E-04		3.49E-04	2.46E-04
		604.72		97.62	6.08E-05		-1.12E-05	2.99E-05
		795.86		85.46	2.33E-05		-1.44E-05	1.10E-05
		801.95		8.69	2.78E-04		5.10E-05	1.31E-04
+	CS-137	661.66	*	85.20	2.89E-05	2.89E-05	3.63E-02	1.40E-05
	CE-139	165.85		79.89	4.27E-05	4.27E-05	-4.23E-05	2.12E-05
	CE-141	40.70		3.35	1.29E-02	6.97E-05	-1.30E-02	6.38E-03

Analysis Report for 24-2514 TI185-3.5M-S4-CST-d-A S0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
CE-141	145.44	48.29	6.97E-05	6.97E-05	2.76E-05	3.45E-05
CE-144	80.12	1.36	2.81E-03	2.81E-04	-4.21E-03	1.39E-03
	133.51	11.09	2.81E-04		1.86E-04	1.39E-04
EU-152	121.78	28.58	1.50E-04	7.13E-05	-4.79E-05	7.43E-05
	344.28	26.50	2.36E-04		5.99E-05	1.17E-04
	778.90	12.94	1.42E-04		-1.43E-04	6.68E-05
	964.08	14.73	1.35E-04		-2.27E-04	6.39E-05
	1085.87	10.24	1.97E-04		2.06E-05	9.40E-05
	1112.07	13.69	1.66E-04		1.97E-04	7.90E-05
	1408.01	21.07	7.13E-05		1.37E-05	3.25E-05
GD-153	97.43	29.00	1.12E-04	1.12E-04	-1.32E-04	5.56E-05
	103.18	21.10	1.53E-04		-4.87E-05	7.56E-05
EU-154	42.70	20.45	1.57E-03	4.74E-05	-7.28E-04	7.76E-04
	123.07	40.40	1.04E-04		-6.06E-06	5.17E-05
	247.93	6.89	8.97E-04		2.36E-04	4.44E-04
	591.76	4.95	1.34E-03		9.98E-04	6.58E-04
	692.42	1.78	2.41E-03		2.18E-05	1.17E-03
	723.30	20.06	1.07E-04		6.56E-05	5.06E-05
	756.80	4.52	4.70E-04		-1.90E-04	2.21E-04
	873.18	12.08	1.96E-04		9.52E-05	9.29E-05
	996.29	10.48	1.82E-04		1.99E-04	8.58E-05
	1004.76	18.01	1.17E-04		-1.39E-05	5.56E-05
	1246.12	0.86	2.00E-03		8.45E-05	9.05E-04
	1274.43	34.80	4.74E-05		2.54E-05	2.19E-05
	1494.05	0.70	1.43E-03		6.19E-04	6.37E-04
	1596.48	1.80	2.84E-04		3.46E-05	1.24E-04
EU-155	43.00	18.70	1.65E-03	1.30E-04	-7.64E-04	8.15E-04
	60.01	1.22	6.38E-03		1.56E-03	3.16E-03
	86.55	30.70	1.30E-04		3.79E-05	6.46E-05
	105.31	21.10	1.47E-04		-9.85E-05	7.27E-05
HG-203	72.87	6.30	7.36E-04	5.71E-05	3.71E-04	3.64E-04
	279.20	81.46	5.71E-05		-1.22E-05	2.83E-05
BI-207	569.15	97.80	6.41E-05	3.71E-05	9.38E-05	3.16E-05
	1063.10	74.90	3.71E-05		-8.48E-06	1.75E-05
PB-210	46.54	4.25	4.75E-03	4.75E-03	7.26E-04	2.35E-03
RA-226	74.81	6.44	6.75E-04	6.90E-05	-1.68E-04	3.34E-04
	77.11	10.80	3.80E-04		-4.27E-05	1.88E-04
	87.30	4.84	8.16E-04		2.04E-03	4.04E-04
	186.21	3.59	1.16E-03		1.20E-03	5.75E-04
	242.00	7.43	5.68E-04		-1.24E-04	2.81E-04
	295.22	19.30	2.42E-04		1.14E-04	1.20E-04
	351.93	37.60	1.36E-04		1.84E-05	6.74E-05
	609.31	46.10	8.97E-05		3.15E-05	4.41E-05
	768.36	4.94	2.73E-04		1.65E-05	1.29E-04
	1120.29	15.10	9.76E-05		4.34E-05	4.55E-05
	1238.11	5.79	2.02E-04		-1.33E-04	9.21E-05
	1764.49	15.40	6.90E-05		-4.68E-05	3.01E-05
PA-231	283.70	1.59	2.97E-03	1.99E-03	1.52E-03	1.47E-03
	300.07	2.38	1.99E-03		-7.33E-04	9.86E-04
	302.67	1.71	2.75E-03		1.54E-03	1.36E-03
	330.07	1.32	3.69E-03		-4.41E-03	1.83E-03
TH-232	74.81	11.62	3.74E-04	3.80E-05	-9.33E-05	1.85E-04
	77.11	17.50	2.34E-04		-2.63E-05	1.16E-04

Analysis Report for 24-2514 TI185-3.5M-S4-CST-d-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	87.30		7.80	5.06E-04	3.80E-05	1.26E-03	2.51E-04
		238.63		43.30	9.74E-05		-6.03E-05	4.83E-05
		338.32		11.30	4.45E-04		5.10E-04	2.20E-04
		583.19		30.37	1.39E-04		-3.44E-06	6.85E-05
		727.33		6.58	2.31E-04		-2.67E-04	1.10E-04
		911.21		26.60	6.33E-05		-1.71E-05	3.00E-05
		968.97		16.20	1.01E-04		-9.73E-05	4.78E-05
		2614.53		35.64	3.80E-05		2.30E-05	1.62E-05
	U-235	143.76		10.96	2.95E-04	7.17E-05	5.88E-05	1.46E-04
		185.71		57.20	7.17E-05		3.27E-05	3.56E-05
		205.31		5.01	8.50E-04		-2.73E-05	4.21E-04
	U-238	63.29		3.70	1.75E-03	7.97E-04	-7.46E-05	8.65E-04
		92.51		4.23	7.97E-04		-5.75E-05	3.95E-04
		112.81		0.21	1.47E-02		-1.50E-03	7.26E-03
		742.81		0.11	1.38E-02		1.58E-02	6.55E-03
		766.28		0.32	4.21E-03		-9.36E-04	1.98E-03
		1001.03		0.84	2.12E-03		-1.42E-03	1.01E-03
	NP-239	99.60		12.80	2.61E-04	1.38E-04	2.21E-04	1.29E-04
		103.80		20.40	1.62E-04		7.59E-05	8.03E-05
		106.10		26.40	1.38E-04		-1.74E-05	6.82E-05
		116.90		7.61	4.26E-04		2.91E-05	2.11E-04
		228.20		11.20	4.24E-04		3.53E-04	2.10E-04
		277.60		14.50	3.73E-04		3.71E-05	1.85E-04
		315.90		1.60	2.84E-03		-3.81E-03	1.41E-03
		334.30		2.06	1.86E-03		-3.46E-04	9.22E-04
+	AM-241	59.54	*	35.90	1.93E-04	1.93E-04	2.18E-04	9.53E-05

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

Apex-Gamma

Analysis Report for 24-2515 TI185-4.5M-S1-CST-A V0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2515 TI185-4.5M-S1-CST-A V0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 10:46:33AM
Procedure	: V0_gsv02mlw
Operator	: Administrator
Detector Name	: V
Geometry	: V0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1202.0 seconds
Dead Time	: 0.16 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/8/2023
Efficiency Calibration Used Done On	: 3/28/2019
Efficiency Calibration Description	: V0_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578927
Certificate Name	: R735-A5 5ml PSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 11:06:42AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2515 TI185-4.5M-S1-CST-A V0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.60	175.49	0.3070	5.08
2	87.54	257.80	0.1896	11.69
3	123.25	362.72	0.3011	5.10
4	242.20	712.41	0.3649	3.46
5	248.53	731.04	0.3708	3.09
6	414.82	1220.62	0.1631	11.07
7	661.66	1946.80	0.0549	86.86
8	666.34	1960.79	0.1587	10.99
9	695.12	2045.16	0.1445	12.52
10	1081.29	3181.30	0.2156	5.26
11	1173.27	3451.90	0.1146	15.75
12	1274.40	3749.51	0.2264	4.45
13	1332.61	3920.82	0.1141	15.16
14	1361.80	4006.40	0.2504	3.56

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2515 TI185-4.5M-S1-CST-A V0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 11:06:42AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.60	168 -	182	175.55	3.46E+02	46.53	8.90E+02	0.98
F	2	87.54	250 -	265	257.73	9.90E+02	109.65	8.22E+02	1.18
F	3	123.25	354 -	368	362.80	1.41E+02	54.67	7.09E+02	0.65
F	4	242.20	709 -	715	712.74	3.96E+01	22.02	2.84E+02	0.45
F	5	248.53	728 -	740	731.37	5.52E+01	17.29	4.73E+02	0.98
F	6	414.82	1210 -	1226	1220.58	6.66E+02	91.87	6.21E+02	1.56
M	7	661.66	1936 -	1968	1946.76	2.43E+04	218.88	1.75E+02	1.68
m	8	666.34	1936 -	1968	1960.54	4.54E+02	22.60	6.61E+01	1.69
F	9	695.12	2037 -	2053	2045.18	4.87E+02	22.92	1.01E+02	1.58
F	10	1081.29	3175 -	3186	3181.19	6.31E+01	9.64	2.70E+01	1.49
F	11	1173.27	3440 -	3462	3451.79	1.02E+03	60.37	4.62E+01	2.22
F	12	1274.40	3743 -	3756	3749.26	4.05E+01	7.56	1.45E+01	1.56
F	13	1332.61	3908 -	3934	3920.48	9.39E+02	30.27	2.59E+01	2.35
F	14	1361.80	3999 -	4014	4006.35	3.72E+01	10.43	1.50E+01	1.89

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 11:06:42AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578897.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.60	3.46E+02	46.53			3.46E+02	4.65E+01
F	2	87.54	9.90E+02	109.65	6.50E+00	7.06E-01	9.83E+02	1.10E+02

Analysis Report for 24-2515 TI185-4.5M-S1-CST-A V0

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 3	123.25	1.41E+02	54.67			1.41E+02	5.47E+01
F 4	242.20	3.96E+01	22.02	8.08E+00	5.68E-01	3.15E+01	2.20E+01
F 5	248.53	5.52E+01	17.29			5.52E+01	1.73E+01
F 6	414.82	6.66E+02	91.87			6.66E+02	9.19E+01
M 7	661.66	2.43E+04	218.88			2.43E+04	2.19E+02
m 8	666.34	4.54E+02	22.60			4.54E+02	2.26E+01
F 9	695.12	4.87E+02	22.92			4.87E+02	2.29E+01
F 10	1081.29	6.31E+01	9.64			6.31E+01	9.64E+00
F 11	1173.27	1.02E+03	60.37			1.02E+03	6.04E+01
F 12	1274.40	4.05E+01	7.56			4.05E+01	7.56E+00
F 13	1332.61	9.39E+02	30.27			9.39E+02	3.03E+01
F 14	1361.80	3.72E+01	10.43			3.72E+01	1.04E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	5.04E-04	2.99E-05	0.774
		1332.50	*	99.99	5.10E-04	1.66E-05	0.768
		2505.74		1.00			
CD-109	0.96	88.03	*	3.61	3.51E-03	4.63E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	3.89E-04	5.91E-05	0.396
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	3.09E-04	1.55E-05	0.385
		674.80		3.10			
		695.00	*	99.60	3.42E-04	1.62E-05	0.384
		697.00		29.00			
		720.70		53.80			

Analysis Report for 24-2515 TI185-4.5M-S1-CST-A V0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.77	64.28		9.60			
		87.30	*	45.90	2.76E-04	3.76E-05	miss
CS-137	1.00	661.66	*	85.20	7.43E-03	7.36E-05	miss
EU-154	0.29	42.70		20.45			
		123.07	*	40.40	5.13E-05	1.99E-05	0.744
		247.93	*	6.89	1.68E-04	5.28E-05	0.687
		591.76		4.95			
		692.42		1.78			
		723.30		20.06			
		756.80		4.52			
		873.18		12.08			
		996.29		10.48			
		1004.76		18.01			
		1246.12		0.86			
		1274.43	*	34.80	5.34E-05	9.98E-06	0.883
		1494.05		0.70			
		1596.48		1.80			
AM-241	0.99	59.54	*	35.90	2.80E-04	3.81E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-60	0.993	5.09E-04	1.45E-05	
?	CD-109	0.962	3.51E-03	4.63E-04	
	SB-126	0.489	3.27E-04	1.10E-05	

Analysis Report for 24-2515 TI185-4.5M-S1-CST-A V0

ASR 2094 Branch

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
?	Sn-126	0.777	2.76E-04	3.76E-05	
	CS-137	1.000	7.43E-03	7.36E-05	
	EU-154	0.291	5.62E-05	8.80E-06	
	AM-241	0.999	2.80E-04	3.81E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2515 TI185-4.5M-S1-CST-A V0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 11:06:42AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	4	242.20	2.62802E-02	69.84	Tol.	RA-226
F	10	1081.29	5.25493E-02	15.28	Sum	
F	14	1361.80	3.10321E-02	28.01	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	3.44E-04	3.44E-04	4.63E-05	1.70E-04
	K-40	1460.83		10.67	1.60E-04	1.60E-04	4.95E-05	7.43E-05
	MN-54	834.84		99.98	1.72E-05	1.72E-05	9.63E-06	8.17E-06
	CO-58	810.78		99.45	1.78E-05	1.78E-05	-9.21E-07	8.48E-06
		863.96		0.68	3.77E-03		8.81E-04	1.80E-03
		1674.73		0.52	1.95E-03		8.29E-04	8.69E-04
	FE-59	142.65		1.00	1.63E-03	2.93E-05	-5.36E-04	8.01E-04
		192.35		3.01	9.25E-04		-5.40E-04	4.55E-04
		334.80		0.27	9.20E-03		5.45E-03	4.51E-03
		1099.25		56.30	3.59E-05		4.01E-05	1.70E-05
		1291.60		43.70	2.93E-05		1.51E-05	1.34E-05
+	CO-60	1173.24	*	99.97	3.01E-05	2.64E-05	5.04E-04	1.44E-05
		1332.50	*	99.99	2.64E-05		5.10E-04	1.25E-05
		2505.74		1.00	2.52E-03		2.33E-03	1.17E-03
	SR-85	514.00		96.00	3.03E-05	3.03E-05	1.69E-05	1.48E-05

Analysis Report for 24-2515 TI185-4.5M-S1-CST-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	868.60		0.01	1.67E-01	3.03E-05	9.52E-02	7.98E-02
	NB-94	702.62		97.90	2.11E-05	2.11E-05	8.71E-06	1.00E-05
		871.09		99.98	2.69E-05		-8.80E-06	1.29E-05
	NB-95	765.81		99.81	1.65E-05	1.65E-05	1.19E-05	7.88E-06
	RU-103	497.05		91.00	3.30E-05	3.30E-05	3.09E-05	1.62E-05
		610.30		5.76	4.12E-04		-1.31E-05	2.00E-04
	RH-106	511.86		20.70	1.67E-04	1.67E-04	1.73E-04	8.16E-05
		621.92		9.93	3.22E-04		-1.59E-06	1.56E-04
		1050.36		1.56	1.71E-03		2.11E-03	8.11E-04
	AG-108M	79.13		6.60	3.47E-04	3.70E-05	7.40E-05	1.70E-04
		433.90		90.50	6.55E-05		-1.84E-05	3.22E-05
		614.30		89.80	4.84E-05		-2.09E-05	2.35E-05
		722.90		90.80	3.70E-05		2.96E-05	1.77E-05
+	CD-109	88.03	*	3.61	7.62E-04	7.62E-04	3.51E-03	3.76E-04
	SB-125	176.31		6.82	2.66E-04	1.07E-04	-2.60E-05	1.31E-04
		380.45		1.52	1.78E-03		-9.03E-04	8.72E-04
		427.87		29.55	1.07E-04		-8.43E-05	5.26E-05
		463.36		10.48	3.41E-04		-8.66E-05	1.68E-04
		600.60		17.76	1.25E-04		-1.51E-04	6.07E-05
		606.71		5.02	4.69E-04		3.16E-04	2.28E-04
		635.95		11.32	2.03E-04		2.48E-04	9.83E-05
		671.44		1.78	1.65E-03		-2.65E-04	8.05E-04
+	SB-126	223.90		1.39	1.54E-03	2.76E-05	-3.15E-04	7.54E-04
		278.20		2.40	2.78E-03		2.11E-03	1.37E-03
		296.50		4.50	1.65E-03		1.10E-03	8.09E-04
		414.70	*	83.30	1.11E-04		3.89E-04	5.48E-05
		556.30		1.69	4.45E-03		-3.23E-03	2.16E-03
		573.90		6.70	1.14E-03		4.63E-04	5.55E-04
		593.20		7.50	7.53E-04		-3.33E-04	3.66E-04
		656.30		2.19	2.32E-02		-4.18E-05	1.15E-02
		666.50	*	99.60	2.76E-05		3.09E-04	1.29E-05
		674.80		3.10	1.61E-03		5.99E-04	7.67E-04
		695.00	*	99.60	5.51E-05		3.42E-04	2.66E-05
		697.00		29.00	3.79E-04		1.48E-03	1.85E-04
		720.70		53.80	9.99E-05		-5.41E-05	4.78E-05
		856.80		17.60	2.66E-04		2.45E-05	1.27E-04
		989.60		6.80	7.24E-04		4.49E-04	3.45E-04
		1213.30		2.39	1.40E-03		-7.92E-04	6.43E-04
+	Sn-126	64.28		9.60	3.67E-04	5.99E-05	3.97E-04	1.80E-04
		87.30	*	45.90	5.99E-05		2.76E-04	2.96E-05
	I-129	29.70		56.60	3.75E-03	3.32E-03	-2.86E-03	1.84E-03
		33.60		10.04	7.90E-03		1.02E-04	3.87E-03
		34.40		2.01	3.33E-02		-2.64E-02	1.64E-02
		39.60		7.51	3.32E-03		-3.61E-04	1.62E-03
	CS-134	563.25		8.34	4.56E-04	2.70E-05	-1.10E-04	2.21E-04
		569.33		15.37	2.73E-04		2.52E-04	1.33E-04
		604.72		97.62	3.32E-05		-5.76E-05	1.61E-05
		795.86		85.46	2.70E-05		-1.48E-05	1.28E-05
		801.95		8.69	3.34E-04		1.52E-04	1.59E-04
+	CS-137	661.66	*	85.20	1.96E-05	1.96E-05	7.43E-03	9.39E-06
	CE-139	165.85		79.89	2.19E-05	2.19E-05	-1.72E-05	1.08E-05
	CE-141	40.70		3.35	6.11E-03	3.42E-05	-4.99E-03	2.99E-03
		145.44		48.29	3.42E-05		2.07E-06	1.68E-05

Analysis Report for 24-2515 TI185-4.5M-S1-CST-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CE-144	80.12		1.36	1.64E-03	1.42E-04	-1.25E-04	8.05E-04
		133.51		11.09	1.42E-04		9.63E-05	6.98E-05
	EU-152	121.78		28.58	7.77E-05	6.87E-05	5.23E-06	3.82E-05
		344.28		26.50	1.18E-04		-4.38E-05	5.80E-05
		778.90		12.94	1.67E-04		-8.26E-05	7.97E-05
		964.08		14.73	1.64E-04		1.81E-04	7.82E-05
		1085.87		10.24	1.91E-04		1.15E-04	9.12E-05
		1112.07		13.69	1.94E-04		1.31E-04	9.33E-05
		1408.01		21.07	6.87E-05		2.30E-05	3.12E-05
	GD-153	97.43		29.00	5.64E-05	5.64E-05	-5.45E-07	2.77E-05
		103.18		21.10	7.49E-05		-2.53E-05	3.67E-05
+	EU-154	42.70		20.45	7.61E-04	3.95E-05	-3.53E-04	3.73E-04
		123.07	*	40.40	7.04E-05		5.13E-05	3.47E-05
		247.93	*	6.89	4.59E-04		1.68E-04	2.25E-04
		591.76		4.95	7.41E-04		-6.28E-04	3.60E-04
		692.42		1.78	2.60E-03		1.08E-02	1.27E-03
		723.30		20.06	1.28E-04		1.38E-04	6.13E-05
		756.80		4.52	5.50E-04		1.87E-04	2.61E-04
		873.18		12.08	2.38E-04		-5.98E-05	1.14E-04
		996.29		10.48	2.07E-04		-2.35E-04	9.86E-05
		1004.76		18.01	1.32E-04		2.17E-04	6.29E-05
		1246.12		0.86	2.42E-03		-3.01E-03	1.11E-03
		1274.43	*	34.80	3.95E-05		5.34E-05	1.79E-05
		1494.05		0.70	1.63E-03		-4.71E-04	7.34E-04
		1596.48		1.80	4.01E-04		-3.08E-05	1.82E-04
	EU-155	43.00		18.70	8.06E-04	7.36E-05	-3.65E-04	3.95E-04
		60.01		1.22	4.02E-03		1.16E-04	1.98E-03
		86.55		30.70	9.03E-05		2.43E-06	4.46E-05
		105.31		21.10	7.36E-05		4.00E-05	3.61E-05
	HG-203	72.87		6.30	4.29E-04	2.74E-05	-4.15E-05	2.11E-04
		279.20		81.46	2.74E-05		3.07E-06	1.34E-05
	BI-207	569.15		97.80	3.36E-05	3.36E-05	5.94E-06	1.63E-05
		1063.10		74.90	3.88E-05		1.10E-05	1.84E-05
	PB-210	46.54		4.25	2.44E-03	2.44E-03	1.77E-03	1.19E-03
	RA-226	74.81		6.44	3.98E-04	5.16E-05	-6.70E-07	1.96E-04
		77.11		10.80	2.23E-04		6.05E-05	1.09E-04
		87.30		4.84	5.70E-04		3.24E-05	2.82E-04
		186.21		3.59	5.95E-04		7.42E-04	2.93E-04
		242.00		7.43	2.97E-04		-2.28E-04	1.46E-04
		295.22		19.30	1.19E-04		4.06E-05	5.85E-05
		351.93		37.60	7.12E-05		-2.83E-05	3.50E-05
		609.31		46.10	5.16E-05		6.38E-05	2.51E-05
		768.36		4.94	3.34E-04		-6.10E-05	1.59E-04
		1120.29		15.10	1.36E-04		9.96E-05	6.47E-05
		1238.11		5.79	2.57E-04		-7.89E-05	1.19E-04
		1764.49		15.40	8.90E-05		9.30E-07	4.01E-05
	PA-231	283.70		1.59	1.44E-03	9.46E-04	7.83E-05	7.09E-04
		300.07		2.38	9.46E-04		7.37E-05	4.64E-04
		302.67		1.71	1.30E-03		1.06E-03	6.39E-04
		330.07		1.32	1.68E-03		-2.26E-03	8.25E-04
	TH-232	74.81		11.62	2.21E-04	2.98E-05	-3.71E-07	1.08E-04
		77.11		17.50	1.37E-04		3.74E-05	6.75E-05
		87.30		7.80	3.54E-04		2.01E-05	1.75E-04

Analysis Report for 24-2515 TI185-4.5M-S1-CST-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	238.63		43.30	5.17E-05	2.98E-05	1.50E-05	2.54E-05
		338.32		11.30	2.22E-04		1.91E-05	1.09E-04
		583.19		30.37	7.63E-05		2.27E-05	3.71E-05
		727.33		6.58	2.60E-04		-1.62E-04	1.24E-04
		911.21		26.60	7.13E-05		-2.25E-06	3.40E-05
		968.97		16.20	1.15E-04		4.46E-05	5.45E-05
		2614.53		35.64	2.98E-05		1.61E-05	1.25E-05
	U-235	143.76		10.96	1.50E-04	3.69E-05	6.67E-05	7.36E-05
		185.71		57.20	3.69E-05		4.66E-06	1.82E-05
		205.31		5.01	4.21E-04		1.50E-05	2.07E-04
	U-238	63.29		3.70	1.00E-03	4.08E-04	7.55E-04	4.92E-04
		92.51		4.23	4.08E-04		-5.26E-04	2.00E-04
		112.81		0.21	7.28E-03		1.72E-03	3.57E-03
		742.81		0.11	1.36E-02		-5.26E-04	6.46E-03
		766.28		0.32	5.12E-03		-1.38E-03	2.44E-03
		1001.03		0.84	2.53E-03		3.28E-03	1.21E-03
	NP-239	99.60		12.80	1.31E-04	6.82E-05	-3.13E-05	6.40E-05
		103.80		20.40	7.98E-05		-2.30E-05	3.91E-05
		106.10		26.40	6.82E-05		4.25E-05	3.34E-05
		116.90		7.61	2.04E-04		-5.05E-05	9.98E-05
		228.20		11.20	2.20E-04		-2.18E-05	1.08E-04
		277.60		14.50	1.77E-04		3.45E-05	8.69E-05
		315.90		1.60	1.35E-03		-1.96E-03	6.61E-04
		334.30		2.06	9.39E-04		-8.07E-04	4.61E-04
+	AM-241	59.54	*	35.90	1.76E-04	1.76E-04	2.80E-04	8.68E-05

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

Apex-Gamma

Analysis Report for 24-2516 TI185-4.5M-S1-CST-d-A V0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2516 TI185-4.5M-S1-CST-d-A V0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 11:36:47AM
Procedure	: V0_gsv02mlw
Operator	: Administrator
Detector Name	: V
Geometry	: V0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.9 seconds
Dead Time	: 0.16 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/8/2023
Efficiency Calibration Used Done On	: 3/28/2019
Efficiency Calibration Description	: V0_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578937
Certificate Name	: R735-A5 5ml PSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 11:56:56AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2516 TI185-4.5M-S1-CST-d-A V0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.72	175.86	0.2922	6.28
2	87.54	257.81	0.1891	11.29
3	123.20	362.64	0.2982	4.99
4	414.88	1220.79	0.1598	11.83
5	661.67	1946.84	0.0557	84.73
6	666.40	1960.85	0.1550	11.88
7	695.10	2045.12	0.1534	11.03
8	1081.26	3180.67	0.2178	4.84
9	1110.20	3265.94	0.2506	3.65
10	1173.25	3451.86	0.1120	16.84
11	1332.53	3920.42	0.1140	14.78

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2516 TI185-4.5M-S1-CST-d-A V0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 11:56:56AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.72	169 -	181	175.89	3.66E+02	75.68	6.97E+02	0.77
F	2	87.54	250 -	265	257.76	1.09E+03	121.67	8.22E+02	1.25
F	3	123.20	358 -	368	362.64	1.35E+02	19.53	5.10E+02	0.88
F	4	414.88	1214 -	1229	1220.77	6.27E+02	29.61	5.90E+02	1.44
M	5	661.67	1937 -	1970	1946.79	2.33E+04	222.07	1.84E+02	1.68
m	6	666.40	1937 -	1970	1960.69	4.74E+02	23.19	7.07E+01	1.69
F	7	695.10	2037 -	2055	2045.12	5.05E+02	22.24	8.01E+01	1.84
F	8	1081.26	3172 -	3190	3181.12	8.96E+01	10.66	3.70E+01	1.99
F	9	1110.20	3259 -	3275	3266.23	5.96E+01	34.07	3.87E+01	2.10
F	10	1173.25	3441 -	3461	3451.73	1.05E+03	66.06	4.19E+01	2.08
F	11	1332.53	3909 -	3931	3920.26	9.30E+02	60.47	2.86E+01	2.26

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 11:56:56AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578897.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.72	3.66E+02	75.68			3.66E+02	7.57E+01
F	2	87.54	1.09E+03	121.67	6.50E+00	7.06E-01	1.09E+03	1.22E+02
F	3	123.20	1.35E+02	19.53			1.35E+02	1.95E+01
F	4	414.88	6.27E+02	29.61			6.27E+02	2.96E+01
M	5	661.67	2.33E+04	222.07			2.33E+04	2.22E+02

Analysis Report for 24-2516 TI185-4.5M-S1-CST-d-A V0

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
m 6	666.40	4.74E+02	23.19			4.74E+02	2.32E+01
F 7	695.10	5.05E+02	22.24			5.05E+02	2.22E+01
F 8	1081.26	8.96E+01	10.66			8.96E+01	1.07E+01
F 9	1110.20	5.96E+01	34.07			5.96E+01	3.41E+01
F 10	1173.25	1.05E+03	66.06			1.05E+03	6.61E+01
F 11	1332.53	9.30E+02	60.47			9.30E+02	6.05E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	5.20E-04	3.28E-05	0.774
		1332.50	*	99.99	5.06E-04	3.29E-05	0.768
		2505.74		1.00			
CD-109	0.96	88.03	*	3.61	3.87E-03	5.11E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	3.66E-04	2.91E-05	0.396
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	3.23E-04	1.59E-05	0.385
		674.80		3.10			
		695.00	*	99.60	3.55E-04	1.57E-05	0.384
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.77	64.28		9.60			
		87.30	*	45.90	3.04E-04	4.15E-05	miss
CS-137	1.00	661.66	*	85.20	7.12E-03	7.40E-05	miss

Analysis Report for 24-2516 TI185-4.5M-S1-CST-d-A V0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
AM-241	0.99	59.54	*	35.90	2.94E-04	6.17E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-60	0.994	5.13E-04	2.32E-05	
?	CD-109	0.963	3.87E-03	5.11E-04	
	SB-126	0.489	3.43E-04	1.04E-05	
?	Sn-126	0.776	3.04E-04	4.15E-05	
	CS-137	1.000	7.12E-03	7.40E-05	
	AM-241	0.995	2.94E-04	6.17E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2516 TI185-4.5M-S1-CST-d-A V0
ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 11:56:56AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	123.20	1.12748E-01	14.44	Tol.	EU-154
F	8	1081.26	7.46801E-02	11.89	Sum	
F	9	1110.20	4.96554E-02	57.17	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	3.41E-04	3.41E-04	7.25E-05	1.68E-04
	K-40	1460.83		10.67	1.47E-04	1.47E-04	1.03E-04	6.77E-05
	MN-54	834.84		99.98	1.70E-05	1.70E-05	3.18E-06	8.07E-06
	CO-58	810.78		99.45	1.73E-05	1.73E-05	-4.49E-06	8.20E-06
		863.96		0.68	3.66E-03		-8.56E-04	1.75E-03
		1674.73		0.52	1.99E-03		-1.05E-03	8.89E-04
	FE-59	142.65		1.00	1.63E-03	3.35E-05	1.78E-03	8.01E-04
		192.35		3.01	9.32E-04		-6.28E-05	4.58E-04
		334.80		0.27	9.20E-03		-4.94E-03	4.52E-03
		1099.25		56.30	3.37E-05		-1.06E-05	1.60E-05
		1291.60		43.70	3.35E-05		2.72E-05	1.55E-05
+	CO-60	1173.24	*	99.97	2.77E-05	2.62E-05	5.20E-04	1.32E-05
		1332.50	*	99.99	2.62E-05		5.06E-04	1.24E-05
		2505.74		1.00	2.72E-03		4.85E-03	1.28E-03
	SR-85	514.00		96.00	2.82E-05	2.82E-05	-2.15E-05	1.38E-05

Analysis Report for 24-2516 TI185-4.5M-S1-CST-d-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	868.60		0.01	1.53E-01	2.82E-05	2.45E-02	7.31E-02
	NB-94	702.62		97.90	2.31E-05	2.31E-05	3.76E-06	1.10E-05
		871.09		99.98	2.60E-05		6.58E-06	1.24E-05
	NB-95	765.81		99.81	1.70E-05	1.70E-05	1.61E-05	8.11E-06
	RU-103	497.05		91.00	3.22E-05	3.22E-05	-1.64E-05	1.58E-05
		610.30		5.76	4.22E-04		4.24E-04	2.05E-04
	RH-106	511.86		20.70	1.60E-04	1.60E-04	4.61E-05	7.82E-05
		621.92		9.93	3.30E-04		2.21E-04	1.60E-04
		1050.36		1.56	1.59E-03		-2.38E-03	7.54E-04
	AG-108M	79.13		6.60	3.34E-04	3.59E-05	-3.05E-04	1.64E-04
		433.90		90.50	6.56E-05		-1.59E-05	3.23E-05
		614.30		89.80	4.94E-05		-3.48E-06	2.40E-05
		722.90		90.80	3.59E-05		4.30E-05	1.72E-05
+	CD-109	88.03	*	3.61	7.63E-04	7.63E-04	3.87E-03	3.77E-04
	SB-125	176.31		6.82	2.62E-04	1.06E-04	-1.52E-04	1.28E-04
		380.45		1.52	1.76E-03		-1.89E-03	8.63E-04
		427.87		29.55	1.06E-04		-5.41E-05	5.23E-05
		463.36		10.48	3.49E-04		1.06E-04	1.72E-04
		600.60		17.76	1.25E-04		3.68E-05	6.08E-05
		606.71		5.02	4.71E-04		3.60E-04	2.29E-04
		635.95		11.32	1.98E-04		1.55E-05	9.60E-05
		671.44		1.78	1.68E-03		-1.80E-04	8.19E-04
+	SB-126	223.90		1.39	1.53E-03	2.85E-05	7.41E-04	7.53E-04
		278.20		2.40	2.70E-03		-8.66E-04	1.32E-03
		296.50		4.50	1.60E-03		2.13E-04	7.86E-04
		414.70	*	83.30	1.06E-04		3.66E-04	5.24E-05
		556.30		1.69	4.34E-03		-2.10E-03	2.11E-03
		573.90		6.70	1.19E-03		3.50E-04	5.77E-04
		593.20		7.50	7.32E-04		-4.46E-04	3.56E-04
		656.30		2.19	2.26E-02		2.14E-04	1.12E-02
		666.50	*	99.60	2.85E-05		3.23E-04	1.33E-05
		674.80		3.10	1.58E-03		-1.54E-03	7.50E-04
		695.00	*	99.60	5.17E-05		3.55E-04	2.49E-05
		697.00		29.00	3.81E-04		1.64E-03	1.87E-04
		720.70		53.80	9.94E-05		6.47E-05	4.76E-05
		856.80		17.60	2.84E-04		1.08E-04	1.36E-04
		989.60		6.80	7.40E-04		3.26E-04	3.53E-04
		1213.30		2.39	1.35E-03		-9.99E-04	6.22E-04
+	Sn-126	64.28		9.60	3.69E-04	6.00E-05	4.78E-04	1.81E-04
		87.30	*	45.90	6.00E-05		3.04E-04	2.96E-05
	I-129	29.70		56.60	3.69E-03	3.31E-03	-6.56E-04	1.81E-03
		33.60		10.04	7.79E-03		-4.59E-03	3.82E-03
		34.40		2.01	3.31E-02		-3.16E-02	1.62E-02
		39.60		7.51	3.31E-03		-2.76E-03	1.62E-03
	CS-134	563.25		8.34	4.52E-04	2.47E-05	-2.03E-04	2.19E-04
		569.33		15.37	2.77E-04		2.66E-04	1.35E-04
		604.72		97.62	3.38E-05		-1.88E-05	1.64E-05
		795.86		85.46	2.47E-05		-2.01E-05	1.17E-05
		801.95		8.69	3.01E-04		1.02E-04	1.42E-04
+	CS-137	661.66	*	85.20	2.01E-05	2.01E-05	7.12E-03	9.64E-06
	CE-139	165.85		79.89	2.24E-05	2.24E-05	-1.02E-05	1.10E-05
	CE-141	40.70		3.35	6.18E-03	3.38E-05	-3.77E-03	3.02E-03
		145.44		48.29	3.38E-05		8.63E-07	1.66E-05

Analysis Report for 24-2516 TI185-4.5M-S1-CST-d-A V0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
CE-144	80.12	1.36	1.59E-03	1.37E-04	-1.11E-03	7.80E-04
	133.51	11.09	1.37E-04		-5.55E-05	6.72E-05
EU-152	121.78	28.58	7.85E-05	6.07E-05	7.26E-06	3.85E-05
	344.28	26.50	1.19E-04		3.30E-06	5.85E-05
	778.90	12.94	1.62E-04		1.46E-04	7.69E-05
	964.08	14.73	1.62E-04		-9.49E-05	7.72E-05
	1085.87	10.24	2.12E-04		5.05E-05	1.02E-04
	1112.07	13.69	1.78E-04		1.62E-04	8.49E-05
	1408.01	21.07	6.07E-05		2.52E-06	2.72E-05
GD-153	97.43	29.00	5.58E-05	5.58E-05	1.35E-05	2.73E-05
	103.18	21.10	7.37E-05		-5.74E-05	3.61E-05
EU-154	42.70	20.45	7.59E-04	5.48E-05	2.18E-05	3.71E-04
	123.07	40.40	5.48E-05		5.29E-05	2.69E-05
	247.93	6.89	4.68E-04		7.57E-05	2.30E-04
	591.76	4.95	7.40E-04		2.44E-04	3.59E-04
	692.42	1.78	2.64E-03		3.47E-04	1.29E-03
	723.30	20.06	1.23E-04		1.12E-04	5.89E-05
	756.80	4.52	5.52E-04		3.50E-04	2.62E-04
	873.18	12.08	2.34E-04		5.37E-05	1.12E-04
	996.29	10.48	2.18E-04		-1.50E-04	1.04E-04
	1004.76	18.01	1.30E-04		9.72E-05	6.20E-05
	1246.12	0.86	2.37E-03		-2.13E-04	1.09E-03
	1274.43	34.80	6.46E-05		8.53E-05	3.05E-05
	1494.05	0.70	1.66E-03		3.28E-04	7.47E-04
	1596.48	1.80	3.66E-04		-1.17E-04	1.65E-04
EU-155	43.00	18.70	7.86E-04	7.34E-05	-6.55E-04	3.85E-04
	60.01	1.22	3.94E-03		6.14E-03	1.94E-03
	86.55	30.70	9.20E-05		3.18E-06	4.54E-05
	105.31	21.10	7.34E-05		2.93E-05	3.60E-05
HG-203	72.87	6.30	4.15E-04	2.70E-05	-1.87E-04	2.04E-04
	279.20	81.46	2.70E-05		3.87E-06	1.32E-05
BI-207	569.15	97.80	3.41E-05	3.41E-05	2.29E-05	1.66E-05
	1063.10	74.90	4.19E-05		-8.41E-06	1.99E-05
PB-210	46.54	4.25	2.36E-03	2.36E-03	-1.26E-03	1.16E-03
RA-226	74.81	6.44	3.87E-04	5.22E-05	2.60E-05	1.90E-04
	77.11	10.80	2.19E-04		2.39E-04	1.07E-04
	87.30	4.84	5.78E-04		-3.87E-05	2.85E-04
	186.21	3.59	5.84E-04		3.81E-04	2.87E-04
	242.00	7.43	2.92E-04		-1.28E-04	1.43E-04
	295.22	19.30	1.16E-04		-1.86E-05	5.68E-05
	351.93	37.60	6.95E-05		6.61E-05	3.41E-05
	609.31	46.10	5.22E-05		2.00E-05	2.54E-05
	768.36	4.94	3.42E-04		7.03E-05	1.63E-04
	1120.29	15.10	1.29E-04		1.50E-04	6.11E-05
	1238.11	5.79	2.28E-04		-1.06E-04	1.05E-04
	1764.49	15.40	8.45E-05		8.14E-05	3.79E-05
PA-231	283.70	1.59	1.31E-03	9.52E-04	-1.48E-03	6.42E-04
	300.07	2.38	9.52E-04		1.30E-04	4.67E-04
	302.67	1.71	1.31E-03		2.06E-04	6.42E-04
	330.07	1.32	1.81E-03		7.57E-04	8.88E-04
TH-232	74.81	11.62	2.14E-04	3.60E-05	1.44E-05	1.05E-04
	77.11	17.50	1.35E-04		1.48E-04	6.62E-05
	87.30	7.80	3.59E-04		-2.40E-05	1.77E-04

Analysis Report for 24-2516 TI185-4.5M-S1-CST-d-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	238.63		43.30	5.02E-05	3.60E-05	2.13E-05	2.47E-05
		338.32		11.30	2.22E-04		9.59E-05	1.09E-04
		583.19		30.37	7.38E-05		-2.84E-05	3.58E-05
		727.33		6.58	2.54E-04		-1.62E-04	1.21E-04
		911.21		26.60	7.27E-05		-2.81E-05	3.47E-05
		968.97		16.20	1.25E-04		1.11E-04	5.96E-05
		2614.53		35.64	3.60E-05		2.50E-05	1.56E-05
	U-235	143.76		10.96	1.47E-04	3.63E-05	5.80E-06	7.22E-05
		185.71		57.20	3.63E-05		5.01E-06	1.79E-05
		205.31		5.01	4.11E-04		-1.18E-04	2.02E-04
	U-238	63.29		3.70	1.00E-03	4.21E-04	1.06E-03	4.93E-04
		92.51		4.23	4.21E-04		-1.23E-04	2.07E-04
		112.81		0.21	7.14E-03		-7.77E-03	3.50E-03
		742.81		0.11	1.40E-02		-6.66E-03	6.66E-03
		766.28		0.32	5.34E-03		6.84E-03	2.55E-03
		1001.03		0.84	2.45E-03		8.49E-05	1.17E-03
	NP-239	99.60		12.80	1.26E-04	6.95E-05	-1.18E-04	6.18E-05
		103.80		20.40	7.97E-05		5.20E-05	3.91E-05
		106.10		26.40	6.95E-05		7.54E-05	3.41E-05
		116.90		7.61	2.10E-04		1.79E-05	1.03E-04
		228.20		11.20	2.23E-04		5.85E-05	1.10E-04
		277.60		14.50	1.76E-04		6.78E-05	8.61E-05
		315.90		1.60	1.32E-03		-9.22E-04	6.46E-04
		334.30		2.06	9.69E-04		1.22E-03	4.76E-04
+	AM-241	59.54	*	35.90	1.46E-04	1.46E-04	2.94E-04	7.22E-05

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

Apex-Gamma

Analysis Report for 24-2517 TI185-4.5M-S2-CST-A W0
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2517 TI185-4.5M-S2-CST-A W0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 10:46:41AM
Procedure	: W0_gsv02mlw
Operator	: Administrator
Detector Name	: W
Geometry	: W0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.6 seconds
Dead Time	: 0.13 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 8/11/2023
Efficiency Calibration Used Done On	: 5/17/2021
Efficiency Calibration Description	: W0_gsv2mlw_R724p
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578928
Certificate Name	: R735-A10 20ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 11:06:49AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2517 TI185-4.5M-S2-CST-A W0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.57	161.98	0.2656	6.30
2	87.48	237.45	0.1857	10.02
3	123.13	333.77	0.3258	3.80
4	414.88	1121.08	0.1708	11.11
5	661.69	1787.35	0.0611	73.13
6	666.39	1800.31	0.1747	10.71
7	695.08	1877.36	0.1624	11.35
8	1081.26	2919.98	0.2370	5.07
9	1109.93	2997.57	0.2666	3.63
10	1173.31	3168.64	0.1274	13.80
11	1332.61	3598.80	0.1315	11.85
12	1361.69	3677.06	0.2526	4.31
13	2505.13	6766.27	0.2240	3.41

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2517 TI185-4.5M-S2-CST-A W0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 11:06:49AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.57	154 -	168	162.12	3.46E+02	106.62	8.43E+02	1.29
F	2	87.48	229 -	245	237.47	9.74E+02	34.53	8.57E+02	1.44
F	3	123.13	327 -	338	333.68	1.26E+02	28.59	5.65E+02	1.19
F	4	414.88	1112 -	1131	1121.11	6.59E+02	89.38	7.39E+02	1.66
M	5	661.69	1776 -	1811	1787.34	2.26E+04	203.25	1.16E+02	1.82
m	6	666.39	1776 -	1811	1800.03	5.28E+02	23.97	4.98E+01	1.82
F	7	695.08	1868 -	1888	1877.46	4.82E+02	55.17	6.68E+01	1.80
F	8	1081.26	2915 -	2927	2920.05	6.77E+01	9.94	3.14E+01	1.53
F	9	1109.93	2990 -	3003	2997.45	4.69E+01	27.85	4.59E+01	1.44
F	10	1173.31	3157 -	3179	3168.58	1.08E+03	32.47	3.45E+01	2.32
F	11	1332.61	3588 -	3609	3598.69	9.19E+02	30.06	2.79E+01	2.47
F	12	1361.69	3670 -	3684	3677.23	4.95E+01	7.53	7.31E+00	1.91
F	13	2505.13	6757 -	6775	6765.42	6.53E+01	8.91	1.01E+01	2.92

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 11:06:49AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578898.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.57	3.46E+02	106.62			3.46E+02	1.07E+02
F	2	87.48	9.74E+02	34.53	9.22E+00	7.54E-01	9.64E+02	3.45E+01
F	3	123.13	1.26E+02	28.59			1.26E+02	2.86E+01

Analysis Report for 24-2517 TI185-4.5M-S2-CST-A W0

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 4	414.88	6.59E+02	89.38			6.59E+02	8.94E+01
M 5	661.69	2.26E+04	203.25			2.26E+04	2.03E+02
m 6	666.39	5.28E+02	23.97	8.76E-01	8.33E-02	5.27E+02	2.40E+01
F 7	695.08	4.82E+02	55.17			4.82E+02	5.52E+01
F 8	1081.26	6.77E+01	9.94			6.77E+01	9.94E+00
F 9	1109.93	4.69E+01	27.85			4.69E+01	2.79E+01
F 10	1173.31	1.08E+03	32.47			1.08E+03	3.25E+01
F 11	1332.61	9.19E+02	30.06			9.19E+02	3.01E+01
F 12	1361.69	4.95E+01	7.53			4.95E+01	7.53E+00
F 13	2505.13	6.53E+01	8.91			6.53E+01	8.91E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	5.41E-04	1.66E-05	0.773
		1332.50	*	99.99	5.06E-04	1.69E-05	0.765
		2505.74	*	1.00	4.72E-03	7.09E-04	miss
CD-109	0.95	88.03	*	3.61	3.57E-03	1.64E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	4.03E-04	6.05E-05	0.393
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	3.78E-04	1.73E-05	0.382
		674.80		3.10			
		695.00	*	99.60	3.56E-04	4.08E-05	0.381
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			

Analysis Report for 24-2517 TI185-4.5M-S2-CST-A W0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	1213.30		2.39			
Sn-126	0.77	64.28		9.60			
		87.30	*	45.90	2.80E-04	1.60E-05	miss
CS-137	1.00	661.66	*	85.20	7.18E-03	7.56E-05	miss
AM-241	1.00	59.54	*	35.90	2.77E-04	8.56E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-60	0.998	5.25E-04	1.19E-05	
?	CD-109	0.953	3.57E-03	1.64E-04	
	SB-126	0.488	3.76E-04	1.54E-05	
?	Sn-126	0.775	2.80E-04	1.60E-05	
	CS-137	1.000	7.18E-03	7.56E-05	
	AM-241	1.000	2.77E-04	8.56E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2517 TI185-4.5M-S2-CST-A W0
ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 11:06:49AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	123.13	1.04645E-01	22.77	Tol.	EU-154
F	8	1081.26	5.64192E-02	14.68	Sum	
F	9	1109.93	3.90578E-02	59.43	Sum	
F	12	1361.69	4.12443E-02	15.22	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	3.57E-04	3.57E-04	2.19E-05	1.75E-04
	K-40	1460.83		10.67	1.56E-04	1.56E-04	1.92E-04	7.24E-05
	MN-54	834.84		99.98	1.61E-05	1.61E-05	-2.62E-05	7.60E-06
	CO-58	810.78		99.45	1.78E-05	1.78E-05	-2.80E-06	8.45E-06
		863.96		0.68	3.54E-03		-1.71E-03	1.68E-03
		1674.73		0.52	1.77E-03		-1.15E-03	7.76E-04
	FE-59	142.65		1.00	1.72E-03	2.78E-05	-1.54E-03	8.44E-04
		192.35		3.01	9.54E-04		1.21E-04	4.69E-04
		334.80		0.27	9.10E-03		-1.48E-04	4.46E-03
		1099.25		56.30	3.35E-05		-2.36E-05	1.58E-05
		1291.60		43.70	2.78E-05		-1.58E-05	1.26E-05
+	CO-60	1173.24	*	99.97	2.66E-05	2.61E-05	5.41E-04	1.26E-05
		1332.50	*	99.99	2.61E-05		5.06E-04	1.23E-05
		2505.74	*	1.00	2.08E-03		4.72E-03	9.40E-04

Analysis Report for 24-2517 TI185-4.5M-S2-CST-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	514.00		96.00	3.10E-05	3.10E-05	1.44E-05	1.52E-05
		868.60		0.01	1.57E-01		5.69E-02	7.51E-02
	NB-94	702.62		97.90	2.14E-05	2.14E-05	-9.40E-06	1.02E-05
		871.09		99.98	2.55E-05		2.79E-05	1.22E-05
	NB-95	765.81		99.81	1.52E-05	1.52E-05	-5.12E-06	7.20E-06
	RU-103	497.05		91.00	3.35E-05	3.35E-05	-1.09E-05	1.64E-05
		610.30		5.76	3.96E-04		1.09E-04	1.92E-04
	RH-106	511.86		20.70	1.73E-04	1.73E-04	-8.19E-05	8.47E-05
		621.92		9.93	3.06E-04		9.82E-05	1.48E-04
		1050.36		1.56	1.69E-03		-1.49E-03	8.02E-04
	AG-108M	79.13		6.60	3.47E-04	3.89E-05	-1.45E-04	1.70E-04
		433.90		90.50	6.82E-05		-4.99E-05	3.36E-05
		614.30		89.80	4.81E-05		-1.39E-05	2.33E-05
		722.90		90.80	3.89E-05		7.60E-05	1.86E-05
+	CD-109	88.03	*	3.61	8.26E-04	8.26E-04	3.57E-03	4.08E-04
	SB-125	176.31		6.82	2.75E-04	1.14E-04	-1.06E-04	1.35E-04
		380.45		1.52	1.78E-03		2.08E-04	8.72E-04
		427.87		29.55	1.14E-04		8.87E-05	5.62E-05
		463.36		10.48	3.64E-04		-1.92E-04	1.79E-04
		600.60		17.76	1.25E-04		5.07E-05	6.07E-05
		606.71		5.02	4.62E-04		4.07E-04	2.24E-04
		635.95		11.32	1.90E-04		7.17E-05	9.20E-05
		671.44		1.78	1.77E-03		-7.54E-05	8.66E-04
+	SB-126	223.90		1.39	1.56E-03	2.56E-05	-9.96E-04	7.66E-04
		278.20		2.40	2.80E-03		-1.97E-03	1.37E-03
		296.50		4.50	1.74E-03		1.80E-03	8.52E-04
		414.70	*	83.30	1.36E-04		4.03E-04	6.69E-05
		556.30		1.69	4.59E-03		-8.60E-04	2.23E-03
		573.90		6.70	1.15E-03		-2.71E-04	5.60E-04
		593.20		7.50	7.62E-04		1.27E-03	3.70E-04
		656.30		2.19	2.16E-02		-1.63E-03	1.07E-02
		666.50	*	99.60	2.56E-05		3.78E-04	1.18E-05
		674.80		3.10	1.63E-03		-3.89E-04	7.74E-04
		695.00	*	99.60	5.14E-05		3.56E-04	2.47E-05
		697.00		29.00	3.83E-04		1.57E-03	1.87E-04
		720.70		53.80	1.08E-04		1.55E-04	5.18E-05
		856.80		17.60	2.59E-04		1.28E-04	1.23E-04
		989.60		6.80	7.02E-04		-5.43E-04	3.34E-04
		1213.30		2.39	1.53E-03		5.56E-04	7.11E-04
+	Sn-126	64.28		9.60	3.87E-04	6.50E-05	3.03E-04	1.91E-04
		87.30	*	45.90	6.50E-05		2.80E-04	3.21E-05
	I-129	29.70		56.60	7.22E-03	4.34E-03	6.99E-03	3.55E-03
		33.60		10.04	1.21E-02		-7.08E-03	5.94E-03
		34.40		2.01	4.93E-02		-2.30E-02	2.42E-02
		39.60		7.51	4.34E-03		-2.95E-04	2.13E-03
	CS-134	563.25		8.34	4.68E-04	2.77E-05	-3.51E-05	2.27E-04
		569.33		15.37	2.69E-04		-2.13E-04	1.30E-04
		604.72		97.62	3.32E-05		1.07E-05	1.61E-05
		795.86		85.46	2.77E-05		7.79E-06	1.32E-05
		801.95		8.69	3.15E-04		-3.25E-04	1.49E-04
+	CS-137	661.66	*	85.20	1.68E-05	1.68E-05	7.18E-03	7.98E-06
	CE-139	165.85		79.89	2.32E-05	2.32E-05	-2.75E-06	1.14E-05
	CE-141	40.70		3.35	8.02E-03	3.65E-05	4.90E-04	3.94E-03

Analysis Report for 24-2517 TI185-4.5M-S2-CST-A W0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
CE-141	145.44	48.29	3.65E-05	3.65E-05	1.08E-05	1.79E-05
CE-144	80.12	1.36	1.65E-03	1.55E-04	-4.50E-04	8.09E-04
	133.51	11.09	1.55E-04		2.10E-05	7.60E-05
EU-152	121.78	28.58	8.50E-05	6.85E-05	6.13E-05	4.17E-05
	344.28	26.50	1.14E-04		-7.92E-05	5.60E-05
	778.90	12.94	1.72E-04		2.97E-04	8.18E-05
	964.08	14.73	1.66E-04		-7.55E-05	7.90E-05
	1085.87	10.24	2.17E-04		-4.79E-06	1.04E-04
	1112.07	13.69	1.80E-04		6.09E-05	8.59E-05
	1408.01	21.07	6.85E-05		-1.16E-04	3.09E-05
GD-153	97.43	29.00	6.20E-05	6.20E-05	-1.13E-05	3.04E-05
	103.18	21.10	8.25E-05		-6.41E-05	4.05E-05
EU-154	42.70	20.45	9.30E-04	5.83E-05	-2.03E-04	4.56E-04
	123.07	40.40	5.83E-05		5.06E-05	2.86E-05
	247.93	6.89	4.60E-04		-1.97E-04	2.26E-04
	591.76	4.95	7.48E-04		-1.49E-04	3.63E-04
	692.42	1.78	2.65E-03		-1.03E-04	1.29E-03
	723.30	20.06	1.33E-04		1.08E-04	6.35E-05
	756.80	4.52	5.45E-04		3.16E-04	2.58E-04
	873.18	12.08	2.24E-04		8.76E-05	1.07E-04
	996.29	10.48	2.18E-04		-4.18E-05	1.04E-04
	1004.76	18.01	1.37E-04		7.37E-05	6.56E-05
	1246.12	0.86	2.34E-03		-4.97E-04	1.07E-03
	1274.43	34.80	5.92E-05		6.79E-05	2.78E-05
	1494.05	0.70	1.63E-03		6.12E-04	7.32E-04
	1596.48	1.80	3.52E-04		-1.11E-04	1.57E-04
EU-155	43.00	18.70	9.72E-04	7.98E-05	-4.89E-04	4.76E-04
	60.01	1.22	4.11E-03		-9.72E-04	2.02E-03
	86.55	30.70	9.16E-05		7.29E-06	4.52E-05
	105.31	21.10	7.98E-05		4.92E-05	3.91E-05
HG-203	72.87	6.30	4.27E-04	2.78E-05	5.10E-04	2.10E-04
	279.20	81.46	2.78E-05		-1.13E-05	1.36E-05
BI-207	569.15	97.80	3.46E-05	3.46E-05	4.62E-06	1.68E-05
	1063.10	74.90	4.10E-05		4.47E-06	1.94E-05
PB-210	46.54	4.25	2.91E-03	2.91E-03	-5.53E-04	1.43E-03
RA-226	74.81	6.44	3.95E-04	4.94E-05	1.69E-04	1.94E-04
	77.11	10.80	2.22E-04		4.06E-08	1.09E-04
	87.30	4.84	5.73E-04		2.82E-03	2.83E-04
	186.21	3.59	6.04E-04		9.12E-04	2.97E-04
	242.00	7.43	2.90E-04		-1.12E-04	1.42E-04
	295.22	19.30	1.24E-04		5.38E-05	6.09E-05
	351.93	37.60	6.91E-05		6.74E-05	3.39E-05
	609.31	46.10	4.94E-05		4.53E-06	2.39E-05
	768.36	4.94	3.04E-04		6.69E-05	1.44E-04
	1120.29	15.10	1.28E-04		7.50E-05	6.07E-05
	1238.11	5.79	2.30E-04		-2.48E-05	1.06E-04
	1764.49	15.40	8.36E-05		-5.39E-05	3.73E-05
PA-231	283.70	1.59	1.48E-03	1.00E-03	4.35E-04	7.26E-04
	300.07	2.38	1.00E-03		-2.74E-04	4.93E-04
	302.67	1.71	1.41E-03		5.36E-04	6.92E-04
	330.07	1.32	1.80E-03		-8.16E-04	8.81E-04
TH-232	74.81	11.62	2.19E-04	4.30E-05	9.38E-05	1.08E-04
	77.11	17.50	1.37E-04		2.51E-08	6.74E-05

Analysis Report for 24-2517 TI185-4.5M-S2-CST-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	87.30		7.80	3.56E-04	4.30E-05	1.75E-03	1.76E-04
		238.63		43.30	5.05E-05		-8.00E-06	2.48E-05
		338.32		11.30	2.23E-04		1.24E-04	1.09E-04
		583.19		30.37	7.50E-05		4.80E-06	3.64E-05
		727.33		6.58	2.74E-04		1.87E-05	1.31E-04
		911.21		26.60	7.77E-05		-2.49E-05	3.72E-05
		968.97		16.20	1.25E-04		3.67E-05	5.94E-05
		2614.53		35.64	4.30E-05		3.00E-05	1.86E-05
	U-235	143.76		10.96	1.59E-04	3.74E-05	-3.69E-05	7.79E-05
		185.71		57.20	3.74E-05		7.66E-06	1.84E-05
		205.31		5.01	4.45E-04		9.82E-05	2.19E-04
	U-238	63.29		3.70	1.10E-03	4.37E-04	4.74E-04	5.39E-04
		92.51		4.23	4.37E-04		9.74E-05	2.15E-04
		112.81		0.21	7.91E-03		-4.99E-03	3.88E-03
		742.81		0.11	1.39E-02		1.88E-02	6.59E-03
		766.28		0.32	4.78E-03		-1.03E-04	2.26E-03
		1001.03		0.84	2.62E-03		2.23E-03	1.25E-03
	NP-239	99.60		12.80	1.38E-04	7.42E-05	-4.83E-05	6.76E-05
		103.80		20.40	8.63E-05		1.29E-05	4.23E-05
		106.10		26.40	7.42E-05		1.91E-05	3.64E-05
		116.90		7.61	2.32E-04		2.98E-04	1.14E-04
		228.20		11.20	2.18E-04		-2.15E-04	1.07E-04
		277.60		14.50	1.81E-04		1.13E-04	8.87E-05
		315.90		1.60	1.38E-03		-3.64E-04	6.76E-04
		334.30		2.06	9.07E-04		-1.66E-04	4.45E-04
+	AM-241	59.54	*	35.90	1.69E-04	1.69E-04	2.77E-04	8.34E-05

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

Apex-Gamma

Analysis Report for 24-2518 TI185-4.5M-S2-CST-d-A W0
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2518 TI185-4.5M-S2-CST-d-A W0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 11:37:03AM
Procedure	: W0_gsv02mlw
Operator	: Administrator
Detector Name	: W
Geometry	: W0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.7 seconds
Dead Time	: 0.14 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 8/11/2023
Efficiency Calibration Used Done On	: 5/17/2021
Efficiency Calibration Description	: W0_gsv2mlw_R724p
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578938
Certificate Name	: R735-A10 20ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 11:57:12AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2518 TI185-4.5M-S2-CST-d-A W0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.66	162.42	0.2711	5.64
2	87.51	237.59	0.1884	10.81
3	123.09	333.55	0.3110	3.68
4	414.78	1120.97	0.1642	11.65
5	487.11	1316.08	0.3582	3.40
6	661.70	1787.36	0.0600	74.54
7	666.33	1800.22	0.1775	10.53
8	695.04	1877.33	0.1604	11.35
9	1081.42	2920.11	0.2433	4.32
10	1110.20	2998.00	0.2454	3.87
11	1173.35	3168.74	0.1234	14.33
12	1332.58	3598.73	0.1248	14.96
13	2505.00	6765.54	0.2236	3.29

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2518 TI185-4.5M-S2-CST-d-A W0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 11:57:12AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.66	155 -	169	162.37	3.29E+02	91.47	9.67E+02	1.11
F	2	87.51	230 -	245	237.54	1.09E+03	116.66	7.89E+02	1.49
F	3	123.09	329 -	337	333.55	1.17E+02	22.23	4.97E+02	1.11
F	4	414.78	1113 -	1126	1120.84	6.14E+02	104.72	6.53E+02	1.47
	5	487.11	1312 -	1320	1316.08	1.22E+01	31.92	3.06E+02	0.74
M	6	661.70	1776 -	1809	1787.38	2.45E+04	151.32	1.89E+02	1.80
m	7	666.33	1776 -	1809	1799.87	5.19E+02	23.55	9.36E+01	1.80
F	8	695.04	1869 -	1886	1877.38	4.77E+02	22.30	6.30E+01	1.77
F	9	1081.42	2915 -	2928	2920.48	7.10E+01	10.52	3.66E+01	1.87
F	10	1110.20	2991 -	3006	2998.17	9.71E+01	29.94	1.50E+01	2.47
F	11	1173.35	3157 -	3177	3168.67	1.13E+03	66.51	4.00E+01	2.20
F	12	1332.58	3588 -	3611	3598.63	1.00E+03	53.19	3.07E+01	2.35
F	13	2505.00	6756 -	6775	6765.08	7.56E+01	8.93	0.00E+00	3.05

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 11:57:12AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578898.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.66	3.29E+02	91.47			3.29E+02	9.15E+01
F	2	87.51	1.09E+03	116.66	9.22E+00	7.54E-01	1.08E+03	1.17E+02
F	3	123.09	1.17E+02	22.23			1.17E+02	2.22E+01

Analysis Report for 24-2518 TI185-4.5M-S2-CST-d-A W0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	4	414.78	6.14E+02	104.72			6.14E+02	1.05E+02
	5	487.11	1.22E+01	31.92			1.22E+01	3.19E+01
M	6	661.70	2.45E+04	151.32			2.45E+04	1.51E+02
m	7	666.33	5.19E+02	23.55	8.76E-01	8.33E-02	5.19E+02	2.36E+01
F	8	695.04	4.77E+02	22.30			4.77E+02	2.23E+01
F	9	1081.42	7.10E+01	10.52			7.10E+01	1.05E+01
F	10	1110.20	9.71E+01	29.94			9.71E+01	2.99E+01
F	11	1173.35	1.13E+03	66.51			1.13E+03	6.65E+01
F	12	1332.58	1.00E+03	53.19			1.00E+03	5.32E+01
F	13	2505.00	7.56E+01	8.93			7.56E+01	8.93E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	5.66E-04	3.36E-05	0.773
		1332.50	*	99.99	5.51E-04	2.95E-05	0.765
		2505.74	*	1.00	5.46E-03	7.31E-04	miss
CD-109	0.95	88.03	*	3.61	4.00E-03	4.47E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	3.75E-04	6.84E-05	0.393
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	3.72E-04	1.70E-05	0.382
		674.80		3.10			
		695.00	*	99.60	3.52E-04	1.66E-05	0.381
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			

Analysis Report for 24-2518 TI185-4.5M-S2-CST-d-A W0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	1213.30		2.39			
Sn-126	0.77	64.28		9.60			
		87.30	*	45.90	3.15E-04	3.67E-05	miss
CS-137	1.00	661.66	*	85.20	7.79E-03	6.41E-05	miss
AM-241	0.99	59.54	*	35.90	2.62E-04	7.31E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-60	0.998	5.62E-04	2.22E-05	
?	CD-109	0.958	4.00E-03	4.47E-04	
	SB-126	0.489	3.62E-04	1.17E-05	
?	Sn-126	0.774	3.15E-04	3.67E-05	
	CS-137	1.000	7.79E-03	6.41E-05	
	AM-241	0.998	2.62E-04	7.31E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2518 TI185-4.5M-S2-CST-d-A W0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 11:57:12AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	123.09	9.71072E-02	19.07	Tol.	EU-154
	5	487.11	1.02005E-02	260.80		
F	9	1081.42	5.91654E-02	14.81	Sum	
F	10	1110.20	8.09341E-02	30.83	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	3.66E-04	3.66E-04	-1.76E-04	1.80E-04
	K-40	1460.83		10.67	1.54E-04	1.54E-04	1.41E-04	7.11E-05
	MN-54	834.84		99.98	1.84E-05	1.84E-05	-1.52E-05	8.78E-06
	CO-58	810.78		99.45	1.70E-05	1.70E-05	-1.05E-06	8.04E-06
		863.96		0.68	3.85E-03		-1.11E-03	1.84E-03
		1674.73		0.52	1.68E-03		1.21E-03	7.29E-04
	FE-59	142.65		1.00	1.79E-03	2.74E-05	6.00E-04	8.81E-04
		192.35		3.01	1.01E-03		-3.94E-04	4.95E-04
		334.80		0.27	9.67E-03		1.26E-03	4.75E-03
		1099.25		56.30	3.59E-05		-2.77E-06	1.71E-05
		1291.60		43.70	2.74E-05		4.77E-06	1.25E-05
+	CO-60	1173.24	*	99.97	2.71E-05	2.71E-05	5.66E-04	1.29E-05
		1332.50	*	99.99	2.84E-05		5.51E-04	1.35E-05
		2505.74	*	1.00	1.96E-04		5.46E-03	0.00E+00

Analysis Report for 24-2518 TI185-4.5M-S2-CST-d-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	514.00		96.00	3.16E-05	3.16E-05	-8.58E-06	1.55E-05
		868.60		0.01	1.65E-01		-8.29E-02	7.89E-02
	NB-94	702.62		97.90	2.20E-05	2.20E-05	2.26E-05	1.05E-05
		871.09		99.98	2.65E-05		-1.45E-05	1.27E-05
	NB-95	765.81		99.81	1.66E-05	1.66E-05	2.12E-05	7.91E-06
	RU-103	497.05		91.00	3.46E-05	3.46E-05	1.53E-05	1.70E-05
		610.30		5.76	4.11E-04		-1.14E-04	2.00E-04
	RH-106	511.86		20.70	1.76E-04	1.76E-04	-8.27E-06	8.61E-05
		621.92		9.93	3.09E-04		-2.48E-04	1.50E-04
		1050.36		1.56	1.65E-03		-5.08E-05	7.81E-04
	AG-108M	79.13		6.60	3.62E-04	3.65E-05	-1.78E-04	1.78E-04
		433.90		90.50	7.09E-05		3.04E-05	3.49E-05
		614.30		89.80	4.83E-05		-2.40E-05	2.34E-05
		722.90		90.80	3.65E-05		3.80E-05	1.75E-05
+	CD-109	88.03	*	3.61	7.75E-04	7.75E-04	4.00E-03	3.83E-04
	SB-125	176.31		6.82	2.86E-04	1.17E-04	-6.03E-05	1.40E-04
		380.45		1.52	1.81E-03		5.98E-04	8.90E-04
		427.87		29.55	1.17E-04		1.00E-04	5.78E-05
		463.36		10.48	3.78E-04		-2.09E-04	1.86E-04
		600.60		17.76	1.31E-04		6.95E-05	6.36E-05
		606.71		5.02	4.81E-04		3.77E-04	2.34E-04
		635.95		11.32	2.01E-04		-7.85E-05	9.72E-05
		671.44		1.78	1.76E-03		-2.89E-04	8.61E-04
+	SB-126	223.90		1.39	1.65E-03	3.43E-05	-1.26E-04	8.11E-04
		278.20		2.40	2.91E-03		-1.36E-03	1.43E-03
		296.50		4.50	1.78E-03		1.30E-04	8.72E-04
		414.70	*	83.30	1.11E-04		3.75E-04	5.45E-05
		556.30		1.69	5.04E-03		2.97E-03	2.45E-03
		573.90		6.70	1.18E-03		2.80E-05	5.72E-04
		593.20		7.50	7.47E-04		-2.22E-04	3.62E-04
		656.30		2.19	2.24E-02		-3.12E-04	1.11E-02
		666.50	*	99.60	3.43E-05		3.72E-04	1.62E-05
		674.80		3.10	1.67E-03		6.38E-04	7.93E-04
		695.00	*	99.60	4.73E-05		3.52E-04	2.26E-05
		697.00		29.00	3.79E-04		1.61E-03	1.85E-04
		720.70		53.80	9.98E-05		7.66E-05	4.77E-05
		856.80		17.60	2.73E-04		2.54E-04	1.30E-04
		989.60		6.80	7.05E-04		-2.83E-04	3.35E-04
		1213.30		2.39	1.64E-03		6.21E-04	7.62E-04
+	Sn-126	64.28		9.60	3.82E-04	6.09E-05	3.40E-04	1.88E-04
		87.30	*	45.90	6.09E-05		3.15E-04	3.01E-05
	I-129	29.70		56.60	7.52E-03	4.35E-03	-1.52E-03	3.69E-03
		33.60		10.04	1.28E-02		-1.85E-03	6.31E-03
		34.40		2.01	5.23E-02		-2.82E-03	2.57E-02
		39.60		7.51	4.35E-03		2.73E-03	2.13E-03
	CS-134	563.25		8.34	4.95E-04	2.74E-05	2.35E-05	2.41E-04
		569.33		15.37	2.74E-04		-1.07E-04	1.33E-04
		604.72		97.62	3.50E-05		-1.98E-05	1.70E-05
		795.86		85.46	2.74E-05		1.79E-05	1.30E-05
		801.95		8.69	3.17E-04		-2.10E-04	1.50E-04
+	CS-137	661.66	*	85.20	2.12E-05	2.12E-05	7.79E-03	1.02E-05
	CE-139	165.85		79.89	2.41E-05	2.41E-05	1.73E-05	1.18E-05
	CE-141	40.70		3.35	7.78E-03	3.68E-05	-1.29E-02	3.82E-03

Analysis Report for 24-2518 TI185-4.5M-S2-CST-d-A W0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
CE-141	145.44	48.29	3.68E-05	3.68E-05	-2.15E-05	1.81E-05
CE-144	80.12	1.36	1.73E-03	1.57E-04	-6.06E-04	8.50E-04
	133.51	11.09	1.57E-04		-4.40E-05	7.72E-05
EU-152	121.78	28.58	8.98E-05	6.85E-05	7.61E-05	4.41E-05
	344.28	26.50	1.19E-04		2.53E-06	5.82E-05
	778.90	12.94	1.60E-04		7.30E-05	7.57E-05
	964.08	14.73	1.70E-04		-1.55E-04	8.10E-05
	1085.87	10.24	2.11E-04		-4.70E-05	1.01E-04
	1112.07	13.69	1.90E-04		2.28E-04	9.08E-05
	1408.01	21.07	6.85E-05		2.55E-05	3.09E-05
GD-153	97.43	29.00	6.22E-05	6.22E-05	2.88E-06	3.05E-05
	103.18	21.10	8.54E-05		-2.56E-05	4.19E-05
EU-154	42.70	20.45	9.19E-04	5.92E-05	-3.63E-04	4.51E-04
	123.07	40.40	6.19E-05		5.46E-05	3.04E-05
	247.93	6.89	4.87E-04		-2.33E-04	2.39E-04
	591.76	4.95	7.36E-04		-4.70E-04	3.57E-04
	692.42	1.78	2.62E-03		3.15E-04	1.28E-03
	723.30	20.06	1.26E-04		1.09E-04	6.01E-05
	756.80	4.52	6.29E-04		4.60E-04	3.00E-04
	873.18	12.08	2.47E-04		1.59E-04	1.18E-04
	996.29	10.48	2.20E-04		-4.06E-05	1.05E-04
	1004.76	18.01	1.36E-04		9.05E-05	6.50E-05
	1246.12	0.86	2.47E-03		2.16E-04	1.13E-03
	1274.43	34.80	5.92E-05		6.73E-05	2.78E-05
	1494.05	0.70	1.33E-03		1.03E-03	5.81E-04
	1596.48	1.80	4.28E-04		5.11E-04	1.95E-04
EU-155	43.00	18.70	9.62E-04	8.21E-05	-2.64E-04	4.72E-04
	60.01	1.22	4.22E-03		7.62E-03	2.08E-03
	86.55	30.70	9.56E-05		6.42E-06	4.72E-05
	105.31	21.10	8.21E-05		-6.83E-07	4.03E-05
HG-203	72.87	6.30	4.40E-04	2.89E-05	4.78E-04	2.16E-04
	279.20	81.46	2.89E-05		-4.87E-06	1.42E-05
BI-207	569.15	97.80	3.53E-05	3.53E-05	3.89E-05	1.71E-05
	1063.10	74.90	4.38E-05		-3.73E-06	2.08E-05
PB-210	46.54	4.25	3.00E-03	3.00E-03	3.33E-03	1.47E-03
RA-226	74.81	6.44	4.09E-04	5.12E-05	3.83E-04	2.01E-04
	77.11	10.80	2.28E-04		-1.60E-04	1.12E-04
	87.30	4.84	5.96E-04		2.57E-03	2.94E-04
	186.21	3.59	6.17E-04		4.83E-04	3.04E-04
	242.00	7.43	3.17E-04		2.36E-04	1.56E-04
	295.22	19.30	1.28E-04		4.22E-05	6.27E-05
	351.93	37.60	7.08E-05		1.63E-05	3.48E-05
	609.31	46.10	5.12E-05		-5.58E-06	2.49E-05
	768.36	4.94	3.04E-04		-3.30E-04	1.44E-04
	1120.29	15.10	1.23E-04		1.64E-04	5.81E-05
	1238.11	5.79	2.58E-04		2.53E-04	1.20E-04
	1764.49	15.40	8.36E-05		-3.92E-06	3.73E-05
PA-231	283.70	1.59	1.54E-03	1.02E-03	7.68E-04	7.58E-04
	300.07	2.38	1.02E-03		-8.51E-04	5.00E-04
	302.67	1.71	1.42E-03		-2.86E-04	6.99E-04
	330.07	1.32	1.91E-03		-2.06E-03	9.35E-04
TH-232	74.81	11.62	2.27E-04	4.30E-05	2.13E-04	1.11E-04
	77.11	17.50	1.41E-04		-9.88E-05	6.93E-05

Analysis Report for 24-2518 TI185-4.5M-S2-CST-d-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	87.30		7.80	3.70E-04	4.30E-05	1.59E-03	1.83E-04
		238.63		43.30	5.35E-05		-2.02E-05	2.63E-05
		338.32		11.30	2.31E-04		-1.58E-04	1.13E-04
		583.19		30.37	8.01E-05		3.12E-05	3.89E-05
		727.33		6.58	2.67E-04		-2.17E-05	1.28E-04
		911.21		26.60	7.49E-05		-7.36E-05	3.58E-05
		968.97		16.20	1.22E-04		3.51E-05	5.84E-05
		2614.53		35.64	4.30E-05		3.00E-05	1.86E-05
	U-235	143.76		10.96	1.64E-04	3.89E-05	4.98E-05	8.04E-05
		185.71		57.20	3.89E-05		4.10E-05	1.91E-05
		205.31		5.01	4.54E-04		8.53E-05	2.24E-04
	U-238	63.29		3.70	1.10E-03	4.49E-04	1.07E-03	5.42E-04
		92.51		4.23	4.49E-04		-9.01E-05	2.20E-04
		112.81		0.21	8.18E-03		1.59E-03	4.01E-03
		742.81		0.11	1.42E-02		7.24E-03	6.74E-03
		766.28		0.32	5.18E-03		5.63E-03	2.46E-03
		1001.03		0.84	2.65E-03		1.25E-03	1.27E-03
	NP-239	99.60		12.80	1.43E-04	7.70E-05	-1.90E-05	7.03E-05
		103.80		20.40	8.97E-05		5.17E-07	4.40E-05
		106.10		26.40	7.70E-05		-1.84E-05	3.78E-05
		116.90		7.61	2.33E-04		-8.03E-05	1.14E-04
		228.20		11.20	2.35E-04		-1.01E-04	1.15E-04
		277.60		14.50	1.88E-04		-1.81E-04	9.22E-05
		315.90		1.60	1.44E-03		-1.23E-03	7.09E-04
		334.30		2.06	9.76E-04		4.09E-05	4.79E-04
+	AM-241	59.54	*	35.90	1.80E-04	1.80E-04	2.62E-04	8.90E-05

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

Apex-Gamma

Analysis Report for 24-2519 TI185-4.5M-S3-CST-A F0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2519 TI185-4.5M-S3-CST-A F0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 12:56:22PM
Procedure	: F0_gsv02mlw
Operator	: Administrator
Detector Name	: F
Geometry	: F0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.5 seconds
Dead Time	: 0.13 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: F0_gsv2mlw_R717
Sample Number	: 578941
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 1:16:29PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2519 TI185-4.5M-S3-CST-A F0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.66	167.30	0.2367	6.70
2	64.55	180.85	0.3371	4.25
3	87.58	245.39	0.1722	11.77
4	123.19	344.77	0.2868	4.68
5	414.91	1160.15	0.1546	12.77
6	661.88	1850.41	0.0585	73.11
7	666.51	1863.65	0.1700	10.55
8	695.35	1943.64	0.1525	10.47
9	1081.61	3023.39	0.2360	4.18
10	1110.31	3103.54	0.2316	4.79
11	1173.66	3280.58	0.1217	13.18
12	1332.98	3725.86	0.1195	13.59
13	2506.25	7003.58	0.2147	3.46

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2519 TI185-4.5M-S3-CST-A F0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 1:16:29PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.66	164 -	174	167.28	3.37E+02	28.53	6.03E+02	1.21
F	2	64.55	174 -	188	180.94	1.89E+02	77.54	6.62E+02	1.36
F	3	87.58	237 -	253	245.31	1.10E+03	111.31	7.90E+02	1.41
F	4	123.19	339 -	352	344.84	1.70E+02	89.37	5.24E+02	1.30
F	5	414.91	1152 -	1167	1160.16	6.56E+02	92.14	5.41E+02	1.47
M	6	661.88	1838 -	1872	1850.38	1.97E+04	134.92	1.47E+02	1.80
m	7	666.51	1838 -	1872	1863.31	4.24E+02	21.32	9.23E+01	1.80
F	8	695.35	1936 -	1954	1943.90	4.21E+02	21.26	9.29E+01	1.78
F	9	1081.61	3014 -	3032	3023.31	8.70E+01	33.94	3.80E+01	2.23
F	10	1110.31	3097 -	3109	3103.50	4.65E+01	18.22	5.85E+01	1.32
F	11	1173.66	3270 -	3291	3280.52	9.57E+02	30.09	6.08E+01	2.34
F	12	1332.98	3714 -	3736	3725.70	9.53E+02	61.81	2.87E+01	2.53
F	13	2506.25	6996 -	7012	7003.52	5.14E+01	7.17	0.00E+00	2.99

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 1:16:29PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578890.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.66	3.37E+02	28.53	2.74E+00	3.98E-01	3.34E+02	2.85E+01
F	2	64.55	1.89E+02	77.54			1.89E+02	7.75E+01
F	3	87.58	1.10E+03	111.31	1.07E+01	6.14E-01	1.09E+03	1.11E+02

Analysis Report for 24-2519 TI185-4.5M-S3-CST-A F0

ASR 2094 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 4	123.19	1.70E+02	89.37			1.70E+02	8.94E+01
F 5	414.91	6.56E+02	92.14			6.56E+02	9.21E+01
M 6	661.88	1.97E+04	134.92			1.97E+04	1.35E+02
m 7	666.51	4.24E+02	21.32			4.24E+02	2.13E+01
F 8	695.35	4.21E+02	21.26			4.21E+02	2.13E+01
F 9	1081.61	8.70E+01	33.94			8.70E+01	3.39E+01
F 10	1110.31	4.65E+01	18.22			4.65E+01	1.82E+01
F 11	1173.66	9.57E+02	30.09			9.57E+02	3.01E+01
F 12	1332.98	9.53E+02	61.81			9.53E+02	6.18E+01
F 13	2506.25	5.14E+01	7.17			5.14E+01	7.17E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.96	1173.23	*	99.85	4.77E-04	1.52E-05	0.786
		1332.49	*	99.98	5.19E-04	3.39E-05	0.777
CD-109	0.96	88.03	*	3.64	3.64E-03	3.74E-04	free
Te-129m	0.95	695.88	*	3.00	3.96E-03	8.17E-04	free
CS-137	0.99	661.66	*	85.10	6.27E-03	5.75E-05	miss
AM-241	0.99	59.54	*	35.90	2.23E-04	1.94E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

Analysis Report for 24-2519 TI185-4.5M-S3-CST-A F0

ASR 2094 Branch

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.966	4.84E-04	1.39E-05	
CD-109	0.967	3.64E-03	3.74E-04	
Te-129m	0.955	3.96E-03	8.17E-04	
CS-137	0.992	6.27E-03	5.75E-05	
AM-241	0.998	2.23E-04	1.94E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2519 TI185-4.5M-S3-CST-A F0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 1:16:29PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F 2	64.55	1.57808E-01	40.95	Tol.	W-181 OS-191
F 4	123.19	1.41300E-01	52.71	Tol.	HF-172
F 5	414.91	5.47066E-01	14.04	Tol.	RH-102M
m 7	666.51	3.53697E-01	5.02		
F 9	1081.61	7.24937E-02	39.01		
F 10	1110.31	3.87329E-02	39.20		
F 13	2506.25	4.28004E-02	13.97	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.60	10.44	3.36E-04	3.36E-04	-8.75E-05	1.65E-04
NA-22	511.00	179.91	1.58E-05	1.58E-05	2.90E-06	7.71E-06
	1274.54	99.94	3.14E-05		2.26E-05	1.46E-05
NA-24	1368.63	99.99	2.64E-05	1.21E-05	9.39E-06	1.23E-05
	2754.01	99.87	1.21E-05		2.62E-06	4.30E-06
AL-26	1129.67	2.50	8.40E-04	1.12E-05	9.09E-04	3.98E-04
	1808.65	99.76	1.12E-05		8.39E-06	4.88E-06
K-40	1460.82	10.66	1.67E-04	1.67E-04	2.19E-04	7.79E-05

Analysis Report for 24-2519 TI185-4.5M-S3-CST-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
K-42	312.60	0.34	1.01E-02	8.66E-05	3.47E-03	4.94E-03
	1524.60	18.08	8.66E-05		-5.41E-06	3.84E-05
Sc-44	1157.02	99.90	4.56E-05	4.56E-05	-4.99E-05	2.13E-05
	1499.46	0.91	4.26E-03		-4.68E-03	1.92E-03
Sc-44m	271.24	86.74	2.80E-05	2.80E-05	2.18E-05	1.38E-05
	1001.83	1.20	3.35E-03		3.83E-03	1.60E-03
	1126.06	1.20	2.98E-03		-4.30E-04	1.41E-03
	1157.00	1.20	2.37E-03		-2.59E-03	1.11E-03
TI-44	67.87	93.00	3.43E-05	2.60E-05	-6.22E-06	1.68E-05
	78.32	96.40	2.60E-05		-1.95E-05	1.28E-05
SC-46	889.28	99.98	2.53E-05	2.53E-05	2.83E-05	1.21E-05
	1120.55	99.99	2.55E-05		-2.86E-05	1.21E-05
CA-47	489.23	5.90	7.00E-04	1.98E-05	7.34E-04	3.43E-04
	807.86	5.90	3.97E-04		3.29E-04	1.88E-04
	1297.09	67.00	1.98E-05		-1.54E-05	9.02E-06
SC-47	159.38	68.30	2.72E-05	2.72E-05	-1.62E-05	1.34E-05
SC-48	175.36	7.47	2.67E-04	1.55E-05	2.57E-04	1.31E-04
	983.53	100.00	2.04E-05		1.92E-05	9.66E-06
	1037.52	97.50	2.20E-05		1.48E-05	1.04E-05
	1312.12	100.00	1.55E-05		6.55E-06	7.13E-06
V-48	944.13	7.87	3.30E-04	1.90E-05	-1.60E-04	1.58E-04
	983.53	99.98	2.39E-05		2.25E-05	1.13E-05
	1312.11	98.20	1.90E-05		8.04E-06	8.75E-06
	2240.40	2.33	6.94E-04		-3.97E-04	3.00E-04
CR-51	320.08	9.91	2.37E-04	2.37E-04	-1.16E-04	1.16E-04
Fe-52	168.69	99.20	3.00E-05	3.00E-05	2.47E-06	1.47E-05
	377.75	1.64	2.61E-03		-6.72E-04	1.28E-03
Mn-52	744.23	90.00	2.76E-05	2.09E-05	-6.85E-06	1.30E-05
	848.18	3.32	9.05E-04		-3.89E-04	4.31E-04
	935.54	94.50	3.69E-05		-8.90E-05	1.76E-05
	1246.28	4.21	5.46E-04		2.17E-04	2.51E-04
	1333.65	5.07	1.97E-03		1.27E-02	9.68E-04
	1434.09	100.00	2.09E-05		-7.01E-06	9.36E-06
MN-54	834.85	99.98	1.79E-05	1.79E-05	-8.66E-06	8.54E-06
Co-55	411.50	1.07	4.46E-03	3.38E-05	1.34E-03	2.20E-03
	477.20	20.20	2.23E-04		5.57E-05	1.10E-04
	803.70	1.87	1.17E-03		3.39E-04	5.56E-04
	931.10	75.00	3.38E-05		-1.76E-05	1.61E-05
	1316.60	7.10	2.22E-04		5.28E-05	1.01E-04
	1370.00	2.90	6.55E-04		-1.28E-03	3.02E-04
	1408.50	16.90	9.18E-05		-2.21E-05	4.14E-05
Co-56	846.77	99.94	2.40E-05	1.51E-05	-3.08E-06	1.15E-05
	977.37	1.42	2.16E-03		-4.67E-05	1.03E-03
	1037.84	14.05	1.95E-04		-3.03E-05	9.26E-05
	1175.10	2.25	4.36E-03		2.78E-02	2.14E-03
	1238.29	66.46	3.13E-05		-1.11E-05	1.44E-05
	1360.21	4.28	5.80E-04		3.83E-04	2.72E-04
	1771.36	15.41	1.43E-04		8.42E-05	6.52E-05
	2015.20	3.02	5.76E-04		4.90E-04	2.55E-04
	2034.79	7.77	2.31E-04		3.54E-05	1.02E-04
	2598.50	16.97	1.51E-05		0.00E+00	0.00E+00
MN-56	846.76	98.85	1.03E-04	1.03E-04	-1.32E-05	4.92E-05
	1810.73	26.90	2.82E-04		-1.74E-04	1.23E-04

Analysis Report for 24-2519 TI185-4.5M-S3-CST-A F0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	MN-56	2113.09		14.20	6.37E-04	1.03E-04	5.11E-04	2.80E-04
	Ni-56	158.38		98.80	1.85E-05	1.85E-05	2.20E-05	9.07E-06
		269.50		36.50	5.93E-05		3.66E-05	2.91E-05
		480.44		36.50	9.40E-05		-1.62E-05	4.62E-05
		749.50		49.50	3.27E-05		-1.87E-05	1.55E-05
		811.85		86.00	1.99E-05		1.03E-05	9.46E-06
		1561.80		14.00	8.48E-05		1.16E-05	3.77E-05
	CO-57	122.06		85.60	2.03E-05	2.03E-05	-2.16E-06	9.96E-06
		136.47		10.68	1.54E-04		1.80E-04	7.56E-05
	NI-57	127.16		16.70	1.18E-04	1.71E-05	8.93E-05	5.77E-05
		1377.63		81.70	1.71E-05		1.85E-05	7.73E-06
		1757.55		5.75	2.78E-04		2.20E-04	1.25E-04
		1919.52		12.30	8.71E-05		-9.65E-05	3.68E-05
	CO-58	810.76		99.45	1.82E-05	1.82E-05	6.38E-06	8.64E-06
		863.96		0.69	3.76E-03		8.87E-04	1.80E-03
		1674.73		0.52	2.04E-03		1.88E-03	9.10E-04
	FE-59	142.65		1.02	1.60E-03	3.09E-05	4.02E-04	7.84E-04
		192.34		3.08	9.14E-04		6.83E-04	4.50E-04
		1099.24		56.50	3.62E-05		-1.66E-05	1.72E-05
		1291.59		43.20	3.09E-05		7.99E-07	1.41E-05
+	CO-60	1173.23	*	99.85	3.40E-05	2.64E-05	4.77E-04	1.63E-05
		1332.49	*	99.98	2.64E-05		5.19E-04	1.25E-05
	CU-64	511.00		35.00	1.13E-04	1.13E-04	2.08E-05	5.53E-05
		1345.77		0.47	3.91E-03		-1.80E-03	1.78E-03
	NI-65	366.27		4.81	3.67E-03	2.50E-04	1.62E-03	1.80E-03
		1115.53		15.43	9.26E-04		4.00E-04	4.43E-04
		1481.84		23.59	2.50E-04		-1.38E-04	1.11E-04
	ZN-65	1115.54		50.04	4.85E-05	4.85E-05	2.09E-05	2.32E-05
	GA-66	511.00		114.00	3.88E-05	3.88E-05	7.14E-06	1.90E-05
		833.53		5.90	4.64E-04		5.80E-05	2.21E-04
		1039.22		37.00	7.91E-05		4.18E-05	3.75E-05
		1333.11		1.17	8.51E-03		5.46E-02	4.18E-03
		1918.33		1.99	7.14E-04		-3.33E-05	2.99E-04
		2189.62		5.30	3.83E-04		9.50E-05	1.67E-04
		2751.83		22.70	4.96E-05		-1.36E-04	1.76E-05
	CU-67	91.27		7.00	3.44E-04	4.42E-05	9.82E-05	1.69E-04
		93.31		16.10	1.09E-04		9.75E-06	5.35E-05
		184.58		48.70	4.42E-05		-1.10E-05	2.17E-05
		300.22		0.80	3.15E-03		-3.67E-04	1.55E-03
		393.53		0.22	1.32E-02		-2.61E-04	6.45E-03
	GA-67	91.26		3.11	8.94E-04	4.81E-05	2.55E-04	4.41E-04
		93.31		38.81	4.81E-05		4.30E-06	2.36E-05
		184.58		21.41	1.00E-04		-2.49E-05	4.94E-05
		208.95		2.46	1.27E-03		2.72E-05	6.26E-04
		300.22		16.64	1.69E-04		-1.97E-05	8.31E-05
		393.53		4.56	3.91E-04		-7.78E-06	1.92E-04
	ZN-69m	438.63		94.85	4.64E-05	4.64E-05	-4.83E-06	2.28E-05
	GA-72	629.97		26.13	1.96E-04	3.16E-05	-1.18E-06	9.51E-05
		834.13		95.45	3.16E-05		-1.56E-05	1.50E-05
		894.33		10.14	4.36E-04		-2.11E-04	2.08E-04
		1050.79		6.99	6.15E-04		-4.13E-05	2.91E-04
		2201.59		26.87	9.53E-05		8.10E-05	4.22E-05
		2491.03		7.73	1.50E-04		-1.35E-04	5.63E-05

Analysis Report for 24-2519 TI185-4.5M-S3-CST-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
GA-72	2507.72	13.33	3.57E-04	3.16E-05	5.49E-04	1.66E-04
Zn-72	144.70	82.78	2.11E-05	2.11E-05	-1.53E-05	1.04E-05
	191.50	9.35	2.51E-04		-6.57E-05	1.24E-04
SE-75	121.12	17.20	1.39E-04	3.82E-05	-1.68E-05	6.82E-05
	136.00	58.50	3.82E-05		5.08E-05	1.87E-05
	264.66	58.90	4.74E-05		-5.07E-05	2.32E-05
	279.54	25.02	1.11E-04		7.33E-05	5.46E-05
	400.66	11.41	8.41E-05		-2.57E-05	4.12E-05
BR-83	529.59	1.30	1.14E-02	1.14E-02	3.63E-04	5.56E-03
BR-84	604.80	1.70	4.39E+00	1.36E-01	3.45E+00	2.14E+00
	736.50	1.29	3.36E+00		-3.83E-01	1.59E+00
	802.20	6.00	8.23E-01		-2.35E-01	3.91E-01
	881.60	42.00	1.36E-01		6.06E-02	6.49E-02
	987.30	0.79	6.77E+00		1.77E+00	3.21E+00
	1015.90	6.20	9.11E-01		2.22E-01	4.33E-01
	1213.30	2.60	1.68E+00		-1.77E+00	7.80E-01
	1463.80	2.00	2.59E+00		1.98E+00	1.20E+00
	1741.20	1.60	1.56E+00		8.40E-01	6.52E-01
	1877.50	1.12	3.53E+00		3.25E+00	1.58E+00
	1897.60	14.60	2.06E-01		5.91E-03	8.80E-02
	2029.60	2.10	1.66E+00		-9.19E-01	7.22E-01
	2200.70	1.16	3.66E+00		3.11E+00	1.62E+00
	2484.10	6.70	3.65E-01		-4.67E-01	1.41E-01
	2824.10	1.12	2.27E+00		6.32E-01	8.49E-01
KR-85m	151.20	75.20	5.58E-05	5.58E-05	-2.78E-05	2.73E-05
	304.87	14.00	4.31E-04		7.50E-05	2.11E-04
Y-87	388.53	82.20	3.45E-05	3.45E-05	1.07E-05	1.69E-05
	484.80	89.80	3.65E-05		-8.65E-06	1.79E-05
KR-88	165.98	3.10	4.21E-03	1.24E-04	8.63E-04	2.07E-03
	196.30	26.00	4.51E-04		1.16E-04	2.22E-04
	362.23	2.25	4.23E-03		-5.48E-04	2.07E-03
	471.80	0.73	2.78E-02		-2.58E-03	1.37E-02
	834.83	13.00	7.51E-04		-3.63E-04	3.58E-04
	985.78	1.31	8.92E-03		-4.21E-03	4.23E-03
	1141.33	1.28	6.98E-03		-2.27E-03	3.28E-03
	1179.51	1.00	3.60E-02		-2.17E-03	1.77E-02
	1250.67	1.12	6.88E-03		6.39E-03	3.15E-03
	1369.50	1.48	6.65E-03		3.37E-03	3.09E-03
	1518.39	2.15	3.08E-03		-3.27E-04	1.36E-03
	1529.77	10.90	5.04E-04		-8.77E-04	2.18E-04
	2029.84	4.53	1.84E-03		-9.34E-04	8.02E-04
	2035.41	3.74	2.09E-03		-1.64E-03	9.18E-04
	2195.84	13.20	5.44E-04		-6.33E-04	2.35E-04
	2231.77	3.39	1.50E-03		3.24E-04	6.58E-04
	2352.08	0.73	8.62E-03		4.66E-03	3.61E-03
	2392.11	34.60	1.24E-04		6.26E-05	5.15E-05
RB-88	898.03	14.40	7.92E-04	2.62E-04	6.33E-04	3.79E-04
	1382.45	0.78	7.93E-03		-1.55E-02	3.56E-03
	1836.00	22.81	2.62E-04		5.73E-05	1.14E-04
	2677.89	2.13	2.48E-03		9.46E-04	9.84E-04
Y-88	898.04	93.70	2.70E-05	1.43E-05	2.16E-05	1.29E-05
	1836.06	99.20	1.43E-05		3.12E-06	6.21E-06
RB-89	272.42	1.53	2.24E+04	4.53E+02	-7.57E+03	1.10E+04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
RB-89	657.77	10.80	2.52E+04	4.53E+02	-2.50E+02	1.25E+04
	947.73	10.00	3.08E+03		8.28E+02	1.47E+03
	1031.92	63.00	4.63E+02		-7.05E+02	2.19E+02
	1248.14	46.00	4.53E+02		2.33E+02	2.08E+02
	1538.07	2.77	5.62E+03		-7.19E+03	2.46E+03
	2007.50	2.58	7.15E+03		5.37E+03	3.12E+03
	2195.92	14.50	1.30E+03		-1.51E+03	5.62E+02
	2570.20	10.70	1.34E+03		5.12E+02	5.33E+02
	2707.26	2.20	3.89E+03		-8.99E+03	1.23E+03
SR-89	908.96	0.01	2.11E-01	2.11E-01	3.20E-02	1.01E-01
Sr-91	652.90	11.35	3.26E-04	9.27E-05	1.68E-05	1.58E-04
	749.80	23.70	1.03E-04		-5.88E-05	4.89E-05
	925.80	3.85	8.20E-04		1.43E-03	3.92E-04
	1024.30	33.50	9.27E-05		1.99E-05	4.41E-05
Y-91	1204.77	0.26	5.94E-03	5.94E-03	1.44E-03	2.76E-03
Y-91m	555.57	61.64	5.65E-05	5.65E-05	3.98E-05	2.74E-05
NB-92M	912.60	1.78	1.48E-03	2.09E-05	-4.36E-04	7.08E-04
	934.44	99.15	2.09E-05		-1.08E-05	9.99E-06
	1847.50	0.85	1.19E-03		1.01E-03	5.25E-04
SR-92	241.56	2.93	3.72E-03	6.66E-05	1.50E-03	1.83E-03
	430.49	3.28	4.85E-03		-4.85E-03	2.38E-03
	953.31	3.52	2.67E-03		-1.68E-03	1.27E-03
	1142.35	2.79	3.25E-03		1.62E-03	1.53E-03
	1383.93	90.00	6.66E-05		-4.78E-05	3.00E-05
MO-93M	114.04	0.68	4.44E-03	2.16E-05	1.60E-03	2.18E-03
	263.05	57.40	6.65E-05		3.16E-05	3.26E-05
	684.69	99.90	2.94E-05		6.96E-06	1.40E-05
	1363.02	0.81	4.10E-03		3.66E-03	1.92E-03
	1477.14	99.10	2.16E-05		1.27E-06	9.66E-06
SR-93	168.50	18.40	5.87E+10	2.13E+10	4.84E+09	2.88E+10
	260.12	7.40	1.68E+11		-5.25E+10	8.23E+10
	346.49	3.28	4.58E+11		-6.76E+11	2.25E+11
	446.20	2.36	8.90E+11		8.90E+11	4.38E+11
	590.24	68.00	2.13E+10		3.23E+09	1.04E+10
	710.31	21.80	4.31E+10		7.80E+09	2.05E+10
	875.73	24.50	5.07E+10		-7.05E+09	2.43E+10
	888.13	22.10	5.39E+10		3.58E+10	2.57E+10
	1040.63	3.20	3.45E+11		-2.96E+11	1.63E+11
	1094.00	1.76	6.72E+11		1.38E+11	3.19E+11
	1122.48	4.00	3.01E+11		-1.66E+09	1.43E+11
	1215.48	2.50	3.67E+11		2.53E+11	1.70E+11
	1269.47	7.10	1.29E+11		-1.04E+11	6.00E+10
	1321.24	2.61	2.96E+11		-1.33E+11	1.35E+11
	1387.11	3.50	2.15E+11		-1.05E+11	9.75E+10
	1694.07	2.58	2.56E+11		-3.61E+11	1.12E+11
	1699.06	3.30	2.00E+11		5.76E+10	8.78E+10
	2543.84	3.03	1.53E+11		4.25E+10	5.71E+10
	2688.65	2.13	3.22E+11		1.50E+11	1.32E+11
Y-93	266.90	7.40	4.24E-04	4.24E-04	1.97E-04	2.08E-04
	947.10	2.10	1.47E-03		1.24E-03	7.03E-04
	1917.80	1.57	9.18E-04		5.27E-04	3.88E-04
NB-94	702.65	99.81	2.34E-05	2.34E-05	-7.60E-06	1.12E-05
	871.09	99.89	2.79E-05		2.11E-05	1.34E-05

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Y-94	381.60	2.02	9.90E+02	2.70E+01	-6.66E+02	4.85E+02
	550.90	4.90	3.57E+02		-5.18E+02	1.73E+02
	752.60	1.40	8.95E+02		4.69E+02	4.25E+02
	918.74	56.00	2.70E+01		3.80E+00	1.29E+01
	1138.90	6.00	2.27E+02		-1.34E+02	1.07E+02
	1671.40	2.50	3.81E+02		-1.18E+02	1.70E+02
	2140.60	0.95	9.48E+02		6.32E+02	4.08E+02
NB-95	765.80	99.81	1.67E-05	1.67E-05	-3.02E-06	7.94E-06
ZR-95	724.19	44.27	4.17E-05	3.10E-05	-7.63E-06	2.00E-05
	756.72	54.38	3.10E-05		2.10E-05	1.48E-05
NB-96	219.08	2.97	8.28E-04	2.02E-05	-3.26E-04	4.07E-04
	241.38	3.50	7.38E-04		2.97E-04	3.62E-04
	350.05	1.54	1.99E-03		3.57E-04	9.79E-04
	352.56	0.83	3.69E-03		4.18E-03	1.81E-03
	371.81	2.62	1.17E-03		-9.68E-04	5.75E-04
	460.04	26.62	1.60E-04		5.71E-05	7.88E-05
	480.71	5.84	6.84E-04		-1.18E-04	3.36E-04
	568.87	58.00	4.63E-05		2.13E-05	2.24E-05
	719.56	6.85	3.28E-04		3.71E-04	1.57E-04
	721.63	1.02	2.21E-03		2.57E-03	1.06E-03
	778.22	96.45	2.02E-05		-1.64E-05	9.59E-06
	810.33	11.09	1.77E-04		-4.08E-05	8.42E-05
	812.58	2.95	6.60E-04		-2.62E-04	3.13E-04
	847.69	1.14	1.92E-03		-5.66E-04	9.16E-04
	849.93	20.45	1.07E-04		-2.65E-05	5.08E-05
	1091.35	48.50	4.69E-05		-2.59E-05	2.22E-05
	1200.23	19.97	9.29E-05		4.81E-05	4.32E-05
	1441.13	0.44	3.01E-03		-2.65E-03	1.34E-03
	1497.81	3.28	4.49E-04		-1.92E-04	2.02E-04
Nb-97	657.94	98.23	2.34E-04	2.34E-04	-1.27E-05	1.16E-04
	1024.40	1.09	2.37E-03		5.09E-04	1.13E-03
ZR-97	254.17	1.15	2.32E-03	1.99E-05	-2.08E-03	1.14E-03
	355.40	2.09	2.24E-03		2.50E-03	1.10E-03
	507.64	5.03	9.99E-04		4.57E-04	4.89E-04
	743.36	93.09	1.99E-05		-1.86E-05	9.41E-06
	1147.97	2.62	1.20E-03		8.46E-05	5.62E-04
MO-99	181.07	6.14	5.31E-04	1.69E-04	-2.74E-04	2.60E-04
	366.42	1.20	2.25E-03		9.97E-04	1.10E-03
	739.50	12.26	1.69E-04		1.41E-04	7.99E-05
	777.92	4.30	4.08E-04		-1.06E-04	1.94E-04
TC-99M	140.51	90.80	1.92E-05	1.92E-05	3.53E-06	9.42E-06
RH-101	127.23	68.00	3.36E-05	3.36E-05	1.64E-05	1.65E-05
	198.01	73.00	3.72E-05		-6.76E-05	1.83E-05
	325.23	11.80	7.87E-05		-1.23E-06	3.86E-05
RH-101M	306.86	81.00	3.08E-05	3.08E-05	-3.17E-06	1.51E-05
	545.12	4.30	5.79E-04		3.40E-04	2.82E-04
RH-102M	415.25	2.10	4.27E-03	7.04E-05	1.49E-02	2.11E-03
	418.52	9.40	8.45E-04		1.65E-04	4.17E-04
	420.40	3.20	2.46E-03		1.13E-03	1.21E-03
	475.06	95.00	7.04E-05		2.56E-05	3.46E-05
	628.05	8.30	6.50E-04		3.16E-04	3.15E-04
	631.29	56.00	7.63E-05		3.93E-05	3.70E-05
	692.40	1.60	4.32E-03		3.68E-06	2.11E-03

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RH-102M	695.60		2.90	2.09E-03	7.04E-05	8.73E-03	1.02E-03
		697.49		44.00	1.34E-04		5.61E-04	6.53E-05
		766.84		34.00	8.66E-05		-1.03E-04	4.12E-05
		1046.59		34.00	9.47E-05		-1.01E-04	4.49E-05
		1103.16		4.60	6.56E-04		-1.06E-04	3.14E-04
		1112.84		19.00	2.29E-04		3.40E-05	1.10E-04
	RU-103	497.08		91.00	3.22E-05	3.22E-05	-2.60E-06	1.58E-05
		610.33		5.76	4.28E-04		3.28E-04	2.08E-04
	RH-105	306.31		4.66	5.80E-04	1.59E-04	1.49E-04	2.84E-04
		319.23		16.90	1.59E-04		1.03E-04	7.78E-05
	AG-106M	221.70		6.60	3.23E-04	3.29E-05	-4.05E-05	1.59E-04
		228.63		2.10	1.03E-03		2.47E-04	5.05E-04
		328.46		1.14	2.12E-03		-1.18E-03	1.04E-03
		391.04		3.68	7.48E-04		8.41E-04	3.67E-04
		406.18		13.40	2.18E-04		-2.68E-06	1.07E-04
		429.65		13.20	2.45E-04		2.08E-04	1.20E-04
		450.98		28.20	1.27E-04		9.70E-06	6.22E-05
		511.85		88.00	3.29E-05		3.02E-05	1.61E-05
		601.17		1.61	1.48E-03		-1.37E-03	7.18E-04
		616.17		21.60	1.05E-04		-3.28E-04	5.07E-05
		646.03		1.46	1.58E-03		2.48E-04	7.64E-04
		680.42		2.18	7.38E-04		-6.14E-04	3.51E-04
		703.11		4.47	3.69E-04		-2.86E-04	1.76E-04
		717.34		28.90	6.35E-05		-7.42E-05	3.04E-05
		748.36		20.60	7.51E-05		-6.84E-05	3.56E-05
		793.17		5.90	2.80E-04		-1.56E-04	1.33E-04
		804.28		12.40	1.42E-04		1.86E-05	6.73E-05
		808.36		4.00	4.19E-04		3.40E-05	1.99E-04
		824.69		15.30	1.13E-04		4.12E-05	5.37E-05
		847.15		4.40	4.29E-04		5.53E-05	2.04E-04
		1019.72		1.04	1.88E-03		1.39E-03	8.93E-04
		1045.83		29.60	6.58E-05		5.12E-06	3.12E-05
		1128.02		11.80	1.66E-04		-1.42E-04	7.83E-05
		1199.39		11.20	1.40E-04		-4.35E-05	6.51E-05
		1222.88		7.00	2.22E-04		8.81E-05	1.03E-04
		1394.35		1.49	8.80E-04		2.98E-04	4.00E-04
		1527.65		16.30	6.35E-05		-1.04E-05	2.78E-05
		1572.35		6.60	1.79E-04		8.01E-05	7.97E-05
		1722.76		1.40	8.82E-04		-1.16E-03	3.92E-04
		1839.05		2.00	5.59E-04		-1.16E-03	2.43E-04
	RH-106	621.93		9.93	3.07E-04	3.07E-04	-1.46E-05	1.49E-04
		873.49		0.44	7.52E-03		3.16E-03	3.60E-03
		1050.41		1.56	1.58E-03		8.47E-04	7.47E-04
	RU-106	511.86		20.40	1.39E-04	1.39E-04	2.03E-04	6.78E-05
	AG-108M	79.13		6.60	3.21E-04	3.69E-05	-1.28E-04	1.58E-04
		433.94		90.50	6.18E-05		3.66E-05	3.04E-05
		614.28		89.80	4.74E-05		8.99E-06	2.30E-05
		722.91		90.80	3.69E-05		2.52E-05	1.77E-05
+	CD-109	88.03	*	3.64	7.19E-04	7.19E-04	3.64E-03	3.55E-04
	AG-110M	446.81		3.70	2.16E-03	4.66E-05	1.86E-04	1.06E-03
		620.35		2.73	1.90E-03		-5.39E-04	9.19E-04
		657.76		95.61	3.39E-04		-3.36E-06	1.69E-04
		677.62		10.70	3.30E-04		-1.84E-04	1.57E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-110M	687.01	6.53	5.05E-04	4.66E-05	-4.20E-05	2.41E-04
	706.68	16.69	1.99E-04		8.95E-05	9.46E-05
	744.28	4.77	6.23E-04		-1.55E-04	2.94E-04
	763.94	22.60	1.29E-04		-1.37E-04	6.15E-05
	818.02	7.43	5.10E-04		-4.07E-04	2.42E-04
	884.68	75.00	4.66E-05		3.98E-05	2.22E-05
	937.48	35.00	1.06E-04		6.10E-05	5.05E-05
	1384.29	25.10	7.69E-05		-2.45E-05	3.47E-05
	1475.78	4.08	4.08E-04		6.35E-05	1.83E-04
	1505.03	13.33	1.53E-04		-3.10E-05	6.89E-05
	1562.29	1.22	6.45E-04		-6.86E-04	2.86E-04
AG-111	245.40	1.11	1.97E-03	3.74E-04	-2.15E-04	9.68E-04
	342.13	6.68	3.74E-04		3.04E-04	1.83E-04
AG-112	606.82	3.10	9.78E-04	6.29E-05	1.57E-04	4.75E-04
	617.52	43.00	6.29E-05		-3.26E-07	3.04E-05
	692.82	1.19	3.29E-03		1.85E-04	1.60E-03
	694.87	2.90	1.35E-03		5.29E-03	6.57E-04
	851.28	1.02	2.27E-03		2.83E-03	1.08E-03
	1312.36	1.11	1.55E-03		6.55E-04	7.13E-04
	1387.68	5.30	2.91E-04		-1.85E-05	1.32E-04
	1613.66	2.80	4.35E-04		-1.13E-04	1.89E-04
	1798.50	0.89	1.44E-03		-2.55E-05	6.21E-04
	2106.31	2.40	6.40E-04		1.66E-04	2.80E-04
	2506.70	1.06	3.09E-03		4.75E-03	1.44E-03
CD-113M	263.70	0.03	7.68E-02	7.68E-02	1.48E-02	3.76E-02
SN-113	255.13	2.11	9.73E-04	4.13E-05	-5.70E-04	4.77E-04
	391.70	64.97	4.13E-05		-2.82E-05	2.03E-05
IN-114M	190.27	15.56	1.38E-04	1.38E-04	-7.79E-05	6.77E-05
	558.43	4.40	6.77E-04		-6.91E-04	3.28E-04
	725.24	4.40	5.64E-04		-6.96E-05	2.70E-04
CD-115	260.90	1.94	1.14E-03	5.56E-05	-4.68E-04	5.59E-04
	336.24	46.02	5.56E-05		2.35E-05	2.72E-05
	527.90	27.45	9.80E-05		2.89E-06	4.78E-05
CD-115M	933.84	2.00	1.07E-03	1.07E-03	1.66E-04	5.12E-04
	1290.59	0.90	1.49E-03		-4.63E-05	6.81E-04
IN-115M	336.24	45.90	1.32E-04	1.32E-04	5.60E-05	6.48E-05
IN-116M	138.29	3.70	7.89E-02	2.26E-03	5.25E-02	3.87E-02
	416.90	27.20	2.02E-02		7.67E-02	9.94E-03
	818.68	12.13	2.53E-02		3.33E-03	1.20E-02
	1097.28	58.50	4.72E-03		-5.35E-04	2.24E-03
	1293.56	84.80	2.26E-03		2.18E-03	1.04E-03
	1507.59	9.92	1.55E-02		-3.16E-04	6.91E-03
	2112.29	15.09	1.14E-02		8.88E-03	5.01E-03
SB-125	176.31	6.84	2.63E-04	1.07E-04	-1.35E-04	1.29E-04
	380.45	1.52	1.71E-03		5.79E-04	8.40E-04
	427.87	29.60	1.07E-04		4.06E-05	5.27E-05
	463.36	10.49	3.44E-04		-5.06E-05	1.69E-04
	600.60	17.65	1.32E-04		-6.49E-05	6.41E-05
	606.71	4.98	4.98E-04		7.98E-05	2.42E-04
	635.95	11.22	2.10E-04		-9.07E-05	1.02E-04
	671.44	1.79	1.72E-03		-3.13E-04	8.38E-04
SN-125	332.10	1.40	2.85E-03	2.50E-04	-2.38E-04	1.40E-03
	469.85	1.50	4.05E-03		4.83E-03	2.00E-03

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SN-125	800.28	1.10	1.99E-03	2.50E-04	-1.75E-03	9.44E-04
	822.48	4.30	5.25E-04		1.78E-05	2.49E-04
	915.55	4.10	6.44E-04		4.46E-05	3.07E-04
	1067.10	10.00	2.50E-04		-2.11E-04	1.19E-04
	1087.70	1.20	3.60E-03		-3.71E-04	1.72E-03
	1089.10	4.60	5.26E-04		1.21E-04	2.51E-04
	2002.10	1.90	5.42E-04		-1.00E-03	2.31E-04
SB-127	61.10	1.43	3.85E-03	4.55E-05	8.23E-03	1.90E-03
	252.40	8.50	3.22E-04		1.91E-04	1.58E-04
	290.80	2.02	1.60E-03		-1.10E-03	7.87E-04
	412.10	3.80	1.12E-03		1.67E-04	5.54E-04
	445.10	4.30	1.12E-03		5.45E-05	5.51E-04
	473.00	25.80	1.57E-04		1.02E-04	7.75E-05
	543.30	2.90	7.36E-04		-3.61E-04	3.58E-04
	603.50	4.50	7.90E-04		1.49E-04	3.84E-04
	685.70	36.80	4.55E-05		-4.17E-05	2.17E-05
	698.50	3.64	9.17E-04		3.44E-03	4.48E-04
	722.20	1.88	1.07E-03		1.38E-03	5.14E-04
	783.70	15.10	1.18E-04		1.43E-07	5.60E-05
SN-127	119.70	2.20	5.86E-03	4.85E-04	1.63E-03	2.88E-03
	262.50	2.30	6.64E-03		-4.94E-03	3.26E-03
	266.20	2.10	7.39E-03		-2.26E-04	3.62E-03
	284.30	2.70	6.22E-03		-6.24E-03	3.05E-03
	438.20	6.10	3.95E-03		-3.12E-03	1.94E-03
	490.90	5.30	4.21E-03		5.04E-04	2.06E-03
	493.20	3.10	7.17E-03		-5.10E-04	3.51E-03
	545.40	2.30	7.78E-03		8.59E-03	3.78E-03
	583.30	3.20	5.43E-03		3.61E-03	2.63E-03
	805.90	8.20	1.58E-03		2.57E-04	7.52E-04
	823.10	11.00	1.16E-03		2.41E-04	5.50E-04
	824.70	6.10	2.08E-03		7.60E-04	9.89E-04
	859.50	8.00	1.77E-03		9.96E-04	8.44E-04
	979.20	7.20	1.91E-03		-1.49E-03	9.03E-04
	1093.30	3.80	3.84E-03		1.48E-03	1.82E-03
	1095.60	19.00	7.97E-04		-4.43E-05	3.78E-04
	1114.30	38.00	4.85E-04		5.74E-04	2.33E-04
	1160.40	2.40	5.28E-03		2.90E-03	2.48E-03
	2003.40	5.30	1.61E-03		2.17E-04	6.96E-04
SB-129	180.42	2.84	1.74E-03	8.74E-05	-7.77E-04	8.52E-04
	359.20	2.39	2.71E-03		-1.52E-04	1.33E-03
	404.64	1.17	6.44E-03		-7.50E-05	3.16E-03
	523.13	1.55	4.22E-03		-7.44E-04	2.06E-03
	544.56	15.42	4.07E-04		-2.01E-05	1.98E-04
	633.74	2.53	2.49E-03		1.94E-03	1.21E-03
	654.28	2.97	3.87E-03		-7.95E-04	1.90E-03
	682.77	5.76	7.42E-04		5.00E-04	3.54E-04
	761.12	4.32	1.02E-03		-2.55E-04	4.85E-04
	773.37	2.82	1.55E-03		3.76E-04	7.36E-04
	786.36	1.07	4.12E-03		3.66E-03	1.96E-03
	787.16	1.74	2.49E-03		-8.29E-04	1.18E-03
	812.97	48.20	8.74E-05		-1.10E-04	4.14E-05
	819.51	1.39	3.15E-03		-6.27E-04	1.49E-03
	876.65	2.75	1.97E-03		1.38E-03	9.41E-04

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	914.96		23.30	2.26E-04	8.74E-05	-5.80E-05	1.08E-04
		966.78		8.96	6.24E-04		1.14E-03	2.98E-04
		1030.65		15.13	3.40E-04		3.54E-05	1.61E-04
		1656.10		1.31	2.26E-03		-8.29E-05	9.98E-04
		1738.16		7.45	3.49E-04		-1.17E-04	1.50E-04
	TE-129	459.60		7.70	4.61E-04	4.61E-04	-1.22E-04	2.27E-04
		487.39		1.42	2.16E-03		-3.21E-04	1.06E-03
+	Te-129m	695.88	*	3.00	7.30E-04	7.30E-04	3.96E-03	3.52E-04
	I-131	80.18		2.62	1.07E-03	3.16E-05	-4.43E-04	5.27E-04
		284.30		6.12	4.06E-04		-4.07E-04	1.99E-04
		364.49		81.50	3.16E-05		5.00E-05	1.55E-05
		636.99		7.16	3.34E-04		-1.34E-04	1.62E-04
		722.91		1.77	1.07E-03		7.34E-04	5.14E-04
	Te-131m	773.67		36.80	7.78E-05	7.78E-05	5.78E-05	3.70E-05
		793.75		13.40	3.08E-04		-2.77E-04	1.46E-04
		852.21		19.90	1.70E-04		1.24E-05	8.10E-05
		1125.46		11.00	2.79E-04		1.61E-04	1.32E-04
		1206.60		9.41	2.29E-04		-9.88E-05	1.06E-04
	I-132	262.90		1.28	1.70E-03	3.72E-05	8.06E-04	8.32E-04
		284.90		0.71	3.33E-03		-5.03E-03	1.63E-03
		505.79		4.93	2.18E-03		1.74E-03	1.07E-03
		522.65		16.00	3.04E-04		-3.15E-05	1.48E-04
		547.20		1.14	4.20E-03		4.26E-04	2.04E-03
		621.20		1.97	2.34E-03		9.39E-04	1.13E-03
		630.19		13.30	3.57E-04		-2.15E-06	1.73E-04
		650.50		2.57	2.13E-03		-1.02E-03	1.03E-03
		667.71		98.70	2.86E-04		2.21E-07	1.42E-04
		669.80		4.60	1.77E-03		-2.47E-04	8.68E-04
		671.40		3.50	2.13E-03		-3.88E-04	1.04E-03
		727.10		5.40	8.54E-04		3.12E-04	4.09E-04
		728.40		1.60	2.55E-03		3.31E-04	1.22E-03
		772.60		75.60	3.72E-05		-3.60E-05	1.77E-05
		809.50		2.60	1.30E-03		1.15E-03	6.18E-04
		812.00		5.50	5.75E-04		2.96E-04	2.73E-04
		910.10		0.93	4.08E-03		2.48E-03	1.95E-03
		954.55		17.60	1.97E-04		-3.40E-04	9.37E-05
		1136.00		3.01	8.66E-04		-5.03E-04	4.09E-04
		1172.90		1.09	7.75E-03		4.93E-02	3.81E-03
		1290.80		1.13	2.17E-03		-6.75E-05	9.93E-04
		1295.10		1.88	4.33E-04		-3.60E-04	1.97E-04
		1297.90		0.89	6.99E-04		6.19E-04	3.20E-04
		1372.07		2.47	9.18E-04		-1.87E-03	4.16E-04
		1398.57		7.01	3.27E-04		-4.41E-05	1.49E-04
		1442.56		1.40	5.75E-04		-3.07E-04	2.56E-04
	TE-132	49.72		15.00	6.13E-04	2.57E-05	2.52E-04	3.01E-04
		111.76		1.74	9.75E-04		-1.55E-04	4.78E-04
		116.30		1.96	8.69E-04		-5.68E-04	4.27E-04
		228.16		88.00	2.57E-05		2.57E-05	1.26E-05
	BA-133	81.00		32.90	8.34E-05	4.35E-05	-7.55E-05	4.10E-05
		276.40		7.16	3.58E-04		2.94E-04	1.76E-04
		302.85		18.34	1.38E-04		-1.63E-04	6.77E-05
		356.01		62.05	4.35E-05		-3.27E-06	2.13E-05
		383.85		8.94	2.59E-04		2.28E-04	1.27E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
I-133	529.87	87.00	3.54E-05	3.54E-05	8.40E-06	1.72E-05
	706.58	1.51	1.66E-03		7.44E-04	7.87E-04
	856.28	1.24	2.43E-03		1.62E-04	1.16E-03
	875.33	4.51	5.65E-04		3.28E-04	2.70E-04
	1236.44	1.51	1.07E-03		1.20E-04	4.94E-04
	1298.22	2.35	6.82E-04		1.39E-04	3.12E-04
TE-133	312.08	62.40	2.41E+04	2.41E+04	-3.80E+03	1.18E+04
	407.63	27.10	6.63E+04		-2.13E+03	3.25E+04
	410.40	0.94	2.41E+06		1.87E+06	1.19E+06
	474.85	0.88	2.61E+06		-1.18E+05	1.28E+06
	719.71	8.90	1.33E+05		1.51E+05	6.38E+04
	786.93	5.40	1.98E+05		2.07E+05	9.41E+04
	844.36	3.31	3.62E+05		6.08E+03	1.73E+05
	884.30	0.72	1.68E+06		3.75E+05	8.00E+05
	930.71	3.81	3.32E+05		-1.08E+05	1.58E+05
	997.70	1.04	1.27E+06		-1.57E+06	6.08E+05
	1000.72	3.62	3.95E+05		6.48E+05	1.89E+05
	1021.13	2.81	4.35E+05		4.27E+05	2.07E+05
	1061.61	1.19	9.48E+05		-2.03E+05	4.47E+05
	1252.08	1.44	5.81E+05		5.89E+04	2.66E+05
	1312.80	0.85	1.04E+06		7.03E+05	4.76E+05
	1333.21	10.67	3.78E+05		2.37E+06	1.85E+05
	1717.61	3.18	2.64E+05		1.53E+05	1.19E+05
	1881.52	1.22	6.70E+05		-7.28E+05	2.97E+05
	2136.51	1.25	5.69E+05		3.63E+05	2.44E+05
	2229.64	0.87	1.04E+06		2.13E+05	4.58E+05
Xe-133	81.00	36.90	5.73E-05	5.73E-05	-5.19E-05	2.82E-05
CS-134	475.36	1.48	2.44E-03	2.70E-05	1.23E-03	1.20E-03
	563.25	8.34	4.55E-04		-4.20E-04	2.21E-04
	569.33	15.37	2.57E-04		2.11E-05	1.25E-04
	604.72	97.62	3.64E-05		2.86E-05	1.77E-05
	795.86	85.46	2.70E-05		-1.13E-05	1.28E-05
	801.95	8.69	3.22E-04		5.28E-05	1.53E-04
	1038.61	0.99	2.53E-03		1.18E-03	1.20E-03
	1167.97	1.79	2.33E-03		1.69E-04	1.14E-03
	1365.19	3.02	3.82E-04		3.80E-04	1.79E-04
I-135	220.50	1.75	2.90E-03	8.89E-05	-1.56E-03	1.42E-03
	288.45	3.10	1.79E-03		-8.90E-04	8.79E-04
	417.63	3.53	2.66E-03		9.15E-05	1.31E-03
	546.56	7.15	8.02E-04		-8.87E-04	3.90E-04
	836.80	6.69	6.79E-04		5.77E-04	3.24E-04
	971.96	0.89	5.83E-03		-1.87E-03	2.77E-03
	972.62	1.21	3.92E-03		1.57E-03	1.86E-03
	1038.76	7.90	4.51E-04		2.10E-04	2.14E-04
	1101.58	1.61	3.20E-03		-7.74E-04	1.52E-03
	1124.00	3.62	1.35E-03		8.26E-04	6.41E-04
	1131.51	22.60	2.03E-04		4.88E-05	9.61E-05
	1240.47	0.90	3.93E-03		9.94E-04	1.82E-03
	1260.41	28.70	8.89E-05		2.98E-05	4.06E-05
	1457.56	8.70	3.99E-04		4.01E-04	1.86E-04
	1502.79	1.08	2.98E-03		6.61E-04	1.34E-03
	1566.41	1.29	1.60E-03		-3.37E-03	7.04E-04
	1678.03	9.60	2.01E-04		-4.17E-05	8.93E-05

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1706.46		4.10	5.21E-04	8.89E-05	1.55E-04	2.29E-04
		1791.20		7.72	2.99E-04		2.62E-04	1.33E-04
		2408.65		0.96	2.10E-03		1.06E-03	8.72E-04
	XE-135	249.79		90.00	3.68E-05	3.68E-05	-4.33E-06	1.80E-05
	XE-135m	526.56		80.40	5.92E-05	5.92E-05	-5.37E-05	2.89E-05
	CS-136	66.88		4.79	1.26E-03	2.76E-05	-5.61E-04	6.21E-04
		86.36		5.90	8.01E-04		-1.51E-04	3.95E-04
		153.25		7.70	3.70E-04		-2.31E-04	1.82E-04
		163.92		4.69	8.89E-04		-1.84E-04	4.36E-04
		176.60		13.70	2.50E-04		-5.11E-05	1.23E-04
		273.65		12.66	3.21E-04		-4.51E-04	1.58E-04
		340.55		46.80	8.70E-05		1.57E-05	4.26E-05
		818.51		99.70	2.76E-05		-2.63E-06	1.31E-05
		1048.07		80.00	4.07E-05		4.07E-05	1.93E-05
		1235.36		20.00	1.20E-04		1.83E-04	5.60E-05
+	CS-137	661.66	*	85.10	1.88E-05	1.88E-05	6.27E-03	8.98E-06
	BA-139	33.44		3.84	3.80E-01	1.61E-03	-3.24E-01	1.87E-01
		165.86		23.70	1.61E-03		6.12E-04	7.89E-04
	BA-140	132.69		0.20	8.01E-03	1.03E-04	-9.69E-03	3.93E-03
		162.66		6.22	3.37E-04		-9.01E-05	1.65E-04
		304.85		4.29	7.01E-04		1.22E-04	3.44E-04
		423.72		3.10	1.04E-03		3.28E-04	5.10E-04
		437.58		1.93	1.68E-03		-7.82E-04	8.27E-04
		537.26		24.39	1.03E-04		-1.05E-04	5.04E-05
	LA-140	109.42		0.22	7.42E-03	1.90E-05	2.38E-03	3.64E-03
		131.12		0.47	3.51E-03		-1.18E-03	1.72E-03
		173.54		0.13	1.43E-02		-1.90E-03	7.03E-03
		241.93		0.41	5.25E-03		1.40E-03	2.58E-03
		266.54		0.47	4.50E-03		3.73E-04	2.21E-03
		328.76		20.30	1.96E-04		-5.88E-05	9.62E-05
		432.49		2.90	1.86E-03		1.47E-03	9.12E-04
		487.02		45.50	9.74E-05		-2.37E-05	4.77E-05
		618.10		0.04	6.08E-02		1.39E-03	2.94E-02
		751.64		4.33	4.63E-04		-2.07E-04	2.20E-04
		815.77		23.28	7.14E-05		-1.51E-04	3.38E-05
		867.85		5.50	4.67E-04		-3.93E-05	2.24E-04
		919.55		2.66	7.63E-04		-7.89E-04	3.63E-04
		925.19		6.90	3.71E-04		4.06E-04	1.77E-04
		950.99		0.52	4.53E-03		2.28E-03	2.15E-03
		1596.21		95.40	1.90E-05		6.58E-06	8.53E-06
		2347.88		0.85	7.76E-04		3.91E-04	3.22E-04
		2521.40		3.46	1.57E-04		3.39E-05	5.57E-05
		2547.34		0.10	6.61E-03		1.42E-03	2.34E-03
	BA-141	33.44		7.93	9.16E+03	5.06E+01	-7.81E+03	4.50E+03
		190.33		44.80	5.06E+01		-2.87E+01	2.49E+01
		276.95		23.60	1.01E+02		5.03E+01	4.98E+01
		304.19		26.10	9.56E+01		8.30E+01	4.69E+01
		343.67		15.10	1.74E+02		-7.13E+01	8.51E+01
		389.74		1.37	2.09E+03		8.08E+02	1.03E+03
		457.51		5.00	7.43E+02		-1.87E+01	3.65E+02
		462.06		5.10	7.48E+02		-7.57E+01	3.68E+02
		467.22		5.60	6.98E+02		1.65E+02	3.43E+02
		625.08		3.45	7.13E+02		2.82E+02	3.46E+02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-141	647.78	5.70	4.23E+02	5.06E+01	-2.36E+02	2.05E+02
	738.95	4.39	3.48E+02		-4.68E+02	1.64E+02
	831.46	1.64	1.10E+03		-7.25E+02	5.24E+02
	876.09	3.45	6.32E+02		-2.52E+02	3.02E+02
	1160.72	1.12	1.60E+03		5.09E+02	7.52E+02
	1197.28	4.35	3.75E+02		-2.26E+02	1.74E+02
	1323.92	0.92	2.18E+03		4.16E+02	1.03E+03
	1654.00	0.65	1.57E+03		-3.01E+03	6.75E+02
	1682.19	1.19	1.04E+03		-6.88E+02	4.60E+02
CE-141	145.44	48.30	3.36E-05	3.36E-05	-9.55E-06	1.65E-05
BA-142	33.44	14.20	1.14E+08	2.35E+06	-9.71E+07	5.59E+07
	77.59	7.00	7.32E+06		-3.88E+06	3.59E+06
	177.00	2.12	2.01E+07		-4.36E+06	9.87E+06
	231.61	12.20	4.11E+06		-2.89E+06	2.02E+06
	255.30	20.70	2.35E+06		-1.37E+06	1.15E+06
	286.30	1.11	4.76E+07		-1.66E+07	2.34E+07
	309.20	2.60	2.16E+07		-1.53E+07	1.06E+07
	335.00	1.53	3.61E+07		-5.36E+07	1.77E+07
	363.96	4.76	1.25E+07		-2.81E+06	6.13E+06
	425.04	5.75	1.31E+07		9.11E+06	6.41E+06
	599.80	1.85	2.99E+07		-3.05E+07	1.45E+07
	840.40	3.63	1.23E+07		-7.70E+06	5.87E+06
	895.20	13.90	3.46E+06		6.67E+05	1.65E+06
	949.10	10.70	4.45E+06		2.75E+06	2.12E+06
	1001.20	9.80	5.45E+06		8.90E+06	2.61E+06
	1078.70	11.50	5.08E+06		8.09E+06	2.44E+06
	1094.10	2.82	1.64E+07		-6.70E+06	7.77E+06
	1126.80	1.50	3.12E+07		4.95E+07	1.48E+07
	1202.40	5.60	6.35E+06		-4.43E+06	2.95E+06
	1204.30	14.30	2.53E+06		-1.51E+06	1.18E+06
	1380.20	3.42	8.33E+06		1.58E+06	3.76E+06
CE-143	57.36	11.70	5.28E-04	6.32E-05	-2.67E-04	2.60E-04
	231.55	2.05	1.52E-03		-1.07E-03	7.48E-04
	293.27	42.80	6.32E-05		6.71E-05	3.10E-05
	350.62	3.23	7.71E-04		-4.01E-05	3.78E-04
	490.37	2.16	2.04E-03		-1.82E-04	1.00E-03
	664.57	5.69	3.68E-03		1.02E-05	1.83E-03
	721.93	5.39	3.61E-04		4.64E-04	1.73E-04
	880.46	1.03	2.15E-03		-2.71E-03	1.02E-03
CE-144	80.12	1.36	1.52E-03	1.45E-04	-6.29E-04	7.48E-04
	133.51	11.09	1.45E-04		-1.28E-05	7.12E-05
ND-147	38.17	13.20	2.03E-03	8.02E-05	-4.85E-04	9.95E-04
	38.72	23.80	1.03E-03		1.80E-04	5.08E-04
	91.11	28.90	8.02E-05		2.29E-05	3.95E-05
	275.39	0.79	4.09E-03		1.67E-03	2.01E-03
	319.41	1.97	1.46E-03		6.67E-04	7.18E-04
	398.13	0.87	3.53E-03		7.22E-04	1.73E-03
	439.88	1.20	2.96E-03		-3.37E-03	1.46E-03
	531.01	13.11	1.93E-04		-3.37E-05	9.40E-05
	685.88	0.82	1.95E-03		-3.89E-04	9.30E-04
PR-147	36.85	19.70	2.63E+05	2.02E+04	1.02E+05	1.29E+05
	37.36	35.50	1.32E+05		7.93E+04	6.50E+04
	49.88	4.00	2.51E+05		1.03E+05	1.23E+05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PR-147	77.97	9.70	3.41E+04	2.02E+04	-8.14E+03	1.68E+04
	86.69	5.40	7.61E+04		-1.76E+04	3.76E+04
	127.80	7.40	3.45E+04		1.75E+04	1.70E+04
	249.20	1.32	2.43E+05		-2.02E+05	1.19E+05
	314.70	18.20	2.02E+04		4.61E+03	9.93E+03
	328.80	4.00	9.08E+04		-2.72E+04	4.45E+04
	335.70	4.70	7.69E+04		-1.03E+05	3.77E+04
	388.80	1.41	2.95E+05		2.00E+05	1.45E+05
	466.80	1.70	3.31E+05		-6.61E+04	1.63E+05
	477.90	4.60	1.17E+05		1.44E+05	5.75E+04
	516.70	1.30	3.14E+05		-2.07E+05	1.53E+05
	554.70	5.90	5.86E+04		-1.22E+04	2.84E+04
	577.90	13.70	2.49E+04		6.03E+02	1.21E+04
	641.40	16.10	2.21E+04		6.47E+03	1.07E+04
	996.00	1.52	2.02E+05		-1.48E+05	9.62E+04
	1136.70	1.42	1.99E+05		8.94E+04	9.36E+04
	1261.10	8.40	2.32E+04		1.24E+04	1.06E+04
	1300.40	2.30	8.96E+04		-6.18E+04	4.10E+04
ND-149	38.17	9.00	3.40E-02	9.84E-04	-8.12E-03	1.67E-02
	38.72	16.30	1.73E-02		3.00E-03	8.47E-03
	58.88	1.30	5.55E-02		-3.95E-02	2.73E-02
	74.32	2.11	1.63E-02		8.61E-03	8.02E-03
	97.00	1.48	1.54E-02		-1.61E-02	7.54E-03
	114.31	19.20	1.21E-03		4.36E-04	5.93E-04
	155.87	5.95	4.24E-03		-1.50E-03	2.08E-03
	188.64	1.79	2.56E-02		2.00E-02	1.26E-02
	198.93	1.39	2.43E-02		7.80E-03	1.20E-02
	208.15	2.55	1.20E-02		-7.77E-03	5.91E-03
	211.31	26.00	9.84E-04		2.77E-04	4.84E-04
	240.22	3.95	6.53E-03		-7.89E-04	3.21E-03
	245.72	0.81	4.11E-02		4.34E-04	2.02E-02
	267.69	6.05	5.65E-03		1.68E-03	2.77E-03
	270.17	10.80	2.48E-03		-1.31E-03	1.22E-03
	326.55	4.57	7.83E-03		1.91E-03	3.84E-03
	349.23	1.38	2.69E-02		2.21E-02	1.32E-02
	423.55	7.50	5.20E-03		1.65E-03	2.56E-03
	443.55	1.15	4.41E-02		-1.22E-02	2.17E-02
	540.51	6.60	4.90E-03		-2.38E-04	2.38E-03
	654.83	8.00	7.73E-03		3.51E-04	3.82E-03
PM-149	285.95	3.10	7.79E-04	7.79E-04	-6.73E-04	3.82E-04
PM-150	39.52	0.63	1.63E-01	1.64E-04	1.24E-01	8.00E-02
	40.12	1.14	8.23E-02		2.34E-02	4.04E-02
	333.92	68.00	1.64E-04		-7.82E-05	8.02E-05
	406.51	5.60	2.47E-03		2.40E-03	1.21E-03
	565.70	1.31	8.06E-03		1.24E-03	3.91E-03
	587.02	1.34	8.31E-03		-2.22E-03	4.03E-03
	612.25	0.93	1.26E-02		1.19E-02	6.12E-03
	712.22	4.40	1.71E-03		-1.50E-03	8.11E-04
	737.50	2.25	3.12E-03		-2.63E-03	1.47E-03
	831.85	11.90	6.90E-04		-7.84E-04	3.28E-04
	859.95	3.40	2.68E-03		1.15E-03	1.28E-03
	876.41	7.30	1.35E-03		5.05E-04	6.45E-04
	1165.77	15.80	1.03E-03		-8.51E-05	4.98E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	1170.90	1.06	2.72E-02	1.64E-04	1.73E-01	1.34E-02
	1193.87	4.80	1.61E-03		6.73E-04	7.52E-04
	1213.72	1.03	6.98E-03		-6.74E-03	3.24E-03
	1223.28	2.80	2.62E-03		1.17E-03	1.22E-03
	1324.51	17.50	6.16E-04		1.10E-04	2.92E-04
	1379.32	3.10	1.83E-03		-1.14E-03	8.25E-04
	1736.40	6.90	7.30E-04		5.28E-04	3.17E-04
	1963.71	1.47	3.29E-03		-6.90E-03	1.40E-03
	2033.46	0.97	6.04E-03		1.34E-03	2.63E-03
ND-151	38.17	5.94	3.09E+06	2.88E+04	-7.40E+05	1.52E+06
	38.72	10.70	1.58E+06		2.74E+05	7.75E+05
	68.98	1.26	1.32E+06		-1.42E+06	6.45E+05
	85.12	2.05	9.31E+05		-1.05E+05	4.60E+05
	89.96	1.53	1.15E+06		2.37E+05	5.69E+05
	116.80	39.00	2.88E+04		-1.57E+04	1.41E+04
	138.89	7.00	1.64E+05		5.09E+04	8.04E+04
	170.76	2.87	4.36E+05		2.11E+05	2.14E+05
	175.07	6.30	1.99E+05		4.61E+04	9.76E+04
	255.68	14.80	9.67E+04		-1.24E+04	4.74E+04
	300.58	1.82	8.95E+05		8.79E+04	4.39E+05
	423.56	5.90	3.75E+05		1.19E+05	1.84E+05
	460.59	0.96	2.59E+06		-7.14E+05	1.28E+06
	585.22	1.30	1.24E+06		1.21E+06	6.01E+05
	677.88	2.38	4.44E+05		-2.48E+05	2.11E+05
	736.23	5.90	1.74E+05		-1.98E+04	8.24E+04
	739.20	1.52	6.65E+05		-4.02E+04	3.15E+05
	755.57	1.17	1.01E+06		1.03E+05	4.79E+05
	797.53	4.70	2.38E+05		7.51E+04	1.13E+05
	1016.40	2.50	5.42E+05		4.47E+05	2.57E+05
	1122.63	4.10	3.37E+05		-1.86E+03	1.60E+05
	1180.89	13.30	2.58E+05		1.64E+04	1.26E+05
Pm-151	167.75	8.30	2.74E-04	1.22E-04	5.74E-05	1.34E-04
	177.16	3.80	7.23E-04		-1.57E-04	3.55E-04
	240.09	3.80	7.30E-04		-8.82E-05	3.58E-04
	275.21	6.80	3.96E-04		-9.56E-05	1.94E-04
	340.08	22.50	1.22E-04		-2.25E-05	5.96E-05
EU-152	121.78	28.53	8.24E-05	6.72E-05	-1.09E-05	4.05E-05
	344.28	26.59	1.14E-04		1.68E-04	5.60E-05
	778.90	12.93	1.63E-04		-1.32E-04	7.73E-05
	867.37	4.23	7.54E-04		4.68E-05	3.61E-04
	964.08	14.51	1.68E-04		-3.99E-05	8.00E-05
	1085.87	10.11	2.23E-04		-2.46E-05	1.07E-04
	1112.07	13.67	2.00E-04		2.99E-04	9.61E-05
	1408.01	20.87	6.72E-05		4.26E-05	3.03E-05
ND-152	44.44	5.50	8.76E+06	3.82E+05	3.94E+06	4.30E+06
	250.15	16.40	5.66E+05		2.85E+05	2.78E+05
	278.56	26.00	3.82E+05		-1.75E+05	1.87E+05
	294.47	2.90	3.61E+06		2.16E+06	1.77E+06
	545.70	0.83	1.27E+07		9.38E+06	6.18E+06
	592.50	0.99	1.07E+07		6.80E+06	5.20E+06
GD-153	69.67	2.45	1.15E-03	5.65E-05	-7.03E-04	5.63E-04
	97.43	30.00	5.65E-05		-6.63E-05	2.77E-05
	103.18	22.10	7.53E-05		-5.15E-05	3.70E-05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SM-153	69.67	4.67	6.42E-04	6.13E-05	-3.94E-04	3.15E-04
	103.18	29.14	6.13E-05		-4.19E-05	3.01E-05
EU-154	42.70	20.45	6.41E-04	5.45E-05	-1.58E-04	3.14E-04
	123.07	40.40	5.71E-05		1.65E-05	2.80E-05
	247.93	6.89	4.48E-04		4.65E-04	2.20E-04
	591.76	4.95	7.51E-04		-3.21E-04	3.64E-04
	692.42	1.78	2.53E-03		2.16E-06	1.24E-03
	723.30	20.06	1.30E-04		2.07E-04	6.25E-05
	756.80	4.52	5.96E-04		4.03E-04	2.84E-04
	873.18	12.08	2.51E-04		2.02E-04	1.20E-04
	996.29	10.48	2.16E-04		-1.21E-04	1.03E-04
	1004.76	18.01	1.37E-04		-7.07E-05	6.52E-05
	1246.12	0.86	2.41E-03		1.00E-03	1.11E-03
	1274.43	34.80	5.45E-05		4.53E-05	2.54E-05
	1494.05	0.70	1.58E-03		-5.18E-04	7.07E-04
	1596.48	1.80	3.78E-04		1.31E-04	1.70E-04
EU-155	43.00	18.12	6.98E-04	7.67E-05	-2.29E-04	3.42E-04
	60.01	1.17	3.51E-03		7.37E-03	1.73E-03
	86.55	30.70	8.71E-05		-2.01E-05	4.30E-05
	105.31	21.10	7.67E-05		3.79E-05	3.76E-05
EU-156	88.97	8.40	4.43E-04	1.80E-04	2.10E-05	2.19E-04
	646.29	6.30	4.86E-04		1.62E-04	2.35E-04
	723.47	5.40	4.59E-04		4.70E-04	2.20E-04
	811.77	9.70	2.31E-04		1.19E-04	1.10E-04
	1065.14	4.90	5.41E-04		5.17E-05	2.56E-04
	1079.16	4.60	5.86E-04		1.39E-03	2.81E-04
	1153.80	11.50	1.80E-04		1.42E-05	8.45E-05
	1230.71	8.00	2.56E-04		8.40E-05	1.18E-04
	1242.42	6.60	2.41E-04		1.95E-05	1.11E-04
	1277.43	2.89	7.39E-04		1.11E-03	3.46E-04
	1366.41	1.57	1.27E-03		1.98E-03	5.95E-04
	1965.95	3.90	2.18E-04		3.75E-05	9.40E-05
	2097.70	3.80	3.27E-04		9.12E-05	1.43E-04
	2186.71	3.50	3.87E-04		3.30E-04	1.71E-04
Sm-156	87.60	24.00	1.72E-04	1.57E-04	8.57E-04	8.47E-05
	165.80	13.00	2.15E-04		8.19E-05	1.06E-04
	204.00	21.00	1.57E-04		-3.63E-05	7.72E-05
EU-158	42.31	5.80	6.01E-01	1.74E-02	-1.00E-01	2.95E-01
	43.00	10.40	3.07E-01		-1.01E-01	1.50E-01
	79.49	10.50	5.04E-02		-1.37E-02	2.48E-02
	181.97	2.30	2.12E-01		-2.61E-02	1.04E-01
	528.05	1.53	4.07E-01		-1.89E-01	1.98E-01
	606.39	4.00	1.57E-01		4.51E-02	7.64E-02
	743.02	3.60	9.89E-02		-9.22E-02	4.67E-02
	897.61	12.40	4.22E-02		7.45E-03	2.02E-02
	906.50	1.83	2.83E-01		2.01E-01	1.35E-01
	922.51	1.62	3.17E-01		4.36E-02	1.51E-01
	944.15	30.00	1.74E-02		-8.43E-03	8.30E-03
	953.03	1.98	2.34E-01		-1.57E-01	1.11E-01
	962.09	1.89	2.66E-01		6.50E-02	1.27E-01
	977.14	16.30	2.93E-02		-6.31E-04	1.39E-02
	986.96	1.35	3.40E-01		1.68E-01	1.61E-01
	1107.63	5.10	1.23E-01		2.36E-01	5.91E-02

Analysis Report for 24-2519 TI185-4.5M-S3-CST-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	1184.10	3.00	1.44E-01	1.74E-02	-1.35E-02	6.74E-02
	1186.00	2.90	1.42E-01		-1.04E-01	6.65E-02
	1187.10	4.40	9.38E-02		-2.17E-03	4.39E-02
	1263.61	2.20	1.44E-01		1.69E-01	6.54E-02
	1347.95	1.65	2.14E-01		2.04E-01	9.82E-02
	1944.47	1.62	1.78E-01		1.29E-01	7.73E-02
TB-160	86.79	13.20	2.89E-04	7.82E-05	-6.67E-05	1.43E-04
	298.58	26.10	1.22E-04		-6.71E-06	5.98E-05
	879.38	30.10	7.82E-05		-7.27E-05	3.73E-05
	962.32	9.81	2.29E-04		5.61E-05	1.09E-04
	966.17	25.10	9.36E-05		1.08E-04	4.47E-05
	1177.96	14.90	3.43E-04		-1.37E-05	1.68E-04
TB-161	25.65	23.20	3.23E-02	2.33E-04	7.87E-02	1.58E-02
	48.91	17.00	4.31E-04		5.39E-04	2.12E-04
	52.00	3.43	1.67E-03		7.35E-04	8.18E-04
	57.19	1.79	2.76E-03		-1.40E-03	1.36E-03
	74.57	10.20	2.33E-04		1.23E-04	1.15E-04
YB-169	63.12	43.62	1.39E-04	6.37E-05	-5.20E-07	6.82E-05
	93.61	2.58	1.24E-03		3.84E-04	6.11E-04
	109.78	17.39	1.16E-04		3.56E-05	5.69E-05
	130.52	11.38	2.10E-04		-4.09E-05	1.03E-04
	177.21	22.28	1.06E-04		-2.30E-05	5.19E-05
	197.96	35.93	6.37E-05		-1.16E-04	3.13E-05
	307.74	10.05	1.79E-04		8.99E-06	8.78E-05
HF-172	54.07	63.00	7.56E-05	7.56E-05	-1.84E-05	3.71E-05
	67.35	5.30	5.09E-04		-1.79E-04	2.50E-04
	81.75	4.50	4.53E-04		-5.63E-04	2.22E-04
	114.06	2.60	6.25E-04		2.25E-04	3.07E-04
	122.92	1.14	1.51E-03		2.01E-04	7.44E-04
	125.81	11.30	1.55E-04		-2.27E-06	7.60E-05
	127.91	1.46	1.14E-03		5.76E-04	5.59E-04
LU-173	59.30	24.44	1.72E-04	1.17E-04	3.85E-04	8.47E-05
	78.63	11.90	2.29E-04		-2.21E-04	1.12E-04
	100.72	5.24	3.61E-04		3.01E-04	1.77E-04
	171.39	2.90	6.93E-04		-4.93E-05	3.40E-04
	272.11	21.20	1.17E-04		8.22E-05	5.74E-05
LU-177	112.95	6.23	2.66E-04	2.09E-04	-1.06E-04	1.31E-04
	208.37	10.41	2.09E-04		-1.35E-04	1.03E-04
	249.67	0.20	1.07E-02		-1.26E-03	5.26E-03
	321.32	0.22	1.11E-02		4.39E-03	5.44E-03
HF-181	133.02	43.30	5.01E-05	4.50E-05	-6.39E-05	2.46E-05
	345.93	15.12	2.06E-04		-3.34E-04	1.01E-04
	482.18	80.50	4.50E-05		-5.14E-05	2.21E-05
W-181	56.28	18.70	2.36E-04	1.44E-04	-1.86E-04	1.16E-04
	57.53	32.00	1.44E-04		-8.36E-05	7.08E-05
	65.00	10.60	2.81E-04		2.95E-04	1.38E-04
TA-182	57.98	10.01	4.51E-04	6.09E-05	-2.75E-04	2.22E-04
	59.32	17.20	2.44E-04		5.48E-04	1.20E-04
	65.72	3.01	1.83E-03		-4.06E-04	9.00E-04
	67.75	46.67	7.94E-05		-2.17E-05	3.90E-05
	84.68	2.65	1.41E-03		-2.51E-04	6.98E-04
	100.11	14.20	1.76E-04		5.71E-05	8.63E-05
	113.67	1.87	1.72E-03		9.01E-05	8.42E-04

Analysis Report for 24-2519 TI185-4.5M-S3-CST-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	116.42	0.44	3.64E-03	6.09E-05	-2.38E-03	1.78E-03
	152.43	7.02	3.57E-04		2.98E-04	1.75E-04
	156.39	2.67	9.64E-04		-7.60E-05	4.73E-04
	179.39	3.12	9.21E-04		-3.76E-04	4.52E-04
	198.35	1.47	2.58E-03		-1.54E-03	1.27E-03
	222.11	7.57	3.80E-04		5.58E-05	1.87E-04
	229.32	3.64	9.04E-04		-3.27E-04	4.44E-04
	264.08	3.61	8.17E-04		5.75E-04	4.00E-04
	928.00	0.61	4.46E-03		1.71E-03	2.13E-03
	959.73	0.35	7.94E-03		-5.61E-03	3.78E-03
	1001.70	2.09	1.90E-03		3.71E-03	9.08E-04
	1044.42	0.24	1.20E-02		-2.26E-03	5.68E-03
	1113.41	0.44	7.62E-03		-7.38E-04	3.65E-03
	1121.29	35.24	7.11E-05		-5.62E-07	3.37E-05
	1157.30	0.73	1.89E-03		-2.65E-03	8.84E-04
	1189.04	16.49	8.86E-05		-1.69E-05	4.13E-05
	1221.40	27.23	6.09E-05		-3.22E-05	2.82E-05
	1223.60	0.24	3.86E-03		1.72E-03	1.79E-03
	1231.00	11.62	1.67E-04		5.88E-05	7.73E-05
	1257.41	1.51	8.82E-04		5.31E-05	4.05E-04
	1273.72	0.66	1.13E-03		1.37E-03	5.26E-04
	1289.15	1.37	2.95E-04		-1.53E-04	1.35E-04
	1342.73	0.26	5.26E-03		-1.09E-03	2.45E-03
	1373.82	0.22	1.29E-03		1.32E-03	5.82E-04
Ta-183	84.71	1.35	2.08E-03	8.19E-05	-3.70E-04	1.03E-03
	99.08	6.80	2.52E-04		1.75E-05	1.24E-04
	107.93	11.20	1.49E-04		-5.58E-05	7.31E-05
	161.35	9.10	2.02E-04		3.88E-05	9.94E-05
	162.32	5.00	3.71E-04		1.03E-04	1.82E-04
	244.26	8.80	2.52E-04		-1.60E-04	1.23E-04
	246.06	27.20	8.19E-05		3.74E-05	4.02E-05
	353.99	11.60	2.27E-04		1.17E-04	1.11E-04
Re-184	111.21	17.20	9.34E-05	4.35E-05	-2.92E-05	4.58E-05
	252.85	3.00	7.06E-04		-3.29E-04	3.46E-04
	792.01	37.70	4.35E-05		6.23E-06	2.06E-05
	894.76	15.70	1.29E-04		-5.70E-05	6.17E-05
	903.28	38.10	5.52E-05		3.44E-05	2.64E-05
W-185	59.72	0.01	3.47E-01	9.17E-02	7.30E-01	1.71E-01
	61.14	0.02	1.94E-01		4.14E-01	9.55E-02
	69.20	0.01	3.66E-01		-5.11E-01	1.80E-01
	125.36	0.02	9.17E-02		2.06E-02	4.50E-02
W-187	61.14	14.30	3.29E-04	5.65E-05	7.03E-04	1.62E-04
	69.20	4.82	6.20E-04		-8.66E-04	3.04E-04
	72.00	13.55	3.11E-04		8.11E-05	1.53E-04
	134.25	10.36	2.61E-04		2.39E-05	1.28E-04
	479.53	26.60	1.84E-04		-4.60E-05	9.02E-05
	618.37	7.57	3.51E-04		5.55E-05	1.70E-04
	685.81	33.20	5.65E-05		-1.13E-05	2.69E-05
Ir-188	155.05	29.60	6.38E-05	6.38E-05	-3.70E-05	3.13E-05
	478.00	14.70	2.64E-04		3.25E-04	1.30E-04
	633.02	17.90	1.48E-04		1.19E-04	7.20E-05
	634.97	5.00	5.23E-04		-1.14E-04	2.54E-04
	829.42	5.10	3.69E-04		-4.29E-04	1.75E-04

Analysis Report for 24-2519 TI185-4.5M-S3-CST-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Ir-188	1209.77	6.90	2.42E-04	6.38E-05	3.70E-05	1.12E-04
	1715.67	6.20	2.33E-04		-1.97E-04	1.04E-04
	2214.59	18.60	7.83E-05		-2.07E-04	3.42E-05
W-188	227.07	0.23	9.01E-03	5.54E-03	5.58E-03	4.42E-03
	290.68	0.42	5.54E-03		-2.09E-03	2.72E-03
Ir-189	245.08	6.00	3.62E-04	3.62E-04	-1.67E-04	1.78E-04
Ir-190	186.68	50.00	4.22E-05	4.22E-05	1.35E-06	2.07E-05
	361.09	12.30	2.04E-04		2.22E-05	9.99E-05
	371.24	21.60	1.20E-04		-3.66E-05	5.89E-05
	407.22	27.00	1.08E-04		6.20E-05	5.28E-05
	518.55	32.20	8.17E-05		-1.32E-05	3.99E-05
	557.95	28.50	7.98E-05		3.40E-05	3.88E-05
	569.30	27.00	8.40E-05		6.89E-06	4.07E-05
	605.14	37.80	6.79E-05		7.00E-05	3.30E-05
OS-191	63.29	15.70	2.22E-04	6.14E-05	-5.33E-04	1.09E-04
	64.99	26.70	1.13E-04		1.18E-04	5.55E-05
	73.45	9.21	2.58E-04		-2.57E-05	1.27E-04
	129.43	26.50	6.14E-05		-7.15E-06	3.01E-05
Pt-191	359.90	5.80	5.50E-04	1.95E-04	3.27E-04	2.70E-04
	456.47	3.30	1.24E-03		-8.32E-04	6.08E-04
	538.90	14.30	1.95E-04		-3.02E-05	9.49E-05
IR-192	205.79	3.31	8.76E-04	4.18E-05	1.27E-03	4.30E-04
	295.96	28.71	1.42E-04		-8.93E-05	6.99E-05
	308.45	29.70	1.35E-04		-7.92E-05	6.61E-05
	316.51	82.86	4.18E-05		-2.55E-05	2.05E-05
	468.07	47.84	1.03E-04		2.90E-05	5.08E-05
	588.58	4.52	8.78E-04		-2.51E-04	4.27E-04
	604.41	8.22	2.45E-04		3.05E-04	1.19E-04
	612.46	5.34	2.79E-04		2.39E-04	1.35E-04
IR-192m	155.16	0.09	1.86E-02	1.86E-02	-9.28E-03	9.14E-03
IR-193m	80.22	0.00	4.50E-01	4.50E-01	-1.86E-01	2.21E-01
Pt-193m	135.50	0.11	1.48E-02	1.48E-02	5.42E-03	7.26E-03
Au-194	293.55	10.90	2.41E-04	4.21E-05	2.55E-04	1.18E-04
	328.47	62.80	4.21E-05		-2.35E-05	2.06E-05
	364.84	1.60	1.76E-03		8.12E-04	8.63E-04
	528.77	1.78	1.55E-03		-8.56E-04	7.57E-04
	645.16	2.32	1.08E-03		-1.36E-03	5.22E-04
	948.32	2.29	9.78E-04		3.08E-04	4.66E-04
	1104.06	2.15	1.28E-03		-3.81E-04	6.14E-04
	1175.36	2.14	3.16E-03		2.02E-02	1.55E-03
	1468.90	6.80	2.64E-04		-2.09E-04	1.22E-04
	1595.81	1.89	7.33E-04		-5.64E-04	3.28E-04
	2043.72	3.74	3.76E-04		2.92E-04	1.65E-04
Ir-194	293.54	2.50	1.17E-03	2.25E-04	1.24E-03	5.75E-04
	328.47	13.10	2.25E-04		-1.26E-04	1.10E-04
AU-195	98.86	11.21	1.48E-04	1.48E-04	5.27E-05	7.26E-05
	129.74	0.84	1.91E-03		-8.12E-05	9.38E-04
Pt-195m	98.90	11.70	1.48E-04	1.48E-04	5.27E-05	7.26E-05
	129.79	2.90	5.79E-04		-2.46E-05	2.84E-04
Au-196	333.03	22.90	1.67E-04	3.64E-05	2.40E-05	8.17E-05
	355.73	87.00	3.64E-05		2.09E-05	1.78E-05
	426.10	6.60	4.93E-04		3.08E-04	2.42E-04
Au-196m	147.81	43.50	5.87E-05	5.87E-05	2.54E-05	2.88E-05

Analysis Report for 24-2519 TI185-4.5M-S3-CST-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Au-196m	188.27	30.00	1.10E-04	5.87E-05	-2.10E-06	5.42E-05
Pt-197	77.35	17.00	1.58E-04	1.58E-04	-9.32E-05	7.77E-05
	191.44	3.70	7.17E-04		-1.88E-04	3.53E-04
AU-198	411.80	95.62	4.20E-05	4.20E-05	6.08E-06	2.07E-05
AU-199	158.38	40.00	4.69E-05	4.69E-05	5.59E-05	2.30E-05
	208.20	8.72	2.57E-04		-1.66E-04	1.26E-04
TL-201	135.34	2.61	6.54E-04	1.89E-04	-4.70E-04	3.21E-04
	167.43	10.00	1.89E-04		6.19E-05	9.29E-05
TL-202	439.51	91.50	3.60E-05	3.60E-05	-3.30E-05	1.77E-05
PB-203	70.83	26.40	9.90E-05	3.51E-05	-1.01E-04	4.86E-05
	72.87	44.20	5.84E-05		3.09E-05	2.87E-05
	82.40	15.56	1.43E-04		-8.53E-05	7.02E-05
	279.20	80.90	3.51E-05		-1.86E-05	1.72E-05
	401.32	3.35	1.39E-03		1.19E-04	6.83E-04
PB-210	46.54	4.25	2.05E-03	2.05E-03	-1.40E-03	1.01E-03
Pa-233	86.60	2.01	1.56E-03	6.29E-05	-3.61E-04	7.71E-04
	94.65	8.90	1.93E-04		-5.86E-06	9.47E-05
	98.43	14.20	1.16E-04		-8.62E-05	5.69E-05
	300.13	6.54	3.63E-04		-4.23E-05	1.78E-04
	311.90	38.20	6.29E-05		-9.90E-06	3.08E-05
	340.48	4.44	5.52E-04		9.97E-05	2.70E-04
U-235	89.96	2.90	8.72E-04	3.60E-05	1.79E-04	4.30E-04
	93.35	4.70	3.49E-04		3.12E-05	1.71E-04
	109.19	1.64	9.83E-04		3.21E-04	4.83E-04
	143.76	10.93	1.46E-04		-1.14E-04	7.17E-05
	163.36	5.07	3.53E-04		2.14E-04	1.73E-04
	185.71	57.20	3.60E-05		1.27E-05	1.77E-05
	202.11	1.07	1.99E-03		7.62E-04	9.77E-04
	205.31	5.03	4.25E-04		5.64E-04	2.09E-04
NP-237	86.48	12.20	2.19E-04	2.19E-04	-5.07E-05	1.08E-04
U-237	59.54	34.50	1.34E-04	6.96E-05	3.00E-04	6.58E-05
	97.07	15.40	1.11E-04		-1.17E-04	5.45E-05
	101.06	24.50	6.96E-05		4.22E-05	3.42E-05
	113.30	3.07	5.42E-04		3.73E-04	2.66E-04
	114.23	5.81	2.87E-04		1.04E-04	1.41E-04
	117.46	2.27	7.25E-04		-4.32E-04	3.55E-04
	208.00	21.20	1.09E-04		-2.50E-05	5.35E-05
NP-238	103.37	0.00	3.70E-01	7.85E-05	-5.33E-02	1.81E-01
	882.63	0.80	2.59E-03		-3.09E-03	1.23E-03
	923.99	2.60	8.54E-04		-1.41E-05	4.08E-04
	984.45	25.20	7.85E-05		-7.25E-05	3.72E-05
	1025.87	8.75	2.50E-04		1.76E-05	1.19E-04
	1028.53	18.23	1.18E-04		-6.36E-05	5.59E-05
U-238	63.29	3.70	9.30E-04	4.12E-04	-2.24E-03	4.58E-04
	92.51	4.23	4.12E-04		1.71E-04	2.02E-04
	112.81	0.21	7.65E-03		-5.04E-03	3.75E-03
	742.81	0.11	1.31E-02		-1.20E-02	6.19E-03
	766.42	0.32	5.27E-03		6.16E-04	2.51E-03
	1001.03	0.84	2.68E-03		4.38E-03	1.28E-03
Am-239	181.71	1.08	2.54E-03	2.13E-04	-1.04E-03	1.25E-03
	209.80	3.50	8.69E-04		2.34E-04	4.27E-04
	226.40	3.30	9.05E-04		-6.15E-04	4.45E-04
	228.10	11.30	2.67E-04		1.09E-04	1.31E-04

Analysis Report for 24-2519 TI185-4.5M-S3-CST-A F0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Am-239	277.60		15.00	2.13E-04	2.13E-04	7.82E-05	1.05E-04
	NP-239	61.46		1.30	3.28E-03	7.53E-05	6.71E-03	1.61E-03
		99.53		12.90	1.37E-04		-1.24E-05	6.73E-05
		103.37		20.50	8.50E-05		-1.23E-05	4.17E-05
		106.12		25.34	7.53E-05		-5.69E-05	3.69E-05
		209.75		3.36	7.22E-04		1.94E-04	3.55E-04
		228.18		11.24	2.16E-04		2.17E-04	1.06E-04
		277.60		14.51	1.82E-04		6.69E-05	8.95E-05
		285.46		0.79	3.67E-03		-2.22E-03	1.80E-03
		315.88		1.60	1.45E-03		1.65E-03	7.10E-04
		334.31		2.06	9.01E-04		-1.45E-04	4.42E-04
	PU-239	38.66		0.01	2.35E+00	2.09E-01	4.07E-01	1.15E+00
		51.62		0.03	2.09E-01		-8.00E-03	1.03E-01
		98.50		0.01	2.27E-01		-1.68E-01	1.11E-01
		111.03		0.00	1.20E+00		-9.31E-02	5.90E-01
		129.30		0.01	2.55E-01		2.43E-02	1.25E-01
		171.39		0.00	1.62E+01		-1.15E+00	7.96E+00
		203.55		0.00	3.69E+00		-2.62E+00	1.82E+00
		332.85		0.00	4.75E+00		-6.90E-02	2.33E+00
		336.11		0.00	2.10E+01		-1.41E+01	1.03E+01
		345.01		0.00	4.47E+00		-2.31E+00	2.19E+00
		375.05		0.00	1.64E+00		-2.49E-01	8.03E-01
		380.19		0.00	8.52E+00		2.88E+00	4.18E+00
		382.75		0.00	1.01E+01		-1.28E+01	4.93E+00
		413.71		0.00	2.58E+00		8.24E+00	1.27E+00
		422.60		0.00	2.57E+01		-3.13E+00	1.26E+01
		451.48		0.00	1.84E+01		-1.39E+01	9.05E+00
	Am-240	99.53		18.40	9.69E-05	2.75E-05	-8.76E-06	4.76E-05
		103.37		29.20	6.02E-05		-8.68E-06	2.95E-05
		117.23		6.93	2.51E-04		-1.50E-04	1.23E-04
		888.85		24.70	8.63E-05		7.00E-05	4.12E-05
		987.79		72.20	2.75E-05		-9.81E-06	1.30E-05
	Np-240m	554.60		20.90	1.45E-04	1.45E-04	-3.03E-05	7.05E-05
		597.40		11.70	2.73E-04		4.26E-05	1.33E-04
	U-240	44.10		1.05	1.44E-02	1.21E-02	1.66E-03	7.06E-03
		66.50		0.15	2.44E-02		-1.32E-02	1.20E-02
		169.20		0.12	2.08E-02		-1.08E-02	1.02E-02
		189.70		0.24	1.21E-02		1.22E-02	5.96E-03
+	AM-241	59.54	*	35.90	1.09E-04	1.09E-04	2.23E-04	5.35E-05
	AM-242m	49.35		0.13	5.12E-02	5.12E-02	5.14E-02	2.51E-02
		66.89		0.01	1.84E-01		-8.16E-02	9.03E-02
		86.65		0.02	1.17E-01		-2.71E-02	5.78E-02
		163.25		0.02	1.17E-01		7.09E-02	5.74E-02
	AM-243	43.53		5.90	2.02E-03	3.44E-05	-6.62E-04	9.89E-04
		74.66		67.20	3.44E-05		3.58E-05	1.69E-05

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

Apex-Gamma

Analysis Report for 24-2520 TI185-4.5M-S3-CST-d-A F0

ASr 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2520 TI185-4.5M-S3-CST-d-A F0
Sample Description	: ASr 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 1:38:51PM
Procedure	: F0_gsv02mlw
Operator	: Administrator
Detector Name	: F
Geometry	: F0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.5 seconds
Dead Time	: 0.13 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: F0_gsv2mlw_R717
Sample Number	: 578946
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 1:58:59PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2520 TI185-4.5M-S3-CST-d-A F0

ASr 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.72	167.46	0.2255	7.04
2	64.53	180.71	0.3430	3.03
3	87.54	245.36	0.1699	12.23
4	414.91	1160.09	0.1508	12.97
5	661.86	1850.37	0.0584	73.62
6	666.60	1863.85	0.1582	11.58
7	695.28	1943.60	0.1523	11.06
8	1081.64	3022.92	0.2203	4.46
9	1110.40	3104.10	0.2554	3.06
10	1173.68	3280.62	0.1183	14.30
11	1275.02	3564.34	0.2621	3.38
12	1333.02	3725.79	0.1215	13.65

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2520 TI185-4.5M-S3-CST-d-A F0

ASr 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 1:58:59PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.72	160 -	173	167.44	4.89E+02	94.95	6.83E+02	1.11
F	2	64.53	176 -	186	180.90	1.11E+02	23.76	5.66E+02	1.35
F	3	87.54	237 -	253	245.20	9.95E+02	110.14	8.97E+02	1.36
F	4	414.91	1149 -	1166	1160.16	6.97E+02	100.39	5.98E+02	1.58
M	5	661.86	1840 -	1874	1850.33	1.99E+04	192.05	1.36E+02	1.85
m	6	666.60	1840 -	1874	1863.57	5.13E+02	23.87	5.35E+01	1.85
F	7	695.28	1932 -	1954	1943.71	4.77E+02	55.66	7.50E+01	2.00
F	8	1081.64	3016 -	3032	3023.37	8.93E+01	10.04	2.30E+01	2.19
F	9	1110.40	3095 -	3112	3103.75	7.23E+01	31.62	2.28E+01	2.39
F	10	1173.68	3270 -	3291	3280.57	1.06E+03	31.03	2.14E+01	2.35
F	11	1275.02	3557 -	3570	3563.74	2.85E+01	10.88	2.47E+01	1.82
F	12	1333.02	3714 -	3737	3725.80	8.89E+02	48.52	6.12E+00	2.52

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 1:58:59PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578890.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.72	4.89E+02	94.95	2.74E+00	3.98E-01	4.86E+02	9.50E+01
F	2	64.53	1.11E+02	23.76			1.11E+02	2.38E+01
F	3	87.54	9.95E+02	110.14	1.07E+01	6.14E-01	9.84E+02	1.10E+02
F	4	414.91	6.97E+02	100.39			6.97E+02	1.00E+02

Analysis Report for 24-2520 TI185-4.5M-S3-CST-d-A F0

ASr 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	5	661.86	1.99E+04	192.05			1.99E+04	1.92E+02
m	6	666.60	5.13E+02	23.87			5.13E+02	2.39E+01
F	7	695.28	4.77E+02	55.66			4.77E+02	5.57E+01
F	8	1081.64	8.93E+01	10.04			8.93E+01	1.00E+01
F	9	1110.40	7.23E+01	31.62			7.23E+01	3.16E+01
F	10	1173.68	1.06E+03	31.03			1.06E+03	3.10E+01
F	11	1275.02	2.85E+01	10.88			2.85E+01	1.09E+01
F	12	1333.02	8.89E+02	48.52			8.89E+02	4.85E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.96	1173.23	*	99.85	5.28E-04	1.58E-05	0.786
		1332.49	*	99.98	4.84E-04	2.66E-05	0.777
CD-109	0.96	88.03	*	3.64	3.29E-03	3.70E-04	free
Te-129m	0.94	695.88	*	3.00	4.48E-03	1.04E-03	free
CS-137	0.99	661.66	*	85.10	6.33E-03	7.24E-05	miss
AM-241	0.99	59.54	*	35.90	3.25E-04	6.36E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

Analysis Report for 24-2520 TI185-4.5M-S3-CST-d-A F0

ASr 2094 Branch

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.962	5.16E-04	1.36E-05	
CD-109	0.962	3.29E-03	3.70E-04	
Te-129m	0.944	4.48E-03	1.04E-03	
CS-137	0.993	6.33E-03	7.24E-05	
AM-241	0.995	3.25E-04	6.36E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2520 TI185-4.5M-S3-CST-d-A F0

ASr 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 1:58:59PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	64.53	9.24248E-02	21.42	Tol.	W-181 OS-191
F	4	414.91	5.80421E-01	14.41	Tol.	RH-102M
m	6	666.60	4.27516E-01	4.65		
F	8	1081.64	7.43838E-02	11.25		
F	9	1110.40	6.02170E-02	43.76		
F	11	1275.02	2.37897E-02	38.11	Tol.	NA-22

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.60	10.44	3.37E-04	3.37E-04	3.69E-04	1.65E-04
NA-22	511.00	179.91	1.66E-05	1.66E-05	1.66E-05	8.11E-06
	1274.54	99.94	3.39E-05		3.61E-05	1.59E-05
NA-24	1368.63	99.99	2.55E-05	9.94E-06	8.08E-06	1.18E-05
	2754.01	99.87	9.94E-06		1.35E-06	3.14E-06
AL-26	1129.67	2.50	7.79E-04	9.86E-06	-1.12E-03	3.67E-04
	1808.65	99.76	9.86E-06		-3.71E-07	4.22E-06
K-40	1460.82	10.66	1.79E-04	1.79E-04	2.22E-04	8.38E-05
K-42	312.60	0.34	1.02E-02	9.01E-05	-9.50E-04	5.02E-03

Analysis Report for 24-2520 TI185-4.5M-S3-CST-d-A F0

ASr 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
K-42	1524.60	18.08	9.01E-05	9.01E-05	3.06E-05	4.00E-05
Sc-44	1157.02	99.90	5.34E-05	5.34E-05	1.75E-05	2.50E-05
	1499.46	0.91	4.49E-03		-3.95E-03	2.00E-03
Sc-44m	271.24	86.74	2.80E-05	2.80E-05	-1.67E-05	1.37E-05
	1001.83	1.20	3.30E-03		3.96E-04	1.58E-03
	1126.06	1.20	2.85E-03		1.49E-03	1.35E-03
	1157.00	1.20	2.47E-03		8.11E-04	1.16E-03
TI-44	67.87	93.00	3.50E-05	2.62E-05	-6.92E-06	1.72E-05
	78.32	96.40	2.62E-05		-1.37E-05	1.29E-05
SC-46	889.28	99.98	2.23E-05	2.23E-05	5.59E-06	1.06E-05
	1120.55	99.99	2.55E-05		2.28E-05	1.21E-05
CA-47	489.23	5.90	7.21E-04	2.17E-05	4.36E-04	3.53E-04
	807.86	5.90	3.84E-04		-4.05E-04	1.82E-04
	1297.09	67.00	2.17E-05		-1.72E-05	9.99E-06
SC-47	159.38	68.30	2.73E-05	2.73E-05	3.70E-07	1.34E-05
SC-48	175.36	7.47	2.69E-04	1.43E-05	-1.33E-04	1.32E-04
	983.53	100.00	2.08E-05		9.37E-06	9.86E-06
	1037.52	97.50	2.12E-05		4.42E-06	1.00E-05
	1312.12	100.00	1.43E-05		-2.34E-06	6.52E-06
V-48	944.13	7.87	3.33E-04	1.74E-05	-2.07E-04	1.59E-04
	983.53	99.98	2.41E-05		1.09E-05	1.15E-05
	1312.11	98.20	1.74E-05		-2.84E-06	7.93E-06
	2240.40	2.33	6.95E-04		-6.41E-04	3.01E-04
CR-51	320.08	9.91	2.35E-04	2.35E-04	-2.54E-04	1.15E-04
Fe-52	168.69	99.20	3.15E-05	3.15E-05	6.88E-06	1.54E-05
	377.75	1.64	2.88E-03		-1.05E-03	1.41E-03
Mn-52	744.23	90.00	2.99E-05	2.06E-05	-1.11E-05	1.42E-05
	848.18	3.32	8.36E-04		2.37E-04	3.97E-04
	935.54	94.50	3.73E-05		-4.94E-05	1.78E-05
	1246.28	4.21	5.24E-04		-5.43E-04	2.40E-04
	1333.65	5.07	1.88E-03		1.16E-02	9.24E-04
	1434.09	100.00	2.06E-05		-7.51E-06	9.21E-06
MN-54	834.85	99.98	1.70E-05	1.70E-05	9.48E-06	8.05E-06
Co-55	411.50	1.07	4.63E-03	3.63E-05	9.93E-05	2.28E-03
	477.20	20.20	2.27E-04		2.83E-04	1.12E-04
	803.70	1.87	1.16E-03		7.36E-04	5.52E-04
	931.10	75.00	3.63E-05		3.91E-06	1.74E-05
	1316.60	7.10	2.31E-04		1.05E-04	1.05E-04
	1370.00	2.90	6.25E-04		-7.96E-04	2.86E-04
	1408.50	16.90	1.05E-04		-6.12E-05	4.81E-05
Co-56	846.77	99.94	2.21E-05	2.21E-05	9.82E-06	1.05E-05
	977.37	1.42	2.20E-03		7.27E-04	1.05E-03
	1037.84	14.05	1.91E-04		4.45E-05	9.06E-05
	1175.10	2.25	4.47E-03		3.09E-02	2.20E-03
	1238.29	66.46	3.25E-05		-2.37E-05	1.50E-05
	1360.21	4.28	5.65E-04		7.72E-04	2.64E-04
	1771.36	15.41	1.34E-04		9.21E-05	6.08E-05
	2015.20	3.02	4.77E-04		-6.48E-04	2.05E-04
	2034.79	7.77	1.75E-04		-2.36E-05	7.39E-05
	2598.50	16.97	5.17E-05		1.11E-05	1.83E-05
MN-56	846.76	98.85	1.15E-04	1.15E-04	5.10E-05	5.44E-05
	1810.73	26.90	2.90E-04		-2.00E-04	1.23E-04
	2113.09	14.20	7.11E-04		5.15E-04	3.09E-04

Analysis Report for 24-2520 TI185-4.5M-S3-CST-d-A F0

ASr 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Ni-56	158.38		98.80	1.84E-05	1.84E-05	1.69E-05	9.01E-06
		269.50		36.50	5.72E-05		-4.88E-05	2.80E-05
		480.44		36.50	9.46E-05		-7.06E-05	4.65E-05
		749.50		49.50	3.30E-05		4.12E-06	1.57E-05
		811.85		86.00	1.98E-05		1.76E-05	9.41E-06
		1561.80		14.00	7.59E-05		1.57E-05	3.33E-05
	CO-57	122.06		85.60	2.07E-05	2.07E-05	2.07E-05	1.02E-05
		136.47		10.68	1.54E-04		-3.52E-05	7.55E-05
	NI-57	127.16		16.70	1.19E-04	1.51E-05	8.89E-06	5.84E-05
		1377.63		81.70	1.51E-05		3.02E-07	6.75E-06
		1757.55		5.75	2.63E-04		-8.32E-05	1.18E-04
		1919.52		12.30	1.08E-04		2.95E-05	4.72E-05
	CO-58	810.76		99.45	1.77E-05	1.77E-05	-6.31E-06	8.39E-06
		863.96		0.69	3.63E-03		-2.68E-03	1.73E-03
		1674.73		0.52	1.64E-03		-5.89E-04	7.10E-04
	FE-59	142.65		1.02	1.61E-03	3.26E-05	-9.65E-04	7.92E-04
		192.34		3.08	8.85E-04		-4.80E-04	4.35E-04
		1099.24		56.50	3.41E-05		-1.79E-05	1.62E-05
		1291.59		43.20	3.26E-05		4.75E-06	1.50E-05
+	CO-60	1173.23	*	99.85	2.05E-05	1.33E-05	5.28E-04	9.57E-06
		1332.49	*	99.98	1.33E-05		4.84E-04	5.92E-06
	CU-64	511.00		35.00	1.24E-04	1.24E-04	1.23E-04	6.05E-05
		1345.77		0.47	3.58E-03		8.23E-04	1.61E-03
	NI-65	366.27		4.81	4.50E-03	3.42E-04	-1.67E-03	2.21E-03
		1115.53		15.43	1.11E-03		5.28E-04	5.31E-04
		1481.84		23.59	3.42E-04		3.64E-04	1.55E-04
	ZN-65	1115.54		50.04	4.79E-05	4.79E-05	2.28E-05	2.29E-05
	GA-66	511.00		114.00	4.30E-05	4.14E-05	4.30E-05	2.11E-05
		833.53		5.90	4.83E-04		6.56E-05	2.30E-04
		1039.22		37.00	8.12E-05		-3.53E-06	3.84E-05
		1333.11		1.17	8.51E-03		5.16E-02	4.18E-03
		1918.33		1.99	9.62E-04		7.22E-04	4.20E-04
		2189.62		5.30	3.57E-04		2.27E-04	1.53E-04
		2751.83		22.70	4.14E-05		5.62E-06	1.31E-05
	CU-67	91.27		7.00	3.49E-04	4.40E-05	9.02E-05	1.72E-04
		93.31		16.10	1.14E-04		6.47E-05	5.60E-05
		184.58		48.70	4.40E-05		-4.49E-06	2.16E-05
		300.22		0.80	3.21E-03		-2.34E-03	1.58E-03
		393.53		0.22	1.36E-02		8.29E-03	6.68E-03
	GA-67	91.26		3.11	9.06E-04	5.03E-05	2.34E-04	4.46E-04
		93.31		38.81	5.03E-05		2.85E-05	2.47E-05
		184.58		21.41	9.99E-05		-1.02E-05	4.91E-05
		208.95		2.46	1.26E-03		-5.03E-04	6.19E-04
		300.22		16.64	1.72E-04		-1.25E-04	8.45E-05
		393.53		4.56	4.04E-04		2.46E-04	1.98E-04
	ZN-69m	438.63		94.85	4.93E-05	4.93E-05	-2.45E-05	2.42E-05
	GA-72	629.97		26.13	1.92E-04	3.20E-05	2.28E-04	9.28E-05
		834.13		95.45	3.20E-05		-3.17E-06	1.52E-05
		894.33		10.14	4.00E-04		1.19E-04	1.90E-04
		1050.79		6.99	6.85E-04		1.15E-05	3.25E-04
		2201.59		26.87	9.42E-05		4.02E-05	4.14E-05
		2491.03		7.73	1.90E-04		7.24E-05	7.53E-05
		2507.72		13.33	3.87E-04		6.26E-04	1.81E-04

Analysis Report for 24-2520 TI185-4.5M-S3-CST-d-A F0

ASr 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Zn-72	144.70	82.78	2.18E-05	2.18E-05	-4.01E-06	1.07E-05
	191.50	9.35	2.48E-04		1.18E-04	1.22E-04
SE-75	121.12	17.20	1.42E-04	3.84E-05	2.01E-04	6.97E-05
	136.00	58.50	3.84E-05		-5.98E-06	1.88E-05
	264.66	58.90	4.76E-05		-2.81E-05	2.33E-05
	279.54	25.02	1.18E-04		1.07E-04	5.78E-05
	400.66	11.41	8.27E-05		3.50E-05	4.06E-05
BR-83	529.59	1.30	1.44E-02	1.44E-02	-1.54E-02	7.00E-03
BR-84	604.80	1.70	1.02E+01	3.16E-01	4.81E+00	4.95E+00
	736.50	1.29	9.16E+00		7.60E+00	4.35E+00
	802.20	6.00	2.02E+00		6.96E-01	9.57E-01
	881.60	42.00	3.16E-01		8.64E-02	1.50E-01
	987.30	0.79	1.74E+01		-1.97E+01	8.25E+00
	1015.90	6.20	2.19E+00		4.51E-01	1.04E+00
	1213.30	2.60	4.29E+00		-4.64E+00	1.99E+00
	1463.80	2.00	7.12E+00		8.46E+00	3.33E+00
	1741.20	1.60	5.03E+00		8.48E-01	2.20E+00
	1877.50	1.12	6.95E+00		6.45E-01	2.99E+00
	1897.60	14.60	5.20E-01		-3.45E-01	2.22E-01
	2029.60	2.10	3.81E+00		-2.43E+00	1.63E+00
	2200.70	1.16	9.05E+00		5.49E-01	3.99E+00
	2484.10	6.70	1.15E+00		5.37E-01	4.72E-01
	2824.10	1.12	4.95E+00		1.07E+00	1.75E+00
KR-85m	151.20	75.20	6.24E-05	6.24E-05	-4.39E-05	3.06E-05
	304.87	14.00	4.82E-04		-1.12E-04	2.37E-04
Y-87	388.53	82.20	3.59E-05	3.59E-05	-1.89E-05	1.76E-05
	484.80	89.80	3.72E-05		-3.03E-05	1.82E-05
KR-88	165.98	3.10	4.95E-03	1.12E-04	-1.72E-03	2.43E-03
	196.30	26.00	5.38E-04		4.60E-04	2.65E-04
	362.23	2.25	5.10E-03		-6.17E-04	2.50E-03
	471.80	0.73	3.34E-02		1.02E-02	1.64E-02
	834.83	13.00	8.45E-04		4.72E-04	4.01E-04
	985.78	1.31	1.08E-02		1.22E-02	5.14E-03
	1141.33	1.28	8.02E-03		-2.78E-03	3.76E-03
	1179.51	1.00	4.40E-02		5.50E-03	2.16E-02
	1250.67	1.12	8.56E-03		3.21E-03	3.93E-03
	1369.50	1.48	7.27E-03		-2.65E-03	3.36E-03
	1518.39	2.15	3.66E-03		-5.68E-04	1.62E-03
	1529.77	10.90	7.01E-04		2.38E-04	3.10E-04
	2029.84	4.53	1.99E-03		1.27E-03	8.53E-04
	2035.41	3.74	1.84E-03		-4.12E-04	7.72E-04
	2195.84	13.20	6.27E-04		-8.16E-04	2.70E-04
	2231.77	3.39	1.38E-03		7.93E-04	5.83E-04
	2352.08	0.73	1.03E-02		-2.43E-03	4.30E-03
	2392.11	34.60	1.12E-04		3.73E-05	4.33E-05
RB-88	898.03	14.40	8.28E-04	3.02E-04	-3.04E-04	3.94E-04
	1382.45	0.78	9.76E-03		-4.64E-03	4.40E-03
	1836.00	22.81	3.02E-04		2.10E-04	1.31E-04
	2677.89	2.13	1.66E-03		2.25E-04	5.23E-04
Y-88	898.04	93.70	2.37E-05	1.39E-05	-8.72E-06	1.13E-05
	1836.06	99.20	1.39E-05		9.65E-06	6.00E-06
RB-89	272.42	1.53	1.54E+05	3.00E+03	-1.14E+03	7.58E+04
	657.77	10.80	1.73E+05		7.59E+03	8.62E+04

Analysis Report for 24-2520 TI185-4.5M-S3-CST-d-A F0

ASr 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
RB-89	947.73	10.00	2.22E+04	3.00E+03	1.56E+04	1.06E+04
	1031.92	63.00	3.12E+03		-2.40E+02	1.48E+03
	1248.14	46.00	3.00E+03		-1.89E+03	1.38E+03
	1538.07	2.77	4.13E+04		-4.39E+03	1.83E+04
	2007.50	2.58	4.32E+04		-3.67E+04	1.85E+04
	2195.92	14.50	8.60E+03		-1.12E+04	3.70E+03
	2570.20	10.70	7.54E+03		-7.00E+03	2.82E+03
	2707.26	2.20	4.34E+04		1.45E+04	1.68E+04
SR-89	908.96	0.01	2.02E-01	2.02E-01	4.67E-02	9.63E-02
Sr-91	652.90	11.35	3.50E-04	9.35E-05	7.78E-05	1.70E-04
	749.80	23.70	1.09E-04		1.36E-05	5.17E-05
	925.80	3.85	8.79E-04		1.04E-03	4.20E-04
	1024.30	33.50	9.35E-05		-4.84E-05	4.44E-05
Y-91	1204.77	0.26	5.94E-03	5.94E-03	6.06E-03	2.76E-03
Y-91m	555.57	61.64	5.98E-05	5.98E-05	-1.39E-04	2.90E-05
NB-92M	912.60	1.78	1.43E-03	2.15E-05	3.00E-04	6.80E-04
	934.44	99.15	2.15E-05		4.11E-06	1.03E-05
	1847.50	0.85	1.11E-03		-3.57E-04	4.85E-04
SR-92	241.56	2.93	4.48E-03	8.66E-05	1.04E-03	2.20E-03
	430.49	3.28	5.91E-03		3.00E-03	2.90E-03
	953.31	3.52	3.71E-03		-2.32E-03	1.77E-03
	1142.35	2.79	3.64E-03		-1.37E-03	1.71E-03
	1383.93	90.00	8.66E-05		6.58E-05	3.93E-05
MO-93M	114.04	0.68	4.70E-03	2.36E-05	1.27E-03	2.30E-03
	263.05	57.40	7.29E-05		2.36E-05	3.57E-05
	684.69	99.90	2.73E-05		-6.09E-07	1.29E-05
	1363.02	0.81	4.38E-03		3.84E-03	2.05E-03
	1477.14	99.10	2.36E-05		-4.31E-05	1.06E-05
SR-93	168.50	18.40	3.06E+12	1.04E+12	6.69E+11	1.50E+12
	260.12	7.40	9.06E+12		-2.92E+12	4.44E+12
	346.49	3.28	2.47E+13		-1.31E+13	1.21E+13
	446.20	2.36	4.72E+13		2.47E+13	2.32E+13
	590.24	68.00	1.04E+12		-4.34E+11	5.02E+11
	710.31	21.80	2.30E+12		6.04E+11	1.10E+12
	875.73	24.50	2.42E+12		1.52E+12	1.15E+12
	888.13	22.10	2.42E+12		-7.69E+09	1.15E+12
	1040.63	3.20	1.83E+13		2.14E+13	8.67E+12
	1094.00	1.76	3.28E+13		-3.96E+13	1.55E+13
	1122.48	4.00	1.54E+13		-2.33E+13	7.27E+12
	1215.48	2.50	2.02E+13		-1.81E+13	9.43E+12
	1269.47	7.10	7.84E+12		1.04E+12	3.67E+12
	1321.24	2.61	1.47E+13		1.60E+13	6.68E+12
	1387.11	3.50	1.18E+13		4.56E+12	5.38E+12
	1694.07	2.58	1.07E+13		6.16E+12	4.53E+12
	1699.06	3.30	7.24E+12		-1.96E+12	2.97E+12
	2543.84	3.03	8.97E+12		2.99E+12	3.47E+12
	2688.65	2.13	1.05E+13		2.26E+12	3.72E+12
Y-93	266.90	7.40	4.45E-04	4.45E-04	2.73E-05	2.18E-04
	947.10	2.10	1.59E-03		-6.63E-04	7.62E-04
	1917.80	1.57	1.15E-03		3.74E-04	4.98E-04
NB-94	702.65	99.81	2.45E-05	2.45E-05	-4.38E-06	1.18E-05
	871.09	99.89	2.54E-05		-8.68E-06	1.21E-05
Y-94	381.60	2.02	5.00E+03	1.25E+02	-3.90E+03	2.45E+03

Analysis Report for 24-2520 TI185-4.5M-S3-CST-d-A F0

ASr 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Y-94	550.90	4.90	1.83E+03	1.25E+02	-5.61E+02	8.89E+02
	752.60	1.40	4.31E+03		1.66E+02	2.05E+03
	918.74	56.00	1.25E+02		1.12E+00	5.95E+01
	1138.90	6.00	1.03E+03		7.56E+02	4.84E+02
	1671.40	2.50	1.52E+03		-1.12E+03	6.63E+02
	2140.60	0.95	4.73E+03		8.81E+02	2.05E+03
NB-95	765.80	99.81	1.67E-05	1.67E-05	-9.27E-07	7.95E-06
ZR-95	724.19	44.27	4.12E-05	3.07E-05	3.84E-05	1.97E-05
	756.72	54.38	3.07E-05		2.39E-05	1.46E-05
NB-96	219.08	2.97	8.87E-04	2.00E-05	5.99E-05	4.36E-04
	241.38	3.50	7.53E-04		1.75E-04	3.70E-04
	350.05	1.54	2.09E-03		2.29E-03	1.03E-03
	352.56	0.83	3.80E-03		-1.20E-03	1.86E-03
	371.81	2.62	1.25E-03		3.20E-04	6.11E-04
	460.04	26.62	1.63E-04		-1.33E-04	8.03E-05
	480.71	5.84	7.01E-04		-5.23E-04	3.44E-04
	568.87	58.00	5.01E-05		-2.31E-05	2.44E-05
	719.56	6.85	3.26E-04		4.05E-04	1.56E-04
	721.63	1.02	2.21E-03		2.40E-03	1.06E-03
	778.22	96.45	2.00E-05		-3.64E-06	9.47E-06
	810.33	11.09	1.78E-04		-1.68E-04	8.45E-05
	812.58	2.95	6.88E-04		-1.02E-04	3.27E-04
	847.69	1.14	1.79E-03		-2.09E-04	8.50E-04
	849.93	20.45	1.05E-04		-1.32E-05	5.01E-05
	1091.35	48.50	4.55E-05		2.42E-05	2.15E-05
	1200.23	19.97	9.71E-05		2.85E-05	4.52E-05
	1441.13	0.44	3.46E-03		9.21E-04	1.57E-03
	1497.81	3.28	4.35E-04		2.38E-04	1.94E-04
Nb-97	657.94	98.23	2.42E-04	2.42E-04	1.83E-05	1.21E-04
	1024.40	1.09	2.34E-03		-1.21E-03	1.11E-03
ZR-97	254.17	1.15	2.42E-03	2.31E-05	-6.15E-04	1.19E-03
	355.40	2.09	2.35E-03		6.69E-04	1.15E-03
	507.64	5.03	1.06E-03		-3.72E-04	5.19E-04
	743.36	93.09	2.31E-05		1.22E-05	1.10E-05
	1147.97	2.62	1.32E-03		1.31E-03	6.19E-04
MO-99	181.07	6.14	5.34E-04	1.84E-04	-2.72E-04	2.62E-04
	366.42	1.20	2.29E-03		-8.48E-04	1.12E-03
	739.50	12.26	1.84E-04		-5.77E-05	8.75E-05
	777.92	4.30	3.96E-04		1.37E-04	1.88E-04
TC-99M	140.51	90.80	1.96E-05	1.96E-05	2.38E-05	9.61E-06
RH-101	127.23	68.00	3.40E-05	3.40E-05	-3.14E-05	1.67E-05
	198.01	73.00	3.80E-05		4.23E-06	1.87E-05
	325.23	11.80	7.92E-05		-6.95E-06	3.89E-05
RH-101M	306.86	81.00	3.03E-05	3.03E-05	-3.43E-05	1.49E-05
	545.12	4.30	5.99E-04		-1.68E-04	2.91E-04
RH-102M	415.25	2.10	4.32E-03	7.10E-05	1.43E-02	2.13E-03
	418.52	9.40	8.52E-04		1.99E-04	4.20E-04
	420.40	3.20	2.47E-03		1.56E-03	1.22E-03
	475.06	95.00	7.10E-05		1.60E-05	3.49E-05
	628.05	8.30	6.09E-04		6.13E-04	2.95E-04
	631.29	56.00	7.11E-05		2.32E-05	3.44E-05
	692.40	1.60	4.40E-03		4.63E-04	2.15E-03
	695.60	2.90	2.16E-03		1.01E-02	1.05E-03

Analysis Report for 24-2520 TI185-4.5M-S3-CST-d-A F0

ASr 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RH-102M	697.49		44.00	1.38E-04	7.10E-05	9.91E-06	6.73E-05
		766.84		34.00	8.95E-05		4.51E-05	4.26E-05
		1046.59		34.00	9.51E-05		2.69E-05	4.51E-05
		1103.16		4.60	5.82E-04		3.17E-04	2.77E-04
		1112.84		19.00	2.13E-04		6.31E-05	1.02E-04
	RU-103	497.08		91.00	3.22E-05	3.22E-05	-4.39E-06	1.57E-05
		610.33		5.76	4.08E-04		-6.04E-05	1.98E-04
	RH-105	306.31		4.66	5.81E-04	1.57E-04	6.61E-04	2.85E-04
		319.23		16.90	1.57E-04		5.20E-05	7.68E-05
	AG-106M	221.70		6.60	3.35E-04	3.45E-05	-1.81E-05	1.65E-04
		228.63		2.10	1.03E-03		1.18E-04	5.08E-04
		328.46		1.14	2.19E-03		1.54E-04	1.07E-03
		391.04		3.68	7.75E-04		9.53E-05	3.80E-04
		406.18		13.40	2.11E-04		-4.01E-05	1.04E-04
		429.65		13.20	2.46E-04		2.45E-05	1.21E-04
		450.98		28.20	1.26E-04		2.33E-05	6.21E-05
		511.85		88.00	3.45E-05		2.83E-05	1.69E-05
		601.17		1.61	1.37E-03		-2.20E-03	6.64E-04
		616.17		21.60	1.12E-04		-4.69E-06	5.44E-05
		646.03		1.46	1.61E-03		1.44E-03	7.82E-04
		680.42		2.18	6.86E-04		4.66E-04	3.25E-04
		703.11		4.47	3.98E-04		1.57E-04	1.90E-04
		717.34		28.90	6.17E-05		-7.06E-05	2.95E-05
		748.36		20.60	7.78E-05		-9.23E-06	3.69E-05
		793.17		5.90	2.69E-04		-1.29E-04	1.28E-04
		804.28		12.40	1.38E-04		1.79E-04	6.57E-05
		808.36		4.00	4.16E-04		-5.20E-05	1.97E-04
		824.69		15.30	1.16E-04		1.60E-05	5.52E-05
		847.15		4.40	3.92E-04		1.05E-04	1.86E-04
		1019.72		1.04	1.81E-03		-2.84E-04	8.56E-04
		1045.83		29.60	6.51E-05		-6.75E-06	3.08E-05
		1128.02		11.80	1.64E-04		8.71E-05	7.78E-05
		1199.39		11.20	1.46E-04		1.97E-05	6.80E-05
		1222.88		7.00	2.38E-04		-1.78E-04	1.11E-04
		1394.35		1.49	9.85E-04		9.39E-04	4.52E-04
		1527.65		16.30	6.99E-05		3.03E-05	3.10E-05
		1572.35		6.60	1.38E-04		9.16E-06	5.90E-05
		1722.76		1.40	9.73E-04		-1.11E-03	4.37E-04
		1839.05		2.00	5.44E-04		-3.03E-04	2.35E-04
	RH-106	621.93		9.93	3.18E-04	3.18E-04	2.16E-04	1.54E-04
		873.49		0.44	6.99E-03		5.73E-03	3.34E-03
		1050.41		1.56	1.68E-03		-2.22E-04	7.99E-04
	RU-106	511.86		20.40	1.45E-04	1.45E-04	1.56E-04	7.09E-05
	AG-108M	79.13		6.60	3.17E-04	3.64E-05	-4.95E-04	1.56E-04
		433.94		90.50	6.17E-05		-1.27E-05	3.03E-05
		614.28		89.80	4.76E-05		7.56E-07	2.31E-05
		722.91		90.80	3.64E-05		3.36E-05	1.74E-05
+	CD-109	88.03	*	3.64	7.66E-04	7.66E-04	3.29E-03	3.78E-04
	AG-110M	446.81		3.70	2.18E-03	4.35E-05	5.47E-04	1.07E-03
		620.35		2.73	1.97E-03		-9.12E-04	9.56E-04
		657.76		95.61	3.41E-04		1.49E-05	1.70E-04
		677.62		10.70	3.20E-04		1.30E-04	1.52E-04
		687.01		6.53	4.32E-04		-2.97E-04	2.04E-04

Analysis Report for 24-2520 TI185-4.5M-S3-CST-d-A F0

ASr 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-110M	706.68	16.69	2.08E-04	4.35E-05	1.96E-04	9.92E-05
	744.28	4.77	6.73E-04		-2.51E-04	3.19E-04
	763.94	22.60	1.33E-04		-5.48E-05	6.30E-05
	818.02	7.43	5.19E-04		2.43E-04	2.46E-04
	884.68	75.00	4.35E-05		2.49E-05	2.07E-05
	937.48	35.00	1.03E-04		-3.44E-05	4.94E-05
	1384.29	25.10	8.26E-05		6.42E-05	3.76E-05
	1475.78	4.08	3.93E-04		-5.21E-04	1.76E-04
	1505.03	13.33	1.31E-04		-3.27E-05	5.78E-05
	1562.29	1.22	5.85E-04		-1.66E-04	2.55E-04
AG-111	245.40	1.11	1.99E-03	3.88E-04	1.38E-03	9.79E-04
	342.13	6.68	3.88E-04		-2.66E-05	1.90E-04
AG-112	606.82	3.10	9.35E-04	6.70E-05	-6.04E-04	4.53E-04
	617.52	43.00	6.70E-05		2.04E-05	3.25E-05
	692.82	1.19	3.42E-03		-6.95E-05	1.67E-03
	694.87	2.90	1.41E-03		5.63E-03	6.90E-04
	851.28	1.02	2.23E-03		2.76E-04	1.06E-03
	1312.36	1.11	1.45E-03		-2.37E-04	6.60E-04
	1387.68	5.30	2.98E-04		-3.64E-04	1.35E-04
	1613.66	2.80	5.16E-04		-3.34E-04	2.29E-04
	1798.50	0.89	1.38E-03		-4.51E-04	5.89E-04
	2106.31	2.40	6.37E-04		-7.28E-04	2.77E-04
	2506.70	1.06	3.29E-03		3.09E-03	1.53E-03
CD-113M	263.70	0.03	7.84E-02	7.84E-02	-9.84E-04	3.84E-02
SN-113	255.13	2.11	9.98E-04	4.29E-05	-6.33E-04	4.89E-04
	391.70	64.97	4.29E-05		1.47E-05	2.11E-05
IN-114M	190.27	15.56	1.34E-04	1.34E-04	-7.95E-05	6.61E-05
	558.43	4.40	6.92E-04		5.74E-04	3.36E-04
	725.24	4.40	5.62E-04		9.00E-04	2.69E-04
CD-115	260.90	1.94	1.19E-03	5.80E-05	4.29E-04	5.84E-04
	336.24	46.02	5.80E-05		1.21E-05	2.84E-05
	527.90	27.45	1.04E-04		9.52E-05	5.10E-05
CD-115M	933.84	2.00	1.08E-03	1.08E-03	8.14E-04	5.19E-04
	1290.59	0.90	1.60E-03		1.23E-03	7.39E-04
IN-115M	336.24	45.90	1.53E-04	1.53E-04	3.17E-05	7.48E-05
IN-116M	138.29	3.70	1.37E-01	4.06E-03	-4.65E-03	6.71E-02
	416.90	27.20	3.52E-02		5.16E-03	1.74E-02
	818.68	12.13	4.42E-02		-3.02E-02	2.10E-02
	1097.28	58.50	7.76E-03		5.01E-03	3.67E-03
	1293.56	84.80	4.06E-03		-6.10E-04	1.87E-03
	1507.59	9.92	2.62E-02		1.08E-02	1.16E-02
	2112.29	15.09	1.92E-02		-5.61E-03	8.36E-03
SB-125	176.31	6.84	2.65E-04	1.06E-04	1.77E-04	1.30E-04
	380.45	1.52	1.79E-03		8.64E-04	8.79E-04
	427.87	29.60	1.06E-04		-1.39E-04	5.21E-05
	463.36	10.49	3.47E-04		-1.18E-04	1.71E-04
	600.60	17.65	1.24E-04		4.26E-05	5.98E-05
	606.71	4.98	4.65E-04		-3.01E-04	2.26E-04
	635.95	11.22	1.92E-04		-3.55E-05	9.29E-05
	671.44	1.79	1.82E-03		1.55E-04	8.88E-04
SN-125	332.10	1.40	2.96E-03	2.70E-04	-1.92E-03	1.45E-03
	469.85	1.50	4.09E-03		1.13E-03	2.01E-03
	800.28	1.10	1.95E-03		-1.28E-03	9.25E-04

Analysis Report for 24-2520 TI185-4.5M-S3-CST-d-A F0

ASr 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SN-125	822.48	4.30	5.42E-04	2.70E-04	3.68E-04	2.58E-04
	915.55	4.10	6.11E-04		-2.06E-04	2.91E-04
	1067.10	10.00	2.70E-04		1.02E-04	1.29E-04
	1087.70	1.20	3.56E-03		1.52E-03	1.71E-03
	1089.10	4.60	4.97E-04		-2.02E-05	2.36E-04
	2002.10	1.90	6.21E-04		4.49E-04	2.70E-04
SB-127	61.10	1.43	3.97E-03	3.90E-05	4.07E-04	1.95E-03
	252.40	8.50	3.25E-04		1.99E-04	1.59E-04
	290.80	2.02	1.74E-03		1.11E-03	8.57E-04
	412.10	3.80	1.14E-03		-7.93E-06	5.61E-04
	445.10	4.30	1.14E-03		-7.94E-04	5.61E-04
	473.00	25.80	1.59E-04		-4.59E-05	7.83E-05
	543.30	2.90	7.51E-04		-1.37E-03	3.66E-04
	603.50	4.50	7.15E-04		-9.55E-04	3.47E-04
	685.70	36.80	3.90E-05		1.08E-05	1.84E-05
	698.50	3.64	9.51E-04		5.64E-05	4.64E-04
	722.20	1.88	1.06E-03		1.13E-03	5.07E-04
	783.70	15.10	1.07E-04		-3.27E-05	5.07E-05
SN-127	119.70	2.20	7.31E-03	5.78E-04	-8.04E-03	3.59E-03
	262.50	2.30	8.65E-03		1.76E-04	4.24E-03
	266.20	2.10	9.34E-03		-2.90E-03	4.58E-03
	284.30	2.70	8.40E-03		-5.83E-03	4.13E-03
	438.20	6.10	5.15E-03		-4.42E-04	2.53E-03
	490.90	5.30	5.44E-03		3.40E-03	2.67E-03
	493.20	3.10	9.09E-03		6.86E-04	4.45E-03
	545.40	2.30	1.01E-02		-8.96E-04	4.92E-03
	583.30	3.20	6.50E-03		3.69E-03	3.15E-03
	805.90	8.20	1.88E-03		-5.43E-04	8.90E-04
	823.10	11.00	1.48E-03		-5.74E-04	7.04E-04
	824.70	6.10	2.69E-03		3.72E-04	1.28E-03
	859.50	8.00	2.18E-03		3.09E-04	1.04E-03
	979.20	7.20	2.51E-03		2.16E-03	1.20E-03
	1093.30	3.80	4.57E-03		4.27E-03	2.16E-03
	1095.60	19.00	9.28E-04		3.84E-04	4.39E-04
	1114.30	38.00	5.78E-04		-8.51E-05	2.76E-04
	1160.40	2.40	5.85E-03		-5.08E-03	2.72E-03
	2003.40	5.30	1.97E-03		-4.20E-04	8.48E-04
SB-129	180.42	2.84	1.95E-03	1.01E-04	-1.41E-03	9.55E-04
	359.20	2.39	3.09E-03		1.10E-03	1.51E-03
	404.64	1.17	6.90E-03		-1.11E-03	3.38E-03
	523.13	1.55	5.02E-03		1.99E-04	2.45E-03
	544.56	15.42	4.70E-04		5.83E-05	2.29E-04
	633.74	2.53	2.50E-03		-2.22E-03	1.21E-03
	654.28	2.97	4.39E-03		-1.70E-03	2.16E-03
	682.77	5.76	7.24E-04		2.36E-04	3.43E-04
	761.12	4.32	1.15E-03		6.09E-04	5.49E-04
	773.37	2.82	1.71E-03		1.42E-03	8.11E-04
	786.36	1.07	4.21E-03		2.13E-03	1.99E-03
	787.16	1.74	2.61E-03		-6.57E-04	1.23E-03
	812.97	48.20	1.01E-04		-2.80E-05	4.78E-05
	819.51	1.39	3.66E-03		-8.64E-05	1.74E-03
	876.65	2.75	2.00E-03		1.76E-03	9.51E-04
	914.96	23.30	2.38E-04		-1.91E-05	1.13E-04

Analysis Report for 24-2520 TI185-4.5M-S3-CST-d-A F0

ASr 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	966.78		8.96	6.38E-04	1.01E-04	5.12E-04	3.04E-04
		1030.65		15.13	3.67E-04		3.79E-05	1.74E-04
		1656.10		1.31	2.07E-03		-3.54E-03	8.87E-04
		1738.16		7.45	4.72E-04		-4.33E-04	2.09E-04
	TE-129	459.60		7.70	4.66E-04	4.66E-04	5.46E-04	2.29E-04
		487.39		1.42	2.18E-03		1.27E-03	1.07E-03
+	Te-129m	695.88	*	3.00	7.22E-04	7.22E-04	4.48E-03	3.48E-04
	I-131	80.18		2.62	1.07E-03	3.16E-05	-8.69E-04	5.25E-04
		284.30		6.12	4.35E-04		-3.02E-04	2.14E-04
		364.49		81.50	3.16E-05		-6.67E-06	1.55E-05
		636.99		7.16	3.10E-04		-1.57E-04	1.50E-04
		722.91		1.77	1.06E-03		9.78E-04	5.08E-04
	Te-131m	773.67		36.80	7.62E-05	7.62E-05	-1.30E-05	3.62E-05
		793.75		13.40	3.02E-04		-3.48E-05	1.43E-04
		852.21		19.90	1.67E-04		-7.28E-06	7.94E-05
		1125.46		11.00	2.61E-04		3.34E-05	1.23E-04
		1206.60		9.41	2.33E-04		-3.41E-05	1.08E-04
	I-132	262.90		1.28	1.74E-03	3.74E-05	5.65E-04	8.55E-04
		284.90		0.71	3.60E-03		-1.72E-04	1.77E-03
		505.79		4.93	2.24E-03		1.96E-04	1.10E-03
		522.65		16.00	3.22E-04		-1.12E-04	1.57E-04
		547.20		1.14	4.40E-03		3.97E-03	2.14E-03
		621.20		1.97	2.44E-03		1.59E-03	1.18E-03
		630.19		13.30	3.39E-04		4.04E-04	1.64E-04
		650.50		2.57	2.24E-03		-1.37E-05	1.09E-03
		667.71		98.70	2.89E-04		-3.88E-06	1.44E-04
		669.80		4.60	1.87E-03		-5.14E-05	9.20E-04
		671.40		3.50	2.27E-03		1.93E-04	1.11E-03
		727.10		5.40	8.11E-04		-2.18E-04	3.87E-04
		728.40		1.60	2.41E-03		-1.51E-03	1.15E-03
		772.60		75.60	3.74E-05		-2.84E-06	1.78E-05
		809.50		2.60	1.29E-03		-1.31E-03	6.12E-04
		812.00		5.50	5.74E-04		5.09E-04	2.72E-04
		910.10		0.93	3.92E-03		3.69E-03	1.87E-03
		954.55		17.60	2.23E-04		-6.96E-05	1.07E-04
		1136.00		3.01	8.04E-04		-5.34E-04	3.78E-04
		1172.90		1.09	7.99E-03		5.19E-02	3.93E-03
		1290.80		1.13	2.35E-03		1.80E-03	1.08E-03
		1295.10		1.88	4.92E-04		-2.06E-04	2.27E-04
		1297.90		0.89	7.59E-04		9.82E-05	3.49E-04
		1372.07		2.47	8.82E-04		-1.56E-03	3.98E-04
		1398.57		7.01	3.29E-04		-1.41E-04	1.50E-04
		1442.56		1.40	6.65E-04		4.18E-04	3.01E-04
	TE-132	49.72		15.00	6.31E-04	2.59E-05	2.67E-04	3.10E-04
		111.76		1.74	9.79E-04		7.54E-04	4.80E-04
		116.30		1.96	8.84E-04		-4.30E-05	4.34E-04
		228.16		88.00	2.59E-05		7.47E-08	1.27E-05
	BA-133	81.00		32.90	8.37E-05	4.48E-05	3.41E-05	4.11E-05
		276.40		7.16	3.70E-04		-3.80E-05	1.82E-04
		302.85		18.34	1.39E-04		-1.40E-04	6.83E-05
		356.01		62.05	4.48E-05		5.25E-05	2.20E-05
		383.85		8.94	2.68E-04		2.80E-05	1.31E-04
	I-133	529.87		87.00	3.74E-05	3.74E-05	2.49E-06	1.83E-05

Analysis Report for 24-2520 TI185-4.5M-S3-CST-d-A F0

ASr 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
I-133	706.58	1.51	1.77E-03	3.74E-05	1.67E-03	8.45E-04
	856.28	1.24	2.44E-03		1.68E-03	1.16E-03
	875.33	4.51	5.14E-04		1.39E-04	2.45E-04
	1236.44	1.51	1.06E-03		7.07E-05	4.92E-04
	1298.22	2.35	7.70E-04		3.59E-04	3.55E-04
TE-133	312.08	62.40	2.52E+05	2.52E+05	1.40E+05	1.24E+05
	407.63	27.10	6.99E+05		1.37E+05	3.43E+05
	410.40	0.94	2.54E+07		-4.11E+06	1.25E+07
	474.85	0.88	2.79E+07		1.47E+07	1.37E+07
	719.71	8.90	1.37E+06		1.70E+06	6.56E+05
	786.93	5.40	1.88E+06		-4.43E+05	8.91E+05
	844.36	3.31	3.47E+06		4.81E+06	1.65E+06
	884.30	0.72	1.62E+07		-1.15E+07	7.70E+06
	930.71	3.81	3.69E+06		2.86E+06	1.77E+06
	997.70	1.04	1.32E+07		1.71E+06	6.29E+06
	1000.72	3.62	4.10E+06		5.80E+06	1.96E+06
	1021.13	2.81	4.53E+06		1.79E+06	2.15E+06
	1061.61	1.19	1.09E+07		-1.21E+07	5.18E+06
	1252.08	1.44	6.27E+06		-4.83E+04	2.88E+06
	1312.80	0.85	9.96E+06		-1.21E+07	4.54E+06
	1333.21	10.67	3.79E+06		2.33E+07	1.86E+06
	1717.61	3.18	2.37E+06		-5.27E+05	1.04E+06
	1881.52	1.22	6.10E+06		4.41E+06	2.65E+06
	2136.51	1.25	6.21E+06		5.52E+05	2.67E+06
	2229.64	0.87	7.94E+06		-2.09E+06	3.32E+06
Xe-133	81.00	36.90	5.77E-05	5.77E-05	2.35E-05	2.84E-05
CS-134	475.36	1.48	2.46E-03	2.56E-05	8.41E-04	1.21E-03
	563.25	8.34	4.65E-04		-2.23E-04	2.26E-04
	569.33	15.37	2.72E-04		-3.06E-04	1.32E-04
	604.72	97.62	3.35E-05		1.58E-05	1.62E-05
	795.86	85.46	2.56E-05		5.82E-06	1.21E-05
	801.95	8.69	3.14E-04		-3.80E-05	1.49E-04
	1038.61	0.99	2.51E-03		1.54E-03	1.19E-03
	1167.97	1.79	2.42E-03		-2.40E-04	1.19E-03
	1365.19	3.02	3.69E-04		3.96E-04	1.72E-04
I-135	220.50	1.75	3.29E-03	9.46E-05	4.17E-03	1.62E-03
	288.45	3.10	2.03E-03		-1.12E-03	9.98E-04
	417.63	3.53	2.90E-03		7.23E-04	1.43E-03
	546.56	7.15	9.03E-04		1.57E-04	4.40E-04
	836.80	6.69	6.60E-04		1.84E-05	3.13E-04
	971.96	0.89	6.33E-03		6.08E-03	3.01E-03
	972.62	1.21	4.19E-03		2.24E-03	1.99E-03
	1038.76	7.90	4.82E-04		2.96E-04	2.28E-04
	1101.58	1.61	3.04E-03		1.37E-03	1.44E-03
	1124.00	3.62	1.40E-03		4.12E-04	6.63E-04
	1131.51	22.60	2.05E-04		-1.69E-04	9.66E-05
	1240.47	0.90	4.24E-03		3.51E-03	1.96E-03
	1260.41	28.70	9.46E-05		4.15E-05	4.32E-05
	1457.56	8.70	4.43E-04		4.76E-04	2.07E-04
	1502.79	1.08	2.94E-03		1.42E-03	1.31E-03
	1566.41	1.29	1.55E-03		-1.37E-03	6.74E-04
	1678.03	9.60	1.40E-04		-2.30E-04	5.80E-05
	1706.46	4.10	3.97E-04		-5.28E-04	1.64E-04

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ASr 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1791.20		7.72	2.61E-04	9.46E-05	3.15E-05	1.13E-04
		2408.65		0.96	2.38E-03		1.29E-03	9.97E-04
	XE-135	249.79		90.00	4.00E-05	4.00E-05	1.60E-05	1.96E-05
	XE-135m	526.56		80.40	6.69E-05	6.69E-05	1.59E-05	3.26E-05
	CS-136	66.88		4.79	1.29E-03	2.78E-05	1.05E-04	6.33E-04
		86.36		5.90	7.95E-04		1.17E-04	3.93E-04
		153.25		7.70	3.72E-04		1.44E-04	1.83E-04
		163.92		4.69	8.65E-04		-1.05E-03	4.24E-04
		176.60		13.70	2.52E-04		6.65E-05	1.24E-04
		273.65		12.66	3.31E-04		7.24E-06	1.62E-04
		340.55		46.80	9.00E-05		-4.07E-05	4.41E-05
		818.51		99.70	2.78E-05		-1.36E-06	1.32E-05
		1048.07		80.00	4.11E-05		3.39E-05	1.95E-05
		1235.36		20.00	1.19E-04		4.81E-05	5.51E-05
+	CS-137	661.66	*	85.10	1.82E-05	1.82E-05	6.33E-03	8.66E-06
	BA-139	33.44		3.84	5.55E-01	2.25E-03	-6.31E-01	2.73E-01
		165.86		23.70	2.25E-03		-1.47E-03	1.10E-03
	BA-140	132.69		0.20	8.12E-03	1.03E-04	-4.37E-04	3.98E-03
		162.66		6.22	3.34E-04		4.66E-04	1.64E-04
		304.85		4.29	7.04E-04		-1.64E-04	3.46E-04
		423.72		3.10	1.04E-03		7.30E-04	5.09E-04
		437.58		1.93	1.73E-03		5.12E-04	8.52E-04
		537.26		24.39	1.03E-04		2.73E-05	5.00E-05
	LA-140	109.42		0.22	7.47E-03	1.87E-05	-5.38E-03	3.66E-03
		131.12		0.47	3.54E-03		-1.79E-03	1.73E-03
		173.54		0.13	1.44E-02		-7.15E-03	7.09E-03
		241.93		0.41	5.29E-03		2.82E-03	2.59E-03
		266.54		0.47	4.49E-03		-2.88E-03	2.20E-03
		328.76		20.30	2.03E-04		1.64E-04	9.95E-05
		432.49		2.90	1.83E-03		-1.10E-03	8.99E-04
		487.02		45.50	9.86E-05		-6.10E-06	4.83E-05
		618.10		0.04	6.33E-02		3.25E-02	3.07E-02
		751.64		4.33	4.76E-04		1.94E-04	2.27E-04
		815.77		23.28	7.38E-05		-2.89E-05	3.50E-05
		867.85		5.50	4.32E-04		-3.25E-04	2.06E-04
		919.55		2.66	7.35E-04		3.65E-05	3.49E-04
		925.19		6.90	3.76E-04		1.32E-04	1.80E-04
		950.99		0.52	5.25E-03		1.76E-03	2.51E-03
		1596.21		95.40	1.87E-05		1.84E-05	8.38E-06
		2347.88		0.85	9.54E-04		-1.88E-06	4.11E-04
		2521.40		3.46	1.58E-04		3.39E-05	5.58E-05
		2547.34		0.10	1.01E-02		4.28E-03	4.07E-03
	BA-141	33.44		7.93	4.70E+04	2.48E+02	-5.34E+04	2.31E+04
		190.33		44.80	2.48E+02		-1.46E+02	1.22E+02
		276.95		23.60	5.30E+02		-3.34E+02	2.60E+02
		304.19		26.10	4.81E+02		-2.33E+02	2.36E+02
		343.67		15.10	8.88E+02		-4.55E+02	4.35E+02
		389.74		1.37	1.09E+04		8.22E+03	5.34E+03
		457.51		5.00	3.72E+03		-3.43E+03	1.83E+03
		462.06		5.10	3.77E+03		-1.13E+03	1.86E+03
		467.22		5.60	3.60E+03		5.60E+03	1.77E+03
		625.08		3.45	3.44E+03		-1.55E+03	1.66E+03
		647.78		5.70	2.16E+03		-9.09E+02	1.05E+03

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ASr 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-141	738.95	4.39	1.94E+03	2.48E+02	1.36E+03	9.24E+02
	831.46	1.64	5.84E+03		3.37E+03	2.78E+03
	876.09	3.45	2.84E+03		7.28E+02	1.35E+03
	1160.72	1.12	7.27E+03		9.23E+01	3.38E+03
	1197.28	4.35	1.98E+03		-1.70E+03	9.23E+02
	1323.92	0.92	9.89E+03		-2.44E+03	4.62E+03
	1654.00	0.65	7.31E+03		4.44E+03	3.11E+03
	1682.19	1.19	4.02E+03		-2.77E+03	1.71E+03
CE-141	145.44	48.30	3.37E-05	3.37E-05	-7.00E-06	1.65E-05
BA-142	33.44	14.20	1.88E+09	3.87E+07	-2.13E+09	9.23E+08
	77.59	7.00	1.20E+08		7.40E+07	5.90E+07
	177.00	2.12	3.25E+08		2.04E+07	1.60E+08
	231.61	12.20	6.72E+07		6.24E+06	3.30E+07
	255.30	20.70	3.87E+07		-2.45E+07	1.90E+07
	286.30	1.11	8.30E+08		3.98E+08	4.08E+08
	309.20	2.60	3.46E+08		9.32E+07	1.69E+08
	335.00	1.53	6.07E+08		-3.09E+08	2.98E+08
	363.96	4.76	2.02E+08		-1.69E+07	9.92E+07
	425.04	5.75	2.10E+08		1.69E+08	1.03E+08
	599.80	1.85	4.47E+08		-1.15E+08	2.16E+08
	840.40	3.63	1.76E+08		-1.15E+08	8.34E+07
	895.20	13.90	4.95E+07		5.41E+07	2.35E+07
	949.10	10.70	7.62E+07		-2.55E+07	3.64E+07
	1001.20	9.80	8.70E+07		1.12E+08	4.16E+07
	1078.70	11.50	7.94E+07		7.49E+07	3.80E+07
	1094.10	2.82	2.47E+08		2.72E+07	1.16E+08
	1126.80	1.50	4.77E+08		-2.42E+07	2.25E+08
	1202.40	5.60	1.05E+08		-2.74E+07	4.91E+07
	1204.30	14.30	4.10E+07		2.95E+07	1.91E+07
	1380.20	3.42	1.32E+08		-4.14E+06	5.94E+07
CE-143	57.36	11.70	5.53E-04	6.69E-05	-4.85E-05	2.72E-04
	231.55	2.05	1.57E-03		1.46E-04	7.70E-04
	293.27	42.80	6.69E-05		-4.00E-05	3.28E-05
	350.62	3.23	8.06E-04		3.03E-04	3.95E-04
	490.37	2.16	2.13E-03		8.79E-04	1.04E-03
	664.57	5.69	3.75E-03		1.14E-01	1.87E-03
	721.93	5.39	3.60E-04		3.83E-04	1.72E-04
	880.46	1.03	2.08E-03		-2.03E-03	9.91E-04
CE-144	80.12	1.36	1.51E-03	1.45E-04	-1.23E-03	7.44E-04
	133.51	11.09	1.45E-04		-1.21E-04	7.12E-05
ND-147	38.17	13.20	2.10E-03	8.09E-05	1.77E-03	1.03E-03
	38.72	23.80	1.06E-03		3.20E-04	5.18E-04
	91.11	28.90	8.09E-05		2.09E-05	3.99E-05
	275.39	0.79	4.23E-03		2.59E-03	2.08E-03
	319.41	1.97	1.43E-03		-6.79E-04	7.02E-04
	398.13	0.87	3.43E-03		-4.32E-04	1.68E-03
	439.88	1.20	3.05E-03		1.28E-03	1.50E-03
	531.01	13.11	1.94E-04		-2.08E-04	9.48E-05
	685.88	0.82	1.65E-03		-7.75E-05	7.80E-04
PR-147	36.85	19.70	2.43E+06	1.76E+05	1.21E+06	1.19E+06
	37.36	35.50	1.23E+06		1.02E+06	6.03E+05
	49.88	4.00	2.29E+06		9.71E+05	1.13E+06
	77.97	9.70	3.10E+05		6.57E+04	1.52E+05

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ASr 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PR-147	86.69	5.40	6.77E+05	1.76E+05	5.79E+04	3.34E+05
	127.80	7.40	3.16E+05		-2.39E+05	1.55E+05
	249.20	1.32	2.24E+06		9.01E+05	1.10E+06
	314.70	18.20	1.76E+05		-4.22E+03	8.63E+04
	328.80	4.00	8.39E+05		6.79E+05	4.11E+05
	335.70	4.70	7.18E+05		6.31E+05	3.52E+05
	388.80	1.41	2.72E+06		-5.58E+04	1.34E+06
	466.80	1.70	3.05E+06		2.69E+06	1.50E+06
	477.90	4.60	1.04E+06		7.77E+05	5.09E+05
	516.70	1.30	2.90E+06		-3.11E+06	1.42E+06
	554.70	5.90	5.39E+05		-2.44E+05	2.62E+05
	577.90	13.70	2.34E+05		1.01E+05	1.14E+05
	641.40	16.10	1.89E+05		-2.30E+05	9.16E+04
	996.00	1.52	1.82E+06		9.20E+05	8.67E+05
	1136.70	1.42	1.63E+06		-4.39E+05	7.63E+05
	1261.10	8.40	2.08E+05		-2.68E+04	9.49E+04
	1300.40	2.30	8.29E+05		4.99E+04	3.81E+05
ND-149	38.17	9.00	4.67E-02	1.31E-03	3.93E-02	2.29E-02
	38.72	16.30	2.34E-02		7.07E-03	1.15E-02
	58.88	1.30	7.59E-02		-1.03E-02	3.74E-02
	74.32	2.11	2.19E-02		1.30E-02	1.08E-02
	97.00	1.48	2.05E-02		-1.64E-02	1.00E-02
	114.31	19.20	1.58E-03		4.26E-04	7.76E-04
	155.87	5.95	5.66E-03		-7.44E-04	2.78E-03
	188.64	1.79	3.28E-02		2.47E-02	1.61E-02
	198.93	1.39	3.23E-02		-8.67E-03	1.59E-02
	208.15	2.55	1.60E-02		1.66E-02	7.87E-03
	211.31	26.00	1.31E-03		6.48E-04	6.46E-04
	240.22	3.95	8.58E-03		-2.01E-03	4.21E-03
	245.72	0.81	5.48E-02		3.88E-03	2.69E-02
	267.69	6.05	7.48E-03		5.81E-03	3.66E-03
	270.17	10.80	3.23E-03		-3.62E-03	1.59E-03
	326.55	4.57	1.07E-02		1.64E-02	5.23E-03
	349.23	1.38	3.65E-02		-1.09E-02	1.79E-02
	423.55	7.50	6.89E-03		4.86E-03	3.39E-03
	443.55	1.15	5.96E-02		2.59E-02	2.93E-02
	540.51	6.60	6.39E-03		3.93E-04	3.11E-03
	654.83	8.00	1.03E-02		-1.27E-03	5.09E-03
PM-149	285.95	3.10	8.48E-04	8.48E-04	-4.96E-06	4.17E-04
PM-150	39.52	0.63	1.99E-01	2.07E-04	9.81E-02	9.76E-02
	40.12	1.14	1.01E-01		-1.38E-02	4.95E-02
	333.92	68.00	2.07E-04		8.16E-05	1.01E-04
	406.51	5.60	2.85E-03		-5.66E-04	1.40E-03
	565.70	1.31	1.04E-02		-2.47E-03	5.04E-03
	587.02	1.34	9.59E-03		-5.31E-03	4.65E-03
	612.25	0.93	1.48E-02		9.83E-03	7.20E-03
	712.22	4.40	2.09E-03		1.12E-03	9.96E-04
	737.50	2.25	4.03E-03		1.20E-03	1.92E-03
	831.85	11.90	8.65E-04		1.06E-04	4.12E-04
	859.95	3.40	3.15E-03		1.03E-03	1.50E-03
	876.41	7.30	1.46E-03		5.70E-04	6.94E-04
	1165.77	15.80	1.25E-03		-4.84E-05	6.07E-04
	1170.90	1.06	3.37E-02		2.33E-01	1.65E-02

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ASr 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	1193.87	4.80	2.01E-03	2.07E-04	9.99E-04	9.42E-04
	1213.72	1.03	8.51E-03		-6.86E-03	3.95E-03
	1223.28	2.80	3.43E-03		5.26E-04	1.61E-03
	1324.51	17.50	6.64E-04		-1.39E-04	3.13E-04
	1379.32	3.10	2.16E-03		-1.09E-03	9.72E-04
	1736.40	6.90	1.08E-03		3.12E-04	4.81E-04
	1963.71	1.47	3.63E-03		-1.79E-03	1.52E-03
	2033.46	0.97	6.83E-03		4.76E-03	2.96E-03
ND-151	38.17	5.94	3.41E+07	3.12E+05	2.87E+07	1.68E+07
	38.72	10.70	1.72E+07		5.20E+06	8.43E+06
	68.98	1.26	1.46E+07		1.30E+06	7.17E+06
	85.12	2.05	9.81E+06		1.96E+06	4.85E+06
	89.96	1.53	1.23E+07		3.25E+06	6.07E+06
	116.80	39.00	3.12E+05		6.08E+04	1.53E+05
	138.89	7.00	1.77E+06		1.40E+06	8.68E+05
	170.76	2.87	4.61E+06		-6.05E+05	2.26E+06
	175.07	6.30	2.12E+06		-1.50E+06	1.04E+06
	255.68	14.80	1.06E+06		2.54E+05	5.21E+05
	300.58	1.82	9.70E+06		1.04E+06	4.76E+06
	423.56	5.90	3.99E+06		2.81E+06	1.96E+06
	460.59	0.96	2.76E+07		-1.86E+07	1.36E+07
	585.22	1.30	1.24E+07		-8.74E+06	6.00E+06
	677.88	2.38	4.59E+06		1.86E+06	2.18E+06
	736.23	5.90	2.00E+06		1.66E+06	9.51E+05
	739.20	1.52	7.76E+06		-1.26E+06	3.69E+06
	755.57	1.17	1.03E+07		-1.41E+07	4.92E+06
	797.53	4.70	2.54E+06		9.08E+05	1.21E+06
	1016.40	2.50	5.43E+06		2.04E+06	2.57E+06
	1122.63	4.10	3.49E+06		-5.31E+06	1.65E+06
	1180.89	13.30	2.82E+06		5.19E+05	1.38E+06
Pm-151	167.75	8.30	2.74E-04	1.28E-04	-5.90E-05	1.35E-04
	177.16	3.80	7.39E-04		4.63E-05	3.63E-04
	240.09	3.80	7.34E-04		-1.72E-04	3.60E-04
	275.21	6.80	4.14E-04		1.34E-04	2.03E-04
	340.08	22.50	1.28E-04		2.30E-05	6.28E-05
EU-152	121.78	28.53	8.37E-05	7.22E-05	4.36E-05	4.11E-05
	344.28	26.59	1.15E-04		-1.07E-05	5.65E-05
	778.90	12.93	1.60E-04		2.29E-05	7.59E-05
	867.37	4.23	6.87E-04		-9.91E-04	3.27E-04
	964.08	14.51	1.66E-04		-7.28E-05	7.89E-05
	1085.87	10.11	2.20E-04		2.94E-04	1.06E-04
	1112.07	13.67	1.89E-04		2.44E-04	9.02E-05
	1408.01	20.87	7.22E-05		-1.05E-04	3.28E-05
ND-152	44.44	5.50	1.16E+08	5.43E+06	-1.50E+08	5.67E+07
	250.15	16.40	7.66E+06		-3.77E+06	3.76E+06
	278.56	26.00	5.43E+06		1.00E+07	2.67E+06
	294.47	2.90	4.97E+07		4.56E+07	2.44E+07
	545.70	0.83	1.75E+08		1.51E+08	8.54E+07
	592.50	0.99	1.32E+08		8.41E+07	6.39E+07
GD-153	69.67	2.45	1.18E-03	5.68E-05	2.26E-04	5.80E-04
	97.43	30.00	5.68E-05		-2.08E-05	2.79E-05
	103.18	22.10	7.53E-05		3.82E-05	3.70E-05
SM-153	69.67	4.67	6.68E-04	6.19E-05	1.28E-04	3.28E-04

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ASr 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SM-153	103.18	29.14	6.19E-05	6.19E-05	3.14E-05	3.04E-05
EU-154	42.70	20.45	6.48E-04	5.83E-05	-2.78E-05	3.18E-04
	123.07	40.40	5.83E-05		6.54E-05	2.86E-05
	247.93	6.89	4.54E-04		2.07E-04	2.23E-04
	591.76	4.95	7.01E-04		1.08E-04	3.40E-04
	692.42	1.78	2.58E-03		2.72E-04	1.26E-03
	723.30	20.06	1.27E-04		1.18E-04	6.08E-05
	756.80	4.52	5.90E-04		4.59E-04	2.81E-04
	873.18	12.08	2.33E-04		1.89E-04	1.11E-04
	996.29	10.48	2.16E-04		-4.27E-05	1.03E-04
	1004.76	18.01	1.33E-04		4.26E-05	6.33E-05
	1246.12	0.86	2.28E-03		-4.53E-03	1.04E-03
	1274.43	34.80	5.92E-05		3.35E-05	2.78E-05
	1494.05	0.70	1.64E-03		-3.23E-04	7.35E-04
	1596.48	1.80	3.72E-04		3.66E-04	1.67E-04
EU-155	43.00	18.12	7.03E-04	7.68E-05	-1.30E-04	3.45E-04
	60.01	1.17	3.58E-03		9.71E-03	1.76E-03
	86.55	30.70	8.67E-05		7.41E-06	4.28E-05
	105.31	21.10	7.68E-05		5.75E-05	3.77E-05
EU-156	88.97	8.40	4.44E-04	1.78E-04	4.79E-05	2.19E-04
	646.29	6.30	4.99E-04		2.51E-04	2.42E-04
	723.47	5.40	4.52E-04		5.44E-04	2.16E-04
	811.77	9.70	2.29E-04		2.03E-04	1.09E-04
	1065.14	4.90	5.62E-04		-5.30E-04	2.67E-04
	1079.16	4.60	5.66E-04		6.14E-04	2.71E-04
	1153.80	11.50	1.83E-04		5.17E-05	8.57E-05
	1230.71	8.00	2.67E-04		-3.13E-04	1.24E-04
	1242.42	6.60	2.46E-04		-2.03E-04	1.14E-04
	1277.43	2.89	7.50E-04		1.01E-03	3.51E-04
	1366.41	1.57	1.20E-03		1.72E-03	5.59E-04
	1965.95	3.90	1.78E-04		-4.91E-05	7.38E-05
	2097.70	3.80	3.00E-04		2.00E-04	1.29E-04
	2186.71	3.50	3.21E-04		2.15E-04	1.38E-04
Sm-156	87.60	24.00	1.80E-04	1.64E-04	8.82E-04	8.89E-05
	165.80	13.00	2.22E-04		-1.45E-04	1.09E-04
	204.00	21.00	1.64E-04		-1.47E-04	8.06E-05
EU-158	42.31	5.80	1.15E+00	3.32E-02	-8.52E-02	5.63E-01
	43.00	10.40	5.87E-01		-1.08E-01	2.88E-01
	79.49	10.50	9.50E-02		-9.07E-02	4.67E-02
	181.97	2.30	4.00E-01		-7.29E-02	1.97E-01
	528.05	1.53	8.18E-01		6.26E-01	3.99E-01
	606.39	4.00	2.78E-01		1.05E-01	1.35E-01
	743.02	3.60	2.11E-01		1.12E-01	1.00E-01
	897.61	12.40	7.03E-02		-1.12E-02	3.34E-02
	906.50	1.83	5.04E-01		-3.02E-01	2.40E-01
	922.51	1.62	5.81E-01		-2.59E-01	2.77E-01
	944.15	30.00	3.32E-02		-2.07E-02	1.59E-02
	953.03	1.98	5.18E-01		8.71E-02	2.48E-01
	962.09	1.89	5.10E-01		-4.73E-01	2.43E-01
	977.14	16.30	5.64E-02		1.87E-02	2.68E-02
	986.96	1.35	6.57E-01		2.79E-01	3.12E-01
	1107.63	5.10	2.18E-01		2.98E-01	1.04E-01
	1184.10	3.00	2.45E-01		8.72E-02	1.14E-01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	1186.00	2.90	2.63E-01	3.32E-02	1.68E-01	1.23E-01
	1187.10	4.40	1.76E-01		-6.00E-02	8.21E-02
	1263.61	2.20	2.66E-01		-2.45E-01	1.21E-01
	1347.95	1.65	3.64E-01		-1.41E-02	1.65E-01
	1944.47	1.62	3.38E-01		3.91E-02	1.47E-01
TB-160	86.79	13.20	2.87E-04	7.50E-05	2.46E-05	1.42E-04
	298.58	26.10	1.24E-04		7.32E-05	6.07E-05
	879.38	30.10	7.50E-05		-3.17E-05	3.57E-05
	962.32	9.81	2.32E-04		-2.15E-04	1.11E-04
	966.17	25.10	8.50E-05		-8.53E-05	4.04E-05
	1177.96	14.90	3.52E-04		6.46E-05	1.73E-04
TB-161	25.65	23.20	3.30E-02	2.36E-04	1.03E-01	1.62E-02
	48.91	17.00	4.39E-04		3.50E-04	2.16E-04
	52.00	3.43	1.68E-03		-9.63E-04	8.26E-04
	57.19	1.79	2.86E-03		-2.51E-04	1.41E-03
	74.57	10.20	2.36E-04		1.40E-04	1.16E-04
YB-169	63.12	43.62	1.39E-04	6.51E-05	1.47E-05	6.86E-05
	93.61	2.58	1.28E-03		3.19E-04	6.30E-04
	109.78	17.39	1.17E-04		-9.36E-05	5.73E-05
	130.52	11.38	2.12E-04		-1.49E-04	1.04E-04
	177.21	22.28	1.06E-04		6.67E-06	5.22E-05
	197.96	35.93	6.51E-05		7.25E-06	3.20E-05
	307.74	10.05	1.78E-04		2.18E-04	8.72E-05
HF-172	54.07	63.00	7.71E-05	7.71E-05	-9.53E-07	3.79E-05
	67.35	5.30	5.13E-04		6.76E-05	2.52E-04
	81.75	4.50	4.54E-04		2.32E-04	2.23E-04
	114.06	2.60	6.16E-04		1.66E-04	3.02E-04
	122.92	1.14	1.55E-03		1.20E-03	7.63E-04
	125.81	11.30	1.57E-04		1.35E-04	7.69E-05
	127.91	1.46	1.16E-03		-8.82E-04	5.72E-04
LU-173	59.30	24.44	1.77E-04	1.16E-04	5.32E-04	8.74E-05
	78.63	11.90	2.29E-04		-2.71E-04	1.12E-04
	100.72	5.24	3.50E-04		-8.57E-05	1.72E-04
	171.39	2.90	6.96E-04		3.37E-04	3.42E-04
	272.11	21.20	1.16E-04		-6.57E-05	5.72E-05
LU-177	112.95	6.23	2.64E-04	2.10E-04	-1.12E-04	1.30E-04
	208.37	10.41	2.10E-04		2.18E-04	1.03E-04
	249.67	0.20	1.11E-02		4.42E-03	5.43E-03
	321.32	0.22	1.11E-02		-4.29E-03	5.42E-03
HF-181	133.02	43.30	5.06E-05	4.48E-05	-2.72E-05	2.48E-05
	345.93	15.12	2.10E-04		-2.73E-04	1.03E-04
	482.18	80.50	4.48E-05		-4.40E-05	2.20E-05
W-181	56.28	18.70	2.42E-04	1.48E-04	-6.30E-05	1.19E-04
	57.53	32.00	1.48E-04		-3.93E-05	7.31E-05
	65.00	10.60	2.83E-04		4.27E-04	1.39E-04
TA-182	57.98	10.01	4.64E-04	7.00E-05	-6.42E-05	2.28E-04
	59.32	17.20	2.52E-04		7.56E-04	1.24E-04
	65.72	3.01	1.83E-03		9.44E-04	8.99E-04
	67.75	46.67	7.98E-05		-3.88E-07	3.92E-05
	84.68	2.65	1.39E-03		5.66E-05	6.88E-04
	100.11	14.20	1.73E-04		2.85E-05	8.49E-05
	113.67	1.87	1.69E-03		-4.58E-04	8.31E-04
	116.42	0.44	3.68E-03		-1.79E-04	1.80E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	152.43	7.02	3.55E-04	7.00E-05	-1.71E-04	1.74E-04
	156.39	2.67	9.68E-04		-9.94E-06	4.75E-04
	179.39	3.12	9.18E-04		-4.35E-04	4.50E-04
	198.35	1.47	2.63E-03		1.17E-03	1.29E-03
	222.11	7.57	3.94E-04		2.22E-04	1.93E-04
	229.32	3.64	8.97E-04		-1.62E-03	4.41E-04
	264.08	3.61	8.27E-04		5.48E-04	4.06E-04
	928.00	0.61	4.69E-03		1.33E-03	2.24E-03
	959.73	0.35	8.19E-03		-8.80E-03	3.90E-03
	1001.70	2.09	1.86E-03		1.17E-03	8.90E-04
	1044.42	0.24	1.18E-02		-1.53E-02	5.58E-03
	1113.41	0.44	7.10E-03		6.34E-03	3.39E-03
	1121.29	35.24	7.05E-05		8.16E-06	3.34E-05
	1157.30	0.73	1.98E-03		-8.91E-04	9.24E-04
	1189.04	16.49	9.05E-05		5.78E-05	4.23E-05
	1221.40	27.23	7.00E-05		5.04E-05	3.27E-05
	1223.60	0.24	4.21E-03		6.45E-04	1.97E-03
	1231.00	11.62	1.72E-04		-2.16E-04	8.01E-05
	1257.41	1.51	8.33E-04		8.00E-04	3.81E-04
	1273.72	0.66	1.26E-03		1.74E-03	5.91E-04
	1289.15	1.37	3.12E-04		2.59E-05	1.43E-04
	1342.73	0.26	4.85E-03		-1.67E-04	2.24E-03
	1373.82	0.22	1.27E-03		-8.80E-04	5.72E-04
Ta-183	84.71	1.35	2.06E-03	8.22E-05	8.37E-05	1.02E-03
	99.08	6.80	2.48E-04		-2.19E-04	1.22E-04
	107.93	11.20	1.48E-04		-7.60E-05	7.28E-05
	161.35	9.10	2.00E-04		1.01E-04	9.83E-05
	162.32	5.00	3.63E-04		1.06E-04	1.78E-04
	244.26	8.80	2.55E-04		-2.15E-05	1.25E-04
	246.06	27.20	8.22E-05		-1.97E-05	4.04E-05
	353.99	11.60	2.32E-04		1.01E-04	1.14E-04
Re-184	111.21	17.20	9.36E-05	4.12E-05	1.71E-05	4.59E-05
	252.85	3.00	7.05E-04		-8.40E-04	3.46E-04
	792.01	37.70	4.12E-05		7.67E-06	1.95E-05
	894.76	15.70	1.14E-04		1.04E-04	5.43E-05
	903.28	38.10	5.19E-05		-2.41E-05	2.48E-05
W-185	59.72	0.01	3.56E-01	9.30E-02	9.14E-01	1.75E-01
	61.14	0.02	1.99E-01		2.04E-02	9.80E-02
	69.20	0.01	3.78E-01		-4.26E-02	1.86E-01
	125.36	0.02	9.30E-02		1.06E-01	4.57E-02
W-187	61.14	14.30	3.45E-04	4.87E-05	3.53E-05	1.70E-04
	69.20	4.82	6.53E-04		-7.36E-05	3.21E-04
	72.00	13.55	3.30E-04		-1.43E-04	1.62E-04
	134.25	10.36	2.67E-04		-1.82E-04	1.31E-04
	479.53	26.60	1.87E-04		5.24E-05	9.20E-05
	618.37	7.57	3.73E-04		1.16E-04	1.81E-04
	685.81	33.20	4.87E-05		-2.29E-06	2.30E-05
Ir-188	155.05	29.60	6.54E-05	6.54E-05	-2.30E-05	3.21E-05
	478.00	14.70	2.64E-04		1.98E-04	1.30E-04
	633.02	17.90	1.37E-04		1.47E-04	6.61E-05
	634.97	5.00	4.83E-04		1.63E-04	2.34E-04
	829.42	5.10	3.99E-04		2.60E-04	1.90E-04
	1209.77	6.90	2.41E-04		9.06E-05	1.12E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Ir-188	1715.67	6.20	1.93E-04	6.54E-05	2.15E-05	8.44E-05
	2214.59	18.60	8.13E-05		3.19E-05	3.56E-05
W-188	227.07	0.23	9.16E-03	5.92E-03	3.74E-03	4.50E-03
	290.68	0.42	5.92E-03		-1.56E-03	2.91E-03
Ir-189	245.08	6.00	3.64E-04	3.64E-04	-4.82E-05	1.79E-04
Ir-190	186.68	50.00	4.16E-05	4.16E-05	2.97E-05	2.05E-05
	361.09	12.30	2.07E-04		8.13E-05	1.02E-04
	371.24	21.60	1.26E-04		-2.89E-05	6.16E-05
	407.22	27.00	1.06E-04		5.45E-05	5.20E-05
	518.55	32.20	8.58E-05		-2.79E-05	4.19E-05
	557.95	28.50	8.11E-05		-3.16E-05	3.94E-05
	569.30	27.00	8.90E-05		-1.00E-04	4.32E-05
	605.14	37.80	6.27E-05		6.77E-05	3.04E-05
OS-191	63.29	15.70	2.22E-04	6.23E-05	2.45E-05	1.09E-04
	64.99	26.70	1.13E-04		1.72E-04	5.58E-05
	73.45	9.21	2.66E-04		3.60E-04	1.31E-04
	129.43	26.50	6.23E-05		1.51E-05	3.06E-05
Pt-191	359.90	5.80	5.59E-04	1.93E-04	-1.69E-04	2.74E-04
	456.47	3.30	1.24E-03		-7.00E-04	6.10E-04
	538.90	14.30	1.93E-04		2.55E-05	9.42E-05
IR-192	205.79	3.31	8.61E-04	4.02E-05	6.00E-05	4.23E-04
	295.96	28.71	1.48E-04		-5.95E-05	7.29E-05
	308.45	29.70	1.33E-04		-7.37E-06	6.51E-05
	316.51	82.86	4.02E-05		-1.70E-05	1.97E-05
	468.07	47.84	1.05E-04		7.15E-05	5.18E-05
	588.58	4.52	8.24E-04		-1.67E-04	3.99E-04
	604.41	8.22	2.24E-04		1.58E-04	1.09E-04
	612.46	5.34	2.74E-04		1.48E-04	1.33E-04
IR-192m	155.16	0.09	1.88E-02	1.88E-02	-1.14E-02	9.22E-03
IR-193m	80.22	0.00	4.48E-01	4.48E-01	-3.65E-01	2.20E-01
Pt-193m	135.50	0.11	1.49E-02	1.49E-02	-5.87E-03	7.32E-03
Au-194	293.55	10.90	2.54E-04	4.39E-05	-1.52E-04	1.25E-04
	328.47	62.80	4.39E-05		3.09E-06	2.15E-05
	364.84	1.60	1.79E-03		-1.08E-03	8.75E-04
	528.77	1.78	1.64E-03		2.66E-04	8.02E-04
	645.16	2.32	1.11E-03		-4.91E-04	5.35E-04
	948.32	2.29	1.05E-03		-2.53E-04	5.01E-04
	1104.06	2.15	1.14E-03		2.64E-04	5.46E-04
	1175.36	2.14	3.27E-03		2.16E-02	1.61E-03
	1468.90	6.80	2.89E-04		-1.73E-04	1.34E-04
	1595.81	1.89	7.15E-04		-1.74E-04	3.19E-04
	2043.72	3.74	3.28E-04		2.09E-04	1.40E-04
Ir-194	293.54	2.50	1.25E-03	2.38E-04	-7.48E-04	6.15E-04
	328.47	13.10	2.38E-04		1.67E-05	1.17E-04
AU-195	98.86	11.21	1.47E-04	1.47E-04	-1.07E-05	7.20E-05
	129.74	0.84	1.95E-03		1.27E-03	9.55E-04
Pt-195m	98.90	11.70	1.47E-04	1.47E-04	-1.08E-05	7.24E-05
	129.79	2.90	5.91E-04		3.85E-04	2.90E-04
Au-196	333.03	22.90	1.74E-04	3.73E-05	-1.86E-04	8.52E-05
	355.73	87.00	3.73E-05		2.22E-05	1.83E-05
	426.10	6.60	4.93E-04		3.55E-05	2.42E-04
Au-196m	147.81	43.50	6.15E-05	6.15E-05	9.34E-06	3.01E-05
	188.27	30.00	1.13E-04		1.00E-05	5.54E-05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Pt-197	77.35	17.00	1.66E-04	1.66E-04	6.02E-06	8.13E-05
	191.44	3.70	7.19E-04		3.40E-04	3.54E-04
AU-198	411.80	95.62	4.26E-05	4.26E-05	-2.98E-06	2.10E-05
AU-199	158.38	40.00	4.68E-05	4.68E-05	4.30E-05	2.29E-05
	208.20	8.72	2.59E-04		2.69E-04	1.28E-04
TL-201	135.34	2.61	6.70E-04	1.88E-04	-2.29E-04	3.28E-04
	167.43	10.00	1.88E-04		-3.30E-05	9.23E-05
TL-202	439.51	91.50	3.70E-05	3.70E-05	3.81E-06	1.82E-05
PB-203	70.83	26.40	1.05E-04	3.78E-05	-8.30E-05	5.14E-05
	72.87	44.20	6.10E-05		9.49E-05	3.00E-05
	82.40	15.56	1.45E-04		8.26E-05	7.13E-05
	279.20	80.90	3.78E-05		3.78E-05	1.86E-05
	401.32	3.35	1.36E-03		-3.02E-04	6.68E-04
PB-210	46.54	4.25	2.09E-03	2.09E-03	2.29E-04	1.02E-03
Pa-233	86.60	2.01	1.55E-03	6.23E-05	1.33E-04	7.67E-04
	94.65	8.90	1.97E-04		6.78E-05	9.66E-05
	98.43	14.20	1.16E-04		6.01E-05	5.70E-05
	300.13	6.54	3.67E-04		-2.67E-04	1.80E-04
	311.90	38.20	6.23E-05		3.45E-05	3.05E-05
	340.48	4.44	5.70E-04		-2.58E-04	2.79E-04
U-235	89.96	2.90	8.72E-04	3.53E-05	2.31E-04	4.31E-04
	93.35	4.70	3.62E-04		2.05E-04	1.78E-04
	109.19	1.64	9.82E-04		6.42E-05	4.82E-04
	143.76	10.93	1.49E-04		-6.91E-05	7.32E-05
	163.36	5.07	3.47E-04		4.06E-04	1.70E-04
	185.71	57.20	3.53E-05		4.01E-05	1.74E-05
	202.11	1.07	1.98E-03		-1.66E-04	9.74E-04
	205.31	5.03	4.14E-04		-2.69E-04	2.04E-04
NP-237	86.48	12.20	2.18E-04	2.18E-04	1.87E-05	1.08E-04
U-237	59.54	34.50	1.38E-04	6.73E-05	4.15E-04	6.81E-05
	97.07	15.40	1.12E-04		-8.95E-05	5.49E-05
	101.06	24.50	6.73E-05		-6.36E-05	3.30E-05
	113.30	3.07	5.36E-04		-9.68E-05	2.63E-04
	114.23	5.81	2.84E-04		7.64E-05	1.39E-04
	117.46	2.27	7.36E-04		-8.36E-04	3.61E-04
	208.00	21.20	1.09E-04		9.11E-05	5.37E-05
NP-238	103.37	0.00	3.70E-01	7.97E-05	-6.83E-02	1.81E-01
	882.63	0.80	2.43E-03		-2.91E-04	1.16E-03
	923.99	2.60	8.47E-04		3.71E-04	4.04E-04
	984.45	25.20	7.97E-05		1.27E-05	3.78E-05
	1025.87	8.75	2.42E-04		2.71E-04	1.15E-04
	1028.53	18.23	1.10E-04		-8.74E-05	5.22E-05
U-238	63.29	3.70	9.31E-04	4.21E-04	1.02E-04	4.58E-04
	92.51	4.23	4.21E-04		9.02E-05	2.07E-04
	112.81	0.21	7.58E-03		-6.48E-03	3.72E-03
	742.81	0.11	1.47E-02		1.84E-03	7.00E-03
	766.42	0.32	5.29E-03		-3.21E-06	2.52E-03
	1001.03	0.84	2.66E-03		3.41E-03	1.27E-03
Am-239	181.71	1.08	2.65E-03	2.37E-04	-1.47E-04	1.30E-03
	209.80	3.50	8.94E-04		4.31E-04	4.39E-04
	226.40	3.30	9.71E-04		6.99E-04	4.77E-04
	228.10	11.30	2.81E-04		1.00E-04	1.38E-04
	277.60	15.00	2.37E-04		3.28E-04	1.16E-04

Analysis Report for 24-2520 TI185-4.5M-S3-CST-d-A F0

ASr 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	NP-239	61.46		1.30	3.38E-03	7.64E-05	3.42E-04	1.67E-03
		99.53		12.90	1.38E-04		-3.76E-05	6.77E-05
		103.37		20.50	8.49E-05		-1.57E-05	4.17E-05
		106.12		25.34	7.64E-05		2.96E-05	3.75E-05
		209.75		3.36	7.19E-04		3.47E-04	3.53E-04
		228.18		11.24	2.19E-04		6.32E-07	1.07E-04
		277.60		14.51	1.96E-04		2.72E-04	9.63E-05
		285.46		0.79	4.01E-03		-1.49E-03	1.97E-03
		315.88		1.60	1.39E-03		6.83E-04	6.79E-04
		334.31		2.06	9.50E-04		-9.94E-05	4.66E-04
	PU-239	38.66		0.01	2.39E+00	2.13E-01	7.23E-01	1.17E+00
		51.62		0.03	2.13E-01		-6.83E-02	1.04E-01
		98.50		0.01	2.27E-01		1.17E-01	1.11E-01
		111.03		0.00	1.21E+00		1.82E-01	5.93E-01
		129.30		0.01	2.56E-01		-4.39E-01	1.25E-01
		171.39		0.00	1.63E+01		7.88E+00	8.00E+00
		203.55		0.00	3.67E+00		-1.93E+00	1.80E+00
		332.85		0.00	4.88E+00		-8.83E+00	2.39E+00
		336.11		0.00	2.18E+01		4.89E+00	1.07E+01
		345.01		0.00	4.55E+00		2.88E+00	2.23E+00
		375.05		0.00	1.73E+00		1.46E-01	8.51E-01
		380.19		0.00	8.90E+00		4.30E+00	4.37E+00
		382.75		0.00	1.05E+01		1.64E+00	5.14E+00
		413.71		0.00	2.60E+00		1.28E+01	1.28E+00
		422.60		0.00	2.58E+01		2.34E+01	1.27E+01
		451.48		0.00	1.85E+01		1.75E+01	9.10E+00
	Am-240	99.53		18.40	9.77E-05	2.85E-05	-2.66E-05	4.79E-05
		103.37		29.20	6.02E-05		-1.11E-05	2.95E-05
		117.23		6.93	2.57E-04		-2.92E-04	1.26E-04
		888.85		24.70	7.48E-05		-5.98E-05	3.54E-05
		987.79		72.20	2.85E-05		-1.97E-05	1.35E-05
	Np-240m	554.60		20.90	1.55E-04	1.55E-04	-7.01E-05	7.51E-05
		597.40		11.70	2.65E-04		8.53E-05	1.28E-04
	U-240	44.10		1.05	1.48E-02	1.21E-02	-1.82E-02	7.28E-03
		66.50		0.15	2.57E-02		5.94E-03	1.26E-02
		169.20		0.12	2.15E-02		-1.04E-02	1.05E-02
		189.70		0.24	1.21E-02		-7.74E-03	5.95E-03
+	AM-241	59.54	*	35.90	1.24E-04	1.24E-04	3.25E-04	6.11E-05
	AM-242m	49.35		0.13	5.20E-02	5.20E-02	5.72E-02	2.55E-02
		66.89		0.01	1.87E-01		1.53E-02	9.19E-02
		86.65		0.02	1.17E-01		9.97E-03	5.76E-02
		163.25		0.02	1.15E-01		1.35E-01	5.63E-02
	AM-243	43.53		5.90	2.04E-03	3.47E-05	2.28E-04	9.99E-04
		74.66		67.20	3.47E-05		1.13E-06	1.70E-05

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

Apex-Gamma

Analysis Report for 24-2521 TI185-4.5M-S4-CST-A Q0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2521 TI185-4.5M-S4-CST-A Q0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 12:56:38PM
Procedure	: Q0_gsv02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: Q0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1208.3 seconds
Dead Time	: 0.69 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 1/16/2018
Efficiency Calibration Description	: Q0_gsv2mlw_R651_PT
Sample Number	: 578942
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 1:16:52PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2521 TI185-4.5M-S4-CST-A Q0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	87.65	279.79	0.1970	9.42
2	123.01	392.51	0.3198	3.36
3	414.88	1322.87	0.1760	10.02
4	661.86	2110.34	0.0345	203.04
5	666.52	2125.79	0.1681	10.27
6	695.36	2217.16	0.1495	10.42
7	1081.20	3446.96	0.2101	5.34
8	1109.87	3538.18	0.2483	3.82
9	1173.61	3741.66	0.1137	15.91
10	1274.96	4064.83	0.2489	3.02
11	1332.91	4249.32	0.1181	14.03
12	1361.86	4341.59	0.2325	4.23
13	1397.23	4454.35	0.2771	3.37
14	2506.11	7989.26	0.2007	3.91

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2521 TI185-4.5M-S4-CST-A Q0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 1:16:52PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	87.65	271 -	288	279.77	9.64E+02	168.84	3.13E+03	1.26
F	2	123.01	388 -	398	392.51	1.71E+02	42.51	2.06E+03	1.02
F	3	414.88	1318 -	1331	1322.95	6.01E+02	49.13	2.53E+03	1.21
M	4	661.86	2097 -	2133	2110.25	1.44E+05	576.08	7.87E+02	1.69
m	5	666.52	2097 -	2133	2125.11	4.39E+02	22.38	1.17E+02	1.69
F	6	695.36	2210 -	2225	2217.06	4.71E+02	21.64	6.13E+01	1.81
F	7	1081.20	3441 -	3456	3446.92	7.78E+01	10.45	4.13E+01	1.58
F	8	1109.87	3531 -	3547	3538.31	6.58E+01	36.78	3.77E+01	2.00
F	9	1173.61	3729 -	3753	3741.46	1.02E+03	62.71	4.93E+01	2.11
F	10	1274.96	4057 -	4071	4064.53	4.75E+01	7.06	7.24E+00	2.21
F	11	1332.91	4234 -	4260	4249.22	8.89E+02	63.19	2.59E+01	2.08
F	12	1361.86	4334 -	4348	4341.50	4.06E+01	20.28	1.09E+01	1.54
F	13	1397.23	4449 -	4460	4454.23	1.41E+01	4.48	6.00E+00	0.99
F	14	2506.11	7979 -	7997	7988.26	6.44E+01	8.03	4.81E+00	2.77

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 1:16:52PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578893.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	87.65	9.64E+02	168.84	1.01E+01	4.77E-01	9.54E+02	1.69E+02
F	2	123.01	1.71E+02	42.51			1.71E+02	4.25E+01

Analysis Report for 24-2521 TI185-4.5M-S4-CST-A Q0

ASR 2094 Branch

Peak No.		Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	3	414.88	6.01E+02	49.13			6.01E+02	4.91E+01
M	4	661.86	1.44E+05	576.08			1.44E+05	5.76E+02
m	5	666.52	4.39E+02	22.38	8.33E-01	1.87E-01	4.38E+02	2.24E+01
F	6	695.36	4.71E+02	21.64			4.71E+02	2.16E+01
F	7	1081.20	7.78E+01	10.45			7.78E+01	1.05E+01
F	8	1109.87	6.58E+01	36.78			6.58E+01	3.68E+01
F	9	1173.61	1.02E+03	62.71			1.02E+03	6.27E+01
F	10	1274.96	4.75E+01	7.06			4.75E+01	7.06E+00
F	11	1332.91	8.89E+02	63.19			8.89E+02	6.32E+01
F	12	1361.86	4.06E+01	20.28			4.06E+01	2.03E+01
F	13	1397.23	1.41E+01	4.48			1.41E+01	4.48E+00
F	14	2506.11	6.44E+01	8.03			6.44E+01	8.03E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-57	0.70	122.06	*	85.60	2.21E-05	5.49E-06	1.000
		136.47		10.68			
CO-60	0.97	1173.23	*	99.85	5.01E-04	3.12E-05	0.765
		1332.49	*	99.98	4.78E-04	3.42E-05	0.763
CD-109	0.97	88.03	*	3.64	3.61E-03	6.40E-04	free
Te-129m	0.95	695.88	*	3.00	4.24E-03	8.71E-04	free
CS-137	0.99	661.66	*	85.10	4.40E-02	3.66E-04	miss
EU-154	0.20	42.70		20.45			
		123.07	*	40.40	6.31E-05	1.57E-05	0.741
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30		20.06			
		756.80		4.52			
		873.18		12.08			
		996.29		10.48			
		1004.76		18.01			

Analysis Report for 24-2521 TI185-4.5M-S4-CST-A Q0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.20	1246.12		0.86			
		1274.43	*	34.80	6.21E-05	9.27E-06	0.874
		1494.05		0.70			
		1596.48		1.80			

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-57	0.705	3.55E-07	6.37E-06	
CO-60	0.975	4.90E-04	2.30E-05	
CD-109	0.976	3.61E-03	6.40E-04	
Te-129m	0.958	4.24E-03	8.71E-04	
CS-137	0.994	4.40E-02	3.66E-04	
EU-154	0.202	6.21E-05	9.25E-06	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2521 TI185-4.5M-S4-CST-A Q0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 1:16:52PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	414.88	5.00683E-01	8.18	Tol.	RH-102M
m	5	666.52	3.65083E-01	5.11		
F	7	1081.20	6.48294E-02	13.44		
F	8	1109.87	5.48226E-02	55.91		
F	12	1361.86	3.38369E-02	49.94	Sum	
F	13	1397.23	1.17500E-02	31.79	Sum	
F	14	2506.11	5.36771E-02	12.47	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.60	10.44	7.81E-04	7.81E-04	1.09E-03	3.88E-04
	NA-22	511.00	179.91	3.48E-05	3.48E-05	-2.67E-05	1.72E-05
		1274.54	99.94	3.48E-05		4.77E-05	1.64E-05
	NA-24	1368.63	99.99	2.60E-05	2.60E-05	2.46E-06	1.21E-05
>		2754.01	99.87	0.00E+00		0.00E+00	0.00E+00
	AL-26	1129.67	2.50	7.97E-04	9.99E-06	3.71E-04	3.77E-04
		1808.65	99.76	9.99E-06		-1.95E-05	4.30E-06
	K-40	1460.82	10.66	1.66E-04	1.66E-04	2.20E-04	7.74E-05
	K-42	312.60	0.34	2.16E-02	9.43E-05	-5.00E-03	1.07E-02
		1524.60	18.08	9.43E-05		1.47E-05	4.24E-05

Analysis Report for 24-2521 TI185-4.5M-S4-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Sc-44	1157.02	99.90	5.06E-05	5.06E-05	-1.29E-05	2.38E-05
		1499.46	0.91	4.24E-03		2.48E-03	1.91E-03
	Sc-44m	271.24	86.74	6.13E-05	6.13E-05	-4.28E-05	3.04E-05
		1001.83	1.20	2.91E-03		9.17E-04	1.38E-03
		1126.06	1.20	3.02E-03		3.12E-04	1.43E-03
		1157.00	1.20	2.69E-03		-6.87E-04	1.27E-03
	TI-44	67.87	93.00	8.23E-05	5.86E-05	-2.45E-05	4.08E-05
		78.32	96.40	5.86E-05		2.71E-05	2.90E-05
	SC-46	889.28	99.98	2.57E-05	2.57E-05	1.73E-05	1.23E-05
		1120.55	99.99	2.57E-05		-1.09E-05	1.22E-05
	CA-47	489.23	5.90	1.65E-03	1.81E-05	-1.50E-03	8.19E-04
		807.86	5.90	3.84E-04		-1.72E-04	1.82E-04
		1297.09	67.00	1.81E-05		-1.49E-05	8.23E-06
	SC-47	159.38	68.30	5.65E-05	5.65E-05	-4.42E-05	2.80E-05
	SC-48	175.36	7.47	5.75E-04	1.39E-05	3.08E-04	2.85E-04
		983.53	100.00	2.10E-05		-3.04E-05	1.00E-05
		1037.52	97.50	2.08E-05		6.03E-06	9.88E-06
		1312.12	100.00	1.39E-05		5.80E-07	6.32E-06
	V-48	944.13	7.87	3.06E-04	1.72E-05	-2.96E-05	1.46E-04
		983.53	99.98	2.53E-05		-3.67E-05	1.21E-05
		1312.11	98.20	1.72E-05		7.18E-07	7.84E-06
		2240.40	2.33	7.08E-04		5.12E-04	3.08E-04
	CR-51	320.08	9.91	5.33E-04	5.33E-04	-3.06E-04	2.64E-04
	Fe-52	168.69	99.20	6.24E-05	6.24E-05	-3.99E-05	3.09E-05
		377.75	1.64	6.26E-03		-1.84E-03	3.10E-03
	Mn-52	744.23	90.00	2.97E-05	1.83E-05	6.11E-06	1.41E-05
		848.18	3.32	9.44E-04		3.27E-04	4.51E-04
		935.54	94.50	3.77E-05		-2.28E-05	1.80E-05
		1246.28	4.21	5.06E-04		-9.00E-04	2.31E-04
		1333.65	5.07	1.92E-03		1.22E-02	9.42E-04
		1434.09	100.00	1.83E-05		8.00E-06	8.08E-06
	MN-54	834.85	99.98	1.62E-05	1.62E-05	5.71E-06	7.67E-06
	Co-55	411.50	1.07	8.45E-03	3.25E-05	1.08E-03	4.19E-03
		477.20	20.20	5.17E-04		3.03E-04	2.57E-04
		803.70	1.87	1.09E-03		3.17E-04	5.20E-04
		931.10	75.00	3.25E-05		-9.35E-06	1.55E-05
		1316.60	7.10	2.57E-04		-1.14E-05	1.19E-04
		1370.00	2.90	5.17E-04		1.22E-04	2.34E-04
		1408.50	16.90	8.76E-05		5.52E-05	3.95E-05
	Co-56	846.77	99.94	2.51E-05	2.51E-05	1.20E-05	1.19E-05
		977.37	1.42	2.25E-03		-9.87E-04	1.07E-03
		1037.84	14.05	1.91E-04		-2.54E-05	9.08E-05
		1175.10	2.25	4.36E-03		2.93E-02	2.14E-03
		1238.29	66.46	3.15E-05		4.46E-05	1.45E-05
		1360.21	4.28	5.63E-04		7.76E-04	2.63E-04
		1771.36	15.41	1.23E-04		-4.12E-05	5.55E-05
		2015.20	3.02	4.74E-04		-1.22E-05	2.04E-04
		2034.79	7.77	2.01E-04		5.36E-06	8.71E-05
>		2598.50	16.97	0.00E+00		0.00E+00	0.00E+00
	MN-56	846.76	98.85	1.03E-04	1.03E-04	4.95E-05	4.93E-05
		1810.73	26.90	2.70E-04		1.95E-04	1.17E-04
		2113.09	14.20	5.64E-04		6.71E-05	2.44E-04
	Ni-56	158.38	98.80	3.82E-05	1.98E-05	-3.67E-05	1.90E-05

Analysis Report for 24-2521 TI185-4.5M-S4-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Ni-56	269.50		36.50	1.41E-04	1.98E-05	1.52E-04	6.98E-05
		480.44		36.50	2.17E-04		-2.82E-04	1.08E-04
		749.50		49.50	2.84E-05		-2.29E-05	1.34E-05
		811.85		86.00	1.98E-05		1.51E-05	9.42E-06
		1561.80		14.00	8.74E-05		5.04E-05	3.91E-05
+	CO-57	122.06	*	85.60	3.78E-05	3.78E-05	2.21E-05	1.87E-05
		136.47		10.68	3.33E-04		-1.23E-04	1.65E-04
	NI-57	127.16		16.70	2.38E-04	1.68E-05	-3.91E-05	1.18E-04
		1377.63		81.70	1.68E-05		1.24E-05	7.61E-06
		1757.55		5.75	2.59E-04		-9.46E-05	1.16E-04
		1919.52		12.30	6.91E-05		-5.35E-05	2.79E-05
	CO-58	810.76		99.45	1.80E-05	1.80E-05	6.38E-06	8.56E-06
		863.96		0.69	3.43E-03		-5.79E-04	1.63E-03
		1674.73		0.52	1.65E-03		3.90E-04	7.17E-04
	FE-59	142.65		1.02	3.56E-03	3.05E-05	5.68E-03	1.76E-03
		192.34		3.08	2.05E-03		-2.27E-03	1.02E-03
		1099.24		56.50	3.18E-05		-2.23E-05	1.50E-05
		1291.59		43.20	3.05E-05		8.13E-06	1.40E-05
+	CO-60	1173.23	*	99.85	3.19E-05	2.61E-05	5.01E-04	1.53E-05
		1332.49	*	99.98	2.61E-05		4.78E-04	1.23E-05
	CU-64	511.00		35.00	2.50E-04	2.50E-04	-1.91E-04	1.24E-04
		1345.77		0.47	3.78E-03		3.37E-03	1.73E-03
	NI-65	366.27		4.81	8.75E-03	2.57E-04	-5.88E-03	4.34E-03
		1115.53		15.43	8.95E-04		4.06E-04	4.29E-04
		1481.84		23.59	2.57E-04		-2.14E-04	1.15E-04
	ZN-65	1115.54		50.04	4.66E-05	4.66E-05	2.11E-05	2.23E-05
	GA-66	511.00		114.00	8.58E-05	7.79E-05	-6.58E-05	4.25E-05
		833.53		5.90	4.29E-04		5.78E-05	2.04E-04
		1039.22		37.00	7.79E-05		-3.89E-05	3.70E-05
		1333.11		1.17	7.95E-03		5.00E-02	3.90E-03
		1918.33		1.99	6.31E-04		-2.43E-04	2.59E-04
		2189.62		5.30	2.49E-04		-5.65E-04	1.01E-04
>		2751.83		22.70	0.00E+00		0.00E+00	0.00E+00
	CU-67	91.27		7.00	6.47E-04	9.79E-05	4.56E-04	3.21E-04
		93.31		16.10	2.59E-04		1.05E-04	1.28E-04
		184.58		48.70	9.79E-05		4.77E-05	4.86E-05
		300.22		0.80	6.84E-03		-4.33E-03	3.39E-03
		393.53		0.22	3.14E-02		-1.61E-03	1.56E-02
	GA-67	91.26		3.11	1.69E-03	1.15E-04	1.19E-03	8.39E-04
		93.31		38.81	1.15E-04		4.64E-05	5.70E-05
		184.58		21.41	2.24E-04		1.09E-04	1.11E-04
		208.95		2.46	3.09E-03		1.21E-03	1.54E-03
		300.22		16.64	3.69E-04		-2.33E-04	1.83E-04
		393.53		4.56	9.47E-04		-4.85E-05	4.70E-04
	ZN-69m	438.63		94.85	1.10E-04	1.10E-04	-1.58E-05	5.44E-05
	GA-72	629.97		26.13	3.91E-04	3.07E-05	-2.35E-04	1.93E-04
		834.13		95.45	3.07E-05		1.18E-05	1.46E-05
		894.33		10.14	4.06E-04		-1.10E-04	1.94E-04
		1050.79		6.99	6.13E-04		6.61E-04	2.90E-04
		2201.59		26.87	8.75E-05		6.80E-05	3.83E-05
		2491.03		7.73	2.18E-04		-3.15E-04	9.03E-05
		2507.72		13.33	4.05E-04		5.23E-04	1.90E-04
	Zn-72	144.70		82.78	4.77E-05	4.77E-05	5.96E-05	2.37E-05

Analysis Report for 24-2521 TI185-4.5M-S4-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Zn-72	191.50	9.35	5.63E-04	4.77E-05	5.64E-04	2.80E-04
	SE-75	121.12	17.20	2.94E-04	8.59E-05	2.59E-05	1.46E-04
		136.00	58.50	8.59E-05		-5.92E-05	4.26E-05
		264.66	58.90	1.17E-04		-9.41E-06	5.82E-05
		279.54	25.02	2.49E-04		1.71E-04	1.23E-04
		400.66	11.41	2.01E-04		-5.42E-05	9.97E-05
	BR-83	529.59	1.30	2.66E-02	2.66E-02	1.89E-02	1.32E-02
	BR-84	604.80	1.70	8.16E+00	1.31E-01	7.79E+00	4.02E+00
		736.50	1.29	3.66E+00		-4.37E+00	1.75E+00
		802.20	6.00	7.88E-01		3.55E-01	3.74E-01
		881.60	42.00	1.31E-01		-8.04E-02	6.23E-02
		987.30	0.79	7.10E+00		-5.00E-01	3.38E+00
		1015.90	6.20	8.00E-01		-5.41E-01	3.78E-01
		1213.30	2.60	1.70E+00		-4.22E-01	7.92E-01
		1463.80	2.00	2.63E+00		4.28E+00	1.23E+00
		1741.20	1.60	2.51E+00		2.57E+00	1.13E+00
		1877.50	1.12	2.80E+00		1.34E-01	1.21E+00
		1897.60	14.60	2.36E-01		-9.16E-02	1.03E-01
		2029.60	2.10	1.64E+00		-9.98E-01	7.14E-01
		2200.70	1.16	3.28E+00		-1.77E+00	1.43E+00
		2484.10	6.70	3.59E-01		1.20E-01	1.39E-01
>		2824.10	1.12	0.00E+00		0.00E+00	0.00E+00
	KR-85m	151.20	75.20	1.24E-04	1.24E-04	-1.11E-05	6.14E-05
		304.87	14.00	9.40E-04		8.16E-04	4.66E-04
	Y-87	388.53	82.20	8.14E-05	8.14E-05	2.35E-05	4.04E-05
		484.80	89.80	8.62E-05		-5.02E-05	4.28E-05
	KR-88	165.98	3.10	9.68E-03	1.08E-04	-4.89E-03	4.80E-03
		196.30	26.00	1.08E-03		-3.08E-05	5.34E-04
		362.23	2.25	1.08E-02		-9.12E-03	5.33E-03
		471.80	0.73	6.75E-02		2.01E-02	3.35E-02
		834.83	13.00	7.01E-04		2.48E-04	3.33E-04
		985.78	1.31	9.82E-03		-4.72E-03	4.68E-03
		1141.33	1.28	7.15E-03		3.55E-03	3.37E-03
		1179.51	1.00	3.49E-02		-1.38E-03	1.72E-02
		1250.67	1.12	6.94E-03		3.95E-03	3.18E-03
		1369.50	1.48	5.19E-03		4.52E-03	2.37E-03
		1518.39	2.15	3.57E-03		1.98E-03	1.61E-03
		1529.77	10.90	6.02E-04		5.47E-05	2.68E-04
		2029.84	4.53	1.96E-03		2.35E-04	8.55E-04
		2035.41	3.74	1.86E-03		-4.76E-05	7.99E-04
		2195.84	13.20	4.83E-04		-8.81E-04	2.04E-04
		2231.77	3.39	1.28E-03		8.51E-04	5.49E-04
		2352.08	0.73	9.60E-03		-1.47E-03	4.08E-03
		2392.11	34.60	1.08E-04		-6.01E-05	4.37E-05
	RB-88	898.03	14.40	7.50E-04	2.46E-04	-6.54E-04	3.57E-04
		1382.45	0.78	8.95E-03		1.70E-03	4.06E-03
		1836.00	22.81	2.46E-04		-5.00E-04	1.06E-04
>		2677.89	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-88	898.04	93.70	2.54E-05	1.32E-05	-2.22E-05	1.21E-05
		1836.06	99.20	1.32E-05		-2.18E-05	5.69E-06
	RB-89	272.42	1.53	5.03E+04	4.10E+02	-2.53E+04	2.50E+04
		657.77	10.80	6.53E+04		-4.58E+03	3.26E+04
		947.73	10.00	2.89E+03		-2.03E+03	1.37E+03

Analysis Report for 24-2521 TI185-4.5M-S4-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RB-89	1031.92	63.00	4.43E+02	4.10E+02	-3.61E+02	2.10E+02
		1248.14	46.00	4.10E+02		-9.10E+01	1.87E+02
		1538.07	2.77	6.34E+03		-6.09E+03	2.83E+03
		2007.50	2.58	6.92E+03		5.01E+03	3.01E+03
		2195.92	14.50	1.17E+03		-1.86E+03	4.96E+02
>		2570.20	10.70	0.00E+00		0.00E+00	0.00E+00
>		2707.26	2.20	0.00E+00		0.00E+00	0.00E+00
	SR-89	908.96	0.01	2.02E-01	2.02E-01	2.30E-04	9.64E-02
	Sr-91	652.90	11.35	7.49E-04	7.63E-05	-6.03E-04	3.70E-04
		749.80	23.70	9.00E-05		9.23E-07	4.25E-05
		925.80	3.85	7.59E-04		1.06E-04	3.62E-04
		1024.30	33.50	7.63E-05		-1.34E-05	3.60E-05
	Y-91	1204.77	0.26	5.55E-03	5.55E-03	3.15E-03	2.57E-03
	Y-91m	555.57	61.64	1.23E-04	1.23E-04	-5.38E-05	6.10E-05
	NB-92M	912.60	1.78	1.39E-03	2.09E-05	3.73E-04	6.65E-04
		934.44	99.15	2.09E-05		7.20E-06	1.00E-05
		1847.50	0.85	1.23E-03		1.14E-03	5.51E-04
	SR-92	241.56	2.93	8.58E-03	6.67E-05	5.92E-03	4.26E-03
		430.49	3.28	1.16E-02		-8.02E-04	5.75E-03
		953.31	3.52	2.75E-03		2.38E-03	1.31E-03
		1142.35	2.79	3.16E-03		-7.08E-04	1.49E-03
		1383.93	90.00	6.67E-05		2.23E-05	3.02E-05
	MO-93M	114.04	0.68	9.78E-03	2.10E-05	1.98E-03	4.85E-03
		263.05	57.40	1.61E-04		1.48E-04	7.99E-05
		684.69	99.90	3.47E-05		-3.23E-05	1.67E-05
		1363.02	0.81	3.98E-03		4.54E-03	1.86E-03
		1477.14	99.10	2.10E-05		1.02E-05	9.39E-06
	SR-93	168.50	18.40	1.26E+11	3.84E+10	-1.42E+11	6.23E+10
		260.12	7.40	4.18E+11		-3.88E+11	2.07E+11
		346.49	3.28	1.09E+12		-2.65E+11	5.38E+11
		446.20	2.36	2.09E+12		1.71E+12	1.04E+12
		590.24	68.00	4.37E+10		-7.87E+09	2.15E+10
		710.31	21.80	3.84E+10		-9.44E+08	1.81E+10
		875.73	24.50	4.55E+10		5.17E+09	2.17E+10
		888.13	22.10	5.48E+10		2.52E+10	2.62E+10
		1040.63	3.20	3.70E+11		-2.94E+11	1.76E+11
		1094.00	1.76	6.66E+11		1.03E+10	3.16E+11
		1122.48	4.00	3.08E+11		2.09E+11	1.46E+11
		1215.48	2.50	3.76E+11		-3.89E+11	1.75E+11
		1269.47	7.10	1.47E+11		3.85E+10	6.89E+10
		1321.24	2.61	3.66E+11		-5.46E+11	1.70E+11
		1387.11	3.50	1.99E+11		-1.19E+11	8.91E+10
		1694.07	2.58	2.70E+11		2.97E+10	1.19E+11
		1699.06	3.30	2.21E+11		-4.66E+11	9.82E+10
		2543.84	3.03	1.32E+11		2.85E+10	4.69E+10
>		2688.65	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-93	266.90	7.40	1.02E-03	7.76E-04	-3.37E-05	5.04E-04
		947.10	2.10	1.34E-03		-2.37E-03	6.39E-04
		1917.80	1.57	7.76E-04		-3.47E-04	3.18E-04
	NB-94	702.65	99.81	2.17E-05	2.17E-05	-4.31E-06	1.04E-05
		871.09	99.89	2.51E-05		1.16E-05	1.20E-05
	Y-94	381.60	2.02	2.38E+03	2.47E+01	-3.03E+03	1.18E+03
		550.90	4.90	7.99E+02		-4.00E+02	3.94E+02

Analysis Report for 24-2521 TI185-4.5M-S4-CST-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Y-94	752.60	1.40	7.95E+02	2.47E+01	-6.00E+01	3.76E+02
	918.74	56.00	2.47E+01		-2.74E+00	1.18E+01
	1138.90	6.00	2.29E+02		-2.02E+02	1.08E+02
	1671.40	2.50	3.46E+02		1.19E+02	1.53E+02
	2140.60	0.95	1.06E+03		-5.07E+02	4.63E+02
NB-95	765.80	99.81	1.56E-05	1.56E-05	-1.52E-05	7.43E-06
ZR-95	724.19	44.27	3.70E-05	2.68E-05	2.42E-05	1.77E-05
	756.72	54.38	2.68E-05		-9.40E-06	1.27E-05
NB-96	219.08	2.97	2.01E-03	2.00E-05	-7.34E-04	9.99E-04
	241.38	3.50	1.70E-03		1.17E-03	8.43E-04
	350.05	1.54	4.46E-03		2.68E-03	2.21E-03
	352.56	0.83	8.39E-03		9.19E-03	4.16E-03
	371.81	2.62	2.81E-03		1.80E-03	1.40E-03
	460.04	26.62	3.81E-04		-3.09E-04	1.89E-04
	480.71	5.84	1.57E-03		-1.51E-03	7.79E-04
	568.87	58.00	9.66E-05		-3.01E-05	4.76E-05
	719.56	6.85	2.82E-04		3.89E-04	1.35E-04
	721.63	1.02	1.89E-03		1.05E-03	9.03E-04
	778.22	96.45	2.00E-05		-1.63E-05	9.52E-06
	810.33	11.09	1.76E-04		5.96E-05	8.37E-05
	812.58	2.95	6.70E-04		2.54E-04	3.19E-04
	847.69	1.14	1.90E-03		9.95E-04	9.08E-04
	849.93	20.45	1.11E-04		-8.79E-06	5.29E-05
	1091.35	48.50	4.61E-05		9.74E-06	2.19E-05
	1200.23	19.97	8.39E-05		4.16E-05	3.89E-05
	1441.13	0.44	2.98E-03		-1.22E-04	1.33E-03
	1497.81	3.28	4.44E-04		4.55E-04	2.00E-04
Nb-97	657.94	98.23	6.02E-04	6.02E-04	-2.87E-05	3.01E-04
	1024.40	1.09	1.95E-03		-7.57E-04	9.19E-04
ZR-97	254.17	1.15	5.53E-03	2.12E-05	-3.58E-03	2.74E-03
	355.40	2.09	5.32E-03		-3.54E-03	2.64E-03
	507.64	5.03	2.23E-03		2.15E-03	1.11E-03
	743.36	93.09	2.12E-05		-3.64E-06	1.00E-05
	1147.97	2.62	1.26E-03		8.72E-04	5.93E-04
MO-99	181.07	6.14	1.16E-03	1.87E-04	-1.58E-03	5.74E-04
	366.42	1.20	5.28E-03		-3.55E-03	2.62E-03
	739.50	12.26	1.87E-04		-4.80E-05	8.88E-05
	777.92	4.30	4.05E-04		4.55E-05	1.93E-04
TC-99M	140.51	90.80	4.18E-05	4.18E-05	-3.00E-05	2.07E-05
RH-101	127.23	68.00	7.28E-05	7.28E-05	-1.19E-05	3.61E-05
	198.01	73.00	8.63E-05		-2.90E-05	4.28E-05
	325.23	11.80	1.78E-04		-1.82E-04	8.82E-05
RH-101M	306.86	81.00	6.59E-05	6.59E-05	1.54E-05	3.27E-05
	545.12	4.30	1.26E-03		-8.69E-04	6.22E-04
RH-102M	415.25	2.10	8.28E-03	8.66E-05	2.17E-02	4.11E-03
	418.52	9.40	1.63E-03		1.42E-04	8.07E-04
	420.40	3.20	4.78E-03		1.88E-03	2.37E-03
	475.06	95.00	1.67E-04		3.25E-04	8.28E-05
	628.05	8.30	1.29E-03		8.12E-04	6.37E-04
	631.29	56.00	1.52E-04		7.42E-05	7.51E-05
	692.40	1.60	4.49E-03		-1.79E-04	2.19E-03
	695.60	2.90	2.17E-03		9.47E-03	1.06E-03
	697.49	44.00	1.37E-04		5.19E-04	6.71E-05

Analysis Report for 24-2521 TI185-4.5M-S4-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RH-102M	766.84		34.00	8.66E-05	8.66E-05	5.32E-05	4.12E-05
		1046.59		34.00	9.13E-05		2.38E-05	4.32E-05
		1103.16		4.60	5.69E-04		-2.08E-04	2.71E-04
		1112.84		19.00	2.19E-04		1.62E-04	1.05E-04
	RU-103	497.08		91.00	7.43E-05	7.43E-05	2.11E-05	3.68E-05
		610.33		5.76	8.01E-04		1.82E-04	3.95E-04
	RH-105	306.31		4.66	1.24E-03	3.48E-04	1.55E-04	6.15E-04
		319.23		16.90	3.48E-04		-3.60E-04	1.73E-04
	AG-106M	221.70		6.60	7.70E-04	5.32E-05	-7.14E-04	3.82E-04
		228.63		2.10	2.43E-03		1.37E-03	1.21E-03
		328.46		1.14	4.80E-03		2.96E-03	2.38E-03
		391.04		3.68	1.78E-03		5.93E-04	8.81E-04
		406.18		13.40	5.05E-04		-3.60E-04	2.51E-04
		429.65		13.20	5.78E-04		1.91E-04	2.87E-04
		450.98		28.20	2.93E-04		-1.42E-04	1.45E-04
		511.85		88.00	7.26E-05		-1.78E-05	3.59E-05
		601.17		1.61	2.93E-03		3.23E-03	1.45E-03
		616.17		21.60	2.18E-04		-9.09E-05	1.07E-04
		646.03		1.46	3.53E-03		-7.25E-04	1.74E-03
		680.42		2.18	9.09E-04		2.18E-04	4.38E-04
		703.11		4.47	3.52E-04		1.01E-04	1.68E-04
		717.34		28.90	5.32E-05		5.12E-06	2.53E-05
		748.36		20.60	7.00E-05		3.69E-05	3.31E-05
		793.17		5.90	2.61E-04		1.33E-05	1.23E-04
		804.28		12.40	1.33E-04		2.11E-04	6.35E-05
		808.36		4.00	4.10E-04		-3.22E-04	1.95E-04
		824.69		15.30	1.14E-04		7.50E-05	5.41E-05
		847.15		4.40	4.20E-04		1.48E-04	2.00E-04
		1019.72		1.04	1.70E-03		-1.67E-03	8.05E-04
		1045.83		29.60	6.18E-05		1.12E-05	2.93E-05
		1128.02		11.80	1.59E-04		-2.71E-05	7.54E-05
		1199.39		11.20	1.31E-04		-5.50E-05	6.07E-05
		1222.88		7.00	2.15E-04		1.31E-04	1.00E-04
		1394.35		1.49	9.83E-04		9.73E-04	4.52E-04
		1527.65		16.30	6.78E-05		-3.56E-05	3.01E-05
		1572.35		6.60	1.91E-04		1.92E-04	8.61E-05
		1722.76		1.40	6.99E-04		-1.93E-05	3.01E-04
		1839.05		2.00	5.63E-04		-6.28E-05	2.46E-04
	RH-106	621.93		9.93	6.29E-04	6.29E-04	7.10E-04	3.10E-04
		873.49		0.44	6.73E-03		-2.62E-03	3.21E-03
		1050.41		1.56	1.52E-03		5.89E-04	7.21E-04
	RU-106	511.86		20.40	3.07E-04	3.07E-04	-7.54E-05	1.52E-04
	AG-108M	79.13		6.60	7.20E-04	3.33E-05	1.53E-05	3.57E-04
		433.94		90.50	1.50E-04		2.48E-05	7.44E-05
		614.28		89.80	9.57E-05		5.47E-05	4.71E-05
		722.91		90.80	3.33E-05		4.67E-05	1.59E-05
+	CD-109	88.03	*	3.64	1.65E-03	1.65E-03	3.61E-03	8.18E-04
	AG-110M	446.81		3.70	5.04E-03	4.67E-05	4.64E-03	2.50E-03
		620.35		2.73	3.96E-03		1.32E-03	1.95E-03
		657.76		95.61	8.89E-04		-6.23E-05	4.44E-04
		677.62		10.70	4.31E-04		-6.18E-05	2.07E-04
		687.01		6.53	6.02E-04		1.00E-03	2.89E-04
		706.68		16.69	1.94E-04		8.34E-05	9.22E-05

Analysis Report for 24-2521 TI185-4.5M-S4-CST-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-110M	744.28	4.77	6.61E-04	4.67E-05	1.36E-04	3.14E-04
	763.94	22.60	1.26E-04		-1.52E-04	5.97E-05
	818.02	7.43	5.20E-04		-7.99E-05	2.47E-04
	884.68	75.00	4.67E-05		-2.57E-06	2.23E-05
	937.48	35.00	1.05E-04		1.71E-04	5.04E-05
	1384.29	25.10	7.64E-05		4.69E-05	3.46E-05
	1475.78	4.08	3.55E-04		-4.26E-04	1.57E-04
	1505.03	13.33	1.55E-04		1.62E-04	7.00E-05
	1562.29	1.22	6.96E-04		6.70E-04	3.12E-04
AG-111	245.40	1.11	4.57E-03	8.64E-04	2.00E-04	2.27E-03
	342.13	6.68	8.64E-04		2.04E-04	4.29E-04
AG-112	606.82	3.10	1.82E-03	1.32E-04	3.99E-04	8.99E-04
	617.52	43.00	1.32E-04		1.29E-04	6.49E-05
	692.82	1.19	3.31E-03		1.23E-02	1.62E-03
	694.87	2.90	1.35E-03		4.75E-03	6.57E-04
	851.28	1.02	2.25E-03		-5.25E-04	1.08E-03
	1312.36	1.11	1.39E-03		1.22E-03	6.33E-04
	1387.68	5.30	2.66E-04		5.35E-05	1.20E-04
	1613.66	2.80	4.92E-04		1.70E-04	2.18E-04
	1798.50	0.89	1.32E-03		-8.73E-05	5.63E-04
	2106.31	2.40	6.46E-04		-2.80E-04	2.83E-04
	2506.70	1.06	3.53E-03		6.45E-03	1.66E-03
CD-113M	263.70	0.03	1.86E-01	1.86E-01	-4.06E-02	9.25E-02
SN-113	255.13	2.11	2.36E-03	9.85E-05	-2.67E-04	1.17E-03
	391.70	64.97	9.85E-05		-4.42E-05	4.89E-05
IN-114M	190.27	15.56	3.10E-04	3.10E-04	5.46E-04	1.54E-04
	558.43	4.40	1.46E-03		-7.63E-04	7.20E-04
	725.24	4.40	5.03E-04		-1.89E-04	2.40E-04
CD-115	260.90	1.94	2.77E-03	1.32E-04	1.12E-03	1.37E-03
	336.24	46.02	1.32E-04		1.65E-04	6.53E-05
	527.90	27.45	2.31E-04		1.89E-05	1.14E-04
CD-115M	933.84	2.00	1.05E-03	1.05E-03	1.15E-04	5.02E-04
	1290.59	0.90	1.47E-03		-1.14E-03	6.75E-04
IN-115M	336.24	45.90	3.14E-04	3.14E-04	3.92E-04	1.55E-04
IN-116M	138.29	3.70	1.77E-01	2.35E-03	-8.81E-03	8.78E-02
	416.90	27.20	4.04E-02		4.71E-02	2.01E-02
	818.68	12.13	2.62E-02		-1.42E-02	1.25E-02
	1097.28	58.50	4.43E-03		1.23E-03	2.10E-03
	1293.56	84.80	2.35E-03		2.26E-03	1.08E-03
	1507.59	9.92	1.76E-02		1.01E-02	7.94E-03
	2112.29	15.09	1.09E-02		7.85E-03	4.72E-03
SB-125	176.31	6.84	5.77E-04	2.42E-04	3.13E-04	2.86E-04
	380.45	1.52	4.07E-03		2.98E-04	2.02E-03
	427.87	29.60	2.42E-04		-1.35E-04	1.20E-04
	463.36	10.49	8.24E-04		4.27E-04	4.09E-04
	600.60	17.65	2.61E-04		-1.97E-04	1.29E-04
	606.71	4.98	9.29E-04		-2.90E-04	4.58E-04
	635.95	11.22	4.14E-04		-2.51E-04	2.04E-04
	671.44	1.79	1.71E-03		-5.86E-05	8.34E-04
SN-125	332.10	1.40	6.87E-03	2.44E-04	-4.21E-03	3.41E-03
	469.85	1.50	9.85E-03		1.04E-02	4.89E-03
	800.28	1.10	1.87E-03		1.57E-04	8.85E-04
	822.48	4.30	5.13E-04		-1.27E-04	2.44E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SN-125	915.55	4.10	5.90E-04	2.44E-04	-8.74E-04	2.81E-04
	1067.10	10.00	2.44E-04		1.41E-04	1.16E-04
	1087.70	1.20	3.49E-03		4.88E-04	1.67E-03
	1089.10	4.60	4.68E-04		4.41E-04	2.22E-04
	2002.10	1.90	5.71E-04		-1.13E-06	2.46E-04
SB-127	61.10	1.43	7.89E-03	5.45E-05	-7.72E-04	3.91E-03
	252.40	8.50	7.59E-04		-5.23E-04	3.77E-04
	290.80	2.02	3.70E-03		1.27E-03	1.83E-03
	412.10	3.80	2.13E-03		2.53E-04	1.06E-03
	445.10	4.30	2.68E-03		-1.47E-03	1.33E-03
	473.00	25.80	3.70E-04		5.64E-04	1.84E-04
	543.30	2.90	1.62E-03		6.58E-04	8.01E-04
	603.50	4.50	1.46E-03		-1.48E-03	7.21E-04
	685.70	36.80	5.45E-05		-9.57E-06	2.62E-05
	698.50	3.64	9.19E-04		4.20E-03	4.49E-04
	722.20	1.88	9.27E-04		1.12E-03	4.42E-04
	783.70	15.10	1.11E-04		1.02E-04	5.30E-05
SN-127	119.70	2.20	1.22E-02	4.70E-04	2.87E-03	6.06E-03
	262.50	2.30	1.62E-02		-2.44E-03	8.06E-03
	266.20	2.10	1.77E-02		9.47E-04	8.80E-03
	284.30	2.70	1.39E-02		-1.07E-02	6.90E-03
	438.20	6.10	9.41E-03		4.03E-03	4.67E-03
	490.90	5.30	9.89E-03		-4.19E-03	4.90E-03
	493.20	3.10	1.67E-02		1.03E-03	8.26E-03
	545.40	2.30	1.70E-02		8.09E-03	8.41E-03
	583.30	3.20	1.12E-02		6.69E-03	5.53E-03
	805.90	8.20	1.48E-03		-6.31E-04	7.01E-04
	823.10	11.00	1.14E-03		-3.23E-04	5.42E-04
	824.70	6.10	2.10E-03		1.38E-03	9.98E-04
	859.50	8.00	1.64E-03		-2.24E-03	7.79E-04
	979.20	7.20	2.02E-03		-1.22E-04	9.62E-04
	1093.30	3.80	3.69E-03		-7.82E-04	1.75E-03
	1095.60	19.00	7.37E-04		4.27E-04	3.49E-04
	1114.30	38.00	4.70E-04		1.80E-04	2.25E-04
	1160.40	2.40	5.10E-03		-2.67E-03	2.39E-03
	2003.40	5.30	1.48E-03		-1.06E-03	6.34E-04
SB-129	180.42	2.84	3.78E-03	9.10E-05	-4.15E-03	1.88E-03
	359.20	2.39	6.48E-03		1.20E-03	3.22E-03
	404.64	1.17	1.49E-02		-6.21E-03	7.38E-03
	523.13	1.55	1.02E-02		-5.71E-03	5.06E-03
	544.56	15.42	8.95E-04		6.42E-04	4.42E-04
	633.74	2.53	4.85E-03		2.03E-03	2.39E-03
	654.28	2.97	5.64E-03		-6.42E-03	2.79E-03
	682.77	5.76	8.83E-04		4.16E-04	4.25E-04
	761.12	4.32	9.18E-04		-6.95E-04	4.36E-04
	773.37	2.82	1.49E-03		-2.00E-04	7.08E-04
	786.36	1.07	3.86E-03		1.52E-03	1.83E-03
	787.16	1.74	2.36E-03		-2.58E-03	1.12E-03
	812.97	48.20	9.10E-05		1.04E-04	4.33E-05
	819.51	1.39	3.14E-03		1.19E-03	1.49E-03
	876.65	2.75	1.70E-03		-1.35E-03	8.09E-04
	914.96	23.30	2.06E-04		2.78E-05	9.81E-05
	966.78	8.96	5.67E-04		4.80E-04	2.70E-04

Analysis Report for 24-2521 TI185-4.5M-S4-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	1030.65		15.13	3.08E-04	9.10E-05	-4.01E-04	1.46E-04
		1656.10		1.31	2.31E-03		-3.36E-04	1.02E-03
		1738.16		7.45	4.21E-04		-6.26E-05	1.87E-04
	TE-129	459.60		7.70	1.10E-03	1.10E-03	6.82E-04	5.48E-04
		487.39		1.42	5.07E-03		-2.16E-03	2.51E-03
+	Te-129m	695.88	*	3.00	5.50E-04	5.50E-04	4.24E-03	2.63E-04
	I-131	80.18		2.62	2.48E-03	7.41E-05	-1.60E-03	1.23E-03
		284.30		6.12	9.06E-04		-1.59E-03	4.49E-04
		364.49		81.50	7.41E-05		9.86E-06	3.67E-05
		636.99		7.16	6.65E-04		-2.80E-04	3.28E-04
		722.91		1.77	9.46E-04		1.33E-03	4.52E-04
	Te-131m	773.67		36.80	7.64E-05	7.64E-05	-1.02E-05	3.63E-05
		793.75		13.40	3.02E-04		-3.52E-04	1.43E-04
		852.21		19.90	1.71E-04		5.69E-05	8.14E-05
		1125.46		11.00	2.67E-04		-2.43E-04	1.27E-04
		1206.60		9.41	2.31E-04		-2.31E-04	1.08E-04
	I-132	262.90		1.28	4.12E-03	3.76E-05	4.04E-03	2.04E-03
		284.90		0.71	7.44E-03		-5.85E-03	3.69E-03
		505.79		4.93	5.07E-03		2.88E-03	2.51E-03
		522.65		16.00	7.45E-04		6.62E-04	3.69E-04
		547.20		1.14	9.41E-03		2.26E-03	4.65E-03
		621.20		1.97	4.85E-03		-1.40E-05	2.39E-03
		630.19		13.30	7.12E-04		-1.87E-05	3.51E-04
		650.50		2.57	4.98E-03		-3.35E-03	2.46E-03
		667.71		98.70	5.60E-04		4.02E-06	2.79E-04
		669.80		4.60	1.66E-03		-1.92E-04	8.14E-04
		671.40		3.50	2.19E-03		1.91E-04	1.07E-03
		727.10		5.40	7.50E-04		-6.18E-04	3.57E-04
		728.40		1.60	2.28E-03		-2.26E-03	1.09E-03
		772.60		75.60	3.76E-05		2.93E-05	1.79E-05
		809.50		2.60	1.32E-03		4.63E-04	6.28E-04
		812.00		5.50	5.78E-04		3.22E-04	2.75E-04
		910.10		0.93	3.80E-03		-3.11E-03	1.81E-03
		954.55		17.60	2.05E-04		-7.76E-05	9.78E-05
		1136.00		3.01	8.36E-04		1.54E-04	3.94E-04
		1172.90		1.09	7.64E-03		5.20E-02	3.76E-03
		1290.80		1.13	2.21E-03		6.37E-04	1.02E-03
		1295.10		1.88	4.34E-04		9.43E-05	1.99E-04
		1297.90		0.89	6.49E-04		5.23E-04	2.96E-04
		1372.07		2.47	9.62E-04		4.24E-04	4.39E-04
		1398.57		7.01	3.39E-04		1.42E-04	1.55E-04
		1442.56		1.40	5.80E-04		5.46E-04	2.59E-04
	TE-132	49.72		15.00	1.60E-03	6.06E-05	-1.48E-04	7.92E-04
		111.76		1.74	2.18E-03		8.91E-04	1.08E-03
		116.30		1.96	1.91E-03		-5.99E-04	9.47E-04
		228.16		88.00	6.06E-05		5.26E-05	3.01E-05
	BA-133	81.00		32.90	1.92E-04	1.01E-04	-1.53E-05	9.49E-05
		276.40		7.16	7.99E-04		-2.53E-04	3.96E-04
		302.85		18.34	3.06E-04		-3.92E-05	1.52E-04
		356.01		62.05	1.01E-04		-5.05E-05	4.99E-05
		383.85		8.94	6.11E-04		4.62E-05	3.03E-04
	I-133	529.87		87.00	8.24E-05	8.24E-05	1.30E-05	4.08E-05
		706.58		1.51	1.60E-03		6.85E-04	7.57E-04

Analysis Report for 24-2521 TI185-4.5M-S4-CST-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
I-133	856.28	1.24	2.40E-03	8.24E-05	-9.08E-04	1.14E-03
	875.33	4.51	4.85E-04		3.26E-05	2.31E-04
	1236.44	1.51	9.56E-04		-5.95E-04	4.41E-04
	1298.22	2.35	6.27E-04		2.74E-04	2.85E-04
TE-133	312.08	62.40	5.35E+04	5.35E+04	4.17E+04	2.65E+04
	407.63	27.10	1.58E+05		-6.78E+04	7.86E+04
	410.40	0.94	4.78E+06		1.72E+04	2.37E+06
	474.85	0.88	6.20E+06		8.60E+06	3.08E+06
	719.71	8.90	1.17E+05		1.61E+05	5.57E+04
	786.93	5.40	1.85E+05		-2.03E+05	8.80E+04
	844.36	3.31	3.42E+05		8.53E+04	1.63E+05
	884.30	0.72	1.67E+06		-4.21E+05	7.96E+05
	930.71	3.81	3.23E+05		-2.65E+05	1.54E+05
	997.70	1.04	1.12E+06		-2.26E+06	5.33E+05
	1000.72	3.62	3.42E+05		-2.40E+05	1.63E+05
	1021.13	2.81	4.01E+05		-6.35E+04	1.90E+05
	1061.61	1.19	9.92E+05		-2.25E+05	4.70E+05
	1252.08	1.44	5.71E+05		3.52E+05	2.62E+05
	1312.80	0.85	9.65E+05		1.17E+06	4.41E+05
	1333.21	10.67	3.59E+05		2.26E+06	1.76E+05
	1717.61	3.18	2.12E+05		-9.44E+04	9.25E+04
	1881.52	1.22	6.09E+05		1.42E+05	2.67E+05
	2136.51	1.25	7.25E+05		-1.96E+05	3.22E+05
	2229.64	0.87	7.51E+05		-2.00E+06	3.15E+05
Xe-133	81.00	36.90	1.28E-04	1.28E-04	-1.02E-05	6.37E-05
CS-134	475.36	1.48	5.70E-03	2.53E-05	1.01E-02	2.83E-03
	563.25	8.34	9.68E-04		1.07E-04	4.78E-04
	569.33	15.37	5.44E-04		-1.66E-04	2.68E-04
	604.72	97.62	6.77E-05		6.46E-05	3.34E-05
	795.86	85.46	2.53E-05		-1.64E-05	1.20E-05
	801.95	8.69	3.12E-04		1.40E-04	1.48E-04
	1038.61	0.99	2.52E-03		6.69E-04	1.19E-03
	1167.97	1.79	2.32E-03		-3.61E-04	1.14E-03
	1365.19	3.02	3.75E-04		6.45E-04	1.76E-04
I-135	220.50	1.75	7.25E-03	8.81E-05	7.25E-03	3.60E-03
	288.45	3.10	4.06E-03		-9.80E-04	2.01E-03
	417.63	3.53	5.13E-03		9.77E-03	2.55E-03
	546.56	7.15	1.79E-03		-2.46E-03	8.87E-04
	836.80	6.69	5.84E-04		4.87E-04	2.77E-04
	971.96	0.89	6.00E-03		-7.11E-03	2.86E-03
	972.62	1.21	4.01E-03		-1.68E-04	1.91E-03
	1038.76	7.90	4.46E-04		1.19E-04	2.12E-04
	1101.58	1.61	2.77E-03		-2.99E-03	1.31E-03
	1124.00	3.62	1.32E-03		-1.28E-03	6.24E-04
	1131.51	22.60	2.01E-04		1.00E-04	9.52E-05
	1240.47	0.90	3.89E-03		-3.18E-04	1.80E-03
	1260.41	28.70	8.81E-05		3.57E-05	4.03E-05
	1457.56	8.70	3.90E-04		3.10E-04	1.82E-04
	1502.79	1.08	3.04E-03		-7.55E-04	1.37E-03
	1566.41	1.29	1.59E-03		-3.42E-03	7.04E-04
	1678.03	9.60	1.66E-04		1.20E-04	7.20E-05
	1706.46	4.10	5.33E-04		4.54E-04	2.36E-04
	1791.20	7.72	3.11E-04		2.93E-04	1.39E-04

Analysis Report for 24-2521 TI185-4.5M-S4-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	2408.65		0.96	1.83E-03	8.81E-05	7.79E-04	7.40E-04
	XE-135	249.79		90.00	8.77E-05	8.77E-05	-1.15E-05	4.35E-05
	XE-135m	526.56		80.40	1.39E-04	1.39E-04	-1.29E-04	6.90E-05
	CS-136	66.88		4.79	3.10E-03	2.85E-05	8.15E-04	1.53E-03
		86.36		5.90	1.43E-03		-8.38E-05	7.08E-04
		153.25		7.70	8.15E-04		1.20E-03	4.04E-04
		163.92		4.69	1.94E-03		3.21E-04	9.61E-04
		176.60		13.70	5.62E-04		-2.55E-04	2.78E-04
		273.65		12.66	7.31E-04		-2.27E-04	3.62E-04
		340.55		46.80	2.07E-04		4.02E-04	1.03E-04
		818.51		99.70	2.85E-05		-4.81E-06	1.36E-05
		1048.07		80.00	3.88E-05		-3.90E-07	1.83E-05
		1235.36		20.00	1.07E-04		-6.50E-05	4.93E-05
+	CS-137	661.66	*	85.10	4.07E-05	4.07E-05	4.40E-02	2.00E-05
	BA-139	33.44		3.84	1.46E+00	3.34E-03	-8.24E-01	7.24E-01
		165.86		23.70	3.34E-03		-1.69E-03	1.65E-03
	BA-140	132.69		0.20	1.81E-02	2.29E-04	8.92E-03	8.96E-03
		162.66		6.22	7.09E-04		5.00E-04	3.51E-04
		304.85		4.29	1.57E-03		1.36E-03	7.78E-04
		423.72		3.10	2.30E-03		1.87E-04	1.14E-03
		437.58		1.93	4.01E-03		-1.05E-03	1.99E-03
		537.26		24.39	2.29E-04		1.13E-04	1.13E-04
	LA-140	109.42		0.22	1.59E-02	1.99E-05	2.68E-04	7.90E-03
		131.12		0.47	7.78E-03		1.12E-02	3.86E-03
		173.54		0.13	3.08E-02		5.19E-03	1.53E-02
		241.93		0.41	1.22E-02		8.42E-03	6.03E-03
		266.54		0.47	1.08E-02		1.98E-03	5.35E-03
		328.76		20.30	4.70E-04		-4.55E-05	2.33E-04
		432.49		2.90	4.64E-03		-7.60E-04	2.31E-03
		487.02		45.50	2.42E-04		4.87E-05	1.20E-04
		618.10		0.04	1.26E-01		-1.68E-02	6.21E-02
		751.64		4.33	4.33E-04		7.28E-05	2.05E-04
		815.77		23.28	7.73E-05		-7.44E-05	3.67E-05
		867.85		5.50	4.41E-04		1.67E-04	2.11E-04
		919.55		2.66	7.25E-04		-5.04E-04	3.45E-04
		925.19		6.90	3.62E-04		2.70E-04	1.73E-04
		950.99		0.52	4.53E-03		1.75E-03	2.15E-03
		1596.21		95.40	1.99E-05		2.16E-05	9.02E-06
		2347.88		0.85	8.32E-04		4.77E-04	3.51E-04
		2521.40		3.46	1.78E-04		4.96E-05	6.66E-05
		2547.34		0.10	6.46E-03		1.39E-03	2.29E-03
	BA-141	33.44		7.93	3.56E+04	1.16E+02	-2.01E+04	1.76E+04
		190.33		44.80	1.16E+02		2.03E+02	5.74E+01
		276.95		23.60	2.30E+02		-1.37E+01	1.14E+02
		304.19		26.10	2.10E+02		-9.87E+01	1.04E+02
		343.67		15.10	4.02E+02		2.01E+02	2.00E+02
		389.74		1.37	5.00E+03		1.90E+03	2.48E+03
		457.51		5.00	1.80E+03		-7.51E+02	8.93E+02
		462.06		5.10	1.81E+03		-3.55E+02	8.97E+02
		467.22		5.60	1.68E+03		-1.04E+03	8.34E+02
		625.08		3.45	1.42E+03		-1.10E+03	7.01E+02
		647.78		5.70	9.64E+02		-5.83E+02	4.75E+02
		738.95		4.39	3.93E+02		5.58E+02	1.87E+02

Analysis Report for 24-2521 TI185-4.5M-S4-CST-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-141	831.46	1.64	1.09E+03	1.16E+02	-1.80E+00	5.16E+02
	876.09	3.45	5.52E+02		-1.82E+02	2.63E+02
	1160.72	1.12	1.55E+03		-1.13E+03	7.28E+02
	1197.28	4.35	3.51E+02		-2.69E+02	1.63E+02
	1323.92	0.92	2.36E+03		-9.35E+01	1.12E+03
	1654.00	0.65	1.95E+03		-1.99E+02	8.67E+02
	1682.19	1.19	8.51E+02		5.68E+02	3.66E+02
CE-141	145.44	48.30	7.42E-05	7.42E-05	-9.48E-05	3.68E-05
BA-142	33.44	14.20	4.46E+08	2.41E+06	-2.52E+08	2.21E+08
	77.59	7.00	1.68E+07		-1.49E+07	8.31E+06
	177.00	2.12	4.50E+07		-1.94E+07	2.23E+07
	231.61	12.20	9.81E+06		1.35E+06	4.87E+06
	255.30	20.70	5.80E+06		6.32E+05	2.88E+06
	286.30	1.11	1.09E+08		-1.55E+08	5.40E+07
	309.20	2.60	4.79E+07		-2.37E+07	2.38E+07
	335.00	1.53	8.79E+07		-2.30E+07	4.36E+07
	363.96	4.76	3.01E+07		2.33E+07	1.49E+07
	425.04	5.75	2.97E+07		-4.16E+06	1.47E+07
	599.80	1.85	6.08E+07		-3.74E+06	3.00E+07
	840.40	3.63	1.08E+07		-2.71E+06	5.13E+06
	895.20	13.90	3.14E+06		-1.64E+06	1.50E+06
	949.10	10.70	4.07E+06		-5.60E+05	1.94E+06
	1001.20	9.80	4.72E+06		9.43E+05	2.25E+06
	1078.70	11.50	4.98E+06		2.68E+06	2.39E+06
	1094.10	2.82	1.61E+07		2.50E+05	7.62E+06
	1126.80	1.50	3.10E+07		2.30E+06	1.47E+07
	1202.40	5.60	6.04E+06		7.00E+05	2.80E+06
	1204.30	14.30	2.41E+06		2.86E+06	1.12E+06
	1380.20	3.42	8.24E+06		5.95E+06	3.72E+06
CE-143	57.36	11.70	1.13E-03	1.37E-04	1.77E-03	5.58E-04
	231.55	2.05	3.60E-03		-2.70E-04	1.79E-03
	293.27	42.80	1.37E-04		8.04E-05	6.78E-05
	350.62	3.23	1.78E-03		-1.36E-03	8.81E-04
	490.37	2.16	4.96E-03		4.92E-04	2.46E-03
	664.57	5.69	9.39E-03		1.59E-05	4.69E-03
	721.93	5.39	3.13E-04		3.77E-04	1.49E-04
	880.46	1.03	2.07E-03		-2.42E-03	9.90E-04
CE-144	80.12	1.36	3.42E-03	3.23E-04	-2.21E-03	1.69E-03
	133.51	11.09	3.23E-04		-3.58E-05	1.60E-04
ND-147	38.17	13.20	6.26E-03	1.51E-04	3.87E-04	3.10E-03
	38.72	23.80	3.11E-03		3.22E-04	1.54E-03
	91.11	28.90	1.51E-04		1.06E-04	7.49E-05
	275.39	0.79	9.34E-03		5.79E-03	4.63E-03
	319.41	1.97	3.27E-03		-3.39E-03	1.62E-03
	398.13	0.87	8.28E-03		1.90E-03	4.11E-03
	439.88	1.20	7.04E-03		1.30E-03	3.50E-03
	531.01	13.11	4.44E-04		3.25E-04	2.20E-04
	685.88	0.82	2.29E-03		-1.32E-03	1.10E-03
PR-147	36.85	19.70	8.61E+05	2.28E+04	1.36E+05	4.26E+05
	37.36	35.50	4.27E+05		3.31E+05	2.12E+05
	49.88	4.00	6.41E+05		-5.94E+04	3.17E+05
	77.97	9.70	7.80E+04		1.34E+04	3.87E+04
	86.69	5.40	1.35E+05		-3.84E+03	6.68E+04

Analysis Report for 24-2521 TI185-4.5M-S4-CST-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PR-147	127.80	7.40	7.45E+04	2.28E+04	4.26E+03	3.69E+04
	249.20	1.32	5.88E+05		-1.67E+05	2.92E+05
	314.70	18.20	4.50E+04		3.40E+04	2.23E+04
	328.80	4.00	2.09E+05		-2.02E+04	1.04E+05
	335.70	4.70	1.85E+05		-2.27E+05	9.17E+04
	388.80	1.41	7.05E+05		3.69E+05	3.50E+05
	466.80	1.70	8.06E+05		9.72E+05	4.00E+05
	477.90	4.60	2.74E+05		-1.12E+05	1.36E+05
	516.70	1.30	7.36E+05		-1.07E+05	3.64E+05
	554.70	5.90	1.31E+05		1.49E+05	6.47E+04
	577.90	13.70	5.36E+04		1.48E+04	2.64E+04
	641.40	16.10	4.66E+04		-2.30E+04	2.30E+04
	996.00	1.52	2.02E+05		2.38E+05	9.62E+04
	1136.70	1.42	1.93E+05		-2.79E+04	9.11E+04
	1261.10	8.40	2.28E+04		-2.24E+04	1.04E+04
	1300.40	2.30	7.96E+04		2.60E+04	3.61E+04
ND-149	38.17	9.00	1.05E-01	2.37E-03	6.50E-03	5.21E-02
	38.72	16.30	5.19E-02		5.39E-03	2.57E-02
	58.88	1.30	1.21E-01		8.59E-02	5.99E-02
	74.32	2.11	3.73E-02		1.48E-02	1.85E-02
	97.00	1.48	3.50E-02		-1.00E-02	1.73E-02
	114.31	19.20	2.70E-03		-6.77E-06	1.34E-03
	155.87	5.95	9.17E-03		-6.52E-04	4.55E-03
	188.64	1.79	6.22E-02		3.78E-02	3.09E-02
	198.93	1.39	5.62E-02		5.13E-02	2.79E-02
	208.15	2.55	2.89E-02		-4.11E-02	1.43E-02
	211.31	26.00	2.37E-03		-5.56E-04	1.18E-03
	240.22	3.95	1.50E-02		-1.38E-02	7.43E-03
	245.72	0.81	9.73E-02		5.02E-02	4.83E-02
	267.69	6.05	1.40E-02		-9.81E-04	6.96E-03
	270.17	10.80	5.56E-03		-2.00E-03	2.76E-03
	326.55	4.57	1.82E-02		1.15E-02	9.03E-03
	349.23	1.38	6.16E-02		3.22E-02	3.05E-02
	423.55	7.50	1.16E-02		7.63E-03	5.77E-03
	443.55	1.15	1.06E-01		-7.37E-02	5.27E-02
	540.51	6.60	1.07E-02		-5.43E-04	5.29E-03
	654.83	8.00	1.18E-02		-6.45E-03	5.86E-03
PM-149	285.95	3.10	1.75E-03	1.75E-03	-1.50E-03	8.66E-04
PM-150	39.52	0.63	4.76E-01	3.93E-04	3.86E-01	2.36E-01
	40.12	1.14	2.35E-01		-1.36E-01	1.16E-01
	333.92	68.00	3.93E-04		-1.14E-04	1.95E-04
	406.51	5.60	5.68E-03		-7.51E-03	2.82E-03
	565.70	1.31	1.72E-02		-3.93E-04	8.50E-03
	587.02	1.34	1.72E-02		2.48E-03	8.49E-03
	612.25	0.93	2.40E-02		-1.54E-02	1.18E-02
	712.22	4.40	1.51E-03		-9.83E-04	7.14E-04
	737.50	2.25	3.38E-03		-4.12E-03	1.61E-03
	831.85	11.90	6.69E-04		-1.76E-05	3.18E-04
	859.95	3.40	2.51E-03		2.20E-04	1.20E-03
	876.41	7.30	1.16E-03		-1.30E-03	5.53E-04
	1165.77	15.80	8.65E-04		-5.32E-05	4.17E-04
	1170.90	1.06	2.67E-02		1.68E-01	1.31E-02
	1193.87	4.80	1.44E-03		2.81E-04	6.70E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	1213.72	1.03	7.02E-03	3.93E-04	4.93E-03	3.26E-03
	1223.28	2.80	2.55E-03		3.27E-03	1.19E-03
	1324.51	17.50	6.80E-04		-1.37E-05	3.25E-04
	1379.32	3.10	1.81E-03		-1.12E-06	8.15E-04
	1736.40	6.90	8.28E-04		7.24E-04	3.67E-04
	1963.71	1.47	3.47E-03		-4.35E-03	1.50E-03
	2033.46	0.97	5.93E-03		4.45E-03	2.59E-03
ND-151	38.17	5.94	9.72E+06	6.45E+04	6.01E+05	4.82E+06
	38.72	10.70	4.83E+06		5.01E+05	2.39E+06
	68.98	1.26	3.33E+06		-4.36E+06	1.65E+06
	85.12	2.05	1.65E+06		-1.95E+05	8.18E+05
	89.96	1.53	2.07E+06		-2.22E+05	1.03E+06
	116.80	39.00	6.45E+04		-2.63E+03	3.20E+04
	138.89	7.00	3.60E+05		-2.67E+05	1.78E+05
	170.76	2.87	9.33E+05		2.52E+05	4.63E+05
	175.07	6.30	4.38E+05		1.14E+05	2.17E+05
	255.68	14.80	2.38E+05		9.57E+04	1.18E+05
	300.58	1.82	1.99E+06		-5.01E+05	9.85E+05
	423.56	5.90	8.46E+05		5.55E+05	4.20E+05
	460.59	0.96	6.28E+06		-1.78E+06	3.12E+06
	585.22	1.30	2.61E+06		-9.97E+04	1.29E+06
	677.88	2.38	5.78E+05		-4.52E+05	2.78E+05
	736.23	5.90	1.94E+05		-8.40E+04	9.23E+04
	739.20	1.52	7.36E+05		3.61E+05	3.50E+05
	755.57	1.17	8.55E+05		-1.13E+06	4.04E+05
	797.53	4.70	2.37E+05		1.39E+05	1.12E+05
	1016.40	2.50	4.75E+05		-3.52E+05	2.24E+05
	1122.63	4.10	3.40E+05		1.26E+05	1.61E+05
	1180.89	13.30	2.29E+05		-7.64E+03	1.12E+05
Pm-151	167.75	8.30	5.74E-04	2.84E-04	-8.41E-05	2.84E-04
	177.16	3.80	1.63E-03		-8.41E-04	8.10E-04
	240.09	3.80	1.67E-03		-1.54E-03	8.29E-04
	275.21	6.80	8.79E-04		5.45E-04	4.36E-04
	340.08	22.50	2.84E-04		-1.41E-04	1.41E-04
EU-152	121.78	28.53	1.72E-04	6.44E-05	7.02E-05	8.51E-05
	344.28	26.59	2.60E-04		-7.36E-05	1.29E-04
	778.90	12.93	1.68E-04		-1.18E-04	8.00E-05
	867.37	4.23	6.98E-04		-5.77E-04	3.33E-04
	964.08	14.51	1.66E-04		1.14E-05	7.93E-05
	1085.87	10.11	2.23E-04		1.03E-04	1.07E-04
	1112.07	13.67	1.87E-04		1.01E-04	8.97E-05
	1408.01	20.87	6.44E-05		3.64E-05	2.90E-05
ND-152	44.44	5.50	2.36E+07	8.76E+05	-1.30E+07	1.17E+07
	250.15	16.40	1.37E+06		-2.55E+06	6.78E+05
	278.56	26.00	8.76E+05		-1.17E+05	4.35E+05
	294.47	2.90	7.95E+06		-1.02E+07	3.94E+06
	545.70	0.83	2.83E+07		-2.92E+05	1.40E+07
	592.50	0.99	2.16E+07		3.77E+06	1.07E+07
GD-153	69.67	2.45	2.67E-03	1.27E-04	-2.29E-03	1.32E-03
	97.43	30.00	1.27E-04		-1.15E-04	6.31E-05
	103.18	22.10	1.68E-04		1.10E-04	8.31E-05
SM-153	69.67	4.67	1.50E-03	1.37E-04	-1.29E-03	7.43E-04
	103.18	29.14	1.37E-04		8.99E-05	6.78E-05

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	EU-154	42.70		20.45	1.78E-03	2.88E-05	-5.71E-04	8.81E-04
		123.07	*	40.40	1.08E-04		6.31E-05	5.35E-05
		247.93		6.89	1.06E-03		4.40E-04	5.24E-04
		591.76		4.95	1.53E-03		-2.32E-04	7.52E-04
		692.42		1.78	2.59E-03		-1.04E-04	1.27E-03
		723.30		20.06	1.14E-04		7.03E-05	5.44E-05
		756.80		4.52	5.38E-04		2.02E-05	2.55E-04
		873.18		12.08	2.26E-04		1.01E-04	1.08E-04
		996.29		10.48	2.10E-04		1.41E-04	1.00E-04
		1004.76		18.01	1.15E-04		5.03E-05	5.46E-05
		1246.12		0.86	2.24E-03		-3.07E-03	1.02E-03
		1274.43	*	34.80	2.88E-05		6.21E-05	1.26E-05
		1494.05		0.70	1.63E-03		9.41E-04	7.32E-04
		1596.48		1.80	3.82E-04		2.65E-05	1.72E-04
	EU-155	43.00		18.12	1.92E-03	1.52E-04	-6.98E-04	9.53E-04
		60.01		1.17	7.20E-03		5.26E-03	3.57E-03
		86.55		30.70	1.52E-04		1.59E-06	7.55E-05
		105.31		21.10	1.66E-04		-4.20E-05	8.25E-05
	EU-156	88.97		8.40	8.08E-04	1.96E-04	1.19E-04	4.01E-04
		646.29		6.30	1.11E-03		-2.28E-04	5.49E-04
		723.47		5.40	4.08E-04		2.52E-04	1.95E-04
		811.77		9.70	2.33E-04		1.78E-04	1.11E-04
		1065.14		4.90	5.18E-04		-3.48E-04	2.45E-04
		1079.16		4.60	5.64E-04		5.44E-04	2.71E-04
		1153.80		11.50	1.96E-04		8.01E-05	9.27E-05
		1230.71		8.00	2.39E-04		-2.00E-04	1.11E-04
		1242.42		6.60	2.20E-04		-3.13E-04	1.01E-04
		1277.43		2.89	7.70E-04		9.27E-04	3.62E-04
		1366.41		1.57	1.21E-03		3.54E-05	5.64E-04
		1965.95		3.90	2.14E-04		-3.10E-04	9.21E-05
		2097.70		3.80	3.54E-04		3.01E-04	1.57E-04
		2186.71		3.50	2.70E-04		1.46E-04	1.13E-04
	Sm-156	87.60		24.00	3.00E-04	3.00E-04	7.10E-04	1.49E-04
		165.80		13.00	4.46E-04		-2.25E-04	2.21E-04
		204.00		21.00	3.50E-04		1.51E-04	1.74E-04
	EU-158	42.31		5.80	1.68E+00	1.59E-02	-3.70E-01	8.34E-01
		43.00		10.40	8.49E-01		-3.08E-01	4.20E-01
		79.49		10.50	1.14E-01		4.09E-02	5.64E-02
		181.97		2.30	4.60E-01		-2.70E-01	2.28E-01
		528.05		1.53	9.66E-01		3.48E-01	4.78E-01
		606.39		4.00	2.92E-01		4.60E-02	1.44E-01
		743.02		3.60	1.05E-01		-7.49E-02	4.98E-02
		897.61		12.40	3.78E-02		-3.91E-02	1.80E-02
		906.50		1.83	2.69E-01		1.95E-01	1.28E-01
		922.51		1.62	2.89E-01		-7.68E-02	1.38E-01
		944.15		30.00	1.59E-02		-1.55E-03	7.60E-03
		953.03		1.98	2.41E-01		-1.90E-02	1.15E-01
		962.09		1.89	2.62E-01		7.96E-03	1.25E-01
		977.14		16.30	2.96E-02		-2.16E-02	1.41E-02
		986.96		1.35	3.54E-01		-6.81E-02	1.69E-01
		1107.63		5.10	1.11E-01		1.23E-01	5.33E-02
		1184.10		3.00	1.26E-01		-1.65E-02	5.86E-02
		1186.00		2.90	1.32E-01		-1.29E-01	6.16E-02

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	1187.10	4.40	8.72E-02	1.59E-02	1.50E-02	4.06E-02
	1263.61	2.20	1.50E-01		7.48E-02	6.86E-02
	1347.95	1.65	1.81E-01		-8.59E-03	8.21E-02
	1944.47	1.62	1.59E-01		-1.14E-01	6.81E-02
TB-160	86.79	13.20	5.14E-04	7.59E-05	-1.47E-05	2.55E-04
	298.58	26.10	2.66E-04		1.36E-04	1.32E-04
	879.38	30.10	7.59E-05		2.28E-05	3.63E-05
	962.32	9.81	2.31E-04		1.73E-04	1.10E-04
	966.17	25.10	8.55E-05		-1.13E-04	4.07E-05
	1177.96	14.90	3.36E-04		7.89E-06	1.65E-04
TB-161	25.65	23.20	2.74E-01	5.23E-04	-9.47E-02	1.36E-01
	48.91	17.00	1.09E-03		-5.23E-04	5.39E-04
	52.00	3.43	4.06E-03		-1.05E-04	2.01E-03
	57.19	1.79	5.79E-03		4.14E-03	2.87E-03
	74.57	10.20	5.23E-04		4.13E-04	2.59E-04
YB-169	63.12	43.62	2.96E-04	1.46E-04	-3.97E-04	1.47E-04
	93.61	2.58	2.98E-03		6.57E-04	1.48E-03
	109.78	17.39	2.54E-04		-1.62E-04	1.26E-04
	130.52	11.38	4.85E-04		2.18E-04	2.40E-04
	177.21	22.28	2.34E-04		-1.20E-04	1.16E-04
	197.96	35.93	1.46E-04		-4.91E-05	7.24E-05
	307.74	10.05	3.88E-04		-2.07E-04	1.92E-04
HF-172	54.07	63.00	1.84E-04	1.84E-04	-1.06E-04	9.11E-05
	67.35	5.30	1.19E-03		-4.98E-04	5.90E-04
	81.75	4.50	1.01E-03		-3.80E-05	5.01E-04
	114.06	2.60	1.38E-03		2.78E-04	6.82E-04
	122.92	1.14	3.12E-03		3.06E-03	1.55E-03
	125.81	11.30	3.17E-04		1.42E-04	1.57E-04
	127.91	1.46	2.42E-03		1.38E-04	1.20E-03
LU-173	59.30	24.44	3.55E-04	2.57E-04	1.46E-04	1.76E-04
	78.63	11.90	5.18E-04		2.11E-04	2.57E-04
	100.72	5.24	7.98E-04		-5.14E-04	3.95E-04
	171.39	2.90	1.49E-03		6.77E-04	7.38E-04
	272.11	21.20	2.57E-04		-2.66E-04	1.27E-04
LU-177	112.95	6.23	5.88E-04	4.90E-04	-3.68E-04	2.91E-04
	208.37	10.41	4.90E-04		-6.98E-04	2.43E-04
	249.67	0.20	2.55E-02		-3.35E-03	1.27E-02
	321.32	0.22	2.48E-02		1.79E-02	1.23E-02
HF-181	133.02	43.30	1.15E-04	1.05E-04	5.03E-05	5.68E-05
	345.93	15.12	4.82E-04		-3.64E-04	2.39E-04
	482.18	80.50	1.05E-04		-6.78E-06	5.19E-05
W-181	56.28	18.70	5.44E-04	2.99E-04	-1.18E-03	2.70E-04
	57.53	32.00	2.99E-04		3.51E-04	1.48E-04
	65.00	10.60	6.53E-04		6.18E-04	3.24E-04
TA-182	57.98	10.01	9.34E-04	6.19E-05	1.18E-03	4.63E-04
	59.32	17.20	5.05E-04		2.08E-04	2.50E-04
	65.72	3.01	4.52E-03		4.51E-03	2.24E-03
	67.75	46.67	1.91E-04		-1.27E-04	9.47E-05
	84.68	2.65	2.53E-03		1.08E-04	1.26E-03
	100.11	14.20	4.04E-04		2.31E-04	2.00E-04
	113.67	1.87	3.96E-03		7.64E-04	1.97E-03
	116.42	0.44	7.99E-03		-2.50E-03	3.96E-03
	152.43	7.02	8.24E-04		-7.66E-06	4.09E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	156.39	2.67	2.11E-03	6.19E-05	8.69E-04	1.04E-03
	179.39	3.12	2.07E-03		-2.88E-03	1.03E-03
	198.35	1.47	6.00E-03		-1.92E-03	2.98E-03
	222.11	7.57	9.29E-04		-4.61E-04	4.61E-04
	229.32	3.64	2.18E-03		4.87E-04	1.08E-03
	264.08	3.61	2.01E-03		-8.16E-04	9.97E-04
	928.00	0.61	4.44E-03		2.58E-03	2.12E-03
	959.73	0.35	8.20E-03		1.63E-03	3.91E-03
	1001.70	2.09	1.68E-03		-7.29E-04	8.01E-04
	1044.42	0.24	1.25E-02		-8.13E-04	5.93E-03
	1113.41	0.44	7.44E-03		1.80E-03	3.57E-03
	1121.29	35.24	7.18E-05		4.25E-05	3.41E-05
	1157.30	0.73	2.12E-03		1.94E-05	9.96E-04
	1189.04	16.49	8.66E-05		4.12E-05	4.04E-05
	1221.40	27.23	6.19E-05		1.74E-05	2.87E-05
	1223.60	0.24	3.84E-03		2.52E-03	1.78E-03
	1231.00	11.62	1.61E-04		2.79E-05	7.46E-05
	1257.41	1.51	8.61E-04		2.84E-04	3.96E-04
	1273.72	0.66	1.24E-03		6.66E-04	5.80E-04
	1289.15	1.37	3.37E-04		1.31E-04	1.55E-04
	1342.73	0.26	4.06E-03		1.54E-03	1.86E-03
	1373.82	0.22	1.36E-03		-1.54E-04	6.17E-04
Ta-183	84.71	1.35	3.64E-03	1.89E-04	1.56E-04	1.81E-03
	99.08	6.80	5.65E-04		3.79E-04	2.80E-04
	107.93	11.20	3.20E-04		4.91E-05	1.59E-04
	161.35	9.10	4.21E-04		1.77E-04	2.09E-04
	162.32	5.00	7.65E-04		4.67E-04	3.79E-04
	244.26	8.80	5.84E-04		-5.75E-04	2.90E-04
	246.06	27.20	1.89E-04		1.01E-04	9.40E-05
	353.99	11.60	5.19E-04		3.91E-04	2.57E-04
Re-184	111.21	17.20	2.09E-04	3.94E-05	1.23E-04	1.04E-04
	252.85	3.00	1.66E-03		-1.70E-04	8.22E-04
	792.01	37.70	3.94E-05		-1.65E-05	1.86E-05
	894.76	15.70	1.14E-04		-1.28E-04	5.40E-05
	903.28	38.10	5.05E-05		3.38E-05	2.41E-05
W-185	59.72	0.01	7.17E-01	1.86E-01	5.24E-01	3.55E-01
	61.14	0.02	3.93E-01		-3.84E-02	1.95E-01
	69.20	0.01	8.56E-01		-1.07E+00	4.24E-01
	125.36	0.02	1.86E-01		2.57E-02	9.23E-02
W-187	61.14	14.30	6.67E-04	6.70E-05	-6.52E-05	3.30E-04
	69.20	4.82	1.45E-03		-1.81E-03	7.18E-04
	72.00	13.55	7.25E-04		-2.88E-04	3.59E-04
	134.25	10.36	5.88E-04		1.10E-03	2.91E-04
	479.53	26.60	4.25E-04		-6.78E-05	2.11E-04
	618.37	7.57	7.25E-04		-9.67E-05	3.57E-04
	685.81	33.20	6.70E-05		-1.18E-05	3.22E-05
Ir-188	155.05	29.60	1.38E-04	7.02E-05	-4.54E-05	6.82E-05
	478.00	14.70	6.07E-04		-2.48E-04	3.01E-04
	633.02	17.90	2.86E-04		8.35E-05	1.41E-04
	634.97	5.00	1.03E-03		-1.13E-03	5.10E-04
	829.42	5.10	3.58E-04		4.62E-05	1.70E-04
	1209.77	6.90	2.48E-04		-1.14E-04	1.16E-04
	1715.67	6.20	1.92E-04		-3.12E-04	8.40E-05

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Ir-188	2214.59	18.60	7.02E-05	7.02E-05	4.68E-05	3.02E-05
W-188	227.07	0.23	2.14E-02	1.22E-02	5.54E-04	1.06E-02
	290.68	0.42	1.22E-02		4.20E-03	6.07E-03
Ir-189	245.08	6.00	8.40E-04	8.40E-04	3.48E-04	4.17E-04
Ir-190	186.68	50.00	9.42E-05	9.42E-05	9.80E-05	4.67E-05
	361.09	12.30	4.85E-04		-4.20E-04	2.41E-04
	371.24	21.60	2.87E-04		-3.99E-05	1.43E-04
	407.22	27.00	2.50E-04		3.91E-05	1.24E-04
	518.55	32.20	1.92E-04		1.52E-04	9.48E-05
	557.95	28.50	1.71E-04		-3.57E-05	8.46E-05
	569.30	27.00	1.76E-04		-5.35E-05	8.66E-05
	605.14	37.80	1.25E-04		5.10E-05	6.15E-05
OS-191	63.29	15.70	4.84E-04	1.36E-04	-4.98E-04	2.40E-04
	64.99	26.70	2.62E-04		2.48E-04	1.30E-04
	73.45	9.21	5.83E-04		3.88E-04	2.89E-04
	129.43	26.50	1.36E-04		-3.41E-05	6.73E-05
Pt-191	359.90	5.80	1.32E-03	4.29E-04	2.26E-03	6.56E-04
	456.47	3.30	2.94E-03		-4.91E-03	1.46E-03
	538.90	14.30	4.29E-04		1.16E-05	2.12E-04
IR-192	205.79	3.31	2.07E-03	9.48E-05	-2.00E-03	1.03E-03
	295.96	28.71	3.29E-04		6.87E-05	1.63E-04
	308.45	29.70	3.05E-04		-6.94E-05	1.51E-04
	316.51	82.86	9.48E-05		6.22E-05	4.70E-05
	468.07	47.84	2.51E-04		6.15E-05	1.25E-04
	588.58	4.52	1.87E-03		1.86E-04	9.21E-04
	604.41	8.22	4.60E-04		2.24E-04	2.27E-04
	612.46	5.34	5.50E-04		2.26E-04	2.71E-04
IR-192m	155.16	0.09	3.99E-02	3.99E-02	-2.33E-03	1.98E-02
IR-193m	80.22	0.00	1.01E+00	1.01E+00	-6.52E-01	5.00E-01
Pt-193m	135.50	0.11	3.23E-02	3.23E-02	-2.33E-02	1.60E-02
Au-194	293.55	10.90	5.21E-04	9.54E-05	1.03E-04	2.58E-04
	328.47	62.80	9.54E-05		5.88E-05	4.73E-05
	364.84	1.60	4.14E-03		-1.89E-03	2.06E-03
	528.77	1.78	3.66E-03		1.64E-03	1.81E-03
	645.16	2.32	2.41E-03		-2.00E-04	1.19E-03
	948.32	2.29	9.09E-04		5.19E-04	4.33E-04
	1104.06	2.15	1.14E-03		-4.73E-04	5.43E-04
	1175.36	2.14	3.09E-03		2.07E-02	1.52E-03
	1468.90	6.80	2.26E-04		-5.01E-04	1.03E-04
	1595.81	1.89	7.75E-04		1.51E-04	3.50E-04
	2043.72	3.74	3.28E-04		-3.24E-06	1.41E-04
Ir-194	293.54	2.50	2.53E-03	5.10E-04	4.99E-04	1.26E-03
	328.47	13.10	5.10E-04		3.14E-04	2.53E-04
AU-195	98.86	11.21	3.31E-04	3.31E-04	-1.62E-04	1.64E-04
	129.74	0.84	4.24E-03		-3.91E-04	2.10E-03
Pt-195m	98.90	11.70	3.31E-04	3.31E-04	-1.62E-04	1.64E-04
	129.79	2.90	1.28E-03		-1.18E-04	6.35E-04
Au-196	333.03	22.90	4.09E-04	8.41E-05	8.60E-05	2.03E-04
	355.73	87.00	8.41E-05		-6.92E-05	4.17E-05
	426.10	6.60	1.11E-03		2.13E-04	5.51E-04
Au-196m	147.81	43.50	1.29E-04	1.29E-04	2.96E-05	6.38E-05
	188.27	30.00	2.46E-04		2.40E-04	1.22E-04
Pt-197	77.35	17.00	3.56E-04	3.56E-04	-1.59E-04	1.76E-04

Analysis Report for 24-2521 TI185-4.5M-S4-CST-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Pt-197	191.44	3.70	1.61E-03	3.56E-04	5.88E-04	7.98E-04
AU-198	411.80	95.62	7.94E-05	7.94E-05	2.87E-05	3.94E-05
AU-199	158.38	40.00	9.71E-05	9.71E-05	-9.32E-05	4.81E-05
	208.20	8.72	6.03E-04		-8.58E-04	2.99E-04
TL-201	135.34	2.61	1.45E-03	3.92E-04	-1.04E-03	7.17E-04
	167.43	10.00	3.92E-04		1.53E-04	1.94E-04
TL-202	439.51	91.50	8.52E-05	8.52E-05	1.40E-05	4.23E-05
PB-203	70.83	26.40	2.31E-04	7.90E-05	9.18E-05	1.15E-04
	72.87	44.20	1.31E-04		-2.13E-05	6.51E-05
	82.40	15.56	3.15E-04		1.02E-04	1.56E-04
	279.20	80.90	7.90E-05		3.77E-05	3.92E-05
	401.32	3.35	3.39E-03		2.53E-03	1.68E-03
PB-210	46.54	4.25	5.46E-03	5.46E-03	1.99E-03	2.70E-03
Pa-233	86.60	2.01	2.77E-03	1.37E-04	2.90E-05	1.37E-03
	94.65	8.90	4.35E-04		4.17E-04	2.15E-04
	98.43	14.20	2.61E-04		-5.70E-05	1.29E-04
	300.13	6.54	7.88E-04		-4.99E-04	3.91E-04
	311.90	38.20	1.37E-04		6.45E-05	6.79E-05
	340.48	4.44	1.29E-03		2.50E-03	6.39E-04
U-235	89.96	2.90	1.54E-03	7.94E-05	-1.65E-04	7.62E-04
	93.35	4.70	8.29E-04		3.35E-04	4.11E-04
	109.19	1.64	2.10E-03		5.04E-04	1.04E-03
	143.76	10.93	3.30E-04		4.80E-05	1.63E-04
	163.36	5.07	7.24E-04		-4.37E-04	3.59E-04
	185.71	57.20	7.94E-05		2.73E-05	3.94E-05
	202.11	1.07	4.40E-03		-2.70E-03	2.18E-03
	205.31	5.03	9.94E-04		-4.12E-04	4.93E-04
NP-237	86.48	12.20	3.84E-04	3.84E-04	4.01E-06	1.90E-04
U-237	59.54	34.50	2.79E-04	1.53E-04	2.16E-04	1.38E-04
	97.07	15.40	2.51E-04		-1.22E-04	1.24E-04
	101.06	24.50	1.53E-04		1.00E-05	7.59E-05
	113.30	3.07	1.19E-03		-3.63E-04	5.91E-04
	114.23	5.81	6.32E-04		1.28E-04	3.13E-04
	117.46	2.27	1.60E-03		5.31E-04	7.94E-04
	208.00	21.20	2.55E-04		-2.24E-04	1.26E-04
NP-238	103.37	0.00	8.20E-01	8.46E-05	3.48E-01	4.06E-01
	882.63	0.80	2.55E-03		8.45E-04	1.22E-03
	923.99	2.60	7.93E-04		8.32E-04	3.78E-04
	984.45	25.20	8.46E-05		-1.74E-05	4.03E-05
	1025.87	8.75	2.12E-04		1.11E-04	1.00E-04
	1028.53	18.23	1.04E-04		7.22E-06	4.94E-05
U-238	63.29	3.70	2.03E-03	9.26E-04	-2.09E-03	1.01E-03
	92.51	4.23	9.26E-04		-2.55E-04	4.59E-04
	112.81	0.21	1.70E-02		-1.07E-02	8.42E-03
	742.81	0.11	1.40E-02		-4.86E-03	6.64E-03
	766.42	0.32	5.07E-03		2.18E-03	2.41E-03
	1001.03	0.84	2.28E-03		-7.74E-04	1.09E-03
Am-239	181.71	1.08	5.50E-03	4.81E-04	-5.50E-03	2.73E-03
	209.80	3.50	2.03E-03		-3.86E-04	1.01E-03
	226.40	3.30	2.17E-03		6.54E-06	1.08E-03
	228.10	11.30	6.32E-04		5.32E-04	3.14E-04
	277.60	15.00	4.81E-04		6.30E-04	2.39E-04
NP-239	61.46	1.30	6.55E-03	1.66E-04	2.52E-03	3.24E-03

Analysis Report for 24-2521 TI185-4.5M-S4-CST-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
NP-239	99.53	12.90	3.11E-04	1.66E-04	4.29E-04	1.54E-04
	103.37	20.50	1.89E-04		8.00E-05	9.35E-05
	106.12	25.34	1.66E-04		2.07E-05	8.22E-05
	209.75	3.36	1.69E-03		-3.21E-04	8.40E-04
	228.18	11.24	5.12E-04		4.45E-04	2.54E-04
	277.60	14.51	4.13E-04		5.41E-04	2.05E-04
	285.46	0.79	8.32E-03		-9.88E-04	4.13E-03
	315.88	1.60	3.15E-03		2.78E-04	1.56E-03
	334.31	2.06	2.17E-03		6.20E-04	1.08E-03
PU-239	38.66	0.01	7.08E+00	5.10E-01	3.59E+00	3.51E+00
	51.62	0.03	5.13E-01		-1.83E-01	2.54E-01
	98.50	0.01	5.10E-01		-1.11E-01	2.53E-01
	111.03	0.00	2.69E+00		-6.76E-02	1.33E+00
	129.30	0.01	5.62E-01		-3.16E-02	2.79E-01
	171.39	0.00	3.46E+01		1.57E+01	1.71E+01
	203.55	0.00	8.26E+00		1.69E+00	4.10E+00
	332.85	0.00	1.12E+01		-2.20E+00	5.56E+00
	336.11	0.00	5.00E+01		6.25E+01	2.48E+01
	345.01	0.00	1.02E+01		-3.24E+00	5.06E+00
	375.05	0.00	3.98E+00		1.83E-01	1.97E+00
	380.19	0.00	2.02E+01		-8.33E+00	1.00E+01
	382.75	0.00	2.39E+01		2.13E+01	1.18E+01
	413.71	0.00	4.87E+00		8.77E+00	2.42E+00
	422.60	0.00	5.73E+01		4.30E+01	2.84E+01
	451.48	0.00	4.29E+01		9.01E+00	2.13E+01
Am-240	99.53	18.40	2.20E-04	2.87E-05	3.03E-04	1.09E-04
	103.37	29.20	1.34E-04		5.67E-05	6.62E-05
	117.23	6.93	5.54E-04		-9.46E-05	2.75E-04
	888.85	24.70	8.60E-05		5.26E-05	4.11E-05
	987.79	72.20	2.87E-05		-1.55E-05	1.36E-05
Np-240m	554.60	20.90	3.19E-04	3.19E-04	3.63E-04	1.58E-04
	597.40	11.70	5.37E-04		1.39E-05	2.65E-04
U-240	44.10	1.05	3.86E-02	2.69E-02	3.07E-04	1.91E-02
	66.50	0.15	5.72E-02		3.86E-02	2.84E-02
	169.20	0.12	4.36E-02		-5.12E-02	2.16E-02
	189.70	0.24	2.69E-02		1.24E-02	1.34E-02
AM-241	59.54	35.90	2.39E-04	2.39E-04	1.85E-04	1.18E-04
AM-242m	49.35	0.13	1.28E-01	1.28E-01	-8.67E-02	6.36E-02
	66.89	0.01	4.31E-01		1.14E-01	2.14E-01
	86.65	0.02	2.05E-01		2.14E-03	1.02E-01
	163.25	0.02	2.40E-01		-1.45E-01	1.19E-01
AM-243	43.53	5.90	5.50E-03	7.70E-05	2.89E-03	2.72E-03
	74.66	67.20	7.70E-05		6.09E-05	3.82E-05

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

Apex-Gamma

Analysis Report for 24-2522 TI185-4.5M-S4-CST-d-A Q0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2522 TI185-4.5M-S4-CST-d-A Q0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 1:38:59PM
Procedure	: Q0_gsv02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: Q0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1207.9 seconds
Dead Time	: 0.65 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 1/16/2018
Efficiency Calibration Description	: Q0_gsv2mlw_R651_PT
Sample Number	: 578947
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 1:59:11PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2522 TI185-4.5M-S4-CST-d-A Q0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.58	190.42	0.3379	3.43
2	87.62	279.44	0.2139	7.53
3	415.01	1323.28	0.1895	8.38
4	661.85	2110.33	0.0354	192.99
5	666.54	2125.73	0.1737	9.93
6	695.21	2216.40	0.1541	9.77
7	1081.61	3447.73	0.2428	4.08
8	1109.82	3537.74	0.2554	3.46
9	1173.56	3741.40	0.1150	15.13
10	1275.29	4065.13	0.2657	3.01
11	1332.85	4249.18	0.1189	13.58
12	1361.28	4339.92	0.2595	3.10
13	2506.47	7988.66	0.2100	3.92

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2522 TI185-4.5M-S4-CST-d-A Q0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 1:59:11PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.58	183 -	197	190.31	2.41E+02	114.48	2.56E+03	1.00
F	2	87.62	270 -	288	279.69	9.95E+02	198.58	3.02E+03	1.61
F	3	415.01	1316 -	1329	1323.36	5.92E+02	168.34	2.36E+03	1.25
M	4	661.85	2097 -	2133	2110.24	1.32E+05	542.23	7.57E+02	1.69
m	5	666.54	2097 -	2133	2125.17	3.97E+02	21.30	1.08E+02	1.70
F	6	695.21	2206 -	2227	2216.56	4.61E+02	51.55	5.38E+01	1.96
F	7	1081.61	3440 -	3452	3448.24	5.56E+01	26.43	3.56E+01	1.20
F	8	1109.82	3532 -	3545	3538.14	4.91E+01	9.01	3.50E+01	1.92
F	9	1173.56	3728 -	3752	3741.33	9.23E+02	60.54	4.34E+01	2.04
F	10	1275.29	4059 -	4072	4065.56	2.82E+01	29.07	2.10E+01	1.19
F	11	1332.85	4236 -	4261	4249.02	7.93E+02	54.53	1.94E+01	2.17
F	12	1361.28	4334 -	4345	4339.64	1.87E+01	6.18	2.10E+01	1.10
F	13	2506.47	7982 -	7997	7989.40	3.61E+01	6.97	1.01E+01	2.31

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 1:59:11PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578893.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.58	2.41E+02	114.48			2.41E+02	1.14E+02
F	2	87.62	9.95E+02	198.58	1.01E+01	4.77E-01	9.85E+02	1.99E+02
F	3	415.01	5.92E+02	168.34			5.92E+02	1.68E+02

Analysis Report for 24-2522 TI185-4.5M-S4-CST-d-A Q0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	4	661.85	1.32E+05	542.23			1.32E+05	5.42E+02
m	5	666.54	3.97E+02	21.30	8.33E-01	1.87E-01	3.96E+02	2.13E+01
F	6	695.21	4.61E+02	51.55			4.61E+02	5.15E+01
F	7	1081.61	5.56E+01	26.43			5.56E+01	2.64E+01
F	8	1109.82	4.91E+01	9.01			4.91E+01	9.01E+00
F	9	1173.56	9.23E+02	60.54			9.23E+02	6.05E+01
F	10	1275.29	2.82E+01	29.07			2.82E+01	2.91E+01
F	11	1332.85	7.93E+02	54.53			7.93E+02	5.45E+01
F	12	1361.28	1.87E+01	6.18			1.87E+01	6.18E+00
F	13	2506.47	3.61E+01	6.97			3.61E+01	6.97E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.98	1173.23	*	99.85	4.55E-04	3.01E-05	0.765
		1332.49	*	99.98	4.26E-04	2.95E-05	0.763
CD-109	0.97	88.03	*	3.64	3.73E-03	7.53E-04	free
Te-129m	0.93	695.88	*	3.00	4.15E-03	9.51E-04	free
CS-137	0.99	661.66	*	85.10	4.02E-02	3.37E-04	miss
AM-241	1.00	59.54	*	35.90	1.91E-04	9.10E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

Analysis Report for 24-2522 TI185-4.5M-S4-CST-d-A Q0

ASR 2094 Branch

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.981	4.40E-04	2.11E-05	
CD-109	0.973	3.73E-03	7.53E-04	
Te-129m	0.930	4.15E-03	9.51E-04	
CS-137	0.994	4.02E-02	3.37E-04	
AM-241	1.000	1.91E-04	9.10E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2522 TI185-4.5M-S4-CST-d-A Q0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 1:59:11PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	415.01	4.92924E-01	28.46	Tol.	RH-102M
m	5	666.54	3.30085E-01	5.38		
F	7	1081.61	4.63099E-02	47.56		
F	8	1109.82	4.09520E-02	18.33		
F	10	1275.29	2.34817E-02	103.17		
F	12	1361.28	1.55767E-02	33.08		
F	13	2506.47	3.01145E-02	19.30	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.60	10.44	7.48E-04	7.48E-04	8.86E-04	3.71E-04
	NA-22	511.00	179.91	3.34E-05	3.32E-05	4.72E-06	1.65E-05
		1274.54	99.94	3.32E-05		3.20E-05	1.56E-05
	NA-24	1368.63	99.99	2.48E-05	2.48E-05	-2.06E-05	1.14E-05
>		2754.01	99.87	0.00E+00		0.00E+00	0.00E+00
	AL-26	1129.67	2.50	7.67E-04	1.06E-05	-1.08E-04	3.62E-04
		1808.65	99.76	1.06E-05		-4.69E-06	4.62E-06
	K-40	1460.82	10.66	1.50E-04	1.50E-04	2.17E-04	6.94E-05
	K-42	312.60	0.34	2.16E-02	7.57E-05	1.13E-02	1.07E-02
		1524.60	18.08	7.57E-05		-3.10E-05	3.29E-05

Analysis Report for 24-2522 TI185-4.5M-S4-CST-d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Sc-44	1157.02	99.90	5.73E-05	5.73E-05	4.95E-05	2.70E-05
		1499.46	0.91	3.94E-03		-9.65E-04	1.73E-03
	Sc-44m	271.24	86.74	6.00E-05	6.00E-05	3.55E-05	2.97E-05
		1001.83	1.20	3.14E-03		3.56E-03	1.50E-03
		1126.06	1.20	2.82E-03		1.34E-03	1.33E-03
		1157.00	1.20	2.71E-03		2.35E-03	1.28E-03
	TI-44	67.87	93.00	7.94E-05	5.63E-05	-2.79E-05	3.94E-05
		78.32	96.40	5.63E-05		-3.85E-05	2.79E-05
	SC-46	889.28	99.98	2.34E-05	2.34E-05	8.29E-06	1.11E-05
		1120.55	99.99	2.42E-05		9.47E-06	1.15E-05
	CA-47	489.23	5.90	1.61E-03	1.94E-05	-1.09E-03	7.98E-04
		807.86	5.90	3.83E-04		1.83E-04	1.82E-04
		1297.09	67.00	1.94E-05		1.57E-05	8.88E-06
	SC-47	159.38	68.30	5.54E-05	5.54E-05	-1.29E-05	2.74E-05
	SC-48	175.36	7.47	5.57E-04	1.42E-05	-2.92E-05	2.76E-04
		983.53	100.00	1.93E-05		-8.72E-06	9.17E-06
		1037.52	97.50	1.77E-05		1.34E-05	8.31E-06
		1312.12	100.00	1.42E-05		-3.18E-06	6.48E-06
	V-48	944.13	7.87	3.13E-04	1.74E-05	2.30E-04	1.49E-04
		983.53	99.98	2.31E-05		-1.04E-05	1.10E-05
		1312.11	98.20	1.74E-05		-3.90E-06	7.95E-06
		2240.40	2.33	6.88E-04		-4.62E-04	2.98E-04
	CR-51	320.08	9.91	5.11E-04	5.11E-04	4.09E-05	2.53E-04
	Fe-52	168.69	99.20	6.46E-05	6.46E-05	-5.34E-05	3.20E-05
		377.75	1.64	6.28E-03		-2.99E-03	3.12E-03
	Mn-52	744.23	90.00	2.89E-05	2.10E-05	1.65E-06	1.37E-05
		848.18	3.32	8.77E-04		-9.57E-04	4.17E-04
		935.54	94.50	3.59E-05		-1.48E-05	1.71E-05
		1246.28	4.21	5.39E-04		-3.50E-04	2.47E-04
		1333.65	5.07	1.82E-03		1.06E-02	8.91E-04
		1434.09	100.00	2.10E-05		-5.99E-06	9.42E-06
	MN-54	834.85	99.98	1.54E-05	1.54E-05	-6.17E-06	7.28E-06
	Co-55	411.50	1.07	8.39E-03	3.22E-05	2.50E-03	4.17E-03
		477.20	20.20	5.10E-04		9.53E-04	2.53E-04
		803.70	1.87	1.12E-03		6.57E-04	5.30E-04
		931.10	75.00	3.22E-05		3.63E-05	1.54E-05
		1316.60	7.10	2.38E-04		2.07E-04	1.09E-04
		1370.00	2.90	5.32E-04		-1.47E-03	2.40E-04
		1408.50	16.90	9.16E-05		6.21E-05	4.13E-05
	Co-56	846.77	99.94	2.38E-05	2.38E-05	1.15E-06	1.13E-05
		977.37	1.42	2.20E-03		4.17E-04	1.05E-03
		1037.84	14.05	1.63E-04		6.76E-06	7.64E-05
		1175.10	2.25	4.17E-03		2.54E-02	2.05E-03
		1238.29	66.46	3.06E-05		3.21E-05	1.41E-05
		1360.21	4.28	5.16E-04		4.90E-04	2.40E-04
		1771.36	15.41	1.35E-04		1.45E-05	6.12E-05
		2015.20	3.02	3.87E-04		-1.87E-04	1.60E-04
		2034.79	7.77	1.67E-04		-1.75E-04	6.98E-05
>		2598.50	16.97	0.00E+00		0.00E+00	0.00E+00
	MN-56	846.76	98.85	1.19E-04	1.19E-04	5.71E-06	5.64E-05
		1810.73	26.90	3.36E-04		2.52E-04	1.47E-04
		2113.09	14.20	7.02E-04		5.08E-04	3.05E-04
	Ni-56	158.38	98.80	3.73E-05	1.82E-05	1.75E-05	1.85E-05

Analysis Report for 24-2522 TI185-4.5M-S4-CST-d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Ni-56	269.50		36.50	1.35E-04	1.82E-05	-2.85E-05	6.72E-05
		480.44		36.50	2.08E-04		-1.71E-04	1.03E-04
		749.50		49.50	3.19E-05		3.53E-06	1.52E-05
		811.85		86.00	1.82E-05		-2.08E-05	8.62E-06
		1561.80		14.00	7.58E-05		2.23E-05	3.33E-05
	CO-57	122.06		85.60	3.94E-05	3.94E-05	2.63E-05	1.95E-05
		136.47		10.68	3.21E-04		-9.07E-05	1.59E-04
	NI-57	127.16		16.70	2.32E-04	1.60E-05	-2.74E-04	1.15E-04
		1377.63		81.70	1.60E-05		-2.18E-05	7.21E-06
		1757.55		5.75	1.80E-04		-3.83E-04	7.65E-05
		1919.52		12.30	9.68E-05		4.01E-06	4.17E-05
	CO-58	810.76		99.45	1.67E-05	1.67E-05	-2.97E-06	7.90E-06
		863.96		0.69	3.38E-03		3.30E-04	1.61E-03
		1674.73		0.52	1.79E-03		1.43E-03	7.85E-04
	FE-59	142.65		1.02	3.40E-03	2.74E-05	-1.33E-03	1.68E-03
		192.34		3.08	1.92E-03		2.03E-03	9.53E-04
		1099.24		56.50	3.24E-05		1.97E-05	1.53E-05
		1291.59		43.20	2.74E-05		2.19E-05	1.25E-05
+	CO-60	1173.23	*	99.85	3.01E-05	2.28E-05	4.55E-04	1.44E-05
		1332.49	*	99.98	2.28E-05		4.26E-04	1.07E-05
	CU-64	511.00		35.00	2.49E-04	2.49E-04	3.52E-05	1.23E-04
		1345.77		0.47	3.35E-03		-3.85E-03	1.50E-03
	NI-65	366.27		4.81	1.03E-02	3.33E-04	4.60E-03	5.09E-03
		1115.53		15.43	1.03E-03		-6.20E-04	4.94E-04
		1481.84		23.59	3.33E-04		1.28E-04	1.50E-04
	ZN-65	1115.54		50.04	4.43E-05	4.43E-05	-2.66E-05	2.12E-05
	GA-66	511.00		114.00	8.67E-05	7.21E-05	1.23E-05	4.29E-05
		833.53		5.90	4.26E-04		3.21E-04	2.02E-04
		1039.22		37.00	7.21E-05		6.08E-05	3.40E-05
		1333.11		1.17	7.92E-03		4.77E-02	3.88E-03
		1918.33		1.99	8.62E-04		5.75E-04	3.71E-04
		2189.62		5.30	2.62E-04		1.12E-04	1.06E-04
>		2751.83		22.70	0.00E+00		0.00E+00	0.00E+00
	CU-67	91.27		7.00	6.22E-04	9.32E-05	-3.54E-05	3.08E-04
		93.31		16.10	2.50E-04		-1.26E-04	1.24E-04
		184.58		48.70	9.32E-05		2.61E-05	4.62E-05
		300.22		0.80	6.64E-03		2.25E-03	3.29E-03
		393.53		0.22	3.03E-02		2.07E-02	1.50E-02
	GA-67	91.26		3.11	1.63E-03	1.11E-04	-9.26E-05	8.06E-04
		93.31		38.81	1.11E-04		-5.60E-05	5.48E-05
		184.58		21.41	2.13E-04		5.95E-05	1.05E-04
		208.95		2.46	2.99E-03		4.12E-03	1.48E-03
		300.22		16.64	3.57E-04		1.21E-04	1.77E-04
		393.53		4.56	9.13E-04		6.23E-04	4.53E-04
	ZN-69m	438.63		94.85	1.10E-04	1.10E-04	8.07E-06	5.48E-05
	GA-72	629.97		26.13	3.81E-04	3.02E-05	4.03E-05	1.87E-04
		834.13		95.45	3.02E-05		3.06E-06	1.43E-05
		894.33		10.14	4.23E-04		5.98E-05	2.02E-04
		1050.79		6.99	6.03E-04		3.77E-04	2.85E-04
		2201.59		26.87	8.58E-05		6.21E-05	3.73E-05
		2491.03		7.73	1.53E-04		4.26E-05	5.73E-05
		2507.72		13.33	3.58E-04		2.70E-04	1.66E-04
	Zn-72	144.70		82.78	4.64E-05	4.64E-05	3.62E-05	2.30E-05

Analysis Report for 24-2522 TI185-4.5M-S4-CST-d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Zn-72	191.50	9.35	5.30E-04	4.64E-05	6.06E-05	2.63E-04
	SE-75	121.12	17.20	2.80E-04	8.29E-05	4.50E-06	1.39E-04
		136.00	58.50	8.29E-05		1.48E-05	4.11E-05
		264.66	58.90	1.13E-04		1.22E-05	5.59E-05
		279.54	25.02	2.36E-04		-2.42E-04	1.17E-04
		400.66	11.41	1.92E-04		-1.04E-04	9.53E-05
	BR-83	529.59	1.30	3.05E-02	3.05E-02	-2.24E-02	1.51E-02
	BR-84	604.80	1.70	1.93E+01	3.04E-01	-4.61E+00	9.52E+00
		736.50	1.29	8.39E+00		3.48E+00	3.98E+00
		802.20	6.00	1.96E+00		7.34E-02	9.31E-01
		881.60	42.00	3.04E-01		-4.35E-02	1.44E-01
		987.30	0.79	1.64E+01		-1.72E+01	7.77E+00
		1015.90	6.20	2.10E+00		1.06E+00	9.95E-01
		1213.30	2.60	4.01E+00		7.75E-01	1.86E+00
		1463.80	2.00	5.92E+00		5.45E+00	2.74E+00
		1741.20	1.60	5.07E+00		3.94E+00	2.22E+00
		1877.50	1.12	7.68E+00		-7.77E+00	3.37E+00
		1897.60	14.60	4.73E-01		2.72E-01	2.00E-01
		2029.60	2.10	3.33E+00		-3.49E+00	1.39E+00
		2200.70	1.16	8.04E+00		5.82E+00	3.49E+00
		2484.10	6.70	8.11E-01		-5.78E-01	3.04E-01
>		2824.10	1.12	0.00E+00		0.00E+00	0.00E+00
	KR-85m	151.20	75.20	1.32E-04	1.32E-04	-1.05E-04	6.56E-05
		304.87	14.00	1.01E-03		3.46E-04	4.99E-04
	Y-87	388.53	82.20	7.71E-05	7.71E-05	-2.43E-06	3.82E-05
		484.80	89.80	8.30E-05		-9.94E-05	4.11E-05
	KR-88	165.98	3.10	1.12E-02	1.45E-04	5.54E-03	5.57E-03
		196.30	26.00	1.21E-03		1.96E-04	5.98E-04
		362.23	2.25	1.23E-02		-1.04E-02	6.10E-03
		471.80	0.73	7.73E-02		1.15E-01	3.84E-02
		834.83	13.00	7.93E-04		-3.18E-04	3.75E-04
		985.78	1.31	1.08E-02		6.49E-03	5.14E-03
		1141.33	1.28	8.77E-03		5.33E-03	4.14E-03
		1179.51	1.00	4.02E-02		3.67E-03	1.97E-02
		1250.67	1.12	7.77E-03		3.43E-03	3.54E-03
		1369.50	1.48	6.09E-03		-1.28E-02	2.78E-03
		1518.39	2.15	3.37E-03		-2.74E-03	1.47E-03
		1529.77	10.90	6.05E-04		4.38E-04	2.63E-04
		2029.84	4.53	1.82E-03		-3.80E-03	7.62E-04
		2035.41	3.74	1.97E-03		-2.44E-04	8.33E-04
		2195.84	13.20	5.98E-04		4.94E-05	2.54E-04
		2231.77	3.39	1.52E-03		-1.21E-03	6.53E-04
		2352.08	0.73	8.25E-03		3.15E-03	3.27E-03
		2392.11	34.60	1.45E-04		-1.05E-04	6.01E-05
	RB-88	898.03	14.40	8.73E-04	3.28E-04	-2.16E-04	4.16E-04
		1382.45	0.78	1.08E-02		-4.80E-03	4.90E-03
		1836.00	22.81	3.28E-04		3.75E-05	1.44E-04
>		2677.89	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-88	898.04	93.70	2.49E-05	1.45E-05	-6.16E-06	1.19E-05
		1836.06	99.20	1.45E-05		-6.49E-06	6.32E-06
	RB-89	272.42	1.53	3.31E+05	2.72E+03	2.20E+04	1.64E+05
		657.77	10.80	4.24E+05		-2.79E+04	2.12E+05
		947.73	10.00	2.17E+04		2.25E+04	1.04E+04

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ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RB-89	1031.92	63.00	2.92E+03	2.72E+03	8.87E+02	1.38E+03
		1248.14	46.00	2.72E+03		-3.85E+03	1.24E+03
		1538.07	2.77	4.05E+04		-3.74E+04	1.79E+04
		2007.50	2.58	4.11E+04		-3.09E+02	1.75E+04
		2195.92	14.50	8.21E+03		-6.82E+03	3.52E+03
>		2570.20	10.70	0.00E+00		0.00E+00	0.00E+00
>		2707.26	2.20	0.00E+00		0.00E+00	0.00E+00
	SR-89	908.96	0.01	1.88E-01	1.88E-01	-3.47E-01	8.96E-02
	Sr-91	652.90	11.35	7.28E-04	8.72E-05	-1.11E-03	3.59E-04
		749.80	23.70	1.04E-04		-2.02E-04	4.95E-05
		925.80	3.85	7.90E-04		-4.52E-04	3.77E-04
		1024.30	33.50	8.72E-05		1.17E-04	4.13E-05
	Y-91	1204.77	0.26	5.02E-03	5.02E-03	-1.56E-03	2.31E-03
	Y-91m	555.57	61.64	1.25E-04	1.25E-04	-2.61E-05	6.15E-05
	NB-92M	912.60	1.78	1.37E-03	1.92E-05	-2.54E-04	6.52E-04
		934.44	99.15	1.92E-05		8.34E-06	9.17E-06
		1847.50	0.85	1.02E-03		7.42E-04	4.46E-04
	SR-92	241.56	2.93	9.89E-03	8.40E-05	5.59E-03	4.91E-03
		430.49	3.28	1.33E-02		-1.37E-02	6.62E-03
		953.31	3.52	3.55E-03		1.74E-03	1.70E-03
		1142.35	2.79	3.75E-03		-4.78E-03	1.77E-03
		1383.93	90.00	8.40E-05		-3.76E-05	3.81E-05
	MO-93M	114.04	0.68	1.01E-02	2.71E-05	2.95E-03	4.98E-03
		263.05	57.40	1.64E-04		-3.37E-05	8.15E-05
		684.69	99.90	3.77E-05		3.55E-07	1.81E-05
		1363.02	0.81	3.97E-03		-3.59E-04	1.85E-03
		1477.14	99.10	2.71E-05		4.68E-06	1.24E-05
	SR-93	168.50	18.40	6.37E+12	2.05E+12	-1.94E+12	3.16E+12
		260.12	7.40	2.07E+13		3.37E+12	1.03E+13
		346.49	3.28	5.34E+13		-5.18E+12	2.65E+13
		446.20	2.36	1.05E+14		-2.60E+13	5.23E+13
		590.24	68.00	2.12E+12		1.25E+12	1.05E+12
		710.31	21.80	2.05E+12		8.43E+11	9.70E+11
		875.73	24.50	2.27E+12		-8.65E+11	1.08E+12
		888.13	22.10	2.58E+12		-5.74E+11	1.23E+12
		1040.63	3.20	1.66E+13		-2.59E+13	7.83E+12
		1094.00	1.76	3.23E+13		-3.02E+13	1.53E+13
		1122.48	4.00	1.48E+13		3.85E+12	7.00E+12
		1215.48	2.50	1.88E+13		6.11E+12	8.70E+12
		1269.47	7.10	7.59E+12		-3.17E+12	3.55E+12
		1321.24	2.61	1.61E+13		2.88E+12	7.36E+12
		1387.11	3.50	1.10E+13		-2.48E+12	4.97E+12
		1694.07	2.58	1.23E+13		-1.93E+13	5.31E+12
		1699.06	3.30	9.62E+12		-1.24E+13	4.16E+12
		2543.84	3.03	9.71E+12		3.70E+12	3.85E+12
>		2688.65	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-93	266.90	7.40	1.03E-03	1.03E-03	1.55E-04	5.10E-04
		947.10	2.10	1.52E-03		-6.57E-05	7.26E-04
		1917.80	1.57	1.06E-03		-6.88E-05	4.55E-04
	NB-94	702.65	99.81	2.02E-05	2.02E-05	7.76E-06	9.59E-06
		871.09	99.89	2.36E-05		8.26E-06	1.12E-05
	Y-94	381.60	2.02	1.09E+04	1.25E+02	-9.27E+03	5.41E+03
		550.90	4.90	3.70E+03		1.56E+02	1.83E+03

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Y-94	752.60	1.40	4.20E+03	1.25E+02	1.78E+03	2.00E+03
	918.74	56.00	1.25E+02		-1.64E+01	5.98E+01
	1138.90	6.00	1.13E+03		-5.68E+02	5.35E+02
	1671.40	2.50	1.66E+03		1.37E+03	7.33E+02
	2140.60	0.95	4.52E+03		-3.37E+03	1.95E+03
NB-95	765.80	99.81	1.46E-05	1.46E-05	1.61E-05	6.93E-06
ZR-95	724.19	44.27	4.01E-05	2.75E-05	5.39E-05	1.92E-05
	756.72	54.38	2.75E-05		3.27E-06	1.31E-05
NB-96	219.08	2.97	1.97E-03	2.01E-05	-1.96E-04	9.77E-04
	241.38	3.50	1.66E-03		9.38E-04	8.23E-04
	350.05	1.54	4.34E-03		8.27E-06	2.15E-03
	352.56	0.83	8.07E-03		7.41E-03	4.00E-03
	371.81	2.62	2.71E-03		-1.31E-03	1.34E-03
	460.04	26.62	3.77E-04		3.46E-06	1.87E-04
	480.71	5.84	1.53E-03		-1.36E-03	7.60E-04
	568.87	58.00	9.45E-05		-3.99E-05	4.66E-05
	719.56	6.85	3.00E-04		3.75E-04	1.44E-04
	721.63	1.02	2.10E-03		2.59E-03	1.00E-03
	778.22	96.45	2.01E-05		1.40E-05	9.57E-06
	810.33	11.09	1.69E-04		4.33E-05	7.98E-05
	812.58	2.95	6.35E-04		3.72E-05	3.01E-04
	847.69	1.14	1.82E-03		9.99E-05	8.66E-04
	849.93	20.45	9.94E-05		-5.78E-06	4.72E-05
	1091.35	48.50	4.29E-05		-1.87E-05	2.02E-05
	1200.23	19.97	7.87E-05		1.95E-05	3.62E-05
	1441.13	0.44	3.46E-03		-3.97E-04	1.57E-03
	1497.81	3.28	3.54E-04		-4.73E-04	1.54E-04
Nb-97	657.94	98.23	5.93E-04	5.93E-04	-2.59E-05	2.96E-04
	1024.40	1.09	2.17E-03		3.37E-03	1.03E-03
ZR-97	254.17	1.15	5.49E-03	2.08E-05	8.11E-03	2.72E-03
	355.40	2.09	5.24E-03		2.10E-03	2.60E-03
	507.64	5.03	2.16E-03		-3.43E-04	1.07E-03
	743.36	93.09	2.08E-05		1.92E-07	9.85E-06
	1147.97	2.62	1.41E-03		1.42E-03	6.70E-04
MO-99	181.07	6.14	1.11E-03	1.78E-04	-3.13E-04	5.53E-04
	366.42	1.20	5.14E-03		2.30E-03	2.55E-03
	739.50	12.26	1.78E-04		1.64E-04	8.46E-05
	777.92	4.30	3.90E-04		-3.33E-05	1.85E-04
TC-99M	140.51	90.80	4.09E-05	4.09E-05	1.60E-05	2.03E-05
RH-101	127.23	68.00	6.97E-05	6.97E-05	-8.26E-05	3.46E-05
	198.01	73.00	8.17E-05		9.18E-05	4.05E-05
	325.23	11.80	1.71E-04		-3.05E-05	8.46E-05
RH-101M	306.86	81.00	6.38E-05	6.38E-05	2.28E-05	3.16E-05
	545.12	4.30	1.19E-03		-4.75E-04	5.86E-04
RH-102M	415.25	2.10	8.07E-03	7.91E-05	2.06E-02	4.00E-03
	418.52	9.40	1.58E-03		-1.40E-04	7.84E-04
	420.40	3.20	4.65E-03		-1.24E-03	2.31E-03
	475.06	95.00	1.61E-04		3.13E-04	7.97E-05
	628.05	8.30	1.22E-03		4.67E-04	5.98E-04
	631.29	56.00	1.41E-04		-2.54E-04	6.96E-05
	692.40	1.60	4.41E-03		7.79E-04	2.15E-03
	695.60	2.90	2.08E-03		7.42E-03	1.02E-03
	697.49	44.00	1.32E-04		-1.13E-05	6.43E-05

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RH-102M	766.84		34.00	7.91E-05	7.91E-05	-2.74E-05	3.75E-05
		1046.59		34.00	8.25E-05		-8.41E-06	3.88E-05
		1103.16		4.60	5.47E-04		-1.99E-04	2.60E-04
		1112.84		19.00	2.06E-04		5.45E-05	9.82E-05
	RU-103	497.08		91.00	7.23E-05	7.23E-05	5.09E-05	3.58E-05
		610.33		5.76	7.64E-04		1.79E-04	3.76E-04
	RH-105	306.31		4.66	1.21E-03	3.38E-04	4.72E-04	5.99E-04
		319.23		16.90	3.38E-04		8.71E-05	1.68E-04
	AG-106M	221.70		6.60	7.38E-04	5.59E-05	-4.79E-04	3.66E-04
		228.63		2.10	2.34E-03		-3.39E-04	1.16E-03
		328.46		1.14	4.62E-03		8.54E-04	2.29E-03
		391.04		3.68	1.69E-03		-2.31E-03	8.37E-04
		406.18		13.40	4.86E-04		-2.23E-04	2.41E-04
		429.65		13.20	5.51E-04		-3.47E-04	2.74E-04
		450.98		28.20	2.83E-04		7.75E-06	1.41E-04
		511.85		88.00	6.97E-05		-4.07E-05	3.45E-05
		601.17		1.61	2.79E-03		2.01E-03	1.37E-03
		616.17		21.60	2.05E-04		-3.19E-05	1.01E-04
		646.03		1.46	3.28E-03		1.27E-03	1.61E-03
		680.42		2.18	8.46E-04		-4.21E-04	4.06E-04
		703.11		4.47	3.31E-04		7.75E-05	1.57E-04
		717.34		28.90	5.59E-05		-3.08E-05	2.66E-05
		748.36		20.60	7.42E-05		-5.87E-05	3.52E-05
		793.17		5.90	2.51E-04		-7.13E-05	1.19E-04
		804.28		12.40	1.33E-04		3.95E-05	6.31E-05
		808.36		4.00	3.99E-04		-2.30E-04	1.89E-04
		824.69		15.30	1.03E-04		-1.13E-04	4.87E-05
		847.15		4.40	3.96E-04		2.46E-04	1.88E-04
		1019.72		1.04	1.69E-03		-1.92E-03	7.99E-04
		1045.83		29.60	5.72E-05		6.69E-06	2.70E-05
		1128.02		11.80	1.55E-04		-1.93E-04	7.30E-05
		1199.39		11.20	1.18E-04		0.00E+00	5.45E-05
		1222.88		7.00	2.14E-04		1.24E-04	9.94E-05
		1394.35		1.49	8.67E-04		1.20E-04	3.94E-04
		1527.65		16.30	5.87E-05		4.25E-05	2.55E-05
		1572.35		6.60	1.75E-04		1.57E-04	7.79E-05
		1722.76		1.40	9.35E-04		9.00E-04	4.19E-04
		1839.05		2.00	5.65E-04		-2.73E-04	2.46E-04
	RH-106	621.93		9.93	5.93E-04	5.93E-04	1.29E-04	2.92E-04
		873.49		0.44	6.53E-03		7.92E-03	3.11E-03
		1050.41		1.56	1.47E-03		9.96E-04	6.92E-04
	RU-106	511.86		20.40	2.94E-04	2.94E-04	-1.72E-04	1.45E-04
	AG-108M	79.13		6.60	6.91E-04	3.62E-05	-2.82E-04	3.42E-04
		433.94		90.50	1.43E-04		-4.60E-05	7.08E-05
		614.28		89.80	9.05E-05		6.65E-06	4.46E-05
		722.91		90.80	3.62E-05		4.25E-05	1.74E-05
+	CD-109	88.03	*	3.64	1.65E-03	1.65E-03	3.73E-03	8.21E-04
	AG-110M	446.81		3.70	4.87E-03	4.24E-05	2.11E-03	2.42E-03
		620.35		2.73	3.77E-03		-6.68E-04	1.86E-03
		657.76		95.61	8.50E-04		-5.59E-05	4.24E-04
		677.62		10.70	3.95E-04		5.92E-05	1.90E-04
		687.01		6.53	5.96E-04		-7.62E-05	2.87E-04
		706.68		16.69	1.94E-04		6.10E-05	9.22E-05

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-110M	744.28	4.77	6.39E-04	4.24E-05	3.65E-05	3.03E-04
	763.94	22.60	1.23E-04		2.97E-05	5.84E-05
	818.02	7.43	4.95E-04		3.49E-04	2.35E-04
	884.68	75.00	4.24E-05		-5.72E-05	2.02E-05
	937.48	35.00	9.70E-05		-8.53E-05	4.62E-05
	1384.29	25.10	7.76E-05		-6.94E-05	3.51E-05
	1475.78	4.08	4.68E-04		3.73E-04	2.13E-04
	1505.03	13.33	1.42E-04		-6.46E-05	6.37E-05
	1562.29	1.22	5.87E-04		-4.94E-04	2.57E-04
AG-111	245.40	1.11	4.35E-03	8.39E-04	-4.25E-03	2.16E-03
	342.13	6.68	8.39E-04		1.75E-03	4.16E-04
AG-112	606.82	3.10	1.77E-03	1.25E-04	6.19E-04	8.73E-04
	617.52	43.00	1.25E-04		-3.57E-05	6.15E-05
	692.82	1.19	3.32E-03		-1.68E-04	1.62E-03
	694.87	2.90	1.34E-03		5.10E-03	6.54E-04
	851.28	1.02	2.06E-03		-1.66E-04	9.80E-04
	1312.36	1.11	1.45E-03		2.30E-04	6.65E-04
	1387.68	5.30	2.85E-04		8.51E-05	1.29E-04
	1613.66	2.80	4.93E-04		-3.85E-04	2.18E-04
	1798.50	0.89	1.07E-03		-1.32E-03	4.40E-04
	2106.31	2.40	6.26E-04		4.53E-04	2.72E-04
	2506.70	1.06	3.07E-03		4.67E-03	1.43E-03
CD-113M	263.70	0.03	1.78E-01	1.78E-01	-8.46E-02	8.81E-02
SN-113	255.13	2.11	2.26E-03	9.43E-05	-7.50E-04	1.12E-03
	391.70	64.97	9.43E-05		3.82E-05	4.67E-05
IN-114M	190.27	15.56	2.88E-04	2.88E-04	-4.92E-05	1.43E-04
	558.43	4.40	1.43E-03		1.18E-06	7.04E-04
	725.24	4.40	5.44E-04		4.11E-04	2.61E-04
CD-115	260.90	1.94	2.65E-03	1.27E-04	-3.22E-03	1.31E-03
	336.24	46.02	1.27E-04		-1.15E-04	6.32E-05
	527.90	27.45	2.19E-04		-7.48E-05	1.09E-04
CD-115M	933.84	2.00	9.70E-04	9.70E-04	5.78E-04	4.62E-04
	1290.59	0.90	1.28E-03		3.81E-04	5.80E-04
IN-115M	336.24	45.90	3.35E-04	3.35E-04	-3.02E-04	1.66E-04
IN-116M	138.29	3.70	2.97E-01	3.79E-03	4.91E-01	1.47E-01
	416.90	27.20	6.75E-02		1.26E-01	3.35E-02
	818.68	12.13	4.24E-02		-4.62E-03	2.01E-02
	1097.28	58.50	7.43E-03		5.70E-03	3.51E-03
	1293.56	84.80	3.79E-03		3.40E-03	1.74E-03
	1507.59	9.92	2.83E-02		1.38E-02	1.27E-02
	2112.29	15.09	1.75E-02		-1.21E-02	7.54E-03
SB-125	176.31	6.84	5.49E-04	2.32E-04	-1.09E-04	2.72E-04
	380.45	1.52	3.88E-03		-1.65E-03	1.92E-03
	427.87	29.60	2.32E-04		1.63E-04	1.15E-04
	463.36	10.49	7.97E-04		3.88E-04	3.96E-04
	600.60	17.65	2.49E-04		9.65E-05	1.23E-04
	606.71	4.98	8.81E-04		-9.24E-05	4.34E-04
	635.95	11.22	3.84E-04		1.89E-05	1.89E-04
	671.44	1.79	1.63E-03		-1.71E-05	7.93E-04
SN-125	332.10	1.40	6.71E-03	2.51E-04	1.04E-02	3.33E-03
	469.85	1.50	9.48E-03		3.00E-03	4.71E-03
	800.28	1.10	1.95E-03		1.54E-03	9.26E-04
	822.48	4.30	4.81E-04		-1.06E-04	2.28E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SN-125	915.55	4.10	6.10E-04	2.51E-04	-4.66E-04	2.91E-04
	1067.10	10.00	2.51E-04		1.71E-04	1.19E-04
	1087.70	1.20	3.10E-03		8.48E-04	1.47E-03
	1089.10	4.60	4.06E-04		-1.88E-05	1.91E-04
	2002.10	1.90	6.26E-04		-2.79E-04	2.73E-04
SB-127	61.10	1.43	7.60E-03	5.40E-05	1.26E-03	3.77E-03
	252.40	8.50	7.34E-04		7.95E-04	3.64E-04
	290.80	2.02	3.52E-03		-2.34E-03	1.74E-03
	412.10	3.80	2.07E-03		-2.74E-04	1.03E-03
	445.10	4.30	2.63E-03		1.72E-03	1.31E-03
	473.00	25.80	3.56E-04		5.40E-05	1.77E-04
	543.30	2.90	1.51E-03		-2.17E-03	7.47E-04
	603.50	4.50	1.39E-03		-2.89E-03	6.82E-04
	685.70	36.80	5.40E-05		-1.26E-05	2.60E-05
	698.50	3.64	8.85E-04		-5.26E-05	4.32E-04
	722.20	1.88	1.01E-03		8.23E-04	4.83E-04
	783.70	15.10	1.01E-04		1.90E-05	4.78E-05
SN-127	119.70	2.20	1.48E-02	5.54E-04	-9.11E-03	7.31E-03
	262.50	2.30	1.95E-02		1.29E-02	9.69E-03
	266.20	2.10	2.16E-02		1.04E-02	1.07E-02
	284.30	2.70	1.70E-02		9.89E-03	8.44E-03
	438.20	6.10	1.15E-02		3.84E-03	5.72E-03
	490.90	5.30	1.22E-02		1.29E-02	6.03E-03
	493.20	3.10	2.05E-02		1.88E-02	1.02E-02
	545.40	2.30	2.02E-02		2.61E-02	9.99E-03
	583.30	3.20	1.33E-02		1.21E-03	6.55E-03
	805.90	8.20	1.84E-03		-1.13E-03	8.74E-04
	823.10	11.00	1.34E-03		3.48E-04	6.36E-04
	824.70	6.10	2.39E-03		-2.63E-03	1.13E-03
	859.50	8.00	2.04E-03		-9.39E-04	9.72E-04
	979.20	7.20	2.38E-03		-2.70E-03	1.13E-03
	1093.30	3.80	4.38E-03		2.33E-03	2.07E-03
	1095.60	19.00	8.81E-04		6.75E-05	4.16E-04
	1114.30	38.00	5.54E-04		-4.23E-04	2.65E-04
	1160.40	2.40	6.19E-03		-1.13E-02	2.90E-03
	2003.40	5.30	1.93E-03		-3.77E-03	8.32E-04
SB-129	180.42	2.84	4.04E-03	9.41E-05	-5.54E-03	2.00E-03
	359.20	2.39	6.90E-03		3.07E-03	3.42E-03
	404.64	1.17	1.59E-02		-7.39E-03	7.89E-03
	523.13	1.55	1.09E-02		4.01E-03	5.38E-03
	544.56	15.42	9.35E-04		2.27E-05	4.62E-04
	633.74	2.53	5.06E-03		3.92E-03	2.49E-03
	654.28	2.97	5.88E-03		-3.39E-03	2.91E-03
	682.77	5.76	9.67E-04		1.30E-03	4.65E-04
	761.12	4.32	1.02E-03		-7.18E-04	4.85E-04
	773.37	2.82	1.63E-03		4.32E-04	7.73E-04
	786.36	1.07	3.96E-03		1.84E-03	1.87E-03
	787.16	1.74	2.43E-03		-1.97E-03	1.15E-03
	812.97	48.20	9.41E-05		2.11E-05	4.46E-05
	819.51	1.39	3.21E-03		-2.56E-03	1.52E-03
	876.65	2.75	1.88E-03		1.25E-03	8.94E-04
	914.96	23.30	2.30E-04		-1.49E-04	1.10E-04
	966.78	8.96	5.73E-04		-3.09E-04	2.72E-04

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	1030.65		15.13	3.52E-04	9.41E-05	4.86E-04	1.67E-04
		1656.10		1.31	2.23E-03		3.15E-04	9.69E-04
		1738.16		7.45	4.29E-04		-3.94E-04	1.88E-04
	TE-129	459.60		7.70	1.07E-03	1.07E-03	1.15E-03	5.32E-04
		487.39		1.42	4.87E-03		-7.75E-03	2.41E-03
+	Te-129m	695.88	*	3.00	5.74E-04	5.74E-04	4.15E-03	2.75E-04
	I-131	80.18		2.62	2.38E-03	7.16E-05	-1.84E-03	1.18E-03
		284.30		6.12	8.82E-04		7.55E-05	4.37E-04
		364.49		81.50	7.16E-05		1.61E-05	3.55E-05
		636.99		7.16	6.15E-04		-2.89E-04	3.03E-04
		722.91		1.77	1.03E-03		1.21E-03	4.95E-04
	Te-131m	773.67		36.80	7.58E-05	7.58E-05	2.01E-05	3.60E-05
		793.75		13.40	2.99E-04		-2.64E-05	1.41E-04
		852.21		19.90	1.64E-04		8.79E-05	7.82E-05
		1125.46		11.00	2.55E-04		2.05E-04	1.21E-04
		1206.60		9.41	2.10E-04		2.21E-04	9.70E-05
	I-132	262.90		1.28	3.94E-03	3.60E-05	4.92E-04	1.95E-03
		284.90		0.71	7.25E-03		-4.75E-03	3.59E-03
		505.79		4.93	4.82E-03		-1.84E-03	2.39E-03
		522.65		16.00	7.08E-04		5.73E-05	3.50E-04
		547.20		1.14	8.90E-03		4.79E-03	4.39E-03
		621.20		1.97	4.66E-03		3.50E-03	2.29E-03
		630.19		13.30	6.69E-04		-2.00E-05	3.29E-04
		650.50		2.57	4.67E-03		-7.32E-03	2.30E-03
		667.71		98.70	5.37E-04		-6.47E-06	2.68E-04
		669.80		4.60	1.62E-03		-2.08E-04	7.95E-04
		671.40		3.50	2.09E-03		1.49E-05	1.02E-03
		727.10		5.40	8.01E-04		-1.72E-04	3.83E-04
		728.40		1.60	2.46E-03		2.33E-03	1.17E-03
		772.60		75.60	3.60E-05		-1.25E-06	1.71E-05
		809.50		2.60	1.24E-03		-9.56E-05	5.89E-04
		812.00		5.50	5.26E-04		-3.33E-04	2.49E-04
		910.10		0.93	3.72E-03		1.57E-03	1.77E-03
		954.55		17.60	2.17E-04		1.12E-04	1.03E-04
		1136.00		3.01	8.24E-04		-8.35E-04	3.88E-04
		1172.90		1.09	7.33E-03		4.34E-02	3.60E-03
		1290.80		1.13	1.93E-03		8.27E-04	8.73E-04
		1295.10		1.88	4.42E-04		8.80E-05	2.02E-04
		1297.90		0.89	6.62E-04		-1.42E-04	3.02E-04
		1372.07		2.47	9.18E-04		6.33E-04	4.16E-04
		1398.57		7.01	2.95E-04		-7.62E-05	1.33E-04
		1442.56		1.40	6.36E-04		7.27E-05	2.87E-04
	TE-132	49.72		15.00	1.55E-03	5.85E-05	3.16E-05	7.67E-04
		111.76		1.74	2.11E-03		-3.28E-04	1.05E-03
		116.30		1.96	1.84E-03		-3.47E-04	9.10E-04
		228.16		88.00	5.85E-05		1.05E-06	2.90E-05
	BA-133	81.00		32.90	1.84E-04	9.65E-05	-6.60E-05	9.11E-05
		276.40		7.16	7.55E-04		-8.16E-04	3.74E-04
		302.85		18.34	2.91E-04		8.02E-05	1.44E-04
		356.01		62.05	9.65E-05		9.58E-05	4.78E-05
		383.85		8.94	5.81E-04		-1.48E-04	2.88E-04
	I-133	529.87		87.00	7.87E-05	7.87E-05	4.05E-05	3.89E-05
		706.58		1.51	1.63E-03		5.13E-04	7.75E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
I-133	856.28	1.24	2.33E-03	7.87E-05	-1.60E-03	1.11E-03
	875.33	4.51	4.87E-04		2.20E-04	2.32E-04
	1236.44	1.51	9.69E-04		4.74E-05	4.47E-04
	1298.22	2.35	6.67E-04		3.12E-04	3.04E-04
TE-133	312.08	62.40	5.34E+05	5.34E+05	3.20E+05	2.65E+05
	407.63	27.10	1.59E+06		1.02E+05	7.90E+05
	410.40	0.94	4.78E+07		2.62E+06	2.37E+07
	474.85	0.88	6.25E+07		1.06E+08	3.10E+07
	719.71	8.90	1.27E+06		1.59E+06	6.08E+05
	786.93	5.40	1.79E+06		-1.45E+06	8.44E+05
	844.36	3.31	3.42E+06		1.29E+06	1.62E+06
	884.30	0.72	1.61E+07		-2.15E+06	7.66E+06
	930.71	3.81	3.24E+06		2.38E+06	1.54E+06
	997.70	1.04	1.24E+07		-6.48E+06	5.91E+06
	1000.72	3.62	3.77E+06		-8.85E+05	1.80E+06
	1021.13	2.81	4.16E+06		-1.50E+06	1.97E+06
	1061.61	1.19	9.79E+06		2.67E+06	4.62E+06
	1252.08	1.44	5.56E+06		2.73E+06	2.53E+06
	1312.80	0.85	1.03E+07		9.21E+06	4.73E+06
	1333.21	10.67	3.56E+06		2.14E+07	1.74E+06
	1717.61	3.18	2.45E+06		-5.72E+05	1.08E+06
	1881.52	1.22	6.69E+06		1.44E+06	2.95E+06
	2136.51	1.25	6.55E+06		1.08E+06	2.85E+06
	2229.64	0.87	9.77E+06		-2.04E+05	4.25E+06
Xe-133	81.00	36.90	1.24E-04	1.24E-04	-4.44E-05	6.13E-05
CS-134	475.36	1.48	5.48E-03	2.50E-05	8.08E-03	2.72E-03
	563.25	8.34	9.27E-04		-4.65E-04	4.57E-04
	569.33	15.37	5.23E-04		-2.49E-05	2.58E-04
	604.72	97.62	6.36E-05		-1.52E-05	3.13E-05
	795.86	85.46	2.50E-05		-2.29E-05	1.19E-05
	801.95	8.69	3.08E-04		1.15E-05	1.46E-04
	1038.61	0.99	2.17E-03		-1.19E-04	1.02E-03
	1167.97	1.79	2.22E-03		-2.15E-04	1.09E-03
	1365.19	3.02	3.60E-04		5.92E-04	1.68E-04
I-135	220.50	1.75	7.48E-03	7.81E-05	-3.88E-03	3.71E-03
	288.45	3.10	4.19E-03		2.64E-03	2.08E-03
	417.63	3.53	5.36E-03		2.16E-04	2.66E-03
	546.56	7.15	1.83E-03		1.22E-03	9.03E-04
	836.80	6.69	6.29E-04		-4.23E-04	2.98E-04
	971.96	0.89	6.19E-03		6.08E-03	2.94E-03
	972.62	1.21	4.07E-03		3.13E-03	1.93E-03
	1038.76	7.90	4.14E-04		-2.27E-05	1.95E-04
	1101.58	1.61	3.00E-03		6.03E-05	1.42E-03
	1124.00	3.62	1.32E-03		8.21E-04	6.23E-04
	1131.51	22.60	2.09E-04		1.23E-04	9.85E-05
	1240.47	0.90	4.04E-03		4.12E-03	1.86E-03
	1260.41	28.70	7.81E-05		-2.45E-05	3.50E-05
	1457.56	8.70	3.84E-04		3.90E-04	1.78E-04
	1502.79	1.08	2.95E-03		-5.90E-05	1.32E-03
	1566.41	1.29	1.75E-03		1.53E-03	7.77E-04
	1678.03	9.60	1.83E-04		-2.84E-04	8.01E-05
	1706.46	4.10	5.48E-04		1.23E-04	2.41E-04
	1791.20	7.72	2.29E-04		1.31E-04	9.66E-05

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	2408.65		0.96	2.44E-03	7.81E-05	1.40E-03	1.03E-03
	XE-135	249.79		90.00	8.78E-05	8.78E-05	1.75E-05	4.35E-05
	XE-135m	526.56		80.40	1.42E-04	1.42E-04	1.19E-04	7.04E-05
	CS-136	66.88		4.79	3.00E-03	2.68E-05	2.70E-03	1.49E-03
		86.36		5.90	1.39E-03		-2.81E-04	6.89E-04
		153.25		7.70	7.82E-04		2.15E-04	3.88E-04
		163.92		4.69	1.90E-03		7.15E-04	9.39E-04
		176.60		13.70	5.38E-04		-3.45E-04	2.66E-04
		273.65		12.66	7.00E-04		8.62E-05	3.47E-04
		340.55		46.80	1.99E-04		-1.04E-05	9.89E-05
		818.51		99.70	2.68E-05		7.72E-06	1.27E-05
		1048.07		80.00	3.80E-05		4.34E-05	1.79E-05
		1235.36		20.00	1.07E-04		8.05E-05	4.94E-05
+	CS-137	661.66	*	85.10	4.00E-05	4.00E-05	4.02E-02	1.96E-05
	BA-139	33.44		3.84	2.01E+00	4.64E-03	-1.57E+00	9.95E-01
		165.86		23.70	4.64E-03		2.29E-03	2.30E-03
	BA-140	132.69		0.20	1.72E-02	2.11E-04	7.37E-04	8.51E-03
		162.66		6.22	6.91E-04		1.57E-04	3.42E-04
		304.85		4.29	1.51E-03		5.20E-04	7.49E-04
		423.72		3.10	2.21E-03		-1.30E-03	1.10E-03
		437.58		1.93	3.89E-03		1.87E-03	1.93E-03
		537.26		24.39	2.11E-04		9.87E-05	1.04E-04
	LA-140	109.42		0.22	1.56E-02	1.71E-05	5.21E-03	7.74E-03
		131.12		0.47	7.40E-03		2.16E-03	3.67E-03
		173.54		0.13	2.95E-02		-8.01E-03	1.46E-02
		241.93		0.41	1.17E-02		9.09E-03	5.78E-03
		266.54		0.47	1.04E-02		-2.12E-03	5.16E-03
		328.76		20.30	4.52E-04		-3.45E-04	2.24E-04
		432.49		2.90	4.45E-03		3.19E-03	2.21E-03
		487.02		45.50	2.33E-04		4.83E-05	1.16E-04
		618.10		0.04	1.18E-01		2.25E-02	5.83E-02
		751.64		4.33	4.67E-04		6.00E-05	2.22E-04
		815.77		23.28	7.40E-05		2.07E-05	3.51E-05
		867.85		5.50	4.13E-04		-6.95E-04	1.96E-04
		919.55		2.66	7.55E-04		-2.29E-04	3.60E-04
		925.19		6.90	3.59E-04		1.75E-04	1.71E-04
		950.99		0.52	5.21E-03		-7.13E-04	2.49E-03
		1596.21		95.40	1.71E-05		-1.88E-05	7.61E-06
		2347.88		0.85	6.27E-04		2.39E-04	2.49E-04
		2521.40		3.46	1.99E-04		6.62E-05	7.70E-05
		2547.34		0.10	8.37E-03		2.79E-03	3.24E-03
	BA-141	33.44		7.93	1.71E+05	5.35E+02	-1.34E+05	8.47E+04
		190.33		44.80	5.35E+02		-9.13E+01	2.65E+02
		276.95		23.60	1.09E+03		-6.30E+02	5.38E+02
		304.19		26.10	1.00E+03		-5.53E+02	4.97E+02
		343.67		15.10	1.94E+03		2.55E+03	9.62E+02
		389.74		1.37	2.37E+04		1.89E+04	1.17E+04
		457.51		5.00	8.66E+03		-6.63E+03	4.30E+03
		462.06		5.10	8.73E+03		-5.86E+03	4.34E+03
		467.22		5.60	8.05E+03		1.54E+03	4.00E+03
		625.08		3.45	6.63E+03		-6.52E+03	3.26E+03
		647.78		5.70	4.52E+03		2.31E+03	2.22E+03
		738.95		4.39	1.74E+03		-2.67E+03	8.25E+02

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-141	831.46	1.64	5.07E+03	5.35E+02	2.19E+03	2.40E+03
	876.09	3.45	2.71E+03		-3.47E+02	1.29E+03
	1160.72	1.12	7.50E+03		-1.10E+04	3.51E+03
	1197.28	4.35	1.63E+03		-1.03E+03	7.50E+02
	1323.92	0.92	9.36E+03		-5.30E+03	4.36E+03
	1654.00	0.65	8.21E+03		-8.69E+03	3.57E+03
	1682.19	1.19	4.64E+03		3.48E+03	2.03E+03
CE-141	145.44	48.30	7.19E-05	7.19E-05	2.90E-05	3.56E-05
BA-142	33.44	14.20	6.86E+09	3.50E+07	-5.37E+09	3.40E+09
	77.59	7.00	2.60E+08		1.65E+08	1.29E+08
	177.00	2.12	6.84E+08		-4.05E+08	3.39E+08
	231.61	12.20	1.52E+08		1.02E+08	7.53E+07
	255.30	20.70	8.85E+07		7.21E+07	4.39E+07
	286.30	1.11	1.68E+09		-5.42E+08	8.34E+08
	309.20	2.60	7.32E+08		3.47E+08	3.63E+08
	335.00	1.53	1.35E+09		-7.38E+08	6.69E+08
	363.96	4.76	4.64E+08		3.71E+08	2.30E+08
	425.04	5.75	4.54E+08		-3.44E+08	2.25E+08
	599.80	1.85	9.12E+08		-6.64E+08	4.49E+08
	840.40	3.63	1.70E+08		-2.54E+08	8.07E+07
	895.20	13.90	5.04E+07		-3.13E+07	2.40E+07
	949.10	10.70	7.42E+07		5.55E+07	3.55E+07
	1001.20	9.80	7.97E+07		3.52E+07	3.80E+07
	1078.70	11.50	7.28E+07		8.96E+07	3.48E+07
	1094.10	2.82	2.40E+08		-2.24E+08	1.13E+08
	1126.80	1.50	4.57E+08		-1.46E+08	2.16E+08
	1202.40	5.60	8.56E+07		4.87E+07	3.92E+07
	1204.30	14.30	3.50E+07		-2.49E+06	1.61E+07
	1380.20	3.42	1.33E+08		-1.93E+07	6.03E+07
CE-143	57.36	11.70	1.10E-03	1.33E-04	1.40E-04	5.46E-04
	231.55	2.05	3.54E-03		2.39E-03	1.76E-03
	293.27	42.80	1.33E-04		8.17E-05	6.57E-05
	350.62	3.23	1.70E-03		-3.36E-03	8.44E-04
	490.37	2.16	4.91E-03		5.31E-03	2.43E-03
	664.57	5.69	9.11E-03		3.14E-05	4.55E-03
	721.93	5.39	3.43E-04		2.80E-04	1.64E-04
	880.46	1.03	1.96E-03		-3.28E-04	9.31E-04
CE-144	80.12	1.36	3.27E-03	3.09E-04	-2.52E-03	1.62E-03
	133.51	11.09	3.09E-04		-3.58E-05	1.53E-04
ND-147	38.17	13.20	6.05E-03	1.45E-04	-2.81E-03	2.99E-03
	38.72	23.80	3.01E-03		-4.91E-05	1.49E-03
	91.11	28.90	1.45E-04		-8.23E-06	7.17E-05
	275.39	0.79	8.82E-03		-1.08E-02	4.37E-03
	319.41	1.97	3.14E-03		8.08E-04	1.56E-03
	398.13	0.87	7.95E-03		-2.28E-03	3.95E-03
	439.88	1.20	6.83E-03		6.42E-03	3.39E-03
	531.01	13.11	4.11E-04		1.20E-04	2.03E-04
	685.88	0.82	2.28E-03		-6.08E-04	1.10E-03
PR-147	36.85	19.70	7.38E+06	1.76E+05	1.54E+06	3.65E+06
	37.36	35.50	3.66E+06		2.18E+06	1.81E+06
	49.88	4.00	5.47E+06		1.12E+05	2.71E+06
	77.97	9.70	6.70E+05		9.89E+04	3.32E+05
	86.69	5.40	1.17E+06		-1.80E+05	5.78E+05

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PR-147	127.80	7.40	6.34E+05	1.76E+05	-6.64E+05	3.14E+05
	249.20	1.32	4.95E+06		-2.42E+06	2.45E+06
	314.70	18.20	3.76E+05		-3.59E+05	1.86E+05
	328.80	4.00	1.78E+06		-1.36E+06	8.84E+05
	335.70	4.70	1.59E+06		1.21E+05	7.87E+05
	388.80	1.41	5.90E+06		-9.07E+05	2.92E+06
	466.80	1.70	6.88E+06		9.95E+06	3.42E+06
	477.90	4.60	2.34E+06		1.96E+06	1.16E+06
	516.70	1.30	6.26E+06		-7.44E+06	3.10E+06
	554.70	5.90	1.12E+06		1.09E+06	5.53E+05
	577.90	13.70	4.59E+05		2.38E+05	2.26E+05
	641.40	16.10	3.88E+05		-1.18E+05	1.91E+05
	996.00	1.52	1.71E+06		1.06E+06	8.14E+05
	1136.70	1.42	1.68E+06		-4.11E+06	7.92E+05
	1261.10	8.40	1.76E+05		1.05E+05	7.89E+04
	1300.40	2.30	7.26E+05		-1.14E+06	3.30E+05
ND-149	38.17	9.00	1.35E-01	3.00E-03	-6.26E-02	6.66E-02
	38.72	16.30	6.66E-02		-1.09E-03	3.30E-02
	58.88	1.30	1.55E-01		2.74E-01	7.69E-02
	74.32	2.11	4.77E-02		6.63E-03	2.36E-02
	97.00	1.48	4.40E-02		-2.39E-02	2.18E-02
	114.31	19.20	3.43E-03		2.44E-03	1.70E-03
	155.87	5.95	1.18E-02		-2.18E-03	5.83E-03
	188.64	1.79	7.71E-02		3.01E-02	3.82E-02
	198.93	1.39	7.01E-02		2.85E-02	3.48E-02
	208.15	2.55	3.69E-02		6.49E-04	1.83E-02
	211.31	26.00	3.00E-03		-2.85E-03	1.49E-03
	240.22	3.95	1.92E-02		1.27E-02	9.50E-03
	245.72	0.81	1.23E-01		2.71E-02	6.10E-02
	267.69	6.05	1.80E-02		-3.07E-03	8.92E-03
	270.17	10.80	7.14E-03		7.04E-03	3.54E-03
	326.55	4.57	2.31E-02		-1.25E-02	1.15E-02
	349.23	1.38	7.79E-02		1.81E-03	3.86E-02
	423.55	7.50	1.48E-02		-1.35E-02	7.36E-03
	443.55	1.15	1.36E-01		-4.33E-02	6.77E-02
	540.51	6.60	1.31E-02		-1.04E-02	6.45E-03
	654.83	8.00	1.48E-02		-4.90E-03	7.36E-03
PM-149	285.95	3.10	1.71E-03	1.71E-03	-7.54E-04	8.47E-04
PM-150	39.52	0.63	5.47E-01	4.54E-04	-4.85E-01	2.71E-01
	40.12	1.14	2.72E-01		-3.27E-01	1.35E-01
	333.92	68.00	4.54E-04		-1.22E-04	2.25E-04
	406.51	5.60	6.56E-03		-4.88E-03	3.25E-03
	565.70	1.31	1.99E-02		7.12E-03	9.79E-03
	587.02	1.34	1.91E-02		-1.30E-02	9.41E-03
	612.25	0.93	2.74E-02		2.24E-02	1.35E-02
	712.22	4.40	1.73E-03		-2.80E-03	8.18E-04
	737.50	2.25	3.76E-03		-1.54E-03	1.78E-03
	831.85	11.90	7.52E-04		4.14E-05	3.56E-04
	859.95	3.40	2.96E-03		1.91E-03	1.41E-03
	876.41	7.30	1.38E-03		9.99E-04	6.55E-04
	1165.77	15.80	9.91E-04		-4.64E-04	4.77E-04
	1170.90	1.06	3.07E-02		1.94E-01	1.51E-02
	1193.87	4.80	1.63E-03		1.09E-03	7.52E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	1213.72	1.03	7.81E-03	4.54E-04	-6.56E-04	3.61E-03
	1223.28	2.80	2.99E-03		2.10E-03	1.39E-03
	1324.51	17.50	6.92E-04		-1.63E-04	3.28E-04
	1379.32	3.10	2.06E-03		-1.70E-03	9.25E-04
	1736.40	6.90	1.01E-03		-1.07E-04	4.51E-04
	1963.71	1.47	4.30E-03		-2.73E-03	1.86E-03
	2033.46	0.97	6.05E-03		-5.17E-03	2.57E-03
ND-151	38.17	5.94	9.92E+07	6.52E+05	-4.62E+07	4.91E+07
	38.72	10.70	4.94E+07		-8.06E+05	2.44E+07
	68.98	1.26	3.43E+07		6.38E+06	1.70E+07
	85.12	2.05	1.69E+07		-3.11E+06	8.37E+06
	89.96	1.53	2.11E+07		-4.14E+06	1.05E+07
	116.80	39.00	6.52E+05		-3.77E+05	3.23E+05
	138.89	7.00	3.70E+06		-8.03E+05	1.83E+06
	170.76	2.87	9.53E+06		-4.51E+06	4.72E+06
	175.07	6.30	4.45E+06		1.27E+06	2.20E+06
	255.68	14.80	2.42E+06		1.51E+06	1.20E+06
	300.58	1.82	2.02E+07		-7.92E+06	1.00E+07
	423.56	5.90	8.59E+06		-7.83E+06	4.26E+06
	460.59	0.96	6.45E+07		5.17E+07	3.20E+07
	585.22	1.30	2.57E+07		-5.21E+06	1.27E+07
	677.88	2.38	5.67E+06		-5.44E+05	2.72E+06
	736.23	5.90	1.84E+06		8.55E+05	8.70E+05
	739.20	1.52	7.18E+06		-8.24E+05	3.40E+06
	755.57	1.17	9.85E+06		9.97E+06	4.68E+06
	797.53	4.70	2.55E+06		2.55E+05	1.21E+06
	1016.40	2.50	5.22E+06		4.62E+05	2.47E+06
	1122.63	4.10	3.32E+06		1.56E+06	1.57E+06
	1180.89	13.30	2.31E+06		5.27E+05	1.13E+06
Pm-151	167.75	8.30	5.69E-04	2.79E-04	-2.78E-04	2.82E-04
	177.16	3.80	1.58E-03		-1.59E-03	7.84E-04
	240.09	3.80	1.64E-03		1.09E-03	8.12E-04
	275.21	6.80	8.44E-04		-1.03E-03	4.18E-04
	340.08	22.50	2.79E-04		-2.74E-04	1.38E-04
EU-152	121.78	28.53	1.63E-04	6.44E-05	4.82E-05	8.09E-05
	344.28	26.59	2.50E-04		2.55E-05	1.24E-04
	778.90	12.93	1.67E-04		2.56E-05	7.94E-05
	867.37	4.23	6.75E-04		4.46E-04	3.21E-04
	964.08	14.51	1.41E-04		-7.74E-05	6.67E-05
	1085.87	10.11	1.97E-04		1.00E-04	9.42E-05
	1112.07	13.67	1.77E-04		1.71E-04	8.43E-05
	1408.01	20.87	6.44E-05		-5.54E-05	2.90E-05
ND-152	44.44	5.50	3.04E+08	1.09E+07	9.83E+07	1.50E+08
	250.15	16.40	1.71E+07		8.00E+06	8.49E+06
	278.56	26.00	1.09E+07		-7.41E+06	5.42E+06
	294.47	2.90	9.97E+07		-4.12E+07	4.94E+07
	545.70	0.83	3.51E+08		5.08E+08	1.74E+08
	592.50	0.99	2.70E+08		-2.74E+07	1.33E+08
GD-153	69.67	2.45	2.60E-03	1.22E-04	-3.06E-05	1.29E-03
	97.43	30.00	1.22E-04		4.14E-05	6.03E-05
	103.18	22.10	1.62E-04		1.08E-04	8.02E-05
SM-153	69.67	4.67	1.47E-03	1.34E-04	-1.74E-05	7.29E-04
	103.18	29.14	1.34E-04		8.93E-05	6.61E-05

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-154	42.70	20.45	1.73E-03	5.66E-05	-3.02E-04	8.59E-04
	123.07	40.40	1.14E-04		3.53E-05	5.63E-05
	247.93	6.89	1.00E-03		-4.44E-04	4.96E-04
	591.76	4.95	1.44E-03		-8.24E-04	7.11E-04
	692.42	1.78	2.55E-03		4.50E-04	1.24E-03
	723.30	20.06	1.25E-04		9.51E-05	6.01E-05
	756.80	4.52	5.47E-04		-1.04E-03	2.60E-04
	873.18	12.08	2.15E-04		7.17E-05	1.02E-04
	996.29	10.48	2.05E-04		5.38E-05	9.74E-05
	1004.76	18.01	1.23E-04		6.29E-05	5.88E-05
	1246.12	0.86	2.42E-03		8.53E-04	1.11E-03
	1274.43	34.80	5.66E-05		5.45E-05	2.65E-05
	1494.05	0.70	1.27E-03		-4.46E-04	5.53E-04
	1596.48	1.80	3.44E-04		-1.42E-04	1.53E-04
EU-155	43.00	18.12	1.89E-03	1.48E-04	1.29E-03	9.33E-04
	60.01	1.17	6.90E-03		-2.20E-04	3.42E-03
	86.55	30.70	1.48E-04		-2.49E-05	7.34E-05
	105.31	21.10	1.63E-04		-5.16E-05	8.09E-05
EU-156	88.97	8.40	7.83E-04	1.85E-04	-1.17E-04	3.88E-04
	646.29	6.30	1.03E-03		4.00E-04	5.08E-04
	723.47	5.40	4.49E-04		3.41E-04	2.15E-04
	811.77	9.70	2.14E-04		-2.44E-04	1.01E-04
	1065.14	4.90	5.23E-04		8.18E-05	2.48E-04
	1079.16	4.60	5.16E-04		7.13E-04	2.46E-04
	1153.80	11.50	1.85E-04		-1.93E-04	8.70E-05
	1230.71	8.00	2.21E-04		-3.50E-04	1.01E-04
	1242.42	6.60	2.34E-04		-7.32E-05	1.08E-04
	1277.43	2.89	7.13E-04		9.80E-04	3.34E-04
	1366.41	1.57	1.17E-03		-6.49E-04	5.44E-04
	1965.95	3.90	2.14E-04		1.43E-04	9.22E-05
	2097.70	3.80	3.13E-04		2.92E-05	1.36E-04
	2186.71	3.50	2.44E-04		1.14E-04	9.99E-05
Sm-156	87.60	24.00	3.09E-04	3.09E-04	1.10E-03	1.53E-04
	165.80	13.00	4.59E-04		2.26E-04	2.27E-04
	204.00	21.00	3.50E-04		-3.23E-05	1.74E-04
EU-158	42.31	5.80	3.11E+00	3.09E-02	-1.49E+00	1.54E+00
	43.00	10.40	1.58E+00		1.08E+00	7.81E-01
	79.49	10.50	2.07E-01		9.07E-02	1.02E-01
	181.97	2.30	8.32E-01		-1.35E+00	4.12E-01
	528.05	1.53	1.72E+00		-7.11E-01	8.51E-01
	606.39	4.00	5.29E-01		5.07E-01	2.60E-01
	743.02	3.60	1.92E-01		-3.16E-02	9.07E-02
	897.61	12.40	7.12E-02		6.19E-02	3.40E-02
	906.50	1.83	4.95E-01		2.03E-01	2.36E-01
	922.51	1.62	5.42E-01		-6.59E-01	2.58E-01
	944.15	30.00	3.09E-02		2.27E-02	1.48E-02
	953.03	1.98	5.04E-01		9.33E-01	2.41E-01
	962.09	1.89	4.31E-01		-4.42E-01	2.04E-01
	977.14	16.30	5.63E-02		1.41E-02	2.68E-02
	986.96	1.35	6.19E-01		-6.05E-01	2.93E-01
	1107.63	5.10	2.05E-01		5.91E-02	9.78E-02
	1184.10	3.00	2.45E-01		1.90E-01	1.15E-01
	1186.00	2.90	2.52E-01		2.02E-01	1.18E-01

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	1187.10	4.40	1.65E-01	3.09E-02	3.69E-02	7.70E-02
	1263.61	2.20	2.32E-01		2.33E-01	1.04E-01
	1347.95	1.65	3.23E-01		2.36E-02	1.45E-01
	1944.47	1.62	2.54E-01		1.28E-01	1.05E-01
TB-160	86.79	13.20	5.01E-04	7.08E-05	-7.74E-05	2.49E-04
	298.58	26.10	2.53E-04		-1.48E-05	1.26E-04
	879.38	30.10	7.08E-05		-2.03E-05	3.37E-05
	962.32	9.81	1.98E-04		-1.21E-04	9.39E-05
	966.17	25.10	7.84E-05		1.86E-05	3.72E-05
	1177.96	14.90	3.21E-04		2.99E-05	1.58E-04
TB-161	25.65	23.20	2.61E-01	5.06E-04	-9.49E-02	1.29E-01
	48.91	17.00	1.05E-03		-3.78E-04	5.21E-04
	52.00	3.43	3.93E-03		6.34E-04	1.95E-03
	57.19	1.79	5.62E-03		3.34E-04	2.78E-03
	74.57	10.20	5.06E-04		1.44E-04	2.51E-04
YB-169	63.12	43.62	2.82E-04	1.38E-04	2.38E-04	1.40E-04
	93.61	2.58	2.84E-03		-2.11E-03	1.40E-03
	109.78	17.39	2.48E-04		8.43E-05	1.23E-04
	130.52	11.38	4.61E-04		-3.50E-05	2.29E-04
	177.21	22.28	2.23E-04		-2.24E-04	1.10E-04
	197.96	35.93	1.38E-04		1.55E-04	6.86E-05
	307.74	10.05	3.76E-04		1.18E-04	1.86E-04
HF-172	54.07	63.00	1.78E-04	1.78E-04	2.72E-05	8.80E-05
	67.35	5.30	1.15E-03		-1.31E-05	5.70E-04
	81.75	4.50	9.73E-04		-3.52E-04	4.82E-04
	114.06	2.60	1.32E-03		3.86E-04	6.53E-04
	122.92	1.14	2.98E-03		3.07E-03	1.48E-03
	125.81	11.30	3.02E-04		-3.26E-05	1.49E-04
	127.91	1.46	2.32E-03		-2.43E-03	1.15E-03
LU-173	59.30	24.44	3.43E-04	2.49E-04	4.07E-04	1.70E-04
	78.63	11.90	4.97E-04		-4.53E-04	2.46E-04
	100.72	5.24	7.62E-04		6.43E-05	3.78E-04
	171.39	2.90	1.43E-03		-3.99E-04	7.08E-04
	272.11	21.20	2.49E-04		1.21E-05	1.24E-04
LU-177	112.95	6.23	5.70E-04	4.74E-04	-1.43E-04	2.82E-04
	208.37	10.41	4.74E-04		8.32E-06	2.35E-04
	249.67	0.20	2.43E-02		4.84E-03	1.21E-02
	321.32	0.22	2.37E-02		-3.20E-02	1.17E-02
HF-181	133.02	43.30	1.09E-04	9.99E-05	4.69E-05	5.40E-05
	345.93	15.12	4.61E-04		3.75E-04	2.29E-04
	482.18	80.50	9.99E-05		-7.74E-05	4.95E-05
W-181	56.28	18.70	5.29E-04	2.91E-04	1.08E-05	2.62E-04
	57.53	32.00	2.91E-04		-2.79E-05	1.44E-04
	65.00	10.60	6.25E-04		3.17E-04	3.10E-04
TA-182	57.98	10.01	9.02E-04	6.09E-05	-4.58E-05	4.47E-04
	59.32	17.20	4.88E-04		5.79E-04	2.42E-04
	65.72	3.01	4.32E-03		1.34E-04	2.14E-03
	67.75	46.67	1.85E-04		4.70E-06	9.14E-05
	84.68	2.65	2.43E-03		-3.42E-04	1.21E-03
	100.11	14.20	3.84E-04		-9.64E-05	1.90E-04
	113.67	1.87	3.81E-03		-5.52E-04	1.89E-03
	116.42	0.44	7.64E-03		-1.44E-03	3.78E-03
	152.43	7.02	7.88E-04		-1.06E-03	3.90E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	156.39	2.67	2.04E-03	6.09E-05	2.96E-03	1.01E-03
	179.39	3.12	1.99E-03		-2.14E-03	9.86E-04
	198.35	1.47	5.67E-03		4.43E-03	2.82E-03
	222.11	7.57	8.92E-04		4.93E-04	4.43E-04
	229.32	3.64	2.11E-03		2.60E-04	1.05E-03
	264.08	3.61	1.92E-03		-1.43E-03	9.52E-04
	928.00	0.61	4.40E-03		5.01E-05	2.10E-03
	959.73	0.35	7.73E-03		3.24E-03	3.68E-03
	1001.70	2.09	1.80E-03		2.03E-03	8.61E-04
	1044.42	0.24	1.15E-02		1.31E-02	5.42E-03
	1113.41	0.44	6.98E-03		4.41E-03	3.33E-03
	1121.29	35.24	6.60E-05		-2.76E-05	3.12E-05
	1157.30	0.73	2.07E-03		-1.85E-03	9.74E-04
	1189.04	16.49	8.34E-05		1.28E-04	3.88E-05
	1221.40	27.23	6.09E-05		3.30E-05	2.82E-05
	1223.60	0.24	3.78E-03		1.99E-03	1.75E-03
	1231.00	11.62	1.52E-04		1.01E-04	7.01E-05
	1257.41	1.51	7.12E-04		-1.13E-04	3.21E-04
	1273.72	0.66	1.18E-03		1.52E-03	5.55E-04
	1289.15	1.37	2.70E-04		6.32E-05	1.22E-04
	1342.73	0.26	3.60E-03		-5.57E-04	1.62E-03
	1373.82	0.22	1.34E-03		3.99E-04	6.08E-04
Ta-183	84.71	1.35	3.52E-03	1.80E-04	-4.94E-04	1.74E-03
	99.08	6.80	5.42E-04		3.98E-04	2.68E-04
	107.93	11.20	3.16E-04		2.52E-04	1.56E-04
	161.35	9.10	4.07E-04		1.14E-06	2.01E-04
	162.32	5.00	7.42E-04		-3.97E-04	3.68E-04
	244.26	8.80	5.60E-04		8.71E-04	2.78E-04
	246.06	27.20	1.80E-04		-9.32E-06	8.93E-05
	353.99	11.60	4.93E-04		2.23E-04	2.44E-04
Re-184	111.21	17.20	2.02E-04	3.71E-05	-9.28E-05	1.00E-04
	252.85	3.00	1.59E-03		6.85E-04	7.88E-04
	792.01	37.70	3.71E-05		3.53E-06	1.75E-05
	894.76	15.70	1.18E-04		7.99E-05	5.61E-05
	903.28	38.10	4.73E-05		-4.23E-05	2.25E-05
W-185	59.72	0.01	6.87E-01	1.78E-01	-2.19E-02	3.40E-01
	61.14	0.02	3.77E-01		6.26E-02	1.87E-01
	69.20	0.01	8.33E-01		-1.77E-01	4.13E-01
	125.36	0.02	1.78E-01		1.21E-02	8.82E-02
W-187	61.14	14.30	6.52E-04	6.75E-05	1.09E-04	3.23E-04
	69.20	4.82	1.44E-03		-3.06E-04	7.13E-04
	72.00	13.55	7.21E-04		-1.64E-04	3.57E-04
	134.25	10.36	5.74E-04		-7.80E-05	2.84E-04
	479.53	26.60	4.15E-04		1.28E-04	2.06E-04
	618.37	7.57	6.94E-04		1.32E-04	3.42E-04
	685.81	33.20	6.75E-05		-1.58E-05	3.25E-05
Ir-188	155.05	29.60	1.34E-04	6.61E-05	-4.38E-05	6.62E-05
	478.00	14.70	5.91E-04		4.94E-04	2.93E-04
	633.02	17.90	2.72E-04		2.72E-04	1.34E-04
	634.97	5.00	9.66E-04		1.99E-04	4.75E-04
	829.42	5.10	3.39E-04		7.60E-05	1.61E-04
	1209.77	6.90	2.18E-04		1.42E-05	1.01E-04
	1715.67	6.20	1.99E-04		-6.65E-05	8.75E-05

Analysis Report for 24-2522 TI185-4.5M-S4-CST-d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Ir-188	2214.59	18.60	6.61E-05	6.61E-05	-2.12E-05	2.81E-05
W-188	227.07	0.23	2.05E-02	1.16E-02	3.65E-03	1.02E-02
	290.68	0.42	1.16E-02		-7.71E-03	5.75E-03
Ir-189	245.08	6.00	7.98E-04	7.98E-04	-6.54E-04	3.96E-04
Ir-190	186.68	50.00	8.79E-05	8.79E-05	-1.31E-05	4.36E-05
	361.09	12.30	4.67E-04		-1.44E-04	2.32E-04
	371.24	21.60	2.73E-04		-9.89E-05	1.35E-04
	407.22	27.00	2.41E-04		7.35E-05	1.19E-04
	518.55	32.20	1.85E-04		7.55E-05	9.13E-05
	557.95	28.50	1.67E-04		-2.70E-05	8.25E-05
	569.30	27.00	1.69E-04		-8.04E-06	8.35E-05
	605.14	37.80	1.18E-04		-2.95E-05	5.82E-05
OS-191	63.29	15.70	4.62E-04	1.30E-04	2.35E-04	2.29E-04
	64.99	26.70	2.51E-04		1.27E-04	1.24E-04
	73.45	9.21	5.64E-04		-1.07E-04	2.80E-04
	129.43	26.50	1.30E-04		3.46E-05	6.42E-05
Pt-191	359.90	5.80	1.26E-03	4.00E-04	-3.17E-04	6.27E-04
	456.47	3.30	2.87E-03		-4.73E-04	1.42E-03
	538.90	14.30	4.00E-04		4.15E-06	1.98E-04
IR-192	205.79	3.31	1.99E-03	8.91E-05	3.66E-05	9.88E-04
	295.96	28.71	3.14E-04		-8.31E-05	1.55E-04
	308.45	29.70	2.95E-04		1.95E-04	1.46E-04
	316.51	82.86	8.91E-05		-6.30E-05	4.42E-05
	468.07	47.84	2.41E-04		9.60E-05	1.20E-04
	588.58	4.52	1.73E-03		-5.27E-04	8.52E-04
	604.41	8.22	4.32E-04		-3.36E-04	2.13E-04
	612.46	5.34	5.21E-04		8.43E-05	2.57E-04
IR-192m	155.16	0.09	3.84E-02	3.84E-02	-1.33E-02	1.90E-02
IR-193m	80.22	0.00	9.69E-01	9.69E-01	-7.46E-01	4.80E-01
Pt-193m	135.50	0.11	3.13E-02	3.13E-02	-8.03E-03	1.55E-02
Au-194	293.55	10.90	5.04E-04	9.27E-05	2.19E-04	2.50E-04
	328.47	62.80	9.27E-05		1.72E-05	4.59E-05
	364.84	1.60	4.04E-03		-1.77E-03	2.01E-03
	528.77	1.78	3.48E-03		5.28E-04	1.72E-03
	645.16	2.32	2.26E-03		3.61E-03	1.11E-03
	948.32	2.29	1.01E-03		-8.41E-04	4.82E-04
	1104.06	2.15	1.10E-03		-1.91E-05	5.25E-04
	1175.36	2.14	3.00E-03		1.87E-02	1.47E-03
	1468.90	6.80	2.37E-04		-1.85E-04	1.09E-04
	1595.81	1.89	7.10E-04		-1.39E-05	3.17E-04
	2043.72	3.74	3.10E-04		-2.90E-04	1.32E-04
Ir-194	293.54	2.50	2.48E-03	5.02E-04	1.08E-03	1.23E-03
	328.47	13.10	5.02E-04		9.29E-05	2.49E-04
AU-195	98.86	11.21	3.16E-04	3.16E-04	-9.28E-05	1.57E-04
	129.74	0.84	4.04E-03		2.53E-03	2.00E-03
Pt-195m	98.90	11.70	3.18E-04	3.18E-04	-9.33E-05	1.57E-04
	129.79	2.90	1.23E-03		7.69E-04	6.09E-04
Au-196	333.03	22.90	3.97E-04	8.09E-05	8.66E-05	1.97E-04
	355.73	87.00	8.09E-05		2.01E-05	4.01E-05
	426.10	6.60	1.07E-03		9.00E-04	5.29E-04
Au-196m	147.81	43.50	1.30E-04	1.30E-04	-1.21E-05	6.44E-05
	188.27	30.00	2.41E-04		1.45E-04	1.20E-04
Pt-197	77.35	17.00	3.54E-04	3.54E-04	1.54E-04	1.75E-04

Analysis Report for 24-2522 TI185-4.5M-S4-CST-d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Pt-197	191.44	3.70	1.53E-03	3.54E-04	1.16E-03	7.61E-04
AU-198	411.80	95.62	7.72E-05	7.72E-05	8.68E-06	3.83E-05
AU-199	158.38	40.00	9.50E-05	9.50E-05	4.46E-05	4.71E-05
	208.20	8.72	5.84E-04		1.03E-05	2.90E-04
TL-201	135.34	2.61	1.40E-03	3.84E-04	-3.60E-04	6.96E-04
	167.43	10.00	3.84E-04		3.97E-05	1.90E-04
TL-202	439.51	91.50	8.26E-05	8.26E-05	3.55E-05	4.10E-05
PB-203	70.83	26.40	2.27E-04	7.59E-05	-7.00E-05	1.12E-04
	72.87	44.20	1.30E-04		1.37E-04	6.42E-05
	82.40	15.56	3.06E-04		-1.70E-04	1.52E-04
	279.20	80.90	7.59E-05		-6.50E-06	3.76E-05
	401.32	3.35	3.25E-03		-4.03E-03	1.61E-03
PB-210	46.54	4.25	5.33E-03	5.33E-03	2.07E-03	2.64E-03
Pa-233	86.60	2.01	2.69E-03	1.31E-04	-4.53E-04	1.34E-03
	94.65	8.90	4.13E-04		2.38E-04	2.04E-04
	98.43	14.20	2.50E-04		-1.43E-04	1.24E-04
	300.13	6.54	7.59E-04		2.57E-04	3.76E-04
	311.90	38.20	1.31E-04		3.77E-05	6.48E-05
	340.48	4.44	1.24E-03		-6.46E-05	6.15E-04
U-235	89.96	2.90	1.48E-03	7.46E-05	-2.91E-04	7.35E-04
	93.35	4.70	7.92E-04		-4.01E-04	3.92E-04
	109.19	1.64	2.06E-03		1.08E-03	1.02E-03
	143.76	10.93	3.15E-04		-9.38E-05	1.56E-04
	163.36	5.07	7.10E-04		2.63E-04	3.52E-04
	185.71	57.20	7.46E-05		3.81E-05	3.70E-05
	202.11	1.07	4.19E-03		-1.10E-03	2.08E-03
	205.31	5.03	9.51E-04		1.33E-04	4.72E-04
NP-237	86.48	12.20	3.73E-04	3.73E-04	-6.27E-05	1.85E-04
U-237	59.54	34.50	2.68E-04	1.47E-04	-8.97E-06	1.33E-04
	97.07	15.40	2.39E-04		9.63E-06	1.18E-04
	101.06	24.50	1.47E-04		2.19E-05	7.28E-05
	113.30	3.07	1.16E-03		-2.36E-04	5.73E-04
	114.23	5.81	6.06E-04		1.78E-04	3.01E-04
	117.46	2.27	1.54E-03		-5.15E-04	7.62E-04
	208.00	21.20	2.46E-04		1.11E-04	1.22E-04
NP-238	103.37	0.00	8.03E-01	7.77E-05	5.32E-01	3.98E-01
	882.63	0.80	2.34E-03		-4.35E-03	1.11E-03
	923.99	2.60	7.87E-04		-4.77E-05	3.75E-04
	984.45	25.20	7.77E-05		4.86E-05	3.68E-05
	1025.87	8.75	2.12E-04		-9.25E-06	1.00E-04
	1028.53	18.23	1.02E-04		-7.31E-05	4.82E-05
U-238	63.29	3.70	1.93E-03	8.93E-04	9.83E-04	9.59E-04
	92.51	4.23	8.93E-04		-3.71E-04	4.42E-04
	112.81	0.21	1.64E-02		-4.13E-03	8.14E-03
	742.81	0.11	1.35E-02		8.15E-03	6.39E-03
	766.42	0.32	4.59E-03		2.57E-03	2.17E-03
	1001.03	0.84	2.38E-03		-1.12E-03	1.14E-03
Am-239	181.71	1.08	5.48E-03	4.75E-04	-2.26E-03	2.72E-03
	209.80	3.50	2.03E-03		-7.35E-04	1.01E-03
	226.40	3.30	2.16E-03		-1.92E-03	1.07E-03
	228.10	11.30	6.31E-04		-1.19E-04	3.13E-04
	277.60	15.00	4.75E-04		2.72E-04	2.35E-04
NP-239	61.46	1.30	6.31E-03	1.64E-04	1.86E-03	3.13E-03

Analysis Report for 24-2522 TI185-4.5M-S4-CST-d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	NP-239	99.53		12.90	2.97E-04	1.64E-04	-1.30E-04	1.47E-04
		103.37		20.50	1.85E-04		1.22E-04	9.14E-05
		106.12		25.34	1.64E-04		-8.46E-05	8.13E-05
		209.75		3.36	1.63E-03		-5.92E-04	8.09E-04
		228.18		11.24	4.96E-04		8.88E-06	2.46E-04
		277.60		14.51	3.95E-04		2.26E-04	1.96E-04
		285.46		0.79	8.13E-03		-1.50E-03	4.03E-03
		315.88		1.60	3.00E-03		-6.98E-05	1.49E-03
		334.31		2.06	2.11E-03		-7.10E-04	1.04E-03
	PU-239	38.66		0.01	6.81E+00	4.87E-01	-2.67E+00	3.37E+00
		51.62		0.03	4.97E-01		2.56E-01	2.46E-01
		98.50		0.01	4.87E-01		-2.79E-01	2.41E-01
		111.03		0.00	2.60E+00		-2.81E+00	1.29E+00
		129.30		0.01	5.37E-01		4.04E-01	2.66E-01
		171.39		0.00	3.32E+01		-9.28E+00	1.64E+01
		203.55		0.00	7.83E+00		-4.44E+00	3.89E+00
		332.85		0.00	1.09E+01		6.81E+00	5.39E+00
		336.11		0.00	4.79E+01		-4.32E+01	2.38E+01
		345.01		0.00	9.78E+00		-7.36E-01	4.85E+00
		375.05		0.00	3.75E+00		5.13E-01	1.86E+00
		380.19		0.00	1.92E+01		-2.93E+00	9.54E+00
		382.75		0.00	2.27E+01		-9.36E+00	1.12E+01
		413.71		0.00	4.73E+00		7.00E+00	2.35E+00
		422.60		0.00	5.52E+01		-1.41E+01	2.74E+01
		451.48		0.00	4.12E+01		6.90E+00	2.05E+01
	Am-240	99.53		18.40	2.10E-04	2.64E-05	-9.20E-05	1.04E-04
		103.37		29.20	1.31E-04		8.67E-05	6.48E-05
		117.23		6.93	5.36E-04		-1.19E-04	2.65E-04
		888.85		24.70	7.85E-05		-4.47E-05	3.74E-05
		987.79		72.20	2.64E-05		-2.76E-05	1.25E-05
	Np-240m	554.60		20.90	3.19E-04	3.19E-04	3.11E-04	1.57E-04
		597.40		11.70	5.30E-04		1.30E-04	2.61E-04
	U-240	44.10		1.05	3.92E-02	2.60E-02	2.27E-02	1.94E-02
		66.50		0.15	5.71E-02		2.21E-02	2.83E-02
		169.20		0.12	4.42E-02		9.59E-03	2.19E-02
		189.70		0.24	2.60E-02		2.06E-02	1.29E-02
+	AM-241	59.54	*	35.90	2.92E-04	2.92E-04	1.91E-04	1.45E-04
	AM-242m	49.35		0.13	1.24E-01	1.24E-01	-5.59E-02	6.13E-02
		66.89		0.01	4.17E-01		3.75E-01	2.07E-01
		86.65		0.02	1.99E-01		-3.35E-02	9.87E-02
		163.25		0.02	2.35E-01		8.73E-02	1.16E-01
	AM-243	43.53		5.90	5.36E-03	7.43E-05	1.23E-03	2.66E-03
		74.66		67.20	7.43E-05		2.12E-05	3.68E-05

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

Apex-Gamma

Analysis Report for 24-2523 TI185-5.5M-S1-CST-A R0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2523 TI185-5.5M-S1-CST-A R0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 12:56:57PM
Procedure	: R0_gsv02mlw
Operator	: Administrator
Detector Name	: R
Geometry	: R0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1202.0 seconds
Dead Time	: 0.16 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/15/2019
Efficiency Calibration Description	: R0_gsv2mlw_R697P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578943
Certificate Name	: R735-b8 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 1:17:03PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2523 TI185-5.5M-S1-CST-A R0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.69	166.92	0.2139	7.51
2	87.55	244.51	0.1577	12.83
3	123.05	343.23	0.2527	4.21
4	414.93	1154.89	0.1371	15.18
5	661.76	1841.42	0.0472	105.05
6	666.47	1855.32	0.1744	11.01
7	695.10	1934.11	0.1334	12.97
8	1005.19	2796.00	0.2887	3.05
9	1109.81	3087.94	0.2017	5.50
10	1173.49	3265.06	0.1063	16.96
11	1274.53	3546.17	0.2480	3.57
12	1332.74	3708.33	0.1088	15.98
13	1361.41	3787.86	0.2209	3.96

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2523 TI185-5.5M-S1-CST-A R0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 1:17:03PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.69	159 -	173	167.02	4.29E+02	32.28	1.15E+03	1.35
F	2	87.55	235 -	252	244.48	1.12E+03	129.94	1.24E+03	1.51
F	3	123.05	337 -	349	343.19	3.33E+02	135.61	7.18E+02	1.98
F	4	414.93	1150 -	1160	1154.85	7.44E+02	36.69	6.96E+02	1.46
M	5	661.76	1827 -	1864	1841.35	3.61E+04	292.30	2.09E+02	1.94
m	6	666.47	1827 -	1864	1854.46	5.93E+02	25.96	1.08E+02	1.95
F	7	695.10	1923 -	1944	1934.09	6.23E+02	58.78	9.89E+01	2.06
F	8	1005.19	2790 -	2803	2796.72	2.63E+01	1.60	5.88E+01	0.54
F	9	1109.81	3080 -	3097	3087.81	9.76E+01	38.67	6.04E+01	1.88
F	10	1173.49	3253 -	3275	3264.98	1.24E+03	34.49	1.04E+02	2.36
F	11	1274.53	3539 -	3553	3546.14	5.21E+01	12.69	1.49E+01	2.72
F	12	1332.74	3694 -	3721	3708.11	1.13E+03	70.37	4.85E+01	2.65
F	13	1361.41	3780 -	3797	3787.89	6.13E+01	8.27	1.40E+01	2.49

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 1:17:03PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578894.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.69	4.29E+02	32.28			4.29E+02	3.23E+01
F	2	87.55	1.12E+03	129.94	1.24E+01	7.02E-01	1.11E+03	1.30E+02
F	3	123.05	3.33E+02	135.61			3.33E+02	1.36E+02

Analysis Report for 24-2523 TI185-5.5M-S1-CST-A R0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	4	414.93	7.44E+02	36.69			7.44E+02	3.67E+01
M	5	661.76	3.61E+04	292.30			3.61E+04	2.92E+02
m	6	666.47	5.93E+02	25.96			5.93E+02	2.60E+01
F	7	695.10	6.23E+02	58.78			6.23E+02	5.88E+01
F	8	1005.19	2.63E+01	1.60			2.63E+01	1.60E+00
F	9	1109.81	9.76E+01	38.67			9.76E+01	3.87E+01
F	10	1173.49	1.24E+03	34.49			1.24E+03	3.45E+01
F	11	1274.53	5.21E+01	12.69			5.21E+01	1.27E+01
F	12	1332.74	1.13E+03	70.37			1.13E+03	7.04E+01
F	13	1361.41	6.13E+01	8.27			6.13E+01	8.27E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-57	0.69	122.06	*	85.60	4.33E-05	1.76E-05	1.000
		136.47		10.68			
CO-60	0.98	1173.24	*	99.97	6.00E-04	1.71E-05	0.774
		1332.50	*	99.99	6.00E-04	3.76E-05	0.766
		2505.74		1.00			
CD-109	0.96	88.03	*	3.61	3.83E-03	4.63E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	4.34E-04	3.50E-05	0.397
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	4.05E-04	1.79E-05	0.386
		674.80		3.10			
		695.00	*	99.60	4.38E-04	4.14E-05	0.385
		697.00		29.00			
		720.70		53.80			

Analysis Report for 24-2523 TI185-5.5M-S1-CST-A R0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.77	64.28		9.60			
		87.30	*	45.90	3.01E-04	3.78E-05	miss
CS-137	0.99	661.66	*	85.20	1.11E-02	1.07E-04	miss
EU-154	0.34	42.70		20.45			
		123.07	*	40.40	1.23E-04	5.02E-05	0.743
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30		20.06			
		756.80		4.52			
		873.18		12.08			
		996.29		10.48			
		1004.76	*	18.01	5.73E-05	3.56E-06	0.869
		1246.12		0.86			
		1274.43	*	34.80	6.73E-05	1.64E-05	0.880
		1494.05		0.70			
		1596.48		1.80			
AM-241	0.99	59.54	*	35.90	3.32E-04	2.58E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-57	0.694	2.30E-05	1.77E-05	
	CO-60	0.984	6.00E-04	1.55E-05	
?	CD-109	0.964	3.83E-03	4.63E-04	

Analysis Report for 24-2523 TI185-5.5M-S1-CST-A R0

ASR 2094 Branch

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	SB-126	0.488	4.14E-04	1.49E-05	
?	Sn-126	0.775	3.01E-04	3.78E-05	
	CS-137	0.998	1.11E-02	1.07E-04	
	EU-154	0.346	5.77E-05	3.42E-06	
	AM-241	0.996	3.32E-04	2.58E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2523 TI185-5.5M-S1-CST-A R0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 1:17:03PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	9	1109.81	8.13535E-02	39.62	Sum	
F	13	1361.41	5.11130E-02	13.48	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	4.41E-04	4.41E-04	2.67E-04	2.18E-04
	K-40	1460.83		10.67	1.60E-04	1.60E-04	1.60E-04	7.47E-05
	MN-54	834.84		99.98	2.05E-05	2.05E-05	6.58E-06	9.84E-06
	CO-58	810.78		99.45	2.19E-05	2.19E-05	9.00E-06	1.05E-05
		863.96		0.68	4.29E-03		-1.59E-05	2.06E-03
		1674.73		0.52	1.78E-03		1.47E-03	7.87E-04
	FE-59	142.65		1.00	2.25E-03	3.46E-05	-1.54E-03	1.11E-03
		192.35		3.01	1.25E-03		-1.30E-05	6.15E-04
		334.80		0.27	1.16E-02		-1.74E-02	5.74E-03
		1099.25		56.30	3.84E-05		-4.16E-05	1.83E-05
		1291.60		43.70	3.46E-05		3.08E-05	1.61E-05
+	CO-60	1173.24	*	99.97	4.39E-05	3.58E-05	6.00E-04	2.13E-05
		1332.50	*	99.99	3.58E-05		6.00E-04	1.72E-05
		2505.74		1.00	3.17E-03		6.33E-03	1.49E-03
	SR-85	514.00		96.00	3.93E-05	3.93E-05	4.26E-05	1.94E-05
		868.60		0.01	1.85E-01		3.33E-02	8.91E-02

Analysis Report for 24-2523 TI185-5.5M-S1-CST-A R0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	NB-94	702.62		97.90	3.77E-05	2.97E-05	1.53E-05	1.83E-05
		871.09		99.98	2.97E-05		-3.39E-06	1.43E-05
	NB-95	765.81		99.81	1.82E-05	1.82E-05	1.01E-05	8.70E-06
	RU-103	497.05		91.00	4.27E-05	4.27E-05	-4.78E-06	2.10E-05
		610.30		5.76	5.02E-04		-2.67E-05	2.45E-04
	RH-106	511.86		20.70	2.15E-04	2.15E-04	7.20E-05	1.06E-04
		621.92		9.93	3.87E-04		-6.74E-06	1.89E-04
		1050.36		1.56	1.83E-03		2.02E-03	8.76E-04
	AG-108M	79.13		6.60	4.31E-04	4.36E-05	-1.59E-04	2.13E-04
		433.90		90.50	8.51E-05		-1.10E-04	4.20E-05
		614.30		89.80	5.78E-05		-4.71E-05	2.82E-05
		722.90		90.80	4.36E-05		-5.62E-06	2.11E-05
+	CD-109	88.03	*	3.61	9.47E-04	9.47E-04	3.83E-03	4.69E-04
	SB-125	176.31		6.82	3.56E-04	1.42E-04	3.67E-04	1.76E-04
		380.45		1.52	2.35E-03		-3.89E-04	1.16E-03
		427.87		29.55	1.42E-04		1.31E-04	7.02E-05
		463.36		10.48	4.62E-04		-1.58E-04	2.28E-04
		600.60		17.76	1.63E-04		7.50E-06	7.96E-05
		606.71		5.02	5.83E-04		9.71E-05	2.85E-04
		635.95		11.32	2.52E-04		5.83E-05	1.23E-04
		671.44		1.78	2.00E-03		2.96E-04	9.81E-04
+	SB-126	223.90		1.39	2.02E-03	3.48E-05	-2.07E-03	9.97E-04
		278.20		2.40	3.63E-03		2.15E-03	1.79E-03
		296.50		4.50	2.13E-03		8.19E-04	1.05E-03
		414.70	*	83.30	1.00E-04		4.34E-04	4.93E-05
		556.30		1.69	5.71E-03		8.75E-04	2.79E-03
		573.90		6.70	1.43E-03		-5.17E-06	6.97E-04
		593.20		7.50	9.42E-04		5.47E-05	4.60E-04
		656.30		2.19	3.47E-02		-3.63E-03	1.73E-02
		666.50	*	99.60	3.48E-05		4.05E-04	1.65E-05
		674.80		3.10	2.12E-03		1.52E-04	1.02E-03
		695.00	*	99.60	6.05E-05		4.38E-04	2.93E-05
		697.00		29.00	4.20E-04		2.03E-03	2.06E-04
		720.70		53.80	1.25E-04		1.05E-04	6.01E-05
		856.80		17.60	2.99E-04		-1.85E-04	1.44E-04
		989.60		6.80	7.48E-04		-8.55E-04	3.57E-04
		1213.30		2.39	1.65E-03		1.85E-03	7.69E-04
+	Sn-126	64.28		9.60	5.15E-04	7.44E-05	1.76E-04	2.54E-04
		87.30	*	45.90	7.44E-05		3.01E-04	3.68E-05
	I-129	29.70		56.60	6.13E-05	6.13E-05	0.00E+00	0.00E+00
		33.60		10.04	5.70E-03		1.41E-02	2.78E-03
		34.40		2.01	2.70E-02		6.97E-02	1.32E-02
		39.60		7.51	4.44E-03		8.33E-03	2.19E-03
	CS-134	563.25		8.34	5.89E-04	3.06E-05	-3.40E-04	2.88E-04
		569.33		15.37	3.36E-04		-1.52E-05	1.64E-04
		604.72		97.62	4.25E-05		1.30E-05	2.08E-05
		795.86		85.46	3.06E-05		-2.42E-05	1.46E-05
		801.95		8.69	3.75E-04		-1.03E-04	1.80E-04
+	CS-137	661.66	*	85.20	2.14E-05	2.14E-05	1.11E-02	1.03E-05
	CE-139	165.85		79.89	2.95E-05	2.95E-05	5.27E-06	1.45E-05
	CE-141	40.70		3.35	8.49E-03	4.70E-05	-4.04E-03	4.18E-03
		145.44		48.29	4.70E-05		-5.88E-06	2.32E-05
	CE-144	80.12		1.36	2.05E-03	1.89E-04	-1.03E-03	1.01E-03

Analysis Report for 24-2523 TI185-5.5M-S1-CST-A R0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CE-144	133.51		11.09	1.89E-04	1.89E-04	-5.54E-05	9.31E-05
	EU-152	121.78		28.58	1.06E-04	7.55E-05	1.02E-04	5.23E-05
		344.28		26.50	1.53E-04		-6.09E-05	7.54E-05
		778.90		12.94	1.89E-04		1.05E-04	9.05E-05
		964.08		14.73	1.73E-04		-8.81E-05	8.28E-05
		1085.87		10.24	2.53E-04		6.24E-04	1.22E-04
		1112.07		13.69	2.25E-04		3.80E-04	1.09E-04
		1408.01		21.07	7.55E-05		-3.90E-05	3.46E-05
	GD-153	97.43		29.00	7.56E-05	7.56E-05	-6.57E-06	3.73E-05
		103.18		21.10	1.01E-04		3.18E-05	4.97E-05
+	EU-154	42.70		20.45	1.04E-03	3.93E-05	6.39E-05	5.14E-04
		123.07	*	40.40	6.84E-05		1.23E-04	3.37E-05
		247.93		6.89	6.15E-04		-9.88E-04	3.03E-04
		591.76		4.95	9.38E-04		-8.65E-04	4.58E-04
		692.42		1.78	2.89E-03		1.24E-02	1.41E-03
		723.30		20.06	1.51E-04		1.34E-04	7.29E-05
		756.80		4.52	6.28E-04		-2.95E-04	3.00E-04
		873.18		12.08	2.63E-04		-2.22E-04	1.27E-04
		996.29		10.48	2.50E-04		-2.31E-04	1.20E-04
		1004.76	*	18.01	1.24E-04		5.73E-05	5.90E-05
		1246.12		0.86	2.97E-03		1.34E-03	1.39E-03
		1274.43	*	34.80	3.93E-05		6.73E-05	1.79E-05
		1494.05		0.70	1.82E-03		-6.39E-04	8.33E-04
		1596.48		1.80	4.74E-04		3.67E-04	2.19E-04
	EU-155	43.00		18.70	1.10E-03	9.61E-05	2.73E-04	5.41E-04
		60.01		1.22	4.97E-03		7.97E-03	2.45E-03
		86.55		30.70	1.03E-04		4.44E-04	5.12E-05
		105.31		21.10	9.61E-05		7.36E-06	4.73E-05
	HG-203	72.87		6.30	5.39E-04	3.61E-05	1.62E-04	2.66E-04
		279.20		81.46	3.61E-05		-5.91E-06	1.78E-05
	BI-207	569.15		97.80	4.22E-05	4.22E-05	1.16E-05	2.06E-05
		1063.10		74.90	4.51E-05		5.69E-05	2.15E-05
	PB-210	46.54		4.25	3.25E-03	3.25E-03	-2.64E-04	1.60E-03
	RA-226	74.81		6.44	4.97E-04	6.33E-05	3.97E-04	2.45E-04
		77.11		10.80	2.80E-04		1.97E-04	1.38E-04
		87.30		4.84	6.52E-04		3.16E-03	3.23E-04
		186.21		3.59	7.68E-04		1.50E-03	3.79E-04
		242.00		7.43	3.75E-04		-1.00E-04	1.85E-04
		295.22		19.30	1.56E-04		1.08E-04	7.69E-05
		351.93		37.60	8.93E-05		-7.20E-05	4.40E-05
		609.31		46.10	6.33E-05		3.60E-05	3.09E-05
		768.36		4.94	3.75E-04		1.90E-04	1.79E-04
		1120.29		15.10	1.46E-04		6.17E-06	6.99E-05
		1238.11		5.79	2.73E-04		7.64E-05	1.28E-04
		1764.49		15.40	9.88E-05		-4.73E-05	4.51E-05
	PA-231	283.70		1.59	1.89E-03	1.26E-03	2.18E-03	9.29E-04
		300.07		2.38	1.26E-03		-1.12E-03	6.19E-04
		302.67		1.71	1.73E-03		-1.49E-03	8.53E-04
		330.07		1.32	2.30E-03		-2.68E-03	1.13E-03
	TH-232	74.81		11.62	2.75E-04	3.46E-05	2.20E-04	1.36E-04
		77.11		17.50	1.73E-04		1.21E-04	8.53E-05
		87.30		7.80	4.05E-04		1.96E-03	2.00E-04
		238.63		43.30	6.44E-05		3.96E-05	3.18E-05

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	338.32		11.30	2.94E-04	3.46E-05	4.64E-04	1.45E-04
		583.19		30.37	9.80E-05		3.69E-05	4.79E-05
		727.33		6.58	3.21E-04		-3.25E-05	1.55E-04
		911.21		26.60	8.34E-05		2.76E-05	4.01E-05
		968.97		16.20	1.33E-04		-1.18E-05	6.39E-05
		2614.53		35.64	3.46E-05		2.10E-05	1.47E-05
	U-235	143.76		10.96	2.05E-04	4.77E-05	1.39E-05	1.01E-04
		185.71		57.20	4.77E-05		4.41E-05	2.36E-05
		205.31		5.01	5.53E-04		-6.29E-04	2.73E-04
	U-238	63.29		3.70	1.44E-03	5.80E-04	5.23E-04	7.14E-04
		92.51		4.23	5.80E-04		-6.43E-05	2.86E-04
		112.81		0.21	9.80E-03		7.59E-03	4.83E-03
		742.81		0.11	1.55E-02		-1.36E-02	7.38E-03
		766.28		0.32	5.68E-03		-1.66E-03	2.72E-03
		1001.03		0.84	2.83E-03		3.43E-04	1.36E-03
	NP-239	99.60		12.80	1.76E-04	9.06E-05	1.71E-04	8.67E-05
		103.80		20.40	1.09E-04		2.03E-05	5.36E-05
		106.10		26.40	9.06E-05		-7.81E-05	4.46E-05
		116.90		7.61	2.94E-04		-6.46E-05	1.45E-04
		228.20		11.20	2.90E-04		2.12E-04	1.43E-04
		277.60		14.50	2.39E-04		1.17E-04	1.18E-04
		315.90		1.60	1.86E-03		4.88E-04	9.15E-04
		334.30		2.06	1.21E-03		-9.11E-04	5.96E-04
+	AM-241	59.54	*	35.90	1.90E-04	1.90E-04	3.32E-04	9.41E-05

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

Apex-Gamma

Analysis Report for 24-2524 TI185-5.5M-S1-CST-d-A R0
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2524 TI185-5.5M-S1-CST-d-A R0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 1:39:07PM
Procedure	: R0_gsv02mlw
Operator	: Administrator
Detector Name	: R
Geometry	: R0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1202.0 seconds
Dead Time	: 0.17 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/15/2019
Efficiency Calibration Description	: R0_gsv2mlw_R697P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578948
Certificate Name	: R735-b8 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 1:59:13PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2524 TI185-5.5M-S1-CST-d-A R0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.63	166.97	0.2139	7.76
2	64.26	179.34	0.3056	4.20
3	70.84	198.01	0.3948	3.22
4	87.55	244.45	0.1495	14.90
5	123.24	343.64	0.2460	5.83
6	176.54	491.93	0.3342	4.34
7	414.95	1154.91	0.1454	13.11
8	558.10	1552.74	0.3190	3.26
9	648.21	1803.66	0.3052	3.54
10	661.77	1841.48	0.0472	104.44
11	666.48	1855.36	0.1679	11.66
12	695.22	1934.37	0.1330	13.03
13	786.28	2186.55	0.3127	3.06
14	1081.59	3008.99	0.2400	3.76
15	1110.10	3088.43	0.2054	4.81
16	1173.39	3264.92	0.1069	17.19
17	1332.77	3708.26	0.1056	17.41
18	1361.62	3788.68	0.2119	4.75
19	2505.05	6971.15	0.2014	4.14

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2524 TI185-5.5M-S1-CST-d-A R0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 1:59:14PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
M	1	59.63	160 -	184	166.84	4.86E+02	32.37	9.28E+02	1.42
m	2	64.26	160 -	184	179.71	1.09E+02	26.71	1.08E+03	1.43
	3	70.84	195 -	201	198.01	5.56E+00	37.77	5.11E+02	0.74
F	4	87.55	235 -	253	244.46	1.26E+03	123.42	1.24E+03	1.34
F	5	123.24	339 -	348	343.70	2.45E+02	1096.01	6.31E+02	1.23
	6	176.54	488 -	495	491.93	6.83E+00	38.93	4.97E+02	0.57
F	7	414.95	1145 -	1162	1154.89	8.07E+02	36.20	1.01E+03	1.74
F	8	558.10	1545 -	1557	1553.03	3.41E+01	45.18	2.24E+02	0.60
	9	648.21	1798 -	1809	1803.66	1.07E+01	26.61	1.70E+02	0.38
M	10	661.77	1827 -	1863	1841.39	3.60E+04	298.39	2.55E+02	1.93
m	11	666.48	1827 -	1863	1854.48	5.80E+02	25.71	1.18E+02	1.93
F	12	695.22	1925 -	1943	1934.43	6.29E+02	25.31	1.09E+02	1.98
F	13	786.28	2182 -	2191	2187.72	2.72E+01	5.33	2.50E+01	0.53
F	14	1081.59	3002 -	3017	3009.29	5.55E+01	10.42	6.72E+01	1.95
F	15	1110.10	3080 -	3096	3088.60	8.69E+01	11.94	7.63E+01	1.97
F	16	1173.39	3250 -	3278	3264.71	1.29E+03	73.66	8.70E+01	2.54
F	17	1332.77	3694 -	3720	3708.20	1.18E+03	61.65	2.05E+01	2.51
F	18	1361.62	3781 -	3795	3788.48	6.24E+01	24.89	3.64E+00	2.21
F	19	2505.05	6964 -	6980	6971.64	6.55E+01	8.97	1.23E+01	3.17

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 1:59:13PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578894.CNF

Analysis Report for 24-2524 TI185-5.5M-S1-CST-d-A R0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	1	59.63	4.86E+02	32.37			4.86E+02	3.24E+01
m	2	64.26	1.09E+02	26.71	1.81E+01	9.68E-01	9.11E+01	2.67E+01
	3	70.84	5.56E+00	37.77			5.56E+00	3.78E+01
F	4	87.55	1.26E+03	123.42	1.24E+01	7.02E-01	1.25E+03	1.23E+02
F	5	123.24	2.45E+02	1096.01			2.45E+02	1.10E+03
	6	176.54	6.83E+00	38.93			6.83E+00	3.89E+01
F	7	414.95	8.07E+02	36.20			8.07E+02	3.62E+01
F	8	558.10	3.41E+01	45.18			3.41E+01	4.52E+01
	9	648.21	1.07E+01	26.61			1.07E+01	2.66E+01
M	10	661.77	3.60E+04	298.39			3.60E+04	2.98E+02
m	11	666.48	5.80E+02	25.71			5.80E+02	2.57E+01
F	12	695.22	6.29E+02	25.31			6.29E+02	2.53E+01
F	13	786.28	2.72E+01	5.33	8.90E-01	1.79E-01	2.63E+01	5.33E+00
F	14	1081.59	5.55E+01	10.42			5.55E+01	1.04E+01
F	15	1110.10	8.69E+01	11.94			8.69E+01	1.19E+01
F	16	1173.39	1.29E+03	73.66			1.29E+03	7.37E+01
F	17	1332.77	1.18E+03	61.65			1.18E+03	6.17E+01
F	18	1361.62	6.24E+01	24.89			6.24E+01	2.49E+01
F	19	2505.05	6.55E+01	8.97			6.55E+01	8.97E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	6.24E-04	3.59E-05	0.774
		1332.50	*	99.99	6.27E-04	3.30E-05	0.766
		2505.74	*	1.00	4.27E-03	6.24E-04	miss
CD-109	0.96	88.03	*	3.61	4.32E-03	4.46E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	4.71E-04	3.67E-05	0.397
		556.30		1.69			
		573.90		6.70			

Analysis Report for 24-2524 TI185-5.5M-S1-CST-d-A R0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	3.96E-04	1.77E-05	0.386
		674.80		3.10			
		695.00	*	99.60	4.42E-04	1.80E-05	0.385
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.99	64.28	*	9.60	2.12E-04	7.06E-05	miss
		87.30	*	45.90	3.39E-04	3.68E-05	miss
CS-137	0.99	661.66	*	85.20	1.10E-02	1.09E-04	miss
AM-241	0.99	59.54	*	35.90	3.77E-04	2.61E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.992	6.31E-04	2.43E-05	
CD-109	0.963	1.61E-03	9.02E-04	
SB-126	0.486	4.24E-04	1.19E-05	
Sn-126	0.992	2.12E-04	6.23E-05	
CS-137	0.998	1.10E-02	1.09E-04	
AM-241	0.999	3.77E-04	2.61E-05	

Analysis Report for 24-2524 TI185-5.5M-S1-CST-d-A R0

ASR 2094 Branch

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

Errors quoted at 1.000sigma

Analysis Report for 24-2524 TI185-5.5M-S1-CST-d-A R0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 1:59:13PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	3	70.84	4.63654E-03	678.88		
F	5	123.24	2.04178E-01	447.33	Sum	
	6	176.54	5.69280E-03	569.81	Tol.	SB-125
F	8	558.10	2.83946E-02	132.58		
	9	648.21	8.89964E-03	249.16		
F	13	786.28	2.18856E-02	20.31		
F	14	1081.59	4.62424E-02	18.78	Sum	
F	15	1110.10	7.23887E-02	13.74	Sum	
F	18	1361.62	5.20184E-02	39.87	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.61	10.44	4.50E-04	4.50E-04	5.21E-04	2.22E-04
K-40	1460.83	10.67	1.56E-04	1.56E-04	1.86E-04	7.23E-05
MN-54	834.84	99.98	1.93E-05	1.93E-05	-1.99E-05	9.22E-06
CO-58	810.78	99.45	2.25E-05	2.25E-05	2.93E-05	1.08E-05
	863.96	0.68	4.03E-03		-2.43E-03	1.93E-03
	1674.73	0.52	1.86E-03		-3.49E-04	8.27E-04
FE-59	142.65	1.00	2.32E-03	3.18E-05	1.93E-03	1.14E-03
	192.35	3.01	1.28E-03		3.15E-04	6.33E-04

Analysis Report for 24-2524 TI185-5.5M-S1-CST-d-A R0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	FE-59	334.80		0.27	1.14E-02	3.18E-05	-3.12E-04	5.60E-03
		1099.25		56.30	3.98E-05		8.19E-06	1.90E-05
		1291.60		43.70	3.18E-05		3.40E-05	1.47E-05
+	CO-60	1173.24	*	99.97	4.41E-05	2.36E-05	6.24E-04	2.14E-05
		1332.50	*	99.99	2.36E-05		6.27E-04	1.11E-05
		2505.74	*	1.00	1.89E-03		4.27E-03	8.55E-04
	SR-85	514.00		96.00	3.84E-05	3.84E-05	-2.20E-05	1.89E-05
		868.60		0.01	1.84E-01		-8.78E-02	8.83E-02
	NB-94	702.62		97.90	3.88E-05	3.06E-05	-1.02E-06	1.89E-05
		871.09		99.98	3.06E-05		1.98E-05	1.47E-05
	NB-95	765.81		99.81	1.87E-05	1.87E-05	1.01E-05	8.94E-06
	RU-103	497.05		91.00	4.27E-05	4.27E-05	-2.73E-05	2.10E-05
		610.30		5.76	5.16E-04		1.65E-04	2.52E-04
	RH-106	511.86		20.70	2.13E-04	2.13E-04	-3.12E-05	1.05E-04
		621.92		9.93	4.04E-04		2.49E-04	1.97E-04
		1050.36		1.56	1.83E-03		-1.62E-03	8.76E-04
	AG-108M	79.13		6.60	4.40E-04	4.09E-05	1.36E-04	2.17E-04
		433.90		90.50	8.58E-05		-1.87E-05	4.24E-05
		614.30		89.80	6.09E-05		4.89E-05	2.98E-05
		722.90		90.80	4.09E-05		2.89E-05	1.97E-05
+	CD-109	88.03	*	3.61	9.71E-04	9.71E-04	4.32E-03	4.81E-04
	SB-125	176.31		6.82	3.61E-04	1.42E-04	2.16E-05	1.78E-04
		380.45		1.52	2.36E-03		2.21E-03	1.17E-03
		427.87		29.55	1.42E-04		1.06E-04	7.02E-05
		463.36		10.48	4.63E-04		-1.81E-04	2.29E-04
		600.60		17.76	1.62E-04		-6.96E-05	7.92E-05
		606.71		5.02	6.00E-04		1.90E-04	2.94E-04
		635.95		11.32	2.52E-04		-1.99E-04	1.23E-04
		671.44		1.78	1.97E-03		-4.76E-05	9.63E-04
+	SB-126	223.90		1.39	2.05E-03	3.64E-05	-1.56E-03	1.01E-03
		278.20		2.40	3.64E-03		-7.53E-04	1.80E-03
		296.50		4.50	2.15E-03		7.76E-04	1.06E-03
		414.70	*	83.30	1.45E-04		4.71E-04	7.16E-05
		556.30		1.69	5.70E-03		-7.19E-03	2.79E-03
		573.90		6.70	1.40E-03		-7.34E-05	6.84E-04
		593.20		7.50	9.44E-04		3.45E-05	4.61E-04
		656.30		2.19	3.47E-02		1.04E-03	1.73E-02
		666.50	*	99.60	3.64E-05		3.96E-04	1.73E-05
		674.80		3.10	2.03E-03		6.13E-05	9.78E-04
		695.00	*	99.60	5.97E-05		4.42E-04	2.89E-05
		697.00		29.00	4.28E-04		2.12E-03	2.10E-04
		720.70		53.80	1.13E-04		6.13E-05	5.44E-05
		856.80		17.60	2.92E-04		-5.57E-05	1.40E-04
		989.60		6.80	8.41E-04		-1.21E-03	4.04E-04
		1213.30		2.39	1.69E-03		1.11E-03	7.91E-04
+	Sn-126	64.28	*	9.60	3.64E-04	7.64E-05	2.12E-04	1.79E-04
		87.30	*	45.90	7.64E-05		3.39E-04	3.78E-05
	I-129	29.70		56.60	6.13E-05	6.13E-05	0.00E+00	0.00E+00
		33.60		10.04	5.70E-03		1.42E-02	2.78E-03
		34.40		2.01	2.71E-02		8.65E-02	1.33E-02
		39.60		7.51	4.58E-03		1.27E-02	2.26E-03
	CS-134	563.25		8.34	5.90E-04	3.19E-05	4.64E-04	2.88E-04
		569.33		15.37	3.31E-04		1.89E-04	1.62E-04

Analysis Report for 24-2524 TI185-5.5M-S1-CST-d-A R0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-134	604.72		97.62	4.37E-05	3.19E-05	-1.02E-05	2.14E-05
		795.86		85.46	3.19E-05		2.34E-05	1.53E-05
		801.95		8.69	3.93E-04		-1.18E-04	1.89E-04
+	CS-137	661.66	*	85.20	2.36E-05	2.36E-05	1.10E-02	1.14E-05
	CE-139	165.85		79.89	3.01E-05	3.01E-05	-1.25E-05	1.48E-05
	CE-141	40.70		3.35	8.75E-03	4.78E-05	4.16E-03	4.32E-03
		145.44		48.29	4.78E-05		-2.46E-05	2.36E-05
	CE-144	80.12		1.36	2.07E-03	1.89E-04	-3.37E-03	1.02E-03
		133.51		11.09	1.89E-04		-1.31E-04	9.32E-05
	EU-152	121.78		28.58	1.08E-04	8.11E-05	4.30E-05	5.31E-05
		344.28		26.50	1.51E-04		-3.13E-05	7.45E-05
		778.90		12.94	1.79E-04		-3.81E-05	8.55E-05
		964.08		14.73	1.80E-04		-1.75E-07	8.61E-05
		1085.87		10.24	2.35E-04		2.30E-04	1.13E-04
		1112.07		13.69	2.34E-04		1.05E-04	1.13E-04
		1408.01		21.07	8.11E-05		-4.94E-05	3.74E-05
	GD-153	97.43		29.00	7.69E-05	7.69E-05	2.01E-05	3.79E-05
		103.18		21.10	1.02E-04		6.39E-05	5.04E-05
	EU-154	42.70		20.45	1.08E-03	7.49E-05	5.41E-04	5.31E-04
		123.07		40.40	7.49E-05		1.20E-04	3.70E-05
		247.93		6.89	6.26E-04		-2.83E-04	3.09E-04
		591.76		4.95	9.36E-04		-5.06E-04	4.58E-04
		692.42		1.78	2.94E-03		1.35E-02	1.44E-03
		723.30		20.06	1.41E-04		7.87E-05	6.80E-05
		756.80		4.52	6.27E-04		-4.72E-04	2.99E-04
		873.18		12.08	2.77E-04		2.08E-04	1.33E-04
		996.29		10.48	2.66E-04		-4.16E-04	1.28E-04
		1004.76		18.01	1.60E-04		-1.46E-04	7.71E-05
		1246.12		0.86	2.74E-03		8.63E-04	1.27E-03
		1274.43		34.80	7.56E-05		1.54E-04	3.61E-05
		1494.05		0.70	1.56E-03		1.45E-04	7.02E-04
		1596.48		1.80	4.47E-04		8.79E-05	2.06E-04
	EU-155	43.00		18.70	1.13E-03	9.73E-05	6.93E-04	5.59E-04
		60.01		1.22	4.93E-03		-3.63E-04	2.43E-03
		86.55		30.70	1.05E-04		-1.87E-05	5.20E-05
		105.31		21.10	9.73E-05		-3.26E-06	4.79E-05
	HG-203	72.87		6.30	5.38E-04	3.63E-05	-3.45E-04	2.66E-04
		279.20		81.46	3.63E-05		-2.85E-05	1.79E-05
	BI-207	569.15		97.80	4.17E-05	4.17E-05	2.94E-05	2.04E-05
		1063.10		74.90	4.66E-05		2.44E-05	2.22E-05
	PB-210	46.54		4.25	3.36E-03	3.36E-03	-1.27E-03	1.66E-03
	RA-226	74.81		6.44	5.07E-04	6.42E-05	3.93E-04	2.50E-04
		77.11		10.80	2.85E-04		2.30E-04	1.40E-04
		87.30		4.84	6.58E-04		3.00E-03	3.26E-04
		186.21		3.59	7.67E-04		6.21E-04	3.79E-04
		242.00		7.43	3.88E-04		7.10E-05	1.91E-04
		295.22		19.30	1.55E-04		-2.44E-05	7.62E-05
		351.93		37.60	8.91E-05		1.61E-05	4.39E-05
		609.31		46.10	6.42E-05		7.11E-05	3.14E-05
		768.36		4.94	3.73E-04		3.12E-04	1.78E-04
		1120.29		15.10	1.55E-04		1.04E-04	7.43E-05
		1238.11		5.79	2.60E-04		-8.51E-05	1.21E-04
		1764.49		15.40	8.57E-05		4.78E-06	3.85E-05

Analysis Report for 24-2524 TI185-5.5M-S1-CST-d-A R0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PA-231	283.70		1.59	1.88E-03	1.27E-03	1.36E-03	9.27E-04
		300.07		2.38	1.27E-03		-4.46E-04	6.27E-04
		302.67		1.71	1.77E-03		-5.07E-04	8.73E-04
		330.07		1.32	2.35E-03		6.96E-04	1.16E-03
	TH-232	74.81		11.62	2.81E-04	4.38E-05	2.18E-04	1.39E-04
		77.11		17.50	1.76E-04		1.42E-04	8.67E-05
		87.30		7.80	4.08E-04		1.86E-03	2.02E-04
		238.63		43.30	6.66E-05		1.49E-05	3.29E-05
		338.32		11.30	2.83E-04		-2.27E-04	1.39E-04
		583.19		30.37	9.76E-05		1.06E-04	4.78E-05
		727.33		6.58	3.04E-04		-1.15E-04	1.46E-04
		911.21		26.60	8.32E-05		3.52E-05	4.00E-05
		968.97		16.20	1.39E-04		-2.11E-04	6.67E-05
		2614.53		35.64	4.38E-05		3.62E-05	1.93E-05
	U-235	143.76		10.96	2.10E-04	4.80E-05	-2.57E-05	1.04E-04
		185.71		57.20	4.80E-05		3.03E-05	2.37E-05
		205.31		5.01	5.66E-04		1.76E-04	2.80E-04
	U-238	63.29		3.70	1.47E-03	5.80E-04	6.45E-05	7.25E-04
		92.51		4.23	5.80E-04		2.93E-04	2.86E-04
		112.81		0.21	9.88E-03		2.79E-03	4.87E-03
		742.81		0.11	1.64E-02		2.82E-03	7.85E-03
		766.28		0.32	5.89E-03		7.10E-03	2.82E-03
		1001.03		0.84	3.05E-03		1.76E-03	1.47E-03
	NP-239	99.60		12.80	1.80E-04	9.35E-05	-2.13E-04	8.85E-05
		103.80		20.40	1.10E-04		-1.43E-04	5.41E-05
		106.10		26.40	9.35E-05		2.39E-05	4.60E-05
		116.90		7.61	3.02E-04		4.25E-05	1.49E-04
		228.20		11.20	2.91E-04		1.35E-05	1.44E-04
		277.60		14.50	2.44E-04		-7.58E-07	1.20E-04
		315.90		1.60	1.82E-03		-8.08E-04	8.95E-04
		334.30		2.06	1.19E-03		4.34E-04	5.85E-04
+	AM-241	59.54	*	35.90	1.12E-04	1.12E-04	3.77E-04	5.51E-05

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

Apex-Gamma

Analysis Report for 24-2525 TI185-5.5M-S2-CST-A S0
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2525 TI185-5.5M-S2-CST-A S0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 12:57:16PM
Procedure	: S0_gsv02mlw
Operator	: Administrator
Detector Name	: S
Geometry	: S0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1202.3 seconds
Dead Time	: 0.19 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 6/27/2024
Efficiency Calibration Used Done On	: 3/15/2019
Efficiency Calibration Description	: S0_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578944
Certificate Name	: R735-b9 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 1:17:25PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2525 TI185-5.5M-S2-CST-A S0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.61	183.36	0.2309	7.86
2	87.47	268.84	0.1644	13.89
3	123.26	378.38	0.2707	5.05
4	214.81	658.47	0.3723	3.08
5	414.86	1271.14	0.1533	12.88
6	609.10	1865.86	0.3136	3.33
7	661.76	2027.10	0.0502	108.06
8	666.46	2041.70	0.1440	12.77
9	695.18	2129.35	0.1417	12.91
10	723.26	2215.42	0.3306	3.08
11	873.31	2674.50	0.2912	3.76
12	996.32	3051.47	0.3127	3.16
13	1081.11	3311.21	0.2172	5.48
14	1109.91	3399.49	0.2258	4.61
15	1173.40	3593.82	0.1095	18.93
16	1274.69	3903.77	0.2121	5.17
17	1332.76	4081.76	0.1104	17.71
18	1361.75	4170.43	0.2369	3.64
19	2505.41	7673.28	0.2064	4.04

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2525 TI185-5.5M-S2-CST-A S0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 1:17:25PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.61	179	191	183.58	3.76E+02	27.85	8.43E+02	1.04
F	2	87.47	261	274	268.86	1.28E+03	123.25	8.90E+02	1.27
F	3	123.26	371	383	378.44	2.12E+02	78.75	7.81E+02	0.78
F	4	214.81	655	663	658.69	6.46E+01	20.56	5.60E+02	0.63
F	5	414.86	1266	1281	1271.19	7.54E+02	32.62	8.54E+02	1.38
F	6	609.10	1858	1870	1865.89	5.32E+01	12.41	1.69E+02	1.19
M	7	661.76	2015	2049	2027.10	3.68E+04	306.49	1.46E+02	1.56
m	8	666.46	2015	2049	2041.51	6.21E+02	25.43	6.95E+01	1.56
F	9	695.18	2118	2141	2129.43	6.12E+02	54.19	6.62E+01	1.66
F	10	723.26	2212	2219	2215.42	2.06E+01	7.85	4.80E+01	0.77
F	11	873.31	2670	2679	2674.86	2.24E+01	6.76	4.69E+01	0.51
F	12	996.32	3047	3056	3051.51	2.08E+01	6.98	3.24E+01	0.98
F	13	1081.11	3305	3317	3311.11	7.29E+01	33.98	5.02E+01	1.22
F	14	1109.91	3391	3408	3399.31	9.28E+01	22.56	8.16E+01	1.75
F	15	1173.40	3584	3605	3593.72	1.30E+03	70.98	5.23E+01	1.88
F	16	1274.69	3896	3911	3903.88	7.77E+01	24.68	1.22E+01	1.50
F	17	1332.76	4072	4091	4081.72	1.16E+03	67.95	2.96E+01	1.95
F	18	1361.75	4163	4179	4170.48	6.34E+01	8.17	1.91E+01	1.97
F	19	2505.41	7664	7681	7673.00	6.99E+01	24.59	8.81E+00	2.35

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 1:17:25PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578895.CNF

Analysis Report for 24-2525 TI185-5.5M-S2-CST-A S0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.61	3.76E+02	27.85			3.76E+02	2.79E+01
F	2	87.47	1.28E+03	123.25	7.63E+00	5.59E-01	1.27E+03	1.23E+02
F	3	123.26	2.12E+02	78.75			2.12E+02	7.87E+01
F	4	214.81	6.46E+01	20.56			6.46E+01	2.06E+01
F	5	414.86	7.54E+02	32.62			7.54E+02	3.26E+01
F	6	609.10	5.32E+01	12.41	3.85E+01	1.22E+00	1.47E+01	1.25E+01
M	7	661.76	3.68E+04	306.49			3.68E+04	3.06E+02
m	8	666.46	6.21E+02	25.43			6.21E+02	2.54E+01
F	9	695.18	6.12E+02	54.19			6.12E+02	5.42E+01
F	10	723.26	2.06E+01	7.85			2.06E+01	7.85E+00
F	11	873.31	2.24E+01	6.76			2.24E+01	6.76E+00
F	12	996.32	2.08E+01	6.98			2.08E+01	6.98E+00
F	13	1081.11	7.29E+01	33.98			7.29E+01	3.40E+01
F	14	1109.91	9.28E+01	22.56			9.28E+01	2.26E+01
F	15	1173.40	1.30E+03	70.98			1.30E+03	7.10E+01
F	16	1274.69	7.77E+01	24.68			7.77E+01	2.47E+01
F	17	1332.76	1.16E+03	67.95	9.25E-02	2.23E-01	1.16E+03	6.80E+01
F	18	1361.75	6.34E+01	8.17			6.34E+01	8.17E+00
F	19	2505.41	6.99E+01	24.59			6.99E+01	2.46E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	6.40E-04	3.50E-05	0.762
		1332.50	*	99.99	6.21E-04	3.66E-05	0.757
		2505.74	*	1.00	4.94E-03	1.75E-03	miss
CD-109	0.95	88.03	*	3.61	4.58E-03	4.64E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	4.45E-04	3.43E-05	0.395
		556.30		1.69			
		573.90		6.70			

Analysis Report for 24-2525 TI185-5.5M-S2-CST-A S0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	4.28E-04	1.76E-05	0.385
		674.80		3.10			
		695.00	*	99.60	4.33E-04	3.84E-05	0.384
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.78	64.28		9.60			
		87.30	*	45.90	3.60E-04	3.85E-05	miss
CS-137	0.99	661.66	*	85.20	1.14E-02	1.08E-04	miss
EU-154	0.56	42.70		20.45			
		123.07	*	40.40	7.91E-05	2.95E-05	0.737
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	4.06E-05	1.55E-05	0.703
		756.80		4.52			
		873.18	*	12.08	8.54E-05	2.58E-05	0.678
		996.29	*	10.48	7.65E-05	2.56E-05	0.880
		1004.76		18.01			
		1246.12		0.86			
		1274.43	*	34.80	1.01E-04	3.20E-05	0.876
		1494.05		0.70			
		1596.48		1.80			
AM-241	0.99	59.54	*	35.90	3.08E-04	2.35E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2525 TI185-5.5M-S2-CST-A S0

ASR 2094 Branch

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-60	0.992	6.32E-04	2.53E-05	
?	CD-109	0.951	4.58E-03	4.64E-04	
	SB-126	0.487	4.32E-04	1.45E-05	
?	Sn-126	0.780	3.60E-04	3.85E-05	
	CS-137	0.999	1.14E-02	1.08E-04	
	EU-154	0.565	6.47E-05	1.03E-05	
	AM-241	0.999	3.08E-04	2.35E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2525 TI185-5.5M-S2-CST-A S0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 1:17:25PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	4	214.81	5.38643E-02	31.81		
F	6	609.10	1.22581E-02	84.77	Tol.	RA-226
F	13	1081.11	6.07865E-02	46.59	Sum	
F	14	1109.91	7.73138E-02	24.32	Sum	
F	18	1361.75	5.28171E-02	12.90	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	4.22E-04	4.22E-04	4.25E-04	2.08E-04
	K-40	1460.83		10.67	1.30E-04	1.30E-04	7.22E-05	5.97E-05
	MN-54	834.84		99.98	1.87E-05	1.87E-05	4.39E-06	8.94E-06
	CO-58	810.78		99.45	1.90E-05	1.90E-05	-1.93E-05	9.07E-06
		863.96		0.68	3.82E-03		-2.39E-03	1.83E-03
		1674.73		0.52	1.84E-03		-9.63E-04	8.16E-04
	FE-59	142.65		1.00	1.99E-03	2.82E-05	1.32E-03	9.78E-04
		192.35		3.01	1.15E-03		-3.01E-04	5.68E-04
		334.80		0.27	1.12E-02		6.76E-03	5.52E-03
		1099.25		56.30	3.44E-05		2.55E-05	1.63E-05
		1291.60		43.70	2.82E-05		6.90E-06	1.29E-05
+	CO-60	1173.24	*	99.97	3.07E-05	2.49E-05	6.40E-04	1.47E-05

Analysis Report for 24-2525 TI185-5.5M-S2-CST-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CO-60	1332.50	*	99.99	2.49E-05	2.49E-05	6.21E-04	1.17E-05
		2505.74	*	1.00	1.81E-03		4.94E-03	8.12E-04
	SR-85	514.00		96.00	3.52E-05	3.52E-05	-1.16E-07	1.73E-05
		868.60		0.01	1.77E-01		6.02E-02	8.51E-02
	NB-94	702.62		97.90	2.34E-05	2.34E-05	1.26E-06	1.12E-05
		871.09		99.98	2.85E-05		1.70E-05	1.37E-05
	NB-95	765.81		99.81	1.71E-05	1.71E-05	6.34E-06	8.17E-06
	RU-103	497.05		91.00	3.93E-05	3.93E-05	2.21E-06	1.93E-05
		610.30		5.76	4.71E-04		4.99E-04	2.29E-04
	RH-106	511.86		20.70	1.95E-04	1.95E-04	-1.02E-04	9.59E-05
		621.92		9.93	3.61E-04		1.67E-04	1.76E-04
		1050.36		1.56	1.65E-03		-3.68E-04	7.83E-04
	AG-108M	79.13		6.60	4.08E-04	3.93E-05	-1.68E-04	2.01E-04
		433.90		90.50	7.74E-05		-3.07E-05	3.81E-05
		614.30		89.80	5.43E-05		2.78E-05	2.64E-05
		722.90		90.80	3.93E-05		7.68E-05	1.89E-05
+	CD-109	88.03	*	3.61	7.63E-04	7.63E-04	4.58E-03	3.77E-04
	SB-125	176.31		6.82	3.14E-04	1.33E-04	-3.32E-04	1.55E-04
		380.45		1.52	2.14E-03		6.59E-05	1.05E-03
		427.87		29.55	1.33E-04		1.71E-04	6.56E-05
		463.36		10.48	4.38E-04		2.56E-04	2.16E-04
		600.60		17.76	1.47E-04		4.33E-05	7.17E-05
		606.71		5.02	5.42E-04		6.05E-04	2.64E-04
		635.95		11.32	2.18E-04		-3.28E-04	1.06E-04
		671.44		1.78	1.88E-03		2.96E-05	9.21E-04
+	SB-126	223.90		1.39	1.85E-03	2.86E-05	7.30E-04	9.10E-04
		278.20		2.40	3.43E-03		1.16E-03	1.69E-03
		296.50		4.50	2.07E-03		1.53E-03	1.02E-03
		414.70	*	83.30	1.31E-04		4.45E-04	6.45E-05
		556.30		1.69	5.25E-03		1.65E-03	2.56E-03
		573.90		6.70	1.30E-03		-1.22E-03	6.34E-04
		593.20		7.50	8.73E-04		-8.20E-04	4.26E-04
		656.30		2.19	2.26E-02		-2.21E-03	1.13E-02
		666.50	*	99.60	2.86E-05		4.28E-04	1.34E-05
		674.80		3.10	1.68E-03		1.15E-04	8.01E-04
		695.00	*	99.60	5.22E-05		4.33E-04	2.51E-05
		697.00		29.00	4.09E-04		1.74E-05	2.00E-04
		720.70		53.80	1.08E-04		5.57E-05	5.16E-05
		856.80		17.60	2.71E-04		9.48E-06	1.29E-04
		989.60		6.80	7.03E-04		6.61E-04	3.35E-04
		1213.30		2.39	1.44E-03		-3.77E-04	6.66E-04
+	Sn-126	64.28		9.60	4.42E-04	6.00E-05	1.45E-04	2.18E-04
		87.30	*	45.90	6.00E-05		3.60E-04	2.96E-05
	I-129	29.70		56.60	5.74E-03	4.45E-03	3.98E-03	2.82E-03
		33.60		10.04	1.09E-02		-1.71E-02	5.35E-03
		34.40		2.01	4.58E-02		8.08E-03	2.25E-02
		39.60		7.51	4.45E-03		4.00E-04	2.19E-03
	CS-134	563.25		8.34	5.44E-04	2.75E-05	-5.15E-04	2.65E-04
		569.33		15.37	3.07E-04		-2.08E-04	1.50E-04
		604.72		97.62	3.88E-05		-1.79E-05	1.89E-05
		795.86		85.46	2.75E-05		-3.91E-06	1.31E-05
		801.95		8.69	3.31E-04		-1.82E-04	1.58E-04
+	CS-137	661.66	*	85.20	1.82E-05	1.82E-05	1.14E-02	8.66E-06

Analysis Report for 24-2525 TI185-5.5M-S2-CST-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CE-139	165.85		79.89	2.66E-05	2.66E-05	4.85E-06	1.31E-05
	CE-141	40.70		3.35	8.22E-03	4.27E-05	-9.78E-03	4.04E-03
		145.44		48.29	4.27E-05		-5.96E-08	2.10E-05
	CE-144	80.12		1.36	1.96E-03	1.73E-04	1.55E-04	9.67E-04
		133.51		11.09	1.73E-04		3.06E-05	8.53E-05
	EU-152	121.78		28.58	1.01E-04	6.15E-05	4.07E-05	4.97E-05
		344.28		26.50	1.41E-04		2.27E-05	6.95E-05
		778.90		12.94	1.77E-04		-2.68E-04	8.44E-05
		964.08		14.73	1.76E-04		-1.41E-05	8.43E-05
		1085.87		10.24	2.31E-04		2.00E-04	1.11E-04
		1112.07		13.69	2.22E-04		2.85E-04	1.07E-04
		1408.01		21.07	6.15E-05		1.21E-05	2.76E-05
	GD-153	97.43		29.00	7.20E-05	7.20E-05	1.75E-05	3.54E-05
		103.18		21.10	9.65E-05		9.59E-06	4.75E-05
+	EU-154	42.70		20.45	1.00E-03	3.72E-05	-8.87E-04	4.93E-04
		123.07	*	40.40	7.22E-05		7.91E-05	3.56E-05
		247.93		6.89	5.52E-04		4.15E-04	2.72E-04
		591.76		4.95	8.79E-04		4.18E-04	4.29E-04
		692.42		1.78	2.82E-03		3.06E-04	1.38E-03
		723.30	*	20.06	8.39E-05		4.06E-05	3.93E-05
		756.80		4.52	5.64E-04		2.67E-05	2.68E-04
		873.18	*	12.08	1.71E-04		8.54E-05	8.04E-05
		996.29	*	10.48	1.39E-04		7.65E-05	6.43E-05
		1004.76		18.01	1.45E-04		4.52E-05	6.94E-05
		1246.12		0.86	2.37E-03		-2.03E-04	1.09E-03
		1274.43	*	34.80	3.72E-05		1.01E-04	1.68E-05
		1494.05		0.70	1.72E-03		-1.34E-03	7.81E-04
		1596.48		1.80	3.70E-04		-6.44E-05	1.67E-04
	EU-155	43.00		18.70	1.05E-03	9.27E-05	-9.31E-04	5.18E-04
		60.01		1.22	4.73E-03		3.30E-03	2.33E-03
		86.55		30.70	1.06E-04		5.25E-04	5.26E-05
		105.31		21.10	9.27E-05		5.63E-05	4.56E-05
	HG-203	72.87		6.30	4.98E-04	3.41E-05	4.36E-04	2.45E-04
		279.20		81.46	3.41E-05		-4.12E-06	1.68E-05
	BI-207	569.15		97.80	3.92E-05	3.92E-05	-1.99E-05	1.91E-05
		1063.10		74.90	4.44E-05		-6.50E-06	2.11E-05
	PB-210	46.54		4.25	3.14E-03	3.14E-03	4.58E-04	1.54E-03
	RA-226	74.81		6.44	4.60E-04	5.80E-05	2.35E-04	2.27E-04
		77.11		10.80	2.62E-04		6.94E-05	1.29E-04
		87.30		4.84	6.65E-04		3.29E-03	3.29E-04
		186.21		3.59	7.11E-04		1.15E-03	3.51E-04
		242.00		7.43	3.49E-04		-1.92E-04	1.72E-04
		295.22		19.30	1.48E-04		-1.87E-05	7.30E-05
		351.93		37.60	8.29E-05		9.48E-05	4.08E-05
		609.31		46.10	5.80E-05		1.50E-05	2.83E-05
		768.36		4.94	3.53E-04		1.35E-04	1.69E-04
		1120.29		15.10	1.32E-04		7.56E-05	6.27E-05
		1238.11		5.79	2.67E-04		-4.86E-05	1.25E-04
		1764.49		15.40	8.10E-05		1.62E-06	3.61E-05
	PA-231	283.70		1.59	1.74E-03	1.20E-03	-1.30E-03	8.54E-04
		300.07		2.38	1.20E-03		8.81E-05	5.90E-04
		302.67		1.71	1.64E-03		-2.44E-04	8.09E-04
		330.07		1.32	2.25E-03		5.56E-04	1.11E-03

Analysis Report for 24-2525 TI185-5.5M-S2-CST-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	74.81		11.62	2.55E-04	3.94E-05	1.30E-04	1.26E-04
		77.11		17.50	1.62E-04		4.28E-05	7.98E-05
		87.30		7.80	4.13E-04		2.04E-03	2.04E-04
		238.63		43.30	6.06E-05		6.08E-05	2.99E-05
		338.32		11.30	2.71E-04		-3.39E-05	1.33E-04
		583.19		30.37	8.87E-05		3.04E-05	4.33E-05
		727.33		6.58	2.77E-04		9.66E-05	1.33E-04
		911.21		26.60	7.65E-05		9.61E-06	3.66E-05
		968.97		16.20	1.28E-04		-2.56E-05	6.12E-05
		2614.53		35.64	3.94E-05		2.51E-05	1.69E-05
	U-235	143.76		10.96	1.79E-04	4.42E-05	4.81E-05	8.80E-05
		185.71		57.20	4.42E-05		4.30E-05	2.18E-05
		205.31		5.01	5.15E-04		2.88E-04	2.54E-04
	U-238	63.29		3.70	1.23E-03	5.05E-04	4.59E-04	6.08E-04
		92.51		4.23	5.05E-04		-6.11E-05	2.49E-04
		112.81		0.21	9.16E-03		-2.85E-04	4.51E-03
		742.81		0.11	1.56E-02		-2.52E-03	7.44E-03
		766.28		0.32	5.30E-03		9.25E-04	2.53E-03
		1001.03		0.84	2.80E-03		1.53E-03	1.35E-03
	NP-239	99.60		12.80	1.67E-04	8.84E-05	-7.87E-05	8.23E-05
		103.80		20.40	1.03E-04		1.93E-05	5.07E-05
		106.10		26.40	8.84E-05		5.31E-05	4.35E-05
		116.90		7.61	2.75E-04		1.47E-04	1.35E-04
		228.20		11.20	2.67E-04		1.35E-04	1.31E-04
		277.60		14.50	2.26E-04		1.20E-04	1.11E-04
		315.90		1.60	1.72E-03		-6.33E-05	8.48E-04
		334.30		2.06	1.15E-03		1.44E-04	5.65E-04
+	AM-241	59.54	*	35.90	1.64E-04	1.64E-04	3.08E-04	8.09E-05

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

Apex-Gamma

Analysis Report for 24-2526 TI185-5.5M-S2-CST-d-A S0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2526 TI185-5.5M-S2-CST-d-A S0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 1:39:16PM
Procedure	: S0_gsv02mlw
Operator	: Administrator
Detector Name	: S
Geometry	: S0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1202.2 seconds
Dead Time	: 0.19 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 6/27/2024
Efficiency Calibration Used Done On	: 3/15/2019
Efficiency Calibration Description	: S0_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578949
Certificate Name	: R735-b9 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 1:59:25PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2526 TI185-5.5M-S2-CST-d-A S0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	39.42	121.75	0.3904	3.23
2	59.66	183.77	0.2106	8.69
3	87.54	269.07	0.1633	14.14
4	123.18	378.12	0.2730	5.25
5	414.81	1271.00	0.1481	13.99
6	661.75	2027.08	0.0505	106.89
7	666.42	2041.48	0.1410	13.89
8	695.20	2129.37	0.1450	13.22
9	723.79	2217.12	0.2919	4.14
10	996.20	3051.04	0.2962	3.49
11	1081.19	3311.29	0.2272	4.63
12	1110.07	3399.71	0.2233	5.00
13	1173.42	3593.82	0.1074	19.61
14	1274.97	3904.63	0.2233	4.28
15	1332.71	4081.63	0.1090	19.32
16	1361.41	4169.51	0.2164	5.31
17	2506.14	7674.97	0.1879	5.06

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2526 TI185-5.5M-S2-CST-d-A S0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 1:59:25PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
	1	39.42	119	125	121.75	3.51E+00	33.89	4.10E+02	0.41
F	2	59.66	175	187	183.72	4.96E+02	108.07	8.61E+02	1.08
F	3	87.54	260	275	269.08	1.14E+03	114.08	9.56E+02	1.12
F	4	123.18	373	385	378.19	1.86E+02	23.86	7.80E+02	1.04
F	5	414.81	1264	1279	1271.02	8.21E+02	33.83	8.50E+02	1.34
M	6	661.75	2015	2049	2027.09	3.57E+04	309.82	1.42E+02	1.56
m	7	666.42	2015	2049	2041.39	6.16E+02	25.26	6.11E+01	1.56
F	8	695.20	2118	2141	2129.49	5.84E+02	59.09	9.60E+01	1.59
F	9	723.79	2214	2221	2217.05	2.61E+01	7.93	3.91E+01	0.84
F	10	996.20	3047	3056	3051.14	1.98E+01	6.48	3.42E+01	0.71
F	11	1081.19	3305	3319	3311.38	7.43E+01	10.63	6.75E+01	1.54
F	12	1110.07	3392	3406	3399.79	8.10E+01	10.26	4.87E+01	1.57
F	13	1173.42	3582	3603	3593.80	1.31E+03	34.47	7.24E+01	1.72
F	14	1274.97	3898	3911	3904.74	6.76E+01	8.17	9.46E+00	1.78
F	15	1332.71	4071	4093	4081.56	1.19E+03	64.79	1.67E+01	1.86
F	16	1361.41	4161	4176	4169.45	6.71E+01	22.68	1.52E+01	1.36
F	17	2506.14	7666	7684	7675.25	9.95E+01	32.21	8.25E+00	2.05

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 1:59:25PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578895.CNF

Analysis Report for 24-2526 TI185-5.5M-S2-CST-d-A S0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	39.42	3.51E+00	33.89			3.51E+00	3.39E+01
F	2	59.66	4.96E+02	108.07			4.96E+02	1.08E+02
F	3	87.54	1.14E+03	114.08	7.63E+00	5.59E-01	1.13E+03	1.14E+02
F	4	123.18	1.86E+02	23.86			1.86E+02	2.39E+01
F	5	414.81	8.21E+02	33.83			8.21E+02	3.38E+01
M	6	661.75	3.57E+04	309.82			3.57E+04	3.10E+02
m	7	666.42	6.16E+02	25.26			6.16E+02	2.53E+01
F	8	695.20	5.84E+02	59.09			5.84E+02	5.91E+01
F	9	723.79	2.61E+01	7.93			2.61E+01	7.93E+00
F	10	996.20	1.98E+01	6.48			1.98E+01	6.48E+00
F	11	1081.19	7.43E+01	10.63			7.43E+01	1.06E+01
F	12	1110.07	8.10E+01	10.26			8.10E+01	1.03E+01
F	13	1173.42	1.31E+03	34.47			1.31E+03	3.45E+01
F	14	1274.97	6.76E+01	8.17			6.76E+01	8.17E+00
F	15	1332.71	1.19E+03	64.79	9.25E-02	2.23E-01	1.19E+03	6.48E+01
F	16	1361.41	6.71E+01	22.68			6.71E+01	2.27E+01
F	17	2506.14	9.95E+01	32.21			9.95E+01	3.22E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	6.44E-04	1.72E-05	0.762
		1332.50	*	99.99	6.39E-04	3.50E-05	0.757
		2505.74	*	1.00	7.03E-03	2.30E-03	miss
CD-109	0.96	88.03	*	3.61	4.09E-03	4.28E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	4.85E-04	3.68E-05	0.395
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			

Analysis Report for 24-2526 TI185-5.5M-S2-CST-d-A S0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	666.50	*	99.60	4.24E-04	1.75E-05	0.385
		674.80		3.10			
		695.00	*	99.60	4.13E-04	4.19E-05	0.384
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.77	64.28		9.60			
		87.30	*	45.90	3.22E-04	3.54E-05	miss
I-129	0.66	29.70		56.60			
		33.60		10.04			
		34.40		2.01			
		39.60	*	7.51	1.00E-04	9.69E-04	miss
CS-137	0.99	661.66	*	85.20	1.10E-02	1.08E-04	miss
EU-154	0.45	42.70		20.45			
		123.07	*	40.40	6.97E-05	8.99E-06	0.737
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	5.14E-05	1.56E-05	0.703
		756.80		4.52			
		873.18		12.08			
		996.29	*	10.48	7.27E-05	2.38E-05	0.880
		1004.76		18.01			
		1246.12		0.86			
		1274.43	*	34.80	8.75E-05	1.06E-05	0.876
		1494.05		0.70			
		1596.48		1.80			
AM-241	0.99	59.54	*	35.90	4.05E-04	8.86E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2526 TI185-5.5M-S2-CST-d-A S0

ASR 2094 Branch

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-60	0.994	6.43E-04	1.54E-05	
?	CD-109	0.963	4.09E-03	4.28E-04	
	SB-126	0.487	4.32E-04	1.48E-05	
?	Sn-126	0.776	3.22E-04	3.54E-05	
	I-129	0.668	1.00E-04	9.69E-04	
	CS-137	0.999	1.10E-02	1.08E-04	
	EU-154	0.455	7.30E-05	6.08E-06	
	AM-241	0.998	4.05E-04	8.86E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2526 TI185-5.5M-S2-CST-d-A S0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 1:59:25PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	11	1081.19	6.19168E-02	14.30	Sum	
F	12	1110.07	6.75292E-02	12.66	Sum	
F	16	1361.41	5.58930E-02	33.82	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	4.04E-04	4.04E-04	-3.58E-04	1.99E-04
	K-40	1460.83		10.67	1.52E-04	1.52E-04	3.35E-05	7.06E-05
	MN-54	834.84		99.98	1.82E-05	1.82E-05	-2.32E-06	8.68E-06
	CO-58	810.78		99.45	1.79E-05	1.79E-05	-2.10E-06	8.51E-06
		863.96		0.68	3.74E-03		-1.92E-03	1.79E-03
		1674.73		0.52	1.72E-03		1.33E-03	7.53E-04
	FE-59	142.65		1.00	1.91E-03	3.41E-05	2.18E-04	9.40E-04
		192.35		3.01	1.11E-03		-1.53E-04	5.45E-04
		334.80		0.27	1.06E-02		6.84E-04	5.24E-03
		1099.25		56.30	3.80E-05		-2.30E-06	1.81E-05
		1291.60		43.70	3.41E-05		2.37E-05	1.58E-05
+	CO-60	1173.24	*	99.97	3.67E-05	2.00E-05	6.44E-04	1.77E-05
		1332.50	*	99.99	2.00E-05		6.39E-04	9.30E-06
		2505.74	*	1.00	1.73E-03		7.03E-03	7.67E-04
	SR-85	514.00		96.00	3.58E-05	3.58E-05	1.41E-05	1.76E-05

Analysis Report for 24-2526 TI185-5.5M-S2-CST-d-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	868.60		0.01	1.69E-01	3.58E-05	2.70E-02	8.09E-02
	NB-94	702.62		97.90	2.31E-05	2.31E-05	-1.17E-05	1.10E-05
		871.09		99.98	2.66E-05		2.43E-05	1.27E-05
	NB-95	765.81		99.81	1.64E-05	1.64E-05	-1.92E-06	7.81E-06
	RU-103	497.05		91.00	3.74E-05	3.74E-05	-8.96E-06	1.84E-05
		610.30		5.76	4.68E-04		2.31E-04	2.28E-04
	RH-106	511.86		20.70	1.95E-04	1.95E-04	-6.65E-05	9.56E-05
		621.92		9.93	3.52E-04		2.76E-04	1.72E-04
		1050.36		1.56	1.69E-03		4.10E-05	8.02E-04
	AG-108M	79.13		6.60	3.87E-04	3.79E-05	-2.65E-04	1.91E-04
		433.90		90.50	7.64E-05		-5.48E-07	3.77E-05
		614.30		89.80	5.48E-05		-7.19E-05	2.67E-05
		722.90		90.80	3.79E-05		4.96E-05	1.82E-05
+	CD-109	88.03	*	3.61	8.32E-04	8.32E-04	4.09E-03	4.11E-04
	SB-125	176.31		6.82	3.19E-04	1.27E-04	2.39E-04	1.57E-04
		380.45		1.52	2.15E-03		-5.23E-04	1.06E-03
		427.87		29.55	1.27E-04		-5.41E-05	6.25E-05
		463.36		10.48	4.21E-04		-1.24E-04	2.08E-04
		600.60		17.76	1.50E-04		8.70E-05	7.33E-05
		606.71		5.02	5.38E-04		3.03E-04	2.62E-04
		635.95		11.32	2.26E-04		-6.26E-05	1.10E-04
		671.44		1.78	1.87E-03		4.19E-04	9.14E-04
+	SB-126	223.90		1.39	1.80E-03	2.69E-05	1.36E-03	8.85E-04
		278.20		2.40	3.35E-03		-1.49E-03	1.65E-03
		296.50		4.50	2.01E-03		-2.29E-04	9.91E-04
		414.70	*	83.30	1.29E-04		4.85E-04	6.35E-05
		556.30		1.69	5.28E-03		-1.28E-03	2.58E-03
		573.90		6.70	1.29E-03		8.27E-04	6.28E-04
		593.20		7.50	8.81E-04		3.94E-04	4.30E-04
		656.30		2.19	2.23E-02		-2.05E-03	1.11E-02
		666.50	*	99.60	2.69E-05		4.24E-04	1.25E-05
		674.80		3.10	1.65E-03		-6.94E-04	7.87E-04
		695.00	*	99.60	6.23E-05		4.13E-04	3.02E-05
		697.00		29.00	4.07E-04		-1.05E-04	1.99E-04
		720.70		53.80	1.06E-04		3.86E-05	5.07E-05
		856.80		17.60	2.77E-04		-2.26E-05	1.32E-04
		989.60		6.80	6.44E-04		-6.71E-04	3.05E-04
		1213.30		2.39	1.74E-03		1.11E-03	8.16E-04
+	Sn-126	64.28		9.60	4.30E-04	6.54E-05	-4.49E-04	2.12E-04
		87.30	*	45.90	6.54E-05		3.22E-04	3.23E-05
+	I-129	29.70		56.60	5.65E-03	3.26E-03	-2.20E-03	2.78E-03
		33.60		10.04	1.09E-02		-5.63E-03	5.37E-03
		34.40		2.01	4.59E-02		-7.48E-03	2.25E-02
		39.60	*	7.51	3.26E-03		1.00E-04	1.59E-03
	CS-134	563.25		8.34	5.35E-04	2.74E-05	-3.22E-05	2.61E-04
		569.33		15.37	3.05E-04		-6.58E-05	1.49E-04
		604.72		97.62	3.89E-05		-6.27E-05	1.90E-05
		795.86		85.46	2.74E-05		-2.12E-05	1.30E-05
		801.95		8.69	3.36E-04		1.00E-04	1.60E-04
+	CS-137	661.66	*	85.20	1.79E-05	1.79E-05	1.10E-02	8.54E-06
	CE-139	165.85		79.89	2.60E-05	2.60E-05	-8.03E-06	1.28E-05
	CE-141	40.70		3.35	8.41E-03	4.13E-05	-4.43E-03	4.13E-03
		145.44		48.29	4.13E-05		-3.29E-05	2.03E-05

Analysis Report for 24-2526 TI185-5.5M-S2-CST-d-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CE-144	80.12		1.36	1.84E-03	1.73E-04	1.78E-04	9.06E-04
		133.51		11.09	1.73E-04		1.07E-04	8.50E-05
	EU-152	121.78		28.58	1.00E-04	6.04E-05	1.04E-05	4.94E-05
		344.28		26.50	1.39E-04		9.01E-05	6.86E-05
		778.90		12.94	1.77E-04		7.08E-05	8.46E-05
		964.08		14.73	1.76E-04		-1.01E-04	8.43E-05
		1085.87		10.24	2.33E-04		6.34E-05	1.12E-04
		1112.07		13.69	2.06E-04		1.55E-04	9.92E-05
		1408.01		21.07	6.04E-05		-4.60E-05	2.71E-05
	GD-153	97.43		29.00	7.24E-05	7.24E-05	-1.22E-05	3.57E-05
		103.18		21.10	9.43E-05		8.18E-06	4.64E-05
+	EU-154	42.70		20.45	1.01E-03	3.09E-05	1.09E-04	4.97E-04
		123.07	*	40.40	7.22E-05		6.97E-05	3.56E-05
		247.93		6.89	5.53E-04		6.51E-04	2.73E-04
		591.76		4.95	8.54E-04		-1.96E-04	4.16E-04
		692.42		1.78	2.85E-03		1.21E-04	1.40E-03
		723.30	*	20.06	7.63E-05		5.14E-05	3.55E-05
		756.80		4.52	5.81E-04		1.98E-04	2.77E-04
		873.18		12.08	2.39E-04		-6.69E-05	1.14E-04
		996.29	*	10.48	1.43E-04		7.27E-05	6.63E-05
		1004.76		18.01	1.44E-04		1.15E-04	6.88E-05
		1246.12		0.86	2.56E-03		-2.27E-03	1.18E-03
		1274.43	*	34.80	3.09E-05		8.75E-05	1.37E-05
		1494.05		0.70	1.57E-03		-2.67E-04	7.06E-04
		1596.48		1.80	3.98E-04		-3.11E-04	1.81E-04
	EU-155	43.00		18.70	1.06E-03	8.96E-05	1.15E-04	5.22E-04
		60.01		1.22	4.79E-03		-3.72E-03	2.36E-03
		86.55		30.70	1.03E-04		5.15E-04	5.08E-05
		105.31		21.10	8.96E-05		3.03E-06	4.41E-05
	HG-203	72.87		6.30	4.94E-04	3.39E-05	1.89E-04	2.43E-04
		279.20		81.46	3.39E-05		3.05E-05	1.67E-05
	BI-207	569.15		97.80	3.90E-05	3.90E-05	-3.49E-05	1.90E-05
		1063.10		74.90	4.31E-05		-2.30E-05	2.05E-05
	PB-210	46.54		4.25	3.06E-03	3.06E-03	-1.27E-03	1.51E-03
	RA-226	74.81		6.44	4.55E-04	5.84E-05	1.20E-04	2.24E-04
		77.11		10.80	2.52E-04		-1.15E-04	1.24E-04
		87.30		4.84	6.43E-04		2.90E-03	3.18E-04
		186.21		3.59	6.93E-04		5.23E-04	3.42E-04
		242.00		7.43	3.42E-04		1.35E-04	1.68E-04
		295.22		19.30	1.46E-04		2.46E-04	7.20E-05
		351.93		37.60	8.03E-05		6.27E-05	3.95E-05
		609.31		46.10	5.84E-05		6.26E-05	2.85E-05
		768.36		4.94	3.37E-04		4.05E-04	1.61E-04
		1120.29		15.10	1.37E-04		1.44E-04	6.54E-05
		1238.11		5.79	2.82E-04		3.45E-04	1.32E-04
		1764.49		15.40	9.13E-05		2.43E-05	4.13E-05
	PA-231	283.70		1.59	1.76E-03	1.17E-03	5.62E-04	8.67E-04
		300.07		2.38	1.17E-03		-9.27E-04	5.76E-04
		302.67		1.71	1.60E-03		-1.89E-03	7.85E-04
		330.07		1.32	2.14E-03		-1.00E-03	1.05E-03
	TH-232	74.81		11.62	2.52E-04	3.49E-05	6.64E-05	1.24E-04
		77.11		17.50	1.55E-04		-7.07E-05	7.65E-05
		87.30		7.80	3.99E-04		1.80E-03	1.97E-04

Analysis Report for 24-2526 TI185-5.5M-S2-CST-d-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	238.63		43.30	5.88E-05	3.49E-05	6.48E-05	2.90E-05
		338.32		11.30	2.61E-04		-5.65E-05	1.29E-04
		583.19		30.37	8.43E-05		-7.25E-05	4.11E-05
		727.33		6.58	2.65E-04		-1.79E-05	1.27E-04
		911.21		26.60	7.72E-05		4.34E-05	3.69E-05
		968.97		16.20	1.24E-04		-1.17E-04	5.95E-05
		2614.53		35.64	3.49E-05		1.88E-05	1.46E-05
	U-235	143.76		10.96	1.74E-04	4.28E-05	-9.56E-05	8.55E-05
		185.71		57.20	4.28E-05		2.55E-06	2.11E-05
		205.31		5.01	5.04E-04		-1.26E-04	2.49E-04
	U-238	63.29		3.70	1.23E-03	5.12E-04	-4.20E-04	6.04E-04
		92.51		4.23	5.12E-04		3.26E-04	2.52E-04
		112.81		0.21	8.90E-03		-6.08E-03	4.38E-03
		742.81		0.11	1.52E-02		-4.29E-03	7.26E-03
		766.28		0.32	5.12E-03		-2.31E-03	2.44E-03
		1001.03		0.84	2.73E-03		2.13E-03	1.31E-03
	NP-239	99.60		12.80	1.68E-04	8.67E-05	-1.38E-04	8.26E-05
		103.80		20.40	1.02E-04		4.85E-05	5.01E-05
		106.10		26.40	8.67E-05		7.44E-06	4.27E-05
		116.90		7.61	2.71E-04		6.33E-05	1.34E-04
		228.20		11.20	2.55E-04		3.75E-05	1.25E-04
		277.60		14.50	2.24E-04		1.28E-04	1.10E-04
		315.90		1.60	1.74E-03		4.03E-04	8.56E-04
		334.30		2.06	1.09E-03		-4.47E-04	5.38E-04
+	AM-241	59.54	*	35.90	1.65E-04	1.65E-04	4.05E-04	8.16E-05

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

Apex-Gamma

Analysis Report for 24-2527 TI185-5.5M-S3-CST-A V0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2527 TI185-5.5M-S3-CST-A V0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 12:55:35PM
Procedure	: V0_gsv02mlw
Operator	: Administrator
Detector Name	: V
Geometry	: V0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1202.4 seconds
Dead Time	: 0.20 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/8/2023
Efficiency Calibration Used Done On	: 3/28/2019
Efficiency Calibration Description	: V0_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578939
Certificate Name	: R735-A5 5ml PSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 1:15:43PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2527 TI185-5.5M-S3-CST-A V0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.54	175.49	0.2906	4.86
2	87.53	257.78	0.1800	13.18
3	122.99	362.13	0.3071	4.32
4	414.85	1220.62	0.1509	13.71
5	582.59	1714.12	0.3345	3.21
6	661.69	1946.89	0.0516	99.52
7	666.37	1960.79	0.1469	12.99
8	695.21	2045.46	0.1440	11.93
9	720.29	2119.28	0.3058	3.11
10	1081.26	3180.78	0.2195	4.97
11	1109.70	3264.82	0.2315	3.84
12	1173.31	3452.05	0.1061	18.77
13	1332.63	3920.77	0.1090	16.05
14	1361.68	4005.66	0.2282	4.51
15	1460.82	4297.75	0.2457	3.87

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2527 TI185-5.5M-S3-CST-A V0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 1:15:43PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.54	169 -	179	175.38	4.41E+02	105.80	8.03E+02	1.09
F	2	87.53	250 -	265	257.73	1.22E+03	112.37	1.00E+03	1.19
F	3	122.99	356 -	369	362.05	2.91E+02	103.30	7.21E+02	1.46
F	4	414.85	1216 -	1226	1220.67	7.11E+02	33.05	5.71E+02	1.30
F	5	582.59	1708 -	1719	1714.14	4.05E+01	39.99	1.21E+02	0.46
M	6	661.69	1934 -	1970	1946.84	3.21E+04	270.29	2.27E+02	1.68
m	7	666.37	1934 -	1970	1960.60	5.70E+02	25.57	1.11E+02	1.68
F	8	695.21	2033 -	2055	2045.46	5.88E+02	55.04	6.84E+01	1.71
F	9	720.29	2115 -	2124	2119.24	3.12E+01	8.52	3.97E+01	1.26
F	10	1081.26	3172 -	3188	3181.11	7.27E+01	28.53	5.54E+01	1.05
F	11	1109.70	3259 -	3270	3264.77	6.64E+01	10.64	3.88E+01	1.95
F	12	1173.31	3438 -	3460	3451.90	1.27E+03	70.08	6.00E+01	2.05
F	13	1332.63	3907 -	3933	3920.55	1.11E+03	62.87	1.35E+01	2.28
F	14	1361.68	3997 -	4014	4006.00	6.01E+01	23.28	7.93E+00	1.43
F	15	1460.82	4291 -	4304	4297.64	2.99E+01	8.82	7.22E+00	1.50

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 1:15:43PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578897.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.54	4.41E+02	105.80			4.41E+02	1.06E+02

Analysis Report for 24-2527 TI185-5.5M-S3-CST-A V0

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	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	2	87.53	1.22E+03	112.37	6.50E+00	7.06E-01	1.22E+03	1.12E+02
F	3	122.99	2.91E+02	103.30			2.91E+02	1.03E+02
F	4	414.85	7.11E+02	33.05			7.11E+02	3.30E+01
F	5	582.59	4.05E+01	39.99	3.71E+00	2.28E-01	3.68E+01	4.00E+01
M	6	661.69	3.21E+04	270.29			3.21E+04	2.70E+02
m	7	666.37	5.70E+02	25.57			5.70E+02	2.56E+01
F	8	695.21	5.88E+02	55.04			5.88E+02	5.50E+01
F	9	720.29	3.12E+01	8.52			3.12E+01	8.52E+00
F	10	1081.26	7.27E+01	28.53			7.27E+01	2.85E+01
F	11	1109.70	6.64E+01	10.64			6.64E+01	1.06E+01
F	12	1173.31	1.27E+03	70.08			1.27E+03	7.01E+01
F	13	1332.63	1.11E+03	62.87			1.11E+03	6.29E+01
F	14	1361.68	6.01E+01	23.28			6.01E+01	2.33E+01
F	15	1460.82	2.99E+01	8.82	2.69E+01	3.64E-01	3.02E+00	8.82E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	1.00	1460.83	*	10.67	1.26E-05	3.67E-05	miss
CO-57	0.70	122.06	*	85.60	3.72E-05	1.32E-05	1.000
		136.47		10.68			
CO-60	0.99	1173.24	*	99.97	6.26E-04	3.48E-05	0.774
		1332.50	*	99.99	6.05E-04	3.43E-05	0.768
		2505.74		1.00			
CD-109	0.96	88.03	*	3.61	4.34E-03	5.05E-04	free
SB-126	0.67	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	4.15E-04	3.27E-05	0.396
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			

Analysis Report for 24-2527 TI185-5.5M-S3-CST-A V0

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Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.67	666.50	*	99.60	3.88E-04	1.75E-05	0.385
		674.80		3.10			
		695.00	*	99.60	4.13E-04	3.87E-05	0.384
		697.00		29.00			
		720.70	*	53.80	4.89E-05	1.49E-05	0.327
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.77	64.28		9.60			
		87.30	*	45.90	3.41E-04	4.14E-05	miss
CS-137	1.00	661.66	*	85.20	9.80E-03	9.21E-05	miss
AM-241	1.00	59.54	*	35.90	3.58E-04	8.61E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	K-40	1.000	1.26E-05	3.67E-05	
	CO-57	0.709	3.72E-05	1.32E-05	
	CO-60	0.992	6.16E-04	2.44E-05	
?	CD-109	0.961	4.34E-03	5.05E-04	
	SB-126	0.678	2.30E-04	1.03E-05	
?	Sn-126	0.777	3.41E-04	4.14E-05	
	CS-137	1.000	9.80E-03	9.21E-05	
	AM-241	1.000	3.58E-04	8.61E-05	

Analysis Report for 24-2527 TI185-5.5M-S3-CST-A V0

ASR 2094 Branch

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

Errors quoted at 1.000sigma

Analysis Report for 24-2527 TI185-5.5M-S3-CST-A V0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 1:15:43PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	5	582.59	3.06878E-02	108.59	Tol.	TH-232
F	10	1081.26	6.05532E-02	39.26	Sum	
F	11	1109.70	5.53207E-02	16.02	Sum	
F	14	1361.68	5.01021E-02	38.72	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	3.94E-04	3.94E-04	-1.02E-04	1.94E-04
+	K-40	1460.83	*	10.67	1.19E-04	1.19E-04	1.26E-05	5.37E-05
	MN-54	834.84		99.98	1.86E-05	1.86E-05	-8.49E-06	8.87E-06
	CO-58	810.78		99.45	1.94E-05	1.94E-05	-3.07E-06	9.27E-06
		863.96		0.68	3.92E-03		-3.05E-03	1.88E-03
		1674.73		0.52	1.87E-03		-3.42E-03	8.29E-04
	FE-59	142.65		1.00	1.84E-03	3.32E-05	-1.05E-03	9.07E-04
		192.35		3.01	1.06E-03		3.56E-04	5.21E-04
		334.80		0.27	1.08E-02		-3.79E-03	5.32E-03
		1099.25		56.30	3.67E-05		-9.99E-06	1.75E-05
		1291.60		43.70	3.32E-05		1.58E-05	1.53E-05
+	CO-60	1173.24	*	99.97	3.39E-05	1.98E-05	6.26E-04	1.63E-05
		1332.50	*	99.99	1.98E-05		6.05E-04	9.14E-06
		2505.74		1.00	3.02E-03		6.03E-03	1.42E-03

Analysis Report for 24-2527 TI185-5.5M-S3-CST-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	514.00		96.00	3.38E-05	3.38E-05	3.38E-05	1.66E-05
		868.60		0.01	1.73E-01		-1.81E-02	8.31E-02
	NB-94	702.62		97.90	2.35E-05	2.35E-05	4.77E-06	1.12E-05
		871.09		99.98	2.73E-05		-2.88E-06	1.31E-05
	NB-95	765.81		99.81	1.71E-05	1.71E-05	2.62E-06	8.15E-06
	RU-103	497.05		91.00	3.78E-05	3.78E-05	1.27E-05	1.86E-05
		610.30		5.76	4.49E-04		-7.49E-05	2.19E-04
	RH-106	511.86		20.70	1.89E-04	1.89E-04	-5.49E-05	9.28E-05
		621.92		9.93	3.55E-04		4.30E-05	1.73E-04
		1050.36		1.56	1.76E-03		-1.37E-03	8.37E-04
	AG-108M	79.13		6.60	3.78E-04	3.90E-05	1.79E-04	1.86E-04
		433.90		90.50	7.34E-05		-7.91E-05	3.61E-05
		614.30		89.80	5.27E-05		-1.29E-05	2.56E-05
		722.90		90.80	3.90E-05		6.12E-05	1.87E-05
+	CD-109	88.03	*	3.61	8.39E-04	8.39E-04	4.34E-03	4.15E-04
	SB-125	176.31		6.82	3.02E-04	1.22E-04	1.20E-04	1.49E-04
		380.45		1.52	2.04E-03		1.14E-03	1.00E-03
		427.87		29.55	1.22E-04		4.08E-05	6.01E-05
		463.36		10.48	3.89E-04		-7.56E-06	1.92E-04
		600.60		17.76	1.41E-04		-1.07E-05	6.86E-05
		606.71		5.02	5.11E-04		1.18E-04	2.49E-04
		635.95		11.32	2.22E-04		2.28E-04	1.08E-04
		671.44		1.78	1.86E-03		-6.31E-05	9.12E-04
+	SB-126	223.90		1.39	1.75E-03	3.52E-05	5.92E-04	8.63E-04
		278.20		2.40	3.15E-03		2.29E-03	1.55E-03
		296.50		4.50	1.85E-03		1.67E-03	9.09E-04
		414.70	*	83.30	9.06E-05		4.15E-04	4.45E-05
		556.30		1.69	5.10E-03		3.40E-04	2.49E-03
		573.90		6.70	1.21E-03		2.89E-04	5.89E-04
		593.20		7.50	8.37E-04		-1.98E-04	4.08E-04
		656.30		2.19	2.62E-02		1.49E-03	1.31E-02
		666.50	*	99.60	3.52E-05		3.88E-04	1.67E-05
		674.80		3.10	1.75E-03		8.14E-04	8.38E-04
		695.00	*	99.60	5.14E-05		4.13E-04	2.48E-05
		697.00		29.00	3.96E-04		-2.00E-05	1.94E-04
		720.70	*	53.80	6.70E-05		4.89E-05	3.14E-05
		856.80		17.60	3.02E-04		1.99E-04	1.45E-04
		989.60		6.80	7.36E-04		-4.54E-04	3.51E-04
		1213.30		2.39	1.74E-03		-1.56E-03	8.16E-04
+	Sn-126	64.28		9.60	4.11E-04	6.60E-05	4.70E-04	2.02E-04
		87.30	*	45.90	6.60E-05		3.41E-04	3.26E-05
	I-129	29.70		56.60	4.15E-03	3.82E-03	-6.56E-05	2.04E-03
		33.60		10.04	8.89E-03		-1.80E-03	4.37E-03
		34.40		2.01	3.77E-02		-2.91E-02	1.85E-02
		39.60		7.51	3.82E-03		-1.59E-04	1.88E-03
	CS-134	563.25		8.34	5.20E-04	3.02E-05	1.56E-05	2.53E-04
		569.33		15.37	2.92E-04		-7.06E-05	1.42E-04
		604.72		97.62	3.72E-05		-9.40E-06	1.81E-05
		795.86		85.46	3.02E-05		6.30E-06	1.44E-05
		801.95		8.69	3.63E-04		5.80E-05	1.73E-04
+	CS-137	661.66	*	85.20	2.22E-05	2.22E-05	9.80E-03	1.07E-05
	CE-139	165.85		79.89	2.52E-05	2.52E-05	-1.88E-05	1.24E-05
	CE-141	40.70		3.35	7.06E-03	3.80E-05	-7.15E-03	3.47E-03

Analysis Report for 24-2527 TI185-5.5M-S3-CST-A V0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
CE-141	145.44	48.29	3.80E-05	3.80E-05	5.90E-06	1.87E-05
CE-144	80.12	1.36	1.80E-03	1.52E-04	-2.41E-03	8.84E-04
	133.51	11.09	1.52E-04		2.09E-05	7.49E-05
EU-152	121.78	28.58	8.82E-05	8.00E-05	-1.79E-06	4.34E-05
	344.28	26.50	1.37E-04		6.88E-05	6.73E-05
	778.90	12.94	1.76E-04		-6.65E-05	8.39E-05
	964.08	14.73	1.64E-04		-5.84E-05	7.84E-05
	1085.87	10.24	2.27E-04		1.78E-04	1.09E-04
	1112.07	13.69	1.96E-04		7.43E-05	9.43E-05
	1408.01	21.07	8.00E-05		2.95E-05	3.69E-05
GD-153	97.43	29.00	6.35E-05	6.35E-05	-5.45E-05	3.12E-05
	103.18	21.10	8.65E-05		7.65E-06	4.25E-05
EU-154	42.70	20.45	8.73E-04	6.13E-05	-2.26E-04	4.29E-04
	123.07	40.40	6.13E-05		1.02E-04	3.02E-05
	247.93	6.89	5.22E-04		-7.79E-05	2.57E-04
	591.76	4.95	8.36E-04		2.26E-05	4.08E-04
	692.42	1.78	2.70E-03		-1.55E-04	1.32E-03
	723.30	20.06	1.33E-04		8.03E-05	6.40E-05
	756.80	4.52	5.99E-04		-3.26E-04	2.86E-04
	873.18	12.08	2.56E-04		1.73E-04	1.23E-04
	996.29	10.48	2.36E-04		-1.39E-04	1.13E-04
	1004.76	18.01	1.45E-04		3.49E-06	6.94E-05
	1246.12	0.86	2.58E-03		5.43E-04	1.20E-03
	1274.43	34.80	6.61E-05		6.35E-05	3.13E-05
	1494.05	0.70	1.71E-03		-2.59E-04	7.72E-04
	1596.48	1.80	4.07E-04		1.43E-04	1.85E-04
EU-155	43.00	18.70	9.16E-04	8.30E-05	7.79E-05	4.50E-04
	60.01	1.22	4.52E-03		1.10E-02	2.23E-03
	86.55	30.70	1.00E-04		1.40E-05	4.95E-05
	105.31	21.10	8.30E-05		3.96E-05	4.08E-05
HG-203	72.87	6.30	4.70E-04	3.16E-05	-6.17E-05	2.31E-04
	279.20	81.46	3.16E-05		1.98E-05	1.55E-05
BI-207	569.15	97.80	3.64E-05	3.64E-05	-1.93E-06	1.77E-05
	1063.10	74.90	4.96E-05		4.79E-05	2.37E-05
PB-210	46.54	4.25	2.72E-03	2.72E-03	-6.98E-04	1.33E-03
RA-226	74.81	6.44	4.39E-04	5.60E-05	4.02E-04	2.16E-04
	77.11	10.80	2.43E-04		-1.07E-04	1.19E-04
	87.30	4.84	6.24E-04		-7.06E-05	3.08E-04
	186.21	3.59	6.72E-04		5.02E-04	3.31E-04
	242.00	7.43	3.37E-04		1.49E-04	1.66E-04
	295.22	19.30	1.33E-04		2.73E-05	6.55E-05
	351.93	37.60	8.15E-05		1.06E-04	4.01E-05
	609.31	46.10	5.60E-05		-2.49E-05	2.73E-05
	768.36	4.94	3.36E-04		-3.11E-04	1.60E-04
	1120.29	15.10	1.33E-04		4.60E-05	6.29E-05
	1238.11	5.79	2.51E-04		1.31E-04	1.16E-04
	1764.49	15.40	9.18E-05		-2.59E-05	4.15E-05
PA-231	283.70	1.59	1.60E-03	1.06E-03	6.77E-04	7.85E-04
	300.07	2.38	1.06E-03		-9.11E-04	5.20E-04
	302.67	1.71	1.46E-03		-1.13E-03	7.18E-04
	330.07	1.32	2.00E-03		3.24E-04	9.84E-04
TH-232	74.81	11.62	2.43E-04	3.24E-05	2.23E-04	1.20E-04
	77.11	17.50	1.50E-04		-6.58E-05	7.37E-05

Analysis Report for 24-2527 TI185-5.5M-S3-CST-A V0

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	87.30		7.80	3.87E-04	3.24E-05	-4.38E-05	1.91E-04
		238.63		43.30	5.78E-05		3.59E-06	2.85E-05
		338.32		11.30	2.59E-04		-2.12E-04	1.28E-04
		583.19		30.37	8.29E-05		7.73E-05	4.04E-05
		727.33		6.58	2.82E-04		6.66E-05	1.35E-04
		911.21		26.60	7.60E-05		-7.93E-05	3.64E-05
		968.97		16.20	1.22E-04		1.34E-06	5.84E-05
		2614.53		35.64	3.24E-05		1.97E-05	1.38E-05
	U-235	143.76		10.96	1.67E-04	4.19E-05	-6.74E-05	8.18E-05
		185.71		57.20	4.19E-05		2.66E-05	2.07E-05
		205.31		5.01	4.76E-04		-9.02E-05	2.35E-04
	U-238	63.29		3.70	1.13E-03	4.61E-04	1.11E-03	5.56E-04
		92.51		4.23	4.61E-04		-1.58E-05	2.27E-04
		112.81		0.21	8.00E-03		-5.26E-03	3.93E-03
		742.81		0.11	1.53E-02		-1.25E-03	7.31E-03
		766.28		0.32	5.32E-03		-1.90E-03	2.54E-03
		1001.03		0.84	2.77E-03		2.55E-03	1.33E-03
	NP-239	99.60		12.80	1.52E-04	7.96E-05	3.81E-05	7.45E-05
		103.80		20.40	9.32E-05		-4.54E-05	4.58E-05
		106.10		26.40	7.96E-05		-2.56E-05	3.91E-05
		116.90		7.61	2.34E-04		6.26E-05	1.15E-04
		228.20		11.20	2.57E-04		-7.05E-05	1.26E-04
		277.60		14.50	2.06E-04		-3.16E-05	1.01E-04
		315.90		1.60	1.54E-03		-1.10E-03	7.58E-04
		334.30		2.06	1.13E-03		-1.35E-03	5.55E-04
+	AM-241	59.54	*	35.90	1.49E-04	1.49E-04	3.58E-04	7.33E-05

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

Apex-Gamma

Analysis Report for 24-2528 TI185-5.5M-S3-CST-d-A V0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2528 TI185-5.5M-S3-CST-d-A V0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 1:40:06PM
Procedure	: V0_gsv02mlw
Operator	: Administrator
Detector Name	: V
Geometry	: V0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1202.1 seconds
Dead Time	: 0.17 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/8/2023
Efficiency Calibration Used Done On	: 3/28/2019
Efficiency Calibration Description	: V0_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578950
Certificate Name	: R735-A5 5ml PSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 2:00:15PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2528 TI185-5.5M-S3-CST-d-A V0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.51	175.30	0.2980	4.25
2	87.51	257.62	0.1877	9.94
3	123.07	362.29	0.2846	4.80
4	222.75	655.02	0.3558	3.49
5	414.81	1220.55	0.1552	13.04
6	661.68	1946.85	0.0535	91.73
7	666.46	1961.03	0.1513	12.23
8	695.10	2045.09	0.1456	12.25
9	1004.92	2956.42	0.2705	3.61
10	1081.05	3180.36	0.2136	5.41
11	1109.79	3265.28	0.2228	4.27
12	1173.29	3451.84	0.1106	16.71
13	1274.82	3750.53	0.2236	4.50
14	1332.53	3920.34	0.1093	16.24
15	1361.51	4005.47	0.2319	4.14

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2528 TI185-5.5M-S3-CST-d-A V0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 2:00:15PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.51	168 -	182	175.29	4.33E+02	100.95	9.83E+02	1.12
F	2	87.51	250 -	264	257.67	1.01E+03	126.37	8.48E+02	1.27
F	3	123.07	354 -	368	362.28	2.24E+02	107.81	7.21E+02	1.21
F	4	222.75	651 -	658	655.55	7.38E+01	92.42	3.87E+02	0.50
F	5	414.81	1209 -	1227	1220.56	7.17E+02	89.60	7.93E+02	1.28
M	6	661.68	1934 -	1969	1946.81	2.75E+04	218.75	1.67E+02	1.69
m	7	666.46	1934 -	1969	1960.86	5.26E+02	24.10	6.17E+01	1.69
F	8	695.10	2037 -	2055	2045.12	5.41E+02	23.73	1.07E+02	1.71
F	9	1004.92	2951 -	2962	2956.54	2.50E+01	8.09	5.40E+01	1.00
F	10	1081.05	3175 -	3188	3180.48	6.53E+01	10.32	4.39E+01	1.38
F	11	1109.79	3256 -	3271	3265.03	7.16E+01	10.99	5.60E+01	1.84
F	12	1173.29	3442 -	3463	3451.83	1.17E+03	57.53	2.69E+01	2.23
F	13	1274.82	3744 -	3756	3750.49	4.18E+01	7.99	1.95E+01	1.47
F	14	1332.53	3907 -	3932	3920.26	1.08E+03	54.93	1.30E+01	2.32
F	15	1361.51	3998 -	4012	4005.49	4.54E+01	21.89	1.12E+01	1.57

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 2:00:15PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578897.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.51	4.33E+02	100.95			4.33E+02	1.01E+02

Analysis Report for 24-2528 TI185-5.5M-S3-CST-d-A V0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	2	87.51	1.01E+03	126.37	6.50E+00	7.06E-01	1.00E+03	1.26E+02
F	3	123.07	2.24E+02	107.81			2.24E+02	1.08E+02
F	4	222.75	7.38E+01	92.42			7.38E+01	9.24E+01
F	5	414.81	7.17E+02	89.60			7.17E+02	8.96E+01
M	6	661.68	2.75E+04	218.75			2.75E+04	2.19E+02
m	7	666.46	5.26E+02	24.10			5.26E+02	2.41E+01
F	8	695.10	5.41E+02	23.73			5.41E+02	2.37E+01
F	9	1004.92	2.50E+01	8.09			2.50E+01	8.09E+00
F	10	1081.05	6.53E+01	10.32			6.53E+01	1.03E+01
F	11	1109.79	7.16E+01	10.99			7.16E+01	1.10E+01
F	12	1173.29	1.17E+03	57.53			1.17E+03	5.75E+01
F	13	1274.82	4.18E+01	7.99			4.18E+01	7.99E+00
F	14	1332.53	1.08E+03	54.93			1.08E+03	5.49E+01
F	15	1361.51	4.54E+01	21.89			4.54E+01	2.19E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	5.78E-04	2.86E-05	0.774
		1332.50	*	99.99	5.87E-04	3.00E-05	0.768
		2505.74		1.00			
CD-109	0.95	88.03	*	3.61	3.58E-03	5.22E-04	free
SB-126	0.49	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	4.18E-04	5.87E-05	0.396
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	3.58E-04	1.65E-05	0.385
		674.80		3.10			
		695.00	*	99.60	3.80E-04	1.68E-05	0.384

Analysis Report for 24-2528 TI185-5.5M-S3-CST-d-A V0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.49	697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.77	64.28		9.60			
		87.30	*	45.90	2.81E-04	4.21E-05	miss
CS-137	1.00	661.66	*	85.20	8.39E-03	7.54E-05	miss
EU-154	0.34	42.70		20.45			
		123.07	*	40.40	8.12E-05	3.92E-05	0.744
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30		20.06			
		756.80		4.52			
		873.18		12.08			
		996.29		10.48			
		1004.76	*	18.01	5.49E-05	1.78E-05	0.871
		1246.12		0.86			
		1274.43	*	34.80	5.51E-05	1.06E-05	0.883
		1494.05		0.70			
		1596.48		1.80			
AM-241	1.00	59.54	*	35.90	3.52E-04	8.23E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.993	5.82E-04	2.07E-05	

Analysis Report for 24-2528 TI185-5.5M-S3-CST-d-A V0

ASR 2094 Branch

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
?	CD-109	0.958	3.58E-03	5.22E-04	
	SB-126	0.490	3.71E-04	1.15E-05	
?	Sn-126	0.778	2.81E-04	4.21E-05	
	CS-137	1.000	8.39E-03	7.54E-05	
	EU-154	0.347	5.64E-05	8.85E-06	
	AM-241	1.000	3.52E-04	8.23E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2528 TI185-5.5M-S3-CST-d-A V0
ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 2:00:15PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	4	222.75	6.15052E-02	125.22		
F	10	1081.05	5.43992E-02	15.81	Sum	
F	11	1109.79	5.97014E-02	15.34	Sum	
F	15	1361.51	3.78296E-02	48.23	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	3.61E-04	3.61E-04	5.09E-05	1.78E-04
	K-40	1460.83		10.67	1.73E-04	1.73E-04	1.38E-04	8.09E-05
	MN-54	834.84		99.98	1.72E-05	1.72E-05	1.24E-05	8.17E-06
	CO-58	810.78		99.45	1.77E-05	1.77E-05	-1.48E-05	8.38E-06
		863.96		0.68	3.61E-03		-5.33E-04	1.72E-03
		1674.73		0.52	1.70E-03		1.28E-03	7.42E-04
	FE-59	142.65		1.00	1.71E-03	3.17E-05	3.96E-04	8.41E-04
		192.35		3.01	9.87E-04		-3.30E-04	4.86E-04
		334.80		0.27	9.98E-03		9.26E-03	4.91E-03
		1099.25		56.30	3.63E-05		-3.37E-05	1.73E-05
		1291.60		43.70	3.17E-05		3.98E-06	1.46E-05
+	CO-60	1173.24	*	99.97	2.28E-05	1.91E-05	5.78E-04	1.07E-05
		1332.50	*	99.99	1.91E-05		5.87E-04	8.83E-06
		2505.74		1.00	2.82E-03		5.22E-03	1.33E-03

Analysis Report for 24-2528 TI185-5.5M-S3-CST-d-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	514.00		96.00	3.06E-05	3.06E-05	9.13E-06	1.50E-05
		868.60		0.01	1.60E-01		7.54E-02	7.66E-02
	NB-94	702.62		97.90	2.37E-05	2.37E-05	-7.54E-06	1.13E-05
		871.09		99.98	2.57E-05		8.70E-06	1.23E-05
	NB-95	765.81		99.81	1.48E-05	1.48E-05	-1.56E-05	7.02E-06
	RU-103	497.05		91.00	3.44E-05	3.44E-05	-2.02E-05	1.69E-05
		610.30		5.76	4.31E-04		4.20E-04	2.09E-04
	RH-106	511.86		20.70	1.71E-04	1.71E-04	5.24E-05	8.37E-05
		621.92		9.93	3.27E-04		-3.21E-04	1.59E-04
		1050.36		1.56	1.65E-03		-1.93E-04	7.85E-04
	AG-108M	79.13		6.60	3.60E-04	3.58E-05	-1.14E-04	1.77E-04
		433.90		90.50	6.68E-05		-2.44E-05	3.29E-05
		614.30		89.80	4.91E-05		-5.45E-05	2.39E-05
		722.90		90.80	3.58E-05		2.77E-05	1.72E-05
+	CD-109	88.03	*	3.61	7.55E-04	7.55E-04	3.58E-03	3.73E-04
	SB-125	176.31		6.82	2.85E-04	1.13E-04	-3.14E-05	1.40E-04
		380.45		1.52	1.97E-03		9.92E-05	9.68E-04
		427.87		29.55	1.13E-04		-4.94E-05	5.56E-05
		463.36		10.48	3.72E-04		5.50E-04	1.83E-04
		600.60		17.76	1.34E-04		-2.88E-05	6.52E-05
		606.71		5.02	4.92E-04		4.72E-04	2.40E-04
		635.95		11.32	2.12E-04		3.63E-05	1.03E-04
		671.44		1.78	1.75E-03		5.88E-04	8.57E-04
+	SB-126	223.90		1.39	1.64E-03	2.67E-05	-4.18E-04	8.06E-04
		278.20		2.40	2.91E-03		-2.64E-03	1.43E-03
		296.50		4.50	1.73E-03		1.23E-03	8.48E-04
		414.70	*	83.30	1.31E-04		4.18E-04	6.49E-05
		556.30		1.69	4.67E-03		1.94E-03	2.27E-03
		573.90		6.70	1.19E-03		8.09E-04	5.78E-04
		593.20		7.50	7.58E-04		-1.01E-04	3.68E-04
		656.30		2.19	2.43E-02		-2.67E-03	1.21E-02
		666.50	*	99.60	2.67E-05		3.58E-04	1.25E-05
		674.80		3.10	1.56E-03		-1.17E-04	7.44E-04
		695.00	*	99.60	5.93E-05		3.80E-04	2.87E-05
		697.00		29.00	4.00E-04		1.88E-03	1.96E-04
		720.70		53.80	9.91E-05		5.22E-06	4.74E-05
		856.80		17.60	2.82E-04		1.25E-04	1.35E-04
		989.60		6.80	7.09E-04		-1.06E-03	3.37E-04
		1213.30		2.39	1.59E-03		7.07E-04	7.41E-04
+	Sn-126	64.28		9.60	3.88E-04	5.94E-05	1.60E-04	1.91E-04
		87.30	*	45.90	5.94E-05		2.81E-04	2.93E-05
	I-129	29.70		56.60	3.84E-03	3.51E-03	6.05E-04	1.89E-03
		33.60		10.04	7.95E-03		-8.22E-03	3.90E-03
		34.40		2.01	3.41E-02		-1.49E-02	1.67E-02
		39.60		7.51	3.51E-03		-2.48E-03	1.72E-03
	CS-134	563.25		8.34	4.69E-04	2.63E-05	-8.32E-05	2.28E-04
		569.33		15.37	2.80E-04		1.34E-04	1.36E-04
		604.72		97.62	3.58E-05		-1.95E-05	1.74E-05
		795.86		85.46	2.63E-05		-2.61E-05	1.25E-05
		801.95		8.69	3.41E-04		1.32E-04	1.62E-04
+	CS-137	661.66	*	85.20	1.92E-05	1.92E-05	8.39E-03	9.17E-06
	CE-139	165.85		79.89	2.31E-05	2.31E-05	-2.93E-06	1.13E-05
	CE-141	40.70		3.35	6.67E-03	3.53E-05	-5.04E-03	3.27E-03

Analysis Report for 24-2528 TI185-5.5M-S3-CST-d-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CE-141	145.44		48.29	3.53E-05	3.53E-05	-9.00E-06	1.73E-05
	CE-144	80.12		1.36	1.70E-03	1.44E-04	4.85E-04	8.34E-04
		133.51		11.09	1.44E-04		-6.58E-05	7.08E-05
	EU-152	121.78		28.58	8.30E-05	6.58E-05	6.47E-06	4.08E-05
		344.28		26.50	1.25E-04		-6.46E-05	6.13E-05
		778.90		12.94	1.58E-04		-1.03E-04	7.49E-05
		964.08		14.73	1.65E-04		1.54E-04	7.87E-05
		1085.87		10.24	2.17E-04		1.30E-04	1.04E-04
		1112.07		13.69	2.01E-04		2.71E-04	9.65E-05
		1408.01		21.07	6.58E-05		4.41E-05	2.98E-05
	GD-153	97.43		29.00	5.98E-05	5.98E-05	4.18E-05	2.94E-05
		103.18		21.10	7.82E-05		-4.72E-05	3.84E-05
+	EU-154	42.70		20.45	8.39E-04	4.31E-05	-3.80E-04	4.12E-04
		123.07	*	40.40	7.10E-05		8.12E-05	3.50E-05
		247.93		6.89	5.06E-04		4.32E-04	2.49E-04
		591.76		4.95	7.44E-04		1.44E-04	3.62E-04
		692.42		1.78	2.72E-03		-2.26E-04	1.33E-03
		723.30		20.06	1.24E-04		1.16E-04	5.94E-05
		756.80		4.52	5.13E-04		-2.53E-04	2.43E-04
		873.18		12.08	2.36E-04		3.17E-05	1.13E-04
		996.29		10.48	2.28E-04		2.73E-04	1.09E-04
		1004.76	*	18.01	1.13E-04		5.49E-05	5.34E-05
		1246.12		0.86	2.51E-03		-2.89E-04	1.16E-03
		1274.43	*	34.80	4.31E-05		5.51E-05	1.98E-05
		1494.05		0.70	1.66E-03		1.12E-03	7.47E-04
		1596.48		1.80	3.60E-04		-2.03E-04	1.62E-04
	EU-155	43.00		18.70	8.88E-04	7.75E-05	-2.03E-04	4.35E-04
		60.01		1.22	4.35E-03		5.02E-04	2.14E-03
		86.55		30.70	9.20E-05		-1.35E-06	4.54E-05
		105.31		21.10	7.75E-05		2.81E-05	3.80E-05
	HG-203	72.87		6.30	4.41E-04	2.93E-05	-2.71E-04	2.17E-04
		279.20		81.46	2.93E-05		1.19E-06	1.44E-05
	BI-207	569.15		97.80	3.46E-05	3.46E-05	-1.00E-05	1.68E-05
		1063.10		74.90	4.25E-05		1.18E-05	2.02E-05
	PB-210	46.54		4.25	2.61E-03	2.61E-03	-9.23E-04	1.28E-03
	RA-226	74.81		6.44	4.17E-04	5.24E-05	5.20E-04	2.05E-04
		77.11		10.80	2.30E-04		4.05E-05	1.13E-04
		87.30		4.84	5.79E-04		3.30E-03	2.86E-04
		186.21		3.59	6.16E-04		7.21E-04	3.03E-04
		242.00		7.43	3.14E-04		-1.09E-04	1.55E-04
		295.22		19.30	1.24E-04		-1.41E-04	6.07E-05
		351.93		37.60	7.36E-05		-9.86E-05	3.62E-05
		609.31		46.10	5.24E-05		-3.14E-05	2.55E-05
		768.36		4.94	3.06E-04		1.03E-05	1.45E-04
		1120.29		15.10	1.29E-04		2.55E-05	6.13E-05
		1238.11		5.79	2.60E-04		1.39E-05	1.20E-04
		1764.49		15.40	7.82E-05		2.89E-05	3.47E-05
	PA-231	283.70		1.59	1.47E-03	1.01E-03	5.32E-04	7.24E-04
		300.07		2.38	1.01E-03		4.40E-04	4.97E-04
		302.67		1.71	1.38E-03		-8.80E-04	6.78E-04
		330.07		1.32	1.83E-03		7.00E-04	8.95E-04
	TH-232	74.81		11.62	2.31E-04	4.01E-05	2.88E-04	1.14E-04
		77.11		17.50	1.42E-04		2.50E-05	6.99E-05

Analysis Report for 24-2528 TI185-5.5M-S3-CST-d-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	87.30		7.80	3.59E-04	4.01E-05	2.05E-03	1.77E-04
		238.63		43.30	5.49E-05		1.49E-05	2.70E-05
		338.32		11.30	2.39E-04		2.88E-04	1.17E-04
		583.19		30.37	7.61E-05		-5.72E-05	3.70E-05
		727.33		6.58	2.62E-04		-9.93E-05	1.25E-04
		911.21		26.60	6.91E-05		-6.98E-05	3.29E-05
		968.97		16.20	1.20E-04		3.56E-05	5.72E-05
		2614.53		35.64	4.01E-05		3.22E-05	1.76E-05
	U-235	143.76		10.96	1.55E-04	3.83E-05	4.42E-06	7.58E-05
		185.71		57.20	3.83E-05		3.11E-05	1.89E-05
		205.31		5.01	4.54E-04		-1.64E-04	2.23E-04
	U-238	63.29		3.70	1.07E-03	4.14E-04	8.52E-04	5.28E-04
		92.51		4.23	4.14E-04		-1.17E-04	2.03E-04
		112.81		0.21	7.60E-03		3.42E-03	3.73E-03
		742.81		0.11	1.33E-02		4.48E-03	6.32E-03
		766.28		0.32	4.58E-03		-6.16E-03	2.17E-03
		1001.03		0.84	2.74E-03		2.39E-03	1.31E-03
	NP-239	99.60		12.80	1.40E-04	7.48E-05	-2.28E-05	6.89E-05
		103.80		20.40	8.58E-05		-7.18E-05	4.21E-05
		106.10		26.40	7.48E-05		5.06E-05	3.67E-05
		116.90		7.61	2.24E-04		-3.59E-05	1.10E-04
		228.20		11.20	2.49E-04		2.68E-04	1.23E-04
		277.60		14.50	1.94E-04		-5.44E-05	9.53E-05
		315.90		1.60	1.48E-03		1.77E-03	7.24E-04
		334.30		2.06	1.05E-03		-1.02E-03	5.14E-04
+	AM-241	59.54	*	35.90	1.86E-04	1.86E-04	3.52E-04	9.17E-05

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

Apex-Gamma

Analysis Report for 24-2529 TI185-5.5M-S4-CST-A W0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2529 TI185-5.5M-S4-CST-A W0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 12:55:43PM
Procedure	: W0_gsv02mlw
Operator	: Administrator
Detector Name	: W
Geometry	: W0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1208.7 seconds
Dead Time	: 0.72 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 8/11/2023
Efficiency Calibration Used Done On	: 5/17/2021
Efficiency Calibration Description	: W0_gsv2mlw_R724p
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578940
Certificate Name	: R735-A10 20ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 1:15:57PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2529 TI185-5.5M-S4-CST-A W0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.64	162.29	0.2932	4.77
2	87.53	237.55	0.2126	8.25
3	163.91	443.74	0.3674	3.48
4	414.78	1120.98	0.1991	7.90
5	661.69	1787.34	0.0362	206.94
6	666.44	1800.88	0.1904	10.83
7	695.13	1877.39	0.1568	10.67
8	1081.11	2919.80	0.2390	4.16
9	1109.80	2997.14	0.2538	3.75
10	1173.34	3168.61	0.1224	15.10
11	1332.66	3598.75	0.1222	14.40
12	1361.46	3675.98	0.2693	3.25
13	2504.84	6765.97	0.2255	3.66

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2529 TI185-5.5M-S4-CST-A W0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 1:15:57PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.64	157 -	167	162.33	4.03E+02	46.24	3.01E+03	1.12
F	2	87.53	232 -	244	237.60	1.06E+03	53.39	3.57E+03	1.40
	3	163.91	441 -	448	443.74	1.92E+01	79.47	2.08E+03	0.79
F	4	414.78	1113 -	1126	1120.85	7.20E+02	142.28	3.82E+03	1.56
M	5	661.69	1776 -	1811	1787.34	1.83E+05	563.16	7.06E+02	1.82
m	6	666.44	1776 -	1811	1800.16	6.33E+02	26.50	5.92E+01	1.82
F	7	695.13	1866 -	1888	1877.62	5.76E+02	24.88	1.38E+02	1.90
F	8	1081.11	2912 -	2928	2919.63	1.01E+02	37.48	5.20E+01	2.08
F	9	1109.80	2990 -	3005	2997.09	7.76E+01	11.72	6.83E+01	2.00
F	10	1173.34	3160 -	3180	3168.66	1.24E+03	35.39	7.35E+01	2.27
F	11	1332.66	3587 -	3610	3598.83	1.10E+03	58.82	3.60E+01	2.36
F	12	1361.46	3668 -	3685	3676.60	7.34E+01	8.58	4.29E+00	2.90
F	13	2504.84	6755 -	6774	6764.65	7.49E+01	9.11	5.07E+00	3.14

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 1:15:57PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578898.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.64	4.03E+02	46.24			4.03E+02	4.62E+01
F	2	87.53	1.06E+03	53.39	9.22E+00	7.54E-01	1.05E+03	5.34E+01
	3	163.91	1.92E+01	79.47	2.14E+00	3.90E-01	1.71E+01	7.95E+01

Analysis Report for 24-2529 TI185-5.5M-S4-CST-A W0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	4	414.78	7.20E+02	142.28			7.20E+02	1.42E+02
M	5	661.69	1.83E+05	563.16			1.83E+05	5.63E+02
m	6	666.44	6.33E+02	26.50	8.76E-01	8.33E-02	6.32E+02	2.65E+01
F	7	695.13	5.76E+02	24.88			5.76E+02	2.49E+01
F	8	1081.11	1.01E+02	37.48			1.01E+02	3.75E+01
F	9	1109.80	7.76E+01	11.72			7.76E+01	1.17E+01
F	10	1173.34	1.24E+03	35.39			1.24E+03	3.54E+01
F	11	1332.66	1.10E+03	58.82			1.10E+03	5.88E+01
F	12	1361.46	7.34E+01	8.58			7.34E+01	8.58E+00
F	13	2504.84	7.49E+01	9.11			7.49E+01	9.11E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	6.21E-04	1.82E-05	0.773
		1332.50	*	99.99	6.06E-04	3.27E-05	0.765
		2505.74	*	1.00	5.41E-03	7.41E-04	miss
CD-109	0.96	88.03	*	3.61	3.90E-03	2.28E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	4.40E-04	9.15E-05	0.393
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	4.53E-04	1.92E-05	0.382
		674.80		3.10			
		695.00	*	99.60	4.25E-04	1.85E-05	0.381
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			

Analysis Report for 24-2529 TI185-5.5M-S4-CST-A W0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	1213.30		2.39			
Sn-126	0.77	64.28		9.60			
		87.30	*	45.90	3.07E-04	2.06E-05	miss
CS-137	1.00	661.66	*	85.20	5.81E-02	3.63E-04	miss
AM-241	0.99	59.54	*	35.90	3.21E-04	3.76E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-60	0.997	6.20E-04	1.59E-05	
?	CD-109	0.961	3.90E-03	2.28E-04	
	SB-126	0.489	4.39E-04	1.32E-05	
?	Sn-126	0.773	3.07E-04	2.06E-05	
	CS-137	1.000	5.81E-02	3.63E-04	
	AM-241	0.998	3.21E-04	3.76E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2529 TI185-5.5M-S4-CST-A W0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 1:15:57PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	3	163.91	1.42299E-02	465.40		
F	8	1081.11	8.40387E-02	37.16	Sum	
F	9	1109.80	6.46508E-02	15.11	Sum	
F	12	1361.46	6.11512E-02	11.70	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	9.27E-04	9.27E-04	1.39E-03	4.61E-04
	K-40	1460.83		10.67	1.47E-04	1.47E-04	-7.48E-06	6.76E-05
	MN-54	834.84		99.98	1.87E-05	1.87E-05	-2.46E-06	8.93E-06
	CO-58	810.78		99.45	1.92E-05	1.92E-05	-6.54E-06	9.13E-06
		863.96		0.68	3.99E-03		1.99E-04	1.91E-03
		1674.73		0.52	1.86E-03		6.89E-04	8.21E-04
	FE-59	142.65		1.00	4.23E-03	3.06E-05	-1.59E-03	2.10E-03
		192.35		3.01	2.50E-03		1.20E-03	1.24E-03
		334.80		0.27	2.33E-02		1.71E-02	1.16E-02
		1099.25		56.30	3.46E-05		-1.58E-05	1.64E-05
		1291.60		43.70	3.06E-05		-1.40E-05	1.41E-05
+	CO-60	1173.24	*	99.97	3.72E-05	3.03E-05	6.21E-04	1.79E-05
		1332.50	*	99.99	3.03E-05		6.06E-04	1.44E-05
		2505.74	*	1.00	1.52E-03		5.41E-03	6.64E-04

Analysis Report for 24-2529 TI185-5.5M-S4-CST-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	514.00		96.00	7.60E-05	7.60E-05	1.88E-05	3.77E-05
		868.60		0.01	1.77E-01		-3.80E-02	8.47E-02
	NB-94	702.62		97.90	2.39E-05	2.39E-05	-1.81E-05	1.14E-05
		871.09		99.98	2.88E-05		-6.96E-07	1.38E-05
	NB-95	765.81		99.81	1.73E-05	1.73E-05	1.56E-05	8.25E-06
	RU-103	497.05		91.00	8.60E-05	8.60E-05	3.35E-06	4.26E-05
		610.30		5.76	9.60E-04		2.75E-04	4.74E-04
	RH-106	511.86		20.70	4.21E-04	4.21E-04	-1.96E-04	2.09E-04
		621.92		9.93	7.11E-04		-7.74E-04	3.51E-04
		1050.36		1.56	1.79E-03		8.06E-04	8.54E-04
	AG-108M	79.13		6.60	7.67E-04	4.05E-05	-1.07E-04	3.80E-04
		433.90		90.50	1.79E-04		1.77E-05	8.88E-05
		614.30		89.80	1.12E-04		-6.50E-05	5.51E-05
		722.90		90.80	4.05E-05		2.80E-05	1.94E-05
+	CD-109	88.03	*	3.61	1.51E-03	1.51E-03	3.90E-03	7.51E-04
	SB-125	176.31		6.82	6.90E-04	2.92E-04	-1.26E-04	3.42E-04
		380.45		1.52	4.62E-03		1.49E-03	2.29E-03
		427.87		29.55	2.92E-04		-1.84E-04	1.45E-04
		463.36		10.48	9.72E-04		1.11E-03	4.83E-04
		600.60		17.76	3.03E-04		-1.92E-04	1.50E-04
		606.71		5.02	1.11E-03		6.78E-04	5.46E-04
		635.95		11.32	4.51E-04		2.23E-04	2.23E-04
		671.44		1.78	1.97E-03		1.59E-04	9.62E-04
+	SB-126	223.90		1.39	4.04E-03	2.77E-05	1.33E-03	2.01E-03
		278.20		2.40	7.39E-03		3.91E-03	3.67E-03
		296.50		4.50	4.32E-03		3.23E-03	2.15E-03
		414.70	*	83.30	2.66E-04		4.40E-04	1.32E-04
		556.30		1.69	1.13E-02		-1.01E-02	5.60E-03
		573.90		6.70	2.75E-03		3.13E-04	1.36E-03
		593.20		7.50	1.78E-03		-2.15E-03	8.79E-04
		656.30		2.19	6.09E-02		3.98E-04	3.04E-02
		666.50	*	99.60	2.77E-05		4.53E-04	1.29E-05
		674.80		3.10	1.89E-03		3.15E-04	9.02E-04
		695.00	*	99.60	7.61E-05		4.25E-04	3.71E-05
		697.00		29.00	4.25E-04		-1.15E-05	2.08E-04
		720.70		53.80	1.12E-04		7.50E-05	5.39E-05
		856.80		17.60	2.94E-04		2.40E-04	1.41E-04
		989.60		6.80	7.83E-04		-6.21E-05	3.74E-04
		1213.30		2.39	1.62E-03		-6.33E-04	7.56E-04
+	Sn-126	64.28		9.60	8.07E-04	1.19E-04	1.21E-04	4.00E-04
		87.30	*	45.90	1.19E-04		3.07E-04	5.90E-05
	I-129	29.70		56.60	1.65E-02	9.65E-03	-4.53E-03	8.18E-03
		33.60		10.04	2.77E-02		-2.24E-02	1.37E-02
		34.40		2.01	1.13E-01		1.80E-01	5.61E-02
		39.60		7.51	9.65E-03		-2.01E-03	4.78E-03
	CS-134	563.25		8.34	1.16E-03	2.74E-05	7.34E-04	5.71E-04
		569.33		15.37	6.46E-04		2.05E-04	3.19E-04
		604.72		97.62	8.02E-05		-2.63E-05	3.96E-05
		795.86		85.46	2.74E-05		5.71E-06	1.30E-05
		801.95		8.69	3.37E-04		-1.78E-04	1.60E-04
+	CS-137	661.66	*	85.20	4.02E-05	4.02E-05	5.81E-02	1.97E-05
	CE-139	165.85		79.89	5.74E-05	5.74E-05	-2.45E-05	2.85E-05
	CE-141	40.70		3.35	1.77E-02	8.80E-05	-8.02E-03	8.78E-03

Analysis Report for 24-2529 TI185-5.5M-S4-CST-A W0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
CE-141	145.44	48.29	8.80E-05	8.80E-05	-1.96E-05	4.37E-05
CE-144	80.12	1.36	3.66E-03	3.77E-04	3.89E-04	1.82E-03
	133.51	11.09	3.77E-04		2.46E-04	1.87E-04
EU-152	121.78	28.58	1.97E-04	7.15E-05	3.82E-05	9.79E-05
	344.28	26.50	2.98E-04		3.07E-05	1.48E-04
	778.90	12.94	1.75E-04		-9.51E-05	8.30E-05
	964.08	14.73	1.80E-04		-1.12E-05	8.63E-05
	1085.87	10.24	2.42E-04		5.71E-05	1.17E-04
	1112.07	13.69	2.17E-04		3.05E-04	1.04E-04
	1408.01	21.07	7.15E-05		-1.25E-04	3.25E-05
GD-153	97.43	29.00	1.44E-04	1.44E-04	-4.86E-05	7.14E-05
	103.18	21.10	1.94E-04		-1.18E-04	9.61E-05
EU-154	42.70	20.45	2.10E-03	6.43E-05	-5.35E-05	1.04E-03
	123.07	40.40	1.36E-04		1.30E-04	6.73E-05
	247.93	6.89	1.19E-03		-2.19E-04	5.91E-04
	591.76	4.95	1.78E-03		3.79E-04	8.80E-04
	692.42	1.78	2.91E-03		-5.86E-05	1.43E-03
	723.30	20.06	1.42E-04		2.63E-04	6.81E-05
	756.80	4.52	5.71E-04		-3.13E-04	2.71E-04
	873.18	12.08	2.65E-04		2.05E-04	1.27E-04
	996.29	10.48	2.48E-04		7.95E-05	1.19E-04
	1004.76	18.01	1.41E-04		-5.13E-06	6.73E-05
	1246.12	0.86	2.47E-03		-5.52E-04	1.13E-03
	1274.43	34.80	6.43E-05		5.29E-05	3.03E-05
	1494.05	0.70	1.78E-03		1.42E-03	8.09E-04
	1596.48	1.80	3.32E-04		1.75E-04	1.47E-04
EU-155	43.00	18.70	2.20E-03	1.63E-04	-4.89E-04	1.09E-03
	60.01	1.22	8.05E-03		2.10E-03	3.99E-03
	86.55	30.70	1.63E-04		-1.79E-06	8.08E-05
	105.31	21.10	1.86E-04		-4.25E-06	9.21E-05
HG-203	72.87	6.30	9.22E-04	7.33E-05	-3.04E-04	4.57E-04
	279.20	81.46	7.33E-05		1.05E-04	3.64E-05
BI-207	569.15	97.80	8.27E-05	4.48E-05	6.23E-05	4.08E-05
	1063.10	74.90	4.48E-05		1.23E-06	2.13E-05
PB-210	46.54	4.25	6.46E-03	6.46E-03	1.55E-03	3.20E-03
RA-226	74.81	6.44	8.57E-04	8.83E-05	2.38E-04	4.25E-04
	77.11	10.80	4.89E-04		3.48E-05	2.42E-04
	87.30	4.84	1.02E-03		3.10E-03	5.08E-04
	186.21	3.59	1.53E-03		2.22E-03	7.59E-04
	242.00	7.43	7.53E-04		-6.97E-05	3.74E-04
	295.22	19.30	3.09E-04		3.20E-04	1.54E-04
	351.93	37.60	1.73E-04		-5.65E-05	8.59E-05
	609.31	46.10	1.20E-04		1.19E-04	5.92E-05
	768.36	4.94	3.44E-04		1.94E-04	1.64E-04
	1120.29	15.10	1.31E-04		6.43E-05	6.23E-05
	1238.11	5.79	2.75E-04		1.20E-04	1.28E-04
	1764.49	15.40	8.83E-05		-1.59E-05	3.96E-05
PA-231	283.70	1.59	3.76E-03	2.51E-03	1.97E-03	1.87E-03
	300.07	2.38	2.51E-03		-1.73E-03	1.25E-03
	302.67	1.71	3.51E-03		-1.88E-03	1.74E-03
	330.07	1.32	4.69E-03		-4.48E-03	2.33E-03
TH-232	74.81	11.62	4.75E-04	4.80E-05	1.32E-04	2.36E-04
	77.11	17.50	3.02E-04		2.15E-05	1.50E-04

Analysis Report for 24-2529 TI185-5.5M-S4-CST-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	87.30		7.80	6.35E-04	4.80E-05	1.92E-03	3.15E-04
		238.63		43.30	1.29E-04		4.97E-05	6.40E-05
		338.32		11.30	5.58E-04		-3.46E-04	2.77E-04
		583.19		30.37	1.86E-04		-3.92E-05	9.17E-05
		727.33		6.58	2.89E-04		5.29E-05	1.39E-04
		911.21		26.60	8.42E-05		-7.30E-05	4.04E-05
		968.97		16.20	1.28E-04		-7.82E-05	6.12E-05
		2614.53		35.64	4.80E-05		3.85E-05	2.11E-05
	U-235	143.76		10.96	3.84E-04	9.53E-05	6.05E-05	1.91E-04
		185.71		57.20	9.53E-05		1.75E-04	4.74E-05
		205.31		5.01	1.13E-03		4.05E-04	5.61E-04
	U-238	63.29		3.70	2.22E-03	9.98E-04	1.24E-03	1.10E-03
		92.51		4.23	9.98E-04		9.01E-04	4.95E-04
		112.81		0.21	1.87E-02		-1.68E-02	9.29E-03
		742.81		0.11	1.52E-02		-6.81E-04	7.24E-03
		766.28		0.32	5.45E-03		3.59E-03	2.60E-03
		1001.03		0.84	2.77E-03		1.96E-03	1.33E-03
	NP-239	99.60		12.80	3.35E-04	1.77E-04	-7.73E-06	1.66E-04
		103.80		20.40	2.08E-04		1.08E-04	1.03E-04
		106.10		26.40	1.77E-04		-1.72E-04	8.77E-05
		116.90		7.61	5.60E-04		-7.90E-05	2.78E-04
		228.20		11.20	5.74E-04		-5.60E-05	2.85E-04
		277.60		14.50	4.85E-04		1.33E-04	2.41E-04
		315.90		1.60	3.63E-03		3.36E-03	1.80E-03
		334.30		2.06	2.38E-03		-1.44E-03	1.18E-03
+	AM-241	59.54	*	35.90	2.81E-04	2.81E-04	3.21E-04	1.40E-04

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

Apex-Gamma

Analysis Report for 24-2530 TI185-5.5M-S4-CST-d-A W0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2530 TI185-5.5M-S4-CST-d-A W0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 1:40:22PM
Procedure	: W0_gsv02mlw
Operator	: Administrator
Detector Name	: W
Geometry	: W0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1208.6 seconds
Dead Time	: 0.71 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 8/11/2023
Efficiency Calibration Used Done On	: 5/17/2021
Efficiency Calibration Description	: W0_gsv2mlw_R724p
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578951
Certificate Name	: R735-A10 20ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 2:00:36PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2530 TI185-5.5M-S4-CST-d-A W0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.66	162.39	0.2863	4.72
2	87.57	237.73	0.2009	8.74
3	199.65	540.23	0.3673	3.05
4	414.74	1120.59	0.1944	8.51
5	661.71	1787.38	0.0362	205.85
6	666.41	1800.80	0.1908	10.95
7	695.14	1877.67	0.1545	11.82
8	996.57	2690.30	0.3235	3.12
9	1081.34	2920.39	0.2273	4.57
10	1110.10	2997.87	0.2416	5.00
11	1173.36	3168.80	0.1200	16.23
12	1274.51	3441.65	0.2505	3.55
13	1332.65	3598.88	0.1223	14.24
14	1361.39	3676.17	0.2688	3.34
15	2505.22	6765.78	0.2017	4.16

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2530 TI185-5.5M-S4-CST-d-A W0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 2:00:36PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.66	157 -	167	162.37	5.24E+02	187.38	2.71E+03	1.30
F	2	87.57	230 -	245	237.71	1.34E+03	205.86	3.99E+03	1.55
F	3	199.65	537 -	546	540.19	1.55E+02	49.00	3.37E+03	0.94
F	4	414.74	1114 -	1127	1120.75	7.89E+02	55.84	3.66E+03	1.52
M	5	661.71	1776 -	1810	1787.38	1.83E+05	527.26	6.39E+02	1.83
m	6	666.41	1776 -	1810	1800.09	6.40E+02	26.46	4.29E+01	1.83
F	7	695.14	1869 -	1886	1877.65	5.77E+02	25.17	1.22E+02	1.79
F	8	996.57	2683 -	2694	2691.39	3.08E+01	8.23	6.32E+01	0.47
F	9	1081.34	2912 -	2926	2920.25	1.08E+02	11.99	4.53E+01	2.15
F	10	1110.10	2989 -	3006	2997.90	8.86E+01	32.22	5.40E+01	1.71
F	11	1173.36	3158 -	3179	3168.71	1.22E+03	65.44	6.07E+01	2.19
F	12	1274.51	3434 -	3449	3441.81	5.23E+01	9.07	3.16E+01	1.89
F	13	1332.65	3588 -	3610	3598.79	1.11E+03	33.06	1.69E+01	2.34
F	14	1361.39	3669 -	3683	3676.40	4.25E+01	8.03	2.22E+01	1.90
F	15	2505.22	6757 -	6775	6765.67	9.07E+01	9.58	0.00E+00	2.84

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 2:00:36PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578898.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.66	5.24E+02	187.38			5.24E+02	1.87E+02

Analysis Report for 24-2530 TI185-5.5M-S4-CST-d-A W0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	2	87.57	1.34E+03	205.86	9.22E+00	7.54E-01	1.33E+03	2.06E+02
F	3	199.65	1.55E+02	49.00			1.55E+02	4.90E+01
F	4	414.74	7.89E+02	55.84			7.89E+02	5.58E+01
M	5	661.71	1.83E+05	527.26			1.83E+05	5.27E+02
m	6	666.41	6.40E+02	26.46	8.76E-01	8.33E-02	6.40E+02	2.65E+01
F	7	695.14	5.77E+02	25.17			5.77E+02	2.52E+01
F	8	996.57	3.08E+01	8.23			3.08E+01	8.23E+00
F	9	1081.34	1.08E+02	11.99			1.08E+02	1.20E+01
F	10	1110.10	8.86E+01	32.22			8.86E+01	3.22E+01
F	11	1173.36	1.22E+03	65.44			1.22E+03	6.54E+01
F	12	1274.51	5.23E+01	9.07			5.23E+01	9.07E+00
F	13	1332.65	1.11E+03	33.06			1.11E+03	3.31E+01
F	14	1361.39	4.25E+01	8.03			4.25E+01	8.03E+00
F	15	2505.22	9.07E+01	9.58			9.07E+01	9.58E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	6.12E-04	3.31E-05	0.773
		1332.50	*	99.99	6.12E-04	1.87E-05	0.765
		2505.74	*	1.00	6.56E-03	8.06E-04	miss
CD-109	0.96	88.03	*	3.61	4.92E-03	7.74E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	4.82E-04	4.61E-05	0.393
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	4.59E-04	1.92E-05	0.382
		674.80		3.10			
		695.00	*	99.60	4.26E-04	1.87E-05	0.381

Analysis Report for 24-2530 TI185-5.5M-S4-CST-d-A W0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.77	64.28		9.60			
		87.30	*	45.90	3.86E-04	6.22E-05	miss
CS-137	1.00	661.66	*	85.20	5.81E-02	3.58E-04	miss
AM-241	0.99	59.54	*	35.90	4.18E-04	1.50E-04	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-60	0.997	6.14E-04	1.63E-05	
?	CD-109	0.967	4.92E-03	7.74E-04	
	SB-126	0.489	4.45E-04	1.29E-05	
?	Sn-126	0.770	3.86E-04	6.22E-05	
	CS-137	1.000	5.81E-02	3.58E-04	
	AM-241	0.998	4.18E-04	1.50E-04	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2530 TI185-5.5M-S4-CST-d-A W0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 2:00:36PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	199.65	1.29554E-01	31.52		
F	8	996.57	2.56351E-02	26.76	Tol.	EU-154
F	9	1081.34	8.97652E-02	11.13	Sum	
F	10	1110.10	7.38488E-02	36.36	Sum	
F	12	1274.51	4.35667E-02	17.35	Tol.	EU-154
F	14	1361.39	3.53777E-02	18.91	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.61	10.44	9.20E-04	9.20E-04	9.61E-04	4.57E-04
K-40	1460.83	10.67	1.56E-04	1.56E-04	1.49E-04	7.24E-05
MN-54	834.84	99.98	1.84E-05	1.84E-05	1.06E-05	8.75E-06
CO-58	810.78	99.45	1.87E-05	1.87E-05	8.92E-06	8.89E-06
	863.96	0.68	3.87E-03		-1.96E-03	1.85E-03
	1674.73	0.52	1.95E-03		4.05E-05	8.64E-04
FE-59	142.65	1.00	4.20E-03	3.13E-05	5.22E-04	2.08E-03
	192.35	3.01	2.49E-03		-2.95E-04	1.24E-03
	334.80	0.27	2.35E-02		1.97E-03	1.17E-02
	1099.25	56.30	3.60E-05		-3.84E-05	1.71E-05
	1291.60	43.70	3.13E-05		5.89E-06	1.44E-05

Analysis Report for 24-2530 TI185-5.5M-S4-CST-d-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	CO-60	1173.24	*	99.97	3.42E-05	2.07E-05	6.12E-04	1.64E-05
		1332.50	*	99.99	2.07E-05		6.12E-04	9.60E-06
		2505.74	*	1.00	1.96E-04		6.56E-03	0.00E+00
	SR-85	514.00		96.00	7.49E-05	7.49E-05	5.50E-05	3.71E-05
		868.60		0.01	1.87E-01		2.40E-02	8.97E-02
	NB-94	702.62		97.90	2.70E-05	2.70E-05	3.98E-06	1.30E-05
		871.09		99.98	3.07E-05		3.50E-05	1.47E-05
	NB-95	765.81		99.81	1.97E-05	1.97E-05	2.70E-05	9.44E-06
	RU-103	497.05		91.00	8.53E-05	8.53E-05	-9.26E-06	4.23E-05
		610.30		5.76	9.40E-04		-2.04E-04	4.64E-04
	RH-106	511.86		20.70	4.17E-04	4.17E-04	8.65E-06	2.07E-04
		621.92		9.93	7.19E-04		-2.52E-04	3.54E-04
		1050.36		1.56	1.69E-03		-1.25E-03	8.02E-04
	AG-108M	79.13		6.60	7.60E-04	4.02E-05	-1.60E-04	3.77E-04
		433.90		90.50	1.79E-04		1.34E-05	8.90E-05
		614.30		89.80	1.10E-04		6.91E-05	5.45E-05
		722.90		90.80	4.02E-05		6.34E-05	1.93E-05
+	CD-109	88.03	*	3.61	1.73E-03	1.73E-03	4.92E-03	8.59E-04
	SB-125	176.31		6.82	6.94E-04	2.98E-04	2.19E-04	3.45E-04
		380.45		1.52	4.58E-03		-3.02E-03	2.27E-03
		427.87		29.55	2.98E-04		3.40E-04	1.48E-04
		463.36		10.48	9.76E-04		1.26E-04	4.85E-04
		600.60		17.76	3.04E-04		3.48E-05	1.50E-04
		606.71		5.02	1.06E-03		-6.73E-05	5.23E-04
		635.95		11.32	4.49E-04		-3.19E-04	2.21E-04
		671.44		1.78	1.94E-03		-1.80E-04	9.51E-04
+	SB-126	223.90		1.39	4.01E-03	2.39E-05	2.60E-03	1.99E-03
		278.20		2.40	7.29E-03		-2.65E-03	3.62E-03
		296.50		4.50	4.37E-03		5.48E-03	2.17E-03
		414.70	*	83.30	2.60E-04		4.82E-04	1.29E-04
		556.30		1.69	1.14E-02		7.10E-03	5.63E-03
		573.90		6.70	2.77E-03		6.25E-05	1.37E-03
		593.20		7.50	1.77E-03		-3.12E-04	8.76E-04
		656.30		2.19	6.04E-02		-6.55E-03	3.02E-02
		666.50	*	99.60	2.39E-05		4.59E-04	1.10E-05
		674.80		3.10	1.79E-03		9.30E-05	8.55E-04
		695.00	*	99.60	6.50E-05		4.26E-04	3.15E-05
		697.00		29.00	4.34E-04		2.01E-03	2.13E-04
		720.70		53.80	1.12E-04		8.75E-05	5.38E-05
		856.80		17.60	2.75E-04		-1.40E-04	1.31E-04
		989.60		6.80	8.45E-04		-6.66E-04	4.05E-04
		1213.30		2.39	1.68E-03		8.75E-04	7.86E-04
+	Sn-126	64.28		9.60	7.97E-04	1.36E-04	1.07E-03	3.95E-04
		87.30	*	45.90	1.36E-04		3.86E-04	6.75E-05
	I-129	29.70		56.60	1.67E-02	9.35E-03	7.86E-03	8.27E-03
		33.60		10.04	2.77E-02		-7.45E-03	1.38E-02
		34.40		2.01	1.12E-01		7.53E-02	5.55E-02
		39.60		7.51	9.35E-03		-8.46E-03	4.64E-03
	CS-134	563.25		8.34	1.16E-03	2.99E-05	-4.90E-04	5.74E-04
		569.33		15.37	6.50E-04		-9.23E-05	3.21E-04
		604.72		97.62	7.80E-05		-8.13E-05	3.85E-05
		795.86		85.46	2.99E-05		-5.41E-06	1.43E-05
		801.95		8.69	3.54E-04		2.12E-05	1.69E-04

Analysis Report for 24-2530 TI185-5.5M-S4-CST-d-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	CS-137	661.66	*	85.20	3.83E-05	3.83E-05	5.81E-02	1.87E-05
	CE-139	165.85		79.89	5.73E-05	5.73E-05	-2.14E-05	2.84E-05
	CE-141	40.70		3.35	1.73E-02	8.81E-05	-1.00E-02	8.57E-03
		145.44		48.29	8.81E-05		6.47E-05	4.37E-05
	CE-144	80.12		1.36	3.62E-03	3.77E-04	-4.79E-04	1.80E-03
		133.51		11.09	3.77E-04		-3.87E-04	1.87E-04
	EU-152	121.78		28.58	1.96E-04	7.44E-05	2.27E-04	9.73E-05
		344.28		26.50	2.97E-04		-4.84E-05	1.47E-04
		778.90		12.94	1.71E-04		-1.96E-04	8.14E-05
		964.08		14.73	1.90E-04		-2.18E-04	9.13E-05
		1085.87		10.24	2.50E-04		4.05E-05	1.21E-04
		1112.07		13.69	2.20E-04		2.18E-04	1.06E-04
		1408.01		21.07	7.44E-05		1.39E-05	3.39E-05
	GD-153	97.43		29.00	1.43E-04	1.43E-04	-2.19E-05	7.09E-05
		103.18		21.10	1.93E-04		-1.42E-05	9.56E-05
	EU-154	42.70		20.45	2.06E-03	6.77E-05	-3.81E-04	1.02E-03
		123.07		40.40	1.34E-04		6.20E-05	6.64E-05
		247.93		6.89	1.19E-03		7.71E-04	5.90E-04
		591.76		4.95	1.75E-03		-3.46E-04	8.65E-04
		692.42		1.78	2.95E-03		-5.59E-05	1.44E-03
		723.30		20.06	1.38E-04		2.36E-04	6.65E-05
		756.80		4.52	6.23E-04		-1.41E-04	2.97E-04
		873.18		12.08	2.76E-04		1.81E-04	1.33E-04
		996.29		10.48	2.61E-04		1.00E-04	1.25E-04
		1004.76		18.01	1.44E-04		-8.61E-05	6.92E-05
		1246.12		0.86	2.49E-03		-3.04E-03	1.15E-03
		1274.43		34.80	6.77E-05		1.16E-04	3.20E-05
		1494.05		0.70	1.83E-03		9.38E-04	8.33E-04
		1596.48		1.80	4.12E-04		-2.31E-04	1.87E-04
	EU-155	43.00		18.70	2.15E-03	1.62E-04	-3.15E-04	1.07E-03
		60.01		1.22	7.86E-03		-6.34E-03	3.90E-03
		86.55		30.70	1.62E-04		-8.66E-06	8.06E-05
		105.31		21.10	1.84E-04		1.15E-04	9.12E-05
	HG-203	72.87		6.30	9.24E-04	7.25E-05	6.67E-04	4.58E-04
		279.20		81.46	7.25E-05		7.05E-05	3.60E-05
	BI-207	569.15		97.80	8.29E-05	4.29E-05	-4.44E-05	4.10E-05
		1063.10		74.90	4.29E-05		-7.15E-06	2.03E-05
	PB-210	46.54		4.25	6.37E-03	6.37E-03	-1.16E-02	3.16E-03
	RA-226	74.81		6.44	8.55E-04	7.50E-05	5.18E-04	4.24E-04
		77.11		10.80	4.85E-04		3.18E-04	2.41E-04
		87.30		4.84	1.02E-03		3.69E-03	5.04E-04
		186.21		3.59	1.53E-03		4.14E-03	7.61E-04
		242.00		7.43	7.54E-04		6.19E-04	3.75E-04
		295.22		19.30	3.11E-04		-1.36E-04	1.55E-04
		351.93		37.60	1.75E-04		5.66E-05	8.70E-05
		609.31		46.10	1.17E-04		1.44E-04	5.78E-05
		768.36		4.94	3.87E-04		2.08E-04	1.85E-04
		1120.29		15.10	1.35E-04		4.78E-05	6.42E-05
		1238.11		5.79	2.54E-04		1.23E-04	1.17E-04
		1764.49		15.40	7.50E-05		1.75E-05	3.30E-05
	PA-231	283.70		1.59	3.75E-03	2.52E-03	-5.94E-04	1.86E-03
		300.07		2.38	2.52E-03		9.95E-06	1.25E-03
		302.67		1.71	3.51E-03		1.72E-03	1.74E-03

Analysis Report for 24-2530 TI185-5.5M-S4-CST-d-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PA-231	330.07		1.32	4.65E-03	2.52E-03	-4.37E-03	2.31E-03
	TH-232	74.81		11.62	4.74E-04	3.73E-05	2.87E-04	2.35E-04
		77.11		17.50	2.99E-04		1.96E-04	1.49E-04
		87.30		7.80	6.31E-04		2.29E-03	3.13E-04
		238.63		43.30	1.29E-04		3.03E-05	6.40E-05
		338.32		11.30	5.66E-04		1.37E-04	2.81E-04
		583.19		30.37	1.81E-04		-1.24E-04	8.92E-05
		727.33		6.58	2.78E-04		-2.48E-04	1.33E-04
		911.21		26.60	8.23E-05		-8.39E-06	3.95E-05
		968.97		16.20	1.40E-04		7.17E-05	6.70E-05
		2614.53		35.64	3.73E-05		2.14E-05	1.57E-05
	U-235	143.76		10.96	3.83E-04	9.55E-05	1.48E-04	1.90E-04
		185.71		57.20	9.55E-05		1.68E-04	4.74E-05
		205.31		5.01	1.11E-03		6.85E-04	5.54E-04
	U-238	63.29		3.70	2.20E-03	9.91E-04	2.14E-03	1.09E-03
		92.51		4.23	9.91E-04		4.59E-05	4.91E-04
		112.81		0.21	1.86E-02		-2.11E-04	9.22E-03
		742.81		0.11	1.64E-02		4.65E-04	7.81E-03
		766.28		0.32	6.09E-03		3.62E-03	2.92E-03
		1001.03		0.84	2.98E-03		2.11E-03	1.43E-03
	NP-239	99.60		12.80	3.36E-04	1.77E-04	-8.99E-05	1.66E-04
		103.80		20.40	2.07E-04		-4.83E-05	1.02E-04
		106.10		26.40	1.77E-04		1.04E-05	8.76E-05
		116.90		7.61	5.62E-04		3.10E-04	2.78E-04
		228.20		11.20	5.80E-04		-1.77E-05	2.88E-04
		277.60		14.50	4.85E-04		5.76E-04	2.41E-04
		315.90		1.60	3.68E-03		-8.49E-04	1.82E-03
		334.30		2.06	2.42E-03		-2.33E-04	1.20E-03
+	AM-241	59.54	*	35.90	2.67E-04	2.67E-04	4.18E-04	1.33E-04

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

Apex-Gamma

Analysis Report for 24-2531 TI185-6.0M-S1-CST-A F0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2531 TI185-6.0M-S1-CST-A F0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 2:16:22PM
Procedure	: F0_gsv02mlw
Operator	: Administrator
Detector Name	: F
Geometry	: F0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.7 seconds
Dead Time	: 0.14 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: F0_gsv2mlw_R717
Sample Number	: 578958
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 2:36:29PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2531 TI185-6.0M-S1-CST-A F0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.71	167.40	0.1847	11.12
2	64.36	180.30	0.3290	4.50
3	87.56	245.29	0.1559	14.84
4	123.32	345.06	0.2331	7.28
5	414.91	1160.09	0.1393	15.38
6	661.88	1850.42	0.0593	70.92
7	666.69	1864.00	0.1421	13.91
8	695.29	1943.50	0.1346	14.00
9	996.27	2784.47	0.2987	3.05
10	1005.34	2809.61	0.3031	3.28
11	1081.45	3022.91	0.2190	5.26
12	1110.24	3102.92	0.2077	5.56
13	1173.74	3280.76	0.1083	18.65
14	1275.21	3563.81	0.2225	4.48
15	1333.00	3725.74	0.1078	16.57
16	1362.24	3806.73	0.2336	4.36
17	1460.99	4083.12	0.2813	3.34
18	2506.55	7004.01	0.1876	4.61

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2531 TI185-6.0M-S1-CST-A F0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 2:36:29PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.71	161 -	173	167.41	7.49E+02	117.45	7.80E+02	1.18
F	2	64.36	174 -	187	180.40	1.53E+02	62.23	8.14E+02	0.60
F	3	87.56	237 -	253	245.26	1.37E+03	142.44	9.79E+02	1.41
F	4	123.32	336 -	353	345.20	4.34E+02	116.05	6.48E+02	1.36
F	5	414.91	1152 -	1171	1160.17	9.07E+02	34.88	6.64E+02	1.56
M	6	661.88	1838 -	1874	1850.36	1.85E+04	199.57	1.26E+02	1.84
m	7	666.69	1838 -	1874	1863.82	7.20E+02	28.15	5.38E+01	1.84
F	8	695.29	1934 -	1952	1943.74	6.94E+02	26.96	1.19E+02	1.79
F	9	996.27	2778 -	2789	2784.82	2.98E+01	32.37	5.45E+01	1.00
F	10	1005.34	2805 -	2814	2810.16	1.79E+01	4.34	5.36E+01	0.49
F	11	1081.45	3014 -	3028	3022.85	8.79E+01	18.89	5.65E+01	1.77
F	12	1110.24	3097 -	3112	3103.29	1.04E+02	12.19	5.83E+01	1.91
F	13	1173.74	3270 -	3292	3280.73	1.47E+03	36.88	6.28E+01	2.30
F	14	1275.21	3554 -	3572	3564.26	8.62E+01	33.01	2.85E+01	1.41
F	15	1333.00	3714 -	3736	3725.75	1.39E+03	35.75	3.45E+01	2.40
F	16	1362.24	3798 -	3815	3807.45	6.53E+01	28.27	1.80E+01	1.34
F	17	1460.99	4078 -	4090	4083.37	1.83E+01	6.38	2.54E+01	1.31
F	18	2506.55	6994 -	7016	7004.38	1.11E+02	10.37	5.20E+00	3.10

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 2:36:29PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578890.CNF

Analysis Report for 24-2531 TI185-6.0M-S1-CST-A F0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.71	7.49E+02	117.45	2.74E+00	3.98E-01	7.46E+02	1.17E+02
F	2	64.36	1.53E+02	62.23	2.07E+01	1.67E+00	1.32E+02	6.23E+01
F	3	87.56	1.37E+03	142.44	1.07E+01	6.14E-01	1.36E+03	1.42E+02
F	4	123.32	4.34E+02	116.05			4.34E+02	1.16E+02
F	5	414.91	9.07E+02	34.88			9.07E+02	3.49E+01
M	6	661.88	1.85E+04	199.57			1.85E+04	2.00E+02
m	7	666.69	7.20E+02	28.15			7.20E+02	2.82E+01
F	8	695.29	6.94E+02	26.96			6.94E+02	2.70E+01
F	9	996.27	2.98E+01	32.37			2.98E+01	3.24E+01
F	10	1005.34	1.79E+01	4.34			1.79E+01	4.34E+00
F	11	1081.45	8.79E+01	18.89			8.79E+01	1.89E+01
F	12	1110.24	1.04E+02	12.19			1.04E+02	1.22E+01
F	13	1173.74	1.47E+03	36.88			1.47E+03	3.69E+01
F	14	1275.21	8.62E+01	33.01			8.62E+01	3.30E+01
F	15	1333.00	1.39E+03	35.75			1.39E+03	3.57E+01
F	16	1362.24	6.53E+01	28.27			6.53E+01	2.83E+01
F	17	1460.99	1.83E+01	6.38	3.57E+01	3.97E-01	-1.74E+01	6.39E+00
F	18	2506.55	1.11E+02	10.37			1.11E+02	1.04E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.99	1460.82	*	10.66	-7.35E-05	2.70E-05	miss
CO-60	0.96	1173.23	*	99.85	7.34E-04	1.89E-05	0.786
		1332.49	*	99.98	7.60E-04	2.01E-05	0.777
CD-109	0.96	88.03	*	3.64	4.57E-03	4.79E-04	free
Te-129m	0.94	695.88	*	3.00	6.52E-03	1.33E-03	free
CS-137	0.99	661.66	*	85.10	5.90E-03	7.31E-05	miss
EU-154	0.40	42.70		20.45			
		123.07	*	40.40	1.60E-04	4.28E-05	0.754
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			

Analysis Report for 24-2531 TI185-6.0M-S1-CST-A F0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.40	723.30		20.06			
		756.80		4.52			
		873.18		12.08			
		996.29	*	10.48	1.14E-04	1.23E-04	0.884
		1004.76	*	18.01	4.05E-05	9.85E-06	0.869
		1246.12		0.86			
		1274.43	*	34.80	1.16E-04	4.44E-05	0.880
		1494.05		0.70			
		1596.48		1.80			
AM-241	0.99	59.54	*	35.90	4.98E-04	7.88E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.995	-7.35E-05	2.70E-05	
CO-60	0.960	7.46E-04	1.38E-05	
CD-109	0.965	4.57E-03	4.79E-04	
Te-129m	0.946	6.52E-03	1.33E-03	
CS-137	0.992	5.90E-03	7.31E-05	
EU-154	0.401	5.00E-05	9.35E-06	
AM-241	0.995	4.98E-04	7.88E-05	

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

Errors quoted at 1.000sigma

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ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 2:36:29PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	64.36	1.10223E-01	47.07	Tol.	W-181 OS-191
F	5	414.91	7.55687E-01	3.85	Tol.	RH-102M
m	7	666.69	5.99825E-01	3.91		
F	11	1081.45	7.32219E-02	21.50		
F	12	1110.24	8.67017E-02	11.72		
F	16	1362.24	5.43902E-02	43.32	Sum	
F	18	2506.55	9.24828E-02	9.34	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.60		10.44	3.35E-04	3.35E-04	2.83E-04	1.65E-04
	NA-22	511.00		179.91	1.53E-05	1.53E-05	-4.63E-06	7.46E-06
		1274.54		99.94	4.64E-05		8.52E-05	2.21E-05
	NA-24	1368.63		99.99	3.57E-05	1.82E-05	-2.11E-05	1.69E-05
		2754.01		99.87	1.82E-05		6.96E-06	7.24E-06
	AL-26	1129.67		2.50	9.68E-04	1.45E-05	-5.81E-04	4.62E-04
		1808.65		99.76	1.45E-05		4.39E-06	6.57E-06
+	K-40	1460.82	*	10.66	1.78E-04	1.78E-04	-7.35E-05	8.32E-05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
K-42	312.60	0.34	1.10E-02	1.16E-04	-6.04E-03	5.38E-03
	1524.60	18.08	1.16E-04		4.17E-05	5.27E-05
Sc-44	1157.02	99.90	7.63E-05	7.63E-05	-1.50E-04	3.62E-05
	1499.46	0.91	6.57E-03		4.24E-03	3.02E-03
Sc-44m	271.24	86.74	2.92E-05	2.92E-05	4.98E-06	1.43E-05
	1001.83	1.20	4.11E-03		3.41E-03	1.98E-03
	1126.06	1.20	3.65E-03		-2.27E-03	1.75E-03
	1157.00	1.20	3.19E-03		-6.28E-03	1.51E-03
TI-44	67.87	93.00	3.79E-05	2.84E-05	-9.32E-06	1.86E-05
	78.32	96.40	2.84E-05		-1.39E-06	1.40E-05
SC-46	889.28	99.98	3.13E-05	3.13E-05	1.46E-05	1.50E-05
	1120.55	99.99	3.26E-05		2.57E-06	1.56E-05
CA-47	489.23	5.90	7.06E-04	2.29E-05	4.72E-04	3.46E-04
	807.86	5.90	4.71E-04		1.60E-04	2.26E-04
	1297.09	67.00	2.29E-05		1.73E-05	1.06E-05
SC-47	159.38	68.30	2.84E-05	2.84E-05	-5.77E-09	1.39E-05
SC-48	175.36	7.47	2.74E-04	1.53E-05	-1.80E-04	1.35E-04
	983.53	100.00	2.77E-05		3.51E-05	1.33E-05
	1037.52	97.50	2.65E-05		5.85E-06	1.27E-05
	1312.12	100.00	1.53E-05		-1.68E-05	7.03E-06
V-48	944.13	7.87	4.01E-04	1.85E-05	3.00E-04	1.93E-04
	983.53	99.98	3.19E-05		4.04E-05	1.53E-05
	1312.11	98.20	1.85E-05		-2.03E-05	8.47E-06
	2240.40	2.33	8.65E-04		-5.78E-04	3.86E-04
CR-51	320.08	9.91	2.49E-04	2.49E-04	-1.79E-04	1.22E-04
Fe-52	168.69	99.20	3.49E-05	3.49E-05	2.24E-05	1.71E-05
	377.75	1.64	3.08E-03		1.93E-03	1.51E-03
Mn-52	744.23	90.00	3.53E-05	2.37E-05	2.07E-05	1.69E-05
	848.18	3.32	1.02E-03		1.32E-03	4.88E-04
	935.54	94.50	4.39E-05		2.89E-05	2.11E-05
	1246.28	4.21	6.16E-04		4.16E-04	2.85E-04
	1333.65	5.07	2.39E-03		1.86E-02	1.18E-03
	1434.09	100.00	2.37E-05		-1.63E-05	1.08E-05
MN-54	834.85	99.98	2.10E-05	2.10E-05	6.61E-06	1.00E-05
Co-55	411.50	1.07	5.11E-03	4.45E-05	3.20E-03	2.52E-03
	477.20	20.20	2.33E-04		1.83E-04	1.15E-04
	803.70	1.87	1.44E-03		-8.06E-04	6.90E-04
	931.10	75.00	4.45E-05		1.16E-05	2.14E-05
	1316.60	7.10	2.91E-04		2.58E-04	1.35E-04
	1370.00	2.90	9.10E-04		-4.91E-04	4.28E-04
	1408.50	16.90	1.24E-04		1.74E-05	5.73E-05
Co-56	846.77	99.94	2.74E-05	2.74E-05	1.81E-05	1.31E-05
	977.37	1.42	2.74E-03		-4.98E-04	1.32E-03
	1037.84	14.05	2.35E-04		1.08E-04	1.13E-04
	1175.10	2.25	5.30E-03		4.30E-02	2.61E-03
	1238.29	66.46	3.46E-05		8.86E-06	1.61E-05
	1360.21	4.28	7.19E-04		1.26E-03	3.41E-04
	1771.36	15.41	1.51E-04		2.59E-06	6.94E-05
	2015.20	3.02	5.63E-04		1.44E-04	2.48E-04
	2034.79	7.77	1.89E-04		1.21E-04	8.10E-05
	2598.50	16.97	7.30E-05		2.78E-05	2.90E-05
MN-56	846.76	98.85	1.68E-04	1.68E-04	1.11E-04	8.05E-05
	1810.73	26.90	5.00E-04		-2.23E-04	2.24E-04

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	MN-56	2113.09		14.20	9.75E-04	1.68E-04	-1.83E-04	4.33E-04
	Ni-56	158.38		98.80	1.90E-05	1.90E-05	-9.40E-06	9.34E-06
		269.50		36.50	6.11E-05		7.33E-06	3.00E-05
		480.44		36.50	9.18E-05		-7.70E-05	4.51E-05
		749.50		49.50	3.84E-05		-1.71E-06	1.84E-05
		811.85		86.00	2.29E-05		-1.52E-05	1.10E-05
		1561.80		14.00	9.95E-05		-7.80E-05	4.51E-05
	CO-57	122.06		85.60	2.26E-05	2.26E-05	-3.60E-06	1.11E-05
		136.47		10.68	1.53E-04		-8.67E-05	7.49E-05
	NI-57	127.16		16.70	1.33E-04	2.05E-05	-2.55E-05	6.55E-05
		1377.63		81.70	2.05E-05		2.69E-05	9.45E-06
		1757.55		5.75	2.98E-04		-1.71E-04	1.35E-04
		1919.52		12.30	1.15E-04		-3.34E-05	5.07E-05
	CO-58	810.76		99.45	2.13E-05	2.13E-05	-8.09E-06	1.02E-05
		863.96		0.69	4.46E-03		-5.95E-04	2.14E-03
		1674.73		0.52	1.88E-03		-1.08E-03	8.28E-04
	FE-59	142.65		1.02	1.66E-03	3.12E-05	1.37E-03	8.15E-04
		192.34		3.08	9.27E-04		-5.78E-04	4.56E-04
		1099.24		56.50	4.69E-05		2.75E-05	2.25E-05
		1291.59		43.20	3.12E-05		1.04E-06	1.43E-05
+	CO-60	1173.23	*	99.85	3.51E-05	2.88E-05	7.34E-04	1.69E-05
		1332.49	*	99.98	2.88E-05		7.60E-04	1.37E-05
	CU-64	511.00		35.00	1.18E-04	1.18E-04	-3.57E-05	5.75E-05
		1345.77		0.47	4.91E-03		1.79E-03	2.27E-03
	NI-65	366.27		4.81	5.43E-03	4.58E-04	-3.17E-03	2.66E-03
		1115.53		15.43	1.69E-03		1.94E-04	8.17E-04
		1481.84		23.59	4.58E-04		9.98E-05	2.10E-04
	ZN-65	1115.54		50.04	6.14E-05	6.14E-05	7.04E-06	2.97E-05
	GA-66	511.00		114.00	4.15E-05	4.15E-05	-1.26E-05	2.03E-05
		833.53		5.90	6.06E-04		-7.69E-04	2.90E-04
		1039.22		37.00	1.05E-04		-6.71E-05	5.02E-05
		1333.11		1.17	1.13E-02		8.96E-02	5.56E-03
		1918.33		1.99	1.03E-03		-3.58E-04	4.53E-04
		2189.62		5.30	4.34E-04		-2.11E-04	1.90E-04
		2751.83		22.70	7.07E-05		2.35E-05	2.74E-05
	CU-67	91.27		7.00	3.87E-04	4.70E-05	3.63E-05	1.91E-04
		93.31		16.10	1.20E-04		-9.94E-05	5.91E-05
		184.58		48.70	4.70E-05		2.84E-05	2.31E-05
		300.22		0.80	3.37E-03		-3.56E-04	1.66E-03
		393.53		0.22	1.35E-02		-2.65E-03	6.60E-03
	GA-67	91.26		3.11	1.00E-03	5.29E-05	9.42E-05	4.95E-04
		93.31		38.81	5.29E-05		-4.37E-05	2.60E-05
		184.58		21.41	1.06E-04		6.43E-05	5.24E-05
		208.95		2.46	1.27E-03		-2.71E-04	6.22E-04
		300.22		16.64	1.81E-04		-1.91E-05	8.87E-05
		393.53		4.56	3.99E-04		-7.85E-05	1.96E-04
	ZN-69m	438.63		94.85	5.16E-05	5.16E-05	4.98E-05	2.54E-05
	GA-72	629.97		26.13	2.10E-04	4.08E-05	1.46E-04	1.02E-04
		834.13		95.45	4.08E-05		1.76E-05	1.96E-05
		894.33		10.14	5.52E-04		2.83E-04	2.65E-04
		1050.79		6.99	7.68E-04		3.52E-04	3.66E-04
		2201.59		26.87	9.71E-05		2.34E-05	4.27E-05
		2491.03		7.73	1.96E-04		7.46E-05	7.76E-05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
GA-72	2507.72	13.33	5.43E-04	4.08E-05	1.13E-03	2.58E-04
Zn-72	144.70	82.78	2.28E-05	2.28E-05	1.32E-05	1.12E-05
	191.50	9.35	2.64E-04		1.32E-04	1.30E-04
SE-75	121.12	17.20	1.53E-04	3.83E-05	-3.05E-05	7.51E-05
	136.00	58.50	3.83E-05		1.70E-05	1.88E-05
	264.66	58.90	4.92E-05		-1.00E-05	2.41E-05
	279.54	25.02	1.12E-04		-9.74E-05	5.47E-05
	400.66	11.41	8.36E-05		-3.00E-05	4.10E-05
BR-83	529.59	1.30	1.72E-02	1.72E-02	-1.38E-02	8.40E-03
BR-84	604.80	1.70	2.59E+01	9.56E-01	2.87E+01	1.26E+01
	736.50	1.29	2.46E+01		4.26E+00	1.18E+01
	802.20	6.00	5.68E+00		-6.39E-03	2.72E+00
	881.60	42.00	9.56E-01		-7.49E-01	4.60E-01
	987.30	0.79	5.00E+01		7.89E+00	2.40E+01
	1015.90	6.20	6.34E+00		1.54E+00	3.04E+00
	1213.30	2.60	1.14E+01		1.57E+00	5.36E+00
	1463.80	2.00	1.66E+01		2.11E+01	7.81E+00
	1741.20	1.60	1.29E+01		5.37E+00	5.71E+00
	1877.50	1.12	1.52E+01		-9.31E+00	6.52E+00
	1897.60	14.60	1.60E+00		-1.57E+00	7.13E-01
	2029.60	2.10	8.33E+00		-1.25E+01	3.54E+00
	2200.70	1.16	2.00E+01		-2.99E+01	8.81E+00
	2484.10	6.70	1.62E+00		3.48E-01	5.73E-01
	2824.10	1.12	3.27E+00		0.00E+00	0.00E+00
KR-85m	151.20	75.20	7.04E-05	7.04E-05	1.88E-05	3.45E-05
	304.87	14.00	5.53E-04		2.49E-04	2.71E-04
Y-87	388.53	82.20	3.50E-05	3.50E-05	3.22E-05	1.72E-05
	484.80	89.80	3.67E-05		-7.22E-06	1.80E-05
KR-88	165.98	3.10	6.06E-03	1.53E-04	-3.26E-03	2.97E-03
	196.30	26.00	6.36E-04		-9.93E-05	3.13E-04
	362.23	2.25	6.07E-03		-6.91E-03	2.98E-03
	471.80	0.73	3.83E-02		5.54E-02	1.88E-02
	834.83	13.00	1.22E-03		3.84E-04	5.84E-04
	985.78	1.31	1.64E-02		1.30E-02	7.89E-03
	1141.33	1.28	1.16E-02		-1.78E-02	5.52E-03
	1179.51	1.00	6.09E-02		1.13E-02	3.00E-02
	1250.67	1.12	1.11E-02		3.50E-03	5.13E-03
	1369.50	1.48	1.18E-02		-3.29E-03	5.56E-03
	1518.39	2.15	4.96E-03		-7.18E-03	2.23E-03
	1529.77	10.90	1.02E-03		-1.21E-03	4.64E-04
	2029.84	4.53	2.15E-03		-4.71E-03	9.08E-04
	2035.41	3.74	2.43E-03		1.55E-03	1.04E-03
	2195.84	13.20	8.82E-04		-2.06E-04	3.90E-04
	2231.77	3.39	2.27E-03		-3.23E-04	1.01E-03
	2352.08	0.73	1.25E-02		7.18E-03	5.28E-03
	2392.11	34.60	1.53E-04		6.51E-05	6.19E-05
RB-88	898.03	14.40	1.26E-03	4.38E-04	-1.70E-03	6.05E-04
	1382.45	0.78	1.38E-02		8.98E-03	6.35E-03
	1836.00	22.81	4.38E-04		-2.56E-04	1.95E-04
	2677.89	2.13	3.44E-03		1.31E-03	1.36E-03
Y-88	898.04	93.70	3.09E-05	1.72E-05	-4.17E-05	1.49E-05
	1836.06	99.20	1.72E-05		-1.01E-05	7.69E-06
RB-89	272.42	1.53	8.58E+05	1.86E+04	9.60E+05	4.21E+05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
RB-89	657.77	10.80	9.13E+05	1.86E+04	-2.50E+04	4.55E+05
	947.73	10.00	1.42E+05		-1.26E+05	6.86E+04
	1031.92	63.00	2.13E+04		-1.38E+03	1.02E+04
	1248.14	46.00	1.86E+04		-1.41E+04	8.62E+03
	1538.07	2.77	2.90E+05		2.36E+05	1.32E+05
	2007.50	2.58	2.94E+05		-3.88E+05	1.30E+05
	2195.92	14.50	5.66E+04		-1.32E+04	2.51E+04
	2570.20	10.70	5.01E+04		1.91E+04	1.99E+04
	2707.26	2.20	2.12E+05		-1.81E+05	7.95E+04
SR-89	908.96	0.01	2.56E-01	2.56E-01	1.83E-02	1.23E-01
Sr-91	652.90	11.35	3.79E-04	1.14E-04	-2.45E-04	1.84E-04
	749.80	23.70	1.32E-04		-5.89E-06	6.32E-05
	925.80	3.85	1.09E-03		2.54E-04	5.27E-04
	1024.30	33.50	1.14E-04		-1.43E-04	5.47E-05
Y-91	1204.77	0.26	6.60E-03	6.60E-03	4.86E-04	3.09E-03
Y-91m	555.57	61.64	6.63E-05	6.63E-05	1.27E-05	3.23E-05
NB-92M	912.60	1.78	1.86E-03	2.52E-05	2.20E-03	8.94E-04
	934.44	99.15	2.52E-05		-2.19E-05	1.21E-05
	1847.50	0.85	1.32E-03		-7.91E-05	5.89E-04
SR-92	241.56	2.93	5.32E-03	1.23E-04	2.56E-03	2.61E-03
	430.49	3.28	7.05E-03		-1.82E-03	3.47E-03
	953.31	3.52	5.32E-03		-5.28E-04	2.56E-03
	1142.35	2.79	5.45E-03		-1.77E-03	2.59E-03
	1383.93	90.00	1.23E-04		9.21E-05	5.66E-05
MO-93M	114.04	0.68	5.21E-03	3.19E-05	7.55E-05	2.56E-03
	263.05	57.40	7.74E-05		-8.55E-05	3.80E-05
	684.69	99.90	3.47E-05		-4.26E-05	1.66E-05
	1363.02	0.81	6.00E-03		8.23E-03	2.85E-03
	1477.14	99.10	3.19E-05		9.75E-06	1.46E-05
SR-93	168.50	18.40	1.07E+14	3.84E+13	6.85E+13	5.24E+13
	260.12	7.40	3.00E+14		7.57E+13	1.47E+14
	346.49	3.28	8.32E+14		-3.10E+14	4.08E+14
	446.20	2.36	1.51E+15		-6.32E+14	7.40E+14
	590.24	68.00	3.84E+13		2.97E+13	1.87E+13
	710.31	21.80	8.95E+13		-6.68E+13	4.29E+13
	875.73	24.50	1.03E+14		1.16E+14	4.96E+13
	888.13	22.10	1.14E+14		-8.26E+12	5.49E+13
	1040.63	3.20	7.39E+14		-9.70E+13	3.53E+14
	1094.00	1.76	1.46E+15		3.14E+14	6.97E+14
	1122.48	4.00	6.58E+14		6.10E+14	3.15E+14
	1215.48	2.50	7.57E+14		5.27E+14	3.56E+14
	1269.47	7.10	3.67E+14		-4.59E+13	1.75E+14
	1321.24	2.61	6.35E+14		7.55E+14	2.94E+14
	1387.11	3.50	4.67E+14		6.56E+13	2.16E+14
	1694.07	2.58	4.89E+14		2.38E+14	2.17E+14
	1699.06	3.30	4.07E+14		2.11E+14	1.82E+14
	2543.84	3.03	2.66E+14		7.41E+13	9.95E+13
	2688.65	2.13	4.03E+14		1.12E+14	1.51E+14
Y-93	266.90	7.40	4.79E-04	4.79E-04	9.22E-05	2.35E-04
	947.10	2.10	1.95E-03		-2.54E-03	9.37E-04
	1917.80	1.57	1.26E-03		2.19E-04	5.53E-04
NB-94	702.65	99.81	3.00E-05	3.00E-05	1.70E-05	1.45E-05
	871.09	99.89	3.07E-05		-5.17E-06	1.48E-05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Y-94	381.60	2.02	1.97E+04	6.74E+02	-2.54E+03	9.65E+03
	550.90	4.90	7.58E+03		5.45E+03	3.69E+03
	752.60	1.40	2.08E+04		3.35E+03	9.97E+03
	918.74	56.00	6.74E+02		-1.95E+01	3.25E+02
	1138.90	6.00	5.15E+03		4.73E+03	2.44E+03
	1671.40	2.50	6.63E+03		5.32E+03	2.92E+03
	2140.60	0.95	2.17E+04		5.66E+03	9.57E+03
NB-95	765.80	99.81	1.95E-05	1.95E-05	-9.81E-06	9.37E-06
ZR-95	724.19	44.27	4.93E-05	3.59E-05	7.78E-05	2.38E-05
	756.72	54.38	3.59E-05		2.35E-05	1.72E-05
NB-96	219.08	2.97	9.23E-04	2.48E-05	1.05E-03	4.54E-04
	241.38	3.50	7.71E-04		3.71E-04	3.78E-04
	350.05	1.54	2.14E-03		1.39E-03	1.05E-03
	352.56	0.83	4.02E-03		3.40E-03	1.97E-03
	371.81	2.62	1.28E-03		2.88E-04	6.29E-04
	460.04	26.62	1.68E-04		1.32E-04	8.27E-05
	480.71	5.84	6.91E-04		-5.80E-04	3.39E-04
	568.87	58.00	5.20E-05		-6.33E-06	2.53E-05
	719.56	6.85	3.94E-04		3.36E-04	1.90E-04
	721.63	1.02	2.61E-03		2.12E-03	1.26E-03
	778.22	96.45	2.48E-05		8.47E-06	1.19E-05
	810.33	11.09	2.19E-04		-1.30E-05	1.05E-04
	812.58	2.95	8.10E-04		3.85E-04	3.87E-04
	847.69	1.14	2.26E-03		9.69E-04	1.08E-03
	849.93	20.45	1.28E-04		-5.92E-05	6.13E-05
	1091.35	48.50	6.16E-05		3.03E-05	2.95E-05
	1200.23	19.97	1.02E-04		1.61E-05	4.75E-05
	1441.13	0.44	3.78E-03		-1.15E-03	1.72E-03
	1497.81	3.28	5.52E-04		1.19E-04	2.52E-04
Nb-97	657.94	98.23	2.40E-04	2.40E-04	-8.41E-06	1.19E-04
	1024.40	1.09	2.80E-03		-3.51E-03	1.34E-03
ZR-97	254.17	1.15	2.54E-03	2.75E-05	-2.11E-03	1.25E-03
	355.40	2.09	2.48E-03		-6.74E-04	1.22E-03
	507.64	5.03	1.02E-03		-8.30E-04	4.99E-04
	743.36	93.09	2.75E-05		-7.45E-06	1.32E-05
	1147.97	2.62	1.57E-03		-7.32E-04	7.43E-04
MO-99	181.07	6.14	5.49E-04	2.16E-04	-4.11E-04	2.70E-04
	366.42	1.20	2.34E-03		-1.37E-03	1.15E-03
	739.50	12.26	2.16E-04		6.85E-05	1.03E-04
	777.92	4.30	4.82E-04		-9.49E-05	2.31E-04
TC-99M	140.51	90.80	2.02E-05	2.02E-05	1.78E-05	9.90E-06
RH-101	127.23	68.00	3.69E-05	3.69E-05	-1.29E-05	1.81E-05
	198.01	73.00	3.86E-05		-1.57E-05	1.90E-05
	325.23	11.80	8.14E-05		-1.21E-04	3.99E-05
RH-101M	306.86	81.00	3.17E-05	3.17E-05	2.93E-05	1.56E-05
	545.12	4.30	6.17E-04		7.87E-05	3.01E-04
RH-102M	415.25	2.10	4.63E-03	6.91E-05	1.94E-02	2.29E-03
	418.52	9.40	9.08E-04		5.48E-05	4.48E-04
	420.40	3.20	2.56E-03		-5.95E-04	1.26E-03
	475.06	95.00	6.91E-05		-1.45E-05	3.40E-05
	628.05	8.30	6.51E-04		-8.33E-05	3.16E-04
	631.29	56.00	7.51E-05		-3.82E-05	3.64E-05
	692.40	1.60	5.36E-03		7.73E-04	2.63E-03

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RH-102M	695.60		2.90	2.60E-03	6.91E-05	1.41E-02	1.27E-03
		697.49		44.00	1.67E-04		8.34E-04	8.21E-05
		766.84		34.00	1.03E-04		5.08E-05	4.95E-05
		1046.59		34.00	1.06E-04		-9.56E-05	5.07E-05
		1103.16		4.60	8.23E-04		5.77E-04	3.97E-04
		1112.84		19.00	2.78E-04		1.50E-04	1.34E-04
	RU-103	497.08		91.00	3.33E-05	3.33E-05	2.18E-05	1.63E-05
		610.33		5.76	4.45E-04		2.02E-04	2.17E-04
	RH-105	306.31		4.66	6.01E-04	1.69E-04	-3.68E-04	2.95E-04
		319.23		16.90	1.69E-04		1.32E-04	8.30E-05
	AG-106M	221.70		6.60	3.45E-04	3.23E-05	6.58E-04	1.69E-04
		228.63		2.10	1.05E-03		9.19E-04	5.18E-04
		328.46		1.14	2.23E-03		1.10E-03	1.09E-03
		391.04		3.68	7.60E-04		4.35E-04	3.73E-04
		406.18		13.40	2.20E-04		-6.71E-05	1.08E-04
		429.65		13.20	2.48E-04		1.66E-05	1.22E-04
		450.98		28.20	1.26E-04		-3.43E-05	6.18E-05
		511.85		88.00	3.23E-05		-1.35E-05	1.58E-05
		601.17		1.61	1.53E-03		7.61E-04	7.43E-04
		616.17		21.60	1.19E-04		-7.39E-05	5.78E-05
		646.03		1.46	1.70E-03		8.94E-05	8.24E-04
		680.42		2.18	8.06E-04		-6.68E-05	3.85E-04
		703.11		4.47	4.72E-04		-1.20E-04	2.27E-04
		717.34		28.90	7.21E-05		-5.42E-06	3.47E-05
		748.36		20.60	9.21E-05		2.11E-05	4.40E-05
		793.17		5.90	3.42E-04		-3.30E-04	1.64E-04
		804.28		12.40	1.70E-04		1.48E-04	8.13E-05
		808.36		4.00	5.05E-04		3.03E-05	2.42E-04
		824.69		15.30	1.39E-04		3.53E-05	6.68E-05
		847.15		4.40	4.74E-04		-5.99E-04	2.27E-04
		1019.72		1.04	2.28E-03		2.81E-04	1.09E-03
		1045.83		29.60	7.36E-05		-2.92E-05	3.51E-05
		1128.02		11.80	2.05E-04		-9.46E-05	9.79E-05
		1199.39		11.20	1.48E-04		-1.80E-05	6.92E-05
		1222.88		7.00	2.40E-04		-1.47E-04	1.12E-04
		1394.35		1.49	1.14E-03		1.36E-03	5.28E-04
		1527.65		16.30	8.46E-05		-1.04E-04	3.84E-05
		1572.35		6.60	2.13E-04		-1.06E-05	9.66E-05
		1722.76		1.40	1.10E-03		-1.15E-04	5.01E-04
		1839.05		2.00	7.17E-04		3.69E-04	3.22E-04
	RH-106	621.93		9.93	3.28E-04	3.28E-04	-6.37E-04	1.59E-04
		873.49		0.44	8.34E-03		-6.91E-03	4.01E-03
		1050.41		1.56	1.82E-03		-5.04E-04	8.67E-04
	RU-106	511.86		20.40	1.36E-04	1.36E-04	-1.93E-05	6.66E-05
	AG-108M	79.13		6.60	3.44E-04	4.29E-05	-2.93E-04	1.69E-04
		433.94		90.50	6.39E-05		-8.54E-06	3.14E-05
		614.28		89.80	5.10E-05		-6.47E-06	2.48E-05
		722.91		90.80	4.29E-05		7.77E-05	2.07E-05
+	CD-109	88.03	*	3.64	7.98E-04	7.98E-04	4.57E-03	3.95E-04
	AG-110M	446.81		3.70	2.12E-03	5.93E-05	1.41E-03	1.04E-03
		620.35		2.73	2.09E-03		1.98E-03	1.01E-03
		657.76		95.61	3.29E-04		-9.00E-06	1.64E-04
		677.62		10.70	3.83E-04		1.64E-04	1.83E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-110M	687.01	6.53	5.40E-04	5.93E-05	4.34E-04	2.58E-04
	706.68	16.69	2.43E-04		-2.20E-04	1.17E-04
	744.28	4.77	7.92E-04		4.65E-04	3.79E-04
	763.94	22.60	1.59E-04		-1.78E-04	7.63E-05
	818.02	7.43	6.28E-04		2.14E-04	3.01E-04
	884.68	75.00	5.93E-05		1.06E-05	2.86E-05
	937.48	35.00	1.26E-04		4.50E-05	6.09E-05
	1384.29	25.10	9.59E-05		3.27E-05	4.42E-05
	1475.78	4.08	5.29E-04		5.47E-04	2.43E-04
	1505.03	13.33	1.81E-04		1.53E-04	8.28E-05
	1562.29	1.22	7.85E-04		3.62E-04	3.56E-04
AG-111	245.40	1.11	2.01E-03	3.85E-04	-1.31E-04	9.85E-04
	342.13	6.68	3.85E-04		-2.20E-05	1.89E-04
AG-112	606.82	3.10	1.05E-03	7.22E-05	5.17E-04	5.12E-04
	617.52	43.00	7.22E-05		1.15E-05	3.51E-05
	692.82	1.19	4.26E-03		2.23E-02	2.09E-03
	694.87	2.90	1.75E-03		8.69E-03	8.56E-04
	851.28	1.02	2.68E-03		-2.36E-03	1.28E-03
	1312.36	1.11	1.57E-03		-1.72E-03	7.19E-04
	1387.68	5.30	3.77E-04		2.99E-04	1.74E-04
	1613.66	2.80	6.28E-04		-3.60E-04	2.84E-04
	1798.50	0.89	2.07E-03		1.34E-03	9.34E-04
	2106.31	2.40	8.30E-04		4.20E-04	3.72E-04
	2506.70	1.06	4.62E-03		1.06E-02	2.20E-03
CD-113M	263.70	0.03	7.89E-02	7.89E-02	-7.94E-02	3.87E-02
SN-113	255.13	2.11	1.01E-03	4.22E-05	-3.80E-05	4.96E-04
	391.70	64.97	4.22E-05		1.91E-05	2.07E-05
IN-114M	190.27	15.56	1.43E-04	1.43E-04	7.96E-05	7.06E-05
	558.43	4.40	7.27E-04		6.32E-04	3.54E-04
	725.24	4.40	6.75E-04		8.18E-04	3.25E-04
CD-115	260.90	1.94	1.19E-03	5.86E-05	-4.08E-04	5.84E-04
	336.24	46.02	5.86E-05		-6.11E-05	2.87E-05
	527.90	27.45	1.03E-04		-3.74E-05	5.05E-05
CD-115M	933.84	2.00	1.28E-03	1.28E-03	-3.57E-04	6.14E-04
	1290.59	0.90	1.47E-03		-1.99E-03	6.73E-04
IN-115M	336.24	45.90	1.68E-04	1.68E-04	-1.76E-04	8.25E-05
IN-116M	138.29	3.70	2.20E-01	6.35E-03	-8.60E-02	1.08E-01
	416.90	27.20	6.03E-02		2.44E-01	2.97E-02
	818.68	12.13	8.62E-02		-5.16E-02	4.13E-02
	1097.28	58.50	1.70E-02		1.42E-02	8.14E-03
	1293.56	84.80	6.35E-03		2.28E-03	2.91E-03
	1507.59	9.92	5.65E-02		3.49E-02	2.59E-02
	2112.29	15.09	3.63E-02		3.34E-02	1.62E-02
SB-125	176.31	6.84	2.69E-04	1.07E-04	-1.76E-04	1.32E-04
	380.45	1.52	1.76E-03		-4.14E-04	8.62E-04
	427.87	29.60	1.07E-04		-8.00E-05	5.25E-05
	463.36	10.49	3.47E-04		1.59E-04	1.71E-04
	600.60	17.65	1.35E-04		-3.50E-06	6.53E-05
	606.71	4.98	5.13E-04		2.52E-04	2.50E-04
	635.95	11.22	2.03E-04		-1.53E-04	9.82E-05
	671.44	1.79	2.16E-03		-1.04E-04	1.06E-03
SN-125	332.10	1.40	3.01E-03	2.94E-04	-2.14E-03	1.48E-03
	469.85	1.50	3.99E-03		1.83E-03	1.96E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SN-125	800.28	1.10	2.45E-03	2.94E-04	6.28E-04	1.17E-03
	822.48	4.30	6.54E-04		3.39E-04	3.14E-04
	915.55	4.10	8.30E-04		6.50E-04	4.01E-04
	1067.10	10.00	2.94E-04		-3.12E-04	1.40E-04
	1087.70	1.20	4.26E-03		5.47E-04	2.06E-03
	1089.10	4.60	6.12E-04		-3.06E-04	2.94E-04
	2002.10	1.90	7.51E-04		6.90E-04	3.35E-04
SB-127	61.10	1.43	4.62E-03	4.84E-05	1.08E-02	2.28E-03
	252.40	8.50	3.30E-04		-1.77E-05	1.62E-04
	290.80	2.02	1.68E-03		-1.31E-03	8.24E-04
	412.10	3.80	1.24E-03		5.11E-04	6.10E-04
	445.10	4.30	1.11E-03		-4.28E-04	5.48E-04
	473.00	25.80	1.57E-04		-3.46E-05	7.72E-05
	543.30	2.90	8.08E-04		2.42E-04	3.94E-04
	603.50	4.50	8.08E-04		-1.21E-03	3.93E-04
	685.70	36.80	4.84E-05		2.45E-05	2.31E-05
	698.50	3.64	1.16E-03		1.51E-04	5.71E-04
	722.20	1.88	1.23E-03		1.02E-03	5.95E-04
	783.70	15.10	1.40E-04		-1.34E-05	6.71E-05
SN-127	119.70	2.20	9.62E-03	9.31E-04	-4.03E-03	4.73E-03
	262.50	2.30	1.06E-02		-4.49E-03	5.20E-03
	266.20	2.10	1.18E-02		-6.43E-04	5.78E-03
	284.30	2.70	1.01E-02		1.96E-05	4.94E-03
	438.20	6.10	6.46E-03		5.78E-03	3.17E-03
	490.90	5.30	6.64E-03		4.76E-03	3.25E-03
	493.20	3.10	1.14E-02		-1.74E-03	5.58E-03
	545.40	2.30	1.26E-02		-1.50E-02	6.14E-03
	583.30	3.20	8.84E-03		-1.37E-03	4.30E-03
	805.90	8.20	2.87E-03		3.09E-03	1.38E-03
	823.10	11.00	2.22E-03		1.76E-03	1.07E-03
	824.70	6.10	3.97E-03		1.00E-03	1.90E-03
	859.50	8.00	3.42E-03		1.68E-03	1.65E-03
	979.20	7.20	3.92E-03		4.82E-03	1.88E-03
	1093.30	3.80	7.39E-03		-2.11E-03	3.54E-03
	1095.60	19.00	1.49E-03		-1.75E-03	7.15E-04
	1114.30	38.00	9.31E-04		6.49E-04	4.50E-04
	1160.40	2.40	1.03E-02		-3.43E-03	4.90E-03
	2003.40	5.30	2.92E-03		-4.09E-03	1.29E-03
SB-129	180.42	2.84	2.19E-03	1.28E-04	-3.67E-03	1.07E-03
	359.20	2.39	3.53E-03		-1.00E-03	1.73E-03
	404.64	1.17	7.86E-03		-1.00E-02	3.86E-03
	523.13	1.55	5.60E-03		-1.92E-03	2.74E-03
	544.56	15.42	5.34E-04		-1.43E-05	2.60E-04
	633.74	2.53	3.03E-03		1.60E-03	1.47E-03
	654.28	2.97	4.74E-03		-1.36E-03	2.33E-03
	682.77	5.76	9.61E-04		1.00E-04	4.60E-04
	761.12	4.32	1.50E-03		7.80E-04	7.21E-04
	773.37	2.82	2.23E-03		2.79E-04	1.07E-03
	786.36	1.07	6.03E-03		-1.19E-03	2.89E-03
	787.16	1.74	3.69E-03		-3.25E-03	1.77E-03
	812.97	48.20	1.28E-04		-7.85E-05	6.11E-05
	819.51	1.39	4.91E-03		3.33E-03	2.36E-03
	876.65	2.75	2.86E-03		2.57E-03	1.38E-03

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	914.96		23.30	3.53E-04	1.28E-04	-5.02E-05	1.70E-04
		966.78		8.96	9.01E-04		4.63E-04	4.34E-04
		1030.65		15.13	5.04E-04		1.81E-04	2.42E-04
		1656.10		1.31	3.27E-03		2.23E-03	1.47E-03
		1738.16		7.45	6.34E-04		-4.72E-04	2.87E-04
	TE-129	459.60		7.70	4.66E-04	4.66E-04	-2.65E-04	2.29E-04
		487.39		1.42	2.13E-03		-2.74E-03	1.05E-03
+	Te-129m	695.88	*	3.00	8.36E-04	8.36E-04	6.52E-03	4.05E-04
	I-131	80.18		2.62	1.15E-03	3.24E-05	-1.24E-03	5.65E-04
		284.30		6.12	4.25E-04		8.27E-07	2.09E-04
		364.49		81.50	3.24E-05		-7.37E-06	1.59E-05
		636.99		7.16	3.30E-04		-1.55E-04	1.60E-04
		722.91		1.77	1.25E-03		2.27E-03	6.04E-04
	Te-131m	773.67		36.80	9.21E-05	9.21E-05	-8.40E-05	4.41E-05
		793.75		13.40	3.88E-04		-3.16E-04	1.86E-04
		852.21		19.90	2.03E-04		-1.97E-04	9.73E-05
		1125.46		11.00	3.47E-04		3.23E-04	1.66E-04
		1206.60		9.41	2.68E-04		-3.04E-04	1.26E-04
	I-132	262.90		1.28	1.75E-03	4.52E-05	-1.93E-03	8.57E-04
		284.90		0.71	3.51E-03		2.20E-03	1.72E-03
		505.79		4.93	2.14E-03		-3.72E-03	1.05E-03
		522.65		16.00	3.30E-04		-1.53E-04	1.61E-04
		547.20		1.14	4.48E-03		-1.31E-03	2.18E-03
		621.20		1.97	2.56E-03		3.69E-04	1.24E-03
		630.19		13.30	3.62E-04		2.51E-04	1.76E-04
		650.50		2.57	2.33E-03		-3.07E-04	1.13E-03
		667.71		98.70	2.83E-04		-4.87E-06	1.41E-04
		669.80		4.60	2.04E-03		5.74E-05	1.00E-03
		671.40		3.50	2.70E-03		-1.31E-04	1.33E-03
		727.10		5.40	1.00E-03		3.34E-04	4.83E-04
		728.40		1.60	2.97E-03		-2.09E-03	1.43E-03
		772.60		75.60	4.52E-05		4.25E-05	2.16E-05
		809.50		2.60	1.56E-03		-7.19E-05	7.48E-04
		812.00		5.50	6.65E-04		-4.42E-04	3.18E-04
		910.10		0.93	5.03E-03		4.12E-03	2.42E-03
		954.55		17.60	2.79E-04		1.85E-04	1.34E-04
		1136.00		3.01	9.79E-04		-1.71E-03	4.65E-04
		1172.90		1.09	9.54E-03		7.40E-02	4.70E-03
		1290.80		1.13	2.17E-03		-2.94E-03	9.92E-04
		1295.10		1.88	4.70E-04		-5.72E-04	2.16E-04
		1297.90		0.89	7.63E-04		-4.02E-04	3.51E-04
		1372.07		2.47	1.15E-03		-5.68E-04	5.29E-04
		1398.57		7.01	3.89E-04		-1.91E-04	1.80E-04
		1442.56		1.40	7.44E-04		9.02E-05	3.40E-04
	TE-132	49.72		15.00	6.87E-04	2.63E-05	2.43E-04	3.38E-04
		111.76		1.74	1.03E-03		4.17E-04	5.05E-04
		116.30		1.96	9.01E-04		1.80E-04	4.42E-04
		228.16		88.00	2.63E-05		5.50E-06	1.29E-05
	BA-133	81.00		32.90	8.95E-05	4.58E-05	-2.15E-05	4.40E-05
		276.40		7.16	3.58E-04		-1.93E-04	1.76E-04
		302.85		18.34	1.45E-04		-5.67E-05	7.13E-05
		356.01		62.05	4.58E-05		9.99E-06	2.25E-05
		383.85		8.94	2.59E-04		-3.13E-04	1.27E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
I-133	529.87	87.00	3.80E-05	3.80E-05	-1.17E-05	1.85E-05
	706.58	1.51	2.11E-03		-1.91E-03	1.01E-03
	856.28	1.24	3.18E-03		1.98E-03	1.53E-03
	875.33	4.51	6.77E-04		1.02E-03	3.26E-04
	1236.44	1.51	1.10E-03		-2.06E-03	5.12E-04
	1298.22	2.35	7.78E-04		-5.80E-04	3.58E-04
TE-133	312.08	62.40	2.09E+06	2.09E+06	6.76E+05	1.03E+06
	407.63	27.10	5.70E+06		6.69E+06	2.80E+06
	410.40	0.94	2.18E+08		7.05E+07	1.07E+08
	474.85	0.88	2.17E+08		5.78E+07	1.07E+08
	719.71	8.90	1.30E+07		1.11E+07	6.27E+06
	786.93	5.40	1.94E+07		-1.46E+07	9.31E+06
	844.36	3.31	3.40E+07		-3.42E+05	1.63E+07
	884.30	0.72	1.79E+08		2.77E+07	8.65E+07
	930.71	3.81	3.50E+07		2.73E+05	1.68E+07
	997.70	1.04	1.29E+08		6.82E+07	6.22E+07
	1000.72	3.62	3.96E+07		2.06E+07	1.91E+07
	1021.13	2.81	4.40E+07		1.76E+07	2.11E+07
	1061.61	1.19	9.49E+07		-6.83E+07	4.52E+07
	1252.08	1.44	5.43E+07		-6.20E+07	2.51E+07
	1312.80	0.85	8.47E+07		-9.29E+07	3.88E+07
	1333.21	10.67	3.84E+07		3.00E+08	1.89E+07
	1717.61	3.18	2.11E+07		-1.25E+06	9.42E+06
	1881.52	1.22	4.88E+07		3.61E+06	2.12E+07
	2136.51	1.25	5.59E+07		1.91E+07	2.45E+07
	2229.64	0.87	9.35E+07		-1.33E+07	4.16E+07
Xe-133	81.00	36.90	6.20E-05	6.20E-05	-1.49E-05	3.05E-05
CS-134	475.36	1.48	2.41E-03	3.19E-05	1.07E-04	1.18E-03
	563.25	8.34	4.87E-04		5.26E-05	2.37E-04
	569.33	15.37	2.78E-04		5.09E-05	1.35E-04
	604.72	97.62	3.75E-05		4.15E-05	1.83E-05
	795.86	85.46	3.19E-05		-2.87E-05	1.53E-05
	801.95	8.69	3.93E-04		6.23E-05	1.88E-04
	1038.61	0.99	3.07E-03		-3.00E-03	1.47E-03
	1167.97	1.79	2.88E-03		6.36E-04	1.42E-03
	1365.19	3.02	4.91E-04		9.41E-04	2.33E-04
I-135	220.50	1.75	3.49E-03	1.33E-04	-2.88E-03	1.72E-03
	288.45	3.10	2.12E-03		5.39E-04	1.04E-03
	417.63	3.53	3.28E-03		-1.09E-03	1.62E-03
	546.56	7.15	9.85E-04		6.65E-04	4.80E-04
	836.80	6.69	8.74E-04		-2.13E-04	4.19E-04
	971.96	0.89	8.31E-03		-4.12E-03	3.99E-03
	972.62	1.21	5.53E-03		-3.59E-03	2.66E-03
	1038.76	7.90	6.29E-04		-6.15E-04	3.01E-04
	1101.58	1.61	4.56E-03		-5.58E-04	2.19E-03
	1124.00	3.62	1.90E-03		1.21E-03	9.09E-04
	1131.51	22.60	2.76E-04		-1.04E-04	1.31E-04
	1240.47	0.90	5.00E-03		5.27E-03	2.33E-03
	1260.41	28.70	1.33E-04		8.73E-05	6.21E-05
	1457.56	8.70	4.96E-04		2.68E-04	2.32E-04
	1502.79	1.08	4.03E-03		-8.05E-04	1.84E-03
	1566.41	1.29	2.25E-03		-2.04E-03	1.02E-03
	1678.03	9.60	2.40E-04		1.17E-04	1.07E-04

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1706.46		4.10	6.68E-04	1.33E-04	3.41E-04	2.98E-04
		1791.20		7.72	3.79E-04		-1.52E-04	1.70E-04
		2408.65		0.96	1.83E-03		6.10E-04	7.10E-04
	XE-135	249.79		90.00	4.20E-05	4.20E-05	-9.70E-06	2.06E-05
	XE-135m	526.56		80.40	7.11E-05	7.11E-05	3.36E-05	3.47E-05
	CS-136	66.88		4.79	1.41E-03	3.36E-05	-7.60E-05	6.95E-04
		86.36		5.90	8.89E-04		5.83E-05	4.40E-04
		153.25		7.70	3.87E-04		2.14E-04	1.90E-04
		163.92		4.69	9.17E-04		-8.98E-06	4.50E-04
		176.60		13.70	2.58E-04		3.06E-06	1.26E-04
		273.65		12.66	3.26E-04		-2.74E-04	1.60E-04
		340.55		46.80	8.89E-05		-7.02E-05	4.36E-05
		818.51		99.70	3.36E-05		-2.28E-05	1.61E-05
		1048.07		80.00	4.62E-05		5.15E-06	2.20E-05
		1235.36		20.00	1.24E-04		2.68E-05	5.75E-05
+	CS-137	661.66	*	85.10	1.75E-05	1.75E-05	5.90E-03	8.34E-06
	BA-139	33.44		3.84	8.17E-01	3.25E-03	-7.59E-01	4.02E-01
		165.86		23.70	3.25E-03		-1.40E-03	1.60E-03
	BA-140	132.69		0.20	8.36E-03	1.10E-04	-7.54E-04	4.10E-03
		162.66		6.22	3.43E-04		-1.22E-04	1.68E-04
		304.85		4.29	7.34E-04		3.31E-04	3.60E-04
		423.72		3.10	1.03E-03		-2.86E-04	5.05E-04
		437.58		1.93	1.77E-03		1.02E-03	8.71E-04
		537.26		24.39	1.10E-04		8.95E-05	5.37E-05
	LA-140	109.42		0.22	7.74E-03	2.19E-05	-4.02E-03	3.80E-03
		131.12		0.47	3.64E-03		-1.85E-03	1.78E-03
		173.54		0.13	1.47E-02		-8.84E-03	7.21E-03
		241.93		0.41	5.35E-03		7.01E-03	2.63E-03
		266.54		0.47	4.65E-03		2.91E-06	2.28E-03
		328.76		20.30	2.06E-04		6.04E-05	1.01E-04
		432.49		2.90	1.90E-03		-9.07E-04	9.34E-04
		487.02		45.50	9.64E-05		-1.55E-04	4.73E-05
		618.10		0.04	6.73E-02		4.52E-02	3.27E-02
		751.64		4.33	5.61E-04		2.72E-04	2.69E-04
		815.77		23.28	9.05E-05		1.05E-04	4.33E-05
		867.85		5.50	5.26E-04		-4.29E-04	2.53E-04
		919.55		2.66	9.93E-04		-1.23E-03	4.78E-04
		925.19		6.90	4.53E-04		1.72E-04	2.18E-04
		950.99		0.52	6.29E-03		-3.16E-03	3.03E-03
		1596.21		95.40	2.19E-05		1.72E-05	1.00E-05
		2347.88		0.85	1.02E-03		-3.01E-04	4.42E-04
		2521.40		3.46	1.25E-04		1.70E-05	3.95E-05
		2547.34		0.10	7.69E-03		2.14E-03	2.88E-03
	BA-141	33.44		7.93	2.10E+05	1.10E+03	-1.95E+05	1.03E+05
		190.33		44.80	1.10E+03		6.09E+02	5.40E+02
		276.95		23.60	2.13E+03		1.77E+02	1.05E+03
		304.19		26.10	2.07E+03		-1.93E+02	1.02E+03
		343.67		15.10	3.68E+03		-1.34E+03	1.81E+03
		389.74		1.37	4.35E+04		-5.97E+03	2.13E+04
		457.51		5.00	1.58E+04		2.45E+03	7.79E+03
		462.06		5.10	1.57E+04		8.79E+03	7.73E+03
		467.22		5.60	1.46E+04		5.14E+03	7.19E+03
		625.08		3.45	1.55E+04		1.09E+03	7.53E+03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-141	647.78	5.70	9.44E+03	1.10E+03	5.43E+03	4.58E+03
	738.95	4.39	9.31E+03		-3.36E+03	4.46E+03
	831.46	1.64	2.84E+04		-2.61E+04	1.36E+04
	876.09	3.45	1.52E+04		9.15E+03	7.34E+03
	1160.72	1.12	4.18E+04		-6.96E+03	1.99E+04
	1197.28	4.35	8.38E+03		-1.04E+04	3.92E+03
	1323.92	0.92	5.33E+04		1.20E+03	2.53E+04
	1654.00	0.65	4.65E+04		2.79E+04	2.10E+04
	1682.19	1.19	2.25E+04		2.92E+03	1.00E+04
CE-141	145.44	48.30	3.51E-05	3.51E-05	9.79E-06	1.72E-05
BA-142	33.44	14.20	2.35E+10	4.56E+08	-2.18E+10	1.15E+10
	77.59	7.00	1.50E+09		1.16E+08	7.40E+08
	177.00	2.12	3.87E+09		-1.48E+09	1.90E+09
	231.61	12.20	7.83E+08		8.10E+08	3.84E+08
	255.30	20.70	4.56E+08		-1.71E+07	2.24E+08
	286.30	1.11	9.22E+09		-5.53E+09	4.53E+09
	309.20	2.60	4.13E+09		-5.78E+09	2.03E+09
	335.00	1.53	7.15E+09		-4.85E+07	3.51E+09
	363.96	4.76	2.38E+09		-1.74E+09	1.17E+09
	425.04	5.75	2.42E+09		2.53E+09	1.19E+09
	599.80	1.85	5.63E+09		-7.26E+09	2.73E+09
	840.40	3.63	2.53E+09		-8.82E+08	1.21E+09
	895.20	13.90	7.57E+08		4.98E+08	3.64E+08
	949.10	10.70	1.05E+09		2.76E+08	5.04E+08
	1001.20	9.80	1.22E+09		6.11E+08	5.88E+08
	1078.70	11.50	1.07E+09		6.41E+08	5.16E+08
	1094.10	2.82	3.80E+09		7.17E+08	1.82E+09
	1126.80	1.50	7.07E+09		2.06E+09	3.38E+09
	1202.40	5.60	1.31E+09		2.59E+08	6.11E+08
	1204.30	14.30	5.26E+08		-1.05E+08	2.46E+08
	1380.20	3.42	1.84E+09		4.93E+08	8.46E+08
CE-143	57.36	11.70	6.66E-04	6.73E-05	1.70E-04	3.29E-04
	231.55	2.05	1.59E-03		1.65E-03	7.82E-04
	293.27	42.80	6.73E-05		5.18E-05	3.30E-05
	350.62	3.23	8.28E-04		4.50E-04	4.07E-04
	490.37	2.16	2.12E-03		9.39E-05	1.04E-03
	664.57	5.69	3.69E-03		1.09E-01	1.84E-03
	721.93	5.39	4.23E-04		3.48E-04	2.04E-04
	880.46	1.03	2.83E-03		-8.18E-05	1.36E-03
CE-144	80.12	1.36	1.62E-03	1.51E-04	-1.75E-03	7.99E-04
	133.51	11.09	1.51E-04		1.00E-05	7.39E-05
ND-147	38.17	13.20	2.29E-03	8.93E-05	2.43E-03	1.12E-03
	38.72	23.80	1.16E-03		1.65E-03	5.72E-04
	91.11	28.90	8.93E-05		8.38E-06	4.41E-05
	275.39	0.79	4.08E-03		-1.60E-03	2.00E-03
	319.41	1.97	1.54E-03		9.31E-04	7.54E-04
	398.13	0.87	3.52E-03		-1.12E-03	1.73E-03
	439.88	1.20	3.08E-03		1.23E-03	1.51E-03
	531.01	13.11	1.98E-04		8.61E-07	9.66E-05
	685.88	0.82	2.04E-03		1.35E-03	9.76E-04
PR-147	36.85	19.70	1.80E+07	1.28E+06	-8.22E+06	8.87E+06
	37.36	35.50	9.15E+06		1.02E+06	4.50E+06
	49.88	4.00	1.72E+07		6.08E+06	8.45E+06

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PR-147	77.97	9.70	2.32E+06	1.28E+06	1.56E+06	1.14E+06
	86.69	5.40	5.24E+06		2.56E+05	2.59E+06
	127.80	7.40	2.32E+06		-8.13E+05	1.14E+06
	249.20	1.32	1.55E+07		-1.07E+07	7.61E+06
	314.70	18.20	1.28E+06		3.27E+05	6.29E+05
	328.80	4.00	5.88E+06		1.73E+06	2.88E+06
	335.70	4.70	4.99E+06		-4.23E+06	2.45E+06
	388.80	1.41	1.81E+07		-7.54E+06	8.88E+06
	466.80	1.70	2.07E+07		3.30E+05	1.02E+07
	477.90	4.60	7.17E+06		7.03E+06	3.52E+06
	516.70	1.30	2.01E+07		6.99E+05	9.83E+06
	554.70	5.90	3.89E+06		2.19E+06	1.89E+06
	577.90	13.70	1.66E+06		3.05E+05	8.07E+05
	641.40	16.10	1.40E+06		-5.23E+05	6.78E+05
	996.00	1.52	1.57E+07		2.55E+06	7.54E+06
	1136.70	1.42	1.39E+07		5.15E+06	6.61E+06
	1261.10	8.40	1.91E+06		1.72E+06	8.90E+05
	1300.40	2.30	6.04E+06		1.52E+06	2.78E+06
ND-149	38.17	9.00	6.52E-02	1.71E-03	6.92E-02	3.21E-02
	38.72	16.30	3.30E-02		4.69E-02	1.62E-02
	58.88	1.30	1.15E-01		-2.14E-03	5.67E-02
	74.32	2.11	3.09E-02		1.86E-02	1.52E-02
	97.00	1.48	2.74E-02		-1.79E-02	1.35E-02
	114.31	19.20	2.12E-03		3.07E-05	1.04E-03
	155.87	5.95	7.58E-03		-1.35E-04	3.72E-03
	188.64	1.79	4.51E-02		1.80E-02	2.22E-02
	198.93	1.39	4.22E-02		-3.99E-03	2.07E-02
	208.15	2.55	2.04E-02		4.58E-03	1.00E-02
	211.31	26.00	1.71E-03		5.11E-04	8.42E-04
	240.22	3.95	1.11E-02		-3.30E-03	5.43E-03
	245.72	0.81	7.09E-02		5.22E-03	3.48E-02
	267.69	6.05	1.00E-02		1.07E-02	4.92E-03
	270.17	10.80	4.36E-03		3.70E-03	2.14E-03
	326.55	4.57	1.39E-02		2.10E-06	6.83E-03
	349.23	1.38	4.72E-02		3.82E-02	2.32E-02
	423.55	7.50	8.78E-03		-2.44E-03	4.32E-03
	443.55	1.15	7.52E-02		1.19E-02	3.70E-02
	540.51	6.60	8.94E-03		7.88E-03	4.36E-03
	654.83	8.00	1.28E-02		-2.37E-03	6.33E-03
PM-149	285.95	3.10	8.22E-04	8.22E-04	-4.27E-04	4.03E-04
PM-150	39.52	0.63	2.54E-01	2.45E-04	1.91E-01	1.25E-01
	40.12	1.14	1.28E-01		-3.45E-02	6.28E-02
	333.92	68.00	2.45E-04		-1.38E-04	1.20E-04
	406.51	5.60	3.47E-03		1.17E-03	1.70E-03
	565.70	1.31	1.24E-02		-4.00E-03	6.02E-03
	587.02	1.34	1.25E-02		-1.10E-02	6.06E-03
	612.25	0.93	1.87E-02		1.40E-02	9.10E-03
	712.22	4.40	2.82E-03		3.52E-03	1.35E-03
	737.50	2.25	5.62E-03		-5.73E-05	2.69E-03
	831.85	11.90	1.20E-03		-3.74E-04	5.77E-04
	859.95	3.40	4.71E-03		2.96E-03	2.27E-03
	876.41	7.30	2.21E-03		7.91E-04	1.07E-03
	1165.77	15.80	1.67E-03		9.50E-04	8.11E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	1170.90	1.06	4.70E-02	2.45E-04	-2.90E-04	2.31E-02
	1193.87	4.80	2.30E-03		-2.59E-03	1.08E-03
	1213.72	1.03	1.17E-02		4.91E-03	5.49E-03
	1223.28	2.80	3.95E-03		1.48E-03	1.84E-03
	1324.51	17.50	1.03E-03		1.77E-04	4.91E-04
	1379.32	3.10	3.00E-03		-4.82E-03	1.37E-03
	1736.40	6.90	1.46E-03		-2.28E-04	6.63E-04
	1963.71	1.47	7.42E-03		8.18E-03	3.37E-03
	2033.46	0.97	6.95E-03		-5.38E-03	2.93E-03
ND-151	38.17	5.94	3.00E+08	2.56E+06	3.18E+08	1.48E+08
	38.72	10.70	1.53E+08		2.17E+08	7.50E+07
	68.98	1.26	1.31E+08		-1.28E+07	6.42E+07
	85.12	2.05	8.87E+07		4.18E+06	4.39E+07
	89.96	1.53	1.11E+08		2.82E+07	5.50E+07
	116.80	39.00	2.56E+06		-1.46E+06	1.25E+06
	138.89	7.00	1.44E+07		4.81E+05	7.07E+06
	170.76	2.87	3.86E+07		-2.80E+07	1.90E+07
	175.07	6.30	1.75E+07		9.18E+05	8.60E+06
	255.68	14.80	8.63E+06		-1.54E+06	4.23E+06
	300.58	1.82	8.17E+07		1.97E+06	4.01E+07
	423.56	5.90	3.19E+07		-8.89E+06	1.57E+07
	460.59	0.96	2.25E+08		-1.28E+07	1.11E+08
	585.22	1.30	1.12E+08		-3.73E+06	5.45E+07
	677.88	2.38	4.44E+07		1.90E+07	2.13E+07
	736.23	5.90	1.92E+07		3.32E+06	9.19E+06
	739.20	1.52	7.30E+07		2.33E+07	3.49E+07
	755.57	1.17	1.00E+08		6.29E+07	4.80E+07
	797.53	4.70	2.51E+07		2.82E+06	1.20E+07
	1016.40	2.50	5.54E+07		1.79E+07	2.66E+07
	1122.63	4.10	3.65E+07		3.39E+07	1.75E+07
	1180.89	13.30	2.76E+07		3.66E+06	1.36E+07
Pm-151	167.75	8.30	2.94E-04	1.28E-04	1.27E-04	1.44E-04
	177.16	3.80	7.69E-04		-2.94E-04	3.77E-04
	240.09	3.80	7.48E-04		-2.23E-04	3.67E-04
	275.21	6.80	4.06E-04		-2.29E-04	1.99E-04
	340.08	22.50	1.28E-04		-9.45E-05	6.28E-05
EU-152	121.78	28.53	9.12E-05	8.54E-05	-1.14E-05	4.49E-05
	344.28	26.59	1.15E-04		-5.57E-05	5.66E-05
	778.90	12.93	1.95E-04		-5.37E-05	9.31E-05
	867.37	4.23	8.37E-04		-9.96E-04	4.02E-04
	964.08	14.51	2.16E-04		1.98E-04	1.04E-04
	1085.87	10.11	2.59E-04		-1.69E-04	1.25E-04
	1112.07	13.67	2.42E-04		2.74E-04	1.17E-04
	1408.01	20.87	8.54E-05		-4.57E-05	3.94E-05
ND-152	44.44	5.50	1.22E+09	5.06E+07	-1.16E+09	5.98E+08
	250.15	16.40	7.56E+07		1.59E+07	3.71E+07
	278.56	26.00	5.06E+07		1.39E+07	2.48E+07
	294.47	2.90	4.85E+08		-1.40E+08	2.38E+08
	545.70	0.83	1.74E+09		-3.77E+08	8.48E+08
	592.50	0.99	1.42E+09		5.62E+08	6.92E+08
GD-153	69.67	2.45	1.31E-03	5.91E-05	5.48E-04	6.43E-04
	97.43	30.00	5.91E-05		-4.68E-05	2.90E-05
	103.18	22.10	7.95E-05		1.91E-06	3.91E-05

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SM-153	69.67		4.67	7.47E-04	6.60E-05	3.13E-04	3.67E-04
		103.18		29.14	6.60E-05		1.59E-06	3.24E-05
+	EU-154	42.70		20.45	7.11E-04	6.03E-05	-1.11E-05	3.50E-04
		123.07	*	40.40	7.37E-05		1.60E-04	3.63E-05
		247.93		6.89	4.53E-04		1.22E-04	2.22E-04
		591.76		4.95	7.71E-04		-2.04E-04	3.75E-04
		692.42		1.78	3.15E-03		4.54E-04	1.54E-03
		723.30		20.06	1.49E-04		1.41E-04	7.16E-05
		756.80		4.52	6.90E-04		4.52E-04	3.31E-04
		873.18		12.08	2.75E-04		-3.56E-04	1.32E-04
		996.29	*	10.48	1.98E-04		1.14E-04	9.40E-05
		1004.76	*	18.01	1.09E-04		4.05E-05	5.13E-05
		1246.12		0.86	2.65E-03		-3.65E-04	1.23E-03
		1274.43	*	34.80	6.03E-05		1.16E-04	2.83E-05
		1494.05		0.70	1.79E-03		1.36E-03	8.13E-04
		1596.48		1.80	4.36E-04		3.42E-04	1.99E-04
	EU-155	43.00		18.12	7.76E-04	8.12E-05	1.46E-04	3.81E-04
		60.01		1.17	4.18E-03		1.53E-02	2.06E-03
		86.55		30.70	9.68E-05		4.74E-06	4.79E-05
		105.31		21.10	8.12E-05		8.26E-05	3.99E-05
	EU-156	88.97		8.40	4.97E-04	2.29E-04	-7.88E-05	2.45E-04
		646.29		6.30	5.25E-04		4.10E-04	2.55E-04
		723.47		5.40	5.28E-04		6.75E-05	2.54E-04
		811.77		9.70	2.64E-04		-1.76E-04	1.26E-04
		1065.14		4.90	6.30E-04		8.91E-05	3.01E-04
		1079.16		4.60	6.58E-04		6.68E-04	3.17E-04
		1153.80		11.50	2.29E-04		3.99E-05	1.09E-04
		1230.71		8.00	2.74E-04		-2.91E-04	1.27E-04
		1242.42		6.60	2.75E-04		1.61E-04	1.28E-04
		1277.43		2.89	1.05E-03		2.22E-03	4.99E-04
		1366.41		1.57	1.59E-03		2.43E-03	7.57E-04
		1965.95		3.90	2.92E-04		-1.16E-04	1.31E-04
		2097.70		3.80	4.34E-04		-1.50E-04	1.96E-04
		2186.71		3.50	3.52E-04		2.64E-04	1.54E-04
	Sm-156	87.60		24.00	2.11E-04	1.77E-04	1.25E-03	1.05E-04
		165.80		13.00	2.46E-04		-1.06E-04	1.21E-04
		204.00		21.00	1.77E-04		7.80E-05	8.69E-05
	EU-158	42.31		5.80	2.22E+00	7.04E-02	3.23E-01	1.09E+00
		43.00		10.40	1.14E+00		2.15E-01	5.60E-01
		79.49		10.50	1.80E-01		-2.49E-01	8.83E-02
		181.97		2.30	7.33E-01		7.15E-01	3.60E-01
		528.05		1.53	1.42E+00		2.93E-01	6.93E-01
		606.39		4.00	5.38E-01		-2.78E-02	2.62E-01
		743.02		3.60	4.32E-01		-1.17E-01	2.07E-01
		897.61		12.40	1.64E-01		-4.82E-02	7.89E-02
		906.50		1.83	1.13E+00		1.15E-01	5.43E-01
		922.51		1.62	1.31E+00		8.90E-02	6.29E-01
		944.15		30.00	7.04E-02		5.27E-02	3.39E-02
		953.03		1.98	1.09E+00		-9.16E-01	5.27E-01
		962.09		1.89	1.15E+00		-8.67E-01	5.55E-01
		977.14		16.30	1.24E-01		-2.25E-02	5.95E-02
		986.96		1.35	1.48E+00		6.89E-02	7.10E-01
		1107.63		5.10	5.15E-01		8.76E-01	2.49E-01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	1184.10	3.00	5.04E-01	7.04E-02	2.04E-01	2.37E-01
	1186.00	2.90	5.01E-01		2.01E-01	2.35E-01
	1187.10	4.40	3.28E-01		-3.77E-02	1.54E-01
	1263.61	2.20	6.31E-01		-9.33E-02	2.94E-01
	1347.95	1.65	7.98E-01		2.56E-01	3.69E-01
	1944.47	1.62	6.75E-01		-1.29E-01	2.99E-01
TB-160	86.79	13.20	3.21E-04	9.92E-05	1.57E-05	1.59E-04
	298.58	26.10	1.27E-04		1.43E-05	6.25E-05
	879.38	30.10	9.92E-05		8.03E-05	4.78E-05
	962.32	9.81	2.97E-04		-2.24E-04	1.43E-04
	966.17	25.10	1.10E-04		8.74E-05	5.31E-05
	1177.96	14.90	4.18E-04		-4.91E-05	2.06E-04
TB-161	25.65	23.20	3.57E-02	2.60E-04	1.06E-01	1.75E-02
	48.91	17.00	4.71E-04		-1.96E-04	2.31E-04
	52.00	3.43	1.88E-03		8.51E-04	9.25E-04
	57.19	1.79	3.41E-03		8.70E-04	1.68E-03
	74.57	10.20	2.60E-04		1.57E-04	1.28E-04
YB-169	63.12	43.62	1.58E-04	6.63E-05	1.36E-05	7.80E-05
	93.61	2.58	1.35E-03		4.50E-04	6.66E-04
	109.78	17.39	1.21E-04		-1.12E-04	5.93E-05
	130.52	11.38	2.19E-04		-8.93E-05	1.08E-04
	177.21	22.28	1.09E-04		-4.17E-05	5.35E-05
	197.96	35.93	6.63E-05		-2.70E-05	3.26E-05
	307.74	10.05	1.84E-04		1.58E-04	9.03E-05
HF-172	54.07	63.00	8.82E-05	8.82E-05	6.70E-05	4.34E-05
	67.35	5.30	5.64E-04		9.47E-05	2.78E-04
	81.75	4.50	4.86E-04		2.52E-05	2.39E-04
	114.06	2.60	6.41E-04		9.30E-06	3.15E-04
	122.92	1.14	1.69E-03		1.63E-03	8.32E-04
	125.81	11.30	1.72E-04		-7.84E-05	8.45E-05
	127.91	1.46	1.24E-03		-4.33E-04	6.08E-04
LU-173	59.30	24.44	2.07E-04	1.19E-04	9.20E-04	1.02E-04
	78.63	11.90	2.48E-04		-1.27E-04	1.22E-04
	100.72	5.24	3.75E-04		-1.46E-04	1.84E-04
	171.39	2.90	7.24E-04		3.91E-04	3.55E-04
	272.11	21.20	1.19E-04		7.93E-05	5.86E-05
LU-177	112.95	6.23	2.74E-04	2.08E-04	2.76E-05	1.34E-04
	208.37	10.41	2.08E-04		4.69E-05	1.02E-04
	249.67	0.20	1.11E-02		-2.57E-03	5.46E-03
	321.32	0.22	1.15E-02		-1.62E-02	5.62E-03
HF-181	133.02	43.30	5.24E-05	4.43E-05	5.80E-06	2.57E-05
	345.93	15.12	2.15E-04		-7.11E-05	1.06E-04
	482.18	80.50	4.43E-05		-4.28E-05	2.17E-05
W-181	56.28	18.70	2.80E-04	1.76E-04	7.94E-05	1.38E-04
	57.53	32.00	1.76E-04		3.37E-05	8.69E-05
	65.00	10.60	3.05E-04		1.91E-04	1.50E-04
TA-182	57.98	10.01	5.49E-04	7.23E-05	9.89E-05	2.71E-04
	59.32	17.20	2.94E-04		1.31E-03	1.45E-04
	65.72	3.01	2.02E-03		2.76E-04	9.92E-04
	67.75	46.67	8.84E-05		2.76E-05	4.35E-05
	84.68	2.65	1.55E-03		1.26E-04	7.68E-04
	100.11	14.20	1.85E-04		8.49E-05	9.07E-05
	113.67	1.87	1.77E-03		1.46E-05	8.67E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	116.42	0.44	3.73E-03	7.23E-05	7.44E-04	1.83E-03
	152.43	7.02	3.63E-04		-5.65E-04	1.78E-04
	156.39	2.67	1.01E-03		-3.84E-04	4.95E-04
	179.39	3.12	9.42E-04		-2.65E-04	4.62E-04
	198.35	1.47	2.66E-03		-2.88E-04	1.31E-03
	222.11	7.57	4.01E-04		3.18E-04	1.97E-04
	229.32	3.64	9.21E-04		1.41E-04	4.52E-04
	264.08	3.61	8.41E-04		9.78E-05	4.13E-04
	928.00	0.61	5.61E-03		-4.04E-03	2.70E-03
	959.73	0.35	1.07E-02		6.12E-03	5.14E-03
	1001.70	2.09	2.27E-03		1.89E-03	1.09E-03
	1044.42	0.24	1.40E-02		7.64E-03	6.68E-03
	1113.41	0.44	9.31E-03		-2.84E-04	4.50E-03
	1121.29	35.24	8.96E-05		5.27E-05	4.29E-05
	1157.30	0.73	2.48E-03		-6.66E-03	1.18E-03
	1189.04	16.49	9.36E-05		4.68E-06	4.38E-05
	1221.40	27.23	7.23E-05		-4.62E-05	3.39E-05
	1223.60	0.24	4.13E-03		1.55E-03	1.93E-03
	1231.00	11.62	1.81E-04		1.04E-04	8.42E-05
	1257.41	1.51	1.06E-03		6.64E-05	4.94E-04
	1273.72	0.66	1.69E-03		2.92E-03	8.07E-04
	1289.15	1.37	3.09E-04		1.93E-04	1.42E-04
	1342.73	0.26	5.99E-03		4.34E-03	2.82E-03
	1373.82	0.22	1.57E-03		6.05E-06	7.21E-04
Ta-183	84.71	1.35	2.31E-03	8.35E-05	1.86E-04	1.14E-03
	99.08	6.80	2.66E-04		7.56E-05	1.31E-04
	107.93	11.20	1.55E-04		-9.47E-05	7.62E-05
	161.35	9.10	2.11E-04		8.55E-05	1.03E-04
	162.32	5.00	3.79E-04		2.19E-04	1.86E-04
	244.26	8.80	2.55E-04		-7.06E-05	1.25E-04
	246.06	27.20	8.35E-05		2.64E-05	4.10E-05
	353.99	11.60	2.41E-04		2.21E-04	1.18E-04
Re-184	111.21	17.20	9.84E-05	5.30E-05	8.04E-05	4.83E-05
	252.85	3.00	7.21E-04		-3.11E-04	3.54E-04
	792.01	37.70	5.30E-05		1.49E-06	2.54E-05
	894.76	15.70	1.52E-04		7.82E-05	7.33E-05
	903.28	38.10	6.22E-05		1.75E-05	2.99E-05
W-185	59.72	0.01	4.17E-01	1.02E-01	1.58E+00	2.06E-01
	61.14	0.02	2.31E-01		5.39E-01	1.14E-01
	69.20	0.01	4.19E-01		7.15E-02	2.06E-01
	125.36	0.02	1.02E-01		-2.23E-02	5.01E-02
W-187	61.14	14.30	4.07E-04	6.13E-05	9.50E-04	2.01E-04
	69.20	4.82	7.38E-04		1.26E-04	3.63E-04
	72.00	13.55	3.70E-04		6.53E-05	1.82E-04
	134.25	10.36	2.81E-04		1.77E-04	1.38E-04
	479.53	26.60	1.87E-04		1.36E-04	9.19E-05
	618.37	7.57	4.00E-04		3.45E-04	1.94E-04
	685.81	33.20	6.13E-05		4.05E-05	2.93E-05
Ir-188	155.05	29.60	6.88E-05	6.88E-05	6.57E-05	3.38E-05
	478.00	14.70	2.67E-04		2.61E-04	1.31E-04
	633.02	17.90	1.49E-04		-8.33E-05	7.21E-05
	634.97	5.00	5.15E-04		-9.72E-04	2.50E-04
	829.42	5.10	4.66E-04		1.13E-05	2.24E-04

Analysis Report for 24-2531 TI185-6.0M-S1-CST-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Ir-188	1209.77	6.90	2.90E-04	6.88E-05	1.91E-04	1.36E-04
	1715.67	6.20	2.20E-04		-2.38E-04	9.77E-05
	2214.59	18.60	9.39E-05		-9.39E-06	4.19E-05
W-188	227.07	0.23	9.20E-03	5.72E-03	-3.05E-03	4.52E-03
	290.68	0.42	5.72E-03		-3.37E-03	2.81E-03
Ir-189	245.08	6.00	3.66E-04	3.66E-04	-1.73E-04	1.80E-04
Ir-190	186.68	50.00	4.40E-05	4.40E-05	3.45E-05	2.17E-05
	361.09	12.30	2.16E-04		7.42E-05	1.06E-04
	371.24	21.60	1.26E-04		2.68E-05	6.19E-05
	407.22	27.00	1.09E-04		8.62E-05	5.34E-05
	518.55	32.20	8.52E-05		-2.84E-05	4.16E-05
	557.95	28.50	8.45E-05		-9.50E-05	4.11E-05
	569.30	27.00	9.10E-05		1.67E-05	4.42E-05
	605.14	37.80	6.99E-05		4.40E-05	3.40E-05
OS-191	63.29	15.70	2.47E-04	6.53E-05	-1.16E-03	1.22E-04
	64.99	26.70	1.23E-04		7.67E-05	6.04E-05
	73.45	9.21	2.92E-04		2.76E-04	1.44E-04
	129.43	26.50	6.53E-05		-4.11E-05	3.21E-05
Pt-191	359.90	5.80	5.90E-04	2.10E-04	8.43E-04	2.89E-04
	456.47	3.30	1.27E-03		-4.70E-04	6.25E-04
	538.90	14.30	2.10E-04		2.20E-05	1.03E-04
IR-192	205.79	3.31	8.70E-04	4.37E-05	1.28E-04	4.28E-04
	295.96	28.71	1.52E-04		2.68E-04	7.46E-05
	308.45	29.70	1.38E-04		1.00E-04	6.79E-05
	316.51	82.86	4.37E-05		2.43E-05	2.15E-05
	468.07	47.84	1.03E-04		-2.08E-05	5.05E-05
	588.58	4.52	9.28E-04		5.07E-04	4.52E-04
	604.41	8.22	2.51E-04		2.15E-04	1.22E-04
	612.46	5.34	2.95E-04		1.92E-04	1.44E-04
IR-192m	155.16	0.09	1.95E-02	1.95E-02	2.49E-03	9.58E-03
IR-193m	80.22	0.00	4.82E-01	4.82E-01	-5.20E-01	2.37E-01
Pt-193m	135.50	0.11	1.50E-02	1.50E-02	1.53E-03	7.38E-03
Au-194	293.55	10.90	2.55E-04	4.51E-05	1.97E-04	1.25E-04
	328.47	62.80	4.51E-05		2.23E-05	2.21E-05
	364.84	1.60	1.86E-03		1.00E-03	9.12E-04
	528.77	1.78	1.66E-03		1.82E-04	8.08E-04
	645.16	2.32	1.19E-03		-6.55E-04	5.76E-04
	948.32	2.29	1.25E-03		8.49E-05	6.02E-04
	1104.06	2.15	1.63E-03		4.09E-04	7.87E-04
	1175.36	2.14	3.93E-03		3.12E-02	1.94E-03
	1468.90	6.80	2.99E-04		-5.79E-04	1.39E-04
	1595.81	1.89	8.96E-04		7.57E-04	4.09E-04
	2043.72	3.74	3.95E-04		-9.39E-05	1.74E-04
Ir-194	293.54	2.50	1.27E-03	2.47E-04	9.79E-04	6.24E-04
	328.47	13.10	2.47E-04		1.22E-04	1.21E-04
AU-195	98.86	11.21	1.55E-04	1.55E-04	2.19E-05	7.60E-05
	129.74	0.84	2.03E-03		-2.78E-04	9.97E-04
Pt-195m	98.90	11.70	1.56E-04	1.56E-04	2.22E-05	7.68E-05
	129.79	2.90	6.20E-04		-8.48E-05	3.04E-04
Au-196	333.03	22.90	1.78E-04	3.82E-05	-1.87E-06	8.74E-05
	355.73	87.00	3.82E-05		-7.99E-06	1.88E-05
	426.10	6.60	4.92E-04		-2.96E-05	2.42E-04
Au-196m	147.81	43.50	6.46E-05	6.46E-05	-4.01E-05	3.17E-05

Analysis Report for 24-2531 TI185-6.0M-S1-CST-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Au-196m	188.27	30.00	1.26E-04	6.46E-05	4.77E-05	6.19E-05
Pt-197	77.35	17.00	1.81E-04	1.81E-04	-6.61E-05	8.93E-05
	191.44	3.70	7.73E-04		3.87E-04	3.80E-04
AU-198	411.80	95.62	4.62E-05	4.62E-05	1.49E-05	2.28E-05
AU-199	158.38	40.00	4.86E-05	4.86E-05	-2.40E-05	2.38E-05
	208.20	8.72	2.58E-04		5.80E-05	1.27E-04
TL-201	135.34	2.61	6.75E-04	1.99E-04	-3.50E-04	3.31E-04
	167.43	10.00	1.99E-04		2.18E-05	9.77E-05
TL-202	439.51	91.50	3.73E-05	3.73E-05	1.88E-05	1.84E-05
PB-203	70.83	26.40	1.16E-04	3.63E-05	-6.53E-05	5.70E-05
	72.87	44.20	6.68E-05		5.07E-06	3.29E-05
	82.40	15.56	1.57E-04		2.40E-05	7.73E-05
	279.20	80.90	3.63E-05		-2.93E-05	1.78E-05
	401.32	3.35	1.40E-03		7.78E-04	6.85E-04
PB-210	46.54	4.25	2.24E-03	2.24E-03	8.08E-04	1.10E-03
Pa-233	86.60	2.01	1.74E-03	6.45E-05	8.49E-05	8.58E-04
	94.65	8.90	2.06E-04		-1.80E-04	1.01E-04
	98.43	14.20	1.20E-04		-8.05E-05	5.91E-05
	300.13	6.54	3.83E-04		-4.04E-05	1.88E-04
	311.90	38.20	6.45E-05		2.08E-05	3.16E-05
	340.48	4.44	5.62E-04		-4.44E-04	2.76E-04
U-235	89.96	2.90	9.75E-04	3.72E-05	2.47E-04	4.82E-04
	93.35	4.70	3.79E-04		-3.13E-04	1.86E-04
	109.19	1.64	1.02E-03		-3.13E-04	5.01E-04
	143.76	10.93	1.54E-04		6.08E-05	7.57E-05
	163.36	5.07	3.57E-04		-3.77E-04	1.75E-04
	185.71	57.20	3.72E-05		-2.03E-05	1.83E-05
	202.11	1.07	2.00E-03		-6.65E-04	9.81E-04
	205.31	5.03	4.23E-04		4.70E-05	2.08E-04
NP-237	86.48	12.20	2.44E-04	2.44E-04	1.19E-05	1.21E-04
U-237	59.54	34.50	1.62E-04	7.24E-05	7.19E-04	7.99E-05
	97.07	15.40	1.17E-04		-7.62E-05	5.74E-05
	101.06	24.50	7.24E-05		-7.57E-05	3.55E-05
	113.30	3.07	5.57E-04		4.11E-05	2.73E-04
	114.23	5.81	2.96E-04		4.29E-06	1.45E-04
	117.46	2.27	7.60E-04		-4.40E-04	3.73E-04
	208.00	21.20	1.08E-04		-1.71E-05	5.30E-05
NP-238	103.37	0.00	3.93E-01	1.06E-04	-5.44E-01	1.93E-01
	882.63	0.80	3.28E-03		9.72E-04	1.58E-03
	923.99	2.60	1.06E-03		3.02E-04	5.13E-04
	984.45	25.20	1.06E-04		-4.93E-05	5.09E-05
	1025.87	8.75	2.87E-04		2.34E-04	1.37E-04
	1028.53	18.23	1.40E-04		-4.96E-05	6.70E-05
U-238	63.29	3.70	1.04E-03	4.49E-04	-4.84E-03	5.10E-04
	92.51	4.23	4.49E-04		-2.35E-04	2.21E-04
	112.81	0.21	7.85E-03		-2.99E-03	3.85E-03
	742.81	0.11	1.74E-02		-1.05E-03	8.35E-03
	766.42	0.32	6.17E-03		6.43E-03	2.96E-03
	1001.03	0.84	3.21E-03		1.61E-03	1.55E-03
Am-239	181.71	1.08	2.82E-03	2.33E-04	-1.16E-04	1.38E-03
	209.80	3.50	9.31E-04		6.78E-04	4.57E-04
	226.40	3.30	1.01E-03		8.30E-05	4.98E-04
	228.10	11.30	2.93E-04		-1.69E-04	1.44E-04

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Am-239	277.60		15.00	2.33E-04	2.33E-04	3.51E-05	1.14E-04
	NP-239	61.46		1.30	3.93E-03	8.15E-05	1.41E-02	1.94E-03
		99.53		12.90	1.47E-04		-5.54E-05	7.21E-05
		103.37		20.50	9.04E-05		-1.25E-04	4.44E-05
		106.12		25.34	8.15E-05		4.06E-05	4.00E-05
		209.75		3.36	7.27E-04		5.30E-04	3.57E-04
		228.18		11.24	2.23E-04		4.66E-05	1.09E-04
		277.60		14.51	1.88E-04		2.83E-05	9.22E-05
		285.46		0.79	3.89E-03		8.85E-04	1.91E-03
		315.88		1.60	1.50E-03		-1.47E-05	7.37E-04
		334.31		2.06	9.72E-04		2.07E-04	4.77E-04
	PU-239	38.66		0.01	2.63E+00	2.35E-01	3.73E+00	1.29E+00
		51.62		0.03	2.35E-01		1.25E-01	1.16E-01
		98.50		0.01	2.35E-01		-1.57E-01	1.15E-01
		111.03		0.00	1.26E+00		6.76E-01	6.20E-01
		129.30		0.01	2.71E-01		-1.80E-01	1.33E-01
		171.39		0.00	1.69E+01		9.15E+00	8.32E+00
		203.55		0.00	3.76E+00		-6.14E-01	1.85E+00
		332.85		0.00	5.02E+00		6.75E-01	2.46E+00
		336.11		0.00	2.19E+01		-8.40E+00	1.07E+01
		345.01		0.00	4.57E+00		-1.89E+00	2.24E+00
		375.05		0.00	1.74E+00		-1.31E+00	8.51E-01
		380.19		0.00	8.74E+00		-2.06E+00	4.28E+00
		382.75		0.00	1.02E+01		-5.18E+00	5.01E+00
		413.71		0.00	2.82E+00		1.21E+00	1.39E+00
		422.60		0.00	2.56E+01		-1.47E+01	1.26E+01
		451.48		0.00	1.84E+01		1.45E+01	9.06E+00
	Am-240	99.53		18.40	1.04E-04	3.57E-05	-3.93E-05	5.11E-05
		103.37		29.20	6.41E-05		-8.86E-05	3.15E-05
		117.23		6.93	2.67E-04		-1.54E-04	1.31E-04
		888.85		24.70	1.08E-04		7.97E-05	5.19E-05
		987.79		72.20	3.57E-05		-1.28E-07	1.71E-05
	Np-240m	554.60		20.90	1.66E-04	1.66E-04	9.37E-05	8.07E-05
		597.40		11.70	3.04E-04		1.56E-04	1.48E-04
	U-240	44.10		1.05	1.67E-02	1.34E-02	-1.25E-02	8.19E-03
		66.50		0.15	2.90E-02		2.52E-03	1.43E-02
		169.20		0.12	2.32E-02		2.97E-03	1.14E-02
		189.70		0.24	1.34E-02		1.30E-02	6.60E-03
+	AM-241	59.54	*	35.90	1.28E-04	1.28E-04	4.98E-04	6.32E-05
	AM-242m	49.35		0.13	5.61E-02	5.61E-02	1.98E-02	2.76E-02
		66.89		0.01	2.05E-01		-1.10E-02	1.01E-01
		86.65		0.02	1.30E-01		6.37E-03	6.44E-02
		163.25		0.02	1.18E-01		-1.25E-01	5.80E-02
	AM-243	43.53		5.90	2.21E-03	3.78E-05	-1.78E-03	1.09E-03
		74.66		67.20	3.78E-05		-6.98E-07	1.86E-05

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

Apex-Gamma

Analysis Report for 24-2532 TI185-6.0M-S1-CST-d-A F0
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2532 TI185-6.0M-S1-CST-d-A F0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 2:55:43PM
Procedure	: F0_gsv02mlw
Operator	: Administrator
Detector Name	: F
Geometry	: F0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.6 seconds
Dead Time	: 0.13 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: F0_gsv2mlw_R717
Sample Number	: 578964
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 3:15:51PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2532 TI185-6.0M-S1-CST-d-A F0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.69	167.41	0.1941	9.68
2	64.30	180.30	0.3182	3.47
3	87.60	245.41	0.1479	16.40
4	123.27	345.02	0.2397	6.92
5	400.48	1119.60	0.3511	3.03
6	414.88	1159.98	0.1398	15.24
7	661.87	1850.36	0.0601	69.79
8	666.59	1863.83	0.1435	13.60
9	695.27	1943.66	0.1373	13.37
10	720.56	2014.35	0.3293	3.26
11	996.33	2785.00	0.3179	3.02
12	1005.21	2809.72	0.2983	3.16
13	1081.50	3022.85	0.2117	5.55
14	1110.05	3102.80	0.2256	5.09
15	1173.73	3280.79	0.1093	16.64
16	1332.97	3725.82	0.1125	14.98
17	1361.68	3805.86	0.2138	5.16
18	2505.60	7002.11	0.2134	4.31

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2532 TI185-6.0M-S1-CST-d-A F0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 3:15:51PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.69	161 -	173	167.35	6.96E+02	118.29	7.57E+02	1.25
F	2	64.30	176 -	186	180.25	1.37E+02	25.00	6.51E+02	1.15
F	3	87.60	237 -	253	245.36	1.39E+03	138.63	9.15E+02	1.31
F	4	123.27	339 -	351	345.06	3.56E+02	2005.29	5.59E+02	1.30
F	5	400.48	1115 -	1123	1119.83	5.00E+01	15.35	2.49E+02	0.65
F	6	414.88	1154 -	1167	1160.08	8.63E+02	34.44	4.75E+02	1.53
M	7	661.87	1838 -	1875	1850.35	1.78E+04	189.56	1.08E+02	1.85
m	8	666.59	1838 -	1875	1863.53	7.38E+02	28.45	4.50E+01	1.85
F	9	695.27	1935 -	1956	1943.69	7.18E+02	61.56	1.08E+02	1.94
	10	720.56	2009 -	2026	2014.35	7.45E+01	23.34	8.55E+01	0.75
	11	996.33	2780 -	2790	2785.00	1.00E+01	15.55	6.10E+01	1.51
F	12	1005.21	2805 -	2818	2809.82	4.26E+01	9.72	5.89E+01	1.67
F	13	1081.50	3015 -	3030	3023.00	8.94E+01	11.72	6.70E+01	1.69
F	14	1110.05	3095 -	3107	3102.77	6.00E+01	11.21	7.29E+01	1.31
F	15	1173.73	3270 -	3292	3280.71	1.46E+03	36.69	6.09E+01	2.33
F	16	1332.97	3711 -	3737	3725.65	1.33E+03	63.74	3.95E+01	2.63
F	17	1361.68	3799 -	3815	3805.89	5.58E+01	9.12	3.78E+01	1.43
F	18	2505.60	6994 -	7008	7001.73	4.39E+01	8.43	2.36E+01	1.90

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 3:15:51PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578890.CNF

Analysis Report for 24-2532 TI185-6.0M-S1-CST-d-A F0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.69	6.96E+02	118.29	2.74E+00	3.98E-01	6.93E+02	1.18E+02
F	2	64.30	1.37E+02	25.00	2.07E+01	1.67E+00	1.16E+02	2.51E+01
F	3	87.60	1.39E+03	138.63	1.07E+01	6.14E-01	1.38E+03	1.39E+02
F	4	123.27	3.56E+02	2005.29			3.56E+02	2.01E+03
F	5	400.48	5.00E+01	15.35			5.00E+01	1.53E+01
F	6	414.88	8.63E+02	34.44			8.63E+02	3.44E+01
M	7	661.87	1.78E+04	189.56			1.78E+04	1.90E+02
m	8	666.59	7.38E+02	28.45			7.38E+02	2.85E+01
F	9	695.27	7.18E+02	61.56			7.18E+02	6.16E+01
	10	720.56	7.45E+01	23.34			7.45E+01	2.33E+01
	11	996.33	1.00E+01	15.55			1.00E+01	1.55E+01
F	12	1005.21	4.26E+01	9.72			4.26E+01	9.72E+00
F	13	1081.50	8.94E+01	11.72			8.94E+01	1.17E+01
F	14	1110.05	6.00E+01	11.21			6.00E+01	1.12E+01
F	15	1173.73	1.46E+03	36.69			1.46E+03	3.67E+01
F	16	1332.97	1.33E+03	63.74			1.33E+03	6.37E+01
F	17	1361.68	5.58E+01	9.12			5.58E+01	9.12E+00
F	18	2505.60	4.39E+01	8.43			4.39E+01	8.43E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.96	1173.23	*	99.85	7.26E-04	1.88E-05	0.786
		1332.49	*	99.98	7.23E-04	3.51E-05	0.777
CD-109	0.97	88.03	*	3.64	4.62E-03	4.66E-04	free
Te-129m	0.94	695.88	*	3.00	6.76E-03	1.47E-03	free
CS-137	0.99	661.66	*	85.10	5.67E-03	6.96E-05	miss
AM-241	0.99	59.54	*	35.90	4.63E-04	7.94E-05	free

Analysis Report for 24-2532 TI185-6.0M-S1-CST-d-A F0

ASR 2094 Branch

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	***Nuclide Id Confidence***	***Wt mean Activity (µCi/sample)***	***Wt mean Activity Uncertainty***	***Comments***
CO-60	0.963	7.26E-04	1.65E-05	
CD-109	0.970	4.62E-03	4.66E-04	
Te-129m	0.943	6.76E-03	1.47E-03	
CS-137	0.993	5.67E-03	6.96E-05	
AM-241	0.997	4.63E-04	7.94E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2532 TI185-6.0M-S1-CST-d-A F0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 3:15:51PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	64.30	9.66560E-02	21.61	Tol.	W-181 OS-191
F	4	123.27	2.96372E-01	563.84	Tol.	HF-172
F	5	400.48	4.17017E-02	30.66	Tol.	SE-75 PB-203
F	6	414.88	7.19213E-01	3.99	Tol.	RH-102M
m	8	666.59	6.15275E-01	3.85		
	10	720.56	6.21198E-02	31.30	Tol.	NB-96 TE-133
	11	996.33	8.35681E-03	155.06		
F	12	1005.21	3.54753E-02	22.83		
F	13	1081.50	7.44860E-02	13.11		
F	14	1110.05	5.00327E-02	18.66		
F	17	1361.68	4.64830E-02	16.34		
F	18	2505.60	3.65733E-02	19.21		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

Analysis Report for 24-2532 TI185-6.0M-S1-CST-d-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.60	10.44	3.30E-04	3.30E-04	2.80E-04	1.62E-04
NA-22	511.00	179.91	1.61E-05	1.61E-05	9.86E-06	7.89E-06
	1274.54	99.94	4.37E-05		7.99E-05	2.08E-05
NA-24	1368.63	99.99	3.84E-05	3.88E-06	-4.82E-06	1.82E-05
	2754.01	99.87	3.88E-06		0.00E+00	0.00E+00
AL-26	1129.67	2.50	9.13E-04	1.31E-05	2.74E-04	4.34E-04
	1808.65	99.76	1.31E-05		5.59E-06	5.85E-06
K-40	1460.82	10.66	1.72E-04	1.72E-04	2.34E-04	8.03E-05
K-42	312.60	0.34	1.09E-02	1.14E-04	5.56E-03	5.33E-03
	1524.60	18.08	1.14E-04		7.35E-05	5.14E-05
Sc-44	1157.02	99.90	8.49E-05	8.49E-05	8.77E-06	4.03E-05
	1499.46	0.91	6.96E-03		3.25E-03	3.17E-03
Sc-44m	271.24	86.74	2.89E-05	2.89E-05	2.37E-05	1.42E-05
	1001.83	1.20	4.21E-03		4.22E-03	2.03E-03
	1126.06	1.20	3.50E-03		1.59E-04	1.67E-03
	1157.00	1.20	3.19E-03		3.29E-04	1.51E-03
TI-44	67.87	93.00	3.76E-05	2.80E-05	2.19E-05	1.85E-05
	78.32	96.40	2.80E-05		3.57E-06	1.38E-05
SC-46	889.28	99.98	2.72E-05	2.72E-05	1.46E-05	1.30E-05
	1120.55	99.99	3.18E-05		8.09E-06	1.52E-05
CA-47	489.23	5.90	7.23E-04	2.23E-05	4.90E-04	3.54E-04
	807.86	5.90	4.33E-04		6.81E-05	2.07E-04
	1297.09	67.00	2.23E-05		3.87E-06	1.03E-05
SC-47	159.38	68.30	2.80E-05	2.80E-05	-8.60E-06	1.38E-05
SC-48	175.36	7.47	2.71E-04	1.58E-05	-1.89E-04	1.33E-04
	983.53	100.00	2.61E-05		-7.46E-07	1.25E-05
	1037.52	97.50	2.84E-05		2.79E-05	1.36E-05
	1312.12	100.00	1.58E-05		6.15E-06	7.27E-06
V-48	944.13	7.87	4.13E-04	1.89E-05	1.67E-04	1.99E-04
	983.53	99.98	2.98E-05		-8.51E-07	1.43E-05
	1312.11	98.20	1.89E-05		7.35E-06	8.68E-06
	2240.40	2.33	7.38E-04		1.68E-04	3.22E-04
CR-51	320.08	9.91	2.33E-04	2.33E-04	4.37E-05	1.14E-04
Fe-52	168.69	99.20	3.59E-05	3.59E-05	1.13E-05	1.76E-05
	377.75	1.64	3.20E-03		2.60E-03	1.57E-03
Mn-52	744.23	90.00	3.67E-05	2.44E-05	-6.72E-06	1.76E-05
	848.18	3.32	1.03E-03		-1.11E-03	4.94E-04
	935.54	94.50	4.75E-05		-9.98E-06	2.29E-05
	1246.28	4.21	6.18E-04		-1.20E-03	2.86E-04
	1333.65	5.07	2.34E-03		1.80E-02	1.15E-03
	1434.09	100.00	2.44E-05		-6.78E-06	1.11E-05
MN-54	834.85	99.98	2.11E-05	2.11E-05	1.83E-06	1.01E-05
Co-55	411.50	1.07	5.09E-03	4.70E-05	1.41E-04	2.51E-03
	477.20	20.20	2.34E-04		6.95E-05	1.15E-04
	803.70	1.87	1.34E-03		3.74E-04	6.40E-04
	931.10	75.00	4.70E-05		1.92E-05	2.27E-05
	1316.60	7.10	2.71E-04		1.00E-04	1.24E-04
	1370.00	2.90	9.02E-04		-3.58E-04	4.23E-04
	1408.50	16.90	1.24E-04		-9.03E-05	5.71E-05
Co-56	846.77	99.94	2.72E-05	2.72E-05	9.61E-06	1.30E-05
	977.37	1.42	2.65E-03		3.87E-04	1.27E-03
	1037.84	14.05	2.48E-04		9.49E-05	1.19E-04
	1175.10	2.25	5.29E-03		4.21E-02	2.60E-03

Analysis Report for 24-2532 TI185-6.0M-S1-CST-d-A F0

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Co-56	1238.29		66.46	3.82E-05	2.72E-05	3.08E-05	1.79E-05
		1360.21		4.28	7.51E-04		1.24E-03	3.57E-04
		1771.36		15.41	1.53E-04		9.33E-05	7.02E-05
		2015.20		3.02	6.25E-04		5.88E-04	2.79E-04
		2034.79		7.77	2.08E-04		-2.39E-04	9.06E-05
		2598.50		16.97	6.69E-05		-9.12E-05	2.59E-05
	MN-56	846.76		98.85	1.99E-04	1.99E-04	7.04E-05	9.55E-05
		1810.73		26.90	5.75E-04		1.13E-05	2.57E-04
		2113.09		14.20	1.03E-03		1.32E-04	4.51E-04
	Ni-56	158.38		98.80	1.86E-05	1.86E-05	-6.24E-06	9.13E-06
		269.50		36.50	6.05E-05		-6.35E-06	2.97E-05
		480.44		36.50	9.22E-05		1.33E-05	4.52E-05
		749.50		49.50	3.96E-05		-1.32E-05	1.90E-05
		811.85		86.00	2.26E-05		-5.05E-06	1.08E-05
		1561.80		14.00	1.11E-04		1.70E-05	5.07E-05
	CO-57	122.06		85.60	2.20E-05	2.20E-05	3.82E-05	1.08E-05
		136.47		10.68	1.55E-04		-3.22E-05	7.59E-05
	NI-57	127.16		16.70	1.32E-04	2.08E-05	6.04E-05	6.49E-05
		1377.63		81.70	2.08E-05		1.33E-05	9.57E-06
		1757.55		5.75	2.60E-04		-1.95E-04	1.16E-04
		1919.52		12.30	1.19E-04		3.82E-05	5.27E-05
	CO-58	810.76		99.45	2.03E-05	2.03E-05	-4.47E-07	9.67E-06
		863.96		0.69	4.50E-03		3.57E-03	2.16E-03
		1674.73		0.52	1.59E-03		-1.47E-03	6.85E-04
	FE-59	142.65		1.02	1.63E-03	3.29E-05	2.97E-04	8.00E-04
		192.34		3.08	9.09E-04		-1.62E-04	4.47E-04
		1099.24		56.50	4.02E-05		-1.16E-05	1.92E-05
		1291.59		43.20	3.29E-05		-3.00E-05	1.52E-05
+	CO-60	1173.23	*	99.85	3.42E-05	3.26E-05	7.26E-04	1.64E-05
		1332.49	*	99.98	3.26E-05		7.23E-04	1.55E-05
	CU-64	511.00		35.00	1.29E-04	1.29E-04	7.88E-05	6.31E-05
		1345.77		0.47	4.71E-03		-1.14E-03	2.17E-03
	NI-65	366.27		4.81	6.45E-03	4.57E-04	5.41E-04	3.16E-03
		1115.53		15.43	1.98E-03		2.06E-04	9.55E-04
		1481.84		23.59	4.57E-04		-1.54E-04	2.05E-04
	ZN-65	1115.54		50.04	6.00E-05	6.00E-05	6.26E-06	2.90E-05
	GA-66	511.00		114.00	4.60E-05	1.67E-05	2.81E-05	2.25E-05
		833.53		5.90	6.55E-04		-1.57E-04	3.14E-04
		1039.22		37.00	1.17E-04		6.21E-05	5.61E-05
		1333.11		1.17	1.15E-02		8.92E-02	5.68E-03
		1918.33		1.99	1.14E-03		-8.63E-04	5.02E-04
		2189.62		5.30	3.92E-04		3.29E-05	1.68E-04
		2751.83		22.70	1.67E-05		0.00E+00	0.00E+00
	CU-67	91.27		7.00	3.93E-04	4.61E-05	-4.85E-05	1.94E-04
		93.31		16.10	1.20E-04		-4.08E-06	5.89E-05
		184.58		48.70	4.61E-05		5.74E-05	2.27E-05
		300.22		0.80	3.23E-03		3.14E-03	1.59E-03
		393.53		0.22	1.35E-02		3.91E-03	6.63E-03
	GA-67	91.26		3.11	1.02E-03	5.26E-05	-1.25E-04	5.02E-04
		93.31		38.81	5.26E-05		-1.79E-06	2.58E-05
		184.58		21.41	1.04E-04		1.30E-04	5.12E-05
		208.95		2.46	1.28E-03		1.68E-05	6.29E-04
		300.22		16.64	1.73E-04		1.68E-04	8.48E-05

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
GA-67	393.53	4.56	4.00E-04	5.26E-05	1.16E-04	1.96E-04
ZN-69m	438.63	94.85	5.17E-05	5.17E-05	-7.32E-06	2.54E-05
GA-72	629.97	26.13	2.18E-04	4.23E-05	1.64E-04	1.06E-04
	834.13	95.45	4.23E-05		-2.98E-05	2.03E-05
	894.33	10.14	5.10E-04		6.59E-04	2.44E-04
	1050.79	6.99	8.47E-04		6.27E-04	4.05E-04
	2201.59	26.87	1.05E-04		8.94E-05	4.65E-05
	2491.03	7.73	1.43E-04		3.08E-05	5.07E-05
	2507.72	13.33	4.78E-04		9.13E-04	2.25E-04
Zn-72	144.70	82.78	2.29E-05	2.29E-05	1.46E-05	1.12E-05
	191.50	9.35	2.60E-04		-3.42E-05	1.28E-04
SE-75	121.12	17.20	1.51E-04	3.86E-05	7.29E-05	7.42E-05
	136.00	58.50	3.86E-05		2.86E-05	1.89E-05
	264.66	58.90	4.89E-05		-3.39E-05	2.40E-05
	279.54	25.02	1.09E-04		-7.55E-05	5.32E-05
	400.66	11.41	8.58E-05		8.47E-05	4.21E-05
BR-83	529.59	1.30	2.06E-02	2.06E-02	-7.07E-03	1.01E-02
BR-84	604.80	1.70	6.12E+01	2.10E+00	7.00E+01	2.98E+01
	736.50	1.29	5.60E+01		-8.05E+01	2.68E+01
	802.20	6.00	1.25E+01		6.60E+00	5.96E+00
	881.60	42.00	2.10E+00		8.33E-01	1.01E+00
	987.30	0.79	1.14E+02		-6.72E+01	5.45E+01
	1015.90	6.20	1.50E+01		8.06E+00	7.21E+00
	1213.30	2.60	2.44E+01		7.81E+00	1.14E+01
	1463.80	2.00	3.58E+01		1.35E+01	1.67E+01
	1741.20	1.60	2.97E+01		-3.41E+01	1.31E+01
	1877.50	1.12	3.96E+01		2.86E+01	1.72E+01
	1897.60	14.60	3.47E+00		1.17E+00	1.54E+00
	2029.60	2.10	2.66E+01		-3.79E+00	1.18E+01
	2200.70	1.16	4.84E+01		-1.37E+01	2.14E+01
	2484.10	6.70	4.42E+00		1.23E+00	1.66E+00
	2824.10	1.12	2.10E+01		2.85E+00	6.63E+00
KR-85m	151.20	75.20	7.79E-05	7.79E-05	2.54E-05	3.82E-05
	304.87	14.00	5.78E-04		4.18E-04	2.84E-04
Y-87	388.53	82.20	3.52E-05	3.52E-05	2.05E-05	1.73E-05
	484.80	89.80	3.65E-05		-4.53E-05	1.79E-05
KR-88	165.98	3.10	6.99E-03	1.91E-04	-2.56E-03	3.43E-03
	196.30	26.00	7.28E-04		1.14E-03	3.58E-04
	362.23	2.25	7.03E-03		-2.04E-04	3.45E-03
	471.80	0.73	4.37E-02		3.17E-02	2.15E-02
	834.83	13.00	1.44E-03		1.25E-04	6.91E-04
	985.78	1.31	1.81E-02		2.99E-03	8.68E-03
	1141.33	1.28	1.28E-02		1.13E-03	6.07E-03
	1179.51	1.00	7.14E-02		3.51E-03	3.51E-02
	1250.67	1.12	1.29E-02		-6.30E-03	5.97E-03
	1369.50	1.48	1.43E-02		3.35E-03	6.76E-03
	1518.39	2.15	5.92E-03		1.01E-03	2.67E-03
	1529.77	10.90	1.25E-03		1.47E-03	5.70E-04
	2029.84	4.53	3.63E-03		3.33E-03	1.62E-03
	2035.41	3.74	3.14E-03		-3.80E-03	1.37E-03
	2195.84	13.20	1.01E-03		-1.46E-04	4.47E-04
	2231.77	3.39	2.04E-03		1.45E-04	8.75E-04
	2352.08	0.73	1.47E-02		8.43E-03	6.20E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
KR-88	2392.11	34.60	1.91E-04	1.91E-04	-7.83E-05	7.85E-05
RB-88	898.03	14.40	1.40E-03	5.15E-04	1.06E-04	6.72E-04
	1382.45	0.78	1.61E-02		-6.74E-03	7.37E-03
	1836.00	22.81	5.15E-04		-1.03E-05	2.30E-04
	2677.89	2.13	3.70E-03		-2.12E-03	1.43E-03
Y-88	898.04	93.70	2.93E-05	1.72E-05	2.22E-06	1.41E-05
	1836.06	99.20	1.72E-05		-3.45E-07	7.69E-06
RB-89	272.42	1.53	5.01E+06	1.11E+05	1.54E+05	2.46E+06
	657.77	10.80	5.30E+06		-1.71E+05	2.64E+06
	947.73	10.00	8.92E+05		-4.30E+05	4.30E+05
	1031.92	63.00	1.32E+05		1.16E+05	6.31E+04
	1248.14	46.00	1.11E+05		-9.82E+04	5.16E+04
	1538.07	2.77	1.60E+06		-2.21E+05	7.24E+05
	2007.50	2.58	1.78E+06		1.56E+06	7.92E+05
	2195.92	14.50	3.28E+05		-4.74E+04	1.45E+05
	2570.20	10.70	2.44E+05		6.80E+04	9.14E+04
	2707.26	2.20	8.61E+05		1.17E+05	2.72E+05
SR-89	908.96	0.01	2.51E-01	2.51E-01	-1.52E-02	1.21E-01
Sr-91	652.90	11.35	3.91E-04	1.21E-04	-4.61E-04	1.90E-04
	749.80	23.70	1.42E-04		-4.75E-05	6.82E-05
	925.80	3.85	1.16E-03		7.59E-04	5.58E-04
	1024.30	33.50	1.21E-04		5.44E-06	5.82E-05
Y-91	1204.77	0.26	6.17E-03	6.17E-03	6.83E-03	2.88E-03
Y-91m	555.57	61.64	6.80E-05	6.80E-05	4.47E-06	3.31E-05
NB-92M	912.60	1.78	1.80E-03	2.64E-05	6.31E-04	8.68E-04
	934.44	99.15	2.64E-05		-4.51E-06	1.27E-05
	1847.50	0.85	1.41E-03		8.99E-04	6.36E-04
SR-92	241.56	2.93	6.12E-03	1.37E-04	-1.12E-03	3.00E-03
	430.49	3.28	8.14E-03		3.47E-03	4.00E-03
	953.31	3.52	6.19E-03		5.19E-03	2.98E-03
	1142.35	2.79	5.95E-03		-5.49E-04	2.82E-03
	1383.93	90.00	1.37E-04		8.09E-05	6.31E-05
MO-93M	114.04	0.68	5.58E-03	2.59E-05	-1.76E-03	2.74E-03
	263.05	57.40	8.40E-05		-6.77E-05	4.12E-05
	684.69	99.90	4.20E-05		-7.86E-06	2.02E-05
	1363.02	0.81	6.57E-03		7.75E-03	3.12E-03
	1477.14	99.10	2.59E-05		-1.19E-05	1.16E-05
SR-93	168.50	18.40	4.08E+15	1.47E+15	1.29E+15	2.00E+15
	260.12	7.40	1.18E+16		-6.17E+15	5.79E+15
	346.49	3.28	3.14E+16		-4.80E+16	1.54E+16
	446.20	2.36	5.92E+16		2.29E+16	2.91E+16
	590.24	68.00	1.47E+15		2.84E+14	7.12E+14
	710.31	21.80	3.29E+15		-5.68E+15	1.57E+15
	875.73	24.50	4.02E+15		2.86E+15	1.94E+15
	888.13	22.10	3.93E+15		-8.55E+14	1.88E+15
	1040.63	3.20	3.14E+16		-1.00E+16	1.50E+16
	1094.00	1.76	5.28E+16		-5.82E+16	2.52E+16
	1122.48	4.00	2.36E+16		-1.66E+16	1.12E+16
	1215.48	2.50	2.73E+16		1.08E+16	1.27E+16
	1269.47	7.10	1.31E+16		5.64E+15	6.22E+15
	1321.24	2.61	2.27E+16		-5.44E+15	1.05E+16
	1387.11	3.50	1.62E+16		-2.11E+16	7.39E+15
	1694.07	2.58	1.71E+16		3.65E+15	7.45E+15

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SR-93	1699.06	3.30	1.34E+16	1.47E+15	1.00E+16	5.83E+15
	2543.84	3.03	1.04E+16		2.91E+15	3.91E+15
	2688.65	2.13	1.77E+16		5.88E+15	6.84E+15
Y-93	266.90	7.40	5.02E-04	5.02E-04	2.83E-04	2.46E-04
	947.10	2.10	2.19E-03		3.94E-04	1.06E-03
	1917.80	1.57	1.45E-03		1.27E-03	6.43E-04
NB-94	702.65	99.81	2.86E-05	2.86E-05	1.84E-05	1.38E-05
	871.09	99.89	3.21E-05		4.70E-05	1.54E-05
Y-94	381.60	2.02	8.53E+04	2.81E+03	-4.92E+04	4.18E+04
	550.90	4.90	3.09E+04		-1.89E+04	1.50E+04
	752.60	1.40	8.34E+04		-8.10E+04	3.99E+04
	918.74	56.00	2.81E+03		1.99E+03	1.35E+03
	1138.90	6.00	2.19E+04		2.94E+04	1.04E+04
	1671.40	2.50	2.63E+04		-1.08E+04	1.14E+04
	2140.60	0.95	8.88E+04		6.90E+04	3.89E+04
NB-95	765.80	99.81	1.76E-05	1.76E-05	-1.46E-05	8.41E-06
ZR-95	724.19	44.27	4.87E-05	3.40E-05	4.83E-05	2.35E-05
	756.72	54.38	3.40E-05		3.75E-05	1.62E-05
NB-96	219.08	2.97	9.17E-04	2.40E-05	9.93E-05	4.50E-04
	241.38	3.50	7.60E-04		-1.39E-04	3.73E-04
	350.05	1.54	2.09E-03		9.39E-04	1.02E-03
	352.56	0.83	3.87E-03		1.88E-03	1.90E-03
	371.81	2.62	1.29E-03		2.40E-04	6.35E-04
	460.04	26.62	1.72E-04		2.85E-04	8.47E-05
	480.71	5.84	7.05E-04		1.02E-04	3.46E-04
	568.87	58.00	4.95E-05		8.35E-06	2.40E-05
	719.56	6.85	3.99E-04		4.44E-04	1.92E-04
	721.63	1.02	2.70E-03		4.08E-03	1.30E-03
	778.22	96.45	2.40E-05		-1.79E-06	1.14E-05
	810.33	11.09	2.12E-04		-1.84E-05	1.01E-04
	812.58	2.95	8.01E-04		-4.39E-04	3.82E-04
	847.69	1.14	2.29E-03		-3.60E-03	1.10E-03
	849.93	20.45	1.35E-04		5.73E-05	6.47E-05
	1091.35	48.50	5.99E-05		2.52E-05	2.86E-05
	1200.23	19.97	1.02E-04		-6.65E-05	4.74E-05
	1441.13	0.44	3.76E-03		-1.16E-04	1.71E-03
	1497.81	3.28	5.14E-04		-9.91E-04	2.33E-04
Nb-97	657.94	98.23	2.41E-04	2.41E-04	-5.59E-06	1.20E-04
	1024.40	1.09	2.92E-03		1.31E-04	1.40E-03
ZR-97	254.17	1.15	2.56E-03	2.95E-05	-5.11E-04	1.25E-03
	355.40	2.09	2.44E-03		7.56E-04	1.19E-03
	507.64	5.03	1.08E-03		1.47E-03	5.31E-04
	743.36	93.09	2.95E-05		8.21E-06	1.41E-05
	1147.97	2.62	1.50E-03		-6.31E-04	7.10E-04
MO-99	181.07	6.14	5.35E-04	2.30E-04	-9.48E-04	2.62E-04
	366.42	1.20	2.34E-03		1.96E-04	1.15E-03
	739.50	12.26	2.30E-04		-5.77E-06	1.10E-04
	777.92	4.30	4.62E-04		1.67E-04	2.20E-04
TC-99M	140.51	90.80	2.02E-05	2.02E-05	1.43E-05	9.90E-06
RH-101	127.23	68.00	3.62E-05	3.62E-05	2.07E-05	1.78E-05
	198.01	73.00	3.71E-05		-5.47E-06	1.83E-05
	325.23	11.80	7.75E-05		-4.16E-05	3.80E-05
RH-101M	306.86	81.00	3.04E-05	3.04E-05	2.10E-05	1.49E-05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
RH-101M	545.12	4.30	6.02E-04	3.04E-05	5.68E-04	2.93E-04
RH-102M	415.25	2.10	4.54E-03	6.84E-05	2.07E-02	2.24E-03
	418.52	9.40	8.94E-04		5.15E-05	4.41E-04
	420.40	3.20	2.50E-03		-3.60E-05	1.23E-03
	475.06	95.00	6.84E-05		-9.97E-06	3.36E-05
	628.05	8.30	6.46E-04		-2.68E-04	3.13E-04
	631.29	56.00	7.64E-05		5.39E-05	3.70E-05
	692.40	1.60	5.40E-03		-2.64E-04	2.65E-03
	695.60	2.90	2.60E-03		1.36E-02	1.27E-03
	697.49	44.00	1.67E-04		8.11E-04	8.17E-05
	766.84	34.00	9.29E-05		-1.99E-05	4.43E-05
	1046.59	34.00	1.20E-04		1.73E-04	5.74E-05
	1103.16	4.60	7.25E-04		3.56E-04	3.48E-04
	1112.84	19.00	2.73E-04		2.40E-04	1.32E-04
RU-103	497.08	91.00	3.25E-05	3.25E-05	-7.64E-06	1.59E-05
	610.33	5.76	4.42E-04		8.99E-05	2.15E-04
RH-105	306.31	4.66	5.84E-04	1.57E-04	-6.14E-04	2.86E-04
	319.23	16.90	1.57E-04		-1.26E-04	7.68E-05
AG-106M	221.70	6.60	3.33E-04	3.40E-05	-2.97E-04	1.63E-04
	228.63	2.10	1.04E-03		-9.02E-05	5.12E-04
	328.46	1.14	2.13E-03		4.26E-05	1.05E-03
	391.04	3.68	7.66E-04		1.10E-04	3.76E-04
	406.18	13.40	2.17E-04		-1.63E-05	1.06E-04
	429.65	13.20	2.41E-04		-1.64E-05	1.18E-04
	450.98	28.20	1.23E-04		2.80E-05	6.04E-05
	511.85	88.00	3.40E-05		4.52E-05	1.66E-05
	601.17	1.61	1.54E-03		-1.50E-03	7.46E-04
	616.17	21.60	1.14E-04		-2.11E-04	5.53E-05
	646.03	1.46	1.68E-03		1.93E-03	8.17E-04
	680.42	2.18	8.47E-04		-5.07E-04	4.06E-04
	703.11	4.47	4.53E-04		2.68E-04	2.17E-04
	717.34	28.90	7.27E-05		-2.33E-05	3.50E-05
	748.36	20.60	9.69E-05		1.01E-04	4.65E-05
	793.17	5.90	3.28E-04		3.00E-04	1.57E-04
	804.28	12.40	1.50E-04		-1.13E-05	7.14E-05
	808.36	4.00	4.72E-04		1.95E-04	2.25E-04
	824.69	15.30	1.45E-04		-2.19E-05	6.94E-05
	847.15	4.40	4.80E-04		-4.15E-04	2.30E-04
	1019.72	1.04	2.34E-03		1.40E-03	1.12E-03
	1045.83	29.60	8.12E-05		-7.48E-05	3.89E-05
	1128.02	11.80	1.92E-04		-4.09E-04	9.15E-05
	1199.39	11.20	1.51E-04		-4.35E-06	7.03E-05
	1222.88	7.00	2.39E-04		-8.72E-05	1.11E-04
	1394.35	1.49	1.13E-03		9.41E-05	5.24E-04
	1527.65	16.30	8.36E-05		-1.39E-04	3.79E-05
	1572.35	6.60	2.17E-04		-1.27E-05	9.83E-05
	1722.76	1.40	1.01E-03		1.04E-03	4.55E-04
	1839.05	2.00	6.53E-04		5.71E-04	2.90E-04
RH-106	621.93	9.93	3.20E-04	3.20E-04	-1.92E-04	1.55E-04
	873.49	0.44	8.69E-03		1.61E-03	4.19E-03
	1050.41	1.56	1.95E-03		4.74E-04	9.32E-04
RU-106	511.86	20.40	1.41E-04	1.41E-04	-6.35E-05	6.89E-05
AG-108M	79.13	6.60	3.41E-04	4.30E-05	-3.65E-04	1.68E-04

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	AG-108M	433.94		90.50	6.26E-05	4.30E-05	-1.59E-05	3.07E-05
		614.28		89.80	4.99E-05		-4.48E-06	2.42E-05
		722.91		90.80	4.30E-05		7.21E-05	2.07E-05
+	CD-109	88.03	*	3.64	7.72E-04	7.72E-04	4.62E-03	3.81E-04
	AG-110M	446.81		3.70	2.10E-03	5.22E-05	-2.44E-04	1.03E-03
		620.35		2.73	2.00E-03		-7.44E-04	9.70E-04
		657.76		95.61	3.22E-04		-1.04E-05	1.60E-04
		677.62		10.70	3.73E-04		3.15E-04	1.78E-04
		687.01		6.53	5.94E-04		3.03E-04	2.85E-04
		706.68		16.69	2.35E-04		7.04E-05	1.12E-04
		744.28		4.77	8.21E-04		-1.50E-04	3.93E-04
		763.94		22.60	1.46E-04		9.78E-05	6.97E-05
		818.02		7.43	6.25E-04		5.28E-04	2.99E-04
		884.68		75.00	5.22E-05		-8.71E-06	2.50E-05
		937.48		35.00	1.32E-04		-2.35E-06	6.35E-05
		1384.29		25.10	9.20E-05		8.79E-05	4.23E-05
		1475.78		4.08	3.86E-04		1.92E-04	1.72E-04
		1505.03		13.33	1.72E-04		8.71E-06	7.84E-05
		1562.29		1.22	8.62E-04		1.10E-04	3.94E-04
	AG-111	245.40		1.11	2.00E-03	3.77E-04	-9.71E-04	9.83E-04
		342.13		6.68	3.77E-04		1.38E-04	1.85E-04
	AG-112	606.82		3.10	1.10E-03	7.12E-05	1.43E-03	5.36E-04
		617.52		43.00	7.12E-05		-1.48E-05	3.45E-05
		692.82		1.19	4.37E-03		-1.07E-04	2.14E-03
		694.87		2.90	1.79E-03		9.00E-03	8.75E-04
		851.28		1.02	2.81E-03		1.02E-03	1.35E-03
		1312.36		1.11	1.64E-03		6.37E-04	7.53E-04
		1387.68		5.30	3.44E-04		-1.64E-04	1.58E-04
		1613.66		2.80	6.03E-04		1.01E-04	2.71E-04
		1798.50		0.89	1.67E-03		2.96E-04	7.31E-04
		2106.31		2.40	7.71E-04		-1.44E-04	3.42E-04
		2506.70		1.06	4.00E-03		7.64E-03	1.89E-03
	CD-113M	263.70		0.03	8.01E-02	8.01E-02	4.22E-02	3.93E-02
	SN-113	255.13		2.11	9.83E-04	4.20E-05	-1.37E-03	4.82E-04
		391.70		64.97	4.20E-05		-5.39E-05	2.06E-05
	IN-114M	190.27		15.56	1.40E-04	1.40E-04	5.41E-05	6.89E-05
		558.43		4.40	7.11E-04		4.79E-05	3.45E-04
		725.24		4.40	6.58E-04		-7.46E-05	3.17E-04
	CD-115	260.90		1.94	1.21E-03	5.80E-05	-6.16E-05	5.92E-04
		336.24		46.02	5.80E-05		-5.12E-05	2.84E-05
		527.90		27.45	1.02E-04		5.62E-05	4.96E-05
	CD-115M	933.84		2.00	1.34E-03	1.34E-03	1.23E-03	6.46E-04
		1290.59		0.90	1.57E-03		-3.22E-03	7.23E-04
	IN-115M	336.24		45.90	1.83E-04	1.83E-04	-1.62E-04	8.96E-05
	IN-116M	138.29		3.70	3.62E-01	1.15E-02	-4.65E-01	1.78E-01
		416.90		27.20	9.82E-02		4.24E-01	4.84E-02
		818.68		12.13	1.40E-01		-4.31E-02	6.69E-02
		1097.28		58.50	2.42E-02		-2.37E-03	1.15E-02
		1293.56		84.80	1.15E-02		3.19E-03	5.30E-03
		1507.59		9.92	8.78E-02		3.63E-02	4.00E-02
		2112.29		15.09	5.25E-02		-2.04E-02	2.30E-02
	SB-125	176.31		6.84	2.61E-04	1.05E-04	4.04E-05	1.28E-04
		380.45		1.52	1.76E-03		-2.94E-05	8.65E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SB-125	427.87	29.60	1.05E-04	1.05E-04	1.15E-04	5.18E-05
	463.36	10.49	3.43E-04		-2.13E-04	1.69E-04
	600.60	17.65	1.38E-04		1.29E-04	6.72E-05
	606.71	4.98	5.25E-04		6.81E-04	2.56E-04
	635.95	11.22	2.03E-04		6.68E-05	9.82E-05
	671.44	1.79	2.12E-03		-5.65E-04	1.04E-03
SN-125	332.10	1.40	2.96E-03	3.30E-04	5.92E-04	1.45E-03
	469.85	1.50	3.83E-03		-2.38E-03	1.88E-03
	800.28	1.10	2.23E-03		-1.30E-03	1.06E-03
	822.48	4.30	6.52E-04		-3.98E-04	3.13E-04
	915.55	4.10	7.85E-04		3.20E-04	3.78E-04
	1067.10	10.00	3.30E-04		9.16E-05	1.58E-04
	1087.70	1.20	4.31E-03		2.78E-03	2.08E-03
	1089.10	4.60	6.10E-04		1.45E-04	2.93E-04
	2002.10	1.90	6.75E-04		5.41E-04	2.97E-04
SB-127	61.10	1.43	4.51E-03	5.41E-05	2.60E-04	2.23E-03
	252.40	8.50	3.31E-04		3.66E-04	1.63E-04
	290.80	2.02	1.69E-03		3.74E-04	8.30E-04
	412.10	3.80	1.21E-03		3.67E-04	5.98E-04
	445.10	4.30	1.12E-03		-2.76E-04	5.50E-04
	473.00	25.80	1.55E-04		1.28E-04	7.65E-05
	543.30	2.90	7.67E-04		-2.86E-04	3.73E-04
	603.50	4.50	8.21E-04		-1.24E-04	4.00E-04
	685.70	36.80	5.41E-05		6.26E-05	2.60E-05
	698.50	3.64	1.16E-03		1.20E-04	5.71E-04
	722.20	1.88	1.25E-03		6.24E-04	6.00E-04
	783.70	15.10	1.27E-04		-3.52E-05	6.06E-05
SN-127	119.70	2.20	1.18E-02	1.14E-03	2.72E-03	5.79E-03
	262.50	2.30	1.35E-02		4.23E-03	6.60E-03
	266.20	2.10	1.46E-02		-6.71E-04	7.18E-03
	284.30	2.70	1.22E-02		8.71E-04	5.99E-03
	438.20	6.10	7.72E-03		-2.15E-03	3.79E-03
	490.90	5.30	8.25E-03		2.05E-03	4.04E-03
	493.20	3.10	1.41E-02		-7.71E-03	6.92E-03
	545.40	2.30	1.54E-02		1.53E-02	7.50E-03
	583.30	3.20	1.11E-02		3.71E-03	5.38E-03
	805.90	8.20	3.13E-03		-1.53E-03	1.49E-03
	823.10	11.00	2.80E-03		5.35E-04	1.34E-03
	824.70	6.10	5.10E-03		-7.74E-04	2.45E-03
	859.50	8.00	4.19E-03		-5.68E-04	2.01E-03
	979.20	7.20	4.64E-03		6.14E-03	2.23E-03
	1093.30	3.80	8.47E-03		-1.49E-02	4.04E-03
	1095.60	19.00	1.74E-03		1.25E-03	8.31E-04
	1114.30	38.00	1.14E-03		9.96E-04	5.52E-04
	1160.40	2.40	1.28E-02		2.39E-03	6.06E-03
	2003.40	5.30	3.38E-03		-7.27E-03	1.48E-03
SB-129	180.42	2.84	2.38E-03	1.39E-04	-2.16E-04	1.17E-03
	359.20	2.39	3.75E-03		-3.07E-03	1.84E-03
	404.64	1.17	8.77E-03		2.79E-03	4.30E-03
	523.13	1.55	5.92E-03		-1.67E-04	2.89E-03
	544.56	15.42	5.77E-04		4.22E-04	2.81E-04
	633.74	2.53	3.31E-03		1.07E-03	1.60E-03
	654.28	2.97	5.14E-03		1.42E-03	2.53E-03

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	682.77		5.76	1.15E-03	1.39E-04	7.89E-04	5.50E-04
		761.12		4.32	1.50E-03		1.19E-03	7.16E-04
		773.37		2.82	2.39E-03		-1.47E-04	1.14E-03
		786.36		1.07	6.25E-03		2.71E-03	2.99E-03
		787.16		1.74	3.88E-03		6.71E-04	1.85E-03
		812.97		48.20	1.39E-04		-1.60E-04	6.63E-05
		819.51		1.39	5.23E-03		-3.73E-03	2.50E-03
		876.65		2.75	3.09E-03		-1.43E-03	1.49E-03
		914.96		23.30	3.74E-04		-1.14E-04	1.80E-04
		966.78		8.96	1.01E-03		1.49E-03	4.84E-04
		1030.65		15.13	5.74E-04		2.84E-04	2.76E-04
		1656.10		1.31	3.38E-03		-1.36E-03	1.51E-03
		1738.16		7.45	6.27E-04		1.23E-05	2.80E-04
	TE-129	459.60		7.70	4.71E-04	4.71E-04	5.41E-04	2.32E-04
		487.39		1.42	2.15E-03		-3.56E-03	1.05E-03
+	Te-129m	695.88	*	3.00	8.67E-04	8.67E-04	6.76E-03	4.21E-04
	I-131	80.18		2.62	1.15E-03	3.22E-05	-1.11E-03	5.66E-04
		284.30		6.12	4.16E-04		2.97E-05	2.04E-04
		364.49		81.50	3.22E-05		-9.47E-06	1.58E-05
		636.99		7.16	3.24E-04		-3.77E-04	1.57E-04
		722.91		1.77	1.26E-03		2.11E-03	6.07E-04
	Te-131m	773.67		36.80	8.93E-05	8.93E-05	-8.98E-05	4.27E-05
		793.75		13.40	3.71E-04		-3.04E-06	1.77E-04
		852.21		19.90	2.03E-04		-3.53E-04	9.74E-05
		1125.46		11.00	3.31E-04		2.95E-04	1.58E-04
		1206.60		9.41	2.56E-04		1.64E-04	1.19E-04
	I-132	262.90		1.28	1.79E-03	4.41E-05	-1.44E-03	8.76E-04
		284.90		0.71	3.45E-03		-2.15E-03	1.69E-03
		505.79		4.93	2.20E-03		-1.69E-03	1.08E-03
		522.65		16.00	3.13E-04		-1.80E-04	1.53E-04
		547.20		1.14	4.41E-03		-2.59E-03	2.14E-03
		621.20		1.97	2.51E-03		1.25E-03	1.22E-03
		630.19		13.30	3.66E-04		2.75E-04	1.78E-04
		650.50		2.57	2.35E-03		-1.78E-03	1.14E-03
		667.71		98.70	2.79E-04		-6.69E-06	1.39E-04
		669.80		4.60	2.02E-03		-1.83E-04	9.93E-04
		671.40		3.50	2.67E-03		-7.13E-04	1.31E-03
		727.10		5.40	9.63E-04		-6.11E-04	4.63E-04
		728.40		1.60	2.85E-03		-1.87E-03	1.37E-03
		772.60		75.60	4.41E-05		-7.05E-06	2.11E-05
		809.50		2.60	1.46E-03		-5.00E-04	6.95E-04
		812.00		5.50	6.57E-04		-1.47E-04	3.14E-04
		910.10		0.93	4.90E-03		-1.56E-03	2.36E-03
		954.55		17.60	2.74E-04		-2.10E-04	1.32E-04
		1136.00		3.01	9.89E-04		2.27E-04	4.70E-04
		1172.90		1.09	9.58E-03		7.65E-02	4.72E-03
		1290.80		1.13	2.33E-03		-4.77E-03	1.07E-03
		1295.10		1.88	5.08E-04		-1.86E-04	2.34E-04
		1297.90		0.89	7.75E-04		1.34E-04	3.57E-04
		1372.07		2.47	1.17E-03		8.06E-04	5.43E-04
		1398.57		7.01	4.20E-04		3.91E-04	1.95E-04
		1442.56		1.40	6.92E-04		-4.09E-04	3.14E-04
	TE-132	49.72		15.00	6.89E-04	2.63E-05	-5.04E-04	3.39E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TE-132	111.76	1.74	1.03E-03	2.63E-05	3.16E-05	5.04E-04
	116.30	1.96	9.16E-04		-2.11E-04	4.50E-04
	228.16	88.00	2.63E-05		-3.62E-06	1.29E-05
BA-133	81.00	32.90	8.89E-05	4.37E-05	-5.33E-05	4.37E-05
	276.40	7.16	3.50E-04		-2.10E-04	1.72E-04
	302.85	18.34	1.38E-04		9.49E-05	6.74E-05
	356.01	62.05	4.37E-05		7.27E-06	2.14E-05
	383.85	8.94	2.60E-04		-6.67E-05	1.28E-04
I-133	529.87	87.00	3.81E-05	3.81E-05	-2.90E-05	1.86E-05
	706.58	1.51	2.08E-03		6.25E-04	9.97E-04
	856.28	1.24	3.22E-03		1.37E-03	1.55E-03
	875.33	4.51	6.98E-04		7.27E-04	3.36E-04
	1236.44	1.51	1.29E-03		3.62E-04	6.03E-04
	1298.22	2.35	8.11E-04		6.38E-04	3.74E-04
TE-133	312.08	62.40	1.75E+07	1.75E+07	-9.61E+06	8.58E+06
	407.63	27.10	5.06E+07		4.39E+07	2.48E+07
	410.40	0.94	1.89E+09		-5.59E+08	9.34E+08
	474.85	0.88	1.90E+09		5.07E+08	9.36E+08
	719.71	8.90	1.14E+08		1.27E+08	5.51E+07
	786.93	5.40	1.62E+08		-7.51E+07	7.72E+07
	844.36	3.31	3.04E+08		4.04E+08	1.46E+08
	884.30	0.72	1.38E+09		-1.52E+09	6.59E+08
	930.71	3.81	3.20E+08		3.89E+08	1.54E+08
	997.70	1.04	1.14E+09		6.30E+08	5.50E+08
	1000.72	3.62	3.61E+08		3.25E+08	1.74E+08
	1021.13	2.81	3.86E+08		-1.95E+08	1.85E+08
	1061.61	1.19	9.13E+08		3.03E+08	4.37E+08
	1252.08	1.44	4.94E+08		1.74E+08	2.29E+08
	1312.80	0.85	7.60E+08		-4.79E+08	3.48E+08
	1333.21	10.67	3.32E+08		2.54E+09	1.63E+08
	1717.61	3.18	1.87E+08		7.92E+07	8.35E+07
	1881.52	1.22	4.69E+08		3.76E+08	2.06E+08
	2136.51	1.25	4.69E+08		-2.26E+07	2.04E+08
	2229.64	0.87	6.80E+08		-4.71E+07	2.94E+08
Xe-133	81.00	36.90	6.17E-05	6.17E-05	-3.71E-05	3.04E-05
CS-134	475.36	1.48	2.38E-03	3.02E-05	1.06E-03	1.17E-03
	563.25	8.34	4.66E-04		-2.29E-04	2.26E-04
	569.33	15.37	2.59E-04		-2.19E-04	1.26E-04
	604.72	97.62	3.75E-05		4.29E-05	1.83E-05
	795.86	85.46	3.02E-05		1.74E-05	1.44E-05
	801.95	8.69	3.61E-04		1.95E-04	1.72E-04
	1038.61	0.99	3.25E-03		7.74E-04	1.56E-03
	1167.97	1.79	2.86E-03		1.26E-04	1.41E-03
	1365.19	3.02	4.93E-04		2.31E-04	2.34E-04
I-135	220.50	1.75	3.74E-03	1.32E-04	-5.64E-04	1.84E-03
	288.45	3.10	2.26E-03		-1.26E-03	1.11E-03
	417.63	3.53	3.45E-03		1.08E-02	1.70E-03
	546.56	7.15	1.03E-03		4.40E-04	5.02E-04
	836.80	6.69	9.32E-04		-4.47E-05	4.46E-04
	971.96	0.89	8.75E-03		3.62E-03	4.20E-03
	972.62	1.21	5.81E-03		-3.94E-03	2.79E-03
	1038.76	7.90	7.14E-04		1.70E-04	3.42E-04
	1101.58	1.61	4.24E-03		5.30E-04	2.03E-03

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1124.00		3.62	1.91E-03	1.32E-04	7.37E-04	9.10E-04
		1131.51		22.60	2.82E-04		1.33E-04	1.34E-04
		1240.47		0.90	5.82E-03		2.64E-03	2.72E-03
		1260.41		28.70	1.32E-04		5.22E-05	6.13E-05
		1457.56		8.70	5.07E-04		1.42E-05	2.37E-04
		1502.79		1.08	4.11E-03		3.30E-03	1.87E-03
		1566.41		1.29	2.75E-03		-4.28E-04	1.26E-03
		1678.03		9.60	2.27E-04		1.82E-04	9.96E-05
		1706.46		4.10	6.10E-04		-8.87E-04	2.66E-04
		1791.20		7.72	3.53E-04		2.92E-04	1.56E-04
		2408.65		0.96	2.31E-03		9.81E-04	9.31E-04
	XE-135	249.79		90.00	4.41E-05	4.41E-05	1.74E-05	2.17E-05
	XE-135m	526.56		80.40	7.33E-05	7.33E-05	-4.75E-05	3.58E-05
	CS-136	66.88		4.79	1.39E-03	3.36E-05	9.99E-05	6.85E-04
		86.36		5.90	8.82E-04		5.18E-05	4.36E-04
		153.25		7.70	3.80E-04		-1.70E-04	1.87E-04
		163.92		4.69	8.96E-04		-1.42E-04	4.40E-04
		176.60		13.70	2.49E-04		8.74E-06	1.22E-04
		273.65		12.66	3.25E-04		-4.13E-05	1.59E-04
		340.55		46.80	8.79E-05		7.50E-06	4.31E-05
		818.51		99.70	3.36E-05		2.50E-05	1.61E-05
		1048.07		80.00	5.13E-05		-1.36E-05	2.46E-05
		1235.36		20.00	1.32E-04		-1.06E-04	6.17E-05
+	CS-137	661.66	*	85.10	1.63E-05	1.63E-05	5.67E-03	7.70E-06
	BA-139	33.44		3.84	1.10E+00	4.43E-03	-1.44E+00	5.43E-01
		165.86		23.70	4.43E-03		-4.38E-03	2.17E-03
	BA-140	132.69		0.20	8.41E-03	1.07E-04	1.94E-03	4.13E-03
		162.66		6.22	3.41E-04		4.05E-05	1.67E-04
		304.85		4.29	6.95E-04		5.03E-04	3.41E-04
		423.72		3.10	9.91E-04		1.29E-04	4.86E-04
		437.58		1.93	1.71E-03		-3.92E-04	8.41E-04
		537.26		24.39	1.07E-04		5.27E-05	5.24E-05
	LA-140	109.42		0.22	7.75E-03	2.48E-05	-4.60E-03	3.80E-03
		131.12		0.47	3.66E-03		8.95E-04	1.80E-03
		173.54		0.13	1.45E-02		-2.29E-03	7.10E-03
		241.93		0.41	5.14E-03		-2.28E-03	2.52E-03
		266.54		0.47	4.65E-03		2.36E-03	2.28E-03
		328.76		20.30	1.99E-04		-2.96E-05	9.76E-05
		432.49		2.90	1.86E-03		1.20E-03	9.12E-04
		487.02		45.50	9.67E-05		-1.45E-04	4.74E-05
		618.10		0.04	6.45E-02		2.31E-02	3.13E-02
		751.64		4.33	5.31E-04		-3.50E-04	2.54E-04
		815.77		23.28	8.40E-05		6.50E-06	4.01E-05
		867.85		5.50	5.29E-04		-3.97E-04	2.54E-04
		919.55		2.66	9.64E-04		7.65E-04	4.64E-04
		925.19		6.90	4.56E-04		1.88E-04	2.20E-04
		950.99		0.52	6.31E-03		5.50E-03	3.04E-03
		1596.21		95.40	2.48E-05		1.81E-05	1.14E-05
		2347.88		0.85	7.79E-04		-1.90E-04	3.23E-04
		2521.40		3.46	4.61E-05		0.00E+00	0.00E+00
		2547.34		0.10	7.70E-03		2.15E-03	2.88E-03
	BA-141	33.44		7.93	9.09E+05	4.76E+03	-1.18E+06	4.47E+05
		190.33		44.80	4.76E+03		1.84E+03	2.34E+03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-141	276.95	23.60	9.23E+03	4.76E+03	-1.20E+04	4.53E+03
	304.19	26.10	8.65E+03		-1.21E+04	4.24E+03
	343.67	15.10	1.59E+04		5.49E+02	7.81E+03
	389.74	1.37	1.96E+05		8.63E+04	9.62E+04
	457.51	5.00	6.95E+04		-9.18E+04	3.42E+04
	462.06	5.10	7.00E+04		8.52E+04	3.44E+04
	467.22	5.60	6.26E+04		1.09E+04	3.08E+04
	625.08	3.45	6.82E+04		3.82E+03	3.31E+04
	647.78	5.70	4.13E+04		-4.20E+04	2.00E+04
	738.95	4.39	4.32E+04		2.10E+03	2.07E+04
	831.46	1.64	1.27E+05		-1.72E+05	6.10E+04
	876.09	3.45	6.81E+04		3.45E+04	3.28E+04
	1160.72	1.12	1.86E+05		-1.38E+05	8.83E+04
	1197.28	4.35	3.73E+04		-2.90E+04	1.74E+04
	1323.92	0.92	2.45E+05		-8.79E+04	1.16E+05
	1654.00	0.65	1.83E+05		1.64E+05	8.12E+04
	1682.19	1.19	9.18E+04		-2.25E+04	4.04E+04
CE-141	145.44	48.30	3.50E-05	3.50E-05	-2.69E-06	1.71E-05
BA-142	33.44	14.20	2.99E+11	5.80E+09	-3.90E+11	1.47E+11
	77.59	7.00	1.94E+10		3.61E+09	9.55E+09
	177.00	2.12	4.91E+10		1.75E+10	2.41E+10
	231.61	12.20	1.00E+10		-7.09E+09	4.93E+09
	255.30	20.70	5.80E+09		-8.08E+09	2.85E+09
	286.30	1.11	1.22E+11		-1.59E+10	5.97E+10
	309.20	2.60	5.17E+10		-1.41E+10	2.53E+10
	335.00	1.53	9.19E+10		1.88E+10	4.50E+10
	363.96	4.76	3.12E+10		4.96E+09	1.53E+10
	425.04	5.75	3.07E+10		-2.22E+10	1.51E+10
	599.80	1.85	7.64E+10		2.95E+10	3.71E+10
	840.40	3.63	3.35E+10		5.67E+10	1.61E+10
	895.20	13.90	9.02E+09		1.59E+09	4.32E+09
	949.10	10.70	1.43E+10		6.05E+09	6.90E+09
	1001.20	9.80	1.64E+10		1.17E+10	7.91E+09
	1078.70	11.50	1.44E+10		2.09E+10	6.95E+09
	1094.10	2.82	4.68E+10		9.63E+09	2.24E+10
	1126.80	1.50	8.66E+10		-3.75E+10	4.13E+10
	1202.40	5.60	1.68E+10		-6.62E+09	7.83E+09
	1204.30	14.30	6.39E+09		-7.68E+06	2.98E+09
	1380.20	3.42	2.47E+10		7.54E+09	1.13E+10
CE-143	57.36	11.70	6.45E-04	6.75E-05	-1.03E-04	3.18E-04
	231.55	2.05	1.58E-03		-1.12E-03	7.76E-04
	293.27	42.80	6.75E-05		3.00E-05	3.32E-05
	350.62	3.23	7.96E-04		4.69E-05	3.91E-04
	490.37	2.16	2.16E-03		5.77E-04	1.06E-03
	664.57	5.69	3.67E-03		1.06E-01	1.83E-03
	721.93	5.39	4.31E-04		2.16E-04	2.08E-04
	880.46	1.03	2.67E-03		-2.02E-05	1.28E-03
CE-144	80.12	1.36	1.62E-03	1.50E-04	-1.56E-03	7.99E-04
	133.51	11.09	1.50E-04		-1.11E-04	7.37E-05
ND-147	38.17	13.20	2.26E-03	9.02E-05	1.82E-04	1.11E-03
	38.72	23.80	1.15E-03		8.22E-04	5.64E-04
	91.11	28.90	9.02E-05		-1.11E-05	4.45E-05
	275.39	0.79	4.04E-03		6.98E-06	1.98E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ND-147	319.41	1.97	1.41E-03	9.02E-05	-2.03E-03	6.90E-04
	398.13	0.87	3.51E-03		-1.21E-03	1.72E-03
	439.88	1.20	2.99E-03		4.58E-04	1.47E-03
	531.01	13.11	1.96E-04		2.92E-05	9.58E-05
	685.88	0.82	2.29E-03		2.59E-03	1.10E-03
PR-147	36.85	19.70	1.36E+08	9.16E+06	1.16E+08	6.71E+07
	37.36	35.50	6.90E+07		7.10E+07	3.39E+07
	49.88	4.00	1.30E+08		-9.54E+07	6.41E+07
	77.97	9.70	1.74E+07		1.15E+07	8.54E+06
	86.69	5.40	3.96E+07		3.87E+06	1.96E+07
	127.80	7.40	1.74E+07		1.32E+07	8.54E+06
	249.20	1.32	1.18E+08		-1.52E+06	5.78E+07
	314.70	18.20	9.16E+06		-8.12E+06	4.49E+06
	328.80	4.00	4.32E+07		-6.42E+06	2.12E+07
	335.70	4.70	3.75E+07		3.04E+07	1.84E+07
	388.80	1.41	1.39E+08		-2.58E+07	6.82E+07
	466.80	1.70	1.52E+08		-1.59E+07	7.48E+07
	477.90	4.60	5.38E+07		6.54E+07	2.64E+07
	516.70	1.30	1.55E+08		9.98E+07	7.56E+07
	554.70	5.90	2.88E+07		9.02E+06	1.40E+07
	577.90	13.70	1.25E+07		5.59E+06	6.07E+06
	641.40	16.10	1.04E+07		4.79E+06	5.05E+06
	996.00	1.52	1.19E+08		1.35E+07	5.74E+07
	1136.70	1.42	1.04E+08		1.40E+07	4.92E+07
	1261.10	8.40	1.34E+07		-1.59E+06	6.20E+06
	1300.40	2.30	4.64E+07		4.32E+06	2.14E+07
ND-149	38.17	9.00	8.37E-02	2.20E-03	6.73E-03	4.11E-02
	38.72	16.30	4.23E-02		3.03E-02	2.08E-02
	58.88	1.30	1.45E-01		2.13E-02	7.16E-02
	74.32	2.11	3.96E-02		3.27E-02	1.95E-02
	97.00	1.48	3.57E-02		-2.27E-02	1.75E-02
	114.31	19.20	2.76E-03		-8.72E-04	1.36E-03
	155.87	5.95	9.47E-03		-1.68E-02	4.65E-03
	188.64	1.79	5.68E-02		4.03E-02	2.79E-02
	198.93	1.39	5.26E-02		-4.58E-02	2.58E-02
	208.15	2.55	2.69E-02		2.77E-02	1.32E-02
	211.31	26.00	2.20E-03		-1.61E-03	1.08E-03
	240.22	3.95	1.43E-02		2.17E-03	7.01E-03
	245.72	0.81	9.24E-02		5.42E-02	4.54E-02
	267.69	6.05	1.29E-02		9.32E-03	6.35E-03
	270.17	10.80	5.57E-03		-1.25E-03	2.73E-03
	326.55	4.57	1.72E-02		1.22E-03	8.45E-03
	349.23	1.38	5.92E-02		3.87E-02	2.90E-02
	423.55	7.50	1.10E-02		1.43E-03	5.40E-03
	443.55	1.15	9.75E-02		9.34E-03	4.79E-02
	540.51	6.60	1.11E-02		-7.64E-03	5.42E-03
	654.83	8.00	1.63E-02		5.30E-04	8.06E-03
PM-149	285.95	3.10	8.31E-04	8.31E-04	1.52E-05	4.08E-04
PM-150	39.52	0.63	2.97E-01	2.85E-04	1.19E-02	1.46E-01
	40.12	1.14	1.51E-01		1.91E-01	7.42E-02
	333.92	68.00	2.85E-04		1.15E-04	1.40E-04
	406.51	5.60	4.04E-03		-1.41E-04	1.98E-03
	565.70	1.31	1.40E-02		2.89E-03	6.79E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	587.02	1.34	1.46E-02	2.85E-04	6.30E-03	7.11E-03
	612.25	0.93	2.16E-02		1.44E-02	1.05E-02
	712.22	4.40	3.18E-03		-2.20E-03	1.52E-03
	737.50	2.25	6.62E-03		-8.18E-03	3.17E-03
	831.85	11.90	1.43E-03		-4.39E-04	6.88E-04
	859.95	3.40	5.37E-03		-6.30E-03	2.58E-03
	876.41	7.30	2.60E-03		4.88E-04	1.25E-03
	1165.77	15.80	2.07E-03		7.57E-04	1.01E-03
	1170.90	1.06	5.54E-02		7.82E-03	2.73E-02
	1193.87	4.80	2.69E-03		-1.70E-03	1.25E-03
	1213.72	1.03	1.23E-02		-3.02E-03	5.73E-03
	1223.28	2.80	4.68E-03		4.38E-04	2.18E-03
	1324.51	17.50	1.25E-03		-5.20E-04	6.00E-04
	1379.32	3.10	3.75E-03		-1.12E-04	1.72E-03
	1736.40	6.90	1.60E-03		-5.66E-04	7.23E-04
	1963.71	1.47	5.27E-03		-4.39E-03	2.23E-03
	2033.46	0.97	9.78E-03		-1.09E-02	4.25E-03
ND-151	38.17	5.94	2.65E+09	2.30E+07	2.13E+08	1.30E+09
	38.72	10.70	1.35E+09		9.65E+08	6.62E+08
	68.98	1.26	1.14E+09		1.77E+08	5.62E+08
	85.12	2.05	7.88E+08		3.21E+07	3.90E+08
	89.96	1.53	9.92E+08		1.09E+08	4.90E+08
	116.80	39.00	2.30E+07		1.49E+06	1.13E+07
	138.89	7.00	1.28E+08		-5.49E+07	6.27E+07
	170.76	2.87	3.37E+08		1.24E+08	1.65E+08
	175.07	6.30	1.53E+08		-2.61E+07	7.51E+07
	255.68	14.80	7.62E+07		9.90E+06	3.74E+07
	300.58	1.82	6.94E+08		-5.56E+06	3.40E+08
	423.56	5.90	2.75E+08		3.59E+07	1.35E+08
	460.59	0.96	2.03E+09		3.31E+09	9.98E+08
	585.22	1.30	1.02E+09		6.79E+08	4.95E+08
	677.88	2.38	3.88E+08		3.28E+08	1.85E+08
	736.23	5.90	1.66E+08		-2.38E+08	7.92E+07
	739.20	1.52	6.90E+08		-1.16E+08	3.31E+08
	755.57	1.17	8.47E+08		5.24E+08	4.05E+08
	797.53	4.70	2.10E+08		1.04E+08	1.00E+08
	1016.40	2.50	5.06E+08		2.90E+08	2.43E+08
	1122.63	4.10	2.98E+08		-2.10E+08	1.42E+08
	1180.89	13.30	2.44E+08		3.77E+07	1.20E+08
Pm-151	167.75	8.30	2.93E-04	1.29E-04	1.37E-04	1.44E-04
	177.16	3.80	7.56E-04		2.69E-04	3.71E-04
	240.09	3.80	7.53E-04		1.14E-04	3.70E-04
	275.21	6.80	4.10E-04		-1.33E-04	2.01E-04
	340.08	22.50	1.29E-04		7.36E-06	6.34E-05
EU-152	121.78	28.53	8.93E-05	8.62E-05	1.22E-05	4.39E-05
	344.28	26.59	1.12E-04		9.79E-06	5.51E-05
	778.90	12.93	1.85E-04		-1.29E-04	8.86E-05
	867.37	4.23	8.50E-04		-3.94E-04	4.09E-04
	964.08	14.51	2.05E-04		1.47E-04	9.86E-05
	1085.87	10.11	2.60E-04		3.25E-05	1.25E-04
	1112.07	13.67	2.36E-04		3.34E-04	1.14E-04
	1408.01	20.87	8.62E-05		1.90E-05	3.98E-05
ND-152	44.44	5.50	1.36E+10	5.45E+08	4.25E+09	6.68E+09

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ND-152	250.15	16.40	8.28E+08	5.45E+08	2.52E+08	4.06E+08
	278.56	26.00	5.45E+08		4.82E+08	2.68E+08
	294.47	2.90	5.19E+09		4.77E+09	2.55E+09
	545.70	0.83	1.84E+10		-1.63E+09	8.98E+09
	592.50	0.99	1.50E+10		-1.59E+10	7.27E+09
GD-153	69.67	2.45	1.28E-03	5.91E-05	1.25E-03	6.31E-04
	97.43	30.00	5.91E-05		-5.70E-05	2.90E-05
	103.18	22.10	7.97E-05		8.82E-05	3.91E-05
SM-153	69.67	4.67	7.40E-04	6.68E-05	7.19E-04	3.64E-04
	103.18	29.14	6.68E-05		7.39E-05	3.28E-05
EU-154	42.70	20.45	7.05E-04	6.18E-05	-1.66E-04	3.46E-04
	123.07	40.40	6.18E-05		8.74E-05	3.04E-05
	247.93	6.89	4.53E-04		2.05E-04	2.23E-04
	591.76	4.95	7.60E-04		2.18E-04	3.69E-04
	692.42	1.78	3.17E-03		-1.55E-04	1.55E-03
	723.30	20.06	1.49E-04		5.17E-05	7.19E-05
	756.80	4.52	6.52E-04		7.21E-04	3.12E-04
	873.18	12.08	2.90E-04		2.31E-04	1.40E-04
	996.29	10.48	2.71E-04		1.54E-04	1.30E-04
	1004.76	18.01	1.69E-04		1.19E-04	8.13E-05
	1246.12	0.86	2.71E-03		-3.71E-03	1.26E-03
	1274.43	34.80	7.61E-05		1.25E-04	3.62E-05
	1494.05	0.70	1.74E-03		6.00E-04	7.88E-04
	1596.48	1.80	4.92E-04		3.59E-04	2.27E-04
EU-155	43.00	18.12	7.73E-04	7.95E-05	3.28E-04	3.80E-04
	60.01	1.17	4.04E-03		1.39E-02	1.99E-03
	86.55	30.70	9.63E-05		9.42E-06	4.76E-05
	105.31	21.10	7.95E-05		1.26E-05	3.91E-05
EU-156	88.97	8.40	4.90E-04	2.04E-04	-1.23E-04	2.42E-04
	646.29	6.30	5.15E-04		6.79E-04	2.50E-04
	723.47	5.40	5.32E-04		4.19E-04	2.56E-04
	811.77	9.70	2.60E-04		-5.81E-05	1.24E-04
	1065.14	4.90	7.07E-04		6.34E-04	3.39E-04
	1079.16	4.60	6.78E-04		1.08E-03	3.27E-04
	1153.80	11.50	2.14E-04		6.58E-05	1.02E-04
	1230.71	8.00	2.86E-04		-2.32E-04	1.34E-04
	1242.42	6.60	3.01E-04		3.15E-04	1.41E-04
	1277.43	2.89	9.71E-04		1.49E-03	4.62E-04
	1366.41	1.57	1.63E-03		1.72E-03	7.76E-04
	1965.95	3.90	2.04E-04		-2.20E-05	8.68E-05
	2097.70	3.80	3.29E-04		-1.46E-04	1.43E-04
	2186.71	3.50	3.11E-04		-2.23E-04	1.33E-04
Sm-156	87.60	24.00	2.19E-04	1.79E-04	1.33E-03	1.08E-04
	165.80	13.00	2.53E-04		-2.50E-04	1.24E-04
	204.00	21.00	1.79E-04		-7.34E-05	8.79E-05
EU-158	42.31	5.80	3.98E+00	1.31E-01	-2.84E+00	1.96E+00
	43.00	10.40	2.06E+00		8.73E-01	1.01E+00
	79.49	10.50	3.27E-01		4.05E-02	1.61E-01
	181.97	2.30	1.28E+00		-7.84E-01	6.27E-01
	528.05	1.53	2.52E+00		7.29E-01	1.23E+00
	606.39	4.00	9.95E-01		9.21E-01	4.84E-01
	743.02	3.60	8.17E-01		2.28E-01	3.92E-01
	897.61	12.40	2.83E-01		1.27E-01	1.36E-01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	906.50	1.83	1.89E+00	1.31E-01	-1.50E+00	9.09E-01
	922.51	1.62	2.33E+00		-9.99E-02	1.12E+00
	944.15	30.00	1.31E-01		5.30E-02	6.33E-02
	953.03	1.98	1.95E+00		8.42E-01	9.40E-01
	962.09	1.89	1.97E+00		-1.13E+00	9.47E-01
	977.14	16.30	2.17E-01		3.17E-02	1.04E-01
	986.96	1.35	2.55E+00		-1.16E+00	1.22E+00
	1107.63	5.10	8.71E-01		1.21E+00	4.20E-01
	1184.10	3.00	8.66E-01		-1.80E-01	4.06E-01
	1186.00	2.90	9.08E-01		9.76E-01	4.26E-01
	1187.10	4.40	5.88E-01		4.97E-02	2.75E-01
	1263.61	2.20	1.08E+00		-4.67E-01	5.04E-01
	1347.95	1.65	1.33E+00		-5.43E-01	6.10E-01
	1944.47	1.62	9.79E-01		-6.72E-01	4.19E-01
TB-160	86.79	13.20	3.19E-04	9.49E-05	3.12E-05	1.58E-04
	298.58	26.10	1.21E-04		-2.44E-05	5.92E-05
	879.38	30.10	9.49E-05		4.41E-05	4.57E-05
	962.32	9.81	2.81E-04		-1.62E-04	1.35E-04
	966.17	25.10	1.09E-04		1.27E-05	5.24E-05
	1177.96	14.90	4.16E-04		2.01E-05	2.05E-04
TB-161	25.65	23.20	3.49E-02	2.57E-04	1.25E-01	1.72E-02
	48.91	17.00	4.80E-04		8.80E-05	2.36E-04
	52.00	3.43	1.86E-03		-1.84E-04	9.13E-04
	57.19	1.79	3.26E-03		-5.21E-04	1.61E-03
	74.57	10.20	2.57E-04		2.12E-04	1.26E-04
YB-169	63.12	43.62	1.55E-04	6.38E-05	9.31E-06	7.62E-05
	93.61	2.58	1.33E-03		-9.95E-04	6.51E-04
	109.78	17.39	1.21E-04		-6.64E-05	5.96E-05
	130.52	11.38	2.20E-04		5.36E-05	1.08E-04
	177.21	22.28	1.06E-04		3.76E-05	5.18E-05
	197.96	35.93	6.38E-05		-9.39E-06	3.13E-05
	307.74	10.05	1.74E-04		9.68E-05	8.55E-05
HF-172	54.07	63.00	8.53E-05	8.53E-05	8.65E-06	4.20E-05
	67.35	5.30	5.56E-04		3.25E-05	2.73E-04
	81.75	4.50	4.83E-04		2.11E-05	2.38E-04
	114.06	2.60	6.42E-04		-2.03E-04	3.15E-04
	122.92	1.14	1.65E-03		1.86E-03	8.13E-04
	125.81	11.30	1.68E-04		-4.34E-05	8.26E-05
	127.91	1.46	1.22E-03		9.26E-04	5.98E-04
LU-173	59.30	24.44	2.01E-04	1.17E-04	6.85E-04	9.91E-05
	78.63	11.90	2.44E-04		-3.20E-04	1.20E-04
	100.72	5.24	3.68E-04		-1.08E-04	1.81E-04
	171.39	2.90	6.97E-04		-1.56E-04	3.42E-04
	272.11	21.20	1.17E-04		-3.58E-05	5.76E-05
LU-177	112.95	6.23	2.77E-04	2.12E-04	1.10E-04	1.36E-04
	208.37	10.41	2.12E-04		2.19E-04	1.04E-04
	249.67	0.20	1.11E-02		4.39E-03	5.47E-03
	321.32	0.22	1.08E-02		1.62E-03	5.30E-03
HF-181	133.02	43.30	5.24E-05	4.37E-05	-1.02E-05	2.57E-05
	345.93	15.12	2.07E-04		-7.34E-05	1.01E-04
	482.18	80.50	4.37E-05		-5.31E-05	2.14E-05
W-181	56.28	18.70	2.70E-04	1.69E-04	3.77E-05	1.33E-04
	57.53	32.00	1.69E-04		-2.34E-05	8.31E-05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
W-181	65.00	10.60	3.01E-04	1.69E-04	2.03E-04	1.48E-04
TA-182	57.98	10.01	5.29E-04	6.95E-05	1.02E-04	2.61E-04
	59.32	17.20	2.86E-04		9.73E-04	1.41E-04
	65.72	3.01	1.98E-03		2.87E-03	9.73E-04
	67.75	46.67	8.66E-05		5.17E-05	4.26E-05
	84.68	2.65	1.54E-03		7.44E-05	7.63E-04
	100.11	14.20	1.81E-04		9.52E-05	8.89E-05
	113.67	1.87	1.77E-03		3.43E-04	8.69E-04
	116.42	0.44	3.77E-03		-8.68E-04	1.85E-03
	152.43	7.02	3.66E-04		-2.76E-04	1.79E-04
	156.39	2.67	9.77E-04		-5.16E-04	4.79E-04
	179.39	3.12	9.22E-04		1.42E-04	4.52E-04
	198.35	1.47	2.55E-03		-1.36E-03	1.25E-03
	222.11	7.57	3.88E-04		6.19E-05	1.91E-04
	229.32	3.64	9.07E-04		-2.04E-04	4.45E-04
	264.08	3.61	8.44E-04		3.02E-04	4.14E-04
	928.00	0.61	5.55E-03		-9.87E-04	2.67E-03
	959.73	0.35	1.01E-02		2.85E-03	4.88E-03
	1001.70	2.09	2.30E-03		8.31E-04	1.11E-03
	1044.42	0.24	1.54E-02		-1.25E-03	7.37E-03
	1113.41	0.44	9.22E-03		8.93E-03	4.45E-03
	1121.29	35.24	8.40E-05		-9.25E-05	4.01E-05
	1157.30	0.73	2.49E-03		-8.53E-04	1.18E-03
	1189.04	16.49	9.48E-05		5.23E-05	4.44E-05
	1221.40	27.23	6.95E-05		2.97E-05	3.25E-05
	1223.60	0.24	4.13E-03		3.87E-04	1.93E-03
	1231.00	11.62	1.85E-04		-1.94E-04	8.61E-05
	1257.41	1.51	9.46E-04		-4.03E-04	4.37E-04
	1273.72	0.66	1.59E-03		3.22E-03	7.56E-04
	1289.15	1.37	3.22E-04		-5.25E-05	1.48E-04
	1342.73	0.26	5.93E-03		1.51E-03	2.78E-03
	1373.82	0.22	1.59E-03		1.02E-03	7.30E-04
Ta-183	84.71	1.35	2.30E-03	8.39E-05	1.11E-04	1.14E-03
	99.08	6.80	2.64E-04		7.25E-05	1.30E-04
	107.93	11.20	1.55E-04		-2.96E-05	7.63E-05
	161.35	9.10	2.07E-04		7.96E-05	1.01E-04
	162.32	5.00	3.75E-04		1.13E-04	1.84E-04
	244.26	8.80	2.55E-04		4.53E-05	1.25E-04
	246.06	27.20	8.39E-05		7.72E-05	4.12E-05
	353.99	11.60	2.28E-04		-9.20E-05	1.12E-04
Re-184	111.21	17.20	9.67E-05	5.07E-05	-1.13E-04	4.74E-05
	252.85	3.00	7.09E-04		-5.89E-04	3.48E-04
	792.01	37.70	5.07E-05		-3.83E-05	2.43E-05
	894.76	15.70	1.37E-04		9.89E-05	6.58E-05
	903.28	38.10	6.02E-05		2.24E-05	2.89E-05
W-185	59.72	0.01	4.04E-01	9.90E-02	1.36E+00	1.99E-01
	61.14	0.02	2.24E-01		1.29E-02	1.11E-01
	69.20	0.01	4.10E-01		7.36E-02	2.02E-01
	125.36	0.02	9.90E-02		2.37E-02	4.87E-02
W-187	61.14	14.30	4.03E-04	6.98E-05	2.32E-05	1.99E-04
	69.20	4.82	7.36E-04		1.32E-04	3.62E-04
	72.00	13.55	3.64E-04		-3.43E-04	1.79E-04
	134.25	10.36	2.88E-04		1.26E-04	1.41E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
W-187	479.53	26.60	1.90E-04	6.98E-05	1.96E-04	9.33E-05
	618.37	7.57	3.90E-04		1.06E-05	1.89E-04
	685.81	33.20	6.98E-05		7.92E-05	3.35E-05
Ir-188	155.05	29.60	6.83E-05	6.83E-05	1.96E-05	3.35E-05
	478.00	14.70	2.66E-04		3.23E-04	1.31E-04
	633.02	17.90	1.50E-04		1.59E-04	7.29E-05
	634.97	5.00	5.23E-04		-1.77E-04	2.53E-04
	829.42	5.10	4.90E-04		5.70E-04	2.36E-04
	1209.77	6.90	2.60E-04		-1.99E-04	1.21E-04
	1715.67	6.20	2.41E-04		2.32E-04	1.08E-04
	2214.59	18.60	8.09E-05		-9.94E-05	3.53E-05
W-188	227.07	0.23	9.17E-03	5.73E-03	1.19E-02	4.51E-03
	290.68	0.42	5.73E-03		2.94E-03	2.81E-03
Ir-189	245.08	6.00	3.64E-04	3.64E-04	-1.25E-04	1.79E-04
Ir-190	186.68	50.00	4.32E-05	4.32E-05	7.44E-05	2.13E-05
	361.09	12.30	2.08E-04		1.13E-04	1.02E-04
	371.24	21.60	1.25E-04		-4.03E-05	6.12E-05
	407.22	27.00	1.09E-04		6.36E-05	5.33E-05
	518.55	32.20	8.49E-05		2.80E-05	4.15E-05
	557.95	28.50	8.45E-05		6.62E-05	4.11E-05
	569.30	27.00	8.48E-05		-7.20E-05	4.12E-05
	605.14	37.80	7.06E-05		6.79E-05	3.44E-05
OS-191	63.29	15.70	2.44E-04	6.34E-05	1.55E-05	1.20E-04
	64.99	26.70	1.21E-04		8.18E-05	5.96E-05
	73.45	9.21	2.85E-04		3.57E-04	1.40E-04
	129.43	26.50	6.34E-05		-1.55E-06	3.11E-05
Pt-191	359.90	5.80	5.65E-04	2.04E-04	2.55E-05	2.77E-04
	456.47	3.30	1.28E-03		4.07E-04	6.29E-04
	538.90	14.30	2.04E-04		-9.59E-05	9.93E-05
IR-192	205.79	3.31	8.65E-04	4.02E-05	3.12E-04	4.25E-04
	295.96	28.71	1.46E-04		-4.10E-05	7.16E-05
	308.45	29.70	1.31E-04		-3.24E-05	6.43E-05
	316.51	82.86	4.02E-05		-3.97E-05	1.97E-05
	468.07	47.84	9.87E-05		-1.13E-04	4.85E-05
	588.58	4.52	8.98E-04		-5.93E-04	4.36E-04
	604.41	8.22	2.50E-04		1.92E-05	1.22E-04
	612.46	5.34	2.86E-04		-3.59E-05	1.39E-04
IR-192m	155.16	0.09	1.92E-02	1.92E-02	2.48E-02	9.43E-03
IR-193m	80.22	0.00	4.83E-01	4.83E-01	-4.63E-01	2.37E-01
Pt-193m	135.50	0.11	1.53E-02	1.53E-02	1.05E-02	7.50E-03
Au-194	293.55	10.90	2.56E-04	4.37E-05	1.14E-04	1.26E-04
	328.47	62.80	4.37E-05		8.72E-07	2.14E-05
	364.84	1.60	1.85E-03		-1.17E-03	9.09E-04
	528.77	1.78	1.65E-03		-4.63E-04	8.02E-04
	645.16	2.32	1.19E-03		4.27E-04	5.78E-04
	948.32	2.29	1.34E-03		2.24E-04	6.46E-04
	1104.06	2.15	1.47E-03		-2.77E-04	7.06E-04
	1175.36	2.14	3.96E-03		3.17E-02	1.95E-03
	1468.90	6.80	2.74E-04		-1.74E-04	1.26E-04
	1595.81	1.89	1.02E-03		4.61E-04	4.71E-04
	2043.72	3.74	3.80E-04		5.57E-07	1.66E-04
Ir-194	293.54	2.50	1.29E-03	2.42E-04	5.73E-04	6.33E-04
	328.47	13.10	2.42E-04		4.83E-06	1.19E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AU-195	98.86	11.21	1.53E-04	1.53E-04	5.80E-05	7.53E-05
	129.74	0.84	2.00E-03		-1.08E-04	9.79E-04
Pt-195m	98.90	11.70	1.56E-04	1.56E-04	5.88E-05	7.64E-05
	129.79	2.90	6.12E-04		-3.32E-05	3.00E-04
Au-196	333.03	22.90	1.74E-04	3.70E-05	-1.41E-04	8.55E-05
	355.73	87.00	3.70E-05		2.93E-05	1.81E-05
	426.10	6.60	4.83E-04		1.99E-04	2.37E-04
Au-196m	147.81	43.50	6.90E-05	6.90E-05	-5.37E-06	3.38E-05
	188.27	30.00	1.27E-04		-3.07E-05	6.25E-05
Pt-197	77.35	17.00	1.83E-04	1.83E-04	-6.61E-05	8.98E-05
	191.44	3.70	7.72E-04		-1.02E-04	3.79E-04
AU-198	411.80	95.62	4.55E-05	4.55E-05	1.17E-05	2.24E-05
AU-199	158.38	40.00	4.76E-05	4.76E-05	-1.60E-05	2.34E-05
	208.20	8.72	2.63E-04		2.71E-04	1.29E-04
TL-201	135.34	2.61	6.86E-04	1.96E-04	-2.61E-04	3.37E-04
	167.43	10.00	1.96E-04		7.23E-05	9.64E-05
TL-202	439.51	91.50	3.64E-05	3.64E-05	-4.92E-06	1.79E-05
PB-203	70.83	26.40	1.15E-04	3.58E-05	1.81E-05	5.64E-05
	72.87	44.20	6.55E-05		4.06E-06	3.22E-05
	82.40	15.56	1.54E-04		-6.77E-05	7.56E-05
	279.20	80.90	3.58E-05		-1.52E-05	1.75E-05
	401.32	3.35	1.44E-03		4.70E-04	7.05E-04
PB-210	46.54	4.25	2.25E-03	2.25E-03	-3.04E-04	1.10E-03
Pa-233	86.60	2.01	1.73E-03	6.09E-05	1.69E-04	8.53E-04
	94.65	8.90	2.02E-04		-1.04E-04	9.91E-05
	98.43	14.20	1.21E-04		3.02E-05	5.93E-05
	300.13	6.54	3.64E-04		3.53E-04	1.79E-04
	311.90	38.20	6.09E-05		-3.34E-05	2.99E-05
	340.48	4.44	5.55E-04		4.73E-05	2.72E-04
U-235	89.96	2.90	9.70E-04	3.63E-05	1.07E-04	4.80E-04
	93.35	4.70	3.75E-04		-1.28E-05	1.84E-04
	109.19	1.64	1.03E-03		1.56E-04	5.04E-04
	143.76	10.93	1.51E-04		-9.28E-05	7.41E-05
	163.36	5.07	3.53E-04		-6.08E-05	1.73E-04
	185.71	57.20	3.63E-05		3.83E-05	1.79E-05
	202.11	1.07	1.91E-03		-1.89E-03	9.37E-04
	205.31	5.03	4.17E-04		-8.31E-05	2.05E-04
NP-237	86.48	12.20	2.42E-04	2.42E-04	2.37E-05	1.20E-04
U-237	59.54	34.50	1.57E-04	7.12E-05	5.37E-04	7.77E-05
	97.07	15.40	1.17E-04		-7.46E-05	5.75E-05
	101.06	24.50	7.12E-05		-5.76E-05	3.50E-05
	113.30	3.07	5.62E-04		8.94E-05	2.76E-04
	114.23	5.81	2.97E-04		-9.40E-05	1.46E-04
	117.46	2.27	7.55E-04		2.97E-04	3.71E-04
	208.00	21.20	1.10E-04		6.41E-05	5.40E-05
NP-238	103.37	0.00	3.98E-01	1.03E-04	1.52E-01	1.96E-01
	882.63	0.80	3.00E-03		-3.47E-04	1.44E-03
	923.99	2.60	1.07E-03		-1.68E-04	5.13E-04
	984.45	25.20	1.03E-04		1.07E-04	4.92E-05
	1025.87	8.75	2.89E-04		-7.77E-05	1.38E-04
	1028.53	18.23	1.45E-04		2.40E-05	6.97E-05
U-238	63.29	3.70	1.02E-03	4.41E-04	6.48E-05	5.03E-04
	92.51	4.23	4.41E-04		-1.48E-04	2.17E-04

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	U-238	112.81		0.21	7.90E-03	4.41E-04	-1.29E-03	3.88E-03
		742.81		0.11	1.81E-02		3.60E-04	8.66E-03
		766.42		0.32	5.57E-03		2.29E-03	2.66E-03
		1001.03		0.84	3.29E-03		2.35E-03	1.59E-03
	Am-239	181.71		1.08	2.85E-03	2.39E-04	-1.21E-03	1.40E-03
		209.80		3.50	9.64E-04		2.53E-04	4.74E-04
		226.40		3.30	1.03E-03		-3.50E-04	5.08E-04
		228.10		11.30	3.05E-04		3.23E-04	1.50E-04
		277.60		15.00	2.39E-04		-8.12E-05	1.17E-04
	NP-239	61.46		1.30	3.85E-03	8.01E-05	2.20E-04	1.90E-03
		99.53		12.90	1.46E-04		2.11E-06	7.15E-05
		103.37		20.50	9.13E-05		3.48E-05	4.49E-05
		106.12		25.34	8.01E-05		2.68E-05	3.93E-05
		209.75		3.36	7.31E-04		1.92E-04	3.59E-04
		228.18		11.24	2.23E-04		-3.07E-05	1.10E-04
		277.60		14.51	1.87E-04		-6.35E-05	9.16E-05
		285.46		0.79	3.89E-03		-2.32E-03	1.91E-03
		315.88		1.60	1.41E-03		-5.31E-05	6.89E-04
		334.31		2.06	9.51E-04		-6.57E-04	4.66E-04
	PU-239	38.66		0.01	2.59E+00	2.31E-01	1.85E+00	1.27E+00
		51.62		0.03	2.31E-01		2.82E-02	1.14E-01
		98.50		0.01	2.36E-01		5.89E-02	1.16E-01
		111.03		0.00	1.26E+00		-5.07E-02	6.17E-01
		129.30		0.01	2.63E-01		-8.54E-02	1.29E-01
		171.39		0.00	1.63E+01		-3.66E+00	8.00E+00
		203.55		0.00	3.62E+00		-3.44E+00	1.78E+00
		332.85		0.00	4.93E+00		7.26E-01	2.42E+00
		336.11		0.00	2.16E+01		6.41E+00	1.06E+01
		345.01		0.00	4.44E+00		-6.79E-01	2.18E+00
		375.05		0.00	1.72E+00		2.04E-01	8.44E-01
		380.19		0.00	8.77E+00		-1.46E-01	4.30E+00
		382.75		0.00	1.04E+01		3.28E+00	5.08E+00
		413.71		0.00	2.73E+00		1.13E+01	1.35E+00
		422.60		0.00	2.46E+01		-1.59E+01	1.21E+01
		451.48		0.00	1.78E+01		-1.62E+01	8.76E+00
	Am-240	99.53		18.40	1.03E-04	3.51E-05	1.50E-06	5.07E-05
		103.37		29.20	6.49E-05		2.47E-05	3.18E-05
		117.23		6.93	2.67E-04		1.05E-04	1.31E-04
		888.85		24.70	9.57E-05		8.17E-05	4.58E-05
		987.79		72.20	3.51E-05		1.09E-05	1.68E-05
	Np-240m	554.60		20.90	1.67E-04	1.67E-04	5.23E-05	8.10E-05
		597.40		11.70	3.04E-04		-5.15E-04	1.48E-04
	U-240	44.10		1.05	1.74E-02	1.34E-02	-1.25E-02	8.55E-03
		66.50		0.15	2.94E-02		1.10E-02	1.45E-02
		169.20		0.12	2.31E-02		-1.54E-02	1.13E-02
		189.70		0.24	1.34E-02		4.54E-03	6.60E-03
+	AM-241	59.54	*	35.90	1.27E-04	1.27E-04	4.63E-04	6.24E-05
	AM-242m	49.35		0.13	5.67E-02	5.67E-02	2.24E-02	2.79E-02
		66.89		0.01	2.02E-01		1.45E-02	9.92E-02
		86.65		0.02	1.29E-01		1.27E-02	6.40E-02
		163.25		0.02	1.17E-01		-2.02E-02	5.73E-02
	AM-243	43.53		5.90	2.21E-03	3.73E-05	-1.97E-03	1.09E-03
		74.66		67.20	3.73E-05		5.98E-06	1.84E-05

Analysis Report for 24-2532 TI185-6.0M-S1-CST-d-A F0

ASR 2094 Branch

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

Apex-Gamma

Analysis Report for 24-2533 TI185-6.0M-S2-CST-A Q0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2533 TI185-6.0M-S2-CST-A Q0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 2:16:38PM
Procedure	: Q0_gsv02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: Q0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1202.6 seconds
Dead Time	: 0.22 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 1/16/2018
Efficiency Calibration Description	: Q0_gsv2mlw_R651_PT
Sample Number	: 578959
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 2:36:48PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2533 TI185-6.0M-S2-CST-A Q0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.69	190.62	0.2047	9.08
2	64.40	205.55	0.3119	3.41
3	87.59	279.60	0.1569	13.97
4	123.19	392.95	0.2201	6.55
5	143.99	459.39	0.3737	3.14
6	336.23	1072.22	0.3631	3.15
7	356.26	1135.77	0.3412	3.21
8	414.90	1323.06	0.1358	15.20
9	472.40	1506.22	0.3308	3.02
10	609.58	1943.27	0.2624	3.61
11	661.86	2110.37	0.0586	70.24
12	666.53	2125.28	0.1377	13.24
13	695.26	2216.61	0.1324	13.76
14	723.85	2307.86	0.3074	3.35
15	1110.02	3538.52	0.2080	5.05
16	1173.62	3741.58	0.1032	19.14
17	1275.02	4064.51	0.2195	4.42
18	1332.95	4249.50	0.1063	16.95
19	1361.58	4340.69	0.1920	5.43
20	2506.66	7989.25	0.2041	3.79

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2533 TI185-6.0M-S2-CST-A Q0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 2:36:48PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.69	182	198	190.66	6.24E+02	97.11	7.97E+02	1.21
F	2	64.40	199	213	205.66	1.63E+02	24.62	7.18E+02	1.24
F	3	87.59	270	288	279.61	1.43E+03	125.88	9.04E+02	1.35
F	4	123.19	389	398	393.08	2.95E+02	25.51	3.64E+02	1.21
	5	143.99	456	467	459.39	1.55E+01	40.76	4.10E+02	0.95
	6	336.23	1068	1080	1072.22	1.18E+01	37.75	3.29E+02	0.78
F	7	356.26	1132	1140	1136.08	3.34E+01	12.37	1.95E+02	0.60
F	8	414.90	1314	1334	1323.02	9.09E+02	100.03	5.75E+02	1.45
F	9	472.40	1501	1511	1506.32	5.92E+01	54.19	3.22E+02	0.90
F	10	609.58	1938	1951	1943.60	6.66E+01	12.96	1.23E+02	1.50
M	11	661.86	2097	2134	2110.27	1.71E+04	199.64	1.74E+02	1.69
m	12	666.53	2097	2134	2125.15	7.17E+02	28.16	5.90E+01	1.69
F	13	695.26	2207	2227	2216.72	7.24E+02	26.89	9.30E+01	1.75
	14	723.85	2303	2312	2307.86	9.68E+00	16.62	7.53E+01	0.61
F	15	1110.02	3534	3546	3538.79	9.13E+01	12.16	4.92E+01	1.79
F	16	1173.62	3726	3754	3741.50	1.50E+03	78.98	4.41E+01	2.05
F	17	1275.02	4056	4072	4064.70	8.04E+01	33.78	1.70E+01	1.72
F	18	1332.95	4235	4261	4249.36	1.29E+03	72.06	2.75E+01	2.16
F	19	1361.58	4333	4349	4340.62	9.28E+01	9.74	8.50E+00	1.91
F	20	2506.66	7981	7999	7990.01	6.44E+01	8.70	1.68E+01	2.68

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 2:36:48PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578893.CNF

Analysis Report for 24-2533 TI185-6.0M-S2-CST-A Q0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.69	6.24E+02	97.11			6.24E+02	9.71E+01
F	2	64.40	1.63E+02	24.62			1.63E+02	2.46E+01
F	3	87.59	1.43E+03	125.88	1.01E+01	4.77E-01	1.42E+03	1.26E+02
F	4	123.19	2.95E+02	25.51			2.95E+02	2.55E+01
	5	143.99	1.55E+01	40.76	5.14E+00	4.60E-01	1.03E+01	4.08E+01
	6	336.23	1.18E+01	37.75			1.18E+01	3.78E+01
F	7	356.26	3.34E+01	12.37			3.34E+01	1.24E+01
F	8	414.90	9.09E+02	100.03			9.09E+02	1.00E+02
F	9	472.40	5.92E+01	54.19			5.92E+01	5.42E+01
F	10	609.58	6.66E+01	12.96	3.78E+01	1.30E+00	2.87E+01	1.30E+01
M	11	661.86	1.71E+04	199.64			1.71E+04	2.00E+02
m	12	666.53	7.17E+02	28.16	8.33E-01	1.87E-01	7.16E+02	2.82E+01
F	13	695.26	7.24E+02	26.89			7.24E+02	2.69E+01
	14	723.85	9.68E+00	16.62			9.68E+00	1.66E+01
F	15	1110.02	9.13E+01	12.16			9.13E+01	1.22E+01
F	16	1173.62	1.50E+03	78.98			1.50E+03	7.90E+01
F	17	1275.02	8.04E+01	33.78			8.04E+01	3.38E+01
F	18	1332.95	1.29E+03	72.06			1.29E+03	7.21E+01
F	19	1361.58	9.28E+01	9.74			9.28E+01	9.74E+00
F	20	2506.66	6.44E+01	8.70			6.44E+01	8.70E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.97	1173.23	*	99.85	7.40E-04	3.93E-05	0.765
		1332.49	*	99.98	6.94E-04	3.91E-05	0.763
Zn-72	0.77	144.70	*	82.78	1.60E-06	6.31E-06	miss
		191.50		9.35			
CD-109	0.97	88.03	*	3.64	5.39E-03	4.81E-04	free
CD-115	0.42	260.90		1.94			
		336.24	*	46.02	4.78E-06	1.53E-05	free
		527.90		27.45			
IN-115M	0.98	336.24	*	45.90	1.37E-05	4.41E-05	miss

Analysis Report for 24-2533 TI185-6.0M-S2-CST-A Q0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
Te-129m	0.94	695.88	*	3.00	6.53E-03	1.33E-03	free
CS-137	0.99	661.66	*	85.10	5.21E-03	7.19E-05	miss
EU-154	0.37	42.70		20.45			
		123.07	*	40.40	1.09E-04	9.58E-06	0.741
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	1.87E-05	3.22E-05	0.710
		756.80		4.52			
		873.18		12.08			
		996.29		10.48			
		1004.76		18.01			
		1246.12		0.86			
		1274.43	*	34.80	1.05E-04	4.42E-05	0.874
		1494.05		0.70			
		1596.48		1.80			
Au-196	0.56	333.03		22.90			
		355.73	*	87.00	8.56E-06	3.17E-06	0.815
		426.10		6.60			
AM-241	0.99	59.54	*	35.90	4.93E-04	7.71E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-60	0.971	7.17E-04	2.77E-05	
	Zn-72	0.774	1.60E-06	6.31E-06	
	CD-109	0.970	5.39E-03	4.81E-04	
?	CD-115	0.423	4.78E-06	1.53E-05	

Analysis Report for 24-2533 TI185-6.0M-S2-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
?	IN-115M	0.987	1.37E-05	4.41E-05	
	Te-129m	0.940	6.53E-03	1.33E-03	
	CS-137	0.993	5.21E-03	7.19E-05	
	EU-154	0.370	1.02E-04	8.99E-06	
	Au-196	0.561	8.56E-06	3.17E-06	
	AM-241	0.996	4.93E-04	7.71E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2533 TI185-6.0M-S2-CST-A Q0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 2:36:48PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	64.40	1.35980E-01	15.09	Tol.	W-181 OS-191
F	8	414.90	7.57178E-01	11.01	Tol.	RH-102M
F	9	472.40	4.93438E-02	91.51	Tol.	KR-88 SB-127
F	10	609.58	2.39443E-02	45.33	Tol.	RU-103
m	12	666.53	5.96718E-01	3.93		
F	15	1110.02	7.60950E-02	13.32		
F	19	1361.58	7.73635E-02	10.49		
F	20	2506.66	5.36370E-02	13.51	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.60	10.44	3.03E-04	3.03E-04	2.67E-04	1.49E-04
NA-22	511.00	179.91	1.56E-05	1.56E-05	2.11E-05	7.65E-06
	1274.54	99.94	4.44E-05		7.30E-05	2.11E-05
NA-24	1368.63	99.99	3.28E-05	3.28E-05	-1.19E-05	1.54E-05

Analysis Report for 24-2533 TI185-6.0M-S2-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
>	NA-24	2754.01	99.87	0.00E+00	3.28E-05	0.00E+00	0.00E+00
	AL-26	1129.67	2.50	9.27E-04	1.18E-05	3.20E-04	4.42E-04
		1808.65	99.76	1.18E-05		-3.33E-06	5.20E-06
	K-40	1460.82	10.66	1.74E-04	1.74E-04	2.99E-04	8.14E-05
	K-42	312.60	0.34	9.65E-03	1.16E-04	-2.15E-03	4.73E-03
		1524.60	18.08	1.16E-04		-4.16E-05	5.28E-05
	Sc-44	1157.02	99.90	7.78E-05	7.78E-05	4.51E-05	3.71E-05
		1499.46	0.91	6.14E-03		8.08E-04	2.81E-03
	Sc-44m	271.24	86.74	2.65E-05	2.65E-05	-1.34E-05	1.30E-05
		1001.83	1.20	4.10E-03		5.24E-03	1.98E-03
		1126.06	1.20	3.47E-03		4.67E-04	1.66E-03
		1157.00	1.20	3.33E-03		1.93E-03	1.59E-03
	TI-44	67.87	93.00	4.43E-05	3.17E-05	1.60E-06	2.18E-05
		78.32	96.40	3.17E-05		5.49E-05	1.56E-05
	SC-46	889.28	99.98	2.85E-05	2.85E-05	-1.71E-05	1.37E-05
		1120.55	99.99	3.12E-05		8.49E-06	1.49E-05
	CA-47	489.23	5.90	6.75E-04	2.25E-05	6.37E-05	3.31E-04
		807.86	5.90	4.25E-04		1.06E-04	2.03E-04
		1297.09	67.00	2.25E-05		-1.60E-05	1.04E-05
	SC-47	159.38	68.30	2.52E-05	2.52E-05	1.57E-06	1.24E-05
	SC-48	175.36	7.47	2.55E-04	1.68E-05	4.05E-05	1.25E-04
		983.53	100.00	2.28E-05		-4.09E-06	1.09E-05
		1037.52	97.50	2.51E-05		1.29E-05	1.20E-05
		1312.12	100.00	1.68E-05		1.39E-05	7.80E-06
	V-48	944.13	7.87	3.65E-04	2.05E-05	-2.35E-04	1.75E-04
		983.53	99.98	2.70E-05		-4.84E-06	1.29E-05
		1312.11	98.20	2.05E-05		1.68E-05	9.49E-06
		2240.40	2.33	6.44E-04		-5.31E-04	2.76E-04
	CR-51	320.08	9.91	2.18E-04	2.18E-04	-2.17E-04	1.07E-04
	Fe-52	168.69	99.20	3.16E-05	3.16E-05	-3.84E-05	1.55E-05
		377.75	1.64	2.72E-03		2.15E-03	1.33E-03
	Mn-52	744.23	90.00	3.33E-05	2.20E-05	2.96E-06	1.59E-05
		848.18	3.32	1.08E-03		-3.24E-05	5.17E-04
		935.54	94.50	4.44E-05		4.22E-06	2.14E-05
		1246.28	4.21	5.93E-04		2.69E-04	2.74E-04
		1333.65	5.07	2.30E-03		1.69E-02	1.13E-03
		1434.09	100.00	2.20E-05		2.35E-05	9.96E-06
	MN-54	834.85	99.98	1.94E-05	1.94E-05	1.10E-05	9.28E-06
	Co-55	411.50	1.07	4.72E-03	4.25E-05	6.51E-04	2.33E-03
		477.20	20.20	2.11E-04		-1.16E-04	1.04E-04
		803.70	1.87	1.34E-03		1.01E-03	6.44E-04
		931.10	75.00	4.25E-05		2.62E-05	2.05E-05
		1316.60	7.10	2.88E-04		-1.30E-05	1.34E-04
		1370.00	2.90	5.69E-04		-2.90E-04	2.58E-04
		1408.50	16.90	1.25E-04		-1.28E-04	5.78E-05
	Co-56	846.77	99.94	2.86E-05	2.86E-05	2.39E-06	1.37E-05
		977.37	1.42	2.36E-03		-1.51E-05	1.13E-03
		1037.84	14.05	2.26E-04		1.52E-04	1.08E-04
		1175.10	2.25	5.22E-03		4.06E-02	2.57E-03
		1238.29	66.46	3.20E-05		-3.04E-05	1.48E-05
		1360.21	4.28	7.43E-04		1.11E-03	3.53E-04
		1771.36	15.41	1.48E-04		1.26E-04	6.80E-05
		2015.20	3.02	5.98E-04		2.10E-04	2.66E-04

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)		Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Co-56	2034.79		7.77		2.07E-04	2.86E-05	-1.15E-04	9.02E-05
>		2598.50		16.97		0.00E+00		0.00E+00	0.00E+00
	MN-56	846.76		98.85		1.69E-04	1.69E-04	1.41E-05	8.10E-05
		1810.73		26.90		4.48E-04		3.92E-04	1.99E-04
		2113.09		14.20		9.43E-04		-1.95E-03	4.17E-04
	Ni-56	158.38		98.80		1.69E-05	1.69E-05	-6.31E-06	8.26E-06
		269.50		36.50		6.01E-05		-3.95E-05	2.95E-05
		480.44		36.50		8.55E-05		1.48E-05	4.19E-05
		749.50		49.50		3.58E-05		-2.36E-05	1.71E-05
		811.85		86.00		2.13E-05		-6.21E-06	1.02E-05
		1561.80		14.00		8.95E-05		-1.15E-04	4.02E-05
	CO-57	122.06		85.60		2.10E-05	2.10E-05	3.20E-05	1.03E-05
		136.47		10.68		1.50E-04		-6.96E-05	7.36E-05
	NI-57	127.16		16.70		1.15E-04	1.75E-05	-2.20E-05	5.66E-05
		1377.63		81.70		1.75E-05		6.20E-06	7.93E-06
		1757.55		5.75		2.79E-04		-1.58E-04	1.26E-04
		1919.52		12.30		1.13E-04		-4.56E-05	4.97E-05
	CO-58	810.76		99.45		1.90E-05	1.90E-05	-4.20E-06	9.06E-06
		863.96		0.69		3.76E-03		-1.12E-03	1.80E-03
		1674.73		0.52		1.95E-03		-1.16E-03	8.68E-04
	FE-59	142.65		1.02		1.60E-03	3.56E-05	8.12E-04	7.85E-04
		192.34		3.08		8.49E-04		3.94E-04	4.17E-04
		1099.24		56.50		3.92E-05		-1.47E-05	1.87E-05
		1291.59		43.20		3.56E-05		-2.83E-05	1.66E-05
+	CO-60	1173.23	*	99.85		3.25E-05	2.74E-05	7.40E-04	1.56E-05
		1332.49	*	99.98		2.74E-05		6.94E-04	1.30E-05
	CU-64	511.00		35.00		1.21E-04	1.21E-04	1.63E-04	5.90E-05
		1345.77		0.47		4.80E-03		4.00E-03	2.22E-03
	NI-65	366.27		4.81		5.08E-03	4.90E-04	-2.56E-03	2.49E-03
		1115.53		15.43		1.53E-03		5.81E-04	7.39E-04
		1481.84		23.59		4.90E-04		5.16E-04	2.26E-04
	ZN-65	1115.54		50.04		5.53E-05	5.53E-05	2.09E-05	2.66E-05
	GA-66	511.00		114.00		4.25E-05	4.25E-05	5.73E-05	2.08E-05
		833.53		5.90		5.71E-04		5.42E-04	2.73E-04
		1039.22		37.00		1.01E-04		-5.13E-05	4.84E-05
		1333.11		1.17		1.05E-02		8.00E-02	5.15E-03
		1918.33		1.99		1.04E-03		2.53E-04	4.57E-04
		2189.62		5.30		4.37E-04		3.50E-04	1.92E-04
>		2751.83		22.70		0.00E+00		0.00E+00	0.00E+00
	CU-67	91.27		7.00		3.98E-04	4.12E-05	8.59E-05	1.96E-04
		93.31		16.10		1.26E-04		-8.04E-05	6.18E-05
		184.58		48.70		4.12E-05		-2.46E-05	2.02E-05
		300.22		0.80		2.89E-03		-3.14E-03	1.41E-03
		393.53		0.22		1.25E-02		1.06E-02	6.11E-03
	GA-67	91.26		3.11		1.04E-03	5.57E-05	2.24E-04	5.12E-04
		93.31		38.81		5.57E-05		-3.55E-05	2.73E-05
		184.58		21.41		9.37E-05		-5.61E-05	4.60E-05
		208.95		2.46		1.28E-03		-5.59E-04	6.31E-04
		300.22		16.64		1.55E-04		-1.69E-04	7.59E-05
		393.53		4.56		3.75E-04		3.18E-04	1.84E-04
	ZN-69m	438.63		94.85		4.53E-05	4.53E-05	-4.11E-05	2.23E-05
	GA-72	629.97		26.13		1.98E-04	3.93E-05	3.97E-05	9.60E-05
		834.13		95.45		3.93E-05		-7.46E-06	1.88E-05

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	GA-72	894.33		10.14	5.35E-04	3.93E-05	1.35E-04	2.58E-04
		1050.79		6.99	7.66E-04		6.35E-04	3.66E-04
		2201.59		26.87	1.24E-04		1.37E-04	5.62E-05
		2491.03		7.73	2.07E-04		8.79E-05	8.35E-05
		2507.72		13.33	4.55E-04		8.68E-04	2.14E-04
+	Zn-72	144.70	*	82.78	2.11E-05	2.11E-05	1.60E-06	1.04E-05
		191.50		9.35	2.36E-04		-1.89E-05	1.16E-04
	SE-75	121.12		17.20	1.49E-04	3.86E-05	1.08E-05	7.32E-05
		136.00		58.50	3.86E-05		-2.55E-05	1.89E-05
		264.66		58.90	5.04E-05		6.31E-05	2.47E-05
		279.54		25.02	1.02E-04		1.52E-05	5.02E-05
		400.66		11.41	7.70E-05		2.70E-05	3.77E-05
	BR-83	529.59		1.30	1.60E-02	1.60E-02	-3.57E-03	7.79E-03
	BR-84	604.80		1.70	2.27E+01	8.77E-01	3.20E+00	1.10E+01
		736.50		1.29	2.18E+01		-3.09E+01	1.04E+01
		802.20		6.00	5.30E+00		1.37E+00	2.54E+00
		881.60		42.00	8.77E-01		-2.09E+00	4.22E-01
		987.30		0.79	4.44E+01		1.83E+01	2.12E+01
		1015.90		6.20	5.52E+00		3.99E+00	2.63E+00
		1213.30		2.60	1.05E+01		-1.57E+01	4.90E+00
		1463.80		2.00	1.55E+01		8.54E+00	7.23E+00
		1741.20		1.60	1.09E+01		7.90E+00	4.74E+00
		1877.50		1.12	1.45E+01		8.77E+00	6.16E+00
		1897.60		14.60	1.24E+00		-1.98E-02	5.37E-01
		2029.60		2.10	9.67E+00		7.26E+00	4.22E+00
		2200.70		1.16	2.45E+01		-1.03E+01	1.10E+01
		2484.10		6.70	2.25E+00		-8.39E-01	8.91E-01
>		2824.10		1.12	0.00E+00		0.00E+00	0.00E+00
	KR-85m	151.20		75.20	6.69E-05	6.69E-05	-4.35E-06	3.28E-05
		304.87		14.00	4.77E-04		-5.45E-04	2.34E-04
	Y-87	388.53		82.20	3.26E-05	3.26E-05	-3.52E-05	1.60E-05
		484.80		89.80	3.49E-05		-6.25E-06	1.71E-05
	KR-88	165.98		3.10	6.10E-03	1.77E-04	9.47E-04	2.99E-03
		196.30		26.00	6.16E-04		6.52E-04	3.02E-04
		362.23		2.25	6.13E-03		4.43E-03	3.01E-03
		471.80		0.73	3.59E-02		3.20E-02	1.76E-02
		834.83		13.00	1.17E-03		6.60E-04	5.58E-04
		985.78		1.31	1.47E-02		1.84E-02	7.01E-03
		1141.33		1.28	1.15E-02		-4.30E-03	5.46E-03
		1179.51		1.00	5.83E-02		-1.80E-02	2.87E-02
		1250.67		1.12	1.07E-02		-7.77E-03	4.96E-03
		1369.50		1.48	7.28E-03		-6.20E-03	3.33E-03
		1518.39		2.15	4.70E-03		-1.90E-03	2.10E-03
		1529.77		10.90	1.04E-03		1.65E-05	4.75E-04
		2029.84		4.53	2.72E-03		2.04E-03	1.19E-03
		2035.41		3.74	2.74E-03		-1.52E-03	1.19E-03
		2195.84		13.20	1.07E-03		1.11E-04	4.81E-04
		2231.77		3.39	1.93E-03		4.28E-04	8.45E-04
		2352.08		0.73	1.43E-02		-1.81E-03	6.16E-03
		2392.11		34.60	1.77E-04		-6.62E-05	7.43E-05
	RB-88	898.03		14.40	1.23E-03	4.29E-04	8.88E-06	5.92E-04
		1382.45		0.78	1.42E-02		-1.24E-02	6.52E-03
		1836.00		22.81	4.29E-04		-2.50E-04	1.91E-04

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ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
>	RB-88	2677.89	2.13	0.00E+00	4.29E-04	0.00E+00	0.00E+00
	Y-88	898.04	93.70	3.01E-05	1.63E-05	2.17E-07	1.45E-05
		1836.06	99.20	1.63E-05		-1.04E-05	7.24E-06
	RB-89	272.42	1.53	7.90E+05	1.72E+04	5.47E+04	3.87E+05
		657.77	10.80	8.45E+05		3.76E+03	4.20E+05
		947.73	10.00	1.34E+05		5.81E+04	6.47E+04
		1031.92	63.00	1.96E+04		1.19E+04	9.38E+03
		1248.14	46.00	1.72E+04		1.26E+04	7.95E+03
		1538.07	2.77	2.89E+05		-3.05E+05	1.32E+05
		2007.50	2.58	2.93E+05		2.49E+05	1.30E+05
		2195.92	14.50	6.75E+04		-2.24E+04	3.05E+04
>		2570.20	10.70	0.00E+00		0.00E+00	0.00E+00
>		2707.26	2.20	0.00E+00		0.00E+00	0.00E+00
	SR-89	908.96	0.01	2.25E-01	2.25E-01	-2.94E-01	1.08E-01
	Sr-91	652.90	11.35	3.36E-04	1.04E-04	1.14E-04	1.63E-04
		749.80	23.70	1.23E-04		-2.18E-05	5.88E-05
		925.80	3.85	1.01E-03		-1.79E-03	4.85E-04
		1024.30	33.50	1.04E-04		-8.32E-06	4.99E-05
	Y-91	1204.77	0.26	6.52E-03	6.52E-03	1.59E-05	3.06E-03
	Y-91m	555.57	61.64	6.00E-05	6.00E-05	1.52E-05	2.91E-05
	NB-92M	912.60	1.78	1.66E-03	2.40E-05	-1.12E-03	7.98E-04
		934.44	99.15	2.40E-05		4.81E-06	1.15E-05
		1847.50	0.85	1.19E-03		1.04E-03	5.28E-04
	SR-92	241.56	2.93	5.17E-03	1.12E-04	1.85E-03	2.54E-03
		430.49	3.28	6.32E-03		-1.57E-03	3.10E-03
		953.31	3.52	4.66E-03		-2.62E-03	2.24E-03
		1142.35	2.79	5.09E-03		2.68E-03	2.42E-03
		1383.93	90.00	1.12E-04		-4.39E-05	5.14E-05
	MO-93M	114.04	0.68	5.21E-03	3.17E-05	-6.39E-04	2.56E-03
		263.05	57.40	7.90E-05		8.89E-05	3.88E-05
		684.69	99.90	3.66E-05		2.10E-06	1.75E-05
		1363.02	0.81	5.98E-03		7.74E-03	2.84E-03
		1477.14	99.10	3.17E-05		4.15E-05	1.46E-05
	SR-93	168.50	18.40	9.92E+13	3.46E+13	-1.36E+14	4.86E+13
		260.12	7.40	3.09E+14		-1.12E+14	1.51E+14
		346.49	3.28	7.79E+14		3.24E+14	3.82E+14
		446.20	2.36	1.40E+15		-1.31E+15	6.88E+14
		590.24	68.00	3.46E+13		1.65E+13	1.68E+13
		710.31	21.80	8.32E+13		4.12E+12	3.98E+13
		875.73	24.50	9.72E+13		-2.90E+12	4.67E+13
		888.13	22.10	1.07E+14		5.40E+13	5.15E+13
		1040.63	3.20	7.44E+14		3.93E+14	3.56E+14
		1094.00	1.76	1.29E+15		-1.42E+15	6.13E+14
		1122.48	4.00	6.32E+14		7.21E+14	3.03E+14
		1215.48	2.50	6.78E+14		-3.80E+14	3.16E+14
		1269.47	7.10	3.34E+14		-1.14E+14	1.59E+14
		1321.24	2.61	6.77E+14		-5.32E+13	3.15E+14
		1387.11	3.50	4.29E+14		2.55E+14	1.97E+14
		1694.07	2.58	5.11E+14		-3.15E+14	2.28E+14
		1699.06	3.30	3.85E+14		1.24E+14	1.71E+14
		2543.84	3.03	2.30E+14		4.96E+13	8.15E+13
>		2688.65	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-93	266.90	7.40	4.75E-04	4.75E-04	-4.44E-05	2.33E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Y-93	947.10	2.10	1.85E-03	4.75E-04	6.03E-04	8.90E-04
	1917.80	1.57	1.27E-03		2.62E-04	5.58E-04
NB-94	702.65	99.81	2.49E-05	2.49E-05	-7.29E-07	1.20E-05
	871.09	99.89	2.82E-05		3.39E-05	1.36E-05
Y-94	381.60	2.02	1.85E+04	6.11E+02	8.77E+03	9.08E+03
	550.90	4.90	6.91E+03		2.31E+03	3.36E+03
	752.60	1.40	1.89E+04		1.19E+03	9.03E+03
	918.74	56.00	6.11E+02		-3.85E+01	2.94E+02
	1138.90	6.00	5.08E+03		-2.01E+03	2.42E+03
	1671.40	2.50	6.70E+03		-9.40E+03	2.96E+03
	2140.60	0.95	1.82E+04		-2.42E+04	7.85E+03
NB-95	765.80	99.81	1.76E-05	1.76E-05	9.68E-06	8.43E-06
ZR-95	724.19	44.27	4.74E-05	3.30E-05	7.77E-05	2.28E-05
	756.72	54.38	3.30E-05		1.59E-05	1.58E-05
NB-96	219.08	2.97	9.05E-04	2.24E-05	4.81E-04	4.45E-04
	241.38	3.50	7.48E-04		2.67E-04	3.67E-04
	350.05	1.54	1.93E-03		1.12E-03	9.45E-04
	352.56	0.83	3.56E-03		2.42E-03	1.75E-03
	371.81	2.62	1.13E-03		-1.19E-03	5.53E-04
	460.04	26.62	1.53E-04		-1.45E-04	7.52E-05
	480.71	5.84	6.40E-04		4.52E-04	3.14E-04
	568.87	58.00	4.74E-05		2.35E-05	2.30E-05
	719.56	6.85	3.58E-04		1.21E-04	1.72E-04
	721.63	1.02	2.48E-03		1.37E-03	1.19E-03
	778.22	96.45	2.24E-05		2.36E-05	1.07E-05
	810.33	11.09	1.95E-04		-1.35E-04	9.31E-05
	812.58	2.95	7.57E-04		7.14E-05	3.61E-04
	847.69	1.14	2.26E-03		1.34E-03	1.09E-03
	849.93	20.45	1.24E-04		7.64E-05	5.93E-05
	1091.35	48.50	5.58E-05		-6.45E-05	2.67E-05
	1200.23	19.97	1.09E-04		-1.22E-05	5.15E-05
	1441.13	0.44	3.21E-03		4.30E-04	1.44E-03
	1497.81	3.28	5.11E-04		5.91E-04	2.33E-04
Nb-97	657.94	98.23	2.21E-04	2.21E-04	8.78E-06	1.10E-04
	1024.40	1.09	2.57E-03		-1.59E-03	1.23E-03
ZR-97	254.17	1.15	2.44E-03	2.51E-05	-6.77E-04	1.20E-03
	355.40	2.09	2.31E-03		-9.43E-04	1.13E-03
	507.64	5.03	1.04E-03		1.19E-03	5.08E-04
	743.36	93.09	2.51E-05		1.37E-05	1.20E-05
	1147.97	2.62	1.55E-03		-6.00E-05	7.37E-04
MO-99	181.07	6.14	4.81E-04	2.06E-04	-1.55E-04	2.36E-04
	366.42	1.20	2.15E-03		-1.09E-03	1.05E-03
	739.50	12.26	2.06E-04		8.30E-07	9.86E-05
	777.92	4.30	4.31E-04		1.54E-04	2.05E-04
TC-99M	140.51	90.80	1.94E-05	1.94E-05	1.78E-05	9.50E-06
RH-101	127.23	68.00	3.43E-05	3.43E-05	-6.55E-06	1.68E-05
	198.01	73.00	3.57E-05		-6.09E-06	1.75E-05
	325.23	11.80	7.18E-05		1.44E-05	3.51E-05
RH-101M	306.86	81.00	2.78E-05	2.78E-05	-8.74E-06	1.36E-05
	545.12	4.30	5.52E-04		-3.25E-04	2.68E-04
RH-102M	415.25	2.10	4.38E-03	6.39E-05	1.91E-02	2.16E-03
	418.52	9.40	8.67E-04		-2.64E-06	4.27E-04
	420.40	3.20	2.07E-03		1.22E-03	1.02E-03

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RH-102M	475.06		95.00	6.39E-05	6.39E-05	1.24E-04	3.14E-05
		628.05		8.30	6.18E-04		-2.60E-06	3.00E-04
		631.29		56.00	7.16E-05		3.00E-05	3.47E-05
		692.40		1.60	5.30E-03		7.26E-04	2.60E-03
		695.60		2.90	2.58E-03		1.17E-02	1.26E-03
		697.49		44.00	1.65E-04		8.01E-04	8.09E-05
		766.84		34.00	9.46E-05		6.48E-05	4.52E-05
		1046.59		34.00	1.11E-04		4.19E-05	5.32E-05
		1103.16		4.60	6.76E-04		-7.02E-04	3.24E-04
		1112.84		19.00	2.60E-04		2.48E-05	1.25E-04
	RU-103	497.08		91.00	3.06E-05	3.06E-05	-1.08E-05	1.50E-05
		610.33		5.76	3.97E-04		3.43E-04	1.93E-04
	RH-105	306.31		4.66	5.34E-04	1.48E-04	1.39E-04	2.61E-04
		319.23		16.90	1.48E-04		6.80E-05	7.25E-05
	AG-106M	221.70		6.60	3.34E-04	3.21E-05	1.05E-05	1.64E-04
		228.63		2.10	1.01E-03		7.38E-05	4.94E-04
		328.46		1.14	1.90E-03		6.54E-04	9.32E-04
		391.04		3.68	7.03E-04		-4.48E-04	3.45E-04
		406.18		13.40	1.96E-04		2.39E-05	9.59E-05
		429.65		13.20	2.20E-04		-1.08E-04	1.08E-04
		450.98		28.20	1.13E-04		-1.06E-04	5.53E-05
		511.85		88.00	3.21E-05		-2.99E-06	1.57E-05
		601.17		1.61	1.35E-03		-6.09E-04	6.56E-04
		616.17		21.60	9.94E-05		1.82E-05	4.81E-05
		646.03		1.46	1.49E-03		-6.21E-04	7.23E-04
		680.42		2.18	7.95E-04		-7.46E-04	3.80E-04
		703.11		4.47	4.17E-04		-1.30E-04	2.00E-04
		717.34		28.90	6.22E-05		8.16E-06	2.98E-05
		748.36		20.60	8.40E-05		-7.55E-05	4.01E-05
		793.17		5.90	3.23E-04		1.60E-05	1.55E-04
		804.28		12.40	1.52E-04		5.92E-06	7.27E-05
		808.36		4.00	4.46E-04		-3.52E-04	2.13E-04
		824.69		15.30	1.28E-04		-1.00E-05	6.13E-05
		847.15		4.40	4.80E-04		2.66E-04	2.31E-04
		1019.72		1.04	2.00E-03		1.15E-03	9.57E-04
		1045.83		29.60	7.61E-05		2.61E-05	3.64E-05
		1128.02		11.80	1.91E-04		1.62E-04	9.09E-05
		1199.39		11.20	1.63E-04		-4.25E-05	7.68E-05
		1222.88		7.00	2.09E-04		8.51E-06	9.70E-05
		1394.35		1.49	1.02E-03		3.88E-04	4.69E-04
		1527.65		16.30	8.90E-05		1.18E-05	4.07E-05
		1572.35		6.60	2.16E-04		-2.16E-05	9.84E-05
		1722.76		1.40	8.67E-04		-3.35E-04	3.84E-04
		1839.05		2.00	6.10E-04		-9.78E-06	2.69E-04
	RH-106	621.93		9.93	2.95E-04	2.95E-04	8.76E-05	1.43E-04
		873.49		0.44	7.91E-03		3.54E-03	3.80E-03
		1050.41		1.56	1.82E-03		-7.02E-04	8.67E-04
	RU-106	511.86		20.40	1.35E-04	1.35E-04	-1.26E-05	6.60E-05
	AG-108M	79.13		6.60	3.82E-04	4.21E-05	-1.65E-04	1.88E-04
		433.94		90.50	5.75E-05		2.09E-05	2.82E-05
		614.28		89.80	4.68E-05		2.41E-05	2.27E-05
		722.91		90.80	4.21E-05		8.40E-05	2.03E-05
+	CD-109	88.03	*	3.64	9.08E-04	9.08E-04	5.39E-03	4.49E-04

Analysis Report for 24-2533 TI185-6.0M-S2-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	AG-110M	446.81		3.70	1.94E-03	5.54E-05	-6.07E-05	9.53E-04
		620.35		2.73	1.85E-03		9.69E-04	8.95E-04
		657.76		95.61	3.08E-04		1.37E-06	1.54E-04
		677.62		10.70	3.82E-04		7.27E-05	1.83E-04
		687.01		6.53	5.41E-04		4.36E-04	2.59E-04
		706.68		16.69	2.39E-04		2.06E-04	1.15E-04
		744.28		4.77	7.35E-04		6.52E-05	3.51E-04
		763.94		22.60	1.48E-04		1.20E-05	7.07E-05
		818.02		7.43	5.72E-04		-3.66E-04	2.73E-04
		884.68		75.00	5.54E-05		2.84E-05	2.66E-05
		937.48		35.00	1.21E-04		-1.83E-05	5.84E-05
		1384.29		25.10	8.91E-05		-1.01E-04	4.09E-05
		1475.78		4.08	4.73E-04		-2.12E-04	2.16E-04
		1505.03		13.33	1.55E-04		3.07E-05	7.00E-05
		1562.29		1.22	6.96E-04		-1.54E-03	3.12E-04
	AG-111	245.40		1.11	1.95E-03	3.55E-04	5.02E-04	9.59E-04
		342.13		6.68	3.55E-04		1.22E-04	1.74E-04
	AG-112	606.82		3.10	9.36E-04	6.28E-05	3.62E-04	4.54E-04
		617.52		43.00	6.28E-05		1.04E-05	3.04E-05
		692.82		1.19	4.09E-03		-1.73E-04	2.00E-03
		694.87		2.90	1.69E-03		9.08E-03	8.28E-04
		851.28		1.02	2.54E-03		-1.05E-03	1.22E-03
		1312.36		1.11	1.68E-03		-7.71E-04	7.76E-04
		1387.68		5.30	3.30E-04		7.20E-05	1.51E-04
		1613.66		2.80	5.75E-04		3.31E-04	2.59E-04
		1798.50		0.89	1.42E-03		1.15E-04	6.12E-04
		2106.31		2.40	7.56E-04		2.81E-04	3.36E-04
		2506.70		1.06	3.83E-03		7.31E-03	1.80E-03
	CD-113M	263.70		0.03	7.93E-02	7.93E-02	-2.11E-02	3.89E-02
	SN-113	255.13		2.11	9.84E-04	3.89E-05	2.96E-04	4.83E-04
		391.70		64.97	3.89E-05		-4.86E-05	1.90E-05
	IN-114M	190.27		15.56	1.28E-04	1.28E-04	7.36E-05	6.28E-05
		558.43		4.40	6.43E-04		-3.42E-04	3.12E-04
		725.24		4.40	6.38E-04		6.13E-04	3.08E-04
+	CD-115	260.90		1.94	1.20E-03	5.13E-05	-5.03E-04	5.87E-04
		336.24	*	46.02	5.13E-05		4.78E-06	2.51E-05
		527.90		27.45	9.59E-05		1.43E-05	4.67E-05
	CD-115M	933.84		2.00	1.21E-03	1.21E-03	7.27E-04	5.84E-04
		1290.59		0.90	1.69E-03		-1.48E-03	7.87E-04
+	IN-115M	336.24	*	45.90	1.48E-04	1.48E-04	1.37E-05	7.22E-05
	IN-116M	138.29		3.70	2.22E-01	7.45E-03	5.50E-03	1.09E-01
		416.90		27.20	5.97E-02		-6.43E-03	2.94E-02
		818.68		12.13	8.15E-02		-7.29E-03	3.90E-02
		1097.28		58.50	1.49E-02		2.80E-02	7.10E-03
		1293.56		84.80	7.45E-03		-3.33E-03	3.46E-03
		1507.59		9.92	4.96E-02		3.07E-02	2.24E-02
		2112.29		15.09	3.64E-02		3.34E-02	1.62E-02
	SB-125	176.31		6.84	2.45E-04	9.37E-05	-1.05E-04	1.20E-04
		380.45		1.52	1.61E-03		-4.03E-04	7.87E-04
		427.87		29.60	9.37E-05		-1.69E-05	4.60E-05
		463.36		10.49	3.17E-04		2.46E-05	1.56E-04
		600.60		17.65	1.20E-04		6.37E-05	5.82E-05
		606.71		4.98	4.61E-04		2.80E-05	2.24E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SB-125	635.95	11.22	1.90E-04	9.37E-05	1.79E-05	9.19E-05
	671.44	1.79	1.95E-03		5.19E-04	9.57E-04
SN-125	332.10	1.40	2.80E-03	2.78E-04	-4.01E-04	1.37E-03
	469.85	1.50	3.79E-03		2.25E-03	1.86E-03
	800.28	1.10	2.33E-03		6.49E-04	1.12E-03
	822.48	4.30	6.05E-04		-3.84E-04	2.90E-04
	915.55	4.10	7.35E-04		2.57E-04	3.53E-04
	1067.10	10.00	2.78E-04		-2.54E-05	1.33E-04
	1087.70	1.20	3.92E-03		-7.37E-03	1.89E-03
	1089.10	4.60	5.33E-04		-1.64E-03	2.55E-04
	2002.10	1.90	6.61E-04		1.19E-04	2.91E-04
SB-127	61.10	1.43	5.12E-03	4.98E-05	7.25E-03	2.52E-03
	252.40	8.50	3.22E-04		-2.91E-05	1.58E-04
	290.80	2.02	1.53E-03		-1.61E-03	7.48E-04
	412.10	3.80	1.14E-03		1.54E-04	5.64E-04
	445.10	4.30	1.05E-03		8.72E-04	5.16E-04
	473.00	25.80	1.43E-04		8.33E-05	7.02E-05
	543.30	2.90	7.05E-04		2.47E-04	3.43E-04
	603.50	4.50	6.91E-04		3.81E-05	3.35E-04
	685.70	36.80	4.98E-05		-4.82E-05	2.38E-05
	698.50	3.64	1.12E-03		-2.11E-04	5.49E-04
	722.20	1.88	1.18E-03		8.50E-04	5.70E-04
	783.70	15.10	1.23E-04		-3.91E-05	5.89E-05
SN-127	119.70	2.20	9.39E-03	8.65E-04	1.02E-03	4.62E-03
	262.50	2.30	1.08E-02		-8.86E-03	5.27E-03
	266.20	2.10	1.17E-02		1.25E-03	5.74E-03
	284.30	2.70	9.10E-03		4.53E-03	4.46E-03
	438.20	6.10	5.64E-03		-2.45E-03	2.77E-03
	490.90	5.30	6.32E-03		3.37E-03	3.10E-03
	493.20	3.10	1.06E-02		-7.79E-03	5.20E-03
	545.40	2.30	1.14E-02		-7.27E-03	5.54E-03
	583.30	3.20	7.84E-03		-8.77E-03	3.80E-03
	805.90	8.20	2.57E-03		-2.85E-04	1.23E-03
	823.10	11.00	2.07E-03		1.54E-04	9.91E-04
	824.70	6.10	3.65E-03		-2.86E-04	1.75E-03
	859.50	8.00	2.87E-03		-2.35E-03	1.37E-03
	979.20	7.20	3.32E-03		-5.95E-04	1.59E-03
	1093.30	3.80	6.55E-03		6.22E-03	3.12E-03
	1095.60	19.00	1.27E-03		-2.41E-03	6.06E-04
	1114.30	38.00	8.65E-04		1.37E-03	4.18E-04
	1160.40	2.40	9.75E-03		-2.52E-03	4.63E-03
	2003.40	5.30	2.74E-03		-4.10E-03	1.20E-03
SB-129	180.42	2.84	1.92E-03	1.20E-04	-2.01E-03	9.40E-04
	359.20	2.39	3.19E-03		-1.37E-03	1.56E-03
	404.64	1.17	6.96E-03		-8.87E-03	3.41E-03
	523.13	1.55	5.06E-03		-1.34E-03	2.47E-03
	544.56	15.42	4.77E-04		-2.85E-04	2.32E-04
	633.74	2.53	2.81E-03		4.56E-04	1.36E-03
	654.28	2.97	2.74E-03		-2.37E-04	1.33E-03
	682.77	5.76	9.30E-04		-4.80E-04	4.45E-04
	761.12	4.32	1.37E-03		-8.81E-04	6.57E-04
	773.37	2.82	1.91E-03		-1.53E-03	9.12E-04
	786.36	1.07	5.37E-03		-2.71E-03	2.56E-03

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	787.16		1.74	3.38E-03	1.20E-04	5.12E-03	1.61E-03
		812.97		48.20	1.20E-04		-3.23E-05	5.72E-05
		819.51		1.39	4.44E-03		9.23E-04	2.12E-03
		876.65		2.75	2.66E-03		3.91E-03	1.28E-03
		914.96		23.30	3.11E-04		-1.35E-04	1.49E-04
		966.78		8.96	8.65E-04		2.97E-04	4.16E-04
		1030.65		15.13	4.53E-04		-2.97E-04	2.17E-04
		1656.10		1.31	2.85E-03		2.49E-03	1.27E-03
		1738.16		7.45	4.86E-04		1.84E-04	2.14E-04
	TE-129	459.60		7.70	4.26E-04	4.26E-04	2.13E-04	2.09E-04
		487.39		1.42	2.06E-03		-1.48E-03	1.01E-03
+	Te-129m	695.88	*	3.00	7.36E-04	7.36E-04	6.53E-03	3.56E-04
	I-131	80.18		2.62	1.33E-03	3.02E-05	-2.59E-04	6.54E-04
		284.30		6.12	3.83E-04		2.29E-04	1.88E-04
		364.49		81.50	3.02E-05		1.70E-05	1.48E-05
		636.99		7.16	3.01E-04		-3.45E-05	1.46E-04
		722.91		1.77	1.20E-03		2.40E-03	5.80E-04
	Te-131m	773.67		36.80	8.17E-05	8.17E-05	-6.54E-05	3.89E-05
		793.75		13.40	3.84E-04		-4.69E-04	1.84E-04
		852.21		19.90	1.93E-04		9.25E-05	9.28E-05
		1125.46		11.00	3.18E-04		6.50E-05	1.52E-04
		1206.60		9.41	2.79E-04		3.08E-04	1.31E-04
	I-132	262.90		1.28	1.78E-03	3.97E-05	7.36E-04	8.76E-04
		284.90		0.71	3.16E-03		8.05E-04	1.55E-03
		505.79		4.93	2.18E-03		-3.04E-03	1.07E-03
		522.65		16.00	3.00E-04		2.45E-04	1.46E-04
		547.20		1.14	4.18E-03		3.49E-03	2.03E-03
		621.20		1.97	2.28E-03		-7.29E-04	1.10E-03
		630.19		13.30	3.42E-04		-1.82E-05	1.66E-04
		650.50		2.57	2.09E-03		-4.25E-03	1.01E-03
		667.71		98.70	2.07E-04		4.98E-06	1.03E-04
		669.80		4.60	1.63E-03		3.49E-04	8.01E-04
		671.40		3.50	2.56E-03		7.82E-04	1.25E-03
		727.10		5.40	9.47E-04		3.82E-04	4.56E-04
		728.40		1.60	2.81E-03		3.32E-04	1.35E-03
		772.60		75.60	3.97E-05		5.43E-06	1.89E-05
		809.50		2.60	1.42E-03		-6.62E-04	6.78E-04
		812.00		5.50	6.21E-04		-6.09E-04	2.96E-04
		910.10		0.93	4.43E-03		-4.00E-03	2.13E-03
		954.55		17.60	2.43E-04		-2.78E-04	1.17E-04
		1136.00		3.01	9.53E-04		-6.41E-04	4.53E-04
		1172.90		1.09	9.24E-03		7.51E-02	4.55E-03
		1290.80		1.13	2.58E-03		1.00E-03	1.20E-03
		1295.10		1.88	5.32E-04		6.14E-05	2.47E-04
		1297.90		0.89	8.02E-04		1.46E-04	3.72E-04
		1372.07		2.47	9.36E-04		6.26E-06	4.25E-04
		1398.57		7.01	3.59E-04		6.15E-05	1.65E-04
		1442.56		1.40	6.19E-04		8.06E-05	2.78E-04
	TE-132	49.72		15.00	8.74E-04	2.52E-05	-3.46E-04	4.29E-04
		111.76		1.74	1.02E-03		-5.12E-04	5.01E-04
		116.30		1.96	9.01E-04		2.87E-04	4.42E-04
		228.16		88.00	2.52E-05		-2.73E-06	1.24E-05
	BA-133	81.00		32.90	1.02E-04	4.17E-05	-1.68E-04	5.00E-05

Analysis Report for 24-2533 TI185-6.0M-S2-CST-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-133	276.40	7.16	3.32E-04	4.17E-05	-2.30E-04	1.63E-04
	302.85	18.34	1.28E-04		1.30E-05	6.26E-05
	356.01	62.05	4.17E-05		1.99E-05	2.04E-05
	383.85	8.94	2.50E-04		2.84E-04	1.22E-04
I-133	529.87	87.00	3.50E-05	3.50E-05	-1.17E-05	1.71E-05
	706.58	1.51	2.05E-03		1.77E-03	9.84E-04
	856.28	1.24	2.80E-03		4.92E-05	1.34E-03
	875.33	4.51	6.25E-04		1.63E-04	3.00E-04
	1236.44	1.51	1.08E-03		-3.00E-04	5.02E-04
	1298.22	2.35	7.96E-04		-3.40E-04	3.68E-04
TE-133	312.08	62.40	1.86E+06	1.86E+06	9.15E+05	9.11E+05
	407.63	27.10	5.13E+06		3.29E+05	2.51E+06
	410.40	0.94	1.92E+08		1.41E+07	9.47E+07
	474.85	0.88	2.00E+08		1.36E+08	9.81E+07
	719.71	8.90	1.20E+07		4.04E+06	5.77E+06
	786.93	5.40	1.81E+07		2.75E+07	8.66E+06
	844.36	3.31	3.25E+07		3.09E+07	1.56E+07
	884.30	0.72	1.68E+08		1.70E+08	8.08E+07
	930.71	3.81	3.33E+07		-5.86E+06	1.60E+07
	997.70	1.04	1.28E+08		-1.73E+08	6.15E+07
	1000.72	3.62	3.96E+07		4.34E+07	1.91E+07
	1021.13	2.81	3.89E+07		-1.22E+07	1.86E+07
	1061.61	1.19	8.64E+07		-2.60E+07	4.10E+07
	1252.08	1.44	5.42E+07		-3.46E+07	2.51E+07
	1312.80	0.85	9.48E+07		-7.12E+06	4.39E+07
	1333.21	10.67	3.62E+07		2.77E+08	1.78E+07
	1717.61	3.18	1.83E+07		2.86E+06	8.04E+06
	1881.52	1.22	4.86E+07		-7.19E+06	2.11E+07
	2136.51	1.25	4.96E+07		-3.69E+07	2.13E+07
	2229.64	0.87	8.53E+07		-3.61E+07	3.75E+07
Xe-133	81.00	36.90	6.87E-05	6.87E-05	-1.14E-04	3.38E-05
CS-134	475.36	1.48	2.19E-03	3.08E-05	4.37E-03	1.07E-03
	563.25	8.34	4.43E-04		4.79E-04	2.15E-04
	569.33	15.37	2.57E-04		3.73E-05	1.25E-04
	604.72	97.62	3.28E-05		4.64E-06	1.59E-05
	795.86	85.46	3.08E-05		7.52E-06	1.48E-05
	801.95	8.69	3.66E-04		9.49E-05	1.75E-04
	1038.61	0.99	2.97E-03		3.53E-03	1.42E-03
	1167.97	1.79	2.79E-03		-6.18E-04	1.37E-03
	1365.19	3.02	4.83E-04		8.75E-04	2.30E-04
I-135	220.50	1.75	3.56E-03	1.15E-04	-1.10E-03	1.75E-03
	288.45	3.10	1.91E-03		1.74E-04	9.34E-04
	417.63	3.53	3.15E-03		2.32E-04	1.55E-03
	546.56	7.15	9.08E-04		5.81E-04	4.42E-04
	836.80	6.69	8.46E-04		3.09E-04	4.05E-04
	971.96	0.89	8.43E-03		7.89E-03	4.05E-03
	972.62	1.21	5.50E-03		2.42E-03	2.64E-03
	1038.76	7.90	6.06E-04		7.20E-04	2.90E-04
	1101.58	1.61	3.88E-03		2.57E-03	1.85E-03
	1124.00	3.62	1.80E-03		2.20E-03	8.63E-04
	1131.51	22.60	2.65E-04		1.27E-04	1.26E-04
	1240.47	0.90	4.48E-03		-6.42E-04	2.07E-03
	1260.41	28.70	1.15E-04		-1.57E-04	5.34E-05

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1457.56		8.70	4.94E-04	1.15E-04	6.98E-04	2.32E-04
		1502.79		1.08	3.71E-03		-1.31E-03	1.68E-03
		1566.41		1.29	2.16E-03		-3.83E-04	9.76E-04
		1678.03		9.60	2.25E-04		-1.48E-04	1.00E-04
		1706.46		4.10	5.71E-04		2.07E-04	2.50E-04
		1791.20		7.72	3.23E-04		1.23E-04	1.42E-04
		2408.65		0.96	2.24E-03		-5.34E-04	9.20E-04
	XE-135	249.79		90.00	4.07E-05	4.07E-05	2.52E-05	2.00E-05
	XE-135m	526.56		80.40	6.54E-05	6.54E-05	3.43E-05	3.19E-05
	CS-136	66.88		4.79	1.69E-03	3.15E-05	-3.79E-04	8.33E-04
		86.36		5.90	1.02E-03		-1.62E-05	5.06E-04
		153.25		7.70	3.59E-04		3.38E-04	1.76E-04
		163.92		4.69	8.84E-04		-1.63E-04	4.34E-04
		176.60		13.70	2.40E-04		-1.65E-04	1.17E-04
		273.65		12.66	3.06E-04		1.57E-04	1.50E-04
		340.55		46.80	8.62E-05		5.75E-05	4.22E-05
		818.51		99.70	3.15E-05		5.85E-06	1.51E-05
		1048.07		80.00	4.85E-05		-1.57E-06	2.32E-05
		1235.36		20.00	1.17E-04		-1.50E-06	5.45E-05
+	CS-137	661.66	*	85.10	1.96E-05	1.96E-05	5.21E-03	9.37E-06
	BA-139	33.44		3.84	1.50E+00	2.96E-03	-1.03E+00	7.38E-01
		165.86		23.70	2.96E-03		4.59E-04	1.45E-03
	BA-140	132.69		0.20	7.84E-03	9.66E-05	-5.71E-03	3.85E-03
		162.66		6.22	3.25E-04		3.78E-04	1.59E-04
		304.85		4.29	6.51E-04		-7.43E-04	3.19E-04
		423.72		3.10	9.00E-04		2.58E-04	4.41E-04
		437.58		1.93	1.56E-03		6.08E-04	7.63E-04
		537.26		24.39	9.66E-05		1.13E-05	4.70E-05
	LA-140	109.42		0.22	7.54E-03	2.27E-05	-5.23E-03	3.70E-03
		131.12		0.47	3.39E-03		2.26E-04	1.66E-03
		173.54		0.13	1.38E-02		1.16E-02	6.74E-03
		241.93		0.41	5.14E-03		6.25E-04	2.52E-03
		266.54		0.47	4.61E-03		9.97E-04	2.26E-03
		328.76		20.30	1.85E-04		-2.20E-04	9.04E-05
		432.49		2.90	1.79E-03		-5.37E-04	8.77E-04
		487.02		45.50	9.91E-05		1.05E-05	4.86E-05
		618.10		0.04	5.87E-02		3.27E-02	2.84E-02
		751.64		4.33	5.35E-04		4.18E-04	2.56E-04
		815.77		23.28	8.43E-05		-5.50E-05	4.02E-05
		867.85		5.50	4.88E-04		-8.52E-04	2.34E-04
		919.55		2.66	9.34E-04		3.68E-04	4.49E-04
		925.19		6.90	4.43E-04		3.42E-04	2.13E-04
		950.99		0.52	5.86E-03		5.16E-04	2.82E-03
		1596.21		95.40	2.27E-05		1.01E-05	1.04E-05
		2347.88		0.85	9.33E-04		-1.53E-04	4.02E-04
		2521.40		3.46	1.99E-04		6.63E-05	7.71E-05
		2547.34		0.10	6.48E-03		1.40E-03	2.30E-03
	BA-141	33.44		7.93	3.89E+05	9.88E+02	-2.68E+05	1.91E+05
		190.33		44.80	9.88E+02		5.69E+02	4.85E+02
		276.95		23.60	1.99E+03		3.46E+02	9.74E+02
		304.19		26.10	1.83E+03		1.30E+03	8.96E+02
		343.67		15.10	3.43E+03		1.07E+03	1.68E+03
		389.74		1.37	4.14E+04		-1.54E+03	2.03E+04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-141	457.51	5.00	1.44E+04	9.88E+02	4.27E+03	7.06E+03
	462.06	5.10	1.45E+04		-9.74E+03	7.10E+03
	467.22	5.60	1.34E+04		5.57E+03	6.58E+03
	625.08	3.45	1.43E+04		-1.07E+04	6.94E+03
	647.78	5.70	8.41E+03		1.03E+03	4.07E+03
	738.95	4.39	8.65E+03		6.71E+03	4.13E+03
	831.46	1.64	2.75E+04		3.46E+04	1.32E+04
	876.09	3.45	1.43E+04		-6.73E+03	6.85E+03
	1160.72	1.12	4.04E+04		6.06E+03	1.92E+04
	1197.28	4.35	8.84E+03		8.17E+02	4.16E+03
	1323.92	0.92	4.95E+04		1.68E+04	2.34E+04
	1654.00	0.65	3.97E+04		-2.81E+04	1.76E+04
	1682.19	1.19	2.31E+04		1.06E+04	1.03E+04
CE-141	145.44	48.30	3.33E-05	3.33E-05	2.54E-06	1.63E-05
BA-142	33.44	14.20	4.39E+10	4.49E+08	-3.02E+10	2.15E+10
	77.59	7.00	1.68E+09		-2.70E+08	8.29E+08
	177.00	2.12	3.56E+09		-2.31E+09	1.74E+09
	231.61	12.20	7.73E+08		1.52E+08	3.79E+08
	255.30	20.70	4.49E+08		-2.09E+08	2.20E+08
	286.30	1.11	8.44E+09		-3.55E+09	4.13E+09
	309.20	2.60	3.75E+09		3.63E+09	1.84E+09
	335.00	1.53	6.62E+09		-9.17E+08	3.24E+09
	363.96	4.76	2.30E+09		2.20E+09	1.13E+09
	425.04	5.75	2.18E+09		1.90E+09	1.07E+09
	599.80	1.85	5.19E+09		-8.79E+07	2.51E+09
	840.40	3.63	2.48E+09		-4.14E+08	1.19E+09
	895.20	13.90	7.09E+08		-9.98E+08	3.41E+08
	949.10	10.70	9.75E+08		2.46E+08	4.69E+08
	1001.20	9.80	1.21E+09		1.19E+09	5.85E+08
	1078.70	11.50	1.05E+09		6.98E+08	5.04E+08
	1094.10	2.82	3.34E+09		-3.68E+09	1.59E+09
	1126.80	1.50	6.60E+09		-5.97E+09	3.15E+09
	1202.40	5.60	1.38E+09		-6.02E+08	6.50E+08
	1204.30	14.30	5.29E+08		2.58E+08	2.48E+08
	1380.20	3.42	1.76E+09		2.33E+08	8.05E+08
CE-143	57.36	11.70	7.40E-04	5.80E-05	-1.25E-04	3.65E-04
	231.55	2.05	1.55E-03		-2.30E-03	7.60E-04
	293.27	42.80	5.80E-05		-6.95E-06	2.84E-05
	350.62	3.23	7.49E-04		4.56E-04	3.67E-04
	490.37	2.16	2.09E-03		1.32E-03	1.03E-03
	664.57	5.69	3.41E-03		-9.06E-06	1.70E-03
	721.93	5.39	4.06E-04		2.92E-04	1.96E-04
	880.46	1.03	2.60E-03		-6.22E-04	1.25E-03
CE-144	80.12	1.36	1.82E-03	1.42E-04	-3.55E-04	8.97E-04
	133.51	11.09	1.42E-04		4.02E-05	6.94E-05
ND-147	38.17	13.20	3.34E-03	9.20E-05	1.51E-04	1.64E-03
	38.72	23.80	1.66E-03		1.06E-03	8.14E-04
	91.11	28.90	9.20E-05		1.99E-05	4.54E-05
	275.39	0.79	3.90E-03		2.35E-03	1.91E-03
	319.41	1.97	1.36E-03		6.25E-04	6.66E-04
	398.13	0.87	3.22E-03		2.84E-03	1.58E-03
	439.88	1.20	2.75E-03		1.98E-03	1.35E-03
	531.01	13.11	1.85E-04		1.34E-04	9.01E-05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ND-147	685.88	0.82	2.10E-03	9.20E-05	2.98E-04	1.00E-03
PR-147	36.85	19.70	2.85E+07	1.14E+06	1.49E+07	1.40E+07
	37.36	35.50	1.42E+07		1.64E+07	6.96E+06
	49.88	4.00	2.14E+07		-8.48E+06	1.05E+07
	77.97	9.70	2.61E+06		1.93E+06	1.28E+06
	86.69	5.40	5.96E+06		-2.34E+05	2.95E+06
	127.80	7.40	2.06E+06		-1.02E+06	1.01E+06
	249.20	1.32	1.53E+07		1.12E+07	7.49E+06
	314.70	18.20	1.14E+06		-2.75E+05	5.59E+05
	328.80	4.00	5.07E+06		-6.05E+06	2.48E+06
	335.70	4.70	4.66E+06		-2.91E+05	2.28E+06
	388.80	1.41	1.73E+07		-4.13E+06	8.47E+06
	466.80	1.70	1.89E+07		-1.86E+06	9.29E+06
	477.90	4.60	6.56E+06		2.43E+06	3.22E+06
	516.70	1.30	1.93E+07		-9.73E+06	9.42E+06
	554.70	5.90	3.52E+06		-7.40E+05	1.71E+06
	577.90	13.70	1.55E+06		-9.83E+05	7.53E+05
	641.40	16.10	1.29E+06		3.12E+05	6.26E+05
	996.00	1.52	1.54E+07		2.05E+07	7.43E+06
	1136.70	1.42	1.36E+07		7.91E+06	6.45E+06
	1261.10	8.40	1.71E+06		5.00E+05	7.91E+05
	1300.40	2.30	6.25E+06		3.36E+06	2.90E+06
ND-149	38.17	9.00	9.55E-02	1.70E-03	4.31E-03	4.69E-02
	38.72	16.30	4.71E-02		3.02E-02	2.31E-02
	58.88	1.30	1.32E-01		-3.52E-03	6.53E-02
	74.32	2.11	3.42E-02		5.78E-03	1.68E-02
	97.00	1.48	2.86E-02		-2.75E-02	1.40E-02
	114.31	19.20	2.16E-03		3.31E-04	1.06E-03
	155.87	5.95	6.86E-03		-1.53E-03	3.36E-03
	188.64	1.79	4.40E-02		2.93E-02	2.16E-02
	198.93	1.39	3.97E-02		3.43E-03	1.95E-02
	208.15	2.55	2.01E-02		-2.87E-02	9.85E-03
	211.31	26.00	1.70E-03		2.18E-03	8.35E-04
	240.22	3.95	1.10E-02		8.59E-03	5.39E-03
	245.72	0.81	7.09E-02		2.99E-02	3.48E-02
	267.69	6.05	1.01E-02		-1.14E-02	4.96E-03
	270.17	10.80	4.06E-03		1.32E-03	1.99E-03
	326.55	4.57	1.24E-02		1.17E-03	6.07E-03
	349.23	1.38	4.47E-02		8.42E-02	2.19E-02
	423.55	7.50	7.81E-03		3.64E-03	3.83E-03
	443.55	1.15	7.05E-02		1.02E-02	3.46E-02
	540.51	6.60	7.79E-03		-4.25E-03	3.79E-03
	654.83	8.00	7.32E-03		-8.50E-04	3.58E-03
PM-149	285.95	3.10	7.39E-04	7.39E-04	-2.36E-04	3.62E-04
PM-150	39.52	0.63	3.54E-01	2.22E-04	3.31E-02	1.74E-01
	40.12	1.14	1.74E-01		-1.09E-01	8.56E-02
	333.92	68.00	2.22E-04		-1.89E-05	1.09E-04
	406.51	5.60	3.11E-03		3.63E-03	1.52E-03
	565.70	1.31	1.12E-02		8.82E-04	5.42E-03
	587.02	1.34	1.09E-02		-1.28E-03	5.28E-03
	612.25	0.93	1.67E-02		2.05E-02	8.10E-03
	712.22	4.40	2.46E-03		-1.33E-03	1.18E-03
	737.50	2.25	5.04E-03		-2.85E-03	2.41E-03

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	831.85	11.90	1.13E-03	2.22E-04	1.05E-03	5.44E-04
	859.95	3.40	3.96E-03		7.06E-04	1.90E-03
	876.41	7.30	2.05E-03		1.07E-03	9.86E-04
	1165.77	15.80	1.49E-03		-8.67E-04	7.23E-04
	1170.90	1.06	4.53E-02		3.53E-01	2.23E-02
	1193.87	4.80	2.34E-03		-1.31E-04	1.10E-03
	1213.72	1.03	1.05E-02		-4.79E-03	4.92E-03
	1223.28	2.80	3.39E-03		-5.01E-03	1.57E-03
	1324.51	17.50	1.03E-03		2.67E-04	4.94E-04
	1379.32	3.10	2.81E-03		2.56E-04	1.28E-03
	1736.40	6.90	1.06E-03		-1.22E-03	4.66E-04
	1963.71	1.47	5.77E-03		-1.63E-03	2.55E-03
	2033.46	0.97	8.58E-03		6.66E-03	3.76E-03
ND-151	38.17	5.94	4.45E+08	2.57E+06	2.01E+07	2.19E+08
	38.72	10.70	2.21E+08		1.42E+08	1.09E+08
	68.98	1.26	1.52E+08		1.45E+07	7.45E+07
	85.12	2.05	1.01E+08		-4.28E+07	5.00E+07
	89.96	1.53	1.24E+08		5.28E+06	6.11E+07
	116.80	39.00	2.57E+06		6.90E+04	1.26E+06
	138.89	7.00	1.40E+07		1.05E+07	6.88E+06
	170.76	2.87	3.62E+07		4.29E+07	1.78E+07
	175.07	6.30	1.64E+07		2.45E+06	8.05E+06
	255.68	14.80	8.52E+06		-2.54E+06	4.18E+06
	300.58	1.82	7.12E+07		-7.01E+07	3.49E+07
	423.56	5.90	2.86E+07		1.33E+07	1.40E+07
	460.59	0.96	2.08E+08		-1.71E+08	1.02E+08
	585.22	1.30	1.01E+08		-9.94E+07	4.91E+07
	677.88	2.38	4.42E+07		1.24E+05	2.12E+07
	736.23	5.90	1.75E+07		-3.18E+06	8.34E+06
	739.20	1.52	6.84E+07		4.00E+07	3.27E+07
	755.57	1.17	9.36E+07		1.94E+07	4.48E+07
	797.53	4.70	2.45E+07		-4.16E+06	1.17E+07
	1016.40	2.50	4.91E+07		1.76E+07	2.34E+07
	1122.63	4.10	3.48E+07		4.66E+07	1.66E+07
	1180.89	13.30	2.35E+07		-1.36E+06	1.15E+07
Pm-151	167.75	8.30	2.72E-04	1.20E-04	1.95E-05	1.33E-04
	177.16	3.80	7.12E-04		-7.48E-04	3.49E-04
	240.09	3.80	7.41E-04		5.80E-04	3.64E-04
	275.21	6.80	3.78E-04		2.28E-04	1.85E-04
	340.08	22.50	1.20E-04		-4.46E-05	5.90E-05
EU-152	121.78	28.53	8.67E-05	8.55E-05	8.90E-05	4.26E-05
	344.28	26.59	1.07E-04		5.27E-05	5.24E-05
	778.90	12.93	1.79E-04		-1.82E-04	8.52E-05
	867.37	4.23	7.70E-04		-1.02E-03	3.69E-04
	964.08	14.51	1.99E-04		1.52E-04	9.59E-05
	1085.87	10.11	2.47E-04		9.80E-05	1.19E-04
	1112.07	13.67	2.25E-04		2.93E-04	1.09E-04
	1408.01	20.87	8.55E-05		1.41E-05	3.95E-05
ND-152	44.44	5.50	1.58E+09	4.68E+07	8.00E+08	7.76E+08
	250.15	16.40	7.39E+07		-2.30E+07	3.63E+07
	278.56	26.00	4.68E+07		-2.72E+07	2.30E+07
	294.47	2.90	4.30E+08		2.73E+08	2.11E+08
	545.70	0.83	1.60E+09		5.37E+08	7.80E+08

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	ND-152	592.50		0.99	1.31E+09	4.68E+07	2.70E+08	6.34E+08
	GD-153	69.67		2.45	1.41E-03	6.11E-05	5.08E-04	6.95E-04
		97.43		30.00	6.11E-05		-1.56E-06	3.00E-05
		103.18		22.10	8.07E-05		2.46E-05	3.96E-05
	SM-153	69.67		4.67	8.09E-04	6.72E-05	2.91E-04	3.98E-04
		103.18		29.14	6.72E-05		2.05E-05	3.29E-05
+	EU-154	42.70		20.45	9.08E-04	4.43E-05	-1.24E-03	4.45E-04
		123.07	*	40.40	4.46E-05		1.09E-04	2.18E-05
		247.93		6.89	4.45E-04		1.52E-04	2.19E-04
		591.76		4.95	7.08E-04		-2.19E-04	3.44E-04
		692.42		1.78	3.06E-03		4.19E-04	1.50E-03
		723.30	*	20.06	1.09E-04		1.87E-05	5.20E-05
		756.80		4.52	6.67E-04		3.46E-04	3.19E-04
		873.18		12.08	2.59E-04		-8.70E-05	1.24E-04
		996.29		10.48	2.62E-04		1.58E-04	1.26E-04
		1004.76		18.01	1.51E-04		1.64E-05	7.26E-05
		1246.12		0.86	2.55E-03		-2.13E-03	1.18E-03
		1274.43	*	34.80	4.43E-05		1.05E-04	2.04E-05
		1494.05		0.70	1.84E-03		-1.94E-03	8.42E-04
		1596.48		1.80	4.37E-04		-3.57E-04	2.00E-04
	EU-155	43.00		18.12	9.88E-04	7.89E-05	-1.98E-04	4.85E-04
		60.01		1.17	4.58E-03		1.65E-02	2.26E-03
		86.55		30.70	1.09E-04		-4.56E-06	5.37E-05
		105.31		21.10	7.89E-05		1.42E-05	3.87E-05
	EU-156	88.97		8.40	5.66E-04	2.25E-04	-1.44E-04	2.80E-04
		646.29		6.30	4.70E-04		-1.95E-04	2.27E-04
		723.47		5.40	5.20E-04		9.03E-04	2.51E-04
		811.77		9.70	2.49E-04		-7.28E-05	1.19E-04
		1065.14		4.90	5.83E-04		9.08E-05	2.78E-04
		1079.16		4.60	6.32E-04		3.62E-04	3.04E-04
		1153.80		11.50	2.25E-04		1.61E-04	1.07E-04
		1230.71		8.00	2.38E-04		-2.86E-04	1.10E-04
		1242.42		6.60	2.46E-04		2.00E-04	1.14E-04
		1277.43		2.89	9.50E-04		1.03E-03	4.52E-04
		1366.41		1.57	1.58E-03		-8.31E-05	7.53E-04
		1965.95		3.90	2.41E-04		5.67E-05	1.06E-04
		2097.70		3.80	3.39E-04		1.29E-04	1.49E-04
		2186.71		3.50	3.65E-04		-1.54E-04	1.60E-04
	Sm-156	87.60		24.00	2.36E-04	1.59E-04	1.54E-03	1.17E-04
		165.80		13.00	2.24E-04		3.47E-05	1.10E-04
		204.00		21.00	1.59E-04		2.76E-05	7.80E-05
	EU-158	42.31		5.80	2.89E+00	6.35E-02	-1.62E+00	1.42E+00
		43.00		10.40	1.46E+00		-2.93E-01	7.15E-01
		79.49		10.50	2.01E-01		-6.03E-02	9.89E-02
		181.97		2.30	6.34E-01		-3.19E-01	3.11E-01
		528.05		1.53	1.32E+00		-5.24E-01	6.42E-01
		606.39		4.00	4.86E-01		-3.77E-02	2.36E-01
		743.02		3.60	3.92E-01		-1.27E-01	1.87E-01
		897.61		12.40	1.49E-01		-7.38E-03	7.16E-02
		906.50		1.83	1.01E+00		-2.57E-01	4.84E-01
		922.51		1.62	1.20E+00		-1.69E+00	5.77E-01
		944.15		30.00	6.35E-02		-4.09E-02	3.05E-02
		953.03		1.98	9.87E-01		1.11E+00	4.74E-01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	962.09	1.89	1.05E+00	6.35E-02	-1.21E-01	5.05E-01
	977.14	16.30	1.05E-01		-7.27E-04	5.01E-02
	986.96	1.35	1.30E+00		9.65E-01	6.19E-01
	1107.63	5.10	4.60E-01		3.32E-01	2.22E-01
	1184.10	3.00	4.60E-01		-4.30E-01	2.15E-01
	1186.00	2.90	4.82E-01		2.29E-01	2.26E-01
	1187.10	4.40	3.29E-01		3.57E-01	1.55E-01
	1263.61	2.20	5.76E-01		4.97E-02	2.67E-01
	1347.95	1.65	7.69E-01		-9.38E-02	3.56E-01
	1944.47	1.62	6.50E-01		2.08E-01	2.87E-01
TB-160	86.79	13.20	3.68E-04	9.30E-05	-1.45E-05	1.82E-04
	298.58	26.10	1.12E-04		-3.42E-05	5.49E-05
	879.38	30.10	9.30E-05		2.77E-05	4.48E-05
	962.32	9.81	2.77E-04		7.29E-05	1.33E-04
	966.17	25.10	1.07E-04		1.28E-04	5.14E-05
	1177.96	14.90	4.01E-04		-5.15E-05	1.97E-04
TB-161	25.65	23.20	1.48E-01	2.82E-04	2.78E-02	7.30E-02
	48.91	17.00	5.87E-04		-1.92E-06	2.88E-04
	52.00	3.43	2.28E-03		7.85E-04	1.12E-03
	57.19	1.79	3.69E-03		-9.57E-04	1.82E-03
	74.57	10.20	2.82E-04		-1.92E-05	1.39E-04
YB-169	63.12	43.62	1.80E-04	6.04E-05	-3.99E-04	8.86E-05
	93.61	2.58	1.43E-03		-1.25E-03	7.00E-04
	109.78	17.39	1.18E-04		-2.20E-04	5.78E-05
	130.52	11.38	2.11E-04		-1.55E-04	1.03E-04
	177.21	22.28	9.88E-05		-1.04E-04	4.84E-05
	197.96	35.93	6.04E-05		-1.03E-05	2.97E-05
	307.74	10.05	1.61E-04		-1.46E-04	7.89E-05
HF-172	54.07	63.00	1.02E-04	1.02E-04	-9.97E-06	5.04E-05
	67.35	5.30	6.52E-04		-9.03E-05	3.21E-04
	81.75	4.50	5.44E-04		-3.80E-04	2.67E-04
	114.06	2.60	6.41E-04		-7.86E-05	3.15E-04
	122.92	1.14	1.59E-03		3.68E-03	7.81E-04
	125.81	11.30	1.60E-04		3.59E-05	7.89E-05
	127.91	1.46	1.08E-03		-5.36E-04	5.31E-04
LU-173	59.30	24.44	2.26E-04	1.08E-04	6.85E-04	1.11E-04
	78.63	11.90	2.78E-04		1.76E-04	1.37E-04
	100.72	5.24	3.81E-04		3.05E-04	1.87E-04
	171.39	2.90	6.68E-04		2.59E-04	3.27E-04
	272.11	21.20	1.08E-04		-2.10E-05	5.30E-05
LU-177	112.95	6.23	2.77E-04	2.01E-04	1.10E-04	1.36E-04
	208.37	10.41	2.01E-04		-2.87E-04	9.85E-05
	249.67	0.20	1.08E-02		6.66E-03	5.28E-03
	321.32	0.22	1.01E-02		3.96E-03	4.96E-03
HF-181	133.02	43.30	5.00E-05	4.06E-05	3.26E-06	2.45E-05
	345.93	15.12	1.95E-04		-3.71E-04	9.57E-05
	482.18	80.50	4.06E-05		-6.45E-05	1.99E-05
W-181	56.28	18.70	3.28E-04	1.93E-04	2.55E-07	1.61E-04
	57.53	32.00	1.93E-04		-2.90E-05	9.51E-05
	65.00	10.60	3.55E-04		3.27E-05	1.75E-04
TA-182	57.98	10.01	6.03E-04	5.99E-05	1.96E-05	2.97E-04
	59.32	17.20	3.22E-04		9.74E-04	1.59E-04
	65.72	3.01	2.44E-03		-1.19E-04	1.20E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	67.75	46.67	1.04E-04	5.99E-05	2.95E-05	5.13E-05
	84.68	2.65	1.76E-03		-5.01E-04	8.71E-04
	100.11	14.20	1.91E-04		6.69E-05	9.38E-05
	113.67	1.87	1.87E-03		1.13E-03	9.16E-04
	116.42	0.44	3.73E-03		1.19E-03	1.83E-03
	152.43	7.02	3.62E-04		-5.59E-05	1.77E-04
	156.39	2.67	9.23E-04		-4.96E-04	4.52E-04
	179.39	3.12	8.73E-04		7.61E-04	4.28E-04
	198.35	1.47	2.48E-03		-9.59E-04	1.22E-03
	222.11	7.57	4.03E-04		1.81E-04	1.98E-04
	229.32	3.64	9.09E-04		-3.28E-04	4.46E-04
	264.08	3.61	8.60E-04		1.55E-04	4.22E-04
	928.00	0.61	5.33E-03		-4.50E-03	2.56E-03
	959.73	0.35	9.43E-03		-5.81E-03	4.53E-03
	1001.70	2.09	2.34E-03		1.60E-03	1.13E-03
	1044.42	0.24	1.48E-02		2.38E-04	7.10E-03
	1113.41	0.44	8.89E-03		7.39E-03	4.29E-03
	1121.29	35.24	8.49E-05		-2.33E-05	4.06E-05
	1157.30	0.73	2.56E-03		3.60E-04	1.22E-03
	1189.04	16.49	9.50E-05		-2.22E-04	4.46E-05
	1221.40	27.23	5.99E-05		-7.90E-06	2.77E-05
	1223.60	0.24	3.68E-03		-2.65E-03	1.70E-03
	1231.00	11.62	1.60E-04		-1.69E-04	7.39E-05
	1257.41	1.51	9.79E-04		9.11E-04	4.55E-04
	1273.72	0.66	1.60E-03		3.27E-03	7.61E-04
	1289.15	1.37	3.59E-04		-3.56E-04	1.66E-04
	1342.73	0.26	4.70E-03		4.91E-03	2.17E-03
	1373.82	0.22	1.36E-03		-1.06E-03	6.17E-04
Ta-183	84.71	1.35	2.55E-03	8.13E-05	-7.27E-04	1.26E-03
	99.08	6.80	2.72E-04		1.74E-04	1.33E-04
	107.93	11.20	1.53E-04		-1.43E-05	7.48E-05
	161.35	9.10	1.89E-04		-7.75E-06	9.27E-05
	162.32	5.00	3.53E-04		5.32E-04	1.73E-04
	244.26	8.80	2.51E-04		-3.83E-05	1.23E-04
	246.06	27.20	8.13E-05		1.49E-05	3.99E-05
	353.99	11.60	2.14E-04		3.89E-05	1.05E-04
Re-184	111.21	17.20	9.70E-05	4.84E-05	-2.00E-05	4.76E-05
	252.85	3.00	6.90E-04		-8.69E-04	3.39E-04
	792.01	37.70	4.84E-05		5.46E-06	2.31E-05
	894.76	15.70	1.44E-04		8.27E-05	6.92E-05
	903.28	38.10	5.89E-05		-2.95E-05	2.83E-05
W-185	59.72	0.01	4.57E-01	9.45E-02	1.65E+00	2.25E-01
	61.14	0.02	2.52E-01		3.57E-01	1.24E-01
	69.20	0.01	4.53E-01		-3.62E-02	2.23E-01
	125.36	0.02	9.45E-02		2.11E-01	4.65E-02
W-187	61.14	14.30	4.45E-04	6.30E-05	6.30E-04	2.19E-04
	69.20	4.82	7.97E-04		-6.37E-05	3.92E-04
	72.00	13.55	4.05E-04		1.13E-04	1.99E-04
	134.25	10.36	2.68E-04		1.16E-04	1.32E-04
	479.53	26.60	1.72E-04		1.39E-04	8.43E-05
	618.37	7.57	3.50E-04		1.95E-04	1.69E-04
	685.81	33.20	6.30E-05		-6.11E-05	3.02E-05
Ir-188	155.05	29.60	6.08E-05	6.08E-05	-4.76E-07	2.98E-05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Ir-188	478.00	14.70	2.40E-04	6.08E-05	8.92E-05	1.18E-04
	633.02	17.90	1.37E-04		-9.04E-05	6.63E-05
	634.97	5.00	4.89E-04		6.94E-05	2.37E-04
	829.42	5.10	4.35E-04		-3.93E-05	2.09E-04
	1209.77	6.90	2.81E-04		-2.63E-04	1.32E-04
	1715.67	6.20	2.01E-04		3.36E-05	8.84E-05
	2214.59	18.60	8.66E-05		-1.29E-04	3.83E-05
W-188	227.07	0.23	8.83E-03	5.01E-03	-7.91E-03	4.34E-03
	290.68	0.42	5.01E-03		-5.29E-03	2.46E-03
Ir-189	245.08	6.00	3.58E-04	3.58E-04	8.22E-06	1.76E-04
Ir-190	186.68	50.00	3.88E-05	3.88E-05	1.58E-05	1.91E-05
	361.09	12.30	2.00E-04		1.37E-04	9.82E-05
	371.24	21.60	1.13E-04		8.38E-05	5.54E-05
	407.22	27.00	9.66E-05		-9.63E-06	4.73E-05
	518.55	32.20	7.81E-05		-1.42E-04	3.81E-05
	557.95	28.50	7.56E-05		-4.53E-05	3.67E-05
	569.30	27.00	8.34E-05		1.21E-05	4.05E-05
	605.14	37.80	6.18E-05		1.53E-05	3.00E-05
OS-191	63.29	15.70	2.91E-04	5.97E-05	-7.75E-04	1.43E-04
	64.99	26.70	1.43E-04		1.31E-05	7.03E-05
	73.45	9.21	3.12E-04		-9.36E-05	1.54E-04
	129.43	26.50	5.97E-05		-1.03E-05	2.93E-05
Pt-191	359.90	5.80	5.42E-04	1.84E-04	-1.89E-05	2.66E-04
	456.47	3.30	1.16E-03		1.12E-03	5.68E-04
	538.90	14.30	1.84E-04		-3.49E-05	8.94E-05
IR-192	205.79	3.31	8.62E-04	3.92E-05	9.72E-04	4.24E-04
	295.96	28.71	1.38E-04		6.32E-05	6.77E-05
	308.45	29.70	1.28E-04		4.53E-05	6.26E-05
	316.51	82.86	3.92E-05		2.62E-05	1.92E-05
	468.07	47.84	9.67E-05		3.12E-05	4.75E-05
	588.58	4.52	8.52E-04		5.71E-04	4.13E-04
	604.41	8.22	2.21E-04		-6.24E-06	1.07E-04
	612.46	5.34	2.68E-04		1.02E-04	1.30E-04
IR-192m	155.16	0.09	1.74E-02	1.74E-02	1.15E-03	8.51E-03
IR-193m	80.22	0.00	5.41E-01	5.41E-01	-1.05E-01	2.66E-01
Pt-193m	135.50	0.11	1.46E-02	1.46E-02	3.39E-03	7.15E-03
Au-194	293.55	10.90	2.21E-04	3.86E-05	3.52E-05	1.08E-04
	328.47	62.80	3.86E-05		1.33E-05	1.89E-05
	364.84	1.60	1.73E-03		1.71E-03	8.49E-04
	528.77	1.78	1.53E-03		1.73E-04	7.47E-04
	645.16	2.32	1.06E-03		2.91E-04	5.12E-04
	948.32	2.29	1.15E-03		-7.40E-05	5.54E-04
	1104.06	2.15	1.40E-03		-8.43E-04	6.73E-04
	1175.36	2.14	3.79E-03		3.02E-02	1.87E-03
	1468.90	6.80	2.45E-04		-7.73E-04	1.13E-04
	1595.81	1.89	9.05E-04		-2.50E-04	4.14E-04
	2043.72	3.74	3.58E-04		-1.88E-04	1.56E-04
Ir-194	293.54	2.50	1.10E-03	2.11E-04	1.75E-04	5.39E-04
	328.47	13.10	2.11E-04		7.26E-05	1.03E-04
AU-195	98.86	11.21	1.59E-04	1.59E-04	6.51E-05	7.78E-05
	129.74	0.84	1.85E-03		-8.14E-04	9.09E-04
Pt-195m	98.90	11.70	1.60E-04	1.60E-04	6.58E-05	7.85E-05
	129.79	2.90	5.66E-04		-2.49E-04	2.78E-04

Analysis Report for 24-2533 TI185-6.0M-S2-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	Au-196	333.03		22.90	1.67E-04	2.22E-05	6.61E-05	8.20E-05
		355.73	*	87.00	2.22E-05		8.56E-06	1.08E-05
		426.10		6.60	4.36E-04		-1.02E-04	2.14E-04
	Au-196m	147.81		43.50	6.30E-05	6.30E-05	7.95E-06	3.09E-05
		188.27		30.00	1.12E-04		1.19E-04	5.51E-05
	Pt-197	77.35		17.00	2.01E-04	2.01E-04	-2.28E-06	9.87E-05
		191.44		3.70	6.94E-04		2.75E-05	3.41E-04
	AU-198	411.80		95.62	4.27E-05	4.27E-05	1.78E-06	2.11E-05
	AU-199	158.38		40.00	4.30E-05	4.30E-05	-1.61E-05	2.11E-05
		208.20		8.72	2.48E-04		-3.55E-04	1.22E-04
	TL-201	135.34		2.61	6.55E-04	1.82E-04	1.52E-04	3.21E-04
		167.43		10.00	1.82E-04		1.15E-04	8.94E-05
	TL-202	439.51		91.50	3.33E-05	3.33E-05	2.72E-05	1.63E-05
	PB-203	70.83		26.40	1.25E-04	3.31E-05	3.40E-05	6.13E-05
		72.87		44.20	7.18E-05		3.18E-05	3.53E-05
		82.40		15.56	1.73E-04		-1.22E-04	8.51E-05
		279.20		80.90	3.31E-05		1.75E-06	1.62E-05
		401.32		3.35	1.31E-03		-2.73E-04	6.42E-04
	PB-210	46.54		4.25	2.83E-03	2.83E-03	-2.36E-03	1.39E-03
	Pa-233	86.60		2.01	1.97E-03	5.65E-05	-8.30E-05	9.76E-04
		94.65		8.90	2.07E-04		-4.67E-05	1.02E-04
		98.43		14.20	1.26E-04		7.26E-05	6.16E-05
		300.13		6.54	3.27E-04		-3.56E-04	1.60E-04
		311.90		38.20	5.65E-05		3.13E-06	2.77E-05
		340.48		4.44	5.35E-04		3.57E-04	2.62E-04
	U-235	89.96		2.90	1.07E-03	3.28E-05	4.56E-05	5.27E-04
		93.35		4.70	3.97E-04		-2.53E-04	1.95E-04
		109.19		1.64	9.91E-04		-1.12E-04	4.86E-04
		143.76		10.93	1.48E-04		-1.12E-05	7.24E-05
		163.36		5.07	3.30E-04		-3.52E-05	1.62E-04
		185.71		57.20	3.28E-05		-8.96E-06	1.61E-05
		202.11		1.07	1.83E-03		5.02E-04	8.98E-04
		205.31		5.03	4.12E-04		2.55E-04	2.02E-04
	NP-237	86.48		12.20	2.73E-04	2.73E-04	-1.15E-05	1.35E-04
	U-237	59.54		34.50	1.78E-04	7.34E-05	5.72E-04	8.80E-05
		97.07		15.40	1.21E-04		-2.06E-05	5.95E-05
		101.06		24.50	7.34E-05		1.32E-05	3.60E-05
		113.30		3.07	5.63E-04		1.23E-04	2.76E-04
		114.23		5.81	2.96E-04		-3.63E-05	1.45E-04
		117.46		2.27	7.36E-04		1.95E-05	3.61E-04
		208.00		21.20	1.04E-04		-1.16E-04	5.12E-05
	NP-238	103.37		0.00	4.01E-01	8.82E-05	1.20E-01	1.97E-01
		882.63		0.80	3.07E-03		2.27E-03	1.48E-03
		923.99		2.60	9.91E-04		5.16E-04	4.77E-04
		984.45		25.20	8.82E-05		-6.56E-05	4.21E-05
		1025.87		8.75	2.59E-04		1.97E-05	1.24E-04
		1028.53		18.23	1.25E-04		-3.45E-05	5.96E-05
	U-238	63.29		3.70	1.22E-03	4.52E-04	-3.24E-03	6.00E-04
		92.51		4.23	4.52E-04		5.59E-05	2.22E-04
		112.81		0.21	7.97E-03		3.16E-03	3.91E-03
		742.81		0.11	1.55E-02		-5.57E-03	7.39E-03
		766.42		0.32	5.44E-03		-5.70E-03	2.60E-03
		1001.03		0.84	3.13E-03		3.06E-03	1.51E-03

Analysis Report for 24-2533 TI185-6.0M-S2-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Am-239	181.71		1.08	2.43E-03	2.14E-04	-2.62E-03	1.19E-03
		209.80		3.50	9.14E-04		8.02E-04	4.49E-04
		226.40		3.30	9.68E-04		-1.52E-03	4.76E-04
		228.10		11.30	2.81E-04		-6.57E-05	1.38E-04
		277.60		15.00	2.14E-04		-1.21E-04	1.05E-04
	NP-239	61.46		1.30	4.31E-03	8.00E-05	9.51E-03	2.12E-03
		99.53		12.90	1.50E-04		1.60E-05	7.34E-05
		103.37		20.50	9.21E-05		2.76E-05	4.52E-05
		106.12		25.34	8.00E-05		2.13E-05	3.92E-05
		209.75		3.36	7.15E-04		6.27E-04	3.51E-04
		228.18		11.24	2.14E-04		-2.32E-05	1.05E-04
		277.60		14.51	1.73E-04		-9.79E-05	8.48E-05
		285.46		0.79	3.53E-03		2.42E-04	1.73E-03
		315.88		1.60	1.32E-03		5.22E-04	6.47E-04
		334.31		2.06	8.83E-04		-5.54E-04	4.33E-04
	PU-239	38.66		0.01	3.76E+00	2.45E-01	9.98E-01	1.84E+00
		51.62		0.03	2.87E-01		3.04E-01	1.41E-01
		98.50		0.01	2.45E-01		1.42E-01	1.20E-01
		111.03		0.00	1.25E+00		-8.22E-01	6.12E-01
		129.30		0.01	2.48E-01		-2.74E-02	1.22E-01
		171.39		0.00	1.55E+01		6.01E+00	7.61E+00
		203.55		0.00	3.39E+00		-9.71E-01	1.67E+00
		332.85		0.00	4.56E+00		8.74E-01	2.23E+00
		336.11		0.00	2.05E+01		2.98E+01	1.00E+01
		345.01		0.00	4.15E+00		-1.97E+00	2.03E+00
		375.05		0.00	1.54E+00		1.29E+00	7.55E-01
		380.19		0.00	7.94E+00		-3.54E+00	3.89E+00
		382.75		0.00	9.65E+00		3.87E+00	4.73E+00
		413.71		0.00	2.60E+00		5.53E-01	1.28E+00
		422.60		0.00	2.24E+01		-1.68E+00	1.10E+01
		451.48		0.00	1.63E+01		-2.01E+01	8.01E+00
	Am-240	99.53		18.40	1.06E-04	3.15E-05	1.14E-05	5.20E-05
		103.37		29.20	6.53E-05		1.96E-05	3.20E-05
		117.23		6.93	2.61E-04		1.39E-04	1.28E-04
		888.85		24.70	9.73E-05		-3.62E-05	4.67E-05
		987.79		72.20	3.15E-05		-2.48E-05	1.50E-05
	Np-240m	554.60		20.90	1.48E-04	1.48E-04	-3.11E-05	7.20E-05
		597.40		11.70	2.67E-04		-2.43E-04	1.29E-04
	U-240	44.10		1.05	2.14E-02	1.19E-02	1.04E-02	1.05E-02
		66.50		0.15	3.33E-02		-2.41E-04	1.64E-02
		169.20		0.12	2.12E-02		-2.36E-03	1.04E-02
		189.70		0.24	1.19E-02		-4.26E-03	5.83E-03
+	AM-241	59.54	*	35.90	1.70E-04	1.70E-04	4.93E-04	8.40E-05
	AM-242m	49.35		0.13	6.88E-02	6.88E-02	-3.06E-02	3.38E-02
		66.89		0.01	2.35E-01		-5.27E-02	1.16E-01
		86.65		0.02	1.46E-01		-6.14E-03	7.22E-02
		163.25		0.02	1.09E-01		-1.17E-02	5.37E-02
	AM-243	43.53		5.90	2.81E-03	4.13E-05	-1.92E-03	1.38E-03
		74.66		67.20	4.13E-05		-2.82E-06	2.03E-05

Analysis Report for 24-2533 TI185-6.0M-S2-CST-A Q0

ASR 2094 Branch

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

Apex-Gamma

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2534 TI185-6.0M-S2-CST-d-A Q0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 2:55:51PM
Procedure	: Q0_gsv02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: Q0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1202.7 seconds
Dead Time	: 0.23 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 1/16/2018
Efficiency Calibration Description	: Q0_gsv2mlw_R651_PT
Sample Number	: 578965
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 3:15:59PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.64	190.36	0.1977	9.18
2	64.51	206.01	0.3105	4.34
3	87.56	279.56	0.1545	13.91
4	123.13	392.81	0.2474	5.97
5	199.78	637.23	0.3799	3.20
6	414.95	1323.09	0.1329	16.14
7	661.86	2110.35	0.0581	71.73
8	666.52	2125.37	0.1333	14.06
9	695.31	2216.80	0.1330	14.10
10	873.75	2785.73	0.2983	3.38
11	1081.53	3448.00	0.2018	5.94
12	1109.80	3538.12	0.2219	4.27
13	1173.58	3741.41	0.1037	18.12
14	1274.61	4063.70	0.2047	4.90
15	1332.88	4249.32	0.1025	17.75
16	1361.96	4341.80	0.2051	5.05
17	2506.24	7988.38	0.1772	5.61

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 3:16:00PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.64	185 -	197	190.50	6.46E+02	33.16	6.32E+02	1.23
F	2	64.51	199 -	209	206.03	1.60E+02	80.91	5.31E+02	0.84
F	3	87.56	270 -	285	279.52	1.45E+03	125.65	7.50E+02	1.30
F	4	123.13	383 -	400	392.89	3.22E+02	89.76	6.92E+02	1.38
F	5	199.78	627 -	643	637.25	3.45E+01	15.31	7.11E+02	0.51
F	6	414.95	1315 -	1334	1323.19	9.66E+02	98.32	5.51E+02	1.47
M	7	661.86	2097 -	2133	2110.26	1.81E+04	228.54	1.27E+02	1.68
m	8	666.52	2097 -	2133	2125.13	7.19E+02	28.27	1.02E+02	1.69
F	9	695.31	2205 -	2228	2216.87	6.94E+02	27.04	1.67E+02	1.68
F	10	873.75	2781 -	2791	2785.68	2.13E+01	0.84	5.96E+01	0.44
F	11	1081.53	3437 -	3455	3447.97	1.21E+02	32.40	5.70E+01	1.58
F	12	1109.80	3533 -	3544	3538.10	7.73E+01	11.73	5.46E+01	1.79
F	13	1173.58	3726 -	3754	3741.38	1.47E+03	72.51	4.43E+01	2.17
F	14	1274.61	4055 -	4071	4063.42	9.03E+01	10.43	2.91E+01	1.96
F	15	1332.88	4235 -	4261	4249.11	1.41E+03	72.92	5.45E+01	2.20
F	16	1361.96	4334 -	4350	4341.83	6.92E+01	17.77	2.46E+01	1.66
F	17	2506.24	7980 -	7999	7988.67	8.08E+01	10.36	2.90E+01	2.05

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 3:15:59PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578893.CNF

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.64	6.46E+02	33.16			6.46E+02	3.32E+01
F	2	64.51	1.60E+02	80.91			1.60E+02	8.09E+01
F	3	87.56	1.45E+03	125.65	1.01E+01	4.77E-01	1.44E+03	1.26E+02
F	4	123.13	3.22E+02	89.76			3.22E+02	8.98E+01
F	5	199.78	3.45E+01	15.31			3.45E+01	1.53E+01
F	6	414.95	9.66E+02	98.32			9.66E+02	9.83E+01
M	7	661.86	1.81E+04	228.54			1.81E+04	2.29E+02
m	8	666.52	7.19E+02	28.27	8.33E-01	1.87E-01	7.18E+02	2.83E+01
F	9	695.31	6.94E+02	27.04			6.94E+02	2.70E+01
F	10	873.75	2.13E+01	0.84			2.13E+01	8.43E-01
F	11	1081.53	1.21E+02	32.40			1.21E+02	3.24E+01
F	12	1109.80	7.73E+01	11.73			7.73E+01	1.17E+01
F	13	1173.58	1.47E+03	72.51			1.47E+03	7.25E+01
F	14	1274.61	9.03E+01	10.43			9.03E+01	1.04E+01
F	15	1332.88	1.41E+03	72.92			1.41E+03	7.29E+01
F	16	1361.96	6.92E+01	17.77			6.92E+01	1.78E+01
F	17	2506.24	8.08E+01	10.36			8.08E+01	1.04E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.97	1173.23	*	99.85	7.25E-04	3.62E-05	0.765
		1332.49	*	99.98	7.56E-04	3.97E-05	0.763
CD-109	0.96	88.03	*	3.64	5.47E-03	4.80E-04	free
Te-129m	0.94	695.88	*	3.00	6.25E-03	1.28E-03	free
CS-137	0.99	661.66	*	85.10	5.53E-03	8.06E-05	miss
EU-154	0.30	42.70		20.45			
		123.07	*	40.40	1.19E-04	3.32E-05	0.741
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30		20.06			
		756.80		4.52			

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.30	873.18	*	12.08	8.03E-05	3.44E-06	0.682
		996.29		10.48			
		1004.76		18.01			
		1246.12		0.86			
		1274.43	*	34.80	1.18E-04	1.37E-05	0.874
		1494.05		0.70			
		1596.48		1.80			
AM-241	0.99	59.54	*	35.90	5.11E-04	2.75E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.979	7.39E-04	2.67E-05	
CD-109	0.965	5.47E-03	4.80E-04	
Te-129m	0.949	6.25E-03	1.28E-03	
CS-137	0.993	5.53E-03	8.06E-05	
EU-154	0.306	8.29E-05	3.32E-06	
AM-241	0.998	5.11E-04	2.75E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 3:15:59PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	64.51	1.33436E-01	50.53	Tol.	W-181 OS-191
F	5	199.78	2.87826E-02	44.32	Tol.	ND-149
F	6	414.95	8.04996E-01	10.18	Tol.	RH-102M
m	8	666.52	5.98669E-01	3.94		
F	11	1081.53	1.00663E-01	26.82		
F	12	1109.80	6.43874E-02	15.18		
F	16	1361.96	5.76428E-02	25.69	Sum	
F	17	2506.24	6.73338E-02	12.82	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.60	10.44	3.08E-04	3.08E-04	-4.81E-05	1.51E-04
	NA-22	511.00	179.91	1.52E-05	1.52E-05	-3.23E-07	7.42E-06
		1274.54	99.94	4.71E-05		7.89E-05	2.25E-05
	NA-24	1368.63	99.99	3.52E-05	3.52E-05	-1.84E-06	1.65E-05
>		2754.01	99.87	0.00E+00		0.00E+00	0.00E+00
	AL-26	1129.67	2.50	8.85E-04	1.12E-05	-8.47E-04	4.21E-04

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AL-26	1808.65	99.76	1.12E-05	1.12E-05	1.64E-06	4.92E-06
K-40	1460.82	10.66	1.67E-04	1.67E-04	2.74E-04	7.80E-05
K-42	312.60	0.34	1.03E-02	1.09E-04	-2.61E-03	5.03E-03
	1524.60	18.08	1.09E-04		1.14E-04	4.91E-05
Sc-44	1157.02	99.90	8.02E-05	8.02E-05	-2.31E-07	3.80E-05
	1499.46	0.91	5.90E-03		-2.07E-03	2.65E-03
Sc-44m	271.24	86.74	2.62E-05	2.62E-05	8.06E-06	1.28E-05
	1001.83	1.20	3.97E-03		2.79E-03	1.91E-03
	1126.06	1.20	3.25E-03		1.81E-03	1.55E-03
	1157.00	1.20	3.09E-03		-8.90E-06	1.46E-03
TI-44	67.87	93.00	4.48E-05	3.18E-05	-1.57E-05	2.20E-05
	78.32	96.40	3.18E-05		1.08E-05	1.56E-05
SC-46	889.28	99.98	2.72E-05	2.72E-05	-2.20E-05	1.30E-05
	1120.55	99.99	2.91E-05		1.66E-05	1.39E-05
CA-47	489.23	5.90	6.83E-04	2.47E-05	-2.54E-05	3.35E-04
	807.86	5.90	4.77E-04		8.23E-05	2.29E-04
	1297.09	67.00	2.47E-05		4.21E-06	1.15E-05
SC-47	159.38	68.30	2.59E-05	2.59E-05	-3.32E-05	1.27E-05
SC-48	175.36	7.47	2.61E-04	1.60E-05	4.98E-05	1.28E-04
	983.53	100.00	2.58E-05		1.57E-05	1.24E-05
	1037.52	97.50	2.50E-05		-1.01E-05	1.20E-05
	1312.12	100.00	1.60E-05		-1.45E-05	7.36E-06
V-48	944.13	7.87	3.78E-04	1.92E-05	4.13E-06	1.82E-04
	983.53	99.98	3.03E-05		1.84E-05	1.45E-05
	1312.11	98.20	1.92E-05		-1.75E-05	8.86E-06
	2240.40	2.33	8.41E-04		3.32E-04	3.74E-04
CR-51	320.08	9.91	2.21E-04	2.21E-04	-2.07E-04	1.08E-04
Fe-52	168.69	99.20	3.37E-05	3.37E-05	1.57E-05	1.65E-05
	377.75	1.64	3.05E-03		-2.00E-03	1.49E-03
Mn-52	744.23	90.00	3.53E-05	2.43E-05	-3.17E-05	1.69E-05
	848.18	3.32	1.11E-03		4.78E-04	5.34E-04
	935.54	94.50	4.41E-05		6.28E-06	2.12E-05
	1246.28	4.21	6.47E-04		2.81E-04	3.01E-04
	1333.65	5.07	2.43E-03		1.96E-02	1.20E-03
	1434.09	100.00	2.43E-05		9.73E-06	1.11E-05
MN-54	834.85	99.98	1.96E-05	1.96E-05	1.25E-05	9.41E-06
Co-55	411.50	1.07	5.00E-03	4.21E-05	6.74E-05	2.47E-03
	477.20	20.20	2.20E-04		-5.61E-05	1.08E-04
	803.70	1.87	1.43E-03		1.24E-03	6.85E-04
	931.10	75.00	4.21E-05		7.36E-07	2.03E-05
	1316.60	7.10	2.59E-04		1.54E-04	1.19E-04
	1370.00	2.90	6.52E-04		-4.54E-04	2.99E-04
	1408.50	16.90	9.63E-05		-1.50E-04	4.35E-05
Co-56	846.77	99.94	2.97E-05	2.97E-05	2.56E-05	1.43E-05
	977.37	1.42	2.49E-03		-1.63E-03	1.19E-03
	1037.84	14.05	2.24E-04		-5.71E-05	1.07E-04
	1175.10	2.25	5.19E-03		4.15E-02	2.56E-03
	1238.29	66.46	3.39E-05		2.54E-06	1.58E-05
	1360.21	4.28	7.27E-04		1.03E-03	3.45E-04
	1771.36	15.41	1.43E-04		7.56E-05	6.56E-05
	2015.20	3.02	4.42E-04		-3.53E-04	1.88E-04
	2034.79	7.77	2.19E-04		4.59E-05	9.60E-05
>	2598.50	16.97	0.00E+00		0.00E+00	0.00E+00

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	MN-56	846.76		98.85	2.09E-04	2.09E-04	1.80E-04	1.00E-04
		1810.73		26.90	4.99E-04		-1.67E-04	2.19E-04
		2113.09		14.20	1.07E-03		-2.44E-03	4.72E-04
	Ni-56	158.38		98.80	1.74E-05	1.74E-05	1.22E-05	8.54E-06
		269.50		36.50	5.95E-05		6.69E-06	2.91E-05
		480.44		36.50	8.85E-05		-3.82E-05	4.34E-05
		749.50		49.50	3.93E-05		-5.10E-06	1.88E-05
		811.85		86.00	2.45E-05		4.38E-06	1.18E-05
		1561.80		14.00	9.43E-05		4.69E-07	4.26E-05
	CO-57	122.06		85.60	2.18E-05	2.18E-05	5.30E-05	1.07E-05
		136.47		10.68	1.50E-04		-5.09E-05	7.34E-05
	NI-57	127.16		16.70	1.21E-04	2.08E-05	5.68E-05	5.97E-05
		1377.63		81.70	2.08E-05		8.47E-06	9.58E-06
		1757.55		5.75	2.95E-04		2.27E-04	1.34E-04
		1919.52		12.30	1.50E-04		-2.89E-04	6.81E-05
	CO-58	810.76		99.45	2.21E-05	2.21E-05	4.57E-06	1.06E-05
		863.96		0.69	3.89E-03		-1.44E-03	1.86E-03
		1674.73		0.52	2.14E-03		1.10E-03	9.62E-04
	FE-59	142.65		1.02	1.56E-03	3.59E-05	6.45E-04	7.66E-04
		192.34		3.08	8.36E-04		-6.06E-04	4.11E-04
		1099.24		56.50	4.08E-05		7.48E-06	1.95E-05
		1291.59		43.20	3.59E-05		-5.82E-05	1.67E-05
+	CO-60	1173.23	*	99.85	3.26E-05	3.26E-05	7.25E-04	1.56E-05
		1332.49	*	99.98	3.79E-05		7.56E-04	1.82E-05
	CU-64	511.00		35.00	1.21E-04	1.21E-04	-2.59E-06	5.93E-05
		1345.77		0.47	4.61E-03		-1.28E-03	2.12E-03
	NI-65	366.27		4.81	6.40E-03	5.08E-04	-4.77E-03	3.14E-03
		1115.53		15.43	1.79E-03		-4.27E-04	8.61E-04
		1481.84		23.59	5.08E-04		-4.79E-04	2.31E-04
	ZN-65	1115.54		50.04	5.38E-05	5.38E-05	-1.29E-05	2.59E-05
	GA-66	511.00		114.00	4.32E-05	4.32E-05	-9.22E-07	2.11E-05
		833.53		5.90	5.94E-04		-2.76E-04	2.84E-04
		1039.22		37.00	1.04E-04		2.41E-05	4.98E-05
		1333.11		1.17	1.15E-02		9.27E-02	5.68E-03
		1918.33		1.99	1.47E-03		1.70E-03	6.69E-04
		2189.62		5.30	4.47E-04		1.19E-04	1.96E-04
>		2751.83		22.70	0.00E+00		0.00E+00	0.00E+00
	CU-67	91.27		7.00	4.03E-04	4.15E-05	9.10E-05	1.98E-04
		93.31		16.10	1.29E-04		2.04E-05	6.31E-05
		184.58		48.70	4.15E-05		4.82E-06	2.04E-05
		300.22		0.80	2.98E-03		8.99E-04	1.46E-03
		393.53		0.22	1.26E-02		-1.46E-02	6.20E-03
	GA-67	91.26		3.11	1.05E-03	5.68E-05	2.37E-04	5.17E-04
		93.31		38.81	5.68E-05		9.02E-06	2.79E-05
		184.58		21.41	9.44E-05		1.10E-05	4.63E-05
		208.95		2.46	1.35E-03		-1.37E-03	6.65E-04
		300.22		16.64	1.60E-04		4.82E-05	7.83E-05
		393.53		4.56	3.79E-04		-4.39E-04	1.86E-04
	ZN-69m	438.63		94.85	4.95E-05	4.95E-05	2.47E-05	2.43E-05
	GA-72	629.97		26.13	2.11E-04	4.12E-05	1.93E-04	1.02E-04
		834.13		95.45	4.12E-05		1.74E-06	1.98E-05
		894.33		10.14	5.23E-04		3.44E-04	2.51E-04
		1050.79		6.99	8.16E-04		1.01E-03	3.90E-04

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	GA-72	2201.59	26.87	1.18E-04	4.12E-05	-2.20E-06	5.33E-05
		2491.03	7.73	2.40E-04		1.21E-04	9.96E-05
		2507.72	13.33	5.53E-04		1.27E-03	2.63E-04
	Zn-72	144.70	82.78	2.18E-05	2.18E-05	1.47E-05	1.07E-05
		191.50	9.35	2.35E-04		1.51E-04	1.16E-04
	SE-75	121.12	17.20	1.54E-04	3.88E-05	-4.15E-06	7.60E-05
		136.00	58.50	3.88E-05		-3.50E-06	1.90E-05
		264.66	58.90	4.95E-05		7.82E-06	2.43E-05
		279.54	25.02	1.02E-04		1.73E-07	5.00E-05
		400.66	11.41	8.16E-05		2.64E-05	4.00E-05
	BR-83	529.59	1.30	2.03E-02	2.03E-02	7.97E-03	9.88E-03
	BR-84	604.80	1.70	5.49E+01	1.95E+00	-9.44E+01	2.67E+01
		736.50	1.29	5.17E+01		2.05E+01	2.47E+01
		802.20	6.00	1.26E+01		-8.11E+00	6.04E+00
		881.60	42.00	1.95E+00		-6.97E-01	9.35E-01
		987.30	0.79	1.11E+02		-6.07E+01	5.32E+01
		1015.90	6.20	1.41E+01		1.99E+00	6.76E+00
		1213.30	2.60	2.58E+01		-4.11E+01	1.21E+01
		1463.80	2.00	3.61E+01		3.98E+01	1.69E+01
		1741.20	1.60	3.49E+01		-1.25E+01	1.58E+01
		1877.50	1.12	4.21E+01		2.45E+00	1.85E+01
		1897.60	14.60	3.34E+00		2.76E+00	1.47E+00
		2029.60	2.10	2.21E+01		-1.23E+01	9.61E+00
		2200.70	1.16	5.57E+01		5.60E+01	2.51E+01
		2484.10	6.70	5.68E+00		-3.22E+00	2.30E+00
>		2824.10	1.12	0.00E+00		0.00E+00	0.00E+00
	KR-85m	151.20	75.20	7.91E-05	7.91E-05	6.01E-05	3.88E-05
		304.87	14.00	5.39E-04		5.83E-06	2.64E-04
	Y-87	388.53	82.20	3.22E-05	3.22E-05	-1.90E-05	1.58E-05
		484.80	89.80	3.59E-05		-1.78E-05	1.76E-05
	KR-88	165.98	3.10	7.13E-03	1.98E-04	-2.25E-03	3.50E-03
		196.30	26.00	7.41E-04		-6.60E-04	3.64E-04
		362.23	2.25	7.38E-03		3.63E-03	3.62E-03
		471.80	0.73	4.23E-02		1.29E-02	2.08E-02
		834.83	13.00	1.39E-03		8.81E-04	6.65E-04
		985.78	1.31	1.85E-02		-5.79E-03	8.88E-03
		1141.33	1.28	1.42E-02		5.82E-03	6.78E-03
		1179.51	1.00	6.87E-02		-3.50E-03	3.38E-02
		1250.67	1.12	1.29E-02		-8.53E-03	5.99E-03
		1369.50	1.48	9.61E-03		1.84E-03	4.44E-03
		1518.39	2.15	6.37E-03		-2.38E-03	2.89E-03
		1529.77	10.90	1.04E-03		5.48E-04	4.65E-04
		2029.84	4.53	3.19E-03		2.39E-03	1.39E-03
		2035.41	3.74	3.48E-03		2.79E-03	1.53E-03
		2195.84	13.20	1.11E-03		4.44E-04	4.92E-04
		2231.77	3.39	2.56E-03		7.23E-04	1.14E-03
		2352.08	0.73	1.62E-02		-1.61E-02	6.95E-03
		2392.11	34.60	1.98E-04		1.00E-04	8.22E-05
	RB-88	898.03	14.40	1.40E-03	5.52E-04	9.26E-05	6.70E-04
		1382.45	0.78	1.79E-02		-2.69E-03	8.26E-03
		1836.00	22.81	5.52E-04		2.65E-04	2.48E-04
>		2677.89	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-88	898.04	93.70	2.91E-05	1.79E-05	1.93E-06	1.40E-05

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Y-88	1836.06	99.20	1.79E-05	1.79E-05	8.88E-07	8.06E-06
	RB-89	272.42	1.53	4.62E+06	1.07E+05	-7.65E+05	2.26E+06
		657.77	10.80	5.11E+06		-4.37E+05	2.54E+06
		947.73	10.00	8.01E+05		-8.62E+05	3.85E+05
		1031.92	63.00	1.17E+05		7.67E+04	5.58E+04
		1248.14	46.00	1.07E+05		9.15E+04	4.97E+04
		1538.07	2.77	1.52E+06		-5.16E+05	6.85E+05
		2007.50	2.58	1.48E+06		1.49E+05	6.38E+05
		2195.92	14.50	3.53E+05		1.53E+05	1.57E+05
>		2570.20	10.70	0.00E+00		0.00E+00	0.00E+00
>		2707.26	2.20	0.00E+00		0.00E+00	0.00E+00
	SR-89	908.96	0.01	2.34E-01	2.34E-01	1.49E-01	1.13E-01
	Sr-91	652.90	11.35	3.78E-04	1.09E-04	-3.30E-04	1.84E-04
		749.80	23.70	1.42E-04		-1.29E-05	6.81E-05
		925.80	3.85	1.08E-03		6.83E-04	5.21E-04
		1024.30	33.50	1.09E-04		-1.38E-04	5.21E-05
	Y-91	1204.77	0.26	6.56E-03	6.56E-03	9.71E-05	3.08E-03
	Y-91m	555.57	61.64	6.51E-05	6.51E-05	-3.67E-05	3.17E-05
	NB-92M	912.60	1.78	1.68E-03	2.39E-05	7.08E-04	8.07E-04
		934.44	99.15	2.39E-05		2.44E-05	1.15E-05
		1847.50	0.85	9.98E-04		-1.84E-03	4.32E-04
	SR-92	241.56	2.93	6.36E-03	1.45E-04	3.75E-04	3.12E-03
		430.49	3.28	7.64E-03		-2.90E-03	3.75E-03
		953.31	3.52	5.75E-03		2.73E-03	2.77E-03
		1142.35	2.79	6.32E-03		-9.78E-03	3.01E-03
		1383.93	90.00	1.45E-04		1.16E-05	6.73E-05
	MO-93M	114.04	0.68	5.65E-03	3.27E-05	-1.35E-03	2.77E-03
		263.05	57.40	8.27E-05		1.14E-05	4.05E-05
		684.69	99.90	3.77E-05		-2.80E-05	1.80E-05
		1363.02	0.81	6.19E-03		6.62E-03	2.94E-03
		1477.14	99.10	3.27E-05		5.82E-06	1.50E-05
	SR-93	168.50	18.40	3.82E+15	1.45E+15	-1.70E+15	1.87E+15
		260.12	7.40	1.19E+16		-1.44E+16	5.83E+15
		346.49	3.28	3.01E+16		-2.78E+16	1.48E+16
		446.20	2.36	5.54E+16		-4.40E+16	2.72E+16
		590.24	68.00	1.45E+15		7.42E+14	7.03E+14
		710.31	21.80	3.38E+15		-1.99E+15	1.62E+15
		875.73	24.50	3.84E+15		8.17E+14	1.85E+15
		888.13	22.10	3.94E+15		-5.54E+15	1.89E+15
		1040.63	3.20	2.81E+16		-3.01E+16	1.34E+16
		1094.00	1.76	5.26E+16		3.79E+16	2.51E+16
		1122.48	4.00	2.24E+16		-4.25E+14	1.07E+16
		1215.48	2.50	2.92E+16		3.68E+15	1.37E+16
		1269.47	7.10	1.43E+16		4.54E+15	6.83E+15
		1321.24	2.61	2.16E+16		-1.30E+15	9.90E+15
		1387.11	3.50	1.73E+16		-4.28E+15	7.99E+15
		1694.07	2.58	2.02E+16		7.61E+15	9.02E+15
		1699.06	3.30	1.49E+16		5.44E+15	6.61E+15
		2543.84	3.03	1.26E+16		-4.99E+15	5.00E+15
>		2688.65	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-93	266.90	7.40	4.86E-04	4.86E-04	-4.87E-04	2.38E-04
		947.10	2.10	1.95E-03		4.05E-04	9.39E-04
		1917.80	1.57	1.74E-03		3.82E-04	7.90E-04

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
NB-94	702.65	99.81	2.45E-05	2.45E-05	4.91E-06	1.18E-05
	871.09	99.89	2.96E-05		1.48E-05	1.42E-05
Y-94	381.60	2.02	7.97E+04	2.70E+03	-8.97E+04	3.90E+04
	550.90	4.90	2.97E+04		-3.00E+04	1.45E+04
	752.60	1.40	8.94E+04		8.21E+04	4.29E+04
	918.74	56.00	2.70E+03		4.04E+02	1.30E+03
	1138.90	6.00	2.28E+04		2.78E+04	1.09E+04
	1671.40	2.50	3.35E+04		1.71E+04	1.51E+04
	2140.60	0.95	8.76E+04		7.77E+03	3.84E+04
NB-95	765.80	99.81	1.97E-05	1.97E-05	-1.79E-06	9.44E-06
ZR-95	724.19	44.27	4.71E-05	3.53E-05	7.39E-05	2.27E-05
	756.72	54.38	3.53E-05		-4.05E-07	1.69E-05
NB-96	219.08	2.97	9.20E-04	2.40E-05	-3.49E-04	4.52E-04
	241.38	3.50	7.88E-04		4.65E-05	3.87E-04
	350.05	1.54	1.98E-03		1.25E-03	9.71E-04
	352.56	0.83	3.66E-03		-1.65E-03	1.80E-03
	371.81	2.62	1.26E-03		2.25E-04	6.17E-04
	460.04	26.62	1.58E-04		2.88E-05	7.79E-05
	480.71	5.84	6.76E-04		2.06E-04	3.32E-04
	568.87	58.00	4.69E-05		-1.88E-05	2.27E-05
	719.56	6.85	3.82E-04		4.05E-04	1.84E-04
	721.63	1.02	2.59E-03		-1.96E-04	1.25E-03
	778.22	96.45	2.40E-05		7.20E-07	1.15E-05
	810.33	11.09	2.30E-04		2.66E-04	1.10E-04
	812.58	2.95	8.73E-04		5.79E-05	4.19E-04
	847.69	1.14	2.36E-03		3.30E-03	1.14E-03
	849.93	20.45	1.29E-04		-1.22E-04	6.21E-05
	1091.35	48.50	5.53E-05		-2.84E-05	2.64E-05
	1200.23	19.97	1.10E-04		-7.18E-05	5.16E-05
	1441.13	0.44	3.74E-03		-2.98E-03	1.70E-03
	1497.81	3.28	4.55E-04		4.44E-05	2.04E-04
Nb-97	657.94	98.23	2.33E-04	2.33E-04	-2.03E-05	1.16E-04
	1024.40	1.09	2.63E-03		-1.92E-04	1.26E-03
ZR-97	254.17	1.15	2.57E-03	2.73E-05	-1.29E-03	1.26E-03
	355.40	2.09	2.41E-03		-6.23E-04	1.18E-03
	507.64	5.03	1.03E-03		-4.25E-04	5.06E-04
	743.36	93.09	2.73E-05		-6.60E-06	1.31E-05
	1147.97	2.62	1.50E-03		-2.56E-05	7.13E-04
MO-99	181.07	6.14	5.03E-04	2.10E-04	-1.38E-04	2.46E-04
	366.42	1.20	2.28E-03		-1.70E-03	1.12E-03
	739.50	12.26	2.10E-04		1.81E-04	1.00E-04
	777.92	4.30	4.65E-04		3.68E-05	2.22E-04
TC-99M	140.51	90.80	1.90E-05	1.90E-05	-2.73E-06	9.33E-06
RH-101	127.23	68.00	3.57E-05	3.57E-05	1.67E-05	1.75E-05
	198.01	73.00	3.67E-05		-1.77E-05	1.80E-05
	325.23	11.80	7.29E-05		-4.46E-05	3.57E-05
RH-101M	306.86	81.00	2.81E-05	2.81E-05	-8.07E-06	1.37E-05
	545.12	4.30	5.89E-04		2.77E-05	2.87E-04
RH-102M	415.25	2.10	4.54E-03	6.48E-05	2.30E-02	2.24E-03
	418.52	9.40	8.82E-04		-3.13E-04	4.35E-04
	420.40	3.20	2.10E-03		-8.07E-04	1.03E-03
	475.06	95.00	6.48E-05		-1.49E-05	3.18E-05
	628.05	8.30	6.30E-04		6.73E-05	3.05E-04

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RH-102M	631.29		56.00	7.25E-05	6.48E-05	-3.72E-05	3.51E-05
		692.40		1.60	5.40E-03		1.04E-03	2.65E-03
		695.60		2.90	2.61E-03		1.45E-02	1.28E-03
		697.49		44.00	1.66E-04		3.25E-05	8.15E-05
		766.84		34.00	1.04E-04		5.85E-05	5.00E-05
		1046.59		34.00	1.09E-04		-4.92E-05	5.22E-05
		1103.16		4.60	7.22E-04		-1.77E-04	3.47E-04
		1112.84		19.00	2.59E-04		7.34E-05	1.25E-04
	RU-103	497.08		91.00	3.13E-05	3.13E-05	2.23E-06	1.53E-05
		610.33		5.76	4.11E-04		-2.10E-04	2.00E-04
	RH-105	306.31		4.66	5.41E-04	1.53E-04	-2.98E-04	2.65E-04
		319.23		16.90	1.53E-04		7.13E-05	7.47E-05
	AG-106M	221.70		6.60	3.34E-04	3.20E-05	2.22E-04	1.64E-04
		228.63		2.10	1.04E-03		-6.19E-04	5.13E-04
		328.46		1.14	2.03E-03		-4.40E-04	9.97E-04
		391.04		3.68	7.17E-04		-1.43E-04	3.51E-04
		406.18		13.40	2.06E-04		1.63E-05	1.01E-04
		429.65		13.20	2.25E-04		-7.79E-05	1.11E-04
		450.98		28.20	1.16E-04		4.71E-05	5.69E-05
		511.85		88.00	3.20E-05		2.90E-05	1.56E-05
		601.17		1.61	1.43E-03		-1.13E-03	6.94E-04
		616.17		21.60	1.09E-04		-1.44E-04	5.31E-05
		646.03		1.46	1.61E-03		4.33E-04	7.82E-04
		680.42		2.18	7.55E-04		7.50E-05	3.61E-04
		703.11		4.47	4.05E-04		-7.58E-06	1.94E-04
		717.34		28.90	6.87E-05		-5.42E-05	3.30E-05
		748.36		20.60	9.13E-05		-2.29E-05	4.38E-05
		793.17		5.90	3.28E-04		-5.05E-05	1.57E-04
		804.28		12.40	1.60E-04		-2.26E-04	7.66E-05
		808.36		4.00	5.06E-04		-2.13E-04	2.43E-04
		824.69		15.30	1.29E-04		2.31E-05	6.20E-05
		847.15		4.40	4.93E-04		1.97E-04	2.37E-04
		1019.72		1.04	2.14E-03		-1.29E-03	1.02E-03
		1045.83		29.60	7.43E-05		2.98E-05	3.55E-05
		1128.02		11.80	1.76E-04		-6.35E-05	8.39E-05
		1199.39		11.20	1.61E-04		-1.40E-05	7.57E-05
		1222.88		7.00	2.51E-04		1.70E-04	1.18E-04
		1394.35		1.49	9.90E-04		-4.75E-04	4.55E-04
		1527.65		16.30	7.64E-05		4.40E-05	3.44E-05
		1572.35		6.60	1.93E-04		9.90E-05	8.66E-05
		1722.76		1.40	8.69E-04		2.53E-04	3.85E-04
		1839.05		2.00	6.26E-04		-5.37E-04	2.77E-04
	RH-106	621.93		9.93	3.12E-04	3.12E-04	-7.37E-06	1.52E-04
		873.49		0.44	8.06E-03		9.96E-03	3.88E-03
		1050.41		1.56	1.87E-03		1.44E-03	8.93E-04
	RU-106	511.86		20.40	1.34E-04	1.34E-04	1.22E-04	6.56E-05
	AG-108M	79.13		6.60	3.88E-04	4.23E-05	-1.42E-04	1.91E-04
		433.94		90.50	6.02E-05		-1.87E-05	2.96E-05
		614.28		89.80	4.87E-05		2.97E-05	2.37E-05
		722.91		90.80	4.23E-05		5.48E-05	2.04E-05
+	CD-109	88.03	*	3.64	7.78E-04	7.78E-04	5.47E-03	3.84E-04
	AG-110M	446.81		3.70	1.99E-03	5.16E-05	9.64E-04	9.79E-04
		620.35		2.73	2.01E-03		1.88E-03	9.77E-04

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-110M	657.76	95.61	3.17E-04	5.16E-05	-2.71E-05	1.58E-04
	677.62	10.70	3.63E-04		-7.15E-05	1.74E-04
	687.01	6.53	5.59E-04		-4.83E-05	2.68E-04
	706.68	16.69	2.30E-04		-2.41E-04	1.10E-04
	744.28	4.77	7.76E-04		-6.98E-04	3.71E-04
	763.94	22.60	1.62E-04		1.81E-05	7.76E-05
	818.02	7.43	6.12E-04		-6.03E-04	2.94E-04
	884.68	75.00	5.16E-05		4.74E-05	2.48E-05
	937.48	35.00	1.21E-04		-3.93E-05	5.80E-05
	1384.29	25.10	1.01E-04		1.14E-04	4.68E-05
	1475.78	4.08	4.85E-04		-1.38E-04	2.22E-04
	1505.03	13.33	1.67E-04		1.90E-04	7.58E-05
	1562.29	1.22	7.21E-04		-5.36E-04	3.24E-04
AG-111	245.40	1.11	2.03E-03	3.61E-04	2.86E-04	9.96E-04
	342.13	6.68	3.61E-04		-1.15E-04	1.77E-04
AG-112	606.82	3.10	1.02E-03	6.85E-05	7.45E-04	4.95E-04
	617.52	43.00	6.85E-05		-1.45E-05	3.32E-05
	692.82	1.19	4.26E-03		7.38E-04	2.09E-03
	694.87	2.90	1.75E-03		8.57E-03	8.59E-04
	851.28	1.02	2.75E-03		7.71E-04	1.32E-03
	1312.36	1.11	1.67E-03		1.43E-04	7.69E-04
	1387.68	5.30	3.52E-04		-2.34E-04	1.62E-04
	1613.66	2.80	5.57E-04		-4.60E-04	2.49E-04
	1798.50	0.89	1.71E-03		-1.42E-03	7.56E-04
	2106.31	2.40	7.40E-04		-2.05E-04	3.28E-04
	2506.70	1.06	4.61E-03		1.06E-02	2.19E-03
CD-113M	263.70	0.03	7.81E-02	7.81E-02	-1.43E-02	3.83E-02
SN-113	255.13	2.11	9.97E-04	3.98E-05	3.82E-04	4.89E-04
	391.70	64.97	3.98E-05		1.85E-05	1.95E-05
IN-114M	190.27	15.56	1.27E-04	1.27E-04	-3.51E-08	6.22E-05
	558.43	4.40	6.77E-04		5.24E-04	3.29E-04
	725.24	4.40	6.37E-04		1.15E-03	3.07E-04
CD-115	260.90	1.94	1.21E-03	5.74E-05	4.01E-04	5.92E-04
	336.24	46.02	5.74E-05		2.64E-05	2.81E-05
	527.90	27.45	1.02E-04		-3.22E-05	5.00E-05
CD-115M	933.84	2.00	1.18E-03	1.18E-03	-8.21E-04	5.70E-04
	1290.59	0.90	1.81E-03		9.41E-04	8.47E-04
IN-115M	336.24	45.90	1.81E-04	1.81E-04	8.32E-05	8.88E-05
IN-116M	138.29	3.70	3.67E-01	1.29E-02	2.20E-01	1.80E-01
	416.90	27.20	1.01E-01		5.66E-01	5.00E-02
	818.68	12.13	1.43E-01		-9.26E-02	6.86E-02
	1097.28	58.50	2.44E-02		3.56E-03	1.16E-02
	1293.56	84.80	1.29E-02		3.16E-03	6.03E-03
	1507.59	9.92	8.66E-02		-1.32E-03	3.94E-02
	2112.29	15.09	5.76E-02		5.03E-02	2.56E-02
SB-125	176.31	6.84	2.49E-04	9.36E-05	-1.59E-04	1.22E-04
	380.45	1.52	1.66E-03		7.10E-04	8.15E-04
	427.87	29.60	9.36E-05		-1.05E-04	4.59E-05
	463.36	10.49	3.21E-04		-1.74E-04	1.58E-04
	600.60	17.65	1.28E-04		6.93E-05	6.23E-05
	606.71	4.98	4.82E-04		-6.98E-05	2.35E-04
	635.95	11.22	1.97E-04		6.98E-05	9.53E-05
	671.44	1.79	1.96E-03		1.75E-04	9.61E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SN-125	332.10	1.40	2.96E-03	2.82E-04	5.22E-04	1.45E-03
	469.85	1.50	3.79E-03		4.66E-04	1.86E-03
	800.28	1.10	2.31E-03		-5.12E-04	1.11E-03
	822.48	4.30	6.15E-04		1.72E-05	2.95E-04
	915.55	4.10	7.43E-04		2.55E-04	3.57E-04
	1067.10	10.00	2.82E-04		2.32E-04	1.35E-04
	1087.70	1.20	4.09E-03		-3.33E-04	1.97E-03
	1089.10	4.60	5.16E-04		1.60E-05	2.46E-04
	2002.10	1.90	6.46E-04		-9.60E-04	2.83E-04
SB-127	61.10	1.43	5.20E-03	4.97E-05	4.45E-03	2.56E-03
	252.40	8.50	3.36E-04		-1.90E-04	1.65E-04
	290.80	2.02	1.59E-03		-2.98E-03	7.78E-04
	412.10	3.80	1.19E-03		3.00E-05	5.87E-04
	445.10	4.30	1.08E-03		-1.50E-03	5.28E-04
	473.00	25.80	1.44E-04		1.15E-04	7.10E-05
	543.30	2.90	7.67E-04		9.82E-04	3.74E-04
	603.50	4.50	7.29E-04		-8.03E-04	3.54E-04
	685.70	36.80	4.97E-05		-2.98E-05	2.38E-05
	698.50	3.64	1.12E-03		6.66E-05	5.51E-04
	722.20	1.88	1.21E-03		-5.05E-04	5.84E-04
	783.70	15.10	1.30E-04		-1.90E-04	6.23E-05
SN-127	119.70	2.20	1.20E-02	1.05E-03	2.43E-03	5.92E-03
	262.50	2.30	1.31E-02		1.76E-03	6.44E-03
	266.20	2.10	1.44E-02		-1.42E-02	7.04E-03
	284.30	2.70	1.11E-02		-5.11E-04	5.45E-03
	438.20	6.10	7.39E-03		-9.05E-03	3.63E-03
	490.90	5.30	7.81E-03		-3.91E-03	3.83E-03
	493.20	3.10	1.32E-02		-1.72E-02	6.44E-03
	545.40	2.30	1.49E-02		-6.98E-03	7.27E-03
	583.30	3.20	9.96E-03		-2.86E-03	4.83E-03
	805.90	8.20	3.50E-03		1.45E-03	1.68E-03
	823.10	11.00	2.60E-03		3.45E-03	1.25E-03
	824.70	6.10	4.57E-03		8.14E-04	2.19E-03
	859.50	8.00	3.76E-03		3.73E-03	1.80E-03
	979.20	7.20	4.28E-03		2.40E-03	2.05E-03
	1093.30	3.80	8.15E-03		-1.04E-02	3.89E-03
	1095.60	19.00	1.68E-03		-1.74E-04	8.02E-04
	1114.30	38.00	1.05E-03		8.39E-04	5.05E-04
	1160.40	2.40	1.19E-02		5.86E-03	5.65E-03
	2003.40	5.30	3.23E-03		-3.44E-03	1.41E-03
SB-129	180.42	2.84	2.20E-03	1.52E-04	-6.59E-05	1.08E-03
	359.20	2.39	3.67E-03		6.48E-04	1.80E-03
	404.64	1.17	8.18E-03		-2.40E-03	4.01E-03
	523.13	1.55	6.19E-03		3.69E-03	3.02E-03
	544.56	15.42	5.67E-04		3.10E-04	2.76E-04
	633.74	2.53	3.15E-03		-1.72E-04	1.53E-03
	654.28	2.97	3.21E-03		-2.69E-03	1.56E-03
	682.77	5.76	1.02E-03		-9.41E-04	4.86E-04
	761.12	4.32	1.63E-03		-6.62E-04	7.82E-04
	773.37	2.82	2.45E-03		2.35E-04	1.17E-03
	786.36	1.07	6.27E-03		1.49E-03	3.00E-03
	787.16	1.74	3.90E-03		-7.14E-04	1.87E-03
	812.97	48.20	1.52E-04		4.79E-05	7.28E-05

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	819.51		1.39	5.15E-03	1.52E-04	2.41E-03	2.47E-03
		876.65		2.75	2.99E-03		2.28E-03	1.44E-03
		914.96		23.30	3.46E-04		4.66E-05	1.66E-04
		966.78		8.96	9.44E-04		5.27E-04	4.54E-04
		1030.65		15.13	5.12E-04		1.36E-04	2.45E-04
		1656.10		1.31	3.54E-03		3.29E-04	1.59E-03
		1738.16		7.45	6.78E-04		-1.95E-04	3.06E-04
	TE-129	459.60		7.70	4.32E-04	4.32E-04	-3.38E-05	2.12E-04
		487.39		1.42	2.07E-03		-2.21E-04	1.01E-03
+	Te-129m	695.88	*	3.00	1.04E-03	1.04E-03	6.25E-03	5.06E-04
	I-131	80.18		2.62	1.34E-03	3.14E-05	-4.07E-04	6.60E-04
		284.30		6.12	3.79E-04		6.89E-05	1.85E-04
		364.49		81.50	3.14E-05		-1.20E-05	1.54E-05
		636.99		7.16	3.19E-04		-1.44E-04	1.54E-04
		722.91		1.77	1.21E-03		1.57E-03	5.85E-04
	Te-131m	773.67		36.80	9.54E-05	9.54E-05	9.15E-06	4.58E-05
		793.75		13.40	3.97E-04		-6.67E-05	1.90E-04
		852.21		19.90	2.06E-04		1.04E-04	9.89E-05
		1125.46		11.00	3.00E-04		1.87E-04	1.43E-04
		1206.60		9.41	2.64E-04		2.35E-04	1.24E-04
	I-132	262.90		1.28	1.75E-03	4.51E-05	2.95E-04	8.59E-04
		284.90		0.71	3.13E-03		-3.27E-04	1.54E-03
		505.79		4.93	2.19E-03		3.68E-04	1.07E-03
		522.65		16.00	3.32E-04		2.53E-05	1.62E-04
		547.20		1.14	4.35E-03		-2.22E-03	2.12E-03
		621.20		1.97	2.48E-03		9.00E-04	1.21E-03
		630.19		13.30	3.52E-04		3.55E-04	1.71E-04
		650.50		2.57	2.27E-03		-1.02E-04	1.10E-03
		667.71		98.70	2.12E-04		8.05E-06	1.06E-04
		669.80		4.60	1.64E-03		1.30E-04	8.07E-04
		671.40		3.50	2.59E-03		2.28E-04	1.27E-03
		727.10		5.40	9.59E-04		7.14E-04	4.62E-04
		728.40		1.60	2.82E-03		1.80E-03	1.35E-03
		772.60		75.60	4.51E-05		-2.14E-05	2.16E-05
		809.50		2.60	1.64E-03		1.90E-03	7.86E-04
		812.00		5.50	7.22E-04		2.26E-04	3.47E-04
		910.10		0.93	4.63E-03		-1.62E-03	2.23E-03
		954.55		17.60	2.55E-04		6.98E-05	1.22E-04
		1136.00		3.01	1.00E-03		-1.24E-03	4.77E-04
		1172.90		1.09	9.27E-03		7.22E-02	4.57E-03
		1290.80		1.13	2.68E-03		5.70E-04	1.25E-03
		1295.10		1.88	5.39E-04		-2.71E-04	2.51E-04
		1297.90		0.89	8.79E-04		6.77E-04	4.10E-04
		1372.07		2.47	9.80E-04		-5.95E-04	4.47E-04
		1398.57		7.01	3.65E-04		-6.80E-05	1.68E-04
		1442.56		1.40	7.10E-04		5.65E-04	3.23E-04
	TE-132	49.72		15.00	8.97E-04	2.65E-05	-7.09E-04	4.41E-04
		111.76		1.74	1.09E-03		1.14E-03	5.33E-04
		116.30		1.96	9.11E-04		4.80E-04	4.47E-04
		228.16		88.00	2.65E-05		-1.38E-06	1.30E-05
	BA-133	81.00		32.90	1.02E-04	4.23E-05	-3.02E-05	5.04E-05
		276.40		7.16	3.26E-04		1.46E-05	1.60E-04
		302.85		18.34	1.29E-04		-4.94E-05	6.32E-05

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-133	356.01	62.05	4.23E-05	4.23E-05	-1.93E-05	2.07E-05
	383.85	8.94	2.48E-04		-1.27E-04	1.22E-04
I-133	529.87	87.00	3.71E-05	3.71E-05	-1.24E-05	1.81E-05
	706.58	1.51	2.02E-03		-2.11E-03	9.67E-04
	856.28	1.24	2.94E-03		-4.50E-03	1.41E-03
	875.33	4.51	6.54E-04		6.15E-04	3.15E-04
	1236.44	1.51	1.11E-03		2.99E-04	5.13E-04
	1298.22	2.35	9.09E-04		1.23E-03	4.24E-04
TE-133	312.08	62.40	1.68E+07	1.68E+07	-4.81E+06	8.25E+06
	407.63	27.10	4.72E+07		-8.18E+06	2.31E+07
	410.40	0.94	1.75E+09		3.61E+08	8.60E+08
	474.85	0.88	1.78E+09		-2.34E+08	8.72E+08
	719.71	8.90	1.10E+08		1.17E+08	5.32E+07
	786.93	5.40	1.66E+08		-3.04E+07	7.94E+07
	844.36	3.31	3.06E+08		-2.38E+08	1.47E+08
	884.30	0.72	1.36E+09		1.44E+09	6.54E+08
	930.71	3.81	2.89E+08		-2.40E+08	1.39E+08
	997.70	1.04	1.11E+09		-2.90E+08	5.32E+08
	1000.72	3.62	3.33E+08		1.94E+08	1.61E+08
	1021.13	2.81	3.68E+08		-4.43E+07	1.76E+08
	1061.61	1.19	8.12E+08		-2.36E+08	3.87E+08
	1252.08	1.44	4.85E+08		-1.41E+08	2.25E+08
	1312.80	0.85	8.11E+08		8.71E+08	3.75E+08
	1333.21	10.67	3.34E+08		2.69E+09	1.65E+08
	1717.61	3.18	1.81E+08		-2.28E+07	8.04E+07
	1881.52	1.22	4.63E+08		-4.19E+08	2.03E+08
	2136.51	1.25	5.14E+08		2.01E+08	2.27E+08
	2229.64	0.87	8.36E+08		-1.17E+09	3.73E+08
Xe-133	81.00	36.90	6.94E-05	6.94E-05	-2.04E-05	3.41E-05
CS-134	475.36	1.48	2.22E-03	3.14E-05	1.49E-03	1.09E-03
	563.25	8.34	4.48E-04		-2.88E-05	2.17E-04
	569.33	15.37	2.50E-04		-3.87E-05	1.21E-04
	604.72	97.62	3.38E-05		-5.81E-05	1.64E-05
	795.86	85.46	3.14E-05		5.32E-06	1.50E-05
	801.95	8.69	3.70E-04		-2.38E-04	1.77E-04
	1038.61	0.99	2.90E-03		-1.08E-03	1.39E-03
	1167.97	1.79	2.77E-03		4.02E-04	1.37E-03
	1365.19	3.02	4.65E-04		8.91E-04	2.20E-04
I-135	220.50	1.75	3.83E-03	1.27E-04	2.11E-03	1.88E-03
	288.45	3.10	2.11E-03		-1.72E-03	1.03E-03
	417.63	3.53	3.44E-03		-9.79E-04	1.70E-03
	546.56	7.15	1.02E-03		2.22E-04	4.96E-04
	836.80	6.69	9.04E-04		-3.58E-04	4.33E-04
	971.96	0.89	8.71E-03		-1.42E-03	4.18E-03
	972.62	1.21	5.79E-03		-1.87E-03	2.78E-03
	1038.76	7.90	6.34E-04		-2.37E-04	3.03E-04
	1101.58	1.61	4.40E-03		-1.32E-04	2.11E-03
	1124.00	3.62	1.79E-03		-1.53E-03	8.53E-04
	1131.51	22.60	2.79E-04		2.05E-04	1.33E-04
	1240.47	0.90	5.45E-03		4.48E-03	2.54E-03
	1260.41	28.70	1.27E-04		1.06E-06	5.88E-05
	1457.56	8.70	4.92E-04		6.09E-04	2.29E-04
	1502.79	1.08	3.75E-03		-2.43E-03	1.69E-03

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1566.41		1.29	2.24E-03	1.27E-04	1.38E-03	1.01E-03
		1678.03		9.60	2.46E-04		2.44E-05	1.10E-04
		1706.46		4.10	7.39E-04		3.57E-04	3.32E-04
		1791.20		7.72	3.20E-04		-1.43E-04	1.40E-04
		2408.65		0.96	2.10E-03		8.00E-04	8.33E-04
	XE-135	249.79		90.00	4.45E-05	4.45E-05	3.10E-05	2.18E-05
	XE-135m	526.56		80.40	7.52E-05	7.52E-05	5.10E-05	3.67E-05
	CS-136	66.88		4.79	1.72E-03	3.39E-05	3.20E-04	8.46E-04
		86.36		5.90	1.02E-03		6.00E-03	5.04E-04
		153.25		7.70	3.82E-04		4.80E-04	1.88E-04
		163.92		4.69	8.99E-04		1.77E-05	4.41E-04
		176.60		13.70	2.42E-04		-2.11E-04	1.19E-04
		273.65		12.66	3.08E-04		2.48E-04	1.51E-04
		340.55		46.80	8.55E-05		-1.11E-04	4.19E-05
		818.51		99.70	3.39E-05		-1.66E-05	1.62E-05
		1048.07		80.00	4.87E-05		-2.16E-06	2.33E-05
		1235.36		20.00	1.16E-04		-7.28E-05	5.36E-05
+	CS-137	661.66	*	85.10	1.68E-05	1.68E-05	5.53E-03	8.00E-06
	BA-139	33.44		3.84	2.13E+00	4.09E-03	-3.37E-01	1.05E+00
		165.86		23.70	4.09E-03		-1.29E-03	2.01E-03
	BA-140	132.69		0.20	8.21E-03	9.93E-05	-4.78E-04	4.03E-03
		162.66		6.22	3.29E-04		1.01E-04	1.61E-04
		304.85		4.29	6.66E-04		7.20E-06	3.26E-04
		423.72		3.10	8.81E-04		-3.08E-04	4.32E-04
		437.58		1.93	1.66E-03		-1.79E-05	8.16E-04
		537.26		24.39	9.93E-05		-3.59E-05	4.84E-05
	LA-140	109.42		0.22	7.81E-03	2.30E-05	-6.94E-03	3.83E-03
		131.12		0.47	3.53E-03		-3.34E-03	1.73E-03
		173.54		0.13	1.36E-02		4.93E-03	6.67E-03
		241.93		0.41	5.31E-03		-5.96E-03	2.61E-03
		266.54		0.47	4.54E-03		-6.17E-03	2.23E-03
		328.76		20.30	2.01E-04		1.57E-04	9.83E-05
		432.49		2.90	1.85E-03		6.12E-04	9.10E-04
		487.02		45.50	9.92E-05		3.05E-05	4.86E-05
		618.10		0.04	6.20E-02		2.13E-02	3.01E-02
		751.64		4.33	5.88E-04		3.02E-04	2.82E-04
		815.77		23.28	9.65E-05		1.56E-05	4.63E-05
		867.85		5.50	5.29E-04		-1.04E-04	2.54E-04
		919.55		2.66	9.65E-04		-1.15E-04	4.65E-04
		925.19		6.90	4.40E-04		3.77E-04	2.12E-04
		950.99		0.52	6.02E-03		7.46E-04	2.90E-03
		1596.21		95.40	2.30E-05		2.94E-05	1.05E-05
		2347.88		0.85	1.05E-03		8.15E-04	4.60E-04
		2521.40		3.46	1.79E-04		4.98E-05	6.69E-05
		2547.34		0.10	1.05E-02		-3.69E-03	4.30E-03
	BA-141	33.44		7.93	1.76E+06	4.33E+03	-2.78E+05	8.64E+05
		190.33		44.80	4.33E+03		-1.20E+00	2.13E+03
		276.95		23.60	8.56E+03		1.43E+03	4.19E+03
		304.19		26.10	8.25E+03		6.82E+03	4.04E+03
		343.67		15.10	1.53E+04		3.95E+03	7.52E+03
		389.74		1.37	1.82E+05		1.85E+05	8.90E+04
		457.51		5.00	6.59E+04		2.24E+04	3.24E+04
		462.06		5.10	6.51E+04		1.74E+04	3.20E+04

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-141	467.22	5.60	5.92E+04	4.33E+03	1.40E+04	2.91E+04
	625.08	3.45	6.53E+04		3.16E+04	3.17E+04
	647.78	5.70	4.02E+04		-9.42E+03	1.95E+04
	738.95	4.39	3.82E+04		-3.16E+04	1.82E+04
	831.46	1.64	1.15E+05		-6.61E+04	5.50E+04
	876.09	3.45	6.41E+04		-2.21E+04	3.08E+04
	1160.72	1.12	1.74E+05		7.12E+03	8.24E+04
	1197.28	4.35	3.87E+04		-7.18E+04	1.82E+04
	1323.92	0.92	1.85E+05		-5.27E+04	8.66E+04
	1654.00	0.65	1.93E+05		1.90E+05	8.67E+04
	1682.19	1.19	1.08E+05		6.16E+04	4.85E+04
CE-141	145.44	48.30	3.30E-05	3.30E-05	-3.55E-05	1.62E-05
BA-142	33.44	14.20	5.82E+11	5.91E+09	-9.20E+10	2.86E+11
	77.59	7.00	2.20E+10		-2.14E+10	1.08E+10
	177.00	2.12	4.72E+10		7.35E+08	2.31E+10
	231.61	12.20	1.03E+10		2.53E+09	5.04E+09
	255.30	20.70	5.91E+09		-2.95E+09	2.90E+09
	286.30	1.11	1.12E+11		2.85E+10	5.47E+10
	309.20	2.60	4.92E+10		3.95E+10	2.41E+10
	335.00	1.53	9.09E+10		-1.05E+11	4.46E+10
	363.96	4.76	3.08E+10		2.24E+10	1.51E+10
	425.04	5.75	2.74E+10		3.72E+08	1.34E+10
	599.80	1.85	7.08E+10		-4.89E+10	3.44E+10
	840.40	3.63	3.31E+10		4.50E+09	1.59E+10
	895.20	13.90	8.85E+09		3.37E+09	4.25E+09
	949.10	10.70	1.32E+10		8.20E+09	6.35E+09
	1001.20	9.80	1.52E+10		2.83E+10	7.33E+09
	1078.70	11.50	1.39E+10		1.75E+10	6.70E+09
	1094.10	2.82	4.57E+10		3.29E+10	2.18E+10
	1126.80	1.50	7.95E+10		-2.70E+10	3.78E+10
	1202.40	5.60	1.75E+10		-1.38E+10	8.22E+09
	1204.30	14.30	6.95E+09		3.66E+09	3.26E+09
	1380.20	3.42	2.68E+10		1.58E+10	1.24E+10
CE-143	57.36	11.70	7.71E-04	6.14E-05	-3.75E-06	3.80E-04
	231.55	2.05	1.61E-03		-5.39E-04	7.90E-04
	293.27	42.80	6.14E-05		3.16E-05	3.01E-05
	350.62	3.23	7.78E-04		7.94E-04	3.81E-04
	490.37	2.16	2.12E-03		-5.82E-04	1.04E-03
	664.57	5.69	3.55E-03		1.67E-05	1.77E-03
	721.93	5.39	4.20E-04		-1.75E-04	2.03E-04
	880.46	1.03	2.46E-03		1.88E-03	1.18E-03
CE-144	80.12	1.36	1.84E-03	1.46E-04	-5.56E-04	9.03E-04
	133.51	11.09	1.46E-04		-2.23E-05	7.16E-05
ND-147	38.17	13.20	3.48E-03	9.25E-05	-2.42E-04	1.71E-03
	38.72	23.80	1.72E-03		5.95E-04	8.47E-04
	91.11	28.90	9.25E-05		2.09E-05	4.56E-05
	275.39	0.79	3.89E-03		1.42E-03	1.91E-03
	319.41	1.97	1.39E-03		6.47E-04	6.79E-04
	398.13	0.87	3.40E-03		3.24E-03	1.67E-03
	439.88	1.20	2.90E-03		2.41E-03	1.43E-03
	531.01	13.11	1.87E-04		3.03E-05	9.10E-05
	685.88	0.82	2.10E-03		9.34E-05	1.01E-03
PR-147	36.85	19.70	2.21E+08	8.91E+06	1.84E+08	1.09E+08

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PR-147	37.36	35.50	1.10E+08	8.91E+06	8.03E+07	5.40E+07
	49.88	4.00	1.65E+08		-1.30E+08	8.10E+07
	77.97	9.70	1.98E+07		-2.02E+06	9.73E+06
	86.69	5.40	4.47E+07		2.63E+08	2.21E+07
	127.80	7.40	1.64E+07		6.20E+06	8.05E+06
	249.20	1.32	1.20E+08		1.42E+08	5.91E+07
	314.70	18.20	8.91E+06		2.46E+06	4.37E+06
	328.80	4.00	4.15E+07		3.25E+07	2.04E+07
	335.70	4.70	3.72E+07		1.55E+07	1.82E+07
	388.80	1.41	1.28E+08		3.62E+06	6.29E+07
	466.80	1.70	1.44E+08		3.55E+07	7.07E+07
	477.90	4.60	5.09E+07		2.90E+07	2.50E+07
	516.70	1.30	1.52E+08		8.59E+07	7.42E+07
	554.70	5.90	2.80E+07		-1.67E+06	1.36E+07
	577.90	13.70	1.20E+07		4.16E+06	5.85E+06
	641.40	16.10	1.01E+07		-3.68E+06	4.87E+06
	996.00	1.52	1.12E+08		-1.04E+08	5.39E+07
	1136.70	1.42	1.08E+08		5.36E+06	5.16E+07
	1261.10	8.40	1.31E+07		1.22E+07	6.08E+06
	1300.40	2.30	5.07E+07		1.01E+07	2.36E+07
ND-149	38.17	9.00	1.29E-01	2.27E-03	-8.98E-03	6.33E-02
	38.72	16.30	6.36E-02		2.20E-02	3.13E-02
	58.88	1.30	1.77E-01		6.82E-01	8.72E-02
	74.32	2.11	4.62E-02		6.65E-02	2.28E-02
	97.00	1.48	3.76E-02		-3.52E-02	1.84E-02
	114.31	19.20	2.83E-03		-6.97E-04	1.39E-03
	155.87	5.95	9.36E-03		-2.27E-03	4.59E-03
	188.64	1.79	5.73E-02		6.06E-02	2.82E-02
	198.93	1.39	5.26E-02		-1.61E-03	2.59E-02
	208.15	2.55	2.78E-02		-1.03E-03	1.37E-02
	211.31	26.00	2.27E-03		3.18E-04	1.12E-03
	240.22	3.95	1.46E-02		1.56E-02	7.19E-03
	245.72	0.81	9.47E-02		-1.11E-02	4.65E-02
	267.69	6.05	1.31E-02		5.73E-03	6.44E-03
	270.17	10.80	5.15E-03		1.07E-03	2.52E-03
	326.55	4.57	1.69E-02		1.30E-02	8.27E-03
	349.23	1.38	5.70E-02		-3.94E-02	2.80E-02
	423.55	7.50	9.86E-03		-5.53E-03	4.83E-03
	443.55	1.15	9.43E-02		-2.01E-03	4.63E-02
	540.51	6.60	1.08E-02		1.65E-02	5.27E-03
	654.83	8.00	1.01E-02		-7.67E-03	4.97E-03
PM-149	285.95	3.10	7.54E-04	7.54E-04	1.52E-04	3.69E-04
PM-150	39.52	0.63	4.37E-01	2.81E-04	2.66E-01	2.15E-01
	40.12	1.14	2.16E-01		6.96E-02	1.06E-01
	333.92	68.00	2.81E-04		2.65E-04	1.38E-04
	406.51	5.60	3.86E-03		4.10E-03	1.89E-03
	565.70	1.31	1.31E-02		5.59E-03	6.37E-03
	587.02	1.34	1.38E-02		5.20E-03	6.72E-03
	612.25	0.93	2.05E-02		5.65E-03	9.98E-03
	712.22	4.40	3.26E-03		1.68E-03	1.56E-03
	737.50	2.25	6.04E-03		2.81E-03	2.88E-03
	831.85	11.90	1.29E-03		-1.11E-04	6.15E-04
	859.95	3.40	4.88E-03		4.71E-04	2.34E-03

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	876.41	7.30	2.46E-03	2.81E-04	-5.52E-04	1.18E-03
	1165.77	15.80	1.73E-03		2.09E-04	8.37E-04
	1170.90	1.06	5.32E-02		3.92E-01	2.62E-02
	1193.87	4.80	3.04E-03		1.68E-03	1.43E-03
	1213.72	1.03	1.31E-02		-5.76E-05	6.15E-03
	1223.28	2.80	4.67E-03		-9.91E-04	2.18E-03
	1324.51	17.50	1.10E-03		-1.63E-05	5.23E-04
	1379.32	3.10	3.89E-03		-1.56E-03	1.80E-03
	1736.40	6.90	1.62E-03		9.63E-04	7.32E-04
	1963.71	1.47	6.98E-03		-1.16E-03	3.09E-03
	2033.46	0.97	9.88E-03		-4.87E-03	4.31E-03
ND-151	38.17	5.94	4.11E+09	2.31E+07	-2.86E+08	2.02E+09
	38.72	10.70	2.04E+09		7.04E+08	1.00E+09
	68.98	1.26	1.36E+09		-4.84E+08	6.71E+08
	85.12	2.05	8.99E+08		-1.47E+08	4.44E+08
	89.96	1.53	1.10E+09		2.45E+07	5.44E+08
	116.80	39.00	2.31E+07		2.47E+06	1.13E+07
	138.89	7.00	1.24E+08		7.05E+06	6.09E+07
	170.76	2.87	3.15E+08		-2.86E+08	1.55E+08
	175.07	6.30	1.48E+08		9.12E+07	7.27E+07
	255.68	14.80	7.70E+07		2.44E+07	3.78E+07
	300.58	1.82	6.40E+08		-5.62E+08	3.13E+08
	423.56	5.90	2.47E+08		-1.39E+08	1.21E+08
	460.59	0.96	1.88E+09		1.41E+09	9.27E+08
	585.22	1.30	9.37E+08		-3.25E+08	4.55E+08
	677.88	2.38	3.71E+08		-2.99E+07	1.77E+08
	736.23	5.90	1.54E+08		3.68E+07	7.34E+07
	739.20	1.52	6.06E+08		-1.04E+08	2.89E+08
	755.57	1.17	9.06E+08		1.24E+09	4.35E+08
	797.53	4.70	2.12E+08		3.16E+07	1.02E+08
	1016.40	2.50	4.78E+08		2.28E+08	2.29E+08
	1122.63	4.10	2.83E+08		1.48E+08	1.35E+08
	1180.89	13.30	2.08E+08		-3.91E+07	1.02E+08
Pm-151	167.75	8.30	2.70E-04	1.25E-04	-5.02E-04	1.32E-04
	177.16	3.80	7.36E-04		2.81E-04	3.61E-04
	240.09	3.80	7.72E-04		8.24E-04	3.79E-04
	275.21	6.80	3.82E-04		1.39E-04	1.87E-04
	340.08	22.50	1.25E-04		5.61E-05	6.14E-05
EU-152	121.78	28.53	8.98E-05	6.65E-05	5.48E-06	4.42E-05
	344.28	26.59	1.08E-04		9.61E-05	5.30E-05
	778.90	12.93	1.93E-04		1.61E-04	9.23E-05
	867.37	4.23	8.07E-04		1.22E-04	3.87E-04
	964.08	14.51	1.95E-04		-1.51E-04	9.39E-05
	1085.87	10.11	2.52E-04		-4.60E-05	1.22E-04
	1112.07	13.67	2.26E-04		3.73E-04	1.09E-04
	1408.01	20.87	6.65E-05		1.47E-05	3.00E-05
ND-152	44.44	5.50	1.78E+10	4.99E+08	-1.02E+10	8.71E+09
	250.15	16.40	8.40E+08		-3.28E+08	4.12E+08
	278.56	26.00	4.99E+08		-5.34E+07	2.45E+08
	294.47	2.90	4.86E+09		3.98E+09	2.39E+09
	545.70	0.83	1.82E+10		-1.15E+10	8.88E+09
	592.50	0.99	1.49E+10		1.05E+10	7.23E+09
GD-153	69.67	2.45	1.44E-03	6.22E-05	-5.28E-04	7.09E-04

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	GD-153	97.43		30.00	6.22E-05	6.22E-05	4.70E-05	3.05E-05
		103.18		22.10	8.19E-05		6.67E-05	4.02E-05
	SM-153	69.67		4.67	8.34E-04	6.88E-05	-3.05E-04	4.10E-04
		103.18		29.14	6.88E-05		5.60E-05	3.38E-05
+	EU-154	42.70		20.45	9.81E-04	5.69E-05	8.78E-04	4.82E-04
		123.07	*	40.40	7.59E-05		1.19E-04	3.74E-05
		247.93		6.89	4.61E-04		-7.57E-05	2.26E-04
		591.76		4.95	7.52E-04		4.30E-04	3.65E-04
		692.42		1.78	3.12E-03		5.99E-04	1.53E-03
		723.30		20.06	1.47E-04		2.09E-04	7.09E-05
		756.80		4.52	7.12E-04		2.01E-04	3.42E-04
		873.18	*	12.08	1.97E-04		8.03E-05	9.34E-05
		996.29		10.48	2.55E-04		-1.51E-04	1.22E-04
		1004.76		18.01	1.51E-04		1.11E-04	7.24E-05
		1246.12		0.86	2.78E-03		3.32E-04	1.29E-03
		1274.43	*	34.80	5.69E-05		1.18E-04	2.67E-05
		1494.05		0.70	1.54E-03		-6.19E-05	6.92E-04
		1596.48		1.80	4.47E-04		3.77E-04	2.05E-04
	EU-155	43.00		18.12	1.05E-03	8.20E-05	-3.36E-04	5.15E-04
		60.01		1.17	4.68E-03		1.81E-02	2.31E-03
		86.55		30.70	1.08E-04		6.88E-04	5.35E-05
		105.31		21.10	8.20E-05		2.73E-05	4.02E-05
	EU-156	88.97		8.40	5.68E-04	2.07E-04	-1.56E-04	2.81E-04
		646.29		6.30	5.07E-04		1.36E-04	2.46E-04
		723.47		5.40	5.28E-04		7.50E-04	2.55E-04
		811.77		9.70	2.87E-04		5.13E-05	1.38E-04
		1065.14		4.90	6.03E-04		3.51E-04	2.88E-04
		1079.16		4.60	6.48E-04		7.10E-04	3.12E-04
		1153.80		11.50	2.07E-04		2.33E-05	9.82E-05
		1230.71		8.00	2.56E-04		-7.84E-05	1.19E-04
		1242.42		6.60	2.71E-04		-1.21E-04	1.26E-04
		1277.43		2.89	1.05E-03		1.58E-03	5.00E-04
		1366.41		1.57	1.51E-03		-7.84E-05	7.16E-04
		1965.95		3.90	2.86E-04		1.54E-04	1.28E-04
		2097.70		3.80	3.79E-04		1.47E-04	1.69E-04
		2186.71		3.50	3.47E-04		-1.87E-04	1.51E-04
	Sm-156	87.60		24.00	2.47E-04	1.70E-04	1.65E-03	1.22E-04
		165.80		13.00	2.34E-04		-7.36E-05	1.15E-04
		204.00		21.00	1.70E-04		2.42E-05	8.34E-05
	EU-158	42.31		5.80	5.57E+00	1.19E-01	-2.42E-01	2.74E+00
		43.00		10.40	2.80E+00		-8.96E-01	1.37E+00
		79.49		10.50	3.71E-01		3.51E-02	1.82E-01
		181.97		2.30	1.18E+00		-1.15E+00	5.78E-01
		528.05		1.53	2.54E+00		1.78E+00	1.24E+00
		606.39		4.00	9.21E-01		2.23E-01	4.48E-01
		743.02		3.60	7.55E-01		-1.86E-01	3.62E-01
		897.61		12.40	2.61E-01		9.68E-02	1.25E-01
		906.50		1.83	1.80E+00		1.37E+00	8.66E-01
		922.51		1.62	2.18E+00		4.57E-01	1.05E+00
		944.15		30.00	1.19E-01		1.30E-03	5.70E-02
		953.03		1.98	1.82E+00		6.31E-01	8.76E-01
		962.09		1.89	1.83E+00		-9.85E-01	8.80E-01
		977.14		16.30	2.01E-01		-2.22E-01	9.63E-02

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	986.96	1.35	2.52E+00	1.19E-01	2.03E+00	1.21E+00
	1107.63	5.10	8.51E-01		1.57E+00	4.11E-01
	1184.10	3.00	9.52E-01		-5.38E-01	4.50E-01
	1186.00	2.90	9.85E-01		-1.59E-02	4.66E-01
	1187.10	4.40	6.50E-01		1.32E-01	3.07E-01
	1263.61	2.20	1.07E+00		-5.31E-01	4.96E-01
	1347.95	1.65	1.30E+00		-1.56E+00	5.98E-01
	1944.47	1.62	8.90E-01		5.11E-01	3.76E-01
TB-160	86.79	13.20	3.65E-04	9.08E-05	2.15E-03	1.81E-04
	298.58	26.10	1.16E-04		8.39E-05	5.67E-05
	879.38	30.10	9.08E-05		5.95E-05	4.37E-05
	962.32	9.81	2.65E-04		-1.89E-05	1.27E-04
	966.17	25.10	1.06E-04		7.46E-05	5.07E-05
	1177.96	14.90	4.00E-04		-7.59E-05	1.97E-04
TB-161	25.65	23.20	1.54E-01	2.95E-04	1.15E-01	7.58E-02
	48.91	17.00	6.02E-04		-5.99E-06	2.96E-04
	52.00	3.43	2.30E-03		-4.34E-04	1.13E-03
	57.19	1.79	3.80E-03		-1.21E-03	1.87E-03
	74.57	10.20	2.95E-04		4.22E-04	1.45E-04
YB-169	63.12	43.62	1.79E-04	6.21E-05	1.04E-04	8.80E-05
	93.61	2.58	1.44E-03		-5.66E-04	7.09E-04
	109.78	17.39	1.25E-04		-1.92E-05	6.11E-05
	130.52	11.38	2.22E-04		5.84E-05	1.09E-04
	177.21	22.28	1.01E-04		3.83E-05	4.93E-05
	197.96	35.93	6.21E-05		-2.99E-05	3.05E-05
	307.74	10.05	1.64E-04		-3.83E-05	8.05E-05
HF-172	54.07	63.00	1.04E-04	1.04E-04	-2.80E-06	5.13E-05
	67.35	5.30	6.53E-04		-5.02E-04	3.21E-04
	81.75	4.50	5.37E-04		-3.31E-04	2.64E-04
	114.06	2.60	6.50E-04		-1.55E-04	3.19E-04
	122.92	1.14	1.64E-03		3.08E-03	8.09E-04
	125.81	11.30	1.66E-04		3.30E-05	8.18E-05
	127.91	1.46	1.14E-03		4.30E-04	5.59E-04
LU-173	59.30	24.44	2.32E-04	1.07E-04	8.52E-04	1.14E-04
	78.63	11.90	2.81E-04		1.87E-04	1.38E-04
	100.72	5.24	3.82E-04		-4.03E-04	1.87E-04
	171.39	2.90	6.55E-04		-8.69E-05	3.21E-04
	272.11	21.20	1.07E-04		-8.22E-05	5.24E-05
LU-177	112.95	6.23	2.86E-04	2.14E-04	-3.57E-06	1.41E-04
	208.37	10.41	2.14E-04		-7.97E-06	1.05E-04
	249.67	0.20	1.12E-02		7.84E-03	5.52E-03
	321.32	0.22	1.03E-02		-6.20E-03	5.05E-03
HF-181	133.02	43.30	5.21E-05	4.24E-05	4.32E-05	2.56E-05
	345.93	15.12	1.97E-04		-9.09E-05	9.66E-05
	482.18	80.50	4.24E-05		-9.39E-07	2.08E-05
W-181	56.28	18.70	3.39E-04	1.99E-04	1.80E-05	1.67E-04
	57.53	32.00	1.99E-04		7.93E-05	9.80E-05
	65.00	10.60	3.61E-04		3.95E-04	1.78E-04
TA-182	57.98	10.01	6.19E-04	7.38E-05	2.72E-04	3.05E-04
	59.32	17.20	3.30E-04		1.21E-03	1.63E-04
	65.72	3.01	2.48E-03		1.03E-04	1.22E-03
	67.75	46.67	1.05E-04		-4.68E-05	5.15E-05
	84.68	2.65	1.77E-03		5.75E-05	8.74E-04

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	100.11	14.20	1.94E-04	7.38E-05	2.34E-04	9.54E-05
	113.67	1.87	1.89E-03		6.37E-04	9.28E-04
	116.42	0.44	3.74E-03		1.97E-03	1.84E-03
	152.43	7.02	3.80E-04		-1.25E-04	1.87E-04
	156.39	2.67	9.55E-04		-6.20E-04	4.69E-04
	179.39	3.12	8.79E-04		-9.36E-04	4.31E-04
	198.35	1.47	2.54E-03		1.04E-03	1.25E-03
	222.11	7.57	4.02E-04		3.99E-04	1.97E-04
	229.32	3.64	9.36E-04		-1.85E-04	4.60E-04
	264.08	3.61	8.49E-04		8.45E-04	4.16E-04
	928.00	0.61	5.49E-03		3.55E-03	2.65E-03
	959.73	0.35	9.87E-03		2.46E-03	4.74E-03
	1001.70	2.09	2.26E-03		1.66E-03	1.09E-03
	1044.42	0.24	1.45E-02		1.27E-02	6.91E-03
	1113.41	0.44	8.81E-03		4.71E-03	4.25E-03
	1121.29	35.24	7.83E-05		-7.85E-05	3.73E-05
	1157.30	0.73	2.35E-03		-2.77E-03	1.11E-03
	1189.04	16.49	1.06E-04		1.68E-05	5.02E-05
	1221.40	27.23	7.38E-05		2.88E-05	3.47E-05
	1223.60	0.24	4.26E-03		2.07E-03	1.99E-03
	1231.00	11.62	1.69E-04		-5.22E-06	7.83E-05
	1257.41	1.51	9.31E-04		-7.42E-04	4.31E-04
	1273.72	0.66	1.70E-03		3.05E-03	8.14E-04
	1289.15	1.37	3.89E-04		-4.00E-05	1.81E-04
	1342.73	0.26	4.66E-03		3.43E-03	2.15E-03
	1373.82	0.22	1.51E-03		-1.55E-03	6.90E-04
Ta-183	84.71	1.35	2.57E-03	8.43E-05	8.37E-05	1.27E-03
	99.08	6.80	2.76E-04		1.67E-04	1.35E-04
	107.93	11.20	1.63E-04		1.62E-04	8.01E-05
	161.35	9.10	1.92E-04		-7.02E-05	9.44E-05
	162.32	5.00	3.57E-04		3.92E-04	1.75E-04
	244.26	8.80	2.58E-04		-1.50E-04	1.27E-04
	246.06	27.20	8.43E-05		8.83E-05	4.14E-05
	353.99	11.60	2.17E-04		1.12E-05	1.06E-04
Re-184	111.21	17.20	1.03E-04	5.01E-05	1.18E-04	5.07E-05
	252.85	3.00	7.22E-04		-5.76E-06	3.54E-04
	792.01	37.70	5.01E-05		2.78E-05	2.40E-05
	894.76	15.70	1.36E-04		1.41E-05	6.51E-05
	903.28	38.10	5.53E-05		-1.79E-05	2.65E-05
W-185	59.72	0.01	4.67E-01	9.85E-02	1.81E+00	2.30E-01
	61.14	0.02	2.55E-01		2.18E-01	1.26E-01
	69.20	0.01	4.62E-01		-2.43E-01	2.27E-01
	125.36	0.02	9.85E-02		3.95E-02	4.85E-02
W-187	61.14	14.30	4.59E-04	6.39E-05	3.92E-04	2.26E-04
	69.20	4.82	8.29E-04		-4.35E-04	4.07E-04
	72.00	13.55	4.18E-04		-2.66E-04	2.05E-04
	134.25	10.36	2.80E-04		3.28E-05	1.37E-04
	479.53	26.60	1.80E-04		7.76E-05	8.85E-05
	618.37	7.57	3.76E-04		1.29E-04	1.82E-04
	685.81	33.20	6.39E-05		-3.82E-05	3.06E-05
Ir-188	155.05	29.60	6.57E-05	6.57E-05	5.42E-05	3.22E-05
	478.00	14.70	2.50E-04		1.42E-04	1.23E-04
	633.02	17.90	1.41E-04		9.57E-05	6.84E-05

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Ir-188	634.97	5.00	4.98E-04	6.57E-05	-7.30E-04	2.41E-04
	829.42	5.10	4.27E-04		-2.43E-04	2.04E-04
	1209.77	6.90	2.96E-04		2.65E-04	1.39E-04
	1715.67	6.20	2.31E-04		9.64E-05	1.03E-04
	2214.59	18.60	8.36E-05		1.81E-05	3.68E-05
W-188	227.07	0.23	9.16E-03	5.18E-03	4.47E-03	4.50E-03
	290.68	0.42	5.18E-03		-9.75E-03	2.54E-03
Ir-189	245.08	6.00	3.68E-04	3.68E-04	-1.79E-04	1.81E-04
Ir-190	186.68	50.00	3.89E-05	3.89E-05	-3.58E-05	1.91E-05
	361.09	12.30	2.05E-04		1.72E-04	1.01E-04
	371.24	21.60	1.22E-04		5.31E-05	6.00E-05
	407.22	27.00	1.01E-04		-1.39E-04	4.94E-05
	518.55	32.20	8.40E-05		-2.43E-05	4.11E-05
	557.95	28.50	7.98E-05		4.97E-05	3.88E-05
	569.30	27.00	8.13E-05		-1.26E-05	3.94E-05
	605.14	37.80	6.32E-05		-1.13E-04	3.07E-05
OS-191	63.29	15.70	2.91E-04	6.34E-05	2.25E-04	1.43E-04
	64.99	26.70	1.45E-04		1.59E-04	7.15E-05
	73.45	9.21	3.22E-04		1.15E-04	1.58E-04
	129.43	26.50	6.34E-05		8.72E-05	3.11E-05
Pt-191	359.90	5.80	5.58E-04	1.94E-04	-1.05E-04	2.73E-04
	456.47	3.30	1.20E-03		3.77E-04	5.88E-04
	538.90	14.30	1.94E-04		1.42E-05	9.43E-05
IR-192	205.79	3.31	8.89E-04	3.99E-05	-4.96E-05	4.37E-04
	295.96	28.71	1.43E-04		-1.68E-05	6.99E-05
	308.45	29.70	1.29E-04		9.20E-05	6.33E-05
	316.51	82.86	3.99E-05		2.27E-05	1.96E-05
	468.07	47.84	9.57E-05		-6.42E-05	4.71E-05
	588.58	4.52	9.09E-04		5.21E-05	4.42E-04
	604.41	8.22	2.31E-04		-1.46E-04	1.12E-04
	612.46	5.34	2.82E-04		1.70E-05	1.37E-04
IR-192m	155.16	0.09	1.84E-02	1.84E-02	4.75E-03	9.04E-03
IR-193m	80.22	0.00	5.45E-01	5.45E-01	-1.65E-01	2.68E-01
Pt-193m	135.50	0.11	1.47E-02	1.47E-02	-8.34E-03	7.23E-03
Au-194	293.55	10.90	2.31E-04	4.16E-05	-1.48E-04	1.13E-04
	328.47	62.80	4.16E-05		-9.00E-06	2.04E-05
	364.84	1.60	1.82E-03		-1.94E-04	8.93E-04
	528.77	1.78	1.64E-03		1.14E-03	7.99E-04
	645.16	2.32	1.15E-03		3.76E-04	5.59E-04
	948.32	2.29	1.20E-03		-1.22E-03	5.77E-04
	1104.06	2.15	1.47E-03		5.89E-04	7.10E-04
	1175.36	2.14	3.81E-03		3.01E-02	1.88E-03
	1468.90	6.80	2.58E-04		-4.95E-04	1.19E-04
	1595.81	1.89	9.16E-04		-2.57E-04	4.19E-04
	2043.72	3.74	3.83E-04		8.27E-05	1.68E-04
Ir-194	293.54	2.50	1.16E-03	2.31E-04	-7.46E-04	5.71E-04
	328.47	13.10	2.31E-04		-4.99E-05	1.13E-04
AU-195	98.86	11.21	1.60E-04	1.60E-04	-9.98E-06	7.84E-05
	129.74	0.84	1.95E-03		1.54E-03	9.59E-04
Pt-195m	98.90	11.70	1.62E-04	1.62E-04	-1.01E-05	7.95E-05
	129.79	2.90	5.99E-04		4.71E-04	2.94E-04
Au-196	333.03	22.90	1.78E-04	3.56E-05	2.44E-04	8.72E-05
	355.73	87.00	3.56E-05		-2.08E-05	1.75E-05

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Au-196	426.10	6.60	4.28E-04	3.56E-05	1.36E-04	2.10E-04
Au-196m	147.81	43.50	6.65E-05	6.65E-05	-5.37E-05	3.26E-05
	188.27	30.00	1.18E-04		1.08E-05	5.78E-05
Pt-197	77.35	17.00	2.07E-04	2.07E-04	-1.87E-04	1.02E-04
	191.44	3.70	6.99E-04		2.88E-04	3.43E-04
AU-198	411.80	95.62	4.45E-05	4.45E-05	7.23E-06	2.19E-05
AU-199	158.38	40.00	4.46E-05	4.46E-05	3.12E-05	2.19E-05
	208.20	8.72	2.66E-04		-9.90E-06	1.31E-04
TL-201	135.34	2.61	6.63E-04	1.82E-04	-3.75E-04	3.25E-04
	167.43	10.00	1.82E-04		-1.40E-04	8.91E-05
TL-202	439.51	91.50	3.49E-05	3.49E-05	-1.03E-05	1.72E-05
PB-203	70.83	26.40	1.29E-04	3.32E-05	-2.49E-05	6.35E-05
	72.87	44.20	7.41E-05		3.52E-05	3.65E-05
	82.40	15.56	1.73E-04		-4.60E-06	8.51E-05
	279.20	80.90	3.32E-05		1.54E-05	1.63E-05
	401.32	3.35	1.39E-03		6.06E-05	6.84E-04
PB-210	46.54	4.25	2.96E-03	2.96E-03	-4.16E-04	1.46E-03
Pa-233	86.60	2.01	1.97E-03	5.80E-05	1.25E-02	9.73E-04
	94.65	8.90	2.08E-04		-2.01E-04	1.02E-04
	98.43	14.20	1.26E-04		-1.22E-05	6.19E-05
	300.13	6.54	3.35E-04		1.01E-04	1.64E-04
	311.90	38.20	5.80E-05		-4.01E-05	2.84E-05
	340.48	4.44	5.30E-04		-6.86E-04	2.60E-04
U-235	89.96	2.90	1.07E-03	3.30E-05	2.38E-05	5.28E-04
	93.35	4.70	4.02E-04		6.39E-05	1.97E-04
	109.19	1.64	1.03E-03		-1.24E-03	5.05E-04
	143.76	10.93	1.46E-04		-6.46E-05	7.15E-05
	163.36	5.07	3.38E-04		3.09E-04	1.66E-04
	185.71	57.20	3.30E-05		1.55E-05	1.62E-05
	202.11	1.07	1.88E-03		1.40E-04	9.22E-04
	205.31	5.03	4.23E-04		-1.37E-04	2.08E-04
NP-237	86.48	12.20	2.73E-04	2.73E-04	1.73E-03	1.35E-04
U-237	59.54	34.50	1.83E-04	7.41E-05	6.95E-04	9.02E-05
	97.07	15.40	1.22E-04		5.90E-06	6.00E-05
	101.06	24.50	7.41E-05		-9.66E-05	3.63E-05
	113.30	3.07	5.77E-04		-2.01E-04	2.83E-04
	114.23	5.81	3.01E-04		-7.18E-05	1.48E-04
	117.46	2.27	7.54E-04		8.04E-05	3.70E-04
	208.00	21.20	1.11E-04		-9.88E-05	5.44E-05
NP-238	103.37	0.00	4.10E-01	9.94E-05	5.89E-02	2.01E-01
	882.63	0.80	2.89E-03		1.95E-03	1.38E-03
	923.99	2.60	9.78E-04		-4.53E-05	4.70E-04
	984.45	25.20	9.94E-05		-2.73E-05	4.77E-05
	1025.87	8.75	2.62E-04		-6.97E-05	1.25E-04
	1028.53	18.23	1.28E-04		-1.91E-05	6.14E-05
U-238	63.29	3.70	1.21E-03	4.54E-04	9.40E-04	5.98E-04
	92.51	4.23	4.54E-04		-1.32E-04	2.23E-04
	112.81	0.21	8.21E-03		-1.02E-04	4.03E-03
	742.81	0.11	1.68E-02		1.21E-02	8.04E-03
	766.42	0.32	6.13E-03		2.49E-03	2.95E-03
	1001.03	0.84	3.04E-03		5.72E-03	1.47E-03
Am-239	181.71	1.08	2.60E-03	2.17E-04	-4.80E-03	1.27E-03
	209.80	3.50	9.83E-04		-5.77E-04	4.83E-04

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Am-239	226.40		3.30	1.04E-03	2.17E-04	-2.87E-04	5.11E-04
		228.10		11.30	3.05E-04		1.19E-04	1.50E-04
		277.60		15.00	2.17E-04		-5.80E-05	1.06E-04
	NP-239	61.46		1.30	4.39E-03	8.41E-05	8.99E-03	2.17E-03
		99.53		12.90	1.53E-04		8.70E-05	7.51E-05
		103.37		20.50	9.40E-05		1.35E-05	4.61E-05
		106.12		25.34	8.41E-05		-6.48E-06	4.13E-05
		209.75		3.36	7.46E-04		-4.38E-04	3.67E-04
		228.18		11.24	2.25E-04		-1.17E-05	1.11E-04
		277.60		14.51	1.70E-04		-4.54E-05	8.31E-05
		285.46		0.79	3.54E-03		6.30E-04	1.74E-03
		315.88		1.60	1.36E-03		-3.58E-04	6.66E-04
		334.31		2.06	9.56E-04		1.01E-03	4.69E-04
	PU-239	38.66		0.01	3.91E+00	2.46E-01	2.31E+00	1.92E+00
		51.62		0.03	2.89E-01		5.01E-02	1.42E-01
		98.50		0.01	2.46E-01		-2.37E-02	1.21E-01
		111.03		0.00	1.32E+00		3.25E-01	6.49E-01
		129.30		0.01	2.61E-01		3.37E-01	1.28E-01
		171.39		0.00	1.52E+01		-2.02E+00	7.46E+00
		203.55		0.00	3.52E+00		1.72E+00	1.73E+00
		332.85		0.00	4.81E+00		2.26E+00	2.36E+00
		336.11		0.00	2.12E+01		9.76E+00	1.04E+01
		345.01		0.00	4.20E+00		-1.50E+00	2.06E+00
		375.05		0.00	1.67E+00		1.24E+00	8.21E-01
		380.19		0.00	8.31E+00		5.44E+00	4.07E+00
		382.75		0.00	9.70E+00		-9.56E-01	4.76E+00
		413.71		0.00	2.69E+00		1.81E-01	1.33E+00
		422.60		0.00	2.22E+01		-1.30E+01	1.09E+01
		451.48		0.00	1.68E+01		5.25E+00	8.28E+00
	Am-240	99.53		18.40	1.08E-04	3.45E-05	6.17E-05	5.32E-05
		103.37		29.20	6.68E-05		9.59E-06	3.28E-05
		117.23		6.93	2.66E-04		-2.30E-05	1.31E-04
		888.85		24.70	9.43E-05		-4.03E-05	4.52E-05
		987.79		72.20	3.45E-05		4.36E-05	1.65E-05
	Np-240m	554.60		20.90	1.61E-04	1.61E-04	-9.62E-06	7.85E-05
		597.40		11.70	2.88E-04		-3.10E-04	1.40E-04
	U-240	44.10		1.05	2.28E-02	1.22E-02	-1.21E-02	1.12E-02
		66.50		0.15	3.51E-02		1.01E-02	1.73E-02
		169.20		0.12	2.18E-02		-9.23E-03	1.07E-02
		189.70		0.24	1.22E-02		-5.10E-03	5.99E-03
+	AM-241	59.54	*	35.90	1.37E-04	1.37E-04	5.11E-04	6.75E-05
	AM-242m	49.35		0.13	7.04E-02	7.04E-02	-4.04E-02	3.46E-02
		66.89		0.01	2.38E-01		4.44E-02	1.17E-01
		86.65		0.02	1.46E-01		9.25E-01	7.19E-02
		163.25		0.02	1.12E-01		1.02E-01	5.50E-02
	AM-243	43.53		5.90	3.00E-03	4.32E-05	2.48E-03	1.47E-03
		74.66		67.20	4.32E-05		6.17E-05	2.12E-05

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

Analysis Report for 24-2534 TI185-6.0M-S2-CST-d-A Q0

ASR 2094 Branch

Apex-Gamma

Analysis Report for 24-2535 TI185-6.0M-S3-CST-A R0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2535 TI185-6.0M-S3-CST-A R0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 2:16:57PM
Procedure	: R0_gsv02mlw
Operator	: Administrator
Detector Name	: R
Geometry	: R0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.3 seconds
Dead Time	: 0.11 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/15/2019
Efficiency Calibration Description	: R0_gsv2mlw_R697P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578960
Certificate Name	: R735-b8 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 2:37:03PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2535 TI185-6.0M-S3-CST-A R0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.70	167.13	0.1921	9.50
2	87.54	244.44	0.1418	16.19
3	123.10	343.32	0.2125	7.09
4	414.95	1154.94	0.1286	17.01
5	433.39	1205.52	0.3440	3.00
6	661.76	1841.43	0.0580	69.62
7	666.52	1855.10	0.1450	13.75
8	695.18	1934.15	0.1293	13.34
9	723.86	2013.16	0.2620	3.09
10	873.86	2430.37	0.2943	3.16
11	1081.41	3008.75	0.2021	5.68
12	1110.00	3088.32	0.2245	4.57
13	1173.41	3265.01	0.1034	18.59
14	1332.71	3708.04	0.1053	16.12
15	1361.69	3788.46	0.2149	3.64
16	2505.09	6971.78	0.1799	5.74

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2535 TI185-6.0M-S3-CST-A R0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 2:37:03PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.70	161 -	172	167.03	5.71E+02	109.64	6.47E+02	1.40
F	2	87.54	235 -	250	244.44	1.38E+03	139.17	8.61E+02	1.50
F	3	123.10	337 -	353	343.32	2.97E+02	24.37	6.47E+02	1.43
F	4	414.95	1146 -	1167	1154.90	9.30E+02	108.91	6.46E+02	1.63
F	5	433.39	1202 -	1209	1206.19	3.16E+01	13.06	2.22E+02	0.63
M	6	661.76	1827 -	1862	1841.36	1.60E+04	205.03	1.35E+02	1.94
m	7	666.52	1827 -	1862	1854.61	6.90E+02	28.34	1.15E+02	1.95
F	8	695.18	1925 -	1947	1934.30	7.04E+02	25.94	7.38E+01	2.04
F	9	723.86	1999 -	2018	2014.10	1.29E+02	72.78	7.93E+01	1.30
F	10	873.86	2424 -	2436	2431.36	3.76E+01	11.54	5.63E+01	0.54
F	11	1081.41	2998 -	3016	3008.79	1.05E+02	38.65	9.97E+01	1.64
F	12	1110.00	3081 -	3098	3088.34	8.03E+01	39.65	9.00E+01	1.76
F	13	1173.41	3252 -	3277	3264.77	1.46E+03	73.12	3.86E+01	2.54
F	14	1332.71	3695 -	3720	3708.03	1.26E+03	33.92	4.54E+01	2.60
F	15	1361.69	3780 -	3798	3788.69	6.24E+01	9.29	3.28E+01	2.25
F	16	2505.09	6963 -	6979	6971.76	7.35E+01	29.97	1.26E+01	2.02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 2:37:03PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578894.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.

Analysis Report for 24-2535 TI185-6.0M-S3-CST-A R0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.70	5.71E+02	109.64			5.71E+02	1.10E+02
F	2	87.54	1.38E+03	139.17	1.24E+01	7.02E-01	1.36E+03	1.39E+02
F	3	123.10	2.97E+02	24.37			2.97E+02	2.44E+01
F	4	414.95	9.30E+02	108.91			9.30E+02	1.09E+02
F	5	433.39	3.16E+01	13.06			3.16E+01	1.31E+01
M	6	661.76	1.60E+04	205.03			1.60E+04	2.05E+02
m	7	666.52	6.90E+02	28.34			6.90E+02	2.83E+01
F	8	695.18	7.04E+02	25.94			7.04E+02	2.59E+01
F	9	723.86	1.29E+02	72.78			1.29E+02	7.28E+01
F	10	873.86	3.76E+01	11.54			3.76E+01	1.15E+01
F	11	1081.41	1.05E+02	38.65			1.05E+02	3.86E+01
F	12	1110.00	8.03E+01	39.65			8.03E+01	3.97E+01
F	13	1173.41	1.46E+03	73.12			1.46E+03	7.31E+01
F	14	1332.71	1.26E+03	33.92			1.26E+03	3.39E+01
F	15	1361.69	6.24E+01	9.29			6.24E+01	9.29E+00
F	16	2505.09	7.35E+01	29.97			7.35E+01	3.00E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	7.09E-04	3.57E-05	0.774
		1332.50	*	99.99	6.68E-04	1.85E-05	0.766
		2505.74	*	1.00	4.80E-03	1.97E-03	miss
AG-108M	0.38	79.13		6.60			
		433.90	*	90.50	1.25E-05	5.17E-06	0.553
		614.30		89.80			
		722.90	*	90.80	7.24E-05	4.09E-05	0.542
CD-109	0.96	88.03	*	3.61	4.71E-03	5.01E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	5.42E-04	7.23E-05	0.397
		556.30		1.69			

Analysis Report for 24-2535 TI185-6.0M-S3-CST-A R0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	4.71E-04	1.95E-05	0.386
		674.80		3.10			
		695.00	*	99.60	4.95E-04	1.85E-05	0.385
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.77	64.28		9.60			
		87.30	*	45.90	3.70E-04	4.13E-05	miss
CS-137	0.99	661.66	*	85.20	4.89E-03	6.81E-05	miss
EU-154	0.21	42.70		20.45			
		123.07	*	40.40	1.10E-04	9.17E-06	0.743
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	2.51E-04	1.42E-04	0.709
		756.80		4.52			
		873.18	*	12.08	1.42E-04	4.37E-05	0.682
		996.29		10.48			
		1004.76		18.01			
		1246.12		0.86			
		1274.43		34.80			
		1494.05		0.70			
		1596.48		1.80			
AM-241	0.99	59.54	*	35.90	4.42E-04	8.53E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2535 TI185-6.0M-S3-CST-A R0

ASR 2094 Branch

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-60	0.994	6.77E-04	1.64E-05	
	AG-108M	0.389	1.29E-05	5.13E-06	
?	CD-109	0.962	4.71E-03	5.01E-04	
	SB-126	0.487	4.85E-04	1.32E-05	
?	Sn-126	0.776	3.70E-04	4.13E-05	
	CS-137	0.998	4.89E-03	6.81E-05	
	EU-154	0.218	1.12E-04	8.85E-06	
	AM-241	0.996	4.42E-04	8.53E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2535 TI185-6.0M-S3-CST-A R0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 2:37:03PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	11	1081.41	8.75895E-02	36.77	Sum	
F	12	1110.00	6.69133E-02	49.38	Sum	
F	15	1361.69	5.19680E-02	14.90	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	3.16E-04	3.16E-04	1.92E-04	1.55E-04
	K-40	1460.83		10.67	1.74E-04	1.74E-04	1.56E-04	8.15E-05
	MN-54	834.84		99.98	2.10E-05	2.10E-05	6.08E-06	1.01E-05
	CO-58	810.78		99.45	2.21E-05	2.21E-05	-8.53E-06	1.06E-05
		863.96		0.68	4.35E-03		1.24E-03	2.09E-03
		1674.73		0.52	2.19E-03		2.33E-03	9.89E-04
	FE-59	142.65		1.00	1.78E-03	3.03E-05	4.49E-04	8.74E-04
		192.35		3.01	9.52E-04		-1.33E-03	4.69E-04
		334.80		0.27	8.56E-03		-3.39E-03	4.20E-03
		1099.25		56.30	4.30E-05		-3.60E-06	2.06E-05
		1291.60		43.70	3.03E-05		-4.26E-05	1.39E-05
+	CO-60	1173.24	*	99.97	2.84E-05	2.84E-05	7.09E-04	1.35E-05
		1332.50	*	99.99	3.37E-05		6.68E-04	1.61E-05
		2505.74	*	1.00	1.91E-03		4.80E-03	8.69E-04
	SR-85	514.00		96.00	2.97E-05	2.97E-05	1.70E-06	1.45E-05

Analysis Report for 24-2535 TI185-6.0M-S3-CST-A R0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	868.60		0.01	1.94E-01	2.97E-05	-4.75E-02	9.34E-02
	NB-94	702.62		97.90	3.98E-05	3.16E-05	1.44E-06	1.94E-05
		871.09		99.98	3.16E-05		3.50E-05	1.52E-05
	NB-95	765.81		99.81	1.99E-05	1.99E-05	1.72E-05	9.58E-06
	RU-103	497.05		91.00	3.13E-05	3.13E-05	-4.82E-06	1.53E-05
		610.30		5.76	4.38E-04		3.88E-04	2.13E-04
	RH-106	511.86		20.70	1.64E-04	1.64E-04	1.15E-04	8.04E-05
		621.92		9.93	3.19E-04		-1.37E-04	1.55E-04
		1050.36		1.56	1.98E-03		-2.07E-03	9.48E-04
+	AG-108M	79.13		6.60	3.81E-04	3.48E-05	7.02E-05	1.88E-04
		433.90	*	90.50	3.48E-05		1.25E-05	1.69E-05
		614.30		89.80	4.94E-05		-3.16E-05	2.40E-05
		722.90	*	90.80	4.18E-05		7.24E-05	2.01E-05
+	CD-109	88.03	*	3.61	7.62E-04	7.62E-04	4.71E-03	3.76E-04
	SB-125	176.31		6.82	2.76E-04	1.02E-04	1.63E-04	1.35E-04
		380.45		1.52	1.73E-03		-2.38E-04	8.51E-04
		427.87		29.55	1.02E-04		4.66E-06	5.03E-05
		463.36		10.48	3.33E-04		5.26E-05	1.64E-04
		600.60		17.76	1.34E-04		5.52E-06	6.51E-05
		606.71		5.02	4.91E-04		1.48E-04	2.39E-04
		635.95		11.32	2.11E-04		4.86E-05	1.02E-04
		671.44		1.78	2.09E-03		-3.12E-04	1.03E-03
+	SB-126	223.90		1.39	1.52E-03	3.59E-05	-8.07E-04	7.45E-04
		278.20		2.40	2.70E-03		-5.57E-04	1.33E-03
		296.50		4.50	1.66E-03		1.23E-03	8.14E-04
		414.70	*	83.30	1.27E-04		5.42E-04	6.27E-05
		556.30		1.69	4.51E-03		-1.02E-03	2.19E-03
		573.90		6.70	1.16E-03		-1.62E-03	5.64E-04
		593.20		7.50	7.51E-04		-7.69E-05	3.65E-04
		656.30		2.19	2.32E-02		1.92E-04	1.16E-02
		666.50	*	99.60	3.59E-05		4.71E-04	1.70E-05
		674.80		3.10	2.19E-03		-4.91E-04	1.06E-03
		695.00	*	99.60	5.38E-05		4.95E-04	2.60E-05
		697.00		29.00	4.37E-04		1.89E-03	2.14E-04
		720.70		53.80	1.34E-04		2.37E-04	6.47E-05
		856.80		17.60	3.02E-04		-1.77E-04	1.45E-04
		989.60		6.80	8.47E-04		-3.65E-04	4.07E-04
		1213.30		2.39	1.74E-03		-4.43E-04	8.17E-04
+	Sn-126	64.28		9.60	4.71E-04	5.99E-05	3.19E-04	2.32E-04
		87.30	*	45.90	5.99E-05		3.70E-04	2.96E-05
	I-129	29.70		56.60	6.13E-05	6.13E-05	0.00E+00	0.00E+00
		33.60		10.04	4.65E-03		7.61E-03	2.26E-03
		34.40		2.01	2.25E-02		5.56E-02	1.09E-02
		39.60		7.51	3.69E-03		8.63E-03	1.81E-03
	CS-134	563.25		8.34	4.81E-04	3.07E-05	2.28E-04	2.34E-04
		569.33		15.37	2.75E-04		-2.40E-05	1.34E-04
		604.72		97.62	3.57E-05		6.95E-06	1.74E-05
		795.86		85.46	3.07E-05		-2.41E-05	1.47E-05
		801.95		8.69	3.68E-04		-3.76E-04	1.76E-04
+	CS-137	661.66	*	85.20	1.74E-05	1.74E-05	4.89E-03	8.29E-06
	CE-139	165.85		79.89	2.31E-05	2.31E-05	-1.20E-05	1.13E-05
	CE-141	40.70		3.35	7.02E-03	3.64E-05	1.41E-03	3.45E-03
		145.44		48.29	3.64E-05		-1.73E-05	1.79E-05

Analysis Report for 24-2535 TI185-6.0M-S3-CST-A R0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CE-144	80.12		1.36	1.81E-03	1.44E-04	-2.38E-03	8.93E-04
		133.51		11.09	1.44E-04		-1.50E-04	7.06E-05
	EU-152	121.78		28.58	8.93E-05	8.48E-05	1.36E-05	4.39E-05
		344.28		26.50	1.11E-04		2.26E-05	5.44E-05
		778.90		12.94	1.99E-04		-1.77E-04	9.55E-05
		964.08		14.73	1.85E-04		-4.53E-05	8.89E-05
		1085.87		10.24	2.67E-04		-7.57E-05	1.29E-04
		1112.07		13.69	2.42E-04		3.85E-04	1.17E-04
		1408.01		21.07	8.48E-05		-3.83E-05	3.93E-05
	GD-153	97.43		29.00	6.10E-05	6.10E-05	-2.35E-05	3.00E-05
		103.18		21.10	8.12E-05		-7.89E-05	3.99E-05
+	EU-154	42.70		20.45	8.60E-04	7.26E-05	-5.95E-04	4.22E-04
		123.07	*	40.40	7.26E-05		1.10E-04	3.58E-05
		247.93		6.89	4.79E-04		-1.15E-04	2.35E-04
		591.76		4.95	7.52E-04		4.13E-04	3.65E-04
		692.42		1.78	3.02E-03		2.31E-06	1.48E-03
		723.30	*	20.06	1.45E-04		2.51E-04	6.97E-05
		756.80		4.52	6.86E-04		-3.29E-04	3.29E-04
		873.18	*	12.08	2.06E-04		1.42E-04	9.79E-05
		996.29		10.48	2.81E-04		-2.30E-04	1.35E-04
		1004.76		18.01	1.60E-04		-2.26E-04	7.73E-05
		1246.12		0.86	2.96E-03		-1.11E-03	1.38E-03
		1274.43		34.80	7.51E-05		1.07E-04	3.58E-05
		1494.05		0.70	1.80E-03		-2.51E-03	8.22E-04
		1596.48		1.80	3.43E-04		-5.38E-04	1.53E-04
	EU-155	43.00		18.70	9.04E-04	8.06E-05	-4.40E-04	4.44E-04
		60.01		1.22	4.61E-03		7.22E-03	2.28E-03
		86.55		30.70	1.01E-04		5.79E-04	4.97E-05
		105.31		21.10	8.06E-05		7.91E-05	3.96E-05
	HG-203	72.87		6.30	4.69E-04	2.71E-05	3.26E-04	2.31E-04
		279.20		81.46	2.71E-05		1.23E-05	1.33E-05
	BI-207	569.15		97.80	3.45E-05	3.45E-05	2.58E-05	1.68E-05
		1063.10		74.90	4.81E-05		-3.75E-05	2.30E-05
	PB-210	46.54		4.25	2.74E-03	2.74E-03	1.13E-04	1.34E-03
	RA-226	74.81		6.44	4.33E-04	5.50E-05	4.74E-04	2.13E-04
		77.11		10.80	2.44E-04		-4.88E-05	1.20E-04
		87.30		4.84	6.31E-04		3.78E-03	3.12E-04
		186.21		3.59	5.87E-04		4.01E-04	2.89E-04
		242.00		7.43	2.90E-04		-1.57E-04	1.43E-04
		295.22		19.30	1.20E-04		7.18E-05	5.88E-05
		351.93		37.60	6.79E-05		3.15E-05	3.33E-05
		609.31		46.10	5.50E-05		7.85E-05	2.68E-05
		768.36		4.94	3.99E-04		-3.05E-05	1.92E-04
		1120.29		15.10	1.59E-04		-1.93E-04	7.64E-05
		1238.11		5.79	2.73E-04		-2.40E-04	1.28E-04
		1764.49		15.40	1.04E-04		4.94E-05	4.75E-05
	PA-231	283.70		1.59	1.37E-03	9.64E-04	-7.91E-04	6.73E-04
		300.07		2.38	9.64E-04		-1.43E-04	4.73E-04
		302.67		1.71	1.33E-03		4.92E-04	6.51E-04
		330.07		1.32	1.73E-03		-1.85E-03	8.49E-04
	TH-232	74.81		11.62	2.40E-04	4.48E-05	2.63E-04	1.18E-04
		77.11		17.50	1.50E-04		-3.01E-05	7.40E-05
		87.30		7.80	3.91E-04		2.35E-03	1.94E-04

Analysis Report for 24-2535 TI185-6.0M-S3-CST-A R0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	238.63		43.30	4.95E-05	4.48E-05	-3.86E-05	2.43E-05
		338.32		11.30	2.14E-04		1.15E-04	1.05E-04
		583.19		30.37	7.63E-05		-4.01E-05	3.71E-05
		727.33		6.58	3.61E-04		-2.00E-05	1.75E-04
		911.21		26.60	9.14E-05		2.87E-05	4.41E-05
		968.97		16.20	1.40E-04		5.05E-05	6.71E-05
		2614.53		35.64	4.48E-05		3.81E-05	1.98E-05
	U-235	143.76		10.96	1.61E-04	3.67E-05	3.99E-05	7.91E-05
		185.71		57.20	3.67E-05		2.12E-05	1.81E-05
		205.31		5.01	4.26E-04		3.05E-04	2.09E-04
	U-238	63.29		3.70	1.34E-03	5.07E-04	6.98E-04	6.64E-04
		92.51		4.23	5.07E-04		1.83E-04	2.50E-04
		112.81		0.21	7.78E-03		-2.18E-04	3.82E-03
		742.81		0.11	1.72E-02		3.89E-03	8.23E-03
		766.28		0.32	6.25E-03		6.44E-03	3.00E-03
		1001.03		0.84	3.16E-03		3.50E-03	1.53E-03
	NP-239	99.60		12.80	1.43E-04	7.74E-05	-6.23E-05	7.03E-05
		103.80		20.40	8.99E-05		-5.25E-05	4.42E-05
		106.10		26.40	7.74E-05		-2.17E-05	3.80E-05
		116.90		7.61	2.32E-04		9.49E-06	1.14E-04
		228.20		11.20	2.22E-04		1.63E-04	1.09E-04
		277.60		14.50	1.82E-04		5.51E-05	8.91E-05
		315.90		1.60	1.40E-03		4.61E-05	6.89E-04
		334.30		2.06	9.01E-04		5.01E-05	4.42E-04
+	AM-241	59.54	*	35.90	1.32E-04	1.32E-04	4.42E-04	6.49E-05

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

Apex-Gamma

Analysis Report for 24-2536 TI185-6.0M-S3-CST-d-A R0
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2536 TI185-6.0M-S3-CST-d-A R0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 2:55:59PM
Procedure	: R0_gsv02mlw
Operator	: Administrator
Detector Name	: R
Geometry	: R0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.2 seconds
Dead Time	: 0.10 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/15/2019
Efficiency Calibration Description	: R0_gsv2mlw_R697P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578966
Certificate Name	: R735-b8 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 3:16:07PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2536 TI185-6.0M-S3-CST-d-A R0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	45.23	126.86	0.3498	4.11
2	59.67	166.81	0.1882	10.54
3	64.37	179.93	0.3256	3.79
4	87.53	244.49	0.1415	16.29
5	123.30	343.69	0.2120	8.08
6	247.94	690.56	0.3240	3.41
7	414.89	1154.70	0.1277	16.54
8	609.48	1696.19	0.2903	3.47
9	661.77	1841.44	0.0583	68.67
10	666.37	1854.76	0.1454	14.00
11	695.22	1934.54	0.1317	13.36
12	1005.17	2797.06	0.2863	3.17
13	1081.30	3008.49	0.2101	5.15
14	1110.14	3088.08	0.2237	4.43
15	1173.51	3265.10	0.1041	18.53
16	1274.51	3545.98	0.2152	4.22
17	1332.74	3708.32	0.1071	15.99
18	2504.79	6970.93	0.1979	3.99

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2536 TI185-6.0M-S3-CST-d-A R0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 3:16:07PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	45.23	118	129	126.79	5.59E+01	16.77	4.89E+02	0.60
M	2	59.67	159	184	166.95	5.52E+02	80.75	7.36E+02	1.07
m	3	64.37	159	184	180.03	1.32E+02	24.95	8.45E+02	1.08
F	4	87.53	238	253	244.43	1.29E+03	129.53	8.19E+02	1.43
F	5	123.30	338	350	343.88	3.31E+02	88.51	4.44E+02	1.37
F	6	247.94	681	695	690.46	7.81E+01	50.60	4.99E+02	0.95
F	7	414.89	1149	1162	1154.73	8.85E+02	33.51	3.86E+02	1.60
F	8	609.48	1692	1702	1695.93	3.98E+01	56.98	1.07E+02	1.24
M	9	661.77	1827	1862	1841.37	1.54E+04	192.54	1.54E+02	1.93
m	10	666.37	1827	1862	1854.19	6.49E+02	27.32	8.08E+01	1.93
F	11	695.22	1924	1946	1934.42	6.48E+02	25.62	1.22E+02	1.97
F	12	1005.17	2791	2802	2796.68	2.52E+01	7.71	6.54E+01	0.76
F	13	1081.30	3000	3017	3008.47	8.41E+01	46.84	7.20E+01	1.89
F	14	1110.14	3081	3099	3088.72	7.69E+01	11.51	7.79E+01	2.15
F	15	1173.51	3251	3277	3265.05	1.37E+03	79.89	8.12E+01	2.36
F	16	1274.51	3538	3555	3546.07	6.99E+01	9.55	3.18E+01	2.26
F	17	1332.74	3694	3722	3708.11	1.27E+03	70.36	2.07E+01	2.68
F	18	2504.79	6963	6980	6970.90	6.64E+01	8.99	1.38E+01	2.95

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 3:16:07PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578894.CNF

Analysis Report for 24-2536 TI185-6.0M-S3-CST-d-A R0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	45.23	5.59E+01	16.77			5.59E+01	1.68E+01
M	2	59.67	5.52E+02	80.75			5.52E+02	8.08E+01
m	3	64.37	1.32E+02	24.95	1.81E+01	9.68E-01	1.14E+02	2.50E+01
F	4	87.53	1.29E+03	129.53	1.24E+01	7.02E-01	1.28E+03	1.30E+02
F	5	123.30	3.31E+02	88.51			3.31E+02	8.85E+01
F	6	247.94	7.81E+01	50.60			7.81E+01	5.06E+01
F	7	414.89	8.85E+02	33.51			8.85E+02	3.35E+01
F	8	609.48	3.98E+01	56.98	4.16E+01	1.45E+00	-1.78E+00	5.70E+01
M	9	661.77	1.54E+04	192.54			1.54E+04	1.93E+02
m	10	666.37	6.49E+02	27.32			6.49E+02	2.73E+01
F	11	695.22	6.48E+02	25.62			6.48E+02	2.56E+01
F	12	1005.17	2.52E+01	7.71			2.52E+01	7.71E+00
F	13	1081.30	8.41E+01	46.84			8.41E+01	4.68E+01
F	14	1110.14	7.69E+01	11.51			7.69E+01	1.15E+01
F	15	1173.51	1.37E+03	79.89			1.37E+03	7.99E+01
F	16	1274.51	6.99E+01	9.55			6.99E+01	9.55E+00
F	17	1332.74	1.27E+03	70.36			1.27E+03	7.04E+01
F	18	2504.79	6.64E+01	8.99			6.64E+01	8.99E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.98	1173.24	*	99.97	6.65E-04	3.89E-05	0.774
		1332.50	*	99.99	6.74E-04	3.76E-05	0.766
		2505.74	*	1.00	4.33E-03	6.26E-04	miss
CD-109	0.96	88.03	*	3.61	4.41E-03	4.67E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	5.16E-04	3.82E-05	0.397
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			

Analysis Report for 24-2536 TI185-6.0M-S3-CST-d-A R0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	656.30		2.19			
		666.50	*	99.60	4.43E-04	1.88E-05	0.386
		674.80		3.10			
		695.00	*	99.60	4.56E-04	1.82E-05	0.385
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.99	64.28	*	9.60	2.64E-04	7.11E-05	miss
		87.30	*	45.90	3.47E-04	3.85E-05	miss
CS-137	0.99	661.66	*	85.20	4.73E-03	6.42E-05	miss
EU-154	0.42	42.70		20.45			
		123.07	*	40.40	1.23E-04	3.28E-05	0.743
		247.93	*	6.89	2.36E-04	1.53E-04	0.685
		591.76		4.95			
		692.42		1.78			
		723.30		20.06			
		756.80		4.52			
		873.18		12.08			
		996.29		10.48			
		1004.76	*	18.01	5.47E-05	1.68E-05	0.869
		1246.12		0.86			
		1274.43	*	34.80	9.03E-05	1.24E-05	0.880
		1494.05		0.70			
		1596.48		1.80			
AM-241	0.99	59.54	*	35.90	4.28E-04	6.31E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2536 TI185-6.0M-S3-CST-d-A R0

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.989	6.77E-04	2.70E-05	
CD-109	0.961	1.06E-03	8.64E-04	
SB-126	0.486	4.56E-04	1.24E-05	
Sn-126	0.993	2.64E-04	5.80E-05	
CS-137	0.998	4.73E-03	6.42E-05	
EU-154	0.428	8.22E-05	9.51E-06	
AM-241	0.997	4.28E-04	6.31E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2536 TI185-6.0M-S3-CST-d-A R0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 3:16:07PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	1	45.23	4.65591E-02	30.01		
F	8	609.48	-1.48182E-03	-3205.39	Tol.	RU-103 RA-226
F	13	1081.30	7.00967E-02	55.68	Sum	
F	14	1110.14	6.40672E-02	14.96	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.61	10.44	3.18E-04	3.18E-04	5.81E-05	1.56E-04
K-40	1460.83	10.67	1.54E-04	1.54E-04	1.36E-04	7.17E-05
MN-54	834.84	99.98	2.13E-05	2.13E-05	1.68E-05	1.02E-05
CO-58	810.78	99.45	2.09E-05	2.09E-05	1.33E-05	1.00E-05
	863.96	0.68	4.45E-03		-3.87E-03	2.14E-03
	1674.73	0.52	1.90E-03		-1.21E-03	8.47E-04
FE-59	142.65	1.00	1.71E-03	3.36E-05	-3.61E-04	8.37E-04
	192.35	3.01	9.25E-04		-2.55E-04	4.55E-04
	334.80	0.27	8.26E-03		-1.16E-03	4.05E-03
	1099.25	56.30	4.49E-05		-1.57E-05	2.15E-05
	1291.60	43.70	3.36E-05		-1.97E-06	1.56E-05

Analysis Report for 24-2536 TI185-6.0M-S3-CST-d-A R0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	CO-60	1173.24	*	99.97	4.14E-05	2.38E-05	6.65E-04	2.01E-05
		1332.50	*	99.99	2.38E-05		6.74E-04	1.12E-05
		2505.74	*	1.00	2.07E-03		4.33E-03	9.46E-04
	SR-85	514.00		96.00	2.89E-05	2.89E-05	1.33E-05	1.41E-05
		868.60		0.01	1.99E-01		1.93E-01	9.59E-02
	NB-94	702.62		97.90	4.01E-05	3.13E-05	1.04E-05	1.96E-05
		871.09		99.98	3.13E-05		-9.78E-06	1.51E-05
	NB-95	765.81		99.81	1.95E-05	1.95E-05	-1.21E-05	9.37E-06
	RU-103	497.05		91.00	3.21E-05	3.21E-05	2.12E-05	1.57E-05
		610.30		5.76	4.06E-04		1.76E-04	1.97E-04
	RH-106	511.86		20.70	1.60E-04	1.60E-04	3.75E-05	7.83E-05
		621.92		9.93	3.25E-04		3.73E-04	1.58E-04
		1050.36		1.56	1.88E-03		1.28E-04	8.99E-04
	AG-108M	79.13		6.60	3.71E-04	4.37E-05	-2.40E-04	1.83E-04
		433.90		90.50	5.92E-05		-6.18E-05	2.91E-05
		614.30		89.80	4.75E-05		-2.59E-05	2.30E-05
		722.90		90.80	4.37E-05		3.70E-05	2.11E-05
+	CD-109	88.03	*	3.61	7.41E-04	7.41E-04	4.41E-03	3.66E-04
	SB-125	176.31		6.82	2.58E-04	1.01E-04	-2.04E-04	1.27E-04
		380.45		1.52	1.68E-03		-5.85E-04	8.23E-04
		427.87		29.55	1.01E-04		6.27E-05	4.94E-05
		463.36		10.48	3.27E-04		2.09E-05	1.61E-04
		600.60		17.76	1.32E-04		7.49E-05	6.40E-05
		606.71		5.02	4.80E-04		3.20E-04	2.33E-04
		635.95		11.32	2.00E-04		-2.12E-04	9.71E-05
		671.44		1.78	2.02E-03		1.05E-04	9.92E-04
+	SB-126	223.90		1.39	1.49E-03	3.04E-05	-3.57E-04	7.33E-04
		278.20		2.40	2.72E-03		1.01E-03	1.34E-03
		296.50		4.50	1.59E-03		2.02E-03	7.78E-04
		414.70	*	83.30	8.20E-05		5.16E-04	4.02E-05
		556.30		1.69	4.50E-03		-6.28E-04	2.19E-03
		573.90		6.70	1.09E-03		6.63E-04	5.30E-04
		593.20		7.50	7.62E-04		4.57E-04	3.70E-04
		656.30		2.19	2.29E-02		7.86E-04	1.14E-02
		666.50	*	99.60	3.04E-05		4.43E-04	1.43E-05
		674.80		3.10	2.06E-03		1.05E-03	9.92E-04
		695.00	*	99.60	6.89E-05		4.56E-04	3.35E-05
		697.00		29.00	4.27E-04		1.77E-03	2.09E-04
		720.70		53.80	1.22E-04		1.83E-04	5.87E-05
		856.80		17.60	3.47E-04		4.70E-04	1.67E-04
		989.60		6.80	8.26E-04		-8.24E-04	3.97E-04
		1213.30		2.39	1.55E-03		1.65E-04	7.23E-04
+	Sn-126	64.28	*	9.60	3.22E-04	5.83E-05	2.64E-04	1.58E-04
		87.30	*	45.90	5.83E-05		3.47E-04	2.88E-05
	I-129	29.70		56.60	6.13E-05	6.13E-05	0.00E+00	0.00E+00
		33.60		10.04	4.45E-03		6.50E-03	2.16E-03
		34.40		2.01	2.15E-02		4.94E-02	1.05E-02
		39.60		7.51	3.61E-03		7.07E-03	1.77E-03
	CS-134	563.25		8.34	4.54E-04	3.16E-05	-4.87E-04	2.21E-04
		569.33		15.37	2.56E-04		5.25E-05	1.24E-04
		604.72		97.62	3.52E-05		7.17E-07	1.71E-05
		795.86		85.46	3.16E-05		-3.17E-06	1.51E-05
		801.95		8.69	3.59E-04		-7.51E-05	1.72E-04

Analysis Report for 24-2536 TI185-6.0M-S3-CST-d-A R0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	CS-137	661.66	*	85.20	1.85E-05	1.85E-05	4.73E-03	8.84E-06
	CE-139	165.85		79.89	2.23E-05	2.23E-05	-1.04E-05	1.09E-05
	CE-141	40.70		3.35	6.92E-03	3.56E-05	4.31E-03	3.40E-03
		145.44		48.29	3.56E-05		-1.37E-05	1.75E-05
	CE-144	80.12		1.36	1.78E-03	1.44E-04	-1.26E-03	8.74E-04
		133.51		11.09	1.44E-04		7.43E-05	7.06E-05
	EU-152	121.78		28.58	8.96E-05	8.11E-05	1.73E-04	4.41E-05
		344.28		26.50	1.11E-04		6.01E-05	5.43E-05
		778.90		12.94	2.00E-04		1.32E-04	9.60E-05
		964.08		14.73	1.86E-04		1.57E-05	8.93E-05
		1085.87		10.24	2.50E-04		2.55E-04	1.21E-04
		1112.07		13.69	2.25E-04		1.94E-04	1.08E-04
		1408.01		21.07	8.11E-05		2.98E-06	3.74E-05
	GD-153	97.43		29.00	6.06E-05	6.06E-05	-2.14E-05	2.97E-05
		103.18		21.10	8.09E-05		6.25E-05	3.97E-05
+	EU-154	42.70		20.45	8.60E-04	5.39E-05	-2.74E-04	4.22E-04
		123.07	*	40.40	5.39E-05		1.23E-04	2.64E-05
		247.93	*	6.89	4.91E-04		2.36E-04	2.42E-04
		591.76		4.95	7.49E-04		8.37E-04	3.64E-04
		692.42		1.78	2.95E-03		-7.18E-04	1.45E-03
		723.30		20.06	1.49E-04		-1.75E-05	7.21E-05
		756.80		4.52	6.61E-04		-3.96E-05	3.17E-04
		873.18		12.08	2.84E-04		1.02E-04	1.37E-04
		996.29		10.48	2.66E-04		-1.98E-05	1.28E-04
		1004.76	*	18.01	1.22E-04		5.47E-05	5.80E-05
		1246.12		0.86	2.99E-03		2.87E-03	1.40E-03
		1274.43	*	34.80	6.01E-05		9.03E-05	2.83E-05
		1494.05		0.70	1.64E-03		1.03E-03	7.40E-04
		1596.48		1.80	4.19E-04		3.31E-04	1.92E-04
	EU-155	43.00		18.70	9.07E-04	7.60E-05	-1.64E-04	4.45E-04
		60.01		1.22	4.56E-03		1.35E-04	2.25E-03
		86.55		30.70	9.89E-05		4.83E-06	4.89E-05
		105.31		21.10	7.60E-05		-1.13E-04	3.73E-05
	HG-203	72.87		6.30	4.65E-04	2.71E-05	1.62E-04	2.29E-04
		279.20		81.46	2.71E-05		3.30E-05	1.33E-05
	BI-207	569.15		97.80	3.24E-05	3.24E-05	2.46E-05	1.57E-05
		1063.10		74.90	4.89E-05		5.26E-05	2.34E-05
	PB-210	46.54		4.25	2.74E-03	2.74E-03	5.23E-04	1.35E-03
	RA-226	74.81		6.44	4.28E-04	5.09E-05	2.95E-04	2.11E-04
		77.11		10.80	2.40E-04		9.06E-05	1.18E-04
		87.30		4.84	6.21E-04		3.78E-03	3.07E-04
		186.21		3.59	5.59E-04		7.13E-04	2.75E-04
		242.00		7.43	2.82E-04		6.93E-06	1.39E-04
		295.22		19.30	1.15E-04		8.55E-05	5.62E-05
		351.93		37.60	6.56E-05		6.68E-05	3.22E-05
		609.31		46.10	5.09E-05		4.04E-05	2.47E-05
		768.36		4.94	3.94E-04		-1.07E-04	1.89E-04
		1120.29		15.10	1.50E-04		1.07E-04	7.17E-05
		1238.11		5.79	2.72E-04		1.41E-04	1.27E-04
		1764.49		15.40	8.57E-05		-3.63E-05	3.85E-05
	PA-231	283.70		1.59	1.37E-03	9.36E-04	-1.77E-03	6.70E-04
		300.07		2.38	9.36E-04		-4.25E-04	4.59E-04
		302.67		1.71	1.30E-03		-7.77E-04	6.38E-04

Analysis Report for 24-2536 TI185-6.0M-S3-CST-d-A R0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PA-231	330.07		1.32	1.71E-03	9.36E-04	-1.28E-03	8.39E-04
	TH-232	74.81		11.62	2.37E-04	4.28E-05	1.63E-04	1.17E-04
		77.11		17.50	1.48E-04		5.59E-05	7.31E-05
		87.30		7.80	3.85E-04		2.34E-03	1.90E-04
		238.63		43.30	4.87E-05		2.90E-05	2.39E-05
		338.32		11.30	2.08E-04		-2.18E-04	1.02E-04
		583.19		30.37	7.41E-05		2.93E-05	3.60E-05
		727.33		6.58	3.24E-04		3.35E-04	1.57E-04
		911.21		26.60	8.02E-05		-1.05E-04	3.85E-05
		968.97		16.20	1.40E-04		-6.03E-05	6.71E-05
		2614.53		35.64	4.28E-05		3.43E-05	1.88E-05
	U-235	143.76		10.96	1.55E-04	3.46E-05	-5.33E-05	7.59E-05
		185.71		57.20	3.46E-05		-2.26E-05	1.70E-05
		205.31		5.01	4.22E-04		8.25E-05	2.07E-04
	U-238	63.29		3.70	1.32E-03	4.91E-04	1.29E-04	6.54E-04
		92.51		4.23	4.91E-04		-1.04E-04	2.42E-04
		112.81		0.21	7.82E-03		7.62E-03	3.84E-03
		742.81		0.11	1.71E-02		-1.46E-03	8.21E-03
		766.28		0.32	6.11E-03		-9.60E-04	2.93E-03
		1001.03		0.84	3.15E-03		4.23E-03	1.52E-03
	NP-239	99.60		12.80	1.47E-04	7.44E-05	1.29E-04	7.21E-05
		103.80		20.40	8.89E-05		4.55E-05	4.36E-05
		106.10		26.40	7.44E-05		-2.62E-05	3.65E-05
		116.90		7.61	2.40E-04		-2.28E-05	1.18E-04
		228.20		11.20	2.18E-04		-8.31E-05	1.07E-04
		277.60		14.50	1.85E-04		-1.82E-05	9.07E-05
		315.90		1.60	1.37E-03		-3.10E-04	6.71E-04
		334.30		2.06	8.82E-04		8.27E-04	4.32E-04
+	AM-241	59.54	*	35.90	1.00E-04	1.00E-04	4.28E-04	4.89E-05

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

Apex-Gamma

Analysis Report for 24-2537 TI185-6.0M-S4-CST-A S0
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2537 TI185-6.0M-S4-CST-A S0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 2:17:15PM
Procedure	: S0_gsv02mlw
Operator	: Administrator
Detector Name	: S
Geometry	: S0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1204.1 seconds
Dead Time	: 0.34 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 6/27/2024
Efficiency Calibration Used Done On	: 3/15/2019
Efficiency Calibration Description	: S0_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578961
Certificate Name	: R735-b9 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 2:37:26PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2537 TI185-6.0M-S4-CST-A S0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.65	183.73	0.2243	8.08
2	87.51	268.98	0.1654	12.94
3	123.12	377.99	0.2529	6.92
4	414.78	1270.90	0.1537	13.19
5	451.34	1382.96	0.3818	3.14
6	555.66	1702.01	0.3353	3.18
7	609.99	1867.65	0.3336	3.19
8	661.75	2027.09	0.0415	158.51
9	666.46	2041.72	0.1401	14.20
10	695.21	2129.37	0.1386	13.15
11	720.60	2207.13	0.2771	3.64
12	723.61	2216.63	0.2657	4.34
13	873.28	2674.72	0.2715	3.69
14	1081.20	3311.18	0.2227	5.46
15	1109.86	3399.03	0.2197	4.60
16	1173.41	3593.75	0.1064	20.05
17	1274.79	3904.08	0.2281	3.93
18	1332.73	4081.68	0.1068	19.23
19	1361.53	4169.80	0.2297	4.15
20	1461.25	4474.97	0.2846	3.13
21	2506.01	7674.58	0.1876	5.26

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2537 TI185-6.0M-S4-CST-A S0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 2:37:26PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.65	178	190	183.69	5.20E+02	132.42	1.52E+03	1.03
F	2	87.51	260	275	268.98	1.36E+03	169.12	1.79E+03	1.33
F	3	123.12	369	386	378.00	2.55E+02	30.56	1.99E+03	0.87
F	4	414.78	1266	1280	1270.94	9.03E+02	39.98	1.57E+03	1.36
F	5	451.34	1375	1386	1382.88	7.61E+01	28.90	1.43E+03	0.68
F	6	555.66	1699	1706	1702.26	6.60E+01	105.08	2.33E+02	0.59
F	7	609.99	1860	1876	1868.62	1.02E+02	3.53	3.73E+02	0.46
M	8	661.75	2015	2050	2027.09	7.84E+04	453.24	3.50E+02	1.56
m	9	666.46	2015	2050	2041.51	6.74E+02	26.49	7.09E+01	1.56
F	10	695.21	2121	2139	2129.52	6.85E+02	25.35	1.17E+02	1.60
M	11	720.60	2202	2222	2207.27	4.49E+01	8.25	3.67E+01	1.22
m	12	723.61	2202	2222	2216.47	4.84E+01	9.30	6.83E+01	1.22
F	13	873.28	2669	2679	2674.77	4.25E+01	8.71	4.37E+01	1.32
F	14	1081.20	3304	3316	3311.40	6.52E+01	26.53	5.82E+01	0.65
F	15	1109.86	3392	3408	3399.15	1.13E+02	12.06	7.86E+01	1.89
F	16	1173.41	3579	3605	3593.75	1.51E+03	77.70	3.95E+01	1.89
F	17	1274.79	3894	3912	3904.19	9.38E+01	33.28	2.35E+01	2.16
F	18	1332.73	4067	4090	4081.62	1.33E+03	72.56	2.65E+01	1.86
F	19	1361.53	4162	4179	4169.80	6.77E+01	24.59	1.89E+01	1.90
F	20	1461.25	4470	4480	4475.16	1.90E+01	5.70	1.35E+01	1.39
F	21	2506.01	7664	7685	7674.87	1.06E+02	23.99	5.22E+00	2.46

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 2:37:26PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578895.CNF

Analysis Report for 24-2537 TI185-6.0M-S4-CST-A S0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.65	5.20E+02	132.42			5.20E+02	1.32E+02
F	2	87.51	1.36E+03	169.12	7.63E+00	5.59E-01	1.36E+03	1.69E+02
F	3	123.12	2.55E+02	30.56			2.55E+02	3.06E+01
F	4	414.78	9.03E+02	39.98			9.03E+02	4.00E+01
F	5	451.34	7.61E+01	28.90			7.61E+01	2.89E+01
F	6	555.66	6.60E+01	105.08			6.60E+01	1.05E+02
F	7	609.99	1.02E+02	3.53	3.85E+01	1.22E+00	6.34E+01	3.73E+00
M	8	661.75	7.84E+04	453.24			7.84E+04	4.53E+02
m	9	666.46	6.74E+02	26.49			6.74E+02	2.65E+01
F	10	695.21	6.85E+02	25.35			6.85E+02	2.54E+01
M	11	720.60	4.49E+01	8.25			4.49E+01	8.25E+00
m	12	723.61	4.84E+01	9.30			4.84E+01	9.30E+00
F	13	873.28	4.25E+01	8.71			4.25E+01	8.71E+00
F	14	1081.20	6.52E+01	26.53			6.52E+01	2.65E+01
F	15	1109.86	1.13E+02	12.06			1.13E+02	1.21E+01
F	16	1173.41	1.51E+03	77.70			1.51E+03	7.77E+01
F	17	1274.79	9.38E+01	33.28			9.38E+01	3.33E+01
F	18	1332.73	1.33E+03	72.56	9.25E-02	2.23E-01	1.33E+03	7.26E+01
F	19	1361.53	6.77E+01	24.59			6.77E+01	2.46E+01
F	20	1461.25	1.90E+01	5.70	2.11E+01	7.59E-01	-2.13E+00	5.75E+00
F	21	2506.01	1.06E+02	23.99			1.06E+02	2.40E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.97	1460.83	*	10.67	-8.64E-06	2.33E-05	miss
CO-60	0.99	1173.24	*	99.97	7.43E-04	3.83E-05	0.762
		1332.50	*	99.99	7.15E-04	3.91E-05	0.757
		2505.74	*	1.00	7.47E-03	1.73E-03	miss
CD-109	0.95	88.03	*	3.61	4.90E-03	6.27E-04	free

Analysis Report for 24-2537 TI185-6.0M-S4-CST-A S0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.68	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	5.33E-04	4.14E-05	0.395
		556.30	*	1.69	3.07E-03	5.04E-03	0.299
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	4.64E-04	1.84E-05	0.385
		674.80		3.10			
		695.00	*	99.60	4.85E-04	1.81E-05	0.384
		697.00		29.00			
		720.70	*	53.80	7.07E-05	1.62E-05	0.327
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.77	64.28		9.60			
		87.30	*	45.90	3.85E-04	5.09E-05	miss
CS-137	0.99	661.66	*	85.20	2.42E-02	1.78E-04	miss
EU-154	0.47	42.70		20.45			
		123.07	*	40.40	9.52E-05	1.15E-05	0.737
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	9.54E-05	1.84E-05	0.703
		756.80		4.52			
		873.18	*	12.08	1.62E-04	3.33E-05	0.678
		996.29		10.48			
		1004.76		18.01			
		1246.12		0.86			
		1274.43	*	34.80	1.22E-04	4.31E-05	0.876
		1494.05		0.70			
		1596.48		1.80			
AM-241	0.99	59.54	*	35.90	4.26E-04	1.09E-04	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

Analysis Report for 24-2537 TI185-6.0M-S4-CST-A S0

ASR 2094 Branch

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	K-40	0.973	-8.64E-06	2.33E-05	
	CO-60	0.993	7.31E-04	2.74E-05	
?	CD-109	0.958	4.90E-03	6.27E-04	
	SB-126	0.688	3.30E-04	9.80E-06	
?	Sn-126	0.778	3.85E-04	5.09E-05	
	CS-137	0.999	2.42E-02	1.78E-04	
	EU-154	0.479	1.01E-04	9.15E-06	
	AM-241	0.998	4.26E-04	1.09E-04	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2537 TI185-6.0M-S4-CST-A S0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 2:37:26PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	5	451.34	6.34175E-02	37.97		
F	7	609.99	5.28434E-02	5.89	Tol.	RU-103 RA-226
F	14	1081.20	5.43193E-02	40.70	Sum	
F	15	1109.86	9.44970E-02	10.63	Sum	
F	19	1361.53	5.63990E-02	36.34	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	5.91E-04	5.91E-04	4.27E-04	2.93E-04
+	K-40	1460.83	*	10.67	1.24E-04	1.24E-04	-8.64E-06	5.67E-05
	MN-54	834.84		99.98	1.90E-05	1.90E-05	1.78E-05	9.11E-06
	CO-58	810.78		99.45	2.07E-05	2.07E-05	-2.78E-06	9.90E-06
		863.96		0.68	3.83E-03		-1.54E-03	1.83E-03
		1674.73		0.52	2.04E-03		1.96E-03	9.13E-04
	FE-59	142.65		1.00	2.71E-03	3.24E-05	3.26E-03	1.34E-03
		192.35		3.01	1.60E-03		-6.73E-04	7.94E-04
		334.80		0.27	1.54E-02		7.27E-04	7.63E-03
		1099.25		56.30	4.11E-05		-1.73E-05	1.97E-05

Analysis Report for 24-2537 TI185-6.0M-S4-CST-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	FE-59	1291.60		43.70	3.24E-05	3.24E-05	9.98E-06	1.50E-05
+	CO-60	1173.24	*	99.97	2.94E-05	2.46E-05	7.43E-04	1.40E-05
		1332.50	*	99.99	2.46E-05		7.15E-04	1.16E-05
		2505.74	*	1.00	1.52E-03		7.47E-03	6.66E-04
	SR-85	514.00		96.00	4.88E-05	4.88E-05	7.58E-05	2.41E-05
		868.60		0.01	1.82E-01		-3.44E-03	8.77E-02
	NB-94	702.62		97.90	2.43E-05	2.43E-05	5.49E-06	1.16E-05
		871.09		99.98	2.94E-05		1.19E-05	1.41E-05
	NB-95	765.81		99.81	1.84E-05	1.84E-05	9.04E-06	8.80E-06
	RU-103	497.05		91.00	5.42E-05	5.42E-05	2.01E-05	2.68E-05
		610.30		5.76	6.26E-04		6.71E-04	3.07E-04
	RH-106	511.86		20.70	2.71E-04	2.71E-04	8.82E-05	1.34E-04
		621.92		9.93	4.80E-04		-1.21E-05	2.35E-04
		1050.36		1.56	1.89E-03		8.21E-04	9.05E-04
	AG-108M	79.13		6.60	5.28E-04	4.27E-05	-4.37E-04	2.61E-04
		433.90		90.50	1.08E-04		-7.94E-05	5.36E-05
		614.30		89.80	7.36E-05		3.57E-06	3.61E-05
		722.90		90.80	4.27E-05		3.07E-05	2.06E-05
+	CD-109	88.03	*	3.61	1.13E-03	1.13E-03	4.90E-03	5.62E-04
	SB-125	176.31		6.82	4.48E-04	1.81E-04	2.83E-04	2.21E-04
		380.45		1.52	3.03E-03		-1.54E-03	1.50E-03
		427.87		29.55	1.81E-04		5.47E-05	8.95E-05
		463.36		10.48	6.20E-04		7.46E-04	3.07E-04
		600.60		17.76	2.07E-04		-7.70E-05	1.02E-04
		606.71		5.02	7.23E-04		2.03E-04	3.55E-04
		635.95		11.32	3.02E-04		-2.10E-05	1.48E-04
		671.44		1.78	1.98E-03		5.97E-04	9.68E-04
+	SB-126	223.90		1.39	2.58E-03	2.88E-05	1.98E-03	1.28E-03
		278.20		2.40	4.81E-03		2.05E-03	2.38E-03
		296.50		4.50	2.84E-03		-4.88E-04	1.40E-03
		414.70	*	83.30	1.71E-04		5.33E-04	8.48E-05
		556.30	*	1.69	4.21E-03		3.07E-03	2.04E-03
		573.90		6.70	1.73E-03		-1.21E-03	8.51E-04
		593.20		7.50	1.24E-03		1.71E-03	6.10E-04
		656.30		2.19	3.30E-02		-2.16E-03	1.64E-02
		666.50	*	99.60	2.88E-05		4.64E-04	1.35E-05
		674.80		3.10	1.74E-03		9.28E-04	8.32E-04
		695.00	*	99.60	6.24E-05		4.85E-04	3.02E-05
		697.00		29.00	4.43E-04		2.32E-03	2.17E-04
		720.70	*	53.80	4.86E-05		7.07E-05	2.22E-05
		856.80		17.60	2.87E-04		1.16E-04	1.37E-04
		989.60		6.80	7.34E-04		2.11E-04	3.50E-04
		1213.30		2.39	1.73E-03		-1.88E-03	8.11E-04
+	Sn-126	64.28		9.60	5.74E-04	8.91E-05	7.33E-04	2.84E-04
		87.30	*	45.90	8.91E-05		3.85E-04	4.42E-05
	I-129	29.70		56.60	7.92E-03	6.01E-03	3.87E-03	3.91E-03
		33.60		10.04	1.52E-02		-2.10E-03	7.51E-03
		34.40		2.01	6.28E-02		-4.94E-02	3.10E-02
		39.60		7.51	6.01E-03		1.73E-03	2.97E-03
	CS-134	563.25		8.34	7.61E-04	2.93E-05	3.75E-04	3.74E-04
		569.33		15.37	4.21E-04		-2.43E-04	2.07E-04
		604.72		97.62	5.32E-05		2.21E-05	2.61E-05
		795.86		85.46	2.93E-05		-1.17E-05	1.40E-05

Analysis Report for 24-2537 TI185-6.0M-S4-CST-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-134	801.95		8.69	3.68E-04	2.93E-05	1.65E-04	1.76E-04
+	CS-137	661.66	*	85.20	2.76E-05	2.76E-05	2.42E-02	1.34E-05
	CE-139	165.85		79.89	3.66E-05	3.66E-05	5.28E-06	1.81E-05
	CE-141	40.70		3.35	1.12E-02	5.74E-05	-4.05E-03	5.51E-03
		145.44		48.29	5.74E-05		5.33E-05	2.84E-05
	CE-144	80.12		1.36	2.51E-03	2.40E-04	2.53E-04	1.24E-03
		133.51		11.09	2.40E-04		-1.26E-04	1.19E-04
	EU-152	121.78		28.58	1.36E-04	6.85E-05	9.42E-06	6.73E-05
		344.28		26.50	1.98E-04		2.71E-05	9.80E-05
		778.90		12.94	1.84E-04		1.05E-04	8.78E-05
		964.08		14.73	1.90E-04		9.06E-05	9.13E-05
		1085.87		10.24	2.40E-04		-6.99E-05	1.16E-04
		1112.07		13.69	2.26E-04		3.81E-04	1.09E-04
		1408.01		21.07	6.85E-05		-1.12E-04	3.11E-05
	GD-153	97.43		29.00	9.83E-05	9.83E-05	-4.45E-05	4.86E-05
		103.18		21.10	1.32E-04		-9.19E-05	6.52E-05
+	EU-154	42.70		20.45	1.35E-03	5.31E-05	-5.31E-04	6.67E-04
		123.07	*	40.40	1.30E-04		9.52E-05	6.44E-05
		247.93		6.89	7.49E-04		-1.24E-03	3.70E-04
		591.76		4.95	1.23E-03		5.74E-05	6.02E-04
		692.42		1.78	3.07E-03		3.46E-04	1.51E-03
		723.30	*	20.06	8.10E-05		9.54E-05	3.79E-05
		756.80		4.52	6.09E-04		4.85E-05	2.91E-04
		873.18	*	12.08	1.71E-04		1.62E-04	8.02E-05
		996.29		10.48	2.31E-04		-1.07E-04	1.10E-04
		1004.76		18.01	1.48E-04		5.90E-05	7.12E-05
		1246.12		0.86	2.44E-03		-2.13E-04	1.13E-03
		1274.43	*	34.80	5.31E-05		1.22E-04	2.48E-05
		1494.05		0.70	1.52E-03		-1.24E-04	6.80E-04
		1596.48		1.80	3.98E-04		1.75E-04	1.81E-04
	EU-155	43.00		18.70	1.42E-03	1.26E-04	-5.58E-04	7.01E-04
		60.01		1.22	6.11E-03		5.56E-03	3.02E-03
		86.55		30.70	1.27E-04		5.20E-04	6.28E-05
		105.31		21.10	1.26E-04		6.30E-05	6.20E-05
	HG-203	72.87		6.30	6.49E-04	4.79E-05	-1.74E-04	3.21E-04
		279.20		81.46	4.79E-05		-1.57E-06	2.37E-05
	BI-207	569.15		97.80	5.38E-05	4.45E-05	-1.64E-05	2.64E-05
		1063.10		74.90	4.45E-05		-2.29E-05	2.12E-05
	PB-210	46.54		4.25	4.11E-03	4.11E-03	1.24E-03	2.03E-03
	RA-226	74.81		6.44	6.02E-04	7.77E-05	1.30E-04	2.98E-04
		77.11		10.80	3.39E-04		9.24E-05	1.67E-04
		87.30		4.84	7.99E-04		3.89E-03	3.96E-04
		186.21		3.59	9.90E-04		1.39E-03	4.90E-04
		242.00		7.43	4.74E-04		6.98E-05	2.34E-04
		295.22		19.30	2.04E-04		-2.28E-06	1.01E-04
		351.93		37.60	1.16E-04		1.20E-04	5.72E-05
		609.31		46.10	7.77E-05		3.68E-05	3.81E-05
		768.36		4.94	3.56E-04		-3.73E-04	1.70E-04
		1120.29		15.10	1.35E-04		8.67E-05	6.44E-05
		1238.11		5.79	2.51E-04		-2.13E-04	1.17E-04
		1764.49		15.40	9.91E-05		8.06E-05	4.52E-05
	PA-231	283.70		1.59	2.45E-03	1.65E-03	-1.46E-03	1.21E-03
		300.07		2.38	1.65E-03		-1.92E-03	8.18E-04

Analysis Report for 24-2537 TI185-6.0M-S4-CST-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PA-231	302.67		1.71	2.31E-03	1.65E-03	3.91E-04	1.14E-03
		330.07		1.32	3.12E-03		8.07E-04	1.54E-03
	TH-232	74.81		11.62	3.34E-04	3.94E-05	7.23E-05	1.65E-04
		77.11		17.50	2.09E-04		5.70E-05	1.03E-04
		87.30		7.80	4.96E-04		2.41E-03	2.46E-04
		238.63		43.30	8.10E-05		-7.34E-06	4.01E-05
		338.32		11.30	3.70E-04		1.11E-04	1.83E-04
		583.19		30.37	1.22E-04		1.02E-04	6.00E-05
		727.33		6.58	3.00E-04		5.93E-06	1.44E-04
		911.21		26.60	8.01E-05		3.77E-05	3.84E-05
		968.97		16.20	1.33E-04		1.56E-05	6.39E-05
		2614.53		35.64	3.94E-05		2.51E-05	1.69E-05
	U-235	143.76		10.96	2.42E-04	6.12E-05	-1.44E-04	1.20E-04
		185.71		57.20	6.12E-05		5.14E-05	3.03E-05
		205.31		5.01	7.15E-04		3.64E-04	3.54E-04
	U-238	63.29		3.70	1.59E-03	6.88E-04	9.49E-04	7.89E-04
		92.51		4.23	6.88E-04		-1.88E-04	3.40E-04
		112.81		0.21	1.24E-02		3.79E-03	6.11E-03
		742.81		0.11	1.43E-02		-2.33E-02	6.81E-03
		766.28		0.32	5.67E-03		-6.94E-04	2.71E-03
		1001.03		0.84	2.86E-03		4.23E-03	1.37E-03
	NP-239	99.60		12.80	2.34E-04	1.21E-04	-9.84E-07	1.16E-04
		103.80		20.40	1.45E-04		1.49E-04	7.14E-05
		106.10		26.40	1.21E-04		-2.60E-05	5.96E-05
		116.90		7.61	3.78E-04		1.64E-04	1.87E-04
		228.20		11.20	3.80E-04		8.82E-05	1.88E-04
		277.60		14.50	3.22E-04		2.66E-04	1.59E-04
		315.90		1.60	2.44E-03		-1.01E-03	1.21E-03
		334.30		2.06	1.60E-03		-8.11E-05	7.92E-04
+	AM-241	59.54	*	35.90	2.19E-04	2.19E-04	4.26E-04	1.09E-04

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

Apex-Gamma

Analysis Report for 24-2538 TI185-6.0M-S4-CST-d-A S0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2538 TI185-6.0M-S4-CST-d-A S0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 2:56:08PM
Procedure	: S0_gsv02mlw
Operator	: Administrator
Detector Name	: S
Geometry	: S0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1204.3 seconds
Dead Time	: 0.36 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 6/27/2024
Efficiency Calibration Used Done On	: 3/15/2019
Efficiency Calibration Description	: S0_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578967
Certificate Name	: R735-b9 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 3:16:19PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2538 TI185-6.0M-S4-CST-d-A S0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.63	183.69	0.2099	8.15
2	87.50	268.87	0.1578	13.83
3	123.29	378.48	0.2799	4.52
4	203.88	625.23	0.3729	3.16
5	352.77	1080.24	0.3322	3.44
6	372.28	1140.73	0.3151	3.80
7	414.81	1271.08	0.1457	14.67
8	569.64	1745.06	0.3482	3.44
9	661.76	2027.09	0.0409	163.22
10	666.46	2041.70	0.1397	14.74
11	695.18	2129.43	0.1366	13.72
12	723.47	2216.13	0.2706	4.82
13	928.44	2843.89	0.2965	3.34
14	1081.23	3311.56	0.2082	5.45
15	1109.81	3398.96	0.2258	5.16
16	1173.45	3593.84	0.1049	21.21
17	1274.60	3903.54	0.2007	6.03
18	1332.72	4081.50	0.1055	20.31
19	1361.66	4170.48	0.2115	4.97
20	2505.65	7673.82	0.1974	3.54

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2538 TI185-6.0M-S4-CST-d-A S0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 3:16:19PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.63	175 -	188	183.64	6.63E+02	130.89	1.46E+03	1.21
F	2	87.50	263 -	275	268.94	1.42E+03	45.36	1.59E+03	1.22
F	3	123.29	369 -	386	378.51	3.85E+02	137.10	1.94E+03	1.18
	4	203.88	622 -	630	625.23	2.52E+01	65.31	1.30E+03	0.75
F	5	352.77	1072 -	1085	1081.07	1.15E+02	24.37	1.35E+03	0.34
F	6	372.28	1137 -	1144	1140.82	9.04E+01	27.48	7.36E+02	0.99
F	7	414.81	1260 -	1276	1271.02	9.36E+02	234.59	1.98E+03	1.27
	8	569.64	1742 -	1749	1745.06	1.76E+01	28.47	2.56E+02	0.85
M	9	661.76	2015 -	2048	2027.10	8.20E+04	449.80	3.41E+02	1.55
m	10	666.46	2015 -	2048	2041.49	6.68E+02	27.15	1.30E+02	1.55
F	11	695.18	2123 -	2135	2129.43	6.58E+02	25.20	9.13E+01	1.52
F	12	723.47	2212 -	2220	2216.07	3.90E+01	9.26	6.81E+01	0.71
F	13	928.44	2839 -	2848	2843.65	2.66E+01	7.28	2.74E+01	0.85
F	14	1081.23	3304 -	3319	3311.50	1.13E+02	37.30	5.28E+01	1.68
F	15	1109.81	3391 -	3407	3399.02	7.82E+01	33.29	8.00E+01	1.31
F	16	1173.45	3584 -	3605	3593.88	1.50E+03	77.13	3.39E+01	1.85
F	17	1274.60	3898 -	3911	3903.62	8.10E+01	9.76	2.50E+01	1.44
F	18	1332.72	4071 -	4091	4081.59	1.37E+03	69.23	5.25E+01	1.93
F	19	1361.66	4161 -	4179	4170.21	9.06E+01	25.50	1.44E+01	1.95
F	20	2505.65	7664 -	7683	7673.74	9.85E+01	9.16	0.00E+00	2.79

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 3:16:19PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578895.CNF

Analysis Report for 24-2538 TI185-6.0M-S4-CST-d-A S0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.63	6.63E+02	130.89			6.63E+02	1.31E+02
F	2	87.50	1.42E+03	45.36	7.63E+00	5.59E-01	1.41E+03	4.54E+01
F	3	123.29	3.85E+02	137.10			3.85E+02	1.37E+02
	4	203.88	2.52E+01	65.31			2.52E+01	6.53E+01
F	5	352.77	1.15E+02	24.37	3.76E+01	1.32E+00	7.75E+01	2.44E+01
F	6	372.28	9.04E+01	27.48			9.04E+01	2.75E+01
F	7	414.81	9.36E+02	234.59			9.36E+02	2.35E+02
	8	569.64	1.76E+01	28.47	1.40E+00	5.24E-01	1.62E+01	2.85E+01
M	9	661.76	8.20E+04	449.80			8.20E+04	4.50E+02
m	10	666.46	6.68E+02	27.15			6.68E+02	2.71E+01
F	11	695.18	6.58E+02	25.20			6.58E+02	2.52E+01
F	12	723.47	3.90E+01	9.26			3.90E+01	9.26E+00
F	13	928.44	2.66E+01	7.28			2.66E+01	7.28E+00
F	14	1081.23	1.13E+02	37.30			1.13E+02	3.73E+01
F	15	1109.81	7.82E+01	33.29			7.82E+01	3.33E+01
F	16	1173.45	1.50E+03	77.13			1.50E+03	7.71E+01
F	17	1274.60	8.10E+01	9.76			8.10E+01	9.76E+00
F	18	1332.72	1.37E+03	69.23	9.25E-02	2.23E-01	1.37E+03	6.92E+01
F	19	1361.66	9.06E+01	25.50			9.06E+01	2.55E+01
F	20	2505.65	9.85E+01	9.16			9.85E+01	9.16E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	7.39E-04	3.81E-05	0.762
		1332.50	*	99.99	7.36E-04	3.74E-05	0.757
		2505.74	*	1.00	6.97E-03	7.12E-04	miss
CD-109	0.95	88.03	*	3.61	5.09E-03	2.20E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	5.52E-04	1.43E-04	0.395
		556.30		1.69			

Analysis Report for 24-2538 TI185-6.0M-S4-CST-d-A S0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	4.60E-04	1.88E-05	0.385
		674.80		3.10			
		695.00	*	99.60	4.66E-04	1.80E-05	0.384
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.77	64.28		9.60			
		87.30	*	45.90	4.00E-04	2.19E-05	miss
CS-137	0.99	661.66	*	85.20	2.53E-02	1.80E-04	miss
EU-154	0.38	42.70		20.45			
		123.07	*	40.40	1.44E-04	5.13E-05	0.737
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	7.67E-05	1.83E-05	0.703
		756.80		4.52			
		873.18		12.08			
		996.29		10.48			
		1004.76		18.01			
		1246.12		0.86			
		1274.43	*	34.80	1.05E-04	1.27E-05	0.876
		1494.05		0.70			
		1596.48		1.80			
BI-207	0.36	569.15	*	97.80	5.84E-06	1.03E-05	0.676
		1063.10		74.90			
AM-241	0.99	59.54	*	35.90	5.43E-04	1.08E-04	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2538 TI185-6.0M-S4-CST-d-A S0

ASR 2094 Branch

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-60	0.993	7.46E-04	2.67E-05	
?	CD-109	0.956	5.09E-03	2.20E-04	
	SB-126	0.488	4.64E-04	1.30E-05	
?	Sn-126	0.779	4.00E-04	2.19E-05	
	CS-137	0.998	2.53E-02	1.80E-04	
	EU-154	0.383	9.77E-05	1.02E-05	
	BI-207	0.360	5.84E-06	1.03E-05	
	AM-241	0.999	5.43E-04	1.08E-04	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2538 TI185-6.0M-S4-CST-d-A S0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 3:16:19PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	4	203.88	2.09958E-02	259.21		
F	5	352.77	6.45759E-02	31.50	Tol.	RA-226
F	6	372.28	7.53739E-02	30.38		
F	13	928.44	2.21802E-02	27.34		
F	14	1081.23	9.41825E-02	33.00	Sum	
F	15	1109.81	6.51923E-02	42.55	Sum	
F	19	1361.66	7.54920E-02	28.15	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.61	10.44	5.96E-04	5.96E-04	-3.25E-04	2.95E-04
K-40	1460.83	10.67	1.36E-04	1.36E-04	1.34E-04	6.26E-05
MN-54	834.84	99.98	1.81E-05	1.81E-05	-5.09E-06	8.66E-06
CO-58	810.78	99.45	2.05E-05	2.05E-05	-2.95E-06	9.81E-06
	863.96	0.68	4.05E-03		-1.57E-03	1.94E-03
	1674.73	0.52	1.72E-03		-3.93E-04	7.53E-04
FE-59	142.65	1.00	2.78E-03	3.09E-05	-1.63E-03	1.37E-03
	192.35	3.01	1.65E-03		-1.46E-04	8.16E-04
	334.80	0.27	1.59E-02		2.43E-03	7.87E-03
	1099.25	56.30	3.62E-05		1.43E-05	1.72E-05

Analysis Report for 24-2538 TI185-6.0M-S4-CST-d-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	FE-59	1291.60		43.70	3.09E-05	3.09E-05	-1.51E-05	1.42E-05
+	CO-60	1173.24	*	99.97	2.42E-05	2.42E-05	7.39E-04	1.14E-05
		1332.50	*	99.99	3.35E-05		7.36E-04	1.60E-05
		2505.74	*	1.00	1.91E-04		6.97E-03	0.00E+00
	SR-85	514.00		96.00	4.95E-05	4.95E-05	-5.17E-05	2.45E-05
		868.60		0.01	1.84E-01		1.04E-01	8.87E-02
	NB-94	702.62		97.90	2.44E-05	2.44E-05	-5.22E-05	1.17E-05
		871.09		99.98	2.90E-05		9.17E-06	1.39E-05
	NB-95	765.81		99.81	1.81E-05	1.81E-05	-7.98E-06	8.67E-06
	RU-103	497.05		91.00	5.62E-05	5.62E-05	-1.66E-05	2.78E-05
		610.30		5.76	6.55E-04		6.49E-04	3.21E-04
	RH-106	511.86		20.70	2.77E-04	2.77E-04	-7.29E-05	1.37E-04
		621.92		9.93	4.90E-04		-2.67E-04	2.40E-04
		1050.36		1.56	1.79E-03		1.17E-03	8.53E-04
	AG-108M	79.13		6.60	5.32E-04	4.37E-05	-2.31E-05	2.63E-04
		433.90		90.50	1.12E-04		1.22E-05	5.54E-05
		614.30		89.80	7.53E-05		-9.20E-05	3.70E-05
		722.90		90.80	4.37E-05		5.17E-05	2.11E-05
+	CD-109	88.03	*	3.61	9.88E-04	9.88E-04	5.09E-03	4.89E-04
	SB-125	176.31		6.82	4.44E-04	1.84E-04	3.22E-04	2.20E-04
		380.45		1.52	3.09E-03		5.20E-04	1.53E-03
		427.87		29.55	1.84E-04		1.95E-05	9.11E-05
		463.36		10.48	6.27E-04		-4.61E-04	3.11E-04
		600.60		17.76	2.11E-04		1.47E-04	1.04E-04
		606.71		5.02	7.57E-04		1.80E-04	3.72E-04
		635.95		11.32	3.02E-04		3.68E-05	1.48E-04
		671.44		1.78	2.04E-03		-3.39E-04	9.99E-04
+	SB-126	223.90		1.39	2.63E-03	3.83E-05	-1.79E-03	1.30E-03
		278.20		2.40	4.93E-03		-3.94E-03	2.44E-03
		296.50		4.50	2.91E-03		-7.53E-04	1.44E-03
		414.70	*	83.30	2.00E-04		5.52E-04	9.91E-05
		556.30		1.69	7.42E-03		8.15E-04	3.65E-03
		573.90		6.70	1.84E-03		6.63E-04	9.05E-04
		593.20		7.50	1.21E-03		2.66E-04	5.94E-04
		656.30		2.19	3.36E-02		-6.32E-03	1.68E-02
		666.50	*	99.60	3.83E-05		4.60E-04	1.82E-05
		674.80		3.10	1.98E-03		-4.58E-05	9.49E-04
		695.00	*	99.60	4.79E-05		4.66E-04	2.30E-05
		697.00		29.00	4.38E-04		2.17E-03	2.15E-04
		720.70		53.80	1.24E-04		1.02E-04	5.98E-05
		856.80		17.60	2.98E-04		-1.41E-04	1.43E-04
		989.60		6.80	7.94E-04		6.26E-05	3.81E-04
		1213.30		2.39	1.39E-03		-1.74E-03	6.40E-04
+	Sn-126	64.28		9.60	5.88E-04	7.76E-05	7.82E-04	2.91E-04
		87.30	*	45.90	7.76E-05		4.00E-04	3.84E-05
	I-129	29.70		56.60	8.07E-03	6.18E-03	5.54E-03	3.99E-03
		33.60		10.04	1.57E-02		-1.40E-02	7.74E-03
		34.40		2.01	6.53E-02		1.93E-02	3.22E-02
		39.60		7.51	6.18E-03		-1.91E-03	3.05E-03
	CS-134	563.25		8.34	7.56E-04	2.91E-05	4.16E-04	3.71E-04
		569.33		15.37	4.33E-04		8.96E-06	2.13E-04
		604.72		97.62	5.54E-05		3.17E-06	2.72E-05
		795.86		85.46	2.91E-05		1.68E-06	1.39E-05

Analysis Report for 24-2538 TI185-6.0M-S4-CST-d-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CS-134	801.95		8.69	3.52E-04	2.91E-05	1.27E-04	1.68E-04
+	CS-137	661.66	*	85.20	2.73E-05	2.73E-05	2.53E-02	1.32E-05
	CE-139	165.85		79.89	3.79E-05	3.79E-05	1.36E-05	1.88E-05
	CE-141	40.70		3.35	1.13E-02	6.02E-05	-1.33E-02	5.60E-03
		145.44		48.29	6.02E-05		3.89E-05	2.98E-05
	CE-144	80.12		1.36	2.54E-03	2.41E-04	1.30E-04	1.26E-03
		133.51		11.09	2.41E-04		-3.39E-05	1.19E-04
	EU-152	121.78		28.58	1.38E-04	8.29E-05	2.11E-05	6.85E-05
		344.28		26.50	2.00E-04		-1.04E-04	9.90E-05
		778.90		12.94	2.00E-04		8.31E-05	9.58E-05
		964.08		14.73	1.79E-04		-1.14E-04	8.60E-05
		1085.87		10.24	2.42E-04		2.27E-05	1.16E-04
		1112.07		13.69	2.24E-04		2.24E-04	1.08E-04
		1408.01		21.07	8.29E-05		-3.04E-05	3.83E-05
	GD-153	97.43		29.00	9.99E-05	9.99E-05	6.20E-05	4.94E-05
		103.18		21.10	1.34E-04		9.94E-05	6.61E-05
+	EU-154	42.70		20.45	1.38E-03	4.94E-05	-4.19E-04	6.79E-04
		123.07	*	40.40	1.28E-04		1.44E-04	6.37E-05
		247.93		6.89	7.84E-04		6.39E-04	3.88E-04
		591.76		4.95	1.20E-03		-3.59E-04	5.89E-04
		692.42		1.78	3.05E-03		1.39E-02	1.49E-03
		723.30	*	20.06	1.04E-04		7.67E-05	4.94E-05
		756.80		4.52	6.38E-04		5.04E-04	3.05E-04
		873.18		12.08	2.61E-04		-4.18E-06	1.26E-04
		996.29		10.48	2.45E-04		3.22E-04	1.17E-04
		1004.76		18.01	1.62E-04		3.00E-05	7.83E-05
		1246.12		0.86	2.37E-03		-3.32E-03	1.09E-03
		1274.43	*	34.80	4.94E-05		1.05E-04	2.30E-05
		1494.05		0.70	1.57E-03		3.80E-04	7.06E-04
		1596.48		1.80	3.64E-04		2.81E-05	1.64E-04
	EU-155	43.00		18.70	1.44E-03	1.27E-04	-4.40E-04	7.13E-04
		60.01		1.22	6.12E-03		-1.98E-03	3.03E-03
		86.55		30.70	1.30E-04		6.74E-04	6.46E-05
		105.31		21.10	1.27E-04		1.68E-05	6.28E-05
	HG-203	72.87		6.30	6.60E-04	4.90E-05	3.90E-04	3.26E-04
		279.20		81.46	4.90E-05		4.95E-06	2.43E-05
+	BI-207	569.15	*	97.80	3.44E-05	3.44E-05	5.84E-06	1.67E-05
		1063.10		74.90	4.53E-05		1.17E-05	2.16E-05
	PB-210	46.54		4.25	4.22E-03	4.22E-03	-2.22E-03	2.08E-03
	RA-226	74.81		6.44	6.09E-04	8.15E-05	2.69E-04	3.01E-04
		77.11		10.80	3.40E-04		-2.93E-04	1.68E-04
		87.30		4.84	8.18E-04		4.05E-03	4.05E-04
		186.21		3.59	1.00E-03		1.21E-03	4.97E-04
		242.00		7.43	4.87E-04		-2.60E-04	2.41E-04
		295.22		19.30	2.10E-04		6.88E-05	1.04E-04
		351.93		37.60	1.19E-04		8.82E-05	5.86E-05
		609.31		46.10	8.15E-05		8.80E-05	4.00E-05
		768.36		4.94	3.67E-04		-1.99E-04	1.75E-04
		1120.29		15.10	1.53E-04		1.27E-04	7.31E-05
		1238.11		5.79	2.61E-04		-4.69E-05	1.22E-04
		1764.49		15.40	8.85E-05		1.78E-05	3.99E-05
	PA-231	283.70		1.59	2.52E-03	1.71E-03	-1.40E-03	1.24E-03
		300.07		2.38	1.71E-03		-2.62E-03	8.44E-04

Analysis Report for 24-2538 TI185-6.0M-S4-CST-d-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PA-231	302.67		1.71	2.41E-03	1.71E-03	1.76E-03	1.19E-03
		330.07		1.32	3.16E-03		-2.08E-03	1.56E-03
	TH-232	74.81		11.62	3.38E-04	4.34E-05	1.49E-04	1.67E-04
		77.11		17.50	2.10E-04		-1.81E-04	1.04E-04
		87.30		7.80	5.07E-04		2.51E-03	2.51E-04
		238.63		43.30	8.42E-05		-3.61E-05	4.17E-05
		338.32		11.30	3.78E-04		-1.12E-04	1.87E-04
		583.19		30.37	1.24E-04		5.61E-05	6.09E-05
		727.33		6.58	3.04E-04		-1.36E-04	1.46E-04
		911.21		26.60	8.33E-05		-1.10E-05	4.00E-05
		968.97		16.20	1.37E-04		1.83E-04	6.58E-05
		2614.53		35.64	4.34E-05		3.14E-05	1.89E-05
	U-235	143.76		10.96	2.53E-04	6.23E-05	1.33E-04	1.25E-04
		185.71		57.20	6.23E-05		1.13E-04	3.09E-05
		205.31		5.01	7.24E-04		-1.92E-04	3.58E-04
	U-238	63.29		3.70	1.63E-03	6.99E-04	1.12E-03	8.08E-04
		92.51		4.23	6.99E-04		1.05E-04	3.45E-04
		112.81		0.21	1.28E-02		7.72E-03	6.34E-03
		742.81		0.11	1.72E-02		1.26E-02	8.24E-03
		766.28		0.32	5.74E-03		4.99E-03	2.75E-03
		1001.03		0.84	3.01E-03		2.79E-03	1.45E-03
	NP-239	99.60		12.80	2.38E-04	1.24E-04	-1.12E-04	1.18E-04
		103.80		20.40	1.46E-04		-1.36E-04	7.19E-05
		106.10		26.40	1.24E-04		-8.44E-05	6.11E-05
		116.90		7.61	3.89E-04		2.50E-04	1.92E-04
		228.20		11.20	3.82E-04		3.75E-05	1.89E-04
		277.60		14.50	3.32E-04		-2.38E-04	1.64E-04
		315.90		1.60	2.57E-03		2.21E-03	1.27E-03
		334.30		2.06	1.67E-03		-2.33E-04	8.25E-04
+	AM-241	59.54	*	35.90	2.20E-04	2.20E-04	5.43E-04	1.09E-04

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

Apex-Gamma

Analysis Report for 24-2539 TI185-7.0M-S1-CST-A V0
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2539 TI185-7.0M-S1-CST-A V0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 2:15:40PM
Procedure	: V0_gsv02mlw
Operator	: Administrator
Detector Name	: V
Geometry	: V0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.7 seconds
Dead Time	: 0.14 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/8/2023
Efficiency Calibration Used Done On	: 3/28/2019
Efficiency Calibration Description	: V0_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578956
Certificate Name	: R735-A5 5ml PSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 2:35:49PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2539 TI185-7.0M-S1-CST-A V0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.59	175.55	0.2449	6.64
2	64.27	189.30	0.4120	3.99
3	87.53	257.72	0.1601	15.55
4	92.80	273.01	0.3853	3.11
5	123.10	362.23	0.2229	8.17
6	414.79	1220.52	0.1326	16.71
7	511.33	1504.49	0.3129	3.30
8	661.71	1946.91	0.0658	61.42
9	666.41	1960.87	0.1294	16.52
10	695.13	2045.16	0.1328	14.48
11	723.57	2128.83	0.2770	3.57
12	1081.04	3180.55	0.2032	5.66
13	1109.91	3265.18	0.1998	5.82
14	1173.28	3451.92	0.0998	20.82
15	1274.41	3749.78	0.2167	3.13
16	1332.57	3920.45	0.0983	19.58
17	1361.23	4004.70	0.1844	6.39

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2539 TI185-7.0M-S1-CST-A V0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 2:35:49PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.59	168	180	175.53	7.61E+02	105.84	7.63E+02	1.14
F	2	64.27	183	195	189.28	1.46E+02	74.75	6.72E+02	0.78
F	3	87.53	250	265	257.71	1.68E+03	40.22	7.35E+02	1.18
F	4	92.80	269	280	273.22	1.03E+02	16.76	4.28E+02	1.09
F	5	123.10	354	370	362.36	4.21E+02	84.99	5.09E+02	1.24
F	6	414.79	1209	1228	1220.49	1.14E+03	86.15	4.11E+02	1.49
F	7	511.33	1501	1509	1504.51	5.37E+01	13.67	1.38E+02	1.19
M	8	661.71	1937	1968	1946.89	1.22E+04	105.78	1.60E+02	1.64
m	9	666.41	1937	1968	1960.74	8.48E+02	29.52	1.12E+02	1.65
F	10	695.13	2036	2057	2045.20	7.65E+02	27.71	1.13E+02	1.72
F	11	723.57	2124	2137	2128.89	6.07E+01	11.88	1.05E+02	1.57
F	12	1081.04	3174	3187	3180.47	9.32E+01	13.32	8.83E+01	1.58
F	13	1109.91	3258	3278	3265.40	1.29E+02	13.49	8.40E+01	1.96
F	14	1173.28	3443	3463	3451.81	1.73E+03	41.38	7.18E+01	2.19
F	15	1274.41	3740	3759	3749.28	1.00E+02	35.08	2.58E+01	2.62
F	16	1332.57	3906	3933	3920.37	1.72E+03	47.08	2.85E+01	2.38
F	17	1361.23	3996	4013	4004.70	8.09E+01	10.57	3.60E+01	1.56

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 2:35:49PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578897.CNF

Analysis Report for 24-2539 TI185-7.0M-S1-CST-A V0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.59	7.61E+02	105.84			7.61E+02	1.06E+02
F	2	64.27	1.46E+02	74.75			1.46E+02	7.47E+01
F	3	87.53	1.68E+03	40.22	6.50E+00	7.06E-01	1.67E+03	4.02E+01
F	4	92.80	1.03E+02	16.76	4.38E+01	5.59E-01	5.90E+01	1.68E+01
F	5	123.10	4.21E+02	84.99			4.21E+02	8.50E+01
F	6	414.79	1.14E+03	86.15			1.14E+03	8.61E+01
F	7	511.33	5.37E+01	13.67	4.92E+01	2.22E+00	4.54E+00	1.39E+01
M	8	661.71	1.22E+04	105.78			1.22E+04	1.06E+02
m	9	666.41	8.48E+02	29.52			8.48E+02	2.95E+01
F	10	695.13	7.65E+02	27.71			7.65E+02	2.77E+01
F	11	723.57	6.07E+01	11.88			6.07E+01	1.19E+01
F	12	1081.04	9.32E+01	13.32			9.32E+01	1.33E+01
F	13	1109.91	1.29E+02	13.49			1.29E+02	1.35E+01
F	14	1173.28	1.73E+03	41.38			1.73E+03	4.14E+01
F	15	1274.41	1.00E+02	35.08			1.00E+02	3.51E+01
F	16	1332.57	1.72E+03	47.08			1.72E+03	4.71E+01
F	17	1361.23	8.09E+01	10.57			8.09E+01	1.06E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	8.58E-04	2.08E-05	0.774
		1332.50	*	99.99	9.33E-04	2.59E-05	0.768
		2505.74		1.00			
RH-106	0.43	511.86	*	20.70	5.72E-06	1.75E-05	0.842
		621.92		9.93			
		1050.36		1.56			
CD-109	0.96	88.03	*	3.61	5.96E-03	4.49E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	6.66E-04	6.58E-05	0.396
		556.30		1.69			

Analysis Report for 24-2539 TI185-7.0M-S1-CST-A V0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	5.78E-04	2.03E-05	0.385
		674.80		3.10			
		695.00	*	99.60	5.37E-04	1.96E-05	0.384
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.99	64.28	*	9.60	3.53E-04	3.12E-04	miss
		87.30	*	45.90	4.69E-04	3.87E-05	miss
CS-137	1.00	661.66	*	85.20	3.71E-03	3.58E-05	miss
EU-154	0.38	42.70		20.45			
		123.07	*	40.40	1.53E-04	3.10E-05	0.744
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	1.18E-04	2.31E-05	0.711
		756.80		4.52			
		873.18		12.08			
		996.29		10.48			
		1004.76		18.01			
		1246.12		0.86			
		1274.43	*	34.80	1.32E-04	4.63E-05	0.883
		1494.05		0.70			
		1596.48		1.80			
U-238	0.73	63.29	*	3.70	9.16E-04	8.02E-04	miss
		92.51	*	4.23	1.69E-04	1.17E-04	1.000
		112.81		0.21			
		742.81		0.11			
		766.28		0.32			
		1001.03		0.84			
AM-241	0.99	59.54	*	35.90	6.16E-04	8.65E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

Analysis Report for 24-2539 TI185-7.0M-S1-CST-A V0

ASR 2094 Branch

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.993	8.87E-04	1.62E-05	
RH-106	0.432	5.72E-06	1.75E-05	
CD-109	0.961	2.30E-03	3.97E-03	
SB-126	0.489	5.62E-04	1.38E-05	
Sn-126	0.993	2.88E-04	3.10E-04	
CS-137	1.000	3.71E-03	3.58E-05	
EU-154	0.385	1.30E-04	1.72E-05	
U-238	0.732	1.69E-04	1.16E-04	
AM-241	0.999	6.16E-04	8.65E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2539 TI185-7.0M-S1-CST-A V0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 2:35:49PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	12	1081.04	7.77063E-02	14.28	Sum	
F	13	1109.91	1.07328E-01	10.48	Sum	
F	17	1361.23	6.74566E-02	13.05	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	2.76E-04	2.76E-04	-1.43E-04	1.35E-04
	K-40	1460.83		10.67	1.88E-04	1.88E-04	-3.67E-05	8.86E-05
	MN-54	834.84		99.98	2.03E-05	2.03E-05	-6.51E-06	9.74E-06
	CO-58	810.78		99.45	2.27E-05	2.27E-05	1.54E-05	1.09E-05
		863.96		0.68	4.70E-03		-4.91E-03	2.26E-03
		1674.73		0.52	1.96E-03		-1.24E-03	8.70E-04
	FE-59	142.65		1.00	1.45E-03	3.53E-05	5.43E-04	7.10E-04
		192.35		3.01	7.77E-04		5.50E-04	3.81E-04
		334.80		0.27	7.59E-03		9.43E-03	3.71E-03
		1099.25		56.30	4.17E-05		-3.19E-05	2.00E-05
		1291.60		43.70	3.53E-05		2.23E-05	1.64E-05
+	CO-60	1173.24	*	99.97	3.59E-05	2.87E-05	8.58E-04	1.73E-05
		1332.50	*	99.99	2.87E-05		9.33E-04	1.36E-05
		2505.74		1.00	3.31E-03		7.33E-03	1.57E-03
	SR-85	514.00		96.00	2.54E-05	2.54E-05	-4.10E-07	1.24E-05

Analysis Report for 24-2539 TI185-7.0M-S1-CST-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	868.60		0.01	2.10E-01	2.54E-05	1.72E-01	1.02E-01
	NB-94	702.62		97.90	2.68E-05	2.68E-05	-3.64E-06	1.29E-05
		871.09		99.98	3.34E-05		4.10E-05	1.61E-05
	NB-95	765.81		99.81	1.96E-05	1.96E-05	7.46E-06	9.40E-06
	RU-103	497.05		91.00	2.81E-05	2.81E-05	1.44E-05	1.37E-05
		610.30		5.76	3.75E-04		1.34E-04	1.82E-04
+	RH-106	511.86	*	20.70	9.67E-05	9.67E-05	5.72E-06	4.66E-05
		621.92		9.93	2.79E-04		-1.88E-04	1.35E-04
		1050.36		1.56	2.16E-03		1.02E-03	1.04E-03
	AG-108M	79.13		6.60	3.34E-04	4.28E-05	-2.19E-04	1.64E-04
		433.90		90.50	5.04E-05		-2.31E-05	2.47E-05
		614.30		89.80	4.28E-05		4.48E-06	2.07E-05
		722.90		90.80	4.73E-05		5.91E-05	2.29E-05
+	CD-109	88.03	*	3.61	7.20E-04	7.20E-04	5.96E-03	3.55E-04
	SB-125	176.31		6.82	2.30E-04	8.45E-05	5.08E-05	1.13E-04
		380.45		1.52	1.48E-03		-4.10E-04	7.24E-04
		427.87		29.55	8.45E-05		-8.03E-05	4.14E-05
		463.36		10.48	2.67E-04		-1.11E-05	1.31E-04
		600.60		17.76	1.22E-04		1.11E-05	5.89E-05
		606.71		5.02	4.39E-04		-9.73E-05	2.13E-04
		635.95		11.32	1.86E-04		-1.01E-04	8.98E-05
		671.44		1.78	2.20E-03		-3.27E-04	1.08E-03
+	SB-126	223.90		1.39	1.33E-03	3.53E-05	-6.09E-06	6.52E-04
		278.20		2.40	2.25E-03		-2.03E-03	1.10E-03
		296.50		4.50	1.34E-03		3.83E-05	6.53E-04
		414.70	*	83.30	9.74E-05		6.66E-04	4.79E-05
		556.30		1.69	3.95E-03		-3.59E-03	1.91E-03
		573.90		6.70	1.05E-03		8.88E-04	5.07E-04
		593.20		7.50	6.85E-04		1.20E-05	3.32E-04
		656.30		2.19	1.63E-02		5.24E-04	8.10E-03
		666.50	*	99.60	3.53E-05		5.78E-04	1.67E-05
		674.80		3.10	1.90E-03		-2.76E-04	9.13E-04
		695.00	*	99.60	6.46E-05		5.37E-04	3.14E-05
		697.00		29.00	4.58E-04		2.44E-03	2.25E-04
		720.70		53.80	1.31E-04		5.44E-05	6.33E-05
		856.80		17.60	3.23E-04		1.33E-04	1.55E-04
		989.60		6.80	9.39E-04		-5.35E-04	4.53E-04
		1213.30		2.39	1.91E-03		1.34E-04	9.00E-04
+	Sn-126	64.28	*	9.60	4.32E-04	5.66E-05	3.53E-04	2.13E-04
		87.30	*	45.90	5.66E-05		4.69E-04	2.79E-05
	I-129	29.70		56.60	3.67E-03	3.38E-03	2.60E-04	1.80E-03
		33.60		10.04	7.62E-03		-3.96E-03	3.73E-03
		34.40		2.01	3.23E-02		-3.30E-02	1.58E-02
		39.60		7.51	3.38E-03		2.63E-03	1.66E-03
	CS-134	563.25		8.34	4.18E-04	3.25E-05	3.04E-05	2.02E-04
		569.33		15.37	2.42E-04		8.83E-05	1.17E-04
		604.72		97.62	3.25E-05		2.23E-05	1.58E-05
		795.86		85.46	3.31E-05		6.19E-08	1.59E-05
		801.95		8.69	4.01E-04		-1.92E-05	1.93E-04
+	CS-137	661.66	*	85.20	1.88E-05	1.88E-05	3.71E-03	8.98E-06
	CE-139	165.85		79.89	1.94E-05	1.94E-05	-7.00E-06	9.52E-06
	CE-141	40.70		3.35	6.27E-03	2.95E-05	-5.55E-03	3.07E-03
		145.44		48.29	2.95E-05		1.15E-05	1.44E-05

Analysis Report for 24-2539 TI185-7.0M-S1-CST-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CE-144	80.12		1.36	1.60E-03	1.23E-04	7.33E-04	7.87E-04
		133.51		11.09	1.23E-04		4.46E-05	5.99E-05
	EU-152	121.78		28.58	7.97E-05	7.97E-05	-7.21E-06	3.91E-05
		344.28		26.50	9.60E-05		-1.99E-05	4.69E-05
		778.90		12.94	1.98E-04		-1.01E-04	9.50E-05
		964.08		14.73	1.96E-04		-1.39E-04	9.42E-05
		1085.87		10.24	2.68E-04		7.22E-05	1.30E-04
		1112.07		13.69	2.47E-04		4.73E-04	1.19E-04
		1408.01		21.07	8.00E-05		2.34E-05	3.69E-05
	GD-153	97.43		29.00	5.09E-05	5.09E-05	-1.56E-05	2.49E-05
		103.18		21.10	7.11E-05		4.09E-05	3.48E-05
+	EU-154	42.70		20.45	7.80E-04	5.87E-05	5.36E-05	3.82E-04
		123.07	*	40.40	6.27E-05		1.53E-04	3.09E-05
		247.93		6.89	4.01E-04		1.87E-04	1.96E-04
		591.76		4.95	6.77E-04		-3.51E-04	3.28E-04
		692.42		1.78	3.13E-03		4.07E-04	1.54E-03
		723.30	*	20.06	1.45E-04		1.18E-04	6.99E-05
		756.80		4.52	7.04E-04		-4.01E-04	3.38E-04
		873.18		12.08	3.02E-04		5.14E-04	1.46E-04
		996.29		10.48	2.73E-04		-1.55E-05	1.31E-04
		1004.76		18.01	1.55E-04		-1.61E-04	7.47E-05
		1246.12		0.86	2.86E-03		-2.23E-03	1.33E-03
		1274.43	*	34.80	5.87E-05		1.32E-04	2.76E-05
		1494.05		0.70	2.16E-03		2.98E-04	1.00E-03
		1596.48		1.80	4.53E-04		-3.75E-04	2.08E-04
	EU-155	43.00		18.70	8.18E-04	6.84E-05	-9.44E-05	4.01E-04
		60.01		1.22	4.65E-03		3.55E-05	2.30E-03
		86.55		30.70	1.03E-04		-1.56E-05	5.08E-05
		105.31		21.10	6.84E-05		3.39E-05	3.35E-05
	HG-203	72.87		6.30	4.16E-04	2.26E-05	5.40E-04	2.04E-04
		279.20		81.46	2.26E-05		-1.61E-06	1.11E-05
	BI-207	569.15		97.80	2.99E-05	2.99E-05	1.62E-06	1.45E-05
		1063.10		74.90	4.92E-05		6.65E-06	2.35E-05
	PB-210	46.54		4.25	2.39E-03	2.39E-03	-8.54E-04	1.17E-03
	RA-226	74.81		6.44	3.83E-04	4.69E-05	2.08E-05	1.88E-04
		77.11		10.80	2.16E-04		1.93E-04	1.06E-04
		87.30		4.84	6.42E-04		-6.29E-05	3.17E-04
		186.21		3.59	4.88E-04		-8.32E-05	2.39E-04
		242.00		7.43	2.49E-04		-5.61E-05	1.22E-04
		295.22		19.30	9.62E-05		-1.09E-04	4.70E-05
		351.93		37.60	5.96E-05		3.42E-05	2.92E-05
		609.31		46.10	4.69E-05		1.03E-05	2.27E-05
		768.36		4.94	3.88E-04		-7.83E-05	1.86E-04
		1120.29		15.10	1.61E-04		1.60E-04	7.70E-05
		1238.11		5.79	2.91E-04		-1.96E-04	1.36E-04
		1764.49		15.40	9.58E-05		6.89E-05	4.35E-05
	PA-231	283.70		1.59	1.18E-03	7.75E-04	5.13E-04	5.75E-04
		300.07		2.38	7.75E-04		-8.36E-04	3.78E-04
		302.67		1.71	1.06E-03		-2.43E-05	5.18E-04
		330.07		1.32	1.45E-03		-4.31E-04	7.06E-04
	TH-232	74.81		11.62	2.12E-04	3.60E-05	1.15E-05	1.04E-04
		77.11		17.50	1.33E-04		1.19E-04	6.55E-05
		87.30		7.80	3.98E-04		-3.90E-05	1.97E-04

Analysis Report for 24-2539 TI185-7.0M-S1-CST-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	238.63		43.30	4.29E-05	3.60E-05	1.69E-05	2.10E-05
		338.32		11.30	1.80E-04		-2.72E-05	8.80E-05
		583.19		30.37	6.96E-05		-8.09E-07	3.37E-05
		727.33		6.58	3.44E-04		-2.17E-05	1.66E-04
		911.21		26.60	8.93E-05		-1.68E-04	4.30E-05
		968.97		16.20	1.47E-04		1.92E-05	7.07E-05
		2614.53		35.64	3.60E-05		2.50E-05	1.56E-05
	U-235	143.76		10.96	1.30E-04	3.04E-05	-6.14E-05	6.35E-05
		185.71		57.20	3.04E-05		6.10E-06	1.49E-05
		205.31		5.01	3.62E-04		-4.42E-05	1.78E-04
+	U-238	63.29	*	3.70	1.12E-03	4.06E-04	9.16E-04	5.52E-04
		92.51	*	4.23	4.06E-04		1.69E-04	1.99E-04
		112.81		0.21	6.56E-03		8.92E-04	3.21E-03
		742.81		0.11	1.73E-02		6.72E-03	8.30E-03
		766.28		0.32	6.08E-03		-1.79E-03	2.92E-03
		1001.03		0.84	3.16E-03		2.48E-03	1.52E-03
	NP-239	99.60		12.80	1.21E-04	6.61E-05	-4.40E-05	5.93E-05
		103.80		20.40	7.89E-05		8.06E-05	3.86E-05
		106.10		26.40	6.61E-05		-8.76E-06	3.24E-05
		116.90		7.61	1.93E-04		-5.01E-05	9.42E-05
		228.20		11.20	1.96E-04		6.82E-05	9.59E-05
		277.60		14.50	1.52E-04		-1.38E-05	7.42E-05
		315.90		1.60	1.16E-03		3.71E-04	5.68E-04
		334.30		2.06	8.05E-04		-4.54E-04	3.93E-04
+	AM-241	59.54	*	35.90	1.54E-04	1.54E-04	6.16E-04	7.58E-05

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

Apex-Gamma

Analysis Report for 24-2540 TI185-7.0M-S1-CST-d-A V0
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2540 TI185-7.0M-S1-CST-d-A V0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 2:56:55PM
Procedure	: V0_gsv02mlw
Operator	: Administrator
Detector Name	: V
Geometry	: V0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.7 seconds
Dead Time	: 0.14 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/8/2023
Efficiency Calibration Used Done On	: 3/28/2019
Efficiency Calibration Description	: V0_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578968
Certificate Name	: R735-A5 5ml PSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 3:17:03PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2540 TI185-7.0M-S1-CST-d-A V0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.63	175.49	0.2430	8.63
2	64.36	189.47	0.3763	3.54
3	87.51	257.80	0.1638	14.32
4	123.13	362.44	0.2200	8.30
5	414.83	1220.66	0.1301	17.95
6	608.82	1791.57	0.3333	3.14
7	661.69	1946.90	0.0652	62.10
8	666.39	1960.79	0.1351	14.21
9	695.12	2045.19	0.1289	16.04
10	723.50	2128.59	0.2549	4.75
11	764.87	2250.39	0.3217	3.06
12	1005.09	2956.83	0.2611	3.87
13	1081.23	3180.94	0.1989	4.99
14	1109.58	3264.43	0.2019	5.42
15	1173.33	3452.11	0.0992	21.04
16	1274.56	3749.84	0.2123	4.72
17	1332.55	3920.40	0.0990	19.67
18	1361.62	4005.85	0.1949	5.87
19	2505.75	7371.54	0.1770	4.79

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2540 TI185-7.0M-S1-CST-d-A V0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 3:17:03PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.63	168	182	175.63	8.00E+02	95.86	9.20E+02	1.02
F	2	64.36	185	196	189.54	1.69E+02	21.72	6.99E+02	0.96
F	3	87.51	250	265	257.65	1.74E+03	122.51	7.88E+02	1.26
F	4	123.13	355	367	362.46	3.37E+02	80.63	5.14E+02	0.99
F	5	414.83	1213	1226	1220.63	1.08E+03	34.94	3.74E+02	1.35
F	6	608.82	1786	1796	1791.30	2.11E+01	9.85	1.31E+02	0.46
M	7	661.69	1937	1971	1946.84	1.25E+04	171.63	1.64E+02	1.69
m	8	666.39	1937	1971	1960.67	8.51E+02	31.47	9.83E+01	1.69
F	9	695.12	2037	2053	2045.18	8.03E+02	74.82	1.44E+02	1.63
F	10	723.50	2124	2135	2128.68	5.12E+01	10.33	7.59E+01	0.97
	11	764.87	2246	2255	2250.39	2.25E+00	14.10	5.38E+01	0.34
F	12	1005.09	2952	2963	2957.05	5.67E+01	10.75	5.23E+01	1.68
F	13	1081.23	3173	3188	3181.03	1.61E+02	48.17	4.80E+01	2.28
F	14	1109.58	3257	3273	3264.41	1.41E+02	14.00	7.34E+01	2.11
F	15	1173.33	3440	3460	3451.94	1.74E+03	80.84	5.59E+01	2.11
F	16	1274.56	3741	3759	3749.74	8.84E+01	35.73	3.39E+01	2.01
F	17	1332.55	3907	3932	3920.31	1.62E+03	61.04	2.57E+01	2.33
F	18	1361.62	3998	4013	4005.83	9.32E+01	29.60	1.64E+01	1.66
F	19	2505.75	7359	7382	7371.18	1.42E+02	389.92	5.88E+00	3.37

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 3:17:03PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578897.CNF

Analysis Report for 24-2540 TI185-7.0M-S1-CST-d-A V0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.63	8.00E+02	95.86			8.00E+02	9.59E+01
F	2	64.36	1.69E+02	21.72			1.69E+02	2.17E+01
F	3	87.51	1.74E+03	122.51	6.50E+00	7.06E-01	1.74E+03	1.23E+02
F	4	123.13	3.37E+02	80.63			3.37E+02	8.06E+01
F	5	414.83	1.08E+03	34.94			1.08E+03	3.49E+01
F	6	608.82	2.11E+01	9.85	3.33E+01	1.24E+00	-1.22E+01	9.92E+00
M	7	661.69	1.25E+04	171.63			1.25E+04	1.72E+02
m	8	666.39	8.51E+02	31.47			8.51E+02	3.15E+01
F	9	695.12	8.03E+02	74.82			8.03E+02	7.48E+01
F	10	723.50	5.12E+01	10.33			5.12E+01	1.03E+01
	11	764.87	2.25E+00	14.10			2.25E+00	1.41E+01
F	12	1005.09	5.67E+01	10.75			5.67E+01	1.07E+01
F	13	1081.23	1.61E+02	48.17			1.61E+02	4.82E+01
F	14	1109.58	1.41E+02	14.00			1.41E+02	1.40E+01
F	15	1173.33	1.74E+03	80.84			1.74E+03	8.08E+01
F	16	1274.56	8.84E+01	35.73			8.84E+01	3.57E+01
F	17	1332.55	1.62E+03	61.04			1.62E+03	6.10E+01
F	18	1361.62	9.32E+01	29.60			9.32E+01	2.96E+01
F	19	2505.75	1.42E+02	389.92			1.42E+02	3.90E+02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	8.62E-04	4.02E-05	0.774
		1332.50	*	99.99	8.78E-04	3.34E-05	0.768
		2505.74	*	1.00	8.81E-03	2.42E-02	miss
NB-95	0.87	765.81	*	99.81	6.51E-07	4.08E-06	free
CD-109	0.95	88.03	*	3.61	6.20E-03	6.34E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	6.31E-04	4.51E-05	0.396
		556.30		1.69			

Analysis Report for 24-2540 TI185-7.0M-S1-CST-d-A V0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	5.80E-04	2.16E-05	0.385
		674.80		3.10			
		695.00	*	99.60	5.64E-04	5.26E-05	0.384
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.99	64.28	*	9.60	4.07E-04	3.02E-04	miss
		87.30	*	45.90	4.87E-04	5.25E-05	miss
CS-137	1.00	661.66	*	85.20	3.82E-03	5.48E-05	miss
EU-154	0.52	42.70		20.45			
		123.07	*	40.40	1.23E-04	2.94E-05	0.744
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	9.91E-05	2.00E-05	0.711
		756.80		4.52			
		873.18		12.08			
		996.29		10.48			
		1004.76	*	18.01	1.25E-04	2.37E-05	0.871
		1246.12		0.86			
		1274.43	*	34.80	1.17E-04	4.71E-05	0.883
		1494.05		0.70			
		1596.48		1.80			
AM-241	0.99	59.54	*	35.90	6.46E-04	7.88E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2540 TI185-7.0M-S1-CST-d-A V0

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.999	8.71E-04	2.57E-05	
NB-95	0.870	6.51E-07	4.08E-06	
CD-109	0.957	1.03E-03	3.80E-03	
SB-126	0.489	5.86E-04	1.83E-05	
Sn-126	0.994	4.07E-04	2.95E-04	
CS-137	1.000	3.82E-03	5.48E-05	
EU-154	0.524	1.13E-04	1.30E-05	
AM-241	0.999	6.46E-04	7.88E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2540 TI185-7.0M-S1-CST-d-A V0
ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 3:17:03PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	6	608.82	-1.01428E-02	- 81.53	Tol.	RA-226
F	13	1081.23	1.34150E-01	29.92	Sum	
F	14	1109.58	1.17748E-01	9.90	Sum	
F	18	1361.62	7.76719E-02	31.76	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	2.84E-04	2.84E-04	2.28E-04	1.39E-04
	K-40	1460.83		10.67	1.65E-04	1.65E-04	1.19E-05	7.67E-05
	MN-54	834.84		99.98	2.25E-05	2.25E-05	-1.74E-05	1.09E-05
	CO-58	810.78		99.45	2.43E-05	2.43E-05	-1.75E-06	1.17E-05
		863.96		0.68	4.57E-03		4.48E-03	2.20E-03
		1674.73		0.52	2.07E-03		9.13E-04	9.28E-04
	FE-59	142.65		1.00	1.47E-03	3.88E-05	9.83E-04	7.18E-04
		192.35		3.01	7.86E-04		3.68E-04	3.86E-04
		334.80		0.27	7.70E-03		-3.28E-03	3.76E-03
		1099.25		56.30	4.33E-05		3.27E-05	2.07E-05
		1291.60		43.70	3.88E-05		2.54E-05	1.81E-05
+	CO-60	1173.24	*	99.97	3.15E-05	2.62E-05	8.62E-04	1.51E-05
		1332.50	*	99.99	2.62E-05		8.78E-04	1.24E-05
		2505.74	*	1.00	1.47E-03		8.81E-03	6.53E-04

Analysis Report for 24-2540 TI185-7.0M-S1-CST-d-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	514.00		96.00	2.61E-05	2.61E-05	3.59E-05	1.27E-05
		868.60		0.01	2.08E-01		1.32E-01	1.01E-01
	NB-94	702.62		97.90	2.70E-05	2.70E-05	-1.12E-05	1.30E-05
		871.09		99.98	3.37E-05		2.72E-05	1.63E-05
+	NB-95	765.81	*	99.81	1.41E-05	1.41E-05	6.51E-07	6.67E-06
	RU-103	497.05		91.00	2.87E-05	2.87E-05	7.79E-06	1.40E-05
		610.30		5.76	3.99E-04		3.12E-04	1.94E-04
	RH-106	511.86		20.70	1.43E-04	1.43E-04	1.00E-04	6.99E-05
		621.92		9.93	2.98E-04		1.38E-04	1.44E-04
		1050.36		1.56	2.13E-03		2.74E-03	1.02E-03
	AG-108M	79.13		6.60	3.43E-04	4.50E-05	-1.15E-04	1.68E-04
		433.90		90.50	5.29E-05		8.47E-06	2.59E-05
		614.30		89.80	4.63E-05		2.54E-05	2.25E-05
		722.90		90.80	4.50E-05		8.78E-05	2.17E-05
+	CD-109	88.03	*	3.61	7.47E-04	7.47E-04	6.20E-03	3.69E-04
	SB-125	176.31		6.82	2.32E-04	8.98E-05	8.87E-05	1.14E-04
		380.45		1.52	1.49E-03		6.13E-04	7.27E-04
		427.87		29.55	8.98E-05		4.11E-05	4.40E-05
		463.36		10.48	2.80E-04		-2.80E-04	1.37E-04
		600.60		17.76	1.20E-04		4.02E-06	5.81E-05
		606.71		5.02	4.49E-04		1.70E-04	2.18E-04
		635.95		11.32	1.92E-04		-2.34E-05	9.32E-05
		671.44		1.78	2.22E-03		-5.31E-04	1.09E-03
+	SB-126	223.90		1.39	1.34E-03	3.33E-05	5.20E-04	6.59E-04
		278.20		2.40	2.34E-03		8.02E-04	1.15E-03
		296.50		4.50	1.37E-03		6.32E-04	6.72E-04
		414.70	*	83.30	8.03E-05		6.31E-04	3.94E-05
		556.30		1.69	4.07E-03		3.88E-03	1.97E-03
		573.90		6.70	1.08E-03		-4.94E-04	5.25E-04
		593.20		7.50	7.20E-04		-4.86E-04	3.49E-04
		656.30		2.19	1.66E-02		-2.42E-03	8.22E-03
		666.50	*	99.60	3.33E-05		5.80E-04	1.57E-05
		674.80		3.10	2.06E-03		-2.73E-04	9.94E-04
		695.00	*	99.60	6.53E-05		5.64E-04	3.17E-05
		697.00		29.00	4.81E-04		2.67E-03	2.36E-04
		720.70		53.80	1.27E-04		2.42E-04	6.16E-05
		856.80		17.60	3.33E-04		-1.27E-04	1.60E-04
		989.60		6.80	9.05E-04		-5.74E-04	4.36E-04
		1213.30		2.39	1.93E-03		1.92E-03	9.10E-04
+	Sn-126	64.28	*	9.60	4.29E-04	5.87E-05	4.07E-04	2.11E-04
		87.30	*	45.90	5.87E-05		4.87E-04	2.90E-05
	I-129	29.70		56.60	3.64E-03	3.33E-03	5.46E-04	1.78E-03
		33.60		10.04	7.73E-03		-2.68E-03	3.79E-03
		34.40		2.01	3.30E-02		-1.20E-02	1.62E-02
		39.60		7.51	3.33E-03		-2.22E-03	1.63E-03
	CS-134	563.25		8.34	4.22E-04	3.23E-05	-5.09E-04	2.05E-04
		569.33		15.37	2.55E-04		-2.43E-04	1.24E-04
		604.72		97.62	3.23E-05		-9.37E-06	1.57E-05
		795.86		85.46	3.48E-05		-2.17E-05	1.67E-05
		801.95		8.69	4.18E-04		-2.29E-04	2.01E-04
+	CS-137	661.66	*	85.20	1.90E-05	1.90E-05	3.82E-03	9.09E-06
	CE-139	165.85		79.89	1.96E-05	1.96E-05	6.70E-06	9.58E-06
	CE-141	40.70		3.35	6.29E-03	2.97E-05	-1.41E-03	3.08E-03

Analysis Report for 24-2540 TI185-7.0M-S1-CST-d-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CE-141	145.44		48.29	2.97E-05	2.97E-05	-1.72E-05	1.45E-05
	CE-144	80.12		1.36	1.63E-03	1.21E-04	-6.22E-04	7.99E-04
		133.51		11.09	1.21E-04		8.67E-05	5.89E-05
	EU-152	121.78		28.58	8.02E-05	8.02E-05	8.57E-06	3.94E-05
		344.28		26.50	9.73E-05		5.31E-05	4.76E-05
		778.90		12.94	2.05E-04		-1.86E-04	9.83E-05
		964.08		14.73	2.06E-04		7.14E-06	9.91E-05
		1085.87		10.24	2.83E-04		-1.26E-05	1.37E-04
		1112.07		13.69	2.52E-04		3.68E-04	1.22E-04
		1408.01		21.07	9.26E-05		4.20E-05	4.31E-05
	GD-153	97.43		29.00	5.29E-05	5.29E-05	5.08E-06	2.59E-05
		103.18		21.10	7.07E-05		-2.81E-05	3.46E-05
+	EU-154	42.70		20.45	7.76E-04	5.69E-05	7.21E-05	3.80E-04
		123.07	*	40.40	5.69E-05		1.23E-04	2.79E-05
		247.93		6.89	4.05E-04		5.60E-04	1.99E-04
		591.76		4.95	7.07E-04		-4.86E-04	3.43E-04
		692.42		1.78	3.33E-03		1.77E-02	1.64E-03
		723.30	*	20.06	1.17E-04		9.91E-05	5.58E-05
		756.80		4.52	7.10E-04		4.56E-04	3.42E-04
		873.18		12.08	3.07E-04		-1.89E-04	1.48E-04
		996.29		10.48	2.87E-04		2.15E-04	1.38E-04
		1004.76	*	18.01	1.11E-04		1.25E-04	5.24E-05
		1246.12		0.86	3.07E-03		1.38E-03	1.44E-03
		1274.43	*	34.80	6.50E-05		1.17E-04	3.07E-05
		1494.05		0.70	2.04E-03		-3.06E-04	9.41E-04
		1596.48		1.80	4.33E-04		-4.29E-04	1.98E-04
	EU-155	43.00		18.70	8.17E-04	6.97E-05	1.16E-04	4.00E-04
		60.01		1.22	4.79E-03		3.16E-06	2.36E-03
		86.55		30.70	1.04E-04		1.63E-05	5.15E-05
		105.31		21.10	6.97E-05		5.80E-05	3.41E-05
	HG-203	72.87		6.30	4.35E-04	2.36E-05	1.20E-04	2.14E-04
		279.20		81.46	2.36E-05		5.31E-06	1.16E-05
	BI-207	569.15		97.80	3.17E-05	3.17E-05	-5.42E-07	1.54E-05
		1063.10		74.90	5.07E-05		5.09E-05	2.43E-05
	PB-210	46.54		4.25	2.42E-03	2.42E-03	5.29E-04	1.19E-03
	RA-226	74.81		6.44	4.00E-04	4.99E-05	2.50E-04	1.96E-04
		77.11		10.80	2.20E-04		-1.88E-04	1.08E-04
		87.30		4.84	6.52E-04		2.56E-05	3.22E-04
		186.21		3.59	4.92E-04		3.94E-04	2.41E-04
		242.00		7.43	2.62E-04		-1.33E-04	1.28E-04
		295.22		19.30	1.00E-04		3.33E-05	4.90E-05
		351.93		37.60	6.08E-05		2.96E-05	2.98E-05
		609.31		46.10	4.99E-05		1.15E-04	2.42E-05
		768.36		4.94	3.94E-04		1.46E-05	1.89E-04
		1120.29		15.10	1.57E-04		-1.06E-04	7.52E-05
		1238.11		5.79	3.13E-04		1.20E-04	1.47E-04
		1764.49		15.40	1.12E-04		7.26E-05	5.14E-05
	PA-231	283.70		1.59	1.21E-03	7.77E-04	1.27E-04	5.93E-04
		300.07		2.38	7.77E-04		-3.76E-04	3.79E-04
		302.67		1.71	1.09E-03		1.38E-04	5.32E-04
		330.07		1.32	1.44E-03		-1.58E-03	7.05E-04
	TH-232	74.81		11.62	2.22E-04	3.24E-05	1.38E-04	1.09E-04
		77.11		17.50	1.36E-04		-1.16E-04	6.68E-05

Analysis Report for 24-2540 TI185-7.0M-S1-CST-d-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	87.30		7.80	4.04E-04	3.24E-05	1.59E-05	2.00E-04
		238.63		43.30	4.52E-05		1.99E-05	2.21E-05
		338.32		11.30	1.85E-04		-2.75E-05	9.02E-05
		583.19		30.37	7.24E-05		5.02E-05	3.52E-05
		727.33		6.58	3.14E-04		-3.43E-04	1.51E-04
		911.21		26.60	9.57E-05		-1.65E-05	4.62E-05
		968.97		16.20	1.62E-04		1.23E-04	7.84E-05
		2614.53		35.64	3.24E-05		-8.61E-06	1.38E-05
	U-235	143.76		10.96	1.31E-04	3.08E-05	1.98E-05	6.41E-05
		185.71		57.20	3.08E-05		2.30E-05	1.51E-05
		205.31		5.01	3.70E-04		1.98E-04	1.82E-04
	U-238	63.29		3.70	1.09E-03	3.91E-04	8.85E-07	5.35E-04
		92.51		4.23	3.91E-04		-7.47E-05	1.92E-04
		112.81		0.21	6.66E-03		-2.41E-03	3.26E-03
		742.81		0.11	1.82E-02		-2.12E-02	8.74E-03
		766.28		0.32	5.94E-03		-6.49E-03	2.85E-03
		1001.03		0.84	3.43E-03		3.65E-03	1.66E-03
	NP-239	99.60		12.80	1.29E-04	6.71E-05	2.13E-05	6.34E-05
		103.80		20.40	7.87E-05		-3.58E-05	3.85E-05
		106.10		26.40	6.71E-05		-2.53E-06	3.28E-05
		116.90		7.61	2.03E-04		-9.57E-07	9.95E-05
		228.20		11.20	2.03E-04		3.95E-05	9.98E-05
		277.60		14.50	1.57E-04		-8.81E-06	7.70E-05
		315.90		1.60	1.17E-03		4.70E-04	5.72E-04
		334.30		2.06	8.32E-04		-7.05E-06	4.07E-04
+	AM-241	59.54	*	35.90	1.78E-04	1.78E-04	6.46E-04	8.78E-05

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

Apex-Gamma

Analysis Report for 24-2541 TI185-7.0M-S2-CST-A W0
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2541 TI185-7.0M-S2-CST-A W0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 2:15:48PM
Procedure	: W0_gsv02mlw
Operator	: Administrator
Detector Name	: W
Geometry	: W0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.2 seconds
Dead Time	: 0.10 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 8/11/2023
Efficiency Calibration Used Done On	: 5/17/2021
Efficiency Calibration Description	: W0_gsv2mlw_R724p
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578957
Certificate Name	: R735-A10 20ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 2:35:56PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2541 TI185-7.0M-S2-CST-A W0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.65	162.36	0.2251	7.35
2	64.58	174.98	0.3474	3.15
3	87.51	237.58	0.1621	13.96
4	123.11	333.72	0.2350	6.48
5	342.55	925.90	0.3667	3.28
6	414.83	1120.87	0.1425	14.65
7	661.70	1787.31	0.0744	48.85
8	666.47	1800.39	0.1461	13.73
9	695.13	1877.43	0.1445	13.63
10	723.52	1953.85	0.3074	3.38
11	1004.97	2714.16	0.2574	4.32
12	1081.34	2919.86	0.2394	3.67
13	1110.36	2998.41	0.2451	3.73
14	1173.37	3168.88	0.1135	18.30
15	1274.39	3441.48	0.2206	5.10
16	1332.63	3598.82	0.1148	16.61
17	1361.36	3676.23	0.2312	3.70
18	2505.06	6765.67	0.2021	4.43

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2541 TI185-7.0M-S2-CST-A W0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 2:35:56PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.65	155 -	168	162.36	6.69E+02	105.19	7.00E+02	1.47
F	2	64.58	170 -	181	175.67	1.68E+02	117.16	6.17E+02	0.50
F	3	87.51	229 -	245	237.54	1.50E+03	40.44	8.49E+02	1.42
F	4	123.11	325 -	339	333.62	4.07E+02	89.55	5.18E+02	1.52
	5	342.55	922 -	929	925.90	1.64E+01	22.26	1.60E+02	0.67
F	6	414.83	1114 -	1129	1120.98	1.01E+03	34.30	3.73E+02	1.59
M	7	661.70	1776 -	1811	1787.35	1.05E+04	146.43	1.07E+02	1.84
m	8	666.47	1776 -	1811	1800.25	8.16E+02	30.95	8.21E+01	1.84
F	9	695.13	1868 -	1887	1877.60	7.43E+02	69.74	1.04E+02	1.80
F	10	723.52	1949 -	1958	1954.24	3.93E+01	10.37	8.32E+01	1.12
F	11	1004.97	2707 -	2722	2714.07	3.90E+01	8.74	9.21E+01	0.79
F	12	1081.34	2913 -	2928	2920.25	1.14E+02	12.59	5.45E+01	2.36
F	13	1110.36	2990 -	3006	2998.62	8.77E+01	13.14	1.05E+02	1.98
F	14	1173.37	3158 -	3179	3168.75	1.60E+03	80.54	9.33E+01	2.24
F	15	1274.39	3434 -	3449	3441.49	1.07E+02	11.55	2.83E+01	2.16
F	16	1332.63	3588 -	3608	3598.74	1.44E+03	37.69	3.66E+01	2.37
F	17	1361.36	3669 -	3684	3676.33	9.39E+01	38.44	2.40E+01	2.37
F	18	2505.06	6755 -	6775	6765.25	1.01E+02	10.09	0.00E+00	2.98

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 2:35:56PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578898.CNF

Analysis Report for 24-2541 TI185-7.0M-S2-CST-A W0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.65	6.69E+02	105.19			6.69E+02	1.05E+02
F	2	64.58	1.68E+02	117.16			1.68E+02	1.17E+02
F	3	87.51	1.50E+03	40.44	9.22E+00	7.54E-01	1.49E+03	4.04E+01
F	4	123.11	4.07E+02	89.55			4.07E+02	8.96E+01
	5	342.55	1.64E+01	22.26			1.64E+01	2.23E+01
F	6	414.83	1.01E+03	34.30			1.01E+03	3.43E+01
M	7	661.70	1.05E+04	146.43			1.05E+04	1.46E+02
m	8	666.47	8.16E+02	30.95			8.16E+02	3.10E+01
F	9	695.13	7.43E+02	69.74			7.43E+02	6.97E+01
F	10	723.52	3.93E+01	10.37			3.93E+01	1.04E+01
F	11	1004.97	3.90E+01	8.74			3.90E+01	8.74E+00
F	12	1081.34	1.14E+02	12.59			1.14E+02	1.26E+01
F	13	1110.36	8.77E+01	13.14			8.77E+01	1.31E+01
F	14	1173.37	1.60E+03	80.54			1.60E+03	8.05E+01
F	15	1274.39	1.07E+02	11.55			1.07E+02	1.15E+01
F	16	1332.63	1.44E+03	37.69			1.44E+03	3.77E+01
F	17	1361.36	9.39E+01	38.44			9.39E+01	3.84E+01
F	18	2505.06	1.01E+02	10.09			1.01E+02	1.01E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	8.04E-04	4.07E-05	0.773
		1332.50	*	99.99	7.94E-04	2.15E-05	0.765
		2505.74	*	1.00	7.27E-03	8.61E-04	miss
CD-109	0.95	88.03	*	3.61	5.52E-03	2.19E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	6.20E-04	4.51E-05	0.393
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			

Analysis Report for 24-2541 TI185-7.0M-S2-CST-A W0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	656.30		2.19			
		666.50	*	99.60	5.85E-04	2.25E-05	0.382
		674.80		3.10			
		695.00	*	99.60	5.48E-04	5.16E-05	0.381
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.99	64.28	*	9.60	3.96E-04	2.83E-04	miss
		87.30	*	45.90	4.34E-04	2.26E-05	miss
CS-137	1.00	661.66	*	85.20	3.33E-03	5.00E-05	miss
EU-154	0.52	42.70		20.45			
		123.07	*	40.40	1.60E-04	3.52E-05	0.742
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	7.98E-05	2.11E-05	0.705
		756.80		4.52			
		873.18		12.08			
		996.29		10.48			
		1004.76	*	18.01	8.84E-05	1.99E-05	0.864
		1246.12		0.86			
		1274.43	*	34.80	1.44E-04	1.56E-05	0.875
		1494.05		0.70			
		1596.48		1.80			
AM-241	0.99	59.54	*	35.90	5.33E-04	8.47E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2541 TI185-7.0M-S2-CST-A W0

ASR 2094 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.997	7.99E-04	1.90E-05	
CD-109	0.958	4.90E-04	3.52E-03	
SB-126	0.489	5.86E-04	1.87E-05	
Sn-126	0.992	3.96E-04	2.76E-04	
CS-137	1.000	3.33E-03	5.00E-05	
EU-154	0.525	1.16E-04	1.02E-05	
AM-241	0.998	5.33E-04	8.47E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2541 TI185-7.0M-S2-CST-A W0
ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 2:35:56PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	5	342.55	1.36364E-02	136.06		
F	12	1081.34	9.46943E-02	11.08	Sum	
F	13	1110.36	7.30806E-02	14.98	Sum	
F	17	1361.36	7.82676E-02	40.93	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	2.73E-04	2.73E-04	-5.91E-05	1.34E-04
	K-40	1460.83		10.67	1.55E-04	1.55E-04	1.45E-04	7.18E-05
	MN-54	834.84		99.98	2.05E-05	2.05E-05	-4.96E-06	9.84E-06
	CO-58	810.78		99.45	2.13E-05	2.13E-05	-1.42E-05	1.02E-05
		863.96		0.68	4.33E-03		-1.07E-03	2.08E-03
		1674.73		0.52	2.21E-03		-8.68E-05	9.98E-04
	FE-59	142.65		1.00	1.50E-03	3.17E-05	-7.34E-05	7.33E-04
		192.35		3.01	8.12E-04		4.74E-05	3.98E-04
		334.80		0.27	7.09E-03		-1.56E-03	3.46E-03
		1099.25		56.30	3.80E-05		7.59E-06	1.81E-05
		1291.60		43.70	3.17E-05		7.29E-06	1.46E-05
+	CO-60	1173.24	*	99.97	4.21E-05	2.89E-05	8.04E-04	2.04E-05
		1332.50	*	99.99	2.89E-05		7.94E-04	1.37E-05
		2505.74	*	1.00	1.96E-04		7.27E-03	0.00E+00

Analysis Report for 24-2541 TI185-7.0M-S2-CST-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	514.00		96.00	2.55E-05	2.55E-05	8.07E-07	1.24E-05
		868.60		0.01	2.00E-01		-2.13E-02	9.65E-02
	NB-94	702.62		97.90	2.68E-05	2.68E-05	-4.77E-06	1.29E-05
		871.09		99.98	3.30E-05		3.68E-05	1.59E-05
	NB-95	765.81		99.81	1.88E-05	1.88E-05	1.07E-06	8.99E-06
	RU-103	497.05		91.00	2.68E-05	2.68E-05	-3.18E-05	1.30E-05
		610.30		5.76	3.77E-04		-4.30E-05	1.83E-04
	RH-106	511.86		20.70	1.39E-04	1.39E-04	-8.47E-05	6.79E-05
		621.92		9.93	2.72E-04		1.06E-04	1.31E-04
		1050.36		1.56	1.89E-03		-5.17E-04	9.01E-04
	AG-108M	79.13		6.60	3.43E-04	4.23E-05	-3.37E-04	1.68E-04
		433.90		90.50	5.21E-05		9.66E-06	2.55E-05
		614.30		89.80	4.23E-05		-6.20E-05	2.04E-05
		722.90		90.80	4.69E-05		5.99E-05	2.26E-05
+	CD-109	88.03	*	3.61	8.22E-04	8.22E-04	5.52E-03	4.06E-04
	SB-125	176.31		6.82	2.29E-04	8.65E-05	-3.11E-05	1.12E-04
		380.45		1.52	1.38E-03		-5.02E-04	6.75E-04
		427.87		29.55	8.65E-05		9.32E-06	4.23E-05
		463.36		10.48	2.81E-04		-1.23E-04	1.38E-04
		600.60		17.76	1.16E-04		1.46E-04	5.61E-05
		606.71		5.02	4.38E-04		2.49E-04	2.12E-04
		635.95		11.32	1.79E-04		-1.08E-04	8.62E-05
		671.44		1.78	2.20E-03		-2.24E-04	1.08E-03
+	SB-126	223.90		1.39	1.32E-03	3.22E-05	1.04E-03	6.46E-04
		278.20		2.40	2.34E-03		-1.16E-03	1.14E-03
		296.50		4.50	1.36E-03		-5.51E-04	6.65E-04
		414.70	*	83.30	8.84E-05		6.20E-04	4.34E-05
		556.30		1.69	4.08E-03		-6.53E-03	1.97E-03
		573.90		6.70	1.03E-03		-2.26E-04	4.97E-04
		593.20		7.50	6.73E-04		1.01E-04	3.26E-04
		656.30		2.19	1.49E-02		-7.54E-04	7.39E-03
		666.50	*	99.60	3.22E-05		5.85E-04	1.51E-05
		674.80		3.10	2.03E-03		-5.46E-04	9.73E-04
		695.00	*	99.60	6.27E-05		5.48E-04	3.03E-05
		697.00		29.00	4.75E-04		2.56E-03	2.33E-04
		720.70		53.80	1.34E-04		2.80E-04	6.48E-05
		856.80		17.60	3.17E-04		1.75E-04	1.52E-04
		989.60		6.80	8.23E-04		-8.30E-04	3.94E-04
		1213.30		2.39	1.79E-03		4.16E-05	8.38E-04
+	Sn-126	64.28	*	9.60	3.96E-04	6.46E-05	3.96E-04	1.95E-04
		87.30	*	45.90	6.46E-05		4.34E-04	3.19E-05
	I-129	29.70		56.60	6.95E-03	4.05E-03	-1.85E-03	3.41E-03
		33.60		10.04	1.16E-02		-8.46E-03	5.68E-03
		34.40		2.01	4.78E-02		4.77E-02	2.35E-02
		39.60		7.51	4.05E-03		1.13E-03	1.98E-03
	CS-134	563.25		8.34	4.21E-04	3.13E-05	1.08E-04	2.04E-04
		569.33		15.37	2.45E-04		1.12E-04	1.19E-04
		604.72		97.62	3.13E-05		-2.96E-06	1.52E-05
		795.86		85.46	3.26E-05		5.53E-06	1.56E-05
		801.95		8.69	3.91E-04		6.04E-04	1.87E-04
+	CS-137	661.66	*	85.20	1.62E-05	1.62E-05	3.33E-03	7.65E-06
	CE-139	165.85		79.89	1.94E-05	1.94E-05	-1.71E-06	9.48E-06
	CE-141	40.70		3.35	7.29E-03	3.03E-05	-4.83E-03	3.57E-03

Analysis Report for 24-2541 TI185-7.0M-S2-CST-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CE-141	145.44		48.29	3.03E-05	3.03E-05	-6.14E-06	1.48E-05
	CE-144	80.12		1.36	1.65E-03	1.35E-04	-7.33E-04	8.12E-04
		133.51		11.09	1.35E-04		-3.59E-05	6.61E-05
	EU-152	121.78		28.58	8.83E-05	8.32E-05	2.08E-05	4.34E-05
		344.28		26.50	9.21E-05		-1.05E-05	4.49E-05
		778.90		12.94	2.11E-04		1.03E-04	1.01E-04
		964.08		14.73	2.12E-04		1.16E-04	1.02E-04
		1085.87		10.24	2.63E-04		1.70E-06	1.27E-04
		1112.07		13.69	2.45E-04		3.54E-04	1.18E-04
		1408.01		21.07	8.32E-05		-3.04E-05	3.83E-05
	GD-153	97.43		29.00	5.61E-05	5.61E-05	2.43E-05	2.74E-05
		103.18		21.10	7.60E-05		4.78E-05	3.72E-05
+	EU-154	42.70		20.45	8.73E-04	5.66E-05	3.39E-04	4.27E-04
		123.07	*	40.40	6.52E-05		1.60E-04	3.21E-05
		247.93		6.89	3.97E-04		9.38E-05	1.94E-04
		591.76		4.95	6.72E-04		3.73E-04	3.25E-04
		692.42		1.78	3.26E-03		-1.45E-04	1.60E-03
		723.30	*	20.06	1.23E-04		7.98E-05	5.87E-05
		756.80		4.52	6.64E-04		-5.02E-04	3.17E-04
		873.18		12.08	2.94E-04		-4.40E-04	1.42E-04
		996.29		10.48	2.49E-04		2.97E-04	1.19E-04
		1004.76	*	18.01	1.66E-04		8.84E-05	8.01E-05
		1246.12		0.86	2.80E-03		-1.83E-03	1.30E-03
		1274.43	*	34.80	5.66E-05		1.44E-04	2.65E-05
		1494.05		0.70	1.73E-03		-2.62E-04	7.84E-04
		1596.48		1.80	4.73E-04		6.90E-05	2.18E-04
	EU-155	43.00		18.70	9.18E-04	7.10E-05	6.51E-04	4.50E-04
		60.01		1.22	4.40E-03		1.45E-02	2.17E-03
		86.55		30.70	1.03E-04		5.22E-07	5.11E-05
		105.31		21.10	7.10E-05		4.43E-06	3.47E-05
	HG-203	72.87		6.30	4.14E-04	2.32E-05	-1.78E-04	2.03E-04
		279.20		81.46	2.32E-05		-1.98E-05	1.14E-05
	BI-207	569.15		97.80	3.12E-05	3.12E-05	9.65E-06	1.51E-05
		1063.10		74.90	5.21E-05		3.96E-05	2.49E-05
	PB-210	46.54		4.25	2.74E-03	2.74E-03	2.50E-04	1.34E-03
	RA-226	74.81		6.44	3.86E-04	4.68E-05	8.95E-05	1.90E-04
		77.11		10.80	2.19E-04		-3.00E-05	1.08E-04
		87.30		4.84	6.47E-04		4.48E-03	3.20E-04
		186.21		3.59	5.02E-04		-1.59E-04	2.46E-04
		242.00		7.43	2.46E-04		9.77E-05	1.20E-04
		295.22		19.30	9.88E-05		4.89E-05	4.83E-05
		351.93		37.60	5.83E-05		3.81E-05	2.85E-05
		609.31		46.10	4.68E-05		4.04E-06	2.26E-05
		768.36		4.94	3.87E-04		1.14E-04	1.85E-04
		1120.29		15.10	1.56E-04		1.57E-04	7.49E-05
		1238.11		5.79	2.75E-04		-7.51E-05	1.28E-04
		1764.49		15.40	9.69E-05		7.55E-05	4.39E-05
	PA-231	283.70		1.59	1.21E-03	8.03E-04	4.33E-04	5.91E-04
		300.07		2.38	8.03E-04		-7.03E-04	3.92E-04
		302.67		1.71	1.13E-03		3.87E-04	5.52E-04
		330.07		1.32	1.47E-03		-4.08E-04	7.15E-04
	TH-232	74.81		11.62	2.14E-04	4.16E-05	4.96E-05	1.05E-04
		77.11		17.50	1.35E-04		-1.85E-05	6.64E-05

Analysis Report for 24-2541 TI185-7.0M-S2-CST-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	87.30		7.80	4.01E-04	4.16E-05	2.78E-03	1.98E-04
		238.63		43.30	4.16E-05		-1.64E-05	2.03E-05
		338.32		11.30	1.71E-04		1.08E-04	8.33E-05
		583.19		30.37	6.92E-05		9.10E-05	3.35E-05
		727.33		6.58	3.20E-04		9.40E-05	1.54E-04
		911.21		26.60	9.50E-05		1.29E-04	4.58E-05
		968.97		16.20	1.42E-04		-7.09E-05	6.80E-05
		2614.53		35.64	4.30E-05		3.00E-05	1.86E-05
	U-235	143.76		10.96	1.36E-04	3.13E-05	4.49E-05	6.65E-05
		185.71		57.20	3.13E-05		-1.16E-05	1.53E-05
		205.31		5.01	3.62E-04		-2.89E-04	1.78E-04
	U-238	63.29		3.70	1.14E-03	3.98E-04	-4.22E-03	5.61E-04
		92.51		4.23	3.98E-04		4.09E-05	1.95E-04
		112.81		0.21	7.03E-03		-2.22E-03	3.44E-03
		742.81		0.11	1.67E-02		-1.22E-02	7.99E-03
		766.28		0.32	5.94E-03		3.56E-03	2.84E-03
		1001.03		0.84	3.05E-03		2.29E-03	1.47E-03
	NP-239	99.60		12.80	1.31E-04	6.85E-05	1.25E-05	6.39E-05
		103.80		20.40	8.01E-05		-1.03E-04	3.92E-05
		106.10		26.40	6.85E-05		-4.48E-05	3.35E-05
		116.90		7.61	2.11E-04		1.41E-05	1.03E-04
		228.20		11.20	1.89E-04		-1.21E-04	9.23E-05
		277.60		14.50	1.56E-04		-1.14E-05	7.63E-05
		315.90		1.60	1.16E-03		6.34E-05	5.67E-04
		334.30		2.06	7.38E-04		-5.21E-04	3.60E-04
+	AM-241	59.54	*	35.90	1.49E-04	1.49E-04	5.33E-04	7.36E-05

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

Apex-Gamma

Analysis Report for 24-2542 TI185-7.0M-S2-CST-d-A W0
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2542 TI185-7.0M-S2-CST-d-A W0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/27/2024 2:57:11PM
Procedure	: W0_gsv02mlw
Operator	: Administrator
Detector Name	: W
Geometry	: W0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.1 seconds
Dead Time	: 0.09 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 8/11/2023
Efficiency Calibration Used Done On	: 5/17/2021
Efficiency Calibration Description	: W0_gsv2mlw_R724p
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578969
Certificate Name	: R735-A10 20ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/27/2024 3:17:19PM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2542 TI185-7.0M-S2-CST-d-A W0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.59	162.16	0.2185	8.87
2	87.44	237.33	0.1723	12.97
3	123.13	333.63	0.2406	6.30
4	351.89	950.99	0.3310	3.35
5	414.88	1121.03	0.1449	14.53
6	661.70	1787.38	0.0757	47.02
7	666.40	1800.14	0.1481	14.06
8	695.04	1877.21	0.1506	12.05
9	723.82	1954.79	0.3154	3.12
10	996.73	2691.88	0.3066	3.26
11	1005.10	2714.41	0.2822	3.18
12	1081.12	2919.84	0.2435	3.63
13	1110.00	2997.58	0.2795	3.28
14	1173.34	3168.71	0.1174	16.99
15	1274.67	3442.27	0.2478	3.98
16	1332.71	3599.09	0.1179	15.95
17	1361.48	3676.30	0.2527	3.76
18	2505.09	6764.64	0.2187	4.03

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2542 TI185-7.0M-S2-CST-d-A W0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/27/2024 3:17:19PM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.59	154	167	162.18	5.84E+02	93.08	7.10E+02	1.20
F	2	87.44	229	244	237.35	1.35E+03	123.10	7.04E+02	1.49
F	3	123.13	325	339	333.66	3.51E+02	76.06	4.31E+02	1.21
F	4	351.89	947	954	951.11	5.69E+01	15.04	1.68E+02	1.14
F	5	414.88	1115	1130	1121.11	8.92E+02	32.55	3.52E+02	1.54
M	6	661.70	1777	1810	1787.38	9.82E+03	95.95	1.27E+02	1.80
m	7	666.40	1777	1810	1800.06	6.82E+02	26.05	4.02E+01	1.81
F	8	695.04	1871	1887	1877.38	6.27E+02	26.06	1.16E+02	1.82
F	9	723.82	1950	1961	1955.05	4.05E+01	10.43	8.45E+01	1.22
F	10	996.73	2687	2698	2691.82	3.40E+01	13.82	5.40E+01	1.30
F	11	1005.10	2708	2721	2714.41	4.60E+01	10.53	7.22E+01	1.65
F	12	1081.12	2911	2926	2919.68	9.99E+01	41.22	7.14E+01	2.16
F	13	1110.00	2989	3008	2997.64	1.07E+02	50.04	7.12E+01	2.53
F	14	1173.34	3158	3180	3168.66	1.41E+03	37.36	5.75E+01	2.25
F	15	1274.67	3435	3448	3442.26	7.51E+01	9.76	2.04E+01	2.19
F	16	1332.71	3586	3610	3598.97	1.27E+03	65.80	3.79E+01	2.38
F	17	1361.48	3668	3685	3676.66	6.87E+01	23.82	9.00E+00	2.45
F	18	2505.09	6756	6774	6765.31	8.43E+01	9.55	4.58E+00	3.10

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/27/2024 3:17:19PM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578898.CNF

Analysis Report for 24-2542 TI185-7.0M-S2-CST-d-A W0

ASR 2094 Branch

Peak No.		Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.59	5.84E+02	93.08			5.84E+02	9.31E+01
F	2	87.44	1.35E+03	123.10	9.22E+00	7.54E-01	1.34E+03	1.23E+02
F	3	123.13	3.51E+02	76.06			3.51E+02	7.61E+01
F	4	351.89	5.69E+01	15.04	4.00E+01	4.92E-01	1.69E+01	1.50E+01
F	5	414.88	8.92E+02	32.55			8.92E+02	3.26E+01
M	6	661.70	9.82E+03	95.95			9.82E+03	9.60E+01
m	7	666.40	6.82E+02	26.05	8.76E-01	8.33E-02	6.81E+02	2.60E+01
F	8	695.04	6.27E+02	26.06			6.27E+02	2.61E+01
F	9	723.82	4.05E+01	10.43			4.05E+01	1.04E+01
F	10	996.73	3.40E+01	13.82			3.40E+01	1.38E+01
F	11	1005.10	4.60E+01	10.53			4.60E+01	1.05E+01
F	12	1081.12	9.99E+01	41.22			9.99E+01	4.12E+01
F	13	1110.00	1.07E+02	50.04			1.07E+02	5.00E+01
F	14	1173.34	1.41E+03	37.36			1.41E+03	3.74E+01
F	15	1274.67	7.51E+01	9.76			7.51E+01	9.76E+00
F	16	1332.71	1.27E+03	65.80			1.27E+03	6.58E+01
F	17	1361.48	6.87E+01	23.82			6.87E+01	2.38E+01
F	18	2505.09	8.43E+01	9.55			8.43E+01	9.55E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	7.07E-04	1.92E-05	0.773
		1332.50	*	99.99	7.02E-04	3.66E-05	0.765
		2505.74	*	1.00	6.09E-03	7.89E-04	miss
CD-109	0.94	88.03	*	3.61	4.95E-03	4.78E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	5.45E-04	4.03E-05	0.393
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			

Analysis Report for 24-2542 TI185-7.0M-S2-CST-d-A W0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	656.30		2.19			
		666.50	*	99.60	4.88E-04	1.89E-05	0.382
		674.80		3.10			
		695.00	*	99.60	4.63E-04	1.94E-05	0.381
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.77	64.28		9.60			
		87.30	*	45.90	3.89E-04	3.98E-05	miss
CS-137	1.00	661.66	*	85.20	3.13E-03	3.49E-05	miss
EU-154	0.59	42.70		20.45			
		123.07	*	40.40	1.38E-04	2.99E-05	0.742
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	8.23E-05	2.12E-05	0.705
		756.80		4.52			
		873.18		12.08			
		996.29	*	10.48	1.30E-04	5.27E-05	0.878
		1004.76	*	18.01	1.04E-04	2.39E-05	0.864
		1246.12		0.86			
		1274.43	*	34.80	1.01E-04	1.32E-05	0.875
		1494.05		0.70			
		1596.48		1.80			
AM-241	1.00	59.54	*	35.90	4.67E-04	7.52E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2542 TI185-7.0M-S2-CST-d-A W0

ASR 2094 Branch

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-60	0.995	7.08E-04	1.70E-05	
?	CD-109	0.946	4.95E-03	4.78E-04	
	SB-126	0.488	4.83E-04	1.28E-05	
?	Sn-126	0.777	3.89E-04	3.98E-05	
	CS-137	1.000	3.13E-03	3.49E-05	
	EU-154	0.599	1.02E-04	9.45E-06	
	AM-241	1.000	4.67E-04	7.52E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2542 TI185-7.0M-S2-CST-d-A W0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/27/2024 3:17:19PM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	4	351.89	1.40838E-02	89.05	Tol.	RA-226
F	12	1081.12	8.32273E-02	41.28	Sum	
F	13	1110.00	8.90976E-02	46.80	Sum	
F	17	1361.48	5.72737E-02	34.65	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	2.72E-04	2.72E-04	2.35E-04	1.33E-04
	K-40	1460.83		10.67	1.59E-04	1.59E-04	1.64E-04	7.37E-05
	MN-54	834.84		99.98	1.85E-05	1.85E-05	-2.25E-05	8.81E-06
	CO-58	810.78		99.45	2.08E-05	2.08E-05	-1.34E-05	9.92E-06
		863.96		0.68	4.30E-03		-1.29E-04	2.06E-03
		1674.73		0.52	2.03E-03		1.86E-03	9.04E-04
	FE-59	142.65		1.00	1.45E-03	3.45E-05	-3.92E-04	7.11E-04
		192.35		3.01	7.43E-04		6.42E-05	3.64E-04
		334.80		0.27	7.14E-03		7.86E-04	3.48E-03
		1099.25		56.30	4.14E-05		2.34E-05	1.98E-05
		1291.60		43.70	3.45E-05		2.05E-05	1.60E-05
+	CO-60	1173.24	*	99.97	3.40E-05	3.17E-05	7.07E-04	1.63E-05
		1332.50	*	99.99	3.17E-05		7.02E-04	1.51E-05
		2505.74	*	1.00	1.41E-03		6.09E-03	6.05E-04

Analysis Report for 24-2542 TI185-7.0M-S2-CST-d-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	514.00		96.00	2.42E-05	2.42E-05	1.81E-05	1.18E-05
		868.60		0.01	1.97E-01		-5.42E-03	9.46E-02
	NB-94	702.62		97.90	2.64E-05	2.64E-05	-6.54E-06	1.27E-05
		871.09		99.98	3.12E-05		-3.11E-07	1.50E-05
	NB-95	765.81		99.81	1.80E-05	1.80E-05	-1.52E-05	8.58E-06
	RU-103	497.05		91.00	2.58E-05	2.58E-05	-2.53E-06	1.26E-05
		610.30		5.76	3.67E-04		2.11E-04	1.77E-04
	RH-106	511.86		20.70	1.36E-04	1.36E-04	-1.39E-05	6.61E-05
		621.92		9.93	2.73E-04		6.35E-05	1.32E-04
		1050.36		1.56	1.76E-03		-2.09E-03	8.35E-04
	AG-108M	79.13		6.60	3.19E-04	4.19E-05	4.09E-05	1.57E-04
		433.90		90.50	5.13E-05		-2.86E-05	2.51E-05
		614.30		89.80	4.19E-05		-1.99E-05	2.02E-05
		722.90		90.80	4.62E-05		5.61E-05	2.23E-05
+	CD-109	88.03	*	3.61	7.33E-04	7.33E-04	4.95E-03	3.62E-04
	SB-125	176.31		6.82	2.25E-04	8.48E-05	1.15E-06	1.10E-04
		380.45		1.52	1.35E-03		8.69E-04	6.58E-04
		427.87		29.55	8.48E-05		-3.73E-05	4.15E-05
		463.36		10.48	2.62E-04		1.00E-04	1.28E-04
		600.60		17.76	1.06E-04		-6.91E-05	5.11E-05
		606.71		5.02	4.30E-04		3.07E-04	2.08E-04
		635.95		11.32	1.61E-04		1.15E-04	7.71E-05
		671.44		1.78	1.95E-03		3.33E-04	9.56E-04
+	SB-126	223.90		1.39	1.26E-03	2.32E-05	-9.78E-04	6.17E-04
		278.20		2.40	2.15E-03		2.92E-04	1.05E-03
		296.50		4.50	1.34E-03		3.77E-04	6.55E-04
		414.70	*	83.30	8.61E-05		5.45E-04	4.22E-05
		556.30		1.69	3.91E-03		1.02E-03	1.89E-03
		573.90		6.70	9.83E-04		7.66E-04	4.74E-04
		593.20		7.50	6.26E-04		-2.20E-04	3.02E-04
		656.30		2.19	1.44E-02		2.64E-03	7.12E-03
		666.50	*	99.60	2.32E-05		4.88E-04	1.06E-05
		674.80		3.10	1.66E-03		5.00E-04	7.87E-04
		695.00	*	99.60	6.40E-05		4.63E-04	3.10E-05
		697.00		29.00	4.48E-04		2.31E-03	2.20E-04
		720.70		53.80	1.28E-04		2.20E-05	6.18E-05
		856.80		17.60	3.09E-04		-2.46E-04	1.48E-04
		989.60		6.80	7.66E-04		2.49E-05	3.66E-04
		1213.30		2.39	1.59E-03		-1.43E-03	7.37E-04
+	Sn-126	64.28		9.60	3.63E-04	5.76E-05	4.84E-04	1.78E-04
		87.30	*	45.90	5.76E-05		3.89E-04	2.84E-05
	I-129	29.70		56.60	6.56E-03	3.94E-03	-1.60E-03	3.21E-03
		33.60		10.04	1.07E-02		-1.48E-02	5.25E-03
		34.40		2.01	4.50E-02		4.29E-02	2.20E-02
		39.60		7.51	3.94E-03		9.60E-04	1.93E-03
	CS-134	563.25		8.34	3.99E-04	2.98E-05	-1.38E-04	1.93E-04
		569.33		15.37	2.26E-04		-2.42E-05	1.09E-04
		604.72		97.62	3.06E-05		5.43E-06	1.48E-05
		795.86		85.46	2.98E-05		-1.49E-05	1.42E-05
		801.95		8.69	3.73E-04		1.67E-04	1.78E-04
+	CS-137	661.66	*	85.20	1.76E-05	1.76E-05	3.13E-03	8.36E-06
	CE-139	165.85		79.89	1.89E-05	1.89E-05	-6.63E-06	9.24E-06
	CE-141	40.70		3.35	7.11E-03	3.02E-05	-1.08E-02	3.48E-03

Analysis Report for 24-2542 TI185-7.0M-S2-CST-d-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CE-141	145.44		48.29	3.02E-05	3.02E-05	2.90E-06	1.48E-05
	CE-144	80.12		1.36	1.52E-03	1.29E-04	-4.89E-04	7.44E-04
		133.51		11.09	1.29E-04		-2.90E-06	6.30E-05
	EU-152	121.78		28.58	8.11E-05	7.25E-05	-1.50E-05	3.98E-05
		344.28		26.50	9.05E-05		-2.74E-05	4.42E-05
		778.90		12.94	1.91E-04		-2.90E-04	9.13E-05
		964.08		14.73	1.92E-04		7.36E-05	9.23E-05
		1085.87		10.24	2.53E-04		4.81E-05	1.22E-04
		1112.07		13.69	2.28E-04		3.27E-04	1.10E-04
		1408.01		21.07	7.25E-05		-5.95E-05	3.29E-05
	GD-153	97.43		29.00	5.40E-05	5.40E-05	4.43E-05	2.64E-05
		103.18		21.10	7.07E-05		-3.88E-05	3.45E-05
+	EU-154	42.70		20.45	8.60E-04	4.61E-05	5.70E-04	4.21E-04
		123.07	*	40.40	5.96E-05		1.38E-04	2.93E-05
		247.93		6.89	3.94E-04		4.62E-04	1.93E-04
		591.76		4.95	6.42E-04		3.70E-04	3.10E-04
		692.42		1.78	3.05E-03		-4.21E-04	1.50E-03
		723.30	*	20.06	1.30E-04		8.23E-05	6.22E-05
		756.80		4.52	6.54E-04		-1.49E-04	3.12E-04
		873.18		12.08	2.86E-04		1.01E-04	1.37E-04
		996.29	*	10.48	1.96E-04		1.30E-04	9.30E-05
		1004.76	*	18.01	1.41E-04		1.04E-04	6.73E-05
		1246.12		0.86	2.47E-03		-2.18E-05	1.13E-03
		1274.43	*	34.80	4.61E-05		1.01E-04	2.12E-05
		1494.05		0.70	1.71E-03		1.34E-04	7.71E-04
		1596.48		1.80	4.06E-04		5.84E-05	1.85E-04
	EU-155	43.00		18.70	8.97E-04	6.80E-05	1.29E-04	4.39E-04
		60.01		1.22	4.28E-03		-1.35E-03	2.11E-03
		86.55		30.70	9.74E-05		-3.11E-06	4.81E-05
		105.31		21.10	6.80E-05		1.01E-05	3.32E-05
	HG-203	72.87		6.30	4.01E-04	2.13E-05	3.16E-04	1.97E-04
		279.20		81.46	2.13E-05		1.25E-06	1.04E-05
	BI-207	569.15		97.80	2.87E-05	2.87E-05	-2.46E-05	1.38E-05
		1063.10		74.90	4.63E-05		-2.00E-05	2.21E-05
	PB-210	46.54		4.25	2.66E-03	2.66E-03	9.46E-04	1.31E-03
	RA-226	74.81		6.44	3.67E-04	4.62E-05	4.52E-05	1.80E-04
		77.11		10.80	2.06E-04		9.06E-05	1.01E-04
		87.30		4.84	6.11E-04		3.91E-03	3.02E-04
		186.21		3.59	4.68E-04		1.87E-04	2.29E-04
		242.00		7.43	2.38E-04		1.08E-04	1.16E-04
		295.22		19.30	9.70E-05		-6.29E-06	4.74E-05
		351.93		37.60	5.56E-05		2.70E-05	2.71E-05
		609.31		46.10	4.62E-05		6.28E-05	2.23E-05
		768.36		4.94	3.59E-04		-1.77E-04	1.71E-04
		1120.29		15.10	1.36E-04		1.34E-04	6.44E-05
		1238.11		5.79	2.42E-04		-3.73E-04	1.12E-04
		1764.49		15.40	1.02E-04		5.18E-05	4.66E-05
	PA-231	283.70		1.59	1.12E-03	7.49E-04	1.83E-04	5.45E-04
		300.07		2.38	7.49E-04		-1.27E-03	3.65E-04
		302.67		1.71	1.06E-03		3.27E-04	5.17E-04
		330.07		1.32	1.43E-03		6.33E-04	7.00E-04
	TH-232	74.81		11.62	2.03E-04	3.93E-05	2.50E-05	9.98E-05
		77.11		17.50	1.27E-04		5.59E-05	6.24E-05

Analysis Report for 24-2542 TI185-7.0M-S2-CST-d-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	87.30		7.80	3.79E-04	3.93E-05	2.43E-03	1.87E-04
		238.63		43.30	3.93E-05		-5.31E-06	1.92E-05
		338.32		11.30	1.71E-04		5.37E-05	8.35E-05
		583.19		30.37	6.48E-05		5.25E-05	3.13E-05
		727.33		6.58	3.14E-04		-3.36E-05	1.51E-04
		911.21		26.60	8.85E-05		-3.07E-05	4.26E-05
		968.97		16.20	1.32E-04		-1.23E-04	6.30E-05
		2614.53		35.64	5.56E-05		5.35E-05	2.49E-05
	U-235	143.76		10.96	1.33E-04	2.94E-05	6.97E-05	6.51E-05
		185.71		57.20	2.94E-05		1.49E-05	1.44E-05
		205.31		5.01	3.48E-04		4.20E-05	1.70E-04
	U-238	63.29		3.70	1.07E-03	3.93E-04	1.04E-03	5.28E-04
		92.51		4.23	3.93E-04		-2.21E-04	1.92E-04
		112.81		0.21	6.71E-03		3.68E-03	3.28E-03
		742.81		0.11	1.60E-02		-8.24E-03	7.62E-03
		766.28		0.32	5.71E-03		-5.20E-03	2.73E-03
		1001.03		0.84	3.16E-03		1.46E-03	1.52E-03
	NP-239	99.60		12.80	1.28E-04	6.69E-05	-1.36E-05	6.27E-05
		103.80		20.40	7.73E-05		-1.66E-05	3.78E-05
		106.10		26.40	6.69E-05		9.76E-06	3.27E-05
		116.90		7.61	1.99E-04		-3.93E-05	9.72E-05
		228.20		11.20	1.78E-04		-2.47E-04	8.72E-05
		277.60		14.50	1.45E-04		-6.59E-06	7.09E-05
		315.90		1.60	1.12E-03		3.15E-04	5.46E-04
		334.30		2.06	7.49E-04		2.62E-04	3.65E-04
+	AM-241	59.54	*	35.90	1.51E-04	1.51E-04	4.67E-04	7.44E-05

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

Apex-Gamma

Analysis Report for 24-2543 TI185-7.0M-S3-CST-A F0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2543 TI185-7.0M-S3-CST-A F0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/28/2024 7:28:28AM
Procedure	: F0_gsv02mlw
Operator	: Administrator
Detector Name	: F
Geometry	: F0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.3 seconds
Dead Time	: 0.11 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: F0_gsv2mlw_R717
Sample Number	: 578996
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/28/2024 7:48:35AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2543 TI185-7.0M-S3-CST-A F0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	37.38	105.01	0.3621	3.66
2	59.65	167.26	0.1825	12.27
3	64.39	180.57	0.2982	4.19
4	87.57	245.41	0.1436	16.93
5	123.18	344.73	0.2042	8.85
6	352.01	984.51	0.2485	4.89
7	414.94	1160.18	0.1351	16.03
8	609.49	1704.07	0.2562	4.08
9	661.92	1850.50	0.0693	51.71
10	666.59	1863.77	0.1404	13.80
11	695.34	1943.93	0.1373	12.68
12	723.55	2022.72	0.3310	3.15
13	1005.33	2810.00	0.2605	3.66
14	1081.79	3023.93	0.2509	3.53
15	1173.72	3280.84	0.1075	18.01
16	1274.83	3562.38	0.2243	4.38
17	1333.04	3725.84	0.1065	17.84
18	1362.35	3807.92	0.2407	4.16
19	2507.12	7005.40	0.1878	4.93

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2543 TI185-7.0M-S3-CST-A F0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/28/2024 7:48:35AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	2	59.65	159 -	173	167.23	7.82E+02	93.24	8.86E+02	1.09
F	3	64.39	174 -	184	180.49	2.07E+02	96.35	5.59E+02	1.07
F	4	87.57	238 -	253	245.28	1.61E+03	139.12	8.14E+02	1.35
F	5	123.18	336 -	351	344.81	5.20E+02	6123.41	5.00E+02	1.27
F	6	352.01	977 -	989	984.38	1.86E+02	71.01	2.50E+02	1.60
F	7	414.94	1149 -	1167	1160.25	1.07E+03	83.00	2.88E+02	1.65
F	8	609.49	1696 -	1710	1703.97	9.70E+01	13.99	1.43E+02	1.78
M	9	661.92	1840 -	1874	1850.47	1.01E+04	144.45	9.58E+01	1.86
m	10	666.59	1840 -	1874	1863.54	7.85E+02	30.16	6.22E+01	1.87
F	11	695.34	1933 -	1953	1943.88	7.24E+02	72.16	8.44E+01	1.98
	12	723.55	2018 -	2032	2022.72	1.39E+01	25.87	1.37E+02	1.03
F	13	1005.33	2801 -	2817	2810.16	8.89E+01	27.43	4.25E+01	2.50
F	14	1081.79	3013 -	3029	3023.80	9.45E+01	47.30	6.27E+01	2.01
F	15	1173.72	3269 -	3293	3280.69	1.59E+03	38.20	6.42E+01	2.35
F	16	1274.83	3556 -	3571	3563.20	7.35E+01	9.68	2.66E+01	2.31
F	17	1333.04	3714 -	3736	3725.84	1.47E+03	36.56	3.47E+01	2.45
F	18	1362.35	3796 -	3816	3807.76	9.13E+01	34.41	2.58E+01	2.40
F	19	2507.12	6995 -	7013	7005.98	8.37E+01	28.66	1.41E+01	1.78

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/28/2024 7:48:35AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578890.CNF

Analysis Report for 24-2543 TI185-7.0M-S3-CST-A F0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	37.38	0.00E+00	0.00			0.00E+00	0.00E+00
F	2	59.65	7.82E+02	93.24	2.74E+00	3.98E-01	7.79E+02	9.32E+01
F	3	64.39	2.07E+02	96.35			2.07E+02	9.64E+01
F	4	87.57	1.61E+03	139.12	1.07E+01	6.14E-01	1.59E+03	1.39E+02
F	5	123.18	5.20E+02	6123.41			5.20E+02	6.12E+03
F	6	352.01	1.86E+02	71.01	4.16E+01	1.54E+00	1.44E+02	7.10E+01
F	7	414.94	1.07E+03	83.00			1.07E+03	8.30E+01
F	8	609.49	9.70E+01	13.99	3.83E+01	4.59E-01	5.87E+01	1.40E+01
M	9	661.92	1.01E+04	144.45			1.01E+04	1.44E+02
m	10	666.59	7.85E+02	30.16			7.85E+02	3.02E+01
F	11	695.34	7.24E+02	72.16			7.24E+02	7.22E+01
	12	723.55	1.39E+01	25.87			1.39E+01	2.59E+01
F	13	1005.33	8.89E+01	27.43			8.89E+01	2.74E+01
F	14	1081.79	9.45E+01	47.30			9.45E+01	4.73E+01
F	15	1173.72	1.59E+03	38.20			1.59E+03	3.82E+01
F	16	1274.83	7.35E+01	9.68			7.35E+01	9.68E+00
F	17	1333.04	1.47E+03	36.56			1.47E+03	3.66E+01
F	18	1362.35	9.13E+01	34.41			9.13E+01	3.44E+01
F	19	2507.12	8.37E+01	28.66			8.37E+01	2.87E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.95	1173.23	*	99.85	7.93E-04	1.96E-05	0.786
		1332.49	*	99.98	8.01E-04	2.06E-05	0.777
CD-109	0.96	88.03	*	3.64	5.34E-03	4.69E-04	free
Te-129m	0.95	695.88	*	3.00	6.91E-03	1.54E-03	free
CS-137	0.98	661.66	*	85.10	3.22E-03	5.01E-05	miss
EU-154	0.50	42.70		20.45			
		123.07	*	40.40	1.92E-04	2.26E-03	0.754
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			

Analysis Report for 24-2543 TI185-7.0M-S3-CST-A F0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.50	723.30	*	20.06	2.79E-05	5.17E-05	0.718
		756.80		4.52			
		873.18		12.08			
		996.29		10.48			
		1004.76	*	18.01	2.02E-04	6.23E-05	0.869
		1246.12		0.86			
		1274.43	*	34.80	9.88E-05	1.31E-05	0.880
		1494.05		0.70			
		1596.48		1.80			
AM-241	0.99	59.54	*	35.90	5.21E-04	6.30E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.958	7.97E-04	1.42E-05	
CD-109	0.966	5.34E-03	4.69E-04	
Te-129m	0.955	6.91E-03	1.54E-03	
CS-137	0.989	3.22E-03	5.01E-05	
EU-154	0.506	9.88E-05	1.24E-05	
AM-241	0.998	5.21E-04	6.30E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2543 TI185-7.0M-S3-CST-A F0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/28/2024 7:48:35AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	3	64.39	1.72650E-01	46.51	Tol.	W-181 OS-191
F	6	352.01	1.20032E-01	49.31	Tol.	NB-96
F	7	414.94	8.89885E-01	7.77	Tol.	RH-102M
F	8	609.49	4.88865E-02	23.86	Tol.	RU-103
m	10	666.59	6.54140E-01	3.84		
F	14	1081.79	7.87775E-02	50.04		
F	18	1362.35	7.60912E-02	37.68	Sum	
F	19	2507.12	6.97234E-02	34.25	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.60	10.44	2.79E-04	2.79E-04	6.26E-05	1.37E-04
NA-22	511.00	179.91	1.41E-05	1.41E-05	2.64E-06	6.85E-06
	1274.54	99.94	4.48E-05		5.20E-05	2.13E-05
NA-24	1368.63	99.99	8.52E-05	3.71E-05	-2.08E-05	4.05E-05
	2754.01	99.87	3.71E-05		1.23E-05	1.44E-05
AL-26	1129.67	2.50	9.93E-04	1.41E-05	3.72E-04	4.74E-04

Analysis Report for 24-2543 TI185-7.0M-S3-CST-A F0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AL-26	1808.65	99.76	1.41E-05	1.41E-05	8.30E-06	6.34E-06
K-40	1460.82	10.66	1.76E-04	1.76E-04	2.00E-04	8.21E-05
K-42	312.60	0.34	2.36E-02	2.45E-04	5.80E-03	1.15E-02
	1524.60	18.08	2.45E-04		-1.86E-04	1.09E-04
Sc-44	1157.02	99.90	1.62E-03	1.62E-03	-8.68E-04	7.72E-04
	1499.46	0.91	1.28E-01		-7.19E-02	5.86E-02
Sc-44m	271.24	86.74	2.95E-05	2.95E-05	-2.12E-05	1.44E-05
	1001.83	1.20	5.17E-03		5.90E-03	2.49E-03
	1126.06	1.20	4.47E-03		-1.77E-04	2.14E-03
	1157.00	1.20	4.12E-03		-2.21E-03	1.96E-03
TI-44	67.87	93.00	3.49E-05	2.65E-05	-1.95E-05	1.72E-05
	78.32	96.40	2.65E-05		4.80E-06	1.30E-05
SC-46	889.28	99.98	3.18E-05	3.11E-05	1.24E-05	1.53E-05
	1120.55	99.99	3.11E-05		-3.77E-05	1.49E-05
CA-47	489.23	5.90	6.57E-04	2.80E-05	-7.76E-04	3.21E-04
	807.86	5.90	5.79E-04		5.07E-04	2.78E-04
	1297.09	67.00	2.80E-05		-1.57E-06	1.30E-05
SC-47	159.38	68.30	2.90E-05	2.90E-05	1.30E-05	1.42E-05
SC-48	175.36	7.47	3.23E-04	2.23E-05	-2.31E-04	1.58E-04
	983.53	100.00	3.45E-05		-2.33E-05	1.66E-05
	1037.52	97.50	3.71E-05		2.64E-05	1.78E-05
	1312.12	100.00	2.23E-05		4.66E-06	1.03E-05
V-48	944.13	7.87	4.27E-04	2.11E-05	-8.09E-05	2.06E-04
	983.53	99.98	3.12E-05		-2.11E-05	1.50E-05
	1312.11	98.20	2.11E-05		4.40E-06	9.74E-06
	2240.40	2.33	6.95E-04		-4.46E-04	2.99E-04
CR-51	320.08	9.91	2.03E-04	2.03E-04	1.65E-04	9.94E-05
Fe-52	168.69	99.20	1.31E-04	1.31E-04	1.50E-04	6.44E-05
	377.75	1.64	1.04E-02		-6.95E-03	5.06E-03
Mn-52	744.23	90.00	4.01E-05	3.01E-05	4.55E-05	1.92E-05
	848.18	3.32	1.22E-03		6.12E-04	5.86E-04
	935.54	94.50	4.99E-05		-9.26E-06	2.40E-05
	1246.28	4.21	6.56E-04		-8.93E-04	3.03E-04
	1333.65	5.07	2.68E-03		2.18E-02	1.32E-03
	1434.09	100.00	3.01E-05		5.64E-07	1.39E-05
MN-54	834.85	99.98	2.16E-05	2.16E-05	-1.38E-05	1.04E-05
Co-55	411.50	1.07	9.11E-03	8.70E-05	-1.11E-03	4.49E-03
	477.20	20.20	3.78E-04		-9.28E-05	1.85E-04
	803.70	1.87	3.01E-03		2.03E-03	1.45E-03
	931.10	75.00	8.70E-05		1.47E-05	4.19E-05
	1316.60	7.10	5.89E-04		2.44E-04	2.73E-04
	1370.00	2.90	1.98E-03		-1.64E-03	9.39E-04
	1408.50	16.90	2.69E-04		1.11E-04	1.25E-04
Co-56	846.77	99.94	2.88E-05	2.88E-05	-2.10E-05	1.38E-05
	977.37	1.42	2.72E-03		2.28E-03	1.30E-03
	1037.84	14.05	2.55E-04		2.66E-04	1.22E-04
	1175.10	2.25	5.53E-03		4.53E-02	2.73E-03
	1238.29	66.46	3.84E-05		5.86E-05	1.80E-05
	1360.21	4.28	8.42E-04		1.59E-03	4.02E-04
	1771.36	15.41	1.75E-04		7.81E-05	8.11E-05
	2015.20	3.02	6.05E-04		-8.63E-05	2.69E-04
	2034.79	7.77	2.76E-04		-3.61E-06	1.25E-04
	2598.50	16.97	5.20E-05		1.12E-05	1.84E-05

Analysis Report for 24-2543 TI185-7.0M-S3-CST-A F0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	MN-56	846.76		98.85	1.79E-02	1.79E-02	-1.31E-02	8.60E-03
		1810.73		26.90	5.43E-02		3.60E-02	2.46E-02
		2113.09		14.20	9.72E-02		2.22E-02	4.30E-02
	Ni-56	158.38		98.80	1.84E-05	1.84E-05	2.38E-05	9.00E-06
		269.50		36.50	5.58E-05		2.13E-05	2.73E-05
		480.44		36.50	8.55E-05		8.74E-05	4.18E-05
		749.50		49.50	4.32E-05		-1.63E-05	2.07E-05
		811.85		86.00	2.73E-05		-4.38E-05	1.31E-05
		1561.80		14.00	9.80E-05		-1.60E-04	4.39E-05
	CO-57	122.06		85.60	2.08E-05	2.08E-05	5.29E-05	1.02E-05
		136.47		10.68	1.37E-04		3.11E-05	6.69E-05
	NI-57	127.16		16.70	1.68E-04	2.99E-05	7.61E-05	8.26E-05
		1377.63		81.70	2.99E-05		-1.21E-05	1.38E-05
		1757.55		5.75	4.72E-04		-3.71E-04	2.16E-04
		1919.52		12.30	2.11E-04		6.10E-05	9.59E-05
	CO-58	810.76		99.45	2.30E-05	2.30E-05	-7.69E-06	1.10E-05
		863.96		0.69	4.40E-03		-4.24E-03	2.11E-03
		1674.73		0.52	2.14E-03		1.32E-03	9.56E-04
	FE-59	142.65		1.02	1.46E-03	3.49E-05	-4.06E-04	7.15E-04
		192.34		3.08	7.85E-04		9.76E-04	3.85E-04
		1099.24		56.50	4.65E-05		-6.17E-05	2.23E-05
		1291.59		43.20	3.49E-05		-2.88E-05	1.61E-05
+	CO-60	1173.23	*	99.85	3.72E-05	2.90E-05	7.93E-04	1.79E-05
		1332.49	*	99.98	2.90E-05		8.01E-04	1.38E-05
	CU-64	511.00		35.00	2.77E-04	2.77E-04	5.20E-05	1.35E-04
		1345.77		0.47	1.15E-02		-2.49E-03	5.29E-03
	NI-65	366.27		4.81	5.29E-01	5.10E-02	4.02E-01	2.58E-01
		1115.53		15.43	1.98E-01		2.77E-01	9.59E-02
		1481.84		23.59	5.10E-02		2.89E-03	2.33E-02
	ZN-65	1115.54		50.04	6.32E-05	6.32E-05	8.85E-05	3.06E-05
	GA-66	511.00		114.00	1.34E-04	1.34E-04	2.51E-05	6.54E-05
		833.53		5.90	2.28E-03		3.61E-03	1.10E-03
		1039.22		37.00	4.05E-04		3.66E-04	1.94E-04
		1333.11		1.17	4.07E-02		3.31E-01	2.01E-02
		1918.33		1.99	4.75E-03		-1.22E-03	2.15E-03
		2189.62		5.30	1.64E-03		1.39E-03	7.25E-04
		2751.83		22.70	2.48E-04		8.27E-05	9.62E-05
	CU-67	91.27		7.00	4.76E-04	4.61E-05	1.40E-04	2.35E-04
		93.31		16.10	1.34E-04		-3.54E-05	6.58E-05
		184.58		48.70	4.61E-05		-2.64E-05	2.26E-05
		300.22		0.80	3.42E-03		-2.96E-03	1.67E-03
		393.53		0.22	1.36E-02		3.65E-03	6.65E-03
	GA-67	91.26		3.11	1.18E-03	5.67E-05	3.48E-04	5.85E-04
		93.31		38.81	5.67E-05		-1.49E-05	2.78E-05
		184.58		21.41	1.00E-04		-5.75E-05	4.91E-05
		208.95		2.46	1.25E-03		2.31E-04	6.14E-04
		300.22		16.64	1.76E-04		-1.52E-04	8.60E-05
		393.53		4.56	3.87E-04		1.04E-04	1.89E-04
	ZN-69m	438.63		94.85	9.55E-05	9.55E-05	-2.41E-05	4.67E-05
	GA-72	629.97		26.13	4.26E-04	9.81E-05	9.39E-06	2.05E-04
		834.13		95.45	9.81E-05		4.04E-06	4.71E-05
		894.33		10.14	1.36E-03		5.17E-04	6.57E-04
		1050.79		6.99	1.94E-03		-1.68E-03	9.30E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
GA-72	2201.59	26.87	2.52E-04	9.81E-05	2.32E-04	1.12E-04
	2491.03	7.73	4.18E-04		1.39E-04	1.62E-04
	2507.72	13.33	1.17E-03		2.45E-03	5.54E-04
Zn-72	144.70	82.78	2.60E-05	2.60E-05	7.78E-06	1.27E-05
	191.50	9.35	2.82E-04		-4.33E-05	1.38E-04
SE-75	121.12	17.20	1.43E-04	3.41E-05	3.49E-05	7.03E-05
	136.00	58.50	3.41E-05		1.34E-05	1.67E-05
	264.66	58.90	4.28E-05		6.69E-06	2.09E-05
	279.54	25.02	9.58E-05		1.28E-05	4.69E-05
	400.66	11.41	7.01E-05		6.06E-05	3.42E-05
BR-83	529.59	1.30	2.25E+00	2.25E+00	-3.82E-01	1.09E+00
BR-84	604.80	1.70	1.47E+11	5.57E+09	4.42E+10	7.13E+10
	736.50	1.29	1.51E+11		4.15E+10	7.25E+10
	802.20	6.00	3.55E+10		-4.09E+10	1.70E+10
	881.60	42.00	5.57E+09		-9.21E+09	2.68E+09
	987.30	0.79	2.91E+11		1.66E+11	1.39E+11
	1015.90	6.20	4.04E+10		6.63E+10	1.94E+10
	1213.30	2.60	6.72E+10		3.65E+10	3.15E+10
	1463.80	2.00	9.40E+10		1.03E+11	4.39E+10
	1741.20	1.60	7.46E+10		-1.71E+10	3.29E+10
	1877.50	1.12	1.07E+11		-1.93E+11	4.71E+10
	1897.60	14.60	1.02E+10		2.07E+09	4.59E+09
	2029.60	2.10	6.83E+10		-8.08E+10	3.04E+10
	2200.70	1.16	1.27E+11		-9.47E+10	5.63E+10
	2484.10	6.70	9.80E+09		2.11E+09	3.47E+09
	2824.10	1.12	5.39E+10		7.32E+09	1.70E+10
KR-85m	151.20	75.20	8.94E-04	8.94E-04	-1.02E-04	4.37E-04
	304.87	14.00	6.31E-03		5.42E-04	3.08E-03
Y-87	388.53	82.20	3.41E-05	3.41E-05	2.02E-05	1.67E-05
	484.80	89.80	3.59E-05		2.26E-05	1.75E-05
KR-88	165.98	3.10	3.57E-01	1.34E-02	-7.26E-02	1.75E-01
	196.30	26.00	3.72E-02		1.77E-02	1.82E-02
	362.23	2.25	3.54E-01		1.65E-01	1.73E-01
	471.80	0.73	2.12E+00		3.00E-01	1.04E+00
	834.83	13.00	8.52E-02		-5.44E-02	4.09E-02
	985.78	1.31	1.03E+00		9.40E-02	4.95E-01
	1141.33	1.28	8.03E-01		1.43E-01	3.82E-01
	1179.51	1.00	4.32E+00		-3.02E-01	2.13E+00
	1250.67	1.12	7.61E-01		-5.52E-01	3.53E-01
	1369.50	1.48	8.76E-01		-2.19E-01	4.16E-01
	1518.39	2.15	3.64E-01		2.58E-01	1.65E-01
	1529.77	10.90	6.03E-02		-8.61E-02	2.70E-02
	2029.84	4.53	2.10E-01		-1.38E-01	9.38E-02
	2035.41	3.74	2.44E-01		3.07E-02	1.10E-01
	2195.84	13.20	5.59E-02		-2.25E-02	2.45E-02
	2231.77	3.39	1.30E-01		-1.43E-01	5.67E-02
	2352.08	0.73	6.89E-01		2.93E-01	2.78E-01
	2392.11	34.60	1.34E-02		-3.29E-03	5.70E-03
RB-88	898.03	14.40	9.13E-02	3.26E-02	5.83E-02	4.40E-02
	1382.45	0.78	1.01E+00		1.42E-01	4.66E-01
	1836.00	22.81	3.26E-02		-2.27E-02	1.47E-02
	2677.89	2.13	2.14E-01		7.14E-02	8.31E-02
Y-88	898.04	93.70	3.31E-05	1.89E-05	2.11E-05	1.60E-05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Y-88	1836.06	99.20	1.89E-05	1.89E-05	-1.32E-05	8.52E-06
@ RB-89	272.42	1.53	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	657.77	10.80	1.00E+20		1.00E+20	1.00E+20
@	947.73	10.00	1.00E+20		1.00E+20	1.00E+20
@	1031.92	63.00	1.00E+20		1.00E+20	1.00E+20
@	1248.14	46.00	1.00E+20		1.00E+20	1.00E+20
@	1538.07	2.77	1.00E+20		1.00E+20	1.00E+20
@	2007.50	2.58	1.00E+20		1.00E+20	1.00E+20
@	2195.92	14.50	1.00E+20		1.00E+20	1.00E+20
@	2570.20	10.70	1.00E+20		1.00E+20	1.00E+20
@	2707.26	2.20	1.00E+20		1.00E+20	1.00E+20
SR-89	908.96	0.01	2.65E-01	2.65E-01	2.83E-02	1.28E-01
Sr-91	652.90	11.35	1.16E-03	4.02E-04	-6.82E-04	5.61E-04
	749.80	23.70	4.71E-04		-1.77E-04	2.26E-04
	925.80	3.85	3.72E-03		-3.57E-03	1.79E-03
	1024.30	33.50	4.02E-04		2.43E-04	1.93E-04
Y-91	1204.77	0.26	7.10E-03	7.10E-03	-4.94E-03	3.34E-03
Y-91m	555.57	61.64	1.99E-04	1.99E-04	-7.93E-05	9.65E-05
NB-92M	912.60	1.78	2.00E-03	2.73E-05	5.91E-04	9.62E-04
	934.44	99.15	2.73E-05		2.91E-05	1.31E-05
	1847.50	0.85	1.38E-03		7.96E-04	6.19E-04
SR-92	241.56	2.93	4.39E-01	1.21E-02	6.29E-02	2.15E-01
	430.49	3.28	5.38E-01		-2.93E-02	2.63E-01
	953.31	3.52	5.23E-01		-3.02E-01	2.52E-01
	1142.35	2.79	5.19E-01		-2.56E-01	2.46E-01
	1383.93	90.00	1.21E-02		6.26E-03	5.61E-03
MO-93M	114.04	0.68	2.68E-02	1.65E-04	2.64E-02	1.31E-02
	263.05	57.40	3.89E-04		-7.02E-06	1.90E-04
	684.69	99.90	2.13E-04		2.63E-05	1.02E-04
	1363.02	0.81	3.92E-02		8.00E-02	1.87E-02
	1477.14	99.10	1.65E-04		6.36E-05	7.50E-05
@ SR-93	168.50	18.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	260.12	7.40	1.00E+20		1.00E+20	1.00E+20
@	346.49	3.28	1.00E+20		1.00E+20	1.00E+20
@	446.20	2.36	1.00E+20		1.00E+20	1.00E+20
@	590.24	68.00	1.00E+20		1.00E+20	1.00E+20
@	710.31	21.80	1.00E+20		1.00E+20	1.00E+20
@	875.73	24.50	1.00E+20		1.00E+20	1.00E+20
@	888.13	22.10	1.00E+20		1.00E+20	1.00E+20
@	1040.63	3.20	1.00E+20		1.00E+20	1.00E+20
@	1094.00	1.76	1.00E+20		1.00E+20	1.00E+20
@	1122.48	4.00	1.00E+20		1.00E+20	1.00E+20
@	1215.48	2.50	1.00E+20		1.00E+20	1.00E+20
@	1269.47	7.10	1.00E+20		1.00E+20	1.00E+20
@	1321.24	2.61	1.00E+20		1.00E+20	1.00E+20
@	1387.11	3.50	1.00E+20		1.00E+20	1.00E+20
@	1694.07	2.58	1.00E+20		1.00E+20	1.00E+20
@	1699.06	3.30	1.00E+20		1.00E+20	1.00E+20
@	2543.84	3.03	1.00E+20		1.00E+20	1.00E+20
@	2688.65	2.13	1.00E+20		1.00E+20	1.00E+20
Y-93	266.90	7.40	1.30E-03	1.30E-03	-1.04E-03	6.35E-04
	947.10	2.10	6.74E-03		-6.13E-04	3.25E-03
	1917.80	1.57	5.17E-03		-3.72E-03	2.33E-03

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
NB-94	702.65	99.81	2.91E-05	2.91E-05	-4.00E-06	1.40E-05
	871.09	99.89	3.09E-05		-8.05E-07	1.49E-05
@ Y-94	381.60	2.02	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	550.90	4.90	1.00E+20		1.00E+20	1.00E+20
@	752.60	1.40	1.00E+20		1.00E+20	1.00E+20
@	918.74	56.00	1.00E+20		1.00E+20	1.00E+20
@	1138.90	6.00	1.00E+20		1.00E+20	1.00E+20
@	1671.40	2.50	1.00E+20		1.00E+20	1.00E+20
@	2140.60	0.95	1.00E+20		1.00E+20	1.00E+20
NB-95	765.80	99.81	2.06E-05	2.06E-05	-7.95E-06	9.89E-06
ZR-95	724.19	44.27	5.33E-05	3.79E-05	6.61E-05	2.58E-05
	756.72	54.38	3.79E-05		-4.70E-06	1.82E-05
NB-96	219.08	2.97	1.25E-03	4.20E-05	-4.71E-04	6.12E-04
	241.38	3.50	1.10E-03		1.58E-04	5.39E-04
	350.05	1.54	3.15E-03		8.14E-04	1.54E-03
	352.56	0.83	5.91E-03		7.37E-03	2.89E-03
	371.81	2.62	1.74E-03		6.29E-04	8.52E-04
	460.04	26.62	2.23E-04		-1.22E-04	1.09E-04
	480.71	5.84	9.88E-04		1.01E-03	4.84E-04
	568.87	58.00	7.63E-05		-3.23E-05	3.70E-05
	719.56	6.85	7.02E-04		8.70E-06	3.39E-04
	721.63	1.02	4.78E-03		3.07E-03	2.31E-03
	778.22	96.45	4.20E-05		-3.28E-05	2.01E-05
	810.33	11.09	3.96E-04		1.17E-04	1.90E-04
	812.58	2.95	1.51E-03		5.75E-04	7.26E-04
	847.69	1.14	4.07E-03		2.48E-03	1.96E-03
	849.93	20.45	2.23E-04		-2.79E-04	1.07E-04
	1091.35	48.50	1.06E-04		1.98E-05	5.08E-05
	1200.23	19.97	1.95E-04		8.67E-05	9.21E-05
	1441.13	0.44	7.49E-03		1.06E-02	3.46E-03
	1497.81	3.28	9.20E-04		-1.17E-03	4.21E-04
Nb-97	657.94	98.23	3.63E-04	3.63E-04	-1.24E-05	1.81E-04
	1024.40	1.09	5.84E-03		3.52E-03	2.80E-03
ZR-97	254.17	1.15	4.32E-03	5.90E-05	1.35E-03	2.11E-03
	355.40	2.09	4.56E-03		-8.03E-05	2.23E-03
	507.64	5.03	1.88E-03		8.67E-04	9.18E-04
	743.36	93.09	5.90E-05		5.57E-05	2.83E-05
	1147.97	2.62	3.24E-03		-6.61E-04	1.54E-03
MO-99	181.07	6.14	5.56E-04	2.73E-04	-5.12E-04	2.72E-04
	366.42	1.20	2.39E-03		1.82E-03	1.17E-03
	739.50	12.26	2.73E-04		-2.68E-04	1.31E-04
	777.92	4.30	5.89E-04		-3.74E-04	2.82E-04
TC-99M	140.51	90.80	2.08E-05	2.08E-05	-6.26E-06	1.02E-05
RH-101	127.23	68.00	3.31E-05	3.28E-05	1.72E-05	1.62E-05
	198.01	73.00	3.28E-05		-6.21E-06	1.61E-05
	325.23	11.80	6.49E-05		-1.41E-05	3.17E-05
RH-101M	306.86	81.00	2.82E-05	2.82E-05	-4.81E-05	1.38E-05
	545.12	4.30	5.84E-04		2.29E-04	2.83E-04
RH-102M	415.25	2.10	4.22E-03	5.68E-05	2.07E-02	2.08E-03
	418.52	9.40	8.42E-04		-3.33E-05	4.15E-04
	420.40	3.20	2.30E-03		-2.52E-04	1.13E-03
	475.06	95.00	5.68E-05		-3.56E-05	2.78E-05
	628.05	8.30	5.58E-04		7.67E-05	2.69E-04

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RH-102M	631.29		56.00	6.66E-05	5.68E-05	2.43E-05	3.22E-05
		692.40		1.60	5.29E-03		-3.77E-04	2.59E-03
		695.60		2.90	2.58E-03		1.46E-02	1.26E-03
		697.49		44.00	1.65E-04		7.77E-04	8.09E-05
		766.84		34.00	1.06E-04		3.85E-05	5.09E-05
		1046.59		34.00	1.19E-04		-5.83E-05	5.73E-05
		1103.16		4.60	8.42E-04		-2.94E-03	4.07E-04
		1112.84		19.00	2.93E-04		3.63E-04	1.42E-04
	RU-103	497.08		91.00	2.77E-05	2.77E-05	1.36E-05	1.35E-05
		610.33		5.76	4.51E-04		4.76E-04	2.19E-04
	RH-105	306.31		4.66	6.82E-04	1.88E-04	3.94E-05	3.33E-04
		319.23		16.90	1.88E-04		9.25E-05	9.19E-05
	AG-106M	221.70		6.60	2.95E-04	3.15E-05	-5.59E-05	1.44E-04
		228.63		2.10	9.68E-04		6.39E-04	4.74E-04
		328.46		1.14	1.92E-03		3.30E-04	9.39E-04
		391.04		3.68	6.66E-04		7.82E-04	3.25E-04
		406.18		13.40	1.81E-04		2.01E-05	8.85E-05
		429.65		13.20	2.09E-04		-1.25E-04	1.02E-04
		450.98		28.20	1.06E-04		-7.07E-05	5.19E-05
		511.85		88.00	3.15E-05		2.78E-05	1.54E-05
		601.17		1.61	1.41E-03		1.04E-03	6.84E-04
		616.17		21.60	1.22E-04		6.61E-05	5.92E-05
		646.03		1.46	1.59E-03		-1.56E-04	7.66E-04
		680.42		2.18	9.28E-04		-8.91E-05	4.45E-04
		703.11		4.47	4.76E-04		2.72E-05	2.29E-04
		717.34		28.90	8.07E-05		-8.63E-06	3.89E-05
		748.36		20.60	1.01E-04		-1.94E-05	4.86E-05
		793.17		5.90	3.82E-04		-8.72E-05	1.83E-04
		804.28		12.40	1.89E-04		8.70E-05	9.06E-05
		808.36		4.00	5.99E-04		1.23E-03	2.88E-04
		824.69		15.30	1.52E-04		-2.65E-04	7.32E-05
		847.15		4.40	5.51E-04		4.75E-04	2.65E-04
		1019.72		1.04	2.50E-03		1.97E-03	1.20E-03
		1045.83		29.60	8.79E-05		-6.83E-05	4.22E-05
		1128.02		11.80	2.16E-04		-4.85E-05	1.03E-04
		1199.39		11.20	1.83E-04		3.58E-05	8.61E-05
		1222.88		7.00	2.60E-04		1.22E-04	1.22E-04
		1394.35		1.49	1.29E-03		7.92E-04	6.03E-04
		1527.65		16.30	8.04E-05		7.74E-05	3.60E-05
		1572.35		6.60	2.26E-04		-7.60E-05	1.03E-04
		1722.76		1.40	1.14E-03		-4.29E-06	5.16E-04
		1839.05		2.00	7.99E-04		-1.19E-03	3.61E-04
	RH-106	621.93		9.93	2.97E-04	2.97E-04	-4.67E-05	1.44E-04
		873.49		0.44	8.50E-03		2.47E-03	4.09E-03
		1050.41		1.56	2.01E-03		-2.05E-04	9.65E-04
	RU-106	511.86		20.40	1.25E-04	1.25E-04	4.69E-05	6.09E-05
	AG-108M	79.13		6.60	3.22E-04	4.69E-05	-1.92E-04	1.58E-04
		433.94		90.50	5.19E-05		4.14E-05	2.54E-05
		614.28		89.80	5.14E-05		-1.09E-05	2.50E-05
		722.91		90.80	4.69E-05		6.63E-05	2.27E-05
+	CD-109	88.03	*	3.64	7.14E-04	7.14E-04	5.34E-03	3.52E-04
	AG-110M	446.81		3.70	1.71E-03	5.82E-05	2.77E-03	8.38E-04
		620.35		2.73	1.90E-03		2.54E-04	9.21E-04

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-110M	657.76	95.61	2.45E-04	5.82E-05	-8.76E-06	1.22E-04
	677.62	10.70	4.09E-04		2.81E-04	1.96E-04
	687.01	6.53	5.55E-04		1.32E-04	2.66E-04
	706.68	16.69	2.44E-04		-1.07E-04	1.17E-04
	744.28	4.77	8.25E-04		9.35E-04	3.95E-04
	763.94	22.60	1.66E-04		-1.21E-04	7.97E-05
	818.02	7.43	6.63E-04		-1.42E-04	3.18E-04
	884.68	75.00	5.82E-05		4.03E-05	2.80E-05
	937.48	35.00	1.29E-04		7.27E-06	6.21E-05
	1384.29	25.10	1.02E-04		-1.54E-05	4.70E-05
	1475.78	4.08	4.73E-04		3.67E-05	2.16E-04
	1505.03	13.33	1.86E-04		-2.28E-05	8.50E-05
	1562.29	1.22	7.39E-04		4.20E-04	3.32E-04
AG-111	245.40	1.11	1.87E-03	3.40E-04	1.30E-03	9.17E-04
	342.13	6.68	3.40E-04		1.82E-05	1.66E-04
AG-112	606.82	3.10	1.82E-03	1.19E-04	2.57E-03	8.83E-04
	617.52	43.00	1.19E-04		1.03E-04	5.74E-05
	692.82	1.19	7.39E-03		-5.05E-04	3.63E-03
	694.87	2.90	3.04E-03		1.60E-02	1.49E-03
	851.28	1.02	4.95E-03		3.05E-03	2.38E-03
	1312.36	1.11	3.06E-03		6.39E-04	1.41E-03
	1387.68	5.30	6.52E-04		-3.42E-04	3.01E-04
	1613.66	2.80	1.04E-03		-1.93E-04	4.67E-04
	1798.50	0.89	3.16E-03		9.67E-04	1.40E-03
	2106.31	2.40	1.15E-03		1.40E-04	4.98E-04
	2506.70	1.06	7.46E-03		1.56E-02	3.53E-03
CD-113M	263.70	0.03	6.98E-02	6.98E-02	7.04E-02	3.41E-02
SN-113	255.13	2.11	8.54E-04	3.44E-05	1.10E-04	4.17E-04
	391.70	64.97	3.44E-05		-8.39E-06	1.68E-05
IN-114M	190.27	15.56	1.19E-04	1.19E-04	-7.57E-05	5.81E-05
	558.43	4.40	6.28E-04		-2.28E-04	3.04E-04
	725.24	4.40	7.24E-04		8.60E-04	3.50E-04
CD-115	260.90	1.94	1.29E-03	5.94E-05	-1.33E-03	6.30E-04
	336.24	46.02	5.94E-05		-8.94E-06	2.90E-05
	527.90	27.45	1.09E-04		-7.76E-05	5.28E-05
CD-115M	933.84	2.00	1.32E-03	1.32E-03	3.32E-04	6.35E-04
	1290.59	0.90	1.76E-03		-5.14E-04	8.16E-04
IN-115M	336.24	45.90	1.95E-03	1.95E-03	-2.93E-04	9.52E-04
IN-116M	138.29	3.70	1.03E+05	3.73E+03	3.19E+04	5.06E+04
	416.90	27.20	2.94E+04		-1.04E+04	1.45E+04
	818.68	12.13	4.72E+04		-2.52E+04	2.27E+04
	1097.28	58.50	8.83E+03		-8.18E+03	4.24E+03
	1293.56	84.80	3.73E+03		1.28E+03	1.73E+03
	1507.59	9.92	3.05E+04		-1.39E+04	1.40E+04
	2112.29	15.09	1.76E+04		-3.27E+03	7.77E+03
SB-125	176.31	6.84	2.41E-04	8.53E-05	2.71E-04	1.18E-04
	380.45	1.52	1.45E-03		-4.58E-04	7.07E-04
	427.87	29.60	8.53E-05		-6.73E-05	4.17E-05
	463.36	10.49	2.77E-04		-1.29E-04	1.36E-04
	600.60	17.65	1.18E-04		-2.22E-05	5.70E-05
	606.71	4.98	5.03E-04		7.10E-04	2.44E-04
	635.95	11.22	1.85E-04		-1.19E-05	8.95E-05
	671.44	1.79	2.23E-03		5.22E-04	1.10E-03

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SN-125	332.10	1.40	2.59E-03	3.67E-04	3.72E-04	1.27E-03
	469.85	1.50	3.42E-03		-7.66E-04	1.67E-03
	800.28	1.10	2.66E-03		-1.08E-03	1.28E-03
	822.48	4.30	7.07E-04		6.49E-04	3.40E-04
	915.55	4.10	8.79E-04		5.81E-04	4.24E-04
	1067.10	10.00	3.67E-04		1.19E-04	1.76E-04
	1087.70	1.20	4.58E-03		-4.13E-03	2.21E-03
	1089.10	4.60	6.92E-04		-2.52E-04	3.33E-04
	2002.10	1.90	6.16E-04		1.36E-04	2.65E-04
SB-127	61.10	1.43	5.23E-03	5.78E-05	1.13E-02	2.58E-03
	252.40	8.50	3.17E-04		-1.13E-04	1.55E-04
	290.80	2.02	1.71E-03		3.37E-05	8.36E-04
	412.10	3.80	1.28E-03		1.78E-04	6.30E-04
	445.10	4.30	1.02E-03		-2.37E-04	4.98E-04
	473.00	25.80	1.45E-04		1.71E-04	7.13E-05
	543.30	2.90	7.42E-04		-1.65E-03	3.59E-04
	603.50	4.50	8.35E-04		3.54E-04	4.05E-04
	685.70	36.80	5.78E-05		3.61E-05	2.77E-05
	698.50	3.64	1.31E-03		5.00E-05	6.43E-04
	722.20	1.88	1.55E-03		2.38E-03	7.51E-04
	783.70	15.10	1.60E-04		2.73E-05	7.66E-05
SN-127	119.70	2.20	2.65E+00	2.83E-01	1.54E+00	1.30E+00
	262.50	2.30	2.73E+00		-1.11E+00	1.33E+00
	266.20	2.10	2.94E+00		-2.28E+00	1.44E+00
	284.30	2.70	2.51E+00		-2.21E+00	1.23E+00
	438.20	6.10	1.47E+00		1.10E+00	7.20E-01
	490.90	5.30	1.60E+00		-7.77E-01	7.83E-01
	493.20	3.10	2.73E+00		3.02E-03	1.33E+00
	545.40	2.30	3.16E+00		3.00E+00	1.53E+00
	583.30	3.20	2.20E+00		1.83E+00	1.07E+00
	805.90	8.20	8.96E-01		2.08E-01	4.31E-01
	823.10	11.00	6.71E-01		7.93E-01	3.22E-01
	824.70	6.10	1.19E+00		-2.08E+00	5.74E-01
	859.50	8.00	9.83E-01		3.67E-01	4.73E-01
	979.20	7.20	1.09E+00		-7.99E-01	5.21E-01
	1093.30	3.80	2.21E+00		-7.14E-01	1.06E+00
	1095.60	19.00	4.43E-01		-4.78E-01	2.12E-01
	1114.30	38.00	2.83E-01		3.16E-01	1.37E-01
	1160.40	2.40	3.14E+00		-1.37E+00	1.49E+00
	2003.40	5.30	7.30E-01		-1.84E-01	3.16E-01
SB-129	180.42	2.84	2.86E-02	2.23E-03	-1.84E-02	1.40E-02
	359.20	2.39	4.55E-02		1.60E-02	2.22E-02
	404.64	1.17	9.68E-02		2.76E-02	4.73E-02
	523.13	1.55	7.21E-02		-3.33E-02	3.50E-02
	544.56	15.42	6.85E-03		-9.90E-03	3.32E-03
	633.74	2.53	4.00E-02		1.02E-02	1.93E-02
	654.28	2.97	5.64E-02		-4.58E-03	2.76E-02
	682.77	5.76	1.58E-02		1.26E-02	7.57E-03
	761.12	4.32	2.42E-02		3.44E-04	1.16E-02
	773.37	2.82	3.50E-02		-2.99E-03	1.68E-02
	786.36	1.07	9.76E-02		5.07E-02	4.69E-02
	787.16	1.74	6.01E-02		3.91E-02	2.89E-02
	812.97	48.20	2.23E-03		1.57E-03	1.07E-03

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	819.51		1.39	7.61E-02	2.23E-03	5.40E-02	3.65E-02
		876.65		2.75	4.25E-02		1.47E-02	2.04E-02
		914.96		23.30	5.52E-03		6.38E-03	2.66E-03
		966.78		8.96	1.41E-02		8.35E-03	6.80E-03
		1030.65		15.13	7.61E-03		4.44E-03	3.65E-03
		1656.10		1.31	4.85E-02		2.50E-02	2.17E-02
		1738.16		7.45	8.51E-03		2.32E-03	3.79E-03
	TE-129	459.60		7.70	3.77E-04	3.77E-04	1.35E-04	1.85E-04
		487.39		1.42	1.83E-03		-7.50E-04	8.93E-04
+	Te-129m	695.88	*	3.00	7.49E-04	7.49E-04	6.91E-03	3.61E-04
	I-131	80.18		2.62	1.15E-03	2.92E-05	-3.09E-04	5.67E-04
		284.30		6.12	3.86E-04		-3.40E-04	1.89E-04
		364.49		81.50	2.92E-05		-1.01E-06	1.43E-05
		636.99		7.16	3.19E-04		-1.50E-05	1.54E-04
		722.91		1.77	1.46E-03		2.06E-03	7.04E-04
	Te-131m	773.67		36.80	1.35E-04	1.35E-04	-3.30E-05	6.47E-05
		793.75		13.40	5.85E-04		1.54E-04	2.81E-04
		852.21		19.90	2.98E-04		2.69E-04	1.43E-04
		1125.46		11.00	4.95E-04		2.21E-04	2.37E-04
		1206.60		9.41	4.05E-04		1.94E-04	1.90E-04
	I-132	262.90		1.28	1.80E-03	5.47E-05	-3.25E-05	8.80E-04
		284.90		0.71	3.51E-03		-2.99E-03	1.72E-03
		505.79		4.93	2.23E-03		6.68E-04	1.09E-03
		522.65		16.00	3.22E-04		-2.80E-04	1.56E-04
		547.20		1.14	4.39E-03		-5.14E-04	2.13E-03
		621.20		1.97	2.72E-03		6.52E-04	1.32E-03
		630.19		13.30	3.68E-04		8.12E-06	1.78E-04
		650.50		2.57	2.42E-03		-6.18E-05	1.17E-03
		667.71		98.70	2.53E-04		3.64E-06	1.26E-04
		669.80		4.60	2.30E-03		3.92E-04	1.13E-03
		671.40		3.50	3.27E-03		7.65E-04	1.61E-03
		727.10		5.40	1.24E-03		-4.42E-04	5.97E-04
		728.40		1.60	3.66E-03		-7.47E-04	1.76E-03
		772.60		75.60	5.47E-05		-3.13E-05	2.63E-05
		809.50		2.60	2.03E-03		3.47E-03	9.78E-04
		812.00		5.50	8.53E-04		-1.37E-03	4.09E-04
		910.10		0.93	5.92E-03		-7.24E-03	2.85E-03
		954.55		17.60	3.38E-04		1.52E-04	1.63E-04
		1136.00		3.01	1.23E-03		1.31E-04	5.86E-04
		1172.90		1.09	1.16E-02		9.43E-02	5.70E-03
		1290.80		1.13	2.99E-03		-8.74E-04	1.39E-03
		1295.10		1.88	6.22E-04		-2.82E-04	2.88E-04
		1297.90		0.89	1.02E-03		2.75E-04	4.76E-04
		1372.07		2.47	1.47E-03		3.29E-04	6.83E-04
		1398.57		7.01	5.28E-04		5.94E-04	2.47E-04
		1442.56		1.40	9.58E-04		-2.35E-04	4.42E-04
	TE-132	49.72		15.00	7.36E-04	2.66E-05	-2.26E-04	3.61E-04
		111.76		1.74	1.04E-03		-7.50E-04	5.10E-04
		116.30		1.96	9.57E-04		8.95E-04	4.69E-04
		228.16		88.00	2.66E-05		4.86E-06	1.31E-05
	BA-133	81.00		32.90	8.38E-05	4.12E-05	-8.33E-05	4.12E-05
		276.40		7.16	3.02E-04		-3.57E-04	1.48E-04
		302.85		18.34	1.16E-04		-5.25E-05	5.67E-05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-133	356.01	62.05	4.12E-05	4.12E-05	5.57E-06	2.02E-05
	383.85	8.94	2.16E-04		-4.99E-05	1.06E-04
I-133	529.87	87.00	5.82E-05	5.82E-05	2.03E-05	2.83E-05
	706.58	1.51	3.74E-03		-1.65E-03	1.79E-03
	856.28	1.24	5.58E-03		-6.50E-03	2.68E-03
	875.33	4.51	1.19E-03		1.19E-03	5.73E-04
	1236.44	1.51	2.23E-03		1.18E-03	1.05E-03
	1298.22	2.35	1.57E-03		4.03E-04	7.31E-04
@ TE-133	312.08	62.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	407.63	27.10	1.00E+20		1.00E+20	1.00E+20
@	410.40	0.94	1.00E+20		1.00E+20	1.00E+20
@	474.85	0.88	1.00E+20		1.00E+20	1.00E+20
@	719.71	8.90	1.00E+20		1.00E+20	1.00E+20
@	786.93	5.40	1.00E+20		1.00E+20	1.00E+20
@	844.36	3.31	1.00E+20		1.00E+20	1.00E+20
@	884.30	0.72	1.00E+20		1.00E+20	1.00E+20
@	930.71	3.81	1.00E+20		1.00E+20	1.00E+20
@	997.70	1.04	1.00E+20		1.00E+20	1.00E+20
@	1000.72	3.62	1.00E+20		1.00E+20	1.00E+20
@	1021.13	2.81	1.00E+20		1.00E+20	1.00E+20
@	1061.61	1.19	1.00E+20		1.00E+20	1.00E+20
@	1252.08	1.44	1.00E+20		1.00E+20	1.00E+20
@	1312.80	0.85	1.00E+20		1.00E+20	1.00E+20
@	1333.21	10.67	1.00E+20		1.00E+20	1.00E+20
@	1717.61	3.18	1.00E+20		1.00E+20	1.00E+20
@	1881.52	1.22	1.00E+20		1.00E+20	1.00E+20
@	2136.51	1.25	1.00E+20		1.00E+20	1.00E+20
@	2229.64	0.87	1.00E+20		1.00E+20	1.00E+20
Xe-133	81.00	36.90	6.37E-05	6.37E-05	-6.34E-05	3.13E-05
CS-134	475.36	1.48	1.98E-03	3.37E-05	-4.20E-04	9.70E-04
	563.25	8.34	4.25E-04		1.60E-04	2.06E-04
	569.33	15.37	2.49E-04		1.30E-04	1.20E-04
	604.72	97.62	3.51E-05		1.06E-05	1.70E-05
	795.86	85.46	3.37E-05		6.01E-06	1.62E-05
	801.95	8.69	4.06E-04		-1.71E-04	1.95E-04
	1038.61	0.99	3.33E-03		1.28E-03	1.60E-03
	1167.97	1.79	2.96E-03		5.49E-04	1.46E-03
	1365.19	3.02	5.49E-04		9.12E-04	2.62E-04
I-135	220.50	1.75	1.76E-02	8.14E-04	-6.97E-03	8.61E-03
	288.45	3.10	1.10E-02		-9.50E-03	5.40E-03
	417.63	3.53	1.86E-02		-2.40E-03	9.16E-03
	546.56	7.15	5.09E-03		1.52E-03	2.47E-03
	836.80	6.69	5.65E-03		7.55E-04	2.72E-03
	971.96	0.89	5.29E-02		2.32E-02	2.54E-02
	972.62	1.21	3.52E-02		1.59E-02	1.69E-02
	1038.76	7.90	4.18E-03		1.61E-03	2.01E-03
	1101.58	1.61	2.82E-02		-2.65E-02	1.35E-02
	1124.00	3.62	1.16E-02		1.44E-02	5.53E-03
	1131.51	22.60	1.73E-03		4.17E-04	8.24E-04
	1240.47	0.90	3.22E-02		-2.10E-02	1.50E-02
	1260.41	28.70	8.14E-04		7.20E-04	3.80E-04
	1457.56	8.70	2.94E-03		3.88E-03	1.37E-03
	1502.79	1.08	2.52E-02		-1.96E-02	1.16E-02

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1566.41		1.29	1.40E-02	8.14E-04	-9.17E-03	6.34E-03
		1678.03		9.60	1.44E-03		-6.72E-04	6.43E-04
		1706.46		4.10	4.54E-03		3.07E-03	2.05E-03
		1791.20		7.72	2.24E-03		2.11E-03	1.00E-03
		2408.65		0.96	1.32E-02		-4.98E-03	5.32E-03
	XE-135	249.79		90.00	1.32E-04	1.32E-04	6.67E-05	6.47E-05
	XE-135m	526.56		80.40	3.65E-04	3.65E-04	3.92E-05	1.77E-04
	CS-136	66.88		4.79	1.38E-03	3.73E-05	8.28E-05	6.77E-04
		86.36		5.90	9.34E-04		1.19E-05	4.62E-04
		153.25		7.70	3.52E-04		-1.42E-04	1.73E-04
		163.92		4.69	8.39E-04		3.88E-04	4.11E-04
		176.60		13.70	2.37E-04		9.65E-05	1.16E-04
		273.65		12.66	2.82E-04		-3.36E-04	1.38E-04
		340.55		46.80	7.81E-05		4.02E-05	3.81E-05
		818.51		99.70	3.73E-05		4.43E-05	1.79E-05
		1048.07		80.00	5.38E-05		4.35E-05	2.58E-05
		1235.36		20.00	1.41E-04		7.06E-05	6.63E-05
+	CS-137	661.66	*	85.10	1.54E-05	1.54E-05	3.22E-03	7.26E-06
	BA-139	33.44		3.84	4.21E+03	1.56E+01	-4.74E+03	2.07E+03
		165.86		23.70	1.56E+01		-1.69E+01	7.66E+00
	BA-140	132.69		0.20	7.70E-03	9.84E-05	3.31E-05	3.77E-03
		162.66		6.22	3.19E-04		4.85E-05	1.56E-04
		304.85		4.29	6.09E-04		5.22E-05	2.97E-04
		423.72		3.10	8.49E-04		1.04E-04	4.15E-04
		437.58		1.93	1.43E-03		-1.45E-03	6.99E-04
		537.26		24.39	9.84E-05		6.00E-06	4.78E-05
	LA-140	109.42		0.22	7.14E-03	2.60E-05	-7.80E-03	3.50E-03
		131.12		0.47	3.35E-03		-3.37E-04	1.64E-03
		173.54		0.13	1.38E-02		1.46E-02	6.77E-03
		241.93		0.41	4.71E-03		-2.58E-04	2.30E-03
		266.54		0.47	4.11E-03		-2.23E-03	2.01E-03
		328.76		20.30	1.75E-04		2.34E-04	8.56E-05
		432.49		2.90	1.58E-03		-6.73E-04	7.75E-04
		487.02		45.50	8.48E-05		-4.96E-05	4.14E-05
		618.10		0.04	6.43E-02		4.87E-02	3.11E-02
		751.64		4.33	5.95E-04		-1.88E-04	2.86E-04
		815.77		23.28	9.95E-05		-1.38E-05	4.78E-05
		867.85		5.50	5.65E-04		-8.66E-04	2.72E-04
		919.55		2.66	1.06E-03		9.96E-04	5.11E-04
		925.19		6.90	4.64E-04		-3.58E-04	2.23E-04
		950.99		0.52	6.73E-03		1.11E-03	3.25E-03
		1596.21		95.40	2.60E-05		-5.49E-06	1.20E-05
		2347.88		0.85	7.19E-04		-5.78E-04	2.90E-04
		2521.40		3.46	2.12E-04		7.07E-05	8.22E-05
		2547.34		0.10	8.92E-03		2.97E-03	3.46E-03
@	BA-141	33.44		7.93	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		190.33		44.80	1.00E+20		1.00E+20	1.00E+20
@		276.95		23.60	1.00E+20		1.00E+20	1.00E+20
@		304.19		26.10	1.00E+20		1.00E+20	1.00E+20
@		343.67		15.10	1.00E+20		1.00E+20	1.00E+20
@		389.74		1.37	1.00E+20		1.00E+20	1.00E+20
@		457.51		5.00	1.00E+20		1.00E+20	1.00E+20
@		462.06		5.10	1.00E+20		1.00E+20	1.00E+20

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@ BA-141	467.22	5.60	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	625.08	3.45	1.00E+20		1.00E+20	1.00E+20
@	647.78	5.70	1.00E+20		1.00E+20	1.00E+20
@	738.95	4.39	1.00E+20		1.00E+20	1.00E+20
@	831.46	1.64	1.00E+20		1.00E+20	1.00E+20
@	876.09	3.45	1.00E+20		1.00E+20	1.00E+20
@	1160.72	1.12	1.00E+20		1.00E+20	1.00E+20
@	1197.28	4.35	1.00E+20		1.00E+20	1.00E+20
@	1323.92	0.92	1.00E+20		1.00E+20	1.00E+20
@	1654.00	0.65	1.00E+20		1.00E+20	1.00E+20
@	1682.19	1.19	1.00E+20		1.00E+20	1.00E+20
CE-141	145.44	48.30	3.15E-05	3.15E-05	-3.13E-06	1.54E-05
@ BA-142	33.44	14.20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	77.59	7.00	1.00E+20		1.00E+20	1.00E+20
@	177.00	2.12	1.00E+20		1.00E+20	1.00E+20
@	231.61	12.20	1.00E+20		1.00E+20	1.00E+20
@	255.30	20.70	1.00E+20		1.00E+20	1.00E+20
@	286.30	1.11	1.00E+20		1.00E+20	1.00E+20
@	309.20	2.60	1.00E+20		1.00E+20	1.00E+20
@	335.00	1.53	1.00E+20		1.00E+20	1.00E+20
@	363.96	4.76	1.00E+20		1.00E+20	1.00E+20
@	425.04	5.75	1.00E+20		1.00E+20	1.00E+20
@	599.80	1.85	1.00E+20		1.00E+20	1.00E+20
@	840.40	3.63	1.00E+20		1.00E+20	1.00E+20
@	895.20	13.90	1.00E+20		1.00E+20	1.00E+20
@	949.10	10.70	1.00E+20		1.00E+20	1.00E+20
@	1001.20	9.80	1.00E+20		1.00E+20	1.00E+20
@	1078.70	11.50	1.00E+20		1.00E+20	1.00E+20
@	1094.10	2.82	1.00E+20		1.00E+20	1.00E+20
@	1126.80	1.50	1.00E+20		1.00E+20	1.00E+20
@	1202.40	5.60	1.00E+20		1.00E+20	1.00E+20
@	1204.30	14.30	1.00E+20		1.00E+20	1.00E+20
@	1380.20	3.42	1.00E+20		1.00E+20	1.00E+20
CE-143	57.36	11.70	9.27E-04	8.39E-05	-3.68E-04	4.57E-04
	231.55	2.05	1.95E-03		-3.85E-04	9.54E-04
	293.27	42.80	8.39E-05		3.35E-05	4.11E-05
	350.62	3.23	1.04E-03		7.80E-04	5.11E-04
	490.37	2.16	2.55E-03		8.83E-04	1.24E-03
	664.57	5.69	4.01E-03		8.87E-02	1.99E-03
	721.93	5.39	6.72E-04		1.03E-03	3.25E-04
	880.46	1.03	3.82E-03		-7.16E-03	1.84E-03
CE-144	80.12	1.36	1.54E-03	1.33E-04	-4.11E-04	7.54E-04
	133.51	11.09	1.33E-04		7.49E-06	6.49E-05
ND-147	38.17	13.20	2.25E-03	9.47E-05	3.52E-03	1.11E-03
	38.72	23.80	1.14E-03		1.28E-03	5.58E-04
	91.11	28.90	9.47E-05		2.78E-05	4.68E-05
	275.39	0.79	3.63E-03		2.33E-03	1.78E-03
	319.41	1.97	1.28E-03		1.13E-03	6.24E-04
	398.13	0.87	3.03E-03		-1.04E-04	1.48E-03
	439.88	1.20	2.54E-03		-9.87E-04	1.24E-03
	531.01	13.11	1.80E-04		-2.73E-04	8.72E-05
	685.88	0.82	2.23E-03		8.00E-04	1.07E-03
@ PR-147	36.85	19.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@ PR-147	37.36	35.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	49.88	4.00	1.00E+20		1.00E+20	1.00E+20
@	77.97	9.70	1.00E+20		1.00E+20	1.00E+20
@	86.69	5.40	1.00E+20		1.00E+20	1.00E+20
@	127.80	7.40	1.00E+20		1.00E+20	1.00E+20
@	249.20	1.32	1.00E+20		1.00E+20	1.00E+20
@	314.70	18.20	1.00E+20		1.00E+20	1.00E+20
@	328.80	4.00	1.00E+20		1.00E+20	1.00E+20
@	335.70	4.70	1.00E+20		1.00E+20	1.00E+20
@	388.80	1.41	1.00E+20		1.00E+20	1.00E+20
@	466.80	1.70	1.00E+20		1.00E+20	1.00E+20
@	477.90	4.60	1.00E+20		1.00E+20	1.00E+20
@	516.70	1.30	1.00E+20		1.00E+20	1.00E+20
@	554.70	5.90	1.00E+20		1.00E+20	1.00E+20
@	577.90	13.70	1.00E+20		1.00E+20	1.00E+20
@	641.40	16.10	1.00E+20		1.00E+20	1.00E+20
@	996.00	1.52	1.00E+20		1.00E+20	1.00E+20
@	1136.70	1.42	1.00E+20		1.00E+20	1.00E+20
@	1261.10	8.40	1.00E+20		1.00E+20	1.00E+20
@	1300.40	2.30	1.00E+20		1.00E+20	1.00E+20
ND-149	38.17	9.00	6.14E+01	1.44E+00	9.59E+01	3.02E+01
	38.72	16.30	3.09E+01		3.46E+01	1.52E+01
	58.88	1.30	1.13E+02		-1.59E+01	5.57E+01
	74.32	2.11	2.91E+01		3.26E+01	1.43E+01
	97.00	1.48	2.52E+01		-3.68E+01	1.24E+01
	114.31	19.20	1.91E+00		1.88E+00	9.37E-01
	155.87	5.95	6.60E+00		-7.57E+00	3.23E+00
	188.64	1.79	3.71E+01		2.31E+01	1.82E+01
	198.93	1.39	3.61E+01		-1.70E+01	1.77E+01
	208.15	2.55	1.72E+01		-2.40E+01	8.40E+00
	211.31	26.00	1.44E+00		-6.97E-01	7.05E-01
	240.22	3.95	9.59E+00		3.17E+00	4.69E+00
	245.72	0.81	6.19E+01		5.56E+01	3.03E+01
	267.69	6.05	8.46E+00		5.20E+00	4.14E+00
	270.17	10.80	3.65E+00		3.20E+00	1.79E+00
	326.55	4.57	1.12E+01		3.73E+00	5.46E+00
	349.23	1.38	4.22E+01		3.19E+01	2.06E+01
	423.55	7.50	6.98E+00		8.51E-01	3.41E+00
	443.55	1.15	6.02E+01		2.59E+01	2.95E+01
	540.51	6.60	7.50E+00		1.99E+00	3.64E+00
	654.83	8.00	9.69E+00		3.83E-01	4.76E+00
PM-149	285.95	3.10	8.96E-04	8.96E-04	4.67E-04	4.38E-04
PM-150	39.52	0.63	1.98E+01	1.66E-02	1.61E+01	9.70E+00
	40.12	1.14	9.86E+00		-5.31E+00	4.84E+00
	333.92	68.00	1.66E-02		4.07E-03	8.11E-03
	406.51	5.60	2.23E-01		4.78E-02	1.09E-01
	565.70	1.31	9.02E-01		-7.00E-01	4.37E-01
	587.02	1.34	8.78E-01		6.12E-02	4.25E-01
	612.25	0.93	1.54E+00		9.33E-01	7.47E-01
	712.22	4.40	2.40E-01		9.99E-02	1.15E-01
	737.50	2.25	4.86E-01		3.02E-01	2.33E-01
	831.85	11.90	1.04E-01		6.31E-02	5.00E-02
	859.95	3.40	3.80E-01		1.81E-01	1.83E-01

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	876.41	7.30	1.80E-01	1.66E-02	3.48E-02	8.66E-02
	1165.77	15.80	1.48E-01		3.30E-02	7.23E-02
	1170.90	1.06	4.04E+00		3.49E-01	1.99E+00
	1193.87	4.80	2.29E-01		-1.64E-02	1.08E-01
	1213.72	1.03	9.42E-01		9.99E-01	4.41E-01
	1223.28	2.80	3.21E-01		-2.27E-01	1.50E-01
	1324.51	17.50	9.09E-02		-7.91E-02	4.36E-02
	1379.32	3.10	2.71E-01		1.03E-01	1.25E-01
	1736.40	6.90	1.11E-01		3.57E-02	4.98E-02
	1963.71	1.47	4.53E-01		8.23E-02	1.98E-01
	2033.46	0.97	8.75E-01		-5.40E-01	3.93E-01
@ ND-151	38.17	5.94	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	38.72	10.70	1.00E+20		1.00E+20	1.00E+20
@	68.98	1.26	1.00E+20		1.00E+20	1.00E+20
@	85.12	2.05	1.00E+20		1.00E+20	1.00E+20
@	89.96	1.53	1.00E+20		1.00E+20	1.00E+20
@	116.80	39.00	1.00E+20		1.00E+20	1.00E+20
@	138.89	7.00	1.00E+20		1.00E+20	1.00E+20
@	170.76	2.87	1.00E+20		1.00E+20	1.00E+20
@	175.07	6.30	1.00E+20		1.00E+20	1.00E+20
@	255.68	14.80	1.00E+20		1.00E+20	1.00E+20
@	300.58	1.82	1.00E+20		1.00E+20	1.00E+20
@	423.56	5.90	1.00E+20		1.00E+20	1.00E+20
@	460.59	0.96	1.00E+20		1.00E+20	1.00E+20
@	585.22	1.30	1.00E+20		1.00E+20	1.00E+20
@	677.88	2.38	1.00E+20		1.00E+20	1.00E+20
@	736.23	5.90	1.00E+20		1.00E+20	1.00E+20
@	739.20	1.52	1.00E+20		1.00E+20	1.00E+20
@	755.57	1.17	1.00E+20		1.00E+20	1.00E+20
@	797.53	4.70	1.00E+20		1.00E+20	1.00E+20
@	1016.40	2.50	1.00E+20		1.00E+20	1.00E+20
@	1122.63	4.10	1.00E+20		1.00E+20	1.00E+20
@	1180.89	13.30	1.00E+20		1.00E+20	1.00E+20
Pm-151	167.75	8.30	3.89E-04	1.64E-04	-2.78E-04	1.90E-04
	177.16	3.80	1.03E-03		-5.69E-04	5.03E-04
	240.09	3.80	9.86E-04		3.26E-04	4.82E-04
	275.21	6.80	5.23E-04		-6.79E-05	2.56E-04
	340.08	22.50	1.64E-04		5.10E-05	8.03E-05
EU-152	121.78	28.53	8.43E-05	8.43E-05	2.51E-05	4.15E-05
	344.28	26.59	9.58E-05		3.59E-05	4.68E-05
	778.90	12.93	2.04E-04		8.20E-05	9.78E-05
	867.37	4.23	8.73E-04		-7.03E-04	4.20E-04
	964.08	14.51	2.10E-04		4.85E-06	1.01E-04
	1085.87	10.11	2.70E-04		-6.92E-05	1.30E-04
	1112.07	13.67	2.56E-04		2.82E-04	1.24E-04
	1408.01	20.87	9.23E-05		-7.74E-05	4.29E-05
@ ND-152	44.44	5.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	250.15	16.40	1.00E+20		1.00E+20	1.00E+20
@	278.56	26.00	1.00E+20		1.00E+20	1.00E+20
@	294.47	2.90	1.00E+20		1.00E+20	1.00E+20
@	545.70	0.83	1.00E+20		1.00E+20	1.00E+20
@	592.50	0.99	1.00E+20		1.00E+20	1.00E+20
GD-153	69.67	2.45	1.19E-03	5.46E-05	1.57E-04	5.87E-04

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	GD-153	97.43		30.00	5.46E-05	5.46E-05	-6.18E-05	2.68E-05
		103.18		22.10	7.30E-05		3.89E-05	3.58E-05
	SM-153	69.67		4.67	8.80E-04	7.83E-05	1.16E-04	4.33E-04
		103.18		29.14	7.83E-05		4.17E-05	3.84E-05
+	EU-154	42.70		20.45	6.49E-04	5.43E-05	3.13E-04	3.18E-04
		123.07	*	40.40	6.16E-05		1.92E-04	3.03E-05
		247.93		6.89	3.87E-04		1.63E-04	1.89E-04
		591.76		4.95	6.76E-04		2.33E-04	3.27E-04
		692.42		1.78	3.11E-03		-2.21E-04	1.52E-03
		723.30	*	20.06	1.74E-04		2.79E-05	8.42E-05
		756.80		4.52	7.23E-04		-8.96E-05	3.47E-04
		873.18		12.08	2.84E-04		5.26E-05	1.37E-04
		996.29		10.48	2.59E-04		1.52E-05	1.24E-04
		1004.76	*	18.01	1.18E-04		2.02E-04	5.57E-05
		1246.12		0.86	2.62E-03		-3.37E-03	1.22E-03
		1274.43	*	34.80	5.43E-05		9.88E-05	2.53E-05
		1494.05		0.70	1.89E-03		2.05E-04	8.61E-04
		1596.48		1.80	4.97E-04		-1.05E-04	2.29E-04
	EU-155	43.00		18.12	6.98E-04	7.18E-05	-1.63E-04	3.42E-04
		60.01		1.17	4.16E-03		1.33E-02	2.05E-03
		86.55		30.70	9.82E-05		8.09E-06	4.86E-05
		105.31		21.10	7.18E-05		7.85E-05	3.52E-05
	EU-156	88.97		8.40	5.21E-04	2.38E-04	1.88E-05	2.58E-04
		646.29		6.30	4.77E-04		2.86E-04	2.30E-04
		723.47		5.40	6.04E-04		1.18E-03	2.92E-04
		811.77		9.70	3.00E-04		-4.81E-04	1.44E-04
		1065.14		4.90	7.70E-04		2.27E-04	3.70E-04
		1079.16		4.60	7.29E-04		1.62E-03	3.52E-04
		1153.80		11.50	2.38E-04		-2.38E-05	1.13E-04
		1230.71		8.00	3.14E-04		-1.90E-04	1.47E-04
		1242.42		6.60	2.84E-04		-1.26E-04	1.32E-04
		1277.43		2.89	1.07E-03		2.09E-03	5.12E-04
		1366.41		1.57	1.84E-03		-3.08E-04	8.78E-04
		1965.95		3.90	2.47E-04		-9.86E-05	1.08E-04
		2097.70		3.80	3.10E-04		-1.99E-04	1.33E-04
		2186.71		3.50	4.10E-04		3.58E-04	1.82E-04
	Sm-156	87.60		24.00	7.63E-04	5.42E-04	5.11E-03	3.77E-04
		165.80		13.00	7.55E-04		-8.14E-04	3.70E-04
		204.00		21.00	5.42E-04		1.98E-04	2.66E-04
	EU-158	42.31		5.80	1.19E+07	4.27E+05	6.87E+03	5.85E+06
		43.00		10.40	6.03E+06		-1.41E+06	2.95E+06
		79.49		10.50	9.87E+05		-1.17E+06	4.85E+05
		181.97		2.30	3.58E+06		-2.56E+06	1.75E+06
		528.05		1.53	6.98E+06		-4.76E+06	3.39E+06
		606.39		4.00	3.08E+06		3.98E+06	1.50E+06
		743.02		3.60	2.67E+06		2.52E+06	1.28E+06
		897.61		12.40	1.02E+06		1.06E+06	4.91E+05
		906.50		1.83	6.79E+06		6.24E+06	3.27E+06
		922.51		1.62	7.72E+06		1.01E+07	3.72E+06
		944.15		30.00	4.27E+05		-8.09E+04	2.06E+05
		953.03		1.98	6.66E+06		-3.00E+06	3.21E+06
		962.09		1.89	6.74E+06		7.36E+06	3.25E+06
		977.14		16.30	7.17E+05		6.01E+05	3.44E+05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	986.96	1.35	8.32E+06	4.27E+05	5.21E+06	3.98E+06
	1107.63	5.10	3.17E+06		5.63E+06	1.53E+06
	1184.10	3.00	3.51E+06		4.42E+05	1.67E+06
	1186.00	2.90	3.52E+06		-4.41E+05	1.67E+06
	1187.10	4.40	2.32E+06		2.37E+06	1.10E+06
	1263.61	2.20	3.60E+06		8.27E+05	1.68E+06
	1347.95	1.65	4.30E+06		-5.89E+06	1.98E+06
	1944.47	1.62	3.97E+06		-1.27E+06	1.75E+06
TB-160	86.79	13.20	3.28E-04	9.46E-05	2.70E-05	1.62E-04
	298.58	26.10	1.10E-04		1.29E-04	5.40E-05
	879.38	30.10	9.46E-05		-4.26E-05	4.55E-05
	962.32	9.81	2.98E-04		3.26E-04	1.44E-04
	966.17	25.10	1.13E-04		9.70E-06	5.43E-05
	1177.96	14.90	4.39E-04		2.11E-05	2.16E-04
TB-161	25.65	23.20	3.49E-02	2.63E-04	9.52E-02	1.71E-02
	48.91	17.00	4.66E-04		-3.57E-05	2.29E-04
	52.00	3.43	1.86E-03		-3.65E-04	9.14E-04
	57.19	1.79	3.55E-03		-1.41E-03	1.75E-03
	74.57	10.20	2.63E-04		2.95E-04	1.30E-04
YB-169	63.12	43.62	1.58E-04	5.72E-05	-9.65E-05	7.81E-05
	93.61	2.58	1.26E-03		-2.65E-04	6.17E-04
	109.78	17.39	1.08E-04		-1.10E-04	5.31E-05
	130.52	11.38	1.96E-04		-7.01E-05	9.59E-05
	177.21	22.28	9.73E-05		-5.39E-05	4.76E-05
	197.96	35.93	5.72E-05		-1.08E-05	2.81E-05
	307.74	10.05	1.50E-04		4.36E-05	7.32E-05
HF-172	54.07	63.00	8.07E-05	8.07E-05	-4.64E-05	3.97E-05
	67.35	5.30	5.28E-04		4.28E-05	2.59E-04
	81.75	4.50	4.53E-04		-3.88E-04	2.22E-04
	114.06	2.60	5.79E-04		5.70E-04	2.84E-04
	122.92	1.14	1.55E-03		2.85E-03	7.64E-04
	125.81	11.30	1.57E-04		2.67E-05	7.74E-05
	127.91	1.46	1.08E-03		4.77E-04	5.29E-04
LU-173	59.30	24.44	2.05E-04	9.86E-05	7.41E-04	1.01E-04
	78.63	11.90	2.33E-04		-5.02E-06	1.14E-04
	100.72	5.24	3.36E-04		-1.34E-04	1.65E-04
	171.39	2.90	6.41E-04		-4.00E-04	3.14E-04
	272.11	21.20	9.86E-05		-3.50E-06	4.82E-05
LU-177	112.95	6.23	2.63E-04	1.89E-04	9.48E-05	1.29E-04
	208.37	10.41	1.89E-04		-2.65E-04	9.27E-05
	249.67	0.20	1.02E-02		5.16E-03	5.01E-03
	321.32	0.22	9.93E-03		-9.00E-03	4.85E-03
HF-181	133.02	43.30	4.66E-05	3.73E-05	5.66E-07	2.28E-05
	345.93	15.12	1.81E-04		8.43E-05	8.84E-05
	482.18	80.50	3.73E-05		-4.56E-05	1.82E-05
W-181	56.28	18.70	2.69E-04	1.72E-04	-1.35E-04	1.32E-04
	57.53	32.00	1.72E-04		-4.98E-05	8.49E-05
	65.00	10.60	2.93E-04		4.17E-04	1.44E-04
TA-182	57.98	10.01	5.39E-04	6.93E-05	-1.11E-04	2.66E-04
	59.32	17.20	2.93E-04		1.06E-03	1.44E-04
	65.72	3.01	1.91E-03		-6.67E-04	9.40E-04
	67.75	46.67	8.21E-05		7.50E-06	4.03E-05
	84.68	2.65	1.58E-03		-2.74E-04	7.80E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	100.11	14.20	1.65E-04	6.93E-05	1.01E-05	8.10E-05
	113.67	1.87	1.58E-03		1.24E-03	7.76E-04
	116.42	0.44	3.40E-03		3.18E-03	1.67E-03
	152.43	7.02	3.23E-04		-3.21E-04	1.58E-04
	156.39	2.67	8.92E-04		2.32E-04	4.37E-04
	179.39	3.12	8.06E-04		-3.62E-04	3.95E-04
	198.35	1.47	2.28E-03		-1.23E-04	1.12E-03
	222.11	7.57	3.23E-04		-4.13E-04	1.58E-04
	229.32	3.64	7.97E-04		5.77E-04	3.90E-04
	264.08	3.61	7.42E-04		8.73E-04	3.63E-04
	928.00	0.61	5.48E-03		-5.89E-03	2.64E-03
	959.73	0.35	1.04E-02		-5.53E-03	5.01E-03
	1001.70	2.09	2.34E-03		3.58E-03	1.13E-03
	1044.42	0.24	1.58E-02		-1.02E-02	7.57E-03
	1113.41	0.44	9.75E-03		5.50E-03	4.72E-03
	1121.29	35.24	8.64E-05		6.00E-05	4.13E-05
	1157.30	0.73	2.68E-03		-1.91E-03	1.27E-03
	1189.04	16.49	1.13E-04		-4.05E-05	5.33E-05
	1221.40	27.23	6.93E-05		-7.40E-05	3.24E-05
	1223.60	0.24	4.06E-03		-2.87E-03	1.89E-03
	1231.00	11.62	1.98E-04		-6.59E-05	9.27E-05
	1257.41	1.51	1.05E-03		3.09E-04	4.89E-04
	1273.72	0.66	1.63E-03		1.76E-03	7.79E-04
	1289.15	1.37	3.57E-04		1.48E-04	1.66E-04
	1342.73	0.26	6.29E-03		-3.70E-03	2.96E-03
	1373.82	0.22	1.71E-03		3.47E-04	7.89E-04
Ta-183	84.71	1.35	2.57E-03	7.96E-05	-4.46E-04	1.27E-03
	99.08	6.80	2.63E-04		9.90E-06	1.29E-04
	107.93	11.20	1.52E-04		-3.01E-05	7.44E-05
	161.35	9.10	2.02E-04		-3.31E-05	9.91E-05
	162.32	5.00	3.68E-04		-2.57E-04	1.80E-04
	244.26	8.80	2.49E-04		1.69E-04	1.22E-04
	246.06	27.20	7.96E-05		3.40E-05	3.90E-05
	353.99	11.60	2.35E-04		3.49E-04	1.15E-04
Re-184	111.21	17.20	8.64E-05	5.57E-05	-3.46E-05	4.23E-05
	252.85	3.00	6.12E-04		-7.14E-04	2.99E-04
	792.01	37.70	5.57E-05		-2.02E-05	2.68E-05
	894.76	15.70	1.62E-04		-6.66E-05	7.79E-05
	903.28	38.10	6.71E-05		-8.13E-05	3.24E-05
W-185	59.72	0.01	4.14E-01	9.43E-02	1.49E+00	2.04E-01
	61.14	0.02	2.31E-01		5.00E-01	1.14E-01
	69.20	0.01	3.81E-01		-2.72E-01	1.87E-01
	125.36	0.02	9.43E-02		2.92E-02	4.63E-02
W-187	61.14	14.30	6.64E-04	1.05E-04	1.44E-03	3.28E-04
	69.20	4.82	1.10E-03		-7.82E-04	5.38E-04
	72.00	13.55	5.55E-04		4.21E-04	2.73E-04
	134.25	10.36	4.09E-04		1.42E-04	2.00E-04
	479.53	26.60	2.60E-04		9.68E-05	1.27E-04
	618.37	7.57	6.04E-04		1.28E-04	2.92E-04
	685.81	33.20	1.05E-04		3.77E-05	5.03E-05
Ir-188	155.05	29.60	8.06E-05	8.06E-05	-1.57E-06	3.95E-05
	478.00	14.70	2.96E-04		2.64E-04	1.45E-04
	633.02	17.90	1.72E-04		3.32E-05	8.32E-05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Ir-188	634.97	5.00	6.12E-04	8.06E-05	-7.83E-04	2.95E-04
	829.42	5.10	6.54E-04		3.26E-04	3.14E-04
	1209.77	6.90	3.95E-04		2.90E-04	1.86E-04
	1715.67	6.20	3.64E-04		2.53E-04	1.66E-04
	2214.59	18.60	1.28E-04		1.20E-04	5.70E-05
W-188	227.07	0.23	7.90E-03	5.09E-03	3.13E-03	3.87E-03
	290.68	0.42	5.09E-03		-2.09E-03	2.49E-03
Ir-189	245.08	6.00	3.33E-04	3.33E-04	-1.13E-05	1.63E-04
Ir-190	186.68	50.00	3.72E-05	3.72E-05	1.20E-05	1.82E-05
	361.09	12.30	1.89E-04		2.64E-05	9.23E-05
	371.24	21.60	1.07E-04		-6.90E-05	5.25E-05
	407.22	27.00	8.77E-05		-5.05E-05	4.28E-05
	518.55	32.20	7.61E-05		1.98E-05	3.70E-05
	557.95	28.50	7.63E-05		4.69E-05	3.69E-05
	569.30	27.00	8.49E-05		4.45E-05	4.11E-05
	605.14	37.80	6.92E-05		2.07E-05	3.36E-05
OS-191	63.29	15.70	2.52E-04	5.82E-05	-1.10E-03	1.24E-04
	64.99	26.70	1.21E-04		1.73E-04	5.96E-05
	73.45	9.21	2.78E-04		6.60E-05	1.37E-04
	129.43	26.50	5.82E-05		3.13E-05	2.85E-05
Pt-191	359.90	5.80	5.87E-04	2.16E-04	1.97E-04	2.87E-04
	456.47	3.30	1.18E-03		-9.94E-04	5.78E-04
	538.90	14.30	2.16E-04		1.44E-04	1.05E-04
IR-192	205.79	3.31	7.50E-04	3.51E-05	-2.61E-05	3.68E-04
	295.96	28.71	1.30E-04		-2.62E-05	6.36E-05
	308.45	29.70	1.11E-04		-4.98E-06	5.44E-05
	316.51	82.86	3.51E-05		1.44E-05	1.72E-05
	468.07	47.84	8.35E-05		-7.44E-05	4.09E-05
	588.58	4.52	7.99E-04		7.71E-04	3.87E-04
	604.41	8.22	2.34E-04		-2.39E-05	1.14E-04
	612.46	5.34	2.94E-04		2.83E-04	1.43E-04
IR-192m	155.16	0.09	1.72E-02	1.72E-02	-2.92E-03	8.44E-03
IR-193m	80.22	0.00	4.76E-01	4.76E-01	-1.27E-01	2.34E-01
Pt-193m	135.50	0.11	1.49E-02	1.49E-02	-9.05E-03	7.30E-03
Au-194	293.55	10.90	3.04E-04	5.02E-05	1.21E-04	1.49E-04
	328.47	62.80	5.02E-05		8.61E-06	2.45E-05
	364.84	1.60	2.16E-03		2.66E-04	1.05E-03
	528.77	1.78	1.93E-03		2.10E-03	9.35E-04
	645.16	2.32	1.42E-03		-3.82E-04	6.86E-04
	948.32	2.29	1.79E-03		-3.97E-05	8.65E-04
	1104.06	2.15	2.33E-03		1.22E-03	1.13E-03
	1175.36	2.14	5.58E-03		4.60E-02	2.75E-03
	1468.90	6.80	3.80E-04		-2.60E-04	1.76E-04
	1595.81	1.89	1.40E-03		5.98E-04	6.44E-04
	2043.72	3.74	6.25E-04		-1.20E-05	2.80E-04
Ir-194	293.54	2.50	2.06E-03	3.74E-04	8.21E-04	1.01E-03
	328.47	13.10	3.74E-04		6.42E-05	1.83E-04
AU-195	98.86	11.21	1.40E-04	1.40E-04	2.83E-05	6.85E-05
	129.74	0.84	1.77E-03		1.61E-03	8.65E-04
Pt-195m	98.90	11.70	1.59E-04	1.59E-04	3.23E-05	7.81E-05
	129.79	2.90	6.09E-04		5.56E-04	2.98E-04
Au-196	333.03	22.90	1.56E-04	3.76E-05	-2.70E-05	7.62E-05
	355.73	87.00	3.76E-05		1.10E-05	1.84E-05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Au-196	426.10	6.60	4.32E-04	3.76E-05	1.23E-04	2.11E-04
Au-196m	147.81	43.50	2.05E-04	2.05E-04	2.00E-04	1.00E-04
	188.27	30.00	3.57E-04		1.38E-04	1.75E-04
Pt-197	77.35	17.00	3.10E-04	3.10E-04	-1.87E-04	1.52E-04
	191.44	3.70	1.16E-03		-1.79E-04	5.71E-04
AU-198	411.80	95.62	5.04E-05	5.04E-05	3.93E-06	2.48E-05
AU-199	158.38	40.00	5.06E-05	5.06E-05	6.56E-05	2.48E-05
	208.20	8.72	2.55E-04		-3.56E-04	1.25E-04
TL-201	135.34	2.61	7.08E-04	2.03E-04	-2.43E-04	3.47E-04
	167.43	10.00	2.03E-04		-9.91E-05	9.92E-05
TL-202	439.51	91.50	3.05E-05	3.05E-05	-1.38E-05	1.49E-05
PB-203	70.83	26.40	1.31E-04	3.93E-05	-1.63E-04	6.45E-05
	72.87	44.20	7.76E-05		1.09E-05	3.82E-05
	82.40	15.56	1.80E-04		-1.80E-04	8.84E-05
	279.20	80.90	3.93E-05		5.32E-05	1.92E-05
	401.32	3.35	1.44E-03		2.01E-04	7.05E-04
PB-210	46.54	4.25	2.06E-03	2.06E-03	-6.89E-04	1.01E-03
Pa-233	86.60	2.01	1.76E-03	5.26E-05	1.45E-04	8.70E-04
	94.65	8.90	1.89E-04		-6.32E-05	9.27E-05
	98.43	14.20	1.11E-04		8.22E-05	5.45E-05
	300.13	6.54	3.20E-04		-2.77E-04	1.56E-04
	311.90	38.20	5.26E-05		4.32E-05	2.57E-05
	340.48	4.44	4.75E-04		2.44E-04	2.32E-04
U-235	89.96	2.90	9.92E-04	3.03E-05	1.41E-04	4.91E-04
	93.35	4.70	3.49E-04		-9.19E-05	1.71E-04
	109.19	1.64	9.07E-04		-5.16E-04	4.44E-04
	143.76	10.93	1.35E-04		3.28E-05	6.62E-05
	163.36	5.07	3.17E-04		-1.10E-04	1.55E-04
	185.71	57.20	3.03E-05		1.66E-05	1.49E-05
	202.11	1.07	1.74E-03		2.23E-03	8.53E-04
	205.31	5.03	3.62E-04		-3.38E-05	1.78E-04
NP-237	86.48	12.20	2.47E-04	2.47E-04	2.04E-05	1.22E-04
U-237	59.54	34.50	1.73E-04	7.01E-05	6.23E-04	8.51E-05
	97.07	15.40	1.16E-04		-1.69E-04	5.67E-05
	101.06	24.50	7.01E-05		-5.11E-05	3.44E-05
	113.30	3.07	5.33E-04		-7.74E-05	2.61E-04
	114.23	5.81	2.88E-04		2.83E-04	1.41E-04
	117.46	2.27	7.34E-04		3.69E-04	3.60E-04
	208.00	21.20	9.89E-05		-8.41E-05	4.84E-05
NP-238	103.37	0.00	4.60E-01	1.29E-04	1.34E-01	2.25E-01
	882.63	0.80	4.10E-03		-2.37E-03	1.97E-03
	923.99	2.60	1.34E-03		5.31E-05	6.46E-04
	984.45	25.20	1.29E-04		3.46E-05	6.17E-05
	1025.87	8.75	3.68E-04		1.61E-04	1.76E-04
	1028.53	18.23	1.76E-04		-1.75E-05	8.41E-05
U-238	63.29	3.70	1.02E-03	4.21E-04	-4.46E-03	5.03E-04
	92.51	4.23	4.21E-04		-1.53E-05	2.07E-04
	112.81	0.21	6.98E-03		-2.26E-04	3.42E-03
	742.81	0.11	1.82E-02		1.56E-03	8.71E-03
	766.42	0.32	6.27E-03		-2.90E-03	3.01E-03
	1001.03	0.84	3.32E-03		2.17E-03	1.60E-03
Am-239	181.71	1.08	6.43E-03	5.41E-04	-4.62E-03	3.15E-03
	209.80	3.50	2.15E-03		9.26E-05	1.05E-03

Analysis Report for 24-2543 TI185-7.0M-S3-CST-A F0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Am-239	226.40		3.30	2.31E-03	5.41E-04	-5.39E-04	1.13E-03
		228.10		11.30	6.94E-04		6.14E-04	3.40E-04
		277.60		15.00	5.41E-04		-5.21E-05	2.65E-04
	NP-239	61.46		1.30	4.83E-03	8.72E-05	1.63E-02	2.38E-03
		99.53		12.90	1.62E-04		7.41E-05	7.96E-05
		103.37		20.50	1.03E-04		2.99E-05	5.04E-05
		106.12		25.34	8.72E-05		-3.87E-05	4.27E-05
		209.75		3.36	7.60E-04		3.28E-05	3.72E-04
		228.18		11.24	2.39E-04		4.35E-05	1.17E-04
		277.60		14.51	1.97E-04		-1.90E-05	9.66E-05
		285.46		0.79	4.18E-03		2.79E-03	2.04E-03
		315.88		1.60	1.50E-03		6.83E-04	7.33E-04
		334.31		2.06	9.76E-04		4.63E-04	4.77E-04
	PU-239	38.66		0.01	2.45E+00	2.17E-01	2.76E+00	1.21E+00
		51.62		0.03	2.18E-01		-4.38E-02	1.07E-01
		98.50		0.01	2.17E-01		1.60E-01	1.07E-01
		111.03		0.00	1.09E+00		-7.04E-01	5.35E-01
		129.30		0.01	2.33E-01		1.23E-01	1.14E-01
		171.39		0.00	1.50E+01		-9.34E+00	7.34E+00
		203.55		0.00	3.26E+00		1.41E+00	1.60E+00
		332.85		0.00	4.05E+00		-1.15E-02	1.98E+00
		336.11		0.00	1.78E+01		-4.33E-02	8.69E+00
		345.01		0.00	3.77E+00		2.04E+00	1.84E+00
		375.05		0.00	1.39E+00		-6.07E-01	6.79E-01
		380.19		0.00	7.19E+00		-2.28E+00	3.51E+00
		382.75		0.00	8.53E+00		2.80E+00	4.17E+00
		413.71		0.00	2.54E+00		1.27E+01	1.25E+00
		422.60		0.00	2.04E+01		-9.63E+00	9.99E+00
		451.48		0.00	1.45E+01		2.81E-01	7.11E+00
	Am-240	99.53		18.40	1.18E-04	4.34E-05	5.37E-05	5.77E-05
		103.37		29.20	7.47E-05		2.17E-05	3.66E-05
		117.23		6.93	3.03E-04		1.52E-04	1.48E-04
		888.85		24.70	1.36E-04		-2.74E-05	6.52E-05
		987.79		72.20	4.34E-05		-3.26E-06	2.08E-05
	Np-240m	554.60		20.90	3.38E-04	3.38E-04	-1.04E-04	1.64E-04
		597.40		11.70	6.15E-04		2.79E-06	2.98E-04
	U-240	44.10		1.05	3.53E-02	2.58E-02	-1.15E-02	1.73E-02
		66.50		0.15	6.35E-02		-1.36E-03	3.12E-02
		169.20		0.12	4.83E-02		1.16E-02	2.37E-02
		189.70		0.24	2.58E-02		3.04E-02	1.27E-02
+	AM-241	59.54	*	35.90	1.45E-04	1.45E-04	5.21E-04	7.16E-05
	AM-242m	49.35		0.13	5.16E-02	5.16E-02	-8.55E-03	2.53E-02
		66.89		0.01	1.92E-01		1.16E-02	9.45E-02
		86.65		0.02	1.32E-01		1.09E-02	6.53E-02
		163.25		0.02	1.05E-01		-3.66E-02	5.14E-02
	AM-243	43.53		5.90	2.00E-03	3.59E-05	-4.88E-04	9.82E-04
		74.66		67.20	3.59E-05		4.87E-05	1.77E-05

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

Analysis Report for 24-2543 TI185-7.0M-S3-CST-A F0

ASR 2094 Branch

Apex-Gamma

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2544 TI185-7.0M-S3-CST-d-A F0
Sample Description	: ASR 2120 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/28/2024 8:04:10AM
Procedure	: F0_gsv02mlw
Operator	: Administrator
Detector Name	: F
Geometry	: F0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.3 seconds
Dead Time	: 0.10 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/4/2019
Efficiency Calibration Description	: F0_gsv2mlw_R717
Sample Number	: 579000
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/28/2024 8:24:17AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.71	167.47	0.1879	9.83
2	64.20	179.94	0.3294	3.38
3	87.57	245.41	0.1467	15.44
4	123.24	345.01	0.2280	7.45
5	295.33	825.97	0.3280	3.90
6	414.98	1160.33	0.1374	15.28
7	661.90	1850.43	0.0699	50.32
8	666.59	1863.75	0.1339	15.63
9	695.38	1943.91	0.1371	13.76
10	1081.63	3023.26	0.2301	4.66
11	1110.04	3102.97	0.2116	5.08
12	1173.72	3280.85	0.1086	17.36
13	1275.02	3564.40	0.2233	3.32
14	1333.04	3726.04	0.1078	17.11
15	1361.75	3806.12	0.2044	5.71
16	1461.05	4083.41	0.2315	4.54
17	2506.76	7004.69	0.1896	3.82

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/28/2024 8:24:17AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
M	1	59.71	161 -	186	167.41	8.18E+02	102.30	5.22E+02	1.33
m	2	64.20	161 -	186	179.95	2.05E+02	31.05	6.96E+02	1.34
F	3	87.57	237 -	250	245.27	1.54E+03	124.05	6.21E+02	1.34
F	4	123.24	336 -	351	344.99	3.18E+02	82.51	5.83E+02	1.24
	5	295.33	822 -	830	825.97	1.45E+01	25.83	2.00E+02	0.44
F	6	414.98	1149 -	1167	1160.35	1.04E+03	93.59	3.53E+02	1.60
M	7	661.90	1840 -	1871	1850.43	9.66E+03	151.75	9.01E+01	1.84
m	8	666.59	1840 -	1871	1863.54	8.11E+02	31.23	7.76E+01	1.85
F	9	695.38	1936 -	1952	1943.98	7.24E+02	27.33	1.01E+02	1.87
F	10	1081.63	3015 -	3031	3023.36	1.14E+02	44.39	4.65E+01	2.28
F	11	1110.04	3095 -	3109	3102.73	1.01E+02	37.27	6.29E+01	1.83
F	12	1173.72	3269 -	3292	3280.68	1.56E+03	77.79	5.38E+01	2.41
F	13	1275.02	3553 -	3572	3563.74	1.04E+02	16.79	1.02E+01	3.02
F	14	1333.04	3714 -	3736	3725.85	1.41E+03	65.33	2.80E+01	2.45
F	15	1361.75	3799 -	3814	3806.08	7.17E+01	24.51	2.48E+01	1.52
F	16	1461.05	4077 -	4091	4083.52	3.76E+01	6.98	1.50E+01	1.25
F	17	2506.76	6995 -	7015	7004.96	8.83E+01	9.40	4.91E+00	2.90

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/28/2024 8:24:17AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578890.CNF

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	1	59.71	8.18E+02	102.30	2.74E+00	3.98E-01	8.15E+02	1.02E+02
m	2	64.20	2.05E+02	31.05	2.07E+01	1.67E+00	1.84E+02	3.11E+01
F	3	87.57	1.54E+03	124.05	1.07E+01	6.14E-01	1.53E+03	1.24E+02
F	4	123.24	3.18E+02	82.51			3.18E+02	8.25E+01
	5	295.33	1.45E+01	25.83	2.19E+01	4.52E-01	-7.38E+00	2.58E+01
F	6	414.98	1.04E+03	93.59			1.04E+03	9.36E+01
M	7	661.90	9.66E+03	151.75			9.66E+03	1.52E+02
m	8	666.59	8.11E+02	31.23			8.11E+02	3.12E+01
F	9	695.38	7.24E+02	27.33			7.24E+02	2.73E+01
F	10	1081.63	1.14E+02	44.39			1.14E+02	4.44E+01
F	11	1110.04	1.01E+02	37.27			1.01E+02	3.73E+01
F	12	1173.72	1.56E+03	77.79			1.56E+03	7.78E+01
F	13	1275.02	1.04E+02	16.79			1.04E+02	1.68E+01
F	14	1333.04	1.41E+03	65.33			1.41E+03	6.53E+01
F	15	1361.75	7.17E+01	24.51			7.17E+01	2.45E+01
F	16	1461.05	3.76E+01	6.98	3.57E+01	3.97E-01	1.92E+00	6.99E+00
F	17	2506.76	8.83E+01	9.40			8.83E+01	9.40E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.99	1460.82	*	10.66	8.10E-06	2.95E-05	miss
CO-60	0.95	1173.23	*	99.85	7.79E-04	3.90E-05	0.786
		1332.49	*	99.98	7.66E-04	3.60E-05	0.777
CD-109	0.96	88.03	*	3.64	5.14E-03	4.18E-04	free
Te-129m	0.96	695.88	*	3.00	6.91E-03	1.41E-03	free
CS-137	0.99	661.66	*	85.10	3.08E-03	5.19E-05	miss
AM-241	0.99	59.54	*	35.90	5.44E-04	6.89E-05	free

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	*Nuclide Id Confidence*	*Wt mean Activity (µCi/sample)*	*Wt mean Activity Uncertainty*	*Comments*
K-40	0.992	8.10E-06	2.95E-05	
CO-60	0.958	7.72E-04	2.65E-05	
CD-109	0.966	5.14E-03	4.18E-04	
Te-129m	0.960	6.91E-03	1.41E-03	
CS-137	0.991	3.08E-03	5.19E-05	
AM-241	0.996	5.44E-04	6.89E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/28/2024 8:24:17AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
m	2	64.20	1.53592E-01	16.87	Tol.	W-181
						OS-191
						OS-191
						U-238
F	4	123.24	2.65080E-01	25.94	Tol.	HF-172
	5	295.33	-6.15027E-03	- 349.99	Tol.	IR-192
F	6	414.98	8.70795E-01	8.96	Tol.	RH-102M
m	8	666.59	6.75750E-01	3.85		
F	10	1081.63	9.48241E-02	39.01		
F	11	1110.04	8.44114E-02	36.79		
F	13	1275.02	8.69558E-02	16.09	Tol.	NA-22
F	15	1361.75	5.97171E-02	34.20		
F	17	2506.76	7.35457E-02	10.65	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.60	10.44	2.68E-04	2.68E-04	-1.52E-04	1.31E-04
NA-22	511.00	179.91	1.41E-05	1.41E-05	1.12E-05	6.89E-06

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	NA-22	1274.54		99.94	4.60E-05	1.41E-05	9.07E-05	2.19E-05
	NA-24	1368.63		99.99	8.72E-05	3.81E-05	-7.32E-07	4.15E-05
		2754.01		99.87	3.81E-05		1.27E-05	1.48E-05
	AL-26	1129.67		2.50	9.58E-04	1.18E-05	-1.63E-04	4.57E-04
		1808.65		99.76	1.18E-05		3.10E-06	5.17E-06
+	K-40	1460.82	*	10.66	1.55E-04	1.55E-04	8.10E-06	7.18E-05
	K-42	312.60		0.34	2.34E-02	3.06E-04	1.33E-03	1.14E-02
		1524.60		18.08	3.06E-04		-3.25E-04	1.39E-04
	Sc-44	1157.02		99.90	1.54E-03	1.54E-03	-7.41E-04	7.25E-04
		1499.46		0.91	1.22E-01		-1.99E-02	5.51E-02
	Sc-44m	271.24		86.74	2.93E-05	2.93E-05	-1.21E-05	1.43E-05
		1001.83		1.20	5.11E-03		2.73E-03	2.46E-03
		1126.06		1.20	4.35E-03		3.80E-03	2.08E-03
		1157.00		1.20	3.54E-03		-1.71E-03	1.67E-03
	TI-44	67.87		93.00	3.42E-05	2.61E-05	1.77E-05	1.68E-05
		78.32		96.40	2.61E-05		1.53E-05	1.28E-05
	SC-46	889.28		99.98	2.98E-05	2.98E-05	-1.77E-05	1.43E-05
		1120.55		99.99	3.17E-05		-9.17E-06	1.52E-05
	CA-47	489.23		5.90	6.45E-04	2.59E-05	-5.80E-04	3.14E-04
		807.86		5.90	5.63E-04		-2.53E-04	2.70E-04
		1297.09		67.00	2.59E-05		3.88E-07	1.20E-05
	SC-47	159.38		68.30	2.79E-05	2.79E-05	-5.69E-06	1.36E-05
	SC-48	175.36		7.47	3.06E-04	2.06E-05	-3.72E-04	1.49E-04
		983.53		100.00	3.54E-05		-4.61E-05	1.70E-05
		1037.52		97.50	3.61E-05		2.49E-06	1.73E-05
		1312.12		100.00	2.06E-05		6.26E-07	9.43E-06
	V-48	944.13		7.87	4.01E-04	1.93E-05	-4.84E-04	1.93E-04
		983.53		99.98	3.17E-05		-4.13E-05	1.52E-05
		1312.11		98.20	1.93E-05		5.87E-07	8.85E-06
		2240.40		2.33	8.76E-04		3.29E-04	3.90E-04
	CR-51	320.08		9.91	2.06E-04	2.06E-04	-4.63E-05	1.01E-04
	Fe-52	168.69		99.20	1.25E-04	1.25E-04	-9.33E-05	6.09E-05
		377.75		1.64	1.04E-02		1.34E-03	5.06E-03
	Mn-52	744.23		90.00	4.18E-05	2.56E-05	-2.91E-05	2.01E-05
		848.18		3.32	1.24E-03		-6.94E-05	5.96E-04
		935.54		94.50	4.67E-05		-5.03E-05	2.24E-05
		1246.28		4.21	7.60E-04		-1.27E-04	3.56E-04
		1333.65		5.07	2.61E-03		1.95E-02	1.29E-03
		1434.09		100.00	2.56E-05		1.93E-05	1.16E-05
	MN-54	834.85		99.98	2.22E-05	2.22E-05	1.98E-06	1.07E-05
	Co-55	411.50		1.07	9.54E-03	8.64E-05	1.58E-03	4.70E-03
		477.20		20.20	3.72E-04		-2.75E-04	1.82E-04
		803.70		1.87	3.00E-03		-2.33E-03	1.44E-03
		931.10		75.00	8.64E-05		3.45E-05	4.15E-05
		1316.60		7.10	4.92E-04		5.78E-04	2.24E-04
		1370.00		2.90	1.91E-03		1.11E-03	9.00E-04
		1408.50		16.90	2.53E-04		-4.99E-05	1.17E-04
	Co-56	846.77		99.94	2.95E-05	2.95E-05	-3.69E-05	1.42E-05
		977.37		1.42	2.74E-03		-2.19E-03	1.32E-03
		1037.84		14.05	2.39E-04		-2.16E-04	1.15E-04
		1175.10		2.25	5.50E-03		4.47E-02	2.71E-03
		1238.29		66.46	3.74E-05		1.84E-05	1.75E-05
		1360.21		4.28	7.45E-04		1.50E-03	3.54E-04

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Co-56	1771.36		15.41	1.38E-04	2.95E-05	4.80E-05	6.30E-05
		2015.20		3.02	4.80E-04		3.21E-04	2.07E-04
		2034.79		7.77	2.43E-04		2.13E-04	1.08E-04
		2598.50		16.97	5.20E-05		-4.20E-05	1.84E-05
	MN-56	846.76		98.85	2.15E-02	2.15E-02	-2.69E-02	1.03E-02
		1810.73		26.90	4.95E-02		3.84E-02	2.17E-02
		2113.09		14.20	1.17E-01		-1.82E-01	5.17E-02
	Ni-56	158.38		98.80	1.73E-05	1.73E-05	-7.94E-07	8.48E-06
		269.50		36.50	5.36E-05		6.97E-06	2.62E-05
		480.44		36.50	8.15E-05		6.20E-06	3.98E-05
		749.50		49.50	4.40E-05		1.30E-05	2.11E-05
		811.85		86.00	2.70E-05		-8.94E-06	1.30E-05
		1561.80		14.00	1.00E-04		1.32E-05	4.49E-05
	CO-57	122.06		85.60	2.10E-05	2.10E-05	4.49E-05	1.03E-05
		136.47		10.68	1.37E-04		1.37E-04	6.73E-05
	NI-57	127.16		16.70	1.64E-04	2.97E-05	-3.21E-05	8.05E-05
		1377.63		81.70	2.97E-05		-1.08E-05	1.37E-05
		1757.55		5.75	4.09E-04		-1.13E-04	1.85E-04
		1919.52		12.30	1.67E-04		-1.05E-04	7.36E-05
	CO-58	810.76		99.45	2.30E-05	2.30E-05	4.05E-06	1.10E-05
		863.96		0.69	4.56E-03		2.28E-03	2.19E-03
		1674.73		0.52	2.32E-03		1.49E-03	1.05E-03
	FE-59	142.65		1.02	1.41E-03	3.42E-05	-3.01E-04	6.88E-04
		192.34		3.08	7.49E-04		3.65E-05	3.67E-04
		1099.24		56.50	4.56E-05		4.44E-05	2.19E-05
		1291.59		43.20	3.42E-05		-6.83E-07	1.58E-05
+	CO-60	1173.23	*	99.85	3.31E-05	2.59E-05	7.79E-04	1.59E-05
		1332.49	*	99.98	2.59E-05		7.66E-04	1.22E-05
	CU-64	511.00		35.00	2.88E-04	2.88E-04	2.27E-04	1.40E-04
		1345.77		0.47	1.10E-02		9.97E-03	5.00E-03
	NI-65	366.27		4.81	5.76E-01	6.16E-02	4.44E-02	2.81E-01
		1115.53		15.43	2.24E-01		1.35E-01	1.08E-01
		1481.84		23.59	6.16E-02		3.20E-02	2.82E-02
	ZN-65	1115.54		50.04	6.06E-05	6.06E-05	3.65E-05	2.93E-05
	GA-66	511.00		114.00	1.41E-04	1.41E-04	1.11E-04	6.87E-05
		833.53		5.90	2.34E-03		-2.54E-04	1.12E-03
		1039.22		37.00	3.98E-04		-1.18E-04	1.90E-04
		1333.11		1.17	4.13E-02		3.18E-01	2.03E-02
		1918.33		1.99	4.07E-03		-2.31E-03	1.80E-03
		2189.62		5.30	1.59E-03		1.24E-03	6.98E-04
		2751.83		22.70	2.59E-04		8.64E-05	1.00E-04
	CU-67	91.27		7.00	4.53E-04	4.60E-05	9.02E-05	2.24E-04
		93.31		16.10	1.30E-04		2.89E-05	6.36E-05
		184.58		48.70	4.60E-05		-3.03E-05	2.25E-05
		300.22		0.80	3.27E-03		1.23E-03	1.60E-03
		393.53		0.22	1.32E-02		-4.39E-03	6.43E-03
	GA-67	91.26		3.11	1.13E-03	5.47E-05	2.24E-04	5.56E-04
		93.31		38.81	5.47E-05		1.22E-05	2.68E-05
		184.58		21.41	1.00E-04		-6.59E-05	4.90E-05
		208.95		2.46	1.29E-03		7.32E-04	6.33E-04
		300.22		16.64	1.68E-04		6.31E-05	8.19E-05
		393.53		4.56	3.75E-04		-1.25E-04	1.83E-04
	ZN-69m	438.63		94.85	9.82E-05	9.82E-05	7.15E-05	4.80E-05

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
GA-72	629.97	26.13	4.61E-04	1.03E-04	-1.08E-04	2.23E-04
	834.13	95.45	1.03E-04		5.06E-05	4.94E-05
	894.33	10.14	1.35E-03		1.21E-03	6.51E-04
	1050.79	6.99	1.96E-03		5.11E-04	9.38E-04
	2201.59	26.87	1.88E-04		-4.25E-05	8.01E-05
	2491.03	7.73	3.85E-04		-2.98E-04	1.44E-04
	2507.72	13.33	1.21E-03		2.20E-03	5.73E-04
Zn-72	144.70	82.78	2.47E-05	2.47E-05	-6.35E-06	1.21E-05
	191.50	9.35	2.77E-04		2.58E-04	1.36E-04
SE-75	121.12	17.20	1.44E-04	3.42E-05	1.69E-05	7.06E-05
	136.00	58.50	3.42E-05		2.91E-06	1.67E-05
	264.66	58.90	4.02E-05		1.24E-05	1.96E-05
	279.54	25.02	9.59E-05		2.49E-05	4.69E-05
	400.66	11.41	6.68E-05		3.67E-05	3.26E-05
BR-83	529.59	1.30	2.72E+00	2.72E+00	-1.24E+00	1.32E+00
BR-84	604.80	1.70	2.96E+11	1.22E+10	-3.46E+10	1.44E+11
	736.50	1.29	3.30E+11		-1.36E+11	1.58E+11
	802.20	6.00	7.70E+10		-1.22E+10	3.70E+10
	881.60	42.00	1.22E+10		-7.52E+09	5.85E+09
	987.30	0.79	6.89E+11		-8.95E+10	3.31E+11
	1015.90	6.20	8.53E+10		4.43E+10	4.09E+10
	1213.30	2.60	1.31E+11		1.95E+10	6.07E+10
	1463.80	2.00	2.14E+11		2.82E+11	1.00E+11
	1741.20	1.60	1.63E+11		-3.04E+11	7.17E+10
	1877.50	1.12	2.34E+11		-2.02E+11	1.03E+11
	1897.60	14.60	1.94E+10		1.65E+10	8.60E+09
	2029.60	2.10	1.26E+11		1.98E+10	5.47E+10
	2200.70	1.16	2.05E+11		1.18E+11	8.67E+10
	2484.10	6.70	3.24E+10		1.38E+10	1.31E+10
	2824.10	1.12	2.40E+11		-3.40E+11	9.82E+10
KR-85m	151.20	75.20	9.78E-04	9.78E-04	3.50E-04	4.78E-04
	304.87	14.00	6.80E-03		-1.54E-03	3.32E-03
Y-87	388.53	82.20	3.34E-05	3.34E-05	5.32E-06	1.63E-05
	484.80	89.80	3.47E-05		-6.74E-06	1.69E-05
KR-88	165.98	3.10	3.81E-01	1.21E-02	-3.39E-01	1.86E-01
	196.30	26.00	4.01E-02		6.67E-02	1.96E-02
	362.23	2.25	3.74E-01		-2.21E-01	1.82E-01
	471.80	0.73	2.39E+00		4.50E-01	1.17E+00
	834.83	13.00	1.01E-01		9.06E-03	4.87E-02
	985.78	1.31	1.29E+00		-2.47E-01	6.22E-01
	1141.33	1.28	9.08E-01		7.89E-01	4.31E-01
	1179.51	1.00	4.94E+00		7.32E-01	2.43E+00
	1250.67	1.12	9.78E-01		4.18E-01	4.57E-01
	1369.50	1.48	1.00E+00		3.42E-01	4.76E-01
	1518.39	2.15	3.71E-01		-6.08E-01	1.66E-01
	1529.77	10.90	9.28E-02		4.20E-02	4.27E-02
	2029.84	4.53	2.07E-01		1.56E-01	9.05E-02
	2035.41	3.74	2.34E-01		-5.40E-02	1.03E-01
	2195.84	13.20	5.56E-02		-9.01E-02	2.38E-02
	2231.77	3.39	1.63E-01		-1.44E-01	7.19E-02
	2352.08	0.73	1.06E+00		-1.06E+00	4.56E-01
	2392.11	34.60	1.21E-02		-1.97E-02	4.87E-03
RB-88	898.03	14.40	1.06E-01	2.94E-02	3.43E-03	5.11E-02

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RB-88	1382.45	0.78	1.04E+00	2.94E-02	-2.22E-01	4.77E-01
		1836.00	22.81	2.94E-02		-3.41E-02	1.28E-02
		2677.89	2.13	1.92E-01		4.13E-02	6.80E-02
	Y-88	898.04	93.70	3.32E-05	1.48E-05	1.08E-06	1.60E-05
		1836.06	99.20	1.48E-05		-1.71E-05	6.44E-06
@	RB-89	272.42	1.53	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		657.77	10.80	1.00E+20		1.00E+20	1.00E+20
@		947.73	10.00	1.00E+20		1.00E+20	1.00E+20
@		1031.92	63.00	1.00E+20		1.00E+20	1.00E+20
@		1248.14	46.00	1.00E+20		1.00E+20	1.00E+20
@		1538.07	2.77	1.00E+20		1.00E+20	1.00E+20
@		2007.50	2.58	1.00E+20		1.00E+20	1.00E+20
@		2195.92	14.50	1.00E+20		1.00E+20	1.00E+20
@		2570.20	10.70	1.00E+20		1.00E+20	1.00E+20
@		2707.26	2.20	1.00E+20		1.00E+20	1.00E+20
	SR-89	908.96	0.01	2.65E-01	2.65E-01	1.99E-02	1.28E-01
	Sr-91	652.90	11.35	1.21E-03	4.02E-04	3.39E-04	5.83E-04
		749.80	23.70	5.00E-04		1.47E-04	2.40E-04
		925.80	3.85	3.98E-03		-7.51E-04	1.92E-03
		1024.30	33.50	4.02E-04		-6.95E-05	1.92E-04
	Y-91	1204.77	0.26	6.57E-03	6.57E-03	6.49E-03	3.08E-03
	Y-91m	555.57	61.64	2.03E-04	2.03E-04	-6.99E-05	9.82E-05
	NB-92M	912.60	1.78	1.95E-03	2.61E-05	-3.36E-03	9.38E-04
		934.44	99.15	2.61E-05		1.10E-05	1.25E-05
		1847.50	0.85	1.41E-03		6.84E-04	6.32E-04
	SR-92	241.56	2.93	5.04E-01	1.18E-02	-7.65E-02	2.47E-01
		430.49	3.28	6.14E-01		-3.80E-01	3.00E-01
		953.31	3.52	5.99E-01		2.57E-01	2.89E-01
		1142.35	2.79	5.96E-01		2.13E-01	2.83E-01
		1383.93	90.00	1.18E-02		-1.13E-02	5.39E-03
	MO-93M	114.04	0.68	2.80E-02	1.78E-04	1.04E-02	1.37E-02
		263.05	57.40	3.91E-04		-6.94E-05	1.91E-04
		684.69	99.90	2.20E-04		-1.10E-04	1.05E-04
		1363.02	0.81	3.75E-02		5.24E-02	1.78E-02
		1477.14	99.10	1.78E-04		7.34E-05	8.08E-05
@	SR-93	168.50	18.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		260.12	7.40	1.00E+20		1.00E+20	1.00E+20
@		346.49	3.28	1.00E+20		1.00E+20	1.00E+20
@		446.20	2.36	1.00E+20		1.00E+20	1.00E+20
@		590.24	68.00	1.00E+20		1.00E+20	1.00E+20
@		710.31	21.80	1.00E+20		1.00E+20	1.00E+20
@		875.73	24.50	1.00E+20		1.00E+20	1.00E+20
@		888.13	22.10	1.00E+20		1.00E+20	1.00E+20
@		1040.63	3.20	1.00E+20		1.00E+20	1.00E+20
@		1094.00	1.76	1.00E+20		1.00E+20	1.00E+20
@		1122.48	4.00	1.00E+20		1.00E+20	1.00E+20
@		1215.48	2.50	1.00E+20		1.00E+20	1.00E+20
@		1269.47	7.10	1.00E+20		1.00E+20	1.00E+20
@		1321.24	2.61	1.00E+20		1.00E+20	1.00E+20
@		1387.11	3.50	1.00E+20		1.00E+20	1.00E+20
@		1694.07	2.58	1.00E+20		1.00E+20	1.00E+20
@		1699.06	3.30	1.00E+20		1.00E+20	1.00E+20
@		2543.84	3.03	1.00E+20		1.00E+20	1.00E+20

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@ SR-93	2688.65	2.13	1.00E+20	1.00E+20	1.00E+20	1.00E+20
Y-93	266.90	7.40	1.28E-03	1.28E-03	2.75E-04	6.24E-04
	947.10	2.10	6.80E-03		4.03E-04	3.28E-03
	1917.80	1.57	4.75E-03		4.26E-03	2.11E-03
NB-94	702.65	99.81	3.02E-05	3.02E-05	-4.03E-06	1.46E-05
	871.09	99.89	3.31E-05		4.96E-05	1.60E-05
@ Y-94	381.60	2.02	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	550.90	4.90	1.00E+20		1.00E+20	1.00E+20
@	752.60	1.40	1.00E+20		1.00E+20	1.00E+20
@	918.74	56.00	1.00E+20		1.00E+20	1.00E+20
@	1138.90	6.00	1.00E+20		1.00E+20	1.00E+20
@	1671.40	2.50	1.00E+20		1.00E+20	1.00E+20
@	2140.60	0.95	1.00E+20		1.00E+20	1.00E+20
NB-95	765.80	99.81	1.95E-05	1.95E-05	1.78E-05	9.32E-06
ZR-95	724.19	44.27	5.38E-05	3.49E-05	7.08E-05	2.60E-05
	756.72	54.38	3.49E-05		-3.17E-05	1.67E-05
NB-96	219.08	2.97	1.27E-03	4.30E-05	6.08E-04	6.19E-04
	241.38	3.50	1.10E-03		-1.67E-04	5.38E-04
	350.05	1.54	2.97E-03		-2.21E-03	1.45E-03
	352.56	0.83	5.55E-03		6.87E-03	2.71E-03
	371.81	2.62	1.74E-03		1.12E-03	8.52E-04
	460.04	26.62	2.31E-04		4.99E-05	1.13E-04
	480.71	5.84	9.56E-04		7.27E-05	4.67E-04
	568.87	58.00	7.49E-05		-5.04E-05	3.62E-05
	719.56	6.85	7.23E-04		5.11E-04	3.49E-04
	721.63	1.02	4.88E-03		6.85E-03	2.36E-03
	778.22	96.45	4.30E-05		1.35E-05	2.06E-05
	810.33	11.09	3.95E-04		-2.45E-04	1.89E-04
	812.58	2.95	1.46E-03		-9.30E-04	7.00E-04
	847.69	1.14	4.21E-03		2.47E-04	2.03E-03
	849.93	20.45	2.37E-04		1.82E-04	1.14E-04
	1091.35	48.50	1.04E-04		1.31E-05	4.96E-05
	1200.23	19.97	1.85E-04		-9.87E-05	8.68E-05
	1441.13	0.44	5.41E-03		-1.82E-03	2.42E-03
	1497.81	3.28	8.18E-04		2.66E-04	3.69E-04
Nb-97	657.94	98.23	3.64E-04	3.64E-04	3.24E-06	1.81E-04
	1024.40	1.09	5.73E-03		-9.91E-04	2.74E-03
ZR-97	254.17	1.15	4.41E-03	6.18E-05	-4.01E-03	2.16E-03
	355.40	2.09	4.24E-03		5.58E-04	2.07E-03
	507.64	5.03	1.97E-03		6.52E-04	9.60E-04
	743.36	93.09	6.18E-05		1.10E-05	2.97E-05
	1147.97	2.62	2.79E-03		-1.41E-03	1.31E-03
MO-99	181.07	6.14	5.48E-04	2.74E-04	-5.43E-04	2.68E-04
	366.42	1.20	2.23E-03		1.72E-04	1.09E-03
	739.50	12.26	2.74E-04		1.21E-04	1.31E-04
	777.92	4.30	6.00E-04		5.54E-04	2.88E-04
TC-99M	140.51	90.80	2.07E-05	2.07E-05	1.49E-05	1.01E-05
RH-101	127.23	68.00	3.20E-05	3.05E-05	7.91E-07	1.57E-05
	198.01	73.00	3.05E-05		-7.03E-06	1.49E-05
	325.23	11.80	6.67E-05		2.53E-05	3.26E-05
RH-101M	306.86	81.00	2.84E-05	2.84E-05	2.13E-05	1.39E-05
	545.12	4.30	5.81E-04		7.91E-05	2.82E-04
RH-102M	415.25	2.10	4.26E-03	5.56E-05	2.18E-02	2.10E-03

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
RH-102M	418.52	9.40	8.35E-04	5.56E-05	6.86E-05	4.11E-04
	420.40	3.20	2.30E-03		4.88E-04	1.13E-03
	475.06	95.00	5.56E-05		1.66E-05	2.72E-05
	628.05	8.30	6.08E-04		2.28E-04	2.94E-04
	631.29	56.00	6.86E-05		-6.89E-06	3.32E-05
	692.40	1.60	5.41E-03		2.51E-04	2.65E-03
	695.60	2.90	2.66E-03		1.46E-02	1.31E-03
	697.49	44.00	1.70E-04		8.58E-04	8.36E-05
	766.84	34.00	9.95E-05		-5.35E-05	4.76E-05
	1046.59	34.00	1.10E-04		1.03E-05	5.23E-05
	1103.16	4.60	7.82E-04		-2.40E-04	3.77E-04
	1112.84	19.00	2.78E-04		1.99E-04	1.34E-04
RU-103	497.08	91.00	2.67E-05	2.67E-05	-3.50E-06	1.30E-05
	610.33	5.76	4.01E-04		1.74E-04	1.94E-04
RH-105	306.31	4.66	6.82E-04	1.93E-04	-1.45E-04	3.33E-04
	319.23	16.90	1.93E-04		7.42E-05	9.41E-05
AG-106M	221.70	6.60	2.94E-04	3.13E-05	1.43E-04	1.44E-04
	228.63	2.10	9.26E-04		2.77E-04	4.53E-04
	328.46	1.14	1.92E-03		1.25E-03	9.39E-04
	391.04	3.68	6.57E-04		1.92E-04	3.21E-04
	406.18	13.40	1.88E-04		1.01E-04	9.16E-05
	429.65	13.20	2.05E-04		1.87E-04	1.00E-04
	450.98	28.20	1.10E-04		4.65E-05	5.38E-05
	511.85	88.00	3.13E-05		1.54E-05	1.53E-05
	601.17	1.61	1.41E-03		-4.86E-04	6.83E-04
	616.17	21.60	1.10E-04		-5.05E-05	5.33E-05
	646.03	1.46	1.58E-03		-9.97E-04	7.61E-04
	680.42	2.18	8.94E-04		8.48E-05	4.28E-04
	703.11	4.47	5.08E-04		-1.40E-04	2.44E-04
	717.34	28.90	8.59E-05		9.15E-05	4.15E-05
	748.36	20.60	1.03E-04		7.11E-06	4.95E-05
	793.17	5.90	3.63E-04		-4.77E-05	1.74E-04
	804.28	12.40	1.89E-04		2.77E-04	9.08E-05
	808.36	4.00	5.75E-04		3.33E-05	2.76E-04
	824.69	15.30	1.48E-04		-8.44E-05	7.09E-05
	847.15	4.40	5.62E-04		-1.96E-04	2.70E-04
	1019.72	1.04	2.39E-03		1.42E-03	1.14E-03
	1045.83	29.60	8.04E-05		-8.45E-05	3.84E-05
	1128.02	11.80	2.09E-04		-1.38E-04	9.96E-05
	1199.39	11.20	1.72E-04		1.12E-04	8.09E-05
	1222.88	7.00	2.27E-04		-5.95E-05	1.05E-04
	1394.35	1.49	1.09E-03		-3.93E-04	5.04E-04
	1527.65	16.30	9.85E-05		2.21E-05	4.51E-05
	1572.35	6.60	2.39E-04		2.81E-04	1.09E-04
	1722.76	1.40	1.00E-03		-2.62E-03	4.47E-04
	1839.05	2.00	6.78E-04		-1.01E-04	3.00E-04
RH-106	621.93	9.93	3.00E-04	3.00E-04	2.06E-04	1.45E-04
	873.49	0.44	9.06E-03		1.37E-02	4.37E-03
	1050.41	1.56	1.96E-03		1.48E-03	9.39E-04
RU-106	511.86	20.40	1.23E-04	1.23E-04	-1.05E-05	5.98E-05
AG-108M	79.13	6.60	3.16E-04	4.47E-05	-2.68E-04	1.55E-04
	433.94	90.50	4.99E-05		5.50E-06	2.44E-05
	614.28	89.80	4.47E-05		-1.09E-05	2.17E-05

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	AG-108M	722.91		90.80	4.66E-05	4.47E-05	4.88E-05	2.25E-05
+	CD-109	88.03	*	3.64	5.94E-04	5.94E-04	5.14E-03	2.93E-04
	AG-110M	446.81		3.70	1.70E-03	5.44E-05	-8.94E-04	8.34E-04
		620.35		2.73	1.88E-03		6.67E-04	9.11E-04
		657.76		95.61	2.40E-04		4.40E-06	1.19E-04
		677.62		10.70	4.04E-04		1.06E-04	1.94E-04
		687.01		6.53	5.47E-04		2.62E-04	2.62E-04
		706.68		16.69	2.43E-04		-2.35E-04	1.16E-04
		744.28		4.77	8.56E-04		-5.97E-04	4.11E-04
		763.94		22.60	1.54E-04		-1.77E-04	7.38E-05
		818.02		7.43	6.43E-04		1.90E-04	3.08E-04
		884.68		75.00	5.44E-05		-6.83E-06	2.61E-05
		937.48		35.00	1.23E-04		1.58E-04	5.89E-05
		1384.29		25.10	8.28E-05		-7.73E-05	3.77E-05
		1475.78		4.08	4.74E-04		4.00E-04	2.16E-04
		1505.03		13.33	1.51E-04		1.23E-05	6.77E-05
		1562.29		1.22	7.14E-04		1.43E-05	3.20E-04
	AG-111	245.40		1.11	1.84E-03	3.39E-04	1.90E-03	9.01E-04
		342.13		6.68	3.39E-04		-4.03E-05	1.66E-04
	AG-112	606.82		3.10	1.69E-03	1.17E-04	1.22E-03	8.21E-04
		617.52		43.00	1.17E-04		-6.86E-05	5.67E-05
		692.82		1.19	7.72E-03		4.28E-02	3.79E-03
		694.87		2.90	3.21E-03		1.72E-02	1.57E-03
		851.28		1.02	5.20E-03		-3.18E-03	2.50E-03
		1312.36		1.11	2.85E-03		8.68E-05	1.31E-03
		1387.68		5.30	5.39E-04		-1.11E-04	2.44E-04
		1613.66		2.80	1.08E-03		6.25E-04	4.85E-04
		1798.50		0.89	2.93E-03		2.28E-03	1.29E-03
		2106.31		2.40	1.54E-03		9.52E-04	6.95E-04
		2506.70		1.06	7.68E-03		1.62E-02	3.64E-03
	CD-113M	263.70		0.03	6.52E-02	6.52E-02	-1.31E-02	3.19E-02
	SN-113	255.13		2.11	8.57E-04	3.42E-05	5.01E-04	4.19E-04
		391.70		64.97	3.42E-05		1.76E-06	1.67E-05
	IN-114M	190.27		15.56	1.17E-04	1.17E-04	4.48E-05	5.72E-05
		558.43		4.40	6.19E-04		7.40E-05	2.99E-04
		725.24		4.40	7.34E-04		1.18E-03	3.55E-04
	CD-115	260.90		1.94	1.26E-03	5.95E-05	1.67E-04	6.15E-04
		336.24		46.02	5.95E-05		-2.21E-05	2.90E-05
		527.90		27.45	1.13E-04		-6.85E-05	5.49E-05
	CD-115M	933.84		2.00	1.27E-03	1.27E-03	7.63E-04	6.10E-04
		1290.59		0.90	1.67E-03		7.94E-04	7.71E-04
	IN-115M	336.24		45.90	2.12E-03	2.12E-03	-7.89E-04	1.04E-03
	IN-116M	138.29		3.70	1.57E+05	5.73E+03	-3.67E+04	7.70E+04
		416.90		27.20	4.66E+04		3.30E+03	2.30E+04
		818.68		12.13	7.28E+04		1.10E+04	3.49E+04
		1097.28		58.50	1.34E+04		-1.09E+03	6.42E+03
		1293.56		84.80	5.73E+03		1.08E+03	2.65E+03
		1507.59		9.92	3.94E+04		-9.17E+03	1.77E+04
		2112.29		15.09	2.90E+04		1.42E+04	1.29E+04
	SB-125	176.31		6.84	2.28E-04	8.18E-05	1.04E-04	1.11E-04
		380.45		1.52	1.35E-03		-1.85E-04	6.60E-04
		427.87		29.60	8.18E-05		-6.47E-05	4.00E-05
		463.36		10.49	2.79E-04		2.06E-04	1.37E-04

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SB-125	600.60	17.65	1.16E-04	8.18E-05	-1.21E-04	5.61E-05
	606.71	4.98	4.60E-04		3.32E-04	2.23E-04
	635.95	11.22	1.90E-04		2.06E-04	9.18E-05
	671.44	1.79	2.26E-03		2.82E-04	1.11E-03
SN-125	332.10	1.40	2.51E-03	3.23E-04	-6.42E-04	1.22E-03
	469.85	1.50	3.33E-03		-7.38E-04	1.63E-03
	800.28	1.10	2.75E-03		1.64E-03	1.32E-03
	822.48	4.30	6.88E-04		6.40E-04	3.30E-04
	915.55	4.10	8.67E-04		-5.14E-04	4.18E-04
	1067.10	10.00	3.23E-04		-2.65E-04	1.55E-04
	1087.70	1.20	4.57E-03		-2.35E-03	2.20E-03
	1089.10	4.60	6.78E-04		4.05E-04	3.26E-04
	2002.10	1.90	7.11E-04		8.62E-05	3.12E-04
SB-127	61.10	1.43	5.04E-03	5.69E-05	1.53E-02	2.49E-03
	252.40	8.50	3.21E-04		-1.00E-05	1.57E-04
	290.80	2.02	1.58E-03		1.18E-03	7.73E-04
	412.10	3.80	1.30E-03		7.88E-05	6.41E-04
	445.10	4.30	1.02E-03		-2.55E-04	4.99E-04
	473.00	25.80	1.44E-04		7.22E-05	7.08E-05
	543.30	2.90	7.44E-04		-1.49E-04	3.61E-04
	603.50	4.50	8.11E-04		-3.97E-04	3.93E-04
	685.70	36.80	5.69E-05		-3.30E-05	2.72E-05
	698.50	3.64	1.35E-03		6.89E-03	6.63E-04
	722.20	1.88	1.55E-03		1.82E-03	7.51E-04
	783.70	15.10	1.57E-04		-9.42E-05	7.53E-05
SN-127	119.70	2.20	3.21E+00	3.30E-01	-3.35E-01	1.57E+00
	262.50	2.30	3.15E+00		1.22E-01	1.54E+00
	266.20	2.10	3.31E+00		-4.03E+00	1.62E+00
	284.30	2.70	2.95E+00		-3.88E+00	1.44E+00
	438.20	6.10	1.76E+00		1.44E-02	8.61E-01
	490.90	5.30	1.89E+00		1.94E+00	9.24E-01
	493.20	3.10	3.24E+00		2.47E+00	1.58E+00
	545.40	2.30	3.79E+00		-3.10E-01	1.84E+00
	583.30	3.20	2.70E+00		1.28E+00	1.31E+00
	805.90	8.20	1.08E+00		7.16E-01	5.18E-01
	823.10	11.00	7.81E-01		3.55E-01	3.75E-01
	824.70	6.10	1.41E+00		-8.04E-01	6.75E-01
	859.50	8.00	1.23E+00		1.61E+00	5.90E-01
	979.20	7.20	1.40E+00		8.16E-01	6.72E-01
	1093.30	3.80	2.61E+00		1.19E+00	1.25E+00
	1095.60	19.00	5.39E-01		5.10E-03	2.58E-01
	1114.30	38.00	3.30E-01		6.13E-01	1.60E-01
	1160.40	2.40	3.36E+00		-8.00E+00	1.59E+00
	2003.40	5.30	9.67E-01		-9.88E-02	4.24E-01
SB-129	180.42	2.84	3.08E-02	2.30E-03	-2.01E-02	1.51E-02
	359.20	2.39	4.68E-02		-3.06E-02	2.28E-02
	404.64	1.17	1.07E-01		3.66E-02	5.25E-02
	523.13	1.55	7.92E-02		3.54E-02	3.85E-02
	544.56	15.42	7.50E-03		-5.64E-03	3.64E-03
	633.74	2.53	4.57E-02		-8.19E-03	2.21E-02
	654.28	2.97	5.92E-02		-2.51E-03	2.89E-02
	682.77	5.76	1.65E-02		1.44E-03	7.90E-03
	761.12	4.32	2.36E-02		-7.34E-03	1.13E-02

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	773.37		2.82	3.83E-02	2.30E-03	1.81E-02	1.84E-02
		786.36		1.07	1.02E-01		1.01E-01	4.90E-02
		787.16		1.74	6.17E-02		1.08E-02	2.95E-02
		812.97		48.20	2.30E-03		-1.34E-03	1.10E-03
		819.51		1.39	8.16E-02		-1.05E-02	3.91E-02
		876.65		2.75	5.02E-02		4.62E-02	2.42E-02
		914.96		23.30	6.07E-03		9.27E-03	2.93E-03
		966.78		8.96	1.54E-02		2.85E-04	7.40E-03
		1030.65		15.13	8.39E-03		1.26E-02	4.02E-03
		1656.10		1.31	5.13E-02		2.43E-02	2.29E-02
		1738.16		7.45	1.00E-02		1.01E-02	4.52E-03
	TE-129	459.60		7.70	3.88E-04	3.88E-04	1.59E-04	1.90E-04
		487.39		1.42	1.77E-03		-4.01E-04	8.65E-04
+	Te-129m	695.88	*	3.00	7.48E-04	7.48E-04	6.91E-03	3.61E-04
	I-131	80.18		2.62	1.13E-03	2.68E-05	1.60E-04	5.56E-04
		284.30		6.12	3.73E-04		-4.91E-04	1.82E-04
		364.49		81.50	2.68E-05		-3.05E-05	1.31E-05
		636.99		7.16	3.20E-04		-8.57E-07	1.54E-04
		722.91		1.77	1.45E-03		1.52E-03	7.01E-04
	Te-131m	773.67		36.80	1.37E-04	1.37E-04	-4.57E-05	6.55E-05
		793.75		13.40	5.56E-04		-1.54E-04	2.66E-04
		852.21		19.90	3.11E-04		-1.44E-04	1.50E-04
		1125.46		11.00	4.72E-04		-1.78E-04	2.25E-04
		1206.60		9.41	3.74E-04		2.22E-04	1.75E-04
	I-132	262.90		1.28	1.71E-03	5.35E-05	-3.04E-04	8.36E-04
		284.90		0.71	3.42E-03		1.67E-04	1.67E-03
		505.79		4.93	2.25E-03		-7.55E-04	1.10E-03
		522.65		16.00	3.23E-04		-6.16E-05	1.57E-04
		547.20		1.14	4.47E-03		3.45E-03	2.17E-03
		621.20		1.97	2.71E-03		3.69E-04	1.31E-03
		630.19		13.30	3.89E-04		-9.11E-05	1.88E-04
		650.50		2.57	2.47E-03		-1.15E-03	1.19E-03
		667.71		98.70	2.49E-04		6.71E-06	1.24E-04
		669.80		4.60	2.30E-03		5.09E-04	1.13E-03
		671.40		3.50	3.33E-03		4.15E-04	1.64E-03
		727.10		5.40	1.27E-03		2.19E-03	6.13E-04
		728.40		1.60	3.71E-03		-1.60E-03	1.79E-03
		772.60		75.60	5.35E-05		2.48E-05	2.56E-05
		809.50		2.60	1.99E-03		3.77E-04	9.57E-04
		812.00		5.50	8.47E-04		-2.80E-04	4.06E-04
		910.10		0.93	5.98E-03		7.28E-04	2.88E-03
		954.55		17.60	3.29E-04		1.75E-04	1.58E-04
		1136.00		3.01	1.20E-03		-9.22E-04	5.70E-04
		1172.90		1.09	1.15E-02		9.10E-02	5.67E-03
		1290.80		1.13	2.85E-03		1.36E-03	1.32E-03
		1295.10		1.88	6.14E-04		-3.37E-04	2.84E-04
		1297.90		0.89	9.57E-04		7.79E-04	4.43E-04
		1372.07		2.47	1.39E-03		6.12E-04	6.46E-04
		1398.57		7.01	4.35E-04		1.49E-04	2.00E-04
		1442.56		1.40	6.97E-04		-6.66E-04	3.11E-04
	TE-132	49.72		15.00	7.49E-04	2.57E-05	8.00E-05	3.68E-04
		111.76		1.74	1.05E-03		4.89E-04	5.15E-04
		116.30		1.96	9.55E-04		2.11E-04	4.68E-04

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TE-132	228.16	88.00	2.57E-05	2.57E-05	2.30E-05	1.26E-05
BA-133	81.00	32.90	8.27E-05	3.77E-05	-1.62E-05	4.06E-05
	276.40	7.16	3.07E-04		2.57E-04	1.50E-04
	302.85	18.34	1.15E-04		2.56E-05	5.63E-05
	356.01	62.05	3.77E-05		5.33E-05	1.84E-05
	383.85	8.94	2.08E-04		2.75E-05	1.01E-04
I-133	529.87	87.00	6.00E-05	6.00E-05	1.25E-05	2.92E-05
	706.58	1.51	3.81E-03		-3.68E-03	1.83E-03
	856.28	1.24	5.83E-03		-8.69E-03	2.81E-03
	875.33	4.51	1.29E-03		9.51E-04	6.24E-04
	1236.44	1.51	2.29E-03		5.44E-06	1.07E-03
	1298.22	2.35	1.50E-03		6.85E-04	6.95E-04
@ TE-133	312.08	62.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	407.63	27.10	1.00E+20		1.00E+20	1.00E+20
@	410.40	0.94	1.00E+20		1.00E+20	1.00E+20
@	474.85	0.88	1.00E+20		1.00E+20	1.00E+20
@	719.71	8.90	1.00E+20		1.00E+20	1.00E+20
@	786.93	5.40	1.00E+20		1.00E+20	1.00E+20
@	844.36	3.31	1.00E+20		1.00E+20	1.00E+20
@	884.30	0.72	1.00E+20		1.00E+20	1.00E+20
@	930.71	3.81	1.00E+20		1.00E+20	1.00E+20
@	997.70	1.04	1.00E+20		1.00E+20	1.00E+20
@	1000.72	3.62	1.00E+20		1.00E+20	1.00E+20
@	1021.13	2.81	1.00E+20		1.00E+20	1.00E+20
@	1061.61	1.19	1.00E+20		1.00E+20	1.00E+20
@	1252.08	1.44	1.00E+20		1.00E+20	1.00E+20
@	1312.80	0.85	1.00E+20		1.00E+20	1.00E+20
@	1333.21	10.67	1.00E+20		1.00E+20	1.00E+20
@	1717.61	3.18	1.00E+20		1.00E+20	1.00E+20
@	1881.52	1.22	1.00E+20		1.00E+20	1.00E+20
@	2136.51	1.25	1.00E+20		1.00E+20	1.00E+20
@	2229.64	0.87	1.00E+20		1.00E+20	1.00E+20
Xe-133	81.00	36.90	6.31E-05	6.31E-05	-1.24E-05	3.10E-05
CS-134	475.36	1.48	1.94E-03	3.25E-05	8.91E-04	9.49E-04
	563.25	8.34	4.05E-04		-7.39E-04	1.96E-04
	569.33	15.37	2.41E-04		1.45E-04	1.16E-04
	604.72	97.62	3.25E-05		-3.79E-06	1.57E-05
	795.86	85.46	3.25E-05		2.74E-05	1.56E-05
	801.95	8.69	3.97E-04		-5.02E-04	1.90E-04
	1038.61	0.99	3.14E-03		-9.70E-04	1.50E-03
	1167.97	1.79	2.94E-03		1.82E-04	1.45E-03
	1365.19	3.02	5.02E-04		6.91E-04	2.39E-04
I-135	220.50	1.75	1.86E-02	8.42E-04	-8.87E-03	9.09E-03
	288.45	3.10	1.13E-02		6.19E-04	5.54E-03
	417.63	3.53	1.98E-02		2.29E-03	9.78E-03
	546.56	7.15	5.40E-03		5.37E-03	2.62E-03
	836.80	6.69	6.13E-03		3.07E-03	2.95E-03
	971.96	0.89	5.59E-02		1.38E-02	2.69E-02
	972.62	1.21	3.68E-02		-3.30E-02	1.77E-02
	1038.76	7.90	4.19E-03		-1.30E-03	2.01E-03
	1101.58	1.61	2.83E-02		4.12E-03	1.36E-02
	1124.00	3.62	1.15E-02		-6.87E-03	5.50E-03
	1131.51	22.60	1.85E-03		-1.04E-04	8.83E-04

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1240.47		0.90	3.52E-02	8.42E-04	3.55E-02	1.65E-02
		1260.41		28.70	8.42E-04		9.03E-04	3.92E-04
		1457.56		8.70	3.38E-03		4.84E-03	1.58E-03
		1502.79		1.08	2.20E-02		3.68E-03	9.88E-03
		1566.41		1.29	1.33E-02		-1.60E-02	5.94E-03
		1678.03		9.60	1.73E-03		1.84E-03	7.82E-04
		1706.46		4.10	4.35E-03		-8.70E-05	1.94E-03
		1791.20		7.72	1.76E-03		6.23E-05	7.53E-04
		2408.65		0.96	1.73E-02		-2.04E-03	7.32E-03
	XE-135	249.79		90.00	1.38E-04	1.38E-04	-2.72E-05	6.76E-05
	XE-135m	526.56		80.40	3.95E-04	3.95E-04	-1.83E-05	1.92E-04
	CS-136	66.88		4.79	1.35E-03	3.59E-05	2.60E-04	6.64E-04
		86.36		5.90	8.99E-04		5.96E-03	4.44E-04
		153.25		7.70	3.46E-04		-1.46E-04	1.70E-04
		163.92		4.69	7.81E-04		-2.76E-04	3.82E-04
		176.60		13.70	2.26E-04		7.68E-05	1.11E-04
		273.65		12.66	2.88E-04		1.64E-04	1.41E-04
		340.55		46.80	7.68E-05		-2.98E-05	3.75E-05
		818.51		99.70	3.59E-05		7.32E-07	1.72E-05
		1048.07		80.00	5.01E-05		-3.80E-06	2.40E-05
		1235.36		20.00	1.39E-04		3.50E-05	6.50E-05
+	CS-137	661.66	*	85.10	1.50E-05	1.50E-05	3.08E-03	7.04E-06
	BA-139	33.44		3.84	5.58E+03	1.94E+01	-4.02E+03	2.74E+03
		165.86		23.70	1.94E+01		-2.75E+01	9.50E+00
	BA-140	132.69		0.20	7.51E-03	9.38E-05	6.67E-03	3.67E-03
		162.66		6.22	2.99E-04		-6.16E-05	1.46E-04
		304.85		4.29	5.99E-04		-1.36E-04	2.93E-04
		423.72		3.10	8.37E-04		6.54E-04	4.09E-04
		437.58		1.93	1.41E-03		-1.21E-03	6.89E-04
		537.26		24.39	9.38E-05		-2.11E-04	4.55E-05
	LA-140	109.42		0.22	7.08E-03	2.45E-05	-7.40E-03	3.47E-03
		131.12		0.47	3.23E-03		-1.94E-04	1.58E-03
		173.54		0.13	1.27E-02		-3.31E-04	6.21E-03
		241.93		0.41	4.67E-03		1.96E-03	2.28E-03
		266.54		0.47	3.83E-03		-2.02E-03	1.87E-03
		328.76		20.30	1.72E-04		1.76E-05	8.42E-05
		432.49		2.90	1.55E-03		3.15E-04	7.57E-04
		487.02		45.50	8.27E-05		-1.97E-05	4.03E-05
		618.10		0.04	6.24E-02		-5.87E-02	3.02E-02
		751.64		4.33	5.90E-04		1.36E-04	2.83E-04
		815.77		23.28	9.87E-05		4.98E-06	4.73E-05
		867.85		5.50	5.67E-04		-6.67E-04	2.73E-04
		919.55		2.66	1.05E-03		3.59E-04	5.08E-04
		925.19		6.90	4.78E-04		1.96E-04	2.30E-04
		950.99		0.52	6.47E-03		4.63E-03	3.12E-03
		1596.21		95.40	2.45E-05		7.09E-06	1.12E-05
		2347.88		0.85	1.03E-03		-5.87E-04	4.44E-04
		2521.40		3.46	2.32E-04		8.85E-05	9.20E-05
		2547.34		0.10	5.47E-03		7.44E-04	1.73E-03
@	BA-141	33.44		7.93	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		190.33		44.80	1.00E+20		1.00E+20	1.00E+20
@		276.95		23.60	1.00E+20		1.00E+20	1.00E+20
@		304.19		26.10	1.00E+20		1.00E+20	1.00E+20

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	BA-141	343.67	15.10	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		389.74	1.37	1.00E+20		1.00E+20	1.00E+20
@		457.51	5.00	1.00E+20		1.00E+20	1.00E+20
@		462.06	5.10	1.00E+20		1.00E+20	1.00E+20
@		467.22	5.60	1.00E+20		1.00E+20	1.00E+20
@		625.08	3.45	1.00E+20		1.00E+20	1.00E+20
@		647.78	5.70	1.00E+20		1.00E+20	1.00E+20
@		738.95	4.39	1.00E+20		1.00E+20	1.00E+20
@		831.46	1.64	1.00E+20		1.00E+20	1.00E+20
@		876.09	3.45	1.00E+20		1.00E+20	1.00E+20
@		1160.72	1.12	1.00E+20		1.00E+20	1.00E+20
@		1197.28	4.35	1.00E+20		1.00E+20	1.00E+20
@		1323.92	0.92	1.00E+20		1.00E+20	1.00E+20
@		1654.00	0.65	1.00E+20		1.00E+20	1.00E+20
@		1682.19	1.19	1.00E+20		1.00E+20	1.00E+20
	CE-141	145.44	48.30	2.99E-05	2.99E-05	1.32E-05	1.46E-05
@	BA-142	33.44	14.20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		77.59	7.00	1.00E+20		1.00E+20	1.00E+20
@		177.00	2.12	1.00E+20		1.00E+20	1.00E+20
@		231.61	12.20	1.00E+20		1.00E+20	1.00E+20
@		255.30	20.70	1.00E+20		1.00E+20	1.00E+20
@		286.30	1.11	1.00E+20		1.00E+20	1.00E+20
@		309.20	2.60	1.00E+20		1.00E+20	1.00E+20
@		335.00	1.53	1.00E+20		1.00E+20	1.00E+20
@		363.96	4.76	1.00E+20		1.00E+20	1.00E+20
@		425.04	5.75	1.00E+20		1.00E+20	1.00E+20
@		599.80	1.85	1.00E+20		1.00E+20	1.00E+20
@		840.40	3.63	1.00E+20		1.00E+20	1.00E+20
@		895.20	13.90	1.00E+20		1.00E+20	1.00E+20
@		949.10	10.70	1.00E+20		1.00E+20	1.00E+20
@		1001.20	9.80	1.00E+20		1.00E+20	1.00E+20
@		1078.70	11.50	1.00E+20		1.00E+20	1.00E+20
@		1094.10	2.82	1.00E+20		1.00E+20	1.00E+20
@		1126.80	1.50	1.00E+20		1.00E+20	1.00E+20
@		1202.40	5.60	1.00E+20		1.00E+20	1.00E+20
@		1204.30	14.30	1.00E+20		1.00E+20	1.00E+20
@		1380.20	3.42	1.00E+20		1.00E+20	1.00E+20
	CE-143	57.36	11.70	8.98E-04	7.82E-05	-6.09E-05	4.43E-04
		231.55	2.05	1.96E-03		-3.73E-04	9.58E-04
		293.27	42.80	7.82E-05		-2.52E-05	3.82E-05
		350.62	3.23	9.78E-04		-9.56E-05	4.78E-04
		490.37	2.16	2.47E-03		-4.77E-04	1.21E-03
		664.57	5.69	3.98E-03		-2.32E-05	1.98E-03
		721.93	5.39	6.77E-04		7.91E-04	3.27E-04
		880.46	1.03	3.99E-03		-1.55E-03	1.92E-03
	CE-144	80.12	1.36	1.50E-03	1.30E-04	2.12E-04	7.39E-04
		133.51	11.09	1.30E-04		9.35E-06	6.36E-05
	ND-147	38.17	13.20	2.22E-03	8.98E-05	2.10E-03	1.09E-03
		38.72	23.80	1.13E-03		1.66E-03	5.54E-04
		91.11	28.90	8.98E-05		1.79E-05	4.43E-05
		275.39	0.79	3.69E-03		5.00E-03	1.80E-03
		319.41	1.97	1.29E-03		-5.84E-04	6.28E-04
		398.13	0.87	2.91E-03		-2.17E-03	1.42E-03

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ND-147	439.88	1.20	2.52E-03	8.98E-05	-1.03E-03	1.23E-03
	531.01	13.11	1.81E-04		9.01E-05	8.78E-05
	685.88	0.82	2.18E-03		-1.52E-03	1.04E-03
@ PR-147	36.85	19.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	37.36	35.50	1.00E+20		1.00E+20	1.00E+20
@	49.88	4.00	1.00E+20		1.00E+20	1.00E+20
@	77.97	9.70	1.00E+20		1.00E+20	1.00E+20
@	86.69	5.40	1.00E+20		1.00E+20	1.00E+20
@	127.80	7.40	1.00E+20		1.00E+20	1.00E+20
@	249.20	1.32	1.00E+20		1.00E+20	1.00E+20
@	314.70	18.20	1.00E+20		1.00E+20	1.00E+20
@	328.80	4.00	1.00E+20		1.00E+20	1.00E+20
@	335.70	4.70	1.00E+20		1.00E+20	1.00E+20
@	388.80	1.41	1.00E+20		1.00E+20	1.00E+20
@	466.80	1.70	1.00E+20		1.00E+20	1.00E+20
@	477.90	4.60	1.00E+20		1.00E+20	1.00E+20
@	516.70	1.30	1.00E+20		1.00E+20	1.00E+20
@	554.70	5.90	1.00E+20		1.00E+20	1.00E+20
@	577.90	13.70	1.00E+20		1.00E+20	1.00E+20
@	641.40	16.10	1.00E+20		1.00E+20	1.00E+20
@	996.00	1.52	1.00E+20		1.00E+20	1.00E+20
@	1136.70	1.42	1.00E+20		1.00E+20	1.00E+20
@	1261.10	8.40	1.00E+20		1.00E+20	1.00E+20
@	1300.40	2.30	1.00E+20		1.00E+20	1.00E+20
ND-149	38.17	9.00	7.68E+01	1.85E+00	7.24E+01	3.77E+01
	38.72	16.30	3.88E+01		5.72E+01	1.91E+01
	58.88	1.30	1.37E+02		4.22E+00	6.78E+01
	74.32	2.11	3.48E+01		-3.22E+01	1.71E+01
	97.00	1.48	3.10E+01		-4.73E+01	1.52E+01
	114.31	19.20	2.39E+00		8.89E-01	1.17E+00
	155.87	5.95	8.34E+00		-3.52E+00	4.08E+00
	188.64	1.79	4.57E+01		5.19E-01	2.24E+01
	198.93	1.39	4.23E+01		-9.03E+00	2.07E+01
	208.15	2.55	2.24E+01		1.14E+01	1.10E+01
	211.31	26.00	1.85E+00		7.24E-01	9.07E-01
	240.22	3.95	1.22E+01		1.13E+01	5.96E+00
	245.72	0.81	7.71E+01		9.55E+01	3.77E+01
	267.69	6.05	1.01E+01		5.17E+00	4.90E+00
	270.17	10.80	4.47E+00		-4.21E+00	2.18E+00
	326.55	4.57	1.44E+01		7.25E+00	7.04E+00
	349.23	1.38	4.97E+01		6.13E+01	2.43E+01
	423.55	7.50	8.73E+00		6.82E+00	4.27E+00
	443.55	1.15	7.67E+01		1.78E+01	3.76E+01
	540.51	6.60	9.05E+00		-5.20E+00	4.39E+00
	654.83	8.00	1.19E+01		-1.61E+00	5.86E+00
PM-149	285.95	3.10	8.71E-04	8.71E-04	2.74E-04	4.26E-04
PM-150	39.52	0.63	2.26E+01	1.89E-02	4.86E+00	1.11E+01
	40.12	1.14	1.14E+01		8.45E-01	5.60E+00
	333.92	68.00	1.89E-02		3.76E-03	9.22E-03
	406.51	5.60	2.69E-01		1.87E-01	1.31E-01
	565.70	1.31	1.00E+00		1.82E-02	4.84E-01
	587.02	1.34	1.07E+00		-6.18E-01	5.16E-01
	612.25	0.93	1.61E+00		1.02E+00	7.82E-01

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	712.22	4.40	2.76E-01	1.89E-02	6.07E-02	1.32E-01
	737.50	2.25	5.57E-01		2.98E-01	2.67E-01
	831.85	11.90	1.19E-01		1.03E-02	5.69E-02
	859.95	3.40	4.52E-01		4.71E-01	2.18E-01
	876.41	7.30	2.24E-01		1.23E-01	1.08E-01
	1165.77	15.80	1.70E-01		-3.86E-02	8.30E-02
	1170.90	1.06	4.65E+00		1.29E-01	2.29E+00
	1193.87	4.80	2.64E-01		1.42E-02	1.25E-01
	1213.72	1.03	9.75E-01		4.05E-01	4.53E-01
	1223.28	2.80	3.43E-01		-7.73E-02	1.59E-01
	1324.51	17.50	9.32E-02		-4.46E-02	4.45E-02
	1379.32	3.10	3.07E-01		-8.98E-02	1.41E-01
	1736.40	6.90	1.29E-01		6.18E-02	5.80E-02
	1963.71	1.47	5.13E-01		3.71E-01	2.23E-01
	2033.46	0.97	8.87E-01		2.38E-01	3.91E-01
@ ND-151	38.17	5.94	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	38.72	10.70	1.00E+20		1.00E+20	1.00E+20
@	68.98	1.26	1.00E+20		1.00E+20	1.00E+20
@	85.12	2.05	1.00E+20		1.00E+20	1.00E+20
@	89.96	1.53	1.00E+20		1.00E+20	1.00E+20
@	116.80	39.00	1.00E+20		1.00E+20	1.00E+20
@	138.89	7.00	1.00E+20		1.00E+20	1.00E+20
@	170.76	2.87	1.00E+20		1.00E+20	1.00E+20
@	175.07	6.30	1.00E+20		1.00E+20	1.00E+20
@	255.68	14.80	1.00E+20		1.00E+20	1.00E+20
@	300.58	1.82	1.00E+20		1.00E+20	1.00E+20
@	423.56	5.90	1.00E+20		1.00E+20	1.00E+20
@	460.59	0.96	1.00E+20		1.00E+20	1.00E+20
@	585.22	1.30	1.00E+20		1.00E+20	1.00E+20
@	677.88	2.38	1.00E+20		1.00E+20	1.00E+20
@	736.23	5.90	1.00E+20		1.00E+20	1.00E+20
@	739.20	1.52	1.00E+20		1.00E+20	1.00E+20
@	755.57	1.17	1.00E+20		1.00E+20	1.00E+20
@	797.53	4.70	1.00E+20		1.00E+20	1.00E+20
@	1016.40	2.50	1.00E+20		1.00E+20	1.00E+20
@	1122.63	4.10	1.00E+20		1.00E+20	1.00E+20
@	1180.89	13.30	1.00E+20		1.00E+20	1.00E+20
Pm-151	167.75	8.30	3.67E-04	1.65E-04	-1.88E-05	1.79E-04
	177.16	3.80	9.99E-04		-2.23E-04	4.89E-04
	240.09	3.80	1.00E-03		9.32E-04	4.90E-04
	275.21	6.80	5.39E-04		5.56E-04	2.64E-04
	340.08	22.50	1.65E-04		7.65E-05	8.04E-05
EU-152	121.78	28.53	8.46E-05	8.46E-05	-8.29E-06	4.16E-05
	344.28	26.59	9.51E-05		-2.71E-05	4.65E-05
	778.90	12.93	2.04E-04		1.08E-04	9.80E-05
	867.37	4.23	8.65E-04		-1.55E-03	4.17E-04
	964.08	14.51	2.06E-04		1.25E-04	9.90E-05
	1085.87	10.11	2.67E-04		-6.43E-05	1.29E-04
	1112.07	13.67	2.43E-04		3.82E-04	1.17E-04
	1408.01	20.87	8.70E-05		-7.18E-05	4.02E-05
@ ND-152	44.44	5.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	250.15	16.40	1.00E+20		1.00E+20	1.00E+20
@	278.56	26.00	1.00E+20		1.00E+20	1.00E+20

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@ ND-152	294.47	2.90	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	545.70	0.83	1.00E+20		1.00E+20	1.00E+20
@	592.50	0.99	1.00E+20		1.00E+20	1.00E+20
GD-153	69.67	2.45	1.16E-03	5.27E-05	-1.26E-04	5.71E-04
	97.43	30.00	5.27E-05		-4.62E-05	2.58E-05
	103.18	22.10	7.09E-05		9.42E-05	3.47E-05
SM-153	69.67	4.67	8.65E-04	7.66E-05	-9.40E-05	4.25E-04
	103.18	29.14	7.66E-05		1.02E-04	3.76E-05
EU-154	42.70	20.45	6.45E-04	5.88E-05	-3.60E-04	3.16E-04
	123.07	40.40	5.88E-05		1.49E-04	2.89E-05
	247.93	6.89	3.83E-04		4.32E-05	1.87E-04
	591.76	4.95	6.85E-04		4.33E-04	3.31E-04
	692.42	1.78	3.18E-03		1.47E-04	1.56E-03
	723.30	20.06	1.63E-04		6.82E-05	7.86E-05
	756.80	4.52	6.66E-04		-6.04E-04	3.19E-04
	873.18	12.08	3.01E-04		3.50E-04	1.45E-04
	996.29	10.48	2.71E-04		5.28E-05	1.31E-04
	1004.76	18.01	1.69E-04		-7.62E-05	8.15E-05
	1246.12	0.86	2.99E-03		-1.08E-03	1.40E-03
	1274.43	34.80	8.00E-05		1.58E-04	3.82E-05
	1494.05	0.70	1.77E-03		-8.99E-04	8.01E-04
	1596.48	1.80	4.68E-04		1.36E-04	2.15E-04
EU-155	43.00	18.12	7.01E-04	7.04E-05	-6.66E-04	3.44E-04
	60.01	1.17	3.93E-03		-6.24E-04	1.94E-03
	86.55	30.70	9.44E-05		6.81E-04	4.66E-05
	105.31	21.10	7.04E-05		-7.93E-06	3.45E-05
EU-156	88.97	8.40	4.97E-04	2.00E-04	-1.06E-04	2.45E-04
	646.29	6.30	4.72E-04		-2.19E-04	2.28E-04
	723.47	5.40	5.99E-04		4.28E-04	2.90E-04
	811.77	9.70	2.96E-04		-9.81E-05	1.42E-04
	1065.14	4.90	6.93E-04		8.47E-04	3.32E-04
	1079.16	4.60	7.10E-04		1.30E-03	3.43E-04
	1153.80	11.50	2.00E-04		2.59E-05	9.43E-05
	1230.71	8.00	2.79E-04		1.36E-04	1.30E-04
	1242.42	6.60	3.03E-04		1.44E-04	1.42E-04
	1277.43	2.89	1.04E-03		8.14E-04	4.97E-04
	1366.41	1.57	1.72E-03		2.62E-03	8.18E-04
	1965.95	3.90	2.26E-04		-1.34E-04	9.74E-05
	2097.70	3.80	4.56E-04		-1.11E-04	2.06E-04
	2186.71	3.50	3.74E-04		2.91E-04	1.64E-04
Sm-156	87.60	24.00	7.60E-04	5.35E-04	5.10E-03	3.76E-04
	165.80	13.00	7.27E-04		-1.03E-03	3.55E-04
	204.00	21.00	5.35E-04		-2.32E-04	2.62E-04
EU-158	42.31	5.80	2.03E+07	6.86E+05	-1.48E+07	9.93E+06
	43.00	10.40	1.04E+07		-9.85E+06	5.09E+06
	79.49	10.50	1.67E+06		-1.21E+06	8.22E+05
	181.97	2.30	6.02E+06		-2.89E+05	2.94E+06
	528.05	1.53	1.24E+07		-4.35E+06	6.03E+06
	606.39	4.00	4.82E+06		-9.75E+05	2.33E+06
	743.02	3.60	4.68E+06		8.35E+05	2.25E+06
	897.61	12.40	1.74E+06		-8.96E+05	8.37E+05
	906.50	1.83	1.16E+07		3.22E+06	5.61E+06
	922.51	1.62	1.34E+07		1.32E+07	6.47E+06

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	944.15	30.00	6.86E+05	6.86E+05	-8.29E+05	3.30E+05
	953.03	1.98	1.11E+07		-1.23E+06	5.35E+06
	962.09	1.89	1.11E+07		-4.23E+06	5.32E+06
	977.14	16.30	1.24E+06		-9.90E+05	5.96E+05
	986.96	1.35	1.53E+07		1.57E+06	7.35E+06
	1107.63	5.10	5.09E+06		6.38E+06	2.46E+06
	1184.10	3.00	5.80E+06		6.74E+06	2.75E+06
	1186.00	2.90	5.96E+06		2.11E+06	2.82E+06
	1187.10	4.40	3.90E+06		-4.14E+06	1.85E+06
	1263.61	2.20	6.12E+06		1.54E+06	2.85E+06
	1347.95	1.65	6.97E+06		2.15E+06	3.19E+06
	1944.47	1.62	7.37E+06		2.87E+06	3.30E+06
TB-160	86.79	13.20	3.15E-04	9.76E-05	2.27E-03	1.56E-04
	298.58	26.10	1.02E-04		6.42E-05	4.96E-05
	879.38	30.10	9.76E-05		-3.18E-05	4.70E-05
	962.32	9.81	2.85E-04		-1.09E-04	1.37E-04
	966.17	25.10	1.11E-04		-3.84E-05	5.36E-05
	1177.96	14.90	4.32E-04		1.85E-05	2.13E-04
TB-161	25.65	23.20	3.54E-02	2.48E-04	1.19E-01	1.73E-02
	48.91	17.00	4.71E-04		-9.38E-05	2.31E-04
	52.00	3.43	1.86E-03		-8.60E-04	9.11E-04
	57.19	1.79	3.41E-03		-2.31E-04	1.68E-03
	74.57	10.20	2.48E-04		-2.30E-04	1.22E-04
YB-169	63.12	43.62	1.53E-04	5.32E-05	8.30E-05	7.57E-05
	93.61	2.58	1.20E-03		6.80E-04	5.91E-04
	109.78	17.39	1.07E-04		-1.18E-04	5.24E-05
	130.52	11.38	1.89E-04		-1.49E-04	9.23E-05
	177.21	22.28	9.32E-05		-2.08E-05	4.56E-05
	197.96	35.93	5.32E-05		-1.23E-05	2.60E-05
	307.74	10.05	1.48E-04		1.81E-04	7.23E-05
HF-172	54.07	63.00	7.98E-05	7.98E-05	-3.12E-05	3.92E-05
	67.35	5.30	5.19E-04		2.33E-04	2.55E-04
	81.75	4.50	4.50E-04		-4.64E-04	2.21E-04
	114.06	2.60	5.69E-04		2.12E-04	2.79E-04
	122.92	1.14	1.57E-03		2.96E-03	7.71E-04
	125.81	11.30	1.54E-04		2.71E-05	7.59E-05
	127.91	1.46	1.06E-03		-1.05E-05	5.17E-04
LU-173	59.30	24.44	1.95E-04	9.82E-05	-3.88E-05	9.60E-05
	78.63	11.90	2.29E-04		7.44E-05	1.13E-04
	100.72	5.24	3.20E-04		-4.89E-04	1.57E-04
	171.39	2.90	5.81E-04		-2.01E-04	2.84E-04
	272.11	21.20	9.82E-05		5.02E-05	4.80E-05
LU-177	112.95	6.23	2.63E-04	1.95E-04	-2.18E-05	1.29E-04
	208.37	10.41	1.95E-04		9.89E-05	9.57E-05
	249.67	0.20	1.02E-02		-2.02E-03	5.01E-03
	321.32	0.22	1.02E-02		1.19E-03	4.96E-03
HF-181	133.02	43.30	4.58E-05	3.62E-05	3.73E-05	2.24E-05
	345.93	15.12	1.77E-04		5.18E-05	8.67E-05
	482.18	80.50	3.62E-05		-3.03E-05	1.77E-05
W-181	56.28	18.70	2.57E-04	1.65E-04	-8.20E-05	1.26E-04
	57.53	32.00	1.65E-04		-5.63E-05	8.12E-05
	65.00	10.60	2.83E-04		-4.27E-06	1.39E-04
TA-182	57.98	10.01	5.15E-04	6.01E-05	-1.19E-04	2.54E-04

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	59.32	17.20	2.78E-04	6.01E-05	-5.53E-05	1.37E-04
	65.72	3.01	1.85E-03		-1.50E-04	9.08E-04
	67.75	46.67	8.01E-05		2.68E-05	3.93E-05
	84.68	2.65	1.53E-03		-7.66E-04	7.54E-04
	100.11	14.20	1.58E-04		-1.68E-04	7.73E-05
	113.67	1.87	1.57E-03		-6.54E-04	7.68E-04
	116.42	0.44	3.38E-03		7.46E-04	1.66E-03
	152.43	7.02	3.23E-04		-5.30E-05	1.58E-04
	156.39	2.67	8.73E-04		-6.45E-04	4.27E-04
	179.39	3.12	7.99E-04		8.49E-04	3.91E-04
	198.35	1.47	2.11E-03		-1.39E-03	1.03E-03
	222.11	7.57	3.22E-04		-1.73E-04	1.57E-04
	229.32	3.64	7.70E-04		7.34E-05	3.77E-04
	264.08	3.61	6.90E-04		-7.88E-05	3.37E-04
	928.00	0.61	5.48E-03		1.63E-03	2.64E-03
	959.73	0.35	1.02E-02		7.21E-04	4.92E-03
	1001.70	2.09	2.31E-03		3.91E-04	1.11E-03
	1044.42	0.24	1.44E-02		1.37E-05	6.89E-03
	1113.41	0.44	9.26E-03		1.28E-03	4.47E-03
	1121.29	35.24	8.56E-05		1.01E-07	4.10E-05
	1157.30	0.73	2.31E-03		-1.52E-03	1.09E-03
	1189.04	16.49	1.12E-04		-8.63E-05	5.28E-05
	1221.40	27.23	6.01E-05		-5.50E-06	2.78E-05
	1223.60	0.24	3.72E-03		-8.39E-04	1.72E-03
	1231.00	11.62	1.75E-04		-6.03E-05	8.12E-05
	1257.41	1.51	1.03E-03		-3.61E-04	4.81E-04
	1273.72	0.66	1.66E-03		2.42E-03	7.92E-04
	1289.15	1.37	3.39E-04		2.69E-04	1.57E-04
	1342.73	0.26	5.74E-03		1.67E-03	2.69E-03
	1373.82	0.22	1.69E-03		-8.34E-04	7.81E-04
Ta-183	84.71	1.35	2.49E-03	7.87E-05	-1.25E-03	1.23E-03
	99.08	6.80	2.54E-04		1.71E-05	1.25E-04
	107.93	11.20	1.53E-04		7.29E-05	7.48E-05
	161.35	9.10	1.92E-04		-6.80E-05	9.40E-05
	162.32	5.00	3.50E-04		1.49E-04	1.71E-04
	244.26	8.80	2.40E-04		-1.66E-04	1.17E-04
	246.06	27.20	7.87E-05		5.33E-05	3.85E-05
	353.99	11.60	2.16E-04		2.46E-05	1.05E-04
Re-184	111.21	17.20	8.58E-05	5.37E-05	-4.22E-05	4.20E-05
	252.85	3.00	6.16E-04		-2.96E-04	3.01E-04
	792.01	37.70	5.37E-05		-6.28E-06	2.57E-05
	894.76	15.70	1.57E-04		1.70E-05	7.57E-05
	903.28	38.10	6.72E-05		-6.29E-06	3.24E-05
W-185	59.72	0.01	3.94E-01	9.20E-02	-7.07E-02	1.94E-01
	61.14	0.02	2.22E-01		6.72E-01	1.09E-01
	69.20	0.01	3.73E-01		-1.17E-01	1.83E-01
	125.36	0.02	9.20E-02		-3.34E-02	4.52E-02
W-187	61.14	14.30	6.49E-04	1.04E-04	1.97E-03	3.20E-04
	69.20	4.82	1.09E-03		-3.41E-04	5.35E-04
	72.00	13.55	5.50E-04		-3.13E-05	2.70E-04
	134.25	10.36	4.02E-04		-4.27E-04	1.97E-04
	479.53	26.60	2.54E-04		3.85E-04	1.24E-04
	618.37	7.57	6.03E-04		-8.61E-05	2.92E-04

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
W-187	685.81	33.20	1.04E-04	1.04E-04	-7.29E-05	4.99E-05
Ir-188	155.05	29.60	8.03E-05	8.03E-05	1.60E-05	3.93E-05
	478.00	14.70	2.85E-04		-1.35E-04	1.39E-04
	633.02	17.90	1.78E-04		-1.36E-04	8.61E-05
	634.97	5.00	6.44E-04		1.09E-04	3.11E-04
	829.42	5.10	6.25E-04		3.35E-05	3.00E-04
	1209.77	6.90	3.38E-04		-1.27E-04	1.57E-04
	1715.67	6.20	3.20E-04		1.85E-05	1.44E-04
	2214.59	18.60	1.29E-04		-1.36E-04	5.76E-05
W-188	227.07	0.23	7.58E-03	4.72E-03	-6.06E-03	3.71E-03
	290.68	0.42	4.72E-03		2.51E-03	2.31E-03
Ir-189	245.08	6.00	3.25E-04	3.25E-04	1.38E-04	1.59E-04
Ir-190	186.68	50.00	3.70E-05	3.70E-05	2.93E-05	1.81E-05
	361.09	12.30	1.74E-04		-1.08E-04	8.48E-05
	371.24	21.60	1.06E-04		1.50E-04	5.19E-05
	407.22	27.00	9.12E-05		3.83E-05	4.46E-05
	518.55	32.20	7.53E-05		-1.09E-04	3.66E-05
	557.95	28.50	7.64E-05		1.16E-04	3.70E-05
	569.30	27.00	8.22E-05		4.96E-05	3.98E-05
	605.14	37.80	6.36E-05		-7.55E-06	3.08E-05
OS-191	63.29	15.70	2.44E-04	5.67E-05	-7.77E-04	1.20E-04
	64.99	26.70	1.17E-04		-1.77E-06	5.76E-05
	73.45	9.21	2.64E-04		-1.03E-04	1.30E-04
	129.43	26.50	5.67E-05		1.93E-05	2.77E-05
Pt-191	359.90	5.80	5.54E-04	2.10E-04	4.15E-04	2.70E-04
	456.47	3.30	1.25E-03		4.92E-04	6.11E-04
	538.90	14.30	2.10E-04		1.40E-04	1.02E-04
IR-192	205.79	3.31	7.36E-04	3.40E-05	4.23E-04	3.61E-04
	295.96	28.71	1.20E-04		3.50E-06	5.86E-05
	308.45	29.70	1.09E-04		-3.50E-05	5.34E-05
	316.51	82.86	3.40E-05		-4.04E-05	1.66E-05
	468.07	47.84	8.25E-05		1.74E-05	4.04E-05
	588.58	4.52	8.26E-04		5.02E-04	4.00E-04
	604.41	8.22	2.19E-04		1.29E-04	1.06E-04
	612.46	5.34	2.67E-04		2.39E-04	1.29E-04
IR-192m	155.16	0.09	1.71E-02	1.71E-02	7.48E-03	8.35E-03
IR-193m	80.22	0.00	4.67E-01	4.67E-01	6.60E-02	2.30E-01
Pt-193m	135.50	0.11	1.50E-02	1.50E-02	2.22E-03	7.35E-03
Au-194	293.55	10.90	2.82E-04	5.07E-05	-9.10E-05	1.38E-04
	328.47	62.80	5.07E-05		3.30E-05	2.47E-05
	364.84	1.60	2.00E-03		-2.39E-03	9.75E-04
	528.77	1.78	2.00E-03		-1.84E-05	9.71E-04
	645.16	2.32	1.43E-03		-6.26E-04	6.89E-04
	948.32	2.29	1.78E-03		6.43E-04	8.58E-04
	1104.06	2.15	2.16E-03		1.16E-03	1.04E-03
	1175.36	2.14	5.59E-03		4.42E-02	2.76E-03
	1468.90	6.80	4.26E-04		-4.25E-04	1.99E-04
	1595.81	1.89	1.34E-03		8.60E-04	6.17E-04
	2043.72	3.74	5.46E-04		-1.83E-04	2.40E-04
Ir-194	293.54	2.50	1.93E-03	3.82E-04	-6.23E-04	9.46E-04
	328.47	13.10	3.82E-04		2.48E-04	1.86E-04
AU-195	98.86	11.21	1.35E-04	1.35E-04	7.35E-05	6.62E-05
	129.74	0.84	1.71E-03		5.73E-04	8.39E-04

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Pt-195m	98.90	11.70	1.55E-04	1.55E-04	8.41E-05	7.58E-05
	129.79	2.90	5.93E-04		1.98E-04	2.90E-04
Au-196	333.03	22.90	1.53E-04	3.42E-05	-7.05E-05	7.47E-05
	355.73	87.00	3.42E-05		1.26E-05	1.67E-05
	426.10	6.60	4.15E-04		-1.82E-04	2.03E-04
Au-196m	147.81	43.50	2.05E-04	2.05E-04	-4.17E-05	1.00E-04
	188.27	30.00	3.63E-04		1.75E-04	1.78E-04
Pt-197	77.35	17.00	3.11E-04	3.11E-04	5.66E-05	1.53E-04
	191.44	3.70	1.16E-03		1.08E-03	5.68E-04
AU-198	411.80	95.62	5.16E-05	5.16E-05	9.10E-06	2.54E-05
AU-199	158.38	40.00	4.79E-05	4.79E-05	-2.19E-06	2.34E-05
	208.20	8.72	2.63E-04		1.33E-04	1.29E-04
TL-201	135.34	2.61	7.09E-04	1.92E-04	2.42E-04	3.47E-04
	167.43	10.00	1.92E-04		1.43E-04	9.36E-05
TL-202	439.51	91.50	3.04E-05	3.04E-05	-9.86E-06	1.49E-05
PB-203	70.83	26.40	1.30E-04	3.94E-05	-6.11E-05	6.40E-05
	72.87	44.20	7.53E-05		2.25E-05	3.70E-05
	82.40	15.56	1.80E-04		-1.96E-04	8.84E-05
	279.20	80.90	3.94E-05		-5.95E-06	1.93E-05
	401.32	3.35	1.41E-03		6.52E-06	6.89E-04
PB-210	46.54	4.25	2.05E-03	2.05E-03	-8.03E-04	1.00E-03
Pa-233	86.60	2.01	1.69E-03	5.10E-05	1.22E-02	8.36E-04
	94.65	8.90	1.80E-04		1.85E-05	8.81E-05
	98.43	14.20	1.07E-04		2.80E-05	5.22E-05
	300.13	6.54	3.03E-04		1.14E-04	1.48E-04
	311.90	38.20	5.10E-05		2.15E-05	2.49E-05
	340.48	4.44	4.67E-04		-1.81E-04	2.28E-04
U-235	89.96	2.90	9.49E-04	3.01E-05	1.63E-04	4.69E-04
	93.35	4.70	3.35E-04		7.45E-05	1.64E-04
	109.19	1.64	8.96E-04		-5.68E-04	4.39E-04
	143.76	10.93	1.28E-04		-1.45E-04	6.24E-05
	163.36	5.07	3.00E-04		1.72E-04	1.47E-04
	185.71	57.20	3.01E-05		9.05E-06	1.48E-05
	202.11	1.07	1.62E-03		6.83E-04	7.95E-04
	205.31	5.03	3.52E-04		1.04E-04	1.73E-04
NP-237	86.48	12.20	2.38E-04	2.38E-04	1.71E-03	1.17E-04
U-237	59.54	34.50	1.64E-04	6.74E-05	-3.27E-05	8.09E-05
	97.07	15.40	1.12E-04		-1.71E-04	5.49E-05
	101.06	24.50	6.74E-05		-6.83E-05	3.30E-05
	113.30	3.07	5.33E-04		-2.28E-04	2.61E-04
	114.23	5.81	2.83E-04		1.06E-04	1.39E-04
	117.46	2.27	7.42E-04		1.01E-04	3.63E-04
	208.00	21.20	1.00E-04		9.58E-06	4.92E-05
NP-238	103.37	0.00	4.48E-01	1.35E-04	4.14E-01	2.19E-01
	882.63	0.80	3.91E-03		-5.64E-03	1.88E-03
	923.99	2.60	1.37E-03		5.53E-04	6.59E-04
	984.45	25.20	1.35E-04		-6.77E-05	6.49E-05
	1025.87	8.75	3.55E-04		-2.05E-04	1.69E-04
	1028.53	18.23	1.69E-04		-1.12E-04	8.10E-05
U-238	63.29	3.70	9.86E-04	3.97E-04	-3.14E-03	4.86E-04
	92.51	4.23	3.97E-04		9.96E-05	1.95E-04
	112.81	0.21	6.98E-03		6.95E-04	3.42E-03
	742.81	0.11	1.85E-02		2.66E-03	8.90E-03

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	U-238	766.42		0.32	5.95E-03	3.97E-04	1.08E-03	2.85E-03
		1001.03		0.84	3.24E-03		1.34E-03	1.56E-03
	Am-239	181.71		1.08	6.55E-03	5.63E-04	-3.33E-05	3.21E-03
		209.80		3.50	2.27E-03		2.81E-03	1.11E-03
		226.40		3.30	2.33E-03		-4.53E-04	1.14E-03
		228.10		11.30	6.83E-04		2.60E-04	3.34E-04
		277.60		15.00	5.63E-04		-1.52E-04	2.75E-04
	NP-239	61.46		1.30	4.64E-03	8.73E-05	1.33E-02	2.29E-03
		99.53		12.90	1.58E-04		6.54E-06	7.73E-05
		103.37		20.50	1.00E-04		9.25E-05	4.90E-05
		106.12		25.34	8.73E-05		-1.46E-05	4.28E-05
		209.75		3.36	7.83E-04		9.68E-04	3.84E-04
		228.18		11.24	2.31E-04		2.07E-04	1.13E-04
		277.60		14.51	2.00E-04		-5.39E-05	9.78E-05
		285.46		0.79	4.03E-03		-1.75E-03	1.97E-03
		315.88		1.60	1.47E-03		1.26E-04	7.16E-04
		334.31		2.06	9.60E-04		1.39E-04	4.68E-04
	PU-239	38.66		0.01	2.43E+00	2.08E-01	3.58E+00	1.19E+00
		51.62		0.03	2.16E-01		9.05E-02	1.06E-01
		98.50		0.01	2.08E-01		5.47E-02	1.02E-01
		111.03		0.00	1.09E+00		-1.04E+00	5.33E-01
		129.30		0.01	2.28E-01		-3.05E-02	1.11E-01
		171.39		0.00	1.36E+01		-4.70E+00	6.64E+00
		203.55		0.00	3.07E+00		6.67E-01	1.50E+00
		332.85		0.00	3.96E+00		1.43E+00	1.93E+00
		336.11		0.00	1.75E+01		-1.34E+01	8.54E+00
		345.01		0.00	3.78E+00		2.78E+00	1.85E+00
		375.05		0.00	1.39E+00		-5.97E-01	6.77E-01
		380.19		0.00	6.72E+00		-9.19E-01	3.28E+00
		382.75		0.00	8.09E+00		-1.20E+00	3.95E+00
		413.71		0.00	2.57E+00		1.30E+01	1.27E+00
		422.60		0.00	2.01E+01		1.23E+01	9.84E+00
		451.48		0.00	1.50E+01		1.14E+01	7.34E+00
	Am-240	99.53		18.40	1.15E-04	4.73E-05	4.75E-06	5.61E-05
		103.37		29.20	7.28E-05		6.72E-05	3.56E-05
		117.23		6.93	3.08E-04		4.19E-05	1.51E-04
		888.85		24.70	1.30E-04		-8.55E-05	6.24E-05
		987.79		72.20	4.73E-05		-2.80E-05	2.27E-05
	Np-240m	554.60		20.90	3.35E-04	3.35E-04	-2.99E-04	1.62E-04
		597.40		11.70	6.39E-04		2.15E-04	3.09E-04
	U-240	44.10		1.05	3.72E-02	2.58E-02	2.45E-02	1.82E-02
		66.50		0.15	6.38E-02		-5.17E-03	3.13E-02
		169.20		0.12	4.48E-02		-5.78E-03	2.19E-02
		189.70		0.24	2.58E-02		7.95E-03	1.26E-02
+	AM-241	59.54	*	35.90	7.29E-05	7.29E-05	5.44E-04	3.55E-05
	AM-242m	49.35		0.13	5.18E-02	5.18E-02	-1.51E-02	2.54E-02
		66.89		0.01	1.88E-01		3.63E-02	9.26E-02
		86.65		0.02	1.27E-01		9.16E-01	6.27E-02
		163.25		0.02	9.94E-02		5.70E-02	4.86E-02
	AM-243	43.53		5.90	2.04E-03	3.39E-05	1.19E-03	1.00E-03
		74.66		67.20	3.39E-05		-1.48E-06	1.67E-05

Analysis Report for 24-2544 TI185-7.0M-S3-CST-d-A F0

ASR 2120 Branch

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

Apex-Gamma

Analysis Report for 24-2545 TI185-7.0M-S4-CST-A Q0
ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2545 TI185-7.0M-S4-CST-A Q0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/28/2024 7:28:45AM
Procedure	: Q0_gsv02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: Q0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1203.7 seconds
Dead Time	: 0.31 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 1/16/2018
Efficiency Calibration Description	: Q0_gsv2mlw_R651_PT
Sample Number	: 578997
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/28/2024 7:48:55AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2545 TI185-7.0M-S4-CST-A Q0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.65	190.47	0.2038	8.71
2	64.34	205.53	0.3301	3.10
3	87.57	279.59	0.1585	13.51
4	123.20	393.29	0.2387	5.56
5	295.63	943.17	0.3050	3.34
6	352.10	1122.11	0.2658	4.25
7	415.00	1323.14	0.1403	13.85
8	609.41	1943.25	0.3007	3.02
9	661.89	2110.44	0.0472	105.63
10	666.60	2125.78	0.1402	13.18
11	695.33	2216.93	0.1292	14.32
12	723.55	2306.89	0.2764	3.69
13	873.92	2786.05	0.2979	3.08
14	1081.38	3447.16	0.2208	4.21
15	1110.10	3538.84	0.2076	5.33
16	1173.63	3741.69	0.1034	18.26
17	1274.99	4064.59	0.2088	5.09
18	1332.95	4249.61	0.1043	18.09
19	1361.95	4341.13	0.2517	3.22
20	1461.33	4658.57	0.2447	3.79
21	1764.98	5626.81	0.2506	3.07
22	2506.33	7988.83	0.1865	4.24

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2545 TI185-7.0M-S4-CST-A Q0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/28/2024 7:48:55AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.65	186 -	196	190.53	6.33E+02	37.58	9.35E+02	1.16
F	2	64.34	199 -	211	205.46	1.45E+02	30.07	1.09E+03	1.12
F	3	87.57	270 -	285	279.54	1.52E+03	148.46	1.31E+03	1.32
F	4	123.20	387 -	402	393.12	3.27E+02	31.44	1.11E+03	1.29
F	5	295.63	937 -	948	942.81	1.21E+02	26.11	6.45E+02	1.58
F	6	352.10	1118 -	1129	1122.82	2.03E+02	27.20	5.73E+02	1.72
F	7	415.00	1316 -	1334	1323.34	1.12E+03	40.46	1.03E+03	1.66
F	8	609.41	1932 -	1950	1943.06	1.19E+02	60.23	3.37E+02	1.85
M	9	661.89	2097 -	2134	2110.35	4.22E+04	313.98	2.64E+02	1.72
m	10	666.60	2097 -	2134	2125.37	7.07E+02	28.29	1.26E+02	1.72
F	11	695.33	2208 -	2227	2216.95	7.45E+02	27.65	1.18E+02	1.68
F	12	723.55	2302 -	2314	2306.91	3.34E+01	9.91	8.88E+01	0.96
F	13	873.92	2781 -	2791	2786.22	4.77E+01	49.72	4.48E+01	1.28
F	14	1081.38	3441 -	3455	3447.51	8.37E+01	11.35	5.68E+01	1.82
F	15	1110.10	3531 -	3549	3539.04	1.17E+02	38.60	6.75E+01	1.82
F	16	1173.63	3727 -	3752	3741.54	1.55E+03	80.12	9.55E+01	2.11
F	17	1274.99	4055 -	4072	4064.62	8.01E+01	57.63	3.10E+01	1.58
F	18	1332.95	4236 -	4261	4249.36	1.44E+03	69.63	1.31E+01	2.25
F	19	1361.95	4334 -	4352	4341.80	6.29E+01	46.71	1.67E+01	2.61
F	20	1461.33	4651 -	4665	4658.55	3.56E+01	18.12	1.47E+01	1.23
F	21	1764.98	5621 -	5632	5626.33	1.94E+01	5.67	9.32E+00	1.67
F	22	2506.33	7980 -	7997	7988.95	8.26E+01	38.85	4.29E+00	2.56

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/28/2024 7:48:55AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578893.CNF

Analysis Report for 24-2545 TI185-7.0M-S4-CST-A Q0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.65	6.33E+02	37.58			6.33E+02	3.76E+01
F	2	64.34	1.45E+02	30.07	1.83E+01	2.14E+00	1.27E+02	3.02E+01
F	3	87.57	1.52E+03	148.46	1.01E+01	4.77E-01	1.51E+03	1.48E+02
F	4	123.20	3.27E+02	31.44			3.27E+02	3.14E+01
F	5	295.63	1.21E+02	26.11	2.19E+01	1.39E+00	9.88E+01	2.61E+01
F	6	352.10	2.03E+02	27.20	4.04E+01	1.53E+00	1.63E+02	2.72E+01
F	7	415.00	1.12E+03	40.46			1.12E+03	4.05E+01
F	8	609.41	1.19E+02	60.23	3.78E+01	1.30E+00	8.16E+01	6.02E+01
M	9	661.89	4.22E+04	313.98			4.22E+04	3.14E+02
m	10	666.60	7.07E+02	28.29	8.33E-01	1.87E-01	7.06E+02	2.83E+01
F	11	695.33	7.45E+02	27.65			7.45E+02	2.77E+01
F	12	723.55	3.34E+01	9.91			3.34E+01	9.91E+00
F	13	873.92	4.77E+01	49.72			4.77E+01	4.97E+01
F	14	1081.38	8.37E+01	11.35			8.37E+01	1.14E+01
F	15	1110.10	1.17E+02	38.60			1.17E+02	3.86E+01
F	16	1173.63	1.55E+03	80.12			1.55E+03	8.01E+01
F	17	1274.99	8.01E+01	57.63			8.01E+01	5.76E+01
F	18	1332.95	1.44E+03	69.63			1.44E+03	6.96E+01
F	19	1361.95	6.29E+01	46.71			6.29E+01	4.67E+01
F	20	1461.33	3.56E+01	18.12	3.56E+01	3.97E-01	3.44E-02	1.81E+01
F	21	1764.98	1.94E+01	5.67	1.08E+01	2.28E-01	8.64E+00	5.68E+00
F	22	2506.33	8.26E+01	38.85			8.26E+01	3.89E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.95	1460.82	*	10.66	1.41E-07	7.42E-05	miss
CO-60	0.97	1173.23	*	99.85	7.65E-04	3.99E-05	0.765
		1332.49	*	99.98	7.75E-04	3.80E-05	0.763
CD-109	0.96	88.03	*	3.64	5.74E-03	5.67E-04	free

Analysis Report for 24-2545 TI185-7.0M-S4-CST-A Q0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
Te-129m	0.95	695.88	*	3.00	6.81E-03	1.39E-03	free
CS-137	0.99	661.66	*	85.10	1.29E-02	1.34E-04	miss
EU-154	0.46	42.70		20.45			
		123.07	*	40.40	1.21E-04	1.18E-05	0.741
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	6.47E-05	1.92E-05	0.710
		756.80		4.52			
		873.18	*	12.08	1.80E-04	1.88E-04	0.682
		996.29		10.48			
		1004.76		18.01			
		1246.12		0.86			
		1274.43	*	34.80	1.05E-04	7.54E-05	0.874
		1494.05		0.70			
		1596.48		1.80			
AM-241	0.99	59.54	*	35.90	5.01E-04	3.08E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.959	1.41E-07	7.42E-05	
CO-60	0.971	7.70E-04	2.75E-05	
CD-109	0.967	5.74E-03	5.67E-04	
Te-129m	0.953	6.81E-03	1.39E-03	
CS-137	0.991	1.29E-02	1.34E-04	
EU-154	0.469	1.06E-04	9.93E-06	
AM-241	0.998	5.01E-04	3.08E-05	

Analysis Report for 24-2545 TI185-7.0M-S4-CST-A Q0

ASR 2094 Branch

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

Errors quoted at 1.000sigma

Analysis Report for 24-2545 TI185-7.0M-S4-CST-A Q0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/28/2024 7:48:55AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	2	64.34	1.05651E-01	23.78	Tol.	W-181 OS-191
F	5	295.63	8.23603E-02	26.45	Tol.	IR-192
F	6	352.10	1.35711E-01	16.73	Tol.	NB-96
F	7	415.00	9.35256E-01	3.61	Tol.	RH-102M
F	8	609.41	6.80109E-02	73.81	Tol.	RU-103
m	10	666.60	5.88614E-01	4.01		
F	14	1081.38	6.97561E-02	13.56		
F	15	1110.10	9.74969E-02	32.99		
F	19	1361.95	5.24438E-02	74.22	Sum	
F	21	1764.98	7.20084E-03	65.72		
F	22	2506.33	6.88479E-02	47.02	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.60	10.44	4.49E-04	4.49E-04	7.51E-05	2.22E-04
NA-22	511.00	179.91	2.12E-05	2.12E-05	3.59E-06	1.04E-05
	1274.54	99.94	4.45E-05		6.53E-05	2.12E-05

Analysis Report for 24-2545 TI185-7.0M-S4-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	NA-24	1368.63		99.99	7.41E-05	7.41E-05	2.56E-05	3.48E-05
>		2754.01		99.87	0.00E+00		0.00E+00	0.00E+00
	AL-26	1129.67		2.50	9.96E-04	1.23E-05	-3.42E-05	4.76E-04
		1808.65		99.76	1.23E-05		5.66E-06	5.47E-06
+	K-40	1460.82	*	10.66	1.49E-04	1.49E-04	1.41E-07	6.92E-05
	K-42	312.60		0.34	3.59E-02	2.96E-04	-1.82E-02	1.77E-02
		1524.60		18.08	2.96E-04		2.26E-04	1.35E-04
	Sc-44	1157.02		99.90	1.48E-03	1.48E-03	1.42E-03	7.01E-04
		1499.46		0.91	1.21E-01		-1.81E-02	5.50E-02
	Sc-44m	271.24		86.74	4.57E-05	4.57E-05	1.00E-05	2.25E-05
		1001.83		1.20	4.78E-03		-9.80E-04	2.30E-03
		1126.06		1.20	4.73E-03		5.70E-03	2.27E-03
		1157.00		1.20	3.85E-03		3.70E-03	1.83E-03
	TI-44	67.87		93.00	5.67E-05	3.96E-05	-1.90E-05	2.80E-05
		78.32		96.40	3.96E-05		-5.12E-05	1.96E-05
	SC-46	889.28		99.98	2.93E-05	2.93E-05	-1.80E-05	1.41E-05
		1120.55		99.99	3.20E-05		-9.71E-06	1.53E-05
	CA-47	489.23		5.90	1.07E-03	2.54E-05	9.86E-04	5.29E-04
		807.86		5.90	5.12E-04		7.12E-05	2.45E-04
		1297.09		67.00	2.54E-05		3.67E-05	1.17E-05
	SC-47	159.38		68.30	4.09E-05	4.09E-05	3.95E-05	2.02E-05
	SC-48	175.36		7.47	4.57E-04	2.03E-05	1.42E-04	2.25E-04
		983.53		100.00	3.06E-05		-2.80E-05	1.46E-05
		1037.52		97.50	3.38E-05		-4.59E-06	1.62E-05
		1312.12		100.00	2.03E-05		-2.06E-05	9.36E-06
	V-48	944.13		7.87	4.09E-04	1.94E-05	-7.28E-05	1.97E-04
		983.53		99.98	2.84E-05		-2.60E-05	1.36E-05
		1312.11		98.20	1.94E-05		-1.97E-05	8.94E-06
		2240.40		2.33	8.84E-04		4.12E-04	3.94E-04
	CR-51	320.08		9.91	3.18E-04	3.18E-04	4.27E-05	1.57E-04
	Fe-52	168.69		99.20	1.84E-04	1.84E-04	6.43E-05	9.06E-05
		377.75		1.64	1.71E-02		1.33E-03	8.42E-03
	Mn-52	744.23		90.00	3.76E-05	2.78E-05	1.54E-05	1.80E-05
		848.18		3.32	1.26E-03		2.49E-04	6.05E-04
		935.54		94.50	4.84E-05		-3.41E-05	2.33E-05
		1246.28		4.21	7.37E-04		-1.08E-03	3.44E-04
		1333.65		5.07	2.65E-03		2.05E-02	1.30E-03
		1434.09		100.00	2.78E-05		2.47E-05	1.27E-05
	MN-54	834.85		99.98	1.99E-05	1.99E-05	-7.87E-07	9.53E-06
	Co-55	411.50		1.07	1.20E-02	8.28E-05	3.70E-03	5.94E-03
		477.20		20.20	6.14E-04		5.40E-05	3.03E-04
		803.70		1.87	2.68E-03		-3.91E-04	1.29E-03
		931.10		75.00	8.28E-05		1.01E-05	3.99E-05
		1316.60		7.10	5.55E-04		1.44E-04	2.57E-04
		1370.00		2.90	1.40E-03		2.43E-04	6.46E-04
		1408.50		16.90	2.55E-04		8.79E-05	1.18E-04
	Co-56	846.77		99.94	3.06E-05	3.06E-05	2.62E-05	1.47E-05
		977.37		1.42	2.50E-03		-1.85E-03	1.20E-03
		1037.84		14.05	2.33E-04		-1.54E-05	1.12E-04
		1175.10		2.25	5.42E-03		4.44E-02	2.67E-03
		1238.29		66.46	3.86E-05		1.88E-05	1.81E-05
		1360.21		4.28	6.99E-04		8.92E-04	3.31E-04
		1771.36		15.41	1.65E-04		4.63E-05	7.62E-05

Analysis Report for 24-2545 TI185-7.0M-S4-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Co-56	2015.20		3.02	6.37E-04	3.06E-05	3.26E-04	2.85E-04
		2034.79		7.77	2.31E-04		7.61E-05	1.02E-04
>		2598.50		16.97	0.00E+00		0.00E+00	0.00E+00
	MN-56	846.76		98.85	1.83E-02	1.83E-02	1.56E-02	8.79E-03
		1810.73		26.90	4.66E-02		-2.71E-02	2.07E-02
		2113.09		14.20	8.71E-02		2.22E-02	3.80E-02
	Ni-56	158.38		98.80	2.57E-05	2.47E-05	1.31E-05	1.27E-05
		269.50		36.50	9.07E-05		-1.03E-04	4.47E-05
		480.44		36.50	1.34E-04		-2.20E-04	6.60E-05
		749.50		49.50	3.94E-05		-9.92E-06	1.88E-05
		811.85		86.00	2.47E-05		-9.48E-06	1.18E-05
		1561.80		14.00	1.15E-04		4.44E-05	5.27E-05
	CO-57	122.06		85.60	2.77E-05	2.77E-05	5.65E-06	1.37E-05
		136.47		10.68	2.03E-04		1.23E-04	9.99E-05
	NI-57	127.16		16.70	2.17E-04	2.66E-05	6.86E-05	1.07E-04
		1377.63		81.70	2.66E-05		-1.28E-05	1.22E-05
		1757.55		5.75	4.19E-04		-5.03E-04	1.90E-04
		1919.52		12.30	1.73E-04		5.23E-05	7.67E-05
	CO-58	810.76		99.45	2.07E-05	2.07E-05	-1.49E-05	9.91E-06
		863.96		0.69	4.21E-03		-3.86E-04	2.02E-03
		1674.73		0.52	1.80E-03		1.44E-03	7.91E-04
	FE-59	142.65		1.02	2.18E-03	3.49E-05	6.44E-04	1.08E-03
		192.34		3.08	1.18E-03		-1.26E-04	5.81E-04
		1099.24		56.50	4.05E-05		2.15E-05	1.94E-05
		1291.59		43.20	3.49E-05		1.06E-05	1.62E-05
+	CO-60	1173.23	*	99.85	4.46E-05	1.91E-05	7.65E-04	2.16E-05
		1332.49	*	99.98	1.91E-05		7.75E-04	8.81E-06
	CU-64	511.00		35.00	4.17E-04	4.17E-04	7.08E-05	2.05E-04
		1345.77		0.47	1.21E-02		1.33E-02	5.57E-03
	NI-65	366.27		4.81	8.33E-01	5.26E-02	3.43E-01	4.11E-01
		1115.53		15.43	1.85E-01		-5.79E-02	8.93E-02
		1481.84		23.59	5.26E-02		4.71E-02	2.41E-02
	ZN-65	1115.54		50.04	5.85E-05	5.85E-05	-1.83E-05	2.83E-05
	GA-66	511.00		114.00	2.02E-04	2.02E-04	3.43E-05	9.94E-05
		833.53		5.90	2.05E-03		6.36E-04	9.85E-04
		1039.22		37.00	3.62E-04		-1.59E-04	1.73E-04
		1333.11		1.17	3.87E-02		3.07E-01	1.91E-02
		1918.33		1.99	3.83E-03		-8.95E-04	1.69E-03
		2189.62		5.30	1.50E-03		1.16E-03	6.56E-04
>		2751.83		22.70	0.00E+00		0.00E+00	0.00E+00
	CU-67	91.27		7.00	5.87E-04	7.01E-05	1.40E-04	2.90E-04
		93.31		16.10	2.06E-04		5.85E-05	1.01E-04
		184.58		48.70	7.01E-05		1.36E-05	3.46E-05
		300.22		0.80	5.03E-03		1.58E-03	2.48E-03
		393.53		0.22	2.23E-02		5.38E-03	1.10E-02
	GA-67	91.26		3.11	1.47E-03	8.73E-05	3.52E-04	7.26E-04
		93.31		38.81	8.73E-05		2.49E-05	4.30E-05
		184.58		21.41	1.53E-04		2.98E-05	7.56E-05
		208.95		2.46	2.16E-03		-6.00E-04	1.07E-03
		300.22		16.64	2.60E-04		8.16E-05	1.28E-04
		393.53		4.56	6.45E-04		1.55E-04	3.18E-04
	ZN-69m	438.63		94.85	1.59E-04	1.59E-04	9.34E-05	7.83E-05
	GA-72	629.97		26.13	5.97E-04	9.42E-05	-1.55E-04	2.91E-04

Analysis Report for 24-2545 TI185-7.0M-S4-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	GA-72	834.13	95.45	9.42E-05	9.42E-05	-4.55E-05	4.52E-05
		894.33	10.14	1.24E-03		3.67E-04	5.99E-04
		1050.79	6.99	1.79E-03		5.28E-04	8.55E-04
		2201.59	26.87	2.23E-04		1.79E-04	9.81E-05
		2491.03	7.73	4.10E-04		-5.29E-04	1.59E-04
		2507.72	13.33	1.13E-03		2.32E-03	5.34E-04
	Zn-72	144.70	82.78	3.83E-05	3.83E-05	1.76E-05	1.89E-05
		191.50	9.35	4.16E-04		-3.08E-04	2.06E-04
	SE-75	121.12	17.20	1.97E-04	5.24E-05	7.25E-05	9.74E-05
		136.00	58.50	5.24E-05		1.88E-05	2.58E-05
		264.66	58.90	7.02E-05		9.48E-06	3.46E-05
		279.54	25.02	1.47E-04		4.50E-05	7.27E-05
		400.66	11.41	1.15E-04		-1.31E-04	5.65E-05
	BR-83	529.59	1.30	3.49E+00	3.49E+00	3.44E+00	1.71E+00
	BR-84	604.80	1.70	1.94E+11	5.60E+09	1.16E+11	9.52E+10
		736.50	1.29	1.38E+11		3.45E+10	6.61E+10
		802.20	6.00	3.29E+10		-2.14E+10	1.58E+10
		881.60	42.00	5.60E+09		-2.13E+09	2.70E+09
		987.30	0.79	2.64E+11		1.36E+11	1.26E+11
		1015.90	6.20	3.81E+10		1.48E+10	1.83E+10
		1213.30	2.60	6.84E+10		2.36E+10	3.21E+10
		1463.80	2.00	1.01E+11		1.01E+11	4.74E+10
		1741.20	1.60	7.17E+10		-6.09E+10	3.15E+10
		1877.50	1.12	9.73E+10		-1.19E+11	4.21E+10
		1897.60	14.60	7.76E+09		-3.93E+09	3.37E+09
		2029.60	2.10	6.32E+10		-2.06E+10	2.79E+10
		2200.70	1.16	1.23E+11		2.50E+10	5.42E+10
		2484.10	6.70	9.64E+09		2.08E+09	3.42E+09
>		2824.10	1.12	0.00E+00		0.00E+00	0.00E+00
	KR-85m	151.20	75.20	1.31E-03	1.31E-03	-1.52E-04	6.46E-04
		304.87	14.00	9.72E-03		2.98E-03	4.79E-03
	Y-87	388.53	82.20	5.37E-05	5.37E-05	1.29E-05	2.65E-05
		484.80	89.80	5.77E-05		1.25E-05	2.84E-05
	KR-88	165.98	3.10	5.55E-01	1.09E-02	-1.76E-01	2.73E-01
		196.30	26.00	5.84E-02		3.41E-02	2.88E-02
		362.23	2.25	5.80E-01		-2.29E-01	2.86E-01
		471.80	0.73	3.63E+00		2.38E+00	1.79E+00
		834.83	13.00	8.13E-02		-3.22E-03	3.90E-02
		985.78	1.31	9.96E-01		5.57E-01	4.76E-01
		1141.33	1.28	8.03E-01		1.19E-01	3.82E-01
		1179.51	1.00	4.11E+00		4.31E-01	2.03E+00
		1250.67	1.12	8.10E-01		1.10E+00	3.78E-01
		1369.50	1.48	6.12E-01		-8.62E-02	2.85E-01
		1518.39	2.15	3.59E-01		1.12E-01	1.63E-01
		1529.77	10.90	7.00E-02		-3.19E-02	3.19E-02
		2029.84	4.53	2.04E-01		-5.64E-02	9.02E-02
		2035.41	3.74	2.12E-01		7.31E-02	9.36E-02
		2195.84	13.20	5.87E-02		5.01E-03	2.58E-02
		2231.77	3.39	1.77E-01		1.92E-01	8.00E-02
		2352.08	0.73	7.51E-01		-2.86E-01	3.08E-01
		2392.11	34.60	1.09E-02		-9.37E-03	4.46E-03
	RB-88	898.03	14.40	8.38E-02	3.04E-02	1.37E-02	4.03E-02
		1382.45	0.78	1.03E+00		1.09E+00	4.74E-01

Analysis Report for 24-2545 TI185-7.0M-S4-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RB-88	1836.00	22.81	3.04E-02	3.04E-02	-3.22E-02	1.36E-02
>		2677.89	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-88	898.04	93.70	3.02E-05	1.80E-05	4.94E-06	1.45E-05
		1836.06	99.20	1.80E-05		-2.31E-06	8.09E-06
@	RB-89	272.42	1.53	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		657.77	10.80	1.00E+20		1.00E+20	1.00E+20
@		947.73	10.00	1.00E+20		1.00E+20	1.00E+20
@		1031.92	63.00	1.00E+20		1.00E+20	1.00E+20
@		1248.14	46.00	1.00E+20		1.00E+20	1.00E+20
@		1538.07	2.77	1.00E+20		1.00E+20	1.00E+20
@		2007.50	2.58	1.00E+20		1.00E+20	1.00E+20
@		2195.92	14.50	1.00E+20		1.00E+20	1.00E+20
>@		2570.20	10.70	0.00E+00		0.00E+00	0.00E+00
>@		2707.26	2.20	0.00E+00		0.00E+00	0.00E+00
	SR-89	908.96	0.01	2.33E-01	2.33E-01	-3.80E-02	1.12E-01
	Sr-91	652.90	11.35	1.73E-03	3.89E-04	-1.14E-03	8.46E-04
		749.80	23.70	4.33E-04		1.12E-04	2.07E-04
		925.80	3.85	3.52E-03		4.73E-03	1.70E-03
		1024.30	33.50	3.89E-04		6.71E-06	1.86E-04
	Y-91	1204.77	0.26	6.88E-03	6.88E-03	-1.98E-03	3.24E-03
	Y-91m	555.57	61.64	2.82E-04	2.82E-04	1.81E-04	1.38E-04
	NB-92M	912.60	1.78	1.72E-03	2.52E-05	-1.45E-03	8.27E-04
		934.44	99.15	2.52E-05		-1.34E-05	1.21E-05
		1847.50	0.85	1.40E-03		1.40E-03	6.29E-04
	SR-92	241.56	2.93	7.14E-01	1.12E-02	3.30E-01	3.52E-01
		430.49	3.28	9.04E-01		-4.42E-01	4.46E-01
		953.31	3.52	4.95E-01		-3.23E-01	2.39E-01
		1142.35	2.79	5.00E-01		-3.56E-01	2.37E-01
		1383.93	90.00	1.12E-02		-3.35E-03	5.17E-03
	MO-93M	114.04	0.68	4.00E-02	1.75E-04	-3.79E-02	1.97E-02
		263.05	57.40	6.22E-04		-4.19E-04	3.07E-04
		684.69	99.90	2.16E-04		1.94E-04	1.04E-04
		1363.02	0.81	3.36E-02		4.09E-02	1.59E-02
		1477.14	99.10	1.75E-04		1.62E-04	8.01E-05
@	SR-93	168.50	18.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		260.12	7.40	1.00E+20		1.00E+20	1.00E+20
@		346.49	3.28	1.00E+20		1.00E+20	1.00E+20
@		446.20	2.36	1.00E+20		1.00E+20	1.00E+20
@		590.24	68.00	1.00E+20		1.00E+20	1.00E+20
@		710.31	21.80	1.00E+20		1.00E+20	1.00E+20
@		875.73	24.50	1.00E+20		1.00E+20	1.00E+20
@		888.13	22.10	1.00E+20		1.00E+20	1.00E+20
@		1040.63	3.20	1.00E+20		1.00E+20	1.00E+20
@		1094.00	1.76	1.00E+20		1.00E+20	1.00E+20
@		1122.48	4.00	1.00E+20		1.00E+20	1.00E+20
@		1215.48	2.50	1.00E+20		1.00E+20	1.00E+20
@		1269.47	7.10	1.00E+20		1.00E+20	1.00E+20
@		1321.24	2.61	1.00E+20		1.00E+20	1.00E+20
@		1387.11	3.50	1.00E+20		1.00E+20	1.00E+20
@		1694.07	2.58	1.00E+20		1.00E+20	1.00E+20
@		1699.06	3.30	1.00E+20		1.00E+20	1.00E+20
@		2543.84	3.03	1.00E+20		1.00E+20	1.00E+20
>@		2688.65	2.13	0.00E+00		0.00E+00	0.00E+00

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Y-93	266.90	7.40	2.12E-03	2.12E-03	-3.40E-04	1.05E-03
	947.10	2.10	6.39E-03		-2.08E-03	3.08E-03
	1917.80	1.57	4.19E-03		-9.12E-04	1.85E-03
NB-94	702.65	99.81	2.34E-05	2.34E-05	-1.68E-05	1.12E-05
	871.09	99.89	3.24E-05		4.83E-05	1.56E-05
@ Y-94	381.60	2.02	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	550.90	4.90	1.00E+20		1.00E+20	1.00E+20
@	752.60	1.40	1.00E+20		1.00E+20	1.00E+20
@	918.74	56.00	1.00E+20		1.00E+20	1.00E+20
@	1138.90	6.00	1.00E+20		1.00E+20	1.00E+20
@	1671.40	2.50	1.00E+20		1.00E+20	1.00E+20
@	2140.60	0.95	1.00E+20		1.00E+20	1.00E+20
NB-95	765.80	99.81	2.02E-05	2.02E-05	2.63E-06	9.71E-06
ZR-95	724.19	44.27	4.81E-05	3.43E-05	7.93E-05	2.32E-05
	756.72	54.38	3.43E-05		2.55E-06	1.64E-05
NB-96	219.08	2.97	2.07E-03	4.06E-05	2.80E-04	1.02E-03
	241.38	3.50	1.79E-03		8.26E-04	8.83E-04
	350.05	1.54	4.68E-03		1.58E-03	2.31E-03
	352.56	0.83	8.81E-03		1.08E-02	4.35E-03
	371.81	2.62	2.79E-03		7.67E-04	1.37E-03
	460.04	26.62	3.74E-04		2.85E-04	1.85E-04
	480.71	5.84	1.53E-03		-3.22E-03	7.55E-04
	568.87	58.00	1.06E-04		1.21E-06	5.18E-05
	719.56	6.85	6.57E-04		4.81E-04	3.17E-04
	721.63	1.02	4.28E-03		1.48E-03	2.06E-03
	778.22	96.45	4.06E-05		2.18E-05	1.95E-05
	810.33	11.09	3.52E-04		-1.39E-04	1.68E-04
	812.58	2.95	1.33E-03		-1.11E-03	6.36E-04
	847.69	1.14	3.95E-03		-1.63E-03	1.90E-03
	849.93	20.45	2.22E-04		2.19E-06	1.07E-04
	1091.35	48.50	9.81E-05		2.86E-05	4.70E-05
	1200.23	19.97	1.82E-04		-1.08E-04	8.58E-05
	1441.13	0.44	6.43E-03		-5.99E-03	2.94E-03
	1497.81	3.28	8.84E-04		1.79E-04	4.04E-04
Nb-97	657.94	98.23	7.04E-04	7.04E-04	-4.32E-05	3.51E-04
	1024.40	1.09	5.73E-03		4.17E-03	2.74E-03
ZR-97	254.17	1.15	7.10E-03	5.31E-05	-1.67E-03	3.50E-03
	355.40	2.09	6.89E-03		-1.25E-03	3.40E-03
	507.64	5.03	2.82E-03		-2.94E-03	1.39E-03
	743.36	93.09	5.31E-05		-1.07E-05	2.54E-05
	1147.97	2.62	3.11E-03		-1.58E-03	1.48E-03
MO-99	181.07	6.14	8.29E-04	2.55E-04	-7.25E-04	4.09E-04
	366.42	1.20	3.71E-03		1.53E-03	1.83E-03
	739.50	12.26	2.55E-04		1.30E-04	1.22E-04
	777.92	4.30	5.65E-04		-1.32E-04	2.71E-04
TC-99M	140.51	90.80	3.11E-05	3.11E-05	-1.20E-05	1.53E-05
RH-101	127.23	68.00	4.62E-05	4.62E-05	1.46E-05	2.28E-05
	198.01	73.00	4.98E-05		1.63E-06	2.46E-05
	325.23	11.80	1.05E-04		3.00E-05	5.16E-05
RH-101M	306.86	81.00	4.40E-05	4.40E-05	-9.76E-06	2.17E-05
	545.12	4.30	8.44E-04		3.46E-04	4.13E-04
RH-102M	415.25	2.10	5.59E-03	9.38E-05	1.96E-02	2.77E-03
	418.52	9.40	1.10E-03		-5.90E-04	5.45E-04

Analysis Report for 24-2545 TI185-7.0M-S4-CST-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
RH-102M	420.40	3.20	2.92E-03	9.38E-05	-1.00E-03	1.44E-03
	475.06	95.00	9.55E-05		2.11E-04	4.72E-05
	628.05	8.30	7.98E-04		-1.58E-04	3.89E-04
	631.29	56.00	9.38E-05		5.88E-05	4.58E-05
	692.40	1.60	5.45E-03		5.25E-04	2.68E-03
	695.60	2.90	2.63E-03		1.41E-02	1.29E-03
	697.49	44.00	1.68E-04		9.08E-04	8.24E-05
	766.84	34.00	1.08E-04		9.82E-05	5.20E-05
	1046.59	34.00	1.08E-04		-1.61E-05	5.14E-05
	1103.16	4.60	6.74E-04		-1.79E-04	3.23E-04
	1112.84	19.00	2.68E-04		1.11E-04	1.30E-04
RU-103	497.08	91.00	4.40E-05	4.40E-05	-6.58E-06	2.17E-05
	610.33	5.76	5.75E-04		8.00E-04	2.82E-04
RH-105	306.31	4.66	1.05E-03	2.94E-04	-3.77E-04	5.16E-04
	319.23	16.90	2.94E-04		-9.74E-05	1.45E-04
AG-106M	221.70	6.60	4.79E-04	4.66E-05	-2.35E-04	2.37E-04
	228.63	2.10	1.51E-03		1.58E-04	7.43E-04
	328.46	1.14	2.98E-03		-6.70E-04	1.47E-03
	391.04	3.68	1.08E-03		9.89E-04	5.34E-04
	406.18	13.40	3.08E-04		1.20E-04	1.52E-04
	429.65	13.20	3.54E-04		2.27E-05	1.75E-04
	450.98	28.20	1.75E-04		-3.35E-05	8.66E-05
	511.85	88.00	4.66E-05		3.70E-05	2.29E-05
	601.17	1.61	2.02E-03		3.37E-03	9.89E-04
	616.17	21.60	1.48E-04		5.31E-05	7.22E-05
	646.03	1.46	2.25E-03		-1.03E-03	1.10E-03
	680.42	2.18	8.96E-04		7.47E-04	4.30E-04
	703.11	4.47	4.12E-04		-1.00E-04	1.97E-04
	717.34	28.90	7.43E-05		3.80E-05	3.57E-05
	748.36	20.60	9.36E-05		1.31E-04	4.48E-05
	793.17	5.90	3.66E-04		5.75E-05	1.76E-04
	804.28	12.40	1.67E-04		-3.64E-06	8.00E-05
	808.36	4.00	5.14E-04		1.22E-04	2.46E-04
	824.69	15.30	1.46E-04		5.18E-05	6.99E-05
	847.15	4.40	5.36E-04		1.86E-06	2.58E-04
	1019.72	1.04	2.35E-03		-3.87E-04	1.12E-03
	1045.83	29.60	7.92E-05		6.24E-05	3.78E-05
	1128.02	11.80	2.20E-04		-1.79E-04	1.05E-04
	1199.39	11.20	1.72E-04		-4.27E-06	8.11E-05
	1222.88	7.00	2.49E-04		-4.58E-05	1.16E-04
	1394.35	1.49	1.12E-03		1.71E-04	5.19E-04
	1527.65	16.30	8.99E-05		-6.78E-06	4.09E-05
	1572.35	6.60	2.04E-04		-5.68E-05	9.18E-05
	1722.76	1.40	9.39E-04		-6.72E-04	4.18E-04
	1839.05	2.00	7.45E-04		7.33E-04	3.34E-04
RH-106	621.93	9.93	3.83E-04	3.83E-04	-9.78E-05	1.87E-04
	873.49	0.44	8.88E-03		8.80E-04	4.29E-03
	1050.41	1.56	1.83E-03		9.18E-04	8.71E-04
RU-106	511.86	20.40	1.85E-04	1.85E-04	1.47E-04	9.09E-05
AG-108M	79.13	6.60	4.85E-04	4.27E-05	-7.24E-04	2.39E-04
	433.94	90.50	8.45E-05		-1.17E-04	4.17E-05
	614.28	89.80	6.37E-05		8.47E-06	3.12E-05
	722.91	90.80	4.27E-05		5.55E-05	2.06E-05

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	CD-109	88.03	*	3.64	1.02E-03	1.02E-03	5.74E-03	5.06E-04
	AG-110M	446.81		3.70	2.85E-03	5.78E-05	2.15E-03	1.41E-03
		620.35		2.73	2.41E-03		-3.18E-03	1.18E-03
		657.76		95.61	4.83E-04		-2.93E-05	2.41E-04
		677.62		10.70	3.89E-04		6.86E-05	1.87E-04
		687.01		6.53	5.74E-04		-7.20E-04	2.75E-04
		706.68		16.69	2.28E-04		-7.14E-05	1.09E-04
		744.28		4.77	7.62E-04		3.11E-04	3.64E-04
		763.94		22.60	1.65E-04		1.27E-05	7.91E-05
		818.02		7.43	6.31E-04		-2.29E-04	3.03E-04
		884.68		75.00	5.78E-05		3.54E-05	2.78E-05
		937.48		35.00	1.23E-04		1.52E-05	5.91E-05
		1384.29		25.10	9.40E-05		-2.21E-05	4.33E-05
		1475.78		4.08	4.91E-04		2.64E-04	2.25E-04
		1505.03		13.33	1.65E-04		-1.10E-05	7.48E-05
		1562.29		1.22	8.33E-04		-2.69E-04	3.80E-04
	AG-111	245.40		1.11	3.01E-03	5.34E-04	2.85E-03	1.49E-03
		342.13		6.68	5.34E-04		1.66E-05	2.63E-04
	AG-112	606.82		3.10	2.36E-03	1.51E-04	-3.94E-04	1.15E-03
		617.52		43.00	1.51E-04		-6.01E-05	7.38E-05
		692.82		1.19	7.43E-03		8.53E-05	3.64E-03
		694.87		2.90	3.04E-03		1.61E-02	1.49E-03
		851.28		1.02	4.92E-03		3.54E-03	2.37E-03
		1312.36		1.11	2.85E-03		-4.61E-03	1.31E-03
		1387.68		5.30	5.62E-04		-1.23E-04	2.57E-04
		1613.66		2.80	9.79E-04		-1.52E-04	4.38E-04
		1798.50		0.89	3.28E-03		1.49E-03	1.47E-03
		2106.31		2.40	1.28E-03		2.08E-04	5.65E-04
		2506.70		1.06	7.20E-03		1.29E-02	3.40E-03
	CD-113M	263.70		0.03	1.11E-01	1.11E-01	6.53E-02	5.47E-02
	SN-113	255.13		2.11	1.41E-03	5.70E-05	-6.04E-05	6.94E-04
		391.70		64.97	5.70E-05		4.06E-05	2.81E-05
	IN-114M	190.27		15.56	1.76E-04	1.76E-04	7.25E-05	8.67E-05
		558.43		4.40	9.06E-04		-3.38E-04	4.43E-04
		725.24		4.40	6.37E-04		-1.43E-04	3.07E-04
	CD-115	260.90		1.94	2.11E-03	9.65E-05	1.64E-03	1.04E-03
		336.24		46.02	9.65E-05		-3.62E-05	4.76E-05
		527.90		27.45	1.71E-04		1.34E-05	8.39E-05
	CD-115M	933.84		2.00	1.24E-03	1.24E-03	4.55E-04	5.95E-04
		1290.59		0.90	1.67E-03		-1.14E-03	7.74E-04
	IN-115M	336.24		45.90	3.17E-03	3.17E-03	-1.19E-03	1.56E-03
	IN-116M	138.29		3.70	1.57E+05	3.72E+03	-8.12E+04	7.74E+04
		416.90		27.20	4.03E+04		1.43E+05	1.99E+04
		818.68		12.13	4.71E+04		-2.03E+04	2.26E+04
		1097.28		58.50	8.12E+03		-1.03E+03	3.88E+03
		1293.56		84.80	3.72E+03		-4.83E+03	1.72E+03
		1507.59		9.92	2.81E+04		2.22E+04	1.28E+04
		2112.29		15.09	1.72E+04		-1.09E+04	7.58E+03
	SB-125	176.31		6.84	3.35E-04	1.42E-04	-6.11E-04	1.65E-04
		380.45		1.52	2.34E-03		3.27E-03	1.15E-03
		427.87		29.60	1.42E-04		2.45E-04	6.99E-05
		463.36		10.49	4.59E-04		-2.70E-04	2.27E-04
		600.60		17.65	1.68E-04		6.80E-05	8.21E-05

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SB-125	606.71	4.98	6.53E-04	1.42E-04	1.96E-04	3.20E-04
	635.95	11.22	2.54E-04		2.60E-05	1.24E-04
	671.44	1.79	1.99E-03		-7.82E-04	9.78E-04
SN-125	332.10	1.40	4.28E-03	2.99E-04	2.70E-04	2.11E-03
	469.85	1.50	5.88E-03		-2.86E-03	2.91E-03
	800.28	1.10	2.52E-03		-1.47E-03	1.21E-03
	822.48	4.30	6.81E-04		9.04E-04	3.27E-04
	915.55	4.10	7.37E-04		4.07E-05	3.54E-04
	1067.10	10.00	2.99E-04		-1.66E-04	1.43E-04
	1087.70	1.20	4.36E-03		-1.53E-03	2.10E-03
	1089.10	4.60	6.08E-04		4.72E-04	2.92E-04
	2002.10	1.90	9.12E-04		6.31E-04	4.14E-04
SB-127	61.10	1.43	7.03E-03	5.83E-05	1.76E-02	3.47E-03
	252.40	8.50	5.23E-04		-6.12E-05	2.58E-04
	290.80	2.02	2.49E-03		5.19E-04	1.23E-03
	412.10	3.80	1.69E-03		9.23E-04	8.35E-04
	445.10	4.30	1.73E-03		-2.05E-03	8.54E-04
	473.00	25.80	2.42E-04		6.67E-05	1.20E-04
	543.30	2.90	1.13E-03		8.01E-04	5.53E-04
	603.50	4.50	1.12E-03		4.93E-05	5.47E-04
	685.70	36.80	5.83E-05		-4.30E-05	2.80E-05
	698.50	3.64	1.29E-03		-8.18E-05	6.31E-04
	722.20	1.88	1.38E-03		2.90E-04	6.63E-04
	783.70	15.10	1.57E-04		1.42E-04	7.55E-05
SN-127	119.70	2.20	3.66E+00	2.63E-01	8.66E-01	1.80E+00
	262.50	2.30	4.39E+00		1.09E+00	2.16E+00
	266.20	2.10	4.74E+00		-3.55E+00	2.34E+00
	284.30	2.70	3.72E+00		-3.23E-01	1.84E+00
	438.20	6.10	2.42E+00		1.04E+00	1.20E+00
	490.90	5.30	2.60E+00		-1.81E+00	1.28E+00
	493.20	3.10	4.43E+00		2.48E+00	2.18E+00
	545.40	2.30	4.55E+00		-1.66E+00	2.23E+00
	583.30	3.20	3.06E+00		-8.13E-01	1.50E+00
	805.90	8.20	7.74E-01		-9.40E-02	3.70E-01
	823.10	11.00	6.34E-01		1.31E-01	3.05E-01
	824.70	6.10	1.14E+00		4.07E-01	5.49E-01
	859.50	8.00	9.05E-01		8.11E-02	4.35E-01
	979.20	7.20	9.93E-01		-1.32E+00	4.75E-01
	1093.30	3.80	2.03E+00		-5.52E-01	9.70E-01
	1095.60	19.00	4.07E-01		1.58E-01	1.95E-01
	1114.30	38.00	2.63E-01		-8.17E-02	1.27E-01
	1160.40	2.40	2.92E+00		1.49E-01	1.39E+00
	2003.40	5.30	9.91E-01		-7.47E-01	4.47E-01
SB-129	180.42	2.84	4.22E-02	1.97E-03	-3.74E-02	2.08E-02
	359.20	2.39	6.94E-02		-9.22E-02	3.42E-02
	404.64	1.17	1.60E-01		-1.39E-01	7.90E-02
	523.13	1.55	1.13E-01		-1.70E-02	5.55E-02
	544.56	15.42	1.00E-02		-6.43E-03	4.92E-03
	633.74	2.53	5.64E-02		1.34E-02	2.75E-02
	654.28	2.97	6.25E-02		-2.08E-02	3.06E-02
	682.77	5.76	1.53E-02		-7.55E-03	7.35E-03
	761.12	4.32	2.23E-02		1.27E-02	1.07E-02
	773.37	2.82	3.45E-02		-7.59E-03	1.65E-02

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	786.36		1.07	9.06E-02	1.97E-03	-3.38E-02	4.34E-02
		787.16		1.74	5.61E-02		2.87E-02	2.69E-02
		812.97		48.20	1.97E-03		7.79E-04	9.43E-04
		819.51		1.39	7.29E-02		5.20E-02	3.50E-02
		876.65		2.75	4.42E-02		3.87E-02	2.13E-02
		914.96		23.30	4.53E-03		-3.68E-03	2.17E-03
		966.78		8.96	1.28E-02		-1.33E-02	6.15E-03
		1030.65		15.13	7.65E-03		1.24E-02	3.67E-03
		1656.10		1.31	4.47E-02		4.01E-02	1.99E-02
		1738.16		7.45	8.32E-03		-8.32E-04	3.71E-03
	TE-129	459.60		7.70	6.33E-04	6.33E-04	1.83E-04	3.13E-04
		487.39		1.42	2.95E-03		-2.31E-04	1.46E-03
+	Te-129m	695.88	*	3.00	8.23E-04	8.23E-04	6.81E-03	3.99E-04
	I-131	80.18		2.62	1.80E-03	4.54E-05	2.22E-05	8.88E-04
		284.30		6.12	5.70E-04		5.01E-05	2.81E-04
		364.49		81.50	4.54E-05		3.03E-05	2.24E-05
		636.99		7.16	4.34E-04		-1.03E-04	2.12E-04
		722.91		1.77	1.30E-03		1.69E-03	6.27E-04
	Te-131m	773.67		36.80	1.37E-04	1.37E-04	-3.02E-05	6.58E-05
		793.75		13.40	5.91E-04		2.41E-04	2.84E-04
		852.21		19.90	2.98E-04		1.18E-04	1.44E-04
		1125.46		11.00	5.03E-04		1.07E-04	2.42E-04
		1206.60		9.41	3.93E-04		3.95E-05	1.85E-04
	I-132	262.90		1.28	2.89E-03	5.39E-05	-3.67E-04	1.42E-03
		284.90		0.71	5.16E-03		-3.00E-03	2.54E-03
		505.79		4.93	3.52E-03		-3.10E-03	1.73E-03
		522.65		16.00	5.10E-04		2.76E-04	2.51E-04
		547.20		1.14	6.56E-03		1.37E-03	3.21E-03
		621.20		1.97	3.49E-03		-1.16E-03	1.70E-03
		630.19		13.30	5.13E-04		-2.30E-04	2.50E-04
		650.50		2.57	3.66E-03		2.50E-04	1.79E-03
		667.71		98.70	3.73E-04		2.47E-06	1.86E-04
		669.80		4.60	2.01E-03		-3.53E-04	9.89E-04
		671.40		3.50	3.04E-03		-2.90E-04	1.49E-03
		727.10		5.40	1.11E-03		1.05E-04	5.33E-04
		728.40		1.60	3.32E-03		8.49E-04	1.60E-03
		772.60		75.60	5.39E-05		3.99E-05	2.59E-05
		809.50		2.60	1.82E-03		9.17E-04	8.71E-04
		812.00		5.50	7.72E-04		-5.72E-04	3.70E-04
		910.10		0.93	5.24E-03		-1.24E-03	2.52E-03
		954.55		17.60	3.17E-04		-5.54E-05	1.53E-04
		1136.00		3.01	1.23E-03		-2.35E-04	5.88E-04
		1172.90		1.09	1.12E-02		9.22E-02	5.51E-03
		1290.80		1.13	2.87E-03		-1.45E-04	1.33E-03
		1295.10		1.88	5.91E-04		-2.34E-04	2.74E-04
		1297.90		0.89	9.12E-04		-1.71E-04	4.22E-04
		1372.07		2.47	1.23E-03		-4.86E-04	5.67E-04
		1398.57		7.01	4.68E-04		1.12E-04	2.17E-04
		1442.56		1.40	8.24E-04		-2.48E-04	3.75E-04
	TE-132	49.72		15.00	1.31E-03	4.16E-05	1.04E-03	6.46E-04
		111.76		1.74	1.61E-03		-6.32E-04	7.92E-04
		116.30		1.96	1.42E-03		-3.89E-04	7.00E-04
		228.16		88.00	4.16E-05		1.03E-05	2.06E-05

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BA-133	81.00	32.90	1.29E-04	6.07E-05	-8.17E-05	6.38E-05
	276.40	7.16	4.72E-04		-3.81E-04	2.33E-04
	302.85	18.34	1.77E-04		-1.21E-04	8.74E-05
	356.01	62.05	6.07E-05		7.79E-06	3.00E-05
	383.85	8.94	3.46E-04		-1.77E-04	1.71E-04
I-133	529.87	87.00	8.89E-05	8.89E-05	1.89E-05	4.36E-05
	706.58	1.51	3.46E-03		-1.08E-03	1.66E-03
	856.28	1.24	5.24E-03		-6.10E-03	2.52E-03
	875.33	4.51	1.21E-03		-3.03E-04	5.85E-04
	1236.44	1.51	2.17E-03		-8.11E-04	1.01E-03
	1298.22	2.35	1.41E-03		-6.44E-05	6.53E-04
@ TE-133	312.08	62.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	407.63	27.10	1.00E+20		1.00E+20	1.00E+20
@	410.40	0.94	1.00E+20		1.00E+20	1.00E+20
@	474.85	0.88	1.00E+20		1.00E+20	1.00E+20
@	719.71	8.90	1.00E+20		1.00E+20	1.00E+20
@	786.93	5.40	1.00E+20		1.00E+20	1.00E+20
@	844.36	3.31	1.00E+20		1.00E+20	1.00E+20
@	884.30	0.72	1.00E+20		1.00E+20	1.00E+20
@	930.71	3.81	1.00E+20		1.00E+20	1.00E+20
@	997.70	1.04	1.00E+20		1.00E+20	1.00E+20
@	1000.72	3.62	1.00E+20		1.00E+20	1.00E+20
@	1021.13	2.81	1.00E+20		1.00E+20	1.00E+20
@	1061.61	1.19	1.00E+20		1.00E+20	1.00E+20
@	1252.08	1.44	1.00E+20		1.00E+20	1.00E+20
@	1312.80	0.85	1.00E+20		1.00E+20	1.00E+20
@	1333.21	10.67	1.00E+20		1.00E+20	1.00E+20
@	1717.61	3.18	1.00E+20		1.00E+20	1.00E+20
@	1881.52	1.22	1.00E+20		1.00E+20	1.00E+20
@	2136.51	1.25	1.00E+20		1.00E+20	1.00E+20
@	2229.64	0.87	1.00E+20		1.00E+20	1.00E+20
Xe-133	81.00	36.90	9.60E-05	9.60E-05	-6.07E-05	4.74E-05
CS-134	475.36	1.48	3.26E-03	3.17E-05	3.18E-03	1.61E-03
	563.25	8.34	5.98E-04		-7.97E-05	2.93E-04
	569.33	15.37	3.42E-04		1.08E-04	1.67E-04
	604.72	97.62	4.65E-05		2.78E-05	2.28E-05
	795.86	85.46	3.17E-05		3.67E-06	1.52E-05
	801.95	8.69	3.76E-04		-2.44E-04	1.80E-04
	1038.61	0.99	3.01E-03		-9.61E-04	1.44E-03
	1167.97	1.79	2.84E-03		2.73E-04	1.40E-03
	1365.19	3.02	4.73E-04		4.55E-04	2.24E-04
I-135	220.50	1.75	3.00E-02	7.13E-04	-2.54E-02	1.48E-02
	288.45	3.10	1.66E-02		1.23E-03	8.18E-03
	417.63	3.53	2.45E-02		-5.14E-03	1.21E-02
	546.56	7.15	7.46E-03		-4.33E-03	3.65E-03
	836.80	6.69	5.32E-03		1.12E-03	2.55E-03
	971.96	0.89	4.97E-02		6.00E-02	2.38E-02
	972.62	1.21	3.24E-02		-3.48E-03	1.55E-02
	1038.76	7.90	3.75E-03		-1.20E-03	1.80E-03
	1101.58	1.61	2.36E-02		-1.13E-02	1.13E-02
	1124.00	3.62	1.20E-02		5.04E-05	5.76E-03
	1131.51	22.60	1.76E-03		-1.11E-03	8.40E-04
	1240.47	0.90	3.30E-02		-1.90E-02	1.55E-02

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ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	1260.41		28.70	7.13E-04	7.13E-04	-9.27E-04	3.30E-04
		1457.56		8.70	3.06E-03		3.81E-03	1.44E-03
		1502.79		1.08	2.33E-02		7.54E-03	1.06E-02
		1566.41		1.29	1.42E-02		-1.98E-02	6.47E-03
		1678.03		9.60	1.26E-03		3.03E-04	5.55E-04
		1706.46		4.10	3.67E-03		1.11E-03	1.62E-03
		1791.20		7.72	2.06E-03		1.80E-03	9.16E-04
		2408.65		0.96	1.37E-02		-5.03E-03	5.63E-03
	XE-135	249.79		90.00	2.16E-04	2.16E-04	4.39E-05	1.06E-04
	XE-135m	526.56		80.40	5.74E-04	5.74E-04	1.75E-04	2.82E-04
	CS-136	66.88		4.79	2.26E-03	3.60E-05	5.61E-04	1.12E-03
		86.36		5.90	1.22E-03		6.21E-03	6.02E-04
		153.25		7.70	5.11E-04		-2.18E-04	2.52E-04
		163.92		4.69	1.24E-03		3.98E-04	6.13E-04
		176.60		13.70	3.40E-04		-5.47E-04	1.68E-04
		273.65		12.66	4.52E-04		2.26E-04	2.23E-04
		340.55		46.80	1.23E-04		-9.88E-05	6.06E-05
		818.51		99.70	3.60E-05		-1.81E-06	1.73E-05
		1048.07		80.00	4.86E-05		5.29E-06	2.32E-05
		1235.36		20.00	1.44E-04		1.92E-04	6.79E-05
+	CS-137	661.66	*	85.10	2.40E-05	2.40E-05	1.29E-02	1.16E-05
	BA-139	33.44		3.84	1.08E+04	2.21E+01	-1.46E+04	5.32E+03
		165.86		23.70	2.21E+01		-7.01E+00	1.09E+01
	BA-140	132.69		0.20	1.12E-02	1.42E-04	-3.36E-03	5.54E-03
		162.66		6.22	4.50E-04		1.08E-04	2.22E-04
		304.85		4.29	9.63E-04		2.95E-04	4.74E-04
		423.72		3.10	1.39E-03		8.51E-04	6.88E-04
		437.58		1.93	2.37E-03		-1.16E-04	1.17E-03
		537.26		24.39	1.42E-04		8.63E-05	6.98E-05
	LA-140	109.42		0.22	1.06E-02	1.98E-05	9.95E-03	5.22E-03
		131.12		0.47	4.86E-03		1.14E-03	2.40E-03
		173.54		0.13	1.93E-02		4.14E-03	9.53E-03
		241.93		0.41	7.72E-03		4.84E-03	3.81E-03
		266.54		0.47	6.65E-03		-3.45E-03	3.28E-03
		328.76		20.30	2.86E-04		1.03E-04	1.41E-04
		432.49		2.90	2.76E-03		1.94E-03	1.36E-03
		487.02		45.50	1.45E-04		-6.55E-05	7.15E-05
		618.10		0.04	8.16E-02		-7.41E-02	3.99E-02
		751.64		4.33	5.64E-04		-1.41E-04	2.70E-04
		815.77		23.28	9.74E-05		-3.62E-05	4.67E-05
		867.85		5.50	5.78E-04		-2.14E-05	2.78E-04
		919.55		2.66	9.27E-04		1.17E-04	4.45E-04
		925.19		6.90	4.49E-04		-4.91E-04	2.16E-04
		950.99		0.52	6.81E-03		8.00E-03	3.29E-03
		1596.21		95.40	1.98E-05		1.45E-06	8.94E-06
		2347.88		0.85	8.30E-04		-1.59E-03	3.48E-04
		2521.40		3.46	2.07E-04		6.90E-05	8.02E-05
		2547.34		0.10	9.51E-03		-8.92E-03	3.77E-03
@	BA-141	33.44		7.93	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		190.33		44.80	1.00E+20		1.00E+20	1.00E+20
@		276.95		23.60	1.00E+20		1.00E+20	1.00E+20
@		304.19		26.10	1.00E+20		1.00E+20	1.00E+20
@		343.67		15.10	1.00E+20		1.00E+20	1.00E+20

Analysis Report for 24-2545 TI185-7.0M-S4-CST-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@ BA-141	389.74	1.37	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	457.51	5.00	1.00E+20		1.00E+20	1.00E+20
@	462.06	5.10	1.00E+20		1.00E+20	1.00E+20
@	467.22	5.60	1.00E+20		1.00E+20	1.00E+20
@	625.08	3.45	1.00E+20		1.00E+20	1.00E+20
@	647.78	5.70	1.00E+20		1.00E+20	1.00E+20
@	738.95	4.39	1.00E+20		1.00E+20	1.00E+20
@	831.46	1.64	1.00E+20		1.00E+20	1.00E+20
@	876.09	3.45	1.00E+20		1.00E+20	1.00E+20
@	1160.72	1.12	1.00E+20		1.00E+20	1.00E+20
@	1197.28	4.35	1.00E+20		1.00E+20	1.00E+20
@	1323.92	0.92	1.00E+20		1.00E+20	1.00E+20
@	1654.00	0.65	1.00E+20		1.00E+20	1.00E+20
@	1682.19	1.19	1.00E+20		1.00E+20	1.00E+20
CE-141	145.44	48.30	4.60E-05	4.60E-05	-3.94E-05	2.27E-05
@ BA-142	33.44	14.20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	77.59	7.00	1.00E+20		1.00E+20	1.00E+20
@	177.00	2.12	1.00E+20		1.00E+20	1.00E+20
@	231.61	12.20	1.00E+20		1.00E+20	1.00E+20
@	255.30	20.70	1.00E+20		1.00E+20	1.00E+20
@	286.30	1.11	1.00E+20		1.00E+20	1.00E+20
@	309.20	2.60	1.00E+20		1.00E+20	1.00E+20
@	335.00	1.53	1.00E+20		1.00E+20	1.00E+20
@	363.96	4.76	1.00E+20		1.00E+20	1.00E+20
@	425.04	5.75	1.00E+20		1.00E+20	1.00E+20
@	599.80	1.85	1.00E+20		1.00E+20	1.00E+20
@	840.40	3.63	1.00E+20		1.00E+20	1.00E+20
@	895.20	13.90	1.00E+20		1.00E+20	1.00E+20
@	949.10	10.70	1.00E+20		1.00E+20	1.00E+20
@	1001.20	9.80	1.00E+20		1.00E+20	1.00E+20
@	1078.70	11.50	1.00E+20		1.00E+20	1.00E+20
@	1094.10	2.82	1.00E+20		1.00E+20	1.00E+20
@	1126.80	1.50	1.00E+20		1.00E+20	1.00E+20
@	1202.40	5.60	1.00E+20		1.00E+20	1.00E+20
@	1204.30	14.30	1.00E+20		1.00E+20	1.00E+20
@	1380.20	3.42	1.00E+20		1.00E+20	1.00E+20
CE-143	57.36	11.70	1.28E-03	1.22E-04	-9.50E-05	6.33E-04
	231.55	2.05	3.10E-03		2.73E-03	1.53E-03
	293.27	42.80	1.22E-04		8.88E-05	6.00E-05
	350.62	3.23	1.59E-03		7.91E-04	7.84E-04
	490.37	2.16	4.22E-03		4.24E-04	2.08E-03
	664.57	5.69	7.57E-03		2.40E-06	3.77E-03
	721.93	5.39	5.96E-04		1.26E-04	2.87E-04
	880.46	1.03	3.90E-03		2.83E-03	1.88E-03
CE-144	80.12	1.36	2.32E-03	1.94E-04	2.87E-05	1.15E-03
	133.51	11.09	1.94E-04		4.48E-05	9.56E-05
ND-147	38.17	13.20	4.49E-03	1.17E-04	1.85E-03	2.21E-03
	38.72	23.80	2.21E-03		7.21E-04	1.09E-03
	91.11	28.90	1.17E-04		2.80E-05	5.78E-05
	275.39	0.79	5.80E-03		-9.95E-04	2.86E-03
	319.41	1.97	2.02E-03		-6.68E-04	9.94E-04
	398.13	0.87	5.05E-03		4.11E-04	2.49E-03
	439.88	1.20	4.19E-03		-2.28E-03	2.07E-03

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
ND-147	531.01	13.11	2.69E-04	1.17E-04	-2.92E-04	1.32E-04
	685.88	0.82	2.28E-03		-1.40E-03	1.10E-03
@ PR-147	36.85	19.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	37.36	35.50	1.00E+20		1.00E+20	1.00E+20
@	49.88	4.00	1.00E+20		1.00E+20	1.00E+20
@	77.97	9.70	1.00E+20		1.00E+20	1.00E+20
@	86.69	5.40	1.00E+20		1.00E+20	1.00E+20
@	127.80	7.40	1.00E+20		1.00E+20	1.00E+20
@	249.20	1.32	1.00E+20		1.00E+20	1.00E+20
@	314.70	18.20	1.00E+20		1.00E+20	1.00E+20
@	328.80	4.00	1.00E+20		1.00E+20	1.00E+20
@	335.70	4.70	1.00E+20		1.00E+20	1.00E+20
@	388.80	1.41	1.00E+20		1.00E+20	1.00E+20
@	466.80	1.70	1.00E+20		1.00E+20	1.00E+20
@	477.90	4.60	1.00E+20		1.00E+20	1.00E+20
@	516.70	1.30	1.00E+20		1.00E+20	1.00E+20
@	554.70	5.90	1.00E+20		1.00E+20	1.00E+20
@	577.90	13.70	1.00E+20		1.00E+20	1.00E+20
@	641.40	16.10	1.00E+20		1.00E+20	1.00E+20
@	996.00	1.52	1.00E+20		1.00E+20	1.00E+20
@	1136.70	1.42	1.00E+20		1.00E+20	1.00E+20
@	1261.10	8.40	1.00E+20		1.00E+20	1.00E+20
@	1300.40	2.30	1.00E+20		1.00E+20	1.00E+20
ND-149	38.17	9.00	1.23E+02	2.41E+00	5.05E+01	6.05E+01
	38.72	16.30	6.02E+01		1.96E+01	2.97E+01
	58.88	1.30	1.61E+02		5.25E+02	7.96E+01
	74.32	2.11	4.43E+01		1.94E+01	2.19E+01
	97.00	1.48	3.78E+01		-4.88E+00	1.86E+01
	114.31	19.20	2.91E+00		9.86E-01	1.43E+00
	155.87	5.95	9.42E+00		-8.50E+00	4.64E+00
	188.64	1.79	6.05E+01		5.09E+01	2.99E+01
	198.93	1.39	5.55E+01		5.17E+01	2.74E+01
	208.15	2.55	2.93E+01		-1.57E+01	1.45E+01
	211.31	26.00	2.41E+00		-1.84E-01	1.19E+00
	240.22	3.95	1.55E+01		8.74E+00	7.66E+00
	245.72	0.81	1.02E+02		3.05E+01	5.02E+01
	267.69	6.05	1.43E+01		8.45E-01	7.05E+00
	270.17	10.80	5.66E+00		3.42E+00	2.79E+00
	326.55	4.57	1.81E+01		-1.29E+01	8.94E+00
	349.23	1.38	6.39E+01		-4.10E+00	3.15E+01
	423.55	7.50	1.15E+01		-9.52E+00	5.66E+00
	443.55	1.15	1.03E+02		6.60E+01	5.09E+01
	540.51	6.60	1.10E+01		2.41E+00	5.39E+00
	654.83	8.00	1.11E+01		-5.97E-01	5.47E+00
PM-149	285.95	3.10	1.30E-03	1.30E-03	-7.86E-04	6.40E-04
PM-150	39.52	0.63	3.72E+01	2.69E-02	-1.44E+01	1.83E+01
	40.12	1.14	1.82E+01		-1.97E+01	8.98E+00
	333.92	68.00	2.69E-02		-2.78E-03	1.33E-02
	406.51	5.60	3.81E-01		4.05E-02	1.88E-01
	565.70	1.31	1.27E+00		5.84E-01	6.23E-01
	587.02	1.34	1.24E+00		-4.91E-01	6.08E-01
	612.25	0.93	1.95E+00		9.21E-01	9.56E-01
	712.22	4.40	2.32E-01		-2.34E-02	1.11E-01

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ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	737.50	2.25	4.37E-01	2.69E-02	-1.31E-01	2.09E-01
	831.85	11.90	9.32E-02		-6.06E-02	4.47E-02
	859.95	3.40	3.53E-01		-9.99E-02	1.70E-01
	876.41	7.30	1.87E-01		2.72E-02	9.04E-02
	1165.77	15.80	1.24E-01		-3.67E-03	6.01E-02
	1170.90	1.06	3.88E+00		3.14E+01	1.91E+00
	1193.87	4.80	1.98E-01		-1.18E-01	9.28E-02
	1213.72	1.03	9.37E-01		-4.13E-01	4.40E-01
	1223.28	2.80	3.17E-01		7.54E-03	1.48E-01
	1324.51	17.50	8.63E-02		-2.22E-02	4.14E-02
	1379.32	3.10	2.58E-01		2.58E-01	1.19E-01
	1736.40	6.90	1.05E-01		5.52E-02	4.69E-02
	1963.71	1.47	5.51E-01		-2.07E-01	2.47E-01
	2033.46	0.97	7.12E-01		-7.07E-01	3.12E-01
@ ND-151	38.17	5.94	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	38.72	10.70	1.00E+20		1.00E+20	1.00E+20
@	68.98	1.26	1.00E+20		1.00E+20	1.00E+20
@	85.12	2.05	1.00E+20		1.00E+20	1.00E+20
@	89.96	1.53	1.00E+20		1.00E+20	1.00E+20
@	116.80	39.00	1.00E+20		1.00E+20	1.00E+20
@	138.89	7.00	1.00E+20		1.00E+20	1.00E+20
@	170.76	2.87	1.00E+20		1.00E+20	1.00E+20
@	175.07	6.30	1.00E+20		1.00E+20	1.00E+20
@	255.68	14.80	1.00E+20		1.00E+20	1.00E+20
@	300.58	1.82	1.00E+20		1.00E+20	1.00E+20
@	423.56	5.90	1.00E+20		1.00E+20	1.00E+20
@	460.59	0.96	1.00E+20		1.00E+20	1.00E+20
@	585.22	1.30	1.00E+20		1.00E+20	1.00E+20
@	677.88	2.38	1.00E+20		1.00E+20	1.00E+20
@	736.23	5.90	1.00E+20		1.00E+20	1.00E+20
@	739.20	1.52	1.00E+20		1.00E+20	1.00E+20
@	755.57	1.17	1.00E+20		1.00E+20	1.00E+20
@	797.53	4.70	1.00E+20		1.00E+20	1.00E+20
@	1016.40	2.50	1.00E+20		1.00E+20	1.00E+20
@	1122.63	4.10	1.00E+20		1.00E+20	1.00E+20
@	1180.89	13.30	1.00E+20		1.00E+20	1.00E+20
Pm-151	167.75	8.30	5.55E-04	2.58E-04	-5.77E-06	2.73E-04
	177.16	3.80	1.50E-03		-5.64E-04	7.39E-04
	240.09	3.80	1.59E-03		8.97E-04	7.87E-04
	275.21	6.80	8.17E-04		-1.40E-04	4.03E-04
	340.08	22.50	2.58E-04		1.76E-06	1.27E-04
EU-152	121.78	28.53	1.14E-04	9.13E-05	2.27E-05	5.65E-05
	344.28	26.59	1.49E-04		-1.31E-04	7.36E-05
	778.90	12.93	1.97E-04		-8.35E-05	9.41E-05
	867.37	4.23	8.62E-04		1.59E-04	4.15E-04
	964.08	14.51	1.94E-04		-9.65E-05	9.30E-05
	1085.87	10.11	2.55E-04		3.27E-05	1.23E-04
	1112.07	13.67	2.34E-04		4.64E-04	1.13E-04
	1408.01	20.87	9.13E-05		6.04E-05	4.25E-05
@ ND-152	44.44	5.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	250.15	16.40	1.00E+20		1.00E+20	1.00E+20
@	278.56	26.00	1.00E+20		1.00E+20	1.00E+20
@	294.47	2.90	1.00E+20		1.00E+20	1.00E+20

Analysis Report for 24-2545 TI185-7.0M-S4-CST-A Q0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	ND-152	545.70		0.83	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		592.50		0.99	1.00E+20		1.00E+20	1.00E+20
	GD-153	69.67		2.45	1.84E-03	8.08E-05	-1.13E-03	9.09E-04
		97.43		30.00	8.08E-05		3.30E-05	3.98E-05
		103.18		22.10	1.04E-04		-1.54E-05	5.14E-05
	SM-153	69.67		4.67	1.36E-03	1.12E-04	-8.35E-04	6.72E-04
		103.18		29.14	1.12E-04		-1.65E-05	5.52E-05
+	EU-154	42.70		20.45	1.17E-03	5.97E-05	4.56E-04	5.78E-04
		123.07	*	40.40	9.18E-05		1.21E-04	4.54E-05
		247.93		6.89	6.43E-04		1.69E-04	3.17E-04
		591.76		4.95	9.61E-04		-4.25E-04	4.70E-04
		692.42		1.78	3.15E-03		3.03E-04	1.54E-03
		723.30	*	20.06	1.30E-04		6.47E-05	6.22E-05
		756.80		4.52	6.93E-04		3.16E-04	3.32E-04
		873.18	*	12.08	1.73E-04		1.80E-04	8.16E-05
		996.29		10.48	2.42E-04		-3.43E-04	1.16E-04
		1004.76		18.01	1.55E-04		2.00E-04	7.47E-05
		1246.12		0.86	2.97E-03		-5.67E-03	1.39E-03
		1274.43	*	34.80	5.97E-05		1.05E-04	2.81E-05
		1494.05		0.70	1.95E-03		1.73E-03	8.97E-04
		1596.48		1.80	3.70E-04		-3.02E-04	1.66E-04
	EU-155	43.00		18.12	1.26E-03	1.04E-04	-1.71E-04	6.22E-04
		60.01		1.17	5.60E-03		1.52E-02	2.77E-03
		86.55		30.70	1.24E-04		6.78E-04	6.16E-05
		105.31		21.10	1.04E-04		1.16E-05	5.14E-05
	EU-156	88.97		8.40	6.79E-04	2.18E-04	-1.05E-04	3.36E-04
		646.29		6.30	6.87E-04		-3.14E-04	3.36E-04
		723.47		5.40	5.49E-04		8.07E-04	2.65E-04
		811.77		9.70	2.75E-04		-1.06E-04	1.32E-04
		1065.14		4.90	6.32E-04		-4.01E-06	3.02E-04
		1079.16		4.60	6.70E-04		1.00E-03	3.23E-04
		1153.80		11.50	2.18E-04		-9.23E-07	1.03E-04
		1230.71		8.00	2.72E-04		-5.94E-04	1.27E-04
		1242.42		6.60	3.12E-04		2.32E-04	1.47E-04
		1277.43		2.89	1.02E-03		1.95E-03	4.86E-04
		1366.41		1.57	1.58E-03		6.08E-04	7.49E-04
		1965.95		3.90	3.16E-04		1.97E-04	1.43E-04
		2097.70		3.80	3.75E-04		-3.48E-04	1.66E-04
		2186.71		3.50	3.77E-04		3.02E-04	1.66E-04
	Sm-156	87.60		24.00	9.62E-04	8.01E-04	5.80E-03	4.76E-04
		165.80		13.00	1.06E-03		-3.38E-04	5.23E-04
		204.00		21.00	8.01E-04		4.11E-04	3.95E-04
	EU-158	42.31		5.80	2.18E+07	4.06E+05	8.00E+06	1.08E+07
		43.00		10.40	1.09E+07		-1.48E+06	5.39E+06
		79.49		10.50	1.51E+06		-1.35E+05	7.45E+05
		181.97		2.30	5.34E+06		-2.37E+06	2.64E+06
		528.05		1.53	1.10E+07		-5.43E+06	5.41E+06
		606.39		4.00	4.03E+06		1.81E+06	1.97E+06
		743.02		3.60	2.47E+06		1.75E+06	1.18E+06
		897.61		12.40	8.78E+05		-2.83E+05	4.22E+05
		906.50		1.83	6.14E+06		-1.39E+04	2.95E+06
		922.51		1.62	6.87E+06		3.12E+06	3.30E+06
		944.15		30.00	4.06E+05		-7.22E+04	1.95E+05

Analysis Report for 24-2545 TI185-7.0M-S4-CST-A Q0

ASR 2094 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	953.03	1.98	6.33E+06	4.06E+05	-1.36E+06	3.05E+06
	962.09	1.89	6.17E+06		3.49E+06	2.97E+06
	977.14	16.30	6.47E+05		-6.62E+05	3.10E+05
	986.96	1.35	7.47E+06		-1.56E+05	3.57E+06
	1107.63	5.10	2.82E+06		4.49E+06	1.36E+06
	1184.10	3.00	2.96E+06		-1.47E+05	1.39E+06
	1186.00	2.90	2.98E+06		5.70E+05	1.40E+06
	1187.10	4.40	1.97E+06		7.94E+05	9.26E+05
	1263.61	2.20	3.30E+06		1.81E+06	1.53E+06
	1347.95	1.65	4.48E+06		1.92E+06	2.07E+06
	1944.47	1.62	4.24E+06		3.99E+06	1.89E+06
TB-160	86.79	13.20	4.22E-04	9.96E-05	2.17E-03	2.09E-04
	298.58	26.10	1.60E-04		1.99E-05	7.91E-05
	879.38	30.10	9.96E-05		1.07E-05	4.81E-05
	962.32	9.81	2.75E-04		2.32E-04	1.32E-04
	966.17	25.10	1.05E-04		-8.30E-06	5.05E-05
	1177.96	14.90	4.18E-04		1.55E-05	2.06E-04
TB-161	25.65	23.20	1.99E-01	3.96E-04	1.91E-02	9.80E-02
	48.91	17.00	8.10E-04		6.01E-04	3.99E-04
	52.00	3.43	3.02E-03		4.15E-04	1.49E-03
	57.19	1.79	4.81E-03		-1.91E-04	2.38E-03
	74.57	10.20	3.96E-04		6.63E-04	1.96E-04
YB-169	63.12	43.62	2.23E-04	8.56E-05	-7.92E-06	1.10E-04
	93.61	2.58	1.95E-03		6.38E-05	9.59E-04
	109.78	17.39	1.64E-04		4.47E-05	8.08E-05
	130.52	11.38	2.98E-04		2.07E-04	1.47E-04
	177.21	22.28	1.39E-04		-5.22E-05	6.84E-05
	197.96	35.93	8.56E-05		2.80E-06	4.23E-05
	307.74	10.05	2.35E-04		-7.25E-05	1.16E-04
HF-172	54.07	63.00	1.28E-04	1.28E-04	-6.19E-05	6.31E-05
	67.35	5.30	8.30E-04		-1.90E-04	4.10E-04
	81.75	4.50	6.78E-04		-4.86E-05	3.35E-04
	114.06	2.60	8.63E-04		-8.19E-04	4.26E-04
	122.92	1.14	2.07E-03		3.59E-03	1.02E-03
	125.81	11.30	2.09E-04		4.77E-05	1.03E-04
	127.91	1.46	1.48E-03		3.55E-04	7.30E-04
LU-173	59.30	24.44	2.78E-04	1.54E-04	8.77E-04	1.37E-04
	78.63	11.90	3.49E-04		-6.48E-04	1.72E-04
	100.72	5.24	4.98E-04		2.59E-04	2.45E-04
	171.39	2.90	8.99E-04		-6.93E-04	4.43E-04
	272.11	21.20	1.54E-04		-5.26E-05	7.58E-05
LU-177	112.95	6.23	4.01E-04	3.16E-04	-1.62E-05	1.98E-04
	208.37	10.41	3.16E-04		-1.69E-04	1.56E-04
	249.67	0.20	1.67E-02		3.40E-03	8.23E-03
	321.32	0.22	1.58E-02		1.32E-02	7.78E-03
HF-181	133.02	43.30	6.92E-05	5.99E-05	-2.07E-05	3.41E-05
	345.93	15.12	2.83E-04		2.26E-04	1.40E-04
	482.18	80.50	5.99E-05		2.89E-05	2.95E-05
W-181	56.28	18.70	4.02E-04	2.34E-04	-1.92E-04	1.99E-04
	57.53	32.00	2.34E-04		-2.66E-05	1.16E-04
	65.00	10.60	4.55E-04		4.80E-04	2.25E-04
TA-182	57.98	10.01	7.31E-04	6.89E-05	-3.79E-05	3.61E-04
	59.32	17.20	3.96E-04		1.25E-03	1.96E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	65.72	3.01	3.15E-03	6.89E-05	-6.53E-04	1.55E-03
	67.75	46.67	1.33E-04		-2.15E-05	6.58E-05
	84.68	2.65	2.05E-03		6.26E-04	1.01E-03
	100.11	14.20	2.52E-04		3.85E-05	1.24E-04
	113.67	1.87	2.50E-03		-2.80E-03	1.23E-03
	116.42	0.44	5.05E-03		-1.38E-03	2.49E-03
	152.43	7.02	4.96E-04		-3.73E-04	2.45E-04
	156.39	2.67	1.27E-03		-1.80E-03	6.27E-04
	179.39	3.12	1.24E-03		-1.09E-04	6.11E-04
	198.35	1.47	3.48E-03		1.31E-04	1.72E-03
	222.11	7.57	5.42E-04		-3.36E-04	2.68E-04
	229.32	3.64	1.27E-03		-1.43E-04	6.28E-04
	264.08	3.61	1.20E-03		1.64E-04	5.92E-04
	928.00	0.61	5.44E-03		-7.87E-04	2.62E-03
	959.73	0.35	1.02E-02		-1.26E-03	4.91E-03
	1001.70	2.09	2.25E-03		6.16E-04	1.09E-03
	1044.42	0.24	1.49E-02		1.71E-02	7.11E-03
	1113.41	0.44	9.23E-03		8.93E-03	4.46E-03
	1121.29	35.24	8.75E-05		-2.60E-05	4.20E-05
	1157.30	0.73	2.42E-03		6.99E-04	1.15E-03
	1189.04	16.49	1.01E-04		6.63E-05	4.75E-05
	1221.40	27.23	6.89E-05		-4.77E-05	3.22E-05
	1223.60	0.24	4.13E-03		-2.45E-03	1.93E-03
	1231.00	11.62	1.80E-04		-1.38E-04	8.40E-05
	1257.41	1.51	9.99E-04		4.05E-04	4.64E-04
	1273.72	0.66	1.59E-03		1.98E-03	7.59E-04
	1289.15	1.37	3.64E-04		-3.30E-04	1.69E-04
	1342.73	0.26	4.50E-03		3.96E-04	2.07E-03
	1373.82	0.22	1.71E-03		1.39E-03	7.90E-04
Ta-183	84.71	1.35	3.26E-03	1.28E-04	9.96E-04	1.61E-03
	99.08	6.80	3.91E-04		1.58E-05	1.93E-04
	107.93	11.20	2.25E-04		-8.15E-05	1.11E-04
	161.35	9.10	2.83E-04		-3.61E-06	1.39E-04
	162.32	5.00	5.14E-04		-1.13E-04	2.53E-04
	244.26	8.80	3.98E-04		9.42E-05	1.96E-04
	246.06	27.20	1.28E-04		-4.36E-05	6.33E-05
	353.99	11.60	3.49E-04		4.49E-04	1.72E-04
Re-184	111.21	17.20	1.33E-04	5.26E-05	-8.14E-05	6.54E-05
	252.85	3.00	1.00E-03		-6.62E-04	4.95E-04
	792.01	37.70	5.26E-05		-4.46E-05	2.52E-05
	894.76	15.70	1.46E-04		5.23E-06	7.04E-05
	903.28	38.10	5.97E-05		4.26E-06	2.87E-05
W-185	59.72	0.01	5.61E-01	1.24E-01	1.52E+00	2.77E-01
	61.14	0.02	3.07E-01		7.70E-01	1.52E-01
	69.20	0.01	5.96E-01		-1.35E-01	2.94E-01
	125.36	0.02	1.24E-01		1.10E-02	6.11E-02
W-187	61.14	14.30	8.83E-04	1.07E-04	2.22E-03	4.36E-04
	69.20	4.82	1.71E-03		-3.88E-04	8.45E-04
	72.00	13.55	8.67E-04		4.00E-04	4.28E-04
	134.25	10.36	6.00E-04		6.21E-05	2.96E-04
	479.53	26.60	4.11E-04		9.41E-05	2.03E-04
	618.37	7.57	7.69E-04		-6.98E-04	3.76E-04
	685.81	33.20	1.07E-04		-7.86E-05	5.12E-05

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Ir-188	155.05	29.60	1.13E-04	9.88E-05	9.29E-05	5.57E-05
	478.00	14.70	4.73E-04		4.04E-04	2.34E-04
	633.02	17.90	2.38E-04		-2.34E-04	1.16E-04
	634.97	5.00	8.60E-04		-9.12E-05	4.20E-04
	829.42	5.10	5.77E-04		-4.99E-04	2.76E-04
	1209.77	6.90	3.79E-04		1.30E-04	1.78E-04
	1715.67	6.20	2.87E-04		-3.30E-04	1.27E-04
	2214.59	18.60	9.88E-05		-1.51E-05	4.27E-05
W-188	227.07	0.23	1.25E-02	7.24E-03	3.36E-03	6.16E-03
	290.68	0.42	7.24E-03		1.51E-03	3.57E-03
Ir-189	245.08	6.00	5.35E-04	5.35E-04	1.13E-04	2.64E-04
Ir-190	186.68	50.00	5.62E-05	5.62E-05	1.68E-05	2.78E-05
	361.09	12.30	2.92E-04		-3.56E-05	1.44E-04
	371.24	21.60	1.72E-04		-1.09E-04	8.47E-05
	407.22	27.00	1.50E-04		-1.01E-04	7.38E-05
	518.55	32.20	1.19E-04		2.11E-05	5.86E-05
	557.95	28.50	1.09E-04		-1.13E-04	5.35E-05
	569.30	27.00	1.16E-04		3.64E-05	5.66E-05
	605.14	37.80	9.07E-05		4.63E-05	4.44E-05
OS-191	63.29	15.70	3.69E-04	8.46E-05	1.91E-04	1.82E-04
	64.99	26.70	1.88E-04		1.99E-04	9.30E-05
	73.45	9.21	4.22E-04		-3.39E-06	2.08E-04
	129.43	26.50	8.46E-05		-2.49E-05	4.17E-05
Pt-191	359.90	5.80	9.11E-04	3.12E-04	-4.84E-04	4.49E-04
	456.47	3.30	2.00E-03		-2.33E-03	9.90E-04
	538.90	14.30	3.12E-04		3.40E-04	1.53E-04
IR-192	205.79	3.31	1.23E-03	5.58E-05	7.93E-04	6.09E-04
	295.96	28.71	1.99E-04		1.04E-04	9.83E-05
	308.45	29.70	1.83E-04		6.80E-05	9.01E-05
	316.51	82.86	5.58E-05		-8.50E-06	2.75E-05
	468.07	47.84	1.42E-04		-2.43E-06	7.02E-05
	588.58	4.52	1.18E-03		1.80E-04	5.76E-04
	604.41	8.22	3.17E-04		2.79E-04	1.55E-04
	612.46	5.34	3.82E-04		5.74E-05	1.87E-04
IR-192m	155.16	0.09	2.41E-02	2.41E-02	1.91E-02	1.19E-02
IR-193m	80.22	0.00	7.20E-01	7.20E-01	8.91E-03	3.55E-01
Pt-193m	135.50	0.11	2.21E-02	2.21E-02	1.42E-02	1.09E-02
Au-194	293.55	10.90	4.41E-04	7.78E-05	3.28E-04	2.17E-04
	328.47	62.80	7.78E-05		-1.75E-05	3.83E-05
	364.84	1.60	3.33E-03		-1.37E-03	1.64E-03
	528.77	1.78	2.99E-03		2.28E-04	1.47E-03
	645.16	2.32	2.01E-03		-1.20E-03	9.81E-04
	948.32	2.29	1.75E-03		1.30E-03	8.45E-04
	1104.06	2.15	1.96E-03		-3.14E-04	9.43E-04
	1175.36	2.14	5.35E-03		4.37E-02	2.64E-03
	1468.90	6.80	3.94E-04		-8.70E-04	1.84E-04
	1595.81	1.89	1.07E-03		6.15E-04	4.83E-04
	2043.72	3.74	5.80E-04		2.12E-04	2.58E-04
Ir-194	293.54	2.50	2.99E-03	5.80E-04	2.23E-03	1.47E-03
	328.47	13.10	5.80E-04		-1.30E-04	2.86E-04
AU-195	98.86	11.21	2.08E-04	2.08E-04	1.12E-05	1.03E-04
	129.74	0.84	2.56E-03		-4.91E-04	1.26E-03
Pt-195m	98.90	11.70	2.37E-04	2.37E-04	1.28E-05	1.17E-04

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Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Pt-195m	129.79	2.90	8.82E-04	2.37E-04	-1.69E-04	4.35E-04
Au-196	333.03	22.90	2.61E-04	5.53E-05	-3.76E-06	1.29E-04
	355.73	87.00	5.53E-05		-7.60E-06	2.73E-05
	426.10	6.60	7.06E-04		4.26E-04	3.49E-04
Au-196m	147.81	43.50	2.96E-04	2.96E-04	-2.77E-04	1.46E-04
	188.27	30.00	5.34E-04		4.89E-04	2.64E-04
Pt-197	77.35	17.00	4.68E-04	4.68E-04	2.20E-04	2.31E-04
	191.44	3.70	1.72E-03		-1.50E-03	8.47E-04
AU-198	411.80	95.62	6.65E-05	6.65E-05	3.64E-05	3.29E-05
AU-199	158.38	40.00	7.08E-05	7.08E-05	3.60E-05	3.49E-05
	208.20	8.72	4.25E-04		-2.27E-04	2.10E-04
TL-201	135.34	2.61	1.04E-03	2.86E-04	6.71E-04	5.15E-04
	167.43	10.00	2.86E-04		-2.64E-05	1.41E-04
TL-202	439.51	91.50	5.03E-05	5.03E-05	-9.82E-05	2.48E-05
PB-203	70.83	26.40	2.04E-04	5.98E-05	-2.65E-04	1.01E-04
	72.87	44.20	1.18E-04		1.01E-04	5.82E-05
	82.40	15.56	2.72E-04		7.50E-05	1.34E-04
	279.20	80.90	5.98E-05		-8.10E-06	2.95E-05
	401.32	3.35	2.47E-03		1.85E-03	1.22E-03
PB-210	46.54	4.25	3.67E-03	3.67E-03	-8.08E-04	1.81E-03
Pa-233	86.60	2.01	2.26E-03	8.01E-05	1.23E-02	1.12E-03
	94.65	8.90	2.77E-04		-1.23E-04	1.37E-04
	98.43	14.20	1.65E-04		1.84E-05	8.12E-05
	300.13	6.54	4.71E-04		1.48E-04	2.32E-04
	311.90	38.20	8.01E-05		4.38E-05	3.95E-05
	340.48	4.44	7.35E-04		-5.90E-04	3.62E-04
U-235	89.96	2.90	1.24E-03	4.57E-05	1.83E-04	6.14E-04
	93.35	4.70	5.34E-04		1.52E-04	2.63E-04
	109.19	1.64	1.34E-03		-2.08E-04	6.58E-04
	143.76	10.93	2.00E-04		-2.48E-05	9.86E-05
	163.36	5.07	4.45E-04		3.08E-05	2.19E-04
	185.71	57.20	4.57E-05		2.36E-06	2.26E-05
	202.11	1.07	2.57E-03		-6.75E-04	1.27E-03
	205.31	5.03	5.85E-04		-8.73E-05	2.89E-04
NP-237	86.48	12.20	3.13E-04	3.13E-04	1.71E-03	1.55E-04
U-237	59.54	34.50	2.36E-04	1.03E-04	7.73E-04	1.17E-04
	97.07	15.40	1.72E-04		1.63E-05	8.46E-05
	101.06	24.50	1.03E-04		-1.31E-06	5.06E-05
	113.30	3.07	8.14E-04		3.34E-04	4.01E-04
	114.23	5.81	4.29E-04		-4.06E-04	2.11E-04
	117.46	2.27	1.09E-03		1.23E-03	5.39E-04
	208.00	21.20	1.64E-04		1.57E-07	8.09E-05
NP-238	103.37	0.00	6.56E-01	1.15E-04	-4.15E-01	3.23E-01
	882.63	0.80	3.97E-03		-1.91E-03	1.91E-03
	923.99	2.60	1.21E-03		-3.79E-04	5.79E-04
	984.45	25.20	1.15E-04		-4.55E-05	5.51E-05
	1025.87	8.75	3.62E-04		3.26E-04	1.74E-04
	1028.53	18.23	1.75E-04		-6.71E-05	8.37E-05
U-238	63.29	3.70	1.49E-03	6.00E-04	7.76E-04	7.39E-04
	92.51	4.23	6.00E-04		-3.65E-05	2.96E-04
	112.81	0.21	1.07E-02		-4.31E-04	5.28E-03
	742.81	0.11	1.68E-02		1.45E-02	8.02E-03
	766.42	0.32	6.21E-03		-3.75E-03	2.98E-03

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	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	U-238	1001.03		0.84	3.06E-03	6.00E-04	6.66E-03	1.48E-03
	Am-239	181.71		1.08	9.59E-03	8.34E-04	-3.56E-03	4.73E-03
		209.80		3.50	3.54E-03		-7.91E-04	1.75E-03
		226.40		3.30	3.70E-03		-2.78E-04	1.82E-03
		228.10		11.30	1.08E-03		2.19E-04	5.35E-04
		277.60		15.00	8.34E-04		-1.27E-04	4.11E-04
	NP-239	61.46		1.30	6.38E-03	1.30E-04	-2.14E-04	3.15E-03
		99.53		12.90	2.42E-04		1.18E-04	1.19E-04
		103.37		20.50	1.47E-04		-9.29E-05	7.24E-05
		106.12		25.34	1.30E-04		-9.26E-05	6.42E-05
		209.75		3.36	1.25E-03		-2.81E-04	6.20E-04
		228.18		11.24	3.74E-04		9.26E-05	1.84E-04
		277.60		14.51	3.05E-04		-4.67E-05	1.51E-04
		285.46		0.79	6.10E-03		-4.33E-03	3.01E-03
		315.88		1.60	2.31E-03		-1.00E-03	1.14E-03
		334.31		2.06	1.58E-03		-5.91E-04	7.80E-04
	PU-239	38.66		0.01	4.82E+00	3.22E-01	2.01E+00	2.37E+00
		51.62		0.03	3.54E-01		1.10E-01	1.75E-01
		98.50		0.01	3.22E-01		3.59E-02	1.58E-01
		111.03		0.00	1.69E+00		-2.21E-01	8.33E-01
		129.30		0.01	3.40E-01		4.23E-02	1.68E-01
		171.39		0.00	2.09E+01		-1.61E+01	1.03E+01
		203.55		0.00	4.79E+00		-2.14E-02	2.36E+00
		332.85		0.00	6.56E+00		3.94E-01	3.24E+00
		336.11		0.00	2.88E+01		-1.08E+01	1.42E+01
		345.01		0.00	5.92E+00		5.10E+00	2.92E+00
		375.05		0.00	2.28E+00		-8.05E-01	1.13E+00
		380.19		0.00	1.16E+01		3.31E+00	5.72E+00
		382.75		0.00	1.35E+01		-1.50E-01	6.66E+00
		413.71		0.00	3.33E+00		5.66E-02	1.65E+00
		422.60		0.00	3.28E+01		-8.23E-01	1.62E+01
		451.48		0.00	2.41E+01		1.23E+01	1.19E+01
	Am-240	99.53		18.40	1.76E-04	3.88E-05	8.56E-05	8.65E-05
		103.37		29.20	1.07E-04		-6.75E-05	5.26E-05
		117.23		6.93	4.49E-04		1.48E-04	2.22E-04
		888.85		24.70	1.26E-04		-5.61E-05	6.08E-05
		987.79		72.20	3.88E-05		-4.43E-05	1.85E-05
	Np-240m	554.60		20.90	4.77E-04	4.77E-04	4.82E-04	2.33E-04
		597.40		11.70	8.65E-04		-1.04E-03	4.23E-04
	U-240	44.10		1.05	6.33E-02	3.77E-02	-2.39E-02	3.12E-02
		66.50		0.15	9.91E-02		-1.95E-02	4.89E-02
		169.20		0.12	6.76E-02		4.63E-02	3.33E-02
		189.70		0.24	3.77E-02		-1.27E-02	1.86E-02
+	AM-241	59.54	*	35.90	1.57E-04	1.57E-04	5.01E-04	7.74E-05
	AM-242m	49.35		0.13	8.84E-02	8.84E-02	2.79E-02	4.36E-02
		66.89		0.01	3.02E-01		7.51E-02	1.49E-01
		86.65		0.02	1.67E-01		9.11E-01	8.28E-02
		163.25		0.02	1.47E-01		1.02E-02	7.26E-02
	AM-243	43.53		5.90	3.60E-03	5.40E-05	-1.17E-03	1.77E-03
		74.66		67.20	5.40E-05		9.04E-05	2.67E-05

Analysis Report for 24-2545 TI185-7.0M-S4-CST-A Q0

ASR 2094 Branch

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

Apex-Gamma

Analysis Report for 24-2546 TI185-7.0M-S4-CST-d-A Q0
ASR 2120 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2546 TI185-7.0M-S4-CST-d-A Q0
Sample Description	: ASR 2120 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/28/2024 8:04:17AM
Procedure	: Q0_gsv02mlw
Operator	: Administrator
Detector Name	: Q
Geometry	: Q0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1203.8 seconds
Dead Time	: 0.31 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 1/16/2018
Efficiency Calibration Description	: Q0_gsv2mlw_R651_PT
Sample Number	: 579001
Certificate Name	: R735-b7 Pill vial HOT
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/28/2024 8:24:27AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2546 TI185-7.0M-S4-CST-d-A Q0

ASR 2120 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.69	190.70	0.2132	7.37
2	87.56	279.54	0.1564	13.83
3	123.25	393.18	0.2532	5.71
4	414.95	1323.14	0.1461	12.95
5	661.90	2110.47	0.0466	108.75
6	666.59	2125.64	0.1402	13.77
7	695.30	2216.92	0.1348	12.96
8	1004.85	3203.65	0.2429	4.59
9	1081.59	3447.90	0.2240	3.65
10	1110.05	3538.67	0.2120	5.22
11	1173.64	3741.75	0.1012	19.79
12	1275.00	4063.97	0.2407	3.37
13	1332.96	4249.39	0.1040	17.42
14	1361.58	4340.28	0.2175	4.56
15	1461.00	4657.51	0.2576	3.26
16	1764.70	5625.91	0.2615	3.22
17	2506.56	7989.09	0.1959	4.08

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2546 TI185-7.0M-S4-CST-d-A Q0

ASR 2120 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/28/2024 8:24:27AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.69	182 -	196	190.65	7.21E+02	128.60	1.14E+03	1.24
F	2	87.56	274 -	286	279.51	1.37E+03	149.55	1.05E+03	1.25
F	3	123.25	384 -	401	393.29	3.13E+02	30.73	1.20E+03	1.29
F	4	414.95	1314 -	1334	1323.18	1.02E+03	132.29	1.18E+03	1.62
M	5	661.90	2097 -	2133	2110.40	4.36E+04	334.75	2.72E+02	1.70
m	6	666.59	2097 -	2133	2125.35	7.01E+02	27.61	1.08E+02	1.70
F	7	695.30	2206 -	2229	2216.86	7.49E+02	58.50	1.26E+02	1.91
F	8	1004.85	3199 -	3209	3203.57	4.04E+01	9.64	6.05E+01	0.98
F	9	1081.59	3440 -	3457	3448.16	9.74E+01	11.97	7.28E+01	2.09
F	10	1110.05	3531 -	3547	3538.90	7.71E+01	11.57	8.03E+01	1.43
F	11	1173.64	3727 -	3755	3741.57	1.60E+03	78.86	6.54E+01	2.03
F	12	1275.00	4056 -	4073	4064.63	5.56E+01	8.68	3.06E+01	2.08
F	13	1332.96	4234 -	4262	4249.39	1.36E+03	69.18	2.27E+01	2.22
F	14	1361.58	4334 -	4348	4340.62	5.20E+01	8.72	2.59E+01	1.67
F	15	1461.00	4652 -	4663	4657.50	1.93E+01	6.20	1.80E+01	1.27
F	16	1764.70	5620 -	5631	5625.43	1.31E+01	4.19	6.00E+00	0.81
F	17	2506.56	7980 -	7999	7989.70	7.61E+01	9.11	1.37E+01	2.66

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/28/2024 8:24:27AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578893.CNF

Analysis Report for 24-2546 TI185-7.0M-S4-CST-d-A Q0

ASR 2120 Branch

Peak No.		Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.69	7.21E+02	128.60			7.21E+02	1.29E+02
F	2	87.56	1.37E+03	149.55	1.01E+01	4.77E-01	1.36E+03	1.50E+02
F	3	123.25	3.13E+02	30.73			3.13E+02	3.07E+01
F	4	414.95	1.02E+03	132.29			1.02E+03	1.32E+02
M	5	661.90	4.36E+04	334.75			4.36E+04	3.35E+02
m	6	666.59	7.01E+02	27.61	8.33E-01	1.87E-01	7.00E+02	2.76E+01
F	7	695.30	7.49E+02	58.50			7.49E+02	5.85E+01
F	8	1004.85	4.04E+01	9.64			4.04E+01	9.64E+00
F	9	1081.59	9.74E+01	11.97			9.74E+01	1.20E+01
F	10	1110.05	7.71E+01	11.57			7.71E+01	1.16E+01
F	11	1173.64	1.60E+03	78.86			1.60E+03	7.89E+01
F	12	1275.00	5.56E+01	8.68			5.56E+01	8.68E+00
F	13	1332.96	1.36E+03	69.18			1.36E+03	6.92E+01
F	14	1361.58	5.20E+01	8.72			5.20E+01	8.72E+00
F	15	1461.00	1.93E+01	6.20	3.56E+01	3.97E-01	-1.63E+01	6.22E+00
F	16	1764.70	1.31E+01	4.19	1.08E+01	2.28E-01	2.26E+00	4.20E+00
F	17	2506.56	7.61E+01	9.11			7.61E+01	9.11E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.99	1460.82	*	10.66	-6.69E-05	2.55E-05	miss
CO-60	0.96	1173.23	*	99.85	7.91E-04	3.94E-05	0.765
		1332.49	*	99.98	7.31E-04	3.77E-05	0.763
CD-109	0.96	88.03	*	3.64	5.17E-03	5.70E-04	free
Te-129m	0.94	695.88	*	3.00	6.85E-03	1.47E-03	free
CS-137	0.99	661.66	*	85.10	1.33E-02	1.41E-04	miss
EU-154	0.34	42.70		20.45			
		123.07	*	40.40	1.16E-04	1.15E-05	0.741
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30		20.06			

Analysis Report for 24-2546 TI185-7.0M-S4-CST-d-A Q0

ASR 2120 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
EU-154	0.34	756.80		4.52			
		873.18		12.08			
		996.29		10.48			
		1004.76	*	18.01	8.84E-05	2.12E-05	0.863
		1246.12		0.86			
		1274.43	*	34.80	7.28E-05	1.14E-05	0.874
		1494.05		0.70			
		1596.48		1.80			
AM-241	0.99	59.54	*	35.90	5.69E-04	1.02E-04	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
K-40	0.995	-6.69E-05	2.55E-05	
CO-60	0.969	7.60E-04	2.72E-05	
CD-109	0.965	5.17E-03	5.70E-04	
Te-129m	0.948	6.85E-03	1.47E-03	
CS-137	0.990	1.33E-02	1.41E-04	
EU-154	0.342	9.33E-05	7.56E-06	
AM-241	0.997	5.69E-04	1.02E-04	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2546 TI185-7.0M-S4-CST-d-A Q0

ASR 2120 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/28/2024 8:24:27AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	4	414.95	8.47049E-01	13.02	Tol.	RH-102M
m	6	666.59	5.83283E-01	3.94		
F	9	1081.59	8.11413E-02	12.29		
F	10	1110.05	6.42316E-02	15.02		
F	14	1361.58	4.33151E-02	16.78	Sum	
F	16	1764.70	1.88346E-03	185.78		
F	17	2506.56	6.34182E-02	11.97	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\DOSIMETRY2023.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.60		10.44	4.47E-04	4.47E-04	-3.52E-04	2.21E-04
	NA-22	511.00		179.91	2.10E-05	2.10E-05	-1.60E-05	1.03E-05
		1274.54		99.94	4.06E-05		3.76E-05	1.93E-05
	NA-24	1368.63		99.99	7.44E-05	7.44E-05	-1.11E-05	3.49E-05
>		2754.01		99.87	0.00E+00		0.00E+00	0.00E+00
	AL-26	1129.67		2.50	9.51E-04	1.47E-05	7.78E-04	4.54E-04
		1808.65		99.76	1.47E-05		1.59E-05	6.65E-06
+	K-40	1460.82	*	10.66	1.51E-04	1.51E-04	-6.69E-05	7.01E-05
	K-42	312.60		0.34	3.73E-02	2.76E-04	-6.79E-02	1.84E-02
		1524.60		18.08	2.76E-04		-5.59E-05	1.24E-04

Analysis Report for 24-2546 TI185-7.0M-S4-CST-d-A Q0

ASR 2120 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Sc-44	1157.02	99.90	1.71E-03	1.71E-03	-2.53E-04	8.16E-04
		1499.46	0.91	1.34E-01		5.11E-02	6.10E-02
	Sc-44m	271.24	86.74	4.58E-05	4.58E-05	-1.99E-05	2.26E-05
		1001.83	1.20	5.21E-03		4.31E-03	2.51E-03
		1126.06	1.20	4.36E-03		1.97E-04	2.09E-03
		1157.00	1.20	4.05E-03		-5.98E-04	1.93E-03
	TI-44	67.87	93.00	5.54E-05	3.98E-05	-6.78E-05	2.74E-05
		78.32	96.40	3.98E-05		-4.47E-05	1.96E-05
	SC-46	889.28	99.98	2.98E-05	2.98E-05	-3.58E-05	1.43E-05
		1120.55	99.99	3.15E-05		3.11E-05	1.51E-05
	CA-47	489.23	5.90	1.10E-03	2.82E-05	-2.13E-05	5.40E-04
		807.86	5.90	4.74E-04		-3.47E-04	2.26E-04
		1297.09	67.00	2.82E-05		-9.72E-06	1.32E-05
	SC-47	159.38	68.30	4.10E-05	4.10E-05	-5.73E-06	2.02E-05
	SC-48	175.36	7.47	4.66E-04	2.11E-05	4.63E-05	2.29E-04
		983.53	100.00	3.32E-05		6.88E-06	1.59E-05
		1037.52	97.50	3.39E-05		9.44E-06	1.62E-05
		1312.12	100.00	2.11E-05		8.91E-06	9.75E-06
	V-48	944.13	7.87	3.79E-04	2.00E-05	-7.33E-04	1.82E-04
		983.53	99.98	3.06E-05		6.35E-06	1.47E-05
		1312.11	98.20	2.00E-05		8.44E-06	9.24E-06
		2240.40	2.33	8.67E-04		2.92E-04	3.86E-04
	CR-51	320.08	9.91	3.21E-04	3.21E-04	-1.59E-04	1.58E-04
	Fe-52	168.69	99.20	1.90E-04	1.90E-04	3.70E-05	9.38E-05
		377.75	1.64	1.77E-02		-2.80E-02	8.74E-03
	Mn-52	744.23	90.00	3.86E-05	2.59E-05	-3.97E-06	1.85E-05
		848.18	3.32	1.20E-03		2.29E-04	5.76E-04
		935.54	94.50	4.79E-05		-3.69E-05	2.31E-05
		1246.28	4.21	7.85E-04		-5.12E-04	3.68E-04
		1333.65	5.07	2.59E-03		2.00E-02	1.27E-03
		1434.09	100.00	2.59E-05		-5.14E-05	1.18E-05
	MN-54	834.85	99.98	1.98E-05	1.98E-05	-7.11E-06	9.48E-06
	Co-55	411.50	1.07	1.22E-02	8.30E-05	1.83E-03	6.05E-03
		477.20	20.20	6.25E-04		5.07E-05	3.09E-04
		803.70	1.87	2.69E-03		1.30E-03	1.29E-03
		931.10	75.00	8.30E-05		7.89E-06	3.99E-05
		1316.60	7.10	5.27E-04		-1.77E-04	2.42E-04
		1370.00	2.90	1.38E-03		-8.01E-04	6.36E-04
		1408.50	16.90	2.54E-04		-1.16E-04	1.18E-04
	Co-56	846.77	99.94	2.94E-05	2.94E-05	-2.74E-05	1.41E-05
		977.37	1.42	2.67E-03		8.88E-04	1.28E-03
		1037.84	14.05	2.33E-04		2.92E-05	1.11E-04
		1175.10	2.25	5.46E-03		4.52E-02	2.69E-03
		1238.29	66.46	3.88E-05		4.98E-05	1.82E-05
		1360.21	4.28	7.26E-04		1.32E-03	3.45E-04
		1771.36	15.41	1.68E-04		3.43E-05	7.77E-05
		2015.20	3.02	6.25E-04		3.29E-04	2.80E-04
		2034.79	7.77	2.80E-04		1.30E-04	1.26E-04
>		2598.50	16.97	0.00E+00		0.00E+00	0.00E+00
	MN-56	846.76	98.85	2.06E-02	2.06E-02	-1.92E-02	9.90E-03
		1810.73	26.90	6.18E-02		6.99E-03	2.79E-02
		2113.09	14.20	1.02E-01		-7.42E-02	4.46E-02
	Ni-56	158.38	98.80	2.55E-05	2.30E-05	-1.33E-05	1.26E-05

Analysis Report for 24-2546 TI185-7.0M-S4-CST-d-A Q0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Ni-56	269.50		36.50	9.17E-05	2.30E-05	1.76E-05	4.52E-05
		480.44		36.50	1.37E-04		-1.02E-04	6.76E-05
		749.50		49.50	3.89E-05		-3.96E-05	1.86E-05
		811.85		86.00	2.30E-05		7.96E-06	1.10E-05
		1561.80		14.00	9.40E-05		-3.76E-05	4.20E-05
	CO-57	122.06		85.60	2.69E-05	2.69E-05	-1.88E-06	1.33E-05
		136.47		10.68	2.04E-04		-1.75E-04	1.01E-04
	NI-57	127.16		16.70	2.22E-04	2.76E-05	3.21E-05	1.09E-04
		1377.63		81.70	2.76E-05		1.65E-05	1.26E-05
		1757.55		5.75	4.46E-04		1.56E-04	2.04E-04
		1919.52		12.30	1.64E-04		1.35E-04	7.21E-05
	CO-58	810.76		99.45	1.91E-05	1.91E-05	-1.45E-05	9.12E-06
		863.96		0.69	4.06E-03		3.46E-03	1.95E-03
		1674.73		0.52	1.97E-03		-1.11E-03	8.75E-04
	FE-59	142.65		1.02	2.19E-03	3.46E-05	1.33E-03	1.08E-03
		192.34		3.08	1.22E-03		8.76E-05	6.02E-04
		1099.24		56.50	3.95E-05		5.78E-06	1.89E-05
		1291.59		43.20	3.46E-05		-1.05E-06	1.60E-05
+	CO-60	1173.23	*	99.85	3.91E-05	2.62E-05	7.91E-04	1.89E-05
		1332.49	*	99.98	2.62E-05		7.31E-04	1.24E-05
	CU-64	511.00		35.00	4.28E-04	4.28E-04	-3.25E-04	2.11E-04
		1345.77		0.47	1.10E-02		-1.43E-03	5.04E-03
	NI-65	366.27		4.81	9.81E-01	6.05E-02	3.48E-01	4.84E-01
		1115.53		15.43	2.07E-01		2.11E-02	1.00E-01
		1481.84		23.59	6.05E-02		7.54E-02	2.77E-02
	ZN-65	1115.54		50.04	5.58E-05	5.58E-05	5.67E-06	2.69E-05
	GA-66	511.00		114.00	2.09E-04	2.09E-04	-1.59E-04	1.03E-04
		833.53		5.90	2.10E-03		-7.98E-04	1.01E-03
		1039.22		37.00	3.84E-04		3.12E-04	1.84E-04
		1333.11		1.17	3.93E-02		3.03E-01	1.94E-02
		1918.33		1.99	3.99E-03		3.40E-03	1.77E-03
		2189.62		5.30	1.95E-03		2.00E-03	8.79E-04
>		2751.83		22.70	0.00E+00		0.00E+00	0.00E+00
	CU-67	91.27		7.00	5.79E-04	7.27E-05	3.67E-04	2.86E-04
		93.31		16.10	2.05E-04		6.73E-05	1.01E-04
		184.58		48.70	7.27E-05		8.06E-05	3.59E-05
		300.22		0.80	5.05E-03		-7.86E-03	2.49E-03
		393.53		0.22	2.24E-02		1.05E-02	1.11E-02
	GA-67	91.26		3.11	1.45E-03	8.69E-05	9.19E-04	7.16E-04
		93.31		38.81	8.69E-05		2.85E-05	4.28E-05
		184.58		21.41	1.59E-04		1.76E-04	7.83E-05
		208.95		2.46	2.18E-03		2.80E-04	1.08E-03
		300.22		16.64	2.60E-04		-4.05E-04	1.28E-04
		393.53		4.56	6.47E-04		3.03E-04	3.19E-04
	ZN-69m	438.63		94.85	1.66E-04	1.66E-04	5.68E-05	8.18E-05
	GA-72	629.97		26.13	6.29E-04	9.60E-05	-6.23E-04	3.07E-04
		834.13		95.45	9.60E-05		-6.68E-05	4.60E-05
		894.33		10.14	1.32E-03		4.70E-04	6.37E-04
		1050.79		6.99	1.94E-03		6.84E-04	9.28E-04
		2201.59		26.87	2.56E-04		-3.28E-04	1.14E-04
		2491.03		7.73	4.96E-04		-1.29E-04	2.00E-04
		2507.72		13.33	1.15E-03		2.34E-03	5.44E-04
	Zn-72	144.70		82.78	3.85E-05	3.85E-05	-2.80E-05	1.90E-05

Analysis Report for 24-2546 TI185-7.0M-S4-CST-d-A Q0

ASR 2120 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	Zn-72	191.50	9.35	4.38E-04	3.85E-05	2.87E-07	2.16E-04
	SE-75	121.12	17.20	1.93E-04	5.32E-05	7.25E-05	9.54E-05
		136.00	58.50	5.32E-05		-1.79E-06	2.62E-05
		264.66	58.90	6.99E-05		2.83E-05	3.45E-05
		279.54	25.02	1.49E-04		-5.21E-05	7.32E-05
		400.66	11.41	1.14E-04		-5.22E-05	5.64E-05
	BR-83	529.59	1.30	4.23E+00	4.23E+00	-6.63E-02	2.08E+00
	BR-84	604.80	1.70	3.94E+11	1.22E+10	-4.26E+11	1.93E+11
		736.50	1.29	3.05E+11		9.98E+10	1.46E+11
		802.20	6.00	6.86E+10		-7.58E+10	3.28E+10
		881.60	42.00	1.22E+10		-6.22E+09	5.88E+09
		987.30	0.79	6.24E+11		2.76E+11	2.99E+11
		1015.90	6.20	7.50E+10		-3.88E+10	3.58E+10
		1213.30	2.60	1.54E+11		-1.16E+11	7.27E+10
		1463.80	2.00	1.84E+11		1.41E+11	8.51E+10
		1741.20	1.60	1.48E+11		-1.44E+11	6.45E+10
		1877.50	1.12	2.36E+11		-2.20E+11	1.04E+11
		1897.60	14.60	2.07E+10		9.70E+09	9.26E+09
		2029.60	2.10	1.44E+11		-2.61E+11	6.37E+10
		2200.70	1.16	2.96E+11		-4.06E+10	1.32E+11
		2484.10	6.70	3.18E+10		-6.26E+10	1.29E+10
>		2824.10	1.12	0.00E+00		0.00E+00	0.00E+00
	KR-85m	151.20	75.20	1.46E-03	1.46E-03	1.98E-04	7.20E-04
		304.87	14.00	1.08E-02		2.70E-03	5.33E-03
	Y-87	388.53	82.20	5.67E-05	5.67E-05	4.54E-05	2.80E-05
		484.80	89.80	5.94E-05		3.06E-05	2.93E-05
	KR-88	165.98	3.10	6.54E-01	1.18E-02	2.22E-01	3.23E-01
		196.30	26.00	6.84E-02		-5.68E-02	3.38E-02
		362.23	2.25	6.94E-01		5.36E-01	3.42E-01
		471.80	0.73	4.20E+00		1.64E+00	2.07E+00
		834.83	13.00	9.35E-02		-3.36E-02	4.48E-02
		985.78	1.31	1.26E+00		4.89E-01	6.04E-01
		1141.33	1.28	8.97E-01		-1.41E-02	4.26E-01
		1179.51	1.00	4.80E+00		-6.61E-01	2.36E+00
		1250.67	1.12	1.01E+00		-1.12E-01	4.73E-01
		1369.50	1.48	6.80E-01		-1.35E-01	3.15E-01
		1518.39	2.15	4.03E-01		-2.37E-01	1.82E-01
		1529.77	10.90	8.31E-02		3.62E-02	3.79E-02
		2029.84	4.53	2.41E-01		-3.21E-01	1.07E-01
		2035.41	3.74	2.89E-01		3.02E-01	1.30E-01
		2195.84	13.20	7.71E-02		-4.80E-02	3.45E-02
		2231.77	3.39	1.98E-01		8.69E-02	8.95E-02
		2352.08	0.73	1.16E+00		-1.73E+00	5.03E-01
		2392.11	34.60	1.18E-02		-4.89E-03	4.78E-03
	RB-88	898.03	14.40	1.02E-01	2.94E-02	-4.11E-02	4.90E-02
		1382.45	0.78	1.18E+00		8.58E-01	5.43E-01
		1836.00	22.81	2.94E-02		-1.31E-02	1.28E-02
>		2677.89	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-88	898.04	93.70	3.18E-05	1.45E-05	-1.28E-05	1.53E-05
		1836.06	99.20	1.45E-05		2.28E-06	6.35E-06
@	RB-89	272.42	1.53	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		657.77	10.80	1.00E+20		1.00E+20	1.00E+20
@		947.73	10.00	1.00E+20		1.00E+20	1.00E+20

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ASR 2120 Branch

	Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@	RB-89	1031.92	63.00	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		1248.14	46.00	1.00E+20		1.00E+20	1.00E+20
@		1538.07	2.77	1.00E+20		1.00E+20	1.00E+20
@		2007.50	2.58	1.00E+20		1.00E+20	1.00E+20
@		2195.92	14.50	1.00E+20		1.00E+20	1.00E+20
>@		2570.20	10.70	0.00E+00		0.00E+00	0.00E+00
>@		2707.26	2.20	0.00E+00		0.00E+00	0.00E+00
	SR-89	908.96	0.01	2.44E-01	2.44E-01	-2.74E-01	1.18E-01
	Sr-91	652.90	11.35	1.79E-03	3.86E-04	-2.39E-03	8.75E-04
		749.80	23.70	4.46E-04		-2.02E-04	2.13E-04
		925.80	3.85	3.74E-03		3.24E-03	1.80E-03
		1024.30	33.50	3.86E-04		-3.02E-04	1.84E-04
	Y-91	1204.77	0.26	6.80E-03	6.80E-03	2.68E-03	3.20E-03
	Y-91m	555.57	61.64	3.02E-04	3.02E-04	-3.00E-05	1.48E-04
	NB-92M	912.60	1.78	1.88E-03	2.52E-05	-3.73E-03	9.06E-04
		934.44	99.15	2.52E-05		-2.07E-05	1.21E-05
		1847.50	0.85	1.25E-03		4.62E-04	5.56E-04
	SR-92	241.56	2.93	8.34E-01	1.31E-02	2.78E-01	4.12E-01
		430.49	3.28	1.06E+00		-1.77E-01	5.24E-01
		953.31	3.52	5.45E-01		5.59E-01	2.62E-01
		1142.35	2.79	5.74E-01		-5.25E-02	2.72E-01
		1383.93	90.00	1.31E-02		9.30E-03	6.05E-03
	MO-93M	114.04	0.68	4.19E-02	1.77E-04	-9.88E-03	2.06E-02
		263.05	57.40	6.58E-04		1.50E-05	3.24E-04
		684.69	99.90	2.29E-04		1.13E-04	1.10E-04
		1363.02	0.81	3.49E-02		3.40E-02	1.66E-02
		1477.14	99.10	1.77E-04		5.94E-06	8.08E-05
@	SR-93	168.50	18.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		260.12	7.40	1.00E+20		1.00E+20	1.00E+20
@		346.49	3.28	1.00E+20		1.00E+20	1.00E+20
@		446.20	2.36	1.00E+20		1.00E+20	1.00E+20
@		590.24	68.00	1.00E+20		1.00E+20	1.00E+20
@		710.31	21.80	1.00E+20		1.00E+20	1.00E+20
@		875.73	24.50	1.00E+20		1.00E+20	1.00E+20
@		888.13	22.10	1.00E+20		1.00E+20	1.00E+20
@		1040.63	3.20	1.00E+20		1.00E+20	1.00E+20
@		1094.00	1.76	1.00E+20		1.00E+20	1.00E+20
@		1122.48	4.00	1.00E+20		1.00E+20	1.00E+20
@		1215.48	2.50	1.00E+20		1.00E+20	1.00E+20
@		1269.47	7.10	1.00E+20		1.00E+20	1.00E+20
@		1321.24	2.61	1.00E+20		1.00E+20	1.00E+20
@		1387.11	3.50	1.00E+20		1.00E+20	1.00E+20
@		1694.07	2.58	1.00E+20		1.00E+20	1.00E+20
@		1699.06	3.30	1.00E+20		1.00E+20	1.00E+20
@		2543.84	3.03	1.00E+20		1.00E+20	1.00E+20
>@		2688.65	2.13	0.00E+00		0.00E+00	0.00E+00
	Y-93	266.90	7.40	2.22E-03	2.22E-03	-5.24E-04	1.09E-03
		947.10	2.10	6.17E-03		4.35E-03	2.97E-03
		1917.80	1.57	4.47E-03		9.17E-04	1.98E-03
	NB-94	702.65	99.81	2.52E-05	2.52E-05	8.76E-07	1.21E-05
		871.09	99.89	2.94E-05		-2.24E-06	1.41E-05
@	Y-94	381.60	2.02	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		550.90	4.90	1.00E+20		1.00E+20	1.00E+20

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ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@ Y-94	752.60	1.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	918.74	56.00	1.00E+20		1.00E+20	1.00E+20
@	1138.90	6.00	1.00E+20		1.00E+20	1.00E+20
@	1671.40	2.50	1.00E+20		1.00E+20	1.00E+20
@	2140.60	0.95	1.00E+20		1.00E+20	1.00E+20
NB-95	765.80	99.81	1.99E-05	1.99E-05	-8.96E-06	9.57E-06
ZR-95	724.19	44.27	5.04E-05	3.40E-05	6.56E-05	2.43E-05
	756.72	54.38	3.40E-05		4.19E-05	1.63E-05
NB-96	219.08	2.97	2.10E-03	4.23E-05	6.42E-04	1.04E-03
	241.38	3.50	1.82E-03		6.06E-04	8.97E-04
	350.05	1.54	4.72E-03		1.99E-03	2.33E-03
	352.56	0.83	8.73E-03		-2.52E-03	4.30E-03
	371.81	2.62	2.83E-03		-4.14E-04	1.39E-03
	460.04	26.62	3.89E-04		4.00E-04	1.92E-04
	480.71	5.84	1.60E-03		-6.21E-04	7.89E-04
	568.87	58.00	1.05E-04		-9.23E-05	5.14E-05
	719.56	6.85	6.54E-04		3.20E-04	3.16E-04
	721.63	1.02	4.50E-03		4.73E-03	2.17E-03
	778.22	96.45	4.23E-05		-4.41E-05	2.03E-05
	810.33	11.09	3.30E-04		3.80E-05	1.57E-04
	812.58	2.95	1.24E-03		-6.87E-04	5.92E-04
	847.69	1.14	3.92E-03		3.34E-03	1.89E-03
	849.93	20.45	2.08E-04		-1.61E-04	9.95E-05
	1091.35	48.50	9.05E-05		9.04E-05	4.31E-05
	1200.23	19.97	1.88E-04		-1.44E-04	8.84E-05
	1441.13	0.44	6.47E-03		-1.85E-03	2.95E-03
	1497.81	3.28	8.77E-04		7.17E-04	4.00E-04
Nb-97	657.94	98.23	7.33E-04	7.33E-04	-2.31E-05	3.65E-04
	1024.40	1.09	5.52E-03		-1.41E-03	2.64E-03
ZR-97	254.17	1.15	7.33E-03	5.61E-05	2.26E-03	3.62E-03
	355.40	2.09	7.03E-03		-2.90E-03	3.46E-03
	507.64	5.03	2.94E-03		1.96E-03	1.45E-03
	743.36	93.09	5.61E-05		1.40E-07	2.69E-05
	1147.97	2.62	3.20E-03		-2.37E-03	1.52E-03
MO-99	181.07	6.14	8.41E-04	2.48E-04	-9.85E-04	4.15E-04
	366.42	1.20	3.74E-03		1.32E-03	1.84E-03
	739.50	12.26	2.48E-04		-1.21E-04	1.19E-04
	777.92	4.30	5.84E-04		-5.48E-04	2.80E-04
TC-99M	140.51	90.80	3.17E-05	3.17E-05	1.78E-05	1.56E-05
RH-101	127.23	68.00	4.67E-05	4.67E-05	6.76E-06	2.30E-05
	198.01	73.00	5.05E-05		1.02E-05	2.49E-05
	325.23	11.80	1.05E-04		7.27E-06	5.17E-05
RH-101M	306.86	81.00	4.46E-05	4.46E-05	-1.50E-06	2.20E-05
	545.12	4.30	8.76E-04		1.47E-04	4.29E-04
RH-102M	415.25	2.10	5.59E-03	9.42E-05	2.11E-02	2.76E-03
	418.52	9.40	1.09E-03		2.63E-04	5.40E-04
	420.40	3.20	2.90E-03		3.48E-04	1.43E-03
	475.06	95.00	9.43E-05		4.83E-05	4.66E-05
	628.05	8.30	8.24E-04		2.25E-04	4.02E-04
	631.29	56.00	9.42E-05		2.21E-05	4.60E-05
	692.40	1.60	5.44E-03		2.67E-04	2.67E-03
	695.60	2.90	2.65E-03		1.38E-02	1.30E-03
	697.49	44.00	1.70E-04		2.30E-05	8.34E-05

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ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	RH-102M	766.84		34.00	1.05E-04	9.42E-05	-1.24E-05	5.05E-05
		1046.59		34.00	1.16E-04		4.30E-05	5.56E-05
		1103.16		4.60	6.56E-04		2.26E-04	3.14E-04
		1112.84		19.00	2.60E-04		4.34E-04	1.26E-04
	RU-103	497.08		91.00	4.37E-05	4.37E-05	-3.05E-05	2.15E-05
		610.33		5.76	5.17E-04		-3.39E-05	2.53E-04
	RH-105	306.31		4.66	1.07E-03	3.03E-04	1.10E-04	5.29E-04
		319.23		16.90	3.03E-04		2.47E-04	1.50E-04
	AG-106M	221.70		6.60	4.86E-04	4.69E-05	-2.23E-05	2.40E-04
		228.63		2.10	1.55E-03		1.84E-03	7.67E-04
		328.46		1.14	3.00E-03		-2.81E-03	1.48E-03
		391.04		3.68	1.10E-03		3.52E-04	5.43E-04
		406.18		13.40	3.14E-04		-2.21E-05	1.55E-04
		429.65		13.20	3.53E-04		1.08E-04	1.74E-04
		450.98		28.20	1.77E-04		-9.68E-05	8.73E-05
		511.85		88.00	4.69E-05		2.84E-05	2.31E-05
		601.17		1.61	2.02E-03		2.77E-03	9.88E-04
		616.17		21.60	1.43E-04		-1.73E-04	6.98E-05
		646.03		1.46	2.26E-03		-2.87E-04	1.11E-03
		680.42		2.18	8.78E-04		6.16E-04	4.21E-04
		703.11		4.47	4.36E-04		-2.91E-04	2.09E-04
		717.34		28.90	7.51E-05		-1.12E-04	3.61E-05
		748.36		20.60	9.11E-05		1.90E-05	4.35E-05
		793.17		5.90	3.63E-04		-2.67E-04	1.74E-04
		804.28		12.40	1.62E-04		5.51E-08	7.76E-05
		808.36		4.00	4.76E-04		1.61E-04	2.27E-04
		824.69		15.30	1.34E-04		4.03E-05	6.39E-05
		847.15		4.40	5.20E-04		-1.74E-04	2.50E-04
		1019.72		1.04	2.19E-03		8.23E-04	1.05E-03
		1045.83		29.60	8.39E-05		4.80E-05	4.02E-05
		1128.02		11.80	2.06E-04		-4.00E-05	9.84E-05
		1199.39		11.20	1.73E-04		-9.59E-05	8.13E-05
		1222.88		7.00	2.90E-04		2.43E-04	1.37E-04
		1394.35		1.49	1.17E-03		-7.51E-04	5.44E-04
		1527.65		16.30	8.64E-05		-1.20E-05	3.91E-05
		1572.35		6.60	2.45E-04		2.21E-04	1.12E-04
		1722.76		1.40	1.13E-03		6.72E-04	5.13E-04
		1839.05		2.00	6.49E-04		2.02E-04	2.86E-04
	RH-106	621.93		9.93	4.00E-04	4.00E-04	1.94E-04	1.95E-04
		873.49		0.44	8.29E-03		5.60E-03	3.99E-03
		1050.41		1.56	1.91E-03		3.64E-04	9.14E-04
	RU-106	511.86		20.40	1.86E-04	1.86E-04	1.12E-04	9.13E-05
	AG-108M	79.13		6.60	4.91E-04	4.51E-05	7.50E-06	2.43E-04
		433.94		90.50	8.56E-05		-8.37E-05	4.23E-05
		614.28		89.80	5.87E-05		3.32E-06	2.87E-05
		722.91		90.80	4.51E-05		9.41E-05	2.18E-05
+	CD-109	88.03	*	3.64	8.51E-04	8.51E-04	5.17E-03	4.20E-04
	AG-110M	446.81		3.70	2.89E-03	5.70E-05	7.17E-04	1.43E-03
		620.35		2.73	2.54E-03		1.46E-03	1.24E-03
		657.76		95.61	4.91E-04		-1.41E-05	2.45E-04
		677.62		10.70	3.80E-04		-8.86E-05	1.82E-04
		687.01		6.53	5.81E-04		8.56E-05	2.79E-04
		706.68		16.69	2.21E-04		-3.05E-04	1.06E-04

Analysis Report for 24-2546 TI185-7.0M-S4-CST-d-A Q0

ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
AG-110M	744.28	4.77	7.79E-04	5.70E-05	-8.02E-05	3.73E-04
	763.94	22.60	1.62E-04		9.21E-05	7.77E-05
	818.02	7.43	5.57E-04		-7.24E-04	2.66E-04
	884.68	75.00	5.70E-05		-2.46E-05	2.74E-05
	937.48	35.00	1.20E-04		9.41E-05	5.79E-05
	1384.29	25.10	9.31E-05		2.72E-06	4.29E-05
	1475.78	4.08	4.45E-04		1.64E-04	2.02E-04
	1505.03	13.33	1.88E-04		-7.37E-05	8.64E-05
	1562.29	1.22	6.98E-04		3.83E-04	3.13E-04
AG-111	245.40	1.11	2.99E-03	5.55E-04	2.93E-03	1.47E-03
	342.13	6.68	5.55E-04		1.28E-04	2.74E-04
AG-112	606.82	3.10	2.22E-03	1.53E-04	-1.68E-04	1.08E-03
	617.52	43.00	1.53E-04		3.48E-05	7.48E-05
	692.82	1.19	7.58E-03		1.29E-03	3.72E-03
	694.87	2.90	3.12E-03		1.73E-02	1.53E-03
	851.28	1.02	4.68E-03		1.98E-03	2.25E-03
	1312.36	1.11	2.88E-03		1.70E-04	1.32E-03
	1387.68	5.30	5.66E-04		-8.66E-05	2.58E-04
	1613.66	2.80	1.12E-03		-2.91E-04	5.06E-04
	1798.50	0.89	3.59E-03		3.28E-04	1.62E-03
	2106.31	2.40	1.18E-03		5.19E-05	5.15E-04
	2506.70	1.06	7.27E-03		1.28E-02	3.44E-03
CD-113M	263.70	0.03	1.10E-01	1.10E-01	-3.75E-02	5.42E-02
SN-113	255.13	2.11	1.43E-03	5.77E-05	1.92E-03	7.04E-04
	391.70	64.97	5.77E-05		4.53E-05	2.85E-05
IN-114M	190.27	15.56	1.84E-04	1.84E-04	1.01E-04	9.09E-05
	558.43	4.40	9.19E-04		2.50E-04	4.50E-04
	725.24	4.40	6.95E-04		6.67E-04	3.36E-04
CD-115	260.90	1.94	2.09E-03	9.91E-05	-2.59E-03	1.03E-03
	336.24	46.02	9.91E-05		-5.02E-06	4.88E-05
	527.90	27.45	1.78E-04		1.65E-04	8.74E-05
CD-115M	933.84	2.00	1.22E-03	1.22E-03	-1.06E-03	5.88E-04
	1290.59	0.90	1.70E-03		-1.04E-03	7.89E-04
IN-115M	336.24	45.90	3.54E-03	3.54E-03	-1.79E-04	1.74E-03
IN-116M	138.29	3.70	2.51E+05	6.24E+03	-2.32E+05	1.24E+05
	416.90	27.20	6.31E+04		4.63E+03	3.12E+04
	818.68	12.13	6.58E+04		2.16E+04	3.14E+04
	1097.28	58.50	1.18E+04		-7.12E+03	5.61E+03
	1293.56	84.80	6.24E+03		4.55E+02	2.91E+03
	1507.59	9.92	5.02E+04		-2.31E+04	2.31E+04
	2112.29	15.09	2.58E+04		1.93E+04	1.12E+04
SB-125	176.31	6.84	3.44E-04	1.38E-04	1.33E-04	1.69E-04
	380.45	1.52	2.39E-03		1.21E-04	1.18E-03
	427.87	29.60	1.38E-04		3.66E-05	6.83E-05
	463.36	10.49	4.75E-04		-4.58E-05	2.35E-04
	600.60	17.65	1.68E-04		1.27E-04	8.23E-05
	606.71	4.98	6.05E-04		3.72E-04	2.96E-04
	635.95	11.22	2.62E-04		2.96E-05	1.28E-04
	671.44	1.79	1.98E-03		-1.13E-03	9.69E-04
SN-125	332.10	1.40	4.27E-03	3.02E-04	9.91E-04	2.10E-03
	469.85	1.50	5.93E-03		2.19E-03	2.93E-03
	800.28	1.10	2.50E-03		3.99E-03	1.20E-03
	822.48	4.30	6.17E-04		-5.23E-04	2.95E-04

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ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
SN-125	915.55	4.10	8.33E-04	3.02E-04	8.67E-04	4.02E-04
	1067.10	10.00	3.02E-04		1.34E-04	1.44E-04
	1087.70	1.20	4.08E-03		-9.54E-04	1.96E-03
	1089.10	4.60	5.42E-04		-2.02E-04	2.58E-04
	2002.10	1.90	7.62E-04		-4.45E-04	3.39E-04
SB-127	61.10	1.43	6.91E-03	5.93E-05	6.94E-04	3.42E-03
	252.40	8.50	5.31E-04		4.77E-04	2.62E-04
	290.80	2.02	2.51E-03		-4.25E-03	1.24E-03
	412.10	3.80	1.67E-03		-4.52E-04	8.26E-04
	445.10	4.30	1.77E-03		-7.10E-04	8.73E-04
	473.00	25.80	2.43E-04		3.50E-04	1.20E-04
	543.30	2.90	1.14E-03		8.97E-04	5.58E-04
	603.50	4.50	1.10E-03		-5.33E-04	5.38E-04
	685.70	36.80	5.93E-05		5.54E-05	2.85E-05
	698.50	3.64	1.31E-03		4.16E-05	6.41E-04
	722.20	1.88	1.44E-03		2.41E-03	6.98E-04
	783.70	15.10	1.62E-04		1.85E-04	7.77E-05
SN-127	119.70	2.20	4.30E+00	3.04E-01	5.18E-01	2.12E+00
	262.50	2.30	5.29E+00		-3.47E+00	2.61E+00
	266.20	2.10	5.80E+00		3.21E+00	2.86E+00
	284.30	2.70	4.62E+00		1.81E+00	2.28E+00
	438.20	6.10	2.98E+00		-1.85E+00	1.47E+00
	490.90	5.30	3.21E+00		1.72E-01	1.58E+00
	493.20	3.10	5.39E+00		4.31E+00	2.66E+00
	545.40	2.30	5.72E+00		-2.01E+00	2.80E+00
	583.30	3.20	3.87E+00		2.78E+00	1.89E+00
	805.90	8.20	9.30E-01		-1.72E-01	4.45E-01
	823.10	11.00	7.09E-01		1.36E-01	3.39E-01
	824.70	6.10	1.27E+00		3.83E-01	6.09E-01
	859.50	8.00	1.08E+00		1.63E-01	5.17E-01
	979.20	7.20	1.29E+00		2.95E-01	6.17E-01
	1093.30	3.80	2.25E+00		6.26E-01	1.07E+00
	1095.60	19.00	4.40E-01		-3.42E-01	2.09E-01
	1114.30	38.00	3.04E-01		-8.07E-03	1.47E-01
	1160.40	2.40	3.61E+00		1.97E+00	1.72E+00
	2003.40	5.30	1.15E+00		-3.11E-01	5.15E-01
SB-129	180.42	2.84	4.69E-02	2.01E-03	-3.21E-02	2.31E-02
	359.20	2.39	7.98E-02		1.31E-01	3.93E-02
	404.64	1.17	1.79E-01		1.41E-01	8.84E-02
	523.13	1.55	1.27E-01		1.13E-01	6.26E-02
	544.56	15.42	1.14E-02		1.57E-02	5.60E-03
	633.74	2.53	6.33E-02		3.57E-03	3.09E-02
	654.28	2.97	6.94E-02		-5.31E-02	3.41E-02
	682.77	5.76	1.71E-02		4.57E-03	8.19E-03
	761.12	4.32	2.45E-02		6.92E-03	1.18E-02
	773.37	2.82	3.89E-02		-2.76E-02	1.87E-02
	786.36	1.07	1.04E-01		8.92E-02	4.99E-02
	787.16	1.74	6.37E-02		7.20E-02	3.06E-02
	812.97	48.20	2.01E-03		9.71E-04	9.59E-04
	819.51	1.39	7.18E-02		7.02E-02	3.43E-02
	876.65	2.75	4.66E-02		3.76E-02	2.25E-02
	914.96	23.30	5.69E-03		4.48E-03	2.74E-03
	966.78	8.96	1.37E-02		4.10E-03	6.58E-03

Analysis Report for 24-2546 TI185-7.0M-S4-CST-d-A Q0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SB-129	1030.65		15.13	7.94E-03	2.01E-03	-1.88E-03	3.80E-03
		1656.10		1.31	5.47E-02		1.92E-02	2.47E-02
		1738.16		7.45	8.59E-03		2.97E-03	3.80E-03
	TE-129	459.60		7.70	6.47E-04	6.47E-04	2.07E-04	3.20E-04
		487.39		1.42	3.03E-03		-4.59E-04	1.49E-03
+	Te-129m	695.88	*	3.00	9.18E-04	9.18E-04	6.85E-03	4.47E-04
	I-131	80.18		2.62	1.84E-03	4.61E-05	1.53E-03	9.07E-04
		284.30		6.12	5.83E-04		1.66E-04	2.88E-04
		364.49		81.50	4.61E-05		-3.54E-05	2.27E-05
		636.99		7.16	4.51E-04		1.40E-04	2.20E-04
		722.91		1.77	1.38E-03		2.87E-03	6.64E-04
	Te-131m	773.67		36.80	1.43E-04	1.43E-04	-1.01E-04	6.85E-05
		793.75		13.40	5.91E-04		-2.67E-04	2.83E-04
		852.21		19.90	2.87E-04		5.64E-05	1.38E-04
		1125.46		11.00	4.71E-04		-1.94E-04	2.25E-04
		1206.60		9.41	3.98E-04		2.49E-04	1.87E-04
	I-132	262.90		1.28	2.88E-03	5.56E-05	-1.93E-03	1.42E-03
		284.90		0.71	5.27E-03		-1.03E-03	2.60E-03
		505.79		4.93	3.54E-03		-2.38E-03	1.74E-03
		522.65		16.00	5.25E-04		-4.02E-04	2.58E-04
		547.20		1.14	6.94E-03		3.16E-03	3.40E-03
		621.20		1.97	3.64E-03		4.81E-04	1.78E-03
		630.19		13.30	5.30E-04		-2.58E-04	2.59E-04
		650.50		2.57	3.57E-03		-5.81E-03	1.75E-03
		667.71		98.70	3.83E-04		8.45E-06	1.91E-04
		669.80		4.60	2.02E-03		-2.95E-05	9.90E-04
		671.40		3.50	3.02E-03		-7.16E-04	1.48E-03
		727.10		5.40	1.17E-03		-3.57E-06	5.65E-04
		728.40		1.60	3.47E-03		2.16E-03	1.67E-03
		772.60		75.60	5.56E-05		8.30E-06	2.67E-05
		809.50		2.60	1.63E-03		-1.31E-03	7.77E-04
		812.00		5.50	7.21E-04		-2.97E-05	3.44E-04
		910.10		0.93	5.60E-03		-1.75E-03	2.70E-03
		954.55		17.60	3.00E-04		-1.03E-04	1.44E-04
		1136.00		3.01	1.19E-03		3.06E-04	5.67E-04
		1172.90		1.09	1.13E-02		9.52E-02	5.59E-03
		1290.80		1.13	2.89E-03		-2.04E-03	1.34E-03
		1295.10		1.88	6.39E-04		-2.94E-04	2.97E-04
		1297.90		0.89	9.96E-04		-1.07E-03	4.64E-04
		1372.07		2.47	1.29E-03		-3.59E-04	5.96E-04
		1398.57		7.01	4.63E-04		3.83E-04	2.15E-04
		1442.56		1.40	8.28E-04		-9.85E-04	3.77E-04
	TE-132	49.72		15.00	1.30E-03	4.29E-05	1.45E-04	6.42E-04
		111.76		1.74	1.62E-03		1.46E-04	7.99E-04
		116.30		1.96	1.40E-03		9.20E-04	6.89E-04
		228.16		88.00	4.29E-05		6.57E-05	2.12E-05
	BA-133	81.00		32.90	1.32E-04	6.10E-05	2.70E-05	6.52E-05
		276.40		7.16	4.73E-04		-1.21E-04	2.33E-04
		302.85		18.34	1.81E-04		-8.11E-05	8.94E-05
		356.01		62.05	6.10E-05		7.73E-05	3.01E-05
		383.85		8.94	3.61E-04		1.29E-04	1.78E-04
	I-133	529.87		87.00	9.26E-05	9.26E-05	2.39E-06	4.55E-05
		706.58		1.51	3.43E-03		-4.73E-03	1.64E-03

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ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
I-133	856.28	1.24	5.35E-03	9.26E-05	-2.27E-04	2.57E-03
	875.33	4.51	1.17E-03		1.02E-03	5.64E-04
	1236.44	1.51	2.22E-03		-2.05E-04	1.04E-03
	1298.22	2.35	1.54E-03		-3.47E-04	7.15E-04
@ TE-133	312.08	62.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	407.63	27.10	1.00E+20		1.00E+20	1.00E+20
@	410.40	0.94	1.00E+20		1.00E+20	1.00E+20
@	474.85	0.88	1.00E+20		1.00E+20	1.00E+20
@	719.71	8.90	1.00E+20		1.00E+20	1.00E+20
@	786.93	5.40	1.00E+20		1.00E+20	1.00E+20
@	844.36	3.31	1.00E+20		1.00E+20	1.00E+20
@	884.30	0.72	1.00E+20		1.00E+20	1.00E+20
@	930.71	3.81	1.00E+20		1.00E+20	1.00E+20
@	997.70	1.04	1.00E+20		1.00E+20	1.00E+20
@	1000.72	3.62	1.00E+20		1.00E+20	1.00E+20
@	1021.13	2.81	1.00E+20		1.00E+20	1.00E+20
@	1061.61	1.19	1.00E+20		1.00E+20	1.00E+20
@	1252.08	1.44	1.00E+20		1.00E+20	1.00E+20
@	1312.80	0.85	1.00E+20		1.00E+20	1.00E+20
@	1333.21	10.67	1.00E+20		1.00E+20	1.00E+20
@	1717.61	3.18	1.00E+20		1.00E+20	1.00E+20
@	1881.52	1.22	1.00E+20		1.00E+20	1.00E+20
@	2136.51	1.25	1.00E+20		1.00E+20	1.00E+20
@	2229.64	0.87	1.00E+20		1.00E+20	1.00E+20
Xe-133	81.00	36.90	9.84E-05	9.84E-05	2.01E-05	4.86E-05
CS-134	475.36	1.48	3.22E-03	3.19E-05	8.76E-04	1.59E-03
	563.25	8.34	5.93E-04		-8.09E-04	2.90E-04
	569.33	15.37	3.35E-04		-4.48E-04	1.64E-04
	604.72	97.62	4.33E-05		-4.69E-05	2.12E-05
	795.86	85.46	3.19E-05		-5.36E-06	1.53E-05
	801.95	8.69	3.60E-04		-3.98E-04	1.72E-04
	1038.61	0.99	3.02E-03		9.07E-04	1.45E-03
	1167.97	1.79	2.90E-03		-2.12E-04	1.43E-03
	1365.19	3.02	4.57E-04		5.18E-04	2.17E-04
I-135	220.50	1.75	3.20E-02	8.33E-04	-1.83E-02	1.58E-02
	288.45	3.10	1.81E-02		-1.86E-02	8.92E-03
	417.63	3.53	2.59E-02		2.58E-03	1.28E-02
	546.56	7.15	8.40E-03		5.85E-03	4.12E-03
	836.80	6.69	5.73E-03		-1.24E-03	2.75E-03
	971.96	0.89	5.21E-02		3.48E-02	2.50E-02
	972.62	1.21	3.43E-02		-1.74E-02	1.64E-02
	1038.76	7.90	4.02E-03		1.20E-03	1.92E-03
	1101.58	1.61	2.49E-02		-1.09E-02	1.19E-02
	1124.00	3.62	1.20E-02		-1.35E-03	5.73E-03
	1131.51	22.60	1.82E-03		2.98E-03	8.69E-04
	1240.47	0.90	3.56E-02		-1.16E-02	1.67E-02
	1260.41	28.70	8.33E-04		9.17E-04	3.89E-04
	1457.56	8.70	2.91E-03		3.13E-03	1.35E-03
	1502.79	1.08	2.67E-02		-2.16E-02	1.22E-02
	1566.41	1.29	1.55E-02		6.35E-03	7.09E-03
	1678.03	9.60	1.56E-03		3.00E-05	6.97E-04
	1706.46	4.10	4.26E-03		-2.01E-03	1.90E-03
	1791.20	7.72	2.42E-03		1.42E-03	1.08E-03

Analysis Report for 24-2546 TI185-7.0M-S4-CST-d-A Q0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	I-135	2408.65		0.96	1.05E-02	8.33E-04	2.92E-03	3.92E-03
	XE-135	249.79		90.00	2.24E-04	2.24E-04	1.17E-04	1.10E-04
	XE-135m	526.56		80.40	6.27E-04	6.27E-04	1.09E-04	3.08E-04
	CS-136	66.88		4.79	2.23E-03	3.21E-05	3.04E-03	1.10E-03
		86.36		5.90	1.19E-03		-5.32E-04	5.90E-04
		153.25		7.70	5.16E-04		-5.30E-04	2.54E-04
		163.92		4.69	1.26E-03		1.29E-03	6.19E-04
		176.60		13.70	3.51E-04		2.39E-04	1.73E-04
		273.65		12.66	4.50E-04		-2.18E-04	2.22E-04
		340.55		46.80	1.28E-04		8.52E-05	6.32E-05
		818.51		99.70	3.21E-05		-2.05E-05	1.53E-05
		1048.07		80.00	5.16E-05		-4.31E-05	2.47E-05
		1235.36		20.00	1.37E-04		1.77E-05	6.41E-05
+	CS-137	661.66	*	85.10	2.43E-05	2.43E-05	1.33E-02	1.17E-05
	BA-139	33.44		3.84	1.44E+04	3.03E+01	-4.97E+03	7.09E+03
		165.86		23.70	3.03E+01		1.03E+01	1.49E+01
	BA-140	132.69		0.20	1.15E-02	1.40E-04	-1.74E-03	5.66E-03
		162.66		6.22	4.56E-04		5.71E-04	2.25E-04
		304.85		4.29	9.79E-04		2.44E-04	4.83E-04
		423.72		3.10	1.37E-03		-2.09E-04	6.75E-04
		437.58		1.93	2.39E-03		-2.40E-03	1.18E-03
		537.26		24.39	1.40E-04		-8.29E-05	6.89E-05
	LA-140	109.42		0.22	1.06E-02	2.23E-05	-3.21E-03	5.24E-03
		131.12		0.47	4.98E-03		1.50E-03	2.46E-03
		173.54		0.13	1.92E-02		-1.75E-02	9.48E-03
		241.93		0.41	7.69E-03		1.81E-04	3.79E-03
		266.54		0.47	6.68E-03		1.04E-03	3.30E-03
		328.76		20.30	2.88E-04		-7.52E-05	1.42E-04
		432.49		2.90	2.77E-03		2.01E-03	1.37E-03
		487.02		45.50	1.49E-04		-3.76E-05	7.33E-05
		618.10		0.04	8.23E-02		-4.21E-02	4.02E-02
		751.64		4.33	5.60E-04		-5.34E-04	2.68E-04
		815.77		23.28	8.70E-05		6.91E-05	4.15E-05
		867.85		5.50	5.35E-04		-2.55E-04	2.57E-04
		919.55		2.66	1.02E-03		6.76E-04	4.89E-04
		925.19		6.90	4.63E-04		-5.29E-04	2.23E-04
		950.99		0.52	6.03E-03		-4.45E-03	2.90E-03
		1596.21		95.40	2.23E-05		1.72E-05	1.01E-05
		2347.88		0.85	1.06E-03		7.98E-04	4.64E-04
		2521.40		3.46	1.27E-04		-1.47E-04	4.02E-05
		2547.34		0.10	1.09E-02		-7.89E-03	4.47E-03
@	BA-141	33.44		7.93	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@		190.33		44.80	1.00E+20		1.00E+20	1.00E+20
@		276.95		23.60	1.00E+20		1.00E+20	1.00E+20
@		304.19		26.10	1.00E+20		1.00E+20	1.00E+20
@		343.67		15.10	1.00E+20		1.00E+20	1.00E+20
@		389.74		1.37	1.00E+20		1.00E+20	1.00E+20
@		457.51		5.00	1.00E+20		1.00E+20	1.00E+20
@		462.06		5.10	1.00E+20		1.00E+20	1.00E+20
@		467.22		5.60	1.00E+20		1.00E+20	1.00E+20
@		625.08		3.45	1.00E+20		1.00E+20	1.00E+20
@		647.78		5.70	1.00E+20		1.00E+20	1.00E+20
@		738.95		4.39	1.00E+20		1.00E+20	1.00E+20

Analysis Report for 24-2546 TI185-7.0M-S4-CST-d-A Q0

ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@ BA-141	831.46	1.64	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	876.09	3.45	1.00E+20		1.00E+20	1.00E+20
@	1160.72	1.12	1.00E+20		1.00E+20	1.00E+20
@	1197.28	4.35	1.00E+20		1.00E+20	1.00E+20
@	1323.92	0.92	1.00E+20		1.00E+20	1.00E+20
@	1654.00	0.65	1.00E+20		1.00E+20	1.00E+20
@	1682.19	1.19	1.00E+20		1.00E+20	1.00E+20
CE-141	145.44	48.30	4.67E-05	4.67E-05	-2.45E-06	2.30E-05
@ BA-142	33.44	14.20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	77.59	7.00	1.00E+20		1.00E+20	1.00E+20
@	177.00	2.12	1.00E+20		1.00E+20	1.00E+20
@	231.61	12.20	1.00E+20		1.00E+20	1.00E+20
@	255.30	20.70	1.00E+20		1.00E+20	1.00E+20
@	286.30	1.11	1.00E+20		1.00E+20	1.00E+20
@	309.20	2.60	1.00E+20		1.00E+20	1.00E+20
@	335.00	1.53	1.00E+20		1.00E+20	1.00E+20
@	363.96	4.76	1.00E+20		1.00E+20	1.00E+20
@	425.04	5.75	1.00E+20		1.00E+20	1.00E+20
@	599.80	1.85	1.00E+20		1.00E+20	1.00E+20
@	840.40	3.63	1.00E+20		1.00E+20	1.00E+20
@	895.20	13.90	1.00E+20		1.00E+20	1.00E+20
@	949.10	10.70	1.00E+20		1.00E+20	1.00E+20
@	1001.20	9.80	1.00E+20		1.00E+20	1.00E+20
@	1078.70	11.50	1.00E+20		1.00E+20	1.00E+20
@	1094.10	2.82	1.00E+20		1.00E+20	1.00E+20
@	1126.80	1.50	1.00E+20		1.00E+20	1.00E+20
@	1202.40	5.60	1.00E+20		1.00E+20	1.00E+20
@	1204.30	14.30	1.00E+20		1.00E+20	1.00E+20
@	1380.20	3.42	1.00E+20		1.00E+20	1.00E+20
CE-143	57.36	11.70	1.29E-03	1.23E-04	8.10E-05	6.35E-04
	231.55	2.05	3.22E-03		8.21E-04	1.59E-03
	293.27	42.80	1.23E-04		8.13E-05	6.04E-05
	350.62	3.23	1.59E-03		1.09E-03	7.82E-04
	490.37	2.16	4.35E-03		-4.17E-03	2.15E-03
	664.57	5.69	7.79E-03		-3.55E-05	3.88E-03
	721.93	5.39	6.31E-04		1.05E-03	3.05E-04
	880.46	1.03	3.89E-03		-2.95E-03	1.87E-03
CE-144	80.12	1.36	2.37E-03	1.98E-04	1.97E-03	1.17E-03
	133.51	11.09	1.98E-04		1.11E-04	9.74E-05
ND-147	38.17	13.20	4.36E-03	1.15E-04	1.77E-03	2.15E-03
	38.72	23.80	2.14E-03		-1.26E-03	1.05E-03
	91.11	28.90	1.15E-04		7.28E-05	5.68E-05
	275.39	0.79	5.79E-03		-2.53E-03	2.85E-03
	319.41	1.97	2.06E-03		1.68E-03	1.02E-03
	398.13	0.87	4.95E-03		1.95E-04	2.44E-03
	439.88	1.20	4.25E-03		-3.27E-03	2.10E-03
	531.01	13.11	2.78E-04		1.90E-04	1.36E-04
	685.88	0.82	2.30E-03		1.55E-03	1.10E-03
@ PR-147	36.85	19.70	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	37.36	35.50	1.00E+20		1.00E+20	1.00E+20
@	49.88	4.00	1.00E+20		1.00E+20	1.00E+20
@	77.97	9.70	1.00E+20		1.00E+20	1.00E+20
@	86.69	5.40	1.00E+20		1.00E+20	1.00E+20

Analysis Report for 24-2546 TI185-7.0M-S4-CST-d-A Q0

ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
@ PR-147	127.80	7.40	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	249.20	1.32	1.00E+20		1.00E+20	1.00E+20
@	314.70	18.20	1.00E+20		1.00E+20	1.00E+20
@	328.80	4.00	1.00E+20		1.00E+20	1.00E+20
@	335.70	4.70	1.00E+20		1.00E+20	1.00E+20
@	388.80	1.41	1.00E+20		1.00E+20	1.00E+20
@	466.80	1.70	1.00E+20		1.00E+20	1.00E+20
@	477.90	4.60	1.00E+20		1.00E+20	1.00E+20
@	516.70	1.30	1.00E+20		1.00E+20	1.00E+20
@	554.70	5.90	1.00E+20		1.00E+20	1.00E+20
@	577.90	13.70	1.00E+20		1.00E+20	1.00E+20
@	641.40	16.10	1.00E+20		1.00E+20	1.00E+20
@	996.00	1.52	1.00E+20		1.00E+20	1.00E+20
@	1136.70	1.42	1.00E+20		1.00E+20	1.00E+20
@	1261.10	8.40	1.00E+20		1.00E+20	1.00E+20
@	1300.40	2.30	1.00E+20		1.00E+20	1.00E+20
ND-149	38.17	9.00	1.51E+02	3.06E+00	6.12E+01	7.44E+01
	38.72	16.30	7.37E+01		-4.34E+01	3.63E+01
	58.88	1.30	1.98E+02		6.25E+02	9.80E+01
	74.32	2.11	5.43E+01		3.01E+00	2.68E+01
	97.00	1.48	4.75E+01		-3.18E+01	2.34E+01
	114.31	19.20	3.64E+00		1.44E+00	1.80E+00
	155.87	5.95	1.20E+01		2.23E+00	5.93E+00
	188.64	1.79	8.09E+01		1.40E+02	3.99E+01
	198.93	1.39	7.12E+01		9.48E+01	3.51E+01
	208.15	2.55	3.73E+01		7.24E+00	1.84E+01
	211.31	26.00	3.06E+00		-1.45E+00	1.51E+00
	240.22	3.95	1.97E+01		5.93E+00	9.72E+00
	245.72	0.81	1.27E+02		8.12E+01	6.29E+01
	267.69	6.05	1.82E+01		6.25E+00	8.97E+00
	270.17	10.80	7.16E+00		-4.01E+00	3.53E+00
	326.55	4.57	2.30E+01		-1.62E+01	1.13E+01
	349.23	1.38	8.00E+01		4.39E+01	3.94E+01
	423.55	7.50	1.43E+01		-6.69E+00	7.05E+00
	443.55	1.15	1.32E+02		-3.61E+00	6.54E+01
	540.51	6.60	1.38E+01		1.23E+00	6.76E+00
	654.83	8.00	1.43E+01		-5.40E+00	7.06E+00
PM-149	285.95	3.10	1.33E-03	1.33E-03	-1.93E-04	6.58E-04
PM-150	39.52	0.63	4.22E+01	3.15E-02	-8.04E+00	2.08E+01
	40.12	1.14	2.09E+01		-3.00E+01	1.03E+01
	333.92	68.00	3.15E-02		1.70E-02	1.55E-02
	406.51	5.60	4.50E-01		6.24E-02	2.22E-01
	565.70	1.31	1.46E+00		3.87E-01	7.12E-01
	587.02	1.34	1.45E+00		1.12E-01	7.10E-01
	612.25	0.93	2.04E+00		1.29E+00	9.95E-01
	712.22	4.40	2.48E-01		2.69E-01	1.19E-01
	737.50	2.25	5.01E-01		-1.96E-01	2.40E-01
	831.85	11.90	1.05E-01		-9.16E-02	5.03E-02
	859.95	3.40	3.95E-01		-2.60E-01	1.90E-01
	876.41	7.30	2.06E-01		-1.27E-01	9.90E-02
	1165.77	15.80	1.47E-01		-4.12E-02	7.13E-02
	1170.90	1.06	4.56E+00		-1.62E-01	2.25E+00
	1193.87	4.80	2.54E-01		2.81E-02	1.20E-01

Analysis Report for 24-2546 TI185-7.0M-S4-CST-d-A Q0

ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
PM-150	1213.72	1.03	1.13E+00	3.15E-02	-2.81E+00	5.31E-01
	1223.28	2.80	4.35E-01		5.73E-01	2.05E-01
	1324.51	17.50	8.82E-02		3.36E-02	4.20E-02
	1379.32	3.10	2.91E-01		-5.29E-02	1.34E-01
	1736.40	6.90	1.10E-01		-3.43E-02	4.88E-02
	1963.71	1.47	5.96E-01		-6.51E-02	2.65E-01
	2033.46	0.97	1.02E+00		-4.01E-01	4.58E-01
@ ND-151	38.17	5.94	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	38.72	10.70	1.00E+20		1.00E+20	1.00E+20
@	68.98	1.26	1.00E+20		1.00E+20	1.00E+20
@	85.12	2.05	1.00E+20		1.00E+20	1.00E+20
@	89.96	1.53	1.00E+20		1.00E+20	1.00E+20
@	116.80	39.00	1.00E+20		1.00E+20	1.00E+20
@	138.89	7.00	1.00E+20		1.00E+20	1.00E+20
@	170.76	2.87	1.00E+20		1.00E+20	1.00E+20
@	175.07	6.30	1.00E+20		1.00E+20	1.00E+20
@	255.68	14.80	1.00E+20		1.00E+20	1.00E+20
@	300.58	1.82	1.00E+20		1.00E+20	1.00E+20
@	423.56	5.90	1.00E+20		1.00E+20	1.00E+20
@	460.59	0.96	1.00E+20		1.00E+20	1.00E+20
@	585.22	1.30	1.00E+20		1.00E+20	1.00E+20
@	677.88	2.38	1.00E+20		1.00E+20	1.00E+20
@	736.23	5.90	1.00E+20		1.00E+20	1.00E+20
@	739.20	1.52	1.00E+20		1.00E+20	1.00E+20
@	755.57	1.17	1.00E+20		1.00E+20	1.00E+20
@	797.53	4.70	1.00E+20		1.00E+20	1.00E+20
@	1016.40	2.50	1.00E+20		1.00E+20	1.00E+20
@	1122.63	4.10	1.00E+20		1.00E+20	1.00E+20
@	1180.89	13.30	1.00E+20		1.00E+20	1.00E+20
Pm-151	167.75	8.30	5.64E-04	2.70E-04	2.06E-05	2.78E-04
	177.16	3.80	1.56E-03		3.26E-06	7.69E-04
	240.09	3.80	1.62E-03		4.87E-04	7.98E-04
	275.21	6.80	8.27E-04		-3.62E-04	4.08E-04
	340.08	22.50	2.70E-04		-6.30E-05	1.33E-04
EU-152	121.78	28.53	1.12E-04	8.77E-05	-5.47E-07	5.53E-05
	344.28	26.59	1.54E-04		-5.78E-05	7.59E-05
	778.90	12.93	2.08E-04		7.15E-05	9.98E-05
	867.37	4.23	8.03E-04		-1.38E-03	3.85E-04
	964.08	14.51	1.91E-04		-8.54E-07	9.19E-05
	1085.87	10.11	2.48E-04		-1.88E-05	1.20E-04
	1112.07	13.67	2.24E-04		2.53E-04	1.08E-04
	1408.01	20.87	8.77E-05		-1.47E-04	4.07E-05
@ ND-152	44.44	5.50	1.00E+20	1.00E+20	1.00E+20	1.00E+20
@	250.15	16.40	1.00E+20		1.00E+20	1.00E+20
@	278.56	26.00	1.00E+20		1.00E+20	1.00E+20
@	294.47	2.90	1.00E+20		1.00E+20	1.00E+20
@	545.70	0.83	1.00E+20		1.00E+20	1.00E+20
@	592.50	0.99	1.00E+20		1.00E+20	1.00E+20
GD-153	69.67	2.45	1.79E-03	8.10E-05	-1.85E-03	8.81E-04
	97.43	30.00	8.10E-05		7.85E-05	3.99E-05
	103.18	22.10	1.07E-04		-9.55E-05	5.28E-05
SM-153	69.67	4.67	1.33E-03	1.16E-04	-1.38E-03	6.57E-04
	103.18	29.14	1.16E-04		-1.04E-04	5.72E-05

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ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	EU-154	42.70		20.45	1.19E-03	5.93E-05	4.91E-04	5.85E-04
		123.07	*	40.40	9.97E-05		1.16E-04	4.94E-05
		247.93		6.89	6.31E-04		-2.35E-04	3.12E-04
		591.76		4.95	9.41E-04		-2.13E-04	4.60E-04
		692.42		1.78	3.14E-03		1.54E-04	1.54E-03
		723.30		20.06	1.56E-04		2.20E-04	7.52E-05
		756.80		4.52	6.76E-04		7.31E-04	3.24E-04
		873.18		12.08	2.75E-04		1.12E-04	1.33E-04
		996.29		10.48	2.58E-04		2.06E-04	1.24E-04
		1004.76	*	18.01	1.15E-04		8.84E-05	5.46E-05
		1246.12		0.86	3.20E-03		1.30E-04	1.50E-03
		1274.43	*	34.80	5.93E-05		7.28E-05	2.79E-05
		1494.05		0.70	1.68E-03		-3.69E-04	7.58E-04
		1596.48		1.80	4.16E-04		-1.97E-04	1.89E-04
	EU-155	43.00		18.12	1.28E-03	1.07E-04	7.05E-06	6.33E-04
		60.01		1.17	5.42E-03		1.09E-02	2.68E-03
		86.55		30.70	1.21E-04		5.39E-04	6.01E-05
		105.31		21.10	1.07E-04		-3.34E-05	5.29E-05
	EU-156	88.97		8.40	6.68E-04	2.27E-04	3.52E-03	3.31E-04
		646.29		6.30	6.91E-04		-8.78E-05	3.38E-04
		723.47		5.40	5.78E-04		8.17E-04	2.79E-04
		811.77		9.70	2.56E-04		8.87E-05	1.22E-04
		1065.14		4.90	6.43E-04		-2.63E-04	3.07E-04
		1079.16		4.60	6.81E-04		1.38E-03	3.28E-04
		1153.80		11.50	2.27E-04		-5.04E-06	1.08E-04
		1230.71		8.00	2.89E-04		-1.71E-04	1.35E-04
		1242.42		6.60	3.09E-04		1.78E-04	1.45E-04
		1277.43		2.89	9.65E-04		1.99E-03	4.59E-04
		1366.41		1.57	1.55E-03		-9.88E-05	7.37E-04
		1965.95		3.90	2.96E-04		2.85E-04	1.32E-04
		2097.70		3.80	3.33E-04		2.78E-05	1.45E-04
		2186.71		3.50	4.44E-04		-4.20E-05	1.99E-04
	Sm-156	87.60		24.00	9.83E-04	8.40E-04	5.03E-03	4.87E-04
		165.80		13.00	1.13E-03		3.84E-04	5.58E-04
		204.00		21.00	8.40E-04		6.99E-05	4.15E-04
	EU-158	42.31		5.80	3.76E+07	6.41E+05	3.14E+07	1.85E+07
		43.00		10.40	1.90E+07		1.05E+05	9.38E+06
		79.49		10.50	2.61E+06		5.32E+05	1.29E+06
		181.97		2.30	9.22E+06		-1.52E+07	4.55E+06
		528.05		1.53	1.96E+07		1.35E+07	9.61E+06
		606.39		4.00	6.42E+06		6.00E+06	3.14E+06
		743.02		3.60	4.27E+06		7.01E+05	2.04E+06
		897.61		12.40	1.57E+06		-1.82E+06	7.58E+05
		906.50		1.83	1.09E+07		-3.17E+06	5.26E+06
		922.51		1.62	1.27E+07		-3.27E+06	6.11E+06
		944.15		30.00	6.41E+05		-1.24E+06	3.08E+05
		953.03		1.98	1.00E+07		5.36E+06	4.82E+06
		962.09		1.89	1.04E+07		5.04E+06	4.99E+06
		977.14		16.30	1.18E+06		-7.44E+05	5.64E+05
		986.96		1.35	1.39E+07		-2.03E+06	6.66E+06
		1107.63		5.10	4.66E+06		9.11E+06	2.25E+06
		1184.10		3.00	5.29E+06		-1.29E+06	2.50E+06
		1186.00		2.90	5.48E+06		-1.39E+06	2.59E+06

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ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
EU-158	1187.10	4.40	3.56E+06	6.41E+05	-1.14E+06	1.68E+06
	1263.61	2.20	6.02E+06		3.58E+06	2.80E+06
	1347.95	1.65	6.77E+06		9.18E+05	3.09E+06
	1944.47	1.62	6.22E+06		-2.42E+06	2.73E+06
TB-160	86.79	13.20	4.15E-04	9.69E-05	2.23E-03	2.05E-04
	298.58	26.10	1.60E-04		-1.75E-05	7.88E-05
	879.38	30.10	9.69E-05		-5.28E-05	4.67E-05
	962.32	9.81	2.71E-04		9.18E-05	1.30E-04
	966.17	25.10	1.02E-04		2.23E-06	4.88E-05
	1177.96	14.90	4.20E-04		1.46E-05	2.07E-04
TB-161	25.65	23.20	2.00E-01	3.82E-04	2.62E-02	9.89E-02
	48.91	17.00	8.08E-04		2.59E-04	3.99E-04
	52.00	3.43	3.00E-03		-1.42E-03	1.48E-03
	57.19	1.79	4.73E-03		-8.27E-04	2.34E-03
	74.57	10.20	3.82E-04		-7.27E-05	1.89E-04
YB-169	63.12	43.62	2.18E-04	8.67E-05	2.61E-04	1.08E-04
	93.61	2.58	1.93E-03		2.59E-04	9.50E-04
	109.78	17.39	1.64E-04		-1.67E-04	8.09E-05
	130.52	11.38	3.04E-04		1.07E-04	1.50E-04
	177.21	22.28	1.42E-04		2.98E-07	7.02E-05
	197.96	35.93	8.67E-05		1.75E-05	4.28E-05
	307.74	10.05	2.37E-04		1.62E-04	1.17E-04
HF-172	54.07	63.00	1.27E-04	1.27E-04	5.01E-06	6.24E-05
	67.35	5.30	8.18E-04		2.93E-04	4.04E-04
	81.75	4.50	6.95E-04		5.00E-04	3.43E-04
	114.06	2.60	8.51E-04		-2.01E-04	4.20E-04
	122.92	1.14	2.03E-03		2.22E-03	1.00E-03
	125.81	11.30	2.08E-04		-1.80E-05	1.03E-04
	127.91	1.46	1.52E-03		-6.90E-05	7.47E-04
LU-173	59.30	24.44	2.69E-04	1.53E-04	7.71E-04	1.33E-04
	78.63	11.90	3.53E-04		-2.70E-04	1.74E-04
	100.72	5.24	5.07E-04		2.52E-04	2.50E-04
	171.39	2.90	8.97E-04		2.02E-04	4.42E-04
	272.11	21.20	1.53E-04		-8.64E-05	7.56E-05
LU-177	112.95	6.23	3.99E-04	3.18E-04	-1.34E-04	1.97E-04
	208.37	10.41	3.18E-04		6.16E-05	1.57E-04
	249.67	0.20	1.66E-02		8.65E-03	8.19E-03
	321.32	0.22	1.60E-02		-1.56E-04	7.87E-03
HF-181	133.02	43.30	7.05E-05	6.13E-05	-2.82E-05	3.48E-05
	345.93	15.12	2.88E-04		-4.45E-05	1.42E-04
	482.18	80.50	6.13E-05		3.79E-05	3.02E-05
W-181	56.28	18.70	3.97E-04	2.31E-04	-2.60E-05	1.96E-04
	57.53	32.00	2.31E-04		-1.37E-05	1.14E-04
	65.00	10.60	4.47E-04		7.36E-04	2.20E-04
TA-182	57.98	10.01	7.19E-04	7.90E-05	-7.01E-05	3.55E-04
	59.32	17.20	3.83E-04		1.10E-03	1.89E-04
	65.72	3.01	3.10E-03		3.16E-03	1.53E-03
	67.75	46.67	1.31E-04		1.28E-05	6.47E-05
	84.68	2.65	2.02E-03		2.40E-04	9.98E-04
	100.11	14.20	2.56E-04		-5.89E-05	1.26E-04
	113.67	1.87	2.46E-03		-2.54E-03	1.21E-03
	116.42	0.44	4.94E-03		3.25E-03	2.44E-03
	152.43	7.02	5.04E-04		-7.42E-05	2.49E-04

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ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
TA-182	156.39	2.67	1.28E-03	7.90E-05	-2.67E-04	6.30E-04
	179.39	3.12	1.25E-03		-1.15E-04	6.19E-04
	198.35	1.47	3.52E-03		5.37E-04	1.74E-03
	222.11	7.57	5.51E-04		-1.82E-04	2.72E-04
	229.32	3.64	1.31E-03		-9.85E-04	6.47E-04
	264.08	3.61	1.19E-03		-1.05E-03	5.87E-04
	928.00	0.61	5.31E-03		2.21E-03	2.55E-03
	959.73	0.35	9.54E-03		-2.67E-03	4.58E-03
	1001.70	2.09	2.41E-03		2.56E-03	1.16E-03
	1044.42	0.24	1.55E-02		8.86E-03	7.45E-03
	1113.41	0.44	8.91E-03		1.50E-02	4.30E-03
	1121.29	35.24	8.52E-05		6.51E-05	4.08E-05
	1157.30	0.73	2.55E-03		-2.97E-03	1.21E-03
	1189.04	16.49	1.07E-04		4.52E-05	5.07E-05
	1221.40	27.23	7.90E-05		-5.43E-06	3.73E-05
	1223.60	0.24	4.85E-03		2.11E-03	2.29E-03
	1231.00	11.62	1.85E-04		-2.01E-04	8.66E-05
	1257.41	1.51	1.09E-03		1.79E-04	5.09E-04
	1273.72	0.66	1.46E-03		1.97E-03	6.94E-04
	1289.15	1.37	3.79E-04		-6.83E-05	1.76E-04
	1342.73	0.26	4.28E-03		2.24E-03	1.96E-03
	1373.82	0.22	1.65E-03		1.14E-03	7.59E-04
Ta-183	84.71	1.35	3.22E-03	1.26E-04	3.83E-04	1.59E-03
	99.08	6.80	4.00E-04		3.83E-04	1.97E-04
	107.93	11.20	2.31E-04		1.34E-05	1.14E-04
	161.35	9.10	2.83E-04		-5.33E-04	1.40E-04
	162.32	5.00	5.20E-04		1.22E-04	2.56E-04
	244.26	8.80	3.95E-04		3.10E-04	1.95E-04
	246.06	27.20	1.26E-04		-1.28E-04	6.23E-05
	353.99	11.60	3.44E-04		1.04E-04	1.70E-04
Re-184	111.21	17.20	1.34E-04	5.34E-05	-7.75E-05	6.58E-05
	252.85	3.00	1.01E-03		-9.56E-04	4.97E-04
	792.01	37.70	5.34E-05		1.46E-05	2.56E-05
	894.76	15.70	1.49E-04		-6.29E-05	7.17E-05
	903.28	38.10	6.37E-05		-3.97E-05	3.07E-05
W-185	59.72	0.01	5.43E-01	1.24E-01	1.09E+00	2.68E-01
	61.14	0.02	3.00E-01		3.02E-02	1.48E-01
	69.20	0.01	5.73E-01		-1.43E+00	2.83E-01
	125.36	0.02	1.24E-01		1.35E-02	6.12E-02
W-187	61.14	14.30	8.80E-04	1.10E-04	8.83E-05	4.35E-04
	69.20	4.82	1.67E-03		-4.17E-03	8.25E-04
	72.00	13.55	8.55E-04		6.25E-04	4.22E-04
	134.25	10.36	6.18E-04		-2.18E-04	3.05E-04
	479.53	26.60	4.21E-04		-3.05E-04	2.08E-04
	618.37	7.57	7.88E-04		-4.03E-04	3.85E-04
	685.81	33.20	1.10E-04		1.03E-04	5.27E-05
Ir-188	155.05	29.60	1.15E-04	1.06E-04	5.81E-05	5.65E-05
	478.00	14.70	4.75E-04		-3.99E-05	2.35E-04
	633.02	17.90	2.45E-04		-4.56E-04	1.19E-04
	634.97	5.00	9.01E-04		1.05E-04	4.40E-04
	829.42	5.10	5.83E-04		3.46E-04	2.79E-04
	1209.77	6.90	3.78E-04		1.03E-04	1.78E-04
	1715.67	6.20	3.55E-04		3.98E-04	1.61E-04

Analysis Report for 24-2546 TI185-7.0M-S4-CST-d-A Q0

ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Ir-188	2214.59	18.60	1.06E-04	1.06E-04	-1.93E-04	4.61E-05
W-188	227.07	0.23	1.27E-02	7.27E-03	-6.71E-03	6.27E-03
	290.68	0.42	7.27E-03		-1.23E-02	3.59E-03
Ir-189	245.08	6.00	5.31E-04	5.31E-04	5.40E-04	2.62E-04
Ir-190	186.68	50.00	5.85E-05	5.85E-05	3.47E-05	2.89E-05
	361.09	12.30	3.02E-04		3.27E-04	1.49E-04
	371.24	21.60	1.72E-04		4.09E-05	8.49E-05
	407.22	27.00	1.52E-04		-2.50E-05	7.49E-05
	518.55	32.20	1.20E-04		-1.01E-05	5.91E-05
	557.95	28.50	1.12E-04		-1.97E-05	5.46E-05
	569.30	27.00	1.13E-04		-1.52E-04	5.55E-05
	605.14	37.80	8.47E-05		-6.85E-06	4.14E-05
OS-191	63.29	15.70	3.62E-04	8.64E-05	5.38E-04	1.79E-04
	64.99	26.70	1.85E-04		3.05E-04	9.12E-05
	73.45	9.21	4.05E-04		3.92E-05	2.00E-04
	129.43	26.50	8.64E-05		-5.19E-06	4.26E-05
Pt-191	359.90	5.80	9.42E-04	3.08E-04	-2.47E-04	4.65E-04
	456.47	3.30	2.06E-03		4.85E-05	1.02E-03
	538.90	14.30	3.08E-04		-2.39E-04	1.51E-04
IR-192	205.79	3.31	1.25E-03	5.61E-05	5.05E-04	6.15E-04
	295.96	28.71	2.00E-04		1.71E-05	9.86E-05
	308.45	29.70	1.84E-04		-7.68E-05	9.07E-05
	316.51	82.86	5.61E-05		-5.10E-06	2.76E-05
	468.07	47.84	1.44E-04		5.34E-05	7.12E-05
	588.58	4.52	1.16E-03		-5.36E-05	5.66E-04
	604.41	8.22	2.98E-04		-2.08E-04	1.46E-04
	612.46	5.34	3.45E-04		2.86E-04	1.68E-04
IR-192m	155.16	0.09	2.41E-02	2.41E-02	7.91E-03	1.19E-02
IR-193m	80.22	0.00	7.35E-01	7.35E-01	6.12E-01	3.63E-01
Pt-193m	135.50	0.11	2.26E-02	2.26E-02	4.66E-03	1.11E-02
Au-194	293.55	10.90	4.45E-04	7.91E-05	7.13E-04	2.20E-04
	328.47	62.80	7.91E-05		-7.41E-05	3.90E-05
	364.84	1.60	3.41E-03		-2.09E-03	1.68E-03
	528.77	1.78	3.11E-03		4.16E-04	1.53E-03
	645.16	2.32	2.08E-03		1.50E-03	1.02E-03
	948.32	2.29	1.58E-03		1.23E-03	7.61E-04
	1104.06	2.15	1.93E-03		5.89E-04	9.30E-04
	1175.36	2.14	5.46E-03		4.50E-02	2.69E-03
	1468.90	6.80	3.13E-04		-2.86E-04	1.43E-04
	1595.81	1.89	1.19E-03		1.40E-03	5.44E-04
	2043.72	3.74	6.73E-04		3.99E-04	3.04E-04
Ir-194	293.54	2.50	3.05E-03	5.96E-04	4.89E-03	1.50E-03
	328.47	13.10	5.96E-04		-5.58E-04	2.93E-04
AU-195	98.86	11.21	2.11E-04	2.11E-04	1.59E-04	1.04E-04
	129.74	0.84	2.62E-03		-1.77E-04	1.29E-03
Pt-195m	98.90	11.70	2.41E-04	2.41E-04	1.82E-04	1.19E-04
	129.79	2.90	9.06E-04		-6.14E-05	4.47E-04
Au-196	333.03	22.90	2.61E-04	5.55E-05	-3.33E-04	1.28E-04
	355.73	87.00	5.55E-05		2.87E-05	2.74E-05
	426.10	6.60	6.87E-04		-2.96E-04	3.39E-04
Au-196m	147.81	43.50	3.16E-04	3.16E-04	1.69E-04	1.56E-04
	188.27	30.00	5.81E-04		1.07E-04	2.87E-04
Pt-197	77.35	17.00	4.72E-04	4.72E-04	-2.76E-04	2.33E-04

Analysis Report for 24-2546 TI185-7.0M-S4-CST-d-A Q0

ASR 2120 Branch

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
Pt-197	191.44	3.70	1.83E-03	4.72E-04	-1.71E-05	9.03E-04
AU-198	411.80	95.62	6.63E-05	6.63E-05	9.39E-06	3.28E-05
AU-199	158.38	40.00	7.04E-05	7.04E-05	-3.68E-05	3.47E-05
	208.20	8.72	4.29E-04		8.31E-05	2.12E-04
TL-201	135.34	2.61	1.07E-03	2.92E-04	2.20E-04	5.25E-04
	167.43	10.00	2.92E-04		2.61E-04	1.44E-04
TL-202	439.51	91.50	5.14E-05	5.14E-05	-1.09E-05	2.54E-05
PB-203	70.83	26.40	2.00E-04	6.06E-05	-1.13E-04	9.87E-05
	72.87	44.20	1.15E-04		8.29E-05	5.66E-05
	82.40	15.56	2.76E-04		-2.06E-04	1.36E-04
	279.20	80.90	6.06E-05		6.44E-06	2.99E-05
	401.32	3.35	2.46E-03		8.04E-05	1.21E-03
PB-210	46.54	4.25	3.69E-03	3.69E-03	-1.03E-03	1.82E-03
Pa-233	86.60	2.01	2.21E-03	8.07E-05	9.79E-03	1.09E-03
	94.65	8.90	2.74E-04		-6.58E-06	1.35E-04
	98.43	14.20	1.66E-04		2.31E-05	8.17E-05
	300.13	6.54	4.69E-04		-7.30E-04	2.31E-04
	311.90	38.20	8.07E-05		-1.24E-05	3.98E-05
	340.48	4.44	7.65E-04		5.08E-04	3.77E-04
U-235	89.96	2.90	1.22E-03	4.72E-05	5.50E-04	6.03E-04
	93.35	4.70	5.29E-04		1.74E-04	2.61E-04
	109.19	1.64	1.35E-03		1.33E-04	6.68E-04
	143.76	10.93	2.01E-04		0.00E+00	9.91E-05
	163.36	5.07	4.48E-04		8.11E-05	2.21E-04
	185.71	57.20	4.72E-05		1.34E-05	2.33E-05
	202.11	1.07	2.58E-03		4.24E-04	1.27E-03
	205.31	5.03	5.89E-04		-4.55E-04	2.91E-04
NP-237	86.48	12.20	3.05E-04	3.05E-04	1.36E-03	1.51E-04
U-237	59.54	34.50	2.27E-04	1.06E-04	4.82E-04	1.12E-04
	97.07	15.40	1.72E-04		1.83E-04	8.50E-05
	101.06	24.50	1.06E-04		2.80E-05	5.20E-05
	113.30	3.07	8.01E-04		-9.96E-04	3.95E-04
	114.23	5.81	4.24E-04		-9.99E-05	2.09E-04
	117.46	2.27	1.06E-03		4.48E-04	5.25E-04
	208.00	21.20	1.65E-04		6.79E-05	8.13E-05
NP-238	103.37	0.00	6.81E-01	1.23E-04	-6.72E-01	3.36E-01
	882.63	0.80	3.96E-03		-2.57E-03	1.91E-03
	923.99	2.60	1.30E-03		9.72E-04	6.25E-04
	984.45	25.20	1.23E-04		-2.16E-04	5.90E-05
	1025.87	8.75	3.42E-04		3.71E-04	1.64E-04
	1028.53	18.23	1.69E-04		4.13E-05	8.09E-05
U-238	63.29	3.70	1.46E-03	5.96E-04	2.18E-03	7.23E-04
	92.51	4.23	5.96E-04		1.23E-04	2.94E-04
	112.81	0.21	1.06E-02		-3.57E-03	5.24E-03
	742.81	0.11	1.71E-02		1.38E-02	8.18E-03
	766.42	0.32	6.18E-03		4.01E-03	2.97E-03
	1001.03	0.84	3.15E-03		2.37E-03	1.52E-03
Am-239	181.71	1.08	1.00E-02	8.66E-04	-1.50E-02	4.93E-03
	209.80	3.50	3.69E-03		1.89E-03	1.82E-03
	226.40	3.30	3.89E-03		6.62E-04	1.92E-03
	228.10	11.30	1.15E-03		6.18E-04	5.66E-04
	277.60	15.00	8.66E-04		9.24E-05	4.27E-04
NP-239	61.46	1.30	6.29E-03	1.36E-04	7.56E-04	3.11E-03

Analysis Report for 24-2546 TI185-7.0M-S4-CST-d-A Q0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	NP-239	99.53		12.90	2.48E-04	1.36E-04	2.03E-04	1.22E-04
		103.37		20.50	1.52E-04		-1.50E-04	7.51E-05
		106.12		25.34	1.36E-04		2.40E-05	6.70E-05
		209.75		3.36	1.27E-03		6.54E-04	6.29E-04
		228.18		11.24	3.86E-04		5.91E-04	1.91E-04
		277.60		14.51	3.08E-04		3.29E-05	1.52E-04
		285.46		0.79	6.26E-03		1.20E-04	3.09E-03
		315.88		1.60	2.35E-03		2.05E-04	1.16E-03
		334.31		2.06	1.61E-03		-3.69E-04	7.92E-04
	PU-239	38.66		0.01	4.66E+00	3.24E-01	-7.20E-01	2.30E+00
		51.62		0.03	3.53E-01		1.26E-01	1.74E-01
		98.50		0.01	3.24E-01		4.51E-02	1.60E-01
		111.03		0.00	1.70E+00		4.69E-01	8.40E-01
		129.30		0.01	3.47E-01		6.71E-02	1.71E-01
		171.39		0.00	2.08E+01		4.69E+00	1.03E+01
		203.55		0.00	4.80E+00		-3.56E+00	2.37E+00
		332.85		0.00	6.55E+00		-2.57E+00	3.23E+00
		336.11		0.00	2.93E+01		-1.49E+00	1.45E+01
		345.01		0.00	6.05E+00		2.22E+00	2.98E+00
		375.05		0.00	2.28E+00		1.54E+00	1.12E+00
		380.19		0.00	1.18E+01		-1.10E+01	5.83E+00
		382.75		0.00	1.40E+01		-1.64E+01	6.90E+00
		413.71		0.00	3.30E+00		-6.55E-01	1.63E+00
		422.60		0.00	3.26E+01		1.01E+01	1.61E+01
		451.48		0.00	2.41E+01		-3.48E+00	1.19E+01
	Am-240	99.53		18.40	1.80E-04	4.24E-05	1.48E-04	8.88E-05
		103.37		29.20	1.11E-04		-1.09E-04	5.46E-05
		117.23		6.93	4.41E-04		8.14E-05	2.18E-04
		888.85		24.70	1.31E-04		-4.97E-05	6.28E-05
		987.79		72.20	4.24E-05		-1.69E-05	2.03E-05
	Np-240m	554.60		20.90	5.07E-04	5.07E-04	6.28E-04	2.48E-04
		597.40		11.70	8.64E-04		-5.18E-04	4.22E-04
	U-240	44.10		1.05	6.62E-02	4.08E-02	-1.54E-02	3.26E-02
		66.50		0.15	1.01E-01		1.52E-01	4.99E-02
		169.20		0.12	6.86E-02		2.12E-02	3.38E-02
		189.70		0.24	4.08E-02		9.00E-03	2.02E-02
+	AM-241	59.54	*	35.90	1.94E-04	1.94E-04	5.69E-04	9.58E-05
	AM-242m	49.35		0.13	8.87E-02	8.87E-02	8.62E-02	4.38E-02
		66.89		0.01	2.98E-01		4.06E-01	1.47E-01
		86.65		0.02	1.63E-01		7.24E-01	8.07E-02
		163.25		0.02	1.48E-01		2.69E-02	7.31E-02
	AM-243	43.53		5.90	3.68E-03	5.20E-05	-8.73E-05	1.81E-03
		74.66		67.20	5.20E-05		-9.89E-06	2.56E-05

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

Apex-Gamma

Analysis Report for 24-2547 TI185-8.0M-S1-CST-A R0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2547 TI185-8.0M-S1-CST-A R0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/28/2024 7:29:03AM
Procedure	: R0_gsv02mlw
Operator	: Administrator
Detector Name	: R
Geometry	: R0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.5 seconds
Dead Time	: 0.12 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/15/2019
Efficiency Calibration Description	: R0_gsv2mlw_R697P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578998
Certificate Name	: R735-b8 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/28/2024 7:49:10AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2547 TI185-8.0M-S1-CST-A R0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	37.39	105.00	0.3719	3.51
2	59.65	166.87	0.1704	12.05
3	64.50	180.24	0.2900	4.61
4	87.53	244.49	0.1313	18.07
5	123.17	343.55	0.1855	9.51
6	295.49	822.27	0.2482	4.88
7	351.71	979.13	0.1974	6.82
8	414.82	1154.54	0.1190	18.11
9	609.34	1695.67	0.2330	3.75
10	661.73	1841.38	0.0576	70.52
11	666.42	1854.79	0.1369	14.39
12	695.26	1934.59	0.1215	15.92
13	1004.93	2795.91	0.2235	4.75
14	1081.14	3008.08	0.1831	6.42
15	1109.86	3088.13	0.1922	5.34
16	1173.37	3264.87	0.0947	21.82
17	1274.90	3546.87	0.1888	5.64
18	1332.65	3708.09	0.0965	18.89
19	1361.33	3787.56	0.2171	3.40
20	2504.61	6970.89	0.1748	5.51

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2547 TI185-8.0M-S1-CST-A R0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/28/2024 7:49:10AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
M	2	59.65	160	189	166.89	8.76E+02	37.77	9.82E+02	1.39
m	3	64.50	160	189	180.39	1.91E+02	25.82	9.96E+02	1.40
F	4	87.53	237	253	244.43	1.89E+03	152.92	1.08E+03	1.52
F	5	123.17	333	348	343.51	4.29E+02	104.46	8.34E+02	1.29
F	6	295.49	817	833	822.68	1.26E+02	21.01	5.74E+02	1.37
F	7	351.71	973	985	979.02	2.34E+02	23.60	4.55E+02	1.57
F	8	414.82	1142	1161	1154.55	1.41E+03	108.34	5.38E+02	1.80
F	9	609.34	1688	1707	1695.56	1.24E+02	15.72	2.40E+02	2.07
M	10	661.73	1828	1864	1841.27	1.68E+04	209.37	1.81E+02	1.95
m	11	666.42	1828	1864	1854.32	9.54E+02	32.98	1.36E+02	1.95
F	12	695.26	1925	1945	1934.54	9.20E+02	77.43	1.37E+02	1.98
F	13	1004.93	2789	2801	2795.99	7.37E+01	38.63	6.51E+01	1.63
F	14	1081.14	2999	3016	3008.03	1.48E+02	14.20	8.92E+01	2.09
F	15	1109.86	3075	3098	3087.94	1.83E+02	50.55	1.26E+02	2.48
F	16	1173.37	3251	3275	3264.64	1.98E+03	87.79	1.20E+02	2.46
F	17	1274.90	3537	3555	3547.17	1.36E+02	42.15	2.85E+01	1.97
F	18	1332.65	3692	3720	3707.87	1.82E+03	81.60	4.24E+01	2.60
F	19	1361.33	3777	3798	3787.69	9.95E+01	10.27	2.76E+01	2.97
F	20	2504.61	6961	6980	6970.42	9.01E+01	34.87	2.53E+01	2.72

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/28/2024 7:49:10AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578894.CNF

Analysis Report for 24-2547 TI185-8.0M-S1-CST-A R0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
	1	37.39	0.00E+00	0.00			0.00E+00	0.00E+00
M	2	59.65	8.76E+02	37.77			8.76E+02	3.78E+01
m	3	64.50	1.91E+02	25.82			1.91E+02	2.58E+01
F	4	87.53	1.89E+03	152.92	1.24E+01	7.02E-01	1.88E+03	1.53E+02
F	5	123.17	4.29E+02	104.46			4.29E+02	1.04E+02
F	6	295.49	1.26E+02	21.01	2.45E+01	7.19E-01	1.02E+02	2.10E+01
F	7	351.71	2.34E+02	23.60	4.34E+01	1.52E+00	1.90E+02	2.36E+01
F	8	414.82	1.41E+03	108.34			1.41E+03	1.08E+02
F	9	609.34	1.24E+02	15.72	4.16E+01	1.45E+00	8.29E+01	1.58E+01
M	10	661.73	1.68E+04	209.37			1.68E+04	2.09E+02
m	11	666.42	9.54E+02	32.98			9.54E+02	3.30E+01
F	12	695.26	9.20E+02	77.43			9.20E+02	7.74E+01
F	13	1004.93	7.37E+01	38.63			7.37E+01	3.86E+01
F	14	1081.14	1.48E+02	14.20			1.48E+02	1.42E+01
F	15	1109.86	1.83E+02	50.55			1.83E+02	5.05E+01
F	16	1173.37	1.98E+03	87.79			1.98E+03	8.78E+01
F	17	1274.90	1.36E+02	42.15			1.36E+02	4.22E+01
F	18	1332.65	1.82E+03	81.60			1.82E+03	8.16E+01
F	19	1361.33	9.95E+01	10.27			9.95E+01	1.03E+01
F	20	2504.61	9.01E+01	34.87			9.01E+01	3.49E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	9.62E-04	4.29E-05	0.774
		1332.50	*	99.99	9.69E-04	4.38E-05	0.766
		2505.74		1.00			
CD-109	0.96	88.03	*	3.61	6.50E-03	5.64E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	8.20E-04	8.20E-05	0.397
		556.30		1.69			

Analysis Report for 24-2547 TI185-8.0M-S1-CST-A R0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	6.51E-04	2.28E-05	0.386
		674.80		3.10			
		695.00	*	99.60	6.46E-04	5.46E-05	0.385
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.99	64.28	*	9.60	4.41E-04	9.12E-05	miss
		87.30	*	45.90	5.10E-04	4.75E-05	miss
CS-137	0.99	661.66	*	85.20	5.14E-03	6.98E-05	miss
EU-154	0.34	42.70		20.45			
		123.07	*	40.40	1.59E-04	3.87E-05	0.743
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30		20.06			
		756.80		4.52			
		873.18		12.08			
		996.29		10.48			
		1004.76	*	18.01	1.60E-04	8.41E-05	0.869
		1246.12		0.86			
		1274.43	*	34.80	1.76E-04	5.45E-05	0.880
		1494.05		0.70			
		1596.48		1.80			
RA-226	0.41	74.81		6.44			
		77.11		10.80			
		87.30	*	4.84	4.84E-03	4.41E-04	miss
		186.21		3.59			
		242.00		7.43			
		295.22	*	19.30	8.25E-05	1.71E-05	miss
		351.93	*	37.60	8.79E-05	1.10E-05	miss
		609.31	*	46.10	4.44E-05	8.48E-06	miss
		768.36		4.94			
		1120.29		15.10			
		1238.11		5.79			
		1764.49		15.40			
AM-241	0.99	59.54	*	35.90	6.80E-04	3.20E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Analysis Report for 24-2547 TI185-8.0M-S1-CST-A R0

ASR 2094 Branch

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.991	9.65E-04	3.06E-05	
CD-109	0.961	7.91E-04	9.29E-04	
SB-126	0.487	6.61E-04	2.04E-05	
Sn-126	0.992	4.41E-04	5.97E-05	
CS-137	0.999	5.14E-03	6.98E-05	
EU-154	0.341	1.64E-04	2.96E-05	
RA-226	0.416	6.36E-05	6.23E-06	
AM-241	0.998	6.80E-04	3.20E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2547 TI185-8.0M-S1-CST-A R0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/28/2024 7:49:10AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	14	1081.14	1.23487E-01	9.58	Sum	
F	15	1109.86	1.52116E-01	27.69	Sum	
F	19	1361.33	8.29160E-02	10.32	Sum	
F	20	2504.61	7.50749E-02	38.70		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	3.41E-04	3.41E-04	-1.55E-04	1.68E-04
	K-40	1460.83		10.67	1.89E-04	1.89E-04	2.08E-04	8.88E-05
	MN-54	834.84		99.98	2.36E-05	2.36E-05	-2.29E-06	1.14E-05
	CO-58	810.78		99.45	2.63E-05	2.63E-05	-4.98E-07	1.27E-05
		863.96		0.68	4.90E-03		-4.43E-03	2.37E-03
		1674.73		0.52	2.33E-03		-2.63E-03	1.06E-03
	FE-59	142.65		1.00	1.94E-03	3.85E-05	-1.18E-03	9.56E-04
		192.35		3.01	1.02E-03		4.70E-04	5.02E-04
		334.80		0.27	9.38E-03		-4.13E-03	4.60E-03
		1099.25		56.30	4.95E-05		-1.90E-05	2.38E-05
		1291.60		43.70	3.85E-05		-2.01E-05	1.80E-05
+	CO-60	1173.24	*	99.97	4.88E-05	3.38E-05	9.62E-04	2.37E-05
		1332.50	*	99.99	3.38E-05		9.69E-04	1.62E-05
		2505.74		1.00	3.65E-03		8.55E-03	1.74E-03

Analysis Report for 24-2547 TI185-8.0M-S1-CST-A R0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	514.00		96.00	3.19E-05	3.19E-05	-4.89E-06	1.56E-05
		868.60		0.01	2.28E-01		-2.35E-01	1.10E-01
	NB-94	702.62		97.90	4.62E-05	3.81E-05	2.19E-05	2.26E-05
		871.09		99.98	3.81E-05		5.68E-05	1.85E-05
	NB-95	765.81		99.81	2.40E-05	2.40E-05	-5.13E-06	1.16E-05
	RU-103	497.05		91.00	3.56E-05	3.56E-05	-6.10E-07	1.75E-05
		610.30		5.76	4.99E-04		8.07E-04	2.44E-04
	RH-106	511.86		20.70	1.74E-04	1.74E-04	1.93E-04	8.54E-05
		621.92		9.93	3.62E-04		3.06E-04	1.77E-04
		1050.36		1.56	2.24E-03		-7.33E-05	1.08E-03
	AG-108M	79.13		6.60	4.32E-04	5.29E-05	4.28E-05	2.13E-04
		433.90		90.50	6.50E-05		-5.72E-05	3.19E-05
		614.30		89.80	5.90E-05		2.13E-05	2.88E-05
		722.90		90.80	5.29E-05		8.09E-05	2.57E-05
+	CD-109	88.03	*	3.61	8.70E-04	8.70E-04	6.50E-03	4.30E-04
	SB-125	176.31		6.82	2.95E-04	1.10E-04	-2.51E-04	1.45E-04
		380.45		1.52	1.81E-03		2.08E-03	8.91E-04
		427.87		29.55	1.10E-04		-8.55E-05	5.39E-05
		463.36		10.48	3.43E-04		-1.00E-04	1.69E-04
		600.60		17.76	1.43E-04		4.90E-05	6.96E-05
		606.71		5.02	5.60E-04		5.81E-05	2.74E-04
		635.95		11.32	2.30E-04		8.72E-05	1.12E-04
		671.44		1.78	2.44E-03		2.71E-04	1.20E-03
+	SB-126	223.90		1.39	1.63E-03	3.89E-05	-7.12E-04	8.02E-04
		278.20		2.40	2.87E-03		1.80E-03	1.41E-03
		296.50		4.50	1.80E-03		2.17E-03	8.85E-04
		414.70	*	83.30	1.10E-04		8.20E-04	5.44E-05
		556.30		1.69	4.84E-03		4.52E-03	2.36E-03
		573.90		6.70	1.29E-03		-4.53E-04	6.28E-04
		593.20		7.50	8.41E-04		1.57E-04	4.10E-04
		656.30		2.19	2.39E-02		-5.77E-04	1.19E-02
		666.50	*	99.60	3.89E-05		6.51E-04	1.85E-05
		674.80		3.10	2.52E-03		1.39E-03	1.22E-03
		695.00	*	99.60	6.97E-05		6.46E-04	3.39E-05
		697.00		29.00	5.01E-04		2.81E-03	2.46E-04
		720.70		53.80	1.51E-04		3.42E-04	7.32E-05
		856.80		17.60	3.76E-04		1.88E-04	1.82E-04
		989.60		6.80	9.60E-04		2.22E-04	4.63E-04
		1213.30		2.39	2.07E-03		7.81E-05	9.79E-04
+	Sn-126	64.28	*	9.60	3.45E-04	6.83E-05	4.41E-04	1.69E-04
		87.30	*	45.90	6.83E-05		5.10E-04	3.38E-05
	I-129	29.70		56.60	6.13E-05	6.13E-05	0.00E+00	0.00E+00
		33.60		10.04	5.45E-03		1.29E-02	2.66E-03
		34.40		2.01	2.59E-02		7.51E-02	1.27E-02
		39.60		7.51	4.24E-03		1.08E-02	2.09E-03
	CS-134	563.25		8.34	5.15E-04	3.90E-05	3.00E-04	2.51E-04
		569.33		15.37	3.06E-04		2.55E-04	1.49E-04
		604.72		97.62	4.09E-05		1.00E-05	2.00E-05
		795.86		85.46	3.90E-05		4.46E-05	1.88E-05
		801.95		8.69	4.60E-04		7.78E-05	2.22E-04
+	CS-137	661.66	*	85.20	2.00E-05	2.00E-05	5.14E-03	9.59E-06
	CE-139	165.85		79.89	2.49E-05	2.49E-05	-1.35E-05	1.22E-05
	CE-141	40.70		3.35	8.20E-03	4.07E-05	-4.25E-04	4.04E-03

Analysis Report for 24-2547 TI185-8.0M-S1-CST-A R0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CE-141	145.44		48.29	4.07E-05	4.07E-05	-2.81E-05	2.00E-05
	CE-144	80.12		1.36	2.04E-03	1.59E-04	-1.58E-03	1.01E-03
		133.51		11.09	1.59E-04		-3.49E-05	7.79E-05
	EU-152	121.78		28.58	1.03E-04	1.03E-04	3.10E-04	5.08E-05
		344.28		26.50	1.22E-04		2.92E-06	5.99E-05
		778.90		12.94	2.41E-04		2.57E-05	1.16E-04
		964.08		14.73	2.25E-04		-7.87E-05	1.09E-04
		1085.87		10.24	2.96E-04		-8.49E-05	1.44E-04
		1112.07		13.69	2.89E-04		4.31E-04	1.40E-04
		1408.01		21.07	1.05E-04		-1.84E-05	4.96E-05
	GD-153	97.43		29.00	6.71E-05	6.71E-05	1.14E-05	3.30E-05
		103.18		21.10	9.08E-05		4.94E-05	4.47E-05
+	EU-154	42.70		20.45	9.81E-04	5.80E-05	-3.66E-04	4.83E-04
		123.07	*	40.40	7.98E-05		1.59E-04	3.94E-05
		247.93		6.89	5.13E-04		1.15E-04	2.52E-04
		591.76		4.95	8.33E-04		-1.88E-04	4.06E-04
		692.42		1.78	3.48E-03		-5.71E-04	1.71E-03
		723.30		20.06	1.83E-04		3.53E-04	8.87E-05
		756.80		4.52	7.73E-04		-1.74E-04	3.73E-04
		873.18		12.08	3.51E-04		4.89E-04	1.70E-04
		996.29		10.48	3.11E-04		1.95E-04	1.51E-04
		1004.76	*	18.01	1.25E-04		1.60E-04	5.97E-05
		1246.12		0.86	3.36E-03		3.01E-03	1.59E-03
		1274.43	*	34.80	5.80E-05		1.76E-04	2.72E-05
		1494.05		0.70	1.99E-03		1.20E-04	9.16E-04
		1596.48		1.80	5.23E-04		4.95E-04	2.44E-04
	EU-155	43.00		18.70	1.03E-03	8.67E-05	-6.63E-04	5.08E-04
		60.01		1.22	5.38E-03		-3.40E-04	2.66E-03
		86.55		30.70	1.15E-04		8.51E-06	5.71E-05
		105.31		21.10	8.67E-05		1.90E-05	4.26E-05
	HG-203	72.87		6.30	5.37E-04	2.85E-05	3.96E-04	2.65E-04
		279.20		81.46	2.85E-05		-9.81E-06	1.40E-05
	BI-207	569.15		97.80	3.82E-05	3.82E-05	-7.81E-07	1.86E-05
		1063.10		74.90	5.71E-05		-1.66E-05	2.75E-05
	PB-210	46.54		4.25	3.09E-03	3.09E-03	-2.29E-03	1.52E-03
+	RA-226	74.81		6.44	4.88E-04	6.92E-05	1.83E-04	2.41E-04
		77.11		10.80	2.77E-04		2.00E-04	1.37E-04
		87.30	*	4.84	6.48E-04		4.84E-03	3.20E-04
		186.21		3.59	6.22E-04		4.81E-04	3.06E-04
		242.00		7.43	3.15E-04		2.27E-04	1.55E-04
		295.22	*	19.30	1.49E-04		8.25E-05	7.36E-05
		351.93	*	37.60	6.92E-05		8.79E-05	3.40E-05
		609.31	*	46.10	6.98E-05		4.44E-05	3.42E-05
		768.36		4.94	4.68E-04		-4.15E-05	2.26E-04
		1120.29		15.10	1.89E-04		1.05E-04	9.14E-05
		1238.11		5.79	3.30E-04		-1.65E-04	1.56E-04
		1764.49		15.40	1.27E-04		1.17E-06	5.93E-05
	PA-231	283.70		1.59	1.42E-03	1.06E-03	-2.74E-03	6.95E-04
		300.07		2.38	1.06E-03		3.69E-04	5.22E-04
		302.67		1.71	1.40E-03		1.92E-03	6.89E-04
		330.07		1.32	1.88E-03		4.34E-04	9.21E-04
	TH-232	74.81		11.62	2.70E-04	4.17E-05	1.01E-04	1.33E-04
		77.11		17.50	1.71E-04		1.24E-04	8.43E-05

Analysis Report for 24-2547 TI185-8.0M-S1-CST-A R0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	87.30		7.80	4.47E-04	4.17E-05	3.12E-03	2.21E-04
		238.63		43.30	5.31E-05		-6.61E-06	2.61E-05
		338.32		11.30	2.28E-04		9.08E-05	1.12E-04
		583.19		30.37	8.51E-05		-5.18E-05	4.15E-05
		727.33		6.58	3.88E-04		1.67E-04	1.88E-04
		911.21		26.60	9.91E-05		5.74E-05	4.79E-05
		968.97		16.20	1.68E-04		-1.04E-04	8.11E-05
		2614.53		35.64	4.17E-05		3.24E-05	1.83E-05
	U-235	143.76		10.96	1.75E-04	3.88E-05	-1.41E-04	8.62E-05
		185.71		57.20	3.88E-05		3.81E-05	1.91E-05
		205.31		5.01	4.47E-04		-8.39E-05	2.20E-04
	U-238	63.29		3.70	1.56E-03	5.73E-04	6.12E-03	7.72E-04
		92.51		4.23	5.73E-04		2.07E-04	2.82E-04
		112.81		0.21	8.31E-03		-5.25E-03	4.09E-03
		742.81		0.11	1.93E-02		1.47E-02	9.30E-03
		766.28		0.32	7.45E-03		1.47E-03	3.60E-03
		1001.03		0.84	3.66E-03		4.88E-03	1.78E-03
	NP-239	99.60		12.80	1.95E-04	1.04E-04	3.09E-05	9.58E-05
		103.80		20.40	1.23E-04		1.25E-04	6.08E-05
		106.10		26.40	1.04E-04		5.78E-05	5.09E-05
		116.90		7.61	3.21E-04		2.28E-04	1.58E-04
		228.20		11.20	2.93E-04		1.96E-04	1.44E-04
		277.60		14.50	2.40E-04		8.83E-05	1.18E-04
		315.90		1.60	1.83E-03		1.05E-03	9.01E-04
		334.30		2.06	1.21E-03		-6.68E-04	5.93E-04
+	AM-241	59.54	*	35.90	1.15E-04	1.15E-04	6.80E-04	5.66E-05

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

Apex-Gamma

Analysis Report for 24-2548 TI185-8.0M-S1-CST-d-A R0

ASR 2120 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2548 TI185-8.0M-S1-CST-d-A R0
Sample Description	: ASR 2120 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/28/2024 8:04:27AM
Procedure	: R0_gsv02mlw
Operator	: Administrator
Detector Name	: R
Geometry	: R0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.5 seconds
Dead Time	: 0.12 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/12/2023
Efficiency Calibration Used Done On	: 3/15/2019
Efficiency Calibration Description	: R0_gsv2mlw_R697P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 579002
Certificate Name	: R735-b8 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/28/2024 8:24:33AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2548 TI185-8.0M-S1-CST-d-A R0

ASR 2120 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.62	166.88	0.1624	13.81
2	64.31	179.47	0.2774	4.34
3	87.53	244.45	0.1310	18.81
4	97.61	272.21	0.3646	3.42
5	123.17	343.52	0.1744	11.14
6	414.88	1154.73	0.1219	18.33
7	661.74	1841.40	0.0572	72.22
8	666.45	1854.87	0.1384	14.74
9	695.18	1934.29	0.1207	16.18
10	723.71	2013.42	0.2842	3.13
11	1043.80	2904.15	0.2872	3.44
12	1081.45	3008.35	0.1943	5.90
13	1110.01	3088.20	0.2022	5.44
14	1173.40	3264.82	0.0954	20.64
15	1274.60	3545.80	0.2136	3.60
16	1332.70	3708.03	0.0974	19.69
17	1361.66	3788.54	0.2053	4.51
18	2504.94	6970.86	0.1828	3.92

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2548 TI185-8.0M-S1-CST-d-A R0

ASR 2120 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/28/2024 8:24:33AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
M	1	59.62	157 -	188	166.82	8.61E+02	129.22	9.52E+02	1.27
m	2	64.31	157 -	188	179.84	2.00E+02	38.79	8.47E+02	1.28
F	3	87.53	235 -	253	244.42	1.97E+03	139.55	1.00E+03	1.50
F	4	97.61	269 -	277	272.45	4.55E+01	17.56	4.12E+02	0.65
F	5	123.17	334 -	349	343.51	4.37E+02	97.42	7.44E+02	1.18
F	6	414.88	1143 -	1164	1154.71	1.24E+03	107.91	7.42E+02	1.70
M	7	661.74	1831 -	1865	1841.30	1.69E+04	211.26	2.27E+02	1.95
m	8	666.45	1831 -	1865	1854.39	9.15E+02	32.34	8.13E+01	1.95
F	9	695.18	1926 -	1946	1934.31	9.63E+02	30.70	1.32E+02	2.05
F	10	723.71	2009 -	2019	2013.69	6.60E+01	73.83	8.60E+01	1.65
	11	1043.80	2899 -	2909	2904.15	7.86E+00	16.25	6.81E+01	0.50
F	12	1081.45	3002 -	3019	3008.91	1.24E+02	13.59	8.59E+01	2.08
F	13	1110.01	3075 -	3097	3088.36	1.50E+02	30.16	1.22E+02	2.44
F	14	1173.40	3250 -	3277	3264.73	2.04E+03	89.95	1.26E+02	2.56
F	15	1274.60	3536 -	3556	3546.32	1.22E+02	159.54	2.04E+01	3.17
F	16	1332.70	3695 -	3720	3707.99	1.68E+03	39.34	7.06E+01	2.57
F	17	1361.66	3778 -	3797	3788.59	9.93E+01	10.71	3.83E+01	2.49
F	18	2504.94	6961 -	6983	6971.33	1.23E+02	10.81	5.04E+00	3.69

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/28/2024 8:24:33AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578894.CNF

Analysis Report for 24-2548 TI185-8.0M-S1-CST-d-A R0

ASR 2120 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
M	1	59.62	8.61E+02	129.22			8.61E+02	1.29E+02
m	2	64.31	2.00E+02	38.79	1.81E+01	9.68E-01	1.82E+02	3.88E+01
F	3	87.53	1.97E+03	139.55	1.24E+01	7.02E-01	1.95E+03	1.40E+02
F	4	97.61	4.55E+01	17.56			4.55E+01	1.76E+01
F	5	123.17	4.37E+02	97.42			4.37E+02	9.74E+01
F	6	414.88	1.24E+03	107.91			1.24E+03	1.08E+02
M	7	661.74	1.69E+04	211.26			1.69E+04	2.11E+02
m	8	666.45	9.15E+02	32.34			9.15E+02	3.23E+01
F	9	695.18	9.63E+02	30.70			9.63E+02	3.07E+01
F	10	723.71	6.60E+01	73.83			6.60E+01	7.38E+01
	11	1043.80	7.86E+00	16.25			7.86E+00	1.62E+01
F	12	1081.45	1.24E+02	13.59			1.24E+02	1.36E+01
F	13	1110.01	1.50E+02	30.16			1.50E+02	3.02E+01
F	14	1173.40	2.04E+03	89.95			2.04E+03	8.99E+01
F	15	1274.60	1.22E+02	159.54			1.22E+02	1.60E+02
F	16	1332.70	1.68E+03	39.34			1.68E+03	3.93E+01
F	17	1361.66	9.93E+01	10.71			9.93E+01	1.07E+01
F	18	2504.94	1.23E+02	10.81			1.23E+02	1.08E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	9.91E-04	4.40E-05	0.774
		1332.50	*	99.99	8.94E-04	2.16E-05	0.766
		2505.74	*	1.00	8.05E-03	8.15E-04	miss
CD-109	0.96	88.03	*	3.61	6.76E-03	5.24E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	7.23E-04	7.80E-05	0.397
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			

Analysis Report for 24-2548 TI185-8.0M-S1-CST-d-A R0

ASR 2120 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	656.30		2.19			
		666.50	*	99.60	6.24E-04	2.24E-05	0.386
		674.80		3.10			
		695.00	*	99.60	6.77E-04	2.19E-05	0.385
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.99	64.28	*	9.60	4.24E-04	1.12E-04	miss
		87.30	*	45.90	5.31E-04	4.48E-05	miss
CS-137	0.99	661.66	*	85.20	5.16E-03	7.04E-05	miss
GD-153	0.31	97.43	*	29.00	1.83E-05	7.09E-06	0.979
		103.18		21.10			
EU-154	0.37	42.70		20.45			
		123.07	*	40.40	1.62E-04	3.62E-05	0.743
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	1.28E-04	1.44E-04	0.709
		756.80		4.52			
		873.18		12.08			
		996.29		10.48			
		1004.76		18.01			
		1246.12		0.86			
		1274.43	*	34.80	1.58E-04	2.06E-04	0.880
		1494.05		0.70			
		1596.48		1.80			
AM-241	0.99	59.54	*	35.90	6.69E-04	1.01E-04	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2548 TI185-8.0M-S1-CST-d-A R0

ASR 2120 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	0.994	9.17E-04	1.94E-05	
CD-109	0.961	1.36E-03	1.25E-03	
SB-126	0.488	6.54E-04	1.54E-05	
Sn-126	0.993	4.24E-04	9.03E-05	
CS-137	0.999	5.16E-03	7.04E-05	
GD-153	0.318	1.83E-05	7.09E-06	
EU-154	0.378	1.60E-04	3.46E-05	
AM-241	0.999	6.69E-04	1.01E-04	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2548 TI185-8.0M-S1-CST-d-A R0

ASR 2120 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/28/2024 8:24:33AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
	11	1043.80	6.55153E-03	206.65		
F	12	1081.45	1.03629E-01	10.93	Sum	
F	13	1110.01	1.25146E-01	20.09	Sum	
F	17	1361.66	8.27516E-02	10.78	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	3.51E-04	3.51E-04	2.22E-04	1.73E-04
	K-40	1460.83		10.67	1.76E-04	1.76E-04	1.72E-04	8.26E-05
	MN-54	834.84		99.98	2.40E-05	2.40E-05	-1.18E-05	1.16E-05
	CO-58	810.78		99.45	2.51E-05	2.51E-05	-4.30E-06	1.21E-05
		863.96		0.68	4.94E-03		-8.59E-03	2.39E-03
		1674.73		0.52	1.96E-03		-3.82E-03	8.72E-04
	FE-59	142.65		1.00	1.92E-03	3.82E-05	1.47E-03	9.42E-04
		192.35		3.01	1.00E-03		-4.44E-04	4.94E-04
		334.80		0.27	9.44E-03		9.11E-04	4.63E-03
		1099.25		56.30	5.20E-05		-4.18E-06	2.51E-05
		1291.60		43.70	3.82E-05		2.28E-05	1.79E-05
+	CO-60	1173.24	*	99.97	5.22E-05	4.15E-05	9.91E-04	2.55E-05
		1332.50	*	99.99	4.15E-05		8.94E-04	2.00E-05
		2505.74	*	1.00	1.37E-03		8.05E-03	5.95E-04

Analysis Report for 24-2548 TI185-8.0M-S1-CST-d-A R0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	514.00		96.00	3.12E-05	3.12E-05	-1.67E-05	1.53E-05
		868.60		0.01	2.22E-01		-5.11E-02	1.08E-01
	NB-94	702.62		97.90	4.68E-05	3.60E-05	-2.08E-05	2.29E-05
		871.09		99.98	3.60E-05		1.14E-05	1.75E-05
	NB-95	765.81		99.81	2.34E-05	2.34E-05	-1.29E-05	1.13E-05
	RU-103	497.05		91.00	3.38E-05	3.38E-05	-3.49E-05	1.66E-05
		610.30		5.76	4.65E-04		6.89E-04	2.27E-04
	RH-106	511.86		20.70	1.71E-04	1.71E-04	-8.85E-05	8.35E-05
		621.92		9.93	3.46E-04		7.86E-05	1.68E-04
		1050.36		1.56	2.45E-03		1.65E-03	1.19E-03
	AG-108M	79.13		6.60	4.22E-04	5.32E-05	3.43E-04	2.08E-04
		433.90		90.50	6.54E-05		-9.30E-06	3.22E-05
		614.30		89.80	5.32E-05		-5.32E-05	2.59E-05
		722.90		90.80	5.37E-05		1.18E-04	2.61E-05
+	CD-109	88.03	*	3.61	8.73E-04	8.73E-04	6.76E-03	4.32E-04
	SB-125	176.31		6.82	2.89E-04	1.09E-04	1.14E-04	1.42E-04
		380.45		1.52	1.85E-03		1.37E-03	9.09E-04
		427.87		29.55	1.09E-04		-2.63E-05	5.34E-05
		463.36		10.48	3.60E-04		6.02E-05	1.78E-04
		600.60		17.76	1.42E-04		-2.01E-05	6.92E-05
		606.71		5.02	5.19E-04		-4.60E-04	2.53E-04
		635.95		11.32	2.20E-04		-8.72E-05	1.07E-04
		671.44		1.78	2.38E-03		3.69E-04	1.17E-03
+	SB-126	223.90		1.39	1.63E-03	3.05E-05	3.86E-04	8.03E-04
		278.20		2.40	2.97E-03		3.92E-03	1.46E-03
		296.50		4.50	1.68E-03		8.82E-04	8.26E-04
		414.70	*	83.30	1.35E-04		7.23E-04	6.66E-05
		556.30		1.69	4.96E-03		-6.83E-04	2.42E-03
		573.90		6.70	1.28E-03		6.15E-04	6.22E-04
		593.20		7.50	8.35E-04		9.78E-04	4.07E-04
		656.30		2.19	2.40E-02		-7.35E-04	1.19E-02
		666.50	*	99.60	3.05E-05		6.24E-04	1.43E-05
		674.80		3.10	2.46E-03		4.06E-04	1.19E-03
		695.00	*	99.60	6.87E-05		6.77E-04	3.34E-05
		697.00		29.00	5.17E-04		3.10E-03	2.54E-04
		720.70		53.80	1.47E-04		2.79E-04	7.13E-05
		856.80		17.60	3.60E-04		-1.49E-04	1.74E-04
		989.60		6.80	1.00E-03		-1.84E-03	4.83E-04
		1213.30		2.39	1.99E-03		1.33E-03	9.39E-04
+	Sn-126	64.28	*	9.60	3.23E-04	6.85E-05	4.24E-04	1.58E-04
		87.30	*	45.90	6.85E-05		5.31E-04	3.39E-05
	I-129	29.70		56.60	6.13E-05	6.13E-05	0.00E+00	0.00E+00
		33.60		10.04	5.21E-03		1.13E-02	2.54E-03
		34.40		2.01	2.50E-02		7.87E-02	1.22E-02
		39.60		7.51	4.17E-03		1.40E-02	2.05E-03
	CS-134	563.25		8.34	5.18E-04	3.80E-05	-9.70E-04	2.52E-04
		569.33		15.37	2.94E-04		2.00E-04	1.43E-04
		604.72		97.62	3.80E-05		1.74E-05	1.85E-05
		795.86		85.46	3.87E-05		-2.33E-05	1.87E-05
		801.95		8.69	4.77E-04		5.57E-04	2.30E-04
+	CS-137	661.66	*	85.20	2.23E-05	2.23E-05	5.16E-03	1.07E-05
	CE-139	165.85		79.89	2.45E-05	2.45E-05	-2.54E-06	1.20E-05
	CE-141	40.70		3.35	8.11E-03	3.90E-05	1.79E-03	3.99E-03

Analysis Report for 24-2548 TI185-8.0M-S1-CST-d-A R0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CE-141	145.44		48.29	3.90E-05	3.90E-05	-3.60E-05	1.92E-05
	CE-144	80.12		1.36	2.00E-03	1.55E-04	-1.06E-03	9.85E-04
		133.51		11.09	1.55E-04		-2.97E-05	7.63E-05
	EU-152	121.78		28.58	1.00E-04	8.48E-05	1.75E-04	4.94E-05
		344.28		26.50	1.20E-04		-5.31E-05	5.87E-05
		778.90		12.94	2.35E-04		-3.47E-04	1.13E-04
		964.08		14.73	2.21E-04		-1.41E-04	1.07E-04
		1085.87		10.24	2.88E-04		1.40E-04	1.39E-04
		1112.07		13.69	2.77E-04		6.17E-04	1.34E-04
		1408.01		21.07	8.48E-05		-6.56E-05	3.93E-05
+	GD-153	97.43	*	29.00	4.97E-05	4.97E-05	1.83E-05	2.43E-05
		103.18		21.10	8.75E-05		2.62E-05	4.30E-05
+	EU-154	42.70		20.45	9.73E-04	5.12E-05	-3.61E-04	4.79E-04
		123.07	*	40.40	7.53E-05		1.62E-04	3.72E-05
		247.93		6.89	5.10E-04		-2.54E-04	2.51E-04
		591.76		4.95	8.31E-04		-4.24E-04	4.05E-04
		692.42		1.78	3.59E-03		4.33E-04	1.77E-03
		723.30	*	20.06	1.21E-04		1.28E-04	5.79E-05
		756.80		4.52	8.25E-04		2.12E-04	3.99E-04
		873.18		12.08	3.32E-04		3.70E-04	1.61E-04
		996.29		10.48	3.23E-04		-2.58E-04	1.57E-04
		1004.76		18.01	1.92E-04		5.29E-05	9.31E-05
		1246.12		0.86	3.03E-03		1.51E-03	1.42E-03
		1274.43	*	34.80	5.12E-05		1.58E-04	2.39E-05
		1494.05		0.70	2.05E-03		7.15E-04	9.46E-04
		1596.48		1.80	4.87E-04		-4.10E-05	2.26E-04
	EU-155	43.00		18.70	1.03E-03	8.53E-05	-3.03E-04	5.05E-04
		60.01		1.22	5.30E-03		8.03E-03	2.62E-03
		86.55		30.70	1.14E-04		9.51E-07	5.63E-05
		105.31		21.10	8.53E-05		-1.03E-05	4.19E-05
	HG-203	72.87		6.30	5.15E-04	2.98E-05	4.18E-04	2.54E-04
		279.20		81.46	2.98E-05		5.93E-07	1.46E-05
	BI-207	569.15		97.80	3.68E-05	3.68E-05	2.44E-05	1.79E-05
		1063.10		74.90	5.66E-05		2.55E-05	2.73E-05
	PB-210	46.54		4.25	3.08E-03	3.08E-03	-2.53E-04	1.52E-03
	RA-226	74.81		6.44	4.71E-04	5.74E-05	7.55E-05	2.32E-04
		77.11		10.80	2.67E-04		1.10E-04	1.31E-04
		87.30		4.84	7.09E-04		4.66E-03	3.51E-04
		186.21		3.59	6.04E-04		6.82E-04	2.97E-04
		242.00		7.43	3.12E-04		-1.37E-04	1.54E-04
		295.22		19.30	1.23E-04		3.79E-05	6.03E-05
		351.93		37.60	7.14E-05		6.75E-05	3.51E-05
		609.31		46.10	5.74E-05		7.05E-05	2.80E-05
		768.36		4.94	4.71E-04		3.67E-05	2.28E-04
		1120.29		15.10	1.79E-04		-4.55E-05	8.61E-05
		1238.11		5.79	3.14E-04		-9.94E-05	1.48E-04
		1764.49		15.40	1.09E-04		6.44E-05	5.03E-05
	PA-231	283.70		1.59	1.49E-03	9.96E-04	-9.22E-04	7.34E-04
		300.07		2.38	9.96E-04		4.57E-04	4.89E-04
		302.67		1.71	1.37E-03		-2.09E-04	6.75E-04
		330.07		1.32	1.88E-03		3.31E-04	9.24E-04
	TH-232	74.81		11.62	2.61E-04	3.59E-05	4.19E-05	1.29E-04
		77.11		17.50	1.65E-04		6.82E-05	8.11E-05

Analysis Report for 24-2548 TI185-8.0M-S1-CST-d-A R0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	87.30		7.80	4.40E-04	3.59E-05	2.89E-03	2.18E-04
		238.63		43.30	5.38E-05		2.64E-05	2.64E-05
		338.32		11.30	2.32E-04		1.01E-04	1.14E-04
		583.19		30.37	8.38E-05		2.86E-05	4.08E-05
		727.33		6.58	3.93E-04		-2.63E-04	1.91E-04
		911.21		26.60	9.96E-05		-4.14E-05	4.82E-05
		968.97		16.20	1.66E-04		1.11E-05	8.04E-05
		2614.53		35.64	3.59E-05		2.29E-05	1.54E-05
	U-235	143.76		10.96	1.69E-04	3.77E-05	-1.89E-04	8.33E-05
		185.71		57.20	3.77E-05		3.28E-05	1.85E-05
		205.31		5.01	4.61E-04		-2.73E-05	2.27E-04
	U-238	63.29		3.70	1.54E-03	5.60E-04	5.67E-03	7.62E-04
		92.51		4.23	5.60E-04		1.15E-04	2.76E-04
		112.81		0.21	8.59E-03		-6.03E-04	4.22E-03
		742.81		0.11	2.09E-02		1.23E-02	1.01E-02
		766.28		0.32	7.22E-03		-2.03E-03	3.49E-03
		1001.03		0.84	3.69E-03		4.79E-03	1.79E-03
	NP-239	99.60		12.80	1.96E-04	1.03E-04	-4.06E-05	9.63E-05
		103.80		20.40	1.20E-04		9.67E-06	5.89E-05
		106.10		26.40	1.03E-04		-7.08E-06	5.07E-05
		116.90		7.61	3.22E-04		-4.88E-06	1.59E-04
		228.20		11.20	2.93E-04		2.33E-04	1.44E-04
		277.60		14.50	2.48E-04		-2.49E-05	1.22E-04
		315.90		1.60	1.80E-03		-2.59E-03	8.82E-04
		334.30		2.06	1.22E-03		9.39E-04	6.00E-04
+	AM-241	59.54	*	35.90	1.14E-04	1.14E-04	6.69E-04	5.58E-05

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

Apex-Gamma

Analysis Report for 24-2549 TI185-8.0M-S2-CST-A S0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2549 TI185-8.0M-S2-CST-A S0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/28/2024 7:29:19AM
Procedure	: S0_gsv02mlw
Operator	: Administrator
Detector Name	: S
Geometry	: S0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.5 seconds
Dead Time	: 0.13 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 6/27/2024
Efficiency Calibration Used Done On	: 3/15/2019
Efficiency Calibration Description	: S0_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578999
Certificate Name	: R735-b9 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/28/2024 7:49:27AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2549 TI185-8.0M-S2-CST-A S0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.59	183.49	0.1794	11.30
2	64.31	198.06	0.2613	5.97
3	87.50	269.00	0.1417	18.12
4	123.15	378.11	0.2040	9.26
5	295.39	905.24	0.2451	5.31
6	351.80	1078.01	0.2155	6.18
7	414.79	1270.96	0.1261	19.14
8	609.40	1866.57	0.2202	5.67
9	661.74	2027.07	0.0625	70.21
10	666.39	2041.24	0.1244	18.00
11	695.10	2129.20	0.1282	16.28
12	720.56	2206.97	0.2923	3.45
13	723.48	2216.59	0.2559	4.48
14	757.41	2319.99	0.3275	3.11
15	873.70	2675.44	0.3267	3.17
16	996.11	3050.90	0.2902	3.36
17	1004.89	3077.45	0.2608	3.35
18	1081.23	3311.45	0.2026	5.47
19	1109.99	3399.56	0.2129	5.67
20	1120.55	3432.18	0.3015	3.03
21	1173.39	3593.73	0.0993	23.28
22	1274.71	3903.53	0.2024	4.63
23	1332.73	4081.70	0.1012	21.35
24	1361.54	4169.26	0.2239	4.86
25	1460.74	4473.89	0.2696	3.38
26	2505.83	7674.85	0.1776	4.87

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2549 TI185-8.0M-S2-CST-A S0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/28/2024 7:49:27AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.59	175 -	191	183.52	7.71E+02	109.38	8.79E+02	1.11
F	2	64.31	192 -	203	197.97	2.03E+02	23.87	7.08E+02	0.93
F	3	87.50	260 -	277	268.94	1.79E+03	134.82	9.60E+02	1.25
F	4	123.15	369 -	386	378.08	4.86E+02	93.37	6.90E+02	1.18
F	5	295.39	899 -	912	905.40	1.80E+02	18.79	3.76E+02	1.31
F	6	351.80	1069 -	1086	1078.12	2.82E+02	77.30	4.05E+02	1.57
F	7	414.79	1260 -	1281	1270.95	1.22E+03	96.54	6.15E+02	1.36
F	8	609.40	1859 -	1877	1866.80	1.56E+02	14.43	1.64E+02	1.51
M	9	661.74	2016 -	2053	2027.04	1.51E+04	204.04	1.27E+02	1.54
m	10	666.39	2016 -	2053	2041.30	9.91E+02	33.28	9.58E+01	1.54
F	11	695.10	2119 -	2138	2129.18	9.70E+02	69.41	9.48E+01	1.69
M	12	720.56	2202 -	2221	2207.14	6.86E+01	9.65	5.22E+01	1.53
m	13	723.48	2202 -	2221	2216.07	8.29E+01	11.10	8.16E+01	1.53
	14	757.41	2315 -	2324	2319.99	1.07E+01	13.86	5.13E+01	0.75
F	15	873.70	2671 -	2680	2676.05	1.55E+01	7.53	7.22E+01	0.43
F	16	996.11	3046 -	3055	3050.86	3.06E+01	8.81	5.46E+01	1.07
F	17	1004.89	3070 -	3087	3077.74	6.51E+01	10.79	1.06E+02	1.67
F	18	1081.23	3303 -	3319	3311.51	1.32E+02	12.83	8.08E+01	1.72
F	19	1109.99	3390 -	3407	3399.57	1.15E+02	40.90	9.45E+01	1.48
F	20	1120.55	3427 -	3438	3431.90	2.29E+01	8.28	6.17E+01	1.03
F	21	1173.39	3583 -	3602	3593.69	1.93E+03	90.29	1.01E+02	1.86
F	22	1274.71	3895 -	3913	3903.96	1.31E+02	10.91	2.09E+01	2.11
F	23	1332.73	4068 -	4092	4081.61	1.70E+03	82.12	4.59E+01	1.96
F	24	1361.54	4162 -	4179	4169.84	8.99E+01	9.01	7.90E+00	2.13
F	25	1460.74	4469 -	4479	4473.62	2.25E+01	5.79	1.14E+01	1.39
F	26	2505.83	7663 -	7684	7674.31	1.35E+02	14.86	5.53E+00	2.61

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

Analysis Report for 24-2549 TI185-8.0M-S2-CST-A S0

ASR 2094 Branch

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/28/2024 7:49:27AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578895.CNF

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.59	7.71E+02	109.38			7.71E+02	1.09E+02
F	2	64.31	2.03E+02	23.87			2.03E+02	2.39E+01
F	3	87.50	1.79E+03	134.82	7.63E+00	5.59E-01	1.79E+03	1.35E+02
F	4	123.15	4.86E+02	93.37			4.86E+02	9.34E+01
F	5	295.39	1.80E+02	18.79	1.99E+01	3.93E-01	1.60E+02	1.88E+01
F	6	351.80	2.82E+02	77.30	3.76E+01	1.32E+00	2.44E+02	7.73E+01
F	7	414.79	1.22E+03	96.54			1.22E+03	9.65E+01
F	8	609.40	1.56E+02	14.43	3.85E+01	1.22E+00	1.17E+02	1.45E+01
M	9	661.74	1.51E+04	204.04			1.51E+04	2.04E+02
m	10	666.39	9.91E+02	33.28			9.91E+02	3.33E+01
F	11	695.10	9.70E+02	69.41			9.70E+02	6.94E+01
M	12	720.56	6.86E+01	9.65			6.86E+01	9.65E+00
m	13	723.48	8.29E+01	11.10			8.29E+01	1.11E+01
	14	757.41	1.07E+01	13.86			1.07E+01	1.39E+01
F	15	873.70	1.55E+01	7.53			1.55E+01	7.53E+00
F	16	996.11	3.06E+01	8.81			3.06E+01	8.81E+00
F	17	1004.89	6.51E+01	10.79			6.51E+01	1.08E+01
F	18	1081.23	1.32E+02	12.83			1.32E+02	1.28E+01
F	19	1109.99	1.15E+02	40.90			1.15E+02	4.09E+01
F	20	1120.55	2.29E+01	8.28	9.47E+00	7.42E-01	1.34E+01	8.31E+00
F	21	1173.39	1.93E+03	90.29			1.93E+03	9.03E+01
F	22	1274.71	1.31E+02	10.91			1.31E+02	1.09E+01
F	23	1332.73	1.70E+03	82.12	9.25E-02	2.23E-01	1.70E+03	8.21E+01
F	24	1361.54	8.99E+01	9.01			8.99E+01	9.01E+00
F	25	1460.74	2.25E+01	5.79	2.11E+01	7.59E-01	1.42E+00	5.84E+00
F	26	2505.83	1.35E+02	14.86			1.35E+02	1.49E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Analysis Report for 24-2549 TI185-8.0M-S2-CST-A S0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
K-40	0.99	1460.83	*	10.67	5.76E-06	2.37E-05	miss
CO-60	0.99	1173.24	*	99.97	9.48E-04	4.46E-05	0.762
		1332.50	*	99.99	9.13E-04	4.44E-05	0.757
		2505.74	*	1.00	9.58E-03	1.13E-03	miss
CD-109	0.95	88.03	*	3.61	6.46E-03	5.22E-04	free
SB-126	0.68	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	7.23E-04	7.33E-05	0.395
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	6.82E-04	2.32E-05	0.385
		674.80		3.10			
		695.00	*	99.60	6.87E-04	4.93E-05	0.384
		697.00		29.00			
		720.70	*	53.80	1.08E-04	2.12E-05	0.327
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.99	64.28	*	9.60	4.96E-04	9.69E-05	miss
		87.30	*	45.90	5.07E-04	4.44E-05	miss
CS-137	0.99	661.66	*	85.20	4.64E-03	6.64E-05	miss
EU-154	0.74	42.70		20.45			
		123.07	*	40.40	1.82E-04	3.50E-05	0.737
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	1.63E-04	2.20E-05	0.703
		756.80	*	4.52	1.10E-04	1.43E-04	0.613
		873.18	*	12.08	5.92E-05	2.87E-05	0.678
		996.29	*	10.48	1.12E-04	3.24E-05	0.880
		1004.76	*	18.01	1.42E-04	2.36E-05	0.866
		1246.12		0.86			
		1274.43	*	34.80	1.70E-04	1.43E-05	0.876
		1494.05		0.70			
		1596.48		1.80			
RA-226	0.52	74.81		6.44			
		77.11		10.80			
		87.30	*	4.84	4.81E-03	4.11E-04	miss
		186.21		3.59			
		242.00		7.43			
		295.22	*	19.30	1.31E-04	1.54E-05	miss
		351.93	*	37.60	1.14E-04	3.60E-05	miss
		609.31	*	46.10	6.33E-05	7.87E-06	miss
		768.36		4.94			
		1120.29	*	15.10	3.24E-05	2.00E-05	miss
		1238.11		5.79			
		1764.49		15.40			
AM-241	0.99	59.54	*	35.90	6.32E-04	9.05E-05	free

Analysis Report for 24-2549 TI185-8.0M-S2-CST-A S0

ASR 2094 Branch

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	*Nuclide Id Confidence*	*Wt mean Activity (µCi/sample)*	*Wt mean Activity Uncertainty*	*Comments*
K-40	0.999	5.76E-06	2.37E-05	
CO-60	0.994	9.37E-04	3.14E-05	
CD-109	0.956	4.77E-05	8.90E-04	
SB-126	0.682	4.11E-04	1.46E-05	
Sn-126	0.995	4.96E-04	5.83E-05	
CS-137	0.999	4.64E-03	6.64E-05	
EU-154	0.741	1.49E-04	9.20E-06	
RA-226	0.523	7.37E-05	6.48E-06	
AM-241	0.999	6.32E-04	9.05E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2549 TI185-8.0M-S2-CST-A S0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/28/2024 7:49:27AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	18	1081.23	1.10409E-01	9.69	Sum	
F	19	1109.99	9.60199E-02	35.50	Sum	
F	24	1361.54	7.49326E-02	10.02	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	2.99E-04	2.99E-04	-6.09E-05	1.47E-04
+	K-40	1460.83	*	10.67	1.20E-04	1.20E-04	5.76E-06	5.46E-05
	MN-54	834.84		99.98	2.17E-05	2.17E-05	-9.28E-07	1.04E-05
	CO-58	810.78		99.45	2.28E-05	2.28E-05	1.51E-05	1.10E-05
		863.96		0.68	4.47E-03		-6.07E-04	2.15E-03
		1674.73		0.52	1.94E-03		1.74E-03	8.62E-04
	FE-59	142.65		1.00	1.64E-03	3.79E-05	-3.60E-04	8.06E-04
		192.35		3.01	8.69E-04		3.17E-04	4.27E-04
		334.80		0.27	8.41E-03		1.27E-03	4.12E-03
		1099.25		56.30	4.25E-05		7.64E-07	2.03E-05
		1291.60		43.70	3.79E-05		-8.45E-05	1.77E-05
+	CO-60	1173.24	*	99.97	4.16E-05	3.44E-05	9.48E-04	2.01E-05
		1332.50	*	99.99	3.44E-05		9.13E-04	1.65E-05
		2505.74	*	1.00	1.60E-03		9.58E-03	7.02E-04
	SR-85	514.00		96.00	2.77E-05	2.77E-05	6.15E-06	1.35E-05

Analysis Report for 24-2549 TI185-8.0M-S2-CST-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	868.60		0.01	2.01E-01	2.77E-05	-6.27E-02	9.68E-02
	NB-94	702.62		97.90	2.74E-05	2.74E-05	2.76E-05	1.32E-05
		871.09		99.98	3.13E-05		-1.52E-06	1.51E-05
	NB-95	765.81		99.81	2.07E-05	2.07E-05	1.84E-05	9.94E-06
	RU-103	497.05		91.00	3.10E-05	3.10E-05	3.61E-05	1.52E-05
		610.30		5.76	4.59E-04		4.82E-04	2.23E-04
	RH-106	511.86		20.70	1.53E-04	1.53E-04	7.09E-05	7.48E-05
		621.92		9.93	3.04E-04		-3.85E-06	1.47E-04
		1050.36		1.56	2.04E-03		4.98E-04	9.78E-04
	AG-108M	79.13		6.60	3.76E-04	4.88E-05	1.34E-04	1.85E-04
		433.90		90.50	5.47E-05		-3.38E-05	2.68E-05
		614.30		89.80	5.25E-05		-1.03E-05	2.56E-05
		722.90		90.80	4.88E-05		6.09E-05	2.36E-05
+	CD-109	88.03	*	3.61	8.74E-04	8.74E-04	6.46E-03	4.32E-04
	SB-125	176.31		6.82	2.59E-04	9.41E-05	-2.21E-04	1.27E-04
		380.45		1.52	1.66E-03		6.26E-04	8.16E-04
		427.87		29.55	9.41E-05		2.62E-05	4.61E-05
		463.36		10.48	3.07E-04		-1.92E-04	1.51E-04
		600.60		17.76	1.25E-04		8.42E-06	6.08E-05
		606.71		5.02	5.17E-04		1.35E-04	2.52E-04
		635.95		11.32	1.86E-04		-9.09E-06	9.01E-05
		671.44		1.78	2.34E-03		-3.71E-04	1.15E-03
+	SB-126	223.90		1.39	1.42E-03	3.32E-05	5.05E-04	6.99E-04
		278.20		2.40	2.58E-03		-1.30E-03	1.26E-03
		296.50		4.50	1.68E-03		1.52E-03	8.27E-04
		414.70	*	83.30	1.24E-04		7.23E-04	6.14E-05
		556.30		1.69	4.32E-03		-1.19E-04	2.10E-03
		573.90		6.70	1.08E-03		-7.51E-04	5.22E-04
		593.20		7.50	7.60E-04		4.55E-04	3.69E-04
		656.30		2.19	1.49E-02		-4.36E-04	7.37E-03
		666.50	*	99.60	3.32E-05		6.82E-04	1.57E-05
		674.80		3.10	2.03E-03		6.28E-04	9.77E-04
		695.00	*	99.60	5.75E-05		6.87E-04	2.78E-05
		697.00		29.00	5.09E-04		3.19E-03	2.50E-04
		720.70	*	53.80	5.72E-05		1.08E-04	2.65E-05
		856.80		17.60	3.25E-04		-1.29E-05	1.56E-04
		989.60		6.80	7.88E-04		1.18E-04	3.77E-04
		1213.30		2.39	1.88E-03		2.07E-03	8.86E-04
+	Sn-126	64.28	*	9.60	4.35E-04	6.86E-05	4.96E-04	2.14E-04
		87.30	*	45.90	6.86E-05		5.07E-04	3.39E-05
	I-129	29.70		56.60	5.06E-03	4.01E-03	1.28E-03	2.48E-03
		33.60		10.04	9.85E-03		-6.74E-03	4.83E-03
		34.40		2.01	4.11E-02		-5.58E-03	2.02E-02
		39.60		7.51	4.01E-03		-1.48E-04	1.97E-03
	CS-134	563.25		8.34	4.44E-04	3.23E-05	-3.97E-04	2.15E-04
		569.33		15.37	2.45E-04		-2.87E-04	1.19E-04
		604.72		97.62	3.76E-05		2.93E-05	1.83E-05
		795.86		85.46	3.23E-05		-2.51E-05	1.55E-05
		801.95		8.69	4.00E-04		5.01E-04	1.92E-04
+	CS-137	661.66	*	85.20	1.70E-05	1.70E-05	4.64E-03	8.07E-06
	CE-139	165.85		79.89	2.11E-05	2.11E-05	5.47E-08	1.03E-05
	CE-141	40.70		3.35	7.59E-03	3.60E-05	-4.45E-03	3.72E-03
		145.44		48.29	3.60E-05		3.60E-06	1.77E-05

Analysis Report for 24-2549 TI185-8.0M-S2-CST-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CE-144	80.12		1.36	1.79E-03	1.38E-04	3.98E-04	8.82E-04
		133.51		11.09	1.38E-04		-3.94E-05	6.78E-05
	EU-152	121.78		28.58	9.52E-05	6.95E-05	-1.07E-05	4.69E-05
		344.28		26.50	1.06E-04		3.14E-05	5.20E-05
		778.90		12.94	2.03E-04		1.10E-06	9.76E-05
		964.08		14.73	2.03E-04		-3.23E-04	9.76E-05
		1085.87		10.24	2.79E-04		1.27E-04	1.35E-04
		1112.07		13.69	2.50E-04		3.04E-04	1.21E-04
		1408.01		21.07	6.95E-05		-6.40E-05	3.16E-05
	GD-153	97.43		29.00	6.31E-05	6.31E-05	-1.75E-05	3.10E-05
		103.18		21.10	8.34E-05		2.60E-05	4.09E-05
+	EU-154	42.70		20.45	8.93E-04	4.90E-05	-9.05E-04	4.38E-04
		123.07	*	40.40	7.68E-05		1.82E-04	3.79E-05
		247.93		6.89	4.35E-04		4.37E-04	2.13E-04
		591.76		4.95	7.63E-04		5.57E-04	3.71E-04
		692.42		1.78	3.53E-03		1.42E-04	1.74E-03
		723.30	*	20.06	8.81E-05		1.63E-04	4.14E-05
		756.80	*	4.52	4.85E-04		1.10E-04	2.28E-04
		873.18	*	12.08	2.11E-04		5.92E-05	1.00E-04
		996.29	*	10.48	1.77E-04		1.12E-04	8.35E-05
		1004.76	*	18.01	1.79E-04		1.42E-04	8.67E-05
		1246.12		0.86	2.89E-03		-2.49E-03	1.35E-03
		1274.43	*	34.80	4.90E-05		1.70E-04	2.27E-05
		1494.05		0.70	1.79E-03		-2.15E-03	8.16E-04
		1596.48		1.80	4.43E-04		-2.67E-05	2.03E-04
	EU-155	43.00		18.70	9.38E-04	7.91E-05	-9.51E-04	4.60E-04
		60.01		1.22	4.86E-03		6.94E-03	2.40E-03
		86.55		30.70	1.12E-04		-3.10E-06	5.54E-05
		105.31		21.10	7.91E-05		3.27E-06	3.88E-05
	HG-203	72.87		6.30	4.64E-04	2.55E-05	3.03E-04	2.28E-04
		279.20		81.46	2.55E-05		-3.97E-05	1.25E-05
	BI-207	569.15		97.80	3.17E-05	3.17E-05	2.63E-06	1.54E-05
		1063.10		74.90	5.25E-05		-2.53E-05	2.52E-05
	PB-210	46.54		4.25	2.78E-03	2.78E-03	2.14E-03	1.37E-03
+	RA-226	74.81		6.44	4.35E-04	5.72E-05	4.01E-04	2.14E-04
		77.11		10.80	2.43E-04		8.46E-06	1.20E-04
		87.30	*	4.84	6.51E-04		4.81E-03	3.22E-04
		186.21		3.59	5.37E-04		5.80E-04	2.64E-04
		242.00		7.43	2.68E-04		1.24E-05	1.31E-04
		295.22	*	19.30	1.13E-04		1.31E-04	5.55E-05
		351.93	*	37.60	7.42E-05		1.14E-04	3.65E-05
		609.31	*	46.10	5.72E-05		6.33E-05	2.79E-05
		768.36		4.94	3.98E-04		-1.86E-04	1.91E-04
		1120.29	*	15.10	1.34E-04		3.24E-05	6.37E-05
		1238.11		5.79	3.10E-04		2.43E-04	1.46E-04
		1764.49		15.40	1.13E-04		-1.61E-05	5.22E-05
	PA-231	283.70		1.59	1.34E-03	9.50E-04	-7.38E-04	6.59E-04
		300.07		2.38	9.50E-04		-3.99E-04	4.66E-04
		302.67		1.71	1.24E-03		-1.98E-03	6.05E-04
		330.07		1.32	1.70E-03		1.11E-03	8.31E-04
	TH-232	74.81		11.62	2.41E-04	3.14E-05	2.22E-04	1.19E-04
		77.11		17.50	1.50E-04		5.22E-06	7.39E-05
		87.30		7.80	4.35E-04		3.28E-03	2.15E-04

Analysis Report for 24-2549 TI185-8.0M-S2-CST-A S0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	238.63		43.30	4.60E-05	3.14E-05	-1.20E-06	2.25E-05
		338.32		11.30	1.97E-04		-6.18E-05	9.62E-05
		583.19		30.37	7.33E-05		-6.35E-05	3.56E-05
		727.33		6.58	3.44E-04		1.19E-05	1.66E-04
		911.21		26.60	9.11E-05		5.75E-05	4.39E-05
		968.97		16.20	1.53E-04		1.30E-04	7.38E-05
		2614.53		35.64	3.14E-05		1.47E-05	1.29E-05
	U-235	143.76		10.96	1.49E-04	3.34E-05	3.41E-05	7.30E-05
		185.71		57.20	3.34E-05		6.78E-06	1.64E-05
		205.31		5.01	3.97E-04		-1.52E-04	1.95E-04
	U-238	63.29		3.70	1.22E-03	4.56E-04	-1.03E-02	6.03E-04
		92.51		4.23	4.56E-04		-2.44E-04	2.24E-04
		112.81		0.21	7.67E-03		1.57E-03	3.76E-03
		742.81		0.11	1.72E-02		8.12E-03	8.22E-03
		766.28		0.32	6.35E-03		-9.08E-05	3.05E-03
		1001.03		0.84	3.36E-03		4.22E-04	1.63E-03
	NP-239	99.60		12.80	1.84E-04	9.42E-05	8.37E-05	9.04E-05
		103.80		20.40	1.11E-04		-8.72E-05	5.43E-05
		106.10		26.40	9.42E-05		3.32E-05	4.63E-05
		116.90		7.61	2.85E-04		-1.33E-04	1.40E-04
		228.20		11.20	2.55E-04		1.11E-04	1.25E-04
		277.60		14.50	2.13E-04		-3.15E-04	1.04E-04
		315.90		1.60	1.66E-03		-8.96E-04	8.16E-04
		334.30		2.06	1.06E-03		-4.26E-04	5.21E-04
+	AM-241	59.54	*	35.90	1.85E-04	1.85E-04	6.32E-04	9.16E-05

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

Apex-Gamma

Analysis Report for 24-2550 TI185-8.0M-S2-CST-d-A S0
ASR 2120 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2550 TI185-8.0M-S2-CST-d-A S0
Sample Description	: ASR 2120 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/28/2024 8:04:34AM
Procedure	: S0_gsv02mlw
Operator	: Administrator
Detector Name	: S
Geometry	: S0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.5 seconds
Dead Time	: 0.13 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 6/27/2024
Efficiency Calibration Used Done On	: 3/15/2019
Efficiency Calibration Description	: S0_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 579003
Certificate Name	: R735-b9 Pill vial
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/28/2024 8:24:41AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2550 TI185-8.0M-S2-CST-d-A S0

ASR 2120 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.60	183.58	0.1825	10.64
2	64.47	198.51	0.3084	3.45
3	87.46	268.87	0.1428	16.69
4	123.14	378.12	0.1957	10.01
5	352.11	1078.82	0.2963	4.16
6	414.80	1271.06	0.1293	17.82
7	609.35	1866.39	0.3332	3.06
8	661.73	2027.04	0.0618	70.95
9	666.41	2041.39	0.1285	15.96
10	695.13	2129.25	0.1282	16.60
11	1005.10	3078.01	0.2361	4.78
12	1081.21	3311.50	0.1921	6.49
13	1110.05	3399.50	0.2040	5.52
14	1173.44	3593.79	0.0987	24.29
15	1274.50	3903.27	0.2045	5.67
16	1332.66	4081.50	0.0998	21.72
17	1361.34	4169.18	0.2033	5.47
18	1776.02	5438.64	0.2781	3.15
19	2505.76	7673.96	0.1609	7.69

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2550 TI185-8.0M-S2-CST-d-A S0

ASR 2120 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/28/2024 8:24:41AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.60	175 -	188	183.53	7.66E+02	108.06	7.51E+02	1.16
F	2	64.47	193 -	206	198.45	2.11E+02	106.36	6.39E+02	1.37
F	3	87.46	260 -	275	268.82	1.79E+03	147.67	8.53E+02	1.32
F	4	123.14	370 -	384	378.07	4.95E+02	77.47	5.36E+02	1.06
F	5	352.11	1072 -	1083	1079.07	1.01E+02	66.44	2.95E+02	0.87
F	6	414.80	1263 -	1278	1271.00	1.18E+03	98.88	4.37E+02	1.41
F	7	609.35	1863 -	1870	1866.64	3.08E+01	11.10	9.49E+01	1.04
M	8	661.73	2015 -	2050	2027.02	1.61E+04	187.55	1.52E+02	1.58
m	9	666.41	2015 -	2050	2041.36	9.17E+02	31.89	8.09E+01	1.58
F	10	695.13	2118 -	2137	2129.30	8.93E+02	72.65	1.14E+02	1.48
F	11	1005.10	3072 -	3083	3078.39	6.36E+01	33.32	5.01E+01	1.09
F	12	1081.21	3303 -	3317	3311.45	1.41E+02	40.70	6.71E+01	1.47
F	13	1110.05	3391 -	3411	3399.73	1.45E+02	13.28	1.03E+02	1.84
F	14	1173.44	3582 -	3606	3593.85	1.91E+03	88.69	8.09E+01	1.82
F	15	1274.50	3896 -	3912	3903.31	1.05E+02	8.20	3.10E+01	1.77
F	16	1332.66	4069 -	4091	4081.42	1.75E+03	71.27	8.05E+01	1.93
F	17	1361.34	4162 -	4176	4169.22	8.75E+01	30.42	2.00E+01	1.39
F	18	1776.02	5433 -	5445	5439.11	1.20E+01	2.01	9.14E+00	0.51
F	19	2505.76	7663 -	7683	7674.09	1.70E+02	30.49	0.00E+00	2.19

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/28/2024 8:24:41AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578895.CNF

Analysis Report for 24-2550 TI185-8.0M-S2-CST-d-A S0

ASR 2120 Branch

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F 1	59.60	7.66E+02	108.06			7.66E+02	1.08E+02
F 2	64.47	2.11E+02	106.36			2.11E+02	1.06E+02
F 3	87.46	1.79E+03	147.67	7.63E+00	5.59E-01	1.79E+03	1.48E+02
F 4	123.14	4.95E+02	77.47			4.95E+02	7.75E+01
F 5	352.11	1.01E+02	66.44	3.76E+01	1.32E+00	6.31E+01	6.65E+01
F 6	414.80	1.18E+03	98.88			1.18E+03	9.89E+01
F 7	609.35	3.08E+01	11.10	3.85E+01	1.22E+00	-7.69E+00	1.12E+01
M 8	661.73	1.61E+04	187.55			1.61E+04	1.88E+02
m 9	666.41	9.17E+02	31.89			9.17E+02	3.19E+01
F 10	695.13	8.93E+02	72.65			8.93E+02	7.27E+01
F 11	1005.10	6.36E+01	33.32			6.36E+01	3.33E+01
F 12	1081.21	1.41E+02	40.70			1.41E+02	4.07E+01
F 13	1110.05	1.45E+02	13.28			1.45E+02	1.33E+01
F 14	1173.44	1.91E+03	88.69			1.91E+03	8.87E+01
F 15	1274.50	1.05E+02	8.20			1.05E+02	8.20E+00
F 16	1332.66	1.75E+03	71.27			1.75E+03	7.13E+01
F 17	1361.34	8.75E+01	30.42			8.75E+01	3.04E+01
F 18	1776.02	1.20E+01	2.01			1.20E+01	2.01E+00
F 19	2505.76	1.70E+02	30.49			1.70E+02	3.05E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	0.99	1173.24	*	99.97	9.39E-04	4.38E-05	0.762
		1332.50	*	99.99	9.41E-04	3.86E-05	0.757
		2505.74	*	1.00	1.20E-02	2.22E-03	miss
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	6.99E-04	7.35E-05	0.395
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			

Analysis Report for 24-2550 TI185-8.0M-S2-CST-d-A S0

ASR 2120 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	656.30		2.19			
		666.50	*	99.60	6.31E-04	2.22E-05	0.385
		674.80		3.10			
		695.00	*	99.60	6.32E-04	5.15E-05	0.384
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.99	64.28	*	9.60	5.11E-04	2.70E-04	miss
		87.30	*	45.90	5.07E-04	4.76E-05	miss
CS-137	0.99	661.66	*	85.20	4.97E-03	6.21E-05	miss
EU-154	0.35	42.70		20.45			
		123.07	*	40.40	1.85E-04	2.91E-05	0.737
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30		20.06			
		756.80		4.52			
		873.18		12.08			
		996.29		10.48			
		1004.76	*	18.01	1.39E-04	7.27E-05	0.866
		1246.12		0.86			
		1274.43	*	34.80	1.36E-04	1.07E-05	0.876
		1494.05		0.70			
		1596.48		1.80			
RA-226	0.21	74.81		6.44			
		77.11		10.80			
		87.30	*	4.84	4.81E-03	4.42E-04	miss
		186.21		3.59			
		242.00		7.43			
		295.22		19.30			
		351.93	*	37.60	2.94E-05	3.10E-05	miss
		609.31	*	46.10	-4.16E-06	6.04E-06	miss
		768.36		4.94			
		1120.29		15.10			
		1238.11		5.79			
		1764.49		15.40			
AM-241	0.99	59.54	*	35.90	6.28E-04	8.94E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

Analysis Report for 24-2550 TI185-8.0M-S2-CST-d-A S0

ASR 2120 Branch

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-60	0.995	9.42E-04	2.90E-05	
X	CD-109	0.949			
	SB-126	0.488	6.36E-04	1.96E-05	
	Sn-126	0.996	5.04E-04	4.17E-05	
	CS-137	0.999	4.97E-03	6.21E-05	
	EU-154	0.351	1.42E-04	9.97E-06	
	RA-226	0.216	2.94E-05	3.10E-05	
	AM-241	0.999	6.28E-04	8.94E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2550 TI185-8.0M-S2-CST-d-A S0
ASR 2120 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/28/2024 8:24:41AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	12	1081.21	1.17614E-01	28.84	Sum	
F	13	1110.05	1.21095E-01	9.14	Sum	
F	17	1361.34	7.29028E-02	34.77	Sum	
F	18	1776.02	9.97439E-03	16.76		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	3.06E-04	3.06E-04	-2.52E-04	1.50E-04
	K-40	1460.83		10.67	1.62E-04	1.62E-04	-1.03E-04	7.55E-05
	MN-54	834.84		99.98	2.13E-05	2.13E-05	2.46E-06	1.02E-05
	CO-58	810.78		99.45	2.37E-05	2.37E-05	9.49E-06	1.14E-05
		863.96		0.68	4.44E-03		-8.96E-04	2.14E-03
		1674.73		0.52	2.23E-03		1.59E-03	1.01E-03
	FE-59	142.65		1.00	1.64E-03	4.01E-05	9.06E-04	8.06E-04
		192.35		3.01	8.77E-04		1.54E-04	4.31E-04
		334.80		0.27	8.27E-03		2.04E-03	4.05E-03
		1099.25		56.30	4.50E-05		1.74E-06	2.16E-05
		1291.60		43.70	4.01E-05		5.33E-05	1.88E-05
+	CO-60	1173.24	*	99.97	4.05E-05	4.05E-05	9.39E-04	1.96E-05
		1332.50	*	99.99	4.27E-05		9.41E-04	2.06E-05
		2505.74	*	1.00	1.91E-04		1.20E-02	0.00E+00

Analysis Report for 24-2550 TI185-8.0M-S2-CST-d-A S0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	514.00		96.00	2.86E-05	2.86E-05	5.26E-06	1.40E-05
		868.60		0.01	2.05E-01		1.61E-02	9.89E-02
	NB-94	702.62		97.90	2.68E-05	2.68E-05	3.03E-06	1.29E-05
		871.09		99.98	3.30E-05		3.93E-05	1.59E-05
	NB-95	765.81		99.81	2.08E-05	2.08E-05	1.37E-05	9.99E-06
	RU-103	497.05		91.00	3.11E-05	3.11E-05	1.30E-05	1.52E-05
		610.30		5.76	4.32E-04		4.06E-04	2.10E-04
	RH-106	511.86		20.70	1.57E-04	1.57E-04	1.14E-04	7.70E-05
		621.92		9.93	2.99E-04		1.81E-04	1.45E-04
		1050.36		1.56	1.92E-03		-4.57E-04	9.20E-04
	AG-108M	79.13		6.60	3.56E-04	4.74E-05	-1.49E-04	1.75E-04
		433.90		90.50	5.78E-05		-2.11E-05	2.84E-05
		614.30		89.80	4.74E-05		-1.70E-07	2.30E-05
		722.90		90.80	4.96E-05		2.76E-05	2.40E-05
	CD-109	88.03	*	3.61	7.88E-04	7.88E-04	6.46E-03	3.89E-04
	SB-125	176.31		6.82	2.53E-04	9.60E-05	1.64E-04	1.24E-04
		380.45		1.52	1.64E-03		3.58E-04	8.03E-04
		427.87		29.55	9.60E-05		-4.10E-05	4.71E-05
		463.36		10.48	3.14E-04		-5.99E-05	1.54E-04
		600.60		17.76	1.31E-04		1.97E-05	6.35E-05
		606.71		5.02	4.95E-04		2.43E-04	2.41E-04
		635.95		11.32	1.97E-04		-3.46E-05	9.56E-05
		671.44		1.78	2.26E-03		1.20E-04	1.11E-03
+	SB-126	223.90		1.39	1.44E-03	3.07E-05	3.11E-04	7.07E-04
		278.20		2.40	2.66E-03		4.01E-04	1.31E-03
		296.50		4.50	1.56E-03		4.40E-04	7.65E-04
		414.70	*	83.30	9.24E-05		6.99E-04	4.54E-05
		556.30		1.69	4.16E-03		-5.25E-03	2.02E-03
		573.90		6.70	1.08E-03		8.19E-04	5.22E-04
		593.20		7.50	7.61E-04		9.53E-04	3.70E-04
		656.30		2.19	1.55E-02		-1.69E-03	7.68E-03
		666.50	*	99.60	3.07E-05		6.31E-04	1.44E-05
		674.80		3.10	1.96E-03		1.06E-03	9.42E-04
		695.00	*	99.60	6.27E-05		6.32E-04	3.04E-05
		697.00		29.00	4.94E-04		-1.72E-05	2.43E-04
		720.70		53.80	1.38E-04		3.01E-04	6.68E-05
		856.80		17.60	3.13E-04		-1.65E-05	1.50E-04
		989.60		6.80	8.66E-04		-1.62E-03	4.17E-04
		1213.30		2.39	1.84E-03		-5.76E-04	8.67E-04
+	Sn-126	64.28	*	9.60	4.35E-04	6.19E-05	5.11E-04	2.14E-04
		87.30	*	45.90	6.19E-05		5.07E-04	3.06E-05
	I-129	29.70		56.60	5.07E-03	3.99E-03	1.89E-03	2.49E-03
		33.60		10.04	9.80E-03		-1.42E-03	4.81E-03
		34.40		2.01	4.10E-02		-1.77E-02	2.01E-02
		39.60		7.51	3.99E-03		2.24E-03	1.96E-03
	CS-134	563.25		8.34	4.40E-04	3.37E-05	1.17E-05	2.13E-04
		569.33		15.37	2.50E-04		-9.04E-05	1.21E-04
		604.72		97.62	3.60E-05		3.06E-05	1.75E-05
		795.86		85.46	3.37E-05		-1.82E-06	1.62E-05
		801.95		8.69	3.90E-04		-4.27E-04	1.87E-04
+	CS-137	661.66	*	85.20	1.85E-05	1.85E-05	4.97E-03	8.83E-06
	CE-139	165.85		79.89	2.15E-05	2.15E-05	-1.17E-05	1.05E-05
	CE-141	40.70		3.35	7.52E-03	3.51E-05	-4.15E-03	3.69E-03

Analysis Report for 24-2550 TI185-8.0M-S2-CST-d-A S0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CE-141	145.44		48.29	3.51E-05	3.51E-05	1.57E-06	1.72E-05
	CE-144	80.12		1.36	1.69E-03	1.40E-04	5.13E-06	8.33E-04
		133.51		11.09	1.40E-04		5.91E-05	6.85E-05
	EU-152	121.78		28.58	9.42E-05	8.29E-05	2.97E-04	4.64E-05
		344.28		26.50	1.07E-04		1.21E-04	5.23E-05
		778.90		12.94	1.95E-04		-8.93E-06	9.32E-05
		964.08		14.73	1.97E-04		1.18E-04	9.46E-05
		1085.87		10.24	2.83E-04		1.07E-04	1.37E-04
		1112.07		13.69	2.56E-04		3.39E-04	1.24E-04
		1408.01		21.07	8.29E-05		-7.54E-06	3.83E-05
	GD-153	97.43		29.00	6.33E-05	6.33E-05	2.43E-05	3.11E-05
		103.18		21.10	8.28E-05		-2.16E-05	4.06E-05
+	EU-154	42.70		20.45	8.92E-04	5.92E-05	8.46E-04	4.37E-04
		123.07	*	40.40	6.32E-05		1.85E-04	3.11E-05
		247.93		6.89	4.37E-04		3.38E-04	2.14E-04
		591.76		4.95	7.53E-04		-5.56E-05	3.66E-04
		692.42		1.78	3.43E-03		2.04E-02	1.69E-03
		723.30		20.06	1.73E-04		2.87E-05	8.36E-05
		756.80		4.52	7.38E-04		1.77E-04	3.55E-04
		873.18		12.08	2.92E-04		3.09E-07	1.41E-04
		996.29		10.48	2.80E-04		3.07E-04	1.35E-04
		1004.76	*	18.01	1.08E-04		1.39E-04	5.08E-05
		1246.12		0.86	2.85E-03		-3.43E-03	1.33E-03
		1274.43	*	34.80	5.92E-05		1.36E-04	2.79E-05
		1494.05		0.70	1.72E-03		9.38E-05	7.81E-04
		1596.48		1.80	5.13E-04		6.38E-04	2.38E-04
	EU-155	43.00		18.70	9.37E-04	7.89E-05	8.88E-04	4.59E-04
		60.01		1.22	4.87E-03		-8.65E-05	2.40E-03
		86.55		30.70	1.11E-04		7.91E-04	5.49E-05
		105.31		21.10	7.89E-05		3.66E-05	3.87E-05
	HG-203	72.87		6.30	4.63E-04	2.68E-05	1.44E-04	2.28E-04
		279.20		81.46	2.68E-05		-3.07E-05	1.31E-05
	BI-207	569.15		97.80	3.21E-05	3.21E-05	1.03E-06	1.56E-05
		1063.10		74.90	4.94E-05		3.44E-05	2.36E-05
	PB-210	46.54		4.25	2.71E-03	2.71E-03	-1.30E-03	1.33E-03
+	RA-226	74.81		6.44	4.18E-04	3.37E-05	2.81E-04	2.05E-04
		77.11		10.80	2.31E-04		1.56E-05	1.14E-04
		87.30	*	4.84	5.87E-04		4.81E-03	2.90E-04
		186.21		3.59	5.38E-04		1.59E-04	2.64E-04
		242.00		7.43	2.65E-04		-3.40E-05	1.30E-04
		295.22		19.30	1.14E-04		-3.95E-05	5.57E-05
		351.93	*	37.60	5.48E-05		2.94E-05	2.68E-05
		609.31	*	46.10	3.37E-05		-4.16E-06	1.61E-05
		768.36		4.94	4.07E-04		3.30E-04	1.95E-04
		1120.29		15.10	1.55E-04		2.30E-04	7.41E-05
		1238.11		5.79	2.79E-04		-5.94E-04	1.30E-04
		1764.49		15.40	9.91E-05		-1.46E-04	4.52E-05
	PA-231	283.70		1.59	1.34E-03	9.12E-04	-4.18E-04	6.55E-04
		300.07		2.38	9.12E-04		-2.51E-04	4.47E-04
		302.67		1.71	1.24E-03		-5.40E-04	6.05E-04
		330.07		1.32	1.67E-03		3.80E-04	8.19E-04
	TH-232	74.81		11.62	2.32E-04	3.94E-05	1.56E-04	1.14E-04
		77.11		17.50	1.43E-04		9.63E-06	7.01E-05

Analysis Report for 24-2550 TI185-8.0M-S2-CST-d-A S0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	87.30		7.80	4.32E-04	3.94E-05	3.21E-03	2.14E-04
		238.63		43.30	4.63E-05		-7.20E-06	2.27E-05
		338.32		11.30	1.94E-04		-1.08E-04	9.50E-05
		583.19		30.37	7.59E-05		2.58E-05	3.69E-05
		727.33		6.58	3.41E-04		4.88E-05	1.65E-04
		911.21		26.60	9.62E-05		-3.07E-05	4.64E-05
		968.97		16.20	1.48E-04		-5.60E-05	7.13E-05
		2614.53		35.64	3.94E-05		2.51E-05	1.69E-05
	U-235	143.76		10.96	1.45E-04	3.38E-05	-2.36E-05	7.12E-05
		185.71		57.20	3.38E-05		3.55E-05	1.66E-05
		205.31		5.01	3.87E-04		9.27E-05	1.90E-04
	U-238	63.29		3.70	1.18E-03	4.56E-04	-2.41E-05	5.82E-04
		92.51		4.23	4.56E-04		2.35E-04	2.24E-04
		112.81		0.21	7.75E-03		4.95E-03	3.80E-03
		742.81		0.11	1.83E-02		1.86E-02	8.78E-03
		766.28		0.32	6.32E-03		-1.76E-03	3.04E-03
		1001.03		0.84	3.30E-03		1.23E-03	1.59E-03
	NP-239	99.60		12.80	1.81E-04	9.48E-05	-1.69E-04	8.89E-05
		103.80		20.40	1.12E-04		-6.17E-05	5.48E-05
		106.10		26.40	9.48E-05		3.14E-05	4.65E-05
		116.90		7.61	2.90E-04		-1.73E-05	1.42E-04
		228.20		11.20	2.56E-04		-3.18E-05	1.25E-04
		277.60		14.50	2.23E-04		2.86E-04	1.09E-04
		315.90		1.60	1.66E-03		3.37E-04	8.15E-04
		334.30		2.06	1.06E-03		6.25E-04	5.19E-04
+	AM-241	59.54	*	35.90	1.59E-04	1.59E-04	6.28E-04	7.84E-05

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

Apex-Gamma

Analysis Report for 24-2551 TI185-8.0M-S3-CST-A V0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2551 TI185-8.0M-S3-CST-A V0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/28/2024 7:27:45AM
Procedure	: V0_gsv02mlw
Operator	: Administrator
Detector Name	: V
Geometry	: V0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.9 seconds
Dead Time	: 0.16 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/8/2023
Efficiency Calibration Used Done On	: 3/28/2019
Efficiency Calibration Description	: V0_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578994
Certificate Name	: R735-A5 5ml PSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/28/2024 7:47:53AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2551 TI185-8.0M-S3-CST-A V0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.63	175.70	0.2357	8.92
2	64.40	189.77	0.3731	3.03
3	87.52	257.72	0.1594	14.92
4	123.16	362.55	0.2124	8.65
5	295.32	868.55	0.3347	3.01
6	351.93	1035.50	0.2450	5.38
7	414.77	1220.45	0.1296	17.43
8	609.30	1792.61	0.2295	4.84
9	661.66	1946.84	0.0619	69.42
10	666.35	1960.67	0.1274	16.46
11	695.11	2045.02	0.1284	16.06
12	1004.29	2955.41	0.2653	3.53
13	1081.20	3180.74	0.1917	6.40
14	1109.64	3264.94	0.1888	5.78
15	1120.14	3295.35	0.2780	3.52
16	1173.24	3451.73	0.0975	21.58
17	1274.38	3748.90	0.2095	4.67
18	1332.58	3920.60	0.0961	21.37
19	1361.28	4004.57	0.2300	3.36
20	2505.72	7371.20	0.1760	4.10

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2551 TI185-8.0M-S3-CST-A V0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/28/2024 7:47:53AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.63	170 -	182	175.63	7.47E+02	32.58	9.39E+02	0.95
F	2	64.40	185 -	194	189.66	1.90E+02	22.97	6.48E+02	1.02
F	3	87.52	250 -	265	257.69	1.93E+03	139.22	9.36E+02	1.30
F	4	123.16	356 -	370	362.55	4.48E+02	85.69	5.89E+02	1.10
F	5	295.32	860 -	874	869.03	1.11E+02	111.23	5.00E+02	0.62
F	6	351.93	1031 -	1045	1035.57	1.82E+02	19.39	4.12E+02	1.35
F	7	414.77	1213 -	1230	1220.43	1.23E+03	110.11	5.31E+02	1.47
F	8	609.30	1783 -	1800	1792.72	1.70E+02	77.09	1.80E+02	1.93
M	9	661.66	1935 -	1970	1946.77	1.50E+04	181.24	1.78E+02	1.67
m	10	666.35	1935 -	1970	1960.57	9.62E+02	33.15	7.82E+01	1.67
F	11	695.11	2038 -	2057	2045.15	9.00E+02	30.40	1.46E+02	1.71
F	12	1004.29	2950 -	2960	2954.69	3.56E+01	11.63	9.86E+01	1.26
F	13	1081.20	3170 -	3187	3180.92	1.55E+02	44.45	6.99E+01	1.57
F	14	1109.64	3258 -	3272	3264.61	1.53E+02	14.95	7.64E+01	2.03
F	15	1120.14	3288 -	3300	3295.49	3.79E+01	19.61	4.25E+01	0.93
F	16	1173.24	3440 -	3462	3451.70	1.96E+03	43.76	9.22E+01	2.20
F	17	1274.38	3740 -	3760	3749.21	9.95E+01	33.13	4.28E+01	2.33
F	18	1332.58	3906 -	3932	3920.40	1.84E+03	80.28	2.76E+01	2.23
F	19	1361.28	3995 -	4013	4004.82	7.55E+01	10.13	3.33E+01	2.49
F	20	2505.72	7360 -	7381	7371.08	1.12E+02	11.55	1.65E+01	2.97

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/28/2024 7:47:53AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578897.CNF

Analysis Report for 24-2551 TI185-8.0M-S3-CST-A V0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.63	7.47E+02	32.58			7.47E+02	3.26E+01
F	2	64.40	1.90E+02	22.97			1.90E+02	2.30E+01
F	3	87.52	1.93E+03	139.22	6.50E+00	7.06E-01	1.93E+03	1.39E+02
F	4	123.16	4.48E+02	85.69			4.48E+02	8.57E+01
F	5	295.32	1.11E+02	111.23	1.90E+01	1.80E+00	9.20E+01	1.11E+02
F	6	351.93	1.82E+02	19.39	3.56E+01	4.51E-01	1.46E+02	1.94E+01
F	7	414.77	1.23E+03	110.11			1.23E+03	1.10E+02
F	8	609.30	1.70E+02	77.09	3.33E+01	1.24E+00	1.37E+02	7.71E+01
M	9	661.66	1.50E+04	181.24			1.50E+04	1.81E+02
m	10	666.35	9.62E+02	33.15			9.62E+02	3.31E+01
F	11	695.11	9.00E+02	30.40			9.00E+02	3.04E+01
F	12	1004.29	3.56E+01	11.63			3.56E+01	1.16E+01
F	13	1081.20	1.55E+02	44.45			1.55E+02	4.45E+01
F	14	1109.64	1.53E+02	14.95			1.53E+02	1.50E+01
F	15	1120.14	3.79E+01	19.61	8.53E+00	2.43E-01	2.94E+01	1.96E+01
F	16	1173.24	1.96E+03	43.76			1.96E+03	4.38E+01
F	17	1274.38	9.95E+01	33.13			9.95E+01	3.31E+01
F	18	1332.58	1.84E+03	80.28			1.84E+03	8.03E+01
F	19	1361.28	7.55E+01	10.13			7.55E+01	1.01E+01
F	20	2505.72	1.12E+02	11.55			1.12E+02	1.16E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	1.00	1173.24	*	99.97	9.71E-04	2.21E-05	0.774
		1332.50	*	99.99	9.98E-04	4.38E-05	0.768
		2505.74	*	1.00	6.95E-03	7.28E-04	miss
CD-109	0.95	88.03	*	3.61	6.89E-03	7.05E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	7.19E-04	7.90E-05	0.396
		556.30		1.69			

Analysis Report for 24-2551 TI185-8.0M-S3-CST-A V0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	6.56E-04	2.28E-05	0.385
		674.80		3.10			
		695.00	*	99.60	6.32E-04	2.16E-05	0.384
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.99	64.28	*	9.60	4.57E-04	3.40E-04	miss
		87.30	*	45.90	5.41E-04	5.83E-05	miss
CS-137	1.00	661.66	*	85.20	4.57E-03	5.85E-05	miss
EU-154	0.34	42.70		20.45			
		123.07	*	40.40	1.63E-04	3.12E-05	0.744
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30		20.06			
		756.80		4.52			
		873.18		12.08			
		996.29		10.48			
		1004.76	*	18.01	7.82E-05	2.56E-05	0.871
		1246.12		0.86			
		1274.43	*	34.80	1.31E-04	4.37E-05	0.883
		1494.05		0.70			
		1596.48		1.80			
RA-226	0.52	74.81		6.44			
		77.11		10.80			
		87.30	*	4.84	5.13E-03	5.44E-04	miss
		186.21		3.59			
		242.00		7.43			
		295.22	*	19.30	7.53E-05	9.11E-05	miss
		351.93	*	37.60	6.78E-05	9.03E-06	miss
		609.31	*	46.10	7.29E-05	4.12E-05	miss
		768.36		4.94			
		1120.29	*	15.10	7.22E-05	4.82E-05	miss
		1238.11		5.79			
		1764.49		15.40			
AM-241	0.99	59.54	*	35.90	6.03E-04	2.97E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Analysis Report for 24-2551 TI185-8.0M-S3-CST-A V0

ASR 2094 Branch

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	1.000	9.81E-04	1.97E-05	
CD-109	0.959	9.79E-04	4.29E-03	
SB-126	0.489	6.46E-04	1.54E-05	
Sn-126	0.993	4.57E-04	3.33E-04	
CS-137	1.000	4.57E-03	5.85E-05	
EU-154	0.348	1.15E-04	1.80E-05	
RA-226	0.526	6.82E-05	8.62E-06	
AM-241	0.999	6.03E-04	2.97E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2551 TI185-8.0M-S3-CST-A V0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/28/2024 7:47:53AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	13	1081.20	1.29054E-01	28.70	Sum	
F	14	1109.64	1.27201E-01	9.79	Sum	
F	19	1361.28	6.29251E-02	13.42	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	3.01E-04	3.01E-04	3.17E-04	1.48E-04
	K-40	1460.83		10.67	1.65E-04	1.65E-04	1.64E-04	7.67E-05
	MN-54	834.84		99.98	2.32E-05	2.32E-05	4.98E-06	1.12E-05
	CO-58	810.78		99.45	2.44E-05	2.44E-05	3.20E-05	1.18E-05
		863.96		0.68	5.11E-03		-2.60E-04	2.47E-03
		1674.73		0.52	2.33E-03		-2.89E-04	1.06E-03
	FE-59	142.65		1.00	1.61E-03	3.87E-05	2.69E-04	7.90E-04
		192.35		3.01	8.62E-04		4.30E-05	4.23E-04
		334.80		0.27	8.37E-03		-4.15E-03	4.10E-03
		1099.25		56.30	4.67E-05		-2.97E-05	2.24E-05
		1291.60		43.70	3.87E-05		9.96E-06	1.81E-05
+	CO-60	1173.24	*	99.97	4.20E-05	2.79E-05	9.71E-04	2.03E-05
		1332.50	*	99.99	2.79E-05		9.98E-04	1.32E-05
		2505.74	*	1.00	2.28E-03		6.95E-03	1.06E-03
	SR-85	514.00		96.00	2.72E-05	2.72E-05	-3.18E-07	1.33E-05

Analysis Report for 24-2551 TI185-8.0M-S3-CST-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	868.60		0.01	2.40E-01	2.72E-05	2.78E-01	1.17E-01
	NB-94	702.62		97.90	2.81E-05	2.81E-05	-4.21E-06	1.36E-05
		871.09		99.98	3.80E-05		3.11E-05	1.84E-05
	NB-95	765.81		99.81	2.17E-05	2.17E-05	-1.25E-05	1.04E-05
	RU-103	497.05		91.00	3.07E-05	3.07E-05	3.03E-05	1.50E-05
		610.30		5.76	4.72E-04		2.88E-04	2.30E-04
	RH-106	511.86		20.70	1.55E-04	1.55E-04	1.80E-04	7.56E-05
		621.92		9.93	3.28E-04		1.02E-04	1.59E-04
		1050.36		1.56	2.22E-03		-9.15E-04	1.07E-03
	AG-108M	79.13		6.60	3.75E-04	4.90E-05	3.39E-05	1.85E-04
		433.90		90.50	5.77E-05		3.06E-06	2.83E-05
		614.30		89.80	5.34E-05		-8.81E-06	2.60E-05
		722.90		90.80	4.90E-05		7.30E-05	2.37E-05
+	CD-109	88.03	*	3.61	8.13E-04	8.13E-04	6.89E-03	4.02E-04
	SB-125	176.31		6.82	2.42E-04	9.44E-05	-1.24E-04	1.18E-04
		380.45		1.52	1.60E-03		-9.17E-04	7.81E-04
		427.87		29.55	9.44E-05		-3.28E-05	4.63E-05
		463.36		10.48	2.98E-04		3.51E-05	1.46E-04
		600.60		17.76	1.29E-04		-2.62E-05	6.28E-05
		606.71		5.02	5.39E-04		4.80E-05	2.63E-04
		635.95		11.32	2.03E-04		6.79E-05	9.85E-05
		671.44		1.78	2.29E-03		3.38E-05	1.13E-03
+	SB-126	223.90		1.39	1.42E-03	2.99E-05	1.11E-03	6.97E-04
		278.20		2.40	2.47E-03		9.42E-04	1.21E-03
		296.50		4.50	1.59E-03		-4.24E-04	7.82E-04
		414.70	*	83.30	1.07E-04		7.19E-04	5.26E-05
		556.30		1.69	4.48E-03		5.10E-03	2.18E-03
		573.90		6.70	1.13E-03		-6.80E-04	5.48E-04
		593.20		7.50	7.43E-04		-1.66E-04	3.61E-04
		656.30		2.19	1.83E-02		-2.93E-03	9.08E-03
		666.50	*	99.60	2.99E-05		6.56E-04	1.40E-05
		674.80		3.10	1.93E-03		1.49E-04	9.25E-04
		695.00	*	99.60	6.89E-05		6.32E-04	3.35E-05
		697.00		29.00	5.02E-04		3.32E-03	2.47E-04
		720.70		53.80	1.36E-04		2.06E-06	6.60E-05
		856.80		17.60	3.40E-04		-8.20E-05	1.64E-04
		989.60		6.80	9.54E-04		-1.27E-03	4.60E-04
		1213.30		2.39	2.01E-03		-1.88E-03	9.48E-04
+	Sn-126	64.28	*	9.60	3.85E-04	6.39E-05	4.57E-04	1.89E-04
		87.30	*	45.90	6.39E-05		5.41E-04	3.16E-05
	I-129	29.70		56.60	3.90E-03	3.59E-03	2.76E-03	1.92E-03
		33.60		10.04	8.06E-03		-4.80E-03	3.95E-03
		34.40		2.01	3.44E-02		-3.56E-02	1.69E-02
		39.60		7.51	3.59E-03		-4.47E-03	1.76E-03
	CS-134	563.25		8.34	4.72E-04	3.63E-05	3.17E-05	2.30E-04
		569.33		15.37	2.75E-04		1.77E-04	1.34E-04
		604.72		97.62	3.90E-05		3.96E-06	1.90E-05
		795.86		85.46	3.63E-05		1.48E-05	1.75E-05
		801.95		8.69	4.40E-04		-1.06E-04	2.12E-04
+	CS-137	661.66	*	85.20	1.98E-05	1.98E-05	4.57E-03	9.48E-06
	CE-139	165.85		79.89	2.14E-05	2.14E-05	9.75E-06	1.05E-05
	CE-141	40.70		3.35	6.89E-03	3.35E-05	-5.16E-03	3.38E-03
		145.44		48.29	3.35E-05		2.61E-05	1.64E-05

Analysis Report for 24-2551 TI185-8.0M-S3-CST-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CE-144	80.12		1.36	1.79E-03	1.27E-04	4.89E-04	8.82E-04
		133.51		11.09	1.27E-04		-2.31E-05	6.21E-05
	EU-152	121.78		28.58	8.64E-05	8.64E-05	2.29E-06	4.25E-05
		344.28		26.50	1.06E-04		-1.70E-05	5.21E-05
		778.90		12.94	2.14E-04		-2.24E-04	1.03E-04
		964.08		14.73	2.14E-04		9.87E-05	1.03E-04
		1085.87		10.24	2.92E-04		-5.94E-05	1.42E-04
		1112.07		13.69	2.68E-04		6.74E-04	1.30E-04
		1408.01		21.07	8.84E-05		-1.02E-04	4.10E-05
	GD-153	97.43		29.00	5.66E-05	5.66E-05	-8.32E-06	2.77E-05
		103.18		21.10	7.60E-05		2.00E-05	3.73E-05
+	EU-154	42.70		20.45	8.32E-04	6.42E-05	-2.68E-04	4.08E-04
		123.07	*	40.40	6.42E-05		1.63E-04	3.16E-05
		247.93		6.89	4.40E-04		2.00E-05	2.16E-04
		591.76		4.95	7.34E-04		5.31E-05	3.56E-04
		692.42		1.78	3.47E-03		-1.72E-04	1.70E-03
		723.30		20.06	1.69E-04		2.77E-04	8.17E-05
		756.80		4.52	7.33E-04		6.70E-04	3.53E-04
		873.18		12.08	3.40E-04		1.75E-04	1.65E-04
		996.29		10.48	2.99E-04		2.73E-04	1.44E-04
		1004.76	*	18.01	1.47E-04		7.82E-05	7.07E-05
		1246.12		0.86	3.29E-03		2.67E-03	1.55E-03
		1274.43	*	34.80	7.55E-05		1.31E-04	3.60E-05
		1494.05		0.70	1.78E-03		-1.47E-03	8.09E-04
		1596.48		1.80	5.20E-04		3.32E-04	2.42E-04
	EU-155	43.00		18.70	8.78E-04	7.24E-05	2.24E-04	4.31E-04
		60.01		1.22	4.88E-03		1.96E-02	2.41E-03
		86.55		30.70	1.11E-04		-1.22E-06	5.51E-05
		105.31		21.10	7.24E-05		3.18E-05	3.55E-05
	HG-203	72.87		6.30	4.63E-04	2.50E-05	1.25E-04	2.28E-04
		279.20		81.46	2.50E-05		-6.14E-07	1.22E-05
	BI-207	569.15		97.80	3.40E-05	3.40E-05	1.86E-05	1.65E-05
		1063.10		74.90	5.72E-05		2.34E-05	2.75E-05
	PB-210	46.54		4.25	2.56E-03	2.56E-03	-1.01E-03	1.26E-03
+	RA-226	74.81		6.44	4.35E-04	5.76E-05	2.10E-04	2.14E-04
		77.11		10.80	2.42E-04		-1.14E-04	1.19E-04
		87.30	*	4.84	6.06E-04		5.13E-03	2.99E-04
		186.21		3.59	5.35E-04		6.46E-04	2.63E-04
		242.00		7.43	2.84E-04		4.48E-05	1.40E-04
		295.22	*	19.30	1.34E-04		7.53E-05	6.61E-05
		351.93	*	37.60	6.99E-05		6.78E-05	3.43E-05
		609.31	*	46.10	5.76E-05		7.29E-05	2.81E-05
		768.36		4.94	4.34E-04		-3.49E-05	2.09E-04
		1120.29	*	15.10	1.19E-04		7.22E-05	5.60E-05
		1238.11		5.79	3.20E-04		-7.44E-06	1.51E-04
		1764.49		15.40	1.23E-04		9.46E-05	5.72E-05
	PA-231	283.70		1.59	1.30E-03	8.91E-04	4.09E-04	6.38E-04
		300.07		2.38	8.91E-04		6.38E-04	4.37E-04
		302.67		1.71	1.20E-03		-4.12E-04	5.88E-04
		330.07		1.32	1.58E-03		7.53E-04	7.72E-04
	TH-232	74.81		11.62	2.41E-04	3.48E-05	1.17E-04	1.19E-04
		77.11		17.50	1.49E-04		-7.01E-05	7.35E-05
		87.30		7.80	4.34E-04		2.04E-05	2.15E-04

Analysis Report for 24-2551 TI185-8.0M-S3-CST-A V0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	238.63		43.30	4.89E-05	3.48E-05	3.59E-05	2.40E-05
		338.32		11.30	1.95E-04		7.98E-06	9.55E-05
		583.19		30.37	7.55E-05		6.85E-05	3.67E-05
		727.33		6.58	3.49E-04		2.10E-04	1.69E-04
		911.21		26.60	1.01E-04		3.92E-05	4.89E-05
		968.97		16.20	1.53E-04		-3.24E-05	7.38E-05
		2614.53		35.64	3.48E-05		2.32E-05	1.50E-05
	U-235	143.76		10.96	1.42E-04	3.33E-05	-4.01E-05	6.97E-05
		185.71		57.20	3.33E-05		3.43E-05	1.63E-05
		205.31		5.01	3.78E-04		2.82E-04	1.85E-04
	U-238	63.29		3.70	1.12E-03	4.26E-04	6.68E-05	5.50E-04
		92.51		4.23	4.26E-04		-3.27E-05	2.09E-04
		112.81		0.21	7.21E-03		6.35E-04	3.53E-03
		742.81		0.11	1.85E-02		2.52E-04	8.91E-03
		766.28		0.32	6.66E-03		-8.55E-03	3.21E-03
		1001.03		0.84	3.65E-03		2.57E-03	1.77E-03
	NP-239	99.60		12.80	1.68E-04	8.64E-05	5.99E-05	8.25E-05
		103.80		20.40	1.03E-04		2.16E-06	5.03E-05
		106.10		26.40	8.64E-05		2.54E-05	4.23E-05
		116.90		7.61	2.63E-04		-1.44E-04	1.29E-04
		228.20		11.20	2.64E-04		4.52E-05	1.29E-04
		277.60		14.50	2.07E-04		2.21E-04	1.01E-04
		315.90		1.60	1.56E-03		1.19E-04	7.63E-04
		334.30		2.06	1.10E-03		4.23E-04	5.37E-04
+	AM-241	59.54	*	35.90	1.70E-04	1.70E-04	6.03E-04	8.40E-05

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

Apex-Gamma

Analysis Report for 24-2552 TI185-8.0M-S3-CST-d-A V0
ASR 2120 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2552 TI185-8.0M-S3-CST-d-A V0
Sample Description	: ASR 2120 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/28/2024 8:05:23AM
Procedure	: V0_gsv02mlw
Operator	: Administrator
Detector Name	: V
Geometry	: V0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1201.7 seconds
Dead Time	: 0.14 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 9/8/2023
Efficiency Calibration Used Done On	: 3/28/2019
Efficiency Calibration Description	: V0_gsv2mlw_R717P
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 579004
Certificate Name	: R735-A5 5ml PSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/28/2024 8:25:30AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2552 TI185-8.0M-S3-CST-d-A V0

ASR 2120 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	37.42	110.40	0.4428	3.08
2	59.59	175.54	0.2550	7.18
3	64.23	189.24	0.3613	4.03
4	87.51	257.68	0.1629	14.19
5	123.10	362.39	0.2174	7.89
6	352.02	1036.03	0.3250	3.82
7	385.90	1135.52	0.3626	3.12
8	414.81	1220.59	0.1313	18.11
9	661.67	1946.81	0.0632	65.89
10	666.35	1960.62	0.1352	14.17
11	695.04	2044.93	0.1280	16.40
12	723.53	2128.52	0.2713	4.35
13	873.22	2568.96	0.2694	3.98
14	1004.53	2955.74	0.2552	3.14
15	1081.00	3180.57	0.2085	5.01
16	1109.98	3265.48	0.2114	4.88
17	1173.24	3451.82	0.0979	22.22
18	1274.58	3749.88	0.1931	5.75
19	1332.54	3920.53	0.1001	19.01
20	1361.21	4004.51	0.2014	4.99
21	2505.50	7370.45	0.1673	5.89

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2552 TI185-8.0M-S3-CST-d-A V0

ASR 2120 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/28/2024 8:25:30AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	37.42	106	114	110.28	6.55E+01	19.36	4.77E+02	0.61
F	2	59.59	168	182	175.52	8.14E+02	100.32	8.93E+02	1.11
F	3	64.23	184	193	189.16	1.86E+02	79.53	5.52E+02	0.82
F	4	87.51	250	264	257.67	1.89E+03	124.96	7.13E+02	1.30
F	5	123.10	354	368	362.35	4.49E+02	88.71	5.96E+02	1.18
F	6	352.02	1030	1041	1035.82	6.69E+01	40.30	2.77E+02	0.76
	7	385.90	1132	1140	1135.52	1.82E+01	26.79	2.13E+02	0.67
F	8	414.81	1209	1228	1220.57	1.14E+03	92.94	5.09E+02	1.30
M	9	661.67	1934	1967	1946.80	1.41E+04	113.79	1.83E+02	1.65
m	10	666.35	1934	1967	1960.56	8.16E+02	28.69	1.14E+02	1.65
F	11	695.04	2037	2056	2044.95	8.69E+02	64.82	1.20E+02	1.71
F	12	723.53	2124	2135	2128.76	5.57E+01	23.83	6.45E+01	0.76
F	13	873.22	2561	2573	2569.13	3.68E+01	9.74	8.47E+01	1.03
F	14	1004.53	2950	2961	2955.41	4.62E+01	11.07	6.66E+01	1.73
F	15	1081.00	3173	3189	3180.34	1.15E+02	12.43	5.19E+01	2.10
F	16	1109.98	3257	3274	3265.61	1.09E+02	13.63	1.02E+02	1.96
F	17	1173.24	3438	3463	3451.68	1.90E+03	88.75	9.14E+01	2.14
F	18	1274.58	3741	3757	3749.80	9.25E+01	11.47	4.25E+01	1.80
F	19	1332.54	3907	3931	3920.30	1.58E+03	75.57	5.13E+01	2.32
F	20	1361.21	3995	4015	4004.63	9.34E+01	14.21	1.59E+01	2.24
F	21	2505.50	7358	7382	7370.45	1.31E+02	29.55	1.27E+01	2.56

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/28/2024 8:25:30AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578897.CNF

Analysis Report for 24-2552 TI185-8.0M-S3-CST-d-A V0

ASR 2120 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	37.42	6.55E+01	19.36			6.55E+01	1.94E+01
F	2	59.59	8.14E+02	100.32			8.14E+02	1.00E+02
F	3	64.23	1.86E+02	79.53	2.12E+01	1.84E+00	1.65E+02	7.95E+01
F	4	87.51	1.89E+03	124.96	6.50E+00	7.06E-01	1.89E+03	1.25E+02
F	5	123.10	4.49E+02	88.71			4.49E+02	8.87E+01
F	6	352.02	6.69E+01	40.30	3.56E+01	4.51E-01	3.13E+01	4.03E+01
	7	385.90	1.82E+01	26.79			1.82E+01	2.68E+01
F	8	414.81	1.14E+03	92.94			1.14E+03	9.29E+01
M	9	661.67	1.41E+04	113.79			1.41E+04	1.14E+02
m	10	666.35	8.16E+02	28.69			8.16E+02	2.87E+01
F	11	695.04	8.69E+02	64.82			8.69E+02	6.48E+01
F	12	723.53	5.57E+01	23.83			5.57E+01	2.38E+01
F	13	873.22	3.68E+01	9.74			3.68E+01	9.74E+00
F	14	1004.53	4.62E+01	11.07			4.62E+01	1.11E+01
F	15	1081.00	1.15E+02	12.43			1.15E+02	1.24E+01
F	16	1109.98	1.09E+02	13.63			1.09E+02	1.36E+01
F	17	1173.24	1.90E+03	88.75			1.90E+03	8.87E+01
F	18	1274.58	9.25E+01	11.47			9.25E+01	1.15E+01
F	19	1332.54	1.58E+03	75.57			1.58E+03	7.56E+01
F	20	1361.21	9.34E+01	14.21			9.34E+01	1.42E+01
F	21	2505.50	1.31E+02	29.55			1.31E+02	2.95E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-60	1.00	1173.24	*	99.97	9.38E-04	4.41E-05	0.774
		1332.50	*	99.99	8.56E-04	4.12E-05	0.768
		2505.74	*	1.00	8.13E-03	1.84E-03	miss
CD-109	0.95	88.03	*	3.61	6.74E-03	6.66E-04	free
SB-126	0.48	223.90		1.39			

Analysis Report for 24-2552 TI185-8.0M-S3-CST-d-A V0

ASR 2120 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	6.66E-04	6.89E-05	0.396
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	5.56E-04	1.97E-05	0.385
		674.80		3.10			
		695.00	*	99.60	6.10E-04	4.56E-05	0.384
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.99	64.28	*	9.60	4.00E-04	3.45E-04	miss
		87.30	*	45.90	5.29E-04	5.53E-05	miss
CS-137	1.00	661.66	*	85.20	4.30E-03	3.91E-05	miss
EU-154	0.62	42.70		20.45			
		123.07	*	40.40	1.63E-04	3.23E-05	0.744
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	1.08E-04	4.62E-05	0.711
		756.80		4.52			
		873.18	*	12.08	1.40E-04	3.70E-05	0.684
		996.29		10.48			
		1004.76	*	18.01	1.02E-04	2.44E-05	0.871
		1246.12		0.86			
		1274.43	*	34.80	1.22E-04	1.52E-05	0.883
		1494.05		0.70			
		1596.48		1.80			
AM-241	1.00	59.54	*	35.90	6.59E-04	8.22E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

Analysis Report for 24-2552 TI185-8.0M-S3-CST-d-A V0

ASR 2120 Branch

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-60	1.000	8.97E-04	3.01E-05	
CD-109	0.958	1.64E-03	4.37E-03	
SB-126	0.489	5.71E-04	1.75E-05	
Sn-126	0.994	4.00E-04	3.39E-04	
CS-137	1.000	4.30E-03	3.91E-05	
EU-154	0.623	1.23E-04	1.11E-05	
AM-241	1.000	6.59E-04	8.22E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2552 TI185-8.0M-S3-CST-d-A V0

ASR 2120 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/28/2024 8:25:30AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	1	37.42	5.46045E-02	29.54		
F	6	352.02	2.60696E-02	128.83	Tol.	RA-226
	7	385.90	1.51732E-02	147.13		
F	15	1081.00	9.60503E-02	10.79	Sum	
F	16	1109.98	9.04867E-02	12.56	Sum	
F	20	1361.21	7.78482E-02	15.21	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

Nuclide Name	Energy (keV)	Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
BE-7	477.61	10.44	2.91E-04	2.91E-04	-6.75E-05	1.43E-04
K-40	1460.83	10.67	1.82E-04	1.82E-04	1.33E-04	8.54E-05
MN-54	834.84	99.98	2.08E-05	2.08E-05	3.09E-07	1.00E-05
CO-58	810.78	99.45	2.39E-05	2.39E-05	-5.11E-06	1.15E-05
	863.96	0.68	4.42E-03		-3.90E-03	2.13E-03
	1674.73	0.52	2.20E-03		-7.07E-04	9.89E-04
FE-59	142.65	1.00	1.46E-03	3.48E-05	-8.85E-04	7.17E-04
	192.35	3.01	8.10E-04		5.27E-04	3.97E-04
	334.80	0.27	8.25E-03		5.98E-03	4.04E-03
	1099.25	56.30	4.49E-05		2.58E-05	2.16E-05
	1291.60	43.70	3.48E-05		2.03E-05	1.61E-05

Analysis Report for 24-2552 TI185-8.0M-S3-CST-d-A V0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	CO-60	1173.24	*	99.97	4.41E-05	3.64E-05	9.38E-04	2.14E-05
		1332.50	*	99.99	3.64E-05		8.56E-04	1.75E-05
		2505.74	*	1.00	2.16E-03		8.13E-03	9.95E-04
	SR-85	514.00		96.00	2.77E-05	2.77E-05	8.68E-06	1.35E-05
		868.60		0.01	2.01E-01		9.00E-03	9.71E-02
	NB-94	702.62		97.90	2.81E-05	2.81E-05	2.04E-05	1.35E-05
		871.09		99.98	3.25E-05		1.62E-09	1.57E-05
	NB-95	765.81		99.81	2.01E-05	2.01E-05	1.45E-05	9.63E-06
	RU-103	497.05		91.00	2.91E-05	2.91E-05	3.87E-06	1.42E-05
		610.30		5.76	3.93E-04		2.38E-04	1.91E-04
	RH-106	511.86		20.70	1.53E-04	1.53E-04	1.74E-05	7.48E-05
		621.92		9.93	3.08E-04		2.88E-04	1.49E-04
		1050.36		1.56	2.10E-03		-1.34E-03	1.01E-03
	AG-108M	79.13		6.60	3.54E-04	4.63E-05	1.07E-04	1.74E-04
		433.90		90.50	5.46E-05		-1.70E-05	2.68E-05
		614.30		89.80	4.67E-05		-2.91E-05	2.26E-05
		722.90		90.80	4.63E-05		3.02E-06	2.24E-05
+	CD-109	88.03	*	3.61	6.94E-04	6.94E-04	6.74E-03	3.42E-04
	SB-125	176.31		6.82	2.34E-04	9.38E-05	2.22E-04	1.14E-04
		380.45		1.52	1.56E-03		8.79E-04	7.64E-04
		427.87		29.55	9.38E-05		-1.69E-07	4.60E-05
		463.36		10.48	2.89E-04		1.47E-04	1.42E-04
		600.60		17.76	1.22E-04		7.95E-05	5.91E-05
		606.71		5.02	4.60E-04		-1.42E-04	2.23E-04
		635.95		11.32	2.08E-04		-1.78E-05	1.01E-04
		671.44		1.78	2.19E-03		2.31E-05	1.07E-03
+	SB-126	223.90		1.39	1.37E-03	3.57E-05	6.27E-04	6.69E-04
		278.20		2.40	2.42E-03		1.57E-03	1.19E-03
		296.50		4.50	1.42E-03		7.26E-04	6.92E-04
		414.70	*	83.30	1.08E-04		6.66E-04	5.30E-05
		556.30		1.69	4.27E-03		4.20E-03	2.07E-03
		573.90		6.70	1.06E-03		4.18E-04	5.14E-04
		593.20		7.50	7.54E-04		4.29E-04	3.67E-04
		656.30		2.19	1.77E-02		-1.79E-03	8.82E-03
		666.50	*	99.60	3.57E-05		5.56E-04	1.69E-05
		674.80		3.10	2.01E-03		-1.37E-03	9.65E-04
		695.00	*	99.60	6.48E-05		6.10E-04	3.14E-05
		697.00		29.00	4.90E-04		2.63E-03	2.41E-04
		720.70		53.80	1.31E-04		1.87E-04	6.34E-05
		856.80		17.60	3.29E-04		1.52E-04	1.58E-04
		989.60		6.80	9.26E-04		6.13E-05	4.46E-04
		1213.30		2.39	1.87E-03		-9.29E-05	8.80E-04
+	Sn-126	64.28	*	9.60	3.60E-04	5.45E-05	4.00E-04	1.77E-04
		87.30	*	45.90	5.45E-05		5.29E-04	2.69E-05
	I-129	29.70		56.60	3.68E-03	3.38E-03	-3.92E-04	1.80E-03
		33.60		10.04	7.70E-03		-1.03E-02	3.77E-03
		34.40		2.01	3.28E-02		-8.57E-03	1.61E-02
		39.60		7.51	3.38E-03		-6.32E-04	1.66E-03
	CS-134	563.25		8.34	4.25E-04	3.38E-05	-9.07E-05	2.06E-04
		569.33		15.37	2.44E-04		-3.64E-04	1.18E-04
		604.72		97.62	3.38E-05		3.32E-05	1.64E-05
		795.86		85.46	3.42E-05		2.12E-08	1.65E-05
		801.95		8.69	4.15E-04		2.17E-04	1.99E-04

Analysis Report for 24-2552 TI185-8.0M-S3-CST-d-A V0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
+	CS-137	661.66	*	85.20	2.01E-05	2.01E-05	4.30E-03	9.61E-06
	CE-139	165.85		79.89	2.02E-05	2.02E-05	2.78E-06	9.91E-06
	CE-141	40.70		3.35	6.41E-03	3.01E-05	-1.29E-03	3.14E-03
		145.44		48.29	3.01E-05		-7.04E-06	1.47E-05
	CE-144	80.12		1.36	1.69E-03	1.26E-04	-9.51E-04	8.28E-04
		133.51		11.09	1.26E-04		1.38E-05	6.15E-05
	EU-152	121.78		28.58	8.46E-05	8.24E-05	1.56E-06	4.16E-05
		344.28		26.50	1.01E-04		3.77E-05	4.94E-05
		778.90		12.94	2.09E-04		9.40E-05	1.00E-04
		964.08		14.73	2.00E-04		3.35E-05	9.63E-05
		1085.87		10.24	2.70E-04		-3.84E-05	1.31E-04
		1112.07		13.69	2.53E-04		1.92E-04	1.23E-04
		1408.01		21.07	8.24E-05		3.75E-05	3.80E-05
	GD-153	97.43		29.00	5.70E-05	5.70E-05	2.59E-05	2.80E-05
		103.18		21.10	7.19E-05		-8.72E-05	3.52E-05
+	EU-154	42.70		20.45	8.06E-04	6.46E-05	5.28E-04	3.95E-04
		123.07	*	40.40	6.46E-05		1.63E-04	3.18E-05
		247.93		6.89	4.23E-04		1.68E-04	2.08E-04
		591.76		4.95	7.58E-04		8.44E-04	3.69E-04
		692.42		1.78	3.38E-03		-2.31E-04	1.66E-03
		723.30	*	20.06	1.08E-04		1.08E-04	5.12E-05
		756.80		4.52	6.86E-04		3.50E-05	3.29E-04
		873.18	*	12.08	2.48E-04		1.40E-04	1.19E-04
		996.29		10.48	2.86E-04		-4.12E-06	1.38E-04
		1004.76	*	18.01	1.25E-04		1.02E-04	5.95E-05
		1246.12		0.86	3.26E-03		9.53E-04	1.53E-03
		1274.43	*	34.80	6.84E-05		1.22E-04	3.24E-05
		1494.05		0.70	2.00E-03		-9.12E-04	9.20E-04
		1596.48		1.80	5.03E-04		2.54E-04	2.33E-04
	EU-155	43.00		18.70	8.46E-04	6.85E-05	4.15E-04	4.14E-04
		60.01		1.22	4.71E-03		1.78E-02	2.32E-03
		86.55		30.70	1.07E-04		-1.02E-05	5.30E-05
		105.31		21.10	6.85E-05		-5.35E-05	3.35E-05
	HG-203	72.87		6.30	4.37E-04	2.46E-05	1.14E-04	2.15E-04
		279.20		81.46	2.46E-05		-8.06E-06	1.20E-05
	BI-207	569.15		97.80	3.05E-05	3.05E-05	-2.60E-06	1.48E-05
		1063.10		74.90	5.52E-05		3.08E-05	2.66E-05
	PB-210	46.54		4.25	2.44E-03	2.44E-03	-2.81E-03	1.19E-03
	RA-226	74.81		6.44	4.08E-04	4.87E-05	1.17E-04	2.01E-04
		77.11		10.80	2.27E-04		-6.29E-05	1.11E-04
		87.30		4.84	6.67E-04		4.77E-03	3.30E-04
		186.21		3.59	5.14E-04		2.38E-04	2.52E-04
		242.00		7.43	2.64E-04		1.13E-04	1.30E-04
		295.22		19.30	1.01E-04		-5.47E-05	4.95E-05
		351.93		37.60	6.17E-05		2.46E-05	3.02E-05
		609.31		46.10	4.87E-05		2.27E-05	2.36E-05
		768.36		4.94	3.99E-04		1.37E-04	1.92E-04
		1120.29		15.10	1.75E-04		2.57E-04	8.43E-05
		1238.11		5.79	3.11E-04		-4.39E-05	1.46E-04
		1764.49		15.40	1.05E-04		4.72E-05	4.79E-05
	PA-231	283.70		1.59	1.22E-03	8.45E-04	7.57E-05	5.96E-04
		300.07		2.38	8.45E-04		-7.18E-04	4.13E-04
		302.67		1.71	1.18E-03		8.67E-04	5.76E-04

Analysis Report for 24-2552 TI185-8.0M-S3-CST-d-A V0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	PA-231	330.07		1.32	1.56E-03	8.45E-04	7.46E-04	7.65E-04
	TH-232	74.81		11.62	2.26E-04	3.70E-05	6.50E-05	1.11E-04
		77.11		17.50	1.40E-04		-3.88E-05	6.87E-05
		87.30		7.80	4.14E-04		2.96E-03	2.05E-04
		238.63		43.30	4.61E-05		3.90E-05	2.26E-05
		338.32		11.30	1.97E-04		5.76E-05	9.64E-05
		583.19		30.37	7.42E-05		6.22E-06	3.61E-05
		727.33		6.58	3.36E-04		1.58E-04	1.62E-04
		911.21		26.60	8.93E-05		-2.67E-05	4.30E-05
		968.97		16.20	1.54E-04		1.02E-04	7.41E-05
		2614.53		35.64	3.70E-05		2.68E-05	1.61E-05
	U-235	143.76		10.96	1.31E-04	3.22E-05	-2.19E-05	6.41E-05
		185.71		57.20	3.22E-05		2.60E-05	1.58E-05
		205.31		5.01	3.67E-04		-9.02E-05	1.80E-04
	U-238	63.29		3.70	1.06E-03	4.11E-04	1.02E-03	5.22E-04
		92.51		4.23	4.11E-04		1.96E-04	2.02E-04
		112.81		0.21	6.84E-03		-1.95E-04	3.35E-03
		742.81		0.11	1.74E-02		-7.78E-03	8.32E-03
		766.28		0.32	6.22E-03		3.91E-03	2.99E-03
		1001.03		0.84	3.41E-03		2.71E-03	1.65E-03
	NP-239	99.60		12.80	1.69E-04	8.26E-05	9.18E-05	8.30E-05
		103.80		20.40	9.96E-05		4.22E-05	4.88E-05
		106.10		26.40	8.26E-05		-3.94E-05	4.04E-05
		116.90		7.61	2.57E-04		2.25E-05	1.26E-04
		228.20		11.20	2.60E-04		-9.01E-05	1.28E-04
		277.60		14.50	1.99E-04		-8.36E-05	9.74E-05
		315.90		1.60	1.51E-03		-1.29E-03	7.38E-04
		334.30		2.06	1.08E-03		-1.61E-04	5.31E-04
+	AM-241	59.54	*	35.90	1.75E-04	1.75E-04	6.59E-04	8.66E-05

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

Apex-Gamma

Analysis Report for 24-2553 TI185-8.0M-S4-CST-A W0

ASR 2094 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2553 TI185-8.0M-S4-CST-A W0
Sample Description	: ASR 2094 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/28/2024 7:27:53AM
Procedure	: W0_gsv02mlw
Operator	: Administrator
Detector Name	: W
Geometry	: W0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1202.7 seconds
Dead Time	: 0.23 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 8/11/2023
Efficiency Calibration Used Done On	: 5/17/2021
Efficiency Calibration Description	: W0_gsv2mlw_R724p
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 578995
Certificate Name	: R735-A10 20ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/28/2024 7:48:01AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2553 TI185-8.0M-S4-CST-A W0

ASR 2094 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.63	162.25	0.2094	9.12
2	87.45	237.37	0.1641	12.87
3	123.06	333.52	0.2430	5.33
4	295.46	798.78	0.3310	3.02
5	352.05	951.36	0.2691	4.05
6	414.90	1121.11	0.1459	14.36
7	609.18	1646.19	0.2863	3.40
8	661.68	1787.30	0.0520	101.25
9	666.39	1800.33	0.1511	14.39
10	695.09	1877.52	0.1434	13.47
11	723.62	1954.21	0.3214	3.24
12	873.39	2358.83	0.2941	3.85
13	995.58	2689.05	0.3033	3.13
14	1081.23	2919.64	0.2217	5.06
15	1109.91	2997.43	0.2185	5.03
16	1173.35	3168.70	0.1111	19.08
17	1274.83	3442.41	0.2283	4.71
18	1332.60	3598.96	0.1111	17.16
19	1361.38	3676.05	0.2271	4.07
20	2505.17	6765.51	0.1881	5.06

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2553 TI185-8.0M-S4-CST-A W0

ASR 2094 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/28/2024 7:48:01AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.63	157 -	168	162.30	7.98E+02	133.51	1.13E+03	1.33
F	2	87.45	229 -	244	237.38	1.76E+03	149.10	1.49E+03	1.53
F	3	123.06	325 -	339	333.48	5.21E+02	123.47	1.23E+03	1.60
	4	295.46	789 -	804	798.78	3.68E+01	76.13	1.15E+03	1.15
F	5	352.05	946 -	960	951.52	1.70E+02	27.47	1.03E+03	1.36
F	6	414.90	1116 -	1129	1121.17	1.12E+03	42.10	1.08E+03	1.58
F	7	609.18	1636 -	1651	1645.59	7.26E+01	53.75	3.65E+02	1.52
M	8	661.68	1777 -	1808	1787.32	4.32E+04	285.63	2.06E+02	1.82
m	9	666.39	1777 -	1808	1800.02	8.82E+02	31.41	9.67E+01	1.83
F	10	695.09	1866 -	1888	1877.50	8.53E+02	72.24	1.50E+02	1.81
F	11	723.62	1949 -	1961	1954.53	5.07E+01	11.88	1.13E+02	1.35
	12	873.39	2354 -	2364	2358.83	1.58E+01	19.39	9.42E+01	1.24
F	13	995.58	2684 -	2695	2688.72	2.31E+01	4.68	7.23E+01	0.46
F	14	1081.23	2914 -	2928	2919.96	1.33E+02	13.56	5.68E+01	2.14
F	15	1109.91	2990 -	3005	2997.39	1.11E+02	14.06	1.01E+02	1.80
F	16	1173.35	3159 -	3180	3168.68	1.78E+03	41.85	7.70E+01	2.27
F	17	1274.83	3430 -	3449	3442.68	1.24E+02	41.16	2.76E+01	1.43
F	18	1332.60	3587 -	3610	3598.68	1.66E+03	59.17	1.82E+01	2.42
F	19	1361.38	3669 -	3684	3676.39	9.54E+01	11.14	2.78E+01	2.23
F	20	2505.17	6756 -	6775	6765.53	1.22E+02	11.31	4.68E+00	2.71

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/28/2024 7:48:01AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578898.CNF

Analysis Report for 24-2553 TI185-8.0M-S4-CST-A W0

ASR 2094 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.63	7.98E+02	133.51			7.98E+02	1.34E+02
F	2	87.45	1.76E+03	149.10	9.22E+00	7.54E-01	1.75E+03	1.49E+02
F	3	123.06	5.21E+02	123.47			5.21E+02	1.23E+02
	4	295.46	3.68E+01	76.13	2.25E+01	4.29E-01	1.43E+01	7.61E+01
F	5	352.05	1.70E+02	27.47	4.00E+01	4.92E-01	1.30E+02	2.75E+01
F	6	414.90	1.12E+03	42.10			1.12E+03	4.21E+01
F	7	609.18	7.26E+01	53.75	3.86E+01	1.26E+00	3.40E+01	5.38E+01
M	8	661.68	4.32E+04	285.63			4.32E+04	2.86E+02
m	9	666.39	8.82E+02	31.41	8.76E-01	8.33E-02	8.81E+02	3.14E+01
F	10	695.09	8.53E+02	72.24			8.53E+02	7.22E+01
F	11	723.62	5.07E+01	11.88			5.07E+01	1.19E+01
	12	873.39	1.58E+01	19.39			1.58E+01	1.94E+01
F	13	995.58	2.31E+01	4.68			2.31E+01	4.68E+00
F	14	1081.23	1.33E+02	13.56			1.33E+02	1.36E+01
F	15	1109.91	1.11E+02	14.06			1.11E+02	1.41E+01
F	16	1173.35	1.78E+03	41.85			1.78E+03	4.19E+01
F	17	1274.83	1.24E+02	41.16			1.24E+02	4.12E+01
F	18	1332.60	1.66E+03	59.17			1.66E+03	5.92E+01
F	19	1361.38	9.54E+01	11.14			9.54E+01	1.11E+01
F	20	2505.17	1.22E+02	11.31			1.22E+02	1.13E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-57	0.69	122.06	*	85.60	7.18E-05	1.70E-05	1.000
		136.47		10.68			
CO-60	0.99	1173.24	*	99.97	8.93E-04	2.17E-05	0.773
		1332.50	*	99.99	9.13E-04	3.32E-05	0.765
		2505.74	*	1.00	8.79E-03	9.87E-04	miss
CD-109	0.94	88.03	*	3.61	6.49E-03	5.84E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			

Analysis Report for 24-2553 TI185-8.0M-S4-CST-A W0

ASR 2094 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	414.70	*	83.30	6.84E-04	5.10E-05	0.393
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			
		656.30		2.19			
		666.50	*	99.60	6.32E-04	2.28E-05	0.382
		674.80		3.10			
		695.00	*	99.60	6.30E-04	5.35E-05	0.381
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
CS-137	1.00	661.66	*	85.20	1.38E-02	1.18E-04	miss
EU-154	0.55	42.70		20.45			
		123.07	*	40.40	2.05E-04	4.86E-05	0.742
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30	*	20.06	1.03E-04	2.42E-05	0.705
		756.80		4.52			
		873.18	*	12.08	6.24E-05	7.67E-05	0.676
		996.29	*	10.48	8.78E-05	1.79E-05	0.878
		1004.76		18.01			
		1246.12		0.86			
		1274.43	*	34.80	1.67E-04	5.54E-05	0.875
		1494.05		0.70			
		1596.48		1.80			
RA-226	0.41	74.81		6.44			
		77.11		10.80			
		87.30	*	4.84	4.83E-03	4.55E-04	miss
		186.21		3.59			
		242.00		7.43			
		295.22	*	19.30	1.20E-05	6.40E-05	miss
		351.93	*	37.60	6.23E-05	1.32E-05	miss
		609.31	*	46.10	1.90E-05	3.00E-05	miss
		768.36		4.94			
		1120.29		15.10			
		1238.11		5.79			
		1764.49		15.40			
AM-241	0.99	59.54	*	35.90	6.37E-04	1.08E-04	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Analysis Report for 24-2553 TI185-8.0M-S4-CST-A W0

ASR 2094 Branch

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
	CO-57	0.691	3.79E-05	1.77E-05	
	CO-60	0.998	9.02E-04	1.81E-05	
	CD-109	0.948	6.42E-03	5.55E-04	
	SB-126	0.488	6.39E-04	1.94E-05	
X	Sn-126	0.777			
	CS-137	1.000	1.38E-02	1.18E-04	
	EU-154	0.555	9.67E-05	1.37E-05	
	RA-226	0.418	5.38E-05	1.19E-05	
	AM-241	0.999	6.37E-04	1.08E-04	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2553 TI185-8.0M-S4-CST-A W0

ASR 2094 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/28/2024 7:48:01AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	14	1081.23	1.10441E-01	10.23	Sum	
F	15	1109.91	9.28812E-02	12.61	Sum	
F	19	1361.38	7.94991E-02	11.68	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	4.85E-04	4.85E-04	1.66E-04	2.40E-04
	K-40	1460.83		10.67	1.88E-04	1.88E-04	5.66E-05	8.84E-05
	MN-54	834.84		99.98	2.15E-05	2.15E-05	-2.26E-05	1.03E-05
	CO-58	810.78		99.45	2.35E-05	2.35E-05	8.28E-06	1.13E-05
		863.96		0.68	4.40E-03		-2.26E-03	2.11E-03
		1674.73		0.52	2.34E-03		-8.16E-04	1.06E-03
	FE-59	142.65		1.00	2.34E-03	3.96E-05	4.47E-05	1.16E-03
		192.35		3.01	1.32E-03		8.02E-04	6.54E-04
		334.80		0.27	1.25E-02		8.45E-03	6.14E-03
		1099.25		56.30	4.66E-05		2.84E-05	2.24E-05
		1291.60		43.70	3.96E-05		4.14E-05	1.85E-05
+	CO-60	1173.24	*	99.97	3.86E-05	2.20E-05	8.93E-04	1.86E-05
		1332.50	*	99.99	2.20E-05		9.13E-04	1.03E-05
		2505.74	*	1.00	1.43E-03		8.79E-03	6.16E-04
	SR-85	514.00		96.00	4.19E-05	4.19E-05	1.87E-05	2.06E-05

Analysis Report for 24-2553 TI185-8.0M-S4-CST-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	868.60		0.01	2.05E-01	4.19E-05	-3.26E-02	9.90E-02
	NB-94	702.62		97.90	2.93E-05	2.93E-05	2.70E-06	1.41E-05
		871.09		99.98	3.34E-05		9.23E-06	1.61E-05
	NB-95	765.81		99.81	2.12E-05	2.12E-05	2.09E-05	1.02E-05
	RU-103	497.05		91.00	4.59E-05	4.59E-05	-2.55E-05	2.26E-05
		610.30		5.76	5.65E-04		1.79E-04	2.76E-04
	RH-106	511.86		20.70	2.31E-04	2.31E-04	1.73E-04	1.14E-04
		621.92		9.93	3.93E-04		-2.70E-04	1.91E-04
		1050.36		1.56	1.99E-03		-1.68E-03	9.52E-04
	AG-108M	79.13		6.60	4.78E-04	5.19E-05	-5.51E-04	2.36E-04
		433.90		90.50	9.26E-05		3.09E-05	4.57E-05
		614.30		89.80	6.39E-05		2.04E-05	3.12E-05
		722.90		90.80	5.19E-05		2.87E-05	2.51E-05
+	CD-109	88.03	*	3.61	1.06E-03	1.06E-03	6.49E-03	5.26E-04
	SB-125	176.31		6.82	3.72E-04	1.53E-04	-6.96E-06	1.84E-04
		380.45		1.52	2.42E-03		4.16E-05	1.19E-03
		427.87		29.55	1.53E-04		-7.85E-05	7.57E-05
		463.36		10.48	5.00E-04		-2.75E-04	2.47E-04
		600.60		17.76	1.75E-04		4.45E-05	8.54E-05
		606.71		5.02	6.53E-04		5.03E-04	3.20E-04
		635.95		11.32	2.62E-04		-1.30E-05	1.28E-04
		671.44		1.78	2.26E-03		5.32E-04	1.11E-03
+	SB-126	223.90		1.39	2.16E-03	3.48E-05	-2.65E-04	1.07E-03
		278.20		2.40	3.89E-03		-2.31E-03	1.92E-03
		296.50		4.50	2.36E-03		2.99E-04	1.16E-03
		414.70	*	83.30	1.43E-04		6.84E-04	7.09E-05
		556.30		1.69	6.13E-03		3.16E-05	3.00E-03
		573.90		6.70	1.59E-03		-5.54E-04	7.79E-04
		593.20		7.50	1.03E-03		-6.48E-04	5.05E-04
		656.30		2.19	2.99E-02		2.74E-04	1.49E-02
		666.50	*	99.60	3.48E-05		6.32E-04	1.64E-05
		674.80		3.10	1.97E-03		1.09E-03	9.45E-04
		695.00	*	99.60	7.94E-05		6.30E-04	3.87E-05
		697.00		29.00	5.08E-04		6.77E-05	2.50E-04
		720.70		53.80	1.45E-04		1.50E-05	7.01E-05
		856.80		17.60	3.36E-04		1.46E-04	1.62E-04
		989.60		6.80	9.47E-04		6.77E-05	4.56E-04
		1213.30		2.39	2.05E-03		1.45E-03	9.68E-04
	Sn-126	64.28		9.60	5.07E-04	8.34E-05	2.63E-04	2.50E-04
		87.30	*	45.90	8.34E-05		5.10E-04	4.13E-05
	I-129	29.70		56.60	9.89E-03	5.75E-03	6.03E-03	4.88E-03
		33.60		10.04	1.64E-02		-9.67E-03	8.10E-03
		34.40		2.01	6.67E-02		-9.60E-03	3.29E-02
		39.60		7.51	5.75E-03		-1.02E-03	2.83E-03
	CS-134	563.25		8.34	6.41E-04	3.19E-05	-2.68E-04	3.14E-04
		569.33		15.37	3.74E-04		-7.19E-06	1.83E-04
		604.72		97.62	4.75E-05		-3.68E-06	2.33E-05
		795.86		85.46	3.19E-05		-2.21E-05	1.53E-05
		801.95		8.69	4.05E-04		3.96E-04	1.94E-04
+	CS-137	661.66	*	85.20	2.21E-05	2.21E-05	1.38E-02	1.06E-05
	CE-139	165.85		79.89	3.20E-05	3.20E-05	1.33E-05	1.58E-05
	CE-141	40.70		3.35	1.07E-02	4.83E-05	-2.15E-03	5.29E-03
		145.44		48.29	4.83E-05		-5.72E-06	2.38E-05

Analysis Report for 24-2553 TI185-8.0M-S4-CST-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CE-144	80.12		1.36	2.28E-03	2.10E-04	-3.05E-04	1.12E-03
		133.51		11.09	2.10E-04		-1.13E-05	1.04E-04
	EU-152	121.78		28.58	1.23E-04	9.41E-05	-1.57E-05	6.09E-05
		344.28		26.50	1.60E-04		9.16E-05	7.88E-05
		778.90		12.94	2.14E-04		6.87E-05	1.03E-04
		964.08		14.73	2.16E-04		-5.19E-05	1.04E-04
		1085.87		10.24	2.74E-04		-2.73E-05	1.32E-04
		1112.07		13.69	2.57E-04		9.50E-05	1.24E-04
		1408.01		21.07	9.41E-05		5.02E-05	4.38E-05
	GD-153	97.43		29.00	8.26E-05	8.26E-05	-9.96E-05	4.07E-05
		103.18		21.10	1.14E-04		2.13E-05	5.61E-05
+	EU-154	42.70		20.45	1.25E-03	5.95E-05	-4.33E-04	6.14E-04
		123.07	*	40.40	9.98E-05		2.05E-04	4.94E-05
		247.93		6.89	6.46E-04		6.67E-04	3.19E-04
		591.76		4.95	1.03E-03		5.43E-04	5.05E-04
		692.42		1.78	3.49E-03		-3.76E-05	1.71E-03
		723.30	*	20.06	1.54E-04		1.03E-04	7.43E-05
		756.80		4.52	7.52E-04		-1.96E-04	3.61E-04
		873.18	*	12.08	2.58E-04		6.24E-05	1.24E-04
		996.29	*	10.48	2.24E-04		8.78E-05	1.07E-04
		1004.76		18.01	1.79E-04		1.57E-04	8.65E-05
		1246.12		0.86	3.15E-03		3.27E-03	1.48E-03
		1274.43	*	34.80	5.95E-05		1.67E-04	2.79E-05
		1494.05		0.70	1.95E-03		6.18E-04	8.91E-04
		1596.48		1.80	4.33E-04		2.42E-04	1.98E-04
	EU-155	43.00		18.70	1.31E-03	1.09E-04	4.10E-04	6.45E-04
		60.01		1.22	5.63E-03		9.54E-03	2.79E-03
		86.55		30.70	1.24E-04		-1.41E-05	6.13E-05
		105.31		21.10	1.09E-04		2.26E-05	5.35E-05
	HG-203	72.87		6.30	5.91E-04	3.91E-05	3.60E-04	2.92E-04
		279.20		81.46	3.91E-05		1.35E-06	1.93E-05
	BI-207	569.15		97.80	4.73E-05	4.73E-05	-1.86E-06	2.31E-05
		1063.10		74.90	5.33E-05		2.49E-06	2.55E-05
	PB-210	46.54		4.25	3.96E-03	3.96E-03	-1.02E-03	1.96E-03
+	RA-226	74.81		6.44	5.46E-04	8.10E-05	2.88E-04	2.69E-04
		77.11		10.80	3.09E-04		2.79E-04	1.53E-04
		87.30	*	4.84	7.91E-04		4.83E-03	3.92E-04
		186.21		3.59	8.02E-04		-2.12E-04	3.96E-04
		242.00		7.43	4.04E-04		2.04E-04	1.99E-04
		295.22	*	19.30	2.13E-04		1.20E-05	1.05E-04
		351.93	*	37.60	1.12E-04		6.23E-05	5.55E-05
		609.31	*	46.10	8.10E-05		1.90E-05	3.97E-05
		768.36		4.94	4.18E-04		1.94E-04	2.01E-04
		1120.29		15.10	1.64E-04		-1.29E-04	7.88E-05
		1238.11		5.79	3.22E-04		3.96E-05	1.51E-04
		1764.49		15.40	9.96E-05		4.51E-05	4.53E-05
	PA-231	283.70		1.59	1.99E-03	1.36E-03	-1.02E-03	9.79E-04
		300.07		2.38	1.36E-03		9.34E-04	6.69E-04
		302.67		1.71	1.87E-03		4.90E-04	9.24E-04
		330.07		1.32	2.44E-03		-3.52E-03	1.20E-03
	TH-232	74.81		11.62	3.03E-04	3.39E-05	1.60E-04	1.49E-04
		77.11		17.50	1.91E-04		1.72E-04	9.41E-05
		87.30		7.80	4.81E-04		3.01E-03	2.38E-04

Analysis Report for 24-2553 TI185-8.0M-S4-CST-A W0

ASR 2094 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	238.63		43.30	6.91E-05	3.39E-05	1.80E-05	3.41E-05
		338.32		11.30	3.01E-04		5.84E-05	1.48E-04
		583.19		30.37	1.05E-04		4.92E-06	5.16E-05
		727.33		6.58	3.62E-04		-1.27E-04	1.75E-04
		911.21		26.60	9.44E-05		2.98E-05	4.55E-05
		968.97		16.20	1.50E-04		4.73E-05	7.21E-05
		2614.53		35.64	3.39E-05		1.71E-05	1.41E-05
	U-235	143.76		10.96	2.09E-04	4.99E-05	-7.59E-05	1.03E-04
		185.71		57.20	4.99E-05		-3.48E-05	2.46E-05
		205.31		5.01	6.04E-04		5.50E-04	2.98E-04
	U-238	63.29		3.70	1.47E-03	5.77E-04	1.37E-03	7.24E-04
		92.51		4.23	5.77E-04		-2.16E-04	2.85E-04
		112.81		0.21	1.04E-02		-2.22E-03	5.14E-03
		742.81		0.11	1.81E-02		2.49E-03	8.69E-03
		766.28		0.32	6.54E-03		7.19E-03	3.14E-03
		1001.03		0.84	3.38E-03		1.86E-03	1.63E-03
	NP-239	99.60		12.80	2.45E-04	1.30E-04	1.21E-04	1.21E-04
		103.80		20.40	1.53E-04		1.59E-04	7.56E-05
		106.10		26.40	1.30E-04		5.25E-05	6.39E-05
		116.90		7.61	3.97E-04		-1.02E-04	1.96E-04
		228.20		11.20	3.86E-04		-1.03E-04	1.90E-04
		277.60		14.50	3.23E-04		1.25E-04	1.59E-04
		315.90		1.60	2.43E-03		1.96E-03	1.20E-03
		334.30		2.06	1.58E-03		2.36E-04	7.79E-04
+	AM-241	59.54	*	35.90	1.80E-04	1.80E-04	6.37E-04	8.87E-05

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

Apex-Gamma

Analysis Report for 24-2554 TI185-8.0M-S4-CST-d-A W0

ASR 2120 Branch

GAMMA SPECTRUM ANALYSIS

Sample Identification	: 24-2554 TI185-8.0M-S4-CST-d-A W0
Sample Description	: ASR 2120 Branch
Sample Type	: General
Sample Size	: 1.000E+00 sample
Facility	: RPL325
Sample Taken On	: 8/27/2024 7:00:00AM
Acquisition Started	: 8/28/2024 8:05:31AM
Procedure	: W0_gsv02mlw
Operator	: Administrator
Detector Name	: W
Geometry	: W0_gsv02mlw
Live Time	: 1200.0 seconds
Real Time	: 1202.4 seconds
Dead Time	: 0.20 %
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 105 - 8192
Peak Area Range (in channels)	: 105 - 8192
Identification Energy Tolerance	: 1.000 keV
Energy Calibration Used Done On	: 8/11/2023
Efficiency Calibration Used Done On	: 5/17/2021
Efficiency Calibration Description	: W0_gsv2mlw_R724p
Advanced Gating Mode	: Anti-Coinc./Veto
Sample Number	: 579005
Certificate Name	: R735-A10 20ml GSV
Certificate Date	: 6/1/2023 12:00:00PM

PEAK LOCATE REPORT

Peak Locate Performed on	: 8/28/2024 8:25:39AM
Peak Locate From Channel	: 105
Peak Locate To Channel	: 8192
Peak Search Sensitivity	: 3.00

Analysis Report for 24-2554 TI185-8.0M-S4-CST-d-A W0

ASR 2120 Branch

Peak No.	Energy (keV)	Centroid Channel	Centroid Uncertainty	Peak Significance
1	59.59	162.09	0.2228	8.77
2	64.85	175.80	0.3691	4.03
3	87.55	237.61	0.1687	12.51
4	123.01	333.46	0.2419	5.32
5	414.80	1120.97	0.1502	13.21
6	661.68	1787.31	0.0540	93.54
7	666.41	1800.36	0.1511	14.28
8	695.11	1877.49	0.1453	12.90
9	996.71	2691.77	0.3119	3.31
10	1081.30	2920.20	0.2252	4.61
11	1109.78	2996.93	0.2344	3.73
12	1173.36	3168.76	0.1110	18.62
13	1274.56	3441.68	0.2458	3.56
14	1332.59	3598.67	0.1125	16.84
15	1361.37	3676.30	0.2420	3.78
16	2505.13	6766.66	0.2165	4.41

? = Adjacent peak noted
Errors quoted at 1.000sigma

Analysis Report for 24-2554 TI185-8.0M-S4-CST-d-A W0

ASR 2120 Branch

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 8/28/2024 8:25:40AM

Peak Analysis From Channel : 105
Peak Analysis To Channel : 8192

	Peak No.	Energy (keV)	ROI start	ROI end	Peak Centroid	Net Peak Area	Net Area Uncertainty	Continuum Counts	FWHM (keV)
F	1	59.59	154 -	169	162.18	7.19E+02	112.85	1.46E+03	1.25
F	2	64.85	170 -	180	176.37	1.32E+02	295.47	9.57E+02	0.32
F	3	87.55	232 -	245	237.64	1.64E+03	44.07	1.12E+03	1.51
F	4	123.01	326 -	339	333.35	4.52E+02	136.22	1.02E+03	1.55
F	5	414.80	1111 -	1127	1120.91	1.18E+03	126.85	9.79E+02	1.78
M	6	661.68	1776 -	1810	1787.32	3.72E+04	264.63	1.85E+02	1.83
m	7	666.41	1776 -	1810	1800.07	8.37E+02	30.95	9.82E+01	1.83
F	8	695.11	1868 -	1887	1877.55	7.84E+02	68.46	1.45E+02	1.91
F	9	996.71	2682 -	2697	2691.76	4.57E+01	28.58	9.16E+01	1.19
F	10	1081.30	2910 -	2928	2920.15	1.43E+02	42.68	6.16E+01	2.30
F	11	1109.78	2990 -	3006	2997.05	1.29E+02	13.26	6.03E+01	2.45
F	12	1173.36	3157 -	3179	3168.70	1.79E+03	41.79	6.34E+01	2.29
F	13	1274.56	3434 -	3451	3441.94	1.03E+02	10.87	2.20E+01	2.60
F	14	1332.59	3586 -	3608	3598.66	1.61E+03	65.12	4.18E+01	2.42
F	15	1361.37	3668 -	3685	3676.36	9.72E+01	34.69	2.36E+01	2.23
F	16	2505.13	6754 -	6776	6765.42	9.77E+01	10.31	5.87E+00	3.34

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 8/28/2024 8:25:39AM

Env. Background File : \\RPLAPEX3\ApexRoot\RPL325\Data\0000578898.CNF

Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.

Analysis Report for 24-2554 TI185-8.0M-S4-CST-d-A W0

ASR 2120 Branch

	Peak No.	Energy (keV)	Original Area	Orig. Area Uncertainty	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
F	1	59.59	7.19E+02	112.85			7.19E+02	1.13E+02
F	2	64.85	1.32E+02	295.47			1.32E+02	2.95E+02
F	3	87.55	1.64E+03	44.07	9.22E+00	7.54E-01	1.63E+03	4.41E+01
F	4	123.01	4.52E+02	136.22			4.52E+02	1.36E+02
F	5	414.80	1.18E+03	126.85			1.18E+03	1.27E+02
M	6	661.68	3.72E+04	264.63			3.72E+04	2.65E+02
m	7	666.41	8.37E+02	30.95	8.76E-01	8.33E-02	8.36E+02	3.10E+01
F	8	695.11	7.84E+02	68.46			7.84E+02	6.85E+01
F	9	996.71	4.57E+01	28.58			4.57E+01	2.86E+01
F	10	1081.30	1.43E+02	42.68			1.43E+02	4.27E+01
F	11	1109.78	1.29E+02	13.26			1.29E+02	1.33E+01
F	12	1173.36	1.79E+03	41.79			1.79E+03	4.18E+01
F	13	1274.56	1.03E+02	10.87			1.03E+02	1.09E+01
F	14	1332.59	1.61E+03	65.12			1.61E+03	6.51E+01
F	15	1361.37	9.72E+01	34.69			9.72E+01	3.47E+01
F	16	2505.13	9.77E+01	10.31			9.77E+01	1.03E+01

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
CO-57	0.70	122.06	*	85.60	6.23E-05	1.88E-05	1.000
		136.47		10.68			
CO-60	0.99	1173.24	*	99.97	8.99E-04	2.17E-05	0.773
		1332.50	*	99.99	8.86E-04	3.64E-05	0.765
		2505.74	*	1.00	7.07E-03	8.68E-04	miss
CD-109	0.96	88.03	*	3.61	6.03E-03	2.39E-04	free
SB-126	0.48	223.90		1.39			
		278.20		2.40			
		296.50		4.50			
		414.70	*	83.30	7.21E-04	9.03E-05	0.393
		556.30		1.69			
		573.90		6.70			
		593.20		7.50			

Analysis Report for 24-2554 TI185-8.0M-S4-CST-d-A W0

ASR 2120 Branch

Nuclide Name	Id Confidence	Energy (keV)		Yield(%)	Activity (µCi/sample)	Activity Uncertainty	Coinc Corr
SB-126	0.48	656.30		2.19			
		666.50	*	99.60	6.00E-04	2.25E-05	0.382
		674.80		3.10			
		695.00	*	99.60	5.79E-04	5.06E-05	0.381
		697.00		29.00			
		720.70		53.80			
		856.80		17.60			
		989.60		6.80			
		1213.30		2.39			
Sn-126	0.98	64.28	*	9.60	3.09E-04	6.91E-04	miss
		87.30	*	45.90	4.74E-04	2.46E-05	miss
CS-137	1.00	661.66	*	85.20	1.18E-02	1.06E-04	miss
EU-154	0.28	42.70		20.45			
		123.07	*	40.40	1.78E-04	5.35E-05	0.742
		247.93		6.89			
		591.76		4.95			
		692.42		1.78			
		723.30		20.06			
		756.80		4.52			
		873.18		12.08			
		996.29	*	10.48	1.74E-04	1.09E-04	0.878
		1004.76		18.01			
		1246.12		0.86			
		1274.43	*	34.80	1.38E-04	1.47E-05	0.875
		1494.05		0.70			
		1596.48		1.80			
AM-241	1.00	59.54	*	35.90	5.75E-04	9.12E-05	free

* = Energy line found in the spectrum.
\- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.20
Errors quoted at 1.000sigma

Coincidence correction performed.
free = No coincidence correction required.
miss = Nuclide energy was not found in the coincidence library.

INTERFERENCE CORRECTED REPORT

Analysis Report for 24-2554 TI185-8.0M-S4-CST-d-A W0

ASR 2120 Branch

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (µCi/sample)	Wt mean Activity Uncertainty	Comments
CO-57	0.703	1.37E-05	1.94E-05	
CO-60	0.998	8.99E-04	1.86E-05	
CD-109	0.963	2.10E-03	8.78E-03	
SB-126	0.489	6.02E-04	2.00E-05	
Sn-126	0.983	3.09E-04	6.89E-04	
CS-137	1.000	1.18E-02	1.06E-04	
EU-154	0.289	1.39E-04	1.45E-05	
AM-241	1.000	5.75E-04	9.12E-05	

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

Errors quoted at 1.000sigma

Analysis Report for 24-2554 TI185-8.0M-S4-CST-d-A W0

ASR 2120 Branch

UNIDENTIFIED PEAKS

Peak Locate Performed on : 8/28/2024 8:25:39AM
Peak Locate From Channel : 105
Peak Locate To Channel : 8192

	Peak No.	Energy (keV)	Peak Size (CPS)	Peak CPS (%) Uncertainty	Peak Type	Tolerance Nuclide
F	10	1081.30	1.19557E-01	29.75	Sum	
F	11	1109.78	1.07398E-01	10.29	Sum	
F	15	1361.37	8.10204E-02	35.68	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\RPLAPEX3\ApexRoot\RPL325\Library\COMMON.NLB

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	BE-7	477.61		10.44	4.49E-04	4.49E-04	-9.92E-05	2.22E-04
	K-40	1460.83		10.67	1.61E-04	1.61E-04	4.23E-05	7.50E-05
	MN-54	834.84		99.98	2.19E-05	2.19E-05	-1.31E-05	1.05E-05
	CO-58	810.78		99.45	2.25E-05	2.25E-05	-5.90E-06	1.08E-05
		863.96		0.68	4.61E-03		6.59E-04	2.22E-03
		1674.73		0.52	2.23E-03		6.12E-04	1.00E-03
	FE-59	142.65		1.00	2.18E-03	3.54E-05	-5.15E-04	1.07E-03
		192.35		3.01	1.25E-03		-1.79E-04	6.16E-04
		334.80		0.27	1.16E-02		-5.12E-03	5.72E-03
		1099.25		56.30	4.21E-05		1.32E-05	2.01E-05
		1291.60		43.70	3.54E-05		-7.83E-06	1.64E-05
+	CO-60	1173.24	*	99.97	3.56E-05	3.25E-05	8.99E-04	1.71E-05
		1332.50	*	99.99	3.25E-05		8.86E-04	1.55E-05
		2505.74	*	1.00	1.71E-03		7.07E-03	7.59E-04
	SR-85	514.00		96.00	3.82E-05	3.82E-05	-5.15E-06	1.88E-05

Analysis Report for 24-2554 TI185-8.0M-S4-CST-d-A W0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	SR-85	868.60		0.01	2.07E-01	3.82E-05	7.70E-02	9.97E-02
	NB-94	702.62		97.90	2.85E-05	2.85E-05	8.28E-06	1.37E-05
		871.09		99.98	3.31E-05		3.01E-05	1.60E-05
	NB-95	765.81		99.81	1.92E-05	1.92E-05	-1.35E-06	9.21E-06
	RU-103	497.05		91.00	4.50E-05	4.50E-05	6.25E-05	2.21E-05
		610.30		5.76	5.23E-04		-4.47E-04	2.56E-04
	RH-106	511.86		20.70	2.11E-04	2.11E-04	-5.57E-05	1.04E-04
		621.92		9.93	3.71E-04		-1.20E-04	1.81E-04
		1050.36		1.56	2.01E-03		1.17E-03	9.61E-04
	AG-108M	79.13		6.60	4.52E-04	4.92E-05	-9.81E-06	2.23E-04
		433.90		90.50	8.62E-05		8.21E-05	4.26E-05
		614.30		89.80	5.93E-05		5.41E-05	2.89E-05
		722.90		90.80	4.92E-05		4.17E-05	2.38E-05
+	CD-109	88.03	*	3.61	8.75E-04	8.75E-04	6.03E-03	4.33E-04
	SB-125	176.31		6.82	3.49E-04	1.44E-04	5.70E-05	1.72E-04
		380.45		1.52	2.24E-03		-1.02E-03	1.10E-03
		427.87		29.55	1.44E-04		7.87E-05	7.10E-05
		463.36		10.48	4.57E-04		-9.32E-05	2.26E-04
		600.60		17.76	1.65E-04		-1.09E-04	8.08E-05
		606.71		5.02	6.16E-04		7.12E-04	3.01E-04
		635.95		11.32	2.56E-04		2.16E-04	1.25E-04
		671.44		1.78	2.22E-03		-1.62E-04	1.09E-03
+	SB-126	223.90		1.39	2.03E-03	3.51E-05	4.65E-04	1.00E-03
		278.20		2.40	3.58E-03		-9.84E-04	1.76E-03
		296.50		4.50	2.19E-03		1.31E-03	1.08E-03
		414.70	*	83.30	1.46E-04		7.21E-04	7.21E-05
		556.30		1.69	5.81E-03		-7.50E-04	2.84E-03
		573.90		6.70	1.45E-03		8.02E-04	7.09E-04
		593.20		7.50	9.56E-04		2.18E-04	4.67E-04
		656.30		2.19	2.77E-02		-1.61E-03	1.38E-02
		666.50	*	99.60	3.51E-05		6.00E-04	1.66E-05
		674.80		3.10	1.94E-03		1.08E-03	9.29E-04
		695.00	*	99.60	7.36E-05		5.79E-04	3.58E-05
		697.00		29.00	4.92E-04		2.86E-03	2.41E-04
		720.70		53.80	1.36E-04		7.36E-05	6.57E-05
		856.80		17.60	3.40E-04		-2.16E-04	1.64E-04
		989.60		6.80	9.11E-04		4.41E-05	4.38E-04
		1213.30		2.39	1.89E-03		-3.41E-04	8.87E-04
+	Sn-126	64.28	*	9.60	4.67E-04	6.87E-05	3.09E-04	2.31E-04
		87.30	*	45.90	6.87E-05		4.74E-04	3.40E-05
	I-129	29.70		56.60	9.45E-03	5.46E-03	5.49E-03	4.66E-03
		33.60		10.04	1.56E-02		-1.33E-02	7.68E-03
		34.40		2.01	6.34E-02		-2.89E-03	3.12E-02
		39.60		7.51	5.46E-03		2.08E-03	2.69E-03
	CS-134	563.25		8.34	5.92E-04	3.34E-05	-2.77E-04	2.89E-04
		569.33		15.37	3.28E-04		-5.58E-04	1.60E-04
		604.72		97.62	4.47E-05		3.39E-05	2.18E-05
		795.86		85.46	3.34E-05		2.23E-05	1.60E-05
		801.95		8.69	3.91E-04		-1.69E-04	1.87E-04
+	CS-137	661.66	*	85.20	2.10E-05	2.10E-05	1.18E-02	1.01E-05
	CE-139	165.85		79.89	2.95E-05	2.95E-05	-3.99E-06	1.45E-05
	CE-141	40.70		3.35	1.01E-02	4.61E-05	-1.19E-02	4.99E-03
		145.44		48.29	4.61E-05		1.95E-05	2.27E-05

Analysis Report for 24-2554 TI185-8.0M-S4-CST-d-A W0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	CE-144	80.12		1.36	2.14E-03	1.94E-04	-2.19E-03	1.06E-03
		133.51		11.09	1.94E-04		1.62E-05	9.56E-05
	EU-152	121.78		28.58	1.16E-04	8.40E-05	-2.75E-05	5.71E-05
		344.28		26.50	1.50E-04		5.28E-05	7.37E-05
		778.90		12.94	1.99E-04		1.57E-06	9.53E-05
		964.08		14.73	2.14E-04		-6.42E-05	1.03E-04
		1085.87		10.24	2.77E-04		1.54E-04	1.34E-04
		1112.07		13.69	2.40E-04		1.75E-04	1.16E-04
		1408.01		21.07	8.40E-05		-2.08E-04	3.87E-05
	GD-153	97.43		29.00	7.87E-05	7.87E-05	5.18E-05	3.88E-05
		103.18		21.10	1.04E-04		3.99E-05	5.14E-05
+	EU-154	42.70		20.45	1.20E-03	5.21E-05	-4.93E-04	5.92E-04
		123.07	*	40.40	8.85E-05		1.78E-04	4.37E-05
		247.93		6.89	6.06E-04		-2.16E-05	2.99E-04
		591.76		4.95	9.43E-04		5.44E-04	4.61E-04
		692.42		1.78	3.39E-03		2.82E-04	1.67E-03
		723.30		20.06	1.70E-04		2.09E-04	8.22E-05
		756.80		4.52	6.87E-04		2.74E-04	3.29E-04
		873.18		12.08	3.01E-04		-3.56E-05	1.45E-04
		996.29	*	10.48	2.79E-04		1.74E-04	1.34E-04
		1004.76		18.01	1.76E-04		2.07E-04	8.47E-05
		1246.12		0.86	3.28E-03		-7.80E-05	1.54E-03
		1274.43	*	34.80	5.21E-05		1.38E-04	2.42E-05
		1494.05		0.70	1.68E-03		-3.13E-03	7.58E-04
		1596.48		1.80	4.49E-04		-1.41E-04	2.06E-04
	EU-155	43.00		18.70	1.26E-03	9.85E-05	-8.32E-04	6.18E-04
		60.01		1.22	5.47E-03		1.64E-02	2.70E-03
		86.55		30.70	1.18E-04		1.00E-05	5.86E-05
		105.31		21.10	9.85E-05		3.82E-05	4.85E-05
	HG-203	72.87		6.30	5.49E-04	3.60E-05	-2.25E-04	2.71E-04
		279.20		81.46	3.60E-05		-5.31E-06	1.77E-05
	BI-207	569.15		97.80	4.19E-05	4.19E-05	-6.85E-05	2.04E-05
		1063.10		74.90	5.24E-05		-3.12E-05	2.51E-05
	PB-210	46.54		4.25	3.72E-03	3.72E-03	4.05E-03	1.84E-03
	RA-226	74.81		6.44	5.11E-04	6.53E-05	5.22E-04	2.52E-04
		77.11		10.80	2.87E-04		2.05E-05	1.42E-04
		87.30		4.84	7.38E-04		4.19E-03	3.65E-04
		186.21		3.59	7.55E-04		9.38E-05	3.73E-04
		242.00		7.43	3.75E-04		-3.02E-04	1.85E-04
		295.22		19.30	1.56E-04		4.10E-05	7.67E-05
		351.93		37.60	8.76E-05		-1.41E-05	4.31E-05
		609.31		46.10	6.53E-05		1.59E-05	3.19E-05
		768.36		4.94	3.85E-04		-8.27E-05	1.84E-04
		1120.29		15.10	1.51E-04		6.05E-05	7.23E-05
		1238.11		5.79	3.11E-04		2.52E-04	1.46E-04
		1764.49		15.40	1.05E-04		2.24E-05	4.79E-05
	PA-231	283.70		1.59	1.84E-03	1.26E-03	-5.62E-04	9.08E-04
		300.07		2.38	1.26E-03		4.67E-05	6.21E-04
		302.67		1.71	1.72E-03		-3.30E-04	8.47E-04
		330.07		1.32	2.27E-03		2.66E-04	1.12E-03
	TH-232	74.81		11.62	2.83E-04	4.30E-05	2.89E-04	1.40E-04
		77.11		17.50	1.77E-04		1.26E-05	8.75E-05
		87.30		7.80	4.58E-04		2.60E-03	2.27E-04

Analysis Report for 24-2554 TI185-8.0M-S4-CST-d-A W0

ASR 2120 Branch

	Nuclide Name	Energy (keV)		Yield(%)	Line MDA (µCi/sample)	Nuclide MDA (µCi/sample)	Activity (µCi/sample)	Dec. Level (µCi/sample)
	TH-232	238.63		43.30	6.42E-05	4.30E-05	-7.58E-07	3.17E-05
		338.32		11.30	2.80E-04		2.20E-04	1.38E-04
		583.19		30.37	9.59E-05		7.84E-05	4.68E-05
		727.33		6.58	3.46E-04		3.88E-04	1.67E-04
		911.21		26.60	9.35E-05		-4.76E-06	4.51E-05
		968.97		16.20	1.50E-04		-8.56E-05	7.22E-05
		2614.53		35.64	4.30E-05		3.00E-05	1.86E-05
	U-235	143.76		10.96	1.97E-04	4.72E-05	2.54E-05	9.71E-05
		185.71		57.20	4.72E-05		3.48E-05	2.33E-05
		205.31		5.01	5.60E-04		-1.94E-04	2.76E-04
	U-238	63.29		3.70	1.39E-03	5.51E-04	-5.78E-03	6.86E-04
		92.51		4.23	5.51E-04		4.85E-05	2.71E-04
		112.81		0.21	9.71E-03		2.16E-03	4.78E-03
		742.81		0.11	1.79E-02		-1.16E-02	8.60E-03
		766.28		0.32	6.00E-03		8.47E-03	2.87E-03
		1001.03		0.84	3.46E-03		2.55E-03	1.67E-03
	NP-239	99.60		12.80	2.29E-04	1.18E-04	7.47E-05	1.13E-04
		103.80		20.40	1.39E-04		-3.76E-05	6.85E-05
		106.10		26.40	1.18E-04		-5.21E-05	5.82E-05
		116.90		7.61	3.67E-04		-1.26E-04	1.81E-04
		228.20		11.20	3.67E-04		2.50E-05	1.81E-04
		277.60		14.50	2.95E-04		-2.41E-04	1.45E-04
		315.90		1.60	2.27E-03		1.27E-03	1.12E-03
		334.30		2.06	1.49E-03		9.76E-04	7.32E-04
+	AM-241	59.54	*	35.90	2.27E-04	2.27E-04	5.75E-04	1.13E-04

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

Battelle PNNL/RPL/Inorganic Analysis … ICP-OES Analysis Report
PO Box 999, Richland, Washington 99352

Project / WP#: 82508 / NU4045
ASR#: 2120 Set 1
Client: S. Branch
Total Samples: 6 (liquids)

ASO Sample ID	Client Sample ID	Client Sample Description
24-2495	TI185-3.5M-AP105-A	N/A
24-2496	TI185-3.5M-AP105-d-A	N/A
24-2497	TI185-4.5M-AP105-A	N/A
24-2498	TI185-4.5M-AP105-d-A	N/A
24-2499	TI185-5.5M-AP105-A	N/A
24-2500	TI185-5.5M-AP105-d-A	N/A

Sample Preparation: Simple dilution of samples received from Radiochemistry in 5% v/v HNO3 performed by J.Waller.

Procedure: ICP-OES operations Lab Assist ID #4555 | Version 1

RPG-CMC-211, Rev. 4, "Determination of Elemental Composition by Inductively Coupled Argon Plasma Optical Emission Spectrometry (ICP-OES)."

Analyst:	J. Waller	**Analysis Date:**	10/08/2024	**ICP File:**	C0965

See Chemical Measurement Center 98620 file: ICP-325-405-3
(Calibration and Maintenance Records)

M&TE:		
	☒	PerkinElmer 5300DV ICP-OES	SN: 077N5122002
	☐	Sartorius ME414S Balance	SN: 21308482
	☒	Mettler AT400 Balance	SN: 1113162654
	☐	Sartorius R200D Balance	SN: 39080042
	☐	Mettler AT201 Balance	SN: 192720-92
	☒	Ohaus Pioneer PA224C	SN: B725287790
	☐	SAL Cell 2 Balance	SN: 8033311209

Report Preparer _____ Date _____

Review and Concurrence _____ Date _____

Battelle PNNL/RPL/Inorganic Analysis … ICP-OES Analysis Report

Six liquid samples for Set 1 were submitted under Analytical Service Request (ASR) 2120 and were analyzed by ICP-OES. The samples had an acid digestion performed by the Radiochemistry team.

All sample results are reported on a mass per mass basis (µg/g) for each detected analyte. The data have been adjusted for instrument dilutions.

Analytes of interest (AOI) were specified in the ASR and are listed in the highlighted section of the attached ICP-OES Data Report. The quality control (QC) results for the AOI have been evaluated and are presented below. The current AOI for this run (C0965) are Potassium (K) and Sodium (Na).

Samples were prepared by radiochemistry team by first digesting in aqua regia to fully digest the organic material and taken to soft dryness. Following this, samples were converted to 0.5M HNO3 and again taken to soft dryness.

Limited Data:
Data for Lithium, Tungsten, and Tin is for information only and may be biased high due to failing QC checks high.

Calibration of the ICP-OES was done following the manufacturer's recommended calibration procedure using multi-analyte custom standard solutions traceable to the National Institute of Standards and Technology (NIST). Midrange calibration verification standards (MCVA and MCVB) were used to verify acceptance of the two-point calibration curves obtained for each analyte and for continuing calibration verification.

The controlling documents were procedures RPG-CMC-211, Rev 4, *Determination of Elemental Composition by Inductively Coupled Argon Plasma Optical Emission Spectrometry (ICP-OES)*, and ASO-QAP-001, Rev. 11, *Analytical Support Operations (ASO) Quality Assurance Plan*. Instrument calibrations, QC checks and blanks (e.g., ICV/ICB, CCV/CCB, LLS, ICS), post-digestion spikes, duplicate, blank spike, and serial dilution were conducted during the analysis run.

Preparation Blank (PB):

A preparation blank was supplied with the samples by the radiochemistry team. All AOI were within the acceptance criteria of <EQL (estimated quantitation level), <50% regulatory decision level, or less than ≤5% of the concentration in the sample.

Blank Spike (BS)/Laboratory Control Sample (LCS):

A 50:50 mixture of the MCVA and MCVB solutions was analyzed as the blank spike. Recovery values are listed for all analytes included in the BS that were measured at or above the EQL. All AOI meeting this requirement were within the acceptance criteria of 80% to 120%.

For 24-2495 BS @1x, all AOI included in the spike were within the acceptance criteria.

Battelle PNNL/RPL/Inorganic Analysis … ICP-OES Analysis Report

Duplicate/Replicate Relative Percent Difference (RPD):

A duplicate of sample 24-2495 Dup @10x was prepared and analyzed. All AOI detected were within the acceptance criterion of ≤20% for liquid samples with RPD of 2.6 for K and 1.1 for Na.

Matrix-Spike (MS) Sample:

A matrix spike sample was created during sample preparation beforehand by the radiochemistry team.

For 24-2495 MS @10x, Potassium passed within the range of acceptance, but Sodium was an invalid test due the spike being less than 25% of sample concentration.

Initial/Continuing Calibration Verification (ICV/CCV):

MCVA and MCVB solutions were analyzed immediately after calibration, after each group of not more than ten samples, and at the end of the analytical run. All AOI were within the acceptance criteria of 90% to 110%.

Initial/Continuing Calibration Blank (ICB/CCB):

The ICB/CCB solution (5% v/v HNO_3) was analyzed immediately after the ICV solutions and after the CCV solutions (after each group of not more than ten samples and at the end of the analytical run). All AOI passed on the ICB/CCBs.

Low-Level Standard (LLS):

The LLS solution was analyzed immediately after the first CCB solution. All AOI were within the acceptance criteria of 70% to 130%.

Interference Check Standard (ICS/SST):

The ICS solution was analyzed immediately after the first LLS solution and immediately prior to analyzing the final CCV solutions. Recovery values are listed for all analytes included in the SST that were measured at or above the EQL. All AOI were within the acceptance criteria of 80% to 120%.

Serial Dilution (SD):

A five-fold serial dilution was conducted on sample 24-2495 @50x. The percent difference (%D) for Na and K was withing the acceptance criteria of ≤ 10%.

Post-Digestion Spike (PS-A) - Sample (A Component):

A post-digestion spike (A Component) was conducted on sample 24-2496 @50x. All AOI were within the acceptance criterion of 80% to 120%.

Post-Digestion Spike (PS-B) - Sample (B Component):

A post-digestion spike (B Component) was conducted on sample 24-2497 @50x. No AOI were present in the PSB spike, but all other analytes passed within the PSB spike.

Battelle PNNL/RPL/Inorganic Analysis … ICP-OES Analysis Report

Other QC:

All other instrument-related QC tests for the AOI passed within their respective acceptance criteria.

Comments:

1) The "Final Results" have been corrected for all laboratory dilutions performed on the samples during processing and analysis, unless specifically noted.
2) Instrument detection limits (IDL) and estimated quantitation limits (EQL) shown are for acidified water and/or fusion flux matrices as applicable. Method detection limits (MDL) for individual samples can be estimated by multiplying the IDL by the "Process Factor" for that individual sample. The estimated quantitation limit (EQL) for each concentration value can be obtained by multiplying the EQL by the "Process Factor".
3) Routine precision and bias is typically ±15% or better for samples in dilute, acidified water (e.g. 5% v/v HNO_3 or less) at analyte concentrations > EQL up to the upper calibration level. This also presumes that the total dissolved solids concentration in the sample is less than 5000 µg/mL (0.5 per cent by weight). Note that bracketed values listed in the data report are within the MDL and the EQL, and have potential uncertainties greater than 15%. Concentration values < MDL are listed as "- -". Note, that calibration and QC standard samples are validated to a precision of ±10%.
4) Analytes included in the spike MCVA component (for the AS/PS) are; Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Eu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Se, Si, Sm, Sn, Sr, Ta, Ti, Tl, V, W, Y, Zn, and Zr. Analytes included in the spike MCVB component are; Ce, Dy, Eu, La, Nd, Pd, Rh, Ru, S, Te, Th, and U.

Battelle PNNL/RPG/Inorganic Analysis ... ICPOES Data Report

		Run Date >	10/8/2024	10/8/2024	10/8/2024	10/8/2024	10/8/2024	10/8/2024	10/8/2024	10/8/2024	10/8/2024	10/8/2024	10/8/2024	10/8/2024	10/8/2024	10/8/2024	10/8/2024	10/8/2024
		Process Factor >	1.0	1.0	398.8	2013.4	398.3	1989.7	409.7	2066.2	413.0	2059.8	418.3	2175.9	387.9	2003.7	404.5	2041.0
			405 Diluent	PB @1x	24-2495 @10x	24-2495 @50x	24-2495 Dup @10x	24-2495 Dup @50x	24-2496 @10x	24-2496 @50x	24-2497 @10x	24-2497 @50x	24-2498 @10x	24-2498 @50x	24-2499 @10x	24-2499 @50x	24-2500 @10x	24-2500 @50x
Instr. Det. Limit (IDL)	Est. Quant. Limit (EQL)	Client ID >			TI185-3.5M-AP105-A	TI185-3.5M-AP105-A	TI185-3.5M-AP105-A	TI185-3.5M-AP105-A	TI185-3.5M-AP105-d-A	TI185-3.5M-AP105-d-A	TI185-4.5M-AP105-A	TI185-4.5M-AP105-A	TI185-4.5M-AP105-d-A	TI185-4.5M-AP105-d-A	TI185-5.5M-AP105-A	TI185-5.5M-AP105-A	TI185-5.5M-AP105-d-A	TI185-5.5M-AP105-d-A
(µg/mL)	(µg/mL)	(Analyte)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)
0.0352	0.352	K	--	--	2,130	2,050	2,190	2,060	2,220	2,080	2,710	2,550	2,840	2,710	3,140	3,140	3,160	3,030
0.0085	0.085	Na	--	--	74,400	78,200	75,100	77,600	76,500	76,600	92,900	96,500	94,900	101,000	105,000	117,000	109,000	111,000
Other Analytes																		
0.0022	0.022	Ag	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0091	0.091	Al	--	[0.036]	8,030	8,280	8,100	8,150	8,260	8,120	10,000	10,200	10,300	10,700	11,600	12,400	11,800	11,900
0.1768	1.768	As	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0193	0.193	B	--	--	[41]	[41]	[42]	[62]	[41]	[55]	[47]	[63]	[47]	[45]	[54]	[69]	[49]	[53]
0.0002	0.002	Ba	--	[0.0002]	[0.11]	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0001	0.001	Be	--	--	[0.072]	--	[0.057]	--	[0.077]	--	[0.054]	--	[0.067]	--	[0.079]	--	[0.079]	--
0.0618	0.618	Bi	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0075	0.075	Ca	--	[0.023]	[23]	[18]	[23]	--	[22]	[20]	[28]	[21]	[26]	[17]	33.4	[21]	33.8	[24]
0.0079	0.079	Cd	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0163	0.163	Ce	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0064	0.064	Co	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0046	0.046	Cr	--	--	183	187	183	188	185	188	228	234	233	246	268	286	274	276
0.0019	0.019	Cu	--	[0.0025]	[4.9]	--	[4.8]	[4.4]	[5.0]	[5.6]	[5.6]	[7.9]	[6.7]	[7.1]	[6.2]	[8.9]	[7.3]	[8.7]
0.0034	0.034	Dy	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0006	0.006	Eu	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0025	0.025	Fe	[0.0053]	[0.015]	[1.6]	--	--	--	--	--	[1.3]	--	[1.1]	--	[1.2]	--	[1.2]	--
0.0018	0.018	La	[0.0020]	--	--	[4.0]	--	--	--	--	[0.81]	--	--	--	--	--	--	--
0.0015	0.015	Li	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0025	0.025	Mg	--	[0.0037]	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0007	0.007	Mn	--	--	[0.59]	--	[0.66]	--	[0.76]	--	[0.87]	--	[0.89]	--	[0.83]	--	[0.93]	[1.7]
0.0173	0.173	Mo	--	--	[24]	--	[32]	[42]	[30]	[51]	[38]	--	[37]	[38]	[39]	--	[46]	[51]
0.0126	0.126	Nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0085	0.085	Ni	--	--	[16]	--	[16]	[24]	[15]	--	[18]	--	[18]	[22]	[23]	[25]	[24]	[19]
0.1778	1.778	P	--	--	[240]	--	[230]	--	[260]	--	[300]	--	[300]	[460]	[360]	[410]	[360]	[410]
0.0385	0.385	Pb	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0113	0.113	Pd	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0389	0.389	Rh	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0128	0.128	Ru	--	--	--	--	--	--	--	--	--	--	--	--	[5.9]	--	--	--
0.6450	6.450	S	--	--	[510]	--	[530]	--	[500]	--	[740]	--	[710]	--	[780]	--	[730]	--
0.1139	1.139	Sb	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.4064	4.064	Se	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0212	0.212	Si	--	--	[57]	[50]	[57]	[47]	[56]	--	[64]	[67]	[70]	[56]	[75]	[81]	[72]	[67]
0.1168	1.168	Sn	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0002	0.002	Sr	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0320	0.320	Ta	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0623	0.623	Te	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0116	0.116	Th	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0007	0.007	Ti	--	--	[0.45]	--	[0.50]	--	[0.50]	--	[0.64]	--	[0.57]	--	[0.73]	[1.8]	[0.85]	--
0.1934	1.934	Tl	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0675	0.675	U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0029	0.029	V	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0513	0.513	W	--	--	[36]	--	[38]	--	[38]	--	[46]	--	[57]	--	[45]	--	[52]	--
0.0006	0.006	Y	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0087	0.087	Zn	--	[0.037]	[17]	[75]	[15]	[61]	[17]	[68]	[15]	[84]	[16]	[83]	[16]	[85]	[15]	[76]
0.0018	0.018	Zr	--	--	[1.2]	--	[1.6]	--	[1.5]	--	[1.7]	[5.0]	[1.7]	[5.2]	[2.3]	[3.8]	[1.6]	--

1) "--" indicates the value is < MDL. The method detection limit (MDL) = IDL times the "multiplier" near the top of each column. The estimated sample quantitation limit = EQL (in Column 2) times the "multiplier". Overall error for values ≥ EQL is estimated to be within ±15%.

2) Values in brackets [ ] are ≥ MDL but < EQL, with errors likely to exceed 15%.

na = not applicable; KOH flux and Ni crucible or Na_2O_2 flux and Zr crucible for fusion preparations, or Si for HF assisted digests.

Battelle PNNL/RPG/Inorganic Analysis ... ICPOES Data Report

QC Performance 10/8/2024

Criteria >	≤ 20%	80%-120%	75%-125%	75%-125%	80%-120%	80%-120%	≤ 10%
QC ID >	24-2495 @ 10x Dup	LCS/BS	24-2495 @ 10x MS	24-2495 @ 1x BS	24-2496 @ 50x + PSA	24-2497 @ 50x + PSB	24-2495 @50x 5-fold Serial Dil
Analytes	RPD (%)	%Rec	%Rec	%Rec	%Rec	%Rec	%Diff
K	2.6	103	97	92	104		4.7
Na	1.1	101	nr	87	101		4.2
Other Analytes							
Ag		97			96		
Al	1.0	104	95	93	106		2.1
As		102			102		
B		107			105		
Ba		101	89	88	102		
Be		102	95	92	104		
Bi		94		84	99		
Ca		104	95	92	105		
Cd		102	95	90	107		
Ce		98	86	86		100	
Co		103			103		
Cr	0.3	100	97	87	103		1.0
Cu		111	95	90	107		
Dy		97				97	
Eu		96				96	
Fe		101	90	87	104		
La		94	87	84		96	
Li		109	95	96	108		
Mg		103	93	89	105		
Mn		107	92	90	109		
Mo		101			104		
Nd		95	85	84		95	
Ni		102	92	85	104		
P		105			106		
Pb		100	93	87	103		
Pd		88				91	
Rh		95				98	
Ru		93				97	
S		94				95	
Sb		98			99		
Se		111			108		
Si		103			106		
Sn		109			110		
Sr		98	85	88	105		
Ta		105			106		
Te		96				99	
Th		98				98	
Ti		102			104		
Tl		95			96		
U		91				92	
V		98	91	87	101		
W		106			108		
Y		99			101		
Zn		99	89	87	111		
Zr		101			104		

Shaded results are outside the acceptance criteria.

nr = spike concentration less than 25% of sample concentration. Matrix effects can be assessed from the serial dilution.

na = not applicable; KOH flux and Ni crucible or Na_2O_2 flux and Zr crucible for fusion preparations, or Si for HF assisted digests.

Project / WP#: 82508 / NU4045
ASR#: 2120 Set 2
Client: S. Branch
Total Samples: 6 (liquids)

ASO Sample ID	Client Sample ID	Client Sample Description
24-2501	TI185-6.0M-AP105-A	N/A
24-2502	TI185-6.0M-AP105-d-A	N/A
24-2503	TI185-7.0M-AP105-A	N/A
24-2504	TI185-7.0M-AP105-d-A	N/A
24-2505	TI185-8.0M-AP105-A	N/A
24-2506	TI185-8.0M-AP105-d-A	N/A

Sample Preparation: Simple dilution of samples received from Radiochemistry in 5% v/v HNO3 performed by J.Waller.

Procedure:	ICP-OES operations Lab Assist ID #4555 | Version 1 RPG-CMC-211, Rev. 4, "Determination of Elemental Composition by Inductively Coupled Argon Plasma Optical Emission Spectrometry (ICP-OES)."				
Analyst:	J. Waller	**Analysis Date:**	10/09/2024	**ICP File:**	C0966
See Chemical Measurement Center 98620 file:	ICP-325-405-3 (Calibration and Maintenance Records)				

M&TE:		
☒	PerkinElmer 5300DV ICP-OES	SN: 077N5122002
☐	Sartorius ME414S Balance	SN: 21308482
☒	Mettler AT400 Balance	SN: 1113162654
☐	Sartorius R200D Balance	SN: 39080042
☐	Mettler AT201 Balance	SN: 192720-92
☒	Ohaus Pioneer PA224C	SN: B725287790
☐	SAL Cell 2 Balance	SN: 8033311209

Report Preparer _____ Date _____

Review and Concurrence _____ Date _____

Six liquid samples for Set 2 were submitted under Analytical Service Request (ASR) 2120 and were analyzed by ICP-OES. The samples had an acid digestion performed by the Radiochemistry team.

All sample results are reported on a mass per mass basis (µg/g) for each detected analyte. The data have been adjusted for instrument dilutions.

Analytes of interest (AOI) were specified in the ASR and are listed in the highlighted section of the attached ICP-OES Data Report. The quality control (QC) results for the AOI have been evaluated and are presented below. The current AOI for this run (C0966) are Potassium (K) and Sodium (Na).

Samples were prepared by radiochemistry team by first digesting in aqua regia to fully digest the organic material and taken to soft dryness. Following this, samples were converted to 0.5M HNO3 and again taken to soft dryness.

Limited Data:
Data for Cadmium, Lithium, Selenium, Strontium, Tungsten, and Tin is for information only and may be biased high due to failing QC checks high.

Calibration of the ICP-OES was done following the manufacturer's recommended calibration procedure using multi-analyte custom standard solutions traceable to the National Institute of Standards and Technology (NIST). Midrange calibration verification standards (MCVA and MCVB) were used to verify acceptance of the two-point calibration curves obtained for each analyte and for continuing calibration verification.

The controlling documents were procedures RPG-CMC-211, Rev 4, *Determination of Elemental Composition by Inductively Coupled Argon Plasma Optical Emission Spectrometry (ICP-OES)*, and ASO-QAP-001, Rev. 11, *Analytical Support Operations (ASO) Quality Assurance Plan*. Instrument calibrations, QC checks and blanks (e.g., ICV/ICB, CCV/CCB, LLS, ICS), post-digestion spikes, duplicate, blank spike, and serial dilution were conducted during the analysis run.

Preparation Blank (PB):

A preparation blank was supplied with the samples by the radiochemistry team. All AOI were within the acceptance criteria of <EQL (estimated quantitation level), <50% regulatory decision level, or less than ≤5% of the concentration in the sample.

Blank Spike (BS)/Laboratory Control Sample (LCS):

A 50:50 mixture of the MCVA and MCVB solutions was analyzed as the blank spike. Recovery values are listed for all analytes included in the BS that were measured at or above the EQL. All AOI meeting this requirement were within the acceptance criteria of 80% to 120%.

For 24-2501 BS @1x, all AOI included in the spike were within the acceptance criteria.

Duplicate/Replicate Relative Percent Difference (RPD):

A duplicate of sample 24-2501 Dup @10x was prepared and analyzed. All AOI detected were within the acceptance criterion of ≤20% for liquid samples with RPD of 0.1 for K and 1.4 for Na.

Matrix-Spike (MS) Sample:

A matrix spike sample was created during sample preparation beforehand by the radiochemistry team.

For 24-2501 MS @10x, Potassium passed within the range of acceptance, but Sodium was an invalid test due the spike being less than 25% of sample concentration.

Initial/Continuing Calibration Verification (ICV/CCV):

MCVA and MCVB solutions were analyzed immediately after calibration, after each group of not more than ten samples, and at the end of the analytical run. All AOI were within the acceptance criteria of 90% to 110%.

Initial/Continuing Calibration Blank (ICB/CCB):

The ICB/CCB solution (5% v/v HNO_3) was analyzed immediately after the ICV solutions and after the CCV solutions (after each group of not more than ten samples and at the end of the analytical run). All AOI passed on the ICB/CCBs.

Low-Level Standard (LLS):

The LLS solution was analyzed immediately after the first CCB solution. All AOI were within the acceptance criteria of 70% to 130%.

Interference Check Standard (ICS/SST):

The ICS solution was analyzed immediately after the first LLS solution and immediately prior to analyzing the final CCV solutions. Recovery values are listed for all analytes included in the SST that were measured at or above the EQL. All AOI were within the acceptance criteria of 80% to 120%.

Serial Dilution (SD):

A five-fold serial dilution was conducted on sample 24-2501 @50x. The percent difference (%D) for Na and K was withing the acceptance criteria of ≤ 10%.

Post-Digestion Spike (PS-A) - Sample (A Component):

A post-digestion spike (A Component) was conducted on sample 24-2502 @50x. All AOI were within the acceptance criterion of 80% to 120%.

Post-Digestion Spike (PS-B) - Sample (B Component):

A post-digestion spike (B Component) was conducted on sample 24-2503 @50x. No AOI were present in the PSB spike, but all other analytes passed within the PSB spike.

Other QC:

All other instrument-related QC tests for the AOI passed within their respective acceptance criteria.

Comments:

1) The "Final Results" have been corrected for all laboratory dilutions performed on the samples during processing and analysis, unless specifically noted.
2) Instrument detection limits (IDL) and estimated quantitation limits (EQL) shown are for acidified water and/or fusion flux matrices as applicable. Method detection limits (MDL) for individual samples can be estimated by multiplying the IDL by the "Process Factor" for that individual sample. The estimated quantitation limit (EQL) for each concentration value can be obtained by multiplying the EQL by the "Process Factor".
3) Routine precision and bias is typically ±15% or better for samples in dilute, acidified water (e.g. 5% v/v HNO_3 or less) at analyte concentrations > EQL up to the upper calibration level. This also presumes that the total dissolved solids concentration in the sample is less than 5000 µg/mL (0.5 per cent by weight). Note that bracketed values listed in the data report are within the MDL and the EQL, and have potential uncertainties greater than 15%. Concentration values < MDL are listed as "- -". Note, that calibration and QC standard samples are validated to a precision of ±10%.
4) Analytes included in the spike MCVA component (for the AS/PS) are; Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Eu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Se, Si, Sm, Sn, Sr, Ta, Ti, Tl, V, W, Y, Zn, and Zr. Analytes included in the spike MCVB component are; Ce, Dy, Eu, La, Nd, Pd, Rh, Ru, S, Te, Th, and U.

Battelle PNNL/RPG/Inorganic Analysis ... ICPOES Data Report

		Run Date >	10/9/2024	10/9/2024	10/9/2024	10/9/2024	10/9/2024	10/9/2024	10/9/2024	10/9/2024	10/9/2024	10/9/2024	10/9/2024	10/9/2024	10/9/2024	10/9/2024	10/9/2024	10/9/2024
		Process Factor >	1.0	1.0	372.6	1900.6	368.5	1916.6	358.1	1826.9	347.4	1788.7	370.7	1900.7	357.2	1808.9	426.5	2213.2
			405 Diluent	PB @1x	24-2501 @10x	24-2501 @50x	24-2501 Dup @10x	24-2501 Dup @50x	24-2502 @10x	24-2502 @50x	24-2503 @10x	24-2503 @50x	24-2504 @10x	24-2504 @50x	24-2505 @10x	24-2505 @50x	24-2506 @10x	24-2506 @50x
Instr. Det. Limit (IDL)	Est. Quant. Limit (EQL)	Client ID >			TI185-6.0M-AP105-A	TI185-6.0M-AP105-A	TI185-6.0M-AP105-A	TI185-6.0M-AP105-A	TI185-6.0M-AP105-d-A	TI185-6.0M-AP105-d-A	TI185-7.0M-AP105-A	TI185-7.0M-AP105-A	TI185-7.0M-AP105-d-A	TI185-7.0M-AP105-d-A	TI185-8.0M-AP105-A	TI185-8.0M-AP105-A	TI185-8.0M-AP105-d-A	TI185-8.0M-AP105-d-A
(µg/mL)	(µg/mL)	(Analyte)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)	(µg/g)
0.0352	0.352	K	--	--	3,860	3,670	3,810	3,690	3,550	3,390	3,930	3,680	4,290	3,890	4,790	4,500	5,670	5,260
0.0085	0.085	Na	--	--	128,000	139,000	128,000	138,000	120,000	128,000	131,000	138,000	139,000	146,000	157,000	159,000	183,000	190,000
Other Analytes																		
0.0022	0.022	Ag	--	--	--	--	--	--	--	--	--	[3.9]	[1.1]	[5.8]	[0.95]	--	--	--
0.0091	0.091	Al	--	[0.021]	14,000	14,700	13,800	14,600	12,800	13,600	14,000	14,600	15,200	15,500	17,100	17,000	20,000	20,000
0.1768	1.768	As	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0193	0.193	B	[0.021]	--	[47]	[65]	[48]	[65]	[48]	[63]	[48]	[62]	[53]	[59]	[56]	[76]	[67]	[68]
0.0002	0.002	Ba	--	[0.0003]	--	[0.31]	--	--	--	--	--	--	[0.065]	--	--	--	--	--
0.0001	0.001	Be	--	--	[0.073]	--	[0.057]	--	[0.063]	--	[0.078]	--	[0.065]	--	[0.080]	--	[0.12]	--
0.0618	0.618	Bi	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0075	0.075	Ca	--	--	37.2	[34]	34.2	[33]	34.6	[25]	35.5	[31]	39.7	[36]	45.7	[38]	52.1	[46]
0.0079	0.079	Cd	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0163	0.163	Ce	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0064	0.064	Co	--	--	--	--	--	--	--	--	--	--	--	--	[2.6]	--	--	--
0.0046	0.046	Cr	--	--	322	342	318	339	302	316	328	346	348	361	397	403	470	480
0.0019	0.019	Cu	--	--	7.61	[9.6]	7.33	[7.6]	7.30	[5.7]	7.65	[6.7]	7.95	[7.4]	8.59	[10]	10.9	[11]
0.0034	0.034	Dy	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0006	0.006	Eu	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0025	0.025	Fe	--	[0.0073]	--	--	[1.1]	--	[2.3]	--	[0.99]	--	--	--	[1.6]	--	[1.5]	--
0.0018	0.018	La	--	--	--	--	--	--	--	--	--	--	--	--	--	[3.4]	--	--
0.0015	0.015	Li	--	--	[0.71]	--	--	--	[0.61]	--	[0.72]	--	--	--	--	--	[0.65]	--
0.0025	0.025	Mg	--	--	--	--	--	--	--	--	--	--	--	--	[1.1]	--	--	--
0.0007	0.007	Mn	--	--	[0.96]	--	[0.96]	--	[0.85]	--	[0.97]	--	[0.98]	--	[1.2]	--	[1.4]	--
0.0173	0.173	Mo	--	--	[47]	[47]	[47]	[66]	[44]	--	[50]	[49]	[54]	[53]	[59]	[70]	[71]	[73]
0.0126	0.126	Nd	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0085	0.085	Ni	--	--	[29]	[37]	[28]	[39]	[25]	[35]	[29]	[40]	31.5	[34]	35.1	[52]	40.8	[46]
0.1778	1.778	P	--	--	[420]	[510]	[400]	[530]	[380]	[470]	[390]	[570]	[450]	[610]	[540]	[600]	[620]	[810]
0.0385	0.385	Pb	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0113	0.113	Pd	--	--	[5.4]	--	[6.0]	--	[4.1]	--	--	--	--	--	--	--	--	--
0.0389	0.389	Rh	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0128	0.128	Ru	--	--	[6.1]	--	[7.2]	--	[6.5]	--	[6.3]	--	[7.5]	--	[8.5]	--	--	--
0.6450	6.450	S	--	--	[1,100]	--	[1,000]	--	[1,000]	--	[1,200]	--	[1,100]	--	[1,400]	--	[1,600]	--
0.1139	1.139	Sb	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.4064	4.064	Se	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0212	0.212	Si	--	--	[75]	[86]	[69]	[89]	[69]	[70]	[64]	[73]	85.7	[90]	100	[110]	102	[120]
0.1168	1.168	Sn	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0002	0.002	Sr	--	--	--	--	--	--	--	--	--	--	--	--	[0.071]	--	--	--
0.0320	0.320	Ta	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0623	0.623	Te	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0116	0.116	Th	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0007	0.007	Ti	--	--	[0.75]	--	[0.66]	--	[0.77]	--	[0.63]	--	[0.79]	[1.5]	[0.95]	[1.8]	[0.92]	--
0.1934	1.934	Tl	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0675	0.675	U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0029	0.029	V	--	--	--	--	[1.2]	[6.5]	[1.3]	[5.5]	--	[5.5]	--	[6.7]	[1.7]	--	[2.6]	--
0.0513	0.513	W	--	--	[85]	--	[92]	--	[87]	--	[90]	[110]	[97]	[130]	[110]	[140]	[110]	[130]
0.0006	0.006	Y	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
0.0087	0.087	Zn	--	[0.034]	[16]	[76]	[13]	[73]	[15]	[73]	[15]	[62]	[16]	[72]	[13]	[69]	[18]	[87]
0.0018	0.018	Zr	--	--	[1.9]	--	[2.0]	--	[2.2]	--	[2.3]	--	[2.5]	--	[2.8]	[3.5]	[3.9]	--

1) "--" indicates the value is < MDL. The method detection limit (MDL) = IDL times the "multiplier"
near the top of each column. The estimated sample quantitation limit = EQL (in Column 2)
times the "multiplier". Overall error for values ≥ EQL is estimated to be within ±15%.

2) Values in brackets [ ] are ≥ MDL but < EQL, with errors likely to exceed 15%.

na = not applicable; KOH flux and Ni crucible or Na_2O_2 flux and Zr crucible for fusion preparations, or Si for HF assisted digests.

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QC Performance 10/9/2024

Criteria >	≤ 20%	80%-120%	75%-125%	75%-125%	80%-120%	80%-120%	≤ 10%
QC ID >	24-2501 @ 10x Dup	LCS/BS	24-2501 @ 10x MS	24-2501 @ 1x BS	24-2502 @ 50x + PSA	24-2503 @ 50x + PSB	24-2501 @ 50x 5-fold Serial Dil
Analytes	RPD (%)	%Rec	%Rec	%Rec	%Rec	%Rec	%Diff
K	0.1	101	106	101	104		6.7
Na	1.4	101	nr	96	100		6.5
Other Analytes							
Ag		95			95		
Al	0.1	104	100	104	106		2.9
As		100			101		
B		103			104		
Ba		101	97	98	102		
Be		100	101	103	103		
Bi		93		93	96		
Ca	7.4	103	97	100	105		
Cd		101	106	105	105		
Ce		97	94	96		101	
Co		103			103		
Cr	0.3	100	108	102	103		4.2
Cu	2.7	110	103	100	105		
Dy		96				101	
Eu		96				98	
Fe		102	98	98	104		
La		94	95	96		99	
Li		109	106	106	108		
Mg		103	99	99	106		
Mn		106	99	99	107		
Mo		102			101		
Nd		96	91	93		98	
Ni		104	101	99	103		
P		104			104		
Pb		99	100	100	102		
Pd		93				96	
Rh		98				104	
Ru		93				98	
S		96				100	
Sb		98			97		
Se		104			102		
Si		101			103		
Sn		111			112		
Sr		100	109	110	103		
Ta		105			105		
Te		101				105	
Th		96				100	
Ti		102			104		
Tl		96			95		
U		94				97	
V		99	100	98	102		
W		111			111		
Y		99			102		
Zn		99	100	101	109		
Zr		102			105		

Shaded results are outside the acceptance criteria.

nr = spike concentration less than 25% of sample concentration. Matrix effects can be assessed from the serial dilutio

na = not applicable; KOH flux and Ni crucible or Na_2O_2 flux and Zr crucible for fusion preparations, or Si for HF assis

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